City Of Milwaukee
Department of Public Works
Room 501 – Frank P. Zeidler Municipal Building
841 North Broadway
Milwaukee, Wisconsin 53202-3684

INVITATION TO BID

Commissioner of Public Works
Phone: 414-286-3314
EDA Investment # 06-79-05855

OFFICIAL NOTICE NO. 103-1-2015

Sealed bids for the work, material, labor, and services hereinafter described will be received at the Department of Public Works **Contract Office**, Room 506, Frank P. Zeidler Municipal Building, 841 North Broadway, Milwaukee, Wisconsin 53202-3684, no later than **January 11, 2016 at 10:30 A.M. (CST)**

One MANDATORY pre-bid meeting will be held at the Century City site inside Building No. 36 on December 10, 2015, beginning PROMPTLY at 8:00 a.m. CST. Please enter at 3533 North 27th Street, Gate #3

A Second and OPTIONAL site walkthrough will be held at the Century City site on January 5, 2016, from 9:00 a.m. CST to 12:00 p.m. CST. Please enter at 2527 West Hopkins Street, Gate #2. Please note, no questions will be taken at this walkthrough.

(PLEASE NOTE: All parties attending either pre-bid meeting will need to have safety boots, hard hat, safety glasses, and a high-visibility vest)

IMPORTANT

This bid is your offer to perform or supply the subject matter under "DESCRIPTION" below according to the terms and conditions set forth in this Invitation to Bid, Specific Official Notice No. 103-1-2015, General Specifications, Detailed Specifications, Special Provisions, Plans of this particular project, the proposed contract and Special Conditions when applicable.

Your bid must meet the Detailed Specifications and the Plans for this particular project.

You must agree to comply with all applicable requirements of the Americans with Disabilities Act of 1990, 42 U.S.C. Section 12101, et seq.

The bid must be signed as set forth in the General Specifications and must comply with all the requirements therein set forth, or it will not be considered. If submitted by a corporation, the bid proposal must bear the corporate seal.

Bid security hereinafter specified must be submitted with your bid. If a bid bond is used, it must be sealed by the bonding company and be accompanied by an affidavit of no interest and a copy of a power of attorney. Bonding agents must be licensed to do business in the State of Wisconsin.

Bids received after the date and the time above specified will not be opened and read and will be deemed rejected.

NOTE: Also **read** the General Official Notice to Contractors, General and Detailed Specifications, Special Provisions, and Special Conditions when applicable pertaining to this bid.

DESCRIPTION **Century City Business Park**
Greenway Infrastructure Improvement Project
North 31st Street & West Hopkins Street, Milwaukee, WI

DETAILS OF SPECIFICATIONS: dated December 2, 2015

OFFICIAL NOTICE NO. 103-1-2015

TABLE OF CONTENTS

DOCUMENT	PAGES
GENERAL OFFICIAL NOTICE TO CONTRACTORS	1
OFFICIAL NOTICE 103-1-2015	1
BID RESPONSE FORM	10
NOTICE REGARDING BID AMOUNT DISCREPANCIES	1
ACKNOWLEDGEMENTS PAGE	1
SIGNATURE PAGE	1
BID BOND	2
NON-COLLUSION AFFIDAVIT	1
SUSPENSION/DEBARMENT CERTIFICATION FORM	1
DISCLOSURE OF OWNERSHIP FORM	1
RESIDENTS PREFERENCE PROGRAM (RPP) PROVISIONS	3
RPP FORM I	2
SMALL BUSINESS ENTERPRISE (SBE) PROVISIONS	3
SBE FORM A	1
SBE FORM D	2
SBE FORM E	1
PAYMENT MONITORING REQUIREMENTS	1
PRIME CONTRACTOR AFFIDAVIT OF COMPLIANCE	2
SUBCONTRACTOR AFFIDAVIT OF COMPLIANCE	1
AFFIDAVIT OF COMPLIANCE SUBSTANCE ABUSE PREVENTION REQUIREMENTS	1
FORM F	1
NOTICE TO CONTRACTORS – SLAVERY DISCLOSURE AFFIDAVIT	1
SLAVERY DISCLOSURE AFFIDAVIT	1
STATEMENTS REGARDING WAGES	2
DAVIS BACON COMPLIANCE PROVISIONS	12
DAVIS BACON WAGE DECISION DOCUMENTS	37
STATE OF WISCONSIN PREVAILING WAGE DECISION DOCUMENTS	13
DEPARTMENT OF PUBLIC WORKS GENERAL SPECIFICATIONS	58
NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION	1
SAMPLE NOTICE TO PROCEED LETTER	1
CHANGE ORDER TEMPLATE	2
EDA CONTRACTING PROVISIONS FOR CONSTRUCTION PROJECTS	23
CERTIFICATION OF COMPLIANCE WITH THE CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT	1
CERTIFICATION REGARDING LOBBYING	1
BUY AMERICAN CLAUSE	1
TECHNICAL SPECIFICATIONS	337
DRAWINGS	29

CITY OF MILWAUKEE
GENERAL OFFICIAL NOTICE
TO CONTRACTORS

Separate sealed bids for each project will be received until 10:30 A.M. of the bid opening date at which time bids will be publicly opened and read for furnishing all material and doing all work for each project in accordance with the requirements of the respective Official Notice on the bid form furnished in accordance with plans, specifications, contract documents, and proposed form of contract on file in the office of the Department of Public Works, Municipal Building, 841 N. Broadway, Room 506, Milwaukee, Wisconsin, 53202.

PROSPECTIVE BIDDERS ARE TO CAREFULLY EXAMINE AND REVIEW ALL CONTRACT DOCUMENTS AND MATERIALS IN SAID OFFICE BEFORE SUBMITTING BID.

NON-COLLUSION AFFIDAVITS MUST ACCOMPANY THE BIDS, AND THE FAILURE OF PROSPECTIVE BIDDERS TO COMPLY WITH THESE REQUIREMENTS MAY DISQUALIFY THE BID.

THE CONTRACTOR/LESSEE AGREES TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF 1990, 42 U.S.C. § 12101, ET. SEQ. THE TDD NUMBER FOR PUBLIC WORKS IS (414) 286-2025.

As part of the bid each bidder shall submit a list of anticipated subcontractors and the class of work to be performed by each, which list should not be added to nor altered without the written consent of the Commissioner of Public Works.

All contractor(s) and subcontractor(s) are required to furnish or have on file a certificate of insurance in accordance with the insurance provisions of the General Specifications.

All contractor(s) and subcontractor(s) are subject to the prevailing wage rates and hours of labor consistent with provisions of Section 66.293 of the Wisconsin Statutes.

Copies of the actual work classifications and wage and fringe benefit rates enforced on this project are available in Room 506 of the Municipal Building.

Corporate surety will be required on performance and payment bonds for all projects listed in the following Official Notices. All applicable charter and Statutory provisions and ordinances, all the provisions of this official notice, invitation to bid, general and detailed specifications, special provisions, proposal, schedule of fixed prices, addendum and plans for this project and all other contract documents set forth in the invitation to bid will be incorporated and made part of the contract as if therein set forth in full.

Tie bids, when the lowest ones, will be decided by the Commissioner of Public Works.

The Commissioner of Public Works reserves the right to reject any or all bids.

Signed: Ghassan Korban,
Commissioner of Public Works
Countersigned: Martin Matson
Comptroller

Official Notice 103-1-2015

FOR: **Century City Business Park**
Greenway Infrastructure Improvement Project
North 31st Street & West Hopkins Street, Milwaukee, WI

The SBE Requirement for this Project is: 25%
The Residency Requirement for this Project is: 40%
The Apprenticeship Requirements for this Project are: 0

Liquidated damages per diem: $150.00

Time for Completion: 140 days after receipt of the Notice to Proceed letter

One MANDATORY pre-bid meeting will be held at the Century City site inside Building No. 36 on December 10, 2015, beginning PROMPTLY at 8:00 a.m. CST. Please enter at 3533 North 27th Street, Gate #3

A Second and OPTIONAL site walkthrough will be held at the Century City site on January 5, 2016, from 9:00 a.m. CST to 12:00 p.m. CST. Please enter at 2527 West Hopkins Street, Gate #2. Please note, no questions will be taken at this walkthrough.

(Please Note: Prior to entering the site, anyone showing up for the site visit will need to have a flashlight, steel tipped boots, hard hat, safety glasses, and a reflective vest.)

BID SECURITY REQUIRED: BOND, CERTIFIED CHECK, CASHIER'S CHECK, OR CASH TO ACCOMPANY BID: 10% OF CONTRACTOR'S BASE BID.

DETAILED SPECIFICATIONS: December 2, 2015

THE SUCCESSFUL CONTRACTOR SHALL FURNISH A PERFORMANCE BOND AND A PAYMENT BOND IN THE AMOUNT OF 100% OF THE BID WITH EACH EXECUTED CONTRACT.

NOTE: BIDS WILL BE OPENED AND PUBLICLY READ AT THE OFFICE OF THE COMMISSIONER OF PUBLIC WORKS ON **January 11, 2016 at 10:30 A.M. (CST)**

Plans and specifications will be furnished to the prospective bidders upon payment of a non-refundable fee of $10.00, for each project in Room 506, Frank P. Zeidler Municipal Building, 841 N. Broadway, Milwaukee, Wisconsin 53202. A $10.00 per set additional non-refundable fee is required to obtain bid documents by mail.

THE CONTRACTOR SHALL SPECIFICALLY NOTE THE SBE AND RESIDENCY FORMS FOR THIS PROJECT. IF THE FORMS ARE NOT FILLED OUT PROPERLY, IT WILL BE CAUSE FOR REJECTION OF THE BID.

Contractor must comply with all provisions of the CITY OF MILWAUKEE GENERAL OFFICIAL NOTICE TO CONTRACTORS, published at http://mpw.milwaukee.gov/services/bids_home.

Questions regarding this Bid should be addressed to Scott Stange in writing via email at: sstang@milwaukee.gov. Deadline for questions regarding the Formal Bid are due **4:45 pm (CST)** on **December 17, 2015**. Any additional information and/or clarification(s) regarding this Bid will be issued in the form of an addendum to this Bid on or before **December 22, 2015.**

FORM DPW-125 (REV. 01/26/05)

OFFICIAL NOTICE 103-1-2015

Century City Business Park
Greenway Infrastructure Improvement Project
North 31st Street & West Hopkins Street,
Milwaukee, WI

BID RESPONSE FORM

City of Milwaukee
Department of Public Works
Room 501 - Frank P. Zeidler Municipal Building
841 North Broadway
Milwaukee, Wisconsin 53202

Bids Close: **January 11, 2016 at 10:30 A.M. (CST)** (Time and Date)

Submit bids to: City of Milwaukee
Department of Public Works **Contract Office**
Room **506**, 841 North Broadway
Milwaukee, Wisconsin 53202.

The undersigned _____
(A Corporation) (A Partnership) (An Individual)
(use one)

of _____
Street City Zip Code Telephone Number

hereby proposes to furnish work, material, labor and services as set forth in the description in the Invitation to Bid at and for the prices hereinafter named according to the provisions in the Official Notice and the Invitation to Bid, Detail Specifications, Special Provisions, Addenda's, if any, and Plans for this particular project on file in the office of the Commissioner of Public Works, and if successful, hereby agrees to enter into a contract with the City of Milwaukee with such sureties as required and set forth in the aforesaid documents for the performance of said contract (said contract form being on file in the office of the Commissioner of Public Works), and in accordance with the terms and conditions set forth in the contract documents, to-wit: written agreement, official notice, invitation to bid, bid, instructions to bidders, detail specifications, special provisions, special conditions when applicable, plans, schedule of fixed prices, supplemental agreements and all addenda.

In case of obtaining the award, the undersigned bidder anticipates using, subject to the approval of the Commissioner, the following subcontractors, with the class of work to be performed by each, which list shall not be added to nor altered without the written consent of the Commissioner:

Name of Proposed Subcontractors	Class of Work	Amount	Check Box If SBE

BID RESPONSE FORM

CITY OF MILWAUKEE
OFFICIAL NOTICE NO. 103-1-2015

Century City Business Park
U.S. Department of Commerce Economic Development Administration
Greenway Infrastructure Improvement Project
North 31st Street & West Hopkins Street, Milwaukee, Wisconsin

Proposal of _____
(hereinafter called "BIDDER"), organized and existing under the laws of the State of _____
doing business as _____.

To the City of Milwaukee (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the construction of the Century City Greenway Infrastructure Improvement Project in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of $150.00 for each consecutive calendar day thereafter as provided in section 15 of the EDA General Conditions.

BIDDER acknowledges receipt of the following ADDENDUM:

_____
_____
_____
_____
_____

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following:

ALL BIDS MUST BE TYPED OR PRINTED

For furnishing all necessary supervision, labor, equipment and materials necessary and/or required to complete the Greenway Infrastructure Improvement Project in accordance with the bid documents and specifications

010000.001 MOBILIZATION AND DEMOBILIZATION 1 Lump Sum

(Bid in figures) $ _____ /Lump Sum

(Bid in words) $ _____ /Lump Sum

011000.001 TEMPORARY CHAINLINK SECURITY FENCE 1,375 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

011000.002 TEMPORARY SNOW FENCE 1,400 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

017000.010 EDA PROJECT SIGN 1 Each

(Bid in figures) $ _____ /Each

(Bid in words) $ _____ /Each

024000.010 CONCRETE PAVEMENT REMOVAL 39570 Sq.Ft.

(Bid in figures) $ _____ /Sq.Ft.

(Bid in words) $ _____ /Sq.Ft.

024000.020 ASPHALTIC CONCRETE PAVEMENT REMOVAL 24052 Sq.Ft

(Bid in figures) $ _____ / Sq.Ft

(Bid in words) $ _____ / Sq.Ft.

024000.030 CONCRETE CURB AND GUTTER REMOVAL 1342 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft.

(Bid in words) $ _____ / Lin.Ft

024000.040 **RETAINING WALL REMOVAL** 1032 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft.

(Bid in words) $ _____ / Lin.Ft

024000.050 **CHAINLINK FENCE REMOVAL** 2280 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

024000.060 **ABANDONED GAS PIPELINE REMOVAL** 2272 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

024000.070 **METAL GUARDRAIL REMOVAL** 336 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

024000.080 **STORMWATER INLET STRUCTURE REMOVAL** 3 Each

(Bid in figures) $ _____ / Each

(Bid in words) $ _____ / Each

024000.090 **MISCELLANEOUS REMOVALS** 1 Lump Sum**.**

(Bid in figures) **$ _____** / Lump Sum

(Bid in words) **$ _____ /** Lump Sum

026000.010 **REMOVAL AND DISPOSAL OF CATEGORY "B" CONTAMINATED SOILS** 326 Cu.Yd.

(Bid in figures) $ _____ / Cu.Yd

(Bid in words) $ _____ / Cu.Yd

026000.020 **REMOVAL AND DISPOSAL OF CATEGORY "C" CONTAMINATED SOILS** 2490 Cu.Yd.

(Bid in figures) $ _____ / Cu.Yd

(Bid in words) $ _____ / Cu.Yd

030000.010 **CONCRETE RETAINING WALL** 1 Lump Sum

(Bid in figures) $ _____ / Lump Sum.

(Bid in words) _____ / Lump Sum

050000.010 **DECORATIVE GUARDRAIL** 41 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) _____ / Lin.Ft

312000.010 **SITE EXCAVATION, BACKFILL, AND COMPACTION** 1 Lump Sum.

(Bid in figures) $ _____ / 1 Lump Sum.

(Bid in words) _____ /1 Lump Sum.

312000.020 **EROSION AND DUST CONTROL** 1 Lump Sum.

(Bid in figures) $ _____ / Lump Sum.

(Bid in words) _____ / Lump Sum

320000.010 **CONCRETE SIDEWALK** 13850 Sq.Ft

(Bid in figures) $ _____ / Sq.Ft

(Bid in words) _____ / Sq.Ft

320000.020 **ADA RAMP** 4 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ / Each

320000.030 **8" CONCRETE PAVEMENT** 650 Sq.Yd

(Bid in figures) $ _____ / Sq.Yd

(Bid in words) _____ / Sq.Yd

320000.040 **CONCRETE BENCH PAD** 9 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ / Each

320000.050 **CONCRETE CURB AND GUTTER** 1725 Lin.Ft

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) _____ / Lin.Ft

320000.060 **PLACE TOPSOIL, INCL. GRADING, FERTILIZER, SEEDING AND MULCH** 9614 Sq.Yd

(Bid in figures) $ _____ / Sq.Yd

(Bid in words) _____ / Sq.Yd

320000.070 **PLANTINGS** 1 Lump Sum

(Bid in figures) $ _____ / Lump Sum

(Bid in words) _____ / Lump Sum

330000.010 **FURNISH AND INSTALL 16" D.I.P WATER MAIN** 12 Lin.Ft.

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) $ _____ / Lin.Ft

330000.020 **FURNISH AND INSTALL 12" D.I.P WATER MAIN** 118 Lin.Ft.

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) _____ / Lin.Ft.

330000.030 **FURNISH AND INSTALL 6" D.I.P FIRE HYDRANT BRANCH** 25 Lin.Ft.

(Bid in figures) $ _____ / Lin.Ft

(Bid in words) _____ / Lin.Ft

330000.040 **FIRE HYDRANT (INSTALL ONLY)** 1 Each

(Bid in figures) $ _____ / Each.

(Bid in words) _____ / Each.

330000.050 **16" x 12" TEE (INSTALL ONLY)** 1 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ / Each

330000.060 12” x 6” ANCHOR TEE (INSTALL ONLY) 1 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ / Each

330000.070 12” WATER MAIN CAP (INSTALL ONLY) 1 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ **/** Each

330000.080 6” GATE VALVE (INSTALL ONLY) 1 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ **/** Each

330000.090 12” BUTTERFLY VALVE (INSTALL ONLY) 1 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ **/** Each

330000.100 16” BUTTERFLY VALVE (INSTALL ONLY) 2 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ **/** Each

330000.120 12” - 45 DEGREE D.I. BEND (INSTALL ONLY) 4 Each

(Bid in figures) $ _____ / Each

(Bid in words) _____ **/** Each

330000.130 12” SANITARY SEWER 151 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.150 4’-0” DIA. SANITARY MANHOLES W/ INTERNAL SEAL, INCL. CASTING AND COVER 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.160 **4'-0" DIA. SANITARY MANHOLES W/ INTERNAL SEAL AND OUTSIDE DROP CONNECTION, INCL. CASTING AND COVER** 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.170 **SANITARY MANHOLE VACUUM TESTING** 2 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.180 **12" SANITARY SEWER AIR TESTING** 151 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.190 **12" SANITARY SEWER CCTV EXAMINATION** 151 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.200 **SLURRY BACKFILL TO 12" SANITARY SEWER** 30 Cu.Yd

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.210 **60" RCP STORM WATER SEWER** 345 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.220 **54" RCP STORM WATER SEWER** 58 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.230 **36" RCP STORM WATER SEWER** 222 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.240 30” RCP STORM WATER SEWER 344 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.250 24” RCP STORM WATER SEWER 416 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.260 8” PVC STORM WATER PIPING 92 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.270 STORM WATER SEWER CCTV EXAMINATION 1377 L.F

(Bid in figures) $ _____ / L.F.

(Bid in words) _____ / L.F.

330000.280 10’-0” DIA. STORM MANHOLE, INCL. CASTING AND GRATING 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.290 9’-0” DIA. STORM MANHOLE, INCL. CASTING AND GRATING 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.300 5’-0” DIA. STORM MANHOLE, INCL. CASTING AND GRATING 2 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.310 4’-0” DIA. STORM MANHOLE, INCL. CASTING AND GRATING 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.320 3'-0" DIA. STORM INLET MANHOLE W/ SUMP, INCL. CASTING AND GRATING 2 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.330 60" DIA. STORM WATER END SECTION W/ GRATE 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.340 24" DIA. STORM WATER END SECTION W/ GRATE 1 EACH

(Bid in figures) $ _____ / EACH

(Bid in words) _____ / EACH

330000.350 HEAVY RIP RAP 1 Lump Sum

(Bid in figures) $ _____ / Lump Sum

(Bid in words) _____ / Lump Sum

BASE BID TOTAL SUM

(Total in figures) $ _____

(Total in words) _____

*** IMPORTANT NOTICE ***

ALL BID PRICES MUST BE ENTERED IN WORDS AND IN NUMERALS. IN CASE OF VARIATION BETWEEN THE TWO, THE WORDS WILL PREVAIL.

IN ADDITION, IF THERE IS A DISCREPANCY BETWEEN THE TOTAL INDICATED IN THE PROPOSAL AND THE AMOUNT OBTAINED BY ADDING THE PRODUCTS OF THE QUANTITIES TIMES THE UNIT PRICES, THE LATTER SHALL GOVERN. ANY ERRORS FOUND IN THE TOTAL INDICATED SHALL BE CORRECTED AND THE CONTRACT AWARD SHALL BE MADE TO THE LOWEST RESPONSIBLE BIDDER BASED ON THE CORRECTED TOTAL.

If DOUBT EXISTS AS TO WHAT IS BID, THE BID WILL BE REJECTED.

ACKNOWLEDGEMENTS PAGE

Official Notice No. 103-1-2015

SMALL BUSINESS ENTERPRISE PROGRAM, RESIDENT PREFERENCE AND APPRENTICESHIP PROGRAM REQUIREMENTS

In submitting this bid, the bidder acknowledges, understands and agrees that submission of a bid shall commit the bidder to comply with the City's requirements as outlined in the SMALL BUSINESS ENTERPRISE PROGRAM (SBE), the Resident Preference Program and the Apprenticeship Program provisions. The bidder also agrees to comply with the specific requirements as follows:

The bidder's commitment for SBE participation on this project is 25 %

The bidder's commitment for Resident Preference Program Participation on the project is 40 %

The bidder's commitment for Apprenticeship Program participation on this project is:
Apprentice(s) from 0 of the following trade(s) are to be employed.

In submitting this bid, the bidder understands that the Commissioner of Public Works reserves the right to reject any and all bids. If written notice of the acceptance of the bid is mailed, telegraphed, or delivered to the undersigned within forty-five (45) days after the opening thereof, the undersigned agrees to execute and deliver the contract in the prescribed form (contract form on file in the office of the Commissioner of Public Works) and furnish the required performance and payment bonds, and to meet such insurance requirements as may be required, within ten days after the receipt of the official notice of award.

This bidder understands that if they are the successful bidder and the contract is awarded, that pursuant to Sec. 7.14, Milwaukee City Charter, 1971 Compilation, as amended, failure to execute and to deliver the contract or to furnish the required insurance and the required security within ten (10) days after receipt of the official notice of award or such extension thereto as the Commissioner only may deem reasonable, the City, in addition to any other legal or equitable remedy which it may have, may annul the award and notice of award, and the bid security of this bidder will be forfeited.

Attached hereto is an affidavit in proof that the undersigned has not colluded with any person in respect to this bid or any other bid for the contract for which this bid is submitted.

We acknowledge the receipt of Addenda _____ to _____ inclusive.

Bidder assures the City and acknowledges that the Official Notice, Special Provisions, if any, Special Conditions where applicable, Invitation to Bid and Bid, Detail Specifications, Addenda, if any, and Plans of this particular project have been read and has a full understanding of the provisions therein.

SIGNATURE PAGE – IMPORTANT – THREE(3) SIGNATURES ARE REQUIRED OR BID WILL BE CONSIDERED NONRESPONSIVE.

Rev. 2/2012 Official Notice No. 103-1-2015 _____

Project No. _____

In signing and submitting this bid, the bidder assures the City of Milwaukee that the Official Notice, Notice to Bidders, Special Conditions where applicable, Invitation to Bid and Bid, Detail Specifications, Special Provisions, schedule of fixed prices, Addenda, and Plans of this particular project have been read and understood and that the furnishing of the subject work, material, labor and services is under bidder's control. If the bidder's performance is contingent upon the acts of another party, the bidder assures that they have the necessary commitments to complete the contract which may be awarded.

Submitted by _____
Name of Bidder (person, firm or corporation)

Telephone No. _____
Fax No. _____

Address _____

_____
(City, State, Zip Code)

MUST BE SIGNED

Signed per _____
(Manual **signature required**)

Official Capacity _____

BID DATED _____ SBE Contractor: Yes: _____
No _____

If a Corporation, answer the following:

Incorporated under laws of what state? _____

If a foreign corporation, are you licensed to do business in Wisconsin? _____

SWORN STATEMENT OF BIDDER
AS REQUIRED BY
SECTION 66.0901 (7) WISCONSIN STATUTES

I, being first duly sworn at _____
(City, State)

on oath state on behalf of said bidder, that I have examined and carefully prepared this proposal from the plans, specifications, and the other contract documents and have checked the same in detail before submitting this proposal; and this sworn statement is hereby made a part of the foregoing proposal.

MUST BE SIGNED

Signature _____

_____
(Title, if any)

Subscribed and sworn to before me this

_____ day of _____, 20___

Notary Public, _____ County

State of _____

_____
(**Notary Signature**)

My commission expires _____

Form DPW-126 (Rev.1/14)

CITY OF MILWAUKEE, WISCONSIN
DEPARTMENT OF PUBLIC WORKS
LICENSED SURETY CORPORATION BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, ……

……

of ……..
(Street and Number) (City) (State)

as principal and …… of ……
(Home Office)

as surety are held and firmly bound unto the City of Milwaukee, Wisconsin, hereinafter called City in

the penal sum of ……..

…….. Dollars,

to be paid to the City: its successors and assigns, for which payment well and truly to be made, we bind ourselves, and our heirs, executors, and, administrators, or successors and assigns, as the case may be, jointly and severally, firmly by these presents.

WHEREAS, the above bounden principal is making a proposal in writing dated ……

20 ....., to the Commissioner of Public Works of the City, according to Official Notice No .....

20 ....., of said Commissioner for furnishing all material, equipment, labor and everything necessary

for the completion of the work of...

according to plans, specifications and the other contract documents on file in the office of said Commissioner, a copy of which proposal is by reference made a part hereof, and the said proposal is accompanied with this bond.

NOW, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden principal shall execute the contract in quadruplicate, in accordance with the proposal as accepted, with approved licensed surety corporation bound thereto for the faithful performance and proper fulfillment

of such contract, and return the same to the office of the said Commissioner within the time limit specified in said proposal, then the above obligation shall be void, otherwise it shall be and remain in full force and effect.

In witness whereof, the above bounden parties have executed this instrument under their several seals at Milwaukee, Wisconsin, this ..... day of ..... 20 ....., the name and corporate seal of each corporate party being hereto affixed and this instrument signed by its duly authorized representative.

Bidder Witnesses …….. (Seal)
(Bidder)

…….

By …….
(Name and Title)

…….

Surety Witnesses ……..……
(Surety)

…….

……. By …….
(Attorney-in-Fact or Agent)

(Seal of Surety)

Name of Surety Contact Person _____**and Phone Number** _____
(Please Print)

NON-COLLUSION AFFIDAVIT

State of _____)
) ss.
County of _____)

_____, being first duly sworn, deposes and says that:

(1) He is _____
(owner, partner, officer, representative, or agent)

of _____, the Bidder that has submitted the attached Bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the Commissioner of Public Works or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Check One) _____
Signature of

_____ Bidder if the bidder is an individual;

_____ Partner if the bidder is a partnership;

_____ Officer if the bidder is a corporation.

Subscribed and sworn to before me this

_____ day of _____, 20_____.

_____
Notary Signature

My commission expires _____, 20_____.

To ensure DPW is in compliance with any federal procurement requirements regarding suspension and debarment, CONTRACTOR must sign this "Suspension/Debarment Certification Form".

Please complete and sign below and return this form to:

Department of Public Works Contract Office
Room **506**, Municipal Building
841 North Broadway
Milwaukee, WI 53202

Submittal required prior to start of work on this project.

CERTIFICATION REGARDING SUSPENSION AND DEBARMENT

The CONTRACTOR certifies that all potential sub-recipients, contractors, and any and all of their principals are not debarred, suspended or proposed for debarment for federal assistance (e.g., General Services Administration's List of Parties Excluded from Federal Procurement and Non-Procurement Programs), and that throughout the term of its federally-funded contracts with the City of Milwaukee, the CONTRACTOR will not enter into any transactions with any sub-recipients, contractors, or any of their principals who are debarred, suspended or proposed for debarment.

_____ _____
Signature/Authorized Official Date

_____ ___C_____
Printed Name Contract Number

_____
Title

_____
Name of Company

State of Wisconsin
Department of Workforce Development
Equal Rights Division
Labor Standards Bureau

Disclosure of Ownership

The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d) and 103.49(7)(d), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes. Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1) (m), Wisconsin Statutes]

(1) On the date a contractor submits a bid to or completes negotiations with a state agency or local governmental unit, on a project subject to Section 66.0903 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency or local governmental unit the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.

(2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 103.49(2) and 103.50(2), Wisconsin Statutes.

(3) This form must ONLY be filed, with the state agency or local governmental unit that will be awarding the contract, if **both (A) and (B) are met**.

(A) The contractor, or a shareholder, officer or partner of the contractor:

(1) Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.

(2) Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.

(B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.

Other Construction Business

Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code

I hereby state under penalty of perjury that the information, contained in this document, is true and accurate according to my knowledge and belief.

Print the Name of Authorized Officer			
Signature of Authorized Officer	Date Signed		
Name of Corporation, Partnership or Sole Proprietorship			
Street Address or P O Box	City	State	Zip Code

If you have any questions call (608) 266-6861

City of Milwaukee
Department of Public Works

Residents Preference Program Provisions

I. General

A. In accordance with Chapter 309 of the Milwaukee Code of Ordinances, residents preference hiring is required for all construction contracting activities of the Department of Public Works. The ordinance requires that 40% of WORKER HOURS worked on a DPW contract be performed by UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City, except in special cases where the Commissioner of Public Works determines there is sufficient reason to impose lesser levels of participation. Further, the Commissioner of Public Works may increase the percentage of RESIDENT worker participation to more than 40% on specific contracts. For this contract, bidders are required to show that the minimum percent of WORKER HOURS, as listed in the acknowledgements section/page and/or the Official Notice document will be performed by UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City. Up to one-third of required worker hours may be achieved by documenting the use of UNEMPLOYED or UNDEREMPLOYED RESIDENTS on projects undertaken by the contractor where such compliance is not required, or by hiring UNEMPLOYED or UNDEREMPLOYED RESIDENTS on a full-time permanent basis for non-construction job categories connected to the project. Such adjustments must be proposed in an affidavit on a form provided by the department setting forth the facts upon which the request for adjustment is based.

B. The contractor, prior to commencing work, shall submit an affidavit (Form I) for proof of residency for all employees utilized by the contractor and subcontractors to meet the Residents Preference Program requirements, stating that each employee is either UNEMPLOYED or UNDEREMPLOYED and is a RESIDENT of the City. The contractor shall prepare and submit accurate and timely resident utilization forms and reports to the Department of Public Works. Time Reports shall be submitted within ten (10) days following completion of work, or every three months, whichever comes first. The reports shall identify the name, address, race, gender, work classification, wage rates and hours worked of all employees utilized on the contract by the contractor and all subcontractors. Failure to submit the required forms and reports to the Department of Public Works may result in disqualification of future bids, delay of payments, or other appropriate sanctions. Final contract payments will not be made until the summary of hours worked on the back of the Prime Contractor's Affidavit of Compliance is completed and on file with the Department of Public Works. Forms shall be submitted to DPW, Room 506, Municipal Building, 841 North Broadway, Milwaukee, WI 53202.

C. During the performance of this contract the Department of Public Works reserves the right to conduct compliance reviews. If the contractor is not in compliance with the specifications, the Commissioner of Public Works will notify the contractor in writing of the corrective action that will bring the contractor into compliance. If the contractor fails or refuses to take corrective action as directed, or if the contractor, prime or sub, submits any documents which contain any false, misleading, or fraudulent information, or if the contractor or subcontractor fail to comply with this ordinance, the Department of Public Works may take one or more of the actions listed below.

1. Withhold payments on the contract.

2. Terminate or cancel the contract, in whole or in part.

3. Consider possible debarment of the contractor from bidding for a period of up to two years.

4. Any other remedy available to the City at law or in equity.

D. The penalty for any person, firm, or corporation knowingly engaging in fraud, misrepresentation, or in any attempt directly or indirectly, to evade the provisions of this ordinance by providing false, misleading, or fraudulent information shall, upon conviction, forfeit not less than $1,000 or more than $5,000 together with the costs of prosecution and, upon default of payment, shall be

imprisoned in the county jail or house of correction not to exceed 90 days, or until the forfeiture costs are paid.

II. Definitions

A. RESIDENT – A person who maintains his or her place of permanent abode in the City of Milwaukee. Domiciliary intent is required to establish that a person is maintaining his or her place of permanent abode in the City. Mere ownership of real property is not sufficient to establish domiciliary intent. Evidence of domiciliary intent includes, without limitations, the location where a person votes, pays personal income taxes, or obtains a driver's license.

B. UNEMPLOYED or UNDEREMPLOYED – a RESIDENT that has worked less than 1,200 hours in the preceding 12 months or has not worked in the preceding 30 days or, regardless of employment status, has household income at or below the federal poverty guidelines as adjusted by the Wisconsin Department of Public Instruction to define eligibility for reduced lunch in public schools. A RESIDENT will continue to qualify as unemployed or underemployed for five (5) years from the date he or she first participates in a contract under Chapter 309. If a RESIDENT becomes an apprentice for a contractor or becomes a participant in an on-the-job training program as determined by the City immediately after or in the course of performing on a particular construction contract, he or she shall continue to qualify as unemployed or underemployed for a period not exceeding 5 years from the date the person became an apprentice or participant in such on-the-job training program.

C. WORKER HOURS – means the total hours worked on a construction contract by skilled and unskilled construction trade workers, whether those workers are employed by the contractor or any subcontractor. In determining the total worker hours to be furnished at a construction site, the number of hours devoted to all tasks customarily performed on a construction site shall be included, whether or not such tasks are performed on the construction site. "Worker hours" includes work performed by persons filling apprenticeships and participating in on-the-job training programs and excludes the number of hours of work performed by all non-Wisconsin residents.

III. Residency Utilization Requirements

A. The contractor shall utilize UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City in a minimum amount equal to the percentage of the WORKER HOURS as stated in paragraph IA above.

B. The contractor, by signing and submitting a bid, certifies that it understands the provisions of Chapter 309 and knows of and intends to comply with them, and shall ensure that all subcontractors are also informed.

C. The contractor shall maintain, and shall ensure that all subcontractors maintain, personnel records listing the name, address, race and gender of all employees utilized for this contract and any records demonstrating that the employees utilized by the contractor in meeting the residency requirements are actual residents of the City. These records shall be maintained for seven (7) years after the contractor has received final payment under the contract and shall be made available to the Commissioner of Public Works upon reasonable notice.

D. Compliance with these residency requirements is an element of bid responsiveness. Failure to meet the specified residency requirements will render the bid unresponsive, and the Commissioner of Public Works may then recommend the award to the next apparent low bidder.

E. The City recognizes the following organization which can be contacted for access to trained or qualified workers from the City. Other organizations or sources of qualified RESIDENTS can be used at the bidder's discretion.

Big Step, located at 3841 West Wisconsin Avenue, Milwaukee, WI 53208.
Telephone 414-342-9787, fax number 414-342-3546.

F. If the prime contractor has problems in meeting the residency requirements or if any other problems relative to residency participation arise during the completion of this project, the prime contractor shall immediately contact the Commissioner of Public Works.

G. Right to Appeal – All contracts awarded under ss. 7-14-2 and 7-22 of the City Charter shall be awarded by the Commissioner of Public Works to the lowest responsible bidder determined in accordance with any applicable City ordinances relating to the participation of Small Business Enterprise Programs or requiring participation of City RESIDENTS. Following the opening of any bid where the Commissioner has considered compliance with such City ordinances, the Commissioner shall publish in an official City newspaper his or her determination as to the lowest responsible bidder. Any bidder who objects to the determination based on the consideration of such City Ordinances, may appeal the recommendation by filing a written appeal with the Commissioner within five (5) working days of the date of publication. The appeal shall state the specific objection to the determination, including supporting documentation, and specify an alternative determination. Any appeals that do not conform to this section shall not be considered. The Commissioner shall schedule a hearing before the Public Works Contract Appeals Committee which shall be comprised of the chair of the Economic Development Committee or his or her designee and a member of the Economic Development Committee selected by the chair and the Director of Administration or his or her designee to be held within five days of receipt of the appeal. The Public Works Contract Appeals Committee shall have the authority by majority vote to affirm or set aside the determination of the Commissioner and their decision in this regard shall be final. In the event that a timely appeal meeting the requirements of this paragraph is not filed, or the Committee affirms the Commissioner's determination following a timely appeal, the Commissioner shall make an award in accordance with his or her determination.

FORM I (Rev.2015)

_____
Contractor Name

_____
DPW Contract No.

Employee Affidavit

Residents Preference Program

I certify that I maintain my permanent residence in the City of Milwaukee and that I vote, pay personal income tax, obtain my driver's license, etc. at _____,Milwaukee, WI _____
(Address) (Zip Code)

Residency status:

To verify my resident status, attached please find the following (check ***two***)

_____ Copy of my voter's certification form.
_____ Copy of my last year's Form 1040.
_____ Copy of my current Wisconsin Driver's License or State ID.
_____ Copy of Other (i.e., Utility bill, Lease, etc.)

AND

Unemployment status:

I certify that I have been unemployed as follows: (Check those that apply)

_____ I have worked less than 1,200 hours in the preceding 12 months.
_____ I have not worked in the preceding 30 days.

OR

Underemployed status:

_____I certify that based on the attached chart (Income Eligibility Guidelines), I am underemployed.

.

_____
Print Name

_____
Sign Name

_____
Social Security Number

_____
Home Telephone Number

Subscribed and sworn to me this _____day

Of _____, _____ A.D.

My Commission Expires _____.

_____
Notary Public Milwaukee County

Income Eligibility Guidelines
July 1, 2015 to June 30, 2016

Eligibility determination is based on household size and income.
Total income must be *at* or *below* the amounts in this table.

Household Size	Yearly	Monthly	Twice per month	Every 2 weeks	Weekly
1	**21,775**	**1,815**	**908**	**838**	**419**
2	**29,471**	**2,456**	**1,228**	**1,134**	**567**
3	**37,167**	**3,098**	**1,549**	**1,430**	**715**
4	**44,863**	**3,739**	**1,870**	**1,726**	**863**
5	**52,559**	**4,380**	**2,190**	**2,022**	**1,011**
6	**60,255**	**5,022**	**2,511**	**2,318**	**1,159**
7	**67,951**	**5,663**	**2,832**	**2,614**	**1,307**
8	**75,647**	**6,304**	**3,152**	**2,910**	**1,455**
9	**83,343**	**6,946**	**3,473**	**3,206**	**1,603**
10	**91,039**	**7,588**	**3,794**	**3,502**	**1,751**
11	**98,735**	**8,230**	**4,115**	**3,798**	**1,899**
12	**106,431**	**8,872**	**4,436**	**4,094**	**2,047**
For Each Additional Household Member Add	**7,696**	**642**	**321**	**296**	**148**

Source: Wisconsin Department of Public Instruction

City Of Milwaukee

Department Of Public Works

Small Business Enterprise (SBE) Provisions

I. General

A. In accordance with Chapter 370 of the Milwaukee Code of Ordinances, Small Business Enterprise (SBE) participation is required in all contracting activities of the Department of Public Works. The ordinance requires that certified SBEs be utilized for 25% of the total dollars annually expended through prime contracts or subcontracts for Construction and the purchase of Goods and Services. For the purchase of Professional Services the requirement is 18%. To that end, the Commissioner of Public Works, as a contracting officer for the City, requires all bidders to utilize SBEs as subcontractors and material suppliers on all contracts. For this contract, bidders are required to achieve the minimum percent of SBE participation listed in the Acknowledgements page/section and/or the Official Notice document.

B. The prime contractor shall prepare and submit accurate and timely SBE utilization forms and reports to the Department of Public Works. The reports shall include, but not be limited to, Compliance Plan (Form A), monthly utilization (Form D), and SBE subcontractor payment certification (Form E) forms as directed. Failure to submit the required forms and reports to the Department of Public Works may result in disqualification of future bids, delay of payments, or other appropriate sanctions. Final contract payments will not be made until final SBE utilization reports and SBE subcontractor payment certification forms are on file with the Department of Public Works.

C. During the performance of this contract, the Department of Public Works reserves the right to conduct compliance reviews. If the contractor is not in compliance with the specifications, the Commissioner of Public Works will notify the contractor in writing of the corrective action that will bring the contractor into compliance. If the contractor fails or refuses to take corrective action as directed, the Department of Public Works may take one or more of the actions listed below:

1. Terminate or cancel the contract, in whole or in part.

2. Consider possible debarment of the prime contractor from bidding.

3. Withhold payments on the contract.

4. Any other remedy available to the City at law or in equity.

II. Definitions

A. "SMALL BUSINESS ENTERPRISE" (SBE) means a small business concern that is 51% owned, operated and controlled by one or more individuals who are a minority, woman and/or a small business owner (who is at an “economic disadvantage”). The individuals must have day-to-day operational and managerial control and interest in capital, financial risks and earnings commensurate with the percentage of their ownership.

B. "OWNED, OPERATED AND CONTROLLED" means a business which is one of the following:

1. A sole proprietorship legitimately owned and operated and controlled by a minority, women or an individual at a disadvantage as defined in Chapter 370.

2. A partnership or joint venture legitimately owned, operated and controlled by individuals who are minorities, women or individuals who are at a disadvantage and who own at least 51% of the beneficial ownership interests in the enterprise and who hold at least 51% of the voting interests of the enterprise eligible as defined in Chapter 370.

3. A corporation legitimately owned, operated and controlled by one or more individuals who are a minority, woman or individual at a disadvantage and who own at least 51% of the outstanding shares and who hold at least 51% of the voting interests of the corporation eligible as defined in Chapter 370.

III. SBE Utilization Requirements

A. Each prime contractor shall utilize SBE to the minimum percent listed in the Acknowledgements section/page and or Official Notice Document for this contract. Note that the prime contractors shall be required to attain SBE participation on their base bid excluding specified allowances, alternatives, and change orders. SBE commitments relative to contract award shall be based upon the approved SBE Compliance Plan (Form A).

B. The determination of SBE utilization shall be based on the following criteria:

1. The firms identified as SBE by the prime contractor on the SBE Compliance Plan (Form A) must be certified by the Office of Small Business Development prior to bid opening.

2. The prime contractor shall be credited for the entire expenditure to SBE firms only if all of the identified scope of work is performed directly by the certified SBE firm.

3. The prime contractor shall be credited for the entire expenditure to SBE manufacturer only if the manufacturer produces goods from raw materials or substantially alters them for resale. Only 20% of the SBE goals may be expended for SBE suppliers that do not manufacture products they supply.

4. The prime contractor shall count toward the SBE requirement only those payments to SBEs who perform a commercially-useful function in the actual performance of the contract. While that generally means an SBE should be engaged in direct contract work, a "commercially-useful function" may also include management of a third tier subcontractor. For example, while an SBE trucking subcontractor is always expected to perform some direct work on the project, in some cases it may become necessary to subcontract work out to one or more third tier subcontractors. If a third tier subcontractor is also an SBE, the full amount of the work performed by that third tier SBE can be counted toward SBE participation. However, if the third party subcontractor is not an SBE, the prime contractor may only count 20% of the amount being subcontracted to the third tier non-SBE subcontractor. SBEs are required to notify the Department of Public Works if they subcontract out work so that the Department can determine how much, if any, of the subcontracted work can be counted toward the SBE requirement. The Commissioner of Public Works will make the final determination and evaluation of whether the SBE is performing a commercially-useful function.

C. The contractor, by signing and submitting a bid, certifies that the contractor understands the provisions of Chapter 370 and knows of and intends to comply with them. The completed SBE Compliance Plan (Form A) must be submitted by the apparent low bid contractor within three (3) working days after the identification of the "low bidder."

1. Information on Form A shall include, but not be limited to:

a. The names, addresses, telephone numbers, SBE Certification designation and contact person names for the certified SBE contractors that will participate on the project as subcontractors or suppliers;

b. A description of the scope of work to be performed by the SBE on this project; and

c. The SBE contractor dollar value(s) and corresponding percentages that the dollar values represent of the total contract amount.

2. Listing an SBE on the Compliance Plan (Form A) shall constitute a representation that the contractor has communicated directly with the SBEs listed. If awarded the contract, the bidder will enter into a subcontract with the firm for the portion of the work listed.

3. SBE participation is an element of bid responsiveness. Failure to meet the specified SBE requirements will render the bid unresponsive. The contract may then be awarded to the next apparent low bidder. Under certain circumstances, failure to meet specified SBE requirements after submission of an apparent low bid may result in surrender of the bidder's bid bond.

4. Only SBEs that have been certified by the Office of Small Business Development may be listed on the SBE Compliance Plan (Form A) and counted towards the percentage requirements on this project. A listing of the currently City certified SBE firms is maintained at:

Office of Small Business Development
200 East Wells Street
City Hall, Room 606
Milwaukee, Wisconsin 53202
Phone: (414) 286-5553
FAX: (414) 286-8752
www.milwaukee.gov/osbd

D. After execution of the contract, if for any reason an SBE cannot perform, the prime contractor shall contact the Commissioner of Public Works for approval to substitute another certified SBE firm. The prime contractor must submit a written request for substitution which specifies the reasons for the request. Approval must be obtained prior to making substitutions. Any difference in the cost occasioned by such substitution shall be borne by the prime contractor. If the prime contractor cannot find another certified firm to do the work at a comparable price, a non-SBE firm may be substituted with the approval of the Commissioner of Public Works.

E. If the prime contractor has a problem in meeting the SBE requirements or if any other problems relative to SBE(s) arise during the completion of this project, the prime contractor shall immediately contact the Commissioner of Public Works.

F. Certification from programs other than the Office of Small Business Development is neither accepted by the City of Milwaukee nor do they have any bearing whatsoever on the eligibility criteria established by the City of Milwaukee.

G. Right to Appeal.

All contracts awarded under ss.7-14-2 and 7-22 of the City Charter shall be awarded by the Commissioner of Public Works to the lowest responsible bidder determined in accordance with applicable City ordinances for participation of the Office of Small Business Development. Following the opening of any bid involving a determination under applicable City ordinances for participation of SBE, the Commissioner of Public Works shall make a written recommendation as to the lowest responsible bidder and notify all bidders by publication in an official City newspaper as to the content of the written recommendation. Any bidder who objects to the recommendation on grounds of determinations made under applicable City ordinances for participation of SBE may appeal the recommendation on such grounds by filing a written appeal with the Commissioner of Public Works within five (5) working days of the date of publication. The appeal shall state the specific objection to the recommendation, include supporting documentation and specify an alternative recommendation. The Commissioner of Public Works shall schedule a hearing before an appeals committee consisting of the Chair of the Economic Development Committee or the Chair's designee, a member of the Economic Development Committee selected by the Chair and the Director of the Office of Small Business Development to be held within five (5) days of receipt of the appeal. The Committee shall have authority by majority vote to affirm or set aside the recommendation of the Commissioner of Public Works and its decision in this regard shall be final. In the event a timely appeal, meeting the requirements above is not filed, or the Committee affirms the Commissioner's recommendation following a timely appeal, meeting the requirements above, the Commissioner shall make an award in accordance with the recommendation.

H. **Percentage of Required SBE Participation**

Construction 25%
The Purchase of Goods and Services 25%
The Purchase of Professional Services 18%

FORM A - COMPLIANCE PLAN - CITY OF MILWAUKEE – DEPARTMENT OF PUBLIC WORKS
SBE PARTICIPATION FOR SUBCONTRACTORS AND/OR MATERIAL SUPPLIERS

PRIME CONTRACTOR'S NAME:_____ OFFICIAL NOTICE NUMBER: _____

DATE:_____ TOTAL BID AMOUNT:_____ TOTAL SBE AMOUNT:_____

This Form A must be completed in its entirety and is a **required** submission in conjunction with a Bid or Request for Proposal. Submit either with the bid or within **3** days of being notified as the apparent low bidder. List all proposed SBE subcontractor(s) and/or material supplier(s) for this project. **NOTE:** To receive full credit, SBE's must perform commercially useful work at the job site. ONLY up to twenty percent (20%) credit may be given under certain circumstances to SBE suppliers or other SBE contractors who assist in management of the project. I/We propose to utilize the following SBE subcontractor(s) and/or material supplier(s):

Fill in BID REQUIREMENTS: _____%**SBE**

SBE FIRM(S) NAME ADDRESS/CONTACT PERSON AND PHONE NUMBER	**LIST DESIGNATION: WHETHER SUPPLIER OR CONSTRUCTION LABOR**	PERCENT OF BID	AMOUNT	EXPLAIN WORK TO BE PERFORMED/MATERIAL SUPPLIED	AUTHORIZED SBE(S) OWNER/REPRESENTATIVE SIGNATURE OF ACKNOWLEDGEMENT
1.					
2.					
3.					
4.					
5.					

I certify that the information included on this Form A is true and complete to the best of my knowledge. I further understand and agree that this Form A is a condition of my Bid/RFP responsiveness. Failure to submit this form and/or meet the specified SBE requirements may render the Bid/RFP nonresponsive.

CONTRACTOR: _____ DATE: _____/_____/_____
(SIGNATURE & TITLE REQUIRED)

REVIEWED BY OSBD ANALYST: _____ DATE: _____/_____/_____

DEPARTMENT OF PUBLIC WORKS: _____ DATE: _____/_____/_____

Form D
(Rev. 5/2013)

DEPARTMENT OF PUBLIC WORKS
SMALL BUSINESS ENTERPRISE PROGRAM

Form D –SBE MONTHLY REPORT

(1) Report for the Month of _____20_____ (Final: yes ___ no ___)

(2)Prime Contractor/Firm_____

(3)Full Address & Phone Number:_____

(4)Description of work/service performed and/or material supplied_____

(5) DPW Contract No. **C**_____ (6) Official Notice No. / Project Number _____

7) Start Date: _____ (8) Prime Contractor's Total $: _____

(9) Completion Date: _____ (10) Prime Contractor paid to date $: _____

(11) Small Business %_____ and Small Business $ amount _____

List all SBE subcontractor firm(s) utilized in connection with the above contract, either as service performed and/or supplier for the month. This form shall be signed and returned. **If this represents the final report, be sure to attach SBE Payment Certification Form (Form E) for each sub listed.**

NAME OF SBE FIRM(s)	WORK/SERVICE PERFORMED or MATERIAL SUPPLIED	AMOUNT PAID FOR THE MONTH	TOTAL $ PAID TO DATE
TOTAL PAID TO SBE(s)			

I/we hereby certify that I/we have read the above and approved this information to be precise and confirmed.

(12) Report Prepared By: _____
(Name) (Title) (Phone Number)

(13) Authorized Signature : _____
(Name) (Title)

(14) Date_____

Note: This form should be submitted no later than the **20th of every month** to **DEPARTMENT of PUBLIC WORKS CONTRACT ADMINISTRATION, Room 506, Municipal Building, 841 North Broadway, Milwaukee, WI 53202.**

DIRECTIONS FOR SBE MONTHLY REPORT (FORM D)

1. List the month and year that the report is being submitted for. **Note: If this is the final report, check yes and submit Form E Subcontractor Payment Certification Form.**
2. Prime contractor's or firm's registered company name.
3. List full registered business address to include city/state, zip code and telephone number.
4. Brief description service performed and/or material supplied on this contract.
5. List the DPW Contract Number, as represented on the contract document.
6. List the official notice & project number as represented on the front page of the contract.
7. List the start date of the project.
8. List the total dollars awarded to the prime contractor.
9. List the completion date of the project.
10. Total dollars paid to Prime contractor to date.
11. List SBE percentage **REQUIRED** on this project and the SBE dollar amount.
12. List the name, title and phone number of the individual who prepared the report.
13. Provide the authorized signature and title of the individual who approves the report.
14. List the date that the report is completed.

THIS REPORT IS DUE THE 20TH OF EVERY MONTH FOR THE PREVIOUS MONTH'S ACTIVITY. FAILURE TO RETURN THIS FORM BY THE SPECIFIED TIME MAY CAUSE A DELAY IN PAYMENTS.

City Of Milwaukee

Department Of Public Works

Small Business Enterprise Program (SBE)
Subcontractor Payment Certification

(This form must be completed by the SBE subcontractor and attached to the Prime Contractor's Final SBE Form D Report)

-PRIME CONTRACTOR & SUBCONTRACTOR EXECUTE-

Section A - **SBE** Company Officer & Prime Contractor Complete **For Payment That Has Been Received**

SBE Subcontractor Name : _____

Official Notice No.: _____Project No. _____ **DPW Contract No**. **C**_____

I hereby certify that I have received $ _____ for subcontract work on the above project.

Dated: _____Signature of **SBE** Subcontractor: _____

Printed Name & Title of **Certified SBE** Subcontractor:

_____

Acknowledged by **Prime** Contractor Signature: _____

Printed name & Title of **Prime** Contractor: _____

****

-PRIME CONTRACTOR & SUBCONTRACTOR EXECUTE-

Section B – Prime contractor and SBE Company Officers Complete if **Full Payment Has Not Been Made to the SBE Subcontractor and a balance remains to be paid.**

Prime Contractor: _____

SBE Subcontractor: _____

Official Notice No.: _____Project No. _____ **DPW Contract No**. **C**_____

I hereby certify that I will pay $_____ to _____
for subcontract work on the above project. (Name of SBE Firm)

Dated: _____ Signature of **Prime** Contractor: _____

Printed Name & Title of **Prime** Contractor: _____

Acknowledged by: **SBE** Subcontractor Signature: _____

Printed name & Title of **SBE** Subcontractor: _____

PAYMENT MONITORING REQUIREMENTS: All Contractors awarded a contract valued at $25,000.00 or more are required to participate in training on the City of Milwaukee's B2GNow contract compliance software. Contractors must complete the training no later than 30 days after the date of contract award. Throughout the contract term, Contractors are required to regularly provide timely payment information in the City's contract compliance software.

Please contact the Office of Small Business Development (OSBD) at 414-286-5553 should you have any questions or concerns regarding the training or *reporting process.*

CITY OF MILWAUKEE

PRIME CONTRACTOR AFFIDAVIT OF COMPLIANCE

WITH MINIMUM WAGE SCALE AND SPECIAL AREA WORKER HOURS PROVISIONS

STATE OF _____)
) SS.
_____County)

Project Name _____

DPW Contract No. _____

I, _____, being duly sworn, state that:

1. I am the _____ of_____, a _____ (State) corporation, partnership, or individual of _____ (City, Village, Township), _____ (State), and make this affidavit pursuant to the provisions of § 66.0903 (9), Wisconsin Statutes, and Wisconsin Administrative Code section §DWD 290.14 regarding wage and fringe benefit rates for municipal contracts for construction of public works and pursuant to Section 309-41 of the Milwaukee Code of Ordinances.

2. I have recently completed the work required under the terms of the contract dated _____, 20_____, with the City of Milwaukee, Department of Public Works for the construction of all or part of the above-named public works project and make this affidavit in order to obtain my final payment.

3. I have fully complied with the wage and hour requirements as set forth in the above-referenced contract and paid overtime rates (1½ times) for any work over ten (10) hours per day or forty (40) hours per week.

4. I have received similar evidence of compliance with the contract wage rates and special impact area worker hour requirements in the form of completed affidavits from each of my agents and subcontractors who worked on this project and have listed their names on the reverse side of this affidavit along with numbers and percentages of worker hours.

5. I have full and accurate records which clearly show the name, trade or occupation, and home address of every laborer, worker, or mechanic that I employed in connection with the work on this project, as well as the hours worked and actual wage and fringe benefits paid to such employees. These records will be kept at _____ _____ in the custody of _____, who address and telephone number are _____ _____ . These payroll records and the evidence of compliance set in Paragraph 4 will be retained and made available for inspection for a period of at least **seven (7)** years following the completion of the project and will not be removed without prior notification to the commissioner of Public Works.

Title	Officer Name	Address
President	_____	_____
Vice-President	_____	_____
Secretary-Treasure	_____	_____

Subscribed and sworn to before me this _____
day of _____, 20_____

_____

Notary Public, State of _____

My Commission Expires: _____

_____
(Signature)

- OVER -

SUMMARY OF HOURS WORKED
(TARGET RESIDENCY VS TOTAL HOURS)

(REV. 01/01/01)

Name	No. of Hours of Special Impact Area Workers	% of Total Hours	No. of Hours of All Other Workers	% of Total Hours	Total of All Worker Hours
Prime Contractor:					
Subcontractors:					
GRAND TOTAL					

CITY OF MILWAUKEE

SUBCONTRACTOR AFFIDAVIT OF COMPLIANCE

WITH MINIMUM WAGE SCALE AND SPECIAL AREA WORKER HOURS PROVISIONS

STATE OF _____)
) SS.
_____County)

Project Name _____

DPW Contract No. _____

I, _____, being duly sworn, state that:

1. I am the _____ of_____, a _____ (State) corporation, partnership, or individual of _____ (City, Village, Township), _____ (State) and make this affidavit pursuant to the provisions of § 66.0903 (9), Wisconsin Statutes, and Wisconsin Administrative Code section § DWD 290.13 regarding wage and fringe benefit rates for municipal contracts for construction of public works and pursuant to Section 309-41 of the Milwaukee Code of Ordinances.

2. I have recently completed the work required under the terms of the contract dated _____, 20_____ , with the City of Milwaukee, Department of Public Works and _____ (Name of Prime Contractor) for the construction of all or part of the above-named public works project and make this affidavit in order to obtain my final payment.

3. I have fully complied with the wage and hour requirements as set forth in the above-referenced contract and paid overtime rates (1½ times) for any work over ten (10) hours per day or forty (40) hours per week.

4. I have full and accurate records which clearly show the name, trade or occupation, and home address of every laborer, worker, or mechanic that I employed in connection with the work on this project, as well as the hours worked and actual wage and fringe benefits paid to such employees. These records will be kept at _____ _____ in the custody of _____, who address and telephone number are _____ . These payroll records and the evidence of compliance set in Paragraph 4 will be retained and made available for inspection for a period of at least **seven (7)** years following the completion of the project and will not be removed without prior notification to the commissioner of Public Works.

5. I certify that _____ were the total number of hours worked on this project with _____ hours being worked by residents of the special impact area and _____ hours being worked by all other workers.

Title	Officer Name	Address
President	_____	_____
Vice-President	_____	_____
Secretary-Treasure	_____	_____

Subscribed and sworn to before me this _____

day of _____, 20_____

_____

Notary Public, State of _____

My Commission Expires: _____

_____
(Contractor Signature)

AFFIDAVIT OF COMPLIANCE
WITH WISCONSIN STATUTE 103.503
SUBSTANCE ABUSE PREVENTION REQUIREMENTS

STATE OF _____) PROJECT NAME _____
) ss.
_____ COUNTY) DPW Contract No._____

I, _____ , being first duly sworn state that:
(Print name)

1. I am the _____ of _____, a _____.
(Title) (Company Name) (State)

   Corporation, partnership, or individual of _____, _____ ,
(City, Village, Township) (State)
   and make this affidavit pursuant to the provisions of Wis. Stat. § 103.503.
2. I have entered into City of Milwaukee, Department of Public Works' Contract No. _____ , to which the provisions of Wis. Stat. 66.0903 apply.
3. I have in place a substance abuse prevention program that meets the requirements of Wis. Stat. 103.503, and I will fully comply in all respects with the requirements of Wis. Stat. 103.503 during the performance of this Contract.
4. I will include in each subcontract covering work performed under this Contract to which the provisions of Wis. Stat. 66.0903 apply, a provision similar to that in Paragraph 3 above, together with a clause requiring such insertion in further subcontracts that may in turn be made.

Title	Officer Name	Address
President	_____	_____
Vice President	_____	_____
Secretary/Treasurer	_____	_____

Subscribed and sworn before me this _____

day of _____ , 20_____ .

_____ _____
Notary Signature Contractor Signature

Notary Public, State of _____

My Commission Expires: _____

1121-2004-1516/96897

(REV. 04/03/07)

FORM F

PROPOSED RESIDENT/APPRENTICE UTILIZATION FORM

This is a preliminary statement of proposed workforce needs where known

Official Notice # _____ Project # _____ Contract # _____

Contractor_____

JOB CATEGORY	PROPOSED # OF HOURS ON THIS PROJECT	PROPOSED # OF HOURS FOR SPECIAL IMPACT AREA RESIDENTS	PROPOSED # OF HOURS FOR ALL OTHER WORKERS
TRUCK DRIVERS:		(%)	(%)
OPERATING ENGINEERS:			
Journeymen		(%)	(%)
Apprentices		(%)	(%)
SKILLED TRADES: (Specify)			
Journeymen		(%)	(%)
Apprentices		(%)	(%)
Trainees		(%)	(%)
LABORERS: (Specify type)			
		(%)	(%)
		(%)	(%)
		(%)	(%)
		(%)	(%)
		(%)	(%)

NAME and ADDRESS of Target Area Residents:

_____ _____
_____ _____
_____ _____

_____ _____ _____
_____ _____ _____
_____ _____ _____

_____ _____ _____
_____ _____ _____
_____ _____ _____

NAME and ADDRESS of Apprentices:

_____ _____
_____ _____
_____ _____

_____ _____ _____
_____ _____ _____
_____ _____ _____

(REV. 10/16/02)

NOTICE TO CONTRACTORS

PLEASE NOTE: Effective December 28, 2005, the City of Milwaukee adopted an ordinance relative to the disclosure of participation in or profits derived from slavery by contractors. All contractors awarded a contract on behalf of the City of Milwaukee, whether or not subject to a competitive bid, shall complete an affidavit prior to entering into the contract verifying that the contractor has searched any and all records of the company or any predecessor company regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era. The names of any enslaved persons or slaveholders described in those records must be disclosed in the affidavit.

The City shall make the information contained in the affidavit available to the public. Any contract between the City and a contractor which fails to provide the requisite affidavit or which includes material false information on such affidavit shall be rendered null and void. To reference Milwaukee Code of Ordinances 310-14, please see:

http://cctv25.milwaukee.gov/code/volume3/ch310.pdf

DEPARTMENT OF ADMINISTRATION
BUSINESS OPERATIONS DIVISION
PROCUREMENT SERVICES SECTION

Affidavit of Compliance
Disclosure of Participation in or Profits Derived from Slavery by Contractors

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

This affidavit of compliance will be the contractor's sworn statement that publicly discloses any slavery policies sold by any companies, or profits from slavery by industries or their predecessors who are doing business with the City of Milwaukee as defined in the Milwaukee Code of Ordinances 310-14. **NOTE: Effective May 13, 2014, Contractors whose company was established during the slavery era, whether or not subject to competitive bidding, shall complete this Affidavit prior to entering into a contract.**

Please check one:

☐ This business **was** in existence during or prior to the slavery era (1865). I have searched any and all records for records of investments or profits from slavery, and have found no such records.

☐ This business **was** in existence during or prior to the slavery era (1865). I have searched any and all records for records of investments or profits from slavery, and am disclosing the findings below.

Findings being disclosed (please attach additional pages, if necessary):

I hereby declare that all statements are true, accurate and complete as of the date furnished to the City of Milwaukee.

Authorized Signature: _____

Printed Name: _____ Date: _____

Subscribed to before me on this _____ day of _____, 20 _____, at

_____ County, _____ State.

_____
Notary Public Signature

_____
Printed Name

My commission expires: _____

(SEAL)

Please Return to:
DOA-BOD-Procurement Services
200 E. Wells Street, Room 601
Milwaukee, WI 53202

procurement.services@milwaukee.gov

Bidders are advised that “Federal Davis-Bacon Wage Rates and wage rate monitoring will be required.” The contractor shall take note of the two (2) wage scales included with this bid – the Prevailing Wage Rate issued by the State of Wisconsin (for Sewer, Water or Tunnel Construction & Local Street or Miscellaneous Paving Construction) and the Davis-Bacon Wage documents (for Highway & Heavy) as issued by the U.S. Department of Labor Wage and Hour Division. The contractor is required to pay the HIGHER of the two (2) wage scales.

PREVAILING WAGE NOTICE

ALL PREVAILING WAGE CONTRACTS AWARDED BY THE DEPARTMENT OF PUBLIC WORKS AFTER THE FIRST OF ANY CALENDAR YEAR ARE SUBJECT TO THE NEW PREVAILING WAGE SCHEDULE THAT GOES INTO EFFECT ON JANUARY 2ND. THE PREVAILING WAGE SCHEDULE INCLUDED IN BID PACKAGES ISSUED LATE IN THE PRECEDING YEAR MAY NOT BE TOTALLY ACCURATE FOR CONTRACTS OFFICIALLY AWARDED AFTER THE TURN OF THE YEAR. THE NEW PREVAILING WAGE WILL BE INCORPORATED INTO THE CONTRACT WHEN AWARDED.

BIDDERS ARE REQUIRED TO UTILIZE THE WISCONSIN DEPARTMENT OF WORKFORCE DEVELOPMENT'S "DICTIONARY OF OCCUPATIONAL CLASSIFICATIONS AND WORK DESCRIPTIONS" TO DETERMINE THE APPROPRIATE JOB CLASSIFICATIONS AND WAGE RATES FOR THEIR EMPLOYEES PRIOR TO BIDDING. THIS DOCUMENT CAN BE FOUND ON THEIR WEBSITE AT DWD.WISCONSIN.GOV; TYPE "DICTIONARY" IN THE SEARCH BOX.

Rev. 06/07

City of Milwaukee

Department of Public Works
Administration

Ghassan Korban
Commissioner of Public Works

Preston D. Cole
Director of Operations

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
DAVIS-BACON COMPLIANCE PROVISIONS

a. The Contractor will be required to conform to the wage requirements prescribed by the federal Davis-Bacon and Related Acts which requires all laborers and mechanics employed by contractors or subcontractors performing on contracts in excess of $2,000 pay their laborers and mechanics not less than the prevailing wage rates and fringe benefits, as determined by the Secretary of Labor, for the corresponding classes of laborers and mechanics employed on similar projects in the area." (U.S. Department of Labor Wage and Hour Division May 29, 2009 Guidance).

b. The Contractor will pay wages and benefits that comply with the Acts and consistent with the Wage Determination. The Wage Determinations are available on the Department of Labor's website: http://www.wdol.gov/dba.aspx. Be sure to use the determination that is specific to the type of project that is being bid.

c. The Contactor must certify and pay wages in conformance with the Acts each week. The Contractor must submit certified payroll information using form WH-347 (copy attached).

d. The Contractor must collect certified payroll documents from sub-contractors each week. The Contractor must certify that subcontractors are paying wages in conformance with the Acts each week. A sample of a DOL approved payroll certification on form WH-347.

e. The Contractor will display the Davis Bacon "Employee Rights" poster in a prominent/accessible place at the work site. Sample posters are being included (copy attached)

f. The Contractor must comply with all of the pay practices outlined in Attachment #4. These practices include but are not limited to; the ratio and payment of apprentices and the payment of overtime wages.

g. The Contractor must not utilize any debarred subcontractor and must certify that the subcontractor was not listed on the "Excluded Parties List" at www.epls.gov.

Room 501, Frank P. Zeidler Municipal Building, 841 N. Broadway, Milwaukee, Wisconsin 53202-3681
Voice: 414-286-3307, Cell: 414-708-6982, Fax: 414-286-0403
Internet Email: dan.thomas@milwaukee.gov

EMPLOYEE RIGHTS
UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

BARBARA TRIBLE
DPW CONTRACT COMPLIANCE OFFICER
841 NORTH BROADWAY – ROOM 506
MILWAUKEE, WI 53202
414-286-3309

or contact the U.S. Department of Labor's Wage and Hour Division.

For additional information:

1-866-4-USWAGE
(1-866-487-9243) TTY: 1-877-889-5627

WHD
U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the **subrecipient** (s) shall insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipient s may obtain wage determinations from the U.S. Department of Labor's web site, www.wdol.gov.

(ii)(A) The **subrecipient** (s), on behalf of EPA, shall require that any class of laborers or mechanics,

including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The EPA award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the **subrecipient** (s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the **subrecipient** (s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the **subrecipient** (s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may

consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The **subrecipient** (s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the **subrecipient** , that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State

recipient or EPA. As to each payroll copy received, the **subrecipient** shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the **subrecipient** (s) for transmission to the State or EPA if requested by EPA , the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the **subrecipient** (s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United

States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the

work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the

Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and **Subrecipient** (s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. **Contract Provision for Contracts in Excess of $100,000.**

(a) Contract Work Hours and Safety Standards Act. The **subrecipient** shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFF 4.6 . As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation

of the clause set forth in paragraph (a)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The **subrecipient,** upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the **Subrecipient** shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the **Subrecipient** shall insert in any such contract a clause providing hat the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR OR SUBCONTRACTOR	ADDRESS	OMB No.: 1235-0008 Expires: 02/28/2018

PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE / HOURS WORKED EACH DAY							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

General Decision Number: WI150010 11/13/2015 WI10

Superseded General Decision Number: WI20140010

State: Wisconsin

Construction Type: Highway

Counties: Wisconsin Statewide.

HIGHWAY, AIRPORT RUNWAY & TAXIWAY CONSTRUCTION PROJECTS (does not include bridges over navigable waters; tunnels; buildings in highway rest areas; and railroad construction)

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	03/20/2015
3	04/10/2015
4	05/22/2015
5	06/12/2015
6	06/26/2015
7	07/31/2015
8	08/07/2015
9	08/28/2015
10	10/09/2015
11	11/13/2015

BRWI0001-002 06/01/2013

CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 35.94	17.05

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* BRWI0002-002 06/01/2015

ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 36.10	16.13

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* BRWI0002-005 06/01/2015

ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 34.16	16.38

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* BRWI0003-002 06/01/2015

BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.59	16.39

BRWI0004-002 06/01/2013

KENOSHA, RACINE, AND WALWORTH COUNTIES

	Rates	Fringes
BRICKLAYER	$ 35.10	18.58

BRWI0006-002 06/01/2013

ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.14	16.56

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* BRWI0007-002 06/01/2015

GREEN, LAFAYETTE, AND ROCK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.90	17.01

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* BRWI0008-002 06/01/2015

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
BRICKLAYER	$ 36.74	18.19

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* BRWI0011-002 06/01/2015

CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.59	16.39

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* BRWI0019-002 06/01/2015

BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.36	16.51

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* BRWI0034-002 06/01/2015

COLUMBIA AND SAUK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.86	17.22

CARP0087-001 07/01/2012

BURNETT (W. of Hwy 48), PIERCE (W. of Hwy 29), POLK (W. of Hwys 35, 48 & 65), AND ST. CROIX (W. of Hwy 65) COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen	$ 33.34	16.73

CARP0252-002 07/02/2012

ADAMS, BARRON, BAYFIELD (Eastern 2/3), BROWN, BUFFALO, BURNETT (E. of Hwy 48), CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE (except area bordering Michigan State Line), FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE (except N.E. corner), MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. of Hwys 29 & 65), POLK (E. of Hwys 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST CROIX (E. of Hwy 65), TAYLOR, TREMPEALEAU, VERNON, VILAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CARPENTER		
CARPENTER	$ 30.48	15.80
MILLWRIGHT	$ 32.11	15.80
PILEDRIVER	$ 30.98	15.80

CARP0252-010 07/02/2012

ASHLAND COUNTY

	Rates	Fringes
Carpenters		
Carpenter	$ 30.48	15.80
Millwright	$ 32.11	15.80
Pile Driver	$ 30.98	15.80

CARP0264-003 06/01/2008

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WAUKESHA, AND WASHINGTON COUNTIES

	Rates	Fringes
CARPENTER	$ 30.52	14.41

CARP0361-004 07/11/2011

BAYFIELD (West of Hwy 63) AND DOUGLAS COUNTIES

	Rates	Fringes
CARPENTER	$ 31.07	15.80

CARP2337-001 06/01/2008

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON

ZONE B: KENOSHA & RACINE

	Rates	Fringes
PILEDRIVERMAN		
Zone A	$ 27.25	19.46
Zone B	$ 24.47	19.46

ELEC0014-002 06/01/2015

ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Maryville, Colby, Unity, Sherman, Fremont, Lynn & Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST CROIX, SAWYER, TAYLOR, TREMPEALEAU, VERNON, AND WASHBURN COUNTIES

	Rates	Fringes
Electricians:	$ 31.21	18.92

ELEC0014-007 06/01/2014

REMAINING COUNTIES

	Rates	Fringes
Teledata System Installer		

Installer/Technician.....$ 22.50 12.72

Low voltage construction, installation, maintenance and removal of teledata facilities (voice, data, and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated systems digital network).

ELEC0127-002 06/01/2012

KENOSHA COUNTY

	Rates	Fringes
Electricians:.....	$ 35.25	19.30

ELEC0158-002 06/01/2015

BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE(Wausuakee and area South thereof), OCONTO, MENOMINEE (East of a ine 6 miles West of the West boundary of Oconto County), SHAWANO (Except Area North of Townships of Aniwa and Hutchins) COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.84	29.50% + 9.37

ELEC0159-003 06/01/2015

COLUMBIA, DANE, DODGE (Area West of Hwy 26, except Chester and Emmet Townships), GREEN, LAKE (except Townships of Berlin, Seneca, and St. Marie), IOWA, MARQUETTE (except Townships of Neshkoka, Crystal Lake, Newton, and Springfield), and SAUK COUNTIES

	Rates	Fringes
Electricians:.....	$ 35.75	19.87

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* ELEC0219-004 06/01/2015

FLORENCE COUNTY (Townships of Aurora, Commonwealth, Fern, Florence and Homestead) AND MARINETTE COUNTY (Township of Niagara)

	Rates	Fringes
Electricians:		
Electrical contracts over $180,000.....	$ 31.16	18.34
Electrical contracts under $180,000.....	$ 28.96	18.26

ELEC0242-005 06/01/2014

DOUGLAS COUNTY

	Rates	Fringes
Electricians:.....	$ 32.54	24.07

ELEC0388-002 06/01/2013

ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Beecher, Dunbar, Goodman & Pembine), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Aniwa and Hutchins), VILAS AND WOOD COUNTIES

	Rates	Fringes
Electricians:.....	$ 28.96	24.85% + 9.70

ELEC0430-002 06/01/2015

RACINE COUNTY (Except Burlington Township)

	Rates	Fringes
Electricians:.....	$ 34.98	19.89

ELEC0494-005 06/01/2015

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Electricians:.....	$ 35.13	23.09

ELEC0494-006 06/01/2014

CALUMET (Township of New Holstein), DODGE (East of Hwy 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.64	20.54

ELEC0494-013 06/01/2015

DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupuin), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Sound & Communications Installer.....	$ 16.47	14.84

Technician.....$ 26.00 17.70

Installation, testing, maintenance, operation and servicing of all sound, intercom, telephone interconnect, closed circuit TV systems, radio systems, background music systems, language laboratories, electronic carillion, antenna distribution systems, clock and program systems and low-voltage systems such as visual nurse call, audio/visual nurse call systems, doctors entrance register systems. Includes all wire and cable carrying audio, visual, data, light and radio frequency signals. Includes the installation of conduit, wiremold, or raceways in existing structures that have been occupied for six months or more where required for the protection of the wire or cable, but does not mean a complete conduit or raceway system. work covered does not include the installation of conduit, wiremold or any raceways in any new construction, or the installation of power supply outlets by means of which external electric power is supplied to any of the foregoing equipment or products

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ELEC0577-003 06/01/2015

CALUMET (except Township of New Holstein), GREEN LAKE (N. part including Townships of Berlin, St Marie, and Seneca), MARQUETTE (N. part including Townships of Crystal Lake, Neshkoro, Newton, and Springfield), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.60	26.5%+9.15

ELEC0890-003 06/01/2015

DODGE (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington Township), ROCK AND WALWORTH COUNTIES

	Rates	Fringes
Electricians:.....	$ 31.90	24.95% + $10.46

ELEC0953-001 07/01/2015

	Rates	Fringes
Line Construction:		
(1) Lineman.....	$ 42.14	32% + 5.00
(2) Heavy Equipment Operator.....	$ 40.03	32% + 5.00
(3) Equipment Operator.....	$ 33.71	32% + 5.00
(4) Heavy Groundman Driver..	$ 26.78	14.11
(5) Light Groundman Driver..	$ 24.86	13.45
(6) Groundsman.....	$ 23.18	32% + 5.00

ENGI0139-005 06/01/2015

	Rates	Fringes
Power Equipment Operator		
Group 1	$ 38.27	21.55
Group 2	$ 37.77	21.55
Group 3	$ 37.27	21.55
Group 4	$ 37.01	21.55
Group 5	$ 36.72	21.55
Group 6	$ 30.82	21.55

HAZARDOUS WASTE PREMIUMS:
EPA Level "A" protection - $3.00 per hour
EPA Level "B" protection - $2.00 per hour
EPA Level "C" protection - $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, tower cranes, and derricks with or without attachments with a lifting capacity of over 100 tons; or cranes, tower cranes, and derricks with boom, leads and/or jib lengths measuring 176 feet or longer.

GROUP 2: Cranes, tower cranes and derricks with or without attachments with a lifting capacity of 100 tons or less; or cranes, tower cranes, and derricks with boom, leads, and/or jibs lengths measuring 175 feet or under and Backhoes (excavators) weighing 130,000 lbs and over; caisson rigs; pile driver; dredge operator; dredge engineer; Boat Pilot.

GROUP 3: Mechanic or welder - Heavy duty equipment; cranes with a lifting capacity of 25 tons or under; concrete breaker (manual or remote); vibratory/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pvt. spreader - heavy duty (rubber tired); concrete spreader & distributor; automatic subgrader (concrete); concrete grinder & planing machine; concrete slipform curb & gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi & over); bridge paver; concrete conveyor system; concrete pump; Rotec type Conveyor; stabilizing mixer (self-propelled); shoulder widener; asphalt plant engineer; bituminious paver; bump cutter & grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer & scarifier; Backhoes (excavators) weighing under 130,000 lbs; grader or motor patrol; tractor (scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader; hydraulic backhoe (tractor type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller over 5 tons; percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches & A-frames; post driver; material hoist.

GROUP 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self propelled; tractor (mounted or towed compactors & light equipment); shouldering machine; self- propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint sawer (multiple blade) belting machine; burlap machine; texturing machine; tractor endloader (rubber

tired) - light; jeep digger; forklift; mulcher; launch operator; fireman, environmental burner

GROUP 5: Air compressor; power pack; vibrator hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; Concrete proportioning plants; generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; Oiler, pump (over 3 inches); Drilling Machine Tender.

GROUP 6: Off-road material hauler with or without ejector.

IRON0008-002 06/01/2014

BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI, SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES:

	Rates	Fringes
IRONWORKER	$ 29.27	23.96

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0008-003 06/01/2015

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH (N.E. 2/3), WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
IRONWORKER	$ 32.36	24.07

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0383-001 06/01/2015

ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST, GRANT, GREENE, (Excluding S.E. tip), GREEN LAKE, IOWA, JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON, MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (Northern area, vicinity of Edgerton and Milton), SAUK, VERNON, WAUPACA, WAUSHARA, AND WOOD COUNTIES

	Rates	Fringes
IRONWORKER	$ 32.85	21.84

IRON0498-005 06/01/2008

GREEN (S.E. 1/3), ROCK (South of Edgerton and Milton), and
WALWORTH (S.W. 1/3) COUNTIES:

	Rates	Fringes
IRONWORKER	$ 34.34	25.72

IRON0512-008 05/01/2015

BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON,
PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPEALEAU
COUNTIES

	Rates	Fringes
IRONWORKER	$ 35.50	23.45

IRON0512-021 05/01/2015

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA,
PRICE, SAWYER, VILAS AND WASHBURN COUNTIES

	Rates	Fringes
IRONWORKER	$ 31.04	23.45

LABO0113-002 06/01/2015

MILWAUKEE AND WAUKESHA COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 27.51	19.35
Group 2	$ 27.66	19.35
Group 3	$ 27.86	19.35
Group 4	$ 28.01	19.35
Group 5	$ 28.16	19.35
Group 6	$ 24.00	19.35

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagperson; traffic control person

LABO0113-003 06/01/2015

OZAUKEE AND WASHINGTON COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 26.76	19.35
Group 2	$ 26.86	19.35
Group 3	$ 26.91	19.35
Group 4	$ 27.11	19.35
Group 5	$ 26.96	19.35
Group 6	$ 23.85	19.35

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson and Traffic Control Person

LABO0113-011 06/01/2015

KENOSHA AND RACINE COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 26.57	19.35
Group 2	$ 26.72	19.35
Group 3	$ 26.92	19.35
Group 4	$ 26.89	19.35
Group 5	$ 27.22	19.35
Group 6	$ 23.71	19.35

LABORERS CLASSIFICATIONS:

GROUP 1: General laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagman; traffic control person

LABO0140-002 06/01/2015

ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CROIX, TAYLOR, TREMPEALEAU, VERNON, VILLAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 30.67	15.55
Group 2	$ 30.77	15.55
Group 3	$ 30.82	15.55
Group 4	$ 31.02	15.55
Group 5	$ 30.87	15.55
Group 6	$ 27.30	15.55

LABORER CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bitminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler

(Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator, Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk and Pavement); Strike Off Man

GROUP 4: Line and Grade Secialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson; Traffic Control

LABO0464-003 06/01/2015

DANE COUNTY

	Rates	Fringes
LABORER		
Group 1	$ 30.95	15.55
Group 2	$ 31.05	15.55
Group 3	$ 31.10	15.55
Group 4	$ 31.30	15.55
Group 5	$ 31.15	15.55
Group 6	$ 27.30	15.55

LABORERS CLASSIFICATIONS:

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminious Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; Powderman

GROUP 6: Flagperson and Traffic Control Person

PAIN0106-008 05/01/2014

ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES

	Rates	Fringes
Painters:		

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     New:
      Brush, Roller..............$ 28.81            15.27
      Spray, Sandblast, Steel....$ 29.41            15.27
     Repaint:
      Brush, Roller..............$ 27.31            15.27
      Spray, Sandblast, Steel....$ 27.91            15.27
-----------------------------------------------------------------
 PAIN0108-002 06/01/2015

RACINE COUNTY

                                  Rates          Fringes

Painters:
     Brush, Roller...............$ 31.84            18.60
     Spray & Sandblast...........$ 32.84            18.60
-----------------------------------------------------------------
 PAIN0259-002 05/01/2008

BARRON, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK,
SAWYER, ST. CROIX, AND WASHBURN COUNTIES


                                  Rates          Fringes

PAINTER.........................$ 24.11            12.15
-----------------------------------------------------------------
 PAIN0259-004 05/01/2015

BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPEALEAU, AND
VERNON COUNTIES


                                  Rates          Fringes

PAINTER.........................$ 22.03            12.45
-----------------------------------------------------------------
 PAIN0781-002 06/01/2013

JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

                                  Rates          Fringes

Painters:
     Bridge......................$ 29.87            20.04
     Brush.......................$ 29.52            20.04
     Spray & Sandblast...........$ 30.27            20.04
-----------------------------------------------------------------
 PAIN0802-002 06/01/2015

COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, LAFAYETTE, RICHLAND,
ROCK, AND SAUK COUNTIES


                                  Rates          Fringes

PAINTER
     Brush.......................$ 26.70            17.65

PREMIUM PAY:
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Structural Steel, Spray, Bridges = $1.00 additional per hour.

PAIN0802-003 06/01/2015

ADAMS, BROWN, CALUMET, CLARK, DOOR, FOND DU LAC, FOREST, GREEN LAKE, IRON, JUNEAU, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, PORTAGE, PRICE, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WAUSHARA, WAUPACA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
PAINTER	$ 23.74	11.72

PAIN0934-001 06/01/2015

KENOSHA AND WALWORTH COUNTIES

	Rates	Fringes
Painters:		
Brush	$ 31.84	18.60
Spray	$ 32.84	18.60
Structural Steel	$ 31.99	18.60

PAIN1011-002 06/01/2015

FLORENCE COUNTY

	Rates	Fringes
Painters:	$ 24.15	11.46

PLAS0599-010 06/01/2012

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
Area 1	$ 32.78	16.80
Area 2 (BAC)	$ 31.52	16.30
Area 3	$ 31.37	16.85
Area 4	$ 30.69	17.53
Area 5	$ 32.09	16.13
Area 6	$ 28.50	19.72

AREA DESCRIPTIONS

AREA 1: BAYFIELD, DOUGLAS, PRICE, SAWYER, AND WASHBURN COUNTIES

AREA 2: ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD

COUNTIES

AREA 3: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA CROSSE MONROE, PEPIN, PIERCE, RICHLAND, TREMPEALEAU, AND VERNON COUNTIES

AREA 4: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

AREA 5: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK COUNTIES

AREA 6: KENOSHA AND RACINE COUNTIES

TEAM0039-001 06/01/2014

	Rates	Fringes
TRUCK DRIVER		
1 & 2 Axles	$ 25.18	18.31
3 or more Axles; Euclids Dumptor & Articulated, Truck Mechanic	$ 25.38	18.31
WELL DRILLER	$ 16.52	3.70

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination

* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: WI150008 11/13/2015 WI8

Superseded General Decision Number: WI20140008

State: Wisconsin

Construction Types: Heavy (Sewer and Water Line and Tunnel)

Counties: Wisconsin Statewide.

TUNNEL, SEWER & WATER LINE CONSTRUCTION PROJECTS

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	02/27/2015
3	03/20/2015
4	04/10/2015
5	05/22/2015
6	06/12/2015
7	06/26/2015
8	07/31/2015
9	08/07/2015
10	08/28/2015
11	10/09/2015
12	11/13/2015

BRWI0001-002 06/01/2013

CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 35.94	17.05

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* BRWI0002-002 06/01/2015

ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 36.10	16.13

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* BRWI0002-005 06/01/2015

ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 34.16	16.38

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* BRWI0003-002 06/01/2015

BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.59	16.39

BRWI0004-002 06/01/2013

KENOSHA, RACINE, AND WALWORTH COUNTIES

	Rates	Fringes
BRICKLAYER	$ 35.10	18.58

BRWI0006-002 06/01/2013

ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.14	16.56

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* BRWI0007-002 06/01/2015

GREEN, LAFAYETTE, AND ROCK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.90	17.01

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* BRWI0008-002 06/01/2015

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
BRICKLAYER	$ 36.74	18.19

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* BRWI0009-001 06/01/2015

GREEN LAKE, MARQUETTE, OUTAGAMIE, SHAWANO, WAUPACA, WASHARA,

AND WINNEBAGO COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.59	16.39

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* BRWI0011-002 06/01/2015

CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.59	16.39

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* BRWI0013-002 06/01/2015

DANE, GRANT, IOWA, AND RICHLAND COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.86	17.22

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* BRWI0019-002 06/01/2015

BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.36	16.51

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* BRWI0021-002 06/01/2015

DODGE AND JEFFERSON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 33.58	16.65

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* BRWI0034-002 06/01/2015

COLUMBIA AND SAUK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.86	17.22

CARP0087-001 07/01/2012

BURNETT (W. of Hwy 48), PIERCE (W. of Hwy 29), POLK (W. of Hwys 35, 48 & 65), AND ST. CROIX (W. of Hwy 65) COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen	$ 33.34	16.73

CARP0252-002 07/02/2012

ADAMS, BARRON, BAYFIELD (Eastern 2/3), BROWN, BUFFALO, BURNETT (E. of Hwy 48), CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE (except area bordering Michigan State Line), FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE (except N.E. corner), MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. of Hwys 29 & 65), POLK (E. of Hwys 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST CROIX (E. of Hwy 65), TAYLOR, TREMPEALEAU, VERNON, VILAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CARPENTER		
CARPENTER	$ 30.48	15.80
MILLWRIGHT	$ 32.11	15.80
PILEDRIVER	$ 30.98	15.80

CARP0252-010 07/02/2012

ASHLAND COUNTY

	Rates	Fringes
Carpenters		
Carpenter	$ 30.48	15.80
Millwright	$ 32.11	15.80
Pile Driver	$ 30.98	15.80

CARP0264-003 06/01/2008

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WAUKESHA, AND WASHINGTON COUNTIES

	Rates	Fringes
CARPENTER	$ 30.52	14.41

CARP0361-004 07/11/2011

BAYFIELD (West of Hwy 63) AND DOUGLAS COUNTIES

	Rates	Fringes
CARPENTER	$ 31.07	15.80

CARP2337-001 06/01/2008

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON

ZONE B: KENOSHA & RACINE

	Rates	Fringes

PILEDRIVERMAN
Zone A.....$ 27.25 19.46
Zone B.....$ 24.47 19.46

CARP2337-003 06/02/2008

	Rates	Fringes
MILLWRIGHT		
Zone A.....	$ 27.92	19.08
Zone B.....	$ 26.82	19.08

ZONE DEFINITIONS

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON COUNTIES

ZONE B: KENOSHA & RACINE COUNTIES

ELEC0014-002 06/01/2015

ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Maryville, Colby, Unity, Sherman, Fremont, Lynn & Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST CROIX, SAWYER, TAYLOR, TREMPEALEAU, VERNON, AND WASHBURN COUNTIES

	Rates	Fringes
Electricians:.....	$ 31.21	18.92

ELEC0127-002 06/01/2012

KENOSHA COUNTY

	Rates	Fringes
Electricians:.....	$ 35.25	19.30

ELEC0158-002 06/01/2015

BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE(Wausuakee and area South thereof), OCONTO, MENOMINEE (East of a ine 6 miles West of the West boundary of Oconto County), SHAWANO (Except Area North of Townships of Aniwa and Hutchins) COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.84	29.50% + 9.37

ELEC0159-003 06/01/2015

COLUMBIA, DANE, DODGE (Area West of Hwy 26, except Chester and Emmet Townships), GREEN, LAKE (except Townships of Berlin, Seneca, and St. Marie), IOWA, MARQUETTE (except Townships of

Neshkoka, Crystal Lake, Newton, and Springfield), and SAUK COUNTIES

	Rates	Fringes
Electricians:.....	$ 35.75	19.87

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* ELEC0219-004 06/01/2015

FLORENCE COUNTY (Townships of Aurora, Commonwealth, Fern, Florence and Homestead) AND MARINETTE COUNTY (Township of Niagara)

	Rates	Fringes
Electricians:		
Electrical contracts over $180,000.....	$ 31.16	18.34
Electrical contracts under $180,000.....	$ 28.96	18.26

ELEC0242-005 06/01/2014

DOUGLAS COUNTY

	Rates	Fringes
Electricians:.....	$ 32.54	24.07

ELEC0388-002 06/01/2013

ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Beecher, Dunbar, Goodman & Pembine), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Aniwa and Hutchins), VILAS AND WOOD COUNTIES

	Rates	Fringes
Electricians:.....	$ 28.96	24.85% + 9.70

ELEC0430-002 06/01/2015

RACINE COUNTY (Except Burlington Township)

	Rates	Fringes
Electricians:.....	$ 34.98	19.89

ELEC0494-005 06/01/2015

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Electricians:.....	$ 35.13	23.09

ELEC0494-006 06/01/2014

CALUMET (Township of New Holstein), DODGE (East of Hwy 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.64	20.54

ELEC0577-003 06/01/2015

CALUMET (except Township of New Holstein), GREEN LAKE (N. part including Townships of Berlin, St Marie, and Seneca), MARQUETTE (N. part including Townships of Crystal Lake, Neshkoro, Newton, and Springfield), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

	Rates	Fringes
Electricians:.....	$ 29.60	26.5%+9.15

ELEC0890-003 06/01/2015

DODGE (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington Township), ROCK AND WALWORTH COUNTIES

	Rates	Fringes
Electricians:.....	$ 31.90	24.95% + $10.46

ENGI0139-003 06/01/2015

REMAINING COUNTIES

	Rates	Fringes
Power Equipment Operator		
Group 1.....	$ 37.67	20.10
Group 2.....	$ 36.42	20.10
Group 3.....	$ 35.22	20.10
Group 4.....	$ 34.69	20.10
Group 5.....	$ 32.62	20.10
Group 6.....	$ 31.99	20.10

HAZARDOUS WASTE PREMIUMS:
EPA Level "A" Protection: $3.00 per hour
EPA Level "B" Protection: $2.00 per hour
EPA Level "C" Protection: $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of over 100 tons; Cranes, Tower Cranes, and Derricks with boom, leads and/or jib lengths 176 ft or longer.

GROUP 2: Backhoes (Excavators) weighing 130,00 lbs and over; Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of 100 tons or less; Cranes, Tower Cranes, and Derricks with boom, leads, and/or jib lengths 175 ft or less; Caisson Rigs; Pile Driver

GROUP 3: Backhoes (Excavators) weighing under 130,000 lbs; Travelling Crane (bridge type); Milling Machine; Concrete Paver over 27 E; Concrete Spreader and Distributor; Concrete Laser Screed; Concrete Grinder and Planing Machine; Slipform Curb and Gutter Machine; Boring Machine (Directional); Dredge Operator; Skid Rigs; over 46 meter Concrete Pump.

GROUP 4: Hydraulic Backhoe (tractor or truck mounted); Hydraulic Crane, 10 tons or less; Tractor, Bulldozer, or End Loader (over 40 hp); Motor Patrol; Scraper Operator; Bituminous Plant and Paver Operator; Screed-Milling Machine; Roller over 5 tons; Concrete pumps 46 meter and under; Grout Pumps; Rotec type machine; Hydro Blaster, 10,000 psi and over; Rotary Drill Operator; Percussion Drilling Machine; Air Track Drill with or without integral hammer; Blaster; Boring Machine (vertical or horizontal); Side Boom; Trencher, wheel type or chain type having 8 inch or larger bucket; Rail Leveling Machine (Railroad); Tie Placer; Tie Extractor; Tie Tamper; Stone Leveler; Straddle Carrier; Material Hoists; Stack Hoist; Man Hoists; Mechanic and Welder; Off Road Material Haulers.

GROUP 5: Tractor, Bulldozer, or Endloader (under 40 hp); Tampers -Compactors, riding type; Stump Chipper, large; Roller, Rubber Tire; Backfiller; Trencher, chain type (bucket under 8 inch); Concrete Auto Breaker, large; Concrete Finishing Machine (road type); Concrete Batch Hopper; Concrete Conveyor Systems; Concrete Mixers, 14S or over; Pumps, Screw Type and Gypsum); Hydrohammers, small; Brooms and Sweeeprs; Lift Slab Machine; Roller under 5 tons; Industrial Locomotives; Fireman (Pile Drivers and Derricks); Pumps (well points); Hoists, automatic; A-Frames and Winch Trucks; Hoists (tuggers); Boats (Tug, Safety, Work Barges and Launches); Assistant Engineer

GROUP 6: Shouldering Machine Operator; Farm or Industrial Tractor mounted equipment; Post Hole Digger; Auger (vertical and horizontal); Skid Steer Loader with or without attachments; Robotic Tool Carrier with or without attachments; Power Pack Vibratory/Ultra Sound Driver and Extractor; Fireman (Asphalt Plants); Screed Operator; Stone Crushers and Screening Plants; Air, Electric, Hydraulic Jacks (Slip Form); Prestress Machines; Air Compressor, 400 CFM or over; Refrigeration Plant/Freese Machine; Boiler Operators (temporary heat); Forklifts; Welding Machines; Generators; Pumps over 3"; Heaters, Mechanical; Combination small equipment operator; Winches, small electric; Oiler; Greaser; Rotary Drill Tender; Conveyor; Elevator Operator

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ENGI0139-007 06/01/2015

DODGE, FOND DU LAC, JEFFERSON, KENOSHA, MILWAUKEE, OZAUKEE, RACINE, SHEBOYGAN, WALWORTH, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Power Equipment Operator		
Group 1	$ 38.09	20.55
Group 2	$ 37.31	20.55
Group 3	$ 36.36	20.55
Group 4	$ 35.31	20.55
Group 5	$ 33.91	20.55

HAZARDOUS WASTE PREMIUMS:
EPA Level "A" Protection: $3.00 per hour
EPA Level "B" Protection: $2.00 per hour
EPA Level "C" Protection: $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes, and Derricks with or without attachments, with a lifting capacity of over 100 tons; or Cranes, Tower Cranes, and Derricks with boom, leads, and/or jib lengths measuring 176 feet or longer; Backhoes (Excavators) 130,000 lbs and over; Caisson Rigs and Pile Drivers

GROUP 2: Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of 100 tons or under; or Cranes, Tower Cranes, and Derricks with boom, lead, and\or jib lengths measuring 175 feet or under; Backhoes (Excavators) under 130,000 lbs; Skid Rigs; Dredge Operator: Traveling Crane (Bridge type); Concrete Paver over 27 E; Concrete Spreader and Distributor; Concrete Pumps and Boring Machines (directional)

GROUP 3: Material Hoists; Stack Hoists; Tractor or Truck mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane, 5 tons or under; Manhoist; Tractor over 40 hp; Bulldozer over 40 hp; Endloader over 40 hp; Forklift, 25 ft and over; Motor Patrol; Scraper Operator; Sideboom; Straddle Carrier; Mechanic and Welder; Bituminous Plant and Paver Operator; Roller over 5 tons; Percussion Drill Operator; Rotary Drill Operator; Blaster; Air Track Drill; Trencher (wheel type or chain type having over 8 inch bucket); Elevator; Milling Machine and Boring Machine (horizontal or vertical); Backhoe Mounted Compactor

GROUP 4: Backfiller; Concrete Auto Breaker (large); Concrete Finishing Machine (road type); Roller, Rubber Tire; Concrete Batch Hopper; Concrete Conveyor System; Concrete Mixers (14S or over); Screw type Pumps and Gypsum Pumps; Grout Pumps; Tractor, Bulldozer, End Loader, under 40 hp; Pumps (well points); Trencher (chain type 8 inch or smaller bucket; Industrial Locomotives; Roller under 5 tons; Fireman (Piledrivers and Derricks); Robotic Tool Carrier with or without attachments.

GROUP 5: Hoists (Automatic); Forklift, 12 ft to 25 ft; Tamper-Compactors, riding type; A-Frame andWinch Trucks;

Concrete Auto Breaker; Hydrohammer, small; Brooms and Sweepers; Hoist (Tuggers); Stump Chipper, large; Boats (Tug, Safety, Work Barges and Launch); Shouldering Machine Operator; Screed Operator; Farm or Industrial Tractor; Post Hole Digger; Stone Crushers and Screening Plants; Firemen (Asphalt Plants); Air Compressor (400 CFM or over); Augers (vertical and horizontal); Generators, 150 KW and over; Air, Electric Hydraulic Jacks (Slipform); Prestress Machines; Skid Steer Loader with or without attachments; Boiler operators (temporary heat); Forklift, 12 ft and under; Screed Operator Milling Machine; Refrigeration Plant/Freeze Machine; Power Pack Vibratory/Ultra Sound Driver and Extractor; Generators under 150 KW; Combination small equipment operator; Compressors under 400 CFM; Welding Machines; Heaters, Mechanical; Pumps; Winches, Small Electric; Oiler and Greaser; Conveyor; High pressure utility locating machine (daylighting machine).

IRON0008-002 06/01/2014

BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI, SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES:

	Rates	Fringes
IRONWORKER	$ 29.27	23.96

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0008-003 06/01/2015

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH (N.E. 2/3), WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
IRONWORKER	$ 32.36	24.07

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0383-001 06/01/2015

ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST, GRANT, GREENE, (Excluding S.E. tip), GREEN LAKE, IOWA, JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON, MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (Northern area, vicinity of Edgerton and Milton), SAUK, VERNON, WAUPACA, WAUSHARA, AND WOOD COUNTIES

	Rates	Fringes

IRONWORKER.....$ 32.85 21.84

IRON0498-005 06/01/2008

GREEN (S.E. 1/3), ROCK (South of Edgerton and Milton), and WALWORTH (S.W. 1/3) COUNTIES:

	Rates	Fringes
IRONWORKER	$ 34.34	25.72

IRON0512-008 05/01/2015

BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON, PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPEALEAU COUNTIES

	Rates	Fringes
IRONWORKER	$ 35.50	23.45

IRON0512-021 05/01/2015

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA, PRICE, SAWYER, VILAS AND WASHBURN COUNTIES

	Rates	Fringes
IRONWORKER	$ 31.04	23.45

LABO0113-004 06/02/2015

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Laborers: (Open Cut)		
Group 1	$ 14.83	18.24
Group 2	$ 17.04	18.24
Group 3	$ 20.48	18.24
Group 4	$ 29.60	18.24
Group 5	$ 29.73	18.24
Group 6	$ 29.79	18.24
Group 7	$ 31.94	18.24
Group 8	$ 34.69	18.24
Group 9	$ 35.31	18.24

LABORERS CLASSIFICATIONS [OPEN CUT]

GROUP 1: Yard Laborer

GROUP 2: Landscaper

GROUP 3: Flag Person

GROUP 4: Paving Laborer

GROUP 5: General Laborer on Surface; Top Man

GROUP 6: Mud Mixer

GROUP 7: Mucker; Form Stripper; Bottom Digger and Misc; Bottom Man and Welder on Surface

GROUP 8: Concrete Manhole Builder; Caisson Worker; Miner; Pipe Layer; Rock Driller and Joint Man; Timber Man and Concrete Brusher; Bracer in Trench Behind Machine & Tight Sheeting; Concrete Formsetter and Shoveler; Jackhammer Operator

GROUP 9: Blaster

LABO0113-005 06/02/2015

SEWER, TUNNEL & UNDERGROUND

KENOSHA AND RACINE COUNTIES

	Rates	Fringes
Laborers:		
Group 1	$ 21.32	18.24
Group 2	$ 27.09	18.24
Group 3	$ 29.58	18.24
Group 4	$ 31.30	18.24

TUNNEL WORK UNDER COMPRESSED AIR: 0-15 lbs add $1.00, 15-30 lbs add $2.00, over 30 lbs add $3.00

LABORERS CLASSIFICATIONS

GROUP 1: Flagperson

GROUP 2: Top Man, General Laborer, Wellpoint Installation, Wire Mesh and Reinforcement, Concrete Worker, Form Stripper, Strike-off Work

GROUP 3: Machine and Equipment Operator, Sheeting, Form Setting, Patch Finisher, Bottom Man, Joint Sawer, Gunnite Man, Manhole Builder, Welder-Torchman, Blaster, Caulker, Bracer, Bull Float, Conduit Worker, Mucker and Car Pusher, Raker and Luteman, Hydraulic Jacking of Shields, Shield Drivers, Mining Machine, Lock Tenders, Mucking Machine Operator, Motor Men & Gauge Tenders and operation of incidental Mechanical Equipment and all Power Driven Tools

GROUP 4: Pipelayer, Miner and Laser Operator

LABO0113-008 06/02/2015

MILWAUKEE, OZAUKEE, WASHINGTON & WAUKESHA COUNTIES

	Rates	Fringes

Laborers: (Tunnel-Free Air)

Group 1	$ 20.48	18.24
Group 2	$ 29.73	18.24
Group 3	$ 29.79	18.24
Group 4	$ 31.94	18.24
Group 5	$ 32.08	18.24
Group 6	$ 34.69	18.24
Group 7	$ 35.31	18.24

LABORERS CLASSIFICATIONS [TUNNEL - FREE AIR]:

GROUP 1: Flagperson

GROUP 2: General Laborer on surface; Tower Man

GROUP 3: Saw Man; Top Man

GROUP 4: Form Stripper; Car Pusher

GROUP 5: Mucker; Dinkey; Welder (rate on surface)

GROUP 6: Concrete Manhole Builder; Mucking Machine; Miner; Mining Machine; Welder; Rock Driller; Concrete Buster; Jack Hammer Operator; Caisson Worker; Pipelayer and Joint Man; Bracerman

GROUP 7: Blaster

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* LABO0113-009 06/01/2015

MILWAUKEE, OZAUKEE, WASHINGTON & WAUKESHA COUNTIES

	Rates	Fringes
Laborers: (Tunnel - *COMPRESSED AIR 0 - 15 lbs.)		
Group 1	$ 20.48	18.24
Group 2	$ 29.73	18.24
Group 3	$ 32.47	18.24
Group 4	$ 33.25	18.24
Group 5	$ 33.36	18.24
Group 6	$ 35.99	18.24
Group 7	$ 36.59	18.24

LABORERS CLASSIFICATIONS [TUNNEL - COMPRESSED AIR]:

*Compressed Air 15 - 30 lbs add $2.00 to all classifications
*Compressed Air over 30 lbs add $3.00 to all classifcations

GROUP 1: Flagperson

GROUP 2: General Laborer on surface

GROUP 3: Lock Tender on surface

GROUP 4: Form Stripper; Car Pusher

GROUP 5: Mucker; Dinkey

GROUP 6: Mucking Machine; Miner; Mining Machine; Welder & Rock Driller; Lock Tender in tunnel; Concrete Buster; Jack Hammer Operator; Caisson Worker; Pielayer and Joint Man; Bracerman; Nozzle Man on Gunite; Timber Man; Concrete Brusher

GROUP 7: Blaster

NOTE: Hazardous & Toxic Waste Removal: add $0.15 per hour.

LABO0140-005 06/01/2015

ADAMS, ASHLAND, BARRON, BROWN, BUFFALO, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE,FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, JACKSON, JEFFERSON, JUNEAU, LACROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, ST CROIX, SAUK, SAWYER, SHAWANO, SHEBOYGAN, TAYLOR, TREMMPEALEAU, VERNON, VILAS, WALWWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
LABORER (SEWER & WATER)		
Group 1	$ 25.08	15.40
Group 2	$ 26.93	15.40
Group 3	$ 27.13	15.40
Group 4	$ 27.88	15.40

FOR ALL TUNNEL WORK UNDER COMPRESSED AIR: 0-15 lbs add $1.00, 15-30 lbs add $2.00, over 30 lbs add $3.00

LABORER CLASSIFICATIONS:

GROUP 1: Flagperson

GROUP 2: General Laborer, Wellpoint Installation; Form Stripper; Strike Off worker

GROUP 3: Sheeting Formsetting; Patch Finisher; Bottom Man; Joint Sawer; Gunnite Man; Manhole Builder; Welder; Torchman; Blaster; Caulker Bracer; Bull Float; Mucker and Car Pusher; Raker and Luteman; Hydraulic jacking of shields, Shield Drivers; Mining Machine; Lock Tenders; Mucking Machine Operators; Motor Men and Gauge Tenders; Power Tool Operators

GROUP 4: Pipelayer, Miner, and Laser Operator

LABO0464-002 06/01/2015

DANE AND DOUGLAS COUNTIES

	Rates	Fringes

LABORER
Group 1.....$ 24.98 15.40
Group 2.....$ 27.18 15.40
Group 3.....$ 27.38 15.40
Group 4.....$ 28.13 15.40

FOR ALL TUNNEL WORK UNDER COMPRESSED AIR: 0 - 15 lbs add $1.00, 15- 30 lbs add $2.00, over 30 lbs add $3.00

LABORERS CLASSIFICATIONS:

GROUP 1: Flagperson

GROUP 2: General Laborer; Wellpoint Installation; Concrete Worker; Form Stripper; Strike Off worker

GROUP 3: Sheeting Formsetting; Patch Finisher; Bottom Man; Joint Sawer; Gunnite Man; Manhole Builder; Welder; Torchman; Blaster; Caulker Bracer; Bull Float; Mucker and Car Pusher; Raker and Luteman; Hydraulic jacking of shields, Shield Dirvers; Mining Machine; Lock Tenders; Mucking Machine Operators; Motor Men and Gauge Tenders; Power Tool Operators

GROUP 4: Pipelayer, Miner, and Laser Operator

LABO1091-010 06/01/2015

BAYFIELD, BURNETT, IRON, SAWYER, AND WASHBURN COUNTIES

	Rates	Fringes
Laborers: (SEWER & WATER)		
Group 1	$ 24.77	15.40
Group 2	$ 26.83	15.40
Group 3	$ 27.03	15.40
Group 4	$ 27.78	15.40

FOR ALL TUNNEL WORK UNDER COMPRESSED AIR:
0 - 15 lbs add $1.00, 15-30 lbs add $2.00, over 30 lbs add $3.00

LABORERS CLASSIFICATIONS:

GROUP 1: Flagperson

GROUP 2: Laborers, Wellpoint Installation; Form Stripper; Strike Off worker

GROUP 3: Sheeting Formsetting; Patch Finisher; Bottom Man; Joint Sawer; Gunnite Man; Manhole Builder; Welder; Torchman; Blaster; Caulker Bracer; Bull Float; Mucker and Car Pusher; Raker and Luteman; Hydraulic jacking of shields, Shield Dirvers; Mining Machine; Lock Tenders; Mucking Machine Operators; Motor Men and Gauge Tenders; Power Tool Operators

GROUP 4: Pipelayer, Miner, and Laser Operator

PLAS0599-010 06/01/2012

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
Area 1	$ 32.78	16.80
Area 2 (BAC)	$ 31.52	16.30
Area 3	$ 31.37	16.85
Area 4	$ 30.69	17.53
Area 5	$ 32.09	16.13
Area 6	$ 28.50	19.72

AREA DESCRIPTIONS

AREA 1: BAYFIELD, DOUGLAS, PRICE, SAWYER, AND WASHBURN COUNTIES

AREA 2: ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

AREA 3: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA CROSSE MONROE, PEPIN, PIERCE, RICHLAND, TREMPEALEAU, AND VERNON COUNTIES

AREA 4: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

AREA 5: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK COUNTIES

AREA 6: KENOSHA AND RACINE COUNTIES

TEAM0039-001 06/01/2014

	Rates	Fringes
TRUCK DRIVER		
1 & 2 Axles	$ 25.18	18.31
3 or more Axles; Euclids Dumptor & Articulated, Truck Mechanic	$ 25.38	18.31
WELL DRILLER	$ 16.52	3.70

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

PREVAILING WAGE RATE DETERMINATION
Issued by the State of Wisconsin
Department of Workforce Development
Pursuant to s. 66.0903, Wis. Stats.
Issued On: 01/07/2015
Last Amended On: 01/29/2015

DETERMINATION NUMBER:	201500024
EXPIRATION DATE:	Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2015. If NOT, You MUST Reapply.
PROJECT NAME:	ALL PUBLIC WORKS PROJECTS UNDER SEC. 66.0903, STATS-CITY OF MILWAUKEE
PROJECT LOCATION:	MILWAUKEE CITY, MILWAUKEE COUNTY, WI
CONTRACTING AGENCY:	CITY OF MILWAUKEE-DEPT OF PUBLIC WORKS

CLASSIFICATION:	Contractors are responsible for correctly classifying their workers. Either call the Department of Workforce Development (DWD) with trade or classification questions or consult DWD's Dictionary of Occupational Classifications & Work Descriptions on the DWD website at: dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm.
OVERTIME:	Time and one-half must be paid for all hours worked: - over 10 hours per day on prevailing wage projects - over 40 hours per calendar week - Saturday and Sunday - on all of the following holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; - The day before if January 1, July 4 or December 25 falls on a Saturday; - The day following if January 1, July 4 or December 25 falls on a Sunday. Apply the time and one-half overtime calculation to whichever is higher between the Hourly Basic Rate listed on this project determination or the employee's regular hourly rate of pay. Add any applicable Premium or DOT Premium to the Hourly Basic Rate before calculating overtime. A DOT Premium (discussed below) may supersede this time and one-half requirement.
FUTURE INCREASE:	When a specific trade or occupation requires a future increase, you MUST add the full hourly increase to the "TOTAL" on the effective date(s) indicated for the specific trade or occupation.
PREMIUM PAY:	If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whevenever such pay is applicable.
DOT PREMIUM:	This premium only applies to highway and bridge projects owned by the Wisconsin Department of Transportation and to the project type heading "Airport Pavement or State Highway Construction." DO NOT apply the premium calculation under any other project type on this determination.
APPRENTICES:	Pay apprentices a percentage of the applicable journeyperson's hourly basic rate of pay and hourly fringe benefit contributions specified in this determination. Obtain the appropriate percentage from each apprentice's contract or indenture.
SUBJOURNEY:	Subjourney wage rates may be available for some of the trades or occupations indicated below with the exception of laborers, truck drivers and heavy equipment operators. Any employer interested in using a subjourney classification on this project MUST complete Form ERD-10880 and request the applicable wage rate from the Department of Workforce Development PRIOR to using the subjourney worker on this project.

This document **MUST BE POSTED** by the **CONTRACTING AGENCY** in at least one conspicuous and easily accessible place **on the site of the project** . A local governmental unit may post this document at the place normally used to post public notices if there is no common site on the project. This document **MUST** remain posted during the entire time any worker is employed on the project and **MUST** be physically incorporated into the specifications and all contracts and subcontracts. If you have any questions, please write to the Equal Rights Division, Labor Standards Bureau, P.O. Box 8928, Madison, Wisconsin 53708 or call (608) 266-6861.

The following statutory provisions apply to local governmental unit projects of public works and are set forth below pursuant to the requirements of s. 66.0903(8), Stats.

s. 66.0903 (1) (f) & s. 103.49 (1) (c) "PREVAILING HOURS OF LABOR" for any trade or occupation in any area means 10 hours per day and 40 hours per week and may not include any hours worked on a Saturday or Sunday or on any of the following holidays:

1. January 1.
2. The last Monday in May.
3. July 4.
4. The first Monday in September.
5. The 4th Thursday in November.
6. December 25.
7. The day before if January 1, July 4 or December 25 falls on a Saturday.
8. The day following if January 1, July 4 or December 25 falls on a Sunday.

s. 66.0903 (10) RECORDS; INSPECTION; ENFORCEMENT.
(a) Each contractor, subcontractor, or contractor's or subcontractor's agent performing work on a project of public works that is subject to this section shall keep full and accurate records clearly indicating the name and trade or occupation of every person performing the work described in sub. (4) and an accurate record of the number of hours worked by each of those persons and the actual wages paid for the hours worked.

s. 66.0903 (11) LIABILITY AND PENALTIES.
(a) 1. Any contractor, subcontractor, or contractor's or subcontractor's agent who fails to pay the prevailing wage rate determined by the department under sub. (3) or who pays less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor is liable to any affected employee in the amount of his or her unpaid wages or his or her unpaid overtime compensation and in an additional amount as liquidated damages as provided under subd. 2., 3., whichever is applicable.
2. If the department determines upon inspection under sub. (10) (b) or (c) that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the department shall order the contractor to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages within a period specified by the department in the order.
3. In addition to or in lieu of recovering the liability specified in subd. 1. as provided in subd. 2., any employee for and in behalf of that employee and other employees similarly situated may commence an action to recover that liability in any court of competent jurisdiction. If the court finds that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the court shall order the contractor, subcontractor, or agent to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages.
5. No employee may be a party plaintiff to an action under subd. 3. unless the employee consents in writing to become a party and the consent is filed in the court in which the action is brought. Notwithstanding s. 814.04 (1), the court shall, in addition to any judgment awarded to the plaintiff, allow reasonable attorney fees and costs to be paid by the defendant.

SEWER, WATER OR TUNNEL CONSTRUCTION

Includes those projects that primarily involve public sewer or water distribution, transmission or collection systems and related tunnel work (excluding buildings).

SKILLED TRADES

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
103	Bricklayer, Blocklayer or Stonemason	35.37	17.99	53.36
105	Carpenter Future Increase(s): Add $1.50/hr on 6/1/2015; Add $1.65/hr on 6/1/2016. Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	34.13	20.61	54.74
107	Cement Finisher Future Increase(s): Add $1.87 on 6/1/15; Add $1.75 on 6/1/16. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.	35.18	16.78	51.96
109	Electrician	47.76	0.00	47.76
111	Fence Erector	23.73	19.09	42.82
116	Ironworker	31.50	20.01	51.51
118	Line Constructor (Electrical)	37.43	18.19	55.62
125	Pavement Marking Operator	30.10	18.08	48.18
126	Piledriver	29.56	25.71	55.27
130	Plumber	21.50	0.00	21.50
135	Steamfitter	39.76	21.09	60.85
137	Teledata Technician or Installer	24.89	17.15	42.04
143	Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58
144	Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
146	Well Driller or Pump Installer	25.32	15.65	40.97
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	15.19	46.79
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	13.28	38.96
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.97	34.72

TRUCK DRIVERS

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
201	Single Axle or Two Axle Future Increase(s): Add $1.15/hr on 6/1/2015. Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	25.18	18.31	43.49
203	Three or More Axle	18.00	0.00	18.00
204	Articulated, Euclid, Dumptor, Off Road Material Hauler	32.89	18.96	51.85
205	Pavement Marking Vehicle	20.85	11.02	31.87
207	Truck Mechanic	18.00	0.00	18.00

LABORERS

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
301	General Laborer Future Increase(s): Add $1.35/hr eff. 06/01/2015; Add $1.25/hr eff. 06/06/2016 Premium Increase(s): Add $2.29 for bottomman; Add $2.15 for concrete manhole builder, bracer, jointman, or pipelayer; Add $5.44 for blaster. Add $2.00 for all tunnel work under 15 lbs. compressed air; Add $2.00 for 0-30 lbs. compressed air; Add $3.00 for over 30 lbs. compressed air.	29.16	17.72	46.88
303	Landscaper	39.43	0.00	39.43
304	Flagperson or Traffic Control Person	31.95	0.00	31.95
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.71	16.01	33.72

314	Railroad Track Laborer	14.50	4.39	18.89

HEAVY EQUIPMENT OPERATORS
SEWER, WATER OR TUNNEL WORK

Fringe Benefits Must Be Paid On All Hours Worked

CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
521	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Master Mechanic; Pile Driver. Future Increase(s): Add $1.55/hr on 6/1/2015. Premium Increase(s): Add $.25/hr for operating tower crane.	37.24	20.10	57.34
522	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Boring Machine (Directional); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Spreader & Distributor; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity of 4,000 Lbs. & Under; Dredge (NOT Performing Work on the Great Lakes); Milling Machine; Skid Rig; Telehandler; Traveling Crane (Bridge Type). Future Increase(s): Add $1.55/hr on 6/1/2015. Premium Increase(s): Add $.25/hr for operating tower crane.	36.46	20.10	56.56
523	Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Boring Machine (Horizontal or Vertical); Bulldozer or Endloader (Over 40 hp); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Manhoist; Material or Stack Hoist; Mechanic or Welder; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket). Future Increase(s): Add $1.55/hr on 6/1/2015. Premium Increase(s): Add $.25/hr for operating tower crane.	35.51	20.10	55.61

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
524	Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Environmental Burner; Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Hoist (Tugger, Automatic); Grout Pump; Jeep Digger; Lift Slab Machine; Mulcher; Power Subgrader; Pump (3 Inch or Over) or Well Points; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Tining or Curing Machine; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames.	36.79	19.15	55.94
525	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Loading Machine (Conveyor); Post Hole Digger or Driver; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.	50.50	0.42	50.92
526	Boiler (Temporary Heat); Forklift; Greaser; Oiler.	31.64	19.15	50.79
527	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
528	Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	41.65	21.71	63.36
529	Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	35.72	17.85	53.57
530	Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under), Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY.	35.46	20.40	55.86

LOCAL STREET OR MISCELLANEOUS PAVING CONSTRUCTION

Includes roads, streets, alleys, trails, bridges, paths, racetracks, parking lots and driveways (except residential or agricultural), public sidewalks or other similar projects (excluding projects awarded by the Wisconsin Department of Transportation).

SKILLED TRADES

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
103	Bricklayer, Blocklayer or Stonemason	35.37	17.99	53.36
105	Carpenter Future Increase(s): Add $1.42/hr on 6/1/2015; Add $1.42/hr on 6/1/2016. Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	32.72	16.00	48.72
107	Cement Finisher	30.96	18.53	49.49
109	Electrician Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	33.93	22.77	56.70
111	Fence Erector	23.73	19.09	42.82
116	Ironworker	30.52	23.47	53.99
118	Line Constructor (Electrical)	37.43	18.19	55.62
124	Painter	29.52	19.99	49.51
125	Pavement Marking Operator	30.10	18.08	48.18
126	Piledriver	29.56	25.71	55.27
133	Roofer or Waterproofer	29.40	17.05	46.45
137	Teledata Technician or Installer	24.89	17.15	42.04
143	Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58
144	Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	15.19	46.79
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	13.28	38.96
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.97	34.72

TRUCK DRIVERS

Fringe Benefits Must Be Paid On All Hours Worked

CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
201	Single Axle or Two Axle Future Increase(s): Add $1.15/hr on 6/1/2015. Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	25.18	18.31	43.49
203	Three or More Axle	18.00	0.00	18.00
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add $1.60/hr on 6/2/2015; Add $1.60/hr on 6/3/2016.	33.69	19.78	53.47
205	Pavement Marking Vehicle	20.85	11.02	31.87
206	Shadow or Pilot Vehicle	24.37	17.77	42.14
207	Truck Mechanic	18.00	0.00	18.00

LABORERS

Fringe Benefits Must Be Paid On All Hours Worked

CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
301	General Laborer	24.75	19.69	44.44
303	Landscaper Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	27.06	20.03	47.09
304	Flagperson or Traffic Control Person	25.67	12.66	38.33
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.71	16.01	33.72
314	Railroad Track Laborer	14.50	4.39	18.89

HEAVY EQUIPMENT OPERATORS
CONCRETE PAVEMENT OR BRIDGE WORK

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
541	Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm.	37.72	21.15	58.87
542	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity of 4,000 Lbs. & Under; Crane, Tower Crane Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm.	37.22	21.15	58.37

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
543	Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A-Frames.	35.72	17.85	53.57
544	Backfiller; Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (WIth or Without Attachments); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm.	36.46	21.15	57.61
545	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	35.17	20.40	55.57
546	Fiber Optic Cable Equipment.	28.89	17.95	46.84

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
547	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
548	Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	41.65	21.71	63.36
549	Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or more); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	35.72	17.85	53.57
550	Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY.	35.46	20.40	55.86

HEAVY EQUIPMENT OPERATORS
ASPHALT PAVEMENT OR OTHER WORK

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
551	Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads and/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.	36.72	20.40	57.12
552	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity Of 4,000 Lbs. & Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm.	37.22	21.15	58.37

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
553	Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boring Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Laser/Screed; Concrete Slipform Placer Curb & Gutter Machine; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A-Frames. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017.	36.17	20.80	56.97
554	Backfiller; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self-Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017.	36.17	20.80	56.97

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
555	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm.	36.17	21.15	57.32
556	Fiber Optic Cable Equipment.	27.89	17.20	45.09

Page 42
Revised 10/93
Pages 40, 41 & 42
Revised 06/96
Pages 12, 38, 42, 43 & 44
Revised 06/99
Page 3
Revised 10/02
Page 18
Revised 07/03
Page 51
Revised 02/04
Pages 49, 50 & 51
Revised 09/04
Page 50
Revised 07/05
Pages 2, 4 & 15
Revised 08/05
Page 51
Revised 05/07
Page 51
Revised 08/07
Page 18
Revised 03/11
Page 50
Revised 04/11
Page 3
Revised 02/12
Page 20-21
Revised 02/12
Pages 3, 4, 5, 7, 11, 12, 14,
15, 16, 17, 18, 25, 29, 35, 50
Revised 09/14

CITY OF MILWAUKEE

DEPARTMENT OF PUBLIC WORKS

GENERAL SPECIFICATIONS

January 31, 1992

TABLE OF CONTENTS

PART I
INSTRUCTIONS TO BIDDERS - GENERAL

CHAPTER 1.1.0

1.1.1 Contracting Officer 1
1.1.2 Qualifications of Bidders 1
1.1.3 Examination of Contract Documents and Site 1
1.1.4 Interpretations 2
1.1.5 Bid Security 2
1.1.6 Bid Proposal 2
1.1.7 Minority/Woman/Small Business Enterprise Program 3
1.1.8 Submission of Bids 3
1.1.9 Modification and Withdrawal of Bids 4
1.1.10 Opening of Bids 4
1.1.11 Adequacy of Bids 4
1.1.12 Quantities 4
1.1.13 Bids to Remain Open 4
1.1.14 Acceptance or Rejection of Bids 4
1.1.15 Contract Time 5
1.1.16 Subcontractors 5
1.1.17 Starting Work Before Notification 6
1.1.18 Protest and Appeal Procedure 6

PART II
GENERAL CONDITIONS - DEFINITIONS AND TERMS

CHAPTER 2.1.0

2.1.1 General 7
2.1.2 Abbreviations 7
2.1.3 Contract Documents 8
2.1.3.1 Governing Order of Contract Documents 8
2.1.4 City 8
2.1.5 Commissioner of Public Works, Commissioner or CPW 9
2.1.6 Bidder 9
2.1.7 Contractor 9
2.1.8 Subcontractor 9
2.1.9 Surety 9
2.1.10 Plans 9
2.1.11 Addenda 9
2.1.12 Special Provisions 10
2.1.13 City Datum 10
2.1.14 Pavement 10
2.1.15 Work 10
2.1.16 Engineers 10
2.1.17 Milwaukee Code 10
2.1.18 Emergency or Emergencies 10
2.1.19 Trade Terms 11

2.1.20 Date of Completion of Work 11
2.1.21 Time Allowed for Completion 11
2.1.22 Advertisement 11
2.1.23 Award 11
2.1.24 Calendar Days 11
2.1.25 Contract Bond 11
2.1.26 Contract Change Order 12
2.1.27 Contract Period 12
2.1.28 Inspector 12
2.1.29 Official Notice 12
2.1.30 Notice to Proceed 12
2.1.31 Proposal 12
2.1.32 Proposal Form 12
2.1.33 Bid Security 13
2.1.34 Schedule of Fixed Prices 13
2.1.35 Working Day 13

CHAPTER 2.2.0 - EMPLOYMENT OF LABOR

2.2.1 Residence Preference Program 14
2.2.2 Hours of Labor and Overtime Pay 14
2.2.3 Minimum Wage Rate 15
2.2.4 Unclassified Employees 15
2.2.5 Minimum Wage - Time Reports 15
2.2.6 Provision of Wisconsin Statutes and Administrative Code Pertaining to Municipal Wage Rates 16
2.2.7 Enforcement of "Hours and Wages" Provisions 16
2.2.8 Wage and Hours Limitation 17
2.2.9 Days of Work and Shift Regulations 17
2.2.10 Wage and Hours Disputes 17
2.2.11 Disqualification of Contractor 17
2.2.12 Lien Law 18
2.2.13 Discrimination in Employment 18
2.2.14 Americans With Disabilities Act 18

CHAPTER 2.3.0 - NECESSARY NOTICES AND PERMITS

2.3.1 Notice to Proceed with Work 19
2.3.2 Notice to Fire, Police, and Sheriff 19
2.3.3 Notice to Utilities, City Bureaus and Governmental Units 19
2.3.4 Notice to Railroads 19
2.3.5 Notice for State Arterial Highways 19
2.3.6 Notice to Support Buildings 20
2.3.7 Notice of Work Suspension 20
2.3.8 Permits and Licenses 20
2.3.9 Permit for Parks and Parkways 20
2.3.10 Permit for Storage of Materials 20
2.3.11 Water Permit 20
2.3.12 Permit for Excavation 21
2.3.13 Permit for Street Closings 21
2.3.14 Permit for Blasting 21
2.3.15 Copies of Notices and Permits 21
2.3.16 Notice to Cable Franchises 21

CHAPTER 2.4.0 - CONTROL OF WORK AND MATERIALS

2.4.1 Plans and Specifications to be Available 22
2.4.2 Contractor's Representative 22
2.4.3 Authority and Duties of Inspectors 22
2.4.4 Performance of Work 22
2.4.5 Materials, Labor, Equipment, Etc. 22
2.4.6 Decisions of the Commissioner 23
2.4.7 Order of Work 23
2.4.8 Regulation of Tools, Equipment, and Plant Usage 23
2.4.9 Gas-Powered Equipment 23
2.4.10 Electrically-Powered Plant 24
2.4.11 Location and Type of Plant 24
2.4.12 Right to Inspect and Test Materials 24
2.4.13 Inspection 24
2.4.14 Source of Supply 25
2.4.15 Or Equal Clause 25
2.4.16 Continuous Work 25
2.4.17 Progress of the Work 26
2.4.18 Default and Completion of Work 27
2.4.19 Assumption of Control of Work Not a Waiver 27
2.4.20 Workmanship 28
2.4.21 Partial Acceptance 28
2.4.22 Final Acceptance 28
2.4.23 Employee Qualifications 29
2.4.24 Employees to be Discharged for Cause 29
2.4.25 Blasting 29
2.4.26 Right of Entry 29
2.4.27 Guarantee 29

CHAPTER 2.5.0 - SCOPE OF WORK AND SPECIFIC INSTRUCTIONS

2.5.1 Intent of Contract Documents 30
2.5.2 Location of Underground Structures 30
2.5.3 Harmonious Relations 30
2.5.4 Cleaning of Work Site 30
2.5.5 Items Not Listed in "Estimate of Quantities" 31
2.5.6 Omissions, Discrepancies and Corrections 31
2.5.7 Work to be Done at Contractor's Risk 31
2.5.8 Guarantee 31
2.5.9 Breakdown for Partial Estimates 32
2.5.10 Time for Completion - Essence of Contract 32
2.5.11 Contractor to be Charged for Inspection After Time Allowed for Completion has Expired 32
2.5.12 Substitution of Materials 33

CHAPTER 2.6.0 - EXTRA WORK AND CREDITS

2.6.1 Revision of Plans 34
2.6.2 Authority for Altered Work 34
2.6.3 Basis of Payment or Credit for Altered Work 34
2.6.4 Claims for "Cost Plus" Extra Work 35
2.6.5 Time Limit for Filing Claims for Extra Work 35

Chapter 2.7.0 - PROTECTION OF WORK

2.7.1 Protection of Work 36
2.7.2 Street Barricades, Signs, and Warning Devices 36
2.7.3 Street Barricades and Detour Signs 36
2.7.4 Flagpersons Required 36
2.7.5 Removal of Snow 37

2.8.1 Protection of Work and Property - Emergency 38
2.8.2 Safeguarding Adjacent Buildings 38
2.8.3 Property Safeguards 38
2.8.4 Access to Properties 39
2.8.5 Work in Private Right-of-Way 39
2.8.6 Statement from Easement Grantors 39
2.8.7 Failure to Secure Statement 40
2.8.8 Maintenance of Crosswalks and Gutters 40
2.8.9 Sanitary Regulations 40
2.8.10 Drainage 40
2.8.11 Access to Public and Private Underground Structures and Appurtenances 41
2.8.12 Water Line Connections to Hydrants 41
2.8.13 Traffic 41
2.8.14 Emergency Maintenance and Protection 41

2.9.1 Laws and Regulations 42
2.9.2 Assignment and Subletting 42
2.9.3 Patents and Trade Secrets 43
2.9.4 Liens and Taxes 43
2.9.5 Sales Tax 44
2.9.6 Protection Against Liability 44
2.9.7 Liability and Insurance 44
2.9.8 Performance Bond and Payment Bond 47
2.9.9 Unforseen Delay 47
2.9.10 Default, Neglect, or Delay Shall Not Render the City Liable 47
2.9.11 Termination of Contract for Cause 48
2.9.12 Termination for Convenience of the City 48
2.9.13 Collusive Agreements - Prohibited 48
2.9.14 Progress Payments 49
2.9.15 Final Payment 49
2.9.16 Final Payment to Terminate Liability of City 50
2.9.17 Time for Completion 50
2.9.18 Contractor/City Relationship 50
2.9.19 Special Conditions - Federally-Aided Projects 51
2.9.20 Assignment of Payments 51
2.9.21 Records 51
2.9.22 Audit 51

PART I
INSTRUCTIONS TO BIDDERS
GENERAL

CHAPTER 1.1.0

1.1.1 Contracting Officer

The contracting officer shall be the Commissioner of Public Works of the City of Milwaukee hereinafter referred to as Commissioner.

1.1.2 Qualifications of Bidders

Qualifications for the project shall be demonstrated by each bidder as requested by the Commissioner of Public Works. Such bidder shall submit within five days of such request written evidence and documentation as required by the Commissioner, including financial capability, previous experience, and evidence of authority to conduct business in the State of Wisconsin.

1.1.3 Examination of Contract Documents and Site

a) Before submitting a bid, each bidder shall:

1. examine the contract documents thoroughly,

2. visit the site to become familiar with local conditions that may in any manner affect performance of the work,

3. become familiar with federal, state, and local laws, ordinances, rules and regulations affecting performance of work, and

4. carefully correlate observations with the requirements of the contract documents.

b) Before submitting a bid, each bidder shall, at own expense, make such surveys and investigations as may be deemed necessary to determine a bid price for performance of the work within the terms of the contract documents. Bidder is responsible for obtaining all necessary licenses and permits at own expense.

c) The submission of a bid shall constitute a prima facie representation by the bidder that the bidder has complied with every requirement of this Section 1.1.3.

1.1.4 Interpretations

All questions about the meaning or intent of the contract document shall be submitted to the Commissioner in writing. Replies shall be issued by Addenda, mail, or delivery to all parties recorded by the Commissioner as having received the bidding documents. Questions received less than five days prior to the date for opening of bids will not be answered. Only questions answered by formal written Addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect.

1.1.5 Bid Security

Bid security required is 10% of the contractor's bid, unless otherwise stated in the Official Notice and Invitation to Bid. The required security must be in the form of a certified or bank cashier's check made payable to Commissioner, or when indicated in said Notice or Invitation to Bid, a bid bond issued by a Surety licensed to conduct business in the State of Wisconsin and named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. The bid bond must be accompanied by a copy of the power of attorney for the agent or attorney-in-fact signing the bid bond. The bid security of the successful bidder shall be retained until the bidder has executed the Agreement and furnished the required contract security, whereupon it will be returned. Upon failure to execute and deliver the contract and furnish the required contract security within ten days of Notice of Award, the Commissioner may annul the Award and the bid security of that bidder shall be forfeited and the City reserves the right to pursue any available remedies against the bidder. The bid security of all except the two lowest bidders shall be returned after the opening of bids. The balance of the bid deposits, except that of the lowest responsible bidder, will be returned after the Commissioner has made an award to the lowest responsible bidder.

1.1.6 Bid Proposal

a) The Bid Proposal is included in the contract documents. Additional copies of the bid documents may be obtained through the Contract Administration Office, Room 506, Municipal Building.

b) Bid Proposal shall be completed in ink or typewritten. The bid price of each item on the form must be stated in words and numerals. In case of a conflict, words shall take precedence.

c) Bids submitted by an individual shall be signed by the bidder or by an authorized agent.

d) Bids by corporation shall be executed in the corporate name by the president or vice president (or other authorized corporate officer accompanied by

evidence of authority to sign), and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

e) Bids by partnerships shall be executed in the partnership name and signed by a partner; the partner's title must appear under the signature, and the official address of the partnership must be shown below the signature.

f) Bids which are signed by an attorney-in-fact for individuals, firms, partnerships, or joint ventures shall have attached thereto a power of attorney evidencing authority to sign the bid.

g) All names shall be typed or printed below the signature.

h) The bid shall contain an acknowledgment of receipt of all Addenda, if any, the numbers of which shall be filled in on the bid form.

I) Any bid received which does not respond to the items as requested on the bid proposal form shall be considered as a nonresponsive bid and may not be considered for award. This includes any alterations, modifications or conditions to the proposal or alternate bids which are not specifically requested on the bid proposal form.

j) The contractor shall include in the contract price all applicable federal, state and local taxes in the proposal submitted.

1.1.7 Small Business Enterprise (SBE) Program

Chapter 370 of the Milwaukee Code of Ordinances established a Small Business Enterprise Program (SBE) which is implemented through establishment of percentages of public works contracts to be allocated to City certified SBE businesses and enterprises. These percentages are established by the department and are stated in the Official Notice and the Invitation for Bid. Forms required by the established SBE provisions must be submitted by bidders as part of the bidding process. Failure to comply with these requirements may result in rejection of the bid. The SBE provisions will be made a part of all departmental bid solicitations and are included in this bid package.

1.1.8 Submission of Bids

Bids shall be submitted at the place and no later than the date and time indicated in the Official Notice and Invitation to Bid. The bid and the bid security shall be placed in an opaque, sealed envelope marked with the Official Notice Number, project number, branch number, date of opening bids, name and address of bidder, and the type and location of work. Such envelope shall be addressed and delivered to the Office of the Commissioner, Contract Administration Office, Room

506, Municipal Building, before time specified in the Official Notice and Invitation to Bid for opening bids. Bids received later than the date and time indicated will not be considered, and the unopened envelope will be returned.

1.1.9 Modification and Withdrawal of Bids

A bidder may withdraw a bid because of error, omission or mistake at any time before the opening of the bids. In such case, the bid shall be returned unopened, and the bidder shall not be entitled to bid on the contract unless it is readvertised and re-let.

After bid opening, a bidder may only withdraw a bid if the bidder meets the requirements of 66.29(5), State Statutes.

1.1.10 Opening of Bids

Bids shall be publicly opened at the time and place as indicated in the Invitation to Bid and Official Notice.

1.1.11 Adequacy of Bids

A bid which appears unreasonable or inadequate for any item in the schedule of quantities stated in the proposal form may be rejected.

1.1.12 Quantities

The estimated quantities of the work are the result of careful calculations but are not to be considered as final and shall be used as a basis for determining the lowest bidder. After the contract is awarded, the quantity of work listed under any item, or all items, may be increased or decreased a reasonable amount at the discretion of the Commissioner without in any way invalidating the bid price.

1.1.13 Bids to Remain Open

All bids shall remain open for **45** days after the day of the bid opening or until execution of contract, whichever occurs first.

1.1.14 Acceptance or Rejection of Bids

a) The contract shall be awarded to the lowest responsible bidder whose bid complies with the bid specifications. The Commissioner reserves the right to reject all bids if it appears that the lowest bid for the work to be let is

unreasonably high. The Commissioner further reserves the right to reject the bid of any bidder who is, in the judgment of said Commissioner, incompetent or otherwise unreliable for the performance of the work bid or who shall previously have willfully or negligently failed to complete any work or contract entered into with the City or any officer or department thereof or who shall have willfully or negligently failed to enter into a contract with satisfactory Surety for any work that shall have been previously awarded by said Commissioner. The Commissioner further reserves the right to disregard and reject any and all bids where in the best interest of the City.

b) If the contract is to be awarded, the Commissioner shall give the successful bidder a Notice of Award within forty-five days after the day of the bid opening.

c) The Contractor shall submit with the executed contract, the required performance and payment bonds and proof of required insurance coverage within ten (10) days after contract award notification.

1.1.15 Contract Time

The number of days or the completion date for the completion of the work (the contract time) is set forth in the Official Notice and the Invitation to Bid and shall be part of the contract. Any provisions for liquidated damages shall be set forth in the Official Notice.

1.1.16 Subcontractors

a) If the Conditions or Specifications required the identity of certain subcontractors and other persons and organizations to be submitted in advance of the Award, the apparent low bidder and any other bidder so requested shall within seven days after the day of the bid opening submit to the Commissioner a list of all subcontractors and other persons and organizations, including those who are to furnish the principal items of material and equipment, proposed for those portions of the work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person, or organization if requested by Commissioner. If the Commissioner, after due investigation, has reasonable objection to any proposed subcontractor, other person, or organization, the Commissioner may, before giving the Notice of Award, request the apparent low bidder to submit an acceptable substitute without any increase in bid price. If the bidder declines to make any such substitution, such bidder will not thereby sacrifice the bid security. Any subcontractor, other person or organization so listed and to whom City by its Commissioner does not make written objection prior to the giving of the Notice of Award shall be deemed acceptable.

b) In contracts where the contract price is on the basis of Cost of the Work Plus a Fee, the Contractor, prior to the Notice of Award, must identify in writing to the Commissioner those portions of the work that the Contractor proposed to subcontract and after the Notice of Award may subcontract other portions of the work only with the Commissioner's consent.

c) Contractor shall not be required to employ any subcontractor, other person, or organization against whom the Contractor has reasonable objection.

1.1.17 Starting Work Before Notification

No work shall be started under the contract, and no materials or equipment shall be brought upon the site of the work, prior to the date named in the written notice to proceed with the work.

1.1.18 Protest and Appeal Procedure

a) Prior to Bid Opening - Protests regarding form and content of bid documents must be received by the Commissioner of Public Works not less than five days prior to the scheduled bid opening time. A protest shall be in writing and state the reason for it. The protest will be reviewed and if modification is necessary, the bid opening day will be extended and addenda sent to each bidder. The decision of the Commissioner is final.

PART II
GENERAL CONDITIONS
DEFINITIONS AND TERMS

CHAPTER 2.1.0

2.1.1 General

Whenever in the specifications or in any document or instruments in construction operations where the specifications govern, the following abbreviations, terms, or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

2.1.2 Abbreviations

a) A.A.S.H.T.O. The American Association of State Highway and Transportation Officials.

b) ADMINISTRATIVE CODE. Wisconsin Administrative Code.

c) A.N.S.I. American National Standards Institute.

d) A.R.E.A. The American Railway Engineering Association.

e) A.S.M.E. The American Society of Mechanical Engineers.

f) A.S.T.M. The American Society for Testing and Materials.

g) A.W.W.A. The American Water Works Association.

h) D.N.R. Wisconsin Department of Natural Resources.

I) FEDERAL SPECIFICATIONS. The Specification of the United States Federal Specifications Board.

j) O.S.H.A. Federal Occupational Safety and Health Administration.

k) S.S.P.C. Steel Structures Painting Council.

l) STATE SPECIFICATIONS. Current Standard Specifications for Road and Bridge Construction of the Wisconsin Department of Transportation.

m) A.C.I. American Concrete Institute.

n) A.G.M.A. American Gear Manufacturers' Association.

o) A.I.A. American Insurance Association.

p) A.I.S.C. American Institute of Steel Construction.

q) A.S.C.E. American Society of Civil Engineers.

r) A.W.S. American Welding Society.

s) I.E.E.E. Institute of Electrical and Electronic Engineers.

t) J.I.C. Joint Industry Conference.

u) N.E.C. National Electrical Code.

v) N.E.M.A. National Electrical Manufacturers' Association.

w) P.C.A. Portland Cement Association.

x) P.C.I. Prestressed Concrete Institute.

2.1.3 Contract Documents

All the integral documents of the contract comprised of (a) written agreement (contract) covering the performance of the work and furnishing of materials for the construction of the work, (b) official notice, (c) invitation to bid and bid, (d) instructions to bidders, (e) specifications, (f) special provisions, (g) special conditions when applicable, (h) plans, (I) schedule of fixed prices, (j) supplemental agreements, and (k) all addenda, as fully as though they had been set forth therein full in the body of the contract.

2.1.3.1 Governing Order of Contract Documents

In the case of a discrepancy or conflict in the contract documents, the order of governing shall be as follows:

First - Special Provisions
Second - Plans
Third - Specifications

2.1.4 City

The City of Milwaukee, a municipal corporation of the State of Wisconsin, located in the County of Milwaukee.

2.1.5 Commissioner of Public Works, Commissioner or CPW

The Commissioner of Public Works of the City of Milwaukee.

2.1.6 Bidder

Any individual, firm, partnership, corporation, or a combination of any or all jointly submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

2.1.7 Contractor

Any individual, firm, partnership, corporation, or a combination of any or all jointly submitting a proposal to whom the contract is awarded by the City or its heirs, executors, administrators, successors, or assigns.

2.1.8 Subcontractor

The individual, firm, partnership, or corporation to whom the Contractor, with the written consent of the Commissioner, sublets, assigns, or otherwise disposes of any part of the work covered by the contract documents.

2.1.9 Surety

The approved Surety corporation licensed to do business in the State of Wisconsin bound with and for the Contractor to insure acceptable performance of the contract and for payment of all obligations under the contract.

2.1.10 Plans

All contract drawings, reproductions of drawings, sketches, and revisions thereof pertaining to the work covered by the contract.

2.1.11 Addenda

All revisions of and supplements to the plans and specifications incorporated in or attached to and becoming an integral part of the contract documents.

2.1.12 Special Provisions

The special body of directions, provisions, or requirements peculiar to a project and otherwise not thoroughly or satisfactorily detailed or prescribed in the specifications. The requirements of these Special Provisions shall govern the work and shall take precedence over the specifications or plans whenever they conflict.

2.1.13 City Datum

The plane of zero elevation used for City work, being 54.815 feet below the permanent bench mark on a stone monument located near the northwest corner of North Jackson and East Wells Streets.

2.1.14 Pavement

All types of pavements except such surfacings as crushed stone, screenings, cinders, or untreated water-bound macadam.

2.1.15 Work

Work shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary for all the successful completion of the project or particular part of the project in accordance with the requirements of the contract.

2.1.16 Engineers

The Engineers of the Department of Public Works assigned to the work.

2.1.17 Milwaukee Code

The Milwaukee Code of Ordinances, being the revision and codification of the general ordinances of the City of Milwaukee, adopted by the Common Council on December 19, 1941, and supplements and amendments thereto.

2.1.18 Emergency or Emergencies

Unforeseen occurrences and combinations of circumstances involving the public welfare or the protection of work already done under the contract documents or which endanger life or property and call for immediate action or remedy.

2.1.19 Trade Terms

Terms having a well-known technical or trade meaning and generally recognized by architects, engineers, and the trade.

2.1.20 Date of Completion of Work

The work shall be considered as completed on the date certified to the Commissioner by the Engineer in Charge or other authorized representative.

2.1.21 Time Allowed for Completion

The time allowed the Contractor to complete all work under the contract including cleaning of the work site will be specified in the official notice. This time will be specified either as number of working days allowed, number of calendar days allowed, a specified calendar date, or a combination of these when a specific portion of the work is to be completed by a specific date. If any of these requirements are exceeded, Section 2.5.11 of the Specifications shall be invoked in addition to any other available remedies.

2.1.22 Advertisement

The official notice inviting bids for all proposed work included in any one letting.

2.1.23 Award

Notice to Contractor of Contract Award.

2.1.24 Calendar Days

Every day shown on the calendar; Saturdays, Sundays and holidays included.

2.1.25 Contract Bond

The approved form of security furnished by the Contractor and Surety as a guarantee of good faith on the part of the Contractor to execute the work in accordance with and complying with all the terms and conditions of the Contract Documents.

2.1.26 Contract Change Order

A written order by the Commissioner or the Commissioner's authorized representative covering work not otherwise provided for, revision in or amendments to the contract, or conditions specifically prescribed in the specifications as requiring contract change orders. Such document becomes a part of the contract.

2.1.27 Contract Period

The period from the date of commencing work to the date of completing work, both dates inclusive, as specified in the contract.

2.1.28 Inspector

The authorized representative of the City assigned to make a detailed inspection of any and all portions of work or materials thereof.

2.1.29 Official Notice

The advertisement for proposals for all work or materials on which bids are required. Such advertisement will indicate with reasonable accuracy the location and character of the work to be done or materials to be furnished and the time and place of submitting the proposals

2.1.30 Notice to Proceed

A written notice to the Contractor by the Commissioner or the Commissioner's authorized representative of the time within which the Contractor shall begin the prosecution of the work.

2.1.31 Bid

The offer of the bidder, submitted on the prescribed bid form, to perform the work including the furnishing of labor and materials at the prices quoted by the bidder.

2.1.32 Bid Form

The approved form on which the City requires bids to be prepared and submitted for the work.

2.1.33 Bid Security

The security furnished with a bid to guarantee that the bidder will enter into the contract if the bid is accepted.

2.1.34 Schedule of Fixed Prices

The fixed prices as listed in the Contract Documents.

2.1.35 Working Day

A working day shall be any calendar day where, in the opinion of the Commissioner or his duly authorized representative, it is possible for the Contractor to start and continue work, except that unless the Contractor actually starts and continues work on days of inclement weather, Saturdays, Sundays, and nationally-recognized legal holidays, such days shall not be considered as working days.

CHAPTER 2.2.0
EMPLOYMENT OF LABOR

2.2.1 Residence Preference Program

Chapter 309 of the Milwaukee Code of Ordinances established a Residence Preference Program which is implemented through establishment of the percentages of worker hours to be performed by “unemployed or underemployed” residents of the City of Milwaukee. These percentages are established by the Department and are stated in the Official Notice and the Invitation to Bid. Forms required by the established resident preference provisions must be submitted by bidders as part of the bidding process. Failure to comply with these requirements may result in payments being withheld, contracts canceled, debarment from bidding for up to two years, or any other remedy available to the City at law or in equity. The resident preference provisions will be made a part of all departmental bid solicitations and are included in the bid package.

2.2.2 Hours of Labor and Overtime Pay

In such instances where overtime work has been permitted and laborers or mechanics are required to work more than ten hours per day or 40 hours per week, holidays or at times other than the normal work day or work week, they shall be paid by the contractor in accordance with the prevailing overtime wage rates.

2.2.3 Minimum Wage Rate

a) In accord with Section 66.0903 Wisconsin Statutes, building and construction industry trade workers employed upon public works contracts by any contractor or subcontractor shall be paid no less than the wage rates and fringe benefits approved for their respective trades or occupations. Such wage rates shall be incorporated into the contract. In addition, a schedule of wage rates and hours of labor shall be kept posted in at least one conspicuous and easily accessible place on the site of the project or, if there is no common site, at the place normally used by the city to post public notices.

b) All workers in the construction industry must be paid at least once every 31 days. Workers employed under a valid collective bargaining agreement may be paid less frequently depending on the language in such agreement. Workers who quit or are discharged must be paid on the next regularly scheduled payday.

2.2.4 Unclassified Employees

a) In case it becomes necessary for the Contractor or any subcontractor to employ on the work covered by the contract documents any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers) for whom no minimum wage rate is herein specified, the Contractor shall immediately notify the Commissioner who shall promptly thereafter furnish the Contractor with the minimum wage rate for such person.

b) Apprentices are considered unclassified employees and their rates are not furnished in the minimum wage scale. Contractors/subcontractors employing apprentices are required to furnish a copy of the signature page of their indenture papers and a copy of their rate sheet with the paid rate highlighted. The Commissioner shall determine whether or not a person so employed was properly paid or if an underpayment exists.

2.2.5 Time Reports

The Contractor hereby agrees to make a sworn report or affidavit within ten days following the Contractor's completion of a contract, or every three months, whichever occurs first, and shall procure and submit a like sworn report or affidavit from every subcontractor employed in the work to the Commissioner, listing every employee employed on or under this contract or subcontract, and shall include for the specified period but not be limited to the employee's name, address, type of work performed, total hours worked, hourly rate, gross earnings, and employer's contribution to vacation, welfare, and pension trust funds. Said reports or affidavits from the Contractor or subcontractor shall include a statement that each and every employee has been paid in full the amount prescribed by the State of

Wisconsin and that there has not been, nor is to be, any rebate or refund of any part of said wages by employee to employer.

The Commissioner or other officers are hereby ordered not to pass any estimate for payment on any contract in which the Contractor or subcontractor has failed to comply with all the provisions of the foregoing sections, and no estimate shall be processed for payment until the Commissioner is satisfied that the provisions of the foregoing specifications have been fully complied with.

2.2.6 Provision of Wisconsin Statutes and Administrative Code Pertaining to Municipal Wage Rates

Pursuant to Section 66.0903 Wisconsin Statues and Chapter 290 of the Wisconsin Administrative Code, each contractor and subcontractor is subject to the following requirements.

Each contractor, subcontractor, or agent thereof participating in a project shall keep full and accurate records clearly indicating the name and trade or occupation of every laborer, worker, or mechanic employed in connection with the project and an accurate record of the number of hours worked by each employee and the actual wages paid therefore.

Upon completion of the project and prior to final payment therefore, each contractor shall file with the municipality an affidavit stating compliance with the provisions and requirements of the Wisconsin Statutes and Administrative Code and that said contractor has received evidence of compliance from each subcontractor. No municipality may authorize final payment until such an affidavit is filed in proper form and order.

Upon completion of the subcontractor's portion of the work and prior to final payment, each subcontractor shall file with the contractor an affidavit stating that said subcontractor has fully complied with the provisions and requirements of Section 66.0903 (3) Wisconsin Statutes and the Wisconsin Administrative Code Chapter 290.

In accordance with Section 66.0903, each contractor shall file with the City copies of the subcontractor's affidavit prescribed under Chapter 290 Wisconsin Administrative Code.

2.2.7 Enforcement of "Hours and Wages" Provisions

Attention is called to Section 66.0903, Wisconsin Statutes, which provides that a contractor who violates the provision of this law, to-wit, fails to comply with the State wage scale set forth in the contract may be liable to pay unpaid wages and additional amounts as liquidated damages. Each violation may result in a $200 fine and/or 6 months in prison. Each day a violation occurs is a separate offense.

2.2.8 Wage and Hours Limitation

The provisions of Wisconsin State Statute 66.0903 shall apply, and the Contractor or any subcontractor is not to pay less than the prevailing wage determination provided by the Department of Workforce Development.

2.2.9 Days of Work and Shift Regulations

No work shall be performed under the contract on Saturdays, Sundays, or legal holidays, except with the approval of the Commissioner.

The Commissioner reserves the right to name the number of shifts per day, the hours per shift, and the starting time of each shift.

2.2.10 Wage and Hours Disputes

Whenever a dispute arises between the Contractor or Surety and the City as to the determination whether there is compliance with the provisions of the contract documents as to the hours of labor, wages, character, and classification of workers employed, the determination of the Commissioner shall be final, and in case of violations of said provisions, the Commissioner may declare the contractor in default and order the Surety to perform or re-let upon advertisement, the remaining portion of the contract as provided by Section 66.0901(8), Wisconsin Statutes.

2.2.11 Disqualification of Contractor

Debarment can be imposed against an employer, including its responsible officers, directors, members, shareholders or partners provided such individual is vested with the management of the affairs of the individual or legal entity. An employer can be debarred for up to three years.

2.2.12 Lien Law

All provisions of Section 7-32, Milwaukee City Charter, shall be binding upon the Contractor.

2.2.13 Discrimination in Employment

In accord with Section 109-45, Milwaukee Code and federal guidelines, it shall be unlawful for any private employer performing work within the City involving any public works of the City to willfully refuse to employ or to discharge any person otherwise qualified because of sex, race, religion, color, national origin or ancestry, age, disability, lawful source of income, marital status, sexual orientation, gender identity or expression, past or present membership in the military service, familial status, or based upon affiliation with, or perceived affiliation with any of these protected categories. The private employer agrees not to discriminate for the same reason in regard to tenure, terms, or conditions of employment; to deny promotion or increase in compensation solely for these reasons; to publish offer of employment based on such discrimination; to adopt or enforce any rule or employment policy which discriminates between employees; to seek such information as to any employee as a condition of employment; or to penalize any employee or discriminate in the selection of personnel for training, solely on the basis of sex, race, religion, color, national origin or ancestry, age, disability, lawful source of income, marital status, sexual orientation, gender identity or expression, past or present membership in the military service, familial status, or based upon affiliation with, or perceived affiliation with any of these protected categories.

The Contractor shall include or cause to be included in each subcontract covering any of the work covered by this contract, a provision similar to the above paragraph, together with a clause requiring such insertion in further subcontracts that may in turn be made.

2.2.14 Americans With Disabilities Act

Contractor (Vendor, Consultant, Lessee, etc.) agrees that Contractor will comply with all applicable requirements of the Americans with Disabilities Act of 1990, 42 U.S.C. §12101, et seq.

CHAPTER 2.3.0
NECESSARY NOTICES AND PERMITS

2.3.1 Notice to Proceed with Work

The Commissioner shall notify the Contractor of the date to commence work covered by the contract. Upon receipt of such notice the Contractor shall comply with all notice requirements set forth below and in the specifications.

2.3.2 Notice to Fire, Police, and Sheriff

Contractor shall give notice in writing to the Chief Engineer of the Fire Department and to the Chief of Police of the City of Milwaukee and to the Sheriff of Milwaukee County at least three days before blocking off any street.

2.3.3 Notice to Utilities, City Bureaus and Governmental Units

The Contractor shall notify all utilities, City bureaus, and governmental units whose property may be affected by the Contractor's operations at least three days before breaking ground. The Contractor shall not interfere with said property until the expiration of the time specified in said notice and then only by permission of the Commissioner, nor shall the Contractor hinder or interfere with any person in the protection of such work or with the operation of buses at any time except with the permission of the Commissioner.

2.3.4 Notice to Railroads

The Contractor shall send by registered mail a notice to the district or division engineer or persons in charge of the operations of trains for any railroad at least ten days prior to doing any work in the right-of-way or any track zone. Such Contractor shall ascertain the schedule of all trains and shall comply with all rules and regulations requested by the railroad company.

2.3.5 Notice for State Arterial Highways

Whenever the work will obstruct or in any other way affect through vehicular traffic on State arterial highways, the Contractor shall give notice at least three days in advance thereof to the State of Wisconsin, Department of Transportation, Division

of Highways, and the Traffic Division of the Infrastructure Division of the City.

2.3.6 Notice to Support Buildings

Whenever the work endangers the support or involves the undercutting of any building or other structure along the site of work, the Contractor shall send by registered mail, return receipt requested, a written notice to the owner or the owner's agent to support such building or structure, and following the service of the notice, the contractor shall allow a reasonable length of time for the placing of the necessary support. Such notice shall be in accordance with applicable law.

2.3.7 Notice of Work Suspension

In case the work is stopped and is to remain stopped for any considerable length of time, the Contractor shall promptly notify the Commissioner. At least three days before the work is to be resumed, the Contractor shall again notify the Commissioner.

2.3.8 Permits and Licenses

The Contractor shall procure all necessary permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

2.3.9 Permit for Parks and Parkways

The Contractor shall obtain a permit from the local park authority for construction work to be done within the limits of parks or parkways.

2.3.10 Permit for Storage of Materials

When the Contractor finds it necessary to store materials on a street which is open to traffic, such Contractor shall obtain a permit from the Department of Public Works to store such materials at the designated location.

2.3.11 Water Permit

If for any reason a contractor requires the use of a fire hydrant to supply water, the contractor shall obtain a hydrant use permit as required by the Milwaukee Water Works.

2.3.12 Permit for Excavation

Before starting excavation in any street, roadway, or other public way, the Contractor must obtain a permit from the Department of Public Works.

2.3.13 Permit for Street Closings

When it is necessary to close any street to traffic, the Contractor shall obtain a permit from the Department of Public Works. The only exception would be for contractors paving or reconstructing a street.

2.3.14 Permit for Blasting

Before doing any blasting the Contractor shall, with the approval of the Commissioner, obtain a permit from the Building Inspector. The Commissioner reserves the right to order the discontinuance of blasting operations at any time.

2.3.15 Copies of Notices and Permits

Copies of all written notices and permits shall be submitted to the Commissioner or the Commissioner's representative prior to the commencement of construction.

2.3.16 Notice to Cable Franchises

The Contractor shall notify all cable television franchises whose property may be affected by the Contractor's operations at least three (3) days before breaking ground. The Contractor shall not interfere with said property until the expiration of the time specified in said notice and then only by permission of the Commissioner, nor shall the Contractor hinder to interfere with any person in the protection of such work.

CHAPTER 2.4.0
CONTROL OF WORK AND MATERIALS

2.4.1 Plans and Specifications to be Available

The Contractor shall keep a legible copy of the plans, if any, and specifications at the site of the work.

2.4.2 Contractor's Representative

The Contractor shall either give personal superintendence to the work and be present, or shall have at the site of the work at all times while work is in progress, a representative having authority both to receive orders from the Commissioner and to act for the Contractor. Such representative must be thoroughly familiar with the work and be acceptable to the Commissioner and must be capable of reading and understanding the plans and specifications and capable of directing the work as called for by the contract documents.

2.4.3 Authority and Duties of Inspectors

Inspectors employed by the City shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to revoke, alter, or waive any requirements of the specifications, nor is the Inspector authorized to approve or accept any portion of the completed project. The Inspector shall call the attention of the Contractor to any failure of the work or materials to conform to the specifications and contract and shall have the authority to reject materials. Any dispute between the Inspector and Contractor shall be referred to the Commissioner. Any advice which the Inspector may give the Contractor shall in no way be construed as binding the Commissioner or the Commissioner's representative in any way or releasing the Contractor from fulfilling any of the terms of the contract.

2.4.4 Performance of Work

All work to be performed must be in accordance with the contract documents and subject to the supervision, approval, and acceptance of the Commissioner.

2.4.5 Materials, Labor, Equipment, Etc.

All construction materials to be used on the work, all materials to be incorporated

into the work, and all labor, equipment, plant, tools, appliances, or methods to be used on the work shall be subject to the inspection and approval or rejection of the Commissioner.

It is understood that, except as otherwise specifically stated in the contract documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other service and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

2.4.6 Decisions of the Commissioner

All work shall be done in compliance with the contract documents. The Commissioner shall decide all questions which shall arise as to the quality and acceptability of materials furnished, work performed, manner of performance, extensions of time, rate of progress of the work, interpretation of the plans and specifications, acceptable fulfillment of the contract, compensation, disputes, and mutual rights between Contractors under the Specifications. All questions as to the meaning of the contract documents and all questions as to the interpretation of any orders or directives which may have been issued in connection with the work shall be decided by the Commissioner whose decision shall be considered final and conclusive between the parties hereto and binding upon them.

2.4.7 Order of Work

The place of commencement, the sequence of operations, and the prosecution of the work may be determined by the Commissioner as he shall deem fit to best serve the needs and the convenience of the public and for the proper and timely completion of the contract.

2.4.8 Regulation of Tools, Equipment, and Plant Usage

The Commissioner reserves the right to regulate the time of usage or to prohibit the use of any type or kind of tools, equipment, and plant which may cause objectionable smoke, noises, odors, or damage to property.

2.4.9 Gas-Powered Equipment

The Commissioner reserves the right to prohibit the stationary use of gas or diesel-powered plant equipment when such usage would cause objectionable noises, odors, or damage to property or trees.

2.4.10 Electrically-Powered Plant

Where conditions are such that, in the opinion of the Commissioner, an electrically-powered plant should be used, the Commissioner shall have the right to order the Contractor to furnish an adequate plant powered by electric service.

2.4.11 Location and Type of Plant

The location and type of any plant, at the site of the work, including buildings, machinery, equipment, and tools, is subject to the approval of the Commissioner. If these are furnished, placed, or used without approval, the Commissioner may require the removal and substitution of any or all parts of the plant, including buildings, machinery, equipment, and tools, to a location and of a type acceptable to the Commissioner.

2.4.12 Right to Inspect and Test Materials

All materials to be used in the work are subject to the inspection, testing, and approval of the Commissioner or the Commissioner's authorized representatives at the place of manufacture, the site of the work, or other location, and before use, or before, during, or after the incorporation of such materials into the work. The Contractor shall, at all times, afford the necessary facilities for the Commissioner and the Commissioner's representatives to examine or sample all materials and to inspect the work, plant, equipment and tools in order to determine whether the materials, operations, workmanship, methods, and finished work comply with the requirements of the contract documents.

2.4.13 Inspection

All materials and each part or detail of the work shall be subject at all times to inspection by the Commissioner or the Commissioner's authorized representatives, and the Contractor shall be held strictly to the true intent of the specifications in regard to quality of materials, workmanship, and the diligent execution of the contract. Such inspection may include mill, plant, or shop inspection, and any material furnished under these specifications is subject to such inspection. The Commissioner or the Commissioner's representatives shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is determined by the Commissioner or the Commissioner's representative to make a complete and detailed inspection.

The Contractor shall, if the Commissioner requests, remove or uncover such portion of the finished work as the Commissioner may direct before the final acceptance. After the examination, the Contractor shall restore said portion of the work to the standard required by the specifications. If the work thus exposed and examined proves acceptable, the expense of uncovering or removing and

replacing the parts removed shall be paid for as extra work but, if the work so exposed and examined is unacceptable, the expense of the uncovering or removing and replacing in accordance with the specifications shall be borne by the Contractor.

Failure or negligence on the part of the Commissioner or the Commissioner's representative to condemn or reject substandard or inferior work or materials shall not be construed to imply an acceptance of such work or materials. Neither shall it be construed as barring the City at any subsequent time from the recovery of damages or of such a sum of money as may be needed to rebuild and/or replace all portions of the substandard or inferior work or replacement of improper materials wherever found.

Any portion of the work or any material incorporated into the work, which may have become damaged during the progress of the work, shall be removed and replaced at the expense of the Contractor prior to final inspection and acceptance of the work.

2.4.14 Source of Supply

The Commissioner reserves the right to prohibit the use of materials from any source when such material is known to the Commissioner to be inferior and from any plant when its mode of operation is known to the Commissioner to be such as to make improbable the supplying of reasonably uniform material.

2.4.15 Or Equal Clause

Whenever a material, article, or piece of equipment is identified on the plans or in the specifications by reference to manufacturers or vendors names, trade names, catalogue numbers, etc., it is intended merely to establish a standard, and any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design shall be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Commissioner, of equal substance and function. It shall not be purchased or installed by the Contractor without the Commissioner's written approval.

2.4.16 Continuous Work

The Contractor shall execute the work only in the presence of the Commissioner or the Commissioner's representative during the working hours of the day unless, at the Contractor's own volition upon due notice to the Commissioner and with the Commissioner's approval, the Contractor desires to prosecute the work continuously or at night. In all cases, the Contractor shall provide such facilities for carrying on night work as the Commissioner directs. No claims shall be allowed for extra payment on account of night or continuous work nor for damages or detriment to the quality of work which may be incurred by the Contractor in being

permitted to carry on work during such time, it being understood that full compensation for night or continuous work and all expenses incident thereto are included in the prices for the various items in the contract.

2.4.17 Progress of the Work

The Contractor shall proceed with diligence to do the work and shall work continuously without delay. The Contractor shall not suspend operations at own discretion for whatever purpose without City of Milwaukee approval. It is the intent under this Section of the General Specifications that the work proceed continuously and expeditiously to completion irrespective of time allowed for completion of the work. Should the Contractor fail to prosecute the work continuously and expeditiously, the Commissioner may invoke the provision of Section 7.14(2) of the Milwaukee City Charter with a recommendation to the Common Council that the Contractor is not deemed to be a competent and reliable bidder and be disbarred from bidding for a period of time. If interruption of the work occurs during the term of contract which is beyond the control of the Contractor, i.e., strikes, governmental regulations, severe shortage of building materials, fires, or floods which are entirely beyond the control of the Contractor, the Contractor shall within such time as the Commissioner deems reasonable present written notice of such conditions to the Commissioner with a request for interruption of the work or an extension of the time for the completion of the entire contract. If said delays are approved by the Commissioner, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor shall not be entitled to damages or additional payment due to these delays. Whenever the Commissioner shall have taken action for the reasons described above to change the term of the contract described in this agreement, it is incumbent upon the Contractor to notify the Surety of such change.

Should the Contractor fail to maintain the rate of progress required to complete the work within the contract time specified, the Commissioner may require that additional workers or equipment be placed on the work or a reorganization of plant layout be effected in order that the work be brought up to schedule and maintained there. Should the Contractor fail to comply therewith, the Commissioner may proceed under the provisions of 2.4.18 of these Specifications.

In the event work is prosecuted during adverse weather conditions, the Contractor will be required to exercise precautions necessary to produce satisfactory work and shall protect the finished work from the elements. It is agreed and understood that the cost thereof has been included in the unit prices bid for the various items of work in the contract and that no extra compensation be allowed therefore.

2.4.18 Default and Completion of Work

The Commissioner has the right, in case of the improper or imperfect performance of the work, to suspend the work at any time and to order the entire

reconstruction of the same or to re-let the same to some other competent party. The Commissioner has the right, in case the work shall not be prosecuted with such diligence and with such number of employees to insure its completion within the time limited by the contract documents, to suspend such work and re-let the same to some other competent party or employ personnel and secure material for the completion of the same and charge the costs thereof to the Contractor.

When the Contractor or Surety, both if locally available, are notified that the Commissioner has elected to suspend the work, the Contractor shall cease to have the right to occupancy of the work site, and the Commissioner shall have the right to forthwith take possession of any materials, tools, equipment, or plant delivered thereon for work under the contract.

The Surety shall have the right to complete the contract, but in the event that performance has not been commenced within ten days from the date of the notice of suspension, the Commissioner has the right to continue in the possession of and utilize, for the completion of the contract, any and all materials, tools, equipment, and plant which the Contractor has had delivered upon the site of the work, and to prosecute the work to completion either by force account or by contract.

Expenditures made by the Commissioner in completing the work under the contract and in payment of valid claims arising under the terms of the contract shall be deducted from monies due or which would have become due to the Contractor upon completion of the contract. No claims for "extras" arising from the Commissioner's actions in completing the work will be entertained. The Contractor and Surety shall be liable and shall reimburse the City for any costs, in excess of the contract amount, required to complete the work.

2.4.19 Assumption of Control of Work Not a Waiver

Neither the acceptance of any work by the Commissioner nor any order, measurement, or certificate by the Commissioner for payment of money nor any payment for nor acceptance of the whole or any part of the work by the Commissioner, nor any extension of time except for causes beyond the control of the Contractor as set forth above, nor any possession taken by the City or its employees, shall operate as a waiver of any portion of this contract or of any power herein reserved to the City or any right to damages herein provided; nor shall any waiver of any breach of this contract be held to be a waiver of any other or subsequent breach.

2.4.20 Workmanship

All workmanship shall conform to the best standard practice. Unless otherwise specified, the specifications of recognized association of manufacturers and

contractors or industrial manufacturers shall be used as guides for the standards of workmanship.

All exposed items of work shall present a neat and acceptable appearance and shall be as true to shape and alignment as is possible to obtain with measuring or leveling instruments generally used in the respective types of work. Items of work shall be sound and fully protected against damage and premature deterioration. It is specifically understood that in all questions of quality and acceptability of workmanship, the Contractor agrees to abide by the decisions of the Commissioner.

The Contractor shall furnish all labor, materials, necessary tools, equipment, and accessories that are necessary for integrating all portions of the work included in the contract to fulfill the true purpose and intent of the contract.

2.4.21 Partial Acceptance

When requested by the Contractor and upon specific approval of the Commissioner, prior to final inspection and acceptance, the Contractor may be relieved of maintenance of sections of the work which have been completed. Such partial acceptance and assumption of the maintenance by the City shall be covered by a written notice from the Commissioner to the Contractor, and such notice shall definitely designate the sections of the work on which the Contractor is to be relieved of maintenance and shall also set forth the date upon which such notice will be effective. The assumption of maintenance by the City, however, shall not relieve the Contractor of any responsibility for defective workmanship or materials or for damages caused by the Contractor's own operations.

Such action shall not be construed to be a final inspection or acceptance of any part of the work nor waiver of any legal rights.

2.4.22 Final Acceptance

The Commissioner shall make an inspection of the work included in the contract as soon as practical after notification by the Contractor and confirmation by the Inspector that such work has, in their opinion, been completed and final cleanup performed.

Should the inspection disclose any work, in whole or in part, as being unsatisfactory, the Commissioner shall give the Contractor the necessary instructions for correction of the same, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed.

All work included in the contract shall be considered accepted on the date certified

to the Commissioner as completed by the Engineer in Charge or other authorized representative.

2.4.23 Employee Qualifications

The Contractor shall employ only such foremen, mechanics, laborers, or other employees as are physically fit, competent, experienced, and qualified to handle each class of work on which they are employed. Any person previously discharged by order of the Commissioner from work on any City contract shall not be permitted to work on this contract without first obtaining written permission from the Commissioner.

2.4.24 Employees to be Discharged for Cause

When any employee willfully, negligently, or ignorantly fails to perform any of the duties or assignments or is disobedient or abusive and disrespectful to a fellow employee or to the Commissioner or the Commissioner's representative, such employee shall, upon written order from the Commissioner to the Contractor, be discharged from the work.

2.4.25 Blasting

In all blasting operations, the Contractor shall abide by all provisions of Chapter 80, Milwaukee Code of Ordinances.

2.4.26 Right of Entry

The Commissioner reserves the right of entry to any portion of the site of the work. Such right of entry shall also be available to the City forces, utilities, or contractors for the purpose of constructing collateral work or making emergency repairs. The contractor shall not be entitled to any damages for delays or hindrances resulting from such work.

CHAPTER 2.5.0
SCOPE OF WORK AND SPECIFIC INSTRUCTIONS

2.5.1 Intent of Contract Documents

The true intent of the contract documents is to provide for the construction, execution, and completion in every detail of a complete work or improvement which the Contractor undertakes to do in full compliance with the contract documents and in accordance with recognized engineering and construction principles. The contractor shall perform all items of work covered and stipulated in the proposal and perform altered and extra work, all in accordance with the lines, grades, typical sections, and dimensions given and shall furnish, unless otherwise provided in the contract documents, all material, implements, machinery, equipment, tools, supplies, transportation, electric power and labor necessary to the prosecution and completion of the work.

2.5.2 Location of Underground Structures

It is the responsibility of the Contractor to become acquainted with the location of all underground structures which may be encountered or which may be affected by work under the contract.

The locations of any underground structures furnished, shown on the plans, or given on the site are based upon the available records but are not guaranteed to be complete or correct and are given only to assist the Contractor in making a determination of the location of all underground structures. The Contractor understands and acknowledges that the City is not responsible for any representations made by it to the Contractor relating to the location or dimensions of underground structures.

2.5.3 Harmonious Relations

The Contractor shall work in harmony with other contractors or with utility or City forces engaged in collateral work. The Contractor's operations shall be arranged to prevent interference or damage to the work of others. In case of dispute the decision of the Commissioner shall be final and binding upon the parties affected.

2.5.4 Cleaning of Work Site

The Contractor shall at all times keep the site of the work, including streets, alleys, and all private or public property involved in or adjacent to the work free from any rubbish, surplus, or waste materials that have been deposited by the employees or which have accumulated as a result of the work.

The Contractor shall remove all surplus materials, tools, equipment, or plant, leaving the site of the work and all portions of the finished work clean, unobstructed, and ready for use before the work will be considered completed. The Commissioner may have removed from the site of the work all rubbish, surplus, or waste materials which the Contractor has neglected or refused to remove and deduct the costs of such removal from any monies due the Contractor.

2.5.5 Items Not Listed in "Estimate of Quantities"

Sundry items which are incident to or required in the construction of the work but are not included as items in the estimate of quantities shall be considered an integral part of the contract, and all labor, materials, etc., required for such items shall be furnished by the Contractor and the cost of same included in the unit prices bid.

2.5.6 Omissions, Discrepancies and Corrections

It is the intent of the contract documents that all performance under the contract be in accordance with the best practice. The Contractor shall carefully check the plans both before commencing and throughout the work. The Contractor shall immediately call the Commissioner's attention to any errors, omissions, or discrepancies that the Contractor may discover in the plans before proceeding with the work affected. The Commissioner reserves the right to make such corrections as deemed necessary for the fulfillment of the true intent of the contract documents.

2.5.7 Work to be Done at Contractor's Risk

All work to be done under the contract documents from the commencement until the final acceptance of such work shall be done entirely at the Contractor's risk. No partial payment for, or partial acceptance of, any part of the work shall absolve the Contractor from such risk.

2.5.8 Guarantee

The Contractor shall be liable for the acceptable condition of all work under the contract, both during construction and throughout any guarantee period. The guarantee period, if any, shall commence on the Date of Completion. If, within said guarantee, repairs, or changes are required in connection with the work, which, in the opinion of the Commissioner, is rendered necessary as a result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the contract, the Contractor shall promptly, upon receipt of the notice from the Commissioner, and without expense to the City,

install the work to a satisfactory condition, correct all defects, make good all damage to the structure, site, or contents thereof, which damage, in the opinion of the Commissioner, results from the use of such inferior or defective materials, equipment, or workmanship.

2.5.9 Breakdown for Partial Estimates

Whenever the Commissioner sanctions partial payments for work completed during any specified period, the Contractor upon request by the Commissioner shall furnish a breakdown of the actual quantities and unit prices used in preparing unit bid price for each item in the Proposal. The breakdown must be balanced and not contain prices which are proportionately higher for work to be completed first than for work to be completed later. The Commissioner reserves the right to order such changes as may, in the Commissioner's opinion, be necessary to balance such breakdown.

2.5.10 Time for Completion - Essence of Contract

The parties hereto specifically understand and agree that the time specified for completion is of the essence of this contract, and the Contractor shall not be entitled to claim performance of this agreement unless the work is satisfactorily completed in every respect within the time specified in the contract.

2.5.11 Contractor to be Charged for Inspection After Time Allowed for Completion has Expired

The Contractor shall be charged for inspection provided by the City or by an agent for the City for each and every day inspection is required on all construction projects after the time allowed for completion has expired. This per diem rate for inspection, when provided by the City, shall include the cost of inspection, construction supervision, clerical, and administrative costs, traffic engineering, vacations, pensions, holidays, overtime, and other similar overhead charges. This charge for inspection will be deducted from monies due the Contractor at the completion of the contract. The amount of the per diem charge shall be set forth in the Bureau Specifications.

An inspector shall be assigned to the project upon notice from the Commissioner to the Contractor to start work. If more than one crew is utilized by the Contractor, as many additional inspectors will be assigned to the work as the Commissioner deems necessary. An additional charge per day after the time allowed for completion shall be made for each such additional inspector. Inspection will be continuous until, in the judgment of the Commissioner, the work is complete. This period of time will include all construction operations, including cleaning of work site. If for any reason a Contractor wishes to suspend operations, a request for

permission to do so shall be made in writing to the Commissioner. Such permission will only be granted for conditions beyond the control of the Contractor such as strikes, governmental regulations, severe shortage of building materials, fires, floods, or for other reasons authorized by the Commissioner.

When the official notice requires completion of the contract by a specific calendar date or a specified number of calendar/work days from date of order to proceed, all work including cleanup of the work site must be complete by that date. However, upon written request from the Contractor, an extension of time may be granted by the Commissioner due to conditions beyond control of the Contractor such as strikes, governmental regulations, severe shortage of building material, fires, floods, or for other reasons authorized by the Commissioner.

When a portion of the contract is required to be completed by a specific calendar date or within a specified number of calendar/work days, the per diem charge for inspection will be assessed for each work day beyond that date until the required portion is complete unless an extension of time has been granted.

The decision of the Commissioner shall be considered final in all matters pertaining to the necessity for inspection, the number of inspectors, and the granting of time extension.

2.5.12 Substitution of Materials

The Contractor may submit plans and specifications for a type of material other than those covered by the contract documents, provided they conform to requirements of the contract documents covering the particular type of material for which a substitute is proposed. In all cases, however, the plans and specifications for the proposed substitution must be approved by the Commissioner in writing.

In the event of such substitution, the Commissioner shall require from the Contractor a credit deduction from the contract amount equal to any saving in material cost resulting from use of the proposed substitute.

The name of the manufacturer and location of the plant shall be furnished together with the proposal for the use of any substitute.

CHAPTER 2.6.0
EXTRA WORK AND CREDITS

2.6.1 Revision of Plans

In case the Commissioner deems it advisable or necessary in the execution of the work to make any alteration which will increase or diminish the quantity of labor or material or the expense of the work, such alterations shall not annul or vitiate the contract nor release the Surety. The Contractor shall furnish the necessary labor, material, etc., to complete the work as altered within the time limit originally specified or as extended by the Commissioner. The difference in cost of the work so altered shall be added to or deducted from the amount otherwise due the Contractor, as the case may be, and shall be determined in accordance with the methods specified in this chapter.

2.6.2 Authority for Altered Work

No alteration in the work under the contract shall be made without a written order from the Commissioner. No verbal suggestion or order of any employee of the Department of Public Works or of any other person shall be construed as authorizing any claims on the part of the Contractor for extra compensation for labor, materials, or other items pertaining to such work, or for damages or any other expense because of the Contractor's compliance therewith.

Verbal orders and suggestions as to the performance of the work may be given from time to time by representatives of the Commissioner, but when, in the opinion of the Contractor, such orders or suggestions involve extra work for which added compensation should be received, a written order from the Commissioner authorizing such work shall be requested. In the event of any disagreement as to the amount of work involved under any authorized order for extra work, it is specifically agreed by all parties that the decision of the Commissioner shall be binding and conclusive.

2.6.3 Basis of Payment or Credit for Altered Work

The method of determining the basis of payment or credit resulting from such altered work shall be:

a) By the UNIT BID PRICE named in the proposal for like items of work.

b) By a SUPPLEMENTAL SCHEDULE OF PRICES stated by the Contractor in the proposal when such bids are requested and when the Unit Bid Price is not applicable.

c) By the predetermined FIXED UNIT PRICE contained in the "Supplemental Schedule" included in the contract documents when the Unit Bid Price is not

applicable or when a Supplemental Schedule of Prices bid by the Contractor was not required.

In the event that none of the three foregoing methods are applicable, the Commissioner reserves the right to employ any of the following methods:

d) By Unit Prices submitted by the Contractor and accepted by the Commissioner.

e) By a Lump Sum Price submitted by the Contractor and accepted by the Commissioner

f) By a Cost Plus 15% Basis. Cost is hereby defined as including the actual cost of labor, foremen over labor actually employed upon the extra work (time of foreman if engaged upon supervising other work to be prorated), labor liability insurance, the Contractor's payroll taxes, if any, and materials delivered upon and forming a part of the extra work, but excluding all administration and clerical expenses, all supervision and superintendence above foreman, and use and upkeep of small tools, plant and machinery and rent of storage yard. Prevailing rental rates on special tools and equipment and actual cost of special services will be allowed the Contractor without the above specified 15% added thereto.

2.6.4 Claims for "Cost Plus" Extra Work

Claims for such extra work shall not be considered unless the Contractor presents to the Commissioner's representative on the work an itemized statement in duplicate of the hours of labor, quantities of materials, etc., upon which payment is to be based. The Commissioner's representative shall verify such amounts and shall retain the original for the Commissioner and return the duplicate copy to the Contractor. The verification of such items by the Commissioner's representative shall not in itself be construed as authorization or acceptance of such claims. No claims will be considered until the original bills, receipts, or vouchers have been furnished to the Commissioner by the Contractor.

2.6.5 Time Limit for Filing Claims for Extra Work

Claims for extra work shall be filed at such intervals as directed by the Commissioner or as designated in the contract documents, but in all cases not later than five days after the date of occurrence.

Chapter 2.7.0
PROTECTION OF WORK

2.7.1 Protection of Work

During performance and up to completion date of work, the Contractor shall be under an absolute obligation to protect finished and unfinished work against any damage, loss, or injury, and in the event of such damage, loss or injury, the Contractor shall promptly replace or repair such work, whichever the Commissioner shall determine to be preferable. The performance of any work by City forces, when done in conjunction with work under the contract, shall not relieve the Contractor from full responsibility and liability.

2.7.2 Street Barricades, Signs, and Warning Devices

The Contractor shall be responsible for the erection and maintenance of all barricades, lights, and signs necessary for public safety and convenience in accordance with the specifications entitled "Minimum Requirements for Warning Devices to be Used for Work Performed in the Public Ways." In general, all hazards within the limits of the work or on detour around the work must be marked with well-painted, well-maintained barricades, reflectors, electric lights, flashers, and warning and directional signs in sufficient quantity and size adequate to protect life and property. These safeguards shall be moved, changed, increased, or removed as required during the progress of the work to meet changing conditions.

2.7.3 Street Barricades and Detour Signs

Whenever the Contractor shall have received a permit to close any street, alley, or public right of way to travel, the Contractor shall immediately upon the closing of such thoroughfare furnish, erect, and maintain substantial barricades across the streets, alleys, or property affected and shall furnish, post, and maintain detour signs thereon. Detour signs shall also be posted and maintained at immediately adjacent street and alley intersections for the convenience and guidance of traffic. The barricades and detour signs shall be illuminated by yellow lights throughout the night, or, when visibility is poor, detour signs shall conform to the standard detailed and shown in the specifications.

2.7.4 Flagpersons Required

Whenever the Contractor's operations obstruct or endanger a traffic lane and no marked detour has been provided, the Contractor shall furnish a flagperson to

direct traffic through or around the congested area. The Commissioner shall have the right to require additional flagpersons as may be deemed necessary.

2.7.5 Removal of Snow

The Contractor shall be responsible for immediate removal of snow from those sections of streets and/or alleys which the Contractor has obstructed.

CHAPTER 2.8.0
PROPERTY PROTECTION AND SANITATION

2.8.1 Protection of Work and Property - Emergency

a) The Contractor shall at all times safely guard City property from injury or loss in connection with this contract. Contractor shall at all times safely guard and protect the work site, and that of adjacent property, from damage. The Contractor shall replace or make whole any such damage, loss, or injury unless such be caused directly by the City.

b) In case of some emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Commissioner, in a diligent manner. The Contractor shall notify the Commissioner immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Commissioner for approval. The Commissioner's determination shall be final and conclusive.

c) Where the Contractor has not taken action but had notified the Commissioner of an emergency threatening injury to persons or damage to the work or any adjoining property, the Contractor shall act as instructed or authorized by the Commissioner.

2.8.2 Safeguarding Adjacent Buildings

Prior to commencing an excavation or tunnel in the immediate vicinity of any building or other structure, the safety of which may be endangered thereby, the Contractor shall comply with all requirements of applicable law. The Contractor shall serve the required notice upon the owner of such building or structure or the agent, naming the date of commencement of such work and allotting a reasonably sufficient length of time for the owner to take steps to protect the property. Throughout the course of the work adjacent to such property, the Contractor shall exercise due precaution and care and, at own expense, shall furnish and place such extra timbering, bracing, and sheathing as may be necessary to insure against the loss of ground adjacent to the excavation or tunnel and, when so indicated on the plans or when so ordered in writing, as an extra, by the Commissioner, shall leave such portions of timbering, bracing, and sheathing in place, as the Commissioner may direct. The Contractor must also take necessary precautions in the work operations to prevent the loss or settlement of such adjacent grounds and avoid the use of equipment which would tend to encourage such settlement or loss of ground.

2.8.3 Property Safeguards

The Contractor shall safeguard from and be solely responsible for all damage resulting from the work operations to water, gas, steam or drain pipes, street and building sewers, building services, catch basins, manholes, conduits, cables, hydrants, valve and stop boxes, light poles, street lighting cables and transformers, traffic signals, traffic and street signs, fire and police alarm boxes,

mail boxes, or any other privately or publicly owned existing installation or structure and the right-of-way structure of any steam or electric railway or railroad. The Contractor shall also safeguard from and be solely responsible for damage to pavements, sidewalks, curbs, gutters, trees, shrubbery, or lawns, except in such cases where the removal without replacement has been authorized in the contract documents or by the Commissioner. The cost of all safeguarding shall be included in the price bid for work under the contract.

2.8.4 Access to Properties

During the work the Contractor shall not shut off nor unnecessarily interfere with either pedestrian or vehicular access to property without the consent of the Commissioner.

2.8.5 Work in Private Right-of-Way

Whenever the work is to be prosecuted through private property for which the City has obtained a license or an easement, the Contractor shall abide fully with the terms of the license or the easement, a copy of which is on file in the Department of Public Works.

2.8.6 Statement from Easement Grantors

Before final payment will be made, the Contractor shall obtain and submit to the Commissioner a statement from the parties granting the license or easement, which statement shall be in the following form:

Date _____

Commissioner of Public Works,
City of Milwaukee:

The property owned by the undersigned has been left in a satisfactory condition, following the recent completion of construction work through such property, as described in the license or easement agreement permitting such work.

_____
(Witness) (Owner)

_____ by
(Witness) (Title)

2.8.7 Failure to Secure Statement

In case the Contractor is unable to secure the above statement, the Contractor shall inform the Commissioner of the reasons for failure to do so. The Commissioner or the Commissioner's representative shall then examine the site, and the Commissioner shall direct the Contractor to complete any work that may be necessary to satisfy the terms of the license or easement. Should the Contractor refuse to do the work, the Commissioner reserves the right to have it done by contract or force account and deduct the cost of same from monies due the Contractor, or the Commissioner may require the Contractor to furnish a bond in a sum satisfactory to the Commissioner to cover any legal claims for damages. When the Commissioner is satisfied that the work has been completed in compliance with the contract documents and the terms of the license or easement, the Commissioner reserves the right to waive the requirement of obtaining the statement, when the Contractor's failure to obtain such statement is due to the grantor's refusal to sign and this refusal is not based upon any legitimate claims that the Contractor has failed to fulfill the terms of the license or easement or when the Contractor is unable to find or undue hardship would be imposed to solicit the grantors.

2.8.8 Maintenance of Crosswalks and Gutters

Suitable pedestrian crossings, at least four feet in width, shall be provided and maintained by the Contractor as directed by the Commissioner. Gutters must not be obstructed at any time, and where it is necessary to cover them, a continuous pipe or timber drain ample to carry off the storm waters shall first be laid along the gutter, and such pipe or drain shall be kept open and free from obstructions.

2.8.9 Sanitary Regulations

The Contractor shall construct and maintain properly sheltered sanitary conveniences for the employees, and their use must be strictly enforced. When permission is granted to use the manholes of designated sewers for sanitary outlets, such manholes must be flushed and cleaned periodically and thoroughly cleaned when no longer in use.

2.8.10 Drainage

Drainage must not be obstructed at any time. When necessary, a continuous pipe or timber drain of ample capacity shall be laid to carry off the storm water. Such pipe or drain shall be kept open and free of obstructions.
All storm or ground water, which is to be removed from the site of the work, must be conveyed to an inlet of a storm or combined sewer, or when so approved by the Commissioner to some other point of disposal. All sanitary sewage must be

conveyed by closed pipe or hose to an inlet of a sanitary or combined sewer, or when so approved by the Commissioner, to some other point of disposal. Proper precautions shall be taken to prevent excessive quantities of clay, sand, or silt from entering existing sewers. All existing structures which are disturbed must be restored to a condition at least equal to their original condition and to the satisfaction of the Commissioner.

2.8.11 Access to Public and Private Underground Structures and Appurtenances

Free access must always be maintained to fire hydrants, fire alarm and police call boxes, water and gas gate valves, catch basins, sewer, water, Bureau of Traffic Engineering and Electrical Services, utilities, manholes, and appurtenances. Whenever free access to any such structure shall have been obstructed or interfered with during the progress of the work, the Contractor shall immediately remove, at the Contractor's own expense, such obstruction or interference.

2.8.12 Water Line Connections to Hydrants

The piping and fittings which the Contractor employs for connecting a water supply line to a City hydrant shall be equipped with a valve to be used in place of the regular hydrant valve which shall remain fully opened during usage. The fitting and valve assembly shall be watertight.

2.8.13 Traffic

The Contractor shall maintain vehicular traffic as specified in the contract documents or as otherwise directed by the Commissioner.

2.8.14 Emergency Maintenance and Protection

In the event it becomes necessary for the City to perform emergency maintenance and protection, which is the responsibility of the Contractor under the contract documents, the cost of such work shall be billed to the Contractor or deducted from the final payment if not paid.

CHAPTER 2.9.0
LEGAL RELATIONS

2.9.1 Laws and Regulations

The Contractor, the Contractor's agents, and employees, shall at all times observe and comply with all Federal laws, rules and regulations, statutes, codes, rules and regulations of the State of Wisconsin, and all applicable charter provisions, codes, regulations, and ordinances of the City of Milwaukee, all amendments thereto, and all the provisions of the contract documents, which in any manner affect the conduct of the work and all such orders or decrees as exist at the present and which may be enacted later of bodies or tribunals having jurisdiction or authority over the work. The Contractor shall protect and save harmless the City, its officers, and representatives, against any claim or liability arising from the violation of any such law, ordinance, code, rule, regulation, or order.

2.9.2 Assignment and Subletting

Any subcontracting of this agreement is mutually recognized by all parties only to the extent of its approval and acceptance by the Commissioner at the time of the award of this contract. The Contractor shall not subsequently assign this contract or any interest therein, nor subcontract the work or any part thereof, without written consent of the Commissioner having first been obtained. If the Contractor submits subsequent written request to the Commissioner for substitution(s) of listed subcontractor(s), the Contractor shall give the Commissioner written assurance that the Contractor will save the City harmless from any damages which may arise from litigation between the original subcontractor(s) and the Contractor as a result of such substitution(s). The decision of the Commissioner shall be final in determining consent for said substitution(s). It is incumbent upon the Contractor to notify the Surety of such consent granted by the Commissioner for said substitution(s).

If the Contractor shall so assign or subcontract without such consent, the Commissioner shall have the right to rescind this contract and to declare the same null and void or to re-let the work to some other competent party, thereupon adjusting and determining the damages to the City arising thereby, and the Contractor shall be liable to the City for such damages as the Commissioner shall so adjust and determine, which adjustment and determination thereof, shall be final and conclusive on the parties thereto.

The Contractor assumes full liability for all acts and omissions of any subcontractor or of anyone employed directly or indirectly by either said Contractor or any subcontractor, and this liability shall be in addition to any other legal liability of the Contractor. Neither the approval nor endorsement of the Commissioner nor

anything contained in the contract documents shall be construed as creating any contractual relationship between any subcontractor and the City.

Consent to the assignment or subletting of this contract or of any part thereof or any alterations which may be made in the terms of this contract or in the work to be done under it or the granting of any extension of time for the performance of the contract or any other forbearance on the part of either the Commissioner or Contractor to the other shall not in any way release the Contractor or Surety or their heirs, executors, administrators, successors, or assigns from their liability hereunder.

The Contractor, to the extent practicable, shall maintain a list of all subcontractors and suppliers performing work or furnishing materials under each formal contract. This list must be submitted to the Commissioner upon request.

2.9.3 Patents and Trade Secrets

The Contractor shall hold and save the City and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for or on account of any patented or unpatented invention process, article, or appliance manufactured or used in the performance of the contract, including its use by the City, unless otherwise specifically stipulated in the contract documents.

If the Contractor uses any design, device, or materials covered by letters, patent or copyright, the Contractor shall provide for such use by suitable agreement with the owner of such patented or copyrighted design, device, or material. It is mutually agreed and understood, that without exception, the contract prices shall include all royalties or costs arising from the use of such design, device, or materials, in any way involved in the work. The Contractor and/or Contractor's Sureties shall indemnify and save harmless the City from any and all claims for infringement by reasons of the use of such patented or copyrighted design, device, or materials or any trademark or copyright in connection with work agreed to be performed under this contract and shall indemnify the City for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after the completion of the work.

License and/or Royalty Fees for the use of a process which is authorized by the City must be reasonable and paid by the Contractor to the holder of the patent or authorized licensee.

2.9.4 Liens and Taxes

Any and all taxes and license or permit fees imposed by the Federal, State, and local municipalities are the sole responsibility of the Contractor. Any and all liens or claims of damages which may be chargeable to the Contractor are the sole

responsibility of the Contractor. Commissioner reserves the right to withhold a sufficient amount from the contract payment to indemnify the City against such liens or claims of damages.

No materials or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that the Contractor has good title to all materials and supplies used in the work, free from all liens, claims, or encumbrances.

2.9.5 Sales Tax

The City is exempt from Wisconsin Use, Sales Tax, and the .5% County Tax. Bidders, therefore, shall not add sales tax to their proposals when bidding to the City but shall include in their lump sum bids only the sales tax they will be required to pay directly as a consumer when obtaining materials, etc., to fulfill the contract requirements should they be the successful bidder.

2.9.6 Protection Against Liability

Contractor covenants and agrees that Contractor shall save and indemnify and keep harmless the City against all liability, judgments, costs, and expenses, which may in any way come against the City in consequence of the granting of the contract, or which in anyway results from the carelessness or neglect of the Contractor or the agents, employees, or workers of the Contractor or Subcontractors in any respect whatever, and in every such case where judgment is recovered against the City by reason of the carelessness or negligence of the Contractor or the Contractor's agents, employees or workers, or Subcontractors, such judgments shall be conclusive against the Contractor, not only as to the amount of damages, but as to Contractor's liability to the City.

2.9.7 Liability and Insurance

The Contractor shall be responsible for and shall save the City harmless from, and defend the City against all liability for damages occasioned by the digging up, use or occupancy of the street, alley, highway, public grounds, and private grounds, or which may result therefrom or which may result in any way from the negligence or carelessness of the Contractor, the Contractor's agents, employees, workers, by reason of the elements, unforeseen or unusual difficulties, obstructions, or obstacles encountered in the prosecution of the work, and they shall indemnify the City for and save it harmless from all claims and liabilities, actions, causes of action, and liens for materials furnished or labor performed in the construction or execution of the work and from all costs, charges, and expenses incurred in defending such suits or actions and from and against all claims and liabilities for

injury or damage to persons or property emanating from defective or careless work methods, or from and against all claims or liabilities for royalties, license fees, actions, suits, charges, and expenses or damage from infringement for reason of the use of any invention or improvement in tools, equipment or plant or any process, device or combination of devices used in the construction of the work.

Each Prime Contractor must furnish to the City of Milwaukee, prior to the start of work, certificates of insurance which confirm that the Prime Contractor has the types and amounts of insurance referenced in Sections (a) through (d). The Prime Contractor shall require all of its subcontractors to carry the same types and amounts of coverage as required of the Prime or may instead provide the coverage for any or all subcontractors. The Prime Contractor is fully responsible for assuring subcontractor compliance with all the insurance requirements specified herein.

a) WORKER'S COMPENSATION AND EMPLOYEES LIABILITY

Coverage Amounts

Worker's Compensation		Statutory
Employer's Liability		
Bodily Injury by Accident	each accident	$100,000
Bodily Injury by Disease	each employee	$100,000
Bodily Injury by Disease	policy limit	$500,000

To Include

Other state's coverage
United States Longshoremen and Harbor
Worker's Endorsement (Required only when the contract Involves work on navigable bodies of water)

b) COMMERCIAL GENERAL LIABILITY

Limits of Liability

Bodily Injury/Property Damage	each occurrence	$1,000,000
	general aggregate	$1,000,000
	products/completed Operations aggregate	$1,000,000
Personal Injury	aggregate	$1,000,000

To Include

Occurrence form
Premises/operations coverage
Products/completed operations coverage including extension of coverage for two (2) years after acceptance of work by the City of Milwaukee
Independent contractors (Owners/Contractors Protective) coverage
Contractual liability for risks assumed in this agreement
No exclusion for explosion, collapse, or underground occurrences

c) AUTOMOBILE LIABILITY

Limits of Liability

Bodily Injury/Property Damage	each accident	$1,000,000

To Include

Coverage on all owned, non-owned, and hired vehicles

d) UMBRELLA LIABILITY

Limits of Liability

Personal Injury/Property Damage	each occurrence	$2,000,000
	aggregate	$2,000,000

To Include

Occurrence form
First dollar defense coverage
Insuring agreement which will provide excess protection to the primary coverages

For coverages referred to in section 2.9.7.(b), (c), and (d), the City of Milwaukee shall be named as an additional insured.

The worker's compensation and employers liability certificate should confirm that thirty (30) days notice of cancellation must be provided. For all other insurance coverages referenced above, sixty (60) days notice of cancellation must be provided.

A separate certificate need not be filed if the Prime Contractor has a current certificate on file with the City of Milwaukee. It is the responsibility of the Prime Contractor to make this determination and to provide evidence of coverage if a previous certification has been filed. No Prime Contractor or Subcontractor shall perform any work under the contract after a certificate has expired or been canceled unless a new or

renewal certificate is provided prior to the expiration or cancellation date of the previous certificate. The Prime Contractor shall have the responsibility of ensuring that valid certificates are on file for itself and all Subcontractors it plans to use.

2.9.8 Performance Bond and Payment Bond

For all Public Works contracts over $25,000, the contractor is to submit to the Commissioner, prior to or at the time of execution of the contract, a performance bond and a payment bond in an amount equal to 100% of the Contract price. For contracts of $10,000 or more, but not over $25,000, the contractor may be requested, in lieu of 100% bonds, to provide an irrevocable letter of credit or a performance bond and a payment bond in an amount equal to 50% of the contract price. The bonds required on any contract will be based on the estimated contract amount and will be specified in the bid specifications. All bonds must be executed by a surety company authorized to do business in the State of Wisconsin and must be accompanied by a Power-of-Attorney for the Attorney-in-Fact. The performance bond and the payment bond must be submitted as separate instruments. The performance bond shall also cover all work required under the guarantee provisions of the contract.

2.9.9 Unforeseen Delay

If the City is prohibited or enjoined from proceeding with the work or from authorizing its prosecution, either before or after its commencement, by reason of any litigation or otherwise, the Contractor shall not be entitled to any damages by reasons of the delays thereby caused, except for the actual cost of protection of such work as the Contractor may have underway for the cost of removal and replacement of such tools, plant, and materials, as the Contractor may have delivered upon the work site, and such cost is to be determined by the Commissioner. The time of completion may be extended for such time, as in the judgement of the Commissioner, shall be equal to the aggregate delay.

2.9.10 Default, Neglect, or Delay Shall Not Render the City Liable

The default, neglect, or delay of any other Contractors, or the extension of time to any of them by the City for the completion of their work, shall not render the City liable to the Contractor or its Surety nor relieve them or either of them in any manner or sum whatsoever.

2.9.11 Termination of Contract for Cause

If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the City shall thereupon have the right to terminate this Contract by giving written notice to the Contractor of such termination, specifying the effective date thereof, at least five (5) days before the effective date of such termination. The City may relet the work to be performed under this Contract to some other competent party, or employ persons and secure material for the completion of same, and charge the costs thereof to the Contractor. In such event, all finished or unfinished work accomplished by the Contractor under this Contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the Contract by the Contractor, and the City may withhold any payments to the Contractor for the purpose of set-off until such time as the exact amount of damages due to the City from the Contractor is determined.

2.9.12 Termination for Convenience of the City

The City may terminate this Contract at any time for any reason by giving at least ten (10) days notice in writing to the Contractor. If the Contract is terminated by the City as provided herein, the Contractor will be paid an amount which bears the same ratio to the total compensation as the work actually performed bears to the total work of the Contractor covered by this Contract, less payments of compensation previously made. However, if less than sixty percent (60%) of the work covered by this Contract has been performed upon the effective date of such termination, the Contractor shall be reimbursed (in addition to the above payment) for that portion of the actual out-of-pocket expenses (not otherwise reimbursed under the Contract) incurred by the Contractor during the Contract period which are directly attributable to the uncompleted portion of the work covered by this Contract.

2.9.13 Collusive Agreements - Prohibited

Each bidder submitting a bid for any portion of the work contemplated by the documents on which bidding is based shall execute, and attach thereto, an affidavit substantially in the form provided to the effect that the bidder has not entered into a collusive agreement with any other person, firm, or corporation in regard to any bid submitted and also include therein compliance with Sec. 3.29, Milwaukee City Charter, such forms of affidavit being on file in the office of the

Commissioner.

Before executing any subcontract, the successful bidder shall submit the name of any proposed subcontractor for prior approval and a non-collusive affidavit substantially in the form provided.

2.9.14 Progress Payments

If the Contractor shall proceed properly and with diligence to perform and complete this contract, the Commissioner may, from time to time as the work progresses, grant to the Contractor a payment for the estimated amount already earned, reserving five percent thereof, except that at any time after fifty percent of the work is completed and the Commissioner finds that satisfactory progress is being made, remaining progress payments may be paid in full, which shall entitle the holder thereof to receive the amount due thereon, when the conditions, if any, annexed to such estimate shall have been complied with, and that a payment may be granted by the Commissioner for any fabricated or manufactured materials and components specified, previously paid for by the Contractor and delivered to the work site or properly stored and suitable for incorporation in the work embraced in the contract. The granting of any such estimate shall not be construed as an acceptance of the work or any portion thereof. Generally, payments will be made not more than once a month or for less than $5,000.

Nothing herein shall prevent the Commissioner from withholding additional retainage if work on the project is not satisfactory. In no event, however, shall more than ten (10) percent of the value of the work completed be retained.

For contracts involving $10,000 or more, the City reserves the right to pay the Contractor with checks that are made payable to the Contractor and one or more subcontractors.

2.9.15 Final Payment

Upon the completion of the work by the Contractor pursuant to the terms of this contract and according to the contract documents and the true intent and meaning of this contract and after the acceptance of the work by the Commissioner, the City shall pay the Contractor, subject to any retainer or guarantee provisions in the contract documents, any balance then remaining due and payable by the terms of this contract.

Final payment may be withheld if prevailing wage statements are not filed or if there is noncompliance with requirements concerning the hiring of residents, small

businesses and apprentices. If these deficiencies are not satisfied within one (1) year of completion of the work, the department, following a final notification to the prime contractor, may close out the contract account and retain the contract proceeds permanently.

All monies paid or owed by the City to the Contractor shall be and constitute a trust fund, in the hands of the Contractor only, to the amount of all claims due and to become due or owing from the Contractor for lienable labor and materials until all such claims have been paid. The using of such monies by the Contractor for any other purpose until all such claims have been paid is, as declared by Section 779.02(5), and 779.16 Wisconsin Statutes, punishable as therein provided by law.

2.9.16 Final Payment to Terminate Liability of City

a) The acceptance by the Contractor of the "Final Payments" provided for in the contract shall operate as, and shall be, a release to the City and its representatives from all claims by the Contractor for anything done or furnished for or relating to the work or for any act or neglect of the City or of any person relating to or affecting the work.

b) It is the City's policy to pay all invoices within 30 days. If the City does not make payment within 45 days after receipt of properly completed supporting payment and other required contract documentation, the City shall pay simple interest beginning with the 31st calendar day at the rate of one percent per month (unless the amount due is subject to a good-faith dispute and, before the 45th day of receipt, notice of the dispute is sent to the contractor by first-class mail, personally delivered, or sent in accordance with the notice provisions in the contract). If there are subcontractors, consistent with s.66.0135(3), Wis. Stats., the prime contractor must pay the subcontractors for satisfactory work within seven days of the contractor's receipt of payment from the City of Milwaukee, or seven days from receipt of a properly submitted and approved invoice from the subcontractor, whichever is later. If the contractor fails to make timely payment to a subcontractor, the contractor shall pay interest at the rate of 12 percent per year, compounded monthly, beginning with the 8th calendar day. Reference Common Council File No. 101137 adopted January 2011.

2.9.17 Time for Completion

The time specified for the completion of the work is of the essence of this contract, and the Contractor shall not be entitled to claim performance of this contract unless the work is satisfactorily completed in every respect within the time herein specified.

2.9.18 Contractor/City Relationship

The relation of the Contractor to the City is and shall be that of an independent Contractor.

2.9.19 Special Conditions - Federally-Aided Projects

Any special conditions relating to contracts involving the Economic Development Administration (EDA), the Department of Housing and Urban Development (HUD), or federally-assisted projects are subject to the special conditions attached hereto, which special conditions insofar as inconsistent with the provisions and general conditions heretofore stated shall be controlling.

2.9.20 Assignment of Payments

All monies payable under the contract, or any part thereof, will be paid to the contractor in accordance with the provisions of this section, and no assignment or order executed by the contractor directing payment of any portion or all of such funds to any other person or persons will be recognized by the City unless such assignment or order is given and shall have attached thereto, by endorsement or otherwise, the consent of the surety, and any designated assignee. No such assignment or order shall be binding on the City.

2.9.21 Records

Both parties understand that the City is bound by the Wisconsin Public Records Law, and as such, all of the terms of this Agreement are subject to and conditioned on the provisions of Wis. Stat. § 19.21, *et.seq*. Contractor acknowledges that it is obligated to assist the City in retaining and producing records that are subject to Wisconsin Public Records Law, and that the failure to do so shall constitute a material breach of this Agreement, and that the Contractor must defend and hold the City harmless from liability under that law. Except as otherwise authorized, those records shall be maintained for a period of seven (7) years after receipt of final payment under this Agreement.

2.9.22 Audit

Audits and Inspections. At any time during normal business hours and as often as the City, or if federal or state grants or aids are involved, as the appropriate state or federal agency may deem necessary, there shall be made available to the City or such agency for examination all of its records with respect to the matters covered by this Contract and the Contractor shall permit the City or such agency and/or their representatives and agents to audit, examine, and make excerpts or

transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions or employment, and other data relating to all matters covered by this contract.

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246 AND 41 CFR PART 60-4)

The following Notice shall be included in, and shall be a part of all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of $10,000.

The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation for each trade
	8.0 %	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.
The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is:

State of Wisconsin

County of Milwaukee

City of Milwaukee

_____, 2015

Transmitted by e-mail and mailed

ABC, INC
123 MAIN STREET
ANYWHERE, WI 53___

DEAR :

This letter is written notification that Contract No. _____, DATED _____ (Official Notice No. 103-1-2015), for **Greenway Infrastructure Improvement Project, located at the Century City Business Park, North 31st Street & West Hopkins Street, Milwaukee, WI** has a starting date of ___**DAY, _____, 2015**.

Please be reminded that it is the contractor's responsibility to obtain all necessary permits required to perform this contract.

Very truly yours,

Contract Compliance Officer

CONTRACT MODIFICATION ORDER

Order No. _____

Date: _____

Agreement Date: _____

NAME OF PROJECT: _____

_____

OWNER: _____

CONTRACTOR: _____

The following changes are hereby made to the CONTRACT DOCUMENTS:

Justification:

Change to CONTRACT PRICE: $ _____

Original CONTRACT PRICE: $ _____

Current CONTRACT PRICE adjusted by previous MODIFICATION ORDER: $ _____

The CONTRACT PRICE due to this MODIFICATION ORDER will be (increased) (decreased) by: $ _____

The new CONTRACT PRICE including this MODIFICATION ORDER will be: $ _____

Change to CONTRACT TIME:

The CONTRACT TIME will be (increased) (decreased) by _____ calendar days.

The date for completion of all work will be _____ (Date)

Approvals Required:

To be effective, this Order must be approved by the Federal agency if it changes the scope or objective of the PROJECT, or a otherwise may be required by the SUPPLEMENTAL GENERAL CONDITIONS.

Requested by: _____

Recommended by: _____

Ordered by: _____

Accepted by: _____

Federal Agency Approval (where applicable) _____

CONTRACT MODIFICATION ORDER WORKSHEET

CONTRACT NO.:

ORDER NO.:
DATE:

PROJECT:

CONTRACTOR:
ADDRESS:

All work required by this order shall be in accordance with the original contract documents and/or any approved amendments thereto. Provide all labor and materials, unless otherwise ordered, to complete the following work:

ITEM	DESCRIPTION	*COST*
1		$
2		$
3		$
4		$

Extra this Change:

Requested by:

Reason for Change:
1

2

3

4

Base Contract Amount: $
Contract Modifications to Date: $
Extra this Change: $
Revised Contract Amount: $

Charge Account:

U. S. DEPARTMENT OF COMMERCE
ECONOMIC DEVELOPMENT ADMINISTRATION

EDA CONTRACTING PROVISIONS
FOR CONSTRUCTION PROJECTS

These EDA Contracting Provisions for Construction Projects (EDA Contracting Provisions) are intended for use by recipients receiving federal assistance from the U. S. Department of Commerce - Economic Development Administration (EDA). They contain provisions specific to EDA and other federal provisions not normally found in non-federal contract documents. The requirements contained herein must be incorporated into all construction contracts and subcontracts funded wholly or in part with federal assistance from EDA.

TABLE OF CONTENTS

1. Definitions
2. Applicability
3. Federally Required Contract Provisions
4. Required Provisions Deemed Inserted
5. Inspection by EDA Representatives
6. Examination and Retention of Contractor's Records
7. Construction Schedule and Periodic Estimates
8. Contractor's Title to Material
9. Inspection and Testing of Materials
10. "OR EQUAL" Clause
11. Patent Fees and Royalties
12. Claims for Extra Costs
13. Contractor's and Subcontractor's Insurance
14. Contract Security Bonds
15. Labor Standards - Davis-Bacon and Related Acts
16. Labor Standards - Contract Work Hours and Safety Standards Act
17. Equal Employment Opportunity
18. Contracting with Small, Minority and Women's Businesses
19. Health, Safety and Accident Prevention
20. Conflict of Interest and Other Prohibited Interests
21. New Restrictions on Lobbying
22. Historical and Archaeological Data Preservation
23. Clean Air and Water
24. Use of Lead-Based Paints on Residential Structures
25. Energy Efficiency
26. Environmental Requirements
27. Debarment, Suspension, Ineligibility and Voluntary Exclusions
28. EDA Project Sign

1. **DEFINITIONS**

Agreement – The written instrument that is evidence of the agreement between the Owner and the Contractor overseeing the Work.

Architect/Engineer - The person or other entity engaged by the Recipient to perform architectural, engineering, design, and other services related to the work as provided for in the contract.

Contract – The entire and integrated written agreement between the Owner and the Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

Contract Documents – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents.

Contractor – The individual or entity with whom the Owner has entered into the Agreement.

Drawings or Plans – That part of the Contract Documents prepared or approved by the Architect/Engineer that graphically shows the scope, extent, and character of the Work to be performed by the Contractor.

EDA - The United States of America acting through the Economic Development Administration of the U.S. Department of Commerce or any other person designated to act on its behalf. EDA has agreed to provide financial assistance to the Owner, which includes assistance in financing the Work to be performed under this Contract. Notwithstanding EDA's role, nothing in this Contract shall be construed to create any contractual relationship between the Contractor and EDA.

Owner – The individual or entity with whom the Contractor has entered into the Agreement and for whom the Work is to be performed.

Project – The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

Recipient - An entity receiving Federal financial assistance from EDA, including any EDA-approved successor to the entity.

Specifications – That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

Subcontractor – An individual or entity having direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

Work – The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

2. **APPLICABILITY**

The Project to which the construction work covered by this Contract pertains is being assisted by the United States of America through federal assistance provided by the U.S. Department of Commerce - Economic Development Administration (EDA). Neither EDA, nor any of its departments, entities, or employees is a party to this Contract. The following EDA Contracting Provisions are included in this Contract and all subcontracts or related instruments pursuant to the provisions applicable to such federal assistance from EDA.

3. **FEDERALLY REQUIRED CONTRACT PROVISIONS**

(a) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate (Contracts more than the simplified acquisition threshold - currently fixed at $100,000. *See* 41 U.S.C. 403(11)).

(b) Termination for cause and for convenience by the Recipient including the manner by which it will be effected and the basis for settlement (all contracts in excess of $10,000).

(c) Compliance with Executive Order 11246 of September 24, 1965, *Equal Employment Opportunity*, as amended by Executive Order 11375 of October 13, 1967 and as supplemented by Department of Labor regulations at 41 C.F.R. chapter 60 (applicable to all construction contracts awarded in excess of $10,000 by recipients of federal assistance and their contractors or subrecipients).

(d) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. § 874) as supplemented by Department of Labor regulations at 29 C.F.R. part 3 (all contracts and subgrants for construction or repair).

(e) Compliance with the Davis-Bacon Act (40 U.S.C. § 3145) as supplemented by Department of Labor regulations at 29 C.F.R. part 5 (construction contracts in excess of $2,000 awarded by Recipients and subrecipients).

(f) Compliance with sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-330) as supplemented by Department of Labor regulations at 29 C.F.R. part 5. (construction contracts awarded by Recipients and subrecipients in excess of $2,000, and in excess of $2,500 for other contracts which involve the employment of mechanics or laborers)

(g) EDA requirements and regulations pertaining to reporting.

(h) EDA requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(i) EDA requirements and regulations pertaining to copyrights and rights in data.

(j) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clear Air Act (42 U.S.C. § 7606), section 508 of the Clean Water Act (33 U.S.C. § 1368), Executive Order 11738, *Providing for Administration of the Clean Air Act and the Federal Water Pollution Control Act With Respect to Federal Contracts, Grants, or Loans*, and Environmental Protection Agency regulations at 48 C.F.R. part 15 (applicable to contracts, subcontracts, and subgrants of amounts in excess of $ 100,000).

4. REQUIRED PROVISIONS DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion of correction.

5. INSPECTION BY EDA REPRESENTATIVES

The authorized representatives and agents of EDA shall be permitted to inspect all work, materials, payrolls, personnel records, invoices of materials, and other relevant data and records.

6. EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS

(a) The Owner, EDA, or the Comptroller General of the United States, or any of their duly authorized representatives shall, generally until three years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders that do not exceed $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the Owner, EDA, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

7. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule. The Contractor also shall furnish the Owner (a) a detailed estimate giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only to determine the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

8. CONTRACTOR'S TITLE TO MATERIAL

No materials, supplies, or equipment for the work shall be purchased by the Contractor or by any subcontractor that is subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants and guarantees that he/she has good title to all work, materials, and equipment used by him/her in the Work, free and clear of all liens, claims, or encumbrances.

9. INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the completion of the Work shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. Materials of construction, particularly those upon which the strength and durability of any structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for intended uses.

10. "OR EQUAL" CLAUSE

Whenever a material, article, or piece of equipment is identified in the Contract Documents by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard. Any material, article, or equipment of other manufacturers and vendors that will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Architect/Engineer, of equal substance and function. However, such substitution material, article, or equipment shall not be purchased or installed by the Contractor without the Architect/Engineer's written approval.

11. PATENT FEES AND ROYALTIES

(a) Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in

the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.

(b) To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner and the Architect/Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

12. CLAIMS FOR EXTRA COSTS

No claims for extra work or cost shall be allowed unless the same was done in pursuance of a written order from the Architect/Engineer approved by the Owner.

13. CONTRACTORS AND SUBCONTRACTORS INSURANCE

(a) The Contractor shall not commence work under this Contract until the Contractor has obtained all insurance reasonably required by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her subcontract until the insurance required of the subcontractor has been so obtained and approved.

(b) Types of insurance normally required are:

(1) Workmen's Compensation
(2) Contractor's Public Liability and Property Damage
(3) Contractor's Vehicle Liability
(4) Subcontractors Public Liability, Property Damage and Vehicle Liability
(5) Builder's Risk (Fire and Extended Coverage)

(c) **Scope of Insurance and Special Hazards:** The insurance obtained, which is described above, shall provide adequate protection for the Contractor and his/her subcontractors, respectively, against damage claims that may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him/her and also against any of the special hazards that may be encountered in the performance of this Contract.

(d) **Proof of Carriage of Insurance:** The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of applicable insurance policies.

14. CONTRACT SECURITY BONDS

(a) If the amount of this Contract exceeds $100,000, the Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and also a payment bond in an amount equal to one hundred percent (100%) of the Contract price or in a penal sum not less than that prescribed by State, Territorial, or local law, as security for the payment of all persons performing labor on the Work under this Contract and furnishing materials in connection with this Contract. The performance bond and the payment bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by EDA. If the amount of this Contract does not exceed $100,000, the Owner shall specify the amount of the payment and performance bonds.

(b) All bonds shall be in the form prescribed by the Contract Documents except as otherwise provided in applicable laws or regulations, and shall be executed by such sureties as are named in the current list of *Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies* as published in Treasury Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act. Surety companies executing the bonds must also be authorized to transact business in the state where the Work is located.

15. LABOR STANDARDS - DAVIS-BACON AND RELATED ACTS (as required by section 601 of PWEDA)

(a) **Minimum Wages**

(1) All laborers and mechanics employed or working upon the site of the Work in the construction or development of the Project will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act at 29 C.F.R. part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor, which is attached hereto and made a part hereof, regardless of any contractual relationship that may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 C.F.R. § 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 C.F.R. § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the

rate specified for each classification for the time actually worked therein, provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates determined under 29 C.F.R. § 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics to be employed under the Contract, but not listed in the wage determination, shall be classified in conformance with the wage determination. EDA shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(A) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(B) The classification is utilized in the area by the construction industry; and

(C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and EDA or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by EDA or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and EDA or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), EDA or its designee shall refer the questions, including the views of all interested parties and the recommendation of EDA or its designee, to the Administrator for determination.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(2)(ii) or (iii) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) **Withholding**

EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other federal contract with the same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper employed or working on the site of the Work in the construction or development of the Project, all or part of the wages required by the Contract, EDA or its designee may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. EDA or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(c) **Payrolls and basic records**

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the Work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the Work in the construction or development of the Project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b) (2) (B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 C.F.R. § 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, the plan or program is financially responsible, and the plan or program has been communicated in writing to the laborers or mechanics affected, and provide records that show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of

apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) For each week in which Contract work is performed, the Contractor shall submit a copy of all payrolls to the Owner for transmission to EDA or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 C.F.R. part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose. It may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402; or downloaded from the U.S. Department of Labor's website at www.dol.gov/esa/forms/whd/index.htm. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

> (A) That the payroll for the payroll period contains the information required to be maintained under 29 C.F.R. § 5.5(a)(3)(i) and that such information is correct and complete;
>
> (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 C.F.R. part 3;
>
> (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 14(c)(ii) of this section.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of Title 18 and section 231 of Title 31 of the U.S. Code.

(3) The Contractor or subcontractor shall make the records required under paragraph 15(c)(1) of this section available for inspection, copying, or transcription by authorized representatives of EDA or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them

available, EDA or its designee may, after written notice to the Contractor or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 C.F.R. part 5.12.

(d) **Apprentices and Trainees**.

(1) **Apprentices**. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a Project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) **Trainees**. Except as provided in 29 C.F.R. § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program that has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and

Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman's hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) **Equal employment opportunity**. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, *Equal Employment Opportunity*, as amended, and 29 C.F.R. part 30.

(e) **Compliance with Copeland Anti-Kickback Act Requirements**. The Contractor shall comply with the Copeland Anti-Kickback Act (18 U.S.C. § 874 and 40 U.S.C. § 276(c)) as supplemented by Department of Labor regulations (29 C.F.R. part 3, "Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States"). The Act provides that the Contractor and any subcontractors shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. The Owner shall report all suspected or reported violations to EDA.

(f) **Subcontracts**. The Contractor and any subcontractors will insert in any subcontracts the clauses contained in 29 C.F.R. §§ 5.5(a)(1) through (10) and such other clauses as EDA or its designee may require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 C.F.R. part 5.5.

(g) **Contract termination; debarment**. The breach of the contract clauses in 29 C.F.R. part 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a subcontractor as provided in 29 C.F.R. § 5.12.

(h) **Compliance with Davis-Bacon and Related Act Requirements**. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 C.F.R. parts 1, 3, and 5 are herein incorporated by reference in this contract.

(i) **Disputes concerning labor standards**. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 C.F.R. parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and EDA or its designee, the U.S. Department of Labor, or the employees or their representatives.

(j) **Certification of Eligibility**.

(1)By entering into this Contract, the Contractor certifies that neither it nor any person or firm that has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(2) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

16. LABOR STANDARDS - CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(a) **Overtime requirements**. No Contractor or subcontractor contracting for any part of the Contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which that person is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(b) **Violation; liability for unpaid wages, liquidated damages**. In the event of any violation of the clause set forth in paragraph (a) of this section, the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of $10 for each calendar day on which such individual was required or

permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

(c) **Withholding for unpaid wages and liquidated damages**. EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor under any such Contract or any other federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

(d) **Subcontracts**. The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (c) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (c) of this section.

17. EQUAL EMPLOYMENT OPPORTUNITY

(a) The Recipient hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 C.F.R. chapter 60, which is paid for in whole or in part with funds obtained from EDA, the following equal opportunity clause:

> During the performance of this contract, the Contractor agrees as follows:
>
> (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.
>
> (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
>
> (3) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers representatives of the Contractor's

commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and pursuant to rules, regulations, and orders of the Secretary of Labor and will permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding paragraph 17(a) (1) and the provisions of paragraphs 17(a)(1) through (6) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as EDA or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the Contractor becomes involved in or is threatened with litigation with or by a subcontractor or vendor as a result of such direction by EDA or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

(8) The Recipient further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally-assisted construction work. Provided, however, that if the Recipient so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government that does not participate in work on or under the Contract.

(9) The Recipient agrees that it will assist and cooperate actively with EDA and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish EDA and the Secretary of Labor such information as they may

require for the supervision of such compliance, and that it will otherwise assist EDA in the discharge of the EDA's primary responsibility for securing compliance.

(10) The Recipient further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by EDA or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the Recipient agrees that if it fails or refuses to comply with these undertakings, EDA may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this EDA financial assistance; refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(b) Exemptions to Above Equal Opportunity Clause (41 C.F.R. chapter 60):

(1) Contracts and subcontracts not exceeding $10,000 (other than Government bills of lading) are exempt. The amount of the Contract, rather than the amount of the federal financial assistance, shall govern in determining the applicability of this exemption.

(2) Except in the case of subcontractors for the performance of construction work at the site of construction, the clause shall not be required to be inserted in subcontracts below the second tier.

(3) Contracts and subcontracts not exceeding $10,000 for standard commercial supplies or raw materials are exempt.

18. **CONTRACTING WITH SMALL, MINORITY AND WOMEN'S BUSINESSES**

(a) If the Contractor intends to let any subcontracts for a portion of the work, the Contractor shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services.

(b) Affirmative steps shall consist of:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(4) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises;

(5) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies;

(6) Requiring each party to a subcontract to take the affirmative steps of this section; and

(7) The Contractor is encouraged to procure goods and services from labor surplus area firms.

19. **HEALTH, SAFETY, AND ACCIDENT PREVENTION**

(a) In performing this contract, the Contractor shall:

(1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to their health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;

(2) Protect the lives, health, and safety of other persons;

(3) Prevent damage to property, materials, supplies, and equipment; and,

(4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:

(1) Comply with regulations and standards issued by the Secretary of Labor at 29 C.F.R. part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (40 U.S.C. § 3701 – 3708); and

(2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this Contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 C.F.R. part 1904.

(d) The Owner shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the Work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as EDA, or the Secretary of Labor shall direct as a means of enforcing such provisions.

20. **CONFLICT OF INTEREST AND OTHER PROHIBITED INTERESTS**

(a) No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof.

(b) No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

(c) The Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the Contract Documents has a corporate or financial affiliation with the supplier or manufacturer.

(d) The Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, may be involved. Such a conflict may arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in the Contractor. The Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors, or anything of monetary value from the Contractor or subcontractors.

(e) If the Owner finds after a notice and hearing that the Contractor, or any of the Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the Owner or EDA in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, the Owner may, by written notice to the Contractor, terminate this Contract. The Owner may also pursue other rights and remedies that the law or this Contract

provides. However, the existence of the facts on which the Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

(f) In the event this Contract is terminated as provided in paragraph (e) of this section, the Owner may pursue the same remedies against the Contractor as it could pursue in the event of a breach of this Contract by the Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, the Owner may pursue exemplary damages in an amount (as determined by the Owner) which shall not be less than three nor more than ten times the costs the Contractor incurs in providing any such gratuities to any such officer or employee.

21. **RESTRICTIONS ON LOBBYING**

(a) This Contract, or subcontract is subject to section 319 of Public Law 101-121, which added section 1352, regarding lobbying restrictions, to chapter 13 of title 31 of the United States Code. The new section is explained in the common rule, 15 C.F.R. part 28 (55 FR 6736-6748, February 26, 1990). Each bidder under this Contract or subcontract is generally prohibited from using federal funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with this EDA Award.

(b) **Contract Clause Threshold**: This Contract Clause regarding lobbying must be included in each bid for a contract or subcontract exceeding $100,000 of federal funds at any tier under the EDA Award.

(c) **Certification and Disclosure**: Each bidder of a contract or subcontract exceeding $100,000 of federal funds at any tier under the federal Award must file Form CD-512, *Certification Regarding Lobbying*, and, if applicable, Standard Form-LLL, *Disclosure of Lobbying Activities*, regarding the use of any nonfederal funds for lobbying. Certifications shall be retained by the Contractor or subcontractor at the next higher tier. All disclosure forms, however, shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(d) **Continuing Disclosure Requirement**: Each Contractor or subcontractor that is subject to the Certification and Disclosure provision of this Contract Clause is required to file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person. Disclosure forms shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(e) **Indian Tribes, Tribal Organizations, or Other Indian Organizations**: Indian tribes, tribal organizations, or any other Indian organizations, including Alaskan Native organizations, are excluded from the above lobbying restrictions and reporting requirements, but only with respect to expenditures that are by such tribes or organizations for lobbying activities permitted by other federal law. An Indian tribe or organization that is seeking an exclusion from Certification and Disclosure requirements must provide EDA with the citation of the provision or provisions of federal law upon which it relies to conduct lobbying activities that would otherwise

be subject to the prohibitions in and to the Certification and Disclosure requirements of section 319 of Public Law No. 101-121, preferably through an attorney's opinion. Note, also, that a non-Indian subrecipient, contractor, or subcontractor under an award to an Indian tribe, for example, is subject to the restrictions and reporting requirements.

22. HISTORICAL AND ARCHAEOLOGICAL DATA PRESERVATION

The Contractor agrees to facilitate the preservation and enhancement of structures and objects of historical, architectural or archaeological significance and when such items are found and/or unearthed during the course of project construction. Any excavation by the Contractor that uncovers an historical or archaeological artifact shall be immediately reported to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the State Historic Preservation Officer (SHPO) for recovery of the items. *See* the National Historic Preservation Act of 1966 (80 Stat 915, 16 U.S.C. § 470) and Executive Order No. 11593 of May 31, 1971.

23. CLEAN AIR AND WATER

Applicable to Contracts in Excess of $100,000

(a) **Definition**. "Facility" means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by the Contractor or any subcontractor, used in the performance of the Contract or any subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the United States Environmental Protection Agency (EPA) determines that independent facilities are collocated in one geographical area.

(b) In compliance with regulations issued by the EPA, 2 C.F.R. part 1532, pursuant to the Clean Air Act, as amended (42 U.S.C. § 7401 *et seq*.); the Federal Water Pollution Control Act, as amended (33 U.S.C. § 1251 *et seq*.); and Executive Order 11738, the Contractor agrees to:

(1) Not utilize any facility in the performance of this contract or any subcontract which is listed on the EPA List of Violating Facilities pursuant to 2 C.F.R. part 1532 for the duration of time that the facility remains on the list;

(2) Promptly notify the Owner if a facility the Contractor intends to use in the performance of this contract is on the EPA List of Violating Facilities or the Contractor knows that it has been recommended to be placed on the List;

(3) Comply with all requirements of the Clean Air Act and the Federal Water Pollution Control Act, including the requirements of section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, and all applicable clean air and clean water standards; and

(4) Include or cause to be included the provisions of this clause in every subcontract and take such action as EDA may direct as a means of enforcing such provisions.

24. USE OF LEAD-BASED PAINTS ON RESIDENTIAL STRUCTURES

(a) If the work under this Contract involves construction or rehabilitation of residential structures, the Contractor shall comply with the Lead-based Paint Poisoning Prevention Act (42 U.S.C. § 4831). The Contractor shall assure that paint used on the Project on applicable surfaces does not contain lead in excess of the percentages set forth in Paragraphs (a) and (b) of this section. In determining compliance with these standards, the lead content of the paint shall be measured on the basis of the total nonvolatile content of the paint or on the basis of an equivalent measure of lead in the dried film of paint already applied.

(1) For paint manufactured after June 22, 1977, paint may not contain lead in excess of 6 one-hundredths of 1 percent (.0006) lead by weight.

(2) For paint manufactured on or before June 22, 1977, paint may not contain lead in excess of five-tenths of 1 percent lead by weight.

(b) As a condition to receiving assistance under PWEDA, recipients shall assure that the restriction against the use of lead-based paint is included in all contracts and subcontracts involving the use of federal funds.

(c) **Definitions**

(1) "Applicable surfaces" are those exterior surfaces which are readily accessible to children under seven years of age.

(2) "Residential structures" means houses, apartments, or other structures intended for human habitation, including institutional structures where persons reside, which are accessible to children under seven years of age, such as day care centers, intermediate and extended care facilities, and certain community facilities.

25. ENERGY EFFICIENCY

The Contractor shall comply with all standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public L. No. 94-163) for the State in which the Work under the Contract is performed.

26. ENVIRONMENTAL REQUIREMENTS

When constructing a Project involving trenching and/or other related earth excavations, the Contractor shall comply with the following environmental constraints:

(1) **Wetlands**. When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert wetlands.

(2) **Floodplains**. When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency (FEMA) Floodplain Maps, or other appropriate maps, i.e., alluvial soils on Natural Resource Conservation Service (NRCS) Soil Survey Maps.

(4) **Endangered Species**. The Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of the Contractor, the Contractor will immediately report this evidence to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the U.S. Fish and Wildlife Service.

27. DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSIONS

As required by Executive Order 12549, *Debarment and Suspension*, and implemented at 2 C.F.R. part 1326, for prospective participants in lower tier covered transactions (except subcontracts for goods or services under the $25,000 small purchase threshold unless the subrecipient will have a critical influence on or substantive control over the award), as defined at 2 C.F.R. part 1326.

(1) By entering into this Contract, and by further executing Form CD-512, the Contractor and subcontractors certify, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Contract by any federal department or agency.

(2) Where the Contractor or subcontractors are unable to certify to any of the statements in this certification, the Contractor or subcontractors shall attach an explanation to this bid.

*See also*15 C.F.R. §§ 14.13 or 24.35, as applicable.

28. EDA PROJECT SIGN

The Contractor shall supply, erect, and maintain in good condition a Project sign according to the specifications provided by EDA. To the extent practical, the sign should be a free standing sign. Project signs shall not be located on public highway rights-of-way. Location and height of signs will be coordinated with the local agency responsible for highway or street safety in the Project area, if any possibility exists for obstructing vehicular traffic line of sight. Whenever the EDA site sign specifications conflict with State law or local ordinances, the EDA Regional Director will permit such conflicting specifications to be modified so as to comply with State law or local ordinance.

FORM **ED-524**
(REV. 8-80)

U.S. DEPARTMENT OF COMMERCE
ECONOMIC DEVELOPMENT ADMINISTRATION

OMB Approval Not Required

CERTIFICATION OF COMPLIANCE WITH THE CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT 42 USC 7401 et seq., 33 USC 1251 et seq., E.O. 11738

Name of Project: _____ Project Number: _____

Location: _____

The UNDERSIGNED Certifies that :

(a) it is either (1) an applicant for financial assistance from the Economic Development Administration, (2) a bidder for a construction, service or supply contract to be entered into by the recipient of EDA assistance for purpose of accomplishing the project noted above, or (3) a bidder for a subcontract under the latter contract;

(b) as such, those facilities under its ownership, lease or supervision which will be utilities in the accomplishment of the project noted above are not listed on the Environmental Protection Agency's (EPA) List of Violating Facilities, pursuant to Section 15.20 of 40 CFR, Part 15; and

(c) it will notify the Economic Development Administration, if the UNDERSIGNED is an applicant, or notify the recipient of EDA financial assistance, if the UNDERSIGNED is a bidder, of the receipt of any communication from the Director or the EPA Office of Federal Activities indicating that a facility to be utilized to the project is under consideration for listing on the EPA List of Violating Facilities.

_____ _____
*Signature and Title of Applicant's/ Contractor's/Subcontractor's Authorized Representative** *Date*

for _____
*Applicant/Contractor/Subcontractor**

ACKNOWLEDGEMENT

I, _____, as _____ of
Title
_____ do hereby certify that the foregoing officer who executed the
*Applicant's/Contractor's/Subcontractor's Name**

certification has full authority to bind that entity. In witness whereof I set my hand and affix the (corporate, state, county, or municipal)I seal this ____ day of _____, 20___.

_____
Name and Title of Individual

SEAL

NOTE: The above acknowledgment must be executed by a different officer than the person who signed above for the entity. HOWEVER, if such entity represents a single owner, or a proprietorship, or a partnership, then the acknowledgment need not be executed.

X STRIKE OUT INAPPROPRIATE REFERENCES

USCOMM-DC 80-53538-P80

FORM **CD-511**
(REV 1-05)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying." The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over $100,000 or a loan or loan guarantee over $150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in conncection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying." in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, ''Disclosure Form to Report Lobbying,'' in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT	AWARD NUMBER AND/OR PROJECT NAME
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
SIGNATURE	DATE

BUY AMERICAN CLAUSE

"Contractors are hereby notified that they are encouraged, to the greatest extent practicable, to purchase American-made equipment and products with funding provided under this award".

Specifications

Department of Public Works
Official Notice #103-1-2015

Century City Business Park,
U.S. Department of Commerce
Economic Development Administration
Greenway Infrastructure Improvement Project
North 31st Street & West Hopkins Street,
Milwaukee, Wisconsin

Technical Specifications and Drawings

SECTION 00 01 17

TABLE OF CONTENTS

Section	Title

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

MISCELLANEOUS DOCUMENTS

00 01 10	Table of Contents

DIVISION 01- GENERAL REQUIREMENTS

01 10 00	Summary of Work
01 29 73	Schedule of Values
01 31 19	Project Meetings
01 33 00	Submittals and Requests for Information
01 35 00	Special Procedures
01 40 00	Quality Control
01 57 00	Environmental Protection
01 60 00	Materials and Equipment
01 70 00	Contract Closeout
01 71 23	Field Engineering

DIVISION 02 - EXISTING CONDITIONS

02 41 13	Site Demolition
02 41 15	Utility Removal

DIVISION 03 - CONCRETE

03 31 00	Structural Concrete

DIVISION 05 - METALS

05 52 00	Metal Railings

DIVISION 31 - EARTHWORK

31 02 00	General Requirements for Sitework
31 05 13	Soils for Earthwork
31 05 16	Aggregates for Earthwork
31 10 00	Site Clearing
31 23 17	Site Excavation, Backfill, and Compaction
31 25 13	Erosion Controls

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 11 23	Aggregate Base Course
32 13 13	Concrete Paving
32 90 00	Planting
32 91 19	Landscape Grading
32 92 23	Sodding

DIVISION 33 – UTILITIES

33 11 00	Water System
33 31 00	Sanitary Sewer System
33 41 00	Storm Sewer System

APPENDIX A1 – SITE WIDE CONSTRUCTION STAGING PLAN

APPENDIX A2 – 31st & CAPITOL CONSTRUCTION STAGING PLAN

APPENDIX B – GEOTECHNICAL ENGINEERING REPORT (GESTRA)

APPENDIX C – SOIL MANAGEMENT PLAN (AECOM)

APPENDIX D – WPDES GENERAL PERMIT – CONSTRUCTION SITE STORM WATER RUNOFF

APPENDIX E – WDNR PLAN APPROVAL FOR SEWERAGE SYSTEM IMPROVEMENT

APPENDIX F – WDNR WATER MAIN EXTENSION APPROVAL

APPENDIX G – CITY OF MILWAUKEE DEPARTMENT OF PUBLIC WORKS STREET LIGHTING PLANS (FOR INFORMATION ONLY)

END OF TABLE OF CONTENTS

SECTION 01 10 00
SUMMARY OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents including General Specifications, General Requirements, Drawings and Attachments apply to the Work in this Section and are hereby made part of this Section.

1.02 DESCRIPTION OF WORK

A. Supply material, labor and equipment to complete the Work indicated on the Drawings. The Work is to be completed in strict accordance with the Contract Documents and applicable regulations. The Work is summarized (though not completely) below:

1. Traffic control
2. Site clearing.
3. Complete removal and disposal, at designated location on site, of concrete pavement materials, sidewalks, retaining wall and curb and gutter indicated for removal on the Drawings.
4. Complete removal and disposal of substructures, abandoned natural gas piping and miscellaneous buried materials encountered during the Work.
   a. Concrete materials shall be disposed at a designated location onsite; all other materials shall be disposed offsite at an approved landfill.
5. Removal of the chain link fence adjacent to the eastern boundary of the Project Site
6. Construction of temporary snow fence and construction of temporary chain link fence for site security. See Appendix A and Drawings for location Snow Fence and location of temporary Site Security Fence.
7. Erection of project signs.
8. Excavation, spreading, compacting, and grading soil and gravel material and site grading.
9. Soil environmental remediation.
10. Installation of site electrical systems.
11. Soil erosion control, dust control and temporary environmental controls.
12. Construction of concrete pavement, sidewalks, curbs and gutters.
13. Construction of a concrete retaining wall.
14. Site restoration.
15. Construction of site utilities including storm water and sanitary sewers, manholes and appurtenances and water pipelines and appurtenances.

B. Work shown on the Drawings or included in the Specifications, except for Work specifically indicated as “not in contract” or “Work by Others”

C. All temporary facilities and utilities required to execute the Work, including, but not limited to temporary power, temporary water and temporary sanitary facilities for Contractor’s workers use.

D. Temporary construction fences for Contractor's benefit, such as temporary fences at Contractor's staging and storage areas.

E. All necessary coordination and cooperation with utility companies, City agencies, regulatory agencies and other Owner's contractors working within the Project Limits or who are impacted by or will impact the Work within the Project Limits.

F. Restoration to its original condition of any facilities or items, not included in the Work, that are damaged as a result of activities related to the Work.

1.03 WORK BY OTHERS

A. All work noted as "by Others" in the Drawings or Specifications.

1.04 WORK NOT INCLUDED IN CONTRACT

A. Work mentioned in the Drawings and Technical Specifications as not being a part of this contract.

B. The gas main pipeline and services are not included in the contract but requires the coordination of the Contractor.

C. The City of Milwaukee street lighting work is not included in the contract but requires the coordination of the Contractor.

1.05 WORK SEQUENCE

A. Contractor shall construct the Work in a sequence that efficiently accommodates all of the Work requirements of the Contract Documents. The Contractor shall be wholly responsible for sequencing the work and shall submit a work sequence plan to the Owner for approval, prior to commencement of the Work.

B. Contractor shall sequence the Work to coordinate with work being done by Others.

C. Contractor shall erect the project sign, during mobilization and within one week after the date of the Notice to Proceed.

D. Contractor shall prepare a sequence of construction with the work effort beginning at the north end of the project limits at North 31st Street and West Capitol Drive. Sequencing shall consider the following:

1. Install temporary security fence.
2. Install erosion control measures.
3. Demolition of fence, retaining wall, barrier, pavement and utilities.
4. Cast-in-place retaining wall construction (substantially completed within 30 calendar

days of contractors schedule date of mobilization).

5. Topsoil removal and grading.
6. Utility installation.
7. Pavement installation.
8. Final grading, grass restoration and tree planting.

1.06 COORDINATION WITH OTHER OWNER'S CONTRACTORS ONSITE

A. The Contractor shall coordinate, as provided in the Contract Documents and as directed by the Owner, with other Owner's contractors operating on the project site.

1.07 CONTRACTOR'S USE OF THE PREMISES

A. Contractor shall locate Contractor's site office and stage Contractor's materials and equipment at the location indicated in Appendix A of the Specifications. The Contractor shall submit, for Owner approval, documents indicating the proposed location of storage, staging, site office and other operations.

B. The Contractor's use of the site, including the areas approved by the Owner for Contractor's use, is limited by:

1. The Owner's rights to perform work, employ separate contractors to perform work, and to provide access to the Owner's visitors at Owner's convenience.
2. Regulatory requirements for use of public thoroughfares adjoining the Work site.

C. Contractor shall perform work in a manner that does not disrupt the functioning of the Milwaukee County Transit System bus stops that are adjacent to the project site.

D. Contractor shall perform work in a manner that does not, at any time, interfere with access to the Century City 1 building site.

1.08 SITE CLEANING

A. Contractor shall keep the site clean of rubbish, in accordance with the General Conditions and applicable regulations, throughout the duration of the project.

B. Maintain the site in a manner to comply with codes, ordinances, regulations, and anti-pollution laws.

1. Provide approved on-site containers for the collection of waste materials, debris, and rubbish.

C. Remove waste materials, debris, and rubbish from the site at the end of the Work and dispose in a legal manner away from the site.

1.09 SNOW AND ICE REMOVAL

A. Contractor shall provide all personnel, equipment and materials required for removal of snow and ice from the limits of the project site as required to maintain schedule of cosntruction.

B. Contractor shall be responsible for providing unobstructed access to fire hydrants and site entrances and exits lanes within the limits of the project site. Storm drainage inlets and catch basins shall be maintained free of snow and ice accumulation so as to maintain drainage.

1.10 TRAFFIC CONTROL

B. Submit a traffic control plan for construction in public right-of-way in accordance with the City of Milwaukee requirements and "Manual on Uniform Traffic Control Devices."

C. Data to be included on a traffic control plan will vary depending on the complexity of project, volume of traffic affected, and roadway geometrics where construction is to be performed.

D. Traffic control plan must clearly depict exact sequence of construction operation(s), construction to be performed, and traveled way that will be utilized by all movements of traffic during each phase of construction.

E. Multiple phases of construction will require a separate traffic control plan for each different construction phase or operation.

F. Traffic Control - General:
   1. Protect streets, roads, highways, and other public thoroughfares that are to be temporarily closed or restricted for traffic flow by effective barricades equipped with operational warning signals.
   2. Locate barricades at nearest intersecting public highway or street on each side of blocked section.
   3. Cover open trenches and other excavations with steel plates and have suitable barricades, signs, and lights to provide adequate protection to the public. Provide obstructions such as material piles and equipment with similar warning signs and lights.

G. Maintenance of Traffic:
   1. Maintain effected traffic areas throughout duration of construction, in accordance with local, state, or federal requirements which govern Work area.
   2. Contractor is responsible for maintaining traffic.
   3. Contractor shall conduct work to minimize interference with traffic, vehicular or pedestrian.

4. Contractor shall obtain and pay for any permit required by local authority for areas where traffic will be obstructed.
5. Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary measures for accommodating public and private travel.
6. Contractor shall provide at least 24 hours notice to owners of private drives before performing Work which would obstruct safe passage by drive owner.
7. Illuminate barricades and obstructions with warning lights from sunset to sunrise.
8. Store material storage and perform Work on or alongside public streets and highways to minimize obstruction and inconvenience to public.

PART 2 – PRODUCTS

2.01 TEMPORARY SECURITY FENCE

A. The temporary security fence shall have 6-foot high, 9 gage chain link fabric on driven standard strength posts. Fence posts shall be supported on ballasted standards when fence is located on a paved surface.

2.02 TRAFFIC CONTROL

A. Contractor shall provide barricades, cones, construction warning signs, flagmen, and incidental devices to protect personnel and equipment on the Work site.

B. At corners and at road intersections, temporary concrete Jersey Barriers shall be placed at the base of the fence. The barriers shall be provided with high-intensity flashing warning lights, side-mounted traffic delineators and warning signs (W5-52R or approved equal) conforming to the State of Wisconsin Standard Specifications for Highway and Structure Construction.

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General Specifications and Drawings, apply to the work of this Section.

B. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SCOPE OF WORK

A. The work of this Section consists of the procedural requirements for the submission of the following documents and items:

1. Schedule of Values allocated to the various portions of the Work for which unit prices are not provided in the Contract Documents.
2. Schedules of Values shall be submitted to the City when requested.

1.03 COORDINATION

A. The Contractor is to coordinate preparation of Schedule of Values with preparation of construction schedule.

B. Line items in Schedule of Values shall be correlated with other required administrative schedule and forms, including the following:

1. Contractor's construction schedule.
2. Application for payment form.
3. List of Subcontractors.
4. Schedule of Allowances.
5. List of products.
6. List of principal suppliers and fabricators.
7. Schedule of submittals.
8. List of Approved Change Orders.

1.04 FORM, CONTENT AND APPROVAL

A. Prepare Schedule of Values on AIA Document G702 and G703, latest editions, or as directed by City.

B. Include the following Project identification on Schedule of Values.

1. Project name and location.
2. Name of City.
3. City's Project number.
4. Contractor's name and address

5. Contractor's Project number.
6. Contract date.
7. Date of submittal.
8. Payment Application Number.

C. List the unit price and total installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.

1. The Schedule of Values shall conform to the following:
   a. Include a directly proportional amount of the Contractor's overhead, profit, taxes, and other related costs in each item. Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be distributed as overhead expense.
   b. For items on which progress payments will be requested for stored materials, break down value into the following and assign the value to the appropriate cost code:
      1) The cost of the materials, delivered and unloaded, with taxes paid.
      2) The total installed value, less the cost of materials.
   c. The sum of all values listed in the schedule shall equal the total Contract Sum. Round all values to the nearest dollar.
   d. For unit cost Allowances, show line item value of unit cost Allowance as the product of unit cost times measured quantity as estimated from best indication in Contract Documents.
   e. Indicate the percentage complete, previous payment request, current payment request, and amount remaining for each item.
   f. The City or its Agent and City reserve the right to request further breakdown of costs or to add additional categories for payment as the Work progresses.

2. Update and resubmit Schedule of Values when Change Orders or Construction Change Directives result in a change in Contract Sum.

3. Contractor shall revise the Schedule of Values as requested by the City or its Agent.

D. Contractor shall note Schedule of Values that identify furnish and install or install only. Materials furnished by the City of Milwaukee Department of Public Works, Milwaukee Water Works includes the following water main materials unless otherwise noted on the plans: fittings, valves, hydrants, and valve boxes. The City will deliver all material furnished by the City unless otherwise noted on the plans, to be installed by the Contractor.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents including the General Specifications and General Requirements apply to the work in this Section.

1.02 SCOPE OF WORK

A. The City will conduct project meetings in which the Contractor is required to participate and make available the appropriate personnel. These meetings include, but are not limited to the following:

1. Pre-construction Project Meeting.
2. Project Progress Meetings.
3. Other Project Meetings.

1.03 PRE-CONSTRUCTION PROJECT MEETINGS

A. The City will schedule a pre-construction meeting within 5 days of issuance of the Notice to Proceed, to be attended by all project managers, Contractor's field superintendent other representatives of the Contractor and their major subcontractors. Prior to this time, Contractor shall make specified pre-construction submittals including the following:

1. Typed list of Contractor's sub-contractors, consultants and personnel, with names, titles, addresses, email addresses, and telephone numbers. Indicate at least two personnel who shall be the emergency contacts for the Project. Provide landline and mobile telephone information for the emergency contacts.
2. Contractor’s site specific health and safety plan.
3. Typed list of the submittals required for the work as indicated in the individual Specification Sections, including a schedule for the submittals.
4. Certificates of insurance.
5. Schedule of Values.
6. Permits.
7. Specified bonds.
8. Erosion control implementation plan.
9. Dust control plan

B. The pre-construction meeting agenda shall include the following:

1. Communication lines between all parties including written, electronic and verbal means.
2. Processing applications for payment, including the format, schedule of values, frequency of applications, retainage, and other administrative

requirements.

3. Processing and distribution of submittals.
4. Maintenance of as-built and record documents.
5. Procedure for field changes, change estimates, change orders, etc.
6. Site security.
7. Meeting schedule.

1.04. PROJECT PROGRESS MEETINGS

A. The City will conduct progress meetings at the Project site at regularly scheduled intervals to address matters related to the Work including but not limited to, safety, schedule, cost, changes and issues. The Contractor shall at least have its project manager present at these meetings.

1.05. OTHER PROJECT MEETINGS

A. The City will conduct other project meetings, at any time, as required, in its judgment, to achieve the project objectives. These meetings could include, but are not limited to: coordination meetings, issue meetings, project payment meetings and substantial completion and completion meetings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00
SUBMITTALS AND REQUESTS FOR INFORMATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General Specifications, Specifications, Appendices, Attachments and Drawings.
   1. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SUMMARY OF WORK

A. The Scope of Work in this section includes, but is not limited to, the following:
   1. Product Data and Samples.
   2. Project schedule.
   3. Work logistics and plans.
   4. Manufacturer's certificates.
   5. Construction photographs.
   6. Contractor's Request for Information (RFI).
   7. Any information needed to complete the Work.
   8. Worker certifications
   9. Contaminated/hazardous material disposal manifests
   10. Soil compaction test results
   11. Erosion Control Plan
   12. Dust Control Plan
   13. As-built drawings.

1.03 PRODUCT DATA AND SAMPLES

A. Required Submittals: Submit shop drawings, product data, initial selection samples, verification samples, calculations, coordination drawings, schedules, and all other submittals as specified for each part of the work.
   1. Substitutions: Where a submittal proposes a material or product different than specified, clearly note substitution on the submittal for each item. Contractor's submittal and City's acceptance of submittals is not a valid request for, nor an approval of, a substitution, unless the Contractor presents this information when first submitted as a formal "Request for Substitution".

B. Submittal Schedule: Within 10 days after award of contract and before first application for payment, prepare list of submittals in chronological sequence showing all submittals and proposed date first due at City or its Agent's office and proposed date due to be returned to Contractor. Use Submittal Reference Numbers on submittal schedule as indicated below. Allow proper time for reviewing each submission and time for

resubmission, if needed. Make first submission of a submittal no more than 7 days after notice of Award of Contract.

C. Contractor's Preparation of Submittals: Modify and customize all submittals to show interface and coordination with adjacent work and actual field conditions. Identify each submittal with name of project, date of origination, Contractor's name, subcontractor's name, manufacturer's name, fabricator's name, submittal name and description, and individual Submittal Reference. Use the Submittal Reference Number exclusively in communications about submittals. Clearly note and fully describe all qualifications and all deviations from the requirements of the Contract Documents. Stamp, date, and sign each submittal to show the Contractor's review and approval of each submittal before delivery to City or its Agent's office. Unstamped, undated or unsigned submittals will be returned without action by the City or its Agent. Leave minimum 4" x 6" open space for City or its Agent's stamp and notations.

D. Product Data: Provide manufacturer's printed literature including, without limitation, manufacturer's standard printed description of product, materials and construction, recommendations for application and use, certification of compliance with standards, instructions for installation, and special coordination requirements. Collect data into one submittal for each unit of work or system; clearly mark each copy with ink to show which choices and options are applicable to project.
   1. Product Data Submittal Quantities: Submit at least five copies. City or its Agent will return two copies to the Contractor if not rejected; if rejected, only one copy will be returned. Provide, reproduce, and distribute additional copies as needed.
   2. Installer Copy: Verify that the Installer has a current copy of the relevant product data, including installation instructions, before permitting installation to begin.

E. Samples: Provide at least two sample units for each sample submission. Sample units shall be identical to final materials and products installed in the work and shall clearly show the complete and full range of finish, color, texture and appearance variations expected. Work in the field which falls outside the accepted range shown by the samples shall be rejected. Where indicated, prepare samples to match City or its Agent's sample. Label each sample with description, source, varietal name or manufacturer's name and model number. City or its Agent will review samples for confirmation of visual design intent, color, pattern, texture and type only; City or its Agent will not test samples for compliance with other Contract requirements that shall remain the exclusive responsibility of the Contractor.
   1. Initial Selection Samples Submittal Quantities: For initial selection purposes, submit one set of samples showing the complete range of colors and finishes available.
   2. Verification Samples Submittal Quantities: For verification of an initial selection, submit two sets of samples; one set will be returned to Contractor to be maintained at project site for quality control comparisons. Discard rejected samples; do not store at the site.
   3. Additional Samples: The City and City or its Agent reserve the right to require additional samples or samples not listed in the Contract Documents. Provide

these samples as indicated for specified samples.

4. If samples are rejected, Contractor shall provide, at no additional cost, additional samples until accepted by the City or its Agent.

F. Timing of Submittals: Submit submittals in a timely fashion to allow at least 5 business days for the City or its Agent's review and handling. For submittals which have to be reviewed by the City or its Agent and his/ her project team sub-consultants add five more business days for each consultant.

1. Testing: Submit samples and materials for testing sufficiently in advance of need for use on Project. Allow adequate time for testing and, if necessary, re-testing.
2. Allow sufficient time for review and acceptance of mock-ups/ sample panels before performing work.

G. City or its Agent's Action on Submittals: City or its Agent will review submittals, stamp with "action stamp", mark action, and return to Contractor. City or its Agent will review submittals only for conformance with the design concept of the project. The Contractor is responsible for confirming compliance with other Contract requirements, including without limitation, performance requirements, field dimensions, fabrication methods, means, methods, techniques, sequences and procedures of construction, and coordination with other work. The City or its Agent's review and approval of submittals shall be held to the limitations stated in the General Conditions of the Contract for Construction. In no case shall approval or acceptance by the City or its Agent be interpreted as a release of Contractor of his responsibilities to fulfill all of the requirements of the Contract Documents. City or its Agent's action will be one of the following:

1. Reviewed: When so marked, City or its Agent and his/ her sub-consultants are indicating that they have reviewed the submittal but do not assume responsibility for the use of that submittal.
2. Accepted: When so marked, the work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents. Acceptance of the work will be based on that compliance.
3. Accepted Subject to Condition as Noted: When so marked, the work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents and the City or its Agent's notes and comments. Acceptance of the work shall be based on that compliance.
4. Resubmission Required: Do not permit submittals with this action marking to be used at the project site or elsewhere where work is in progress.
   a. Submit Additional Item as Noted: When so marked, resubmit the item[s] noted.
   b. Revise Submission as Noted and Resubmit: When so marked, make corrections or changes to original submittal or prepare a new submittal and resubmit to City or its Agent for additional review.

5. Disapproved: When so marked, prepare a new submittal and resubmit to City or its Agent for review. Do not permit submittals with this action marking to be used at the project site or elsewhere where work is in progress.

6. Incomplete, illegible, erroneous or other faulty submittals shall be returned to Contractor without any submittal designation. The Contractor shall correct the submittal and return it for additional review.
7. Distribution of submittals: When submittal is noted "accepted" or "accepted subject to conditions as noted", make prints or copies and distribute to City, Subcontractors involved, and to all other parties requiring information from the submittal for performance or coordination of related work within 10 calendar days after date of City or its Agent's action. Provide and pay for all copies of submittals as reasonably necessary for proper completion of the Work. Print shop drawings for distribution only from the final approved reproducible drawing. Maintain one complete set of submittals at the project site in a neat, organized file.

1.04 MANUFACTURER'S CERTIFICATES AND TEST RESULTS

A. Submit manufacturer's certificates required by individual Sections.

B. Indicate that the product complies with or exceeds specified requirements. Submit supporting reference data, affidavits and/or certifications as appropriate.

C. Certificates that are not current must be acceptable to the City or its Agent.

1.05 WORKERS' CERTIFICATION

A. Contractor is to submit to the City or its Agent, documentation that proves all workers involved in asbestos abatement or any hazardous material handling work have the required certifications.

B. Contractor is to submit to the City or its Agent, documentation that proves all workers involved in soil remediation or any hazardous material handling work have the required 40-hour HAZWOPER training, and annual refresher training, if required.

C. Contractor is to submit to the City or its Agent, documentation that proves that all workers are certified as to discipline or trade as required in permits issued to complete the work.

D. Contractor is to submit appropriate worker certification when requested by the City.

1.06 REQUESTS FOR INFORMATION

A. When the Contractor encounters any question concerning the Work or when he/ she requires additional information to perform the Work, the Contractor shall submit a written Request for Information (RFI), on a City approved form, to the City or its Agent. The RFI shall contain the project name, names and addresses of the Contractor, City and City or its Agent, RFI number, related drawings and specification numbers, nature of the question, space for a reply, and due date for the response.

B. The Contractor shall number the RFI's sequentially and shall keep a record of all RFI s and their responses.

C. Each RFI shall pertain to one topic only. Topics shall not be mixed on RFIs.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 35 00
SPECIAL PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents including the General Specifications and General Requirements apply to the work in this Section.

B. Wisconsin Administrative Code Chapter NR 447.02.

C. City of Milwaukee and State of Wisconsin Construction Asbestos Abatement permits.

D. All applicable parts of the United States Department of Labor, Occupation Safety & Health Administration (OSHA) standards in 29 CFR Part 1910 Occupational Safety and Health Standards and Part 1926 Safety and Health Regulations for Construction

E. U. S. Environmental Protection Agency (USEPA) standards in 40 CFR Part 763, Asbestos, Asbestos Hazard Emergency Response Act (AHERA),

F. USEPA standards in 40 CFR Part 61 Subpart M, National Emission Standards for Hazardous Air Pollution (NESHAP) for Asbestos,

G. Wisconsin State Statutes Chapter 254, Environmental Health, WAC ch. DHS 159, Certification and Training Course Requirements for Asbestos Activities, and WAC ch. NR 447 Control of Asbestos Emissions.

H. The current, City of Milwaukee Code of Ordinances, Chapter 66, "Asbestos Hazard Control" regulations.

I. The current, City of Milwaukee Asbestos Inspection and Sampling Protocol for Buildings to be Demolished or Renovated, dated February 1998, Updated August 2000 (copy attached),

J. Wisconsin Department of Natural Resources, Pre-Demolition Environmental Checklist, DNR Publication WA-651-07, Revised 2007 (copy attached).

1.02 SUMMARY OF WORK

A. This Section consists of the special procedural requirements for work involving asbestos containing materials (ACM).

B. Any asbestos abatement performed under this Contract shall be completed to properly remove and dispose of regulated asbestos-containing material including friable and non-friable asbestos-containing materials that is currently crumbling, cracked, or peeling, or could be crumbled, pulverized or reduced to powder during the Work.

C. The work under this Section shall be performed in conformance with all of the applicable "Related Documents".

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

1.01 ASBESTOS ABATEMENT

A. The Contractor shall immediately notify the City of any suspect asbestos containing materials discovered during the Work so arrangements can be made to properly assess and manage the materials.
   1. Suspect materials may include, but not limited to, buried pipe insulation, other buried materials or materials identified in the Contract Documents as suspect asbestos-containing materials.

B. After completion of the asbestos abatement work, the ground surfaces shall be cleaned, using appropriate methods for asbestos abatement, to meet visual and clearance criteria.

C. Liquid and/or solid debris generated during the final cleaning shall be properly characterized and disposed of in an approved manner and in accordance with all local, state, and federal regulations.

D. The asbestos abatement activities shall be conducted by asbestos workers and supervisors currently certified by the Asbestos and Lead Section of the Wisconsin Department of Health Services.

E. The Contractor shall not dispose of any asbestos-contaminated waste, debris, or refuse in any location or manner other than at a pre-established landfill, licensed by the Wisconsin Department of Natural Resources to accept asbestos containing material, using methods specified herein, and in accordance with Federal, State, and local regulations.

F. Storage of ACM bags shall only be inside an approved and properly prepared container, which shall be locked at all times when it not being loaded by the Contractor.

G. The Contractor shall transport asbestos-containing materials to the licensed landfill in labeled and covered containers in accordance with all Federal, State, and local regulations.

H. At the end of the project the Contractor shall notify the City in writing that it has complied with all requirements stated herein and with those set forth by Federal, State, or local agencies as required herein. This notice shall be included in the final Project Log Book.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General Specifications, Specifications and Drawings.

B. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SUMMARY OF WORK

A. The Contractor shall implement procedures, including testing as required, to ensure that all Work complies with the quality requirements of the Contract Documents.
   1. The City may arrange for a qualified Testing Laboratory or other inspection or measurement services, to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Contractor to provide quality-control services required by City or its Agent, or authorities having jurisdiction are not limited by provisions of this Section.

B. See the respective sections of the Technical Specifications for specific test and inspection requirements.

C. Contractor shall provide, quality-control services to verify conformance of the Work with the requirements of the Specifications.

1.03 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by City or its Agent.

C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing

laboratory shall mean the same as testing agency.

1.04 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Reports: When required by the Contract Documents or when requested by the City, prepare and submit certified written reports that include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.
   7. Identification of product and Specification Section.
   8. Complete test or inspection data.
   9. Test and inspection results and an interpretation of test results.
   10. Ambient conditions at time of sample taking and testing and inspecting.
   11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
   12. Name and signature of laboratory inspector.
   13. Recommendations on retesting and re-inspecting.

C. Permits, Licenses, and Certificates: For City's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer Qualifications. A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1.06 QUALITY CONTROL

A. City Responsibilities: Where quality-control services are indicated as City's responsibility, City will engage a qualified testing agency to perform these services.
   1. City will furnish Contractor with names addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
   2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
   1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services. Contractor shall not employ the same entity engaged by City, unless agreed to in writing by City.
   2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
   4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
   5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with

requirements established by the Contract Documents.

E. Testing Agency Responsibilities:
   1. Cooperate with the City or its Agent, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
   2. Notify City or its Agent and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
   3. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
   4. Submit a certified written report, in duplicate of each test, inspection, and similar quality-control service through Contractor.
   5. The testing agency shall not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
   6. The testing agency shall not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
   4. Facilities for storage and field-curing of test samples.
   5. Preliminary design mix proposed for use for material mixes that require control by testing agency.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

1.01 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 01 57 00
ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This section provides general information and procedures related to environmental protection and environmental remediation, including handling contaminated soils and groundwater encountered during the Work.

B. Contractor, in executing Work, shall maintain Work areas on- and off-site free from environmental pollution that would be in violation of federal, state or local regulations.

C. Payment:
   1. Work specified in this section is incidental to the Work and should be included as part of appropriate lump sum or unit prices specified in Bid Form.

1.02 RELATED SECTIONS

A. All sections of these Specifications are related to this section.

1.03 REFERENCES

A. City of Milwaukee Code of Ordinances Vol. 2, Chapter 290 – Erosion Control.

B. Wisconsin Department of Transportation Standard Specification for Highway and Structure Construction.

C. WPDES General Permit No. WI-S067831-04 Construction Site Storm Water Runoff dated October 3, 2014. Copy attached in Appendix C.

D. Soil Management Plan letter report, Century City, EDA, Greenway Improvement Project, dated April 30, 2015. Copy attached in Appendix B.

1.04 PROTECTION OF SEWERS

A. Prevent construction material, pavement, concrete, earth or other debris from entering existing culverts or sewer structures.

1.05 EROSION AND SEDIMENT CONTROL

A. Comply with provisions of the existing WPDES General Permit No. WI-S067831-04 Construction Site Storm Water Runoff dated October 3, 2014. Including posting of the

Certificate of Permit Coverage at the job site.

B. Comply with provisions of City of Milwaukee Code of Ordinances Vol. 2, Chapter 290 – Erosion Control.

1. Submit Erosion Control Implementation Plan (ECIP) Application, supporting documents and irrevocable letter of credit, bond or certified check to the City of Milwaukee Department of Public Works at least ten (10) working days prior to the start of any construction activity.

C.. Apply appropriate soil conservation measures to protect project area and adjacent lands. These measures may include, but not be limited to, mulching, rapid growth vegetation, fabric mat, hay bales, filter barriers, sediment traps, and basins.

D. Select methods of erosion and sediment control for specific job site.
1. Contractor shall develop an erosion control plan and shall submit the plan to the City for review and approval.
2. Adjust sediment control measures in field to meet conditions encountered.

E. Install erosion control measures before commencing work on project site.
1. Maintain erosion control measure during course of construction.
2. Remove erosion control measures upon establishment of permanent, surface stabilization.

F. All products used must be listed on the Wisconsin Department of Transportation's erosion control acceptability list.

G. All erosion control devices shall be installed as indicated in accordance with section 628 of the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition.

H. Maintenance of the erosion control devices shall be performed in accordance with all applicable standards and permits, including the Wisconsin Pollution Discharge Elimination System (WPDES) permit

1.06 DISPOSAL OF EXCESS EXCAVATED AND OTHER WASTE MATERIALS

A. Comply with provisions of the existing Soil Management Plan letter report, Century City, EDA, Greenway Improvement Project, dated April 30, 2015, for managing contaminated soils and groundwater encountered during the Work.

B. Excess excavated material not required or unsuitable for backfill, and other waste material shall be disposed of in accordance with state and local solid and hazardous waste regulatory requirements.

C. Provide watertight conveyance for liquid, semi-liquid or saturated solids which tend to bleed during transport. Liquid loss from transported materials is not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.

1.07 PROTECTION OF AIR QUALITY

A. Minimize air pollution by use of properly operating combustion emission control devices on construction vehicles and equipment and encourage shutdown of motorized equipment not in use.

B. Do not burn trash on construction site.

C. If temporary heating devices are necessary for protection of Work, they shall not cause air pollution.

1.08 THAWING OF FROZEN GROUND

A. Obtain permit from appropriate local authority before building fire to thaw frozen ground, and comply with conditions of permit.

B. Use fuel which does not create air pollution or inconvenience public.

C. Engineer reserves right to prohibit fires for thawing whenever deemed undesirable.

1.09 USE OF CHEMICALS

A. Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall be approved by U.S. EPA or U.S. Department of Agriculture or any other applicable regulatory agency.

B. Use and disposal of chemicals and residues shall comply with manufacturer's instructions.

1.10 NOISE CONTROL

A. Conduct operations to cause least annoyance to residents in vicinity of Work, and comply with applicable local ordinances.

B. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines.

C. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.

D. Line storage bins and hoppers with material that will deaden sounds.

E. Conduct operation of dumping rock and of carrying rock away in trucks so as to cause minimum of noise and dust.

F. Route vehicles carrying rock, concrete or other material over such streets as will cause least annoyance to public and do not operate on public streets between hours of 6:00 p.m. and 7:00 a.m., or on Saturdays, Sundays or legal holidays unless approved by City.

1.11 DUST CONTROL

A. Contractor shall develop and implement a dust control plan that ensures conformance with the dust control standards of the Wisconsin DNR, the City of Milwaukee Code of Ordinances and other applicable federal, state and local standards, at all times during the Work.

B. If dust emissions are problematic, the Contractor will identify the source of emissions and take corrective action, at no additional cost to the City.

C. Contractor shall submit for review, to the City or its Agent, a dust control plan that outlines the methodology and materials that will be employed in the dust control during the Work.

D. Any anti-freeze that is added to the water for dust control on the project site shall be approved by the Wisconsin Department of Natural Resources prior to its use on the site.

1.12 FUELS AND LUBRICANTS

A. Minimize use of potentially hazardous materials including fuels and lubricants.

B. Keep motorized equipment in good working order with no fuel or lubricant leakage. Protect ground surface from leakage using tarps or other material methods.

C. If grease, oil, solvent, or other residue from Contractor operations occurs, Contractor shall conduct remedial investigation and remediate as required by City.

D. Do not change oil on equipment or store or dispose of fuels, solvents, lubricants, or other potentially hazardous materials on Site.

1.13 CONTAMINATED SOILS AND GROUNDWATER

A. Comply with provisions of the existing Soil Management Plan letter report, Century City, EDA, Greenway Improvement Project, dated April 30, 2015, for managing contaminated soils and groundwater encountered during the Work.

1.14 SOIL AND GROUNDWATER ENVIRONMENTAL REMEDIATION

A. Comply with provisions of the existing Soil Management Plan letter report, Century City, EDA, Greenway Improvement Project, dated April 30, 2015, for managing contaminated soils and groundwater encountered during the Work.

B. The Contractor is responsible for disposal of contaminated (Soil Management Category "B") impacted soils at the adjoining Century City property. The specific location for stockpiling the Category B soils will be provided by the Owner. The stockpiled soil shall be protected by storm water best management practices.

   The Contractor shall protect and maintain all groundwater monitoring wells on the Century City property. Contractor will be responsible for damage to the monitoring wells. If damaged, the Owner will determine cost for repair or replacement. If damaged, repair or replacement costs will be deducted from the Contract.

C. The Contractor is responsible for obtaining a landfill profile approval for the disposal of contaminated (Soil Management Category "C") impacted soils at a Sub-Title D landfill and for disposal of Category C soils at the approved landfill. Soil analytical data for the Contractor's use in obtaining the profile approval is provided in the attached Soil Management Plan letter report. The Contractor shall provide to the Owner a copy of the approved Profile.

D. The Contractor shall provide to the Owner copies of Waste Manifests as documentation of disposal of contaminated (Soil Management Category "C") impacted soils at a Sub-Title D landfill.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION(Not Used)

END OF SECTION

SECTION 01 70 00
CONTRACT CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General Specifications and other requirements of the Specifications apply to the work of this Section and are hereby made a part of this Section.

1.02 SCOPE OF WORK

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Inspection and acceptance procedures.
   2. Project Record Documents.
   3. As-Built Documents.
   4. Punch List.
   5. Operation and maintenance manuals.
   6. Warranties.
   7. Instruction of City's personnel.
   8. Final cleaning.

B. See Technical Specifications for specific closeout and special cleaning requirements for products of those Sections.

1.03 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Advise City of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, waste disposal manifests (contaminated soil, sewer sediment, and asbestos), and similar documents.
   4. Obtain and submit releases permitting City unrestricted use of the Work and access to services and utilities.
   5. Prepare and submit Project Record and As-Built Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
   6. Deliver tools, spare parts, extra materials, and similar items to location designated by City. Label with manufacturer's name and model number where applicable. Legally dispose of materials not returned or retained by the City.
   7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   8 Advise City of changeover for all utilities.

9. Submit changeover information related to City's occupancy, use, operation, and maintenance.
10. Complete final cleaning requirements.
11. Touch up and otherwise repair and restore pavements, fences and other features that were damaged by the Work.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, City or its Agent will either proceed with inspection or notify Contractor of unfulfilled requirements. City or its Agent will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by City or its Agent, that must be completed or corrected before certificate will be issued.
    1. Re-inspection: Request re-inspection when the Work identified in previous inspections (the Punch List) as incomplete is completed or corrected.
    2. Results of completed inspection will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
    1. Submit a final Application for Payment according to the General Conditions and the Specifications
    2. Submit certified copy of City or its Agent's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by City or its Agent. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
    3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection for Final Acceptance. On receipt of request, City or its Agent will either proceed with inspection or notify Contractor of unfulfilled requirements. City or its Agent will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
    1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

C. The City or its Agent shall establish the date of Final Acceptance and submit written notice of that date. The warranty and maintenance periods will not commence until the City or its Agent has made a Final Acceptance of the Project.

1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of Punch List. Include name and identification of each space and area affected by construction operations for incomplete items and items needing

correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.06 PROJECT RECORD AND AS-BUILT DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for City or its Agent's reference during normal working hours.

B. Maintain field record documents neatly and accurately, and carefully record information regularly as the work progresses. Include in record documents all field changes made to the original Contract Documents, all change order modifications, all construction change directives, all field directions and instructions from the City or its Agent, all relevant dimensions, and all relevant details of the work. Information and locations of work that is readily obvious does not need to be recorded in record documents. Keep record documents up to date at all times.
    1. Progress Payments: Maintaining record documents accurately and up to-date shall be a prerequisite for approval of Contractor's application for progress payments.
    2. Record Documents Required: The following record documents are required:
        a. Record and As-Built drawings.
        b. Record specifications.
        c. Waste disposal manifests.

C. Record progress "As Built" Drawings: During the course of the Work, Contractor shall have maintained one print of all of the Contract Drawings, commencing with the original Contract issue and including all revisions thereto, as the "working record" of the Drawings from which the Project is constructed.
    1. Contractor shall show on the copy of Contract Drawings by notation thereon, or red marked revisions thereto, any deviations between the work as originally shown for design and the work as actually installed. These noted deviations shall include changes that were required to be made because of field conditions or conflicts between the work of two or more trades.
    2. Comply also with requirements of specification sections of Division 1 through 16 for Record Documents of specific items or systems referenced therein.

D. At the close of the Project, the Contractor shall prepare from the "working record", final "As-Built" Drawings showing all changes made to horizontal and vertical alignment of the site.
    1. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
    2. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

E. Record Submittals: Shop Drawings, Product Data, and other data shall be assembled in

sequential order of the specification format and provided to the City.

F. Record Specifications: Submit two copies of the Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
   1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   2. Mark copy with the proprietary name and model number of products, materials, and equipment finished, including substitutions and product options selected.
   3. Note related Change Orders and Record Drawings, where applicable.

G. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
   1. Provide written concise chart of all materials, systems and products used on the Project. Indicate name, model number, manufacturer, supplier and contact information.

1.07 MAINTENANCE

A. Submittal Time: Submit written maintenance agreements on request of City or its Agent for designated portions of the Work where commencement of maintenance other than date of Final Completion is indicated.

B. Refer to individual trade sections for specific maintenance requirements. Maintenance that is required under the Contract is in addition to and not in lieu of any remedy or warranty to which the City is entitled under law. Maintenance agreements shall not be interpreted as a waiver of any of the City's rights.
   1. Maintenance Effective Starting Date: All maintenance shall begin upon Substantial Completion of the project and shall run for the period indicated. If no specific maintenance period is indicated, the maintenance shall be for at least one year from Date of Substantial Completion of the Project.
   2. Contractor's Responsibilities for Maintenance: The Contractor shall implement and invoke all maintenance by subcontractors and material suppliers longer than one year duration when required under various sections of these specifications, and use his best efforts to facilitate and aid the City in any claims the City may have.

1.08 FINAL CLEANING

A. General: Just prior to Final Acceptance provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Complete the following cleaning operations before requesting inspection for certification of

Substantial Completion for entire Project or for a portion of Project:

1. Clean Project site, yard, and grounds in areas disturbed by construction activities, including landscape development areas, of debris, rubbish, waste material, litter, and other foreign substances.
2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
4. Remove tools, construction equipment, machinery, and surplus material from Project site.
5. Leave Project site clean.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials or any chemicals into drainage systems. Remove waste materials from Project site and dispose of lawfully.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 71 23
FIELD ENGINEERING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General Specifications and Specifications, Appendices and Drawings, apply to the work of this Section and are hereby made a part of this Section.

1.02 SCOPE OF WORK

A. This Section specifies administrative and procedural requirements for field engineering services, including, but not necessarily limited to, the following:
   1. Land Survey Work.
   2. Establishment and maintenance of layout and elevation control points.
   3. Horizontal and vertical layout of all site improvements for review by the City or its Agent prior to and during construction.
   4. EDA Project Sign
   5. Permit Application for Work in the Public Way
   6. Permit Application for Metered Hydrant Use

1.03 SUBMITTALS

A. Project Record and As-Built Documents: Submit a record of work performed and record survey data as required under provisions of sections "Submittals" and "Contract Closeout".

B. When requested by the City or its Agent, provide supplemental horizontal and vertical data to aid in the design or construction of the Work. Provide supplementary data at no additional cost to the Project.

C. Submit Permit Application for Work in the Public Way Application and permit fee to the Milwaukee Development Center at least ten (10) working days prior to the start of any construction activity or use of public right-of-way.

D. Submit Hydrant Permit Application for Metered Hydrant Use, hydrant wrench and meter deposit and permit fee to the Milwaukee Water Works at least ten (10) working days prior to the start of bulk water requirement.

1.04 QUALITY ASSURANCE

A. Surveyor: The Contractor shall engage a Registered Land Surveyor, registered in the state of Wisconsin to perform land/building surveying services required.

1.05 EXAMINATION

A. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to lay out the work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
    1. Establish existing control points in areas convenient to but outside of Work area, prior to the commencement of any Work. Confer with City's Agent prior to reestablishing control points.
    2. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations. Base replacements on the original survey control points.

B. Establish and maintain a minimum of two permanent benchmarks on the site, referenced to data established by survey control points. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

C. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction.
    1. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

1.06 PERFORMANCE

A. Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each area of work and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
    1. Advise entities engaged in construction activities of marked lines and levels provided for their use.
    2. As construction proceeds, check every major element for line, level and plumb.

B. Surveyor's Log: Maintain a surveyor's log of control points, benchmarks, and other survey work. Make this log available for reference.

C. Record deviations from required lines and levels, and advise the City's Agent when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

D. Site Improvements: Locate and lay out site improvements horizontally and vertically, including but not limited to, pavements, bases, foundations, steps, walls, wood elements, stakes for grading, fill and topsoil placement, utilities, utility slopes and invert elevations, benches, lights, and planting by instrumentation and similar appropriate means.
    1. The City or its Agent shall review and accept the horizontal and vertical layout before construction begins. No Work shall be installed without the City or its

Agent's acceptance of the layout.

2. Work with City or its Agent to set up string line or other layout aides necessary to review horizontal and vertical alignment of site improvements.
3. Provide horizontal and vertical layout information prior to beginning construction and as construction proceeds. City or its Agent shall have the right to request confirmation of all vertical and horizontal layouts of site improvements before, during and after construction.

E. Existing Utilities: If the Work impacts existing utilities that are to remain, furnish information necessary to adjust, move or relocate existing structures, utility poles, lines, services or other appurtenances located in, or affected by construction. Coordinate with local authorities and public/ private utilities having jurisdiction.

PART 2 – PRODUCTS

2.01 EDA SITE SIGN

A. The site sign shall conform to the following specifications.

Size: 4' x 8' x ¾"

Materials: Exterior grade/MDO plywood (APA rating A-B)

Supports: 4" x 4" x 12' posts with 2" x 4" cross branching

Paint: Outdoor enamel

Colors: Jet Black, Blue (PMS300), and Gold (PMS7406). Specifically, on white background the following will be placed EPR Figure 1:

The U. S. Department of Commerce seal in blue, black, and gold;
"EDA" in blue;
"U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION" in black;
"In partnership with" in blue;
"City of Milwaukee & Redevelopment Authority of the City of Milwaukee " in black;
"PUTTING AMERICA TO WORK" in blue;
"Barack Obama, President of the United States" in black.

EDA

U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION

In partnership with

Recipient Name

PUTTING AMERICA TO WORK

Barack Obama, President of the United States

Figure 1

Lettering: Specific fonts are named below; positioning will be as shown on the attached Figure 2.

"U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION" use Bank Gothic Medium
"In partnership with" use Univers™ 55 Oblique
"City of Milwaukee & Redevelopment Authority of the City of Miwaukee " use Univers™ Extra Black 85
"PUTTING AMERICA TO WORK" use Walkway Black
"Barack Obama, President of the United States" use Univers™ 55 Oblique

Figure 2

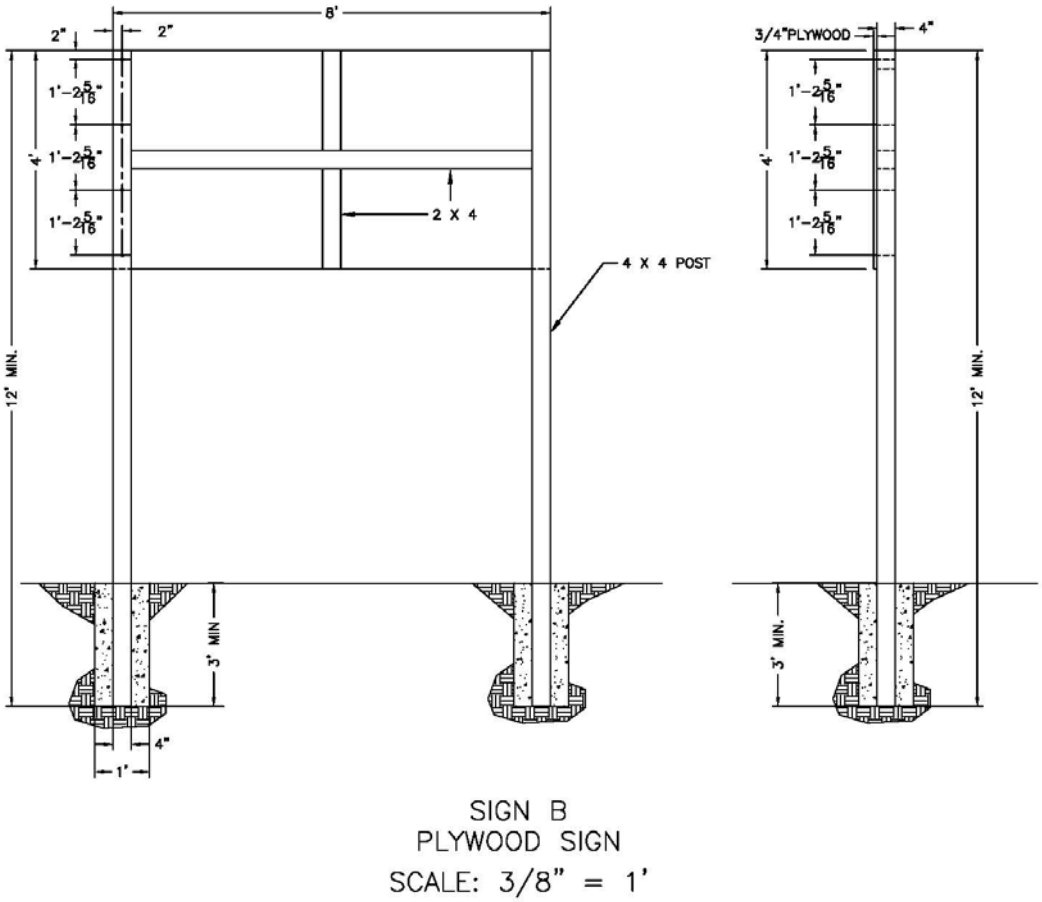
PART 3 – EXECUTION

3.01 EDA SITE SIGN

A. Project signs will not be erected on public highway rights-of-way. If any possibility exists for obstruction to traffic line of sight, the location and height of the sign will be coordinated with the agency responsible for highway of street safety in area.

B. The EDA Regional Director may permit modifications to these specifications if they conflict with state law or local ordinances.

C. Posts shall be set a minimum of three feet deep in concrete footings that are at least 12 inches in diameter has shown in Figure 3.



SIGN B
PLYWOOD SIGN
SCALE: 3/8" = 1'

PROJECT - SIGN B
ECONOMIC DEVELOPMENT ADMINISTRATION

Figure 3

END OF SECTION

SECTION 02 41 13

SITE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Demolish, remove and deliver to on-site location of all designated pavements and small retaining walls for recycling.
2. Remove designated fencing system.
3. Owner retained material.
4. Remove demolition materials from site.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 05 13 – Soils for Earthwork: Subsoil backfill material.
3. Section 31 05 16 – Aggregates for Earthwork: Granular backfill material.
4. Section 31 10 00 - Site Clearing: Site clearing outside perimeter of existing structures.

1.2 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Submit demolition schedule.

C. Submit project record documents under provisions of Section 31 02 00 – General Requirements for Sitework.
1. Record drawings should accurately identify location of active or abandoned utilities encountered, location of foundations or appurtenances abandoned and covered, or items remaining that would affect future work on site.

1.3 REGULATORY REQUIREMENTS

A. Comply with local, state, and federal codes, rules and regulations applicable to demolition work including but not limited to erosion control, air pollution, noise pollution, and waste disposal.

B. Contractor shall obtain and pay for permits required for demolition work.

1.4 PROJECT SITE CONDITIONS

A. Conduct demolition to minimize interference with adjacent structures.

B. Maintain protected egress and access at all times.

C. Provide, erect, and maintain temporary barriers and security devices.

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D. Conduct operations with minimum interference to public or private thoroughfares.

E. Do not close or obstruct roadways and sidewalks without permits.

1.5 SITE DEMOLITION REQUIREMENTS

A. Traffic Control Signs:
   1. Where pedestrian and driver safety is endangered in area of removal work, use traffic barricades with flashing lights.
   2. Anchor barricades in a manner to prevent displacement by wind.

B. Items to Remain in Place:
   1. Take necessary precautions to avoid damage to existing items scheduled to remain in place, to be reused, or to remain property of Owner.
   2. Repair or replace damaged items as approved by Owner's Representative.
   3. Construct and maintain shoring, bracing, and supports as required.
   4. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, or demolition work performed.
   5. Do not overload pavements to remain.
   6. Provide new supports and reinforcement for existing construction weakened by demolition or removal work.
   7. Repairs, reinforcement, or structural replacement require approval by Owner's Representative prior to performing such work.

C. Existing Conditions:
   1. Before beginning any demolition work, survey project site and examine drawings and specifications to determine extent of demolition work.
   2. Protect trees within project site which might be damaged during demolition, and which are indicated to be left in place.
   3. Replace any tree designated to remain that is damaged during the work under this contract with like and kind or as approved by Owner's Representative.
   4. Maintain existing utilities indicated to stay in service and protect against damage during demolition operations.
   5. Prior to start of work, utilities serving each area of alteration or removal will be shut off by Utility Owner and disconnected and sealed by Contractor.

1.6 HAZARDOUS MATERIALS

A. If Contractor encounters a hazardous material during demolition process, it shall cease operations immediately and notify Owner and Owner's Representative of its findings.

B. Owner will employ a Contractor, experienced and certified in removal and disposal of hazardous substances to perform removal and disposal work.

C. Contractor shall not reinstate demolition operations until areas have been cleared for continuation of demolition work.

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PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION

3.1 NOTIFICATION

A. Contractor, prior to any excavation work, shall notify (1) a designated locating service; (2) all utilities, governmental agencies, entities, known to, or which can reasonably be assumed to have above or below ground pipe, conduit cables, structures, or similar items within limits of project; to locate and mark location of such items.

B. In accordance with Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall provide advance notice not less than three (3) working days before the start of nonemergency excavation to the one-call system, as defined in the statute, required to perform work contained in this Project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

3.2 PREPARATION

A. Prevent movement or settlement of adjacent structures scheduled to remain.

B. Provide bracing and shoring of adjacent structures scheduled to remain.

C. Protect existing landscaping materials, appurtenances and structures which are not to be demolished.

3.3 DEMOLITION AND REMOVAL

A. Except where specified in other sections, all materials and equipment removed, and not reused or salvaged shall become property of the Contractor.

B. Demolish fences, and related appurtenances in accordance with removal procedure and schedule.

C. Cease operations and notify Owner’s Representative immediately if adjacent structures or landscape features appear to be endangered.

D. Do not resume operations until corrective measures have been taken.

E. Immediately remove demolished material from site unless approved demolition procedure and schedule submitted in accordance with this section provides otherwise.

F. Relics, antiques, and similar objects remain property of Owner.

G. Notify Owner’s Representative prior to removal and obtain acceptance regarding method of removal.

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H. Remove following material and equipment disposal off-site:
   1. Fencing.

I. Remove and promptly dispose of contaminated, vermin infested, or dangerous materials encountered.

J. Do not burn or bury materials on site.

3.4 DEMOLITION, REMOVAL AND SITE RECYCLING OF CONCRETE

A. Demolish, remove and deliver designated concrete pavement and walls to existing on-site concrete recycling area at location indicated on Drawings. Designated exterior concrete includes:
   1. Sidewalks.
   2. Curb and Gutter.
   3. Small Retaining Walls.

B. Neatly saw cut pavement and wall edges at right angle to surface to complete depth of pavement prior to shattering or mechanical removal.

C. Remove and cut or fracture designated concrete scheduled for removal into maximum 18-inch x 18-inch section pieces.

D. Cut all metal reinforcement flush with edges of removed pieces of concrete.

E. Deliver prepped concrete section pieces to concrete recycling area at location indicated on Drawings.

F. Keep work sprinkled to minimize dust. Provide hoses and water main or hydrant connections for this purpose. Obtain permits and pay for water usage as required by Local Water Utility.

G. Backfill areas excavated, open pits, and holes caused as a result of demolition with Type S1 or S2 subsoil specified in Section 31 05 13 – Soils for Earthwork.

H. Rough grade and compact areas affected by building demolition to maintain and blend site grades and contours as indicated on Drawings.

END OF SECTION

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SECTION 02 41 15

UTILITY REMOVAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Removal, and disposal of below grade utility piping including natural gas main and service lines in the right-of-way.

B. Related Sections:
   1. Applicable provisions of Division 01– General Requirements shall govern Work under this Section.
   2. Section 02 41 13 – Site Demolition: Demolition of designated sheds, pavements and fences.
   3. Section 31 05 13 – Soils for Earthwork: Subsoil fill.
   4. Section 31 05 16 – Aggregates for Earthwork: Gravel, sand or stone fill.
   5. Section 31 23 17 – Site Excavation, Backfill, and Compaction: Backfilling of abandoned or removed utility service excavations.

1.2 REFERENCES

A. Standard Specifications for Sewer and Water Construction in Wisconsin, Sixth Edition, December 22, 2003, with Addendum No. 2, April 22. 2008, (SSSW).

B. State of Wisconsin Department of Transportation:
   1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT)

C. City of Milwaukee:
   1. Ordinance for Construction Site Erosion Control.

1.3 SUBMITTALS AT COMPLETION OF WORK

A. Division 01 – General Requirements:
   1. Record horizontal and vertical depth locations of pipe and structure plugs.
   2. Identify, indicate, and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

B. Contractor shall comply with local, state, and federal regulations applicable to Work of this Section.

C. Contractor shall comply with and be solely responsible for compliance with U.S. Department of Labor OSHA Part 1926 Safety and Health Regulations for Construction for this Work.

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D. Contractor performing Work of this Section shall be solely responsible for identifying, furnishing, installing and maintaining equipment and materials required by State and Federal regulations to establish safe working conditions during Work of this Section.

PART 2 - PRODUCTS

2.1 MATERIALS FOR UTILITY REMOVAL

A. Crushed Gravel: Free of friable material and debris; Type A1 or A2; as specified in Section 31 05 16 – Aggregates for Earthwork.

B. Site Excavated (Spoil) and Imported Material: Type S1 or S2 as specified in Section 31 05 13 – Soils for Earthwork:
   1. Consisting of loam, clay, gravel, sands or mixtures, for use as non-structural fill, within non-paved and non-foundation areas of project.
   2. Fill requires prior approval by Construction Manager upon written request from Contractor.
   3. Fill shall be free of pavement fragments larger than three (3) inches, bituminous or concrete materials, vegetable or organic matter, all types of refuse and frozen material.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Utility services shall be maintained until removal is authorized by Construction Manager.

B. Contact Utility to identify and locate point of connection of utility lateral to site service line.

C. Verify Utility requirements for disconnection of utility service at property line. Obtain necessary permits.

D. Existing site utility service lines shall be removed in their entirety as identified on Drawings.

3.2 NOTIFICATION

A. Contractor, prior to any excavation work, shall notify (1) a designated locating service; (2) all utilities, governmental agencies, entities, known to, or which can reasonably be assumed to, have above or below ground pipe, conduit cables, structures, or similar items within limits of project; to locate and mark location of such items.

B. In accordance with Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall provide advance notice not less than three (3) working days before the start of nonemergency excavation to the one-call system, as defined in the statute, required to perform work contained in this Project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

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3.3 NATURAL GAS MAIN AND SERICE PIPING REMOVAL

A. Locate and identify alignment of abandoned natural gas main and service lines on site and connection to Utility within right-of-away utilizing Digger's Hotline and Utility Owner information. New active natural gas main crosses under abandoned main and shall be protected from damage.

B. Uncover connection of utility at property line unless manhole or valve box exists.

C. Remove abandoned natural gas main and service piping in their entirety by trench excavation method. Contractor shall not "pull" pipe as method of removal without excavation.

3.4 BACKFILL AND COMPACTION

A. Mechanically compact backfill by means of tamping roller, sheepsfoot roller, pneumatic tire roller, vibrating roller, or other mechanical tampers. Impact, free-fall, or "stomping" type compaction equipment shall not be allowed.

B. Flooding or jetting of backfill for compaction purposes shall not be allowed.

C. Contractor shall furnish written notification to Construction Manager prior to start of work as to size and type of mechanical compaction equipment to be used.

D. Systematically backfill to allow for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

E. Maintain optimum moisture content of backfill materials to attain required compaction density.

F. Remove surplus backfill materials from site.

G. Place material for mechanically compacted backfill in lifts, which, prior to compaction, shall not exceed thickness specified below for type of compaction equipment used:
   1. Vibratory equipment including vibratory plate, vibratory smooth-wheel rollers, and vibratory pneumatic-tired rollers: maximum lift thickness two (2) feet.
   2. Rolling equipment, including sheepsfoot (both vibratory and nonvibratory), grid, smooth-wheel (nonvibratory), pneumatic-tired (nonvibratory), and segmented wheels: maximum lift thickness one (1) foot.
   3. Hand-directed mechanical tampers: maximum lift thickness of six (6) inches.

H. Gravel Material shall be compacted to a density of 95 percent modified proctor.

I. Excavated Material to be used for backfill shall be compacted to a density equal to adjacent undisturbed trench wall.

3.5 FIELD QUALITY CONTROL

A. Request inspection prior to placing backfill.

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B. Perform compaction testing in accordance with Section 31 23 17 – Site Excavation, Backfill, and Compaction.

C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

END OF SECTION

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SECTION 03 31 00

STRUCTURAL CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Structural Concrete.
2. Admixtures.
3. Formwork, shoring, bracing, and anchorage.
4. Concrete reinforcement and accessories.

B. Work Installed But Furnished Under Other Sections:
1. Division 05 - Metals.

C. Related Sections:
1. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.
2. Division 31 – Earthwork.

1.2 REFERENCES

A. Incorporated Guides and References:
1. American Concrete Institute (ACI):
a. ACI 302.1R – Guide for Concrete Floor and Slab Construction.
b. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
c. ACI 304.2R - Placing Concrete by Pumping Methods.
d. ACI 305R - Hot Weather Concreting.
e. ACI 309R – Guide for the Consolidation of Concrete.
f. ACI 347 – Guide to Formwork for Concrete.
g. ACI SP-66 – ACI Detailing Manual.

B. Specifications:
1. American Concrete Institute (ACI):
a. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials.
b. ACI 301 - Specifications for Structural Concrete.
c. ACI 303.1 – Specification for Cast-In-Place Architectural Concrete.
d. ACI 306.1 – Specification for Cold Weather Concreting.
e. ACI 308.1 – Specification for Curing Concrete.
f. ACI 315 - Details and Detailing of Concrete Reinforcement.
g. ACI 318 - Building Code Requirements for Structural Concrete and Commentary.
2. ASTM International (ASTM):
a. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.

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b. ASTM A615 – Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
c. ASTM A775 – Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
d. ASTM A934 – Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
e. ASTM A1044 – Standard Specification for Steel Stud Assemblies for Shear Reinforcement of Concrete.
f. ASTM C33 – Standard Specification for Concrete Aggregates.
g. ASTM C94 – Standard Specification for Ready-Mixed Concrete.
h. ASTM C150 – Standard Specification for Portland Cement.
i. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.
j. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete.
k. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for use in Concrete.
l. ASTM C1602 – Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.
m. ASTM D3963 – Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars.

1.3 SUBMITTALS

A. Submit proposed mix design of each class of concrete to Engineer not later than 10 days after Notice to Proceed or 15 days prior to the first concrete placement, whichever comes first.

B. Submit shop drawings of reinforcing steel under provisions of Division 01 – General Requirements.
1. Initial submittal of reinforcement shop drawings shall be complete. No partial submittals will be accepted.
2. Indicate reinforcement sizes, spacings, locations and quantities of reinforcing steel, bending and cutting schedules, splicing, supporting and spacing devices.
3. Reinforcement placement shop drawings for foundations and walls shall conform to ACI SP-66 providing full wall elevations.

C. Material Certificates: For each of the following, signed by the manufacturers:
1. Cementitious materials.
2. Admixtures.

D. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
1. Aggregates.

1.4 QUALITY ASSURANCE

A. Perform work in accordance with ACI 301, 305R, and 306.1.

B. Maintain copy of ACI 301 on site.

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C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

1.5 REGULATORY REQUIREMENTS

A. Conform to requirements of local, state and federal rules and regulations applicable to Work and Project location.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Cold Weather Concreting
   1. Placement and curing of concrete where (1) average daily temperature for three consecutive days is less than 40 degrees F, and (2) air temperature is not greater than 50 degrees F for more than one-half of a 24-hour period from midnight to midnight shall be in accordance with ACI 306.1.

B. Hot Weather Concreting
   1. Placement and curing of concrete subject to a combination of (1) rising air temperature (generally greater than 75 degrees F) and (2) wind and low relative humidity shall be in accordance with ACI 305R.
   2. Contractor shall provide plan for minimizing exposure of concrete to adverse conditions due to combinations of high air temperature, direct sunlight, drying winds, and high concrete temperature.
   3. Protect concrete from rapid temperature drop.
   4. Pre-wet subgrade and forms.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

A. Plywood Forms: Douglas Fir or Spruce-Pine-Fir species: Sound, undamaged sheets with clean true edges, exterior glue, facing material to provide finish specified.

B. Lumber: Douglas Fir or Spruce species; construction grade or better; with grade stamp clearly visible.

C. Preformed Steel Wall Forms: Minimum 16 gage thick, Vertically and horizontally matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and surface appearance.

D. Form Ties For Exposed Surfaces: Plastic cone snap ties with 1-inch outside diameter by 1-inch (nominal) long cones, with no metal within 1-inch of concrete face after removal;
   1. Manufacturers:
      a. Advance Concrete Formwork, Inc.
      b. Dayton Superior.
      c. Symons - A Dayton Superior Company.

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d. Williams Form Engineering Corporation.
e. Substitutions: As approved by Engineer.

2.2 REINFORCING STEEL

A. Reinforcing Steel: ASTM A615, 60 ksi yield grade carbon steel deformed bars; epoxy coated in accordance with ASTM A775, finish.

B. Reinforcement Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete.

2.3 HEADED SHEAR REINFORCEMENT

A. Manufacturers:
1. Dayton Superior - DSR System.
2. Decon USA - Studrails.
3. Dywidag Systems International - Dywidag Shear System.
4. Substitutions: As approved by Engineer.

B. Headed shear stud reinforcement used to resist punching shear in concrete retaining wall shall be fabricated in accordance with ASTM A1044.

C. Shear studs shall be fabricated from low carbon steel plating, grade designations from 1010 thru 1020, in accordance with ASTM A108;
1. Strength Requirements (Minimum);
a. Yield Strength: 51,000 psi.
b. Tensile Strength: 65,000 psi.
c. Elongation in 2 inches: 20 percent.

2.4 CONCRETE MATERIALS

A. Cementitious Materials
1. Portland Cement: ASTM C150, gray color, Type I except as specified below.
2. Fly Ash: ASTM C618, Class C.

B. Fine and Coarse Aggregates: ASTM C33.

C. Water: ASTM C1602, clean and not detrimental to concrete.

2.5 ADMIXTURES

A. Admixtures to be used in the concrete mixture shall be submitted to the Engineer for approval as part of the mixture design.

B. Chemical admixtures shall be in accordance with ASTM C494.

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C. Admixtures shall be used in accordance with manufacturer's written recommendations.

D. Admixtures containing chlorides, sulfides, or nitrides are not permitted.

E. Admixtures permitted shall be supplied by a single manufacturer for project.

F. Air Entrainment Admixture: ASTM C260;
   1. Manufacturers:
      a. Axim Italcementi Group.
      b. BASF Admixtures, Inc.
      c. Grace Construction Products.
      d. The Euclid Chemical Company.
      e. Substitutions: As approved by Engineer.

2.6 ACCESSORIES

A. Form Release Agent: Colorless material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating, intended for use on concrete;
   1. Manufacturers:
      a. BASF Construction Chemicals, LLC - Building Systems: Castoff.
      b. Dayton Superior - Clean Strip Ultra (J-3).
      c. W.R. Meadows - Duogard.
      d. Substitutions: As approved by Engineer.

B. Anti-Graffiti Coating: Non-specified, single component siloxane coating. Clear in color. Product to be designed for direct application to bare concrete.
   1. Manufacturers:
      a. Sherwin Williams – Anti-Graffiti Coating.
      b. Substitutions: As approved by Engineer.

2.7 CONCRETE MIXTURE

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture of field test data, or both, according to ACI 301.

B. Mix concrete in accordance with ASTM C94.

C. Concrete mix designs shall be designed and submitted in accordance with Division 01 and included as part of cost of this Work.

D. Mix designs shall be prepared by a qualified agency acceptable to Engineer. Six (6) copies of mix designs shall be submitted for Engineer's review prior to placing any concrete.

E. Mix design shall indicate brands, types, and quantities of admixtures included, compressive strength, slump, sieve analysis for fine and coarse aggregate, quantities of all ingredients, type and brand of cement, source of aggregate, whether fine aggregate is natural or manufactured.

F. Design of mix shall assure placing and finishing characteristics that meet Project requirements.

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G. Mix designs contained in the Schedule of Mixes may be modified and submitted to Engineer for approval, by use of mid or high range water reducing admixtures to control slumps required for pumping of concrete. Strength, placing and finishing requirements shall be maintained.

H. Concrete mixtures placed directly over vapor retarders shall be designed to have low shrinkage characteristics and designed to minimize slab curling.

I. Initial and final set times of concrete mix designs shall be coordinated between the contractor and concrete supplier.

2.8 SCHEDULE OF MIXES

A. Footings: Proportion normal-weight concrete mix as follows:
   1. Compressive Strength (28 Days): 4000 psi.
   2. Maximum Aggregate Size: 1-1/2 inches.
   3. Maximum Water-Cement Ratio: 0.50.

B. Beams: Proportion normal-weight concrete mix as follows:
   1. Compressive Strength (28 Days): 4000 psi.
   2. Maximum Aggregate Size: 3/4 - inch.
   3. Air Entrainment: 6 percent air content is required with an acceptable air content of plus or minus 1.5 percent.

C. Foundation Walls: Proportion normal-weight concrete mix as follows:
   1. Compressive Strength (28 Days): 4000 psi.
   2. Maximum Aggregate Size: 3/4 - inch.
   3. Air Entrainment: 6 percent air content is required with an acceptable air content of plus or minus 1.5 percent.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits stated below.

C. Verify lines, levels, and measurement before proceeding with formwork.

D. Earth forms are not permitted.

E. Align form joints.

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F. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

G. Provide chamfer strips for all exposed concrete corners of formwork.

3.2 REINFORCEMENT

A. Place, support, and secure reinforcement against displacement.

B. Locate reinforcing splices as shown on Drawings.

C. Cut ends of epoxy coated rebars shall be coated with epoxy material equivalent to factory coating.

D. Damage to rebar coating as a result of bending shall be repaired with equivalent coating.

3.3 PLACING CONCRETE

A. Notify Engineer a minimum of 48 hours prior to commencement of concreting operations.

B. Failure to notify Engineer may result in rejection of concrete placed without observation.

C. Place concrete in accordance with ACI 301.

D. Place pumped concrete in accordance with ACI 304.2R. Line coating mix to initiate pumping shall not be used in pour but shall be wasted.

E. Ensure reinforcement and embedded items are not disturbed during concrete placement.

F. Concrete with excessive honeycomb or embedded debris shall be rejected and replaced at no cost to OWNER.

G. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures and mechanical injury.

H. Placing During Hot Weather:
   1. Place concrete during hot weather conditions in accordance with ACI 305R.

I. Placing During Cold Weather:
   1. Place concrete during cold weather conditions in accordance with ACI 306.1.

J. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.4 REPAIR OF VERTICAL SURFACE DEFECTS

A. Upon stripping of forms, vertical surfaces shall be inspected for defects caused by surface air voids, honeycombing, form tie holes, peeling, and fins.

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B. Surface air voids shall be repaired with a unit packaged mixture of sand and cement mixed on job site with water and a unit of acrylic. Mixture shall be brushed uniformly on to surface and into voids. Where surface is to be exposed, surface finish of repair shall match adjacent surface.

C. Honeycombed and other defective concrete shall be removed down to sound concrete and patched to match adjacent surfaces.

3.5 FINISHING OF FORMED SURFACES

A. After removal of forms and repair of defects, surfaces of concrete shall be given finishes specified below.

B. Rough Form Finish: Surface left with texture imparted by forms; form facing material not specified; tie holes and defects (see General Notes on Sheet 8 of 13) shall be patched.

C. Tops of walls or buttresses, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed and shall be floated to a texture reasonably consistent with that of formed surface.

3.6 COATING OF FINISHED SURFACES

A. Apply anti-graffiti coating to all exposed surfaces of concrete retaining wall.
   1. Prep concrete surface with 3,000 psi pressure washer, per manufacturer's requirements.
   2. Apply coating as directed by manufacturer. Application to be consistent, free of defects and drips.

3.7 TOLERANCES

A. All tolerances for concrete work shall be in accordance with ACI 117.

3.8 FIELD QUALITY CONTROL

A. Testing and analysis of concrete shall be performed under provisions of Division 01.

B. Testing firm will cast test cylinders and perform slump and air entrainment tests in accordance with ACI 301.

C. Three concrete test cylinders shall be cast from each increment of 100 cubic yards of each class of concrete placed each day or from each placement of each class if less than 100 cubic yards.

D. During hot or cold weather, as defined in Section 1.6, one additional test cylinder shall be cast from each increment of 100 cubic yards of each class of concrete placed each day or from each pour of each class if less than 100 cubic yards and be cured on site under same conditions as concrete it represents.

E. One slump test will be taken for each set of tests cylinders cast and whenever consistency of concrete appears to vary.

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F. No water may be added to the concrete at the site unless pre-approved in writing by the Engineer for that specific mix. If pre-approved, the mix ticket must state how much water may be added.

END OF SECTION

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SECTION 05 52 00

METAL RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Steel tube railings, balusters, fittings, and paint finish.

B. Related Sections:
1. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.
2. Section 03 31 00 - Structural Concrete: Execution requirements for placement of anchors specified in this section in concrete.

1.2 REFERENCES

A. ASTM International (ASTM):
1. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
4. ASTM A513 - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

B. National Ornamental and Miscellaneous Metals Association (NOMMA):
1. NOMMA Guideline 1 - Joint Finishes.

C. The Society for Protective Coatings (SSPC):
1. SSPC - Steel Structures Painting Manual.
2. SSPC Paint 15 - Steel Joist Shop Primer/Metal Building Primer.
3. SSPC Paint 20 - Zinc-Rich Coating, Type I - Inorganic and Type II - Organic.

1.3 DESIGN REQUIREMENTS

A. Design handrail, guardrail, and attachments to resist forces as required by applicable code. Apply loads non-simultaneously to produce maximum stresses.
1. Guard Top Rail and Handrail Concentrated Load: 200 pounds applied at any point in any direction.
2. Intermediate Rails, Panels, and Baluster Concentrated Load: 50 pounds applied to 1 sf area.

1.4 SUBMITTALS

A. Division 01 – General Requirements: Submittal requirements.

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B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.5 QUALITY ASSURANCE

A. Finish joints in accordance with NOMMA Guideline 1.

1.6 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 STEEL RAILING SYSTEM COMPONENTS

A. Tubing: ASTM A513, Type 5, minimum 50 ksi yield strength.

B. Rails and Posts: 2-inch square steel tubing; welded joints.

C. Balusters: 1-inch square steel tubing; welded joints.

D. Mounting: Brackets and flanges, with steel inserts for casting in concrete.

E. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.

F. Splice Connectors: Steel concealed spigots.

G. Galvanizing: ASTM A123; hot dip galvanize after fabrication.

H. Touch-Up Primer for Galvanized Surfaces: SSPC Paint 20 Type I Inorganic zinc rich.

I. Shop Primer: SSPC Paint 15, Type 1, red oxide.

J. Touch-Up Primer: Match shop primer.

2.2 FABRICATION

A. Fit and shop assemble components in largest practical sizes for delivery to site.

B. Fabricate components with joints tightly fitted and secured. Furnish spigots and sleeves to accommodate site assembly and installation.

C. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

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E. Exterior Components: Continuously seal joined pieces by continuous welds.

F. Interior Components: Continuously seal joined pieces by continuous welds.

G. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

H. Accurately form components to each other.

I. Accommodate for expansion and contraction of members without damage to connections or members.

2.3 COATING COMPONENTS

A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
   1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
   2. For good flow and brushing properties.
   3. Capable of drying or curing free of streaks or sags.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.

C. Verify surfaces are ready to receive primer and paint as instructed by product manufacturer.

D. Test shop applied primer for compatibility with subsequent cover materials.

E. Steel – Galvanized:
   1. One coat galvanize primer.
   2. Two coats of alkyd enamel, semi-gloss.
   3. Color: Black.

2.4 PREPARATION

A. Surfaces: Correct defects and clean surfaces capable of affecting coating application.

B. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

C. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by power tool wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

D. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

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2.5 APPLICATION

A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

B. Apply each coat to uniform appearance.

C. Sand metal surfaces lightly between coats to achieve required finish.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

2.6 CLEANING

A. Division 01 – General Requirements: Final cleaning.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Division 01 – General Requirements: Coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete with setting templates, to appropriate sections.

3.3 INSTALLATION

A. Install components plumb and level, accurately fitted, free from distortion or defects.

B. Conceal bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

C. Assemble with spigots and sleeves to accommodate tight joints and secure installation.

3.4 ERECTION TOLERANCES

A. Division 01 – General Requirements: Tolerances.

B. Maximum Variation From Plumb: 1/8 inch.

C. Maximum Offset From Alignment: 1/4 inch.

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D. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

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SECTION 31 02 00

GENERAL REQUIREMENTS FOR SITEWORK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section governs only technical specifications related to site work construction.

B. Section Includes:
1. Definitions.
2. Field Engineering.
3. Pre-installation Meeting.
4. Submittal Procedures.
5. Traffic Control Plan.
6. Quality Control Requirements.
7. Erosion and Sediment Control.
8. Proposed Products List.
9. Product Requirements.
10. Project Closeout Procedures.

C. Related Divisions:
1. Division 02 – Existing Conditions.
2. Division 31 – Earthwork.
3. Division 32 – Exterior Improvements.

1.2 DEFINITIONS

A. Field Engineering: Contractor's establishment of elevations, lines, and levels as indicated on Drawings, utilizing recognized engineering survey practices.

B. Pre-installation Meeting: Meeting to discuss a product or material, typically complex in nature, and review manufacturer's precautions, restrictions, and installation procedures.

C. Demonstration and Training Meeting: Contractor and/or manufacturer representative administered demonstration and training sessions for Owner for each portion of equipment and products that are required to have training in proper operation and maintenance.

D. Submittal Procedures: Specified requirements regarding procedures related to submission of product data, Shop Drawings, manufacturer's certificates, and substitutions.

E. Traffic Control Plan: Plan developed consistent with Manual on Uniform Traffic Control Devices (MUTCD).

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F. Quality Control: Inspection, analysis, and other relevant actions taken to provide control over what is being done, manufactured, or fabricated, so that a desirable level of quality is achieved and maintained during duration of the Work.

G. Erosion and Sediment Control: Enforcement of state law and city or county ordinance for erosion and sediment control including installation, maintenance, and regular Contractor inspection and repair.

H. Proposed Product List: Prepared listing of all materials and products intended to be used for site work related to sewer and water utilities, aggregates, and soils, and pavement mix designs.

I. Product Requirements: Product information regarding manufacturer's data, preparation, fabrication, conveying and erection of Work including material, machinery, components, equipment, fixtures, and systems incorporated in Work.

J. Project Closeout Procedures: Process that provides acceptance of project by Owner and Engineer/Architect including verification and documentation of required project records, and retention of other essential project documentation.

1.3 FIELD ENGINEERING

A. Employ Land Surveyor registered in State of Wisconsin and acceptable to Owner.

B. Contractor shall locate and protect survey control and reference points. Promptly notify Owner of discrepancies discovered.

C. Control datum for survey is that established by Owner provided survey.

D. Verify setbacks and easements; confirm drawing dimensions and elevations.

E. Provide required field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Maintain complete and accurate log of control and survey work as Work progresses.

G. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

H. Promptly report to Owner loss or destruction of reference point or relocation required because of changes in grades or other reasons.

I. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Owner.

J. A Registered Land Surveyor shall replace damaged property corners at Contractor's expense.

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1.4 PREINSTALLATION MEETING

A. When required in individual specification sections, convene preinstallation meeting at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify Owner four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of installation, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with copies to Owner, Engineer, Architect, Construction Manager, and those affected by decisions made.

1.5 SUBMITTAL PROCEDURES

A. Contractor shall provide Engineer specific submittal information regarding products and materials of this specification section with extended permission of Architect.

B. Submit Shop Drawings and product data covering identified equipment and materials that will become a permanent part of Work to Engineer for review.

C. Shop Drawings and product data shall include drawings, descriptive information, and sufficient detail to show kind, size, arrangement, and operation of component materials and devices needed for installation and coordination with other materials and equipment.

D. All submittals, regardless of origin, shall be stamped with approval of Contractor and identified with name of the Project, Contractor's name, and references to applicable specification sections and Drawings.

E. Each submittal shall indicate intended use of item in Work. When manufacturer data sheets are submitted, clearly identify applicable items and cross out inapplicable data.

F. Manufacturer's data sheets shall be current and include issue number and date.

G. Contractor's stamp of approval is a representation to Engineer that Contractor accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, and that Contractor reviewed and coordinated each submittal with requirements of the Work.

H. Contractor shall accept full responsibility for completeness of each submission. When an item consists of components from several sources, Contractor shall submit a complete initial submittal including all components.

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I. Identify deviations from Specifications and Drawings on each submittal and tabulate in Contractor's letter of transmittal. Such submittals shall indicate details of proposed changes, including modifications to other facilities that may result from deviation, and required piping and wiring diagrams.

J. Submit one electronic file of each drawing and necessary data to Engineer. Engineer will return one marked electronic file to Contractor.

K. Engineer will not accept submittals from anyone but Contractor.

L. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades.

M. Review of Shop Drawings and Product Data:
   1. Engineer's review of Shop Drawings and product data will cover only general conformity to Drawings and Specifications, external connections, and dimensions that affect layout. Engineer's review does not indicate a thorough review of all dimensions, quantities, and details of material, equipment, device, or item shown.
   2. Engineer's review shall not relieve Contractor of Contractor's responsibility for errors, omissions, or deviations in drawings and data, or of sole responsibility for compliance with the Work.
   3. Engineer's submittal review period shall be a maximum of fifteen (15) calendar days from date of submittal or resubmittal.
   4. When Shop Drawings and data are returned marked "NOT ACCEPTABLE" or "RETURNED FOR CORRECTION", Contractor shall make corrections as noted by Engineer and resubmit corrected electronic file.
   5. When Shop Drawings and product data are returned marked "EXCEPTIONS NOTED" or "APPROVED AS SUBMITTED", no additional revised files need be submitted unless requested by Engineer at time of review.

N. Re-submittal of Shop Drawings and Product Data:
   1. Contractor shall accept full responsibility for completeness of each re-submittal.
   2. Contractor shall verify that resubmittal provides all corrected data and additional information previously requested by Engineer.
   3. When corrected files are re-submitted, Contractor shall indicate in writing revisions made.
   4. Requirements specified for initial submittals also apply to re-submittals.
   5. Re-submittals shall bear number of first submittal followed by a letter (A, B, etc.) to indicate sequence of re-submittal.
   6. Make re-submittals within fifteen (15) days of date of letter returning material to be modified or corrected.

O. Substitutes and "Or-Equal" Items:
   1. Whenever a material or article is specified or described by using a single name of a

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proprietary product or a single name of a particular manufacturer or vendor, specified item mentioned shall be understood as establishing type, function, and quality desired.

2. Whenever two or more names of proprietary products or particular manufacturers or vendors are used, it shall be understood that products of one named supplier shall be furnished with no options or substitutions allowed.

1.6 TRAFFIC CONTROL PLAN

A. Submit a traffic control plan for construction in public right-of-way in accordance with Part VI of "Manual on Uniform Traffic Control Devices."

B. Data to be included on a traffic control plan will vary depending upon complexity of project, volume of traffic affected, and roadway geometrics where construction is being performed.

C. Traffic control plan must clearly depict exact sequence of construction operation(s), construction to be performed, and traveled way that will be utilized by all movements of traffic during each phase of construction.

D. Multiple phases of construction will require a separate traffic control plan for each different construction phase or operation.

1.7 QUALITY CONTROL REQUIREMENTS

A. Construction Notification:

1. Contractor shall be responsible for locating existing underground installations in advance of excavating or trenching by contacting local utility identification agency.

B. Licenses, Permits, and Certificates:

1. All licenses, permits, and certificates, required for, and in connection with site and utility work shall be secured by Contractor at their sole cost and expense.
2. Contractor will be required to pay any permit fees for required for utility work.
3. Contractor shall comply with all requirements and recommendations of authority or authorities issuing license, permit, or certificate.

C. Easements and Rights-of-Way:

1. Contractor will confine construction operations to areas designated on Drawings or identified by Engineer.
2. Contractor shall use care in placement of construction tools, equipment, excavated materials, pipe materials, and supplies so as to minimize damage to property and minimize interference with the public.

D. Protection of Property:

1. Contractor shall protect from damage or injury all property including survey monuments, property markers, and benchmarks. Items damaged shall be replaced or

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repaired at Contractor's expense.

2. Locate existing utilities and utility services in advance of excavation and protect against damage. Changes in grade and alignment may be made to Work to avoid conflicts with existing structures if approved by Engineer.

E. Reference Standards:

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean latest edition of appropriate standard, specification, manual, code, law, or regulation in effect on date of first advertisement for the Work, unless specifically stated otherwise in Contract Documents.
2. Should there be a conflict in Reference Standards, Contractor shall request clarification from Engineer before proceeding.

F. Compaction and Gradation Testing:

1. Contractor shall provide and pay for compaction and gradation testing by an Owner approved independent testing laboratory.
   a. Make two initial gradation tests for each type of bedding and backfill material, and make one additional gradation test for each additional 500 tons of each material.
   b. Moisture-density (Proctor) tests and relative density tests on materials, and in-place field density tests, shall be made at intervals determined by Engineer.
   c. Perform compaction testing in accordance with procedures specified in Section 31 23 17 – Site Excavation, Backfill, and Compaction and Section 32 11 23 – Aggregate Base Course.

G. Traffic Control - General:

1. Protect streets, roads, highways, and other public thoroughfares that are to be temporarily closed or restricted for traffic flow by effective barricades equipped with operational warning signals.
2. Locate barricades at nearest intersecting public highway or street on each side of blocked section.
3. Cover open trenches and other excavations with steel plates and have suitable barricades, signs, and lights to provide adequate protection to the public. Provide obstructions such as material piles and equipment with similar warning signs and lights.

H. Maintenance of Traffic:

1. Maintain effected traffic areas throughout duration of construction, in accordance with local, state, or federal requirements which govern Work area.
2. Contractor is responsible for maintaining traffic.

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3. Contractor shall conduct work to minimize interference with traffic, vehicular or pedestrian.
4. Contractor shall obtain and pay for any permit required by local authority for areas where traffic will be obstructed.
5. Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary measures for accommodating public and private travel.
6. Contractor shall provide at least twenty-four (24) hours notice to owners of private drives before performing Work which would obstruct safe passage by drive owner.
7. Illuminate barricades and obstructions with warning lights from sunset to sunrise.
8. Store material storage and perform Work on or alongside public streets and highways to minimize obstruction and inconvenience to public.

I. Traffic Control Devices:
1. Contractor shall provide barricades, cones, construction warning signs, flagmen, and incidental devices to protect personnel and equipment on the Work site.

1.8 EROSION AND SEDIMENT CONTROL

A. Comply with requirements specified in Section 31 25 13 – Erosion Controls, and as indicated on Drawings.

1.9 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.10 PRODUCT REQUIREMENTS

A. Products include material, equipment, and systems.

B. Comply with specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification section shall be same, and shall be interchangeable.

D. Do not use materials and equipment removed from existing structure, except as specifically required or allowed by Contract Documents.

E. Products Specified by Reference Standards or by Description Only: Furnish any product meeting those standards.

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F. Products Specified by Naming Two or More Manufacturers: Furnish products of one named manufacturer meeting specifications; no options or substitutions allowed.

G. Products Specified by Naming One or More Manufacturers or with a Provision for Substitutions: Submit a request for substitution of a proposed equal.

1.11 PROJECT CLOSEOUT PROCEDURES

A. Project Records Documents:
1. Contractor shall maintain, on site, one set of the following record documents:
   a. Drawings.
   b. Specifications.
   c. Approved Shop Drawings.
   d. Product data.
   e. Samples.
2. Contractor shall store Record Documents separate from documents used for construction.
3. Contractor shall record actual revisions to the Work and maintain information concurrent with construction progress.
4. Contractor shall legibly mark each item to record actual construction including:
   a. Measured horizontal and vertical locations of new utilities and existing underground utilities and appurtenances referenced to permanent surface improvements.
   b. Field changes of dimensions and Drawing details.
   c. Details not on original Drawings.
5. Submit Record Documents to Owner at Final Inspection, including:
   a. Project Drawings.
   b. Survey notes.
   c. Approved submittals.
   d. Operation and Maintenance Manuals.

PART 2 – PRODUCTS - (Not Used)

PART 3 – EXECUTION - (Not Used)

END OF SECTION

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SECTION 31 05 13

SOILS FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Subsoil materials.
2. Topsoil materials.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 02 41 13 – Site Demolition.
3. Section 31 05 16 – Aggregates for Earthwork.
4. Section 31 10 00 - Site Clearing.
5. Section 31 23 17 – Site Excavation, Backfill, and Compaction.
6. Section 31 25 13 - Erosion Controls: Slope protection and erosion control.
7. Section 32 90 00 – Planting.
8. Section 32 91 19 - Landscape Grading.

1.2 REFERENCES

A. State of Wisconsin Department of Transportation
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT)

B. ASTM International (American Society for Testing and Materials)
1. ASTM D2487 - Classification of Soils for Engineering Purposes (Unified Soil Classification System).
2. ASTM D5268 – Topsoil Used for Landscaping Purposes.

1.3 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Product Data: Submit testing laboratory results for each type of specified soil.

C. Materials Source: Submit name of source of imported materials.

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1.4 QUALITY ASSURANCE

A. Perform Work in accordance with Wisconsin Department of Transportation standards.

PART 2 - PRODUCTS

2.1 SUBSOIL MATERIALS

A. Subsoil Type S1:
1. Excavated and re-used material.
2. Graded.
3. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.

B. Subsoil Type S2:
1. Imported borrow.
2. Graded.
3. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
4. Imported subsoil and borrow shall be similar in composition when compared to existing site subsoil.
5. Contractor shall provide 10 lb sample of proposed imported borrow material to laboratory for soil classification analysis conforming to ASTM D2487.

2.2 TOPSOIL MATERIALS

A. Topsoil Type T1:
1. Excavated and reused material.
2. Graded.
3. Soil shall be free of roots, twigs, stones, subsoil, debris, weeds, and foreign matter larger than 1/2 inch.
4. Topsoil shall be evaluated in accordance with ASTM D5268.

B. Topsoil Type T2:
1. Imported borrow.
2. Friable loam.
3. Soil shall be free of roots, twigs, stones, subsoil, debris, weeds, and foreign matter larger than 1/2 inch.
4. Acidity range (pH) of 5.5 to 7.5.
5. Containing minimum of 4 percent and maximum of 25 percent inorganic matter.
6. Limit decaying matter to 5 percent of total content by volume.
7. Topsoil shall be evaluated in accordance with ASTM D5268.
8. Contractor shall provide 10 lb sample of proposed imported borrow material to laboratory for soil classification analysis conforming to ASTM D2487.

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2.3 SOURCE QUALITY CONTROL

A. Section 31 02 00 – General Requirements for Sitework: Testing and analysis of soil material.

B. Testing and Analysis of Topsoil Material designated for Landscaping Purposes: Perform in accordance with ASTM D5268.

C. When tests indicate materials do not meet specified requirements, change material and retest.

D. Furnish materials of each type from same source throughout the Work.

PART 3 – EXECUTION – (Not Used)

END OF SECTION

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SECTION 31 05 16

AGGREGATES FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Aggregate materials and designations for structure aggregate base course.
2. Aggregate materials and designations for pavement aggregate base course.
3. Aggregate materials and designations for backfill.
4. Aggregate materials and designations for grading purposes.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 02 41 13 – Site Demolition.
3. Section 31 05 13 – Soils for Earthwork.
4. Section 31 23 17 – Site Excavation, Backfill, and Compaction.
5. Section 31 25 13 - Erosion Controls: Slope protection and erosion control.
6. Section 32 11 23 - Aggregate Base Course.
7. Section 32 91 19 - Landscape Grading.

1.2 REFERENCES

A. ASTM International:
1. ASTM C33 – Standard Specification for Concrete Aggregates.
2. ASTM C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

B. State of Wisconsin Department of Transportation:
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT).

1.3 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Product Data: Submit gradation information for each type of aggregate specified. Gradation results shall be taken within the past (3) months from contract date.

C. Materials Source: Submit name of source of imported materials.

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1.4 QUALITY ASSURANCE

A. Perform Work in accordance with Wisconsin Department of Transportation standards.

PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

A. Aggregate Type A1 (Gravel): Crushed Gravel: free of organic matter and debris; graded in accordance with:
   1. WISDOT 3/4-Inch Gradation.

B. Aggregate Type A2 (Gravel): Crushed Gravel: free of organic matter and debris; graded in accordance with:
   1. WISDOT 1-1/4-Inch Gradation.

C. Aggregate Type A3 (Recycled): Crushed Concrete; free of from wood, steel, roots, bark or other extraneous material; graded in accordance with:
   1. WISDOT 1-1/4-Inch Gradation.

D. Aggregate Type A9 (Granular Fill): Natural gravel/stone; free of clay, shale, organic matter; graded in accordance with:
   1. WISDOT 3-Inch Gradation.

2.2 SOURCE QUALITY CONTROL

A. Section 31 02 00 – General Requirements for Sitework: Testing and analysis of aggregates.

B. When tests indicate materials do not meet specified requirements, change material or material source and retest.

C. Furnish materials of each type from same source throughout the Work.

PART 3 – EXECUTION – (Not Used)

END OF SECTION

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SECTION 31 10 00

SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Removal of grass and vegetation.
2. Removal of trees, shrubs, and other plant life.
3. Removal of site debris.
4. Clearing activities near existing permanent utilities and structures.
5. Protection of project entrances and exits.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 - General Requirements for Sitework shall govern Work under this Section.
2. Section 02 41 13 - Site Demolition: Removal of site demolition material.
3. Section 31 23 17 – Site Excavation, Backfill, and Compaction: Backfill and compaction of cleared areas.

1.2 REFERENCES

A. State of Wisconsin Department of Transportation
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT)

B. State of Wisconsin Department of Natural Resources (WDNR)
1. Construction Site Erosion & Sediment Control. (http://www.dnr.state.wi.us/runoff/stormwater/techstds.htm)

C. U.S. Environmental Protection Agency
1. Developing Your Stormwater Pollution Prevention Plan, A Guide for Construction Sites. http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf.

1.3 DEFINITIONS

A. Tree - Woody perennial plant, single main stem with trunk, diameter of 6 inches or greater. Multiple-stem trees with forks up to 4 feet from ground elevation shall be considered a cluster of trees. Trees that fork above 4 feet shall be considered a single tree.

B. Sapling - Woody perennial plant with single stem with trunk less than 6 inches in diameter.

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C. Root Zone - Area around a tree extending as far from tree base as longest horizontal branches.

D. Surface Water - Soil water that flows through ditch lines, creeks, and streams by gravity.

E. Grubbing - To clear project site by removing roots and stumps.

F. Clearing - Cutting down of bushes and trees and the digging and removal of their roots and stumps.

G. Clearing Limits - Area designated on Drawings scheduled for clearing operations within project site or right-of-way.

H. Herbicide - Post emergence type, used to kill entire plant or vegetation, including root system.

1.4 REGULATORY REQUIREMENTS

A. Contractor shall comply with local, state, and federal regulations applicable to Work of this Section.

B. Contractor shall comply with and be solely responsible for compliance with U.S. Department of Labor OSHA Part 1926 Safety and Health Regulations for Construction for this Work.

C. Contractor performing Work of this Section shall be solely responsible for identifying, furnishing, installing and maintaining equipment and materials required by State and Federal regulations to establish safe working conditions during Work of this Section.

D. Conform to applicable code for environmental requirements, disposal of debris, burning debris on site and use of herbicides.

E. Coordinate clearing Work with utility companies.

PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION

3.1 NOTIFICATION

A. Contractor, prior to any excavation work, shall notify (1) a designated locating service; (2) all utilities, governmental agencies, entities, known to, or which can reasonably be assumed to, have above or below ground pipe, conduit cables, structures, or similar items within limits of project; to locate and mark location of such items.

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B. In accordance with Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall be solely responsible to provide advance notice to “Diggers Hotline, Inc.” (800-242-8511) not less than three working days prior to commencement of any Excavation, as defined in the statute, required to perform work contained in this Project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

3.2 PREPARATION

A. Verify erosion control is in place prior to start of Work.

B. Verify that existing plant life designated to remain is tagged or identified and protected.

C. Identify a temporary waste area for placing removed materials.

3.3 PROTECTION

A. Maintain and repair damaged erosion control items throughout Work.

B. Protect utilities that remain, from damage.

C. Do not divert or relocate surface water without prior written approval from Owner’s Representative.

D. Protect trees, plant growth, and features designated to remain as final landscaping.

E. Protect benchmarks, survey control points, and existing structures from damage or displacement.

F. Keep entrances and exits, and adjacent roadways affected, free of debris from clearing operations.

3.4 CLEARING

A. Clear area required for access to site and execution of Work.

B. Remove trees and shrubs indicated. Remove stumps, root zone, main root ball, and root system to a depth of 24 inches.

C. Remove surface rock larger than 2 inches.

D. Clear undergrowth and deadwood, without disturbing subsoil.

3.5 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

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B. Notify Owner's Representative if underground storage tanks and piping is uncovered during Work.

C. Cease work in immediate area of tanks until direction is given to proceed.

END OF SECTION

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SECTION 31 23 17

SITE EXCAVATION, BACKFILL, AND COMPACTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Verification of subsurface conditions and utilities prior to excavation.
2. Saw cutting of pavements prior to excavation.
3. Excavation for structure foundation.
4. Excavation for slabs-on-grade.
5. Structure backfilling to subgrade elevations.
6. Backfill under slabs-on-grade.
7. Backfill for over-excavation corrections.
8. Consolidation and compaction.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 05 16 – Aggregates for Earthwork: Aggregate backfill materials.
3. Section 31 25 13 – Erosion Controls.
4. Section 32 11 23 – Aggregate Base Course: Preparation for aggregate base course.
5. Section 32 91 19 - Landscape Grading: Topsoil placement.

1.2 REFERENCES

A. ASTM International (American Society for Testing and Materials)
1. ASTM C518 - Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
2. ASTM C578 – Specification for Rigid, Cellular Polystyrene Thermal Insulation.
3. ASTM D698 - Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft.-lbf/ft^3.
4. ASTM D1557 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort 56,000 ft.-lbf/ft^3.
5. ASTM D2487 - Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
6. ASTM D6938 – Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

B. State of Wisconsin Department of Transportation
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT)

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1.3 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Provide certified analysis of material(s) to Engineer prior to any use on Work.

1.4 REGULATORY REQUIREMENTS

A. Contractor shall comply with all local, state, and federal regulations applicable to Work of this Section.

B. Contractor shall comply with and be solely responsible for compliance with U.S. Department of Labor OSHA Part 1926 Safety and Health Regulations for Construction for this Work.

C. Contractor performing Work of this Section shall be solely responsible for identifying, furnishing, installing and maintaining equipment and materials required by state and federal regulations to establish safe working conditions during Work of this Section.

PART 2 PRODUCTS

2.1 BEDDING AND BACKFILL MATERIALS

A. Crushed Gravel Backfill: Type A1 or A2 as defined in Section 31 05 16 – Aggregates for Earthwork.

B. Site Excavated Material (Spoil) Backfill: Type S1 as defined in Section 31 05 13 – Soils for Earthwork.

C. Imported Subsoil Material Backfill: Type S2 as defined in Section 31 05 13 – Soils for Earthwork.

2.2 AGGREGATE SLURRY BACKFILL

A. Place materials in a clean cement mixer truck and thoroughly mixed in following quantities:

1,350 lbs.	sand
775 lbs.	1-1/4 Inch stone
1,150 lbs.	3/4 Inch stone
25 gals.	(+0 to –0.5) water/cu.yd.

B. Lean concrete backfill shall conform to above with addition of a minimum of one bag of cement per cubic yard.

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PART 3 EXECUTION

3.1 NOTIFICATION

A. Contractor, prior to any excavation work, shall notify (1) a designated locating service; (2) all utilities, governmental agencies, entities, known to, or which can reasonably be assumed to have above or below ground pipe, conduit cables, structures, or similar items within limits of project; to locate and mark location of such items.

B. In accordance with Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall be solely responsible to provide advance notice to “Diggers Hotline, Inc.” (800-242-8511) not less than three working days prior to commencement of any Excavation, as defined in the statute, required to perform work contained in this Project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

3.2 SITE VERIFICATION

A. Verify that survey benchmark and intended elevations for Work are as indicated.

3.3 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the Work are as shown on Drawings.

B. Primary line and grade will be furnished by Owner and will be established by Engineer.

C. Contractor shall notify Owner 48 hours prior to its need for line and grade. Any cost as a result of delay experienced by Contractor due to its failure to adhere to this requirement shall be borne by Contractor.

D. Line and grade stakes will be set by Engineer, parallel to proposed work and offset there from in a manner that will best serve Contractor's work operations wherever practical. Contractor shall provide Engineer with desired offset.

E. Contractor shall render whatever assistance may be required by Engineer and shall arrange its work operations in such manner as to avoid interference with establishment of primary lines and grades.

F. Contractor shall check accuracy of line and grade stakes by means of visual and taping checks and shall be responsible for protection and preservation of such stakes.

G. Initial primary line and grade will be set by Engineer at no cost to Contractor. Cost of re-staking shall be borne by Contractor.

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H. Contractor shall bear sole responsibility for correct transfer of all construction lines and grades from primary line and grade points and for correct alignment and grade of finished structure, based upon primary line and grade established by Engineer.

I. Except for those lot corners and survey monuments that fall within trench excavation, Contractor shall be solely responsible for protection and/or replacement of all survey corners that exist throughout work area.

J. Corners will be located and marked by Engineer, upon request by Contractor, prior to commencing its work.

K. A Registered Land Surveyor shall replace damaged corners at Contractor's expense.

3.4 SAWING AND BREAKING PAVEMENT

A. Saw concrete pavement, slabs or bases to a minimum 1/2 of depth of existing pavement, slab, or base prior to removal.

B. Saw cut asphalt pavement full depth before removal.

C. Cut pavements evenly along edges of excavation prior to their removal in such a way as to avoid excessive removal or ragged, uneven edges.

3.5 PREPARATION FOR EXCAVATION

A. Identify required lines, levels, contours, and datum.

B. Stake and flag locations of known utilities.

C. Notify utility company to remove and relocate utilities that interfere with Work.

D. Protect above and below grade utilities indicated to remain.

E. Protect plant life, lawns and other features remaining as portion of final landscaping.

F. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

G. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type A2, as specified in Section 31 05 16 – Aggregates for Earthwork, fill and compact to density equal to or greater than requirements for subsequent backfill material.

3.6 FIELD QUALITY CONTROL FOR EXCAVATION

A. Field inspection will be performed under provisions of Section 31 02 00 – General Requirements for Sitework.

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B. Provide for visual inspection of bearing surfaces.

3.7 STRUCTURE EXCAVATION

A. Underpin adjacent structures that may be damaged by excavation work, including utilities and pipe chases.

B. Excavate subsoil required to accommodate site structures and construction operations.

C. Machine slope banks to angle of repose or less, until shored.

D. Excavation cut not to interfere with normal 45 degree bearing splay of foundation.

E. Grade top perimeter of excavation to prevent surface water from draining into excavation.

F. Hand trim excavation. Remove loose matter.

G. Remove lumped subsoil, boulders, and rock.

H. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

I. Correct unauthorized excavation at no extra cost to Owner.

J. Correct areas over-excavated in error.

K. Stockpile excavated material in area designated on site. Remove excess material not being reused, from site upon approval from Owner and environmental consultant.

3.8 PROTECTION

A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

3.9 EXAMINATION PRIOR TO BACKFILLING

A. Verify fill material to be reused are acceptable.

B. Verify foundation perimeter drainage installation has been inspected.

3.10 BACKFILLING

A. Backfill with materials and to contours and elevations shown on Drawings. Generally, compact subgrade to density requirements for subsequent backfill materials.

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B. Place specified backfill in loose lift layers. Use compaction equipment that will achieve desired compaction requirements.

C. Systematically backfill to allow for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

D. Where sidewall material is loose or unstable, place geotextile cloth material over sidewall prior to backfilling.

E. Employ a placement method that does not disturb or damage pipe in trench.

F. Maintain optimum moisture content of backfill materials to attain required compaction density.

G. Backfill simultaneously on each side of unsupported non-basement foundation walls.

H. Slope grade away from structure minimum 2 inches in 10 feet, unless noted otherwise.

I. Make grade changes gradual. Blend slope into level areas.

J. Leave fill material stockpile areas completely free of excess fill materials.

K. Remove surplus backfill materials from site.

3.11 MECHANICAL COMPACTION

A. Mechanically compact backfill by means of a tamping roller, sheepsfoot roller, pneumatic tire roller, vibrating roller, or other mechanical tampers. Impact, free-fall, or "stomping" type compaction equipment shall not be allowed.

B. Flooding or jetting of backfill for compaction purposes shall not be allowed.

C. Contractor shall furnish written notification to Owner’s Representative prior to start of work as to size and type of mechanical compaction equipment to be used.

D. Place material for mechanically compacted backfill in lifts, which, prior to compaction, shall not exceed thickness specified below for type of compaction equipment used:
   1. Vibratory equipment including vibratory plate, vibratory smooth-wheel rollers, and vibratory pneumatic-tired rollers: maximum lift thickness two (2) feet.
   2. Rolling equipment, including sheepsfoot (both vibratory and non-vibratory), grid, smooth-wheel (non-vibratory), pneumatic-tired (non-vibratory), and segmented wheels: maximum lift thickness one (1) foot.
   3. Hand-directed mechanical tampers: maximum lift thickness of six (6) inches.

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3.12 TOLERANCES FOR BACKFILL

A. Top Surface of Backfill: Plus or minus 1 inch from required elevations.

3.13 COMPACTION REQUIREMENTS

A. Granular Material shall be compacted to 95 percent of modified Proctor density.

B. Excavated Material to be used for backfill shall be compacted to a density equal to adjacent undisturbed trench wall or as specified.

3.14 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 31 02 00 - General Requirements for Sitework.

B. Testing and analysis of fill material will be performed in accordance with ASTM D698, ASTM D1557 and Section 31 02 00 - General Requirements for Sitework.

C. Compaction and moisture testing will be performed in accordance with ASTM D6938 and Section 31 02 00 - General Requirements for Sitework.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest at no cost to Owner.

3.15 PROTECTION OF FINISHED WORK

A. Reshape and recompact fills subjected to vehicular traffic.

B. Contractor shall have available a supply of steel plates with minimum dimensions of four (4) feet by eight (8) feet by one (1) inch.

C. During winter months, do not leave plates in roadway over night.

3.16 SCHEDULE OF BACKFILL

A. Section 31 05 16 – Aggregates for Earthwork defines “A” designated fill materials and Section 31 05 13 – Soils for Earthwork defines “S” designated fill materials.

B. Fill to Correct Over-Excavation:
   1. Aggregate Type A2 fill, flush to required elevation, compacted to 90 percent modified Proctor density.
   2. Lean concrete to minimum compressive strength of 1000 psi.

C. Foundations:
   1. Aggregate Type A1 fill. Place materials in continuous loose lifts layers not exceeding 7-inch depth, compacted to 95 percent modified Proctor density.

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D. Fill Under Driveways.

1. Aggregate Slurry Fill placed to 12 inches below finish grade, placed in continuous applications.

E. Fill Under Grass Area.

1. Subsoil Type S1 or S2 fill, to 6 inches below finish grade. Place materials in continuous loose lifts layers not exceeding 12-inch depth, compacted to 90 percent modified Proctor density.

F. Fill Under Landscaped Areas:

1. Subsoil Type S1 or S2 fill, to 18 inches below finish grade. Place materials in continuous loose lifts layers not exceeding 12-inch depth, compacted to 85 percent modified Proctor density.

END OF SECTION

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SECTION 31 25 13

EROSION CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Equipment and materials for erosion and sediment control to minimize erosion and siltation during construction.
2. Erosion and sediment control provisions detailed on Drawings and specified herein are minimum requirements for erosion control program.
3. Contractor to provide additional erosion and sediment control materials and methods required by state or local ordinances, whichever is more stringent.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 32 90 00 – Planting.

1.2 REFERENCES

A. ASTM International (American Society for Testing and Materials):
1. ASTM D4355 – Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.
2. ASTM D4491 – Test Methods for Water Permeability of Geotextiles by Permittivity.
3. ASTM D4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
4. ASTM D4751 - Test Method for Determining Apparent Opening Size of a Geotextile.

B. State of Wisconsin Department of Natural Resources (WDNR)
1. Construction Site Erosion & Sediment Control. http://www.dnr.state.wi.us/runoff/stormwater/techstds.htm

C. State of Wisconsin Department of Natural Resources – Conservation Practice Standards (WDNR - CPS);
1. Silt Fence: WDNR – CPS 1056.
2. Stone Tracking Pad and Tire Washing: WDNR – CPS 1057.
3. Storm Drain Inlet Protection for Construction Sites: WDNR – CPS 1060.

D. State of Wisconsin Department of Transportation
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT).
2. Erosion Control Product Acceptability Lists for Multi–Modal Applications. (PAL)

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E. U.S. Environmental Protection Agency

1. Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites.
http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf

F. City of Milwaukee

1. Chapter 290 Erosion Control of Milwaukee Code of Ordinances.

1.3 DEFINITIONS

A. Definitions shall be in accordance with Wisconsin Department of Natural Resources – Construction Practice Standards, as defined by each standard.

1.4 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Provide erosion control plan indicating proposed methods, materials, and schedule for effecting erosion and siltation control to prevent erosion damage to site and adjacent area.

C. Plan shall include following:

1. Proposed methods for erosion and siltation control.
2. Erosion plan scale of 1 inch equals 40 feet, indicating location of erosion control materials, siltation basins, etc.
3. Schedule for implementation of plan.
4. Provision for maintenance and upkeep of erosion control and siltation materials, identifying persons responsible for said maintenance.

1.5 REGULATORY REQUIREMENTS

A. Comply with City of Milwaukee ordinance for construction site erosion control.

B. Comply with applicable state and federal rules and regulations governing erosion and siltation on construction sites.

C. Permit

1. Apply for, pay fee, and obtain State stormwater discharge permit.
2. Prepare construction site erosion control plan, Consolidated Permit form, and submit form and current fee to Wisconsin Department of Natural Resources at least 14 working days prior to commencing land disturbing construction activities.
3. At completion of construction activity, file Notice of Termination.

1.6 EROSION CONTROL PRINCIPLES

A. Keep disturbed area small.

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B. Stabilize disturbed areas with mechanical or structural and vegetative methods.

C. Keep runoff low through use of short slopes, low gradients, and preservation of natural vegetative cover.

D. Protect disturbed areas from storm water runoff.

E. Retain sediment within site boundaries.

F. Implement a thorough maintenance and follow-up program.

PART 2 PRODUCTS

2.1 MATERIALS

A. Silt Fence: (WDNR – CPS 1056)

1. Provide temporary silt fencing designed to intercept and slow the flow of sediment-laden sheet flow runoff from areas of disturbed soil.
2. Fence Geotextile Fabric:
   a. Geotextile fabric shall consist of either woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene or polyvinylidene chloride.
   b. Non-woven fabric may be needle punched, heat bonded, resin bonded, or a combination of.
   c. All silt fence geotextile fabric shall meet the following requirements;

Test Requirement	Method	Value
Minimum Grab Tensile Strength In the Machine Direction	ASTM D4632	120 lbs.
Minimum Grab Tensile Strength In the Cross Machine Direction	ASTM D4632	100 lbs.
Maximum Apparent Opening Size Equivalent (Standard Sieve)	ASTM D4751	No. 30
Minimum Permittivity	ASTM D4491	0.05 scc^{-4}
Minimum Ultraviolet Stability Percent of Strength Retained after 500 Hours of Exposure.	ASTM D 4355	70%

   d. Silt fence shall have a maximum a maximum flow rate of 10 gallons/minute/square foot at 50mm constant head as determined by multiplying permittivity in 1/second as determined by ASTM D4491 by a conversion factor of 74.

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3. Silt Fence Supports: Silt fences shall be supported by either steel or wood supports specified as follows;
   a. Steel Supports:
      1) The full height of the silt fence shall be supported by steel posts at least 5 feet long with a strength of 1.33 pounds per foot and have projections for the attachment of fasteners.
   b. Wood Supports:
      1) The full height of the silt fence shall be supported by 1-1/8 inch by 1-1/8-inches air or kiln-dried posts of hickory or oak.

B. Stone Tracking Pad and Tire Washing: (WDNR – CPS 1057)
1. Tracking Pad:
   a. Tracking pad shall be installed prior to any construction traffic leaving the site.
   b. Aggregate for tracking pads shall be 3 to 6 inch clear or washed stone. All material to be retained in a 3-inch sieve.
2. Tire Washing:
   a. Tire wash rack shall consist of a heavy grating over a lowered area. The rack shall be strong enough to support the vehicles that will cross it.

C. Storm Drain Inlet Protection for Construction Sites: (WDNR – CPS 1060)
1. Inlet protection products are intended to intercept, pond and filter sediment-laden runoff. Protection systems include geotextile fabric and fabric hold-down systems.
2. Materials:
   a. Fabric Material: Type FF, Woven polypropylene.
   b. Physical Properties:

Test	Method	Value[1]
Grab Tensile Strength, (lb.)	ASTM D4632	200 lbs
Puncture Strength, (lb.)	ASTM D4833	105 lbs (Min.)
Apparent Breaking Elongation Machine Direction, %	ASTM D4632	24 (Min.)
Apparent Breaking Elongation Cross Direction, %	ASTM D4632	10 (Min.)
Apparent Opening Size	ASTM D4751	600 (Max.)
Permittivity	ASTM D4491	1.9 (Min.)

(1) All numerical values represent minimum/maximum average roll values (i.e., the average of minimum test results on any roll in a lot should meet or exceed the minimum specified values).

3. Contractor shall have the responsibility of providing identification of the fabric supplied for inlet protection units. Types of inlet protection systems include the following;
   a. Type A, shall be utilized around field inlets until permanent stabilization methods have been established. Type A inlet protection shall be utilized on

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pavement inlets prior to installation of curb and gutter or pavement.

b. Type C, shall be utilized on street inlets with curb heads. Provide a 2 inch x 4 inch minimum, piece of wood and wrap and attach fabric to wood. Place wood blocking and fabric over inlet with wood straddling inlet opening a minimum of 8 inches in each direction. Secure 2 x 4 inch board to grate with wire or plastic ties. Verify and secure wood blocking to rest on inlet grate and that fabric covers remaining curb head opening. Wood blocking shall not block entire inlet curb opening.

4. Manufactured bags, such as sand bags used as inlet protection devices shall conform the following minimum criteria;
   a. Minimum Size = 14 x 26 inches.
   b. Grab Tensile Strength of Fabric (ASTM D4632) = 95 lbs minimum.
   c. UV Stability (ASTM D4355) = 70 percent minimum.
   Note: To provide sufficient strength, fabric shall be sewn together with double stitching.

PART 3 EXECUTION

3.1 INSTALLATION

A. Silt Fence: (WDNR – CPS 1056)

1. When silt fence is installed as a stand-alone practice on a slope, silt fence shall be placed on the contour.
2. The parallel spacing shall not exceed the maximum slope lengths for the appropriate slope as follows:

Slope	Fence Spacing
<2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
>33%	20 feet

3. Silt fences shall not be placed perpendicular to the contour.
4. The ends of the silt fence shall be extended upslope to prevent water from flowing around the ends of the fence.
5. Installed silt fences shall be a minimum 14 inches high and shall not exceed 28 inches in height measured from the installed ground elevation.
6. Steel Supports:
   a. The full height of the silt fence shall be supported by steel posts at least 5 feet long with a strength of 1.33 pounds per foot and have projections for the attachment of fasteners.
   b. Silt fence shall be attached in at least 3 places on the support, on the upslope side with 50 pound plastic tie straps or wire fasteners.

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c. To prevent damage to the fabric from wire fastener, the protruding ends shall be pointed away from fabric.

7. Wood Supports:
   a. The full height of the silt fence shall be supported by 1-1/8 inch by 1-1/8-inches air or kiln-dried posts of hickory or oak.
   b. Silt fence fabric shall be stapled, using at least 0.5-inch staples, to the upslope side of the posts in at least 3 places.
   c. Wood posts shall be a minimum of 3 feet long for 24-inch high silt fence, and a minimum of 4 feet for 36-inch silt fence fabric.
8. The maximum spacing of posts for non-woven silt fence shall be 3 feet and for woven fabric, 8 feet.
9. Silt fence shall have a support cord.
10. Where joints are required to join the ends of fabric, each end of the fabric shall be securely fastened to a post. Posts shall then be wrapped around each other to produce a stable, secure joint or shall be overlapped the distance between two posts.
11. A minimum of 20 inches of the post shall extend into the ground after installation.
12. Silt fence shall be anchored by spreading at least 8 inches of the fabric in a 4-inch wide by 6-inch deep trench, or 6-inch deep V-trench on the upslope side of the fence.
13. Backfill anchoring trench and compact.
14. On the terminal ends of silt fence the fabric shall be wrapped around the post such that the staples are not visible.
15. Silt fencing shall at a minimum be inspected by the Contractor weekly and within 24 hours after every rain event that produces 1/2-inch of rain or more during a 24-hour period.
16. Damaged or decomposed fences, undercutting, or flow channels around the ends of silt fencing shall be repaired immediately after discovery.
17. Silt fencing and all accessories shall be removed completely once the disturbed area is permanently stabilized and no longer susceptible to erosion.

B. Stone Tracking Pad and Tire Washing: (WDNR – CPS 1057)
1. Tracking Pad:
   a. Tracking pad shall be installed prior to any traffic leaving the site.
   b. Aggregate shall be placed in a layer at least 12 inches thick. Contractor shall supplement additional aggregate over life of project for repair or replenish aggregate to maintain functional tracking pad as specified.
   c. For sites with high water tables, or where saturated conditions are expected throughout the duration of the project, stone tracking pads shall be underlain with a WisDOT Type R Geotextile Fabric to prevent migration of underlying soil into the stone.
   d. Tracking pad shall be the full width of the egress point and a minimum 50 feet long.
   e. Contractor shall prevent surface water from passing through the tracking pad.

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f. Surface water flow shall be diverted away from tracking pads or conveyed under and around the tracking pad by Contractor's selected method of conveyance or diversion.

2. Tire Washing:

a. If tracking pad does not remove sediment from tires prior to entering roads or streets, Contractor shall provide pressurized water removal operation to wash tires clean prior to entering streets or roads.

b. Rocks lodged between the tires of dual wheel vehicles shall be removed prior to leaving the construction site.

C. Storm Drain Inlet Protection for Construction Sites: (WDNR – CPS 1060)

1. Inlet protection devices are for drainage areas of one acre or less. Runoff from areas larger than one acre should be routed through a designed sediment trapping or settling practice upstream of the inlet.
2. Type A, shall be utilized around field inlets until permanent stabilization methods have been established. Type A inlet protection shall be utilized on pavement inlets prior to installation of curb and gutter or pavement.
3. Type C, shall be utilized on street inlets with curb heads. Provide a 2 inch x 4 inch minimum, piece of wood and wrap and attach fabric to wood. Place wood blocking and fabric over inlet with wood straddling inlet opening a minimum of 8 inches in each direction. Secure 2 x 4 inch board to grate with wire or plastic ties. Verify and secure wood blocking to rest on inlet grate and that fabric covers remaining curb head opening. Wood blocking shall not block entire inlet curb opening.
4. For all inlet protection devices ponding water to settle sediment is encouraged, however ponding shall not interfere with the flow of traffic, create a safety hazard, or cause property damage.
5. All inlet protection devices shall have provisions such as weep holes or emergency spillways to safely pass water if inlet protection device becomes clogged.
6. No gaps shall be left in the material used that would allow the flow of water to bypass the inlet protection device.
7. Manufactured bags used for inlet protection shall be installed along a level contour. Turn ends of sandbag row up slope to prevent flow around ends.
8. Stack sandbags to required height. Upper rows of sandbags shall overlap joints in lower rows.
9. Construct sandbag barriers with a setback of at least 3 feet from toe of slope. Where it is determined to be not practicable due to specific site conditions, sandbag barrier may be constructed at toe of slope, but shall be constructed as far from toe of slope as practicable.

3.2 MAINTENANCE

A. Inspect erosion control devices within 24 hours after each rainfall or daily during periods of prolonged rainfall.

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B. Repair or replace damaged or defective materials or installation immediately.

C. Remove sediment deposits within 24 hours after each storm event or when deposits reach one-half height of fence or barrier, whichever occurs first.

D. Apply replacement bales or additional mulch, netting, or matting immediately to maintain suitable cover.

E. Where vegetative cover has been placed, inspect until vegetative cover is established and functioning as intended.

3.3 REMOVAL OF EROSION CONTROL DEVICES

A. Maintain erosion control measures disturbed earth has been paved or vegetated.

B. Remove erosion control devices prior to final inspection and acceptance of Project site by Owner.

C. Restore or replace areas disturbed or damaged by removal of erosion control devices to satisfaction of Owner's Representative.

END OF SECTION

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SECTION 32 11 23

AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Aggregate Materials.
2. Sub-grade Preparation.
3. Test Rolling Equipment and Procedures.
4. Aggregate Installation Requirements.
5. Aggregate Shoulder.
6. Base Course Schedule.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 05 16 - Aggregates for Earthwork.
3. Section 31 23 17 - Site Excavation, Backfill, and Compaction.
4. Section 32 13 13 - Concrete Paving: Finish concrete pavement.
5. Section 32 91 19 - Landscape Grading: Topsoil fill at areas adjacent to aggregate base course.

1.2 REFERENCES

A. City of Milwaukee, Department of Public Works
1. General Specifications, dated January 31, 1992, with subsequent revisions.
2. Street Construction Specifications, dated July 1, 1992 with revisions dated July, 2014.

B. State of Wisconsin, Department of Transportation
1. Standard Specifications for Highway and Structure Construction, Current Edition. (WISDOT)

C. ASTM International (American Society for Testing and Materials)
1. ASTM D698 – Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft.-lbf/ft^3.
2. ASTM D1557 – Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort 56,000 ft.-lbf/ft^3.
3. ASTM D6938 – Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

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PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

A. Aggregate Material: Type A1 as specified in Section 31 05 16 – Aggregates for Earthwork.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify substrate is dry and has been inspected, and gradient and elevation are correct.

3.2 SUBGRADE PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and recompacting.

B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 TEST ROLLING SUBGRADE

A. Test rolling shall be used to verify stability and uniformity of subgrade. Perform this Work in presence of Owner's Representative.

B. Use test rolling equipment conforming to following description:
   1. Tandem axle, dual wheel dump truck.
   2. Tire pressure shall be no less than 90 percent of manufacturer's recommended maximum inflation.
   3. Minimum gross weight of loaded truck shall be 60,000 pounds.
   4. Provide weigh slip to Owner's Representative.

C. Perform test rolling procedure as follows:
   1. Operate equipment at a rate not to exceed 3 to 5 mph or a comfortable walking pace. Adjust speed to allow Owner's Representative to measure any deflections and areas of rutting.
   2. Operate test rolling equipment in a pattern so that affected areas are loaded with at least one pass.
   3. After test rolling, check subgrade for conformance to drawings, and correct any surface irregularities. Re-shape subgrade within tolerances specified.

D. Test Rolling Evaluation:
   1. Rutting up to 1-inch is acceptable. Rutting in excess of 1-inch but not more than 6 inches, shall be considered a failure and requires reworking soil and compaction to required density.

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2. Deflection (pumping) up to 1-inch is acceptable. Deflection in excess of 1-inch but not more than 2 inches shall be acceptable if there is not substantial cracking or lateral movement of soil.
3. Deflection in excess of 2 inches but not more than 6 inches shall be considered a failure, and requires reworking soil and compaction to required density.
4. Rutting and deflection in excess of 6 inches will require review and recommendation for corrective action by an approved Geotechnical Engineer.
5. After remedial work is performed, a final test roll shall be performed upon completion of work.
6. If remedial work is performed as directed, second test roll may be waived at discretion of Owner's Representative.

3.4 AGGREGATE INSTALLATION REQUIREMENTS

A. Spread aggregate over prepared substrate to a total compacted thickness as indicated on Drawings.

B. Place aggregate in maximum 7-inch loose lifts and compact to specified density.

C. Level and contour surfaces to elevations and gradients indicated.

D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

E. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.5 TOLERANCES

A. Section 31 05 16 – Aggregates for Earthwork defines "A" designated base course materials.

B. Flatness: Maximum variation of 1/4-inch measured with 10-foot straight edge.

C. Scheduled Compacted Thickness: Within 1/4-inch.

D. Variation from Design Elevation: Within 1/4-inch.

3.6 FIELD QUALITY CONTROL

A. Section 31 02 00 – General Requirements for Sitework: Field inspection.

B. Perform compaction testing in accordance with ASTM D698, ASTM D1557, ASTM D6938, and Section 31 02 00 – General Requirements for Sitework.

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C. Perform moisture content testing in accordance with ASTM D6938 and Section 31 02 00 – General Requirements for Sitework.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

E. Frequency of Tests: As determined by Owner's Representative.

3.7 BASE COURSE SCHEDULE

A. Section 31 05 16 – Aggregates for Earthwork defines "A" designated base course materials.

B. Under Concrete Pavement:
   1. Aggregate Type A1, compact to 95 percent modified Proctor density.

C. Under Sidewalk:
   1. Aggregate Type A1, compact to 95 percent modified Proctor density.

END OF SECTION

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SECTION 32 13 13

CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Materials and Installation requirements for exterior concrete components as follows;
   a. Road construction.
   b. Sidewalks.
   c. Curb and combination curb and gutter.
   d. Handicap ramps.
   e. Aggregate base course.
2. Exterior Concrete Design Requirements as follows;
   a. Concrete mix design.
   b. Reinforcement.
   c. Concrete curing and sealing.
   d. Jointing.
   e. Quality control and testing.
   f. Concrete placement and finishing.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 23 17 – Site Excavation, Backfill, and Compaction: Compacted subbase for paving.
3. Section 32 11 23 - Aggregate Base Course: Compacted granular base for paving.
4. Section 32 91 19 - Landscape Grading: Preparation of subsoil at pavement perimeter.

1.2 REFERENCES

A. City of Milwaukee, Department of Public Works
1. General Specifications, dated January 31, 1992 with subsequent revisions.
2. Street Construction Specifications, dated July 1, 1992 with revisions dated July, 2014.

B. ASTM International (ASTM):
1. ASTM A615 - Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
2. ASTM C31 – Practice for Making and Curing Concrete Test Specimens in the Field.
3. ASTM C33 - Specification for Concrete Aggregates.
4. ASTM C39 – Test Method for Compressive Strength of Cylindrical Concrete Specimens.
5. ASTM C94 - Specification for Ready-Mixed Concrete.

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6. ASTM C138 – Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
7. ASTM C143 – Test Method for Slump of Hydraulic-Cement Concrete.
8. ASTM C150 - Specification for Portland Cement.
9. ASTM C172 - Practice for Sampling Freshly Mixed Concrete.
10. ASTM C173 – Standard Test Method of Air Content of Freshly Mixed Concrete by the Volumetric Method.
11. ASTM C231 – Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C595 – Standard Specification for Blended Hydraulic Cements.
14. ASTM C618 - Specification for Fly Ash as Admixture for Concrete.
15. ASTM C1193 - Guide for Use of Joint Sealants.
16. ASTM C1602 – Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.
17. ASTM D1751 - Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction Nonextruding and Resilient Bituminous Types.
18. ASTM D3406 – Specification for Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements.
19. ASTM D5249 - Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints.

C. American Association of State Highway and Transportation Officials (AASHTO)
1. AASHTO M148 – Liquid Membrane-Forming compounds for Curing Concrete.
2. AASHTO M194 – Chemical Admixtures for Concrete.

D. United States Access Board (USAB):
1. ADA Accessibility Guidelines for Buildings and Facilities.(ADAAG)

1.3 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Submit proposed mix design of each class of concrete to Engineer not later than 10 days after Notice to Proceed or 15 days prior to the first concrete placement, whichever comes first.

C. Contractor shall submit a jointing plan for expansion, isolation, contraction and construction joints prior to placing any concrete.

D. Jointing plan shall include details for tie bar joints indicating tie bar size and length, tie bar supports, and distance between tie bars.

E. Include sequence of concrete placement indicating location of construction joints.

F. Jointing plan shall meet the requirements of the referenced ACI Standards.

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G. Product Data: Submit data on joint filler, reinforcement, admixtures, and curing compounds, as needed.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with specified ASTM and AASHTO requirements.

B. Obtain cementitious materials from same source throughout.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Conform to requirements of Section 31 02 00 – General Requirements for Sitework.

B. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.1 FORM MATERIALS

A. Wood or Steel form material, profiled to suit conditions.

2.2 REINFORCEMENT

A. Deformed Tie Bars: ASTM A615, Grade 60.

B. Deformed Dowel Bars: ASTM A615, Grade 60.

C. Welded Steel Wire Fabric: Plain type, ASTM A185; in flat sheets; unfinished.

D. Reinforcement Supports:
1. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire fabric, and dowels in place.
2. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete.
   a. Provide wire bar supports with plates or horizontal runners where base material will not support chair legs.

2.3 CONCRETE MATERIALS

A. Cement: ASTM C150 Normal – Type 1A, gray color.

B. Fine and Coarse Mix Aggregates: ASTM C33.

C. Water: ASTM C1602, potable, not detrimental to concrete.

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D. Air Entrainment: ASTM C260.

E. Flyash: ASTM C618, Class C.

2.4 CHEMICAL ADMIXTURES

A. Chemical admixtures shall be in accordance with AASHTO M194.

B. Concrete may contain Type A Water-reducing admixture and Type D Water-reducing and retarding admixture.

C. Admixtures are to be used in accordance with manufacturer's recommendations.

D. Chemical admixtures containing chlorides, sulfides, or nitrides are not permitted.

E. A single manufacturer shall supply permitted admixtures.

F. Admixture manufacturers are to be approved in writing by Owner's Representative prior to use.

2.5 ACCESSORIES

A. Joint Filler: ASTM D1751, Bituminous fiber, 1/2-inch wide by depth of concrete less 1/8-inch.

B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating, intended for use on concrete.

2.6 CURING AND TREATMENT MATERIALS

A. Water: Potable and clean.

B. Membrane Curing Compound: ASTM C309, Type II, Class A, white pigmented.

2.7 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94.

B. Schedule of Mixes: Table 10 of Section 902.5.2 of the City of Milwaukee – Street Construction Specifications as shown below;

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Concrete Use	Class of Concrete	Cement (lbs.) (1)	Flyash Class C (lbs.)	Water Reducing Admixture Added	Size of Coarse Aggregate (Washed)	Estimated Compressive Strength (28 Days)
Pavement	C	565	0	0	3/4” – 1-1/4”	3600
Curb & Gutter	C-W	515	0	(2)	3/4” – 1-1/4”	3600
Walk	C-F	480	110	0	3/4” – 1-1/4”	3600

(1) Cement Type: Portland Cement Type IA, IP-A, I or IP plus air entraining admixture.
(2) A water-reducing admixture meeting the requirements of Section 902.4.4 shall be added at the rate recommended by the manufacturer to produce the desired compressive strength.

C. Air Entrained Concrete Mix shall have an acceptable range of air content of 4 to 7 percent.

D. Slump Tolerances: Maximum slump of 4 inches.

E. Prepare and submit concrete mix designs in accordance with Section 31 02 00 – General Requirements for Sitework, and include as part of cost of this Work.

F. A qualified agency acceptable to Owner’s Representative shall prepare mix designs. Submit one electronic copy of mix designs for Engineer’s review prior to placing any concrete.

G. Mix design shall indicate brands, types, and quantities of admixtures included, compressive strength, slump, sieve analysis for fine and coarse aggregate, quantities of all ingredients, type and brand of cement, source of aggregate, and whether fine aggregate is natural or manufactured.

H. Use accelerating admixtures in cold weather only when approved by Owner’s Representative in writing. Use of admixtures will not relax cold weather placement requirements.

I. Use set retarding admixtures during hot weather only when approved by Owner’s Representative in writing.

2.8 DETECTABLE WARNING PLATES

A. Detectable warning plates design shall comply with ADA guideline requirements.

B. Manufacturers: (Iron Plates)
   1. Neenah Foundry – Detectable Warning Plates; www.nfco.com; (800) 558-5075.
   2. East Jordan Iron Works, Inc. – Duralast Detectable Warning Plates; www.ejco.com; (800) 626-4653.
   3. Or approved equal.
      a. Iron Plates:

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1) ASTM A48, cast iron.
2) Plate Size: 24 inches x 30 inches.
3) Color: Natural iron.

C. Plate Tolerances:
1. Squareness: 1/8-inch maximum difference in diagonal measurements.
2. Maximum Deviation From Plane: 1/16-inch in 48 inches.

2.9 SOURCE QUALITY CONTROL AND TESTS

A. Section 31 02 00 – General Requirements for Sitework: Provide mix design for Class 9 concrete.

B. Submit proposed mix design to appointed firm for review prior to commencement of Work.

C. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.

D. Test samples in accordance with ASTM Standards listed.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 31 02 00 – General Requirements for Sitework: Coordination and project conditions.

B. Verify compacted Subgrade and granular base is acceptable and ready to support paving and imposed loads.

C. Verify gradients and elevations of base are correct.

3.2 SUBBASE

A. Section 32 11 23 - Aggregate Base Course, forms base construction for Work of this section.

3.3 PREPARATION

A. Moisten base to minimize absorption of water from fresh concrete.

B. Coat surfaces of utility frames with oil to prevent bond with concrete pavement.

C. Notify Owner's Representative minimum 24 hours prior to commencing concrete operations.

3.4 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

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B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.5 PLACING CONCRETE

A. Place concrete in accordance with specified ASTM and AASHTO Requirements.

B. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement.

C. Place concrete continuously over full width of panel and between predetermined construction joints.

3.6 JOINTS

A. Place contraction joints as follows for identified entities:
   1. Curb and Gutter: 10 feet.
   2. Sidewalks: 5 feet.
   3. Area Paving:
      a. 8-inch non-reinforced slabs: 15 foot to 20 foot spacing in each direction.

B. Place expansion joints using joint filler as follows for identified entities:
   1. Curb and Gutter: 300 feet.
   2. Sidewalks: 100 feet.
   3. Area Paving: Areas next to building foundation and fixed components with separate foundations.

C. Jointing shall be performed by hand tools or saw cutting. Jointing tools and equipment must provide minimum joint depth as specified by ACI requirements.

D. If method of jointing is saw cutting, Contractor shall perform saw cutting operations as soon as possible following curing process, without damaging new concrete.

3.7 INSTALLING DETECTABLE WARNING PLATES

A. Reference manufacturer's installation requirements prior to installing detectable warning plates.

B. Set plates into wet concrete at locations shown on Drawings. Install plates into concrete to match top of concrete elevation. Do not over depress.

C. Clean any wet concrete off panel surface.

3.8 FINISHING

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A. Roadway Paving: Broom finish. Edge to 1/2-inch radius.

B. Sidewalk Paving: Broom finish. Edge to 1/2-inch radius.

C. Curbs and Gutters: Broom finish.

D. Direction of Texturing: Transverse to pavement direction.

E. Place curing compound on exposed concrete surfaces immediately after finishing.

3.9 TOLERANCES

A. Section 31 02 00 – General Requirements for Sitework: Tolerances.

B. Maximum Variation of Surface Flatness: 1/4-inch in 10 feet.

C. Maximum Variation from True Position: 1/4-inch.

3.10 FIELD QUALITY CONTROL

A. Section 31 02 00 – General Requirements for Sitework: Testing and inspection services.

B. Concrete testing shall be paid for by Contractor.

C. Take three concrete test cylinders for every 75 or fewer cubic yards of concrete placed each day.

D. Take one additional test cylinder during cold weather and cure on site under same conditions as concrete it represents.

E. Take one slump test for each set of test cylinders taken.

F. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.11 PROTECTION

A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

B. Do not permit pedestrian traffic over pavement for 2 days minimum after finishing and vehicular traffic over pavement for 7 days minimum after finishing.

END OF SECTION

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SECTION 32 90 00

PLANTING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Plant Materials.
2. Soil Amendment Materials.
3. Testing of all topsoil to be used for site planting and amending it in accordance with the recommendations of the Soils Analysis.
4. Landscape Accessories.
5. Planting Soil Preparation.
6. Plant Material Schedule.
7. Planting Operations.
8. Tree Planting.
9. Hydroseeding.
10. Fertilizing.
11. Inspection and Approvals.
12. Maintenance Service.
13. Schedule of Planting Soil Mixture.

B. Related Sections:
1. Applicable provisions of Division 01 – General Requirements shall govern Work under this Section.

1.2 REFERENCES

A. American National Standards Institute (ANSI):
1. Z60.1 - American Standard for Sizing, Handling, and Planting Nursery Stock.

B. ASTM International (ASTM):
1. ASTM C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

1.3 DEFINITIONS

A. Topsoil: As specified in Section 31 05 13 – Soils for Earthwork.

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B. Plants: Living trees, shrubs, ground cover, grasses, flowers, and bulbs specified in this Section, and described in ANSI Z60.1.

C. Clump Form Trees and Shrubs: Plants with a minimum of three and a maximum of five main stems.

D. Multi-Stem Trees and Shrubs: Plants with multiple stems arising from the root crown in the manner of a shrub.

E. Weeds: Includes Dandelion, Quack Grass, Morning Glory, Mustard, Chickweed, Crabgrass, Canadian Thistle, and otherwise plants not specified for this project.

1.4 QUALITY ASSURANCE

A. All tree, shrub, seed, sod, and related landscape materials and operations included in this Section shall be awarded as "one contract" to Contractor, who will be responsible for implementation.

B. Owner's Representative reserves right to review planting materials at growing site.

C. Inspection:
1. No plant material shall be planted by the Contractor until it is inspected and approved by the Owner's Representative at the site of the project.
2. Only those plants to be planted in any single day shall be approved prior to planting.
3. Plants installed without this approval may be subject to rejection by the Owner's Representative.
4. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost to the Owner.

D. Observation at growing site does <u>not</u> preclude right of rejection at job site. Plants damaged in transit or at job site shall be rejected.

E. Qualifications of Landscape Contractor:
1. Landscape work is to be provided by a single firm specializing in Landscape work having not less than five (5) years successful experience in Landscape projects of similar scope and location to this proposed project.
2. Provide at least one person, with a minimum of four (4) years similar experience, who shall be present on site at all times during execution of this portion of the work, who shall be thoroughly familiar with the type of materials being installed and the proper methods for their installation, and who shall direct all work performed under this section.
3. Employ only qualified personnel familiar with required work.

F. A maintenance program is required for this project, for protection of Owner and Contractor whereas adequate time and monies may be scheduled to properly establish hardy, vigorous

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growth and to provide pleasant visual environment envisioned by design and construction documents.

G. Live plant nursery shall be located within 100 miles of Project and shall specialize in growing and cultivating plants specified in this Section, with minimum five (5) years experience.

1.5 SUBMITTALS

A. Following items required prior authorization; submit to Owner's Representative for written approval prior to use on project:
   1. Samples:
      a. Provide representative sample quantities of the following:
         1) Backfill for plant beds, 5 lb. packaged, fully amended per soils test analysis and blended as described in this Section.
         2) Mulching material.
   2. Required Landscape Submittals:
      a. Topsoil report from soils test analysis and recommended schedule of amendments for each type of planting application: Turf, native seeding, plant beds, and trees.
      b. Final topsoil gradients.
      c. Proposed seed blend(s).

B. Certification:
   1. File Certificates of Inspection of plant materials required by State, County and Federal authorities and copy Owner's Authorized Representative, if required.
   2. Submit in accordance with Federal Seed Act, seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.
   3. Submit fertilizer, vendor's information, guarantees, and present labels on containers.
   4. Submit certificates of inspection as required by governmental authorities.

C. Provide Plant Material Record Drawings.
   1. Legibly mark a copy of the Contract Documents to record actual construction. Provide to Landscape Architect a minimum of three (3) days prior to final walkthrough.
   2. Identify field changes in dimension, detail, and changes made by Change Order.

D. Topsoil Report:
   1. Contractor shall retain the services of an independent testing firm to conduct sampling, testing and analysis of salvaged and imported soil and amendments as required by this section and elsewhere in the Contract Documents. Materials testing firm shall be subject to approval by the Owner.

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2. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with experience and capability to conduct testing indicated and that specializes in types of tests to be performed.

3. Soil Analysis: For each unamended soil type, furnish Owner's Representative with soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.

   a. Testing methods and written recommendations shall comply with USDA's Handbook No. 60. The soil-testing laboratory shall oversee soil sampling, with depth, location, and number of samples to be taken per instructions from Landscape Architect. If sample quantities are not provided, Contractor shall provide a minimum of three (3) representative samples taken from varied locations for each soil to be used or amended for planting purposes.

   b. Report suitability of tested soil for turf, native seeding and plant growth.

   c. Based on test results, state recommendations for soil treatment and soil amendments to be incorporated for each type of planting application. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.

   d. Report presence of problem salts, minerals, residual chemicals from agricultural practices (atrazine) or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

4. Collection of soil specimens shall be completed in accordance with accepted practices, and shall be subject to approval by the Owner's Representative.

1.6 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide application.

B. Plant Materials shall be certified by State of Wisconsin Department of Agriculture, as described by ANSI Z60.1, be true to habit, and be free of insects and disease.

1.7 DELIVERY, HANDLING, AND STORAGE

A. Deliver, handle and store products under provisions of Division 01 – General Requirements.

B. Plant materials smaller than those specified in Schedule will not be accepted, and shall not be stored at site.

C. Trees and Shrubs:

1. Provide freshly dug trees and shrubs. Do not prune prior to delivery.

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2. Spray deciduous plants in foliage with an approved "anti-desiccant" immediately after digging to prevent dehydration.
3. Do not bend or bind-tie trees or shrubs in such manner as to damage bark, break branches, or destroy natural shape.
4. Provide protective covering during delivery to prevent wind burn damage. Do not drop balled, burlapped, or other stock during delivery.
5. Keep plants moist at all times, water daily or as needed, and provide adequate drainage.
6. Deliver trees and shrubs after preparations for planting have been completed and plant immediately.
7. If planting is delayed more than six (6) hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture.
8. Do not remove container-grown stock from containers until planting time.
9. Do not lift, move, and adjust to plumb, or otherwise manipulate plants by trunks or stems.

D. Install plants immediately after delivery. Complete planting within 32 hours after delivery.

E. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 JOB CONDITIONS

A. Planting – General:
1. Layout:
a. Prior to the excavation of planting areas or plant pits, or placing trees stakes, the Contractor shall ascertain the location of all utility lines, electric cables, sprinkling system, and conduits so that proper precautions may be taken not to disturb or damage any subsurface improvements.
b. Trees shall **not** be planted within five (5) feet of the center line of water lines, storm and sanitary sewer lines and within three (3) feet of the centerline of gas, underground electric or telecommunication lines unless authorized by the Owner's Representative.
c. Should obstruction be found, the Contractor shall promptly notify the Owner’s Representative who will arrange to relocate the plant material. Necessary adjustments shall be approved by the Landscape Architect.
2. Pruning:
a. Contractor shall do no pruning to undamaged, live portions of the plant material prior to installation.

B. Planting Restrictions:
1. Soil Condition: Neither planting nor other site work shall be carried out in saturated or muddy ground conditions or under other climatic conditions which will inhibit

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proper execution. No planting shall occur until an acceptable time has expended beyond all application of herbicides or other vegetative controls.

C. Protection:

1. Do not move equipment over existing or newly placed structures without approval of Owner's Representative.
2. Provide board-roading as required to protect paving.
3. Protect other improvements from damage, with protection boards, ramps and protective sheeting.
4. Protection of Plant Material:
   a. Contractor shall maintain all plant material in a healthy growing condition prior to and during planting operation.
   b. Contractor shall be responsible for vandalism, theft or damage to plant materials until completion of the maintenance period.
   c. Provide barricades, snow fencing, hire watchmen or whatever means are deemed necessary to totally protect all plantings.
5. Any irrigation system will be operational prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components damaged during planting operations, at the Contractor's expense.

D. Utilities:

1. Determine locations of all underground utilities and perform work in a manner that will avoid possible damage. Hand Excavate, if required, to minimize possibility of damage to underground utilities.
2. Coordinate work with general contractor to prevent damage to underground system.
3. Should obstructions or conflicts with utilities be found, the Contractor shall submit written notification to Owner's Representative of all discrepancies in the drawings, or existing conditions which may interfere with work in this section.

E. Plant Location Staking:

1. All trees shall be staked with size and type of material on stake, per layout plans and other Contract Documents. All plant material locations shall be approved in advance of plant installations. All plantings not specifically approved in advance by the Owner's Representative shall be subject to removal and replanting in approved location.

1.9 CLEANUP

A. Organize delivery, handling, and storage of materials and equipment to facilitate ease of construction sequencing and daily cleanup.

B. During landscape work, keep pavements clean and open to traffic, construction vehicles, and persons employed by project. Moisten or stabilize topsoil to prevent water and wind erosion.

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C. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers.

D. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

E. Contractor shall ensure uninterrupted normal business operations at site during planting operations, and maintain a clean, orderly, and safe work area during every stage of construction.

F. At end of each day, properly remove spoil of materials and packaging generated by operations of this contractor from site.

1.10 WARRANTY

A. Warrant trees, shrubs, plants, turf and all other installations for a minimum period of <u>two continuous growing seasons</u> after date identified on certificate of substantial completion, against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Landscape Contractor's control.

B. Warranty shall include two entire continuous growing seasons. Temperature fluctuations in the weather, natural hazards, or other climatic conditions are not considered unusual phenomena and will not waive the Contractor's warranty requirements.

C. Remove and replace trees, shrubs or other plants found to be dead or in unhealthy condition during warranty period within sixty (60) days with a plant equivalent in size and form.

D. Make final replacements during growth season following end of warranty period.

E. Replace trees and shrubs which are in doubtful condition at end of warranty period; unless, in opinion of Owner's Representative, it is advisable to extend warranty period for a full growing season.

F. Another warranty inspection will be conducted at end of extended warranty period, if any, to determine acceptance or rejection.

G. During warranty period, ensure trees, shrubs, and ground cover remain in a healthy, vigorous condition and renew, treat, or replace any unsightly plants in a timely manner.

H. At end of warranty period, Owner, Landscape Architect, Owner’s Representative, and Contractor shall make a joint inspection. Renew, treat, or replace plants and lawn areas not in healthy growing condition.

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I. Replacement of nursery grown plants shall be of current size and species as specified and shall be replaced within initial growing season, with a new one year warranty commencing on date of replacement.

J. All replacement stock is subject to same warranty requirements as original stock. Repair any damage to adjacent site features due to replacement operations.

PART 2 PRODUCTS

2.1 PLANT MATERIALS

A. Provide trees, shrubs, and plants of size, species, and quantity shown and scheduled for Landscape Work, nursery-grown under similar climatic conditions, and complying with recommendations and requirements of ANSI Z60.1, American Standard for Nursery Stock. Bare root stock is not acceptable.

B. All plants shall be of specimen quality; wide, full, and dense. Plants that are not of specimen quality will be rejected by Owner's Representative.

C. Deciduous Trees: Provide balled and burlapped trees of height and caliper scheduled and as shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single-stem, well-developed trees for this project.

D. Coniferous Trees and Shrubs: Provide balled and burlapped (B&B) of sizes shown or listed. Dimensions indicate minimum spread crown or height as true to growth habit of plant. Container-grown coniferous shrubs will be acceptable in lieu of balled and burlapped shrubs, subject to specified limitations for container-grown stock. Containerized stock shall be free of circling roots due to being in container for too long.

E. Undersized, diseased, root bound, or otherwise damaged plants are not acceptable, and shall immediately be returned to grower by Contractor.

F. Manicured Turf - Seed: Provide fresh, clean, new-crop seed complying with tolerance for priority and germination established by Official Seed Analysis of North America. Provide seed mixture composed of grass species, at proportions and percentages of purity and germination, and shall be composed of following:
   1. Forty percent Bluegrass (*Poa pratensis*).
   2. Forty percent Fescue Grasses (*Festuca rubra*).
   3. Twenty percent Rye Grasses (*Lolium perenne*).
   4. Coarse blade grasses, crop, clover, weed seed shall not exceed two (2) percent of seed blend quantitatively.

2.2 SOIL AMENDMENT MATERIALS

A. Contractor shall pay for and provide the following chemical or organic amendments to topsoil at site, if recommended, and in the proportions as stated in the "Soils Test Analysis Report"

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and as directed by the Owner's Representative.

1. Organic Soil Amendments - Organic soil amendments shall be capable of passing the 1-inch sieve. The material shall be free of rocks, gravel, wood, debris, and of noxious weeds and their seeds:
   a. Peat Moss: Shredded, loose, Type 1 sphagnum moss free of lumps, roots, weeds, seeds, inorganic or acidic materials, with a minimum of 85 percent organic material measured by weight.
   b. Humus: Decomposed animal and plant matter, rich in nutrients with no identifiable fibers and within pH range suitable for intended use.
   c. Composted Pine Bark Fines: Potting grade with no particles larger than 1/2-inch, less than 10 percent wood fiber.
   d. Compost: Well-aged organic compost of sheep or cow manure.
2. Lime: Natural dolomitic limestone containing not less than 85 percent of total carbonates with a minimum of 30 percent magnesium carbonates, ground so that not less than 90 percent passes a 10-mesh sieve and not less than 50 percent passes a 100-mesh sieve.
3. Aluminum Sulfate: Commercial grade.
4. Bone Meal: Commercial, raw, finely ground; four (4) percent nitrogen and 20 percent phosphoric acid.
5. Fertilizer: 50 percent of elements derived from organic sources, of proportion necessary to eliminate inherent deficiencies of topsoil being not less than 10 percent total nitrogen, 10 percent available phosphoric acid, and five (5) percent soluble potassium.
6. Herbicide: Pre-emergence type herbicide applied per manufacturer's specifications.
7. Pesticide: Commercial grade, used at minimum concentrations as recommended by manufacturer and administered only by experienced technical personnel familiar with safe use and handling.
8. Water: Clean, fresh, and free of substances or matter that could inhibit vigorous growth of plants. Owner shall supply water at Contractor's expense.

B. Fertilizer for Lawns: Provide a complete commercial fertilizer with trace elements 20/12/8. Furnish nitrogen in a form that will be available to lawn during initial growing period with at least 50 percent in organic form. Contractor shall submit recommendation based upon Topsoil Test Analysis for approval. Both "preplanting" and "maintenance" fertilizers shall be included.

2.3 LANDSCAPE ACCESSORIES

A. Mulching material shall be natural shredded hardwood bark mulch, free of debris, twigs, leaves, and growth or germination inhibiting ingredients, no larger than four (4) inches in any dimension, and suitable for top dressing of planting saucers and beds. Bark mulch shall not contain any wood, and no artificial coloration shall be added.

B. Stakes and Guys, if Required by Contractor: One (1) tree staking kit for each tree; including three (3) earth anchors, three (3) rust-proof, heavy-duty tension buckles and UV-coated,

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flexible tree tie webbing as manufactured by Arborbrace, (561) 628-3591, or equivalent as acceptable to the Landscape Architect.

C. Anti-Desiccant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that a fully prepared subsoil base is ready to receive topsoil and other work of this Section.

B. Verify that required underground utilities are available, in proper location, and ready for use.

C. Saturate soil with water to test drainage.

D. Report conditions detrimental to plant growth or implementation to Owner's Representative prior to planting.

E. Beginning of installation means acceptance of existing site conditions.

3.2 PROTECTION

A. Prior to start of any work of this Section, make contact with buried and overhead utility locating services or agencies to determine depth, location, clearances, and other precautions to avoid damage to existing facilities, equipment, and those employed at site.

B. Hand excavate as required.

C. Maintain grade stakes set by others.

D. Secure, encircle, or otherwise protect Work from intrusion by trespassers, equipment, or others employed at site.

3.3 SUBGRADE SOIL PREPARATION

A. Remove or mow all vegetation to a height 3 inches.

B. Remove all rocks, debris, and litter that will prevent compliance with topsoil and seeding specifications.

C. Final grade area to within two (2) inches of subgrade elevations.

D. Till or disc the subsoil to a depth of two (2) inches to four (4) inches to allow aeration.

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3.4 PLANTING SOIL PREPARATION

A. General:

1. Lay out individual tree and shrub locations and bed areas for multiple plantings. Stake all locations and outline areas and secure Owner's Representative's acceptance before start of planting work. Make all locational adjustments as may be requested.

B. Preparation of Planting Soil:

1. Before mixing, clean topsoil of roots, plants, sod, stones, clay lumps and other extraneous materials harmful or toxic to plant growth.
2. Mix soil amendments and fertilizers with topsoil at rates specified in soils test analysis report. Delay mixing of fertilizer if planting will not follow placing of planting soil within 48 hours.
3. Refer to schedule at the end of this section for planting soil mixture requirements.
4. Mix soil amendments and fertilizer by suitable means to assure complete mixing and uniform texture using proportions for each use as recommended by soils test analysis report.
5. For pit and trench type backfill, mix planting soil prior to backfilling, and stockpile at site.
6. For planting beds and lawns, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.
7. Apply phosphoric acid fertilizer (other than that constituting a portion of complete fertilizers) directly to subgrade before applying planting soil and tilling.

C. Preparation for Seed Areas, where Site Grading and/or Topsoil has been placed:

1. Loosen subgrade of manicured turf areas to a minimum depth of six (6) inches by rototilling. Remove stones over 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted immediately.
2. Apply water if necessary to supplement natural rainfall for a period of six (6) weeks to maintain consistent soil moisture in order to promote weed growth. After weed seeds have germinated and reached a height of no more than 10 inches, apply a non soil-residual herbicide that controls annual and perennial broadleafs and grasses on all graded areas where seeding will occur. Active ingredients and rates of application are as follows.
    a. Active Ingredient: Isopropylamine salt of glyphosate.
    b. Rate of Application: As per manufacturer recommendation.
    c. Recommended Total Spray Volume: As per manufacturer recommendation, apply by handgun on backpack sprayer.
    d. Do not apply herbicide treatment when rain is forecast within 24 hours after application. Do not water treated areas until seeding is to occur. Allow a minimum seven (7) days after treatment before seeding. Do not retill soil after treatment is completed.

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3. Grade seeded areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, drag grass areas and remove ridges and fill depressions as required to meet finish grades. Finish grade to one (1) inch below top of adjacent curb or sidewalk. Limit fine grading to areas that can be immediately planted.
4. Restore seeding areas to specified condition and to meet finish grades if eroded or otherwise disturbed after fine grading and prior to planting.

3.5 PLANT MATERIAL SCHEDULE

A. Plant Material Schedule is a detailed plant listing indicating static design usage, common and scientific names, minimum size and symbols, and shall be used in conjunction with landscape construction details.

B. Provide trees of size and species shown and scheduled for landscape work, nursery-grown under similar climatic conditions, and complying with definitions, requirements, and sizing of ANSI Z60.1.

C. All quantities listed are assembled for convenience of landscape bidding. Successful contractor shall develop lawn areas and install plant material shown on Drawings. Any discrepancies between quantities of plants listed and the quantities shown on the Drawings, the Drawing shall govern.

D. Sizes of planting stock listed is minimum acceptable size for each plant introduced to site. Additionally, when excessive pruning reduces height, replace plant.

E. Substitutions: No plant or landscape material substitutions shall be accepted without written permission of the Owner's Representative. This applies to the genus, species, and variety of all plants and miscellaneous landscape items.

F. All plants shall be true to name and in all cases, botanical names shall take precedence over common names. All plants of each clone, species, or cultivar shall be delivered to the site labeled with their full botanical name.

G. The Contractor shall review the Drawings and Specifications to coordinate the work indicated in this section with all other related work. In case of any discrepancy, Contractor shall notify Owner's Representative. However, the Planting Specifications take precedence over the Planting Drawings.

3.6 FIELD QUALITY CONTROL

A. A pre-installation meeting at site with General Contractor, Site Contractor, Landscape Contractor, and Landscape Architect will be scheduled by Owner's Representative.

B. This meeting will be conducted by Owner’s Representative. Contract Documents and procedures will be reviewed and any discrepancies, problems, or questions shall be discussed

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and resolved prior to commencement of any work.

C. Required field inspection will be performed under provisions of Division 01 – Quality Requirements.

D. Plants will be rejected when ball of earth surrounding roots has been disturbed or damaged prior to or during planting.

E. Substitutions of plant material will not be permitted beyond seven days after conclusion of pre-installation meeting.

3.7 PLANTING OPERATIONS

A. Prior to beginning of Work specified in this Section, verify that site grading and preparation have been properly completed where necessary for this work.

B. Proceed with complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

C. Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Owner's Representative.

D. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

E. Recommended Schedule of Implementation:
   1. Live Landscape Plant Materials
      a. Spring: Mid-April through June
      b. Fall: Mid-August through late October

F. Make every effort to install plant materials during normal planting season for each type of landscape work required.

G. If for any reason installation cannot be completed during these times, take extra care to insure healthy growth of plant material.

H. Correlate planting with specified maintenance periods to provide maintenance from date of completion.

I. Work specified in this Section will be postponed until next planting season if other work under this Contract is completed too late in year for planting work to be performed properly.

3.8 TREE PLANTING

A. Excavate pits with angled sides.

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B. Scarify side walls to alleviate glazing.

C. Excavate pit at least three (3) times wider than ball diameter and equal to ball depth. (Note: trees and shrubs planted with crown/root flare of plant lower than adjacent grade will be rejected.)

D. Where rubble fill is encountered, notify Owner's Representative and prepare planting pits properly by removal of rubble or other acceptable methods. When conditions encountered are severe and extensive, as determined by Owner's Representative, proceed with additional work at the direction of the Owner's Representative.

E. Drainage: If subsoil conditions indicate the retention of water in planting areas, as shown by seepage or other evidence indicating presence of underground water, notify the Owner's Representative before backfilling.

F. For trees to be planted in individual holes in areas of good soil that is to remain in place, save the existing soil to be used as backfill.

G. Backfill excavations for trees and allow to percolate before planting. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill. No settling of root balls will be allowed.

H. Select best viewing angle and set balled and burlapped stock, plumb, and in center of pit or trench with crown/root flare at or slightly above elevation of adjacent finished grades.

I. Remove burlap and wire basket from top one-half of ball. When set, place additional backfill and eliminate voids and air pockets.

J. Encircle planting pit with three (3) inch high earth saucer to allow for mulching and watering during establishment. All trees to have minimum six (6) foot diameter mulch ring.

K. Mulch tree planting areas with not less than three (3) inch thickness of mulch, and finish level with adjacent lawn grades as directed in field. Keep mulch minimum two (2) inches away from all stems and tree trunk root flares.

L. If deciduous trees are moved in full leaf, spray with anti-desiccant at nursery before moving, and again two weeks after planting.

M. Prune only dead or damaged branches in accordance with standard horticultural practice, unless otherwise directed by Owner’s Representative. Do not cut tree leaders.

N. Stake and guy trees immediately after planting, if required. Contractor shall be responsible for determining if a tree requires staking or guying. Adverse site conditions such as windy sites, slopes greater than 3:1, shallow or unstable soils, bare root plantings or large specimen

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plantings may require staking or guying.

O. Trees to remain staked for one additional full growing season. Contractor shall remove stakes and accessories as a part of this project. Removal shall occur at end of warranted period for trees.

3.9 HYDROSEEDING FOR MANICURED TURF

A. Apply seed and suitable wood cellulose fiber by use of approved spraying equipment. Spraying equipment shall keep materials in an agitated state and be so designed to deposit grass seed uniformly at specified rate.

B. Spraying equipment shall be so designed that when solution is sprayed over an area, resulting deposits of grass seed are equal in quantity to required rates.

C. Completely flush and clean hydraulic seeding and fertilizing machine each day before seeding is to be started and also thoroughly flush residue after completion of every 10 acres, if applicable.

D. Unless required mulch material is applied during seeding operation or within one-half hour following seeding operation, take temporary and satisfactory measures to protect seed from sunlight and heat, such as using a light brush drag over seeded areas to embed seed into soil.

E. Moisten prepared topsoil surface immediately prior to seeding.

F. Prepare grass seed mixture accurately and indoors at rates specified earlier within this Section.

G. Hydroseed lawn seed in a manner as to deposit five (5) pounds of grass seed blend per each 1,000 square feet.

3.10 FERTILIZING

A. In order to fully satisfy requirements of tree, seed, and sod planting operations, provide fertilizer of neutral character, with some elements derived from organic sources and containing a percentage of nitrogen, phosphorous, and potassium in a form that will be available to plants during initial period of growth.

B. Fertilize lawns as required to maintain healthy, vigorous turf. A minimum two (2) applications are required.

C. Apply fertilizer immediately after time of planting and other application just prior to end of 60-day maintenance period.

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D. Prepare and execute fertilizer operations per manufacturer's recommendations and at rates and varieties specified earlier within this Section.

E. Lightly water to aid dissipation of fertilizer.

3.11 INSPECTION AND APPROVALS

A. Design scope, character, color composition, detailing, texture, dynamism, and Contract Documents have been created to satisfy specific site requirements of Owner and governmental agencies. Any modification not set forth and approved at time of pre-installation meeting must be denied.

B. When inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until Work is re-inspected and found to be acceptable.

C. Contractor shall remove plant identification tags after final inspection and approvals.

D. Final acceptance shall include fertilization and maintenance required to establish vigorous, healthy plantscape as set forth by standard landscape practices and contract documents.

E. At end of substantial completion and when compliance with contract documents is established, Owner’s Representative will issue a "Substantial Completion" to Owner, which includes a request for a release of 95 percent payment of total planting contract.

F. Remaining five (5) percent of planting contract will be issued by Owner during month of June following plant installation and final acceptance.

3.12 MAINTENANCE SERVICE

A. Contractor shall perform maintenance services for a period of 60 days beyond date of substantial completion.

B. Maintain plant life immediately after planting to establish vigorous growing conditions.

C. During "maintenance period" provide an ongoing, pleasant visual environment where any plant which is not responding to transplanting is immediately replaced, lawns are repaired, and weeds are constantly removed without exception.

D. Maintain trees by pruning, cultivating and weeding as required for healthy growth for the full maintenance period and during the period before final acceptance of the full project. Restore planting saucers. Maintain moisture depth to ensure vigorous growth.

E. Tighten and repair stake and guy supports, if used, and reset trees and shrubs to proper grades or vertical position as required.

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F. Maintain sodded turf areas for the full maintenance period (in no case less than 30 days) and seeded lawns for the full maintenance period (in no case less than 60 days), longer as required to establish an acceptable lawn, and not less than the overall project final completion.

G. Maintain manicured turf areas by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas. Submit fertilizing schedule for three (3) applications per year.

1. Do not over water lawns causing stress on trees.
2. Mow grass at uniform height between three (3) inches and 3-1/2 inches.

3.13 SCHEDULE OF PLANTING SOIL MIXTURE

A. Subject to the recommendation of the Soils Test Analysis Report and Owner's Representative Approval.

END OF SECTION

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SECTION 32 91 19

LANDSCAPE GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Final grading requirements.
2. Placement of topsoil.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 05 13 – Soils for Earthwork.
3. Section 31 23 17 – Site Excavation, Backfill, and Compaction: Backfilling trenches.
4. Section 32 90 00 - Planting.
5. Section 32 92 23 – Sodding.

1.2 REFERENCES

A. ASTM International (ASTM):
1. ASTM D5268 – Topsoil Used for Landscaping Purposes.

1.3 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Soils Test Samples: As specified in Section 32 90 00 - Planting.

C. Materials Source: Submit name of source of imported materials.

PART 2 PRODUCTS

2.1 MATERIALS

A. Topsoil: As specified in Section 31 05 13 – Soils for Earthwork.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 31 02 00 – General Requirements for Sitework: Coordination and project conditions.

B. Verify substrate base has been contoured and compacted.

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3.2 SUBSTRATE PREPARATION

A. Eliminate uneven areas and low spots.

B. Remove debris, roots, branches, stones, in excess of one (1)-inch in size. Remove contaminated subsoil.

C. Scarify surface to depth of three (3) inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.3 PLACING TOPSOIL

A. Place topsoil in areas where sodding and planting is required. Place topsoil during dry weather and on dry, unfrozen subgrade.

B. Break down all clods and lumps using the appropriate equipment to provide a uniformly textured soil.

C. For all areas of sod ensure that, for the upper two (2) inches, 100 percent of the material passes a one (1) inch sieve and at least 90 percent passes the No. 10 sieve.

D. Fine grade topsoil to eliminate rough or low areas and to ensure positive drainage. Maintain profiles and contour of subgrade.

E. Remove all vegetable matter, roots, weeds, rocks, and foreign material while spreading.

F. Manually spread topsoil close to plant material to prevent damage.

G. Lightly compact placed topsoil.

H. Remove surplus subsoil and topsoil from site.

I. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.4 TOLERANCES

A. Section 31 02 00 – General Requirements for Sitework: Tolerances.

B. Top of Topsoil: Plus or minus 1/2-inch.

3.5 PROTECTION OF INSTALLED WORK

A. Section 31 02 00 – General Requirements for Sitework: Protecting installed Work.

B. Protect landscaping and other features remaining as final Work.

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C. Protect existing structures, paving, and curbs.

D. Prohibit construction traffic over topsoil.

3.6 SCHEDULE

A. Compacted topsoil thicknesses:
   1. Sod: Four (4) inches.

END OF SECTION

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SECTION 32 92 23

SODDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Preparation of subsoil.
2. Placing topsoil.
3. Fertilizing.
4. Sod installation.
5. Maintenance.

B. Related Sections:
1. Applicable provisions of Section 31 02 00 – General Requirements for Sitework shall govern Work under this Section.
2. Section 31 05 13 - Soils for Earthwork: Topsoil material.
3. Section 31 23 17 – Site Excavation, Backfill, and Compaction: Rough grading over cut.
4. Section 32 90 00 - Planting.
5. Section 32 91 19 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this section.

1.2 REFERENCES

A. ASTM International
1. ASTM C602 - Specification for Agricultural Liming Materials.

B. Turfgrass Producers International (TPI)
1. TPI - Guideline Specifications for Turfgrass Sodding.

1.3 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

1.4 SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Product Data: Submit data for sod grass species, fertilizer, mulch, and other accessories.

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C. Submit minimum 10 lb sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.

D. Test Reports: Indicate topsoil nutrient and pH levels with recommended soil supplements and application rates.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

A. Section 31 02 00 – General Requirements for Sitework: Requirements for submittals.

B. Operation and Maintenance Data: Submit maintenance instructions, cutting method and maximum grass height.

1.6 QUALITY ASSURANCE

A. Sod: Root development capable of supporting its own weight without tearing, when suspended vertically by holding upper two corners.

B. Perform Work in accordance with Wisconsin Department of Transportation standards.

C. Sod Producer shall be located within 100 miles of Project and shall specialize in sod production and harvesting with minimum five years experience, and shall be certified by the State of Wisconsin.

1.7 QUALIFICATIONS

A. Sod Producer: Company specializing in manufacturing Products specified in this section with minimum five (5) years experience.

B. Installer: Company specializing in performing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 31 02 00 – General Requirements for Sitework: Product storage and handling requirements.

B. Deliver sod in rolls and protect exposed roots from dehydration.

C. Do not deliver more sod than can be laid within 32 hours after stripping. Do not harvest or ship when moisture content will adversely affect sod survival.

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1.9 COORDINATION

A. Section 31 02 00 – General Requirements for Sitework: Requirements for coordination.

1.10 MAINTENANCE SERVICE

A. Section 31 02 00 – General Requirements for Sitework: Maintenance service.

B. Maintain sodded areas sodded areas for three (3) months from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 SOD

A. Manicured Turf - Sod: TPI approved field-grown grade; cultivated grass sod, type as indicated below; with strong fibrous root system, free of burned or bare spots, undesirable native grasses, and containing no more than five (5) weeds per 1,000 square feet.

1. Sod shall be a blend composed of a minimum of four different bluegrass varieties which are best suited to the local climate.
2. Sod shall be minimum age of 18 months, with root development that will support its own weight, without tearing, when suspended vertically by holding upper two (2) corners.
3. Submit sod certification indicating percentages of grass species and location of sod source to Owner's Representative, prior to procurement.
4. Roll machine-cut sod in accordance with TPI guidelines, in running bond pattern.
5. Cut sod in area not exceeding one square yard with a uniform minimum one (1) inch topsoil base.

2.2 SOIL MATERIALS

A. Topsoil: As specified in Section 31 05 13 – Soils for Earthwork.

2.3 ACCESSORIES

A. Fertilizer: Commercial grade; recommended for grass, with fifty percent of elements derived from organic sources; of proportion necessary to eliminate deficiencies of topsoil.

B. Lime: ASTM C602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent.

C. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

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2.4 HARVESTING SOD

A. Machine cut sod in accordance with TPI.

B. Cut sod in area not exceeding 1 sq yd, with minimum 1/2-inch and maximum 1-inch topsoil base.

2.5 SOURCE QUALITY CONTROL

A. Section 31 02 00 – General Requirements for Sitework: Testing, inspection and analysis requirements.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Provide recommendation for fertilizer and lime application rates for specified sod grass species as result of testing.

D. Testing is not required when recent tests are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 31 02 00 – General Requirements for Sitework: Verification of existing conditions before starting work.

B. Verify prepared soil base is ready to receive the Work of this section.

3.2 FERTILIZING

A. Apply lime at application rate recommended by soil analysis. Work lime into top 6 inches of soil.

B. Apply fertilizer at application rate recommended by soil analysis.

C. Apply fertilizer after smooth raking of topsoil and prior to installation of sod.

D. Apply fertilizer no more than 48 hours before laying sod.

E. Mix fertilizer thoroughly into upper 4 inches of topsoil.

F. Lightly water soil to aid dissipation of fertilizer.

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3.3 MANICURED TURF - SOD INSTALLATION

A. Moisten prepared topsoil surface immediately prior to installing sod.

B. Lay sod immediately upon delivery to site to prevent deterioration.

C. Contractor shall immediately remove from site, or return to grower, dried, torn, dormant, coarse bladed or otherwise objectionable sod rolls.

D. Take extra care when sodding operations are required beyond recommended schedule of implementation. Under no circumstances shall sod be laid on frozen ground.

E. Lay sod to form a solid mass with tightly fitted joints.

F. Compress butt ends and sides of sod strips to reduce shrinkage. Stagger sod strips to offset joints in adjacent courses and tamp lightly to ensure contact with subgrade.

G. Where sodding operations are scheduled throughout areas whose gradient exceeds one (1) vertical foot for each four (4) horizontal feet, Contractor shall anchor sod strips with 10-inch staples to prevent slippage.

H. Provide quality sod lawn whose grasses have been blended within rates specified earlier within this Section.

I. Water sod thoroughly with a fine spray immediately after planting. Saturate existing soils to a depth of four (4) inches throughout.

J. Within ten days after laying of sod, Contractor shall return to site to work topsoil into minor cracks between sod strips where shrinkage has occurred.

K. To be acceptable, grass must be firmly rooted in the ground and shall be full, viable, and free of bare spots. Dead or bare spots shall not exceed four (4) square inches in size nor comprise more than one (1) percent of the lawn areas.

3.4 MAINTENANCE

A. Mow grass at regular intervals to maintain at maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at each mowing.

B. Neatly trim edges and hand clip where necessary.

C. Immediately remove clippings after mowing and trimming.

D. Water to prevent grass and soil from drying out.

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E. Roll surface to remove or irregularities.

F. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.

G. Immediately replace sod on areas showing deterioration or bare spots.

H. Protect sodded areas with warning signs during maintenance period.

END OF SECTION

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SECTION 33 11 00

WATER SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Piping.
2. Pipe Fittings.
3. Valves.
4. Fire Hydrants.
5. Domestic Water Services.

1.2 REFERENCES

A. City of Milwaukee Department of Public Works, Milwaukee Water Works;
1. Water Main Installation Specifications, Dated January 2, 1987.
http://milwaukee.gov/ImageLibrary/Groups/WaterWorks/files/MWW_WaterMainInstallSpecs.pdf

2. Standard Plan Notes for Water Main Construction;
http://milwaukee.gov/ImageLibrary/Groups/WaterWorks/files/StandardPlanNotes110616.pdf

3. Material Specifications;
http://milwaukee.gov/water/business/standardspecs.htm

B. State of Wisconsin: Wisconsin Statute NR 811 – Requirements for the Operations and Design of Community Water Systems.

C. Standard Specifications For Sewer & Water Construction in Wisconsin, Current Edition with Latest Addendum.

1.3 SUBMITTALS

A. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories.

B. Manufacturer's Instructions: Indicate special procedures required to install Products specified.

C. Certificates: Certify that products meet or exceed specified requirements.

1.4 SUBMITTALS AT PROJECT CLOSEOUT

A. Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations.

B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

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1.5 REGULATORY REQUIREMENTS

A. Perform Work in accordance with requirements of:
   1. City of Milwaukee Water Works.
   2. Wisconsin Department of Natural Resources.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with requirements of City of Milwaukee Water Works for public connections and modifications where applicable.

B. Valves and Hydrants: Mark manufacturer's name and pressure rating on body.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store valves and gaskets in shipping containers with labeling in place.

PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION

3.1 PERMITS

A. Contractor shall confirm all permits are obtained prior to starting construction.

END OF SECTION

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SECTION 33 31 00

SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Piping.
2. Pipe Fittings.
3. Precast Concrete Manholes with internal frame and chimney seals.

1.2 REFERENCES

A. City of Milwaukee Department of Public Works, Sewer Engineering;

B. City of Milwaukee Standard Special Provisions Plan File #52-4-51, Dated May 1, 2003, Infrastructure Services Division, Environmental Engineering Section.

C. Standard Specifications for Sewer & Water Construction in Wisconsin, Current Edition, with Latest Addendum.

D. State of Wisconsin: Wisconsin Statute NR 110 – Sewerage Systems.

E. Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction.

1.3 SUBMITTALS

A. Product Data: Provide data indicating pipe materials pipe fittings, and precast structures.

B. Submit Structural Design Calculations and detailed Shop Drawings for flattop and special precast concrete manhole structures prepared and sealed by a Professional Engineer licensed in State of Wisconsin.

C. Design of flattop and special precast structures shall be in accordance with ACI 318 and ASTM C478.

D. Manufacturer's Instructions: Indicate special procedures required to install Products specified.

E. Certificates: Certify that products meet or exceed specified requirements.

1.4 SUBMITTALS AT PROJECT CLOSEOUT

A. Record actual locations of pipe runs, connections, control points, and invert elevations.

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B. Identify, indicate, and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 REGULATORY REQUIREMENTS

A. Contractor shall comply with applicable rules and regulations of:
   1. City of Milwaukee Department of Public Works, Sewer Engineering.
   2. State of Wisconsin Department of Natural Resources.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store castings and gaskets in shipping containers with labeling in place.

PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION

3.1 PERMITS

A. Contractor shall confirm all permits are obtained prior to starting construction.

END OF SECTION

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SECTION 33 41 00

STORM SEWER SYSTEM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Sewer Pipe Materials.
2. Pipe Fittings and Accessories.
3. Storm Sewer Manholes, including Frames and Covers.
4. Inlets, including Frames and Grates.

1.2 REFERENCES

A. City of Milwaukee Department of Public Works, Sewer Engineering;

B. City of Milwaukee Standard Special Provisions Plan File #52-4-51, Dated May 1, 2003, Infrastructure Services Division, Environmental Engineering Section.

C. Standard Specifications for Sewer & Water Construction in Wisconsin, Current Edition, with Latest Addendum.

D. State of Wisconsin: Wisconsin Statute NR 110 – Sewerage Systems.

E. Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction.

1.3 SUBMITTALS

A. Product Data: Provide data indicating pipe materials, pipe fittings, and precast structures.

B. Submit Structural Design Calculations and detailed Shop Drawings for flattop and special precast concrete manhole structures prepared and sealed by a Professional Engineer licensed in the State of Wisconsin.

C. Design of flattop and special precast structures shall be in accordance with ACI 318 and ASTM C478.

D. Manufacturer's Instructions: Indicate special procedures required to install Products specified.

E. Certificate: Certify that Products meet or exceed specified requirements.

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1.4 REGULATORY REQUIREMENTS

A. Contractor shall comply with applicable rules and regulations of:
   1. City of Milwaukee, Department of Public Works, Sewer Engineering.
   2. State of Wisconsin Department of Natural Resources.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store castings and gaskets in shipping containers with labeling in place.

PART 2 PRODUCTS – (Not Used)

PART 3 EXECUTION

3.1 PERMITS

A. Contractor shall confirm all permits are obtained prior to starting construction.

END OF SECTION

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⊠ EXISTING BUS STOP

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www.graef-usa.com

NO.	BY	REVISION	DATE
△			
△			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF
THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

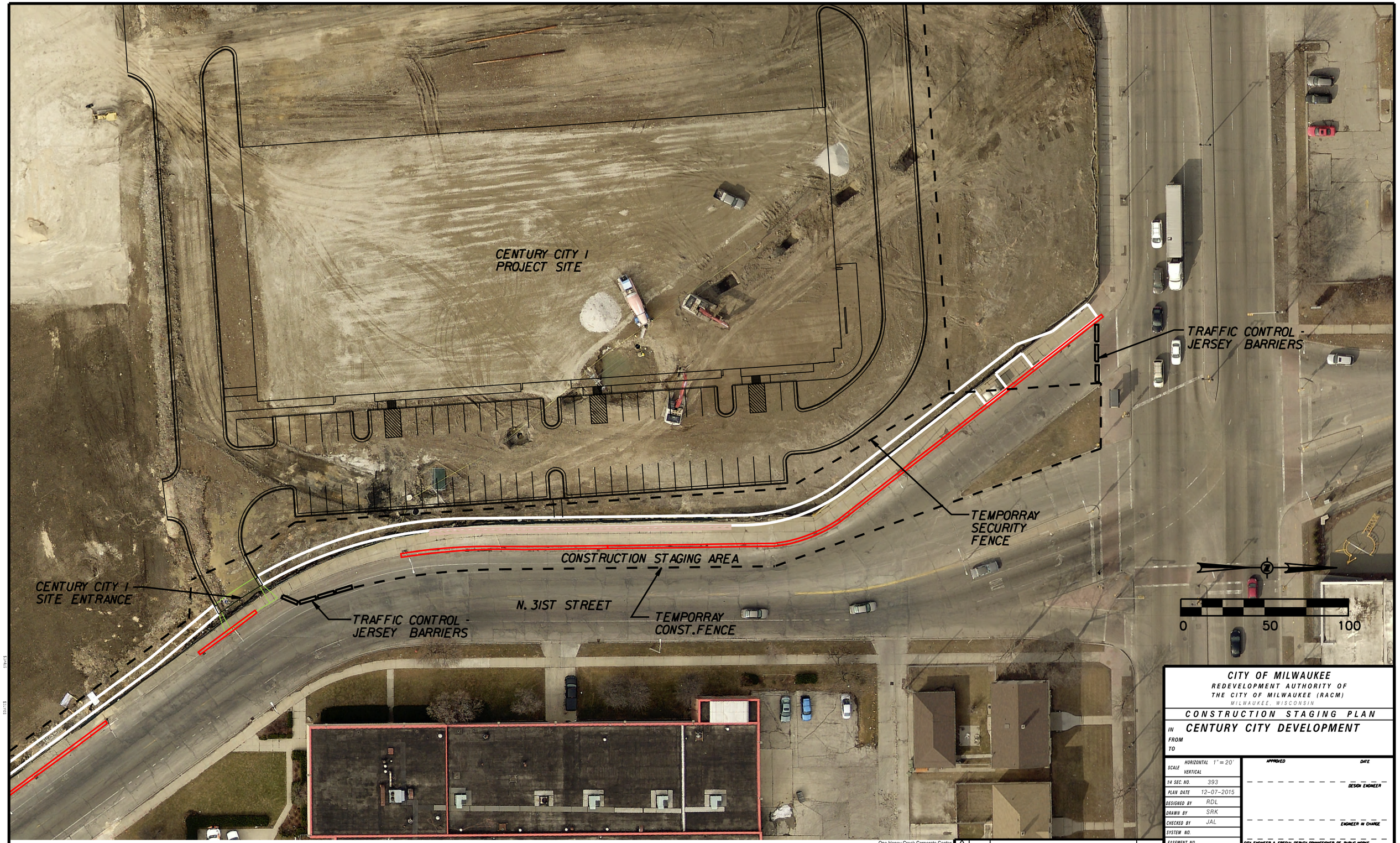
CONSTRUCTION STAGING PLAN

IN CENTURY CITY DEVELOPMENT
FROM
TO

SCALE	HORIZONTAL 1" = 20' VERTICAL	APPROVED	DATE
1/4 SEC. NO.	393		DESIGN ENGINEER
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		ENGINEER IN CHARGE
CHECKED BY	JAL		
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

APPENDIX A1

MMSD _____ SCANNED _____ MICROFILMED _____



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NO.	BY	REVISION	DATE
△			
△			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF
THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

CONSTRUCTION STAGING PLAN

IN **CENTURY CITY DEVELOPMENT**
FROM
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SCALE	HORIZONTAL 1" = 20'	APPROVED	DATE
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CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

APPENDIX A2

MMSD _____ SCANNED _____ MICROFILMED _____

APPENDIX B

GEOTECHNICAL ENGINEERING REPORT

Proposed Century City Development
New Entrance, Signs and Building Pad
Milwaukee, WI

GESTRA Project No.: 15021-10
April 24, 2015

Prepared For:
GRAEF
125 S. 84th Street, Suite 401
Milwaukee, WI 53214

Geotechnical Engineering Report

Proposed Century City Development
New Entrance, Signs and Building Pad
Milwaukee, Wisconsin

GESTRA Project No.: 15021-10
April 24, 2015

Prepared for:

GRAEF
125 S. 84th Street, Suite 401
Milwaukee, WI 53214

Report Prepared by:

GESTRA Engineering, Inc.
1626 West Fond Du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444

TABLE OF CONTENTS

1.0 INTRODUCTION 3
1.1 Project Information 3
2.0 SCOPE OF WORK 4
3.0 EXPLORATION RESULTS 5
3.1 Site Conditions 5
3.2 Subsurface Soil Profile 5
3.2.1 North End-Building Pad and Sign 5
3.2.2 New Gateway Site Entrance 6
3.3 Groundwater Observations 6
4.0 ANALYSIS AND RECOMMENDATIONS 7
4.1 Site Preparation 7
4.2 Building Discussion 7
4.3 Sign Structure Foundation Recommendations 7
4.4 Seismic Site Classification 8
4.5 Soil Parameters for Pavement Design 9
4.6 Construction Consideration 10
5.0 EXPLORATION AND TESTING PROCEDURES 11
5.1 Layout and Elevation Procedures 11
5.2 Field Testing Procedures 11
5.3 Laboratory Testing Procedures 12
STANDARD OF CARE 13

APPENDIX I BORING LOCATION MAP, TEST BORING LOGS, MONITORING WELL CONSTRUCTION AND DEVELOPMENT FORMS, AND NOMENCLATURE

APPENDIX II LABORATORY TEST RESULTS

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Proposed Century City Development
New Entrance, Signs and Building Pad
Milwaukee, Wisconsin

GESTRA Project No.: 15021-10
April 24, 2015

1.0 INTRODUCTION

GESTRA Engineering, Inc. (GESTRA) was authorized by GRAEF to complete a subsurface exploration and geotechnical investigation for the proposed New Gateway Site Entrance and Two (2) Sign Structures and complete geotechnical borings in the area of the future Building Pad for the Century City Development in Milwaukee, Wisconsin. This report presents the results from the subsurface soil exploration and describes the exploration, laboratory test results, and provides recommendations pertaining to the design and construction for the proposed new gateway site entrance and sign structures and provides a discussion related to the bearing capacity recommendation for the proposed new location of the building on the north end of the property.

The engineering recommendations and analysis contained within this report are based on the following project information which is a projection of GESTRA's understanding of the project. If for any reason the actual project information differs from what is reported below, GESTRA should be contacted so that we can review our recommendations in light of any new information.

1.1 Project Information

The Century City property is located south of W. Capitol Drive and west of N. Hopkins Street in the City of Milwaukee. The subsurface exploration includes 3 separate portions of the ongoing Century City Development. Below are GESTRA's 3 separate scopes for this project for the ongoing development.

Scope Area 1: A new entry road, aligned with W. Vienna St. (identified as "New Gateway Site Entrance"), will extend approximately 100 feet southwest of W. Hopkins Street and the width will vary from 130 feet at W. Hopkins Street to 60 feet at the southwest end. Northwest of the new entry, a sign is planned to accompany the new entrance. At this time, design information for the sign has not been developed. We assume the roadway final design elevations will be within 2 feet +/- of the existing grades and the sign foundation will bear at least 5 feet below existing grade.

Scope Area 2: On the north end of the site, south of W. Capitol Drive between N. 31st Street and the Canadian Pacific Railroad, a new sign is planned. The footing design for the new sign is planned to have loads on the order of 3 kips/ft. For future design, outside the scope of this project, a stormwater basin or bioretention pond is planned to the west of the sign. As part of our services, GESTRA has been requested to include sampling and testing that may be used in evaluation of the stormwater feature in a later report by others. We assume the sign final design elevation will be within 2 feet +/- of the existing grades and the sign foundation will bear at least 5 feet below existing grade.

Scope Area 3: On the north end of the site, south of the planned sign area and between N. 31st Street and the Canadian Pacific Railroad, a new building is planned. Site earthwork is partially complete for the proposed building. GESTRA was provided the results of soil compaction

testing performed during recent earthwork (GZA Project 20.0152603.30, report dated 12/10/2014) and a geotechnical exploration performed for the proposed building (Giles project 1G-1403018, report dated 5/12/2014). It is our understanding that the building location has moved since the previous exploration and the earthwork is not complete to design grades. During the earthwork, an abandoned storm sewer was uncovered and was left in placed and filled with slurry. Boring B-3 was located in the area of the storm sewer.

2.0 SCOPE OF WORK

GESTRA has performed the following services for the project:

- Contacted Diggers Hotline to identify the utility locations prior to drilling.
- Performed layout of the proposed boring locations using tape and stake methods and obtained ground surface elevations at the boring locations referenced to a site benchmark selected by GESTRA. A representative of GRAEF assisted GESTRA in locating the borings for the building, including the location adjacent to the abandoned storm sewer.
- Obtained Right of Way work permit from the City of Milwaukee prior to starting work in the area of the New Gateway Site Entrance.
- Performed standard penetration test (SPT) borings as identified in the following table. Samples were collected by Split-Barrel Sampler (SPT) or Thin Walled Tubes. Boreholes were abandoned with bentonite chips.

Scope Area	Borings	Sampling Intervals
1-New Gateway Site Entrance	2 at 15 feet each for the entrance road 1 at 20 feet for the new sign	2 ½ feet to 15 feet then 5 feet intervals
2-North End Sign	1 at 20 feet	Continuous 2 foot samples to the depth of the boring
3-New building pad	1 at 15 feet for north building wall 1 at 20 feet adjacent to the abandoned storm sewer	2 ½ feet to 15 feet then 5 feet intervals

- Performed laboratory soil tests to assign classification and engineering properties to the soils encountered. Laboratory testing included the following: hand penetrometer, moisture and organic content, Atterberg limit, unconfined compressive strength, dry density and grain size analysis.
- Prepared this geotechnical engineering report presenting the field exploration and lab testing results and providing the following recommendations:

  Scope Area 1: New Gateway Site Entrance and Sign: soil parameters for the pavement design consisting of an estimated Subgrade Values, asphalt and base course thickness for the proposed drive based on anticipated traffic, allowable soil bearing capacity for spread foundations, estimates of settlement for spread foundations, seismic site classification, anticipation and management of groundwater, and site preparation/soil correction recommendations.

Scope Area 2: North End Sign: allowable soil bearing capacity for spread foundations, estimates of settlement for spread foundations, seismic site classification, anticipation and management of groundwater, and site preparation/soil correction recommendations.

Scope Area 3: New Building: review of foundation recommendations and site testing work, discussion of suitability of the soils encountered in GESTRA's soils borings with respect to the recommended allowable soil bearing capacity, and site preparation/soil correction recommendations based on the conditions encountered.

3.0 EXPLORATION RESULTS

3.1 Site Conditions

The current site is a vacant lot that once was the location of buildings and parking lots for the old Tower Automotive property. Since the demolishing of the buildings, the site has and currently is in the process of redevelopment for the new Century City project. The north end of the property (location of the proposed building and north sign structure) is currently being re-graded and has exposed soil/ fill material at the surface. In the area of the proposed new gateway site entrance there is a concrete and asphalt road that runs parallel along the fence line of the property. West of the pavement is an unlandscaped field which has overgrown vegetation with areas of very soft soils near the surface of the ground.

Giles project 1G-1403018, report dated 5/12/2014 encountered existing fill to depth of 2 feet to 4 feet below the existing grades. The geotechnical report recommended the building be supported by spread foundations designed for an allowable soil bearing pressure of 4,000 psf bearing on native cohesive soil with an unconfined compressive strength of 2.0 tsf or greater.

Subsequent to the Giles report, we understand additional fill was placed in the building pad. Based on the information presented in GZA Project 20.0152603.30, report dated 12/10/2014, fill placed in the Area A building pad generally consisted of clayey fill and was compacted to a minimum of 95% of the standard Proctor (ASTM D698) dry density value. Information related to the depth and extent of the fill was not provided.

3.2 Subsurface Soil Profile

3.2.1 North End-Building Pad and Sign

Boring B-1 was drilled for the proposed sign structure and borings B-2 and B-3 were drilled within the area of the footprint of the building pad on the north end of the property.

Borings B-1 through B-3 were drilled on a stripped surface and in areas which has been re-graded. The fill material in boring B-1 consisted of a layer of sand with concrete pieces from the surface to a depth of 2 feet underlied by dark gray to black clay to a depth of 4 feet. For borings B-2 and B-3, the fill material varied from clay with various amounts of sand to clayey sand to depths of 7.8 feet in boring B-2 and 5.3 feet in boring B-3. Below the fill material in borings B-1 through B-3, the native soil was encountered.

The native soil in all of the borings consisted of very stiff to hard brown clay overlying stiff to very stiff gray clay to the termination depth of each boring. The clay transitioned

from brown to gray at a depth of 14 feet in boring B-1 and 18.5 feet in boring B-3. Gray clay was not encountered in boring B-2 which was terminated at 15 feet.

3.2.2 New Gateway Site Entrance

Boring B-4 was drilled for the proposed sign structure and borings B-5 and B-6 were drilled in the area of footprint of the new gateway site entrance. Borings could not be preformed near the western limit of the new gateway site entrance due to the soft condition of the soil at the ground surface.

Borings B-4 through B-6 was drilled just off of the existing asphalt and concrete pavement on the gravel surface or unlandscaped surface. The fill material varied between borings B-4 through B-6. The fill material consisted of clay to a depth of 7 feet in boring B-4, silt underlined by clayey gravel with sand to a depth of 7 feet in boring B-5 and gravel underlined by silt with sand to a depth of 7 feet in boring B-6. Below the fill material in borings B-4 through B-6, the native soil was encountered.

The native soil consisted of clayey sand to sandy clay with various amounts of gravel to the termination depth of each borehole. However, a layer of dense silt was encountered in boring B-6 from 12.8 feet to the termination depth of 15 feet in boring B-6.

The locations of the boreholes are depicted on the Borehole Location Maps and results of the field and laboratory tests and observations are depicted on the individual test boring logs included in Appendix I of this report. Soils were grouped together based on similar observed properties. The stratification lines were estimated by the reviewing engineer based on the available data and experience. The actual in-situ changes between layers may differ slightly and may be more gradual than depicted on the boring logs. Subsurface and groundwater conditions can vary between borehole locations and in areas not explored.

It is important to note that the soil observations and topsoil thickness estimates were made in small diameter boreholes. Therefore, it should be understood that thicker or thinner deposits of the individual strata are likely to be encountered within other portions of the project. Furthermore, the estimation of topsoil thickness at a particular location can differ from person to person due to a sometimes indistinct transition between the base material and underlying subgrade soils.

3.3 Groundwater Observations

Groundwater observations were made during and at the completion of drilling operations. Water was not encountered in any of the borings performed.

Due to the low permeability of the predominate clayey soils, water level observations should not be considered a true representation of actual ground water condition. Installation and monitoring of an observation well or review of other monitoring wells installed on site would be required to assess true groundwater elevation.

Groundwater level fluctuations may occur with time and seasonal change due to variations in precipitation, evaporation, surface water runoff and local dewatering. Perched water pockets and a higher water table may also be encountered during wet weather periods, particularly in more permeable silt and sand seams or granular fill material overlying less permeable clays.

4.0 ANALYSIS AND RECOMMENDATIONS

4.1 Site Preparation

The site preparation should start with stripping topsoil, vegetation, organic soils, debris (if present) or other deleterious material from the proposed entrance and sign structure foundations. In addition, all unused utilities (if present) should be properly removed or abandoned. Material removed from the project site should be disposed of in accordance with all applicable federal, state, and local regulations. Soil should not be stockpiled near or adjacent to the excavations.

In the pavement areas, after the initial site preparation, the subgrade should be recompacted and a proof roll is recommended with a minimum 20 ton tri-axle dump truck, or like machinery imparting similar static loading on the soil and moving at no more than walking speed. A geotechnical engineer or their designated representative should be present during the proof roll in order to identify soft or unstable areas, if any, and subsequently recommend remediation procedures. If instability is observed, these areas could be disked, dried, and re-compacted if weather permits, or removed and replaced with engineered fill.

In areas where fill is required, as a general rule for new fill placement, the lift thickness should not exceed 12 inches for granular soils and 9 inches for cohesive soils and the maximum particle size should be limited to 25% of the lift thickness. Engineered fill placed below sign foundations and in pavement areas should be compacted to a minimum of 95% of the Modified Proctor dry density value. Structural soil fill should be placed a minimum of five feet beyond the edges of the foundations and pavement areas, and an additional foot horizontally for each vertical foot of new fill to be placed to provide adequate lateral confinement. The inorganic site soils free of any debris that would be removed from excavations could be reused as engineered fill; however, moisture conditioning of the material may be necessary.

4.2 Building Discussion

Our soil borings B-2 and B-3 were similar to that presented in the report prepared by Giles Engineering Associates, Inc. (Giles) on May 12, 2014. At the time of drilling for GESTRA's soil borings, the grade of the site had changed from that at the time original report prepared by Giles. Documentation has been provided of the placement and compaction of the fill material by GZA GeoEnvironmental, Inc. (GZA).

The Giles report recommended spread foundations designed for an allowable soil bearing pressure of 4,000 psf bearing on native cohesive soil with an unconfined compressive strength of 2.0 tsf or greater. At the locations of GESTRA soil borings B-2 and B-3, native cohesive soil suitable for an allowable soil bearing pressure of 4,000 psf was encountered at depths of 7.8 feet and 5.3 feet, respectively.

4.3 Sign Structure Foundation Recommendations

The foundations for the proposed signs can be supported on a typical shallow spread/strip footing system designed for maximum net allowable bearing capacity of 4,000 pounds per square foot (psf) provided the recommendations in this report are followed and the footings bear at the anticipated elevations and on native cohesive soil with an unconfined compressive strength of 2.0 tsf or greater. Table 4-1 summarizes the recommended maximum allowable bearing pressures at each boring location. All soils exposed at foundation elevation should be undisturbed.

Table 4-1: Maximum Allowable Net Bearing Capacities

Sign Structure Boring No.	Location of Sign Structure	Depth to Recommended Bearing Material (ft)	Estimated Highest Elevation of Recommended Bearing Material* (ft)	Maximum Allowable Bearing Pressure (psf)	Foundation Bearing Soils
B-1	Northeast Corner of the Property	4	92.0	4,000	Very Stiff to Hard Fat Clay
B-4	North of the New East Entrance	7	90.5	4,000	Dense to Very Dense Clayey Sand with Gravel

***Referenced to Benchmark established by GESTRA, B-1 and B-4 use different benchmarks**

Where unsuitable soils are encountered at the foundation elevation, soil correction should consist of additional excavation to remove the unsuitable soils. If the over-excavation is being filled with engineered fill, we recommend the over-excavation be widened at a minimum 1H:1V ratio from the edge of the foundation. The over-excavation can then be filled to grade with suitable engineered fill consisting of a well graded granular material placed in lifts not exceeding 12 inches and compacted to at least 95% of the Modified Proctor density (ASTM D1557). Alternatively, lean concrete with a minimum compressive strength of 500 psi could be used to fill the over-excavation to grade and lateral over-excavation will not be required.

The depth of excavation required to expose suitable bearing material may vary in areas not explored by GESTRA; therefore, we recommend the foundation excavations be reviewed by a geotechnical engineer or their designated representative to determine when soils suitable to support the recommended bearing capacity are observed.

The shallow foundation design should incorporate a minimum strip footing width of 18 inches and column pad width of 24 inches, even if the allowable bearing capacity has not been fully utilized. All foundations for unheated structures should bear a minimum of 60 inches below grade in order to protect the structure from frost heave; however, this depth should be confirmed with requirements of the local municipality. We recommend that foundations also be suitably reinforced in order to compensate for the effects of minor differential movements due to subsurface soil variations.

If the recommendations as stated in this report are used in the design and construction of the proposed sign structure on the north end of the site, it is our opinion that total settlements will be less than 1 inch.

4.4 Seismic Site Classification

Section 1613 of the International Building Code 2012 (IBC) was used to assign a soil site classification. Based on the native soil conditions observed and assuming these are consistent or better to a depth of 100 feet, the soil site classification **D** (stiff soil) should be used in the

structural design of the proposed building. Based on site class D, and mapped spectral response acceleration S_s and S_1 for Milwaukee, Wisconsin, the site coefficient F_a and F_v are 1.6 and 2.4, respectively.

4.5 Soil Parameters for Pavement Design

From an evaluation of the available data, information available in the WisDOT Facilities Development Manual (FDM, Chapter 14, Section 1, Subject 1), and referring to the WisDOT Geotechnical Bulletin No. 1 Soil Parameters; we recommend that the specific pavement design values outlined below be used in establishing the appropriate pavement section(s) for the project.

If the final roadway design will include select material or additional subgrade preparation, the pavement type selection report should account for the select fill material or additional subgrade preparation and adjust the soil parameters as allowed for the final design.

These parameters assume soil correction has been performed as identified in this report and are based on a general average AASHTO classification for the subgrade soils of A-4.

Table 4-2: Estimated Average Soil Parameters

Design Parameters	
Design Group Index	14
Soil Support Value	3.9
Drainage Class	P-VP
Frost Index	F-4
Modulus of Subgrade Reaction (k)	125
Subgrade Resilient Modulus (psi)	2800

The roadbed resilient modulus may vary significantly with changes in the seasonal moisture conditions. During the driest times or frozen conditions, it will be the highest and during spring thaw it will likely be the lowest.

The above soil parameters assume the recommendations of Section 4.1 are followed. Based on the varying soil conditions and existing fill present, it is likely that some areas of subgrade improvement may be encountered and are more likely in areas of higher moisture content clay soils. Additionally, the use of the recommended design values is based on the following assumptions:

- The subgrade has been closely monitored during development of the road subbase.
- The subgrade has been thoroughly and adequately compacted.
- Wet zones have been dried, drained, or removed.
- Pockets of dissimilar material have been removed, replaced or mixed to achieve a homogeneous subgrade.
- Adequate subgrade drainage has been achieved. (Reference: WisDOT, *Geotechnical Bulletin No. 1*).

As part of our work, GESTRA discussed the proposed roadway with the City of Milwaukee. It is our understanding that a typical section for a City roadway of this type would be 8 inches of

concrete over 6 inches of base course. As necessary, GESTRA recommends the planned pavement section be reviewed with the City of Milwaukee prior to final design and construction.

The Wisconsin Asphalt Pavement Association (WAPA) Design Guide was used to provide the following recommendation for an asphalt pavement section the "New Gate Site Entrance". Based on an anticipated subgrade soil consisting of existing inorganic cohesive fill material encountered in the soil borings and the visually observed soft surface soils on the west section of the entrance, GESTRA recommends that "poor soils" condition should be assumed as the subgrade soils (estimated SSV value between 2.5 and 3.9). We have assumed a Traffic Class Type III, but the actual anticipated traffic should be confirmed as part of final design. In Table 4-3 below, we present our recommendations for the hot mix asphalt pavement and base course thickness for these areas.

Table 4-3: Pavement Design Recommendations

Pavement Layer Type	Thickness, inches Traffic Class III	Material Type	WisDOT Specifications
Hot Mix Asphalt	6.0	HMA Mix E-10 [a]	Section 460
Base Course (Dense Graded)	10.0	1¼ inch Crushed Stone	Section 305

[a] Mixture type E-0.3 should be used if design Daily ESAL < 41

Base course material should be placed at moisture content within 2% of optimum and compacted to minimum of 95% of the Modified Proctor value. Hot Mix Asphalt (HMA) should be placed and compacted following the guidelines of WisDOT Standard Specifications for Highway and Structure Construction, section 460.3.

All pavements require regular maintenance and repair in order to maintain the serviceability of the pavement. These repairs and maintenance are due to normal wear and tear of the pavement surface and are required in order to extend the serviceability life of the pavement. However, after 10 years of service, a normal pavement structure is likely to deteriorate to a point where pavement rehabilitation may be required to maintain the serviceability.

4.6 Construction Consideration

The detailed means and method of excavation and construction for the proposed project should be decided by the contractor and approved by the project design team. Based on the specific site information, geotechnical exploration results and requirements for the proposed structures, the following issues should be taken in consideration during construction.

Dewatering

Groundwater was not observed in any of the borings during and after the completion of drilling and is not anticipated to be encountered. However, if water is encountered during excavation, typical sump and pump techniques should be adequate to remove the water from the expected shallow excavations.

Excavation Stability

Caving is a common issue for excavation side walls during construction, especially if granular soils are observed. An excavation plan should be developed and the length of excavation left open should be limited to prevent caving soil from covering the suitable bearing soils. The contractor must comply with the federal, state, local and updated OSHA regulations during excavation and in retention system design to ensure excavation safety.

Weather Implications

The subgrade soil and/or the soil at the sign structure foundations depths and below the pavement section might become unstable with exposure to adverse weather such as rain, snow and freezing temperatures. The unstable areas due to weather exposure may require an additional undercut or stabilization and the representative geotechnical engineer should assist with the determination of the depth of additional undercut or stabilization procedure based on observation of the field condition.

Soil Sensitivity

Soil at the construction site will be exposed to moisture and disturbance from construction traffic, construction equipment and human factors. Due to the disturbance, soil may become sensitive with contact of water. Contractor should try to lessen the exposure the soil at the construction site may encounter to moisture and disturbances. Therefore, foundations and pavement should be constructed immediately after the review of the representative geotechnical engineer.

5.0 EXPLORATION AND TESTING PROCEDURES

5.1 Layout and Elevation Procedures

A total of six (6) soil borings were completed for the New Gateway Site Entrance, Sign Structures and Building Pad for the Century City development. The borehole locations are depicted on the attached Boring Location Maps in Appendix I. A representative of GRAEF assisted GESTRA in locating the building borings, including the location adjacent to the abandoned storm sewer. Boring locations were obtained using tape and stake methods and ground surface elevations at the boring locations were referenced to a site benchmark selected by GESTRA. GESTRA referenced the borings on the north end of the property to the sign structure located northwest of the property and referenced the borings in the new gateway site entrance to a monitor well located south of the entrance in the concrete pavement. The actual elevations of the benchmarks are unknown, but 100.0 feet was assigned as a reference for each benchmark by GESTRA for this report.

5.2 Field Testing Procedures

All of the boreholes were drilled using a track mounted CME 550 drill rig. The boreholes were initiated and advanced by using 3-¼ inch hollow stem augers. During drilling, soil samples were

collected at 2-½ foot intervals to a depth of 15 feet and then 5 foot intervals thereafter to termination depths. All representative soil samples were taken in general accordance with the "Standard Method for Penetration Test and Split-Barrel Sampling of Soils" (ASTM D1586). After each sampling, a soil sample was retained and placed in a jar and recorded for type, color, consistency, and moisture, sealed and then transported to the laboratory for further review and testing, if required. The specific drilling method used including the observed groundwater depth, rig type, crew chief, and borehole termination depth are included on each of the individual boring logs as it may change for each hole.

5.3 Laboratory Testing Procedures

After completion of drilling operations, all of the retained soil samples were transported to GESTRA's laboratory and classified by a geotechnical engineer using the Unified Soil Classification System. Boring B-1 was classified with descriptive procedures, terminology, and interpretations found in the Field Book for Describing and Sampling Soil, USDA, NRCS, 1998. Charts describing the classification system used are included in the Appendix I of this report. The engineer then assigned laboratory testing suited to extract important index properties of the soil layers. These tests included hand penetrometer, moisture and organic content, Atterberg limit, unconfined compressive strength, dry density and grain size analysis.

STANDARD OF CARE

Our exploration was limited to evaluating subsurface soil and groundwater conditions pertaining to the proposed project. GESTRA did not perform any environmental, chemical, or hydrogeologic testing as these were not part of our work scope.

This report should be made available in its entirety to bidding contractors for information purposes. The soil borings and site sketch should not be detached from this report. Our report is not valid if used for purposes other than what is described in the report.

All OSHA regulations such as those regarding proper sloping and temporary shoring of excavations should be followed during the entire construction process.

GESTRA has presented our professional opinions in this report in the form of recommendations. Our opinions are based on our understanding of current project information and related accepted engineering practices at the time of this report. Other than this, no warranty is implied or intended.

Sincerely,

GESTRA Engineering, Inc.

Report Prepared By:

Eric Jeske, P.E.
Staff Engineer

Report Reviewed By:

Douglas Dettmers, P.E.
Senior Engineer

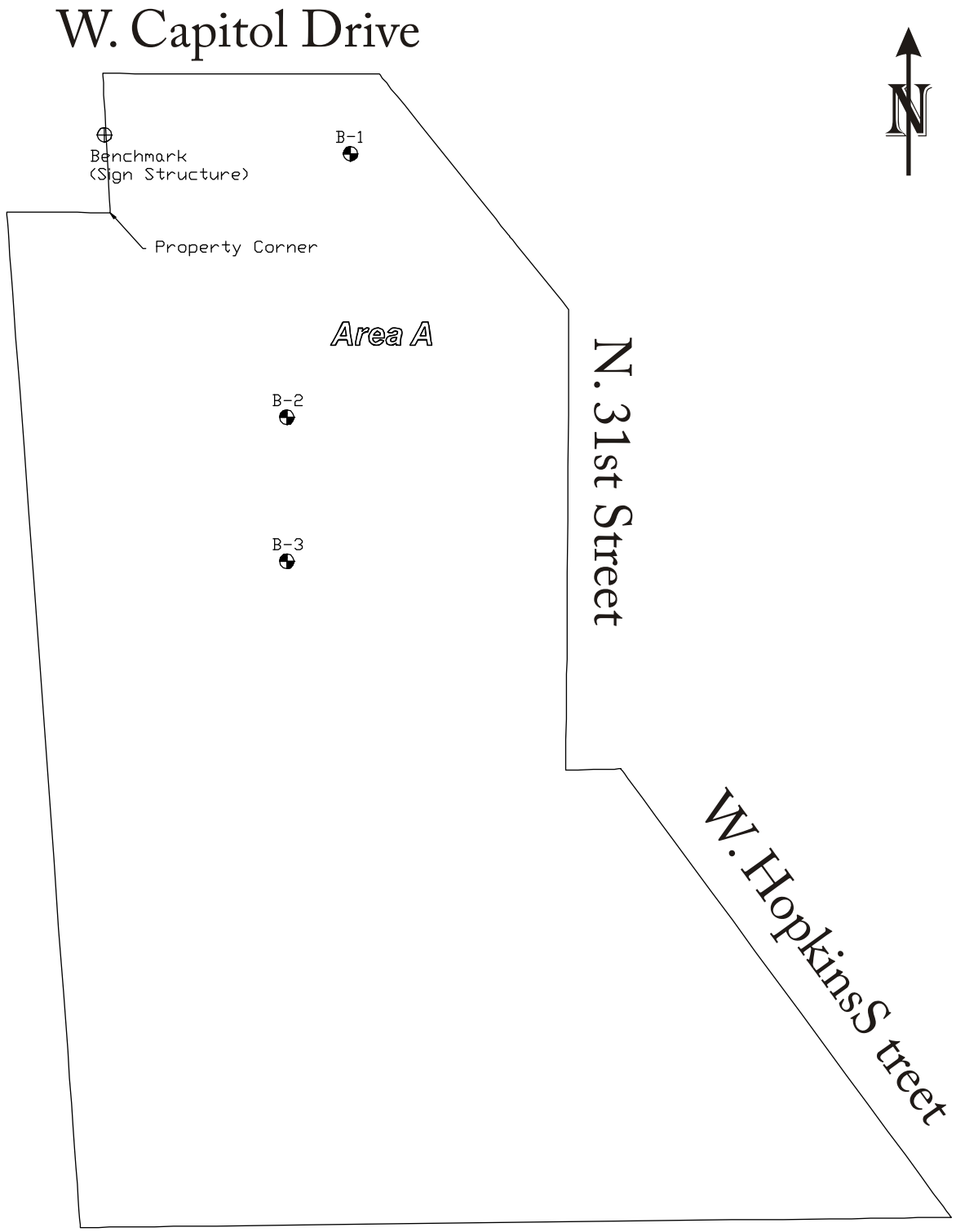
APPENDIX I

BORING LOCATION MAPS, TEST BORING LOGS, STORMWATER EVALUATION FORM AND NOMENCLATURE

Source: Milwaukee County GIS

GESTRA Engineering, Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53202
Phone: (414) 933-7444
Fax: (414) 933-7844

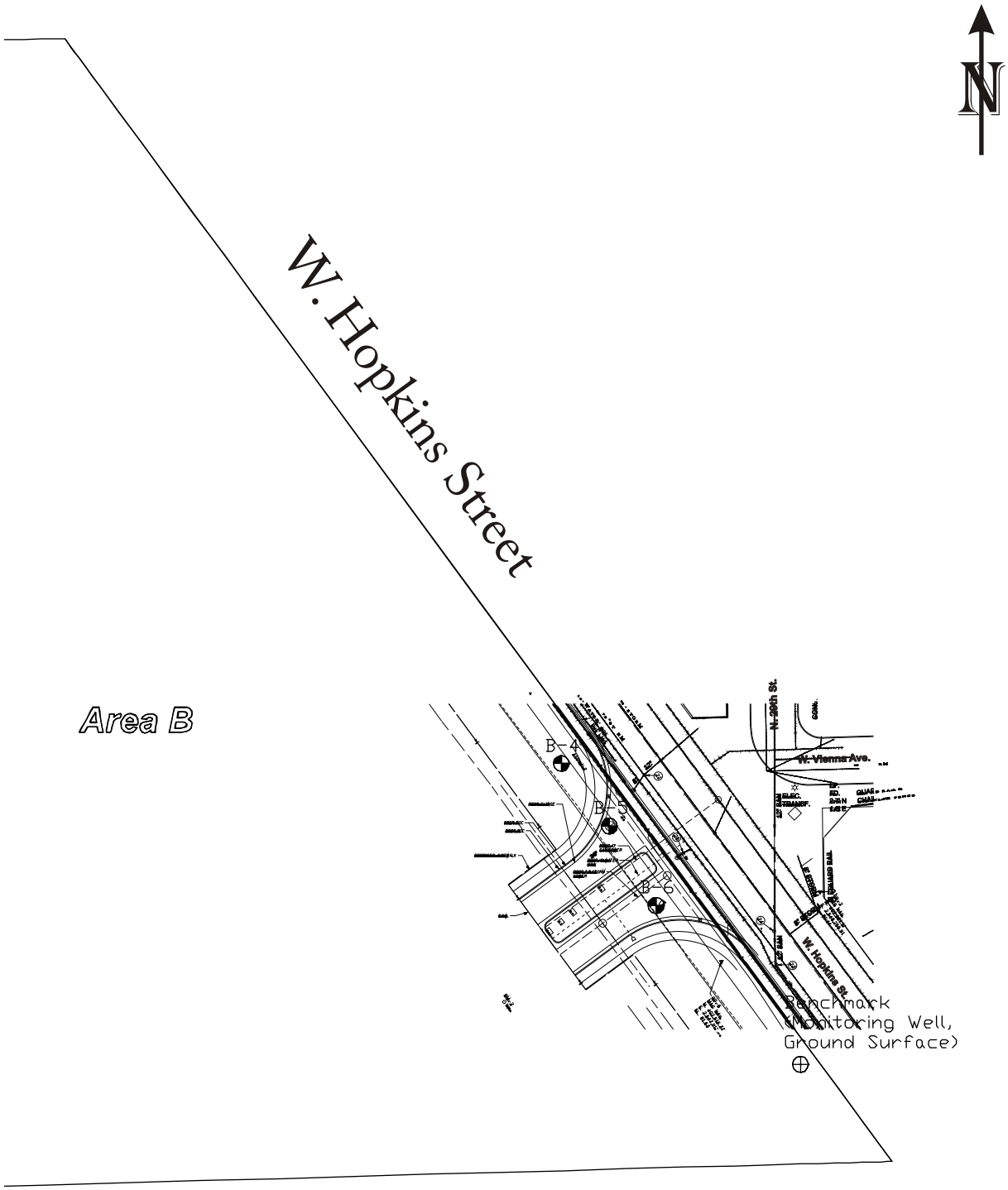
Project Name & Location: Proposed Century City Development Milwaukee, WI	Scale: Not to Scale
	Drawing No.: 1 of 3
	Checked by: ESJ
Drawing Title: Borehole Location Map	Checked by: DD
Project No.: 15026-10	Date: April 15, 2015



= BOREHOLE LOCATION

GESTRA Engineering, Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53202
Phone: (414) 933-7444
Fax: (414) 933-7844

Project Name & Location: Proposed Century City Development Milwaukee, WI	Scale: 1" = 100'
	Drawing No.: 2 of 3
	Checked by: ESJ
Drawing Title: Borehole Location Map	Checked by: DD
Project No.: 15026-10	Date: April 15, 2015



= BOREHOLE LOCATION

GESTRA Engineering, Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53202
Phone: (414) 933-7444
Fax: (414) 933-7844

Project Name & Location: Proposed Century City Development Milwaukee, WI	Scale: 1" = 100'
	Drawing No.: 2 of 3
	Checked by: ESJ
Drawing Title: Borehole Location Map	Checked by: DD
Project No.: 15026-10	Date: April 15, 2015

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PAGE NUMBER	1 of 1
PROJECT NAME	Century City-New Entrance, Signs, Building Pad
DATE DRILLING STARTED	3/25/2015
BORING NUMBER	B-1
PROJECT NUMBER	15021-10
PROJECT LOCATION	Milwaukee, WI
DATE DRILLING ENDED	3/25/2015
DRILLING RIG	CME 550
BORING DRILLED BY	FIRM: Gestra CREW CHIEF: M. Panfil
FIELD LOG	D. Harris
NORTHING	
DRILLING METHOD	3¼" HSA
LAB LOG / QC	E. Jeske
EASTING	
SURFACE ELEVATION	96 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	5	5 6 5 5	11			SAND, gray, moist, with concrete pieces, (FILL) 2 (94)	SP							Elevations referenced to sign structure northwest of the property. Refer to Borehole Location Map.
SS - 2	12	3 4 4 5	8			LEAN CLAY, dark gray to black, moist, trace organic matter, (FILL) 4 (92)	CL			2.5-2.75			22	LOI = 4.3%
SS - 3	24	4 6 9 10	15	5	91.0	FAT CLAY, brown mottled gray, very stiff to hard	CH			4.50	55	36	26	
SS - 4	24	5 7 8 10	15			With silt seams in sample SS-4				2.5-4.5			27	P200 =88.4%
SS - 5	24	5 5 6 7	11	10	86.0					3.25			25	
SS - 6	18	3 3 6 5	9			12.5 (83.5)				3.0-3.5			22	
SS - 7	20	5 7 7 6	14			LEAN CLAY, brown, moist to very moist, very stiff, trace gravel				2.0-2.25			14	
SS - 8	24	3 4 5 5	9	15	81.0	Color change to gray at 14 ft 16 (80)	CL			1.50			11	
SS - 9	22	4 6 9 12	15			SILTY CLAY, gray, moist, very stiff 18 (78)	CL-ML			3.00			11	
SS - 10	24	6 5 7 9	12	20	76.0	LEAN CLAY, gray, moist, stiff to very stiff 20 (76)	CL			1.5-2.0			12	
				25	71.0	End of Boring at 20.0 ft.								

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE	CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE	CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR	NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME: Century City-New Entrance, Signs, Building Pad	DATE DRILLING STARTED: 3/25/2015	PAGE NUMBER: 1 of 1	BORING NUMBER: B-2
PROJECT LOCATION: Milwaukee, WI	DATE DRILLING ENDED: 3/25/2015	PROJECT NUMBER: 15021-10	DRILLING RIG: CME 550
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: M. Panfil	FIELD LOG: D. Harris	NORTHING	DRILLING METHOD: 3¼" HSA
	LAB LOG / QC: E. Jeske	EASTING	SURFACE ELEVATION: 104 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						SANDY LEAN CLAY, brown, moist, trace gravel, (FILL)								Elevations referenced to sign structure northwest of the property. Refer to Borehole Location Map.
SS - 1	16	4 6 10	16				CL			4.0-4.5+			11	
						2.9 (101.1)								
						LEAN CLAY WITH SAND, gray, moist, trace gravel, (FILL)								
SS - 2	14	11 8 9	17	5	99.0					4.5+			16	
							CL							
SS - 3	12	5 5 7	12			Color changed to dark gray at 6 ft				2.25-2.5			16	
						7.8 (96.2)								
						FAT CLAY, brown mottled gray, moist, very stiff to hard								
SS - 4		4 7 8	15	10	94.0					3.50	50	31	22	γ_d = 105.1 pcf γ_T = 127.8 pcf Driller attempted Shelby tube at 8 ft no recovery. To hard to push tube with out damaging it. Recovery not recorded on the field log for split spoon sample.
							CH							
SS - 5	15	5 7 10	17							3.0-4.5+			20	
SS - 6	18	4 5 7	12	15	89.0	15 (89)				2.00			26	
						End of Boring at 15.0 ft.								
				20	84.0									
				25	79.0									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE		CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE		CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR		NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME: Century City-New Entrance, Signs, Building Pad	DATE DRILLING STARTED: 3/25/2015	PAGE NUMBER: 1 of 1	BORING NUMBER: B-3
PROJECT LOCATION: Milwaukee, WI	DATE DRILLING ENDED: 3/25/2015	PROJECT NUMBER: 15021-10	DRILLING RIG: CME 550
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: M. Panfil	FIELD LOG: D. Harris	NORTHING	DRILLING METHOD: 3¼" HSA
	LAB LOG / QC: E. Jeske	EASTING	SURFACE ELEVATION: 104.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						SANDY LEAN CLAY, dark brown, moist, trace gravel, (FILL)								Elevations referenced to sign structure northwest of the property. Refer to Borehole Location Map.
SS - 1	15	7 7 15	22			Wood pieces and strong odor in sample SS-1	CL			4.5+			11	
						2.8 (101.8)								
						CLAYEY SAND, brown with black, moist, trace gravel, (FILL)								
SS - 2	15	12 11 9	20	5	99.6		SC							
						5.3 (99.3)								
						FAT CLAY, brown mottled gray, moist, stiff to hard								
SS - 3	16	3 4 5	9							3.0-4.25			25	
						Color changed to brown at 8.5 ft								
SS - 4	18	6 9 13	22	10	94.6					4.5+			22	
SS - 5	18	6 6 8	14							2.50 (2.86)			27	γ_d = 98.3 pcf, γ_T = 124.7 pcf
							CH							
SS - 6	18	4 5 6	11	15	89.6					3.0-3.5			24	
						Color changed to gray at 18.5 ft								
SS - 7	18	5 5 6	11	20	84.6	20 (84.6)				1.50			28	
						End of Boring at 20.0 ft.								
				25	79.6									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE	CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE	CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR	NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME: Century City-New Entrance, Signs, Building Pad	DATE DRILLING STARTED: 3/25/2015	PAGE NUMBER: 1 of 1	BORING NUMBER: B-4
PROJECT LOCATION: Milwaukee, WI	DATE DRILLING ENDED: 3/25/2015	PROJECT NUMBER: 15021-10	DRILLING RIG: CME 550
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: M. Panfil	FIELD LOG: D. Harris	NORTHING	DRILLING METHOD: 3¼" HSA
	LAB LOG / QC: E. Jeske	EASTING	SURFACE ELEVATION: 97.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						LEAN CLAY, brown mottled gray, moist, trace sand and gravel, (FILL)								Elevations referenced to monitoring well located south of borings in the concrete pavement east of the borings. Refer to Borehole Location Map.
SS - 1	15	5 5 5	10				CL			1.0-2.0			14	
						2.8 (94.7)								
						LEAN CLAY, brown with dark brown, moist, trace gravel, (FILL)								
SS - 2	18	6 9 12	21	5	92.5		CL			4.5+			12	
SS - 3	16	15 23 20	43			7 (90.5)								
						CLAYEY SAND WITH GRAVEL, gray, moist, dense to very dense								
SS - 4	18	16 22 21	43	10	87.5									Gravel = 15.2% Sand = 36.3% P200 =48.5%
SS - 5	16	15 25 29	54											
SS - 6	15	14 27 47	74	15	82.5		SC							
SS - 7	16	17 30 39	69	20	77.5	20 (77.5)								
						End of Boring at 20.0 ft.								
				25	72.5									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE	CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE	CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR	NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME: Century City-New Entrance, Signs, Building Pad	DATE DRILLING STARTED: 3/25/2015	PAGE NUMBER: 1 of 1	BORING NUMBER: B-5
PROJECT LOCATION: Milwaukee, WI	DATE DRILLING ENDED: 3/25/2015	PROJECT NUMBER: 15021-10	DRILLING RIG: CME 550
BORING DRILLED BY: FIRM: Gestra, CREW CHIEF: M. Panfil	FIELD LOG: D. Harris	NORTHING	DRILLING METHOD: 3¼" HSA
	LAB LOG / QC: E. Jeske	EASTING	SURFACE ELEVATION: 98.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						SILT, brown, moist, trace gravel and sand, (FILL)								Elevations referenced to monitoring well located south of borings in the concrete pavement east of the borings. Refer to Borehole Location Map.
SS - 1	10	30 34 17	51				ML				15	3	9	
						2.7 (95.4)								
						CLAYEY GRAVEL WITH SAND, brown, moist, (FILL)								
SS - 2	16	6 9 21	30	5	93.1		GC							Gravel = 35.1% Sand = 25.7% P200 =39.2%
SS - 3	14	35 34 31	65			7 (91.1)								
						CLAYEY SAND WITH GRAVEL, gray, moist, medium dense to dense								
SS - 4	18	8 10 12	22	10	88.1									
SS - 5	5	12 16 24	40				SC							Poor recovery unable to obtain Qp value.
SS - 6	15	13 12 16	28	15	83.1	15 (83.1)								
						End of Boring at 15.0 ft.								
				20	78.1									
				25	73.1									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE	CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE	CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR	NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME	Century City-New Entrance, Signs, Building Pad	DATE DRILLING STARTED	3/25/2015
PROJECT LOCATION	Milwaukee, WI	DATE DRILLING ENDED	3/25/2015
BORING DRILLED BY	FIRM: Gestra CREW CHIEF: M. Panfil	FIELD LOG	D. Harris
		LAB LOG / QC	E. Jeske
		NORTHING	
		EASTING	

PAGE NUMBER	1 of 1
BORING NUMBER	**B-6**
PROJECT NUMBER	15021-10
DRILLING RIG	CME 550
DRILLING METHOD	3¼" HSA
SURFACE ELEVATION	98.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						GRAVEL WITH SAND, brown, moist, (FILL)								Elevations referenced to monitoring well located south of borings in the concrete pavement east of the borings. Refer to Borehole Location Map. Poor recovery
SS - 1	1	8 9 11	20				GP							
						2.3 (96.5)								
						SILT WITH SAND, brown, moist,very dense, trace gravel								
SS - 2	12	4 30 26	56	**5**	**93.8**		ML				15	2	13	
						7 (91.8)								
SS - 3	18	7 22 32	54											Driller hit obstruction at 6 ft had to offset boring 5 ft south. Driller blind drilled to 6 ft and resumed sampling to end of boring.
						CLAYEY SAND WITH GRAVEL, gray, moist, dense to very dense								
SS - 4	8	25 28 28	56	**10**	**88.8**		SC							Fractured gravel pieces in sample SS-4
SS - 5	15	9 21 25	46											
						12.8 (86)								
						SILT, gray, moist, dense								
SS - 6	16	12 19 24	43	**15**	**83.8**		ML						12	
						15 (83.8)								
						End of Boring at 15.0 ft.								
				20	**78.8**									
				25	**73.8**									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING (ft): NE	CAVE DEPTH AT COMPLETION (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION (ft): NE	CAVE DEPTH AFTER 0 HOURS (ft): NMR	WET ☐ DRY ☐
WATER LEVEL AFTER 0 HOURS (ft): NMR	NE = Not Encountered; NMR = No Measurement Recorded	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOILS CLASSIFICATION FOR ENGINEERING PURPOSES

ASTM Designation: D 2487 - 83

(Based on Unified Soil Classification System)

SOIL ENGINEERING

		Criteria for Assigning GroupSymbols and Group Names Using Laboratory Tests [A]		Soil Classification[B] Group Symble	Group Name
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less Less than 5% fines [C]	Cu≥ 4 and 1≤ Cc ≤3[E]	GW	Well graded gravel [F]
			Cu< 4 and/or 1> Cc >3[E]	GP	Poorly graded gravel [F]
		Gravels with Fines more than 12% fines [C]	Fines Classify as ML or MH	GM	Silty gravel [F.G.H.]
			Fines classify as CL or CH	GC	Clayey gravel [F.G.H.]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean sandss Less than 5% fines [D]	Cu≥ 6 and 1≤ Cc ≤3[E]	SW	Well graded sand [I]
			Cu< 6 and/or 1> Cc >3[E]	SP	Poorly graded sand [I]
		Sands with Fines more than 12% fines [D]	Fines Classify as ML or MH	SM	Silty sand [G.H.I]
			Fines classify as CL or CH	SC	Clayey sand [G.H.I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid Limit less than 50	inorganic	PI >7 and plots on or above " A" line	CL	Lean clay [K.L.M]
			PI<4 or plots below " A " line	ML	Silt [K.L.M]
		organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [K.L.M.N] Organic Silt [K.L.M.O]
	Silts and Clays Liquid Limit 50 or more	inorganic	PI plots on or above " A " line	CH	Fat clay [K.L.M]
			PI plots below " A " line	MH	Elastic silt [K.L.M]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [K.L.M.P] Organic Silt [K.L.M.Q]
Highly organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat
Fibric Peat > 67% Fibers		Hemic Peat 33 % - 67 % Fibers		sapric	Peat < 33% Fibers

[A] Based on the material passing the 3-in (75- mm)sieve

[B] If field sample contained cobbles or boulders, or both. add with cobbles or boulders, or both to group name

[C] Gravels with 5 to 12 % fines require dual symbols:
GW - GM well-graded gravel with silt
GW - GC well-graded gravel with clay
GP - GM poorly-graded gravel with Silt
GP - GC poorly-graded gravel with clay

[D] Sands with 5 to 12 % fines require dual symbols:
SW -SM well-graded sand with silt
SW - SC well-graded sand with clay
SP - SM poorly-graded sand with Silt
SP - SC poorly-graded sand with clay

[E] $Cu = \frac{D_{60}}{D_{10}}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name

[G] If fines classify as CL-ML, use dual symbol GC-GM. or SC-SM

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in hatched area, soil is a CL_ML silty clay
If soil contains 15 to 29% plus No. 200, add, "with sand" or " with gravel", whichever is predominent

[L] If soil contains ≥ 30% plus No.200, predominantly sand, add "sandy" to the group name

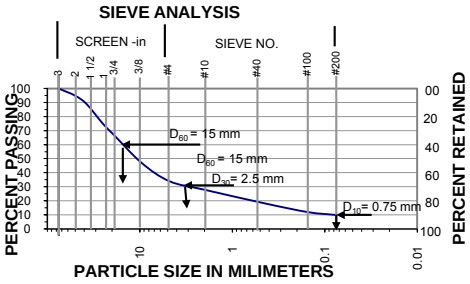
[M] If soil contains ≥ 30% plus No.200, predominantly gravel add "gravelly" to the group name

[N] PI ≥4 and plots on or above "A" Line

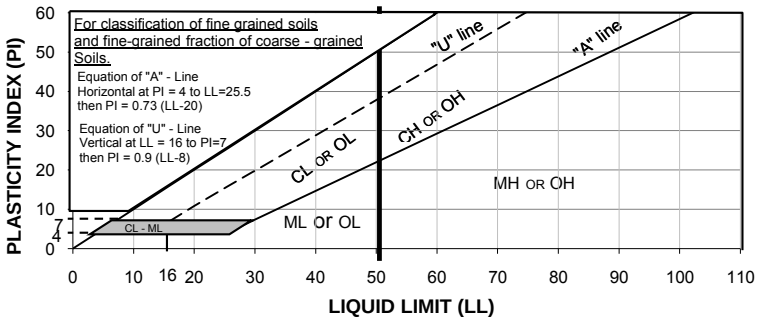
[O] PI < 4 or plots below "A" Line

[P] PI plots on or above "A" Line

[Q] PI plots below "A" Line



$Cu = \frac{D_{60}}{D_{10}} = \frac{15}{0.075} = 200$ $C_c = \frac{(D_{30})^2}{D_{60} X D_{10}} = \frac{(2.5)^2}{15X\ 0.075} = 5.6$



Geotechnical -Structural- Pavement - Construction Materials

GENERAL NOTES

DRILLING AND SAMPLING SYMBOLS

SYMBOL	DEFINITION
HSA	Hollow Stem Auger
RWB	Rotary Wash Boring (Mud Drilling)
_FA	4", 6" or 10" Diameter Flight Auger
_HA	2", 4" or 6" Hand Auger
_DC	2 1/2" , 4" , 5" or 6" Steel Drive Casing
_RC	Size A, B, or N Rotary Casing
PD	Pipe Drill or Cleanout Tube
CS	Continuous Split Spoon Sampling
DM	Drill Mud
JW	Jetting Water
SS	2" O.D. Split Spoon Sample
_L	2 1/2" or 3 1/2" O.D. SB Liner Sample
ST	3" Thin Walled Tube Sample (Shelby Tube)
3TP	3" Thin Walled Tube (Pitcher Sampler)
_TO	2" or 3" Thin Walled Tube (Osterberg Sampler)
W	Wash Sample
B	Bag Sample
P	Test Pit Sample
_Q	BQ, NQ, or PQ Wireline System
_X	AX, BX, or NX Double Tube Barrel
CR	Core Recovery – Percent
NSR	No Sample Recovered, classification based on action of drilling, equipment and/or material noted in drilling fluid or on sampling bit.
NMR	No Measurement Recorded, primarily due to presence of drilling or coring fluid.
▽	Water Level Symbol

TEST SYMBOLS

SYMBOL	DEFINITION
MC	Moisture Content - % of Dry Wt. – ASTM D 2216
OC	Organic Content - % of Dry Wt. – ASTM D 2974
DD	Dry Density – Pounds Per Cubic Foot
LL, PL	Liquid and Plastic Limit – ASTM D 4318

Additional Insertions

Qu	Unconfined Comp. Strength-psf – ASTM D 2166
Qp	Penetrometer Reading – Tons/Square Foot
Ts	Torvane Reading – Tons/Square Foot
G	Specific Gravity – ASTM D 854
SL	Shrinkage Limits – ASTM D 427
OC	Organic Content – Combustion Method
SP	Swell Pressure - Tons/Square Foot
PS	Percent Swell
FS	Free Swell – Percent
pH	Hydrogen Ion Content. Meter Method
SC	Sulfate Content – Parts/ Million, same as mg/L
CC	Chloride Content - Parts/ Million, same as mg/L
C*	One Dimensional Consolidation – ASTM D 2453
Qc*	Triaxial Compression
D.S.*	Direct Shear – ASTM D 3080
K*	Coefficient of Permeability – cm/sec
D*	Dispersion test
DH*	Double Hydrometer – ASTM D 4221
MA*	Particle Size Analysis – ASTM D 422
R	Laboratory Receptivity, in ohm – cm – ASTM G 57
E*	Pressuremeter Deformation Modulus – TSF
PM*	Pressuremeter Test
VS*	Field Vane Shear – ASTM D 2573
IR*	Infiltrometer Test – ASTM D 3385
RQD	Rock Quality Designation – Percent

*See attached data sheet or graph

WATER LEVEL

Water levels shown on the boring logs are the levels measured in the borings at the time and under the conditions indicated. In sand, the indicated levels may be considered reliable ground water levels. In clay soil, it may not be possible to determine the ground water level within the normal time required for test borings, except where lenses or layers of more pervious waterbearing soil are present. Even then, an extended period of time may be necessary to reach equilibrium. Therefore, the position of the water level symbol for cohesive or mixed texture soils may not indicate the true level of the ground water table. Perched water refers to water above an impervious layer, thus impeded in reaching the water table. The available water level information is given at the bottom of the log sheet.

DESCRIPTIVE TERMINOLOGY

DENSITY TERM	"N" VALUE
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

CONSISTENCY TERM	Unconfined Compressive Strength, (tsf)	"N" VALUE
Very Soft	<0.25	0-2
Soft	0.25 - 0.49	2-4
Medium Stiff	0.5 - 0.99	4-8
Stiff	1.0 - 1.99	8-16
Very Stiff	2.0 - 3.99	16-30
Hard	4.0+	Over 30

Standard "N" Penetration: Blows per Foot of a 140 Pound Hammer Falling 30 inches on a 2 inch OD Split Barrel Sampler

Lamination	Up to 1/2" thick stratum
Layer	1/2" to 6" thick stratum
Lens	1/2" to 6" discontinuous stratum
Varved	Alternating laminations
Dry	Powdery, no noticeable water
Moist	Below saturation
Wet	Saturated, above liquid limit
Water bearing	Pervious soil below water

RELATIVE GRAVEL PROPORTIONS

CONDITION	TERM	RANGE
Coarse Grained Soils	trace of gravel	2-14%
	with gravel	15-49%
Fine Grained Soils		
15-29% + No. 200	trace of gravel	2-14%
15-29% + No. 200	with gravel	15-29%
30% + No. 200	trace of gravel	2-14%
30% + No. 200	with gravel	15-24%
30% + No. 200	gravelly	25-49%

RELATIVE SIZES

Boulder	Over 12"
Cobble	3" - 12"
Gravel	
Coarse	3/4" - 3"
Fine	#4 – 3/4"
Sand	
Coarse	#4 - #10
Medium	#10 - #40
Fine	#40- #200
Silt & Clay	- # 200, Based on Plasticity

Wis. Dept. of Safety and Professional Services
Division of Industry Services

SOIL EVALUATION - STORM

in accordance with SPS 382.365 and 385, Wis. Adm. Code

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale, or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04 (1) (m)).

County	
Milwaukee	
Parcel I.D.	
Reviewed by	Date
E. Jeske	3/27/15

Property Owner	Property Location
Redevelopment Authority of the City of Milwaukee	Govt. Lot ¼ ¼ S T N R E (or) W
Property Owner's Mailing Address: 809 N. Broadway	Lot # / Block # / Subd. Name or CSM#
City: Milwaukee; State: WI; Zip Code: 53202; Phone Number:	[X] City [ ] Village [ ] Town; Nearest Road: N. Hopkins St.

Drainage area _____ [ ] sq. ft. [ ] acres

Optional:

Test Site Suitable for (check all that apply)

[ ] Irrigation [ ] Bioretention trench [ ] Trench(es)

[ ] Rain Garden [ ] Grassed swale [ ] Reuse

[ ] Infiltration Trench [ ] SDS (> 15' wide) [ ] Other _____

Hydraulic Application Test Method:

[X] Morphological Evaluation

[ ] Double-Ring Infiltrometer

[ ] Other (specify) _____

B-1 Obs. # [X] Boring [ ] Pit Ground surface elev. 96 ft. Depth to limiting factor 216 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Roots Qu. Sz.	%Rock Frag.	Hydraulic App. Rate Inches/Hr
Au	24	10YR 3/2	FILL	VGRs	0, gr	m lo	-	40	3.6
O	48	10YR 2/1	FILL	sicl	m	m vfi	-	0	0.04
B	62	10YR 4/3		c	1, f, pl	m efi	-	0	0.07
B	86	10YR 6/3	c, 3, d, 10YR 6/8	sicl	2, vf, lp	m vfi	-	0	0.04
B	150	10YR 4/3		c	2, f, abk	m efi	-	0	0.07
B	168	2.5Y 5/3		sl	m	m fr	-	5-10	0.5
B	216	10YR 5/1		sl	m	m fr	-	5-10	0.5
B	240	10YR 5/2		sicl	m	m fr	-	10-15	0.04

Obs. # [ ] Boring [ ] Pit Ground surface elev. _____ ft. Depth to limiting factor _____ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Roots Qu. Sz.	%Rock Frag.	Hydraulic App. Rate Inches/Hr

CST/PSS Name (Please Print)	Signature	CST/PSS Number
Jeff Bruesewitz		
Address	Date Evaluation Conducted	Telephone Number
1626 W. Fond du Lac Avenue, Milwaukee, WI 53205	3/27/2015	414-933-7444

SOILS CLASSIFICATION FOR ENGINEERING PURPOSES

(Based on U.S. Dept. of Agriculture & Natural Resources Conservation Service)

SOIL ENGINEERING

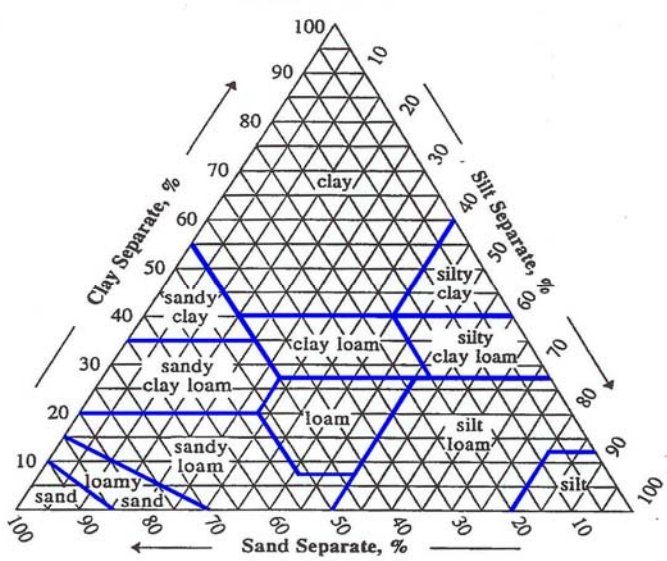
		Criteria for Assigning GroupSymbols and Group Names Using Laboratory Tests		Soil Classification: Group Symble	Soil Classification: Group Name
Coarse-Grained Soils More than 15% retained on No. 10 sieve	Rock Fragments	≥ 15% but < 35% rock fragments	> 25"	BY	Boulders
			10" < 25"	ST	Stones
			3" < 10"	CB	Cobbles
	Gravels	≥ 15% but < 35% gravel	3/4" < 3"	CGR	Coarse Gravel
			# 4 < 3/4"	MGR	Medium Gravel
			# 10 < # 4	FGR	Fine Gravel
Sands	Texture class based on Texture Triangle	Use rock fragment modifiers if > 15% retained on # 10	# 18 < # 10	VCOS	Very Coarse Sand
			# 35 < # 18	COS	Coarse Sand
			# 60 < # 35	S	Sand
			# 140 < # 60	FS	Fine Sand
			# 300 < # 140	VFS	Very Fine Sand
Fine-Grained Soils 50% or more passes the No. 300 sieve	Silts and Clays Texture class based on Texture Triangle	Use rock fragment modifiers if > 15% retained on # 10	.02 mm < .05 mm		Coarse Silt
			.002 mm < .02 mm		Fine Silt
			.0002 mm < .002 mm		Coarse Clay
			< .0002 mm		Fine Clay

[F] Use Field Book for Describing and Sampling Soils V 2.0

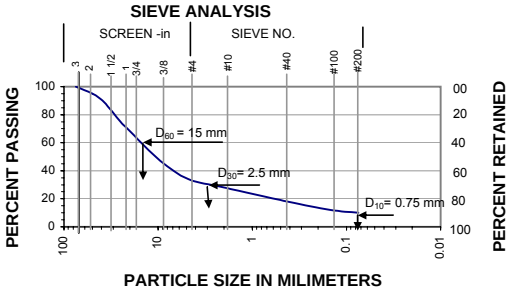
Texture Classes [F]	Code
Loamy Coarse Sand	LCOS
Loamy Sand	LS
Loamy Fine Sand	LFS
Loamy Very Fine Sand	LVFS
Coarse Sandy Loam	COSL
Sandy Loam	SL
Fine Sandy Loam	FSL
Very Fine Sandy Loam	VFSL
Loam	L
Silt Loam	SIL
Silt	SI
Sandy Clay Loam	SCL
Clay Loam	CL
Silty Clay Loam	SICL
Sandy Clay	SC
Silty Clay	SIC
Clay	C

15 < 35 %	size adjective
35 < 60 %	Very (size adj.)
60 < 90 %	Extremely (size adj.)

Texture Triangle



SIEVE ANALYSIS



APPENDIX II

LABORATORY TEST RESULTS

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of
Moisture Content, Organic Content, and Density of Soil

Project Name:	Century City	Date:	March 24, 2015
Project Number:	15021-10	Report To:	GRāEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1
Sample Number	2	3	4	5	6	7	8	9
Cup Number	PC D	P1	P6	J4	T10	Q11	A8	Q8
Weight of Cup (g)	71.69	24.48	27.39	24.89	25.28	24.83	22.93	25.12
Weight of Wet Soil and Cup (g)	121.73	47.26	46.53	53.54	50.16	58.93	51.96	53.75
Weight of Dry Soil and Cup (g)	112.57	42.57	42.50	47.84	45.67	54.64	48.99	50.96
Weight of Soil and Cup After Burn (g)	110.81							
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	22.4	25.9	26.7	24.8	22.0	14.4	11.4	10.8
Organic Content (%)	4.3							
Wet Density (pcf)								
Dry Density (pcf)								

Boring Number	B-1							
Sample Number	10							
Cup Number	R1							
Weight of Cup (g)	25.44							
Weight of Wet Soil and Cup (g)	54.55							
Weight of Dry Soil and Cup (g)	51.37							
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	12.3							
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of
Moisture Content, Organic Content, and Density of Soil

Project Name:	Century City	Date:	March 24, 2015
Project Number:	15021-10	Report To:	City of Milwaukee
Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-2	B-2	B-2	B-2	B-2	B-2		
Sample Number	1	2	3	4	5	6		
Cup Number	B2	Q6	P3	M2	Q2	Q5		
Weight of Cup (g)	25.61	23.99	23.42	26.95	24.24	24.38		
Weight of Wet Soil and Cup (g)	57.80	47.93	52.55	54.81	52.76	50.61		
Weight of Dry Soil and Cup (g)	54.68	44.68	48.46	49.87	47.91	45.18		
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)				0.310				
Diameter (in)				1.372				
Length(in)				2.835				
Moisture Content (%)	10.7	15.7	16.3	21.6	20.5	26.1		
Organic Content (%)								
Wet Density (pcf)				127.8				
Dry Density (pcf)				105.1				

Boring Number								
Sample Number								
Cup Number								
Weight of Cup (g)								
Weight of Wet Soil and Cup (g)								
Weight of Dry Soil and Cup (g)								
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)								
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of
Moisture Content, Organic Content, and Density of Soil

Project Name:	Century City	Date:	March 24, 2015
Project Number:	15021-10	Report To:	GRāEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-3	B-3	B-3	B-3	B-3	B-3		
Sample Number	1	3	4	5	6	7		
Cup Number	T7	B1	B7	A9	T5	M6		
Weight of Cup (g)	23.42	26.64	27.27	24.41	25.91	24.00		
Weight of Wet Soil and Cup (g)	56.46	50.99	51.34	52.66	56.80	44.80		
Weight of Dry Soil and Cup (g)	53.26	46.14	46.92	46.69	50.82	40.28		
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	10.7	24.9	22.5	26.8	24.0	27.8		
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Boring Number								
Sample Number								
Cup Number								
Weight of Cup (g)								
Weight of Wet Soil and Cup (g)								
Weight of Dry Soil and Cup (g)								
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)								
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
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Laboratory Test Results of
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Project Name:	Century City	Date:	March 24, 2015
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Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-4	B-4						
Sample Number	1	2						
Cup Number	P5	Y6						
Weight of Cup (g)	26.98	26.55						
Weight of Wet Soil and Cup (g)	52.98	50.40						
Weight of Dry Soil and Cup (g)	49.70	47.76						
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	14.4	12.4						
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Boring Number								
Sample Number								
Cup Number								
Weight of Cup (g)								
Weight of Wet Soil and Cup (g)								
Weight of Dry Soil and Cup (g)								
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)								
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of
Moisture Content, Organic Content, and Density of Soil

Project Name:	Century City	Date:	March 24, 2015
Project Number:	15021-10	Report To:	GRāEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-5							
Sample Number	1							
Cup Number	B3							
Weight of Cup (g)	23.95							
Weight of Wet Soil and Cup (g)	45.29							
Weight of Dry Soil and Cup (g)	43.54							
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	8.9							
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Boring Number								
Sample Number								
Cup Number								
Weight of Cup (g)								
Weight of Wet Soil and Cup (g)								
Weight of Dry Soil and Cup (g)								
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)								
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of
Moisture Content, Organic Content, and Density of Soil

Project Name:	Century City	Date:	March 24, 2015
Project Number:	15021-10	Report To:	GRāEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D2216, D 2974**		

Boring Number	B-6	B-6						
Sample Number	2	6						
Cup Number	A5	Y8						
Weight of Cup (g)	28.63	26.06						
Weight of Wet Soil and Cup (g)	53.48	52.30						
Weight of Dry Soil and Cup (g)	50.56	49.46						
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)	13.3	12.1						
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Boring Number								
Sample Number								
Cup Number								
Weight of Cup (g)								
Weight of Wet Soil and Cup (g)								
Weight of Dry Soil and Cup (g)								
Weight of Soil and Cup After Burn (g)								
Weight of Sample for Density (lbs)								
Diameter (in)								
Length(in)								
Moisture Content (%)								
Organic Content (%)								
Wet Density (pcf)								
Dry Density (pcf)								

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Atterberg Limits of Soil

Project Name:	Century City	Date:	March 30, 2015
Project Number:	15021-10	Client:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D4318**		

Sample Information

Type of Sample	Split Spoon
Boring Number	B-1
Sample Number	SS-3
Depth of Sample	4'-6'

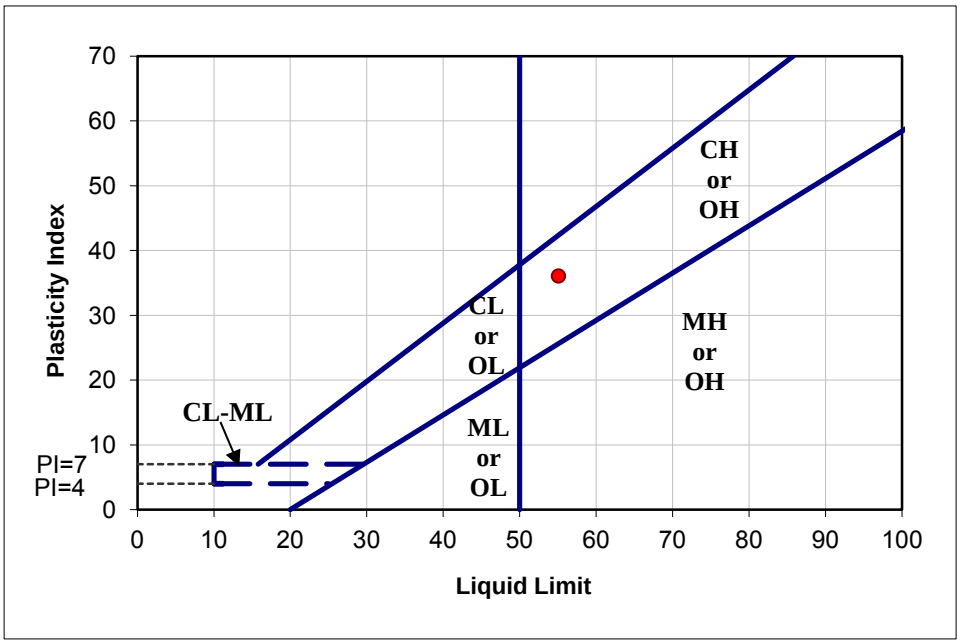
Determination of Liquid Limit

Cup Number	D2	D5	L4
Weight of Cup (g)	14.20	14.20	14.30
Weight of Wet Soil and Cup (g)	31.27	31.30	33.27
Weight of Dry Soil and Cup (g)	25.40	25.24	26.27
Moisture Content (%)	52.4	54.9	58.5
Blow Counts	35	23	15

Determination of Plastic Limit

Cup Number	D6	D23
Weight of Cup (g)	7.27	7.30
Weight of Wet Soil and Cup (g)	14.31	16.13
Weight of Dry Soil and Cup (g)	13.19	14.70
Moisture Content (%)	18.9	19.3

Compilation of Test Results



Liquid Limit	55
Plastic Limit	19
Plasticity Index	36
USCS Symbol	**CH**

Performed by: JB

Reviewed By: E. Jeske

GESTRA Engineering, Inc.

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Atterberg Limits of Soil

Project Name:	Century City	Date:	March 31, 2015
Project Number:	15021-10	Client:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D4318**		

Sample Information

Type of Sample	Split Spoon
Boring Number	B-2
Sample Number	4
Depth of Sample	8.5'-10'

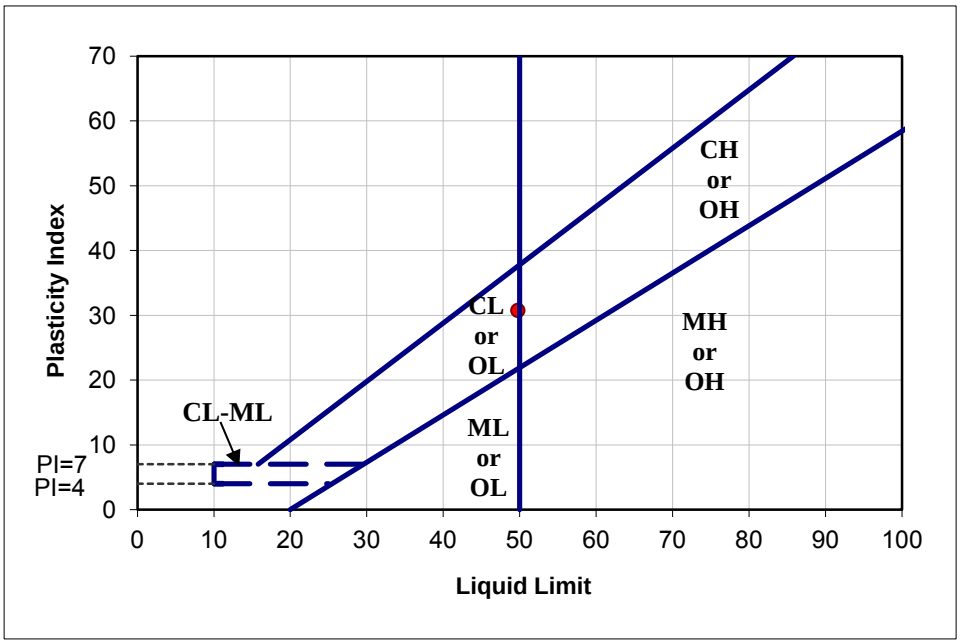
Determination of Liquid Limit

Cup Number	D3	D8	L3
Weight of Cup (g)	14.52	14.25	14.37
Weight of Wet Soil and Cup (g)	29.58	31.34	31.11
Weight of Dry Soil and Cup (g)	24.67	25.69	25.45
Moisture Content (%)	48.4	49.4	51.1
Blow Counts	32	26	19

Determination of Plastic Limit

Cup Number	D6	D23
Weight of Cup (g)	7.29	7.20
Weight of Wet Soil and Cup (g)	14.75	13.37
Weight of Dry Soil and Cup (g)	13.54	12.36
Moisture Content (%)	19.4	19.6

Compilation of Test Results



Liquid Limit	50
Plastic Limit	19
Plasticity Index	31
USCS Symbol	**CL/ CH**

Performed by: JB

Reviewed By: E. Jeske
GESTRA Engineering, Inc.

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Atterberg Limits of Soil

Project Name:	Century City	Date:	March 30, 2015
Project Number:	15021-10	Client:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D4318**		

Sample Information

Type of Sample	Split Spoon
Boring Number	B-5
Sample Number	SS-1
Depth of Sample	1'-2.5'

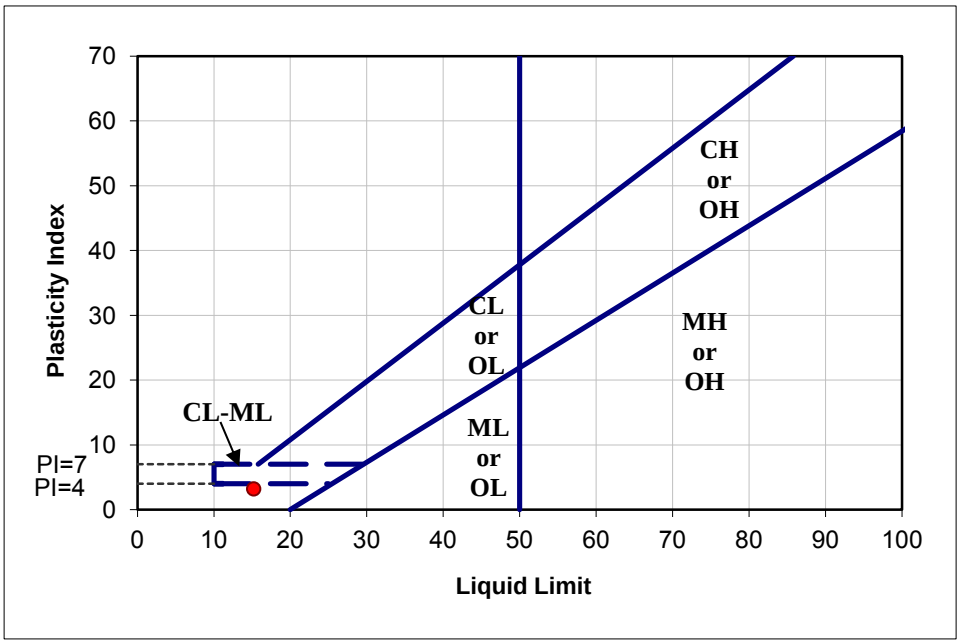
Determination of Liquid Limit

Cup Number	L8	B20	L13
Weight of Cup (g)	14.39	14.23	14.36
Weight of Wet Soil and Cup (g)	37.23	40.04	39.75
Weight of Dry Soil and Cup (g)	34.31	36.61	36.31
Moisture Content (%)	14.7	15.3	15.7
Blow Counts	35	23	16

Determination of Plastic Limit

Cup Number	D29	L15
Weight of Cup (g)	7.20	7.18
Weight of Wet Soil and Cup (g)	16.30	15.15
Weight of Dry Soil and Cup (g)	15.36	14.26
Moisture Content (%)	11.5	12.6

Compilation of Test Results



Liquid Limit	15
Plastic Limit	12
Plasticity Index	3
USCS Symbol	**ML**

Performed by: BJB

Reviewed By: E. Jeske

GESTRA Engineering, Inc.

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Atterberg Limits of Soil

Project Name:	Century City	Date:	March 30, 2015
Project Number:	15021-10	Client:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D4318**		

Sample Information

Type of Sample	Split Spoon
Boring Number	B-6
Sample Number	SS-2
Depth of Sample	3.5'-5'

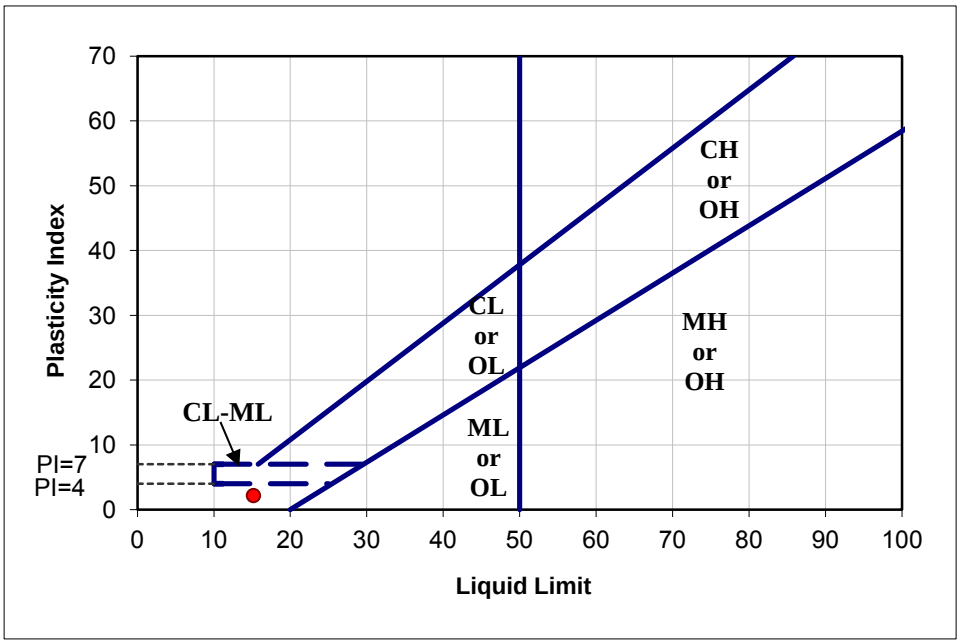
Determination of Liquid Limit

Cup Number	D2	D5	L4
Weight of Cup (g)	14.78	14.34	14.30
Weight of Wet Soil and Cup (g)	39.20	40.06	42.43
Weight of Dry Soil and Cup (g)	36.10	36.62	38.58
Moisture Content (%)	14.5	15.4	15.9
Blow Counts	33	21	17

Determination of Plastic Limit

Cup Number	D6	D23
Weight of Cup (g)	7.22	7.28
Weight of Wet Soil and Cup (g)	14.29	13.56
Weight of Dry Soil and Cup (g)	13.49	12.85
Moisture Content (%)	12.8	12.7

Compilation of Test Results



Liquid Limit	15
Plastic Limit	13
Plasticity Index	2
USCS Symbol	**ML**

Performed by: BJB

Reviewed By: E. Jeske

GESTRA Engineering, Inc.

GESTRA Engineering, Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Amount of Soil finer than #200 Sieve

Project Name:	Century City-New Entrance, Signs, Building Pad	Date:	March 26, 2015
Project Number:	15021-10	Report To:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**D1140**		

Boring Number	B-1
Sample Number	SS-4
Depth	6'-8'
Weight of Pan (g)	125.8
Weight of Wet Soil and Pan (g)	235.0
Weight of Wet Soil (g)	109.2
Weight of Dry Soil and Pan (g)	214.1
Weight of Dry Soil (g)	88.3
Weight of Soil and Pan after Wash (g)	135.0
Weight of Soil after Wash (g)	9.2
Percentage of Material Passing #200 (%)	89.6
Moisture Content (%)	23.7

Performed by BJB Reviewed by E. Jeske

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Mechanical Analysis of Soil or Aggregate

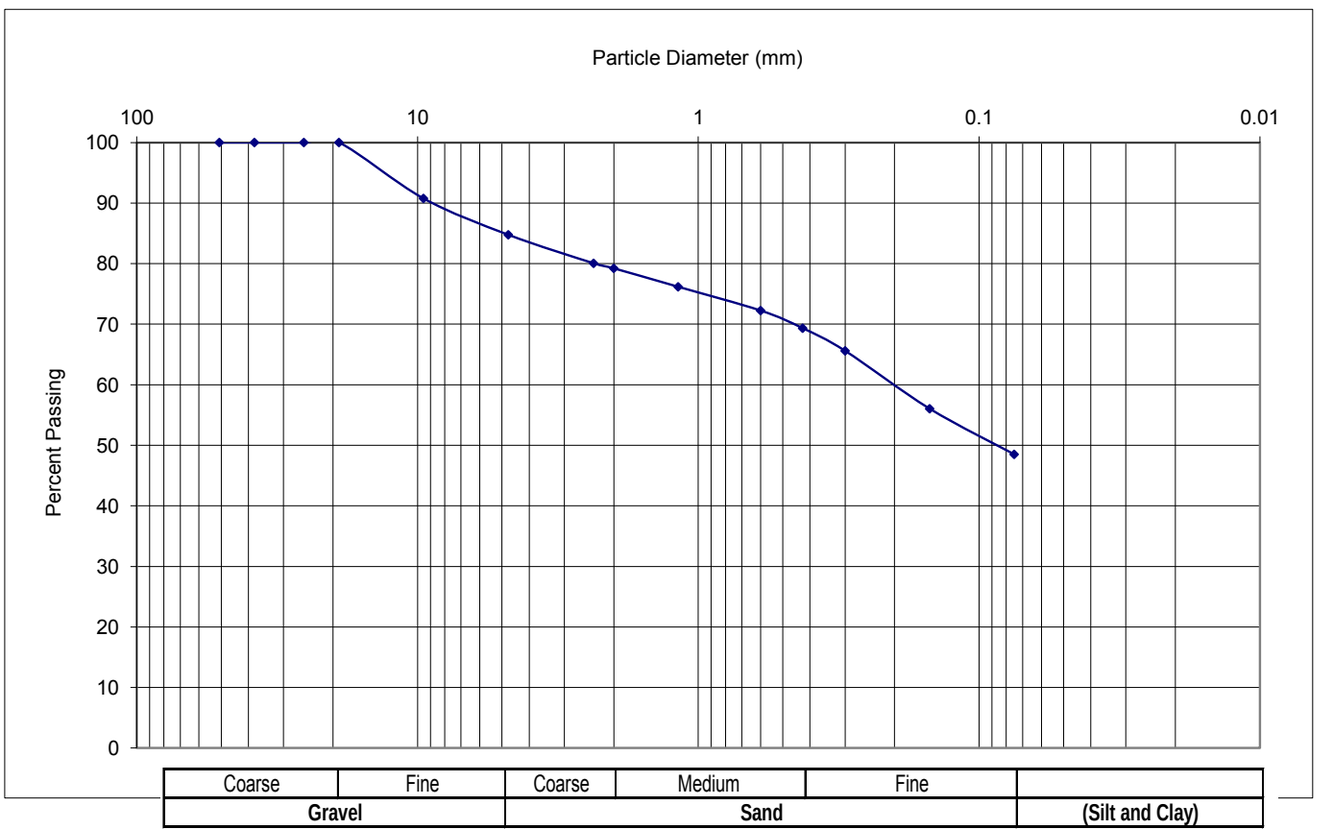
Project Name:	Century City-New Entrance, Signs, Building Pad	Date:	March 26, 2015
Project Number:	15021-10	Reported To:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**C136, D422**		

Sample Information

Type of Sample:	Split Spoon	Sample Number:	SS-4
Boring Number:	B-4	Depth of Sample:	8.5'-10'

Mechanical Analysis Data

Sieve	Sieve Opening (mm)	Percent Passing (%)
2	50.8	100.0
1 1/2	38.1	100.0
1	25.4	100.0
3/4	19.05	100.0
3/8	9.525	90.8
#4	4.75	84.8
#8	2.36	80.0
#10	2	79.2
#16	1.18	76.2
#30	0.6	72.2
#40	0.425	69.3
#50	0.3	65.6
#100	0.15	56.0
#200	0.075	48.5



Remarks: Gravel 15.2 % Sand 36.3 %
Passing #200 Sieve (Silt & Clay) 48.5 %

Reviewed by: E. Jeske
GESTRA Engineering, Inc.

Performed by: BJB

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Mechanical Analysis of Soil or Aggregate

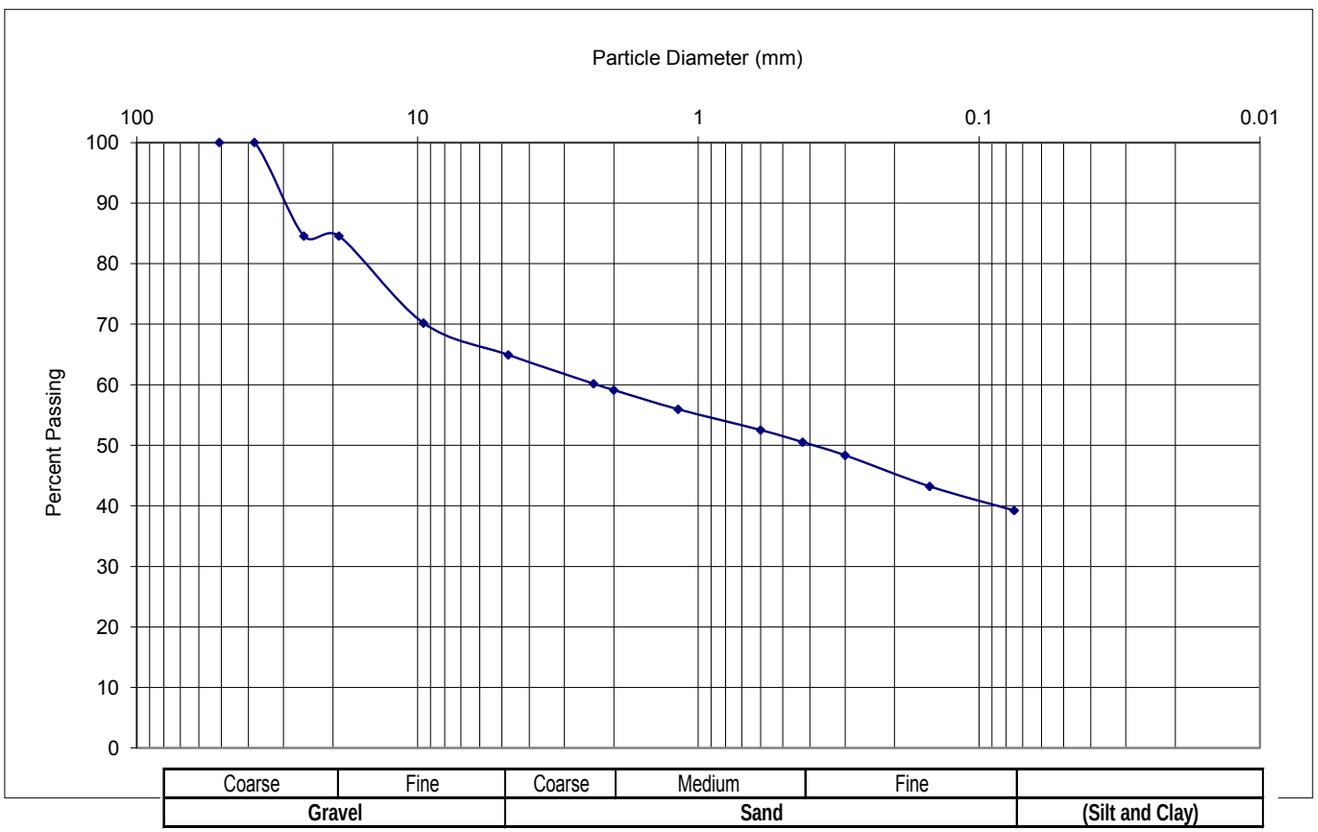
Project Name:	Century City-New Entrance, Signs, Building Pad	Date:	March 26, 2015
Project Number:	15021-10	Reported To:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**C136, D422**		

Sample Information

Type of Sample:	Split Spoon	Sample Number:	SS-2
Boring Number:	B-5	Depth of Sample:	3.5'-5'

Mechanical Analysis Data

Sieve	Sieve Opening (mm)	Percent Passing (%)
2	50.8	100.0
1 1/2	38.1	100.0
1	25.4	84.5
3/4	19.05	84.5
3/8	9.525	70.2
#4	4.75	64.9
#8	2.36	60.2
#10	2	59.1
#16	1.18	55.9
#30	0.6	52.5
#40	0.425	50.5
#50	0.3	48.3
#100	0.15	43.2
#200	0.075	39.2



Remarks: Gravel 35.1 % Sand 25.7 %
Passing #200 Sieve (Silt & Clay) 39.2 %

Reviewed by: E. Jeske
GESTRA Engineering, Inc.

Performed by: BJB

Geotechnical-Structural-Pavement-Construction Material

GESTRA Engineering, Inc
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: (414) 933-7444; Fax: (414) 933-7844

Laboratory Test Results of Mechanical Analysis of Soil or Aggregate

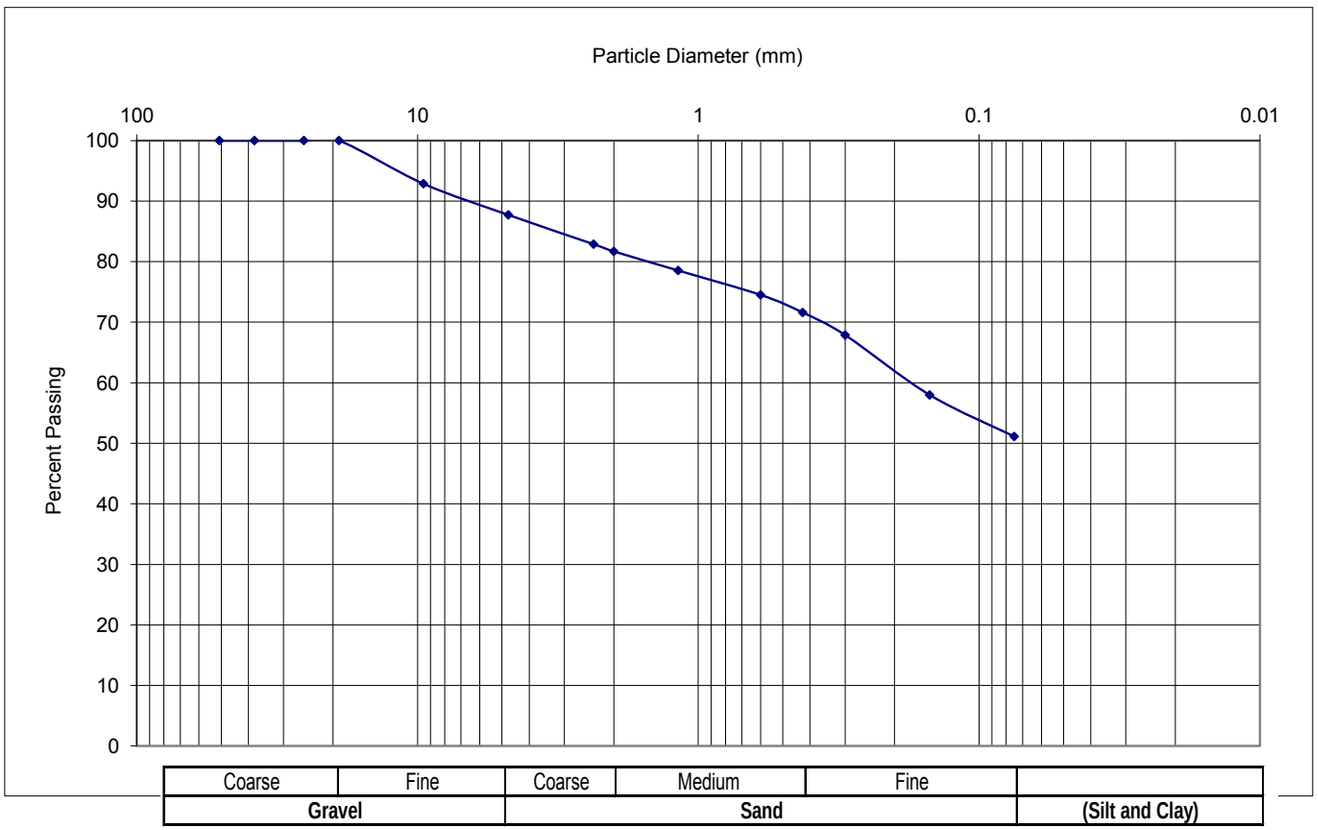
Project Name:	Century City-New Entrance, Signs, Building Pac	Date:	April 1, 2015
Project Number:	15021-10	Reported To:	GRAEF
Project Location:	Milwaukee, WI		
ASTM Designation:	**C136, D422**		

Sample Information

Type of Sample:	Split Spoon	Sample Number:	SS-4
Boring Number:	B-5	Depth of Sample:	8.5'-10'

Mechanical Analysis Data

Sieve	Sieve Opening (mm)	Percent Passing (%)
2	50.8	100.0
1 1/2	38.1	100.0
1	25.4	100.0
3/4	19.05	100.0
3/8	9.525	92.9
#4	4.75	87.7
#8	2.36	82.9
#10	2	81.7
#16	1.18	78.5
#30	0.6	74.5
#40	0.425	71.6
#50	0.3	67.9
#100	0.15	58.0
#200	0.075	51.1



Remarks: Gravel 12.3 % Sand 36.6 %
Passing #200 Sieve (Silt & Clay) 51.1 %

Reviewed by: E. Jeske
GESTRA Engineering, Inc.

Performed by: BJB

Geotechnical-Structural-Pavement-Construction Material

GESTRA Engineering, Inc
1626 W. Fond Du Lac Ave.
Milwaukee, WI 53205
Phone: (414) 933-7444, Fax: (414) 933-7844

Laboratory Test Results of Unconfined Compressive Strength of Soil

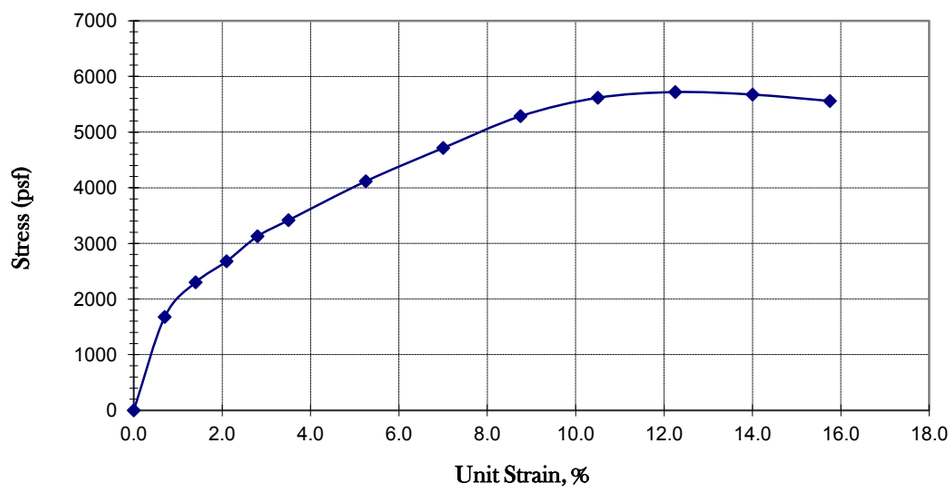
Project Name:	Century City-New Entrance, Signs, Buildin	Date:	March 30, 2015
Project Number:	15021-10	Report To:	GRAEF
Project Location:	Milwaukee, WI		Due Calibration: 08/2015
ASTM Designation:	**D2166**		Updated on September 20, 2012

Test Data

Deformation dial reading (0.001 in.)	Sample stress (psf)
0	0
20	1678
40	2300
60	2678
80	3128
100	3416
150	4116
200	4713
250	5285
300	5616
350	5718
400	5673
450	5558

Sample Information

Boring no.:	B-3	Diameter (in)	1.39
Sample no.:	SS-5	Area (sq. in.):	1.52
Depth of Soil:	11'-12.5'	Height: (in.):	2.86
Description of Soil:	LEAN CLAY, brown mottled gray		
Strain Rate (in/min):	0.050		



UC Strength, Q_u (tsf)	**2.86**
Wet Density (pcf)	124.7
Dry Density (pcf)	98.4
Moisture Content (%)	26.8

Remarks

Performed By: JB

Reviewed By: E. Jeske
GESTRA Engineering, Inc.

APPENDIX C

AECOM Environment

Prepared for:
City of Milwaukee / RACM
Milwaukee, WI

Prepared by:
AECOM
Milwaukee, WI
60340964
April 2015

Soil Management Plan

Century City
EDA Greenway Improvement Project - North 31st Street and West Hopkins Street Right-of-Way

Associated with Century City:

Project Area A, BRRTS Nos. 02-41-562582, 03-41-562583
Project Area B, BRRTS Nos. 02-41-535718, 03-41-562584
Project Area C, BRRTS Nos. 02-41-535729, 03-41-562585
Project Area D, BRRTS Nos. 02-41-535725, 03-41-562586

2725 West Hopkins Street
Milwaukee, Wisconsin

AECOM
1555 N RiverCenter Drive
Milwaukee, WI 53212

414.944.6190 tel
414.944.6081 fax

April 30, 2015

Ms. Margaret Brunette
Hydrogeologist
Wisconsin Department of Natural Resources
2300 N Dr. Marin Luther King Jr Drive
Milwaukee, WI 53212

Subject: Soil Management Plan
Century City, EDA Greenway Improvement Project
City of Milwaukee, Milwaukee County, Wisconsin
AECOM Project No. 60332514

Dear Ms. Brunette:

On behalf of the Redevelopment Authority of the City of Milwaukee (RACM), AECOM is submitting this Soil Management Plan associated with the Century City, U.S. Department of Commerce Economic Development Administration (EDA) Greenway Improvement Project.

The report provides information associated with the handling of contaminated soil during the construction of the Greenway Improvement Project. The report was prepared in general accordance with Wisconsin Administrative Code Chapter NR 718.12(2) Soil Management Plan.

Please review the attached plan and provide written concurrence to RACM for inclusion as a grant submittal to the U.S. Department of Commerce EDA.

Yours sincerely,

AECOM

D.S. Henderson

David Henderson, PE
Senior Project Manager
dave.henderson@aecom.com

c: Benjamin Timm, RACM

Contents

1.0 Introduction.....1-2

1.1 Project Background and Purpose 1-2

1.2 Involved Parties 1-2

1.3 Site Location and Layout 1-3

1.4 Regulatory Background 1-3

1.5 Summary of Subsurface Conditions 1-4

2.0 Soil Management Plan 2-7

2.1 Soil and Fill Material Management.....2-7

2.2 Groundwater Management.....2-8

2.3 Monitoring Well Abandonment 2-8

2.4 Performance Standard Cover.....2-8

2.5 Vapor Migration Protection 2-10

3.0 Implementation Schedule 3-11

List of Figures

Figure 1 – EDA Greenway Concept
Figure 2 – Site Plan Sheets (Sheets 7 thru 10)

List of Tables

Table 1 – Soil Quality Summary
Table 2 – Groundwater Quality Summary
Table 3 – Temporary Well Groundwater Quality Summary
Table 4 – Areas of Soil Contamination and Management Categories

List of Appendices

Appendix A Soil Boring Logs

Appendix B Soil Analytical Laboratory Reports

1.0 Introduction

1.1 Project Background and Purpose

AECOM was retained by the Redevelopment Authority of the City of Milwaukee (RACM) to prepare this Soil Management Plan associated with the Century City, U.S. Department of Commerce Economic Development Administration (EDA) Greenway Improvement Project (Greenway Improvement Project). Funding for this project was granted to RACM by the U.S. Department of Commerce, Economic Development Administration as documented in their letter dated September 25, 2013 and referenced as EDA Investment Number 06-79-05855.

The Greenway Improvement Project generally consists of constructing pedestrian, vehicle, and utility infrastructure to serve the adjoining Century City Business Park development. Construction activity associated with the Greenway Project includes storm water sewers, sanitary sewer, municipal water main, sidewalk and lighting infrastructure, landscaped greenway, and an entrance roadway to the Century City Business Park. Figure 1 depicts the Greenway Improvement Project development.

Soil and groundwater contamination, previously identified during environmental site assessment activities associated with the adjacent Century City Project, are anticipated to exist within the Greenway project work zone. These contaminants of concern (COCs) include volatile organic compounds (VOCs), chlorinated VOCs (CVOCs), polynuclear hydrocarbons (PAHs), and lead.

The purpose of the Soil Management Plan is to address handling of contaminated soil that will be encountered during the Greenway construction activities. All construction activity will be conducted in City of Milwaukee street right-of-ways (ROWs), specifically, the N 31st Street and W Hopkins Street ROWs .

This Soil Management Plan was prepared in general accordance with Wisconsin Administrative Code (WAC) Chapter NR 718.12(2) to facilitate the management of contaminated soil and groundwater during the Greenway Improvement Project.

1.2 Involved Parties

The parties associated with the EDA Greenway Improvement Project are:

- **Grant Recipient:**
  Redevelopment Authority of the City of Milwaukee
  809 North Broadway
  Milwaukee, Wisconsin 53202
  Contact: Benjamin Timm, Project Manager
  (414) 286-5730

- **Property/Right-of-Way Owner:**
  City of Milwaukee, Department of Public Works
  841 North Broadway, Suite 501
  Milwaukee, Wisconsin 53202
  Contact: Ghassan Korban, Commissioner of Public Works
  (414) 286-2489

- **Consultant:**
  AECOM
  1555 North RiverCenter Drive, Suite 214
  Milwaukee, WI 53212
  Contact: Dave Henderson, Project Manager
  (414) 944-6190

- **Contractors:**
  To be determined by a public bidding process.

1.3 Site Location and Layout

The Greenway Improvement Project site comprises of approximately 2,600 feet of City of Milwaukee ROW located along west side North 31st Street and the continuous West Hopkins Street; south of Capital Drive and north of North 27th Street . The Greenway Improvement Project abuts three undeveloped lots (from north to south): Lot 1 (3945 North 31st Street), Lot 2 (3055 West Hopkins Street), and Lot 3 as described on Certified Survey Map No. 8626. These lots are part of RACM's Century City Business Park development (See Figure 1).

The Greenway Improvement Project is divided into nine construction zones (2 through 10) primarily for the purpose of landscape planning. The Greenway Project's planned width is within the ROW west of the curb lines for North 31st Street and West Hopkins Street. This is approximately 20 feet in the north zones (2, 3, 4, 5, and part of 6) and approximately 60 feet along the south zones (part of 6, 7, 8, 9, and 10). The Project ROW also includes the Century City Business Park entranceway (Zone 7) which is approximately 84 feet wide by approximately 100 feet long. See Figure 2 – Site Plan Sheets.

The Greenway Improvement Project is further described as being located in the southeast quarter of Section 12, Township 7 North, Range 21 East. The subject site location is shown on Figure 1 and the general project site layout is shown as Figure 2 – Site Plan Sheets.

1.4 Regulatory Background

The Greenway Improvement Project has secured public ROW, along the west side of North 31st Street and the continuous West Hopkins Street. The transfer of real property to the ROW was recorded as Certified Survey Map No. 8629 recorded October 10, 2014, as Document No. 10402434. As such, the real property within the ROW was formerly associated with the following Century City project areas:

- Project Area A: BRRTS Nos. 02-41-562582 and 03-41-562583
- Project Area B: BRRTS Nos. 02-41-535718 and 03-41-562584
- Project Area C: BRRTS Nos. 02-41-535729 and 03-41-562585
- Project Area D: BRRTS Nos. 02-41-535725 and 03-41-562586

The Wisconsin Department of Natural Resources (WDNR) data base for each of these project area BRRTS numbers notes that all four properties are currently undergoing environmental investigation and remediation activities. The soil and groundwater data collected from these projects were utilized to gain an understanding of the soil and/or groundwater contamination potentially present within the Greenway Improvement Project ROW.

Since the real property associated with the Greenway Project is City of Milwaukee ROW and no longer part of the Century City project, it is anticipated that the WDNR will note the regulatory approval of this Soil Management Plan in the respective BRRTS databases associated with the Century City project areas.

Additionally, as a Special Award Condition, condition *No.16 - Remediation Plan*, of the U.S. Department of Commerce EDA Award Number: 06-79-05855 (September 25, 2013), the grant recipients is to provide evidence to the U.S. Department of Commerce that the WDNR has concurred with the proposed removal and handling of impacted soil within the ROW. This regulatory concurrence has been provided under a separate cover.

1.5 Summary of Subsurface Conditions

Based on historical subsurface investigations associated with the adjacent Century City site, soils within the Greenway Improvement Project generally consist of landscaped or paved areas underlain by several inches to almost 10 feet of fill over native clay to depths of 18 feet, the depth of the investigated interval.

Soil impacts include VOC, CVOC, PAH, and lead compounds. These COCs are present within limited areas of the project at levels above and/or below the WDNR's Residual Contaminant Levels (RCLs) for protection of direct human contact and protective of groundwater quality.

Six specific areas within the Greenway project ROW have been identified as Environmental Impact Areas based on the presence or possible presence of impacted soils and/or groundwater (See Figure 2 – Site Plan Sheets). Starting at the north end of the Greenway project and proceeding to the south, the location and COCs in each Environmental Impact Area can generally be described as follows:

<u>Impact Area 1:</u> Construction Station (Sta.) 50+45 to 51+70; Possible PAH impacts less than RCLs.

<u>Impact Area 2:</u> Sta. 7+75 to 8+95; Possible PAH impacts less than RCLs.

<u>Impact Area 3:</u> Sta. 9+60 to 10+05; Possible PAH impacts less than RCLs.

<u>Impact Area 4:</u> Sta. 17+65 to 18+65; VOC and PAH impacts greater than RCLs.

Soil impacts associated with Environmental Impact Areas 1, 2, 3, and 4 are most likely related to former manufacturing activities on the Century City site.

<u>Impact Area 5:</u> Sta. 19+45 to 21+10; CVOC and PAH impacts greater than RCLs. Environmental Impact Area 5 is located in the vicinity of a historic remedial hot spot excavation associated with the Century City site. The Remedial Excavation was labeled BN-1 and the excavation activities took place in April 2013 during demolition activities to remove buildings from the site. PAH and CVOC impacted soils were removed from the hot spot

excavation and disposed of as special waste. The excavation was backfilled with clean granular material. A Remedial Excavation report will be provided to the WDNR under a separate cover in association with reporting for the Century City site. PAH and CVOC RCL impacts within this area are most likely associated with the BN-1 Remedial Excavation Area.

Impact Area 6: Sta. 25+95 to 28+05; PAH impacts greater than RCLS.

Environmental Impact Area 6 is located adjacent to a historic underground storage tank (UST) location and a UST bed hot spot excavation area associated with the Century City site. The original UST removals (possibly Tank ID Nos. 300943 & 300944) and a UST bed remedial excavation (possibly BRRTS No. 03-41-255971) were conducted by Tower Automotive, a former property owner, in June 2000.

Two new 40,000 gallon USTs were installed in the vicinity of the original tank bed in October 2000. The new USTs (Tank ID Nos. 776706 & 776712) were closed, abandoned, and removed in 2011 and the UST bed was backfilled with clean granular material. A UST removal report for the latest UST closure activities will be provided to the WDNR under a separate cover in association with reporting for the Century City site.

PAH RCL impacts within this area are most likely associated with a release from the first generation of USTs removed in June 2000.

There are no known groundwater impacts on the northern end of the Greenway Project. Additionally, there is no anticipated construction activities planned that would excavate to the elevation of the groundwater table. See Table 2 for an analytical data summary of monitoring wells (PER MW-3, PER MW-4, PER MW-5, DCD MW-2, MW-21) within Environmental Impact Areas 1, 2, and 3.

Groundwater impacts appear to be limited to the southern end of the project (Environmental Impact Areas 4, 5, and 6) where trenches for utility installation may intercept the water table. Therefore, management of groundwater during construction will be limited to the following Environmental Impact Areas:

Impact Area 4: Sta. 17+66 to 18+65;

Monitoring well; PER MW-2; no VOC or PAH impacts greater than NR 140 Preventative Action Limit (PAL) levels including the latest round of groundwater sampling, April 2015, with no detects greater than Method Detection Limits (MDLs).

Impact Area 5: Sta. 19+45 to 21+10;

Temporary monitoring wells; TW-34, TW-41, and TW-245; no VOC or PAH impacts greater than NR 140 PAL levels.

Groundwater impacts are documented from limited sampling rounds from temporary monitoring wells. The impacts are most likely related to the historical release associated with the Century City site BN-1 Remedial Excavation. Since the hot spot of the release has been removed, it is anticipated that groundwater impacts within this area will be stable or declining.

Impact Area 6: Sta. 25+95 to 28+05;

Monitoring wells, piezometers, and temporary monitoring wells; PER MW-1, PER PZ-1, CM-4, CM-5, TW-204, and TW-206; Historical data indicated CVOC impacts greater than NR 140 Enforcement Standard (ES) and PAH detects exceeding their respective PALs. The latest round of groundwater sampling from the NR 141 monitoring wells, April 2015, indicates only

one well, CM-4, with two CVOC PAL exceedances and all other wells with COCs either not detectable or at concentrations less than their respective PALs.

CVOC groundwater impacts are most likely associated with former manufacturing activities and PAH groundwater impacts are most likely associated with a historical release from former USTs located on the Century City site in this vicinity. Since the manufacturing activities have ceased and the USTs have been removed along with a UST bed hot spot excavation, it is anticipated that groundwater impacts within this area will continue to be stable or declining.

The depth to groundwater has been reported at approximately four to seven feet below ground surface (bgs).

The Environmental Impact Areas, locations of soil borings, and groundwater monitoring wells are noted on Figure 2 – Site Plan Sheets. Summarized laboratory analytical data for soil and groundwater contamination are presented on Tables 1, 2, and 3. Detailed soil descriptions are included on the soil boring logs provided in Appendix A and soil analytical laboratory reports are provided in Appendix B.

2.0 Soil Management Plan

This Soil Management Plan addresses six Environmental Impact Areas where contamination has been identified or is anticipated to be encountered during construction of the project.

Contractors working on the Greenway project will be notified of the proper management for soil and groundwater impacted or possibly impacted with COCs by inclusion of this Management Plan within the bidding specifications for the construction of the project. As such, the contractors will be required to abide by the WDNR approved version of the plan.

2.1 Soil and Fill Material Management

The Greenway Improvement Project development will involve the excavation of non-contaminated, possibly contaminated, and soil or fill with known contamination.

The handling of contaminated soil encountered during the excavation activities will follow management protocols specific to the contaminant concentrations reportedly, or possibly, present in the soil. The management protocols are categorized as follows:

Category A: Minor or No Known Impacts

Management Strategy: Recycle or Relocate to the Century City Site.

Materials that appear not to be impacted include the following:

- Pavement materials (concrete and asphalt). These materials will be recycled.
- Excavated granular aggregate base-coarse and crushed concrete fill materials will be relocated to the Century City site for beneficial reuse.
- Excavated soils from near surface or trenched areas that have very minor or no apparent COCs will be relocated to the Century City site for beneficial reuse.

Category B: Possibly Impacted or Soils Impacted at Less Than RCLs

Management Strategy: Stay In-place or Relocate Excavated Soils to the Century City Site.

Materials possibly impacted or impacted with COCs at levels below their respective RCLS include the following:

- Excavated soils from Environmental Impact Areas 1, 2, and 3 that do not have direct analytical sample representation and are possibly impacted. This includes soils excavated for the sidewalk retaining wall footings. These soils will be relocated to the Century City site for beneficial reuse.
- Excavated soils from near surface and utility trench areas that have COCs at levels below RCLs will be relocated to the Century City site for beneficial reuse.
- Soils with impacts less than RCLs that are not excavated for specific construction activities will be left in-place. Most of these soils will be covered with clean top soil fill for landscaping or by impervious pavement (e.g. new concrete sidewalk).

Category C: Soils Impacted at Levels above RCLs

Management Strategy: Dispose of Excavated Soils at an Approved Landfill and Cap In-place.

Materials impacted with COCs at levels above their respective RCLS include the following:

- Soils from near surface areas (i.e. landscape and sidewalk areas) and utility trenches that have PAHs and CVOCs concentrations exceeding direct contact and/or groundwater protection RCLs will be excavated to a minimum depth of 2 feet below finished grade and disposed of at an approved licensed Sub-Title D landfill as special waste.
- Soils with possible impacts exceeding direct contact and/or groundwater pathway RCLs left in-place at depths greater than 2 feet below finished grade will be capped with clean top soil fill for landscaping or by impervious pavement (new concrete sidewalk or new asphalt pavement at the entranceway).

Specific details of the Environmental Impact Area locations, planned activities, maximum excavation depths, estimated soil volumes, and soil management categories are presented in Table 4.

2.2 Groundwater Management

It is anticipated that minimal volumes of groundwater will be encountered during utility trenching due to the presence of low-permeable fill materials and native clay soils. In addition to groundwater, surface runoff storm water may collect in the utility trenches during rain events.

If groundwater or surface runoff storm water collects in a utility trench within Environmental Impact Areas 5 and 6 (those Impact Areas with groundwater impacts), the water will be considered possibly impacted with VOC, CVOC, and PAH compounds. The water will be collected, containerized, tested, and disposed of in an approved manner consistent with the analytical test results.

2.3 Monitoring Well Abandonment

Existing groundwater monitoring wells located within the proposed Greenway Improvement Project ROW will be abandoned in accordance with WAC Chapter NR 141 Groundwater Monitoring Well Requirements prior to the start of construction activities.

It is anticipated that the following eight wells will be abandoned: PER MW-1, PER PZ-1, PER MW-2, PER MW-3, PER PZ-3, PER MW-4, PER PZ-4, and CM- 4. Well abandonments will be documented using WDNR Form 3300-005. Reporting of the abandonments will be made to the WDNR by the submittal of these forms.

2.4 Performance Standard Cover

The performance standard cover system for the Greenway Improvement Project is in general conformance with WDNR Publications (PUB-RR-528) *Guidance on Soil Performance Standards* (2014) and (PUB-RR-709) *Guidance for Cover Systems as Soil Performance Standard Remedies* (2013). Since the cover is located within a ROW, it is anticipated that a notice of contamination within a ROW sent to the property/ROW owner, the City of Milwaukee Department of Public Works, will meet the requirements for a cap maintenance plan.

The proposed cover systems will act as a direct contact and infiltration barriers. The technical feasibility of the cover systems is appropriate based on the relatively low concentrations (post

redevelopment excavation) across the Greenway Improvement Project and lack of mobility of residual contaminants in the soils. The proposed cover system will be protective of human health, safety and welfare, and the environment over both short-term and long-term time periods.

The cover systems vary between the Impact Areas:

- **Environmental Impact Areas 1, 2, and 3:** The new cover system includes vegetation (grass and trees), clean topsoil, and concrete (sidewalk).

  Soils within these areas will only be disturbed to remove existing landscaping and sidewalk, and to install new sidewalk retaining wall footings. The soils will be re-covered with replacement landscaping and concrete sidewalk.

  Historically, soil samples were not collected from within Impact Areas 1, 2, and 3. As a result, analytical results for soil samples collected from nearby borings or wells were relied upon to assess the potential for impact in these areas. The borings/wells were located approximately 50 to 100 feet west of the Impact Areas. Extrapolating the analytical data from these borings/wells to the Impact Areas indicates a potential for PAH impacts. Therefore, soils within these Impact Areas will be managed as Category B soils, where excavated soils will be relocated to the Century City site for beneficial reuse.

  There are no known groundwater impacts within Environmental Impact Areas 1, 2, and 3.

  The construction of a new cover system similar to the existing cover system in concert with a notice of contamination within the ROW will be protective of human health, safety and welfare, and the environment over both short-term and long-term time periods

- **Environmental Impact Areas 4, 5, and 6:** The new cover system includes vegetation (grass, bushes, and trees), clean topsoil and fill soil, concrete (sidewalk), and asphalt pavement (entranceway road).

  Soils within these Impact Areas will be disturbed to remove existing landscaping, sidewalk, and pavement and for the trenching to install utilities and the entrance roadway. Soils with RCL exceedances will be managed as Category C soils. As such they will be removed to a minimum depth of two feet below finished grade and disposed of at an approved licensed Sub-Title D landfill as special waste.

  Groundwater impacts within these Environmental Impact areas varies:

  - Impact Area 4 does not appear to have CVOC or PAH groundwater impacts above MDL levels.
  - Impact Area 5, based on historic temporary well data, does not appear to have CVOC or PAH groundwater impacts above PAL levels. It is anticipated that groundwater impacts are stable or receding since the hot spot was removed.
  - Impact Area 6, had historical NR 140 ES exceedances for CVOCs and NR 140 PAL exceedances for PAHs. These exceedances appear to be associated with former manufacturing activities and a former UST release. The latest round of groundwater sampling from the NR 141 monitoring wells, April 2015, indicates only one well, CM-4, with two CVOC PAL exceedances and all other wells with COCs either not detectable or at concentrations less than their respective PALs. It is anticipated that groundwater impacts are stable or

receding since the manufacturing activities have ceased and the USTs have been closed and removed along with a UST bed hot spot remediation.

The proposed cover of vegetation, two feet of clean topsoil and fill, concrete sidewalk, and asphalt pavement at the entranceway road, will provide a barrier for direct contact and minimize infiltration of rainwater.

The construction of the new cover system in concert with a notice of contamination within the ROW will be protective of human health, safety and welfare, and the environment over both short-term and long-term time periods

2.5 Vapor Migration Protection

Buried utilities exiting the Greenway Improvement Project will be constructed with vapor migration protection to limit the movement of contaminated water and vapor through the granular backfill of the utility trenches.

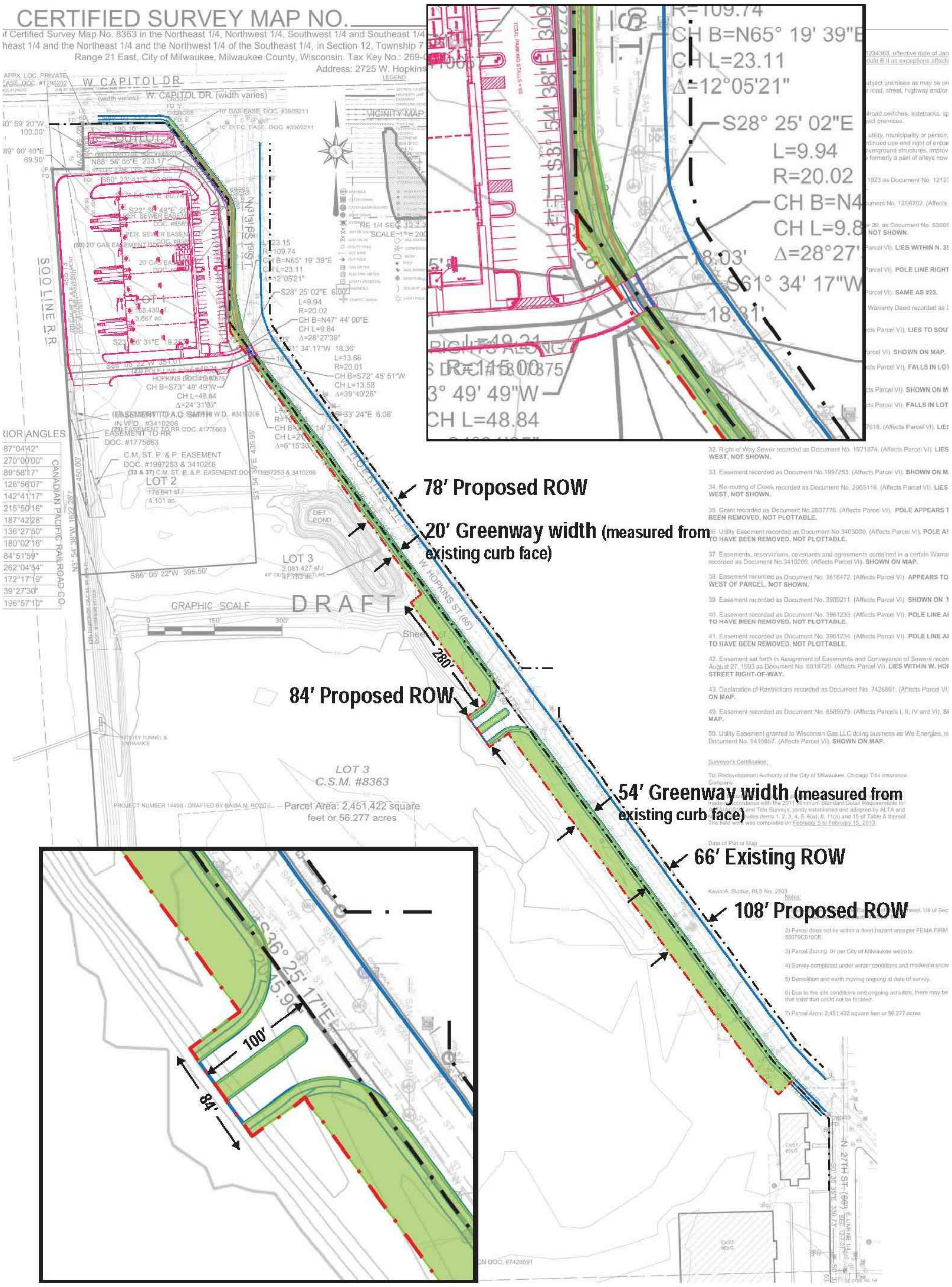
In accordance with WDNR Publication (PUB-RR-685) *Development at Historic Fill Sites and Licensed Landfills: Considerations and Potential Problems (2002)*, the proposed vapor migration barrier will be a clay plug that is installed the full depth of the utility trenches and is at least four feet long.

The plug will be installed along the eastern edge of Environmental Impacted Area 5, the entrance road, where utilities (e.g. storm and sanitary sewers and a water main) are constructed through the residual PAH and CVOC contamination and then exit the site to the street corridor.

3.0 Implementation Schedule

The Greenway Improvement Project redevelopment is anticipated to be constructed during the summer of 2015. The WDNR will be updated on the redevelopment schedule during the normally scheduled Century City project update meetings with RACM.

Figures



AECOM Milwaukee Office 1555 RiverCenter Dr. Milwaukee, WI 414.944.6080	Century City Property		
	EDA GREENWAY CONCEPT		
AECOM	Project Number: 60340964	Drawn By: SAE	Date: 4/20/2015
	Figure No. 1		

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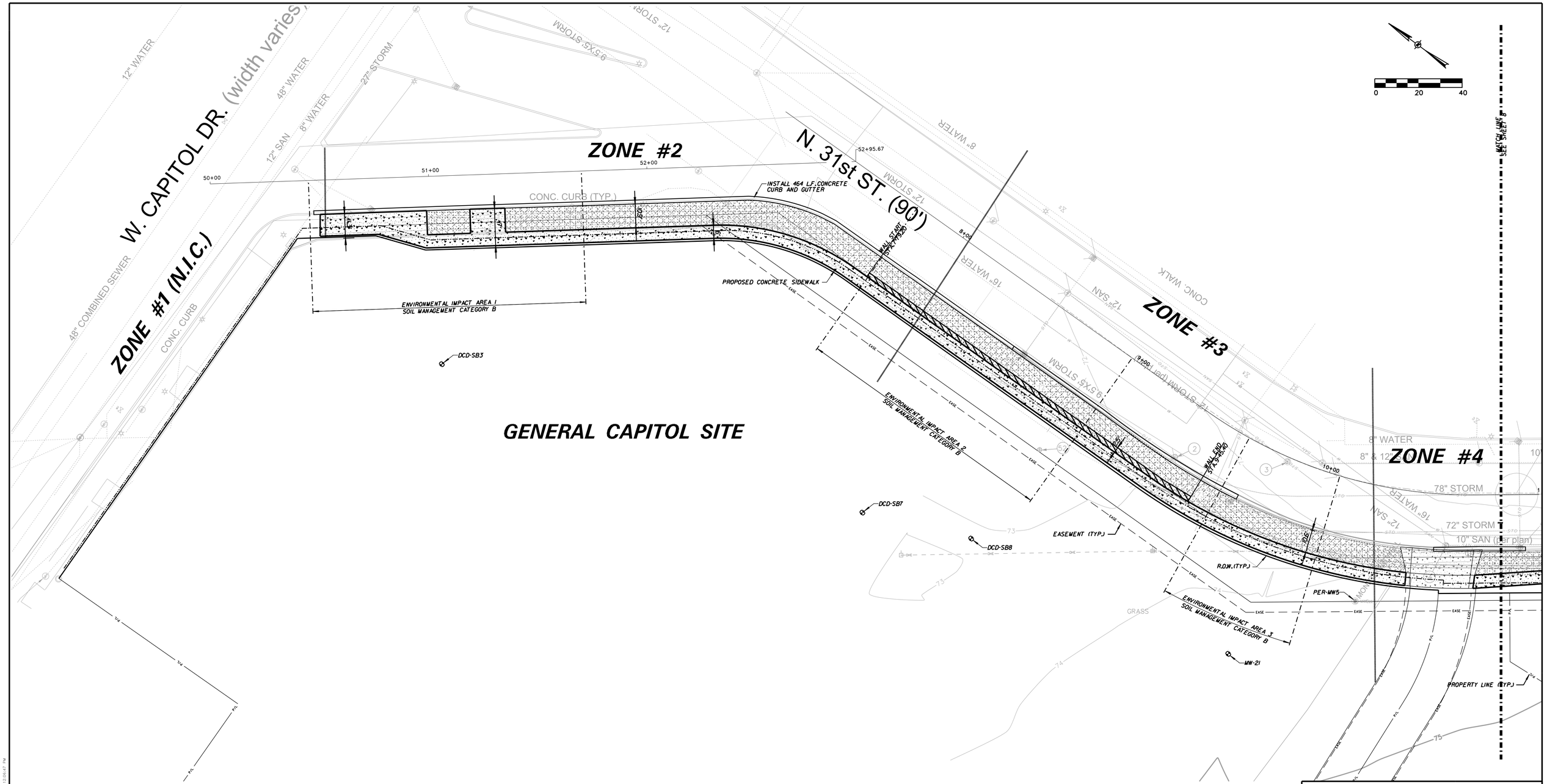

LEGEND

- -LAWN RESTORATION
- -CONCRETE PAVEMENT
- -ASPHALT PAVEMENT

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE *2.ELEVATION - 85.41

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 79.61

LINE CODE LEGEND

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ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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SITE PLAN

IN N. HOPKINS STREET
FROM
TO

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1/4 SEC. NO.	393		
PLAN DATE	12-19-14		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
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CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 7 OF 29 PLAN FILE NO. 000-00

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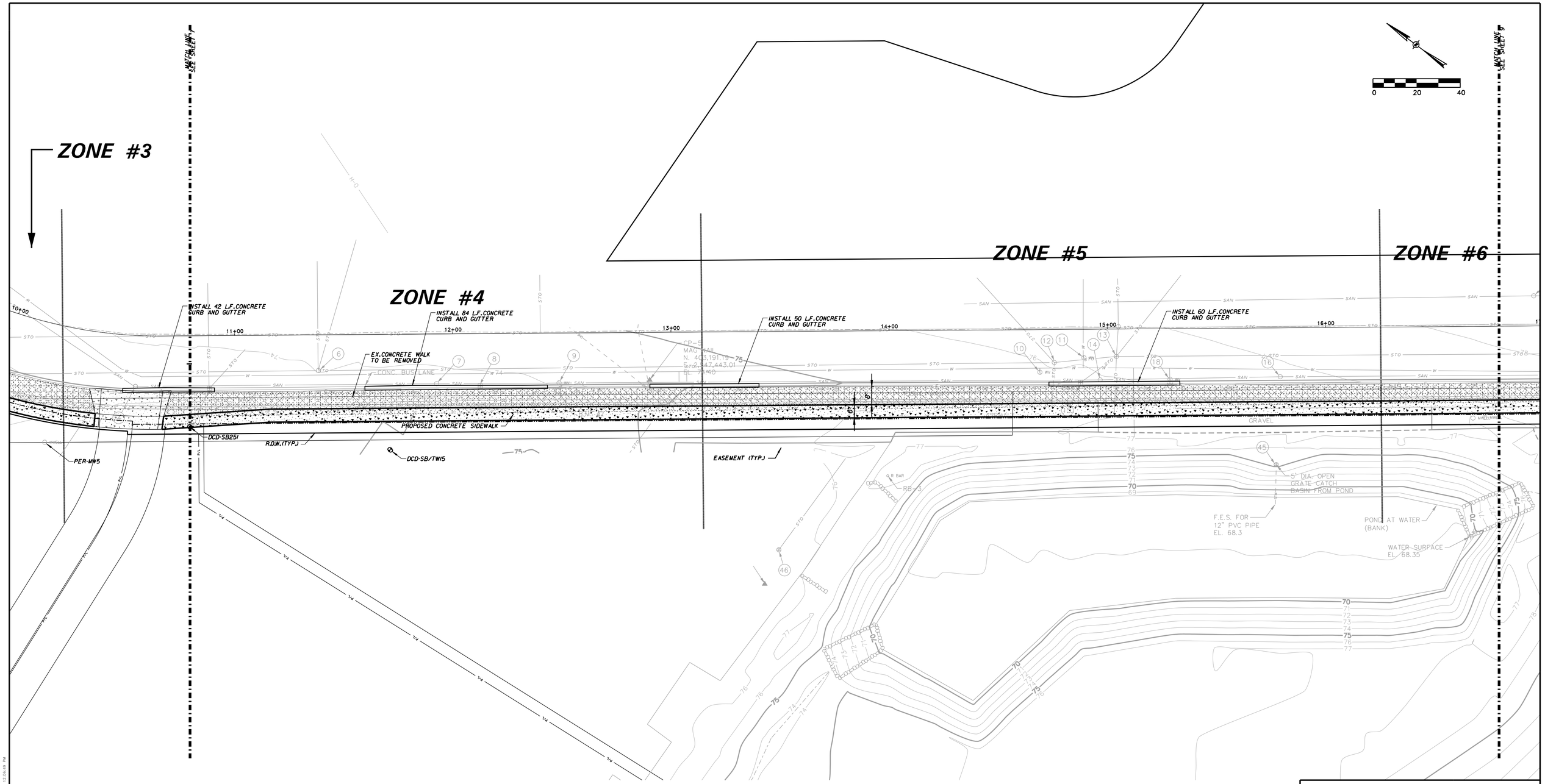

LEGEND

-LAWN RESTORATION

-CONCRETE PAVEMENT

-ASPHALT PAVEMENT

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

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B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

LINE CODE LEGEND

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CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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MILWAUKEE, WISCONSIN

SITE PLAN

IN
FROM
TO

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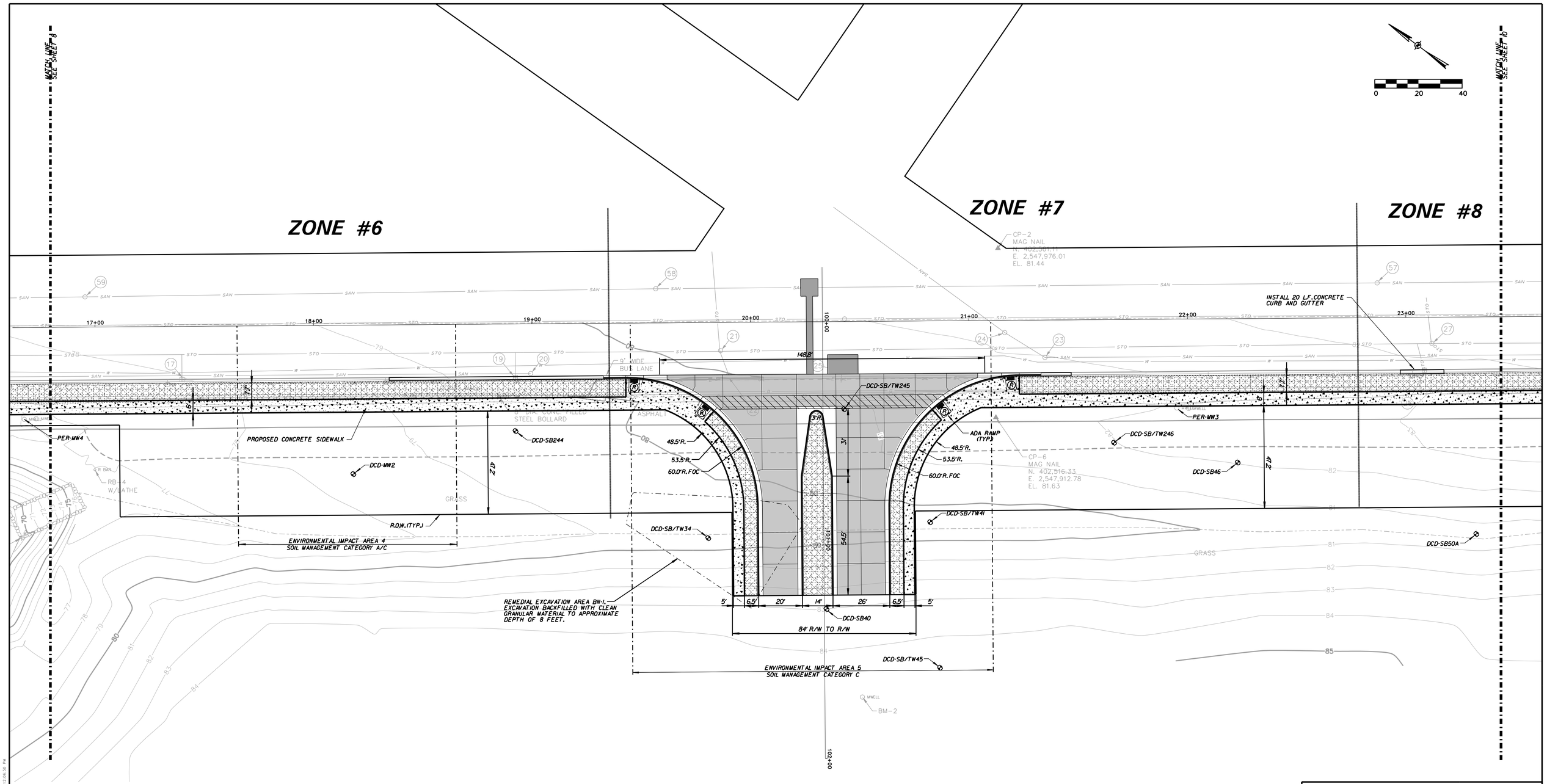

LEGEND

- -LAWN RESTORATION
- -CONCRETE SIDEWALK
- -CONCRETE PAVEMENT
- -ASPHALT OVER CONCRETE PAVEMENT

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

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FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
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SITE PLAN

IN **N. HOPKINS STREET**
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PLAN DATE	12-19-14		
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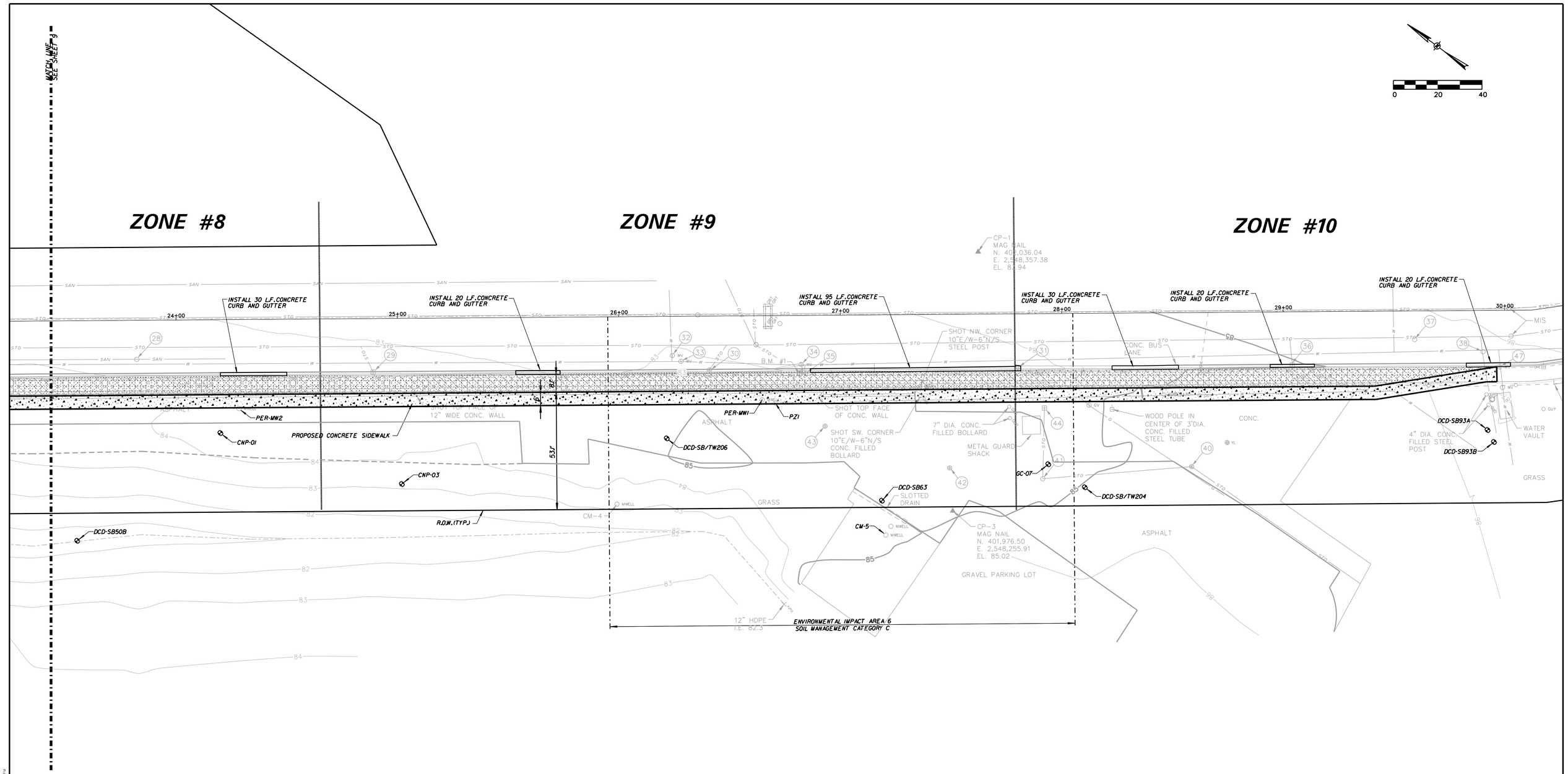

LEGEND

- -LAWN RESTORATION
- -CONCRETE PAVEMENT
- -ASPHALT PAVEMENT

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

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Tables

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		DCD-SB3		DCD-SB7		
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(1-3)	(7-9)	(1-3)	(9-11)	
			9/30/2009	9/30/2009	9/30/2009	9/30/2009	9/30/2009
			Area A	Area A	Area A	Area A	Area A
VOCs (µg/kg):							
1,1,1-Trichloroethane	640,000	140.2	< 27	< 27	< 27	< 27	< 27
1,1,2-Trichloroethane	7,340	3.2	< 30	< 30	< 30	< 30	< 30
1,1-Dichloroethane	23,700	483.6	< 22	< 22	< 22	< 22	< 22
1,1-Dichloroethene	1,190,000	5	< 27	< 27	< 27	< 27	< 27
1,2,4-Trichlorobenzene	98,700	408	< 53	< 53	< 53	< 53	< 53
1,2,4-Trimethylbenzene	219,000	1379.3	< 20	< 20	38 J	< 20	< 20
1,2-Dichlorobenzene	376,000	1168	< 32	< 32	< 32	< 32	< 32
1,2-Dichloroethane	3030	2.8	< 24	< 24	< 24	< 24	< 24
1,3,5-Trimethylbenzene	182,000	1379.3	< 24	< 24	< 24	< 24	< 24
2-Chlorotoluene	907000	--	< 31	< 31	< 31	< 31	< 31
Benzene	7410	5.1	< 20	< 20	< 20	< 20	< 20
Carbon Tetrachloride	4,250	3.9	< 21	< 21	< 21	< 21	< 21
Chloroform	2130	3.3	< 50	< 50	< 50	< 50	< 50
cis-1,2-Dichloroethene	2040000	41.2	< 24	< 24	< 24	< 24	< 24
Ethylbenzene	37000	1570	< 16	< 16	< 16	< 16	< 16
Isopropylbenzene	268,000	--	< 30	< 30	< 30	< 30	< 30
m&p-Xylene	390,000	3940	< 33	< 33	44 J	< 33	< 33
Methylene chloride	1,070,000	2.6	< 44	< 44	< 44	< 44	< 44
n-Butylbenzene	108,000	--	< 35	< 35	35 J	< 35	< 35
n-Propylbenzene	264,000	--	< 29	< 29	< 29	< 29	< 29
Naphthalene	26,000	658.7	< 117	< 117	**1320** E	< 117	< 117
o-Xylene	434,000	3940	< 15	< 15	37 J	< 15	< 15
p-Isopropyltoluene	162,000	--	< 30	< 30	< 30	< 30	< 30
sec-Butylbenzene	145,000	--	< 25	< 25	< 25	< 25	< 25
tert-Butylbenzene	183,000	--	< 23	< 23	< 23	< 23	< 23
Tetrachloroethene	153,000	4.5	< 18	< 18	< 18	< 18	< 18
Toluene	818,000	1107.2	< 23	< 23	26.7 J	< 23	< 23
trans-1,2-Dichloroethene	976000	58.8	< 29	< 29	< 29	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	< 20	< 20	< 20	< 20	< 20
Trichlorofluoromethane	1,230,000	4468.5	< 16	< 16	< 16	< 16	< 16
Vinyl Chloride	2,030	0.1	< 17	< 17	< 17	< 17	< 17
PAHs (µg/kg):							
1-Methyl naphthalene	53,100	--	< 270	< 27	603	< 27	< 27
2-Methyl naphthalene	2,200,000	--	< 170	< 17	374	< 17	< 17
Acenaphthene	33,000,000	--	248 J	< 17	1070	< 17	< 17
Acenaphthylene	487,000	--	< 120	< 12	355	< 12	< 12
Anthracene	100,000,000	196744.2	1400	< 14	2230	23 J	17 J
Benzo(a)anthracene	2,110	--	**2900** A	29 J	**2380** A	30 J	16 J
Benzo(a)pyrene	211	470	**2750** AE	26	**1870** AE	25	14 J
Benzo(b)fluoranthene	2,110	480	**3260** AE	31	**2750** AE	41	21 J
Benzo(g,h,i)perylene	--	--	1780	19 J	617	14 J	12 J
Benzo(k)fluoranthene	21,100	--	1600	< 16	994	16 J	< 16
Chrysene	211,000	145.1	**2830** E	25 J	**2580** E	39	24 J
Dibenzo(a,h)anthracene	211	--	**430 J** A	< 16	**224 J** A	< 16	< 16
Fluoranthene	22,000,000	88817.9	1770	60	5070	69	41
Fluorene	22,000,000	14814.8	2930	< 23	1490	< 23	< 23
Indeno(1,2,3-cd)pyrene	2,110	--	1790	16 J	738	< 16	< 16
Naphthalene	26,000	658.7	< 130	< 13	**628**	< 13	< 13
Phenanthrene	--	--	2250	35	5150	70	52
Pyrene	16,500,000	54472.5	1200	55	4510	55	33 J
Other SVOCs (ug.kg)							
1,2,4-Trichlorobenzene	98,700	408	< 260	< 26	< 130	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	< 160	< 16	< 80	< 16	< 16
2,3,4,6-Tetrachlorophenol	18,500	--	< 220	< 22	< 110	< 22	< 22
2,4,5-Trichlorophenol	61,600,000	--	< 260	< 26	< 130	< 26	< 26
2,4-Dichlorophenol	1,850,000	--	< 170	< 17	< 85	< 17	< 17
2,4-Dimethylphenol	12,300,000	--	< 130	< 13	< 65	< 13	< 13
2,6-Dinitrotoluene	1,150,000	0.1	< 110	< 11	< 55	< 11	< 11
3,3'-Dichlorobenzidine	3,830	--	< 120	< 12	< 60	< 12	< 12
4-Chloro-3-methylphenol	61,600,000	--	< 190	< 19	< 95	< 19	< 19
Benzyl Alcohol	61,600,000	--	< 2150	< 215	< 1075	< 215	< 215
Bis(2-chloroethoxy)methane	1,850,000	--	< 140	< 14	< 70	< 14	< 14
Bis(2-ethylhexyl)phthalate	123,000	2880	< 2150	< 215	< 207	< 215	< 215
Butyl benzyl phthalate	907,000	--	< 500	< 50	< 250	< 50	< 50
Dibenzofuran	1,020,000	--	492	< 15	1210	< 15	< 15
Dimethyl phthalate	--	--	< 120	< 12	< 60	< 12	< 12
Di-n-butyl phthalate	61,600,000	5037.5	< 470	< 47	< 235	< 47	< 47
Di-n-octyl phthalate	6,160,000	--	< 90	< 9	< 45	< 9	< 9
Diphenylamine	15,400,000	--	< 210	< 21	< 105	< 21	< 21
Isophorone	1,810,000	--	< 130	< 13	< 65	< 13	< 13
m & p-Cresol	30,800,000	--	< 440	< 44	< 220	< 44	< 44
o-Cresol	30,800,000	--	< 130	< 13	< 65	< 13	< 13
Pentachlorophenol (PCP)	2,700	20.2	< 90	< 9	< 45	< 9	< 9
Phenol	100,000,000	2299.8	< 90	< 9	< 45	< 9	< 9
PCBs (mg/kg):							
PCB 1242	744	9.4	NA	NA	NA	NA	NA
PCB 1248	744	9.4	NA	NA	NA	NA	NA
PCB 1254	744	9.4	NA	NA	NA	NA	NA
PCB 1260	744	9.4	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (mg/kg):							
Gasoline Range Organics	--	--	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	NA	NA	NA	NA	NA
Metals (mg/kg)							
Aluminum	100,000	601.2903	**25000** E	**20000** E	**23000** E	**26000** E	**21000** E
Antimony	409	0.542	**0.52 J**	**0.52 J**	**0.94 J** E	**0.73 J** E	<0.33
Arsenic	2	0.584	<1.6	<1.6	<0.32	<1.6	<0.65
Barium	100,000	164.8	**120**	**98**	**120**	75	52
Beryllium	2,010	6.32	1.7	0.89	0.99	1.1	0.97
Cadmium	799	0.752	0.27 J	<0.04	0.2 J	0.07 J	0.13 J
Calcium	--	--	53000	120000	6300	62000	74000
Chromium	100,000	360000	30	31	32	36	30
Cobalt	304	3.6239	**9.9** E	**12** E	**12** E	**11** E	**9** E
Copper	40,900	91.6	**99** E	24	17	24	26
Iron	100,000	--	24000	19000	23000	23000	21000
Lead	800	27	**99** E	6.1	**52** E	8.5	9.1
Magnesium	--	--	36000	37000	7800	34000	35000
Manganese	22,900	39.1304	**340** E	**410** E	**420** E	**360** E	**400** E
Mercury	3	0.208	0.09	0.017 J	0.054	0.019 J	0.018 J
Nickel	19,700	13.0033	**29** E	**28** E	**24** E	**34** E	**29** E
Potassium	--	--	5400	6000	3400	8300	6900
Selenium	5,110	0.52	**8.8** E	**4.8** E	**8.9** E	**6** E	**3.6** E
Silver	5,110	0.8497	<0.16	<0.16	0.2 J	<0.16	<0.16
Sodium	--	--	2300	1300	700	1100	810
Thallium	10,2	0.284	<2	<2	<2	<2	<0.4
Vanadium	5,110	--	44	42	48	46	42
Zinc	100,000	--	110	38	55	55	47

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		DCD-SB8	DCD-SB15		DCD-SB251	DCD-MW2		DCD-SB34		DCD-SB40	
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(5-6)	(1-3)	(8-10)	(2-4)	(1-3)	(4-6)	(2-4)	(5-7)	(3-4)	(14-14.75)
			10/19/2009	10/7/2009	10/7/2009	3/12/2010	10/12/2009	10/12/2009	10/8/2009	10/8/2009	10/8/2009	10/8/2009
			Area A	Area A	Area A	Area A	Area B	Area B	Area B	Area B	Area B	Area B
VOCs (µg/kg):												
1,1,1-Trichloroethane	640,000	140.2	< 27	< 27	< 27	NA	< 27	< 27	**340** E	**660** E	< 27	< 27
1,1,2-Trichloroethane	7,340	3.2	< 30	< 30	< 30	NA	< 30	< 30	< 30	< 30	< 30	< 30
1,1-Dichloroethane	23,700	483.6	< 22	< 22	< 22	NA	< 22	< 22	45 J	< 22	< 22	< 22
1,1-Dichloroethene	1,190,000	5	< 27	< 27	< 27	NA	< 27	< 27	< 27	< 27	< 27	< 27
1,2,4-Trichlorobenzene	98,700	408	< 53	< 53	< 53	NA	< 53	< 53	< 53	< 53	< 53	< 53
1,2,4-Trimethylbenzene	219,000	1379.3	< 20	34 J	< 20	NA	102	< 20	< 20	< 20	20.5 J	< 20
1,2-Dichlorobenzene	376,000	1168	< 32	< 32	< 32	NA	< 32	< 32	< 32	< 32	< 32	< 32
1,2-Dichloroethane	3030	2.8	< 24	< 24	< 24	NA	< 24	< 24	< 24	< 24	< 24	< 24
1,3,5-Trimethylbenzene	182,000	1379.3	< 24	< 24	< 24	NA	< 24	< 24	< 24	< 24	< 24	< 24
2-Chlorotoluene	907000	--	< 31	< 31	< 31	NA	< 31	< 31	< 31	< 31	< 31	< 31
Benzene	7410	5.1	< 20	< 20	< 20	NA	**20.5 J** E	< 20	< 20	< 20	< 20	< 20
Carbon Tetrachloride	4,250	3.9	< 21	< 21	< 21	NA	< 21	< 21	< 21	< 21	< 21	< 21
Chloroform	2130	3.3	< 50	< 50	< 50	NA	< 50	< 50	< 50	< 50	< 50	< 50
cis-1,2-Dichloroethene	2040000	41.2	< 24	< 24	< 24	NA	< 24	< 24	< 24	< 24	< 24	< 24
Ethylbenzene	37000	1570	< 16	< 16	< 16	NA	43 J	< 16	< 16	< 16	< 16	< 16
Isopropylbenzene	268,000	--	< 30	< 30	< 30	NA	< 30	< 30	< 30	< 30	< 30	< 30
m&p-Xylene	390,000	3940	< 33	49 J	< 33	NA	198	< 33	< 33	< 33	< 33	< 33
Methylene chloride	1,070,000	2.6	< 44	< 44	< 44	NA	< 44	< 44	< 44	< 44	< 44	< 44
n-Butylbenzene	108,000	--	< 35	< 35	< 35	NA	< 35	< 35	< 35	< 35	< 35	< 35
n-Propylbenzene	264,000	--	< 29	< 29	< 29	NA	< 29	< 29	< 29	< 29	< 29	< 29
Naphthalene	26,000	658.7	< 117	< 117	< 117	NA	153 J	< 117	< 117 UJ	< 117 UJ	< 117 UJ	< 117
o-Xylene	434,000	3940	< 15	46 J	< 15	NA	117	< 15	< 15	< 15	< 15	< 15
p-Isopropyltoluene	162,000	--	< 30	< 30	< 30	NA	< 30	< 30	< 30	< 30	< 30	< 30
sec-Butylbenzene	145,000	--	< 25	< 25	< 25	NA	< 25	< 25	< 25	< 25	< 25	< 25
tert-Butylbenzene	183,000	--	< 23	< 23	< 23	NA	< 23	< 23	< 23	< 23	< 23	< 23
Tetrachloroethene	153,000	4.5	< 18	< 18	< 18	NA	< 18	< 18	**243** E	< 18	< 18	< 18
Toluene	818,000	1107.2	< 23	30.8 J	< 23	NA	180	< 23	< 23	< 23	< 23	< 23
trans-1,2-Dichloroethene	976000	58.8	< 29	< 29	< 29	NA	< 29	< 29	< 29	< 29	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	< 20	< 20	< 20	NA	< 20	< 20	< 20	< 20	< 20	< 20
Trichlorofluoromethane	1,230,000	4468.5	< 16	< 16	< 16	NA	< 16	< 16	< 16	< 16	< 16	< 16
Vinyl Chloride	2,030	0.1	< 17	< 17	< 17	NA	< 17	< 17	< 17	< 17	< 17	< 17
PAHs (µg/kg):												
1-Methyl naphthalene	53,100	--	< 27	130	< 27	< 15	< 270	< 27	< 27	< 27	< 27	< 27
2-Methyl naphthalene	2,200,000	--	< 17	169	< 17	< 9.7	< 170	< 17	< 17	< 17	21.8 J	< 17
Acenaphthene	33,000,000	--	< 17	< 17	< 17	< 15.2	< 170	< 17	< 17	< 17	< 17	< 17
Acenaphthylene	487,000	--	52	16.6 J	< 12	< 5.1	< 120	< 12	< 12	< 12	13.4 J	< 12
Anthracene	100,000,000	196744.2	21.1 J	42 J	< 14	< 6.4	172 J	< 14	< 14	< 14	52	< 14
Benzo(a)anthracene	2,110	--	149	60	< 15	< 12.9	670	< 15	< 15	< 15	280	< 15
Benzo(a)pyrene	211	470	164	49	< 7	< 4.7	**580** AE	< 7	< 7	< 7	**263** A	< 7
Benzo(b)fluoranthene	2,110	480	212	66	< 10	< 6.5	**690** E	< 10	< 10	< 10	**340**	< 10
Benzo(g,h,i)perylene	--	--	97	47	< 11	< 7.7	302 J	< 11	< 11	< 11	141	< 11
Benzo(k)fluoranthene	21,100	--	97	28.5 J	< 16	< 9.8	289 J	< 16	< 16	< 16	125	< 16
Chrysene	211,000	145.1	**151** E	61	< 12	< 8.9	**710** E	< 12	< 12	< 12	**304** E	15.1 J
Dibenzo(a,h)anthracene	211	--	30.3 J	< 16	< 16	< 5.5	< 160	< 16	< 16	< 16	39 J	< 16
Fluoranthene	22,000,000	88817.9	172	99	< 12	< 9.2	1270	< 12	< 12	< 12	470	< 12
Fluorene	22,000,000	14814.8	< 23	< 23	< 23	< 5.6	< 230	< 23	< 23	< 23	< 23	< 23
Indeno(1,2,3-cd)pyrene	2,110	--	87	32 J	< 16	< 7.8	239 J	< 16	< 16	< 16	127	< 16
Naphthalene	26,000	658.7	< 13	103	< 13	< 16.2	< 130	< 13	< 13	< 13	17.6 J	< 13
Phenanthrene	--	--	33	133	< 9	< 10.6	760	< 9	< 9	< 9	182	13.2 J
Pyrene	16,500,000	54472.5	175	117	< 15	< 7.7	1450	< 15	< 15	< 15	430	< 15
Other SVOCs (ug.kg)												
1,2,4-Trichlorobenzene	98,700	408	< 26	< 26	< 26	NA	< 260	< 26	< 26	< 26	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	< 16	< 16	< 16	NA	< 160	< 16	< 16	< 16	< 16	< 16
2,3,4,6-Tetrachlorophenol	18,500	--	< 22	< 22	< 22	NA	< 220	< 22	< 22	< 22	< 22	< 22
2,4,5-Trichlorophenol	61,600,000	--	< 26	< 26	< 26	NA	< 260	< 26	< 26	< 26	< 26	< 26
2,4-Dichlorophenol	1,850,000	--	< 17	< 17	< 17	NA	< 170	< 17	< 17	< 17	< 17	< 17
2,4-Dimethylphenol	12,300,000	--	< 13	< 13	< 13	NA	< 130	< 13	< 13	< 13	< 13	< 13
2,6-Dinitrotoluene	1,150,000	0.1	< 11	< 11	< 11	NA	< 110	< 11	< 11	< 11	< 11	< 11
3,3'-Dichlorobenzidine	3,830	--	< 12	< 12	< 12	NA	< 120	< 12	< 12	< 12	< 12	< 12
4-Chloro-3-methylphenol	61,600,000	--	< 19	< 19	< 19	NA	< 190	< 19	< 19	< 19	< 19	< 19
Benzyl Alcohol	61,600,000	--	< 215	< 215	< 215	NA	< 2150	< 215	< 215	< 215	< 215	< 215
Bis(2-chloroethoxy)methane	1,850,000	--	< 14	< 14	< 14	NA	< 140	< 14	< 14	< 14	< 14	< 14
Bis(2-ethylhexyl)phthalate	123,000	2880	< 215	< 215	< 215	NA	< 2150	< 215	< 215	< 215	< 215	< 215
Butyl benzyl phthalate	907,000	--	< 50	< 50	< 50	NA	< 500	< 50	< 50	< 50	< 50	< 50
Dibenzofuran	1,020,000	--	< 15	26.9 J	< 15	NA	< 150	< 15	< 15	< 15	< 15	< 15
Dimethyl phthalate	--	--	< 12	< 12	< 12	NA	< 120	< 12	< 12	< 12	< 12	< 12
Di-n-butyl phthalate	61,600,000	5037.5	< 47	< 47	< 47	NA	< 470	< 47	< 47	< 47	< 47	< 47
Di-n-octyl phthalate	6,160,000	--	< 9	< 9	< 9	NA	< 90	< 9	< 9	< 9	< 9	< 9
Diphenylamine	15,400,000	--	< 21	< 21	< 21	NA	< 210	< 21	< 21	< 21	< 21	< 21
Isophorone	1,810,000	--	< 13	< 13	< 13	NA	< 130	< 13	< 13	< 13	< 13	< 13
m & p-Cresol	30,800,000	--	< 44	< 44	< 44	NA	< 440	< 44	< 44	< 44	< 44	< 44
o-Cresol	30,800,000	--	< 13	< 13	< 13	NA	< 130	< 13	< 13	< 13	< 13	< 13
Pentachlorophenol (PCP)	2,700	20.2	< 9	< 9	< 9	NA	< 90	< 9	< 9	< 9	< 9	< 9
Phenol	100,000,000	2299.8	< 9	< 9	< 9	NA	< 90	< 9	< 9	< 9	< 9	< 9
PCBs (mg/kg):												
PCB 1242	744	9.4	<0.0061	<0.0061	<0.0061	NA	NA	NA	NA	NA	NA	NA
PCB 1248	744	9.4	<0.0053	<0.0053	<0.0053	NA	NA	NA	NA	NA	NA	NA
PCB 1254	744	9.4	<0.0037	0.025	<0.0037	NA	NA	NA	NA	NA	NA	NA
PCB 1260	744	9.4	<0.0047	<0.0047	<0.0047	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (mg/kg):												
Gasoline Range Organics	--	--	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)												
Aluminum	100,000	601.2903	**9900** E	**11000** E	**14000** E	NA	**14000** E	**11000** E	**12000** E	**7600** E	**12000** E	**6400** E
Antimony	409	0.542	<0.33	<0.33	**0.86 J** E	NA	**0.85 J** E	**0.7 J** E	<0.33	<0.33	<0.33	<0.33
Arsenic	2	0.584	**1.9** E	<1.6	<1.6	NA	**1.3** E	<1.6	<0.32	**6.5** AE	**2.9** AE	<1.6
Barium	100,000	164.8	49	62	64	NA	60	40	72	30	**110**	20
Beryllium	2,010	6.32	0.64	0.53	0.63	NA	0.68	0.5	0.54	0.36	0.6	0.36
Cadmium	799	0.752	0.28 J	0.22 J	0.26 J	NA	0.34	0.28 J	0.29 J	0.25 J	**0.62**	0.2 J
Calcium	--	--	130000	16000	100000	NA	44000	94000	20000	110000	44000	88000
Chromium	100,000	360000	17	17	20	NA	22	16	18	9.3	16	10
Cobalt	304	3.6239	**5.6** E	**9.6** E	**7.6** E	NA	**8.3** E	**9.4** E	**9.5** E	**7.4** E	**8** E	**6.8** E
Copper	40,900	91.6	14	11	22	NA	28	20	16	19	29	15
Iron	100,000	--	11000	16000	16000	NA	17000	16000	15000	15000	24000	12000
Lead	800	27	9.7	11	8	13	**38** E	6.5	**22**	5.3	**66** E	6.6
Magnesium	--	--	62000	7200	39000	NA	20000	39000	12000	41000	22000	31000
Manganese	22,900	39.1304	**320** E	**330** E	**390** E	NA	**460** E	**430** E	**510** E	**490** E	**1100** E	**280** E
Mercury	3	0.208	0.0042 J	0.032	0.016 J	NA	**1.6** E	0.015 J	0.064	0.01 J	0.062	0.0097 J
Nickel	19,700	13.0033	**16** E	**18** E	**21** E	NA	**22** E	**22** E	**16** E	**16** E	**19** E	**16** E
Potassium	--	--	3100	1400	3600	NA	3800	3400	2000	2300	2000	1900
Selenium	5,110	0.52	<0.32	**4.4** E	**2.1** E	NA	**5.9** E	**4.2** E	**2.1** E	<1.6	**4.7** E	**0.46 J**
Silver	5,110	0.8497	<0.16	0.31 J	<0.16	NA	<0.16	<0.16	0.31 J	<0.16	**0.61 J**	<0.16
Sodium	--	--	540	1100	690	NA	2400	1800	2100	690	500	440
Thallium	10,2	0.284	<0.4	<2	<20	NA	<0.4	**0.61 J** E	**2** E	<0.4	**1.5** E	**3.3 J** E
Vanadium	5,110	--	23	33	28	NA	34	26	30	21	30	15
Zinc	100,000	--	29	40	36	NA	55	65	60	68	110	30

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		DCD-SB41			DCD-SB45			DCD-SB46
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(2-4)		(9-10)	(2-4)	(15-17)		(9-10)
			10/8/2009	10/8/2009	10/8/2009	10/8/2009	10/8/2009	10/8/2009	10/16/2009
			Area B	Area B	Area B	Area B	Area B	Area B	Area B
VOCs (µg/kg):									
1,1,1-Trichloroethane	640,000	140.2	62 J	29.2 J	54 J	< 27	< 27	< 27	< 27
1,1,2-Trichloroethane	7,340	3.2	< 30	< 30	< 30	< 30	< 30	< 30	< 30
1,1-Dichloroethane	23,700	483.6	24 J	< 22	< 22	< 22	< 22	< 22	< 22
1,1-Dichloroethene	1,190,000	5	< 27	< 27	< 27	< 27	< 27	< 27	< 27
1,2,4-Trichlorobenzene	98,700	408	< 53	< 53	< 53	< 53	< 53	< 53	< 53
1,2,4-Trimethylbenzene	219,000	1379.3	26.9 J	< 20	< 20	< 20	< 20	< 20	< 20
1,2-Dichlorobenzene	376,000	1168	< 32	< 32	< 32	< 32	< 32	< 32	< 32
1,2-Dichloroethane	3030	2.8	< 24	< 24	< 24	< 24	< 24	< 24	< 24
1,3,5-Trimethylbenzene	182,000	1379.3	< 24	< 24	< 24	< 24	< 24	< 24	< 24
2-Chlorotoluene	907000	--	< 31	< 31	< 31	< 31	< 31	< 31	< 31
Benzene	7410	5.1	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Carbon Tetrachloride	4,250	3.9	< 21	< 21	< 21	< 21	< 21	< 21	< 21
Chloroform	2130	3.3	< 50	< 50	< 50	< 50	< 50	< 50	< 50
cis-1,2-Dichloroethene	2040000	41.2	< 24	< 24	< 24	< 24	< 24	< 24	< 24
Ethylbenzene	37000	1570	< 16	< 16	< 16	< 16	< 16	< 16	< 16
Isopropylbenzene	268,000	--	< 30	< 30	< 30	< 30	< 30	< 30	< 30
m&p-Xylene	390,000	3940	< 33	< 33	< 33	< 33	< 33	< 33	< 33
Methylene chloride	1,070,000	2.6	< 44	< 44	< 44	< 44	< 44	< 44	< 44
n-Butylbenzene	108,000	--	< 35	< 35	< 35	< 35	< 35	< 35	< 35
n-Propylbenzene	264,000	--	< 29	< 29	< 29	< 29	< 29	< 29	< 29
Naphthalene	26,000	658.7	< 117 UJ	< 117	< 117 UJ	< 117	< 117	< 117	< 117
o-Xylene	434,000	3940	18 J	< 15	< 15	< 15	< 15	< 15	< 15
p-Isopropyltoluene	162,000	--	< 30	< 30	< 30	< 30	< 30	< 30	< 30
sec-Butylbenzene	145,000	--	< 25	< 25	< 25	< 25	< 25	< 25	< 25
tert-Butylbenzene	183,000	--	< 23	< 23	< 23	< 23	< 23	< 23	< 23
Tetrachloroethene	153,000	4.5	< 18	< 18	< 18	< 18	< 18	< 18	< 18
Toluene	818,000	1107.2	< 23	< 23	< 23	< 23	< 23	< 23	< 23
trans-1,2-Dichloroethene	976000	58.8	< 29	< 29	< 29	< 29	< 29	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	< 20	< 20	< 20	**52 J** [E]	< 20	< 20	< 20
Trichlorofluoromethane	1,230,000	4468.5	< 16	< 16	< 16	< 16	< 16	< 16	< 16
Vinyl Chloride	2,030	0.1	< 17	< 17	< 17	< 17	< 17	< 17	< 17
PAHs (µg/kg):									
1-Methyl naphthalene	53,100	--	66 J	129	< 27	< 27	< 27	< 27	< 27
2-Methyl naphthalene	2,200,000	--	72	132	< 17	< 17	< 17	< 17	< 17
Acenaphthene	33,000,000	--	< 17	24.4 J	< 17	48 J	< 17	< 17	< 17
Acenaphthylene	487,000	--	< 12	14.8 J	< 12	< 12	< 12	< 12	< 12
Anthracene	100,000,000	196744.2	34 J	76	< 14	289	< 14	< 14	< 14
Benzo(a)anthracene	2,110	--	135	241	< 15	460	< 15	< 15	< 15
Benzo(a)pyrene	211	470	122 J	205 J	< 7	**350** [A]	< 7	< 7	< 7
Benzo(b)fluoranthene	2,110	480	183 J	**340 J**	< 10	**460**	< 10	< 10	< 10
Benzo(g,h,i)perylene	--	--	72	91	< 11	189	< 11	< 11	< 11
Benzo(k)fluoranthene	21,100	--	72	108	< 16	174	< 16	< 16	< 16
Chrysene	211,000	145.1	**154** [E]	**255** [E]	< 12	**400** [E]	13.6 J	< 12	< 12
Dibenzo(a,h)anthracene	211	--	20.1 J	28.5 J	< 16	57	< 16	< 16	< 16
Fluoranthene	22,000,000	88817.9	214 J	520 J	< 12	960	< 12	< 12	< 12
Fluorene	22,000,000	14814.8	< 23	< 23	< 23	100	< 23	< 23	< 23
Indeno(1,2,3-cd)pyrene	2,110	--	65	85	< 16	174	< 16	< 16	< 16
Naphthalene	26,000	658.7	43	76	< 13	< 13	< 13	< 13	< 13
Phenanthrene	--	--	133 J	320 J	< 9	910	11.5 J	18.6 J	< 9
Pyrene	16,500,000	54472.5	181 J	380 J	< 15	770	< 15	< 15	< 15
Other SVOCs (ug.kg)									
1,2,4-Trichlorobenzene	98,700	408	< 26	< 26	< 26	< 26	< 26	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	< 16	< 16	< 16	< 16	< 16	< 16	< 16
2,3,4,6-Tetrachlorophenol	18,500	--	< 22	< 22	< 22	< 22	< 22	< 22	< 22
2,4,5-Trichlorophenol	61,600,000	--	< 26	< 26	< 26	< 26	< 26	< 26	< 26
2,4-Dichlorophenol	1,850,000	--	< 17	< 17	< 17	< 17	< 17	< 17	< 17
2,4-Dimethylphenol	12,300,000	--	< 13	< 13	< 13	< 13	< 13	< 13	< 13
2,6-Dinitrotoluene	1,150,000	0.1	< 11	< 11	< 11	< 11	< 11	< 11	< 11
3,3'-Dichlorobenzidine	3,830	--	< 12	< 12	< 12	< 12	< 12	< 12	< 12
4-Chloro-3-methylphenol	61,600,000	--	< 19	< 19	< 19	< 19	< 19	< 19	< 19
Benzyl Alcohol	61,600,000	--	< 215	< 215	< 215	< 215	< 215	< 215	< 215
Bis(2-chloroethoxy)methane	1,850,000	--	< 14	< 14	< 14	< 14	< 14	< 14	< 14
Bis(2-ethylhexyl)phthalate	123,000	2880	< 215	< 215	< 215	< 215	< 215	< 215	< 215
Butyl benzyl phthalate	907,000	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Dibenzofuran	1,020,000	--	22 J	40 J	< 15	38 J	< 15	< 15	< 15
Dimethyl phthalate	--	--	< 12	< 12	< 12	< 12	< 12	< 12	< 12
Di-n-butyl phthalate	61,600,000	5037.5	< 47	< 47	< 47	< 47	< 47	< 47	< 47
Di-n-octyl phthalate	6,160,000	--	< 9	< 9	< 9	< 9	< 9	< 9	< 9
Diphenylamine	15,400,000	--	< 21	< 21	< 21	< 21	< 21	< 21	< 21
Isophorone	1,810,000	--	< 13	< 13	< 13	< 13	< 13	< 13	< 13
m & p-Cresol	30,800,000	--	< 44	< 44	< 44	< 44	< 44	< 44	< 44
o-Cresol	30,800,000	--	< 13	< 13	< 13	< 13	< 13	< 13	< 13
Pentachlorophenol (PCP)	2,700	20.2	< 9	< 9	< 9	< 9	< 9	< 9	< 9
Phenol	100,000,000	2299.8	< 9	< 9	< 9	< 9	< 9	< 9	< 9
PCBs (mg/kg):									
PCB 1242	744	9.4	NA	NA	NA	NA	NA	NA	<0.0061
PCB 1248	744	9.4	NA	NA	NA	NA	NA	NA	<0.00534
PCB 1254	744	9.4	NA	NA	NA	NA	NA	NA	<0.00376
PCB 1260	744	9.4	NA	NA	NA	NA	NA	NA	<0.0047
Petroleum Hydrocarbons (mg/kg):									
Gasoline Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Aluminum	100,000	601.2903	**14000** [E]	**12000** [E]	**5300** [E]	**9900** [E]	**6400** [E]	**7500** [E]	**5900** [E]
Antimony	409	0.542	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Arsenic	2	0.584	**7.9** [AE]	**8.5** [AE]	**8.4** [AE]	<0.32	<1.6	**6** [AE]	**10** [AE]
Barium	100,000	164.8	68	72	22	50	23	22	28
Beryllium	2,010	6.32	0.68	0.64	0.24	0.4	0.35	0.35	0.38
Cadmium	799	0.752	**0.47**	**0.51**	0.33	0.17 J	0.17 J	0.072 J	0.34
Calcium	--	--	34000	52000	160000	2000	100000	90000	160000
Chromium	100,000	360000	19	16	6.3	14	10	9.7	9.5
Cobalt	304	3.6239	**9.6** [E]	**10** [E]	**6.1** [E]	**12** [E]	**5.7** [E]	**6.4** [E]	**6.1** [E]
Copper	40,900	91.6	28	34	13	10	16	16	14
Iron	100,000	--	22000	24000	13000	12000	11000	13000	14000
Lead	800	27	**55** [E]	**76** [E]	7.8	**14**	5.7	6.1	4.8
Magnesium	--	--	20000	29000	73000	2000	36000	34000	65000
Manganese	22,900	39.1304	**660** [E]	**760** [E]	**800** [E]	**110** [E]	**340** [E]	**330** [E]	**530** [E]
Mercury	3	0.208	0.034	0.036	0.008 J	0.044	0.0076 J	0.0084 J	0.0095 J
Nickel	19,700	13.0033	**24** [E]	**21** [E]	**14** [E]	**11**	**15** [E]	**13**	**15** [E]
Potassium	--	--	3000	2700	1600	810	2100	2500	2200
Selenium	5,110	0.52	<1.6	<1.6	<1.6	**4.1** [E]	**0.57 J** [E]	<0.32	<0.32
Silver	5,110	0.8497	<0.16	<0.16	<0.16	0.22 J	<0.16	<0.16	<0.16
Sodium	--	--	990	860	530	1700	540	610	370
Thallium	10,2	0.284	<2	<2	<0.4	**2** [E]	**4.6 J** [E]	<0.4	<0.4
Vanadium	5,110	--	36	33	16	34	14	17	17
Zinc	100,000	--	190	140	120	49	22	28	68

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		DCD-SB244		DCD-SB245		DCD-SB246	
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(1-3)	(4-6)	(2-4)	(4-6)	(1-3)	(8-10)
			3/12/2010	3/12/2010	3/17/2010	3/17/2010	3/12/2010	3/12/2010
			Area B	Area B	Area B	Area B	Area B	Area B
VOCs (µg/kg):								
1,1,1-Trichloroethane	640,000	140.2	< 28	< 28	< 28	< 28	< 28	< 28
1,1,2-Trichloroethane	7,340	3.2	< 36	< 36	< 36	< 36	< 36	< 36
1,1-Dichloroethane	23,700	483.6	< 45	< 45	< 45	< 45	< 45	< 45
1,1-Dichloroethene	1,190,000	5	< 44	< 44	< 44	< 44	< 44	< 44
1,2,4-Trichlorobenzene	98,700	408	< 48	< 48	< 48	< 48	< 48	< 48
1,2,4-Trimethylbenzene	219,000	1379.3	< 73	< 73	< 73	< 73	< 73	< 73
1,2-Dichlorobenzene	376,000	1168	< 41	< 41	< 41	< 41	< 41	< 41
1,2-Dichloroethane	3030	2.8	< 45	< 45	< 45	< 45	< 45	< 45
1,3,5-Trimethylbenzene	182,000	1379.3	< 57	< 57	< 57	< 57	< 57	< 57
2-Chlorotoluene	907000	--	< 46	< 46	< 46	< 46	< 46	< 46
Benzene	7410	5.1	< 35	< 35	< 35	< 35	< 35	< 35
Carbon Tetrachloride	4,250	3.9	< 28	< 28	< 28	< 28	< 28	< 28
Chloroform	2130	3.3	< 39	< 39	< 39	< 39	< 39	< 39
cis-1,2-Dichloroethene	2040000	41.2	< 44	< 44	< 44	< 44	< 44	< 44
Ethylbenzene	37000	1570	< 56	< 56	< 56	< 56	< 56	< 56
Isopropylbenzene	268,000	--	< 39	< 39	< 39	< 39	< 39	< 39
m&p-Xylene	390,000	3940	< 73	< 73	< 73	< 73	< 73	< 73
Methylene chloride	1,070,000	2.6	< 52	< 52	< 52	< 52	< 52	< 52
n-Butylbenzene	108,000	--	< 46	< 46	< 46	< 46	< 46	< 46
n-Propylbenzene	264,000	--	< 44	< 44	< 44	< 44	< 44	< 44
Naphthalene	26,000	658.7	< 53	< 53	< 53	< 53	< 53	< 53
o-Xylene	434,000	3940	< 51	< 51	< 51	< 51	< 51	< 51
p-Isopropyltoluene	162,000	--	< 43	< 43	< 43	< 43	< 43	< 43
sec-Butylbenzene	145,000	--	< 35	< 35	< 35	< 35	< 35	< 35
tert-Butylbenzene	183,000	--	< 41	< 41	< 41	< 41	< 41	< 41
Tetrachloroethene	153,000	4.5	< 53	< 53	< 53	< 53	< 53	< 53
Toluene	818,000	1107.2	< 51	< 51	< 51	< 51	< 51	< 51
trans-1,2-Dichloroethene	976000	58.8	< 43	< 43	< 43	< 43	< 43	< 43
Trichloroethene (TCE)	8,810	3.6	< 50	< 50	< 50	< 50	< 50	< 50
Trichlorofluoromethane	1,230,000	4468.5	< 35	< 35	< 35	< 35	< 35	< 35
Vinyl Chloride	2,030	0.1	< 33	< 33	< 33	< 33	< 33	< 33
PAHs (µg/kg):								
1-Methyl naphthalene	53,100	--	< 15	< 15	< 15	< 15	< 15	< 15
2-Methyl naphthalene	2,200,000	--	< 9.7	< 9.7	< 9.7	< 9.7	< 9.7	< 9.7
Acenaphthene	33,000,000	--	< 15.2	< 15.2	< 15.2	< 15.2	< 15.2	< 15.2
Acenaphthylene	487,000	--	< 5.1	< 5.1	18.9	8.8 J	< 5.1	< 5.1
Anthracene	100,000,000	196744.2	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4
Benzo(a)anthracene	2,110	--	< 12.9	< 12.9	14.4 J	< 12.9	16.2 J	< 12.9
Benzo(a)pyrene	211	470	< 4.7	< 4.7	< 4.7	< 4.7	9.1 J	< 4.7
Benzo(b)fluoranthene	2,110	480	< 6.5	< 6.5	< 6.5	< 6.5	12.6 J	< 6.5
Benzo(g,h,i)perylene	--	--	< 7.7	< 7.7	< 7.7	< 7.7	< 7.7	< 7.7
Benzo(k)fluoranthene	21,100	--	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8
Chrysene	211,000	145.1	< 8.9	< 8.9	< 8.9	< 8.9	< 8.9	< 8.9
Dibenzo(a,h)anthracene	211	--	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5
Fluoranthene	22,000,000	88817.9	< 9.2	< 9.2	< 9.2	< 9.2	15.5 J	< 9.2
Fluorene	22,000,000	14814.8	< 5.6	< 5.6	< 5.6	< 5.6	< 5.6	< 5.6
Indeno(1,2,3-cd)pyrene	2,110	--	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8
Naphthalene	26,000	658.7	< 16.2	< 16.2	< 16.2	< 16.2	< 16.2	< 16.2
Phenanthrene	--	--	< 10.6	< 10.6	< 10.6	< 10.6	< 10.6	< 10.6
Pyrene	16,500,000	54472.5	< 7.7	< 7.7	< 7.7	< 7.7	13.1 J	< 7.7
Other SVOCs (ug.kg)								
1,2,4-Trichlorobenzene	98,700	408	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	376,000	1168	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	18,500	--	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	61,600,000	--	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	1,850,000	--	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	12,300,000	--	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	1,150,000	0.1	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	3,830	--	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	61,600,000	--	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	61,600,000	--	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	1,850,000	--	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	123,000	2880	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	907,000	--	NA	NA	NA	NA	NA	NA
Dibenzofuran	1,020,000	--	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	--	--	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	61,600,000	5037.5	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	6,160,000	--	NA	NA	NA	NA	NA	NA
Diphenylamine	15,400,000	--	NA	NA	NA	NA	NA	NA
Isophorone	1,810,000	--	NA	NA	NA	NA	NA	NA
m & p-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA
o-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA
Pentachlorophenol (PCP)	2,700	20.2	NA	NA	NA	NA	NA	NA
Phenol	100,000,000	2299.8	NA	NA	NA	NA	NA	NA
PCBs (mg/kg):								
PCB 1242	744	9.4	NA	NA	NA	NA	NA	NA
PCB 1248	744	9.4	NA	NA	NA	NA	NA	NA
PCB 1254	744	9.4	NA	NA	NA	NA	NA	NA
PCB 1260	744	9.4	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (mg/kg):								
Gasoline Range Organics	--	--	NA	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	< 10	10.7	< 10	< 10	< 10	10.5
Metals (mg/kg)								
Aluminum	100,000	601.2903	NA	NA	NA	NA	NA	NA
Antimony	409	0.542	NA	NA	NA	NA	NA	NA
Arsenic	2	0.584	**6.8** AE	NA	NA	NA	<1.6	NA
Barium	100,000	164.8	32	NA	NA	NA	**93**	NA
Beryllium	2,010	6.32	NA	NA	NA	NA	NA	NA
Cadmium	799	0.752	**0.68**	NA	NA	NA	**0.74**	NA
Calcium	--	--	NA	NA	NA	NA	NA	NA
Chromium	100,000	360000	11	NA	NA	NA	30	NA
Cobalt	304	3.6239	NA	NA	NA	NA	NA	NA
Copper	40,900	91.6	NA	NA	NA	NA	NA	NA
Iron	100,000	--	NA	NA	NA	NA	NA	NA
Lead	800	27	6.5	**24**	11	12	12	**23**
Magnesium	--	--	NA	NA	NA	NA	NA	NA
Manganese	22,900	39.1304	NA	NA	NA	NA	NA	NA
Mercury	3	0.208	0.0046	NA	NA	NA	0.024 J	NA
Nickel	19,700	13.0033	NA	NA	NA	NA	NA	NA
Potassium	--	--	NA	NA	NA	NA	NA	NA
Selenium	5,110	0.52	**2.4** E	NA	NA	NA	**3.6** E	NA
Silver	5,110	0.8497	<0.16	NA	NA	NA	<0.16	NA
Sodium	--	--	NA	NA	NA	NA	NA	NA
Thallium	10,2	0.284	NA	NA	NA	NA	NA	NA
Vanadium	5,110	--	NA	NA	NA	NA	NA	NA
Zinc	100,000	--	NA	NA	NA	NA	NA	NA

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		C.NP-01		C.NP-03			CM-4	
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(3-4)	(5-6)	(3-4)	(3-4)	(4-5)	(3.5-4.5)	(6-7)
			4/5/2013	4/5/2013	4/5/2013	4/5/2013	4/5/2013	7/2/2013	7/2/2013
			Area C	Area C	Area C	Area C	Area C	Area C	Area C
VOCs (µg/kg):									
1,1,1-Trichloroethane	640,000	140.2	NA	NA	NA	NA	NA	< 38	< 38
1,1,2-Trichloroethane	7,340	3.2	NA	NA	NA	NA	NA	< 23	< 23
1,1-Dichloroethane	23,700	483.6	NA	NA	NA	NA	NA	< 19	56 J
1,1-Dichloroethene	1,190,000	5	NA	NA	NA	NA	NA	< 21	< 21
1,2,4-Trichlorobenzene	98,700	408	NA	NA	NA	NA	NA	< 79	< 79
1,2,4-Trimethylbenzene	219,000	1379.3	NA	NA	NA	NA	NA	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	NA	NA	NA	NA	NA	< 38	< 38
1,2-Dichloroethane	3030	2.8	NA	NA	NA	NA	NA	< 36	< 36
1,3,5-Trimethylbenzene	182,000	1379.3	NA	NA	NA	NA	NA	< 26	< 26
2-Chlorotoluene	907000	--	NA	NA	NA	NA	NA	< 16	< 16
Benzene	7410	5.1	NA	NA	NA	NA	NA	< 9.2	< 9.2
Carbon Tetrachloride	4,250	3.9	NA	NA	NA	NA	NA	< 25	< 25
Chloroform	2130	3.3	NA	NA	NA	NA	NA	< 49	< 49
cis-1,2-Dichloroethene	2040000	41.2	NA	NA	NA	NA	NA	< 24	< 24
Ethylbenzene	37000	1570	NA	NA	NA	NA	NA	< 10	< 10
Isopropylbenzene	268,000	--	NA	NA	NA	NA	NA	< 25	< 25
m&p-Xylene	390,000	3940	NA	NA	NA	NA	NA	< 68	< 68
Methylene chloride	1,070,000	2.6	NA	NA	NA	NA	NA	< 57	< 57
n-Butylbenzene	108,000	--	NA	NA	NA	NA	NA	< 26	< 26
n-Propylbenzene	264,000	--	NA	NA	NA	NA	NA	< 24	< 24
Naphthalene	26,000	658.7	NA	NA	NA	NA	NA	< 114	< 114
o-Xylene	434,000	3940	NA	NA	NA	NA	NA	< 31	< 31
p-Isopropyltoluene	162,000	--	NA	NA	NA	NA	NA	< 31	< 31
sec-Butylbenzene	145,000	--	NA	NA	NA	NA	NA	< 41	< 41
tert-Butylbenzene	183,000	--	NA	NA	NA	NA	NA	< 20	< 20
Tetrachloroethene	153,000	4.5	NA	NA	NA	NA	NA	< 49	< 49
Toluene	818,000	1107.2	NA	NA	NA	NA	NA	< 20	< 20
trans-1,2-Dichloroethene	976000	58.8	NA	NA	NA	NA	NA	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	NA	NA	NA	NA	NA	< 28	< 28
Trichlorofluoromethane	1,230,000	4468.5	NA	NA	NA	NA	NA	< 86	< 86
Vinyl Chloride	2,030	0.1	NA	NA	NA	NA	NA	< 21	< 21
PAHs (µg/kg):									
1-Methyl naphthalene	53,100	--	NA	NA	NA	NA	NA	< 20.7	< 20.7
2-Methyl naphthalene	2,200,000	--	NA	NA	NA	NA	NA	< 20.6	< 20.6
Acenaphthene	33,000,000	--	NA	NA	NA	NA	NA	< 21.8	< 21.8
Acenaphthylene	487,000	--	NA	NA	NA	NA	NA	< 19.2	< 19.2
Anthracene	100,000,000	196744.2	NA	NA	NA	NA	NA	< 19.5	< 19.5
Benzo(a)anthracene	2,110	--	NA	NA	NA	NA	NA	48 J	< 22.9
Benzo(a)pyrene	211	470	NA	NA	NA	NA	NA	50 J	< 17.4
Benzo(b)fluoranthene	2,110	480	NA	NA	NA	NA	NA	68	< 19.6
Benzo(g,h,i)perylene	--	--	NA	NA	NA	NA	NA	35 J	< 22.7
Benzo(k)fluoranthene	21,100	--	NA	NA	NA	NA	NA	25.6 J	< 21.6
Chrysene	211,000	145.1	NA	NA	NA	NA	NA	63	< 18.1
Dibenzo(a,h)anthracene	211	--	NA	NA	NA	NA	NA	< 22.3	< 22.3
Fluoranthene	22,000,000	88817.9	NA	NA	NA	NA	NA	102	< 21.1
Fluorene	22,000,000	14814.8	NA	NA	NA	NA	NA	< 22.2	< 22.2
Indeno(1,2,3-cd)pyrene	2,110	--	NA	NA	NA	NA	NA	28.9 J	< 23.9
Naphthalene	26,000	658.7	NA	NA	NA	NA	NA	< 22.1	< 22.1
Phenanthrene	--	--	NA	NA	NA	NA	NA	43 J	< 22.4
Pyrene	16,500,000	54472.5	NA	NA	NA	NA	NA	106	< 23.1
Other SVOCs (ug.kg)									
1,2,4-Trichlorobenzene	98,700	408	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	376,000	1168	NA	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	18,500	--	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	1,850,000	--	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	12,300,000	--	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	1,150,000	0.1	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	3,830	--	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	1,850,000	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	123,000	2880	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	907,000	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	1,020,000	--	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	--	--	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	61,600,000	5037.5	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	6,160,000	--	NA	NA	NA	NA	NA	NA	NA
Diphenylamine	15,400,000	--	NA	NA	NA	NA	NA	NA	NA
Isophorone	1,810,000	--	NA	NA	NA	NA	NA	NA	NA
m & p-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA	NA
o-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol (PCP)	2,700	20.2	NA	NA	NA	NA	NA	NA	NA
Phenol	100,000,000	2299.8	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg):									
PCB 1242	744	9.4	NA	NA	NA	NA	NA	NA	NA
PCB 1248	744	9.4	NA	NA	NA	NA	NA	NA	NA
PCB 1254	744	9.4	NA	NA	NA	NA	NA	NA	NA
PCB 1260	744	9.4	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (mg/kg):									
Gasoline Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Aluminum	100,000	601.2903	NA	NA	NA	NA	NA	NA	NA
Antimony	409	0.542	NA	NA	NA	NA	NA	NA	NA
Arsenic	2	0.584	NA	NA	NA	NA	NA	NA	NA
Barium	100,000	164.8	NA	NA	NA	NA	NA	NA	NA
Beryllium	2,010	6.32	NA	NA	NA	NA	NA	NA	NA
Cadmium	799	0.752	NA	NA	NA	NA	NA	NA	NA
Calcium	--	--	NA	NA	NA	NA	NA	NA	NA
Chromium	100,000	360000	NA	NA	NA	NA	NA	NA	NA
Cobalt	304	3.6239	NA	NA	NA	NA	NA	NA	NA
Copper	40,900	91.6	NA	NA	NA	NA	NA	NA	NA
Iron	100,000	--	NA	NA	NA	NA	NA	NA	NA
Lead	800	27	**310** [E]	**73** [E]	**28 J** [E]	**67 J** [E]	**21**	NA	NA
Magnesium	--	--	NA	NA	NA	NA	NA	NA	NA
Manganese	22,900	39.1304	NA	NA	NA	NA	NA	NA	NA
Mercury	3	0.208	NA	NA	NA	NA	NA	NA	NA
Nickel	19,700	13.0033	NA	NA	NA	NA	NA	NA	NA
Potassium	--	--	NA	NA	NA	NA	NA	NA	NA
Selenium	5,110	0.52	NA	NA	NA	NA	NA	NA	NA
Silver	5,110	0.8497	NA	NA	NA	NA	NA	NA	NA
Sodium	--	--	NA	NA	NA	NA	NA	NA	NA
Thallium	10,2	0.284	NA	NA	NA	NA	NA	NA	NA
Vanadium	5,110	--	NA	NA	NA	NA	NA	NA	NA
Zinc	100,000	--	NA	NA	NA	NA	NA	NA	NA

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		CM-5		DCD-SB50A	DCD-SB50B	DCD-SB63		
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(3-4)	(5-6)	(8-9)	(8-9)	(6-6.7)	(19-20)	(19-20)
			7/2/2013	7/2/2013	10/16/2009	10/16/2009	9/30/2009	9/30/2009	9/30/2009
			Area C	Area C	Area C	Area C	Area C	Area C	Area C
VOCs (µg/kg):									
1,1,1-Trichloroethane	640,000	140.2	< 38	< 38	< 27	< 27	< 27	< 27	< 27
1,1,2-Trichloroethane	7,340	3.2	< 23	< 23	< 30	< 30	< 30	< 30	< 30
1,1-Dichloroethane	23,700	483.6	< 19	< 19	< 22	< 22	47 J	< 22	< 22
1,1-Dichloroethene	1,190,000	5	< 21	< 21	< 27	< 27	< 27	< 27	< 27
1,2,4-Trichlorobenzene	98,700	408	< 79	< 79	< 53	< 53	< 53	< 53	< 53
1,2,4-Trimethylbenzene	219,000	1379.3	< 26	< 26	< 20	< 20	**800**	< 20	< 20
1,2-Dichlorobenzene	376,000	1168	< 38	< 38	< 32	< 32	< 32	< 32	< 32
1,2-Dichloroethane	3030	2.8	< 36	< 36	< 24	< 24	< 24	< 24	< 24
1,3,5-Trimethylbenzene	182,000	1379.3	< 26	< 26	< 24	< 24	38 J	< 24	< 24
2-Chlorotoluene	907000	--	< 16	< 16	< 31	< 31	< 31	< 31	< 31
Benzene	7410	5.1	< 9.2	< 9.2	< 20	< 20	< 20	< 20	< 20
Carbon Tetrachloride	4,250	3.9	< 25	< 25	< 21	< 21	< 21	< 21	< 21
Chloroform	2130	3.3	< 49	< 49	< 50	< 50	< 50	< 50	< 50
cis-1,2-Dichloroethene	2040000	41.2	< 24	< 24	**38 J**	< 24	< 24	< 24	< 24
Ethylbenzene	37000	1570	< 10	< 10	< 16	< 16	137	< 16	< 16
Isopropylbenzene	268,000	--	< 25	< 25	< 30	< 30	109	< 30	< 30
m&p-Xylene	390,000	3940	< 68	< 68	< 33	< 33	105	< 33	< 33
Methylene chloride	1,070,000	2.6	< 57	< 57	< 44	< 44	< 44	< 44	< 44
n-Butylbenzene	108,000	--	< 26	< 26	< 35	< 35	330	< 35	< 35
n-Propylbenzene	264,000	--	< 24	< 24	< 29	< 29	207	< 29	< 29
Naphthalene	26,000	658.7	< 114	< 114	< 117	< 117	**760** [E]	< 117	< 117
o-Xylene	434,000	3940	< 31	< 31	< 15	< 15	56	< 15	< 15
p-Isopropyltoluene	162,000	--	< 31	< 31	< 30	< 30	154	< 30	< 30
sec-Butylbenzene	145,000	--	< 41	< 41	< 25	< 25	177	< 25	< 25
tert-Butylbenzene	183,000	--	< 20	< 20	< 23	< 23	< 23	< 23	< 23
Tetrachloroethene	153,000	4.5	< 49	< 49	< 18	< 18	< 18	< 18	< 18
Toluene	818,000	1107.2	< 20	< 20	< 23	< 23	23.1 J	< 23	< 23
trans-1,2-Dichloroethene	976000	58.8	< 29	< 29	< 29	< 29	< 29	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	< 28	< 28	< 20	< 20	< 20	< 20	< 20
Trichlorofluoromethane	1,230,000	4468.5	< 86	< 86	< 16	< 16	< 16	< 16	< 16
Vinyl Chloride	2,030	0.1	< 21	< 21	< 17	< 17	< 17	< 17	< 17
PAHs (µg/kg):									
1-Methyl naphthalene	53,100	--	44 J	< 20.7	< 27	< 27	390	< 27	< 27
2-Methyl naphthalene	2,200,000	--	50 J	< 20.6	< 17	< 17	462	40 J	< 17
Acenaphthene	33,000,000	--	< 21.8	< 21.8	< 17	< 17	83	< 17	< 17
Acenaphthylene	487,000	--	< 19.2	< 19.2	< 12	< 12	25 J	< 12	< 12
Anthracene	100,000,000	196744.2	< 19.5	< 19.5	< 14	< 14	120	< 14	< 14
Benzo(a)anthracene	2,110	--	25.5 J	< 22.9	< 15	< 15	244	< 15	< 15
Benzo(a)pyrene	211	470	< 17.4	< 17.4	< 7	< 7	**232** [A]	< 7	< 7
Benzo(b)fluoranthene	2,110	480	28.1 J	< 19.6	< 10	< 10	**302**	< 10	< 10
Benzo(g,h,i)perylene	--	--	< 22.7	< 22.7	< 11	< 11	101	< 11	< 11
Benzo(k)fluoranthene	21,100	--	< 21.6	< 21.6	< 16	< 16	133	< 16	< 16
Chrysene	211,000	145.1	36 J	< 18.1	< 12	< 12	**260** [E]	18 J	20 J
Dibenzo(a,h)anthracene	211	--	< 22.3	< 22.3	< 16	< 16	32 J	< 16	< 16
Fluoranthene	22,000,000	88817.9	48 J	< 21.1	< 12	< 12	521	< 12	< 12
Fluorene	22,000,000	14814.8	< 22.2	< 22.2	< 23	< 23	123	< 23	< 23
Indeno(1,2,3-cd)pyrene	2,110	--	< 23.9	< 23.9	< 16	< 16	116	< 16	< 16
Naphthalene	26,000	658.7	27.6 J	< 22.1	< 13	< 13	203	< 13	< 13
Phenanthrene	--	--	66 J	< 22.4	< 9	< 9	458	51	50
Pyrene	16,500,000	54472.5	45 J	< 23.1	< 15	< 15	436	< 15	< 15
Other SVOCs (ug.kg)									
1,2,4-Trichlorobenzene	98,700	408	NA	NA	< 26	< 26	< 26	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	NA	NA	< 16	< 16	< 16	< 16	< 16
2,3,4,6-Tetrachlorophenol	18,500	--	NA	NA	< 22	< 22	< 22	< 22	< 22
2,4,5-Trichlorophenol	61,600,000	--	NA	NA	< 26	< 26	< 26	< 26	< 26
2,4-Dichlorophenol	1,850,000	--	NA	NA	< 17	< 17	< 17	< 17	< 17
2,4-Dimethylphenol	12,300,000	--	NA	NA	< 13	< 13	< 13	< 13	< 13
2,6-Dinitrotoluene	1,150,000	0.1	NA	NA	< 11	< 11	< 11	< 11	< 11
3,3'-Dichlorobenzidine	3,830	--	NA	NA	< 12	< 12	< 12	< 12	< 12
4-Chloro-3-methylphenol	61,600,000	--	NA	NA	< 19	< 19	< 19	< 19	< 19
Benzyl Alcohol	61,600,000	--	NA	NA	< 215	< 215	< 215	< 215	< 215
Bis(2-chloroethoxy)methane	1,850,000	--	NA	NA	< 14	< 14	< 14	< 14	< 14
Bis(2-ethylhexyl)phthalate	123,000	2880	NA	NA	< 215	< 215	< 215	< 215	< 215
Butyl benzyl phthalate	907,000	--	NA	NA	< 50	< 50	< 50	< 50	< 50
Dibenzofuran	1,020,000	--	NA	NA	< 15	< 15	80	< 15	< 15
Dimethyl phthalate	--	--	NA	NA	< 12	< 12	< 12	< 12	< 12
Di-n-butyl phthalate	61,600,000	5037.5	NA	NA	< 47	< 47	< 47	< 47	< 47
Di-n-octyl phthalate	6,160,000	--	NA	NA	< 9	< 9	< 9	< 9	< 9
Diphenylamine	15,400,000	--	NA	NA	< 21	< 21	< 21	< 21	< 21
Isophorone	1,810,000	--	NA	NA	< 13	< 13	< 13	< 13	< 13
m & p-Cresol	30,800,000	--	NA	NA	< 44	< 44	< 44	< 44	< 44
o-Cresol	30,800,000	--	NA	NA	< 13	< 13	< 13	< 13	< 13
Pentachlorophenol (PCP)	2,700	20.2	NA	NA	< 9	< 9	< 9	< 9	< 9
Phenol	100,000,000	2299.8	NA	NA	< 9	< 9	17 J	< 9	< 9
PCBs (mg/kg):									
PCB 1242	744	9.4	NA	NA	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061
PCB 1248	744	9.4	NA	NA	<0.00534	<0.00534	<0.00534	<0.00534	<0.00534
PCB 1254	744	9.4	NA	NA	<0.00376	<0.00376	<0.00376	<0.00376	<0.00376
PCB 1260	744	9.4	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
Petroleum Hydrocarbons (mg/kg):									
Gasoline Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics	--	--	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Aluminum	100,000	601.2903	NA	NA	**34000** [E]	**20000** [E]	**15000** [E]	**13000** [E]	**9100** [E]
Antimony	409	0.542	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33
Arsenic	2	0.584	NA	NA	**3** [AE]	**0.72 J** [E]	<1.6	<1.6	**0.99 J** [E]
Barium	100,000	164.8	NA	NA	**180** [E]	64	**90**	37	27
Beryllium	2,010	6.32	NA	NA	1.8	0.99	0.67	0.58	0.45
Cadmium	799	0.752	NA	NA	**0.48**	0.24 J	0.22 J	0.14 J	0.17 J
Calcium	--	--	NA	NA	12000	98000	49000	100000	75000
Chromium	100,000	360000	NA	NA	48	27	22	19	14
Cobalt	304	3.6239	NA	NA	**21** [E]	**7.6** [E]	**8.1** [E]	**8.4** [E]	**6.3** [E]
Copper	40,900	91.6	NA	NA	39	20	27	22	16
Iron	100,000	--	NA	NA	34000	18000	18000	18000	13000
Lead	800	27	NA	NA	13	5.5	**18**	6	5.8
Magnesium	--	--	NA	NA	16000	43000	22000	43000	37000
Manganese	22,900	39.1304	NA	NA	**440** [E]	**330** [E]	**360** [E]	**460** [E]	**340** [E]
Mercury	3	0.208	NA	NA	0.039	0.016 J	0.042	0.013 J	0.0098 J
Nickel	19,700	13.0033	NA	NA	**49** [E]	**23** [E]	**18** [E]	**23** [E]	**17** [E]
Potassium	--	--	NA	NA	7900	5200	3200	4600	3200
Selenium	5,110	0.52	NA	NA	<1.6	<0.32	**3.4** [E]	**3** [E]	**1.3** [E]
Silver	5,110	0.8497	NA	NA	<0.16	<0.16	<0.16	<0.16	<0.16
Sodium	--	--	NA	NA	1600	1300	1400	440 J	240 J
Thallium	10,2	0.284	NA	NA	<2	<2	<2	<2	<0.4
Vanadium	5,110	--	NA	NA	71	37	34	30	21
Zinc	100,000	--	NA	NA	74	44	57	44	43

Table 1
Soil Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

	Generic RCLs		DCD-SB204		DCD-SB206			GC-07		DCD-SB93A	DCD-SB93B
	Direct Contact Pathway-Industrial (A)	Groundwater Pathway	(2-4)	(8-10)	(2-4)	(4-6)	(4-6)	(2-3)	(5-6)	(9-10)	(3-4)
			3/12/2010	3/12/2010	3/12/2010	3/12/2010	3/12/2010	4/5/2013	4/5/2013	10/15/2009	10/15/2009
			Area C	Area C	Area C	Area C	Area C	Area C	Area C	Area D	Area D
VOCs (µg/kg):											
1,1,1-Trichloroethane	640,000	140.2	< 28	< 28	< 28	< 28	< 28	< 38	< 38	< 27	< 27
1,1,2-Trichloroethane	7,340	3.2	< 36	< 36	< 36	< 36	< 36	< 23	< 23	< 30	< 30
1,1-Dichloroethane	23,700	483.6	< 45	< 45	< 45	< 45	< 45	< 19	< 19	< 22	< 22
1,1-Dichloroethene	1,190,000	5	< 44	< 44	< 44	< 44	< 44	< 21	< 21	< 27	< 27
1,2,4-Trichlorobenzene	98,700	408	< 48	< 48	< 48	< 48	< 48	< 79	< 79	< 53	< 53
1,2,4-Trimethylbenzene	219,000	1379.3	< 73	< 73	< 73	< 73	< 73	< 26	< 26	< 20	< 20
1,2-Dichlorobenzene	376,000	1168	< 41	< 41	< 41	< 41	< 41	< 38	< 38	< 32	< 32
1,2-Dichloroethane	3030	2.8	< 45	< 45	< 45	< 45	< 45	< 36	< 36	< 24	< 24
1,3,5-Trimethylbenzene	182,000	1379.3	< 57	< 57	< 57	< 57	< 57	< 26	< 26	< 24	< 24
2-Chlorotoluene	907000	--	< 46	< 46	< 46	< 46	< 46	< 16	< 16	< 31	< 31
Benzene	7410	5.1	< 35	< 35	< 35	< 35	< 35	< 9.2	< 9.2	< 20	< 20
Carbon Tetrachloride	4,250	3.9	< 28	< 28	< 28	< 28	< 28	< 25	< 25	< 21	< 21
Chloroform	2130	3.3	< 39	< 39	< 39	< 39	< 39	< 49	< 49	< 50	< 50
cis-1,2-Dichloroethene	2040000	41.2	< 44	< 44	< 44	< 44	< 44	< 24	< 24	< 24	< 24
Ethylbenzene	37000	1570	< 56	< 56	< 56	< 56	< 56	< 10	< 10	< 16	< 16
Isopropylbenzene	268,000	--	< 39	< 39	< 39	< 39	< 39	< 25	< 25	< 30	< 30
m&p-Xylene	390,000	3940	< 73	< 73	< 73	< 73	< 73	< 68	< 68	< 33	< 33
Methylene chloride	1,070,000	2.6	< 52	< 52	< 52	< 52	< 52	< 57	< 57	< 44	< 44
n-Butylbenzene	108,000	--	< 46	< 46	< 46	< 46	< 46	< 26	< 26	< 35	< 35
n-Propylbenzene	264,000	--	< 44	< 44	< 44	< 44	< 44	< 24	< 24	< 29	< 29
Naphthalene	26,000	658.7	< 53	< 53	< 53	< 53	< 53	< 114	< 114	< 117	< 117
o-Xylene	434,000	3940	< 51	< 51	< 51	< 51	< 51	< 31	< 31	< 15	< 15
p-Isopropyltoluene	162,000	--	< 43	< 43	< 43	< 43	< 43	< 31	< 31	< 30	< 30
sec-Butylbenzene	145,000	--	< 35	< 35	< 35	< 35	< 35	< 41	< 41	< 25	< 25
tert-Butylbenzene	183,000	--	< 41	< 41	< 41	< 41	< 41	< 20	< 20	< 23	< 23
Tetrachloroethene	153,000	4.5	< 53	< 53	< 53	< 53	< 53	< 49	< 49	< 18	< 18
Toluene	818,000	1107.2	< 51	< 51	< 51	< 51	< 51	< 20	< 20	< 23	< 23
trans-1,2-Dichloroethene	976000	58.8	< 43	< 43	< 43	< 43	< 43	< 29	< 29	< 29	< 29
Trichloroethene (TCE)	8,810	3.6	< 50	< 50	< 50	< 50	< 50	< 28	< 28	**44 J** [E]	< 20
Trichlorofluoromethane	1,230,000	4468.5	< 35	< 35	< 35	< 35	< 35	< 86	< 86	< 16	< 16
Vinyl Chloride	2,030	0.1	< 33	< 33	< 33	< 33	< 33	< 21	< 21	< 17	< 17
PAHs (µg/kg):											
1-Methyl naphthalene	53,100	--	< 15	< 15	35 J	< 15	19.1 J	370 J	31 J	< 27	< 27
2-Methyl naphthalene	2,200,000	--	< 9.7	< 9.7	37	14.6 J	20.3 J	530 J	39 J	< 17	< 17
Acenaphthene	33,000,000	--	< 15.2	< 15.2	< 15.2	< 15.2	< 15.2	87 J	< 21.8	< 17	< 17
Acenaphthylene	487,000	--	< 5.1	< 5.1	10.5 J	< 5.1	10.3 J	380 J	29.3 J	< 12	< 12
Anthracene	100,000,000	196744.2	< 6.4	< 6.4	20 J	13.8 J	27.8	530 J	57 J	< 14	< 14
Benzo(a)anthracene	2,110	--	< 12.9	< 12.9	68	59	126	550 J	78	< 15	15.3 J
Benzo(a)pyrene	211	470	< 4.7	< 4.7	69	57 J	123 J	**820 J** [AE]	94	< 7	12.8 J
Benzo(b)fluoranthene	2,110	480	< 6.5	< 6.5	87	71 J	159 J	**1020 J** [E]	144	< 10	20.7 J
Benzo(g,h,i)perylene	--	--	< 7.7	< 7.7	45	35	78	550 J	72 J	< 11	< 11
Benzo(k)fluoranthene	21,100	--	< 9.8	< 9.8	27.1 J	31 J	50	380 J	41 J	< 16	< 16
Chrysene	211,000	145.1	< 8.9	< 8.9	65	53 J	**116 J**	**620 J** [E]	**90**	< 12	14.1 J
Dibenzo(a,h)anthracene	211	--	< 5.5	< 5.5	9.5 J	8.5 J	18	151 J	< 22.3	< 16	< 16
Fluoranthene	22,000,000	88817.9	< 9.2	< 9.2	112	93 J	208 J	1020 J	191	< 12	<26.1 U
Fluorene	22,000,000	14814.8	< 5.6	< 5.6	8.2 J	< 5.6	7 J	700 J	49 J	< 23	< 23
Indeno(1,2,3-cd)pyrene	2,110	--	< 7.8	< 7.8	40	32	70	510 J	58 J	< 16	< 16
Naphthalene	26,000	658.7	< 16.2	< 16.2	29.2 J	< 16.2	< 16.2	271 J	24 J	< 13	< 13
Phenanthrene	--	--	< 10.6	< 10.6	73	41	78	1420 J	164	< 9	14.1 J
Pyrene	16,500,000	54472.5	< 7.7	< 7.7	101	81 J	178 J	800 J	150	< 15	21.1 J
Other SVOCs (ug.kg)											
1,2,4-Trichlorobenzene	98,700	408	NA	NA	NA	NA	NA	NA	NA	< 26	< 26
1,2-Dichlorobenzene	376,000	1168	NA	NA	NA	NA	NA	NA	NA	< 16	< 16
2,3,4,6-Tetrachlorophenol	18,500	--	NA	NA	NA	NA	NA	NA	NA	< 22	< 22
2,4,5-Trichlorophenol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA	< 26	< 26
2,4-Dichlorophenol	1,850,000	--	NA	NA	NA	NA	NA	NA	NA	< 17	< 17
2,4-Dimethylphenol	12,300,000	--	NA	NA	NA	NA	NA	NA	NA	< 13	< 13
2,6-Dinitrotoluene	1,150,000	0.1	NA	NA	NA	NA	NA	NA	NA	< 11	< 11
3,3'-Dichlorobenzidine	3,830	--	NA	NA	NA	NA	NA	NA	NA	< 12	< 12
4-Chloro-3-methylphenol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA	< 19	< 19
Benzyl Alcohol	61,600,000	--	NA	NA	NA	NA	NA	NA	NA	< 215	< 215
Bis(2-chloroethoxy)methane	1,850,000	--	NA	NA	NA	NA	NA	NA	NA	< 14	< 14
Bis(2-ethylhexyl)phthalate	123,000	2880	NA	NA	NA	NA	NA	NA	NA	< 215	< 215
Butyl benzyl phthalate	907,000	--	NA	NA	NA	NA	NA	NA	NA	< 50	< 50
Dibenzofuran	1,020,000	--	NA	NA	NA	NA	NA	NA	NA	< 15	< 15
Dimethyl phthalate	--	--	NA	NA	NA	NA	NA	NA	NA	< 12	< 12
Di-n-butyl phthalate	61,600,000	5037.5	NA	NA	NA	NA	NA	NA	NA	< 47	< 47
Di-n-octyl phthalate	6,160,000	--	NA	NA	NA	NA	NA	NA	NA	< 9	< 9
Diphenylamine	15,400,000	--	NA	NA	NA	NA	NA	NA	NA	< 21	< 21
Isophorone	1,810,000	--	NA	NA	NA	NA	NA	NA	NA	< 13	< 13
m & p-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA	NA	< 44	< 44
o-Cresol	30,800,000	--	NA	NA	NA	NA	NA	NA	NA	< 13	< 13
Pentachlorophenol (PCP)	2,700	20.2	NA	NA	NA	NA	NA	NA	NA	< 9	< 9
Phenol	100,000,000	2299.8	NA	NA	NA	NA	NA	NA	NA	< 9	< 9
PCBs (mg/kg):											
PCB 1242	744	9.4	NA	NA	NA	NA	NA	NA	NA	<0.0061	<0.0061
PCB 1248	744	9.4	NA	NA	NA	NA	NA	NA	NA	<0.00534	<0.0053
PCB 1254	744	9.4	NA	NA	NA	NA	NA	NA	NA	<0.00376	<0.0037
PCB 1260	744	9.4	NA	NA	NA	NA	NA	NA	NA	<0.0047	<0.0047
Petroleum Hydrocarbons (mg/kg):											
Gasoline Range Organics	--	--	< 10	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Diesel Range Organics	--	--	< 10	11	35.6	146 J	300 J	NA	NA	NA	NA
Metals (mg/kg)											
Aluminum	100,000	601.2903	NA	NA	NA	NA	NA	NA	NA	**7300** [E]	**15000** [E]
Antimony	409	0.542	NA	NA	NA	NA	NA	NA	NA	**0.67 J** [E]	**2.3** [E]
Arsenic	2	0.584	NA	NA	NA	NA	NA	NA	NA	<1.6	<1.6
Barium	100,000	164.8	NA	NA	NA	NA	NA	NA	NA	30	75
Beryllium	2,010	6.32	NA	NA	NA	NA	NA	NA	NA	0.36	0.69
Cadmium	799	0.752	NA	NA	NA	NA	NA	NA	NA	0.23 J	0.32
Calcium	--	--	NA	NA	NA	NA	NA	NA	NA	110000	110000
Chromium	100,000	360000	NA	NA	NA	NA	NA	NA	NA	11	22
Cobalt	304	3.6239	NA	NA	NA	NA	NA	NA	NA	**5.7** [E]	**9.6** [E]
Copper	40,900	91.6	NA	NA	NA	NA	NA	NA	NA	20	34
Iron	100,000	--	NA	NA	NA	NA	NA	NA	NA	12000	18000
Lead	800	27	13	**31** [E]	**73** [E]	**54 J** [E]	**24 J**	**81 J** [E]	11 J	7.6	**79** [E]
Magnesium	--	--	NA	NA	NA	NA	NA	NA	NA	51000	44000
Manganese	22,900	39.1304	NA	NA	NA	NA	NA	NA	NA	**640** [E]	**610** [E]
Mercury	3	0.208	NA	NA	NA	NA	NA	NA	NA	0.016 J	0.027
Nickel	19,700	13.0033	NA	NA	NA	NA	NA	NA	NA	**14** [E]	**23** [E]
Potassium	--	--	NA	NA	NA	NA	NA	NA	NA	2200	4300
Selenium	5,110	0.52	NA	NA	NA	NA	NA	NA	NA	**1.6** [E]	**4.1** [E]
Silver	5,110	0.8497	NA	NA	NA	NA	NA	NA	NA	<0.16	<0.16
Sodium	--	--	NA	NA	NA	NA	NA	NA	NA	370	320
Thallium	10,2	0.284	NA	NA	NA	NA	NA	NA	NA	<2	<2
Vanadium	5,110	--	NA	NA	NA	NA	NA	NA	NA	21	37
Zinc	100,000	--	NA	NA	NA	NA	NA	NA	NA	56	88

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TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area A					Area A	Area B	
			PER MW-5					MW-21	DCD-MW2	
	PAL	ES	9/12/2012	1/23/2013	6/24/2013	9/24/2013	12/16/2013	11/17/2009	11/17/2009	10/12/2011
VOCs (µg/L):										
1,1,1,2-Tetrachloroethane	7	70	< 1	< 1	< 0.33	< 0.33	< 0.33	< 0.54	< 0.54	< 1
1,1,1-Trichloroethane	40	200	< 0.85	< 0.85	< 0.33	< 0.33	< 0.33	< 0.46	< 0.46	< 0.85
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.53	< 0.53	< 0.45	< 0.45	< 0.45	< 0.55	< 0.55	< 0.53
1,1,2-Trichloroethane	0.5	5	< 0.47	< 0.47	< 0.34	< 0.34	< 0.34	< 0.41	< 0.41	< 0.47
1,1-Dichloroethane	85	850	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.44	< 0.44	< 0.98
1,1-Dichloroethene	0.7	7	< 0.6	< 0.6	< 0.4	< 0.4	< 0.4	< 0.47	< 0.47	< 0.6
1,2,3-Trichlorobenzene	NL	NL	< 1.3	< 1.3	< 1.8 UJ	< 1.8	< 1.8	< 1.6	< 1.6	< 1.3
1,2,4-Trichlorobenzene	14	70	< 1.5	< 1.5	< 0.98 UJ	< 0.98	< 0.98	< 2.1	< 2.1	< 1.5
1,2,4-Trimethylbenzene	96	480	< 0.8	< 0.8	< 2.2	< 2.2	< 2.2	< 1.1	< 1.1	< 0.8
1,2-Dibromo-3-chloropropane	0.02	0.2	< 2.8	< 2.8	< 0.88	< 0.88	< 0.88	< 2	< 2	< 2.8
1,2-Dichlorobenzene	60	600	< 0.76	< 0.76	< 0.36	< 0.36	< 0.36	< 0.66	< 0.66	< 0.76
1,2-Dichloroethane	0.5	5	< 0.5	< 0.5	< 0.41	< 0.41	< 0.41	< 0.43	< 0.43	< 0.5
1,2-Dichloropropane	0.5	5	< 0.4	< 0.4	**0.53 J**	< 0.32	< 0.32	< 0.26	< 0.26	< 0.4
1,3,5-Trimethylbenzene	96	480	< 0.74	< 0.74	< 1.4	< 1.4	< 1.4	< 1.5	< 1.5	< 0.74
1,3-Dichlorobenzene	125	1250	< 0.87	< 0.87	< 0.28	< 0.28	< 0.28	< 0.34	< 0.34	< 0.87
1,3-Dichloropropane	NL	NL	< 0.71	< 0.71	< 0.33	< 0.33	< 0.33	< 0.49	< 0.49	< 0.71
1,4-Dichlorobenzene	15	75	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.77	< 0.77	< 0.98
2,2-Dichloropropane	NL	NL	< 1.9	< 1.9	< 0.36	< 0.36 UJ	< 0.36 UJ	< 0.89	< 0.89	< 1.9
2-Chlorotoluene	NL	NL	< 0.7	< 0.7	< 0.21	< 0.21	< 0.21	< 0.37	< 0.37	< 0.7
4-Chlorotoluene	NL	NL	< 0.44	< 0.44	< 0.21	< 0.21	< 0.21	< 0.63	< 0.63	< 0.44
Benzene	0.5	5	< 0.5	< 0.5	0.41 J	< 0.24	< 0.24	< 0.41	< 0.64	< 0.5
Bromobenzene	NL	NL	< 0.74	< 0.74	< 0.32	< 0.32	< 0.32	< 0.43	< 0.65	< 0.74
Bromodichloromethane	0.06	0.6	< 0.68	< 0.68	< 0.37	< 0.37	< 0.37	< 0.41	< 0.66	< 0.68
Bromoform	0.44	4.4	< 0.43	< 0.43	< 0.35	< 0.35	< 0.35	< 0.46	< 0.67	< 0.43
Carbon Tetrachloride	0.5	5	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.43	< 0.68	< 0.47
Chlorobenzene	20	100	< 0.51	< 0.51	< 0.24	< 0.24	< 0.24	< 0.39	< 0.69	< 0.51
Chloroethane	80	400	< 1.4	< 1.4	< 0.63	< 0.63	< 0.63	< 1.5	< 0.70	< 1.4
Chloroform	0.6	6	< 0.49	< 0.49	< 0.28	< 0.28	< 0.28	< 0.48	< 0.71	< 0.49
Chloromethane	3	30	< 1.9	< 1.9	< 0.81	< 0.81	< 0.81	< 0.5	< 0.72	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.74	< 0.74	< 0.38	< 0.38	< 0.38	< 0.68	< 0.73	< 0.74
Dibromochloromethane	6	60	< 0.55	< 0.55	< 0.22	< 0.22	< 0.22	< 0.76	< 0.74	< 0.55
Dichlorodifluoromethane	200	1000	< 1.8	< 1.8	< 0.44	< 0.44	< 0.44	< 0.45	< 0.75	< 1.8
Di-isopropyl ether	NL	NL	< 0.69	< 0.69	< 0.23	< 0.23	< 0.23	< 0.32	< 0.76	< 0.69
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.63	< 0.63	< 0.44	< 0.44	< 0.44	< 0.52	< 0.77	< 0.63
Ethylbenzene	140	700	< 0.78	0.93 J	1.73	< 0.55	< 0.55	< 0.87	< 0.78	< 0.78
Hexachlorobutadiene	NL	NL	< 2.2	< 2.2	< 1.5	< 1.5	< 1.5	< 1.5	< 0.79	< 2.2
Isopropylbenzene	NL	NL	< 0.92	< 0.92	< 0.3	< 0.3	< 0.3	< 0.39	< 0.80	< 0.92
m&p-Xylene	400	2000	< 1.1	< 1.1	1.77 J	< 0.69	< 0.69	< 1.6	< 0.81	< 1.1
Methyl tert-butyl ether (MTBE)	12	60	< 0.8	< 0.8	< 0.23	< 0.23	< 0.23	< 0.5	< 0.82	< 0.8
Methylene chloride	0.5	5	< 1.1	< 1.1	< 0.5	< 0.5	< 0.5	< 1.5	< 0.83	< 1.1
Naphthalene	10	100	< 2.1	< 2.1	< 1.7	< 1.7	< 1.7	< 1.7	< 0.84	< 2.1
n-Butylbenzene	NL	NL	< 0.9	< 0.9	< 0.35	< 0.35	< 0.35	< 1.5	< 0.85	< 0.9
n-Propylbenzene	NL	NL	< 0.59	< 0.59	< 0.25	< 0.25	< 0.25	< 0.33	< 0.86	< 0.59
o-Xylene	400	2000	< 0.8	< 0.8	0.71 J	< 0.63	< 0.63	< 0.53	< 0.87	< 0.8
p-Isopropyltoluene	NL	NL	< 0.92	< 0.92	< 0.31	< 0.31	< 0.31	< 0.57	< 0.88	< 0.92
sec-Butylbenzene	NL	NL	< 1	< 1	< 0.33	< 0.33	< 0.33	< 0.43	< 0.89	< 1
tert-Butylbenzene	NL	NL	< 0.71	< 0.71	< 0.36	< 0.36	< 0.36	< 0.46	< 0.90	< 0.71
Tetrachloroethene	0.5	5	< 0.44	< 0.44	< 0.33	< 0.33	< 0.33	< 0.42	< 0.91	< 0.44
Toluene	160	800	< 0.53	< 0.53	< 0.69	< 0.69	< 0.69	< 0.51	< 0.92	< 0.53
trans-1,2-Dichloroethene	20	100	< 0.79	< 0.79	< 0.35	< 0.35	< 0.35	< 0.61	< 0.93	< 0.79
Trichloroethene (TCE)	0.5	5	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.39	< 0.94	< 0.47
Trichlorofluoromethane	698	3490	< 1.7	< 1.7	< 0.71	< 0.71	< 0.71 UJ	< 0.72	< 0.95	< 1.7
Vinyl Chloride	0.02	0.2	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.2	< 0.96	< 0.18
PAHs (µg/L):										
1-Methyl naphthalene	NL	NL	< 0.022	< 0.022	< 0.019	< 0.019	< 0.019	< 0.55	< 0.55	< 0.009
2-Methyl naphthalene	NL	NL	< 0.024	< 0.024	< 0.016	< 0.016	< 0.016	< 0.36	< 0.36	< 0.013
Acenaphthene	NL	NL	< 0.025	< 0.025	< 0.021	< 0.021	< 0.021	< 0.24	< 0.24	< 0.01
Acenaphthylene	NL	NL	< 0.019	< 0.019	< 0.02	< 0.02	< 0.02	< 0.23	< 0.23	< 0.014
Anthracene	600	3000	< 0.018	< 0.018	< 0.02	< 0.02	< 0.02	< 0.35	< 0.35	0.016 J
Benzo(a)anthracene	NL	NL	< 0.024	< 0.024	< 0.025	0.072 J	< 0.025	< 1.01	< 1.01	< 0.014
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	**0.043 J**	< 0.018	< 0.35	< 0.35	< 0.011
Benzo(b)fluoranthene	0.02	0.2	< 0.02	< 0.02	< 0.02	**0.062 J**	< 0.02	< 0.31	< 0.31	< 0.013
Benzo(g,h,i)perylene	NL	NL	< 0.019	< 0.019	< 0.023	0.04 J	< 0.023	< 0.47	< 0.47	< 0.015
Benzo(k)fluoranthene	NL	NL	< 0.022	< 0.022	< 0.027	0.039 J	< 0.027	< 0.52	< 0.52	< 0.015
Chrysene	0.02	0.2	< 0.019	< 0.019	< 0.018	**0.053 J**	< 0.018	< 0.32	< 0.32	< 0.013
Dibenzo(a,h)anthracene	NL	NL	< 0.019	< 0.019	< 0.023	0.023 J	< 0.023	< 0.3	< 0.3	< 0.016
Fluoranthene	80	400	< 0.022	< 0.022	< 0.026	0.033 J	< 0.026	< 0.25	< 0.25	0.037 J
Fluorene	80	400	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.39	< 0.39	< 0.008
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.018	< 0.018	< 0.027	< 0.027	< 0.027	< 0.26	< 0.26	< 0.015
Naphthalene	10	100	0.025 J	< 0.021	< 0.023	< 0.023	< 0.023	< 0.34	< 0.34	< 0.015
Phenanthrene	NL	NL	< 0.019	< 0.019	< 0.018	0.022 J	< 0.018	< 1.55	< 1.55	0.012 U
Pyrene	50	250	< 0.02	< 0.02	< 0.025	0.032 J	< 0.025	< 0.33	< 0.33	0.032 J
SVOCs (µg/L):										
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	< 0.48	< 0.48	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	< 7.2	< 7.2	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	< 0.28	< 0.28	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	< 0.54	< 0.54	NA
Petroleum Hydrocarbons (µg/L):										
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):										
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA	**5.9**
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA	73
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	<0.16	<0.16	< 0.16
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA	0.62 J
Lead, Dissolved	1.5	15	< 0.7	**6**	**3 J**	< 0.24	0.37 J	<0.24	<0.24	0.86 J
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA	< 0.017
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	1.3
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	< 0.31

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TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area B					Area B							
			PER MW-3					PER MW-4							
	PAL	ES	10/2/2012	1/23/2013	6/24/2013	9/24/2013	12/17/2013	9/13/2012	1/23/2013	4/7/2015	1/23/2013 DUP	6/24/2013	9/24/2013	12/16/2013	4/7/2015
VOCs (µg/L):															
1,1,1,2-Tetrachloroethane	7	70	< 1	< 1	< 0.33	< 0.33	< 0.33	< 1	< 1	< 0.48	< 1	< 0.33	< 0.33	< 0.33	< 0.48
1,1,1-Trichloroethane	40	200	< 0.85	< 0.85	< 0.33	< 0.33	< 0.33	< 0.85	< 0.85	< 0.84	< 0.85	< 0.33	< 0.33	< 0.33	< 0.84
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.53	< 0.53	< 0.45	< 0.45	< 0.45	< 0.53	< 0.53	< 0.52	< 0.53	< 0.45	< 0.45	< 0.45	< 0.52
1,1,2-Trichloroethane	0.5	5	< 0.47	< 0.47	< 0.34	< 0.34	< 0.34	< 0.47	< 0.47	< 0.48	< 0.47	< 0.34	< 0.34	< 0.34	< 0.48
1,1-Dichloroethane	85	850	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.98	< 0.98	< 1.1	< 0.98	< 0.3	< 0.3	< 0.3	< 1.1
1,1-Dichloroethene	0.7	7	< 0.6	< 0.6	< 0.4	< 0.4	< 0.4	< 0.6	< 0.6	< 0.65	< 0.6	< 0.4	< 0.4	< 0.4	< 0.65
1,2,3-Trichlorobenzene	NL	NL	< 1.3	< 1.3	< 1.8	< 1.8	< 1.8	< 1.3	< 1.3	< 2.7	< 1.3	< 1.8	< 1.8	< 1.8	< 2.7
1,2,4-Trichlorobenzene	14	70	< 1.5	< 1.5	< 0.98	< 0.98	< 0.98	< 1.5	< 1.5	< 1.7	< 1.5	< 0.98	< 0.98	< 0.98	< 1.7
1,2,4-Trimethylbenzene	96	480	< 0.8	< 0.8	< 2.2	< 2.2	< 2.2	< 0.8	< 0.8	< 1.6	< 0.8	< 2.2	< 2.2	< 2.2	< 1.6
1,2-Dibromo-3-chloropropane	0.02	0.2	< 2.8	< 2.8	< 0.88	< 0.88	< 0.88	< 2.8	< 2.8	< 1.4	< 2.8	< 0.88	< 0.88	< 0.88	< 1.4
1,2-Dichlorobenzene	60	600	< 0.76	< 0.76	< 0.36	< 0.36	< 0.36	< 0.76	< 0.76	< 0.46	< 0.76	< 0.36	< 0.36	< 0.36	< 0.46
1,2-Dichloroethane	0.5	5	< 0.5	< 0.5	< 0.41	< 0.41	< 0.41	< 0.5	< 0.5	< 0.54	< 0.5	< 0.41	< 0.41	< 0.41	< 0.54
1,2-Dichloropropane	0.5	5	< 0.4	< 0.4	< 0.32	< 0.32	< 0.32	< 0.4	< 0.4	< 0.43	< 0.4	< 0.32	< 0.32	< 0.32	< 0.43
1,3,5-Trimethylbenzene	96	480	< 0.74	< 0.74	< 1.4	< 1.4	< 1.4	< 0.74	< 0.74	< 1.5	< 0.74	< 1.4	< 1.4	< 1.4	< 1.5
1,3-Dichlorobenzene	125	1250	< 0.87	< 0.87	< 0.28	< 0.28	< 0.28	< 0.87	< 0.87	< 0.52	< 0.87	< 0.28	< 0.28	< 0.28	< 0.52
1,3-Dichloropropane	NL	NL	< 0.71	< 0.71	< 0.33	< 0.33	< 0.33	< 0.71	< 0.71	< 0.42	< 0.71	< 0.33	< 0.33	< 0.33	< 0.42
1,4-Dichlorobenzene	15	75	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.98	< 0.98	< 0.49	< 0.98	< 0.3	< 0.3	< 0.3	< 0.49
2,2-Dichloropropane	NL	NL	< 1.9	< 1.9	< 0.36	< 0.36 UJ	< 0.36 UJ	< 1.9	< 1.9	< 3.1	< 1.9	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1
2-Chlorotoluene	NL	NL	< 0.7	< 0.7	< 0.21	< 0.21	< 0.21	< 0.7	< 0.7	< 0.4	< 0.7	< 0.21	< 0.21	< 0.21	< 0.4
4-Chlorotoluene	NL	NL	< 0.44	< 0.44	< 0.21	< 0.21	< 0.21	< 0.44	< 0.44	< 0.63	< 0.44	< 0.21	< 0.21	< 0.21	< 0.63
Benzene	0.5	5	< 0.5	< 0.5	< 0.24	< 0.24	< 0.24	< 0.5	< 0.5	< 0.44	< 0.5	< 0.24	< 0.24	< 0.24	< 0.44
Bromobenzene	NL	NL	< 0.74	< 0.74	< 0.32	< 0.32	< 0.32	< 0.74	< 0.74	< 0.48	< 0.74	< 0.32	< 0.32	< 0.32	< 0.48
Bromodichloromethane	0.06	0.6	< 0.68	< 0.68	< 0.37	< 0.37	< 0.37	< 0.68	< 0.68	< 0.46	< 0.68	< 0.37	< 0.37	< 0.37	< 0.46
Bromoform	0.44	4.4	< 0.43	< 0.43	< 0.35	< 0.35	< 0.35	< 0.43	< 0.43	< 0.46	< 0.43	< 0.35	< 0.35	< 0.35	< 0.46
Carbon Tetrachloride	0.5	5	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.47	< 0.47	< 0.65	< 0.47	< 0.33	< 0.33	< 0.33	< 0.65
Chlorobenzene	20	100	< 0.51	< 0.51	< 0.24	< 0.24	< 0.24	< 0.51	< 0.51	< 0.46	< 0.51	< 0.24	< 0.24	< 0.24	< 0.46
Chloroethane	80	400	< 1.4	< 1.4	< 0.63	< 0.63	< 0.63	< 1.4	< 1.4	< 0.65	< 1.4	< 0.63	< 0.63	< 0.63	< 0.65
Chloroform	0.6	6	< 0.49	< 0.49	< 0.28	< 0.28	< 0.28	< 0.49	< 0.49	< 0.43	< 0.49	< 0.28	< 0.28	< 0.28	< 0.43
Chloromethane	3	30	< 1.9	< 1.9	< 0.81	< 0.81	< 0.81	< 1.9	< 1.9	< 1.9	< 1.9	< 0.81	< 0.81	< 0.81	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.74	< 0.74	< 0.38	< 0.38	< 0.38	< 0.74	< 0.74	< 0.45	< 0.74	< 0.38	< 0.38	< 0.38	< 0.45
Dibromochloromethane	6	60	< 0.55	< 0.55	< 0.22	< 0.22	< 0.22	< 0.55	< 0.55	< 0.45	< 0.55	< 0.22	< 0.22	< 0.22	< 0.45
Dichlorodifluoromethane	200	1000	< 1.8	< 1.8	< 0.44	< 0.44	< 0.44	< 1.8	< 1.8	< 0.87	< 1.8	< 0.44	< 0.44	< 0.44	< 0.87
Di-isopropyl ether	NL	NL	< 0.69	< 0.69	< 0.23	< 0.23	< 0.23	< 0.69	< 0.69	< 0.44	< 0.69	< 0.23	< 0.23	< 0.23	< 0.44
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.63	< 0.63	< 0.44	< 0.44	< 0.44	< 0.63	< 0.63	< 0.63	< 0.63	< 0.44	< 0.44	< 0.44	< 0.63
Ethylbenzene	140	700	< 0.78	< 0.78	< 0.55	< 0.55	< 0.55	< 0.78	< 0.78	< 0.71	< 0.78	< 0.55	< 0.55	< 0.55	< 0.71
Hexachlorobutadiene	NL	NL	< 2.2	< 2.2	< 1.5	< 1.5	< 1.5	< 2.2	< 2.2	< 2.2	< 2.2	< 1.5	< 1.5	< 1.5	< 2.2
Isopropylbenzene	NL	NL	< 0.92	< 0.92	< 0.3	< 0.3	< 0.3	< 0.92	< 0.92	< 0.82	< 0.92	< 0.3	< 0.3	< 0.3	< 0.82
m&p-Xylene	400	2000	< 1.1	< 1.1	< 0.69	< 0.69	< 0.69	< 1.1	< 1.1	< 2.2	< 1.1	< 0.69	< 0.69	< 0.69	< 2.2
Methyl tert-butyl ether (MTBE)	12	60	< 0.8	< 0.8	< 0.23	< 0.23	< 0.23	< 0.8	< 0.8	< 1.1	< 0.8	< 0.23	< 0.23	< 0.23	< 1.1
Methylene chloride	0.5	5	< 1.1	< 1.1	< 0.5	< 0.5	< 0.5	< 1.1	< 1.1	< 1.3	< 1.1	< 0.5	< 0.5	< 0.5	< 1.3
Naphthalene	10	100	< 2.1	< 2.1	< 1.7	< 1.7	< 1.7	< 2.1	< 2.1	< 1.6	< 2.1	< 1.7	< 1.7	< 1.7	< 1.6
n-Butylbenzene	NL	NL	< 0.9	< 0.9	< 0.35	< 0.35	< 0.35	< 0.9	< 0.9	< 1	< 0.9	< 0.35	< 0.35	< 0.35	< 1
n-Propylbenzene	NL	NL	< 0.59	< 0.59	< 0.25	< 0.25	< 0.25	< 0.59	< 0.59	< 0.77	< 0.59	< 0.25	< 0.25	< 0.25	< 0.77
o-Xylene	400	2000	< 0.8	< 0.8	< 0.63	< 0.63	< 0.63	< 0.8	< 0.8	< 0.9	< 0.8	< 0.63	< 0.63	< 0.63	< 0.9
p-Isopropyltoluene	NL	NL	< 0.92	< 0.92	< 0.31	< 0.31	< 0.31	< 0.92	< 0.92	< 1.1	< 0.92	< 0.31	< 0.31	< 0.31	< 1.1
sec-Butylbenzene	NL	NL	< 1	< 1	< 0.33	< 0.33	< 0.33	< 1	< 1	< 1.2	< 1	< 0.33	< 0.33	< 0.33	< 1.2
tert-Butylbenzene	NL	NL	< 0.71	< 0.71	< 0.36	< 0.36	< 0.36	< 0.71	< 0.71	< 1.1	< 0.71	< 0.36	< 0.36	< 0.36	< 1.1
Tetrachloroethene	0.5	5	< 0.44 UJ	< 0.44	< 0.33	< 0.33	< 0.33	< 0.44 UJ	< 0.44	< 0.74	< 0.44	< 0.33	< 0.33	< 0.33	< 0.74
Toluene	160	800	< 0.53	< 0.53	< 0.69	< 0.69	< 0.69	< 0.53	< 0.53	< 0.44	< 0.53	< 0.69	< 0.69	< 0.69	< 0.44
trans-1,2-Dichloroethene	20	100	< 0.79	< 0.79	< 0.35	< 0.35	< 0.35	< 0.79	< 0.79	< 0.54	< 0.79	< 0.35	< 0.35	< 0.35	< 0.54
Trichloroethene (TCE)	0.5	5	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.47	< 0.47	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.47
Trichlorofluoromethane	698	3490	< 1.7	< 1.7	< 0.71	< 0.71	< 0.71 UJ	< 1.7	< 1.7	< 0.87	< 1.7	< 0.71	< 0.71	< 0.71 UJ	< 0.87
Vinyl Chloride	0.02	0.2	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.17	< 0.18	< 0.18	< 0.18	< 0.18	< 0.17
PAHs (µg/L):															
1-Methyl naphthalene	NL	NL	< 0.022	< 0.022	< 0.019	< 0.019	< 0.019	< 0.022	< 0.022	< 0.018	< 0.022	< 0.019	< 0.019	< 0.019	< 0.018
2-Methyl naphthalene	NL	NL	< 0.024	< 0.024	< 0.016	< 0.016	< 0.016	< 0.024	< 0.024	< 0.017	< 0.024	< 0.016	< 0.016	< 0.016	< 0.017
Acenaphthene	NL	NL	< 0.025	< 0.025	< 0.021 UJ	< 0.021	< 0.021	< 0.025	< 0.025	< 0.02	< 0.025	< 0.021	< 0.021	< 0.021	< 0.02
Acenaphthylene	NL	NL	< 0.019	< 0.019	< 0.02 UJ	< 0.02	< 0.02	< 0.019	< 0.019	< 0.021	< 0.019	< 0.02	< 0.02	< 0.02	< 0.021
Anthracene	600	3000	< 0.018	< 0.018	< 0.02 UJ	< 0.02	< 0.02	< 0.018	< 0.018	< 0.02	< 0.018	< 0.02	< 0.02	< 0.02	< 0.02
Benzo(a)anthracene	NL	NL	< 0.024	< 0.024	< 0.025	< 0.025	< 0.025	< 0.024	< 0.024	< 0.019	< 0.024	< 0.025	0.04 J	0.032 J	< 0.019
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.019	< 0.018	< 0.018	**0.024 J**	**0.023 J**	< 0.019
Benzo(b)fluoranthene	0.02	0.2	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.019	< 0.02	< 0.02	**0.029 J**	**0.021 J**	< 0.019
Benzo(g,h,i)perylene	NL	NL	< 0.019	< 0.019	< 0.023	< 0.023	< 0.023	< 0.019	< 0.019	< 0.024	< 0.019	< 0.023	0.032 J	< 0.023	< 0.024
Benzo(k)fluoranthene	NL	NL	< 0.022	< 0.022	< 0.027	< 0.027	< 0.027	< 0.022	< 0.022	< 0.018	< 0.022	< 0.027	0.034 J	< 0.027	< 0.018
Chrysene	0.02	0.2	< 0.019	< 0.019	< 0.018	< 0.018	< 0.018	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018	**0.028 J**	< 0.018	< 0.017
Dibenzo(a,h)anthracene	NL	NL	< 0.019	< 0.019	< 0.023	< 0.023	< 0.023	< 0.019	< 0.019	< 0.025	< 0.019	< 0.023	0.029 J	< 0.023	< 0.025
Fluoranthene	80	400	< 0.022	< 0.022	< 0.026 UJ	< 0.026	< 0.026	< 0.022	< 0.022	< 0.018	< 0.022	< 0.026	< 0.026	< 0.026	< 0.018
Fluorene	80	400	< 0.02	< 0.02	< 0.02 UJ	< 0.02	< 0.02	< 0.02	< 0.02	< 0.017	< 0.02	< 0.02	< 0.02	< 0.02	< 0.017
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.018	< 0.018	< 0.027	< 0.027	< 0.027	< 0.018	< 0.018	< 0.018	< 0.018	< 0.027	0.03 J	< 0.027	< 0.018
Naphthalene	10	100	< 0.021	< 0.021	< 0.023	< 0.023	< 0.023	0.039 J	< 0.021	< 0.018	< 0.021	< 0.023	< 0.023	< 0.023	< 0.018
Phenanthrene	NL	NL	< 0.019	< 0.019	< 0.018 UJ	< 0.018	< 0.018	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018	< 0.018	< 0.018	< 0.017
Pyrene	50	250	< 0.02	< 0.02	< 0.025 UJ	< 0.025	< 0.025	< 0.02	< 0.02	< 0.018	< 0.02	< 0.025	< 0.025	< 0.025	< 0.018
SVOCs (µg/L):															
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (µg/L):															
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):															
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	1.5	15	0.39 J	**11**	**2.9 J**	< 0.24	0.33 J	< 0.7	**2.4 J**	<0.70	**8.5**	< 1.9	< 0.24	0.43 J	< 0.7
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

AECOM

TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area B							Area C					
			PER PZ-3							CM-4					
	PAL	ES	10/2/2012	10/2/2012 DUP	1/23/2013	6/24/2013	9/23/2013	12/17/2013	4/7/2015	7/26/2013	7/26/2013 DUP	9/26/2013	12/19/2013	4/7/2015	4/7/2015 DUP
VOCs (µg/L):															
1,1,1,2-Tetrachloroethane	7	70	< 1	< 1	< 1	< 0.33	< 0.33	< 0.33	< 0.48	< 0.33	< 0.33	< 0.33	< 0.33	< 0.48	< 0.48
1,1,1-Trichloroethane	40	200	< 0.85	< 0.85	< 0.85	< 0.33	< 0.33	< 0.33	< 0.84	8.3	8.1	10.5	4.1	1.22 J	1.21 J
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.53	< 0.53	< 0.53	< 0.45	< 0.45	< 0.45	< 0.52	< 0.45	< 0.45	< 0.45	< 0.45	< 0.52	< 0.52
1,1,2-Trichloroethane	0.5	5	< 0.47	< 0.47	< 0.47	< 0.34	< 0.34	< 0.34	< 0.48	< 0.34	< 0.34	< 0.34	< 0.34	< 0.48	< 0.48
1,1-Dichloroethane	85	850	< 0.98	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 1.1	2.73	2.46	5.4	3.9	< 1.1	< 1.1
1,1-Dichloroethene	0.7	7	< 0.6	< 0.6	< 0.6	< 0.4	< 0.4	< 0.4	< 0.65	0.53 J	0.62 J	**5.5**	**0.97 J**	**1.01 J**	**0.97 J**
1,2,3-Trichlorobenzene	NL	NL	< 1.3	< 1.3	< 1.3	< 1.8	< 1.8	< 1.8	< 2.7	< 1.8	< 1.8	< 1.8	< 1.8	< 2.7	< 2.7
1,2,4-Trichlorobenzene	14	70	< 1.5	< 1.5	< 1.5	< 0.98	< 0.98	< 0.98	< 1.7	< 0.98	< 0.98	< 0.98	< 0.98	< 1.7	< 1.7
1,2,4-Trimethylbenzene	96	480	< 0.8	< 0.8	< 0.8	< 2.2	< 2.2	< 2.2	< 1.6	< 2.2	< 2.2	< 2.2	< 2.2	< 1.6	< 1.6
1,2-Dibromo-3-chloropropane	0.02	0.2	< 2.8	< 2.8	< 2.8	< 0.88	< 0.88	< 0.88	< 1.4	< 0.88	< 0.88	< 0.88	< 0.88	< 1.4	< 1.4
1,2-Dichlorobenzene	60	600	< 0.76	< 0.76	< 0.76	< 0.36	< 0.36	< 0.36	< 0.46	< 0.36	< 0.36	< 0.36	< 0.36	< 0.46	< 0.46
1,2-Dichloroethane	0.5	5	< 0.5	< 0.5	< 0.5	< 0.41	< 0.41	< 0.41	< 0.54	< 0.41	< 0.41	< 0.41	< 0.41	< 0.54	< 0.54
1,2-Dichloropropane	0.5	5	< 0.4	< 0.4	< 0.4	< 0.32	< 0.32	< 0.32	< 0.43	< 0.32	< 0.32	< 0.32	< 0.32	< 0.43	< 0.43
1,3,5-Trimethylbenzene	96	480	< 0.74	< 0.74	< 0.74	< 1.4	< 1.4	< 1.4	< 1.5	< 1.4	< 1.4	< 1.4	< 1.4	< 1.5	< 1.5
1,3-Dichlorobenzene	125	1250	< 0.87	< 0.87	< 0.87	< 0.28	< 0.28	< 0.28	< 0.52	< 0.28	< 0.28	< 0.28	< 0.28	< 0.52	< 0.52
1,3-Dichloropropane	NL	NL	< 0.71	< 0.71	< 0.71	< 0.33	< 0.33	< 0.33	< 0.42	< 0.33	< 0.33	< 0.33	< 0.33	< 0.42	< 0.42
1,4-Dichlorobenzene	15	75	< 0.98	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.49	< 0.3	< 0.3	< 0.3	< 0.3	< 0.49	< 0.49
2,2-Dichloropropane	NL	NL	< 1.9	< 1.9	< 1.9	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1	< 0.36	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1	< 3.1
2-Chlorotoluene	NL	NL	< 0.7	< 0.7	< 0.7	< 0.21	< 0.21	< 0.21	< 0.4	< 0.21	< 0.21	< 0.21	< 0.21	< 0.4	< 0.4
4-Chlorotoluene	NL	NL	< 0.44	< 0.44	< 0.44	< 0.21	< 0.21	< 0.21	< 0.63	< 0.21	< 0.21	< 0.21	< 0.21	< 0.63	< 0.63
Benzene	0.5	5	< 0.5	< 0.5	< 0.5	< 0.24	< 0.24	< 0.24	< 0.44	< 0.24	< 0.24	< 0.24	< 0.24	< 0.44	< 0.44
Bromobenzene	NL	NL	< 0.74	< 0.74	< 0.74	< 0.32	< 0.32	< 0.32	< 0.48	< 0.32	< 0.32	< 0.32	< 0.32	< 0.48	< 0.48
Bromodichloromethane	0.06	0.6	< 0.68	< 0.68	< 0.68	< 0.37	< 0.37	< 0.37	< 0.46	< 0.37	< 0.37	< 0.37	< 0.37	< 0.46	< 0.46
Bromoform	0.44	4.4	< 0.43	< 0.43	< 0.43	< 0.35	< 0.35	< 0.35	< 0.46	< 0.35	< 0.35	< 0.35	< 0.35	< 0.46	< 0.46
Carbon Tetrachloride	0.5	5	< 0.47	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.65	< 0.33	< 0.33	< 0.33	< 0.33	< 0.65	< 0.65
Chlorobenzene	20	100	< 0.51	< 0.51	< 0.51	< 0.24	< 0.24	< 0.24	< 0.46	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.46
Chloroethane	80	400	< 1.4	< 1.4	< 1.4	< 0.63	< 0.63	< 0.63	< 0.65	< 0.63	< 0.63	< 0.63	< 0.63	< 0.65	< 0.65
Chloroform	0.6	6	< 0.49	< 0.49	< 0.49	< 0.28	< 0.28	< 0.28	< 0.43	< 0.28	< 0.28	< 0.28	< 0.28	< 0.43	< 0.43
Chloromethane	3	30	< 1.9	< 1.9	< 1.9	< 0.81	< 0.81	< 0.81	< 1.9	< 0.81	< 0.81	< 0.81	< 0.81	< 1.9	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.74	< 0.74	< 0.74	< 0.38	< 0.38	< 0.38	< 0.45	< 0.38	< 0.38	< 0.38	< 0.38	< 0.45	< 0.45
Dibromochloromethane	6	60	< 0.55	< 0.55	< 0.55	< 0.22	< 0.22	< 0.22	< 0.45	< 0.22	< 0.22	< 0.22	< 0.22	< 0.45	< 0.45
Dichlorodifluoromethane	200	1000	< 1.8	< 1.8	< 1.8	< 0.44	< 0.44	< 0.44	< 0.87	< 0.44	< 0.44	< 0.44	< 0.44	< 0.87	< 0.87
Di-isopropyl ether	NL	NL	< 0.69	< 0.69	< 0.69	< 0.23	< 0.23	< 0.23	< 0.44	< 0.23	< 0.23	< 0.23	< 0.23	< 0.44	< 0.44
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.63	< 0.63	< 0.63	< 0.44	< 0.44	< 0.44	< 0.63	< 0.44	< 0.44	< 0.44	< 0.44	< 0.63	< 0.63
Ethylbenzene	140	700	< 0.78	< 0.78	< 0.78	< 0.55	< 0.55	< 0.55	< 0.71	< 0.55	< 0.55	< 0.55	< 0.55	< 0.71	< 0.71
Hexachlorobutadiene	NL	NL	< 2.2	< 2.2	< 2.2	< 1.5	< 1.5	< 1.5	< 2.2	< 1.5	< 1.5	< 1.5	< 1.5	< 2.2	< 2.2
Isopropylbenzene	NL	NL	< 0.92	< 0.92	< 0.92	< 0.3	< 0.3	< 0.3	< 0.82	< 0.3	< 0.3	< 0.3	< 0.3	< 0.82	< 0.82
m&p-Xylene	400	2000	< 1.1	< 1.1	< 1.1	< 0.69	< 0.69	< 0.69	< 2.2	< 0.69	< 0.69	< 0.69	< 0.69	< 2.2	< 2.2
Methyl tert-butyl ether (MTBE)	12	60	< 0.8	< 0.8	< 0.8	< 0.23	< 0.23	< 0.23	< 1.1	< 0.23	< 0.23	< 0.23	< 0.23	< 1.1	< 1.1
Methylene chloride	0.5	5	< 1.1	< 1.1	< 1.1	< 0.5	< 0.5	< 0.5	< 1.3	< 0.5	< 0.5	< 0.5	< 0.5	< 1.3	< 1.3
Naphthalene	10	100	< 2.1	< 2.1	< 2.1	< 1.7	< 1.7	< 1.7	< 1.6	< 1.7	< 1.7	< 1.7	< 1.7	< 1.6	< 1.6
n-Butylbenzene	NL	NL	< 0.9	< 0.9	< 0.9	< 0.35	< 0.35	< 0.35	< 1	< 0.35	< 0.35	< 0.35	< 0.35	< 1	< 1
n-Propylbenzene	NL	NL	< 0.59	< 0.59	< 0.59	< 0.25	< 0.25	< 0.25	< 0.77	< 0.25	< 0.25	< 0.25	< 0.25	< 0.77	< 0.77
o-Xylene	400	2000	< 0.8	< 0.8	< 0.8	< 0.63	< 0.63	< 0.63	< 0.9	< 0.63	< 0.63	< 0.63	< 0.63	< 0.9	< 0.9
p-Isopropyltoluene	NL	NL	< 0.92	< 0.92	< 0.92	< 0.31	< 0.31	< 0.31	< 1.1	< 0.31	< 0.31	< 0.31	< 0.31	< 1.1	< 1.1
sec-Butylbenzene	NL	NL	< 1	< 1	< 1	< 0.33	< 0.33	< 0.33	< 1.2	< 0.33	< 0.33	< 0.33	< 0.33	< 1.2	< 1.2
tert-Butylbenzene	NL	NL	< 0.71	< 0.71	< 0.71	< 0.36	< 0.36	< 0.36	< 1.1	< 0.36	< 0.36	< 0.36	< 0.36	< 1.1	< 1.1
Tetrachloroethene	0.5	5	< 0.44 UJ	< 0.44 UJ	< 0.44	< 0.33	< 0.33	< 0.33	< 0.74	< 0.33	< 0.33	< 0.33	< 0.33	< 0.74	< 0.74
Toluene	160	800	< 0.53	< 0.53	< 0.53	< 0.69	< 0.69	< 0.69	< 0.44	< 0.69	< 0.69	< 0.69	< 0.69	< 0.44	< 0.44
trans-1,2-Dichloroethene	20	100	< 0.79	< 0.79	< 0.79	< 0.35	< 0.35	< 0.35	< 0.54	< 0.35	< 0.35	< 0.35	< 0.35	< 0.54	< 0.54
Trichloroethene (TCE)	0.5	5	< 0.47	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.47	< 0.33	< 0.33	< 0.33	< 0.33	< 0.47	< 0.47
Trichlorofluoromethane	698	3490	< 1.7	< 1.7	< 1.7	< 0.71	< 0.71	< 0.71 UJ	< 0.87	< 0.71	< 0.71	< 0.71	< 0.71 UJ	< 0.87	< 0.87
Vinyl Chloride	0.02	0.2	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.17	< 0.18	< 0.18	**2.34**	< 0.18	**0.19 J**	**0.18 J**
PAHs (µg/L):															
1-Methyl naphthalene	NL	NL	< 0.022	< 0.022	< 0.022	< 0.019 R	< 0.019 UJ	< 0.019	< 0.018	< 0.019	< 0.019	< 0.019	< 0.019	< 0.02	< 0.018
2-Methyl naphthalene	NL	NL	< 0.024	< 0.024	< 0.024	< 0.016 R	< 0.016 UJ	< 0.016	< 0.017	< 0.016	< 0.016	< 0.016	< 0.016	< 0.021	< 0.017
Acenaphthene	NL	NL	< 0.025	< 0.025	< 0.025	< 0.021 R	< 0.021 UJ	< 0.021	< 0.02	< 0.021	< 0.021	< 0.021	< 0.021	< 0.02	< 0.02
Acenaphthylene	NL	NL	< 0.019	< 0.019	< 0.019	< 0.02 R	< 0.02 UJ	< 0.02	< 0.021	< 0.02	< 0.02	< 0.02	< 0.02	< 0.019	< 0.021
Anthracene	600	3000	< 0.018	< 0.018	< 0.018	< 0.02 R	< 0.02 UJ	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.019	< 0.02
Benzo(a)anthracene	NL	NL	< 0.024	< 0.024	< 0.024	< 0.025 R	< 0.025 UJ	< 0.025	< 0.019	< 0.025	< 0.025	< 0.025	< 0.025	< 0.019	< 0.019
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	< 0.018 R	< 0.018 UJ	< 0.018	< 0.019	< 0.018	< 0.018	< 0.018	< 0.018	< 0.024	< 0.019
Benzo(b)fluoranthene	0.02	0.2	< 0.02	< 0.02	< 0.02	< 0.02 R	< 0.02 UJ	< 0.02	< 0.019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.018	< 0.019
Benzo(g,h,i)perylene	NL	NL	< 0.019	< 0.019	< 0.019	< 0.023 R	< 0.023 UJ	< 0.023	< 0.024	< 0.023	< 0.023	< 0.023	< 0.023	< 0.017	< 0.024
Benzo(k)fluoranthene	NL	NL	< 0.022	< 0.022	< 0.022	< 0.027 R	< 0.027 UJ	< 0.027	< 0.018	< 0.027	< 0.027	< 0.027	< 0.027	< 0.025	< 0.018
Chrysene	0.02	0.2	< 0.019	< 0.019	< 0.019	< 0.018 R	< 0.018 UJ	< 0.018	< 0.017	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.017
Dibenzo(a,h)anthracene	NL	NL	< 0.019	< 0.019	< 0.019	< 0.023 R	< 0.023 UJ	< 0.023	< 0.025	< 0.023	< 0.023	< 0.023	< 0.023	< 0.017	< 0.025
Fluoranthene	80	400	< 0.022	< 0.022	< 0.022	< 0.026 R	< 0.026 UJ	< 0.026	< 0.018	< 0.026	< 0.026	< 0.026	< 0.026	< 0.018	< 0.018
Fluorene	80	400	< 0.02	< 0.02	< 0.02	< 0.02 R	< 0.02 UJ	< 0.02	< 0.017	< 0.02	< 0.02	< 0.02	< 0.02	< 0.018	< 0.017
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.018	< 0.018	< 0.018	< 0.027 R	< 0.027 UJ	< 0.027	< 0.018	< 0.027	< 0.027	< 0.027	< 0.027	< 0.017	< 0.018
Naphthalene	10	100	< 0.021	0.025 J	< 0.021	< 0.023 R	< 0.023 UJ	< 0.023	< 0.018	< 0.023	< 0.023	< 0.023	< 0.023	< 0.018	< 0.018
Phenanthrene	NL	NL	< 0.019	< 0.019	< 0.019	< 0.018 R	< 0.018 UJ	< 0.018	< 0.017	< 0.018	< 0.018	< 0.018	< 0.018	< 0.017	< 0.017
Pyrene	50	250	< 0.02	< 0.02	< 0.02	< 0.025 R	< 0.025 UJ	< 0.025	< 0.018	< 0.025	< 0.025	< 0.025	< 0.025	< 0.018	< 0.018
SVOCs (µg/L):															
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (µg/L):															
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):															
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	1.5	15	0.43 J	0.38 J	**8.6**	**6.3**	< 0.24	0.39 J	< 0.7	**3.1 J**	< 1.9	< 0.24	< 0.24	< 0.70	< 0.70
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

AECOM

TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area C				Area C							
			CM-5				PER MW-1							
	PAL	ES	7/26/2013	9/26/2013	12/16/2013	4/6/2015	9/12/2012	1/23/2013	1/23/2013 DUP	6/24/2013	6/24/2013	9/24/2013	12/17/2013	4/7/2015
VOCs (µg/L):														
1,1,1,2-Tetrachloroethane	7	70	< 0.33	< 0.33	< 0.33	< 0.48	< 1	< 1	< 1	< 0.33	< 0.33	< 0.33	< 0.33	< 0.48
1,1,1-Trichloroethane	40	200	16.4	14.6	12.6	< 0.84	13.9	**59**	**58**	4.4	4.7	1.77	0.59 J	< 0.84
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.45	< 0.45	< 0.45	< 0.52	< 0.53	< 0.53	< 0.53	< 0.45	< 0.45	< 0.45	< 0.45	< 0.52
1,1,2-Trichloroethane	0.5	5	< 0.34	< 0.34	< 0.34	< 0.48	< 0.47	< 0.47	< 0.47	< 0.34	< 0.34	< 0.34	< 0.34	< 0.48
1,1-Dichloroethane	85	850	2.79	0.65 J	< 0.3	< 1.1	9.6	26.6	26.6	2.77	3.2	0.49 J	< 0.3	< 1.1
1,1-Dichloroethene	0.7	7	0.53 J	**3.07**	**1.42**	< 0.65	**1.2 J**	**4.4**	**4.4**	**1.8**	**1.99**	**1.26 J**	**0.95 J**	0.69 J
1,2,3-Trichlorobenzene	NL	NL	< 1.8	< 1.8	< 1.8	< 2.7	< 1.3	< 1.3	< 1.3	< 1.8 UJ	< 1.8 UJ	< 1.8	< 1.8	< 2.7
1,2,4-Trichlorobenzene	14	70	< 0.98	< 0.98	< 0.98	< 1.7	< 1.5	< 1.5	< 1.5	< 0.98 UJ	< 0.98 UJ	< 0.98	< 0.98	< 1.7
1,2,4-Trimethylbenzene	96	480	< 2.2	< 2.2	< 2.2	< 1.6	< 0.8	< 0.8	< 0.8	< 2.2	< 2.2	< 2.2	< 2.2	< 1.6
1,2-Dibromo-3-chloropropane	0.02	0.2	< 0.88	< 0.88	< 0.88	< 1.4	< 2.8	< 2.8	< 2.8	< 0.88	< 0.88	< 0.88	< 0.88	< 1.4
1,2-Dichlorobenzene	60	600	< 0.36	< 0.36	< 0.36	< 0.46	< 0.76	< 0.76	< 0.76	< 0.36	< 0.36	< 0.36	< 0.36	< 0.46
1,2-Dichloroethane	0.5	5	< 0.41	< 0.41	< 0.41	< 0.54	< 0.5	< 0.5	< 0.5	< 0.41	< 0.41	< 0.41	< 0.41	< 0.54
1,2-Dichloropropane	0.5	5	< 0.32	< 0.32	< 0.32	< 0.43	< 0.4	< 0.4	< 0.4	< 0.32	< 0.32	< 0.32	< 0.32	< 0.43
1,3,5-Trimethylbenzene	96	480	< 1.4	< 1.4	< 1.4	< 1.5	< 0.74	< 0.74	< 0.74	< 1.4	< 1.4	< 1.4	< 1.4	< 1.5
1,3-Dichlorobenzene	125	1250	< 0.28	< 0.28	< 0.28	< 0.52	< 0.87	< 0.87	< 0.87	< 0.28	< 0.28	< 0.28	< 0.28	< 0.52
1,3-Dichloropropane	NL	NL	< 0.33	< 0.33	< 0.33	< 0.42	< 0.71	< 0.71	< 0.71	< 0.33	< 0.33	< 0.33	< 0.33	< 0.42
1,4-Dichlorobenzene	15	75	< 0.3	< 0.3	< 0.3	< 0.49	< 0.98	< 0.98	< 0.98	< 0.3	< 0.3	< 0.3	< 0.3	< 0.49
2,2-Dichloropropane	NL	NL	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1	< 1.9	< 1.9	< 1.9	< 0.36	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1
2-Chlorotoluene	NL	NL	< 0.21	< 0.21	< 0.21	< 0.4	< 0.7	< 0.7	< 0.7	< 0.21	< 0.21	< 0.21	< 0.21	< 0.4
4-Chlorotoluene	NL	NL	< 0.21	< 0.21	< 0.21	< 0.63	< 0.44	< 0.44	< 0.44	< 0.21	< 0.21	< 0.21	< 0.21	< 0.63
Benzene	0.5	5	< 0.24	< 0.24	< 0.24	< 0.44	< 0.5	< 0.5	< 0.5	< 0.24	< 0.24	< 0.24	< 0.24	< 0.44
Bromobenzene	NL	NL	< 0.32	< 0.32	< 0.32	< 0.48	< 0.74	< 0.74	< 0.74	< 0.32	< 0.32	< 0.32	< 0.32	< 0.48
Bromodichloromethane	0.06	0.6	< 0.37	< 0.37	< 0.37	< 0.46	< 0.68	< 0.68	< 0.68	< 0.37	< 0.37	< 0.37	< 0.37	< 0.46
Bromoform	0.44	4.4	< 0.35	< 0.35	< 0.35	< 0.46	< 0.43	< 0.43	< 0.43	< 0.35	< 0.35	< 0.35	< 0.35	< 0.46
Carbon Tetrachloride	0.5	5	< 0.33	< 0.33	< 0.33	< 0.65	< 0.47	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.33	< 0.65
Chlorobenzene	20	100	< 0.24	< 0.24	< 0.24	< 0.46	< 0.51	< 0.51	< 0.51	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46
Chloroethane	80	400	< 0.63	< 0.63	< 0.63	< 0.65	< 1.4	< 1.4	1.47 J	< 0.63	< 0.63	< 0.63	< 0.63	< 0.65
Chloroform	0.6	6	< 0.28	< 0.28	< 0.28	< 0.43	**1.33 J**	< 0.49	< 0.49	< 0.28	< 0.28	< 0.28	< 0.28	< 0.43
Chloromethane	3	30	< 0.81	< 0.81	< 0.81	< 1.9	< 1.9	< 1.9	< 1.9	< 0.81	< 0.81	< 0.81	< 0.81	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.38	< 0.38	< 0.38	< 0.45	< 0.74	< 0.74	< 0.74	< 0.38	< 0.38	< 0.38	< 0.38	< 0.45
Dibromochloromethane	6	60	< 0.22	< 0.22	< 0.22	< 0.45	< 0.55	< 0.55	< 0.55	< 0.22	< 0.22	< 0.22	< 0.22	< 0.45
Dichlorodifluoromethane	200	1000	< 0.44	< 0.44	< 0.44	< 0.87	< 1.8	< 1.8	< 1.8	< 0.44	< 0.44	< 0.44	< 0.44	< 0.87
Di-isopropyl ether	NL	NL	< 0.23	< 0.23	< 0.23	< 0.44	< 0.69	< 0.69	< 0.69	< 0.23	< 0.23	< 0.23	< 0.23	< 0.44
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.44	< 0.44	< 0.44	< 0.63	< 0.63	< 0.63	< 0.63	< 0.44	< 0.44	< 0.44	< 0.44	< 0.63
Ethylbenzene	140	700	< 0.55	< 0.55	< 0.55	< 0.71	< 0.78	< 0.78	< 0.78	< 0.55	< 0.55	< 0.55	< 0.55	< 0.71
Hexachlorobutadiene	NL	NL	< 1.5	< 1.5	< 1.5	< 2.2	< 2.2	< 2.2	< 2.2	< 1.5	< 1.5	< 1.5	< 1.5	< 2.2
Isopropylbenzene	NL	NL	< 0.3	< 0.3	< 0.3	< 0.82	< 0.92	< 0.92	< 0.92	< 0.3	< 0.3	< 0.3	< 0.3	< 0.82
m&p-Xylene	400	2000	< 0.69	< 0.69	< 0.69	< 2.2	< 1.1	< 1.1	< 1.1	< 0.69	< 0.69	< 0.69	< 0.69	< 2.2
Methyl tert-butyl ether (MTBE)	12	60	< 0.23	< 0.23	< 0.23	< 1.1	< 0.8	< 0.8	< 0.8	< 0.23	< 0.23	< 0.23	< 0.23	< 1.1
Methylene chloride	0.5	5	< 0.5	< 0.5	< 0.5	< 1.3	< 1.1	< 1.1	< 1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 1.3
Naphthalene	10	100	< 1.7	< 1.7	< 1.7	< 1.6	< 2.1	< 2.1	< 2.1	1.73 J	< 1.7	< 1.7	< 1.7	< 1.6
n-Butylbenzene	NL	NL	< 0.35	< 0.35	< 0.35	< 1	< 0.9	< 0.9	< 0.9	< 0.35	< 0.35	< 0.35	< 0.35	< 1
n-Propylbenzene	NL	NL	< 0.25	< 0.25	< 0.25	< 0.77	< 0.59	< 0.59	< 0.59	< 0.25	< 0.25	< 0.25	< 0.25	< 0.77
o-Xylene	400	2000	< 0.63	< 0.63	< 0.63	< 0.9	< 0.8	< 0.8	< 0.8	< 0.63	< 0.63	< 0.63	< 0.63	< 0.9
p-Isopropyltoluene	NL	NL	< 0.31	< 0.31	< 0.31	< 1.1	< 0.92	< 0.92	< 0.92	< 0.31	< 0.31	< 0.31	< 0.31	< 1.1
sec-Butylbenzene	NL	NL	< 0.33	< 0.33	< 0.33	< 1.2	< 1	< 1	< 1	< 0.33	< 0.33	< 0.33	< 0.33	< 1.2
tert-Butylbenzene	NL	NL	< 0.36	< 0.36	< 0.36	< 1.1	< 0.71	< 0.71	< 0.71	< 0.36	< 0.36	< 0.36	< 0.36	< 1.1
Tetrachloroethene	0.5	5	< 0.33	< 0.33	< 0.33	< 0.74	< 0.44	< 0.44	< 0.44	< 0.33	< 0.33	< 0.33	< 0.33	< 0.74
Toluene	160	800	< 0.69	< 0.69	< 0.69	< 0.44	< 0.53	< 0.53	< 0.53	< 0.69	< 0.69	< 0.69	< 0.69	< 0.44
trans-1,2-Dichloroethene	20	100	< 0.35	< 0.35	< 0.35	< 0.54	< 0.79	< 0.79	< 0.79	< 0.35	< 0.35	< 0.35	< 0.35	< 0.54
Trichloroethene (TCE)	0.5	5	< 0.33	< 0.33	< 0.33	< 0.47	< 0.47	< 0.47	< 0.47	< 0.33	< 0.33	< 0.33	< 0.33	< 0.47
Trichlorofluoromethane	698	3490	< 0.71	< 0.71	< 0.71 UJ	< 0.87	< 1.7	< 1.7	< 1.7	< 0.71	< 0.71	< 0.71	< 0.71 UJ	< 0.87
Vinyl Chloride	0.02	0.2	< 0.18	**0.86**	**0.65**	< 0.17	**0.28 J**	< 0.18	< 0.18	< 0.18	< 0.18	**0.45 J**	< 0.18	< 0.17
PAHs (µg/L):														
1-Methyl naphthalene	NL	NL	< 0.019	< 0.019	< 0.019	< 0.018	< 0.022	< 0.022	< 0.022	< 0.019	< 0.019	< 0.019	< 0.019	< 0.018
2-Methyl naphthalene	NL	NL	< 0.016	< 0.016	< 0.016	< 0.017	< 0.024	< 0.024	< 0.024	< 0.016	< 0.016	< 0.016	< 0.016	< 0.017
Acenaphthene	NL	NL	< 0.021	< 0.021	< 0.021	< 0.02	< 0.025	< 0.025	< 0.025	< 0.021	< 0.021	< 0.021	< 0.021	< 0.02
Acenaphthylene	NL	NL	< 0.02	< 0.02	< 0.02	< 0.021	< 0.019	< 0.019	< 0.019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.021
Anthracene	600	3000	< 0.02	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018	< 0.018	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo(a)anthracene	NL	NL	< 0.025	< 0.025	< 0.025	0.02 J	< 0.024	< 0.024	< 0.024	< 0.025	< 0.025	0.057 J	< 0.025	< 0.019
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	< 0.019	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	**0.044 J**	< 0.018	< 0.019
Benzo(b)fluoranthene	0.02	0.2	< 0.02	< 0.02	< 0.02	< 0.019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	**0.049 J**	< 0.02	< 0.019
Benzo(g,h,i)perylene	NL	NL	< 0.023	< 0.023	< 0.023	< 0.024	< 0.019	< 0.019	< 0.019	< 0.023	< 0.023	0.061 J	< 0.023	< 0.024
Benzo(k)fluoranthene	NL	NL	< 0.027	< 0.027	< 0.027	< 0.018	< 0.022	< 0.022	< 0.022	< 0.027	< 0.027	0.055 J	< 0.027	< 0.018
Chrysene	0.02	0.2	< 0.018	< 0.018	< 0.018	< 0.017	< 0.019	< 0.019	< 0.019	< 0.018	< 0.018	**0.04 J**	< 0.018	< 0.017
Dibenzo(a,h)anthracene	NL	NL	< 0.023	< 0.023	< 0.023	< 0.025	< 0.019	< 0.019	< 0.019	< 0.023	< 0.023	0.051 J	< 0.023	< 0.025
Fluoranthene	80	400	< 0.026	< 0.026	< 0.026	0.019 J	< 0.022	< 0.022	< 0.022	< 0.026	< 0.026	< 0.026	< 0.026	< 0.018
Fluorene	80	400	< 0.02	< 0.02	< 0.02	< 0.017	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.017
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.027	< 0.027	< 0.027	< 0.018	< 0.018	< 0.018	< 0.018	< 0.027	< 0.027	0.055 J	< 0.027	< 0.018
Naphthalene	10	100	< 0.023	< 0.023	< 0.023	< 0.018	< 0.021	< 0.021	< 0.021	< 0.023	< 0.023	< 0.023	< 0.023	0.020 J
Phenanthrene	NL	NL	< 0.018	< 0.018	< 0.018	< 0.017	< 0.019	< 0.019	< 0.019	< 0.018	< 0.018	< 0.018	< 0.018	< 0.017
Pyrene	50	250	< 0.025	< 0.025	< 0.025	0.018 J	< 0.02	< 0.02	< 0.02	< 0.025	< 0.025	< 0.025	< 0.025	< 0.018
SVOCs (µg/L):														
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (µg/L):														
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):														
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	1.5	15	**2.3 J**	< 0.24	< 0.24	< 0.70	< 0.7	**3.8 J**	< 1.9	< 1.9	< 1.9	< 0.24	0.34 J	< 0.7
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area C						
			PER MW-2						
	PAL	ES	9/12/2012	1/23/2013	6/24/2013	7/1/2013	9/24/2013	12/17/2013	4/7/2015
VOCs (µg/L):									
1,1,1,2-Tetrachloroethane	7	70	< 1	< 1	NA	< 0.33	< 0.33	< 0.33	< 0.48
1,1,1-Trichloroethane	40	200	< 0.85	< 0.85	NA	< 0.33	< 0.33	< 0.33	< 0.84
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.53	< 0.53	NA	< 0.45	< 0.45	< 0.45	< 0.52
1,1,2-Trichloroethane	0.5	5	< 0.47	< 0.47	NA	< 0.34	< 0.34	< 0.34	< 0.48
1,1-Dichloroethane	85	850	< 0.98	< 0.98	NA	< 0.3	< 0.3	< 0.3	< 1.1
1,1-Dichloroethene	0.7	7	< 0.6	< 0.6	NA	< 0.4	< 0.4	< 0.4	< 0.65
1,2,3-Trichlorobenzene	NL	NL	< 1.3	< 1.3	NA	< 1.8	< 1.8	< 1.8	< 2.7
1,2,4-Trichlorobenzene	14	70	< 1.5	< 1.5	NA	< 0.98	< 0.98	< 0.98	< 1.7
1,2,4-Trimethylbenzene	96	480	< 0.8	< 0.8	NA	< 2.2	< 2.2	< 2.2	< 1.6
1,2-Dibromo-3-chloropropane	0.02	0.2	< 2.8	< 2.8	NA	< 0.88	< 0.88	< 0.88	< 1.4
1,2-Dichlorobenzene	60	600	< 0.76	< 0.76	NA	< 0.36	< 0.36	< 0.36	< 0.46
1,2-Dichloroethane	0.5	5	< 0.5	< 0.5	NA	< 0.41	< 0.41	< 0.41	< 0.54
1,2-Dichloropropane	0.5	5	< 0.4	< 0.4	NA	< 0.32	< 0.32	< 0.32	< 0.43
1,3,5-Trimethylbenzene	96	480	< 0.74	< 0.74	NA	< 1.4	< 1.4	< 1.4	< 1.5
1,3-Dichlorobenzene	125	1250	< 0.87	< 0.87	NA	< 0.28	< 0.28	< 0.28	< 0.52
1,3-Dichloropropane	NL	NL	< 0.71	< 0.71	NA	< 0.33	< 0.33	< 0.33	< 0.42
1,4-Dichlorobenzene	15	75	< 0.98	< 0.98	NA	< 0.3	< 0.3	< 0.3	< 0.49
2,2-Dichloropropane	NL	NL	< 1.9	< 1.9	NA	< 0.36 UJ	< 0.36 UJ	< 0.36 UJ	< 3.1
2-Chlorotoluene	NL	NL	< 0.7	< 0.7	NA	< 0.21	< 0.21	< 0.21	< 0.4
4-Chlorotoluene	NL	NL	< 0.44	< 0.44	NA	< 0.21	< 0.21	< 0.21	< 0.63
Benzene	0.5	5	< 0.5	< 0.5	NA	< 0.24	< 0.24	< 0.24	< 0.44
Bromobenzene	NL	NL	< 0.74	< 0.74	NA	< 0.32	< 0.32	< 0.32	< 0.48
Bromodichloromethane	0.06	0.6	< 0.68	< 0.68	NA	< 0.37	< 0.37	< 0.37	< 0.46
Bromoform	0.44	4.4	< 0.43	< 0.43	NA	< 0.35 UJ	< 0.35	< 0.35	< 0.46
Carbon Tetrachloride	0.5	5	< 0.47	< 0.47	NA	< 0.33	< 0.33	< 0.33	< 0.65
Chlorobenzene	20	100	< 0.51	< 0.51	NA	< 0.24	< 0.24	< 0.24	< 0.46
Chloroethane	80	400	< 1.4	< 1.4	NA	< 0.63	< 0.63	< 0.63	< 0.65
Chloroform	0.6	6	< 0.49	< 0.49	NA	< 0.28	< 0.28	< 0.28	< 0.43
Chloromethane	3	30	< 1.9	< 1.9	NA	< 0.81	< 0.81	< 0.81	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.74	< 0.74	NA	< 0.38	< 0.38	< 0.38	< 0.45
Dibromochloromethane	6	60	< 0.55	< 0.55	NA	< 0.22	< 0.22	< 0.22	< 0.45
Dichlorodifluoromethane	200	1000	< 1.8	< 1.8	NA	< 0.44	< 0.44	< 0.44	< 0.87
Di-isopropyl ether	NL	NL	< 0.69	< 0.69	NA	< 0.23	< 0.23	< 0.23	< 0.44
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.63	< 0.63	NA	< 0.44	< 0.44	< 0.44	< 0.63
Ethylbenzene	140	700	< 0.78	< 0.78	NA	< 0.55	< 0.55	< 0.55	< 0.71
Hexachlorobutadiene	NL	NL	< 2.2	< 2.2	NA	< 1.5	< 1.5	< 1.5	< 2.2
Isopropylbenzene	NL	NL	< 0.92	< 0.92	NA	< 0.3	< 0.3 UJ	< 0.3	< 0.82
m&p-Xylene	400	2000	< 1.1	< 1.1	NA	< 0.69	< 0.69	< 0.69	< 2.2
Methyl tert-butyl ether (MTBE)	12	60	< 0.8	< 0.8	NA	< 0.23	< 0.23	< 0.23	< 1.1
Methylene chloride	0.5	5	< 1.1	< 1.1	NA	< 0.5	< 0.5	< 0.5	< 1.3
Naphthalene	10	100	< 2.1	< 2.1	NA	< 1.7	< 1.7	< 1.7	< 1.6
n-Butylbenzene	NL	NL	< 0.9	< 0.9	NA	< 0.35	< 0.35	< 0.35	< 1
n-Propylbenzene	NL	NL	< 0.59	< 0.59	NA	< 0.25	< 0.25	< 0.25	< 0.77
o-Xylene	400	2000	< 0.8	< 0.8	NA	< 0.63	< 0.63	< 0.63	< 0.9
p-Isopropyltoluene	NL	NL	< 0.92	< 0.92	NA	< 0.31	< 0.31	< 0.31	< 1.1
sec-Butylbenzene	NL	NL	< 1	< 1	NA	< 0.33	< 0.33 UJ	< 0.33	< 1.2
tert-Butylbenzene	NL	NL	< 0.71	< 0.71	NA	< 0.36	< 0.36	< 0.36	< 1.1
Tetrachloroethene	0.5	5	< 0.44	< 0.44	NA	< 0.33	< 0.33	< 0.33	< 0.74
Toluene	160	800	< 0.53	< 0.53	NA	< 0.69	< 0.69	< 0.69	< 0.44
trans-1,2-Dichloroethene	20	100	< 0.79	< 0.79	NA	< 0.35	< 0.35	< 0.35	< 0.54
Trichloroethene (TCE)	0.5	5	< 0.47	< 0.47	NA	< 0.33	< 0.33	< 0.33	< 0.47
Trichlorofluoromethane	698	3490	< 1.7	< 1.7	NA	< 0.71	< 0.71	< 0.71 UJ	< 0.87
Vinyl Chloride	0.02	0.2	< 0.18	< 0.18	NA	< 0.18	< 0.18	< 0.18	< 0.17
PAHs (µg/L):									
1-Methyl naphthalene	NL	NL	< 0.022	< 0.022	< 0.019 UJ	NA	< 0.019	< 0.019	< 0.018
2-Methyl naphthalene	NL	NL	< 0.024	< 0.024	< 0.016 UJ	NA	< 0.016	< 0.016	< 0.017
Acenaphthene	NL	NL	< 0.025	< 0.025	< 0.021 UJ	NA	< 0.021	< 0.021	< 0.02
Acenaphthylene	NL	NL	< 0.019	< 0.019	< 0.02 UJ	NA	< 0.02	< 0.02	< 0.021
Anthracene	600	3000	< 0.018	< 0.018	< 0.02 UJ	NA	< 0.02	< 0.02	< 0.02
Benzo(a)anthracene	NL	NL	< 0.024	< 0.024	< 0.025	NA	< 0.025	< 0.025	< 0.019
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	NA	< 0.018	< 0.018	< 0.019
Benzo(b)fluoranthene	0.02	0.2	**0.021 J**	< 0.02	< 0.02	NA	< 0.02	< 0.02	< 0.019
Benzo(g,h,i)perylene	NL	NL	< 0.019	< 0.019	< 0.023	NA	< 0.023	< 0.023	< 0.024
Benzo(k)fluoranthene	NL	NL	< 0.022	< 0.022	< 0.027	NA	< 0.027	< 0.027	< 0.018
Chrysene	0.02	0.2	< 0.019	< 0.019	< 0.018	NA	< 0.018	< 0.018	< 0.017
Dibenzo(a,h)anthracene	NL	NL	< 0.019	< 0.019	< 0.023	NA	< 0.023	< 0.023	< 0.025
Fluoranthene	80	400	< 0.022	0.03 J	< 0.026 UJ	NA	< 0.026	< 0.026	< 0.018
Fluorene	80	400	< 0.02	< 0.02	< 0.02 UJ	NA	< 0.02	< 0.02	< 0.017
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.018	< 0.018	< 0.027	NA	< 0.027	< 0.027	< 0.018
Naphthalene	10	100	0.035 J	< 0.021	< 0.023 UJ	NA	< 0.023	< 0.023	< 0.018
Phenanthrene	NL	NL	< 0.019	0.043 J	< 0.018 UJ	NA	< 0.018	< 0.018	< 0.017
Pyrene	50	250	< 0.02	0.022 J	< 0.025 UJ	NA	< 0.025	< 0.025	< 0.018
SVOCs (µg/L):									
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (µg/L):									
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):									
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	1.5	15	< 0.7	**6.2**	< 1.9	NA	< 0.24	0.48 J	< 0.7
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA

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TABLE 2:
Groundwater Quality Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	NR140		Area C						
			PER PZ-1						
	PAL	ES	9/12/2012	1/23/2013	6/24/2013	7/3/2013	9/23/2013	12/17/2013	4/7/2015
VOCs (µg/L):									
1,1,1,2-Tetrachloroethane	7	70	< 1	< 1	NA	< 0.33	< 0.33	< 0.33	< 0.48
1,1,1-Trichloroethane	40	200	< 0.85	< 0.85	NA	< 0.33	< 0.33	< 0.33	< 0.84
1,1,2,2-Tetrachloroethane	0.02	0.2	< 0.53	< 0.53	NA	< 0.45	< 0.45	< 0.45	< 0.52
1,1,2-Trichloroethane	0.5	5	< 0.47	< 0.47	NA	< 0.34	< 0.34	< 0.34	< 0.48
1,1-Dichloroethane	85	850	< 0.98	< 0.98	NA	< 0.3	< 0.3	< 0.3	< 1.1
1,1-Dichloroethene	0.7	7	< 0.6	< 0.6	NA	< 0.4	< 0.4	< 0.4	< 0.65
1,2,3-Trichlorobenzene	NL	NL	< 1.3	< 1.3	NA	< 1.8	< 1.8	< 1.8	< 2.7
1,2,4-Trichlorobenzene	14	70	< 1.5	< 1.5	NA	< 0.98	< 0.98	< 0.98	< 1.7
1,2,4-Trimethylbenzene	96	480	< 0.8	< 0.8	NA	< 2.2	< 2.2	< 2.2	< 1.6
1,2-Dibromo-3-chloropropane	0.02	0.2	< 2.8	< 2.8	NA	< 0.88	< 0.88	< 0.88	< 1.4
1,2-Dichlorobenzene	60	600	< 0.76	< 0.76	NA	< 0.36	< 0.36	< 0.36	< 0.46
1,2-Dichloroethane	0.5	5	< 0.5	< 0.5	NA	< 0.41	< 0.41	< 0.41	< 0.54
1,2-Dichloropropane	0.5	5	< 0.4	< 0.4	NA	< 0.32	< 0.32	< 0.32	< 0.43
1,3,5-Trimethylbenzene	96	480	< 0.74	< 0.74	NA	< 1.4	< 1.4	< 1.4	< 1.5
1,3-Dichlorobenzene	125	1250	< 0.87	< 0.87	NA	< 0.28	< 0.28	< 0.28	< 0.52
1,3-Dichloropropane	NL	NL	< 0.71	< 0.71	NA	< 0.33	< 0.33	< 0.33	< 0.42
1,4-Dichlorobenzene	15	75	< 0.98	< 0.98	NA	< 0.3	< 0.3	< 0.3	< 0.49
2,2-Dichloropropane	NL	NL	< 1.9	< 1.9	NA	< 0.36	< 0.36 UJ	< 0.36 UJ	< 3.1
2-Chlorotoluene	NL	NL	< 0.7	< 0.7	NA	< 0.21	< 0.21	< 0.21	< 0.4
4-Chlorotoluene	NL	NL	< 0.44	< 0.44	NA	< 0.21	< 0.21	< 0.21	< 0.63
Benzene	0.5	5	< 0.5	< 0.5	NA	< 0.24	< 0.24	< 0.24	< 0.44
Bromobenzene	NL	NL	< 0.74	< 0.74	NA	< 0.32	< 0.32	< 0.32	< 0.48
Bromodichloromethane	0.06	0.6	< 0.68	< 0.68	NA	< 0.37	< 0.37	< 0.37	< 0.46
Bromoform	0.44	4.4	< 0.43	< 0.43	NA	< 0.35 UJ	< 0.35	< 0.35	< 0.46
Carbon Tetrachloride	0.5	5	< 0.47	< 0.47	NA	< 0.33	< 0.33	< 0.33	< 0.65
Chlorobenzene	20	100	< 0.51	< 0.51	NA	< 0.24	< 0.24	< 0.24	< 0.46
Chloroethane	80	400	< 1.4	< 1.4	NA	< 0.63	< 0.63	< 0.63	< 0.65
Chloroform	0.6	6	< 0.49	< 0.49	NA	< 0.28	< 0.28	< 0.28	< 0.43
Chloromethane	3	30	< 1.9	< 1.9	NA	< 0.81	< 0.81	< 0.81	< 1.9
cis-1,2-Dichloroethene	7	70	< 0.74	< 0.74	NA	< 0.38	< 0.38	< 0.38	< 0.45
Dibromochloromethane	6	60	< 0.55	< 0.55	NA	< 0.22	< 0.22	< 0.22	< 0.45
Dichlorodifluoromethane	200	1000	< 1.8	< 1.8	NA	< 0.44	< 0.44	< 0.44	< 0.87
Di-isopropyl ether	NL	NL	< 0.69	< 0.69	NA	< 0.23	< 0.23	< 0.23	< 0.44
EDB (1,2-Dibromoethane)	0.005	0.05	< 0.63	< 0.63	NA	< 0.44	< 0.44	< 0.44	< 0.63
Ethylbenzene	140	700	< 0.78	< 0.78	NA	< 0.55	< 0.55	< 0.55	< 0.71
Hexachlorobutadiene	NL	NL	< 2.2	< 2.2	NA	< 1.5	< 1.5	< 1.5	< 2.2
Isopropylbenzene	NL	NL	< 0.92	< 0.92	NA	< 0.3	< 0.3	< 0.3	< 0.82
m&p-Xylene	400	2000	< 1.1	< 1.1	NA	< 0.69	< 0.69	< 0.69	< 2.2
Methyl tert-butyl ether (MTBE)	12	60	< 0.8	< 0.8	NA	< 0.23	< 0.23	< 0.23	< 1.1
Methylene chloride	0.5	5	< 1.1	< 1.1	NA	< 0.5	< 0.5	< 0.5	< 1.3
Naphthalene	10	100	< 2.1	< 2.1	NA	< 1.7	< 1.7	< 1.7	< 1.6
n-Butylbenzene	NL	NL	< 0.9	< 0.9	NA	< 0.35	< 0.35	< 0.35	< 1
n-Propylbenzene	NL	NL	< 0.59	< 0.59	NA	< 0.25	< 0.25	< 0.25	< 0.77
o-Xylene	400	2000	< 0.8	< 0.8	NA	< 0.63	< 0.63	< 0.63	< 0.9
p-Isopropyltoluene	NL	NL	< 0.92	< 0.92	NA	< 0.31	< 0.31	< 0.31	< 1.1
sec-Butylbenzene	NL	NL	< 1	< 1	NA	< 0.33	< 0.33	< 0.33	< 1.2
tert-Butylbenzene	NL	NL	< 0.71	< 0.71	NA	< 0.36	< 0.36	< 0.36	< 1.1
Tetrachloroethene	0.5	5	< 0.44	< 0.44	NA	< 0.33	< 0.33	< 0.33	< 0.74
Toluene	160	800	< 0.53	< 0.53	NA	< 0.69	< 0.69	< 0.69	< 0.44
trans-1,2-Dichloroethene	20	100	< 0.79	< 0.79	NA	< 0.35	< 0.35	< 0.35	< 0.54
Trichloroethene (TCE)	0.5	5	< 0.47	< 0.47	NA	< 0.33	< 0.33	< 0.33	< 0.47
Trichlorofluoromethane	698	3490	< 1.7	< 1.7	NA	< 0.71	< 0.71	< 0.71 UJ	< 0.87
Vinyl Chloride	0.02	0.2	< 0.18	< 0.18	NA	< 0.18	< 0.18	< 0.18	< 0.17
PAHs (µg/L):									
1-Methyl naphthalene	NL	NL	< 0.022	< 0.022	< 0.019	NA	< 0.019 UJ	< 0.019	< 0.018
2-Methyl naphthalene	NL	NL	< 0.024	< 0.024	< 0.016	NA	< 0.016 UJ	< 0.016	< 0.017
Acenaphthene	NL	NL	< 0.025	< 0.025	< 0.021	NA	< 0.021 UJ	< 0.021	< 0.02
Acenaphthylene	NL	NL	< 0.019	< 0.019	< 0.02	NA	< 0.02 UJ	< 0.02	< 0.021
Anthracene	600	3000	< 0.018	< 0.018	< 0.02	NA	< 0.02 UJ	< 0.02	< 0.02
Benzo(a)anthracene	NL	NL	< 0.024	< 0.024	< 0.025	NA	0.036 J	< 0.025	< 0.019
Benzo(a)pyrene	0.02	0.2	< 0.018	< 0.018	< 0.018	NA	0.02 J	< 0.018	< 0.019
Benzo(b)fluoranthene	0.02	0.2	< 0.02	< 0.02	< 0.02	NA	**0.035 J**	< 0.02	< 0.019
Benzo(g,h,i)perylene	NL	NL	< 0.019	< 0.019	< 0.023	NA	< 0.023 UJ	< 0.023	< 0.024
Benzo(k)fluoranthene	NL	NL	< 0.022	< 0.022	< 0.027	NA	< 0.027 UJ	< 0.027	< 0.018
Chrysene	0.02	0.2	< 0.019	< 0.019	< 0.018	NA	**0.025 J**	< 0.018	< 0.017
Dibenzo(a,h)anthracene	NL	NL	< 0.019	< 0.019	< 0.023	NA	< 0.023 UJ	< 0.023	< 0.025
Fluoranthene	80	400	< 0.022	< 0.022	< 0.026	NA	< 0.026 UJ	< 0.026	< 0.018
Fluorene	80	400	< 0.02	< 0.02	< 0.02	NA	< 0.02 UJ	< 0.02	< 0.017
Indeno(1,2,3-cd)pyrene	NL	NL	< 0.018	< 0.018	< 0.027	NA	< 0.027 UJ	< 0.027	< 0.018
Naphthalene	10	100	< 0.021	< 0.021	< 0.023	NA	< 0.023 UJ	< 0.023	< 0.018
Phenanthrene	NL	NL	< 0.019	< 0.019	0.021 J	NA	< 0.018 UJ	< 0.018	< 0.017
Pyrene	50	250	< 0.02	< 0.02	< 0.025	NA	< 0.025 UJ	< 0.025	< 0.018
SVOCs (µg/L):									
2,6-Dinitrotoluene	0.005	0.05	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	0.6	6	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NL	NL	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	100	1000	NA	NA	NA	NA	NA	NA	NA
Petroleum Hydrocarbons (µg/L):									
Diesel Range Organics	NL	NL	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L):									
Arsenic, Dissolved	1	10	NA	NA	NA	NA	NA	NA	NA
Barium, Dissolved	400	2,000	NA	NA	NA	NA	NA	NA	NA
Cadmium, Dissolved	0.5	5	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	10	100	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	1.5	15	< 0.7	0.5	**6.1**	NA	< 0.24	0.52 J	< 0.7
Mercury, Dissolved	0.2	2	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA
Silver, Dissolved	10	50	NA	NA	NA	NA	NA	NA	NA

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Table 3
Temporary Well Groundwater Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Compound	PAL	ES	Area B	Area B	Area B	Area B	Area B	Area C	Area C	Area C	Area C
			TW-245			TW-34	TW-41	TW-204			TW-206
			4/5/10	4/6/10	2/21/11	11/12/09	11/12/09	4/5/10	4/7/10	4/13/10	4/5/10
VOCs (µg/L):											
1,1,1-Trichloroethane	40	200	< 0.53	NA	NA	6.6	21.4	< 0.53	NA	NA	*142*
1,1-Dichloroethane	85	850	< 0.69 UJ	NA	NA	4	1.68	< 0.69 UJ	NA	NA	76 J
1,1-Dichloroethene	0.7	7	< 0.7	NA	NA	< 0.47	0.68 J	< 0.7	NA	NA	**14.4**
1,2,4-Trimethylbenzene	96	480	< 0.65	NA	< 0.8	< 1.1	< 1.1	< 0.65	NA	NA	< 0.65
1,2-Dichlorobenzene	60	600	< 0.84	NA	NA	< 0.66	< 0.66	< 0.84	NA	NA	< 0.84
1,2-Dichloroethane	0.5	5	< 0.38	NA	NA	< 0.43	< 0.43	< 0.38	NA	NA	0.44 J
Benzene	0.5	5	< 0.38	NA	< 0.5	< 0.41	< 0.41	< 0.38	NA	NA	< 0.38
Chloroethane	80	400	< 0.67	NA	NA	< 1.5	< 1.5	< 0.67	NA	NA	24.6
cis-1,2-Dichloroethene	7	70	< 0.78	NA	NA	< 0.68	< 0.68	< 0.78	NA	NA	< 0.78
Ethylbenzene	140	700	< 0.55	NA	< 0.78	< 0.87	< 0.87	< 0.55	NA	NA	< 0.55
Hexachlorobutadiene	NL	NL	< 1.8	NA	NA	< 1.5	< 1.5	< 1.8	NA	NA	< 1.8
Isopropylbenzene	NL	NL	< 0.71	NA	NA	< 0.39	< 0.39	< 0.71	NA	NA	< 0.71
m&p-Xylene	400	2000	< 1.1	NA	< 1.1	< 1.6	< 1.6	< 1.1	NA	NA	< 1.1
n-Butylbenzene	NL	NL	< 0.94	NA	NA	< 1.5	< 1.5	< 0.94	NA	NA	< 0.94
n-Propylbenzene	NL	NL	< 0.67	NA	NA	< 0.33	< 0.33	< 0.67	NA	NA	< 0.67
Naphthalene	10	100	< 2.4	NA	< 2.1	< 1.7	< 1.7	< 2.4	NA	NA	< 2.4
o-Xylene	400	2000	< 0.52	NA	< 0.8	< 0.53	< 0.53	< 0.52	NA	NA	< 0.52
p-Isopropyltoluene	NL	NL	< 0.91	NA	NA	< 0.57	< 0.57	< 0.91	NA	NA	< 0.91
sec-Butylbenzene	NL	NL	< 0.59	NA	NA	< 0.43	< 0.43	< 0.59	NA	NA	< 0.59
tert-Butylbenzene	NL	NL	< 0.55	NA	NA	< 0.46	< 0.46	< 0.55	NA	NA	< 0.55
Tetrachloroethene	0.5	5	< 0.43	NA	NA	< 0.42	< 0.42	< 0.43	NA	NA	< 0.43
Toluene	160	800	0.77 J	NA	< 0.53	< 0.51	< 0.51	0.81 J	NA	NA	< 0.72
trans-1,2-Dichloroethene	20	100	< 1.3	NA	NA	< 0.61	< 0.61	< 1.3	NA	NA	< 1.3
Trichloroethene (TCE)	0.5	5	< 0.39	NA	NA	< 0.39	< 0.39	< 0.39	NA	NA	< 0.39
Vinyl Chloride	0.02	0.2	< 0.19	NA	NA	< 0.2	< 0.2	< 0.19	NA	NA	< 0.19
PAHs (µg/L):											
1-Methyl naphthalene	NL	NL	NA	< 0.016	< 0.009	< 0.55	< 0.55	NA	< 0.016	NA	< 0.016
2-Methyl naphthalene	NL	NL	NA	0.018 J	< 0.013	< 0.36	< 0.36	NA	0.022 J	NA	< 0.017
Acenaphthene	NL	NL	NA	< 0.017	< 0.01	< 0.24	< 0.24	NA	< 0.017	NA	< 0.017
Acenaphthylene	NL	NL	NA	< 0.016	< 0.014	< 0.23	< 0.23	NA	0.016 J	NA	< 0.016
Anthracene	600	3000	NA	< 0.018	< 0.009	< 0.35	< 0.35	NA	0.035 J	NA	< 0.018
Benzo(a)anthracene	NL	NL	NA	< 0.017	< 0.014	< 1.01	< 1.01	NA	0.122	NA	0.04 J
Benzo(a)pyrene	0.02	0.2	NA	< 0.016	< 0.011	< 0.35	< 0.35	NA	*0.116*	NA	*0.043 J*
Benzo(b)fluoranthene	0.02	0.2	NA	< 0.017	< 0.013	< 0.31	< 0.31	NA	*0.153*	NA	*0.06*
Benzo(g,h,i)perylene	NL	NL	NA	< 0.017	< 0.015	< 0.47	< 0.47	NA	0.074	NA	0.038 J
Benzo(k)fluoranthene	NL	NL	NA	< 0.029	< 0.015	< 0.52	< 0.52	NA	0.059	NA	< 0.029
Chrysene	0.02	0.2	NA	< 0.017	< 0.013	< 0.32	< 0.32	NA	*0.118*	NA	*0.031 J*
Dibenzo(a,h)anthracene	NL	NL	NA	< 0.016	< 0.016	< 0.3	< 0.3	NA	< 0.016	NA	< 0.016
Fluoranthene	80	400	NA	< 0.019	< 0.012	< 0.25	< 0.25	NA	0.209	NA	0.047 J
Fluorene	80	400	NA	< 0.018	< 0.008	< 0.39	< 0.39	NA	< 0.018	NA	< 0.018
Indeno(1,2,3-cd)pyrene	NL	NL	NA	< 0.016	< 0.015	< 0.26	< 0.26	NA	0.063	NA	0.032 J
Naphthalene	10	100	NA	< 0.017	< 0.015	< 0.34	< 0.34	NA	< 0.017	NA	< 0.017
Phenanthrene	NL	NL	NA	0.026 J	< 0.01	< 1.55	< 1.55	NA	0.123	NA	< 0.019
Pyrene	50	250	NA	< 0.02	< 0.013	< 0.33	< 0.33	NA	0.17	NA	0.045 J
Other SVOCs (µg/L):											
Diethyl phthalate	NL	NL	NA	NA	NA	< 0.28	< 0.28	NA	NA	NA	NA
m & p-Cresol	NL	NL	NA	NA	NA	< 2.48	< 2.48	NA	NA	NA	NA
o-Cresol	NL	NL	NA	NA	NA	< 0.78	< 0.78	NA	NA	NA	NA
Phenol	1200	6000	NA	NA	NA	< 1.07	< 1.07	NA	NA	NA	NA
Metals (µg/L):											
Arsenic, Dissolved	1	10	NA	0.82 J	NA	NA	NA	NA	NA	0.54 J	2.2
Barium, Dissolved	400	2,000	NA	37	NA	NA	NA	NA	NA	110	92
Cadmium, Dissolved	0.5	5	NA	0.31 J	NA	<0.16	<0.16	NA	NA	<0.16	<0.16
Chromium, Dissolved	10	100	NA	3.9	NA	NA	NA	NA	NA	<0.54	6.6
Lead, Dissolved	1.5	15	NA	0.44 J	NA	<0.24	<0.24	NA	NA	<0.24	2.8
Mercury, Dissolved	0.2	2	NA	0.04 J	NA	NA	NA	NA	NA	<0.017	<0.017
Selenium, Dissolved	10	50	NA	3.2	NA	NA	NA	NA	NA	2.7	1.4
Silver, Dissolved	10	50	NA	<0.31	NA	NA	NA	NA	NA	<0.31	<0.31

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Table 4
Soil Management Plan Summary
EDA Greenway Improvement, Milwaukee, Wisconsin

Environmental Impact Area	Survey Stationing[1]	Construction Zone	Century City Parcel/Area	Construction Activity	Contaminants of Concern (COC)	Estimated Maximum Depth of Excavation (feet bgs)	Estimated Volume of Impacted Soil (yds^3)	Soil Management Category [3]	Soil Disposal Requirements
1	50+45 to 51+70	2	A	Sidewalk and Landscaping	**PAHs**[2]	1	93	B Possibly Impacted	Dispose of on Century City site at location approved by Owner
2	7+75 to 8+95	2/3	A	Sidewalk and Landscaping	**PAHs**[2]	1	89	B Possibly Impacted	Dispose of on Century City site at location approved by Owner
				Retaining Wall Footings		5	111	B Possibly Impacted	Dispose of on Century City site at location approved by Owner
3	9+60 to 10+05	3	A	Sidewalk and Landscaping	**PAHs**[2]	1	33	B Possibly Impacted	Dispose of on Century City site at location approved by Owner
4	17+65 to 18+65	6	B	Sidewalk and Landscaping	**VOCs & PAHs** > direct contact and groundwater RCLs **Lead** > groundwater RCL	2	444	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.
				Storm Water Trench	**Lead** < direct contact and groundwater RCLs	n/a	n/a	A Unrestricted Use	Material to stay on-site, reuse as directed by Owner
5	19+45 to 21+10	7	B	Pavement, Sidewalk, and Landscaping	**CVOCs** > groundwater RCLs	1	315	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.
				Storm Sewer Trench	**CVOCs** and **PAHs** > groundwater RCLs	(depth varies)	488	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.
				Sanitary and Water Main Trenchs	**CVOCs** and **PAHs** > groundwater RCLs	15	349	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.
6	25+95 to 28+05	9/10	C	Sidewalk and Landscaping	**PAHs** > direct contact RCLs	2	622	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.
				Storm Sewer Trench	**PAHs** > direct contact and groundwater RCLs	7	272	C Impacted	Dispose of at a Sub-Title D landfill under an approved profile.

1 – Survey stations were provided on the development plans (90% owner review set, Sheets 7 through 10) prepared by Graef and dated December 19, 2014.

2 - No representative samples collected in this portion of the Greenway Improvement Project ROW. COC information relied upon sample analytical data from nearby soil boring samples.

3 - All other soils within project area are considered Type A "No Known Impacts". Material to stay on-site, reuse as directed by Owner.

Appendix A

Soil Boring Logs

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-MW1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
A. Woerpel Gestra	10/13/2009	10/13/2009	4 1/4-inch ID HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-MW1	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 15.60	2 3 2		ASPHALT FROM 0.0 TO 0.3 FEET.	Asphalt									
2 SS	24 9.60	2 2 3 3	2	UNIT 1. Loose; Dark yellowish brown (10YR 4/4); POORLY GRADED SAND (SP); wet; non plastic; non cohesive; massive; trace gravel; fill.	SP			1.2 1						
3 SS	24 16.80	7 4 1 1	4	-As above from 0.3 to 4.0 feet, but density becomes very loose										
4 SS	24 22.80	2 2 2 4	6	Soft; black (10YR 2/1) ORGANIC SOIL (OL); moist; high plasticity; cohesive; massive; trace sand and gravel; organic soil.	OL			1.5						
5 SS	24 21.60	5 7 2 3	8	UNIT 2. Stiff; Reddish brown (5YR 5/3); LEAN CLAY (CL) interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6) SILT (ML); moist to wet; medium to high plasticity; cohesive; laminated; lacustrine.	CL			3.1 2.3						
6 SS	24 20.40	6 7 2 3	10	-As above from 6.0 to 10.0 feet, but consistency becomes medium				3.5						
7 SS	24 24	4 6 3 3	12	UNIT 2. Medium; Reddish brown (5YR 5/3); LEAN CLAY (CL) interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6) SILT (ML); moist to wet; medium to high plasticity; cohesive; laminated; lacustrine.	CL			1.8						
8 SS	24 22.80	3 5 1 2	14					4.7						
9 SS	24 24	4 2 3 5 4 7	16	UNIT 4. Stiff; Gray (10YR 5/1); LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; trace sand and gravel; diamicton.	CL			0.0						
			18	END OF BORING AT 18.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		BM-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bryan Sargent Gestra	7/19/2013	7/19/2013	

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BM-2	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 20	2 3 3 3	1	Silty clay, brown, low plasticity, slightly moist, trace coarse sand, trace fine gravel				0						
2 SS	24 20	2 4 4 4	2 3	No trace fine gravel	ML			0 0						
3 SS	24 20	1 1 2 2	4 5	Clayey silt, tan, medium plasticity, moist, trace coarse sand, rust colored mottling				0 0						
4 SS	24 24	1 8 3 3	6 7	Becomes dark brown in color, slight petroleum odor	MH			0 0						
5 SS	24 20	2 2 4 5	8 9	Clay, tan, medium plasticity, moist, trace medium to coarse sand, rust and gray colored mottling	CL			0 0						
6 SS	24 24	4 4 5 6	10 11 12	Sand, fine to medium grained, black, moist Clay, grayish tan, low plasticity, slightly moist, gray and rust colored mottling	SP CL			0 0						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT

Form 4400-122A

Boring Number BM-2 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
7 SS	24 20	1 1 5 6	13	Silty clay, tan, moist, trace coarse sand, gray and rust colored mottling	ML			0						
			14	End of boring at 14.0 ft. bgs Set well at 3.0 - 13.0 ft. bgs										

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Harvey On-Site Environmental	9/30/2009	9/30/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB3	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 46.80			UNIT 1. POORLY GRADED GRAVEL (SP); moist; non plastic; non cohesive; massive; fill.	GP			5.3						
			2	UNIT 2. Firm; Black (10YR 2/1) mottled with dark yellowish brown (10R 4/4); LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; trace gravel; diamicton.	CL			5.7						
					CL			5.8						
			4					5.2						
2 GP	60 55.20		6	UNIT 3. Firm; Very dark gray (10YR 3/1) mottled with dark yellowish brown (10YR 4/4); LEAN CLAY (CL); medium plasticity; cohesive; massive; laminated; lacustrine.	CL			5.7						
								4.9						
			8	UNIT 3. Firm; Reddish brown (5YR 5/3); LEAN CLAY (CL) interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6); SILT (ML); moist to wet; medium to high plasticity; cohesive; laminated; lacustrine.				5.8						
								5.2						
			10	UNIT 3. Hard; Light yellowish brown (2.5Y 6/3) mottled with greenish gray (10Y 7/1) and light olive brown (2.5Y 5/4); LEAN CLAY (CL); moist; medium plasticity; cohesive; laminated; lacustrine.				5						
3 GP	60 33.60							5.3						
			12					5						
					CL			5.8						
			14											
4 GP	60 39.60		16					5.7						
								5.7						
			18	UNIT 4. Soft; Pale brown (10YR 6/3) to Reddish brown (5YR 5/3); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; trace sand and gravel; diamicton.	CL			5.5 5.7						
			20	END OF BORING AT 20.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Harvey On-Site Environmental	9/30/2009	9/30/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB7	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 43.20			UNIT 1. POORLY GRADED GRAVEL (GP); dry to moist; non plastic; non cohesive; massive; fill.	GP			0.0						
			2	Firm; Very dark gray (10YR 3/1) and black (10YR 2/1); ORGANIC SOIL (OL); moist; low plasticity; cohesive; massive; trace sand; trace plant roots; organic soil.	OL			12.9 2.9						
			4	UNIT 3. Firm; Reddish brown (5YR 5/3) mottled with gray (10YR 5/1) and black (10YR 2/1); LEAN CLAY (CL); moist; medium plasticity; cohesive; faintly laminated; lacustrine.	CL			2.2						
2 GP	60 60		6					1.5						
			8	UNIT 3. Firm; Reddish brown (5YR 5/3) LEAN CLAY (CL) interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6); SILT (ML); moist; medium to high plasticity; cohesive; laminated; lacustrine.	CL			1.3 1.7 1.8						
			10					6.7						
3 GP	60 44.40		12	UNIT 3. Soft; Light yellowish brown (2.5Y 6/3) mottled with greenish gray (10Y 7/1) and light olive brown (2.5Y 5/4); LEAN CLAY (CL); moist; medium plasticity; cohesive; laminated; lacustrine.	CL			5.6 6.3 5.8						
			14					5.8						
4 GP	60 56.40		16					5.5						
			18	UNIT 3. Black (10YR 2/1) to very dark gray (10YR 3/1); POORLY GRADED GRAVEL WITH SAND (GP); moist; non plastic; non cohesive; massive; little sand; outwash.	GP CL			5.8 5.5						
			20	UNIT 3. Soft; Light yellowish brown (2.5Y 6/3) mottled with greenish gray (10Y 7/1) and light olive brown (2.5Y 5/4); LEAN CLAY (CL); moist; medium plasticity; cohesive; laminated; lacustrine.	CL			5.6 5.5						
				UNIT 4. Soft; Dark gray (10YR 4/1); LEAN CLAY WITH SAND (CL); wet; medium plasticity; cohesive; massive; little sand; trace gravel; diamicton.										
				END OF BORING AT 20.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB-8

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Prentice Great Lakes Power Vac	10/19/2009	10/19/2009	Hydro excavation

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB-8	Feet MSL	Feet MSL	8.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample: Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2											
			4											
				Light brown; silty sand; small gravel; loose fill; wet	Fill									
			6	END OF BORING AT 6.0 FEET.										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB15

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Harvey On-Site Environmental	10/7/2009	10/7/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-15	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 38.40			UNIT 1. ASPHALT FROM 0.0 TO 0.2 FEET.	Asphalt									
				UNIT 1. CONCRETE FROM 0.2 TO 0.8 FEET.	Concrete									
			2	UNIT 1. Black (10YR 2/1); POORLY GRADED SAND WITH GRAVEL (SP); wet; non plastic; non cohesive; massive; little gravel; fill.	SP			5.2						
			4	UNIT 2. Hard; Dark brown (10YR 3/3) and light gray (10YR 7/1); LEAN CLAY (CL); moist; low plasticity; slightly cohesive; trace sand and gravel; diamicton.	CL									
2 GP	60 60		6					10.1						
			8	UNIT 3. Firm; Reddish brown (5YR 5/3); LEAN CLAY (CL) interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6) SILT (ML); moist; medium to high plasticity; cohesive; laminated; lacustrine.				32.8						
3 GP	60 58.80		10		CL			10.0						
			12											
			14					2.7						
4 GP	60 60		16	UNIT 4. Hard; Gray (10YR 5/1); SANDY LEAN CLAY (CL), moist; medium plasticity, little sand; trace gravel; diamicton.	CL			5.2						
			18											
			20	END OF BORING AT 20.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB16

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Harvey On-Site Environmental	10/7/2009	10/7/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB16	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 31.20			UNIT 1. CONCRETE FROM 0.0 TO 0.9 FEET.	Concrete									
			2	UNIT 1. Soft; Black (10YR 2/1); SANDY LEAN CLAY WITH GRAVEL (CL); moist to wet; non plastic; non cohesive; massive; some sand; little gravel; fill.				25.6						
			4		CL									
2 GP	36 30		6					25.3						
			8	END OF BORING AT 8.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB250

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Copeland Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB250	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 34.80			UNIT 1. ASPHALT FROM 0.0 TO 0.1 FEET.	Asphalt									
				UNIT 1. CONCRETE FROM 0.1 TO 0.9 FEET.	Concrete									
			2	UNIT 1. Yellowish brown (10YR 5/6); POORLY GRADED SAND (SP); wet; non plastic; non cohesive; massive; trace gravel; fill.				0.0						
2 GP	42 42		4		SP									
			6					0.0 0.0						
				END OF BORING AT 7.5 FEET.										

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB251

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Copeland Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB251	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48			UNIT 1. CONCRETE FROM 0.0 TO 0.9 FEET.	Concrete									
			2	UNIT 1. Firm; Black (10YR 4/1) to very dark gray (10YR 3/1); LEAN CLAY (CL); moist; low plasticity; slightly cohesive; massive; trace sand and plant roots; fill.	CL			0.0						
			4	UNIT 1. Firm; Very dark gray (10YR 3/1) mottled with dark yellowish brown (10YR 4/6); SANDY LEAN CLAY (CL); moist to wet; low plasticity; cohesive; massive; some sand; trace gravel; trace glass; fill.	CL			0.0						
				UNIT 2. Firm; Greenish gray (5G 5/1) mottled with reddish gray (5YR 5/2); LEAN CLAY (CL); moist to wet; medium plasticity; cohesive; massive; trace sand and gravel; diamicton.	CL									
				END OF BORING AT 4.0 FEET.										

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB254

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/16/2010	3/16/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB254	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 13.20		2	UNIT 1. Firm; Black (10YR 2/1) and dark grayish brown (10YR 4/2); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; trace brick; fill.	CL			0.0						
			4	END OF BORING AT 4.0 FEET.										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB255

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/16/2010	3/16/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB255	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 37.20		2	UNIT 1. Black (10YR 2/1) and olive brown (2.5Y 4/3); POORLY GRADED SAND (SP); wet; non plastic; non cohesive; massive; trace gravel; trace brick; fill.	SP			0.0 0.0						
			4	END OF BORING AT 4.0 FEET.										

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Signature	Firm AECOM	Tel: Fax:

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-MW2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
A. Woerpel Gestra	10/12/2009	10/12/2009	4 1/4-inch ID HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-MW2	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 / 13.20	0 2 3 3	2	UNIT 1. ASPHALT FROM 0. 0 TO 0.5 FEET.	Asphalt									
				UNIT 1. Loose; Black (10YR 2/1); POORLY GRADED GRAVEL WITH SAND (GP); dry; non plastic; non cohesive; massive; some sand; fill.	GP			11.1						
2 SS	24 / 1.20	2 3 6 10	4	UNIT 1. Medium; Gray (10YR 5/1) to black (10YR 2/1) mottled with brownish yellow (10YR 6/6); LEAN CLAY WITH GRAVEL (CL); moist; low plasticity; cohesive; massive; little gravel; fill.	CL			80.2						
3 SS	24 / 21.60	2 4 7 6	6	-As above from 0.9 to 2.0 feet, but consistency becomes stiff				82.8						
4 SS	24 / 22.80	4 10 16 20	8	UNIT 2. Stiff; Yellowish brown (10YR 5/4) or pale brown (10YR 6/3); LEAN CLAY (CL); moist; low pasticity; slightly cohesive; trace sand and gravel; diamicton.	CL			41.9						
5 SS	24 / 24	5 13 21 18	10	-As above from 4.5 to 6.0 feet, but consistency becomes very stiff				44.0						
6 SS	24 / 24	5 9 10 13	12	-As above from 4.5 to 8.0 feet, but consistency becomes hard	CL									
7 SS	24 / 24	7 9 13 20	14	UNIT 2. Hard; Dark gray (10YR 4/1) mottled with strong brown (7.5YR 4/6); LEAN CLAY (CL); moist; low plasticity; slightly cohesive; trace sand and gravel; diamicton.	CL			2.2						
8 SS	24 / 24	7 17 15 20		UNIT 3. Very stiff; Light brown (7.5YR 5/2) laminated with light gray (10YR 7/1) LEAN CLAY (CL) moist; medium plasticity; cohesive; laminated; lacustrine.	ML			3.2						
				UNIT 3. Very Stiff; Dark gray (10YR 4/1); SANDY LEAN CLAY (CL); moist; interbedded with light greenish gray (10Y 7/1) and dark yellowish brown (10YR 4/6) SILT (ML); moist to wet; medium to high plasticity; cohesive; laminated; lacustrine.	CL			0.6						
				UNIT 4. Very stiff; Gray (10YR 5/1); LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; trace sand and gravel; diamicton. -As above from 12.6 to 14.0 feet, but consistency becomes hard										
				END OF BORING AT 16.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater [ ] Waste Management [ ]
Remediation/Redevelopment [X] Other [ ]

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City		PER-MW-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Robert Last Name: Jackson Firm: GESTRA	7 23 2012 MM/ DD/ YY	7 23 2012 MM/ DD/ YY	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		PER-MW-3	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin [ ] (Estimated: [ ]) or Boring Location [ ]
State Plane N, E S/C/N
1/4 of 1/4 of Section T N, R E/W

Lat ° ' "
Long ° ' "

Local Grid Location (if applicable)
Feet [ ] N [ ] S Feet [ ] E [ ] W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	41	Milwaukee

Sample: Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in feet	Soil / Rock Description and Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.0	Blind Drilled to 15 feet bgs– soil description based on soil cuttings.										
			2.0											
			3.0											
			4.0											
			5.0											
			6.0											
			7.0											
			8.0											
			9.0											
			10.0											
			11.0											
			12.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	AECOM 1555 N. RiverCenter Drive, Milwaukee WI 53212

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB34

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
T. Kapugi On-Site Environmental	10/8/2009	10/8/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-34	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 60			UNIT 1. CONCRETE FROM 0.0 TO 0.7 FEET.	Concrete									
			2	UNIT 1. Firm; Dark brown (10YR 3/3) ; LEAN CLAY WITH SAND AND GRAVEL (CL); moist to wet; low plasticity; cohesive; massive; little sand and gravel; fill.				26.2 37.4						
			4											
2 GP	60 19.20		6		CL			60						
			8											
			10											
3 GP	60 30			UNIT 4. Hard; Dark Gray (10YR 4/1); SANDY LEAN CLAY (CL); moist; low to medium plasticity, cohesive; massive; some sand; trace gravel; diamicton.	CL			22.6						
			12											
			14											
				END OF BORING AT 15.0 FEET.										
			16											
			18											
			20											

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB40

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
T. Kapugi On-Site Environmental	10/8/2009	10/8/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB40	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 57			UNIT 1. CONCRETE FROM 0.0 TO 0.7 FEET.	Concrete									
			2	UNIT 1. Firm; Brown (10YR 4/3) to Black (10YR 2/1); LEAN CLAY (CL); moist; non plastic; non cohesive; massive; few sand and gravel; fill.				0.0						
			4		CL			0.0						
2 GP	60 54		6					0.0						
			8	UNIT 2. Soft; Firm; Yellowish brown (10YR 5/4) and light gray (10YR 7/1);LEAN CLAY (CL); moist; low plasticity; slightly cohesive; massive; trace sand and gravel; diamicton.				0.0						
3 GP	60 60		10		CL			0.0						
			12					0.0						
			14					0.0						
4 GP	60 51.60		16	UNIT 4. Hard; Gray (10YR 5/1); LEAN CLAY (CL); moist; low to medium plasticity, cohesive; massive; trace sand and gravel; diamicton.				0.0						
			18		CL			0.0						
			20	END OF BORING AT 20.0 FEET.				0.0						

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB41

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
T. Kapugi On-Site Environmental	10/8/2009	10/8/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-41	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 57			UNIT 1. CONCRETE FROM 0.0 TO 0.9 FEET.	Concrete									
			2	UNIT 1. Pale Brown (10YR 6/3); POORLY GRADED SAND WITH CLAY (SP-SC); moist; low plasticity; cohesive; massive; little clay; fill. -Becomes wet at 2.5 feet				0.0						
			4		SP-SC			0.0						
2 GP	60 57		6					0.0						
			8	UNIT 2. Firm; Yellowish brown (10YR 5/4) or light gray (10YR 7/1); LEAN CLAY (CL); moist; low plasticity; slightly cohesive; massive; trace sand and gravel; diamicton.				0.0						
3 GP	60 51		10					0.0						
			12		CL			0.0						
			14	UNIT 4. Very hard; Gray (10YR 5/1); LEAN CLAY (CL); moist; low to medium plasticity; cohesive; trace sand and gravel; diamicton.	CL			0.0						
			16	END OF BORING AT 15.0 FEET.										
			18											
			20											

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB45

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
T. Kapugi On-Site Environmental	10/8/2009	10/8/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-45	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 49.20			UNIT 1. CONCRETE FROM 0.0 TO 0.9 FEET.	Concrete									
			2	UNIT 1. Firm; Dark yellowish brown (10YR 4/4) mottled with brownish yellow (10YR 6/6); LEAN CLAY WITH SAND AND GRAVEL (CL); moist; low plasticity; cohesive; massive; little sand and gravel; fill.	CL			56.6						
			4											
2 GP	60 38.40		6											
			8	UNIT 2. Firm; Light brownish gray (10YR 6/2) mottled with brown yellow (10YR 6/6); SANDY LEAN CLAY (CL); wet; low plasticity; slightly cohesive; massive; some sand; trace gravel; diamicton.	CL			62.2						
3 GP	60 27.60		10											
			12					90.4						
			14	UNIT 4. Hard; Dark gray (10YR 4/1); SANDY LEAN CLAY (CL); moist; low to medium plasticity; slightly cohesive; massive; some sand; trace gravel; diamicton.	CL			109						
4 GP	60 30		16											
			18											
			20	END OF BORING AT 20.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB46

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Prentice Great Lakes Power Vac	10/16/2009	10/16/2009	Hydro excavation

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB46	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				Hydro excavation to 9.0 ft. - No samples collected										
			2											
			4											
			6											
			8											
1	12 12		10	Light brown; sandy silt; trace small gravel (Soil sample collected using hand auger)										
				END OF BORING AT 10.0 FEET.										
				Boring backfilled with bentonite chips										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB244

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB244	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12			UNIT 1. CONCRETE FROM 0.0 TO 0.8 FEET.	Concrete									
1 GP	0 36 36		2	UNIT 1. Firm; Pale brown (10YR 6/3) mottled with yellowish red (5Y R5/6) and dark gray (10YR 4/1); CLAYEY SAND WITH GRAVEL (SC); wet; low plasticity; cohesive; massive; some clay; little gravel; fill.	SC									
2 GP	24 24		4	UNIT 2. Firm; Yellowish brown (10YR 5/4); SANDY LEAN CLAY (CL); wet; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
			6	UNIT 3. Firm; Reddish brown (5YR 5/3); SANDY LEAN CLAY (CL); moist; low plasticity; slightly cohesive; massive; some sand; trace gravel; diamicton.	CL									
			8	END OF BORING AT 6.0 FEET.										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB245

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Copeland Kitson Environmental	3/19/2010	3/19/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-245	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48			UNIT 1. CONCRETE FROM 0.0 TO 1.4 FEET.	Concrete									
			2	UNIT 1. Firm; Grayish brown (10YR 5/2) mottled with strong brown (7.5YR 5/6); LEAN CLAY (CL); moist to wet; low to medium plasticity; cohesive; massive; trace sand and gravel; fill.	CL									
2 GP	48 48		4 6	UNIT 4. Firm; Olive (5Y 5/3) mottled with strong brown (7.5YR 5/6); SANDY LEAN CLAY (CL); wet; low to medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
3 GP	40.8 40.80		8 10	UNIT 4. Hard; Dark grayish brown (2.5Y 4/2); LEAN CLAY WITH SAND (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
				END OF BORING AT 11.4 FEET.										

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB246

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-246	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12			UNIT 1. CONCRETE FROM 0.0 TO 0.8 FEET.	Concrete									
1 GP	36 30		2	UNIT 1. Reddish brown (5YR 5/3) and black (10YR 2/1); CLAYEY SAND WITH GRAVEL (SC); moist to wet; low plasticity; cohesive; massive; some clay; little gravel; fill.	SC			3.2						
				UNIT 3. Reddish brown (5YR 5/3); SILT (ML); wet; low plasticity; slightly cohesive; faintly laminated; lacustrine.	ML									
2 GP	48 48		4	UNIT 4. Firm; Yellowish brown (10YR 5/4); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
3 GP	36 36		6 8											
			10	UNIT 4. Firm; Reddish brown (5YR 5/3); SANDY LEAN CLAY (CL); moist; medium to low plasticity; cohesive; massive; some sand; few gravel; diamicton.	CL									
4 GP	36 36		12	UNIT 4. Hard; Gray (10YR 5/1) mottled with strong brown (2.5YR 5/6); SANDY LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
4 GP	36 36		14 16											
				END OF BORING AT 17.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater [ ] Waste Management [ ]
Remediation/Redevelopment [X] Other [ ]

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City		PER-MW-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: **Robert** Last Name: **Jackson**	7 23 2012 (MM/ DD/ YY)	7 23 2012 (MM/ DD/ YY)	HSA
Firm: **GESTRA**			

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		PER-MW-1	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin [ ] (Estimated: [ ]) or Boring Location [ ]
State Plane _____ N, _____ E S/C/N
1/4 of 1/4 of Section T N, R E/W
Lat ° ' "
Long ° ' "
Local Grid Location (if applicable) Feet [ ] N [ ] S Feet [ ] E [ ] W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	41	Milwaukee

Sample: Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in feet	Soil / Rock Description and Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.0	Blind Drilled to 15 feet bgs– soil description based on soil cuttings.										
			2.0											
			3.0											
			4.0											
			5.0											
			6.0											
			7.0											
			8.0											
			9.0											
			10.0											
			11.0											
			12.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	AECOM 1555 N. RiverCenter Drive, Milwaukee WI 53212

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater [ ] Waste Management [ ]
Remediation/Redevelopment [X] Other [ ]

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City		PER-MW-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Robert Last Name: Jackson Firm: GESTRA	7 23 2012 MM/ DD/ YY	7 23 2012 MM/ DD/ YY	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		PER-MW-2	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin [ ] (Estimated: [ ]) or Boring Location [ ]
State Plane N, E S/C/N
1/4 of 1/4 of Section T N, R E/W

Lat ° ' "
Long ° ' "

Local Grid Location (if applicable)
Feet [ ] N [ ] S Feet [ ] E [ ] W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	41	Milwaukee

Sample: Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in feet	Soil / Rock Description and Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.0	Blind Drilled to 15 feet bgs– soil description based on soil cuttings.										
			2.0											
			3.0											
			4.0											
			5.0											
			6.0											
			7.0											
			8.0											
			9.0											
			10.0											
			11.0											
			12.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	AECOM 1555 N. RiverCenter Drive, Milwaukee WI 53212

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		CM-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bryan Sargent Gestra	7/2/2013	7/2/2013	4-1/4 ID HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		CM-4	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	4 5 5 4	1	Fill: Brown, trace fine gravel	Fill									
				Brown, sandy silt, fine to coarse grain, trace fine gravel	SM			0						
2 SS	24 18	3 2 2 1	2 3	3" silty clay seam, gray, slightly moist				0 0						
3 SS	24 18	12 1 1 1	4 5	Gray, silty clay, moist, low plasticity, trace coarse sand, trace organics, rust and gray colored mottling	ML			0 0 0						Sample CM-4 (3.5-4.5) at 13:55 pm
4 SS	24 20	1 2 4 4	6 7	Tan, clay, moist, low plasticity, medium, rust and gray colored mottling	CL			0 0						Sample CM-4 (6-7) at 14:05 pm
5 SS	24 24	2 2 7 10	8 9 10	Trace coarse sand and fine gravel, stiff				0 0 0						
6 SS	24 24	10 24 23 29	11	Tan, clay, hard, moist, low plasticity, trace fine to coarse sand, trace fine gravel, rust and gray colored mottling	CL			0 0						
7 SS	24 24	6 18 31 29	12 13 14	End of boring at 14.0 ft.				0						

2-inch monitoring well set at 3.0 - 13.0 ft. bgs

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Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		CM-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bryan Sargent Gestra	7/3/2013	7/3/2013	4-1/4 ID HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PL799	PL799	CM-9	Feet MSL	Feet MSL	8.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	3 3 2 3	1	9" Concrete	Concrete			0						
				Tan, clayey silt, slightly moist, medium plasticity, rust colored mottling, trace coarse sand, slight petroleum odor	CL			0						
2 SS	24 16	2 2 3 4	2 3	Black, clayey silt, slightly moist, medium plasticity, petroleum odor	CL			0						
3 SS	24 16	2 3 3 4	4 5	Tan, clay, slightly moist, medium, medium plasticity, rust and gray colored mottling				0						Sample CM-5 (3-4) at 12:30 pm
4 SS	24 20	3 4 6 8	6 7	Trace coarse sand and fine gravel, moist				0						Sample CM-5 (5-6) at 12:40 pm
5 SS	24 24	3 15 8 11	8 9	2" gravel seam	CL			0						
			10	2" gravel seam				0						
6 SS	24 24	2 5 9 16	11	2" gravel seam				0						
7 SS	24 4	9 21 25 25	12 13					0						
			14	End of boring at 14.0 ft. bgs										
				2-inch monitoring well set at 3.0 - 13.0 ft. bgs										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB50A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Prentice Great Lakes Power Vac	10/16/2009	10/16/2009	Hydro excavation

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB50A	Feet MSL	Feet MSL	8.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	96			Collected sample at 8.0 ft. Light gray clay, high plasticity, trace gravel, wet										
			2											
			4											
			6											
			8	END OF BORING AT 8.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB50B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
D. Prentice Great Lakes Power Vac	10/16/2009	10/16/2009	Hydro excavation

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB50B	Feet MSL	Feet MSL	8.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	108		2 4 6 8	Collected sample at 9.0 ft. Light brown and gray silt, medium plasticity, little crushed gravel, fill										
				END OF BORING AT 9.0 FEET.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB63

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
T. Kapugi On-Site Environmental	9/30/2009	9/30/2009	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB63	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	60 51			UNIT 1. ASPHALT FROM 0.0 TO 0.1 FEET.	Asphalt									
				UNIT 1. CONCRETE FROM 0.1 TO 1.5 FEET.	Concrete									
			2	UNIT 1. POORLY GRADED GRAVEL WITH SAND (GP); moist; non plastic; non cohesive; massive; little sand; fill.	GP			0.8						
				UNIT 1. CONCRETE FROM 2.0 TO 3.0 FEET.	Concrete									
			4	UNIT 1. White (10YR 8/1); POORLY GRADED GRAVEL (GP); moist; non plastic; non cohesive; massive; fill.	GP			3 3.8						
2 GP	60 48		6	UNIT 1. Soft; Black (10YR 2/1); LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; fill.	CL			6.1 9.3						Hydrocarbon odor
			8	UNIT 1. Brown (10YR 5/3); POORLY GRADED SAND (SP); moist; non plastic; non cohesive; massive; fill.	SP			5.2						
3 GP	60 51		10	UNIT 4. Firm; Pale brown (10YR 6/3); LEAN CLAY (CL); dry to moist; low to medium plasticity; cohesive; massive; trace sand and gravel; iron oxide staining (5/3); diamicton.	CL			0.4 0.2 0.2 0.2 0.2 0.2						
			12											
			14											
4 GP	60 48		16	UNIT 4. Hard; Gray (10YR 5/1); LEAN CLAY (CL); dry; low to medium plasticity; cohesive; massive; trace sand and gravel; diamicton.	CL			0.2 0.2 0.2 0.2 0.2						
			18											
			20	END OF BORING AT 20.0 FEET.				0.4						

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Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB204

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-204	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12			UNIT 1. ASPHALT FROM 0.0 TO 0.6 FEET.	Asphalt									
1 GP	36 36		2	UNIT 1. Pale brown (10YR 6/3) and black (10YR 2/1); POORLY GRADED GRAVEL WITH SAND (GP); moist; non plastic; non cohesive; massive; little sand; fill.	GP			0.5						
				UNIT 2. Firm; Black (10YR 2/1) to brown (10YR 5/3); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL			0.9						
2 GP	48 48		4	UNIT 2. Firm; Yellowish brown (10YR 5/9) mottled with gray (10YR 5/1); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.				1.2						
			6											
								0.0						
3 GP	36 36		8		CL									
			10					2.5						
								0.0						
4 GP	36 36		12											
				UNIT 4. Hard; Gray (10YR 5/1); SANDY LEAN CLAY (CL); moist; low to medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.										
5 GP	60 60		14											
			16		CL									
			18											
				END OF BORING AT 19.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB206

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
G. Kitson Kitson Environmental	3/12/2010	3/12/2010	2 1/4-inch dia. Geoprobe with direct push technology

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		TW-206	Feet MSL	Feet MSL	2.25 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of 1/4 of Section 12, T 7 N, R 21 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48			UNIT 1. ASPHALT FROM 0.0 TO 0.6 FEET.	Asphalt									
			2	UNIT 1. Black (10YR 2/1); POORLY GRADED GRAVEL WITH SAND (GP); wet; non plastic; non cohesive; massive; little sand; fill.	GP			4.2						
				UNIT 1. Firm; Reddish brown (5YR 5/3); CLAYEY SAND WITH GRAVEL (SC); wet; low plasticity; cohesive; massive; some clay; little gravel; fill.	SC			7.2						
2 GP	48 48		4	UNIT 1. Black (10YR 2/1); CLAYEY SAND (SC); wet; low plasticity; cohesive; massive; some clay; trace wood; fill.	SC CL			9.2						Hydrocarbon odor
			6	UNIT 2. Firm; Gray (10YR 5/1) and brown (10YR 5/3) mottled with yellowish brown (10YR 5/4); LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; trace sand and gravel; diamicton.	ML			0.0						
3 GP	36 36		8	UNIT 3. Firm; Light yellowish brown (10YR 6/4) and gray (10YR 5/1); SILT (ML); moist to wet; medium plasticity; cohesive; faintly laminated; lacustrine.										
			10											
4 GP	36 36		12	UNIT 4. Firm; Yellowish brown (10YR 5/4); SANDY LEAN CLAY (CL); moist; medium plasticity; cohesive; massive; some sand; trace gravel; diamicton.	CL									
			14	END OF BORING AT 14.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		C.NP-01

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dusty Harvey Onsite Environmental Services	4/5/2013	4/5/2013	geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		C.NP-01	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	60 30			CLAY Lens										
			1	Loose light grayish brown (10YR 6/2) medium to coarse sand, dry, nonplastic, noncohesive, little angular, small gravel	SP			0 0						
			2											
			3	Loose dark brown (10YR 3/3) fine to coarse sand, angular, moist, nonplastic, noncohesive	SP			0						
			4	Slag				0						C.NP-01 (3-4) at 11:40 am
2	60 46		5	Medium black (10YR 2/1) clay, moist, medium plasticity, cohesive Wood	CL			0						C.NP-01 (5-6) at 11:45 am MS/MSD
			6	Firm dark gray (10YR 4/1) clay, moist, medium plasticity, cohesive	CL			0						
			7					0						
			8	Fill: Firm dark gray (10YR 4/1) becomes gray (10YR 5/1) clay, moist, medium plasticity, cohesive	Fill			0						
			9											
			10	Firm brown (10YR 5/3) clay, moist, medium plasticity, cohesive, little rounded coarse sand End of boring at 10.0 ft.	CL			0						

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		C.NP-03

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dusty Harvey Onsite Environmental Services	4/5/2013	4/5/2013	geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		C.NP-03	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	60 36			Medium brown (10YR 5/3) sandy clay, low plasticity, moist, cohesive	SC			0						
			1	Firm dark brown (10YR 3/3) clay, moist, medium plasticity, cohesive				0						
			2		CL			0						
			3											
			4	Little Slag				0						C.NP-03 (3-4) at 11:30 am
				Soft to firm black (10YR 2/1) clay, high plasticity, cohesive, moist										C.NP-03 (4-5) at 11:35 am
2	60 60		5		CL									
			6					0						
			7	Fill: Firm dark gray (10YR 4/1) clay, moist, medium plasticity, cohesive				0						
			8		Fill									
			9					0						
			10	Stiff brown (10YR 5/3) clay, moist, medium plasticity, cohesive	CL			0						
				End of boring at 10.0 ft.										
				Abandoned with 3/8" bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Century City - 2725 W. Hopkins Street		GC-7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dusty Harvey Onsite Environmental Services	4/5/2013	4/5/2013	geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GC-7	Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	60 48			Asphalt	Asphalt									
			1	Firm black (10YR 2/1) clay, moist, high plasticity, cohesive, glass, slag, wood	CL			0 0 0						GC-7 (2-3) at 12:20 pm
			2											
			3											
			4	Fill: Becomes gray (10YR 5/1) debris	Fill			0 0						
2	60 55		5	Firm brown (10YR 5/3) silty clay, moist, medium plasticity, cohesive, little rounded coarse sand	ML			0 0 0						GC-7 (5-6) at 12:25 pm
			6											
			7											
			8	Firm brown (10YR 5/3) clay, moist, high plasticity, cohesive, little rounded coarse sand	CL			0 0						
			9											
			10	End of boring at 10.0 ft. Abandoned with 3/8" bentonite chips										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB93A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
K. Brown GLPV	10/15/2009	10/15/2009	8-inch lower drillhole diameter

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB93A	Feet MSL	Feet MSL	8.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	108			Light brown silty clay, sand and gravel, saturated, fill around sewer pipe, water running into hole.				0.0						
			1											
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9	END OF BORING AT 9.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
3533 N. 27th Street-Phase II		DCD-SB93B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
K. Brown GLPV	10/15/2009	10/15/2009	8-inch lower drillhole diameter

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		DCD-SB93B	Feet MSL	Feet MSL	8.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Milwaukee, WI

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	48		1 2 3 4	Light brown moist silty clay, little sand and gravel, fill, some water in hole				1.7						
				END OF BORING AT 4.0 FEET.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater [ ] Waste Management [ ]
Remediation/Redevelopment [X] Other [ ]

Facility/Project Name: **Century City**	License/Permit/Monitoring Number	Boring Number: **PER-MW-5**
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: **Robert** Last Name: **Jackson** Firm: **GESTRA**	Date Drilling Started: 7 27 2012 (MM/ DD/ YY) Date Drilling Completed: 7 27 2012 (MM/ DD/ YY)	Drilling Method: **HSA**
WI Unique Well No. / DNR Well ID No. / Well Name: **PER-MW-5**	Final Static Water Level: Feet MSL Surface Elevation: Feet MSL	Borehole Diameter: **8.25** inches
Local Grid Origin [ ] (Estimated: [ ]) or Boring Location [ ] State Plane N, E S/C/N 1/4 of 1/4 of Section T N, R E/W	Lat ° ' " Long ° ' "	Local Grid Location (if applicable) Feet [ ] N [ ] S Feet [ ] E [ ] W
Facility ID	County: **Milwaukee** / County Code: **41**	Civil Town/City/or Village: **Milwaukee**

Sample: Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in feet	Soil / Rock Description and Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.0	Blind Drilled to 15.5 feet bgs– soil description based on soil cuttings.										
			2.0											
			3.0											
			4.0											
			5.0											
			6.0											
			7.0											
			8.0											
			9.0											
			10.0											
			11.0											
			12.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm **AECOM** 1555 N. RiverCenter Drive, Milwaukee WI 53212

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Appendix B

Soil Analytical Laboratory Reports

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

JEFF TRACY
AECOM
1020 N. BROADWAY
MILWAUKEE, WI 53202

Report Date *28-Oct-09*

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739A
Sample ID DCD-MW2(1-3)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	79.6	%			1	5021		10/14/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 260	ug/kg	260	820	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Acenaphthene	< 170	ug/kg	180	590	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Acenaphthylene	< 120	ug/kg	120	380	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Anthracene	172 "J"	ug/kg	140	440	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzo(a)anthracene	670	ug/kg	150	490	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzo(a)pyrene	580	ug/kg	70	230	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzo(b)fluoranthene	690	ug/kg	100	310	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzo(g,h,i)perylene	302 "J"	ug/kg	110	350	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzo(k)fluoranthene	289 "J"	ug/kg	160	520	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Benzyl Alcohol	< 2150	ug/kg	2150	6670	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Butyl benzyl phthalate	< 500	ug/kg	500	1590	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Bis(2-chloroethoxy)methane	< 140	ug/kg	140	440	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Bis(2-chloroethyl)ether	< 240	ug/kg	240	780	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Bis(2-chloroisopropyl)ether	< 340	ug/kg	340	1070	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Bis(2-ethylhexyl)phthalate	< 2150	ug/kg	2150	6860	10	8270C	10/21/2009	10/23/2009	MJR	1 49
4-Bromophenylphenyl ether	< 180	ug/kg	180	590	10	8270C	10/21/2009	10/23/2009	MJR	1 49
4-Chloro-3-methylphenol	< 190	ug/kg	190	610	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Chloronaphthalene	< 140	ug/kg	140	440	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Chlorophenol	< 160	ug/kg	160	520	10	8270C	10/21/2009	10/23/2009	MJR	1 49

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739A
Sample ID DCD-MW2(1-3)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 150	ug/kg	150	480	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Chrysene	710	ug/kg	120	380	10	8270C	10/21/2009	10/23/2009	MJR	1 49
o-Cresol	< 130	ug/kg	130	380	10	8270C	10/21/2009	10/23/2009	MJR	1 49
m & p-Cresol	< 440	ug/kg	440	1400	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Dibenzofuran	< 150	ug/kg	150	480	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Dibenzo(a,h)anthracene	< 160	ug/kg	160	500	10	8270C	10/21/2009	10/23/2009	MJR	1 49
1,4-Dichlorobenzene	< 180	ug/kg	180	560	10	8270C	10/21/2009	10/23/2009	MJR	1 49
1,3-Dichlorobenzene	< 160	ug/kg	160	510	10	8270C	10/21/2009	10/23/2009	MJR	1 49
1,2-Dichlorobenzene	< 160	ug/kg	160	510	10	8270C	10/21/2009	10/23/2009	MJR	1 49
3,3'-Dichlorobenzidine	< 120	ug/kg	120	390	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4-Dichlorophenol	< 170	ug/kg	170	550	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Diethyl phthalate	< 220	ug/kg	220	710	10	8270C	10/21/2009	10/23/2009	MJR	2 49
Dimethyl phthalate	< 120	ug/kg	120	370	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4-Dimethylphenol	< 130	ug/kg	130	400	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Di-n-butyl phthalate	< 470	ug/kg	470	1510	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4-Dinitrophenol	< 490	ug/kg	490	1500	10	8270C	10/21/2009	10/23/2009	MJR	8 49
2,6-Dinitrotoluene	< 110	ug/kg	110	360	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4-Dinitrotoluene	< 150	ug/kg	150	480	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Di-n-octyl phthalate	< 90	ug/kg	90	300	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Diphenylamine	< 210	ug/kg	210	680	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Fluoranthene	1270	ug/kg	120	380	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Fluorene	< 230	ug/kg	230	740	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Hexachlorobenzene	< 190	ug/kg	190	600	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Hexachlorobutadiene	< 210	ug/kg	210	660	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Hexachlorocyclopentadiene	< 60	ug/kg	60	180	10	8270C	10/21/2009	10/23/2009	MJR	8 49
Hexachloroethane	< 120	ug/kg	120	400	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Indeno(1,2,3-cd)pyrene	239 "J"	ug/kg	160	510	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Isophorone	< 130	ug/kg	130	410	10	8270C	10/21/2009	10/23/2009	MJR	1 49
1-Methyl naphthalene	< 270	ug/kg	270	850	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Methyl naphthalene	< 170	ug/kg	170	550	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Methyl-4,6-dinitrophenol	< 240	ug/kg	240	750	10	8270C	10/21/2009	10/23/2009	MJR	8 49
Naphthalene	< 130	ug/kg	130	400	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Nitroaniline	< 130	ug/kg	130	410	10	8270C	10/21/2009	10/23/2009	MJR	1 49
3-Nitroaniline	< 270	ug/kg	270	860	10	8270C	10/21/2009	10/23/2009	MJR	1 49
4-Nitroaniline	< 230	ug/kg	230	740	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Nitrobenzene	< 120	ug/kg	120	380	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Nitrophenol	< 150	ug/kg	150	480	10	8270C	10/21/2009	10/23/2009	MJR	8 49
4-Nitrophenol	< 240	ug/kg	240	760	10	8270C	10/21/2009	10/23/2009	MJR	1 49
n-Nitrosodimethylamine	< 460	ug/kg	460	1470	10	8270C	10/21/2009	10/23/2009	MJR	1 49
n-Nitrosodi-n-propylamine	< 220	ug/kg	220	710	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Pentachlorophenol (PCP)	< 90	ug/kg	90	270	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Phenanthrene	760	ug/kg	90	300	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Phenol	< 90	ug/kg	90	300	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Pyrene	1450	ug/kg	150	480	10	8270C	10/21/2009	10/23/2009	MJR	1 49
Pyridine	< 180	ug/kg	180	580	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,3,4,6-Tetrachlorophenol	< 220	ug/kg	220	710	10	8270C	10/21/2009	10/23/2009	MJR	1 49
1,2,4-Trichlorobenzene	< 260	ug/kg	260	830	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4,5-Trichlorophenol	< 260	ug/kg	260	840	10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4,6-Trichlorophenol	< 200	ug/kg	200	640	10	8270C	10/21/2009	10/23/2009	MJR	1 49

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739A
Sample ID DCD-MW2(1-3)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	79	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
2-Fluorophenol-surrogate	72	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
Nitrobenzene-d5-surrogate	84	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
Phenol-d6-surrogate	74	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
p-Terphenyl-d14-surrogate	126	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
2,4,6-Tribromophenol-surrogate	72	REC %			10	8270C	10/21/2009	10/23/2009	MJR	1 49
VOC's										
Benzene	20.5 "J"	ug/kg	20	64	1	8260B		10/19/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/19/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/19/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/19/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/19/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/19/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/19/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/19/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/19/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/19/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/19/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/19/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/19/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/19/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/19/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/19/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/19/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/19/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/19/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/19/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/19/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/19/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/19/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/19/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/19/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/19/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/19/2009	CJR	7 8
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/19/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/19/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/19/2009	CJR	1
Ethylbenzene	43 "J"	ug/kg	16	52	1	8260B		10/19/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/19/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/19/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/19/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/19/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/19/2009	CJR	1
Naphthalene	153 "J"	ug/kg	117	373	1	8260B		10/19/2009	CJR	1
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/19/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/19/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/19/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/19/2009	CJR	1
Toluene	180	ug/kg	23	72	1	8260B		10/19/2009	CJR	1

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739A
Sample ID DCD-MW2(1-3)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/19/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/19/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/19/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/19/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/19/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/19/2009	CJR	1
1,2,4-Trimethylbenzene	102	ug/kg	20	63	1	8260B		10/19/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/19/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/19/2009	CJR	1
m&p-Xylene	198	ug/kg	33	104	1	8260B		10/19/2009	CJR	1
o-Xylene	117	ug/kg	15	47	1	8260B		10/19/2009	CJR	1
SUR - 4-Bromofluorobenzene	98	Rec %			1	8260B		10/19/2009	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		10/19/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	100	Rec %			1	8260B		10/19/2009	CJR	1
SUR - Toluene-d8	100	Rec %			1	8260B		10/19/2009	CJR	1

Lab Code 5019739B
Sample ID DCD-MW2(4-6)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.2	%			1	5021		10/14/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/21/2009	10/23/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/21/2009	10/23/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/21/2009	10/23/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/21/2009	10/23/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/21/2009	10/23/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/21/2009	10/23/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/21/2009	10/23/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/21/2009	10/23/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/21/2009	10/23/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/21/2009	10/23/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/21/2009	10/23/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/21/2009	10/23/2009	MJR	1

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739B
Sample ID DCD-MW2(4-6)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/21/2009	10/23/2009	MJR	1
Chrysene	< 12	ug/kg	12	38	1	8270C	10/21/2009	10/23/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/21/2009	10/23/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/21/2009	10/23/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/21/2009	10/23/2009	MJR	1
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C	10/21/2009	10/23/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/21/2009	10/23/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/21/2009	10/23/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/21/2009	10/23/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/21/2009	10/23/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/21/2009	10/23/2009	MJR	2
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/21/2009	10/23/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/21/2009	10/23/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/21/2009	10/23/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/21/2009	10/23/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/21/2009	10/23/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C	10/21/2009	10/23/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/21/2009	10/23/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/21/2009	10/23/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/21/2009	10/23/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/21/2009	10/23/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/21/2009	10/23/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C	10/21/2009	10/23/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/21/2009	10/23/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Methyl naphthalene	< 17	ug/kg	17	55	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/21/2009	10/23/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/21/2009	10/23/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/21/2009	10/23/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/21/2009	10/23/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/21/2009	10/23/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/21/2009	10/23/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/21/2009	10/23/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/21/2009	10/23/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/21/2009	10/23/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/21/2009	10/23/2009	MJR	1
Phenanthrene	< 9	ug/kg	9	30	1	8270C	10/21/2009	10/23/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/21/2009	10/23/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C	10/21/2009	10/23/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/21/2009	10/23/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/21/2009	10/23/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/21/2009	10/23/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/21/2009	10/23/2009	MJR	1

Project Name 3533N. 27TH STREET **Invoice #** E19739
Project #

Lab Code 5019739B
Sample ID DCD-MW2(4-6)
Sample Matrix soil
Sample Date 10/12/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	60	REC %			1	8270C	10/21/2009	10/23/2009	MJR	6
2-Fluorophenol-surrogate	54	REC %			1	8270C	10/21/2009	10/23/2009	MJR	1
Nitrobenzene-d5-surrogate	66	REC %			1	8270C	10/21/2009	10/23/2009	MJR	1
Phenol-d6-surrogate	55	REC %			1	8270C	10/21/2009	10/23/2009	MJR	6
p-Terphenyl-d14-surrogate	102	REC %			1	8270C	10/21/2009	10/23/2009	MJR	1
2,4,6-Tribromophenol-surrogate	63	REC %			1	8270C	10/21/2009	10/23/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/19/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/19/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/19/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/19/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/19/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/19/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/19/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/19/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/19/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/19/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/19/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/19/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/19/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/19/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/19/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/19/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/19/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/19/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/19/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/19/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/19/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/19/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/19/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/19/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/19/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/19/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/19/2009	CJR	7 8
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/19/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/19/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/19/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/19/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/19/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/19/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/19/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/19/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/19/2009	CJR	1
Naphthalene	< 117	ug/kg	117	373	1	8260B		10/19/2009	CJR	1
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/19/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/19/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/19/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/19/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/19/2009	CJR	1

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REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
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October 27,2009

ESC Sample # : L427428-01

Date Received : October 15, 2009
Description :

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-MW2 1-3FT

Project # :

Collected By :
Collection Date : 10/12/09 00:00

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	83.2			%		2540G	10/19/09	1
Mercury	1.6	0.025	0.24	mg/kg		7471	10/16/09	10
Aluminum	14000	1.7	6.0	mg/kg		6010B	10/23/09	1
Antimony	0.85	0.33	1.2	mg/kg	J	6010B	10/23/09	1
Arsenic	1.3	0.32	1.2	mg/kg		6010B	10/23/09	1
Barium	60.	0.050	0.30	mg/kg		6010B	10/23/09	1
Beryllium	0.68	0.015	0.12	mg/kg		6010B	10/23/09	1
Cadmium	0.34	0.040	0.30	mg/kg		6010B	10/23/09	1
Calcium	44000	5.4	30.	mg/kg		6010B	10/23/09	1
Chromium	22.	0.085	0.60	mg/kg		6010B	10/23/09	1
Cobalt	8.3	0.085	0.60	mg/kg		6010B	10/23/09	1
Copper	28.	0.21	1.2	mg/kg		6010B	10/23/09	1
Iron	17000	0.96	6.0	mg/kg		6010B	10/23/09	1
Lead	38.	0.090	0.30	mg/kg		6010B	10/23/09	1
Magnesium	20000	0.90	6.0	mg/kg		6010B	10/23/09	1
Manganese	460	0.055	0.60	mg/kg		6010B	10/23/09	1
Nickel	22.	0.26	1.2	mg/kg		6010B	10/23/09	1
Potassium	3800	7.2	30.	mg/kg		6010B	10/23/09	1
Selenium	5.9	0.32	1.2	mg/kg		6010B	10/23/09	1
Silver	U	0.16	0.60	mg/kg		6010B	10/23/09	1
Sodium	2400	5.8	30.	mg/kg		6010B	10/23/09	1
Thallium	U	0.40	1.2	mg/kg		6010B	10/23/09	1
Vanadium	34.	0.11	0.60	mg/kg		6010B	10/23/09	1
Zinc	55.	0.34	1.8	mg/kg		6010B	10/23/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
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REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 27,2009

ESC Sample # : L427428-02

Date Received : October 15, 2009
Description :

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-MW2 4-6FT

Project # :

Collected By :
Collection Date : 10/12/09 00:00

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	88.8			%		2540G	10/19/09	1
Mercury	0.015	0.0025	0.022	mg/kg	J	7471	10/16/09	1
Aluminum	11000	1.7	5.6	mg/kg		6010B	10/23/09	1
Antimony	0.70	0.33	1.1	mg/kg	J	6010B	10/23/09	1
Arsenic	U	1.6	5.6	mg/kg		6010B	10/25/09	5
Barium	40.	0.050	0.28	mg/kg		6010B	10/23/09	1
Beryllium	0.50	0.015	0.11	mg/kg		6010B	10/23/09	1
Cadmium	0.28	0.040	0.28	mg/kg	J	6010B	10/23/09	1
Calcium	94000	27.	140	mg/kg		6010B	10/25/09	5
Chromium	16.	0.085	0.56	mg/kg		6010B	10/23/09	1
Cobalt	9.4	0.085	0.56	mg/kg		6010B	10/23/09	1
Copper	20.	0.21	1.1	mg/kg		6010B	10/23/09	1
Iron	16000	0.96	5.6	mg/kg		6010B	10/23/09	1
Lead	6.5	0.090	0.28	mg/kg		6010B	10/23/09	1
Magnesium	39000	0.90	5.6	mg/kg		6010B	10/23/09	1
Manganese	430	0.055	0.56	mg/kg		6010B	10/23/09	1
Nickel	22.	0.26	1.1	mg/kg		6010B	10/23/09	1
Potassium	3400	7.2	28.	mg/kg		6010B	10/23/09	1
Selenium	4.2	0.32	1.1	mg/kg		6010B	10/23/09	1
Silver	U	0.16	0.56	mg/kg		6010B	10/23/09	1
Sodium	1800	5.8	28.	mg/kg		6010B	10/23/09	1
Thallium	0.61	0.40	1.1	mg/kg	J	6010B	10/23/09	1
Vanadium	26.	0.11	0.56	mg/kg		6010B	10/23/09	1
Zinc	65.	0.34	1.7	mg/kg		6010B	10/23/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Reported: 10/27/09 09:56 Printed: 10/27/09 09:56

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734D
Sample ID DCD-SB40(14-14.75
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	101	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	105	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734E
Sample ID DCD-SB34(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	79.3	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734E
Sample ID DCD-SB34(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734E
Sample ID DCD-SB34(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	74	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	69	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	77	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	74	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	106	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	65	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	45 "J"	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	243	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734E
Sample ID DCD-SB34(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	340	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	97	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	108	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	99	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734F
Sample ID DCD-SB34(5-7)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.3	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734F
Sample ID DCD-SB34(5-7)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734F
Sample ID DCD-SB34(5-7)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	81	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	75	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	85	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	79	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	127	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	77	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-05

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 34 2-4 FT

Project # :

Collected By :
Collection Date : 10/08/09 08:19

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	79.9			%		2540G	10/15/09	1
Mercury	0.064	0.0025	0.025	mg/kg		7471	10/16/09	1
Aluminum	12000	1.7	6.2	mg/kg		6010B	10/19/09	1
Antimony	U	0.33	1.2	mg/kg		6010B	10/20/09	1
Arsenic	U	0.32	1.2	mg/kg		6010B	10/19/09	1
Barium	72.	0.050	0.31	mg/kg		6010B	10/19/09	1
Beryllium	0.54	0.015	0.12	mg/kg		6010B	10/19/09	1
Cadmium	0.29	0.040	0.31	mg/kg	J	6010B	10/19/09	1
Calcium	20000	5.4	31.	mg/kg		6010B	10/19/09	1
Chromium	18.	0.085	0.62	mg/kg		6010B	10/19/09	1
Cobalt	9.5	0.085	0.62	mg/kg		6010B	10/19/09	1
Copper	16.	0.21	1.2	mg/kg		6010B	10/19/09	1
Iron	15000	0.96	6.2	mg/kg		6010B	10/19/09	1
Lead	22.	0.090	0.31	mg/kg		6010B	10/19/09	1
Magnesium	12000	0.90	6.2	mg/kg		6010B	10/19/09	1
Manganese	510	0.055	0.62	mg/kg		6010B	10/19/09	1
Nickel	16.	0.26	1.2	mg/kg		6010B	10/19/09	1
Potassium	2000	7.2	31.	mg/kg		6010B	10/19/09	1
Selenium	2.1	0.32	1.2	mg/kg		6010B	10/19/09	1
Silver	0.31	0.16	0.62	mg/kg	J	6010B	10/19/09	1
Sodium	2100	5.8	31.	mg/kg		6010B	10/19/09	1
Thallium	2.0	0.40	1.2	mg/kg		6010B	10/22/09	1
Vanadium	30.	0.11	0.62	mg/kg		6010B	10/19/09	1
Zinc	60.	0.34	1.9	mg/kg		6010B	10/19/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-06

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 34 5-7 FT

Project # :

Collected By :
Collection Date : 10/08/09 08:25

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	87.2			%		2540G	10/15/09	1
Mercury	0.010	0.0025	0.023	mg/kg	J	7471	10/16/09	1
Aluminum	7600	1.7	5.7	mg/kg		6010B	10/20/09	1
Antimony	U	0.33	1.1	mg/kg		6010B	10/20/09	1
Arsenic	6.5	0.32	1.1	mg/kg		6010B	10/20/09	1
Barium	30.	0.050	0.29	mg/kg		6010B	10/20/09	1
Beryllium	0.36	0.015	0.11	mg/kg		6010B	10/20/09	1
Cadmium	0.25	0.040	0.29	mg/kg	J	6010B	10/20/09	1
Calcium	110000	27.	140	mg/kg		6010B	10/21/09	5
Chromium	9.3	0.085	0.57	mg/kg		6010B	10/20/09	1
Cobalt	7.4	0.085	0.57	mg/kg		6010B	10/20/09	1
Copper	19.	0.21	1.1	mg/kg		6010B	10/20/09	1
Iron	15000	0.96	5.7	mg/kg		6010B	10/20/09	1
Lead	5.3	0.090	0.29	mg/kg		6010B	10/20/09	1
Magnesium	41000	0.90	5.7	mg/kg		6010B	10/20/09	1
Manganese	490	0.055	0.57	mg/kg		6010B	10/20/09	1
Nickel	16.	0.26	1.1	mg/kg		6010B	10/20/09	1
Potassium	2300	7.2	29.	mg/kg		6010B	10/20/09	1
Selenium	U	1.6	5.7	mg/kg	D	6010B	10/21/09	5
Silver	U	0.16	0.57	mg/kg		6010B	10/20/09	1
Sodium	690	5.8	29.	mg/kg		6010B	10/20/09	1
Thallium	U	0.40	1.1	mg/kg		6010B	10/20/09	1
Vanadium	21.	0.11	0.57	mg/kg		6010B	10/20/09	1
Zinc	68.	0.34	1.7	mg/kg		6010B	10/20/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
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Reported: 10/22/09 16:54 Printed: 10/22/09 16:56

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734B
Sample ID DCD-SB45(15-17)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/16/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/16/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/16/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/16/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/16/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/16/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/16/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/16/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/16/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/16/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/16/2009	CJR	1
SUR - Dibromofluoromethane	101	Rec %			1	8260B		10/16/2009	CJR	1
SUR - 4-Bromofluorobenzene	114	Rec %			1	8260B		10/16/2009	CJR	1
SUR - Toluene-d8	103	Rec %			1	8260B		10/16/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	107	Rec %			1	8260B		10/16/2009	CJR	1

Lab Code 5019734C
Sample ID DCD-SB40(3-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	79.6	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	13.4 "J"	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	52	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	280	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	263	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	340	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	141	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	125	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734C
Sample ID DCD-SB40(3-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	304	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	39 "J"	ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	470	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	127	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	21.8 "J"	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	17.6 "J"	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	182	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	430	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734C
Sample ID DCD-SB40(3-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	88	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	80	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	92	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	86	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	118	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	84	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734C
Sample ID DCD-SB40(3-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	20.5 "J"	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	104	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	111	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	98	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734D
Sample ID DCD-SB40(14-14.75
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	89.6	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734D
Sample ID DCD-SB40(14-14.75
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	15.1 "J"	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	13.2 "J"	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734D
Sample ID DCD-SB40(14-14.75
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	84	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	73	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	87	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	79	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	116	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	61	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734D
Sample ID DCD-SB40(14-14.75
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	101	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	105	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734E
Sample ID DCD-SB34(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	79.3	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

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Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-03

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 40 3-4 FT

Project # :

Collected By :
Collection Date : 10/08/09 07:40

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	80.1			%		2540G	10/15/09	1
Mercury	0.062	0.0025	0.025	mg/kg		7471	10/16/09	1
Aluminum	12000	1.7	6.2	mg/kg		6010B	10/19/09	1
Antimony	U	0.33	1.2	mg/kg		6010B	10/20/09	1
Arsenic	2.9	0.32	1.2	mg/kg		6010B	10/19/09	1
Barium	110	0.050	0.31	mg/kg		6010B	10/19/09	1
Beryllium	0.60	0.015	0.12	mg/kg		6010B	10/19/09	1
Cadmium	0.62	0.040	0.31	mg/kg		6010B	10/19/09	1
Calcium	44000	5.4	31.	mg/kg		6010B	10/19/09	1
Chromium	16.	0.085	0.62	mg/kg		6010B	10/19/09	1
Cobalt	8.0	0.085	0.62	mg/kg		6010B	10/19/09	1
Copper	29.	0.21	1.2	mg/kg		6010B	10/19/09	1
Iron	24000	0.96	6.2	mg/kg		6010B	10/19/09	1
Lead	66.	0.090	0.31	mg/kg		6010B	10/19/09	1
Magnesium	22000	0.90	6.2	mg/kg		6010B	10/19/09	1
Manganese	1100	0.055	0.62	mg/kg		6010B	10/19/09	1
Nickel	19.	0.26	1.2	mg/kg		6010B	10/19/09	1
Potassium	2000	7.2	31.	mg/kg		6010B	10/19/09	1
Selenium	4.7	0.32	1.2	mg/kg		6010B	10/19/09	1
Silver	0.61	0.16	0.62	mg/kg	J	6010B	10/19/09	1
Sodium	500	5.8	31.	mg/kg		6010B	10/19/09	1
Thallium	1.5	0.40	1.2	mg/kg		6010B	10/21/09	1
Vanadium	30.	0.11	0.62	mg/kg		6010B	10/19/09	1
Zinc	110	0.34	1.9	mg/kg		6010B	10/19/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Reported: 10/22/09 16:54 Printed: 10/22/09 16:56

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-04

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 40 14-14.75 FT

Project # :

Collected By :
Collection Date : 10/08/09 07:55

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	90.9			%		2540G	10/15/09	1
Mercury	0.0097	0.0025	0.022	mg/kg	J	7471	10/16/09	1
Aluminum	6400	1.7	5.5	mg/kg		6010B	10/19/09	1
Antimony	U	0.33	1.1	mg/kg		6010B	10/20/09	1
Arsenic	U	1.6	5.5	mg/kg		6010B	10/19/09	5
Barium	20.	0.050	0.28	mg/kg		6010B	10/19/09	1
Beryllium	0.36	0.015	0.11	mg/kg		6010B	10/19/09	1
Cadmium	0.20	0.040	0.28	mg/kg	J	6010B	10/19/09	1
Calcium	88000	27.	140	mg/kg		6010B	10/19/09	5
Chromium	10.	0.085	0.55	mg/kg		6010B	10/19/09	1
Cobalt	6.8	0.085	0.55	mg/kg		6010B	10/19/09	1
Copper	15.	0.21	1.1	mg/kg		6010B	10/19/09	1
Iron	12000	0.96	5.5	mg/kg		6010B	10/19/09	1
Lead	6.6	0.090	0.28	mg/kg		6010B	10/19/09	1
Magnesium	31000	0.90	5.5	mg/kg		6010B	10/19/09	1
Manganese	280	0.055	0.55	mg/kg		6010B	10/19/09	1
Nickel	16.	0.26	1.1	mg/kg		6010B	10/19/09	1
Potassium	1900	7.2	28.	mg/kg		6010B	10/19/09	1
Selenium	0.46	0.32	1.1	mg/kg	J	6010B	10/19/09	1
Silver	U	0.16	0.55	mg/kg		6010B	10/19/09	1
Sodium	440	5.8	28.	mg/kg		6010B	10/19/09	1
Thallium	3.3	2.0	5.5	mg/kg	J	6010B	10/22/09	5
Vanadium	15.	0.11	0.55	mg/kg		6010B	10/19/09	1
Zinc	30.	0.34	1.6	mg/kg		6010B	10/19/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Reported: 10/22/09 16:54 Printed: 10/22/09 16:56

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734F
Sample ID DCD-SB34(5-7)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	660	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	100	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	102	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	100	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734G
Sample ID DCD-SB41(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.0	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	34 "J"	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	135	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	122 J	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	183 J	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	72	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	72	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734G
Sample ID DCD-SB41(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result		Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15		ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	154		ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13		ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44		ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	22 "J"		ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	20.1 "J"		ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18		ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16		ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16		ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12		ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17		ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22		ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12		ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13		ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47		ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49		ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11		ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15		ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9		ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21		ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	214	J	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23		ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19		ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21		ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6		ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12		ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	65		ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13		ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	66 "J"		ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	72		ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24		ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	43		ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13		ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27		ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23		ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12		ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15		ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24		ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46		ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22		ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9		ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	133	J	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9		ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	181	J	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18		ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22		ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26		ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26		ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20		ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734G
Sample ID DCD-SB41(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	69	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	58	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	67	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	63	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	98	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	65	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	24 "J"	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734G
Sample ID DCD-SB41(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	62 "J"	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	26.9 "J"	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	18 "J"	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	101	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	100	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734H
Sample ID DCD-SB41(9-10)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.5	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C	10/20/2009	10/22/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734H
Sample ID DCD-SB41(9-10)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Chrysene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C	10/20/2009	10/22/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C	10/20/2009	10/22/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C	10/20/2009	10/22/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C	10/20/2009	10/22/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C	10/20/2009	10/22/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C	10/20/2009	10/22/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C	10/20/2009	10/22/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C	10/20/2009	10/22/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl naphthalene	< 17	ug/kg	17	55	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C	10/20/2009	10/22/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C	10/20/2009	10/22/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C	10/20/2009	10/22/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	8
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C	10/20/2009	10/22/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenanthrene	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C	10/20/2009	10/22/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C	10/20/2009	10/22/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C	10/20/2009	10/22/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C	10/20/2009	10/22/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734H
Sample ID DCD-SB41(9-10)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2-Fluorobiphenyl-surrogate	80	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2-Fluorophenol-surrogate	69	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Nitrobenzene-d5-surrogate	80	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
Phenol-d6-surrogate	74	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
p-Terphenyl-d14-surrogate	119	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
2,4,6-Tribromophenol-surrogate	74	REC %			1	8270C	10/20/2009	10/22/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/18/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/18/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/18/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/18/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/18/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/18/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/18/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/18/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/18/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/18/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/18/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/18/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/18/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/18/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/18/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/18/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/18/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/18/2009	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/18/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/18/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/18/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/18/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/18/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/18/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/18/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1
Naphthalene	< 117 UJ	ug/kg	117	373	1	8260B		10/18/2009	CJR	2
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/18/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/18/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/18/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/18/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/18/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19734
Project #

Lab Code 5019734H
Sample ID DCD-SB41(9-10)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/18/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/18/2009	CJR	1
1,1,1-Trichloroethane	54 "J"	ug/kg	27	84	1	8260B		10/18/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/18/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/18/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/18/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/18/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/18/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/18/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/18/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/18/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	93	Rec %			1	8260B		10/18/2009	CJR	1
SUR - 4-Bromofluorobenzene	109	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		10/18/2009	CJR	1
SUR - Toluene-d8	98	Rec %			1	8260B		10/18/2009	CJR	1

Lab Code 5019734I
Sample ID DCD-SB31(2-4)
Sample Matrix soil
Sample Date 10/8/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.3	%			1	5021		10/12/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
PCB'S										
PCB-1016	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1221	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1232	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1242	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1248	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1254	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1260	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C	10/20/2009	10/22/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C	10/20/2009	10/22/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C	10/20/2009	10/22/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C	10/20/2009	10/22/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C	10/20/2009	10/22/2009	MJR	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-07

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 41 2-4 FT

Project # :

Collected By :
Collection Date : 10/08/09 08:25

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	85.1			%		2540G	10/15/09	1
Mercury	0.034	0.0025	0.024	mg/kg		7471	10/16/09	1
Aluminum	14000	1.7	5.9	mg/kg		6010B	10/20/09	1
Antimony	U	0.33	1.2	mg/kg		6010B	10/20/09	1
Arsenic	7.9	0.32	1.2	mg/kg		6010B	10/20/09	1
Barium	68.	0.050	0.29	mg/kg		6010B	10/20/09	1
Beryllium	0.68	0.015	0.12	mg/kg		6010B	10/20/09	1
Cadmium	0.47	0.040	0.29	mg/kg		6010B	10/20/09	1
Calcium	34000	5.4	29.	mg/kg		6010B	10/20/09	1
Chromium	19.	0.085	0.59	mg/kg		6010B	10/20/09	1
Cobalt	9.6	0.085	0.59	mg/kg		6010B	10/20/09	1
Copper	28.	0.21	1.2	mg/kg		6010B	10/20/09	1
Iron	22000	0.96	5.9	mg/kg		6010B	10/20/09	1
Lead	55.	0.090	0.29	mg/kg		6010B	10/20/09	1
Magnesium	20000	0.90	5.9	mg/kg		6010B	10/20/09	1
Manganese	660	0.055	0.59	mg/kg		6010B	10/20/09	1
Nickel	24.	0.26	1.2	mg/kg		6010B	10/20/09	1
Potassium	3000	7.2	29.	mg/kg		6010B	10/20/09	1
Selenium	U	1.6	5.9	mg/kg	Ø	6010B	10/21/09	5
Silver	U	0.16	0.59	mg/kg		6010B	10/20/09	1
Sodium	990	5.8	29.	mg/kg		6010B	10/20/09	1
Thallium	U	2.0	5.9	mg/kg	Ø	6010B	10/21/09	5
Vanadium	36.	0.11	0.59	mg/kg		6010B	10/20/09	1
Zinc	190	0.34	1.8	mg/kg		6010B	10/20/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Reported: 10/22/09 16:54 Printed: 10/22/09 16:56

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

October 22,2009

ESC Sample # : L426842-08

Date Received : October 13, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 41 9-10 FT

Project # :

Collected By :
Collection Date : 10/08/09 08:35

Parameter	Dry Result	MDL	RDL	Units	Q	Method	Date	Dil.
Total Solids	89.8			%		2540G	10/15/09	1
Mercury	0.0080	0.0025	0.022	mg/kg	J	7471	10/16/09	1
Aluminum	5300	1.7	5.6	mg/kg		6010B	10/20/09	1
Antimony	U	0.33	1.1	mg/kg		6010B	10/20/09	1
Arsenic	8.4	0.32	1.1	mg/kg		6010B	10/20/09	1
Barium	22.	0.050	0.28	mg/kg		6010B	10/20/09	1
Beryllium	0.24	0.015	0.11	mg/kg		6010B	10/20/09	1
Cadmium	0.33	0.040	0.28	mg/kg		6010B	10/20/09	1
Calcium	160000	27.	140	mg/kg		6010B	10/21/09	5
Chromium	6.3	0.085	0.56	mg/kg		6010B	10/20/09	1
Cobalt	6.1	0.085	0.56	mg/kg		6010B	10/20/09	1
Copper	13.	0.21	1.1	mg/kg		6010B	10/20/09	1
Iron	13000	0.96	5.6	mg/kg		6010B	10/20/09	1
Lead	7.8	0.090	0.28	mg/kg		6010B	10/20/09	1
Magnesium	73000	4.5	28.	mg/kg		6010B	10/21/09	5
Manganese	800	0.055	0.56	mg/kg		6010B	10/20/09	1
Nickel	14.	0.26	1.1	mg/kg		6010B	10/20/09	1
Potassium	1600	7.2	28.	mg/kg		6010B	10/20/09	1
Selenium	U	1.6	5.6	mg/kg	~~D~~	6010B	10/21/09	5
Silver	U	0.16	0.56	mg/kg		6010B	10/20/09	1
Sodium	530	5.8	28.	mg/kg		6010B	10/20/09	1
Thallium	U	0.40	1.1	mg/kg		6010B	10/20/09	1
Vanadium	16.	0.11	0.56	mg/kg		6010B	10/20/09	1
Zinc	120	0.34	1.7	mg/kg		6010B	10/20/09	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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Reported: 10/22/09 16:54 Printed: 10/22/09 16:56

Project Name 3533 N. 27TH STREET **Invoice #** E20432
Project # 60135115

Lab Code 520432DD
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
m&p-Xylene	< 1.6	ug/l	1.6	5.1	1	8260B		3/23/2010	CJR	1
o-Xylene	< 0.53	ug/l	0.53	1.7	1	8260B		3/23/2010	CJR	1
SUR - Toluene-d8	108	REC %			1	8260B		3/23/2010	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		3/23/2010	CJR	1
SUR - 1,2-Dichloroethane-d4	94	REC %			1	8260B		3/23/2010	CJR	1
SUR - 4-Bromofluorobenzene	108	REC %			1	8260B		3/23/2010	CJR	1

Lab Code 520432EE
Sample ID DCD-SB245(2-4)
Sample Matrix soil
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.2	%			1	5021		3/22/2010	MJR	1
Inorganic										
Metals										
Lead, Total	ESC	mg/kg	0.09	0.25	1	6010B		3/22/2010	ESC	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	3.31	10.5	1	DRO95		3/28/2010	MJR	1
PAH SIM										
Acenaphthene	< 15.2	ug/kg	15.2	48.3	1	M8270	3/27/2010	3/28/2010	MJR	1
Acenaphthylene	18.9	ug/kg	5.1	16.2	1	M8270	3/27/2010	3/28/2010	MJR	1
Anthracene	< 6.4	ug/kg	6.4	20.2	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(a)anthracene	14.4 "J"	ug/kg	12.9	41	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(a)pyrene	< 4.7	ug/kg	4.7	15	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(b)fluoranthene	< 6.5	ug/kg	6.5	20.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(g,h,i)perylene	< 7.7	ug/kg	7.7	24.5	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(k)fluoranthene	< 9.8	ug/kg	9.8	31.1	1	M8270	3/27/2010	3/28/2010	MJR	1
Chrysene	< 8.9	ug/kg	8.9	28.4	1	M8270	3/27/2010	3/28/2010	MJR	1
Dibenzo(a,h)anthracene	< 5.5	ug/kg	5.5	17.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Fluoranthene	< 9.2	ug/kg	9.2	29.4	1	M8270	3/27/2010	3/28/2010	MJR	1
Fluorene	< 5.6	ug/kg	5.6	18	1	M8270	3/27/2010	3/28/2010	MJR	1
Indeno(1,2,3-cd)pyrene	< 7.8	ug/kg	7.8	24.9	1	M8270	3/27/2010	3/28/2010	MJR	1
1-Methyl naphthalene	< 15	ug/kg	15	49	1	M8270	3/27/2010	3/28/2010	MJR	1
2-Methyl naphthalene	< 9.7	ug/kg	9.7	30.7	1	M8270	3/27/2010	3/28/2010	MJR	1
Naphthalene	< 16.2	ug/kg	16.2	51.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Phenanthrene	< 10.6	ug/kg	10.6	33.9	1	M8270	3/27/2010	3/28/2010	MJR	1
Pyrene	< 7.7	ug/kg	7.7	24.4	1	M8270	3/27/2010	3/28/2010	MJR	1
VOC's										
Benzene	< 35	ug/kg	35	110	1	8260B		3/26/2010	CJR	1
Bromobenzene	< 55	ug/kg	55	174	1	8260B		3/26/2010	CJR	1
Bromodichloromethane	< 31	ug/kg	31	100	1	8260B		3/26/2010	CJR	1
Bromoform	< 18	ug/kg	18	59	1	8260B		3/26/2010	CJR	1
tert-Butylbenzene	< 41	ug/kg	41	130	1	8260B		3/26/2010	CJR	1
sec-Butylbenzene	< 35	ug/kg	35	110	1	8260B		3/26/2010	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E20432
Project # 60135115

Lab Code 520432EE
Sample ID DCD-SB245(2-4)
Sample Matrix soil
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
n-Butylbenzene	< 46	ug/kg	46	145	1	8260B		3/26/2010	CJR	1
Carbon Tetrachloride	< 28	ug/kg	28	91	1	8260B		3/26/2010	CJR	1
Chlorobenzene	< 40	ug/kg	40	126	1	8260B		3/26/2010	CJR	1
Chloroethane	< 80	ug/kg	80	255	1	8260B		3/26/2010	CJR	1
Chloroform	< 39	ug/kg	39	123	1	8260B		3/26/2010	CJR	1
Chloromethane	< 43	ug/kg	43	137	1	8260B		3/26/2010	CJR	1
2-Chlorotoluene	< 46	ug/kg	46	146	1	8260B		3/26/2010	CJR	1
4-Chlorotoluene	< 36	ug/kg	36	115	1	8260B		3/26/2010	CJR	1
1,2-Dibromo-3-chloropropane	< 67	ug/kg	67	213	1	8260B		3/26/2010	CJR	1
Dibromochloromethane	< 42	ug/kg	42	133	1	8260B		3/26/2010	CJR	1
1,4-Dichlorobenzene	< 20	ug/kg	20	64	1	8260B		3/26/2010	CJR	1
1,3-Dichlorobenzene	< 37	ug/kg	37	117	1	8260B		3/26/2010	CJR	1
1,2-Dichlorobenzene	< 41	ug/kg	41	131	1	8260B		3/26/2010	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
1,2-Dichloroethane	< 45	ug/kg	45	142	1	8260B		3/26/2010	CJR	1
1,1-Dichloroethane	< 45	ug/kg	45	142	1	8260B		3/26/2010	CJR	1
1,1-Dichloroethene	< 44	ug/kg	44	140	1	8260B		3/26/2010	CJR	1
cis-1,2-Dichloroethene	< 44	ug/kg	44	139	1	8260B		3/26/2010	CJR	1
trans-1,2-Dichloroethene	< 43	ug/kg	43	138	1	8260B		3/26/2010	CJR	1
1,2-Dichloropropane	< 38	ug/kg	38	122	1	8260B		3/26/2010	CJR	1
2,2-Dichloropropane	< 87	ug/kg	87	276	1	8260B		3/26/2010	CJR	1
1,3-Dichloropropane	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
Di-isopropyl ether	< 31	ug/kg	31	97	1	8260B		3/26/2010	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	62	1	8260B		3/26/2010	CJR	1
Ethylbenzene	< 56	ug/kg	56	178	1	8260B		3/26/2010	CJR	1
Hexachlorobutadiene	< 79	ug/kg	79	251	1	8260B		3/26/2010	CJR	1
Isopropylbenzene	< 39	ug/kg	39	123	1	8260B		3/26/2010	CJR	1
p-Isopropyltoluene	< 43	ug/kg	43	137	1	8260B		3/26/2010	CJR	1
Methylene chloride	< 52	ug/kg	52	165	1	8260B		3/26/2010	CJR	1
Methyl tert-butyl ether (MTBE)	< 27	ug/kg	27	87	1	8260B		3/26/2010	CJR	1
Naphthalene	< 53	ug/kg	53	167	1	8260B		3/26/2010	CJR	1
n-Propylbenzene	< 44	ug/kg	44	140	1	8260B		3/26/2010	CJR	1
1,1,2,2-Tetrachloroethane	< 29	ug/kg	29	91	1	8260B		3/26/2010	CJR	1
1,1,1,2-Tetrachloroethane	< 29	ug/kg	29	92	1	8260B		3/26/2010	CJR	1
Tetrachloroethene	< 53	ug/kg	53	170	1	8260B		3/26/2010	CJR	1
Toluene	< 51	ug/kg	51	164	1	8260B		3/26/2010	CJR	1
1,2,4-Trichlorobenzene	< 48	ug/kg	48	153	1	8260B		3/26/2010	CJR	1
1,2,3-Trichlorobenzene	< 58	ug/kg	58	186	1	8260B		3/26/2010	CJR	1
1,1,1-Trichloroethane	< 28	ug/kg	28	90	1	8260B		3/26/2010	CJR	1
1,1,2-Trichloroethane	< 36	ug/kg	36	115	1	8260B		3/26/2010	CJR	1
Trichloroethene (TCE)	< 50	ug/kg	50	158	1	8260B		3/26/2010	CJR	1
Trichlorofluoromethane	< 35	ug/kg	35	113	1	8260B		3/26/2010	CJR	1
1,2,4-Trimethylbenzene	< 73	ug/kg	73	232	1	8260B		3/26/2010	CJR	1
1,3,5-Trimethylbenzene	< 57	ug/kg	57	182	1	8260B		3/26/2010	CJR	1
Vinyl Chloride	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
m&p-Xylene	< 73	ug/kg	73	231	1	8260B		3/26/2010	CJR	1
o-Xylene	< 51	ug/kg	51	162	1	8260B		3/26/2010	CJR	1
SUR - Toluene-d8	100	Rec %			1	8260B		3/26/2010	CJR	1
SUR - Dibromofluoromethane	96	Rec %			1	8260B		3/26/2010	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E20432
Project # 60135115

Lab Code 520432EE
Sample ID DCD-SB245(2-4)
Sample Matrix soil
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
SUR - 1,2-Dichloroethane-d4	107	Rec %			1	8260B		3/26/2010	CJR	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		3/26/2010	CJR	1

Lab Code 520432FF
Sample ID DCD-SB245(4-6)
Sample Matrix soil
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.6	%			1	5021		3/22/2010	MJR	1
Inorganic										
Metals										
Lead, Total	ESC	mg/kg	0.09	0.25	1	6010B		3/22/2010	ESC	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	3.31	10.5	1	DRO95		3/28/2010	MJR	1
PAH SIM										
Acenaphthene	< 15.2	ug/kg	15.2	48.3	1	M8270	3/27/2010	3/28/2010	MJR	1
Acenaphthylene	8.8 "J"	ug/kg	5.1	16.2	1	M8270	3/27/2010	3/28/2010	MJR	1
Anthracene	< 6.4	ug/kg	6.4	20.2	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(a)anthracene	< 12.9	ug/kg	12.9	41	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(a)pyrene	< 4.7	ug/kg	4.7	15	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(b)fluoranthene	< 6.5	ug/kg	6.5	20.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(g,h,i)perylene	< 7.7	ug/kg	7.7	24.5	1	M8270	3/27/2010	3/28/2010	MJR	1
Benzo(k)fluoranthene	< 9.8	ug/kg	9.8	31.1	1	M8270	3/27/2010	3/28/2010	MJR	1
Chrysene	< 8.9	ug/kg	8.9	28.4	1	M8270	3/27/2010	3/28/2010	MJR	1
Dibenzo(a,h)anthracene	< 5.5	ug/kg	5.5	17.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Fluoranthene	< 9.2	ug/kg	9.2	29.4	1	M8270	3/27/2010	3/28/2010	MJR	1
Fluorene	< 5.6	ug/kg	5.6	18	1	M8270	3/27/2010	3/28/2010	MJR	1
Indeno(1,2,3-cd)pyrene	< 7.8	ug/kg	7.8	24.9	1	M8270	3/27/2010	3/28/2010	MJR	1
1-Methyl naphthalene	< 15	ug/kg	15	49	1	M8270	3/27/2010	3/28/2010	MJR	1
2-Methyl naphthalene	< 9.7	ug/kg	9.7	30.7	1	M8270	3/27/2010	3/28/2010	MJR	1
Naphthalene	< 16.2	ug/kg	16.2	51.6	1	M8270	3/27/2010	3/28/2010	MJR	1
Phenanthrene	< 10.6	ug/kg	10.6	33.9	1	M8270	3/27/2010	3/28/2010	MJR	1
Pyrene	< 7.7	ug/kg	7.7	24.4	1	M8270	3/27/2010	3/28/2010	MJR	1
VOC's										
Benzene	< 35	ug/kg	35	110	1	8260B		3/26/2010	CJR	1
Bromobenzene	< 55	ug/kg	55	174	1	8260B		3/26/2010	CJR	1
Bromodichloromethane	< 31	ug/kg	31	100	1	8260B		3/26/2010	CJR	1
Bromoform	< 18	ug/kg	18	59	1	8260B		3/26/2010	CJR	1
tert-Butylbenzene	< 41	ug/kg	41	130	1	8260B		3/26/2010	CJR	1
sec-Butylbenzene	< 35	ug/kg	35	110	1	8260B		3/26/2010	CJR	1
n-Butylbenzene	< 46	ug/kg	46	145	1	8260B		3/26/2010	CJR	1
Carbon Tetrachloride	< 28	ug/kg	28	91	1	8260B		3/26/2010	CJR	1
Chlorobenzene	< 40	ug/kg	40	126	1	8260B		3/26/2010	CJR	1
Chloroethane	< 80	ug/kg	80	255	1	8260B		3/26/2010	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E20432
Project # 60135115

Lab Code 520432FF
Sample ID DCD-SB245(4-6)
Sample Matrix soil
Sample Date 3/17/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Chloroform	< 39	ug/kg	39	123	1	8260B		3/26/2010	CJR	1
Chloromethane	< 43	ug/kg	43	137	1	8260B		3/26/2010	CJR	1
2-Chlorotoluene	< 46	ug/kg	46	146	1	8260B		3/26/2010	CJR	1
4-Chlorotoluene	< 36	ug/kg	36	115	1	8260B		3/26/2010	CJR	1
1,2-Dibromo-3-chloropropane	< 67	ug/kg	67	213	1	8260B		3/26/2010	CJR	1
Dibromochloromethane	< 42	ug/kg	42	133	1	8260B		3/26/2010	CJR	1
1,4-Dichlorobenzene	< 20	ug/kg	20	64	1	8260B		3/26/2010	CJR	1
1,3-Dichlorobenzene	< 37	ug/kg	37	117	1	8260B		3/26/2010	CJR	1
1,2-Dichlorobenzene	< 41	ug/kg	41	131	1	8260B		3/26/2010	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
1,2-Dichloroethane	< 45	ug/kg	45	142	1	8260B		3/26/2010	CJR	1
1,1-Dichloroethane	< 45	ug/kg	45	142	1	8260B		3/26/2010	CJR	1
1,1-Dichloroethene	< 44	ug/kg	44	140	1	8260B		3/26/2010	CJR	1
cis-1,2-Dichloroethene	< 44	ug/kg	44	139	1	8260B		3/26/2010	CJR	1
trans-1,2-Dichloroethene	< 43	ug/kg	43	138	1	8260B		3/26/2010	CJR	1
1,2-Dichloropropane	< 38	ug/kg	38	122	1	8260B		3/26/2010	CJR	1
2,2-Dichloropropane	< 87	ug/kg	87	276	1	8260B		3/26/2010	CJR	1
1,3-Dichloropropane	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
Di-isopropyl ether	< 31	ug/kg	31	97	1	8260B		3/26/2010	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	62	1	8260B		3/26/2010	CJR	1
Ethylbenzene	< 56	ug/kg	56	178	1	8260B		3/26/2010	CJR	1
Hexachlorobutadiene	< 79	ug/kg	79	251	1	8260B		3/26/2010	CJR	1
Isopropylbenzene	< 39	ug/kg	39	123	1	8260B		3/26/2010	CJR	1
p-Isopropyltoluene	< 43	ug/kg	43	137	1	8260B		3/26/2010	CJR	1
Methylene chloride	< 52	ug/kg	52	165	1	8260B		3/26/2010	CJR	1
Methyl tert-butyl ether (MTBE)	< 27	ug/kg	27	87	1	8260B		3/26/2010	CJR	1
Naphthalene	< 53	ug/kg	53	167	1	8260B		3/26/2010	CJR	1
n-Propylbenzene	< 44	ug/kg	44	140	1	8260B		3/26/2010	CJR	1
1,1,2,2-Tetrachloroethane	< 29	ug/kg	29	91	1	8260B		3/26/2010	CJR	1
1,1,1,2-Tetrachloroethane	< 29	ug/kg	29	92	1	8260B		3/26/2010	CJR	1
Tetrachloroethene	< 53	ug/kg	53	170	1	8260B		3/26/2010	CJR	1
Toluene	< 51	ug/kg	51	164	1	8260B		3/26/2010	CJR	1
1,2,4-Trichlorobenzene	< 48	ug/kg	48	153	1	8260B		3/26/2010	CJR	1
1,2,3-Trichlorobenzene	< 58	ug/kg	58	186	1	8260B		3/26/2010	CJR	1
1,1,1-Trichloroethane	< 28	ug/kg	28	90	1	8260B		3/26/2010	CJR	1
1,1,2-Trichloroethane	< 36	ug/kg	36	115	1	8260B		3/26/2010	CJR	1
Trichloroethene (TCE)	< 50	ug/kg	50	158	1	8260B		3/26/2010	CJR	1
Trichlorofluoromethane	< 35	ug/kg	35	113	1	8260B		3/26/2010	CJR	1
1,2,4-Trimethylbenzene	< 73	ug/kg	73	232	1	8260B		3/26/2010	CJR	1
1,3,5-Trimethylbenzene	< 57	ug/kg	57	182	1	8260B		3/26/2010	CJR	1
Vinyl Chloride	< 33	ug/kg	33	104	1	8260B		3/26/2010	CJR	1
m&p-Xylene	< 73	ug/kg	73	231	1	8260B		3/26/2010	CJR	1
o-Xylene	< 51	ug/kg	51	162	1	8260B		3/26/2010	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		3/26/2010	CJR	1
SUR - Toluene-d8	92	Rec %			1	8260B		3/26/2010	CJR	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		3/26/2010	CJR	1
SUR - 1,2-Dichloroethane-d4	112	Rec %			1	8260B		3/26/2010	CJR	1

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Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

March 28,2010

ESC Sample # : L450330-30

Date Received : March 20, 2010
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 245 2-4 FT

Project # : PHASE 2

Collected By :
Collection Date : 03/17/10 00:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	88.7			%		2540G	03/24/10	1
Lead	11.	0.090	0.28	mg/kg		6010B	03/25/10	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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The reported analytical results relate only to the sample submitted
Reported: 03/28/10 10:55 Printed: 03/28/10 10:56

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

March 28,2010

ESC Sample # : L450330-31

Date Received : March 20, 2010
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-SB 245 4-6 FT

Project # : PHASE 2

Collected By :
Collection Date : 03/17/10 00:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	88.9			%		2540G	03/24/10	1
Lead	12.	0.090	0.28	mg/kg		6010B	03/25/10	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD
RDL = Reported Detection Limit = LOQ = PQL = EQL
Note:
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The reported analytical results relate only to the sample submitted
Reported: 03/28/10 10:55 Printed: 03/28/10 10:56

Project Name 3533 N. 27TH STREET **Invoice #** E19961
Project #

Lab Code 5019961L
Sample ID DCD-MW1
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.46	ug/l	0.46	1.4	1	8260B		11/23/2009	CJR	1
1,1,2-Trichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/23/2009	CJR	1
Trichloroethene (TCE)	< 0.39	ug/l	0.39	1.2	1	8260B		11/23/2009	CJR	1
Trichlorofluoromethane	< 0.72	ug/l	0.72	2.3	1	8260B		11/23/2009	CJR	1
1,2,4-Trimethylbenzene	< 1.1	ug/l	1.1	3.5	1	8260B		11/23/2009	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.9	1	8260B		11/23/2009	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.64	1	8260B		11/23/2009	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.1	1	8260B		11/23/2009	CJR	1
o-Xylene	< 0.53	ug/l	0.53	1.7	1	8260B		11/23/2009	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		11/23/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		11/23/2009	CJR	1
SUR - 4-Bromofluorobenzene	106	REC %			1	8260B		11/23/2009	CJR	1
SUR - Dibromofluoromethane	100	REC %			1	8260B		11/23/2009	CJR	1

Lab Code 5019961M
Sample ID DCD-MW2
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Cadmium, Dissolved	ESC	ug/l	0.15	0.5	1	6020		11/19/2009	ESC	1
Lead, Dissolved	ESC	ug/l	0.13	1	1	6020		11/19/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 0.4	ug/l	0.4	1.26	1	8270C	11/19/2009	11/20/2009	MJR	1
Acenaphthene	< 0.24	ug/l	0.24	0.76	1	8270C	11/19/2009	11/20/2009	MJR	1
Acenaphthylene	< 0.23	ug/l	0.23	0.73	1	8270C	11/19/2009	11/20/2009	MJR	1
Anthracene	< 0.35	ug/l	0.35	1.1	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(a)anthracene	< 1.01	ug/l	1.01	3.21	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(a)pyrene	< 0.35	ug/l	0.35	1.11	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(b)fluoranthene	< 0.31	ug/l	0.31	0.98	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(g,h,i)perylene	< 0.47	ug/l	0.47	1.5	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(k)fluoranthene	< 0.52	ug/l	0.52	1.66	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzyl Alcohol	< 0.38	ug/l	0.38	1.21	1	8270C	11/19/2009	11/20/2009	MJR	1
Butyl benzyl phthalate	< 0.3	ug/l	0.3	0.96	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroethoxy)methane	< 0.31	ug/l	0.31	0.98	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroethyl)ether	< 0.61	ug/l	0.61	1.94	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 0.63	ug/l	0.63	1.99	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 7.2	ug/l	7.2	23	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Bromophenylphenyl ether	< 0.45	ug/l	0.45	1.44	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Chloro-3-methylphenol	< 0.51	ug/l	0.51	1.62	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Chloronaphthalene	< 0.28	ug/l	0.28	0.9	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Chlorophenol	< 0.33	ug/l	0.33	1.06	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Chlorophenylphenyl ether	< 0.56	ug/l	0.56	1.78	1	8270C	11/19/2009	11/20/2009	MJR	1
Chrysene	< 0.32	ug/l	0.32	1.02	1	8270C	11/19/2009	11/20/2009	MJR	1
o-Cresol	< 0.78	ug/l	0.78	2.47	1	8270C	11/19/2009	11/20/2009	MJR	1
m & p-Cresol	< 2.48	ug/l	2.48	7.89	1	8270C	11/19/2009	11/20/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19961
Project #

Lab Code 5019961M
Sample ID DCD-MW2
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Dibenzofuran	< 0.28	ug/l	0.28	0.9	1	8270C	11/19/2009	11/20/2009	MJR	1
Dibenzo(a,h)anthracene	< 0.3	ug/l	0.3	0.94	1	8270C	11/19/2009	11/20/2009	MJR	1
1,4-Dichlorobenzene	< 0.47	ug/l	0.47	1.49	1	8270C	11/19/2009	11/20/2009	MJR	1
1,3-Dichlorobenzene	< 0.37	ug/l	0.37	1.19	1	8270C	11/19/2009	11/20/2009	MJR	1
1,2-Dichlorobenzene	< 0.54	ug/l	0.54	1.73	1	8270C	11/19/2009	11/20/2009	MJR	1
3,3'-Dichlorobenzidine	< 1.47	ug/l	1.47	4.69	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4-Dichlorophenol	< 0.38	ug/l	0.38	1.22	1	8270C	11/19/2009	11/20/2009	MJR	1
Diethyl phthalate	< 0.28	ug/l	0.28	0.88	1	8270C	11/19/2009	11/20/2009	MJR	1
Dimethyl phthalate	< 0.29	ug/l	0.29	0.92	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4-Dimethylphenol	< 0.35	ug/l	0.35	1.1	1	8270C	11/19/2009	11/20/2009	MJR	1
Di-n-butyl phthalate	< 0.54	ug/l	0.54	1.73	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4-Dinitrophenol	< 7.84	ug/l	7.84	24.9	1	8270C	11/19/2009	11/20/2009	MJR	3 4 8
2,6-Dinitrotoluene	< 0.48	ug/l	0.48	1.51	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4-Dinitrotoluene	< 0.3	ug/l	0.3	0.94	1	8270C	11/19/2009	11/20/2009	MJR	4 8
Di-n-octyl phthalate	< 0.24	ug/l	0.24	0.75	1	8270C	11/19/2009	11/20/2009	MJR	1
Diphenylamine	< 0.24	ug/l	0.24	0.75	1	8270C	11/19/2009	11/20/2009	MJR	1
Fluoranthene	< 0.25	ug/l	0.25	0.8	1	8270C	11/19/2009	11/20/2009	MJR	1
Fluorene	< 0.39	ug/l	0.39	1.24	1	8270C	11/19/2009	11/20/2009	MJR	1
Hexachlorobenzene	< 0.43	ug/l	0.43	1.35	1	8270C	11/19/2009	11/20/2009	MJR	1
Hexachlorobutadiene	< 0.57	ug/l	0.57	1.82	1	8270C	11/19/2009	11/20/2009	MJR	1
Hexachlorocyclopentadiene	< 0.21	ug/l	0.21	0.68	1	8270C	11/19/2009	11/20/2009	MJR	1
Hexachloroethane	< 0.47	ug/l	0.47	1.5	1	8270C	11/19/2009	11/20/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 0.26	ug/l	0.26	0.84	1	8270C	11/19/2009	11/20/2009	MJR	1
Isophorone	< 0.34	ug/l	0.34	1.09	1	8270C	11/19/2009	11/20/2009	MJR	1
1-Methyl naphthalene	< 0.55	ug/l	0.55	1.76	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Methyl naphthalene	< 0.36	ug/l	0.36	1.14	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 1.35	ug/l	1.35	4.29	1	8270C	11/19/2009	11/20/2009	MJR	1
Naphthalene	< 0.34	ug/l	0.34	1.07	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Nitroaniline	< 0.55	ug/l	0.55	1.76	1	8270C	11/19/2009	11/20/2009	MJR	1
3-Nitroaniline	< 0.64	ug/l	0.64	2.03	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Nitroaniline	< 2.19	ug/l	2.19	6.98	1	8270C	11/19/2009	11/20/2009	MJR	1
Nitrobenzene	< 0.23	ug/l	0.23	0.73	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Nitrophenol	< 0.36	ug/l	0.36	1.13	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Nitrophenol	< 0.29	ug/l	0.29	0.92	1	8270C	11/19/2009	11/20/2009	MJR	8
n-Nitrosodimethylamine	< 1.31	ug/l	1.31	4.18	1	8270C	11/19/2009	11/20/2009	MJR	1
n-Nitrosodi-n-propylamine	< 0.42	ug/l	0.42	1.33	1	8270C	11/19/2009	11/20/2009	MJR	1
Pentachlorophenol (PCP)	< 0.82	ug/l	0.82	2.6	1	8270C	11/19/2009	11/20/2009	MJR	3 8
Phenanthrene	< 1.55	ug/l	1.55	4.92	1	8270C	11/19/2009	11/20/2009	MJR	1
Phenol	< 1.07	ug/l	1.07	3.4	1	8270C	11/19/2009	11/20/2009	MJR	1
Pyrene	< 0.33	ug/l	0.33	1.05	1	8270C	11/19/2009	11/20/2009	MJR	1
Pyridine	< 0.25	ug/l	0.25	0.8	1	8270C	11/19/2009	11/20/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 0.29	ug/l	0.29	0.92	1	8270C	11/19/2009	11/20/2009	MJR	1
1,2,4-Trichlorobenzene	< 0.53	ug/l	0.53	1.7	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4,5-Trichlorophenol	< 0.37	ug/l	0.37	1.17	1	8270C	11/19/2009	11/20/2009	MJR	1
2,4,6-Trichlorophenol	< 0.32	ug/l	0.32	1	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Fluorobiphenyl-surrogate	72	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1
2-Fluorophenol-surrogate	39	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1
Nitrobenzene-d5-surrogate	79	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1
Phenol-d6-surrogate	25	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19961
Project #

Lab Code 5019961M
Sample ID DCD-MW2
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
p-Terphenyl-d14-surrogate	104	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1
2,4,6-Tribromophenol-surrogate	80	REC %			1	8270C	11/19/2009	11/20/2009	MJR	1
VOC's										
Benzene	< 0.41	ug/l	0.41	1.3	1	8260B		11/23/2009	CJR	1
Bromobenzene	< 0.43	ug/l	0.43	1.4	1	8260B		11/23/2009	CJR	1
Bromodichloromethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/23/2009	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		11/23/2009	CJR	1
tert-Butylbenzene	< 0.46	ug/l	0.46	1.5	1	8260B		11/23/2009	CJR	1
sec-Butylbenzene	< 0.43	ug/l	0.43	1.4	1	8260B		11/23/2009	CJR	1
n-Butylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		11/23/2009	CJR	1
Carbon Tetrachloride	< 0.43	ug/l	0.43	1.4	1	8260B		11/23/2009	CJR	1
Chlorobenzene	< 0.39	ug/l	0.39	1.2	1	8260B		11/23/2009	CJR	1
Chloroethane	< 1.5	ug/l	1.5	4.8	1	8260B		11/23/2009	CJR	1
Chloroform	< 0.48	ug/l	0.48	1.5	1	8260B		11/23/2009	CJR	1
Chloromethane	< 0.5	ug/l	0.5	1.6	1	8260B		11/23/2009	CJR	1
2-Chlorotoluene	< 0.37	ug/l	0.37	1.2	1	8260B		11/23/2009	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		11/23/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 2	ug/l	2	6.3	1	8260B		11/23/2009	CJR	1
Dibromochloromethane	< 0.76	ug/l	0.76	2.4	1	8260B		11/23/2009	CJR	1
1,4-Dichlorobenzene	< 0.77	ug/l	0.77	2.5	1	8260B		11/23/2009	CJR	1
1,3-Dichlorobenzene	< 0.34	ug/l	0.34	1.1	1	8260B		11/23/2009	CJR	1
1,2-Dichlorobenzene	< 0.66	ug/l	0.66	2.1	1	8260B		11/23/2009	CJR	1
Dichlorodifluoromethane	< 0.45	ug/l	0.45	1.4	1	8260B		11/23/2009	CJR	1
1,2-Dichloroethane	< 0.43	ug/l	0.43	1.4	1	8260B		11/23/2009	CJR	1
1,1-Dichloroethane	< 0.44	ug/l	0.44	1.4	1	8260B		11/23/2009	CJR	1
1,1-Dichloroethene	< 0.47	ug/l	0.47	1.5	1	8260B		11/23/2009	CJR	1
cis-1,2-Dichloroethene	< 0.68	ug/l	0.68	2.2	1	8260B		11/23/2009	CJR	1
trans-1,2-Dichloroethene	< 0.61	ug/l	0.61	1.9	1	8260B		11/23/2009	CJR	1
1,2-Dichloropropane	< 0.26	ug/l	0.26	0.82	1	8260B		11/23/2009	CJR	1
2,2-Dichloropropane	< 0.89	ug/l	0.89	2.8	1	8260B		11/23/2009	CJR	8
1,3-Dichloropropane	< 0.49	ug/l	0.49	1.6	1	8260B		11/23/2009	CJR	1
Di-isopropyl ether	< 0.32	ug/l	0.32	1	1	8260B		11/23/2009	CJR	1
EDB (1,2-Dibromoethane)	< 0.52	ug/l	0.52	1.6	1	8260B		11/23/2009	CJR	1
Ethylbenzene	< 0.87	ug/l	0.87	2.8	1	8260B		11/23/2009	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.7	1	8260B		11/23/2009	CJR	1
Isopropylbenzene	< 0.39	ug/l	0.39	1.2	1	8260B		11/23/2009	CJR	1
p-Isopropyltoluene	< 0.57	ug/l	0.57	1.8	1	8260B		11/23/2009	CJR	1
Methylene chloride	< 1.5	ug/l	1.5	4.8	1	8260B		11/23/2009	CJR	4
Methyl tert-butyl ether (MTBE)	< 0.5	ug/l	0.5	1.6	1	8260B		11/23/2009	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.4	1	8260B		11/23/2009	CJR	1
n-Propylbenzene	< 0.33	ug/l	0.33	1	1	8260B		11/23/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 0.55	ug/l	0.55	1.8	1	8260B		11/23/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 0.54	ug/l	0.54	1.7	1	8260B		11/23/2009	CJR	1
Tetrachloroethene	< 0.42	ug/l	0.42	1.3	1	8260B		11/23/2009	CJR	1
Toluene	< 0.51	ug/l	0.51	1.6	1	8260B		11/23/2009	CJR	1
1,2,4-Trichlorobenzene	< 2.1	ug/l	2.1	6.6	1	8260B		11/23/2009	CJR	1
1,2,3-Trichlorobenzene	< 1.6	ug/l	1.6	5.1	1	8260B		11/23/2009	CJR	1
1,1,1-Trichloroethane	< 0.46	ug/l	0.46	1.4	1	8260B		11/23/2009	CJR	1
1,1,2-Trichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		11/23/2009	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E19961
Project #

Lab Code 5019961M
Sample ID DCD-MW2
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.39	ug/l	0.39	1.2	1	8260B		11/23/2009	CJR	1
Trichlorofluoromethane	< 0.72	ug/l	0.72	2.3	1	8260B		11/23/2009	CJR	1
1,2,4-Trimethylbenzene	< 1.1	ug/l	1.1	3.5	1	8260B		11/23/2009	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.9	1	8260B		11/23/2009	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.64	1	8260B		11/23/2009	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.1	1	8260B		11/23/2009	CJR	1
o-Xylene	< 0.53	ug/l	0.53	1.7	1	8260B		11/23/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	105	REC %			1	8260B		11/23/2009	CJR	1
SUR - 4-Bromofluorobenzene	105	REC %			1	8260B		11/23/2009	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		11/23/2009	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		11/23/2009	CJR	1

Lab Code 5019961N
Sample ID MW-4
Sample Matrix Water
Sample Date 11/17/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Cadmium, Dissolved	ESC	ug/l	0.15	0.5	1	6020		11/19/2009	ESC	1
Lead, Dissolved	ESC	ug/l	0.13	1	1	6020		11/19/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 0.4	ug/l	0.4	1.26	1	8270C	11/19/2009	11/20/2009	MJR	1
Acenaphthene	< 0.24	ug/l	0.24	0.76	1	8270C	11/19/2009	11/20/2009	MJR	1
Acenaphthylene	< 0.23	ug/l	0.23	0.73	1	8270C	11/19/2009	11/20/2009	MJR	1
Anthracene	< 0.35	ug/l	0.35	1.1	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(a)anthracene	< 1.01	ug/l	1.01	3.21	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(a)pyrene	< 0.35	ug/l	0.35	1.11	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(b)fluoranthene	< 0.31	ug/l	0.31	0.98	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(g,h,i)perylene	< 0.47	ug/l	0.47	1.5	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzo(k)fluoranthene	< 0.52	ug/l	0.52	1.66	1	8270C	11/19/2009	11/20/2009	MJR	1
Benzyl Alcohol	< 0.38	ug/l	0.38	1.21	1	8270C	11/19/2009	11/20/2009	MJR	1
Butyl benzyl phthalate	< 0.3	ug/l	0.3	0.96	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroethoxy)methane	< 0.31	ug/l	0.31	0.98	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroethyl)ether	< 0.61	ug/l	0.61	1.94	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 0.63	ug/l	0.63	1.99	1	8270C	11/19/2009	11/20/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 7.2	ug/l	7.2	23	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Bromophenylphenyl ether	< 0.45	ug/l	0.45	1.44	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Chloro-3-methylphenol	< 0.51	ug/l	0.51	1.62	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Chloronaphthalene	< 0.28	ug/l	0.28	0.9	1	8270C	11/19/2009	11/20/2009	MJR	1
2-Chlorophenol	< 0.33	ug/l	0.33	1.06	1	8270C	11/19/2009	11/20/2009	MJR	1
4-Chlorophenylphenyl ether	< 0.56	ug/l	0.56	1.78	1	8270C	11/19/2009	11/20/2009	MJR	1
Chrysene	< 0.32	ug/l	0.32	1.02	1	8270C	11/19/2009	11/20/2009	MJR	1
o-Cresol	< 0.78	ug/l	0.78	2.47	1	8270C	11/19/2009	11/20/2009	MJR	1
m & p-Cresol	< 2.48	ug/l	2.48	7.89	1	8270C	11/19/2009	11/20/2009	MJR	1
Dibenzofuran	< 0.28	ug/l	0.28	0.9	1	8270C	11/19/2009	11/20/2009	MJR	1
Dibenzo(a,h)anthracene	< 0.3	ug/l	0.3	0.94	1	8270C	11/19/2009	11/20/2009	MJR	1

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Est. 1970

REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

November 30, 2009

ESC Sample # : L433527-12

Date Received : November 21, 2009
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : DCD-MW2

Project # : SYNENVWI-BROWNFIELDS

Collected By :
Collection Date : 11/16/09 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Cadmium,Dissolved	U	0.16	0.50	ug/l		6020	11/25/09	1
Lead,Dissolved	U	0.24	1.0	ug/l		6020	11/25/09	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
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Reported: 11/30/09 14:24 Printed: 11/30/09 14:24

Project Name 3533 N. 27TH STREET PHASE II **Invoice #** E21886
Project # 60135115

Lab Code 5021886L
Sample ID TW-245
Sample Matrix Water
Sample Date 2/21/2011

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PAH SIM										
Acenaphthene	< 0.01	ug/l	0.01	0.031	1	M8270D	2/25/2011	3/3/2011	MDK	1
Acenaphthylene	< 0.014	ug/l	0.014	0.043	1	M8270D	2/25/2011	3/3/2011	MDK	1
Anthracene	< 0.009	ug/l	0.009	0.03	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(a)anthracene	< 0.014	ug/l	0.014	0.044	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(a)pyrene	< 0.011	ug/l	0.011	0.034	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(b)fluoranthene	< 0.013	ug/l	0.013	0.041	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(g,h,i)perylene	< 0.015	ug/l	0.015	0.048	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(k)fluoranthene	< 0.015	ug/l	0.015	0.047	1	M8270D	2/25/2011	3/3/2011	MDK	1
Chrysene	< 0.013	ug/l	0.013	0.042	1	M8270D	2/25/2011	3/3/2011	MDK	1
Dibenzo(a,h)anthracene	< 0.016	ug/l	0.016	0.05	1	M8270D	2/25/2011	3/3/2011	MDK	1
Fluoranthene	< 0.012	ug/l	0.012	0.039	1	M8270D	2/25/2011	3/3/2011	MDK	1
Fluorene	< 0.008	ug/l	0.008	0.025	1	M8270D	2/25/2011	3/3/2011	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.015	ug/l	0.015	0.049	1	M8270D	2/25/2011	3/3/2011	MDK	1
1-Methyl naphthalene	< 0.009	ug/l	0.009	0.028	1	M8270D	2/25/2011	3/3/2011	MDK	1
2-Methyl naphthalene	< 0.013	ug/l	0.013	0.04	1	M8270D	2/25/2011	3/3/2011	MDK	1
Naphthalene	< 0.015	ug/l	0.015	0.047	1	M8270D	2/25/2011	3/3/2011	MDK	1
Phenanthrene	< 0.01	ug/l	0.01	0.033	1	M8270D	2/25/2011	3/3/2011	MDK	1
Pyrene	< 0.013	ug/l	0.013	0.042	1	M8270D	2/25/2011	3/3/2011	MDK	1
PVOC + Naphthalene										
Benzene	< 0.5	ug/l	0.5	1.6	1	8260B		2/24/2011	CJR	1
Ethylbenzene	< 0.78	ug/l	0.78	2.5	1	8260B		2/24/2011	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.8	ug/l	0.8	2.5	1	8260B		2/24/2011	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.8	1	8260B		2/24/2011	CJR	1
Toluene	< 0.53	ug/l	0.53	1.7	1	8260B		2/24/2011	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.5	1	8260B		2/24/2011	CJR	1
1,3,5-Trimethylbenzene	< 0.74	ug/l	0.74	2.4	1	8260B		2/24/2011	CJR	1
m&p-Xylene	< 1.1	ug/l	1.1	3.5	1	8260B		2/24/2011	CJR	1
o-Xylene	< 0.8	ug/l	0.8	2.6	1	8260B		2/24/2011	CJR	1

Lab Code 5021886M
Sample ID TW-227
Sample Matrix Water
Sample Date 2/21/2011

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PAH SIM										
Acenaphthene	< 0.01	ug/l	0.01	0.031	1	M8270D	2/25/2011	3/3/2011	MDK	1
Acenaphthylene	< 0.014	ug/l	0.014	0.043	1	M8270D	2/25/2011	3/3/2011	MDK	1
Anthracene	< 0.009	ug/l	0.009	0.03	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(a)anthracene	< 0.014	ug/l	0.014	0.044	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(a)pyrene	< 0.011	ug/l	0.011	0.034	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(b)fluoranthene	< 0.013	ug/l	0.013	0.041	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(g,h,i)perylene	< 0.015	ug/l	0.015	0.048	1	M8270D	2/25/2011	3/3/2011	MDK	1
Benzo(k)fluoranthene	< 0.015	ug/l	0.015	0.047	1	M8270D	2/25/2011	3/3/2011	MDK	1
Chrysene	< 0.013	ug/l	0.013	0.042	1	M8270D	2/25/2011	3/3/2011	MDK	1
Dibenzo(a,h)anthracene	< 0.016	ug/l	0.016	0.05	1	M8270D	2/25/2011	3/3/2011	MDK	1
Fluoranthene	< 0.012	ug/l	0.012	0.039	1	M8270D	2/25/2011	3/3/2011	MDK	1
Fluorene	< 0.008	ug/l	0.008	0.025	1	M8270D	2/25/2011	3/3/2011	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.015	ug/l	0.015	0.049	1	M8270D	2/25/2011	3/3/2011	MDK	1

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REPORT OF ANALYSIS

Mike Ricker
Synergy Environmental Lab, LLC
1990 Prospect Court
Appleton, WI 54914

April 18, 2010

ESC Sample # : L453261-01

Date Received : April 09, 2010
Description : Tower Motors BROWNFIELDS Project

Site ID : MILWAUKEE EPA BROWNFIE

Sample ID : TW-245

Project # :

Collected By :
Collection Date : 04/06/10 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic,Dissolved	0.82	0.25	1.0	ug/l	J	6020	04/12/10	1
Barium,Dissolved	37.	0.36	2.0	ug/l		6020	04/13/10	1
Cadmium,Dissolved	0.31	0.16	0.50	ug/l	J	6020	04/12/10	1
Chromium,Dissolved	3.9	0.54	2.0	ug/l		6020	04/12/10	1
Lead,Dissolved	0.44	0.24	1.0	ug/l	J	6020	04/13/10	1
Selenium,Dissolved	3.2	0.38	1.0	ug/l		6020	04/12/10	1
Silver,Dissolved	U	0.31	1.0	ug/l		6020	04/12/10	1
Mercury,Dissolved	0.040	0.017	0.20	ug/l	J	7470A	04/13/10	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
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Reported: 04/18/10 11:20 Printed: 04/18/10 11:20

Project Name 3533 N. 27TH STREET **Invoice #** E20533
Project # 60135115

Lab Code 5020533E
Sample ID TW-246
Sample Matrix Water
Sample Date 4/5/2010

	Result		Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3-Dichlorobenzene	< 0.79		ug/l	0.79	2.5	1	8260B		4/8/2010	CJR	1
1,2-Dichlorobenzene	< 0.84		ug/l	0.84	2.7	1	8260B		4/8/2010	CJR	1
Dichlorodifluoromethane	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
1,2-Dichloroethane	< 0.38		ug/l	0.38	1.2	1	8260B		4/8/2010	CJR	1
1,1-Dichloroethane	< 0.69	J	ug/l	0.69	2.2	1	8260B		4/8/2010	CJR	7
1,1-Dichloroethene	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
cis-1,2-Dichloroethene	< 0.78		ug/l	0.78	2.5	1	8260B		4/8/2010	CJR	1
trans-1,2-Dichloroethene	< 1.3		ug/l	1.3	4.1	1	8260B		4/8/2010	CJR	1
1,2-Dichloropropane	< 0.34		ug/l	0.34	1.1	1	8260B		4/8/2010	CJR	1
2,2-Dichloropropane	< 0.46		ug/l	0.46	1.5	1	8260B		4/8/2010	CJR	1
1,3-Dichloropropane	< 0.97		ug/l	0.97	3.1	1	8260B		4/8/2010	CJR	1
Di-isopropyl ether	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
EDB (1,2-Dibromoethane)	< 0.95		ug/l	0.95	3	1	8260B		4/8/2010	CJR	1
Ethylbenzene	< 0.55		ug/l	0.55	1.8	1	8260B		4/8/2010	CJR	1
Hexachlorobutadiene	< 1.8		ug/l	1.8	5.9	1	8260B		4/8/2010	CJR	1
Isopropylbenzene	< 0.71		ug/l	0.71	2.3	1	8260B		4/8/2010	CJR	1
p-Isopropyltoluene	< 0.91		ug/l	0.91	2.9	1	8260B		4/8/2010	CJR	1
Methylene chloride	< 0.47		ug/l	0.47	1.5	1	8260B		4/8/2010	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.25		ug/l	0.25	0.8	1	8260B		4/8/2010	CJR	1
Naphthalene	< 2.4		ug/l	2.4	7.7	1	8260B		4/8/2010	CJR	1
n-Propylbenzene	< 0.67		ug/l	0.67	2.1	1	8260B		4/8/2010	CJR	1
1,1,2,2-Tetrachloroethane	< 0.5		ug/l	0.5	1.6	1	8260B		4/8/2010	CJR	1
1,1,1,2-Tetrachloroethane	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
Tetrachloroethene	< 0.43		ug/l	0.43	1.4	1	8260B		4/8/2010	CJR	1
Toluene	< 0.72		ug/l	0.72	2.3	1	8260B		4/8/2010	CJR	1
1,2,4-Trichlorobenzene	< 1.5		ug/l	1.5	4.8	1	8260B		4/8/2010	CJR	1
1,2,3-Trichlorobenzene	< 2.8		ug/l	2.8	8.8	1	8260B		4/8/2010	CJR	1
1,1,1-Trichloroethane	< 0.53		ug/l	0.53	1.7	1	8260B		4/8/2010	CJR	1
1,1,2-Trichloroethane	< 0.47		ug/l	0.47	1.5	1	8260B		4/8/2010	CJR	1
Trichloroethene (TCE)	< 0.39		ug/l	0.39	1.2	1	8260B		4/8/2010	CJR	1
Trichlorofluoromethane	< 0.56		ug/l	0.56	1.8	1	8260B		4/8/2010	CJR	1
1,2,4-Trimethylbenzene	< 0.65		ug/l	0.65	2.1	1	8260B		4/8/2010	CJR	1
1,3,5-Trimethylbenzene	< 0.55		ug/l	0.55	1.8	1	8260B		4/8/2010	CJR	1
Vinyl Chloride	< 0.19		ug/l	0.19	0.61	1	8260B		4/8/2010	CJR	1
m&p-Xylene	< 1.1		ug/l	1.1	3.6	1	8260B		4/8/2010	CJR	1
o-Xylene	< 0.52		ug/l	0.52	1.7	1	8260B		4/8/2010	CJR	1
SUR - 1,2-Dichloroethane-d4	95		REC %			1	8260B		4/8/2010	CJR	1
SUR - 4-Bromofluorobenzene	105		REC %			1	8260B		4/8/2010	CJR	1
SUR - Dibromofluoromethane	94		REC %			1	8260B		4/8/2010	CJR	1
SUR - Toluene-d8	101		REC %			1	8260B		4/8/2010	CJR	1

Lab Code 5020533F
Sample ID TW-245
Sample Matrix Water
Sample Date 4/5/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.38	ug/l	0.38	1.2	1	8260B		4/8/2010	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E20533
Project # 60135115

Lab Code 5020533F
Sample ID TW-245
Sample Matrix Water
Sample Date 4/5/2010

	Result		Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Bromobenzene	< 1		ug/l	1	3.3	1	8260B		4/8/2010	CJR	1
Bromodichloromethane	< 0.64		ug/l	0.64	2	1	8260B		4/8/2010	CJR	1
Bromoform	< 0.39		ug/l	0.39	1.2	1	8260B		4/8/2010	CJR	1
tert-Butylbenzene	< 0.55		ug/l	0.55	1.7	1	8260B		4/8/2010	CJR	1
sec-Butylbenzene	< 0.59		ug/l	0.59	1.9	1	8260B		4/8/2010	CJR	1
n-Butylbenzene	< 0.94		ug/l	0.94	3	1	8260B		4/8/2010	CJR	1
Carbon Tetrachloride	< 0.25		ug/l	0.25	0.8	1	8260B		4/8/2010	CJR	1
Chlorobenzene	< 0.91		ug/l	0.91	2.9	1	8260B		4/8/2010	CJR	1
Chloroethane	< 0.67		ug/l	0.67	2.1	1	8260B		4/8/2010	CJR	1
Chloroform	< 0.32		ug/l	0.32	1	1	8260B		4/8/2010	CJR	1
Chloromethane	< 1.2		ug/l	1.2	3.8	1	8260B		4/8/2010	CJR	1
2-Chlorotoluene	< 0.51		ug/l	0.51	1.6	1	8260B		4/8/2010	CJR	1
4-Chlorotoluene	< 0.74		ug/l	0.74	2.3	1	8260B		4/8/2010	CJR	1
1,2-Dibromo-3-chloropropane	< 1.9		ug/l	1.9	6.2	1	8260B		4/8/2010	CJR	1
Dibromochloromethane	< 1.1		ug/l	1.1	3.4	1	8260B		4/8/2010	CJR	1
1,4-Dichlorobenzene	< 0.95		ug/l	0.95	3	1	8260B		4/8/2010	CJR	1
1,3-Dichlorobenzene	< 0.79		ug/l	0.79	2.5	1	8260B		4/8/2010	CJR	1
1,2-Dichlorobenzene	< 0.84		ug/l	0.84	2.7	1	8260B		4/8/2010	CJR	1
Dichlorodifluoromethane	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
1,2-Dichloroethane	< 0.38		ug/l	0.38	1.2	1	8260B		4/8/2010	CJR	1
1,1-Dichloroethane	< 0.69	UJ	ug/l	0.69	2.2	1	8260B		4/8/2010	CJR	7
1,1-Dichloroethene	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
cis-1,2-Dichloroethene	< 0.78		ug/l	0.78	2.5	1	8260B		4/8/2010	CJR	1
trans-1,2-Dichloroethene	< 1.3		ug/l	1.3	4.1	1	8260B		4/8/2010	CJR	1
1,2-Dichloropropane	< 0.34		ug/l	0.34	1.1	1	8260B		4/8/2010	CJR	1
2,2-Dichloropropane	< 0.46		ug/l	0.46	1.5	1	8260B		4/8/2010	CJR	1
1,3-Dichloropropane	< 0.97		ug/l	0.97	3.1	1	8260B		4/8/2010	CJR	1
Di-isopropyl ether	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
EDB (1,2-Dibromoethane)	< 0.95		ug/l	0.95	3	1	8260B		4/8/2010	CJR	1
Ethylbenzene	< 0.55		ug/l	0.55	1.8	1	8260B		4/8/2010	CJR	1
Hexachlorobutadiene	< 1.8		ug/l	1.8	5.9	1	8260B		4/8/2010	CJR	1
Isopropylbenzene	< 0.71		ug/l	0.71	2.3	1	8260B		4/8/2010	CJR	1
p-Isopropyltoluene	< 0.91		ug/l	0.91	2.9	1	8260B		4/8/2010	CJR	1
Methylene chloride	< 0.47		ug/l	0.47	1.5	1	8260B		4/8/2010	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.25		ug/l	0.25	0.8	1	8260B		4/8/2010	CJR	1
Naphthalene	< 2.4		ug/l	2.4	7.7	1	8260B		4/8/2010	CJR	1
n-Propylbenzene	< 0.67		ug/l	0.67	2.1	1	8260B		4/8/2010	CJR	1
1,1,2,2-Tetrachloroethane	< 0.5		ug/l	0.5	1.6	1	8260B		4/8/2010	CJR	1
1,1,1,2-Tetrachloroethane	< 0.7		ug/l	0.7	2.2	1	8260B		4/8/2010	CJR	1
Tetrachloroethene	< 0.43		ug/l	0.43	1.4	1	8260B		4/8/2010	CJR	1
Toluene	0.77 "J"		ug/l	0.72	2.3	1	8260B		4/8/2010	CJR	1
1,2,4-Trichlorobenzene	< 1.5		ug/l	1.5	4.8	1	8260B		4/8/2010	CJR	1
1,2,3-Trichlorobenzene	< 2.8		ug/l	2.8	8.8	1	8260B		4/8/2010	CJR	1
1,1,1-Trichloroethane	< 0.53		ug/l	0.53	1.7	1	8260B		4/8/2010	CJR	1
1,1,2-Trichloroethane	< 0.47		ug/l	0.47	1.5	1	8260B		4/8/2010	CJR	1
Trichloroethene (TCE)	< 0.39		ug/l	0.39	1.2	1	8260B		4/8/2010	CJR	1
Trichlorofluoromethane	< 0.56		ug/l	0.56	1.8	1	8260B		4/8/2010	CJR	1
1,2,4-Trimethylbenzene	< 0.65		ug/l	0.65	2.1	1	8260B		4/8/2010	CJR	1
1,3,5-Trimethylbenzene	< 0.55		ug/l	0.55	1.8	1	8260B		4/8/2010	CJR	1

Project Name 3533 N. 27TH STREET **Invoice #** E20533
Project # 60135115

Lab Code 5020533F
Sample ID TW-245
Sample Matrix Water
Sample Date 4/5/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Vinyl Chloride	< 0.19	ug/l	0.19	0.61	1	8260B		4/8/2010	CJR	1
m&p-Xylene	< 1.1	ug/l	1.1	3.6	1	8260B		4/8/2010	CJR	1
o-Xylene	< 0.52	ug/l	0.52	1.7	1	8260B		4/8/2010	CJR	1
SUR - 4-Bromofluorobenzene	104	REC %			1	8260B		4/8/2010	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		4/8/2010	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		4/8/2010	CJR	1
SUR - 1,2-Dichloroethane-d4	105	REC %			1	8260B		4/8/2010	CJR	1

Lab Code 5020533G
Sample ID TW-247
Sample Matrix Water
Sample Date 4/5/2010

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
8-RCRA Metals	ESC	ug/l			1	6010B		4/6/2010	ESC	1
Organic										
PAH SIM										
Acenaphthene	0.60	ug/l	0.017	0.054	1	M8270	4/8/2010	4/8/2010	MJR	1
Acenaphthylene	3.7	ug/l	0.016	0.052	1	M8270	4/8/2010	4/8/2010	MJR	1
Anthracene	0.74	ug/l	0.018	0.057	1	M8270	4/8/2010	4/8/2010	MJR	1
Benzo(a)anthracene	0.102	ug/l	0.017	0.054	1	M8270	4/8/2010	4/8/2010	MJR	1
Benzo(a)pyrene	0.054	ug/l	0.016	0.049	1	M8270	4/8/2010	4/8/2010	MJR	1
Benzo(b)fluoranthene	0.076	ug/l	0.017	0.055	1	M8270	4/8/2010	4/8/2010	MJR	1
Benzo(g,h,i)perylene	0.026 "J"	ug/l	0.017	0.058	1	M8270	4/8/2010	4/8/2010	MJR	1
Benzo(k)fluoranthene	< 0.029	ug/l	0.029	0.055	1	M8270	4/8/2010	4/8/2010	MJR	1
Chrysene	0.072	ug/l	0.017	0.055	1	M8270	4/8/2010	4/8/2010	MJR	1
Dibenzo(a,h)anthracene	< 0.016	ug/l	0.016	0.052	1	M8270	4/8/2010	4/8/2010	MJR	1
Fluoranthene	0.41	ug/l	0.019	0.059	1	M8270	4/8/2010	4/8/2010	MJR	1
Fluorene	2.49	ug/l	0.018	0.056	1	M8270	4/8/2010	4/8/2010	MJR	1
Indeno(1,2,3-cd)pyrene	0.025 "J"	ug/l	0.016	0.05	1	M8270	4/8/2010	4/8/2010	MJR	1
1-Methyl naphthalene	2.47	ug/l	0.016	0.051	1	M8270	4/8/2010	4/8/2010	MJR	1
2-Methyl naphthalene	0.72	ug/l	0.017	0.055	1	M8270	4/8/2010	4/8/2010	MJR	1
Naphthalene	0.80	ug/l	0.017	0.055	1	M8270	4/8/2010	4/8/2010	MJR	1
Phenanthrene	1.83	ug/l	0.019	0.059	1	M8270	4/8/2010	4/8/2010	MJR	1
Pyrene	0.241	ug/l	0.02	0.063	1	M8270	4/8/2010	4/8/2010	MJR	1
VOC's										
Benzene	< 0.38	ug/l	0.38	1.2	1	8260B		4/8/2010	CJR	1
Bromobenzene	< 1	ug/l	1	3.3	1	8260B		4/8/2010	CJR	1
Bromodichloromethane	< 0.64	ug/l	0.64	2	1	8260B		4/8/2010	CJR	1
Bromoform	< 0.39	ug/l	0.39	1.2	1	8260B		4/8/2010	CJR	1
tert-Butylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		4/8/2010	CJR	1
sec-Butylbenzene	< 0.59	ug/l	0.59	1.9	1	8260B		4/8/2010	CJR	1
n-Butylbenzene	< 0.94	ug/l	0.94	3	1	8260B		4/8/2010	CJR	1
Carbon Tetrachloride	< 0.25	ug/l	0.25	0.8	1	8260B		4/8/2010	CJR	1
Chlorobenzene	< 0.91	ug/l	0.91	2.9	1	8260B		4/8/2010	CJR	1
Chloroethane	< 0.67	ug/l	0.67	2.1	1	8260B		4/8/2010	CJR	1
Chloroform	< 0.32	ug/l	0.32	1	1	8260B		4/8/2010	CJR	1

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

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Report Date *16-Jul-13*

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414A
Sample ID CM-4 (3.5-4.5)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.9	%			1	5021		7/9/2013	MJR	1
Organic										
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	7/9/2013	7/9/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	7/9/2013	7/9/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	7/9/2013	7/9/2013	MDK	1
Benzo(a)anthracene	48 "J"	ug/kg	22.9	72.9	1	M8270D	7/9/2013	7/9/2013	MDK	1
Benzo(a)pyrene	50 "J"	ug/kg	17.4	55.3	1	M8270D	7/9/2013	7/9/2013	MDK	1
Benzo(b)fluoranthene	68	ug/kg	19.6	62.3	1	M8270D	7/9/2013	7/9/2013	MDK	1
Benzo(g,h,i)perylene	35 "J"	ug/kg	22.7	72.2	1	M8270D	7/9/2013	7/9/2013	MDK	1
Benzo(k)fluoranthene	25.6 "J"	ug/kg	21.6	68.8	1	M8270D	7/9/2013	7/9/2013	MDK	1
Chrysene	63	ug/kg	18.1	57.7	1	M8270D	7/9/2013	7/9/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	7/9/2013	7/9/2013	MDK	1
Fluoranthene	102	ug/kg	21.1	67.2	1	M8270D	7/9/2013	7/9/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	7/9/2013	7/9/2013	MDK	1
Indeno(1,2,3-cd)pyrene	28.9 "J"	ug/kg	23.9	76.1	1	M8270D	7/9/2013	7/9/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	7/9/2013	7/9/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	7/9/2013	7/9/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	7/9/2013	7/9/2013	MDK	1
Phenanthrene	43 "J"	ug/kg	22.4	71.1	1	M8270D	7/9/2013	7/9/2013	MDK	1
Pyrene	106	ug/kg	23.1	73.6	1	M8270D	7/9/2013	7/9/2013	MDK	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		7/12/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		7/12/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		7/12/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		7/12/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		7/12/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		7/12/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414A
Sample ID CM-4 (3.5-4.5)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Chloroethane	< 42	ug/kg	42	133	1	8260B		7/12/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		7/12/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		7/12/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		7/12/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		7/12/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		7/12/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		7/12/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		7/12/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		7/12/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		7/12/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		7/12/2013	CJR	3 8
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		7/12/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		7/12/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		7/12/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		7/12/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		7/12/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		7/12/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		7/12/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		7/12/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		7/12/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		7/12/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		7/12/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		7/12/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		7/12/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		7/12/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		7/12/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		7/12/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		7/12/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		7/12/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1
SUR - Toluene-d8	99	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	115	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 4-Bromofluorobenzene	103	Rec %			1	8260B		7/12/2013	CJR	1
SUR - Dibromofluoromethane	103	Rec %			1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414B
Sample ID CM-4 (6-7)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	80.7	%			1	5021		7/9/2013	MJR	1
Organic										
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	7/9/2013	7/10/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	7/9/2013	7/10/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		7/12/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		7/12/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		7/12/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		7/12/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		7/12/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		7/12/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		7/12/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		7/12/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		7/12/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		7/12/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		7/12/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		7/12/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		7/12/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethane	56 "J"	ug/kg	19	60	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		7/12/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		7/12/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		7/12/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		7/12/2013	CJR	8
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		7/12/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		7/12/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		7/12/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		7/12/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		7/12/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414B
Sample ID CM-4 (6-7)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Methylene chloride	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		7/12/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		7/12/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		7/12/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		7/12/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		7/12/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		7/12/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		7/12/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		7/12/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		7/12/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		7/12/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		7/12/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		7/12/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		7/12/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1
SUR - Dibromofluoromethane	106	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	114	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 4-Bromofluorobenzene	98	Rec %			1	8260B		7/12/2013	CJR	1
SUR - Toluene-d8	95	Rec %			1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414C
Sample ID CM-5 (3-4)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	76.9	%			1	5021		7/9/2013	MJR	1
Organic										
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)anthracene	25.5 "J"	ug/kg	22.9	72.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(b)fluoranthene	28.1 "J"	ug/kg	19.6	62.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
Chrysene	36 "J"	ug/kg	18.1	57.7	1	M8270D	7/9/2013	7/10/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluoranthene	48 "J"	ug/kg	21.1	67.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
1-Methyl naphthalene	44 "J"	ug/kg	20.7	65.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
2-Methyl naphthalene	50 "J"	ug/kg	20.6	65.4	1	M8270D	7/9/2013	7/10/2013	MDK	1
Naphthalene	27.6 "J"	ug/kg	22.1	70.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Phenanthrene	66 "J"	ug/kg	22.4	71.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Pyrene	45 "J"	ug/kg	23.1	73.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		7/12/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		7/12/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		7/12/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		7/12/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		7/12/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		7/12/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		7/12/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		7/12/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		7/12/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		7/12/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		7/12/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		7/12/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		7/12/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		7/12/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		7/12/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		7/12/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		7/12/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		7/12/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		7/12/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		7/12/2013	CJR	8
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		7/12/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		7/12/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		7/12/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		7/12/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		7/12/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		7/12/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414C
Sample ID CM-5 (3-4)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Methylene chloride	< 57	ug/kg	57	182	1	8260B		7/12/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		7/12/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		7/12/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		7/12/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		7/12/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		7/12/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		7/12/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		7/12/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		7/12/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		7/12/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		7/12/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		7/12/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		7/12/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		7/12/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		7/12/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		7/12/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		7/12/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		7/12/2013	CJR	1
SUR - Toluene-d8	97	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	102	Rec %			1	8260B		7/12/2013	CJR	1
SUR - 4-Bromofluorobenzene	99	Rec %			1	8260B		7/12/2013	CJR	1
SUR - Dibromofluoromethane	104	Rec %			1	8260B		7/12/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414D
Sample ID CM-5 (5-6)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	81.1	%			1	5021		7/9/2013	MJR	1
Organic										
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	7/9/2013	7/10/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	7/9/2013	7/10/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	7/9/2013	7/10/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	7/9/2013	7/10/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	7/9/2013	7/10/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	7/9/2013	7/10/2013	MDK	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		7/13/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		7/13/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		7/13/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		7/13/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		7/13/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		7/13/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		7/13/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		7/13/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		7/13/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		7/13/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		7/13/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		7/13/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		7/13/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		7/13/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		7/13/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		7/13/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		7/13/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		7/13/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		7/13/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		7/13/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		7/13/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		7/13/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		7/13/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		7/13/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		7/13/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		7/13/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		7/13/2013	CJR	8
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		7/13/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		7/13/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		7/13/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		7/13/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		7/13/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		7/13/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		7/13/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25414
Project # 60289020

Lab Code 5025414D
Sample ID CM-5 (5-6)
Sample Matrix Soil
Sample Date 7/2/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Methylene chloride	< 57	ug/kg	57	182	1	8260B		7/13/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		7/13/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		7/13/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		7/13/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		7/13/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		7/13/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		7/13/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		7/13/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		7/13/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		7/13/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		7/13/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		7/13/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		7/13/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		7/13/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		7/13/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		7/13/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		7/13/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		7/13/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		7/13/2013	CJR	1
SUR - Toluene-d8	98	Rec %			1	8260B		7/13/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	106	Rec %			1	8260B		7/13/2013	CJR	1
SUR - 4-Bromofluorobenzene	97	Rec %			1	8260B		7/13/2013	CJR	1
SUR - Dibromofluoromethane	107	Rec %			1	8260B		7/13/2013	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
3	The matrix spike not within established limits.
8	Closing calibration standard not within established limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

Project Name CENTURY CITY **Invoice #** E25009
Project #

Lab Code 525009KK
Sample ID GC-2 (5-6)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		4/15/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		4/15/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		4/15/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		4/15/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		4/15/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		4/15/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		4/15/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		4/15/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		4/15/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		4/15/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		4/15/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		4/15/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		4/15/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		4/15/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		4/15/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		4/15/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		4/15/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		4/15/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		4/15/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		4/15/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		4/15/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		4/15/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		4/15/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	100	Rec %			1	8260B		4/15/2013	CJR	1
SUR - 4-Bromofluorobenzene	109	Rec %			1	8260B		4/15/2013	CJR	1
SUR - Dibromofluoromethane	93	Rec %			1	8260B		4/15/2013	CJR	1
SUR - Toluene-d8	94	Rec %			1	8260B		4/15/2013	CJR	1

Lab Code 525009LL
Sample ID GC-7 (2-3)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	75.1	%			1	5021		4/11/2013	MJR	1
Inorganic										
Metals										
Lead, Total	81	mg/kg	0.095	0.25	1	6010B		4/19/2013	ESC	1
Organic										
PAH SIM										
Acenaphthene	87	ug/kg	21.8	69.3	1	M8270D	4/19/2013	4/23/2013	MDK	6
Acenaphthylene	380	ug/kg	19.2	60.9	1	M8270D	4/19/2013	4/23/2013	MDK	6
Anthracene	530	ug/kg	19.5	62.1	1	M8270D	4/19/2013	4/23/2013	MDK	6
Benzo(a)anthracene	550	ug/kg	22.9	72.9	1	M8270D	4/19/2013	4/23/2013	MDK	6
Benzo(a)pyrene	820	ug/kg	17.4	55.3	1	M8270D	4/19/2013	4/23/2013	MDK	6
Benzo(b)fluoranthene	1020	ug/kg	19.6	62.3	1	M8270D	4/19/2013	4/23/2013	MDK	6
Benzo(g,h,i)perylene	550	ug/kg	22.7	72.2	1	M8270D	4/19/2013	4/23/2013	MDK	6
Benzo(k)fluoranthene	380	ug/kg	21.6	68.8	1	M8270D	4/19/2013	4/23/2013	MDK	6
Chrysene	620	ug/kg	18.1	57.7	1	M8270D	4/19/2013	4/23/2013	MDK	6
Dibenzo(a,h)anthracene	151	ug/kg	22.3	71	1	M8270D	4/19/2013	4/23/2013	MDK	6
Fluoranthene	1020	ug/kg	21.1	67.2	1	M8270D	4/19/2013	4/23/2013	MDK	6
Fluorene	700	ug/kg	22.2	70.6	1	M8270D	4/19/2013	4/23/2013	MDK	6
Indeno(1,2,3-cd)pyrene	510	ug/kg	23.9	76.1	1	M8270D	4/19/2013	4/23/2013	MDK	6
1-Methyl naphthalene	370	ug/kg	20.7	65.8	1	M8270D	4/19/2013	4/23/2013	MDK	1
2-Methyl naphthalene	530	ug/kg	20.6	65.4	1	M8270D	4/19/2013	4/23/2013	MDK	1

Project Name CENTURY CITY **Invoice #** E25009
Project #

Lab Code 525009LL
Sample ID GC-7 (2-3)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Naphthalene	271	ug/kg	22.1	70.2	1	M8270D	4/19/2013	4/23/2013	MDK	1
Phenanthrene	1420	ug/kg	22.4	71.1	1	M8270D	4/19/2013	4/23/2013	MDK	6
Pyrene	800	ug/kg	23.1	73.6	1	M8270D	4/19/2013	4/23/2013	MDK	6
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		4/16/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		4/16/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		4/16/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		4/16/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		4/16/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		4/16/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		4/16/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		4/16/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		4/16/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		4/16/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		4/16/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		4/16/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		4/16/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		4/16/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		4/16/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		4/16/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		4/16/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		4/16/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		4/16/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		4/16/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		4/16/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		4/16/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		4/16/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		4/16/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		4/16/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		4/16/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		4/16/2013	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		4/16/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		4/16/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		4/16/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		4/16/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		4/16/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		4/16/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		4/16/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		4/16/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		4/16/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		4/16/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		4/16/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		4/16/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		4/16/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		4/16/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		4/16/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		4/16/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		4/16/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		4/16/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		4/16/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		4/16/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		4/16/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		4/16/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		4/16/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		4/16/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		4/16/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		4/16/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	98	Rec %			1	8260B		4/16/2013	CJR	1
SUR - 4-Bromofluorobenzene	109	Rec %			1	8260B		4/16/2013	CJR	1
SUR - Dibromofluoromethane	92	Rec %			1	8260B		4/16/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25009
Project #

Lab Code 525009LL
Sample ID GC-7 (2-3)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
SUR - Toluene-d8	98	Rec %			1	8260B		4/16/2013	CJR	1

Lab Code 525009MM
Sample ID GC-7 (5-6)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.0	%			1	5021		4/11/2013	MJR	1
Inorganic										
Metals										
Lead, Total	11	mg/kg	0.095	0.25	1	6010B		4/19/2013	ESC	1
Organic										
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	4/19/2013	4/23/2013	MDK	1
Acenaphthylene	29.3 "J"	ug/kg	19.2	60.9	1	M8270D	4/19/2013	4/23/2013	MDK	1
Anthracene	57 "J"	ug/kg	19.5	62.1	1	M8270D	4/19/2013	4/23/2013	MDK	1
Benzo(a)anthracene	78	ug/kg	22.9	72.9	1	M8270D	4/19/2013	4/23/2013	MDK	1
Benzo(a)pyrene	94	ug/kg	17.4	55.3	1	M8270D	4/19/2013	4/23/2013	MDK	1
Benzo(b)fluoranthene	144	ug/kg	19.6	62.3	1	M8270D	4/19/2013	4/23/2013	MDK	1
Benzo(g,h,i)perylene	72 "J"	ug/kg	22.7	72.2	1	M8270D	4/19/2013	4/23/2013	MDK	1
Benzo(k)fluoranthene	41 "J"	ug/kg	21.6	68.8	1	M8270D	4/19/2013	4/23/2013	MDK	1
Chrysene	90	ug/kg	18.1	57.7	1	M8270D	4/19/2013	4/23/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	4/19/2013	4/23/2013	MDK	1
Fluoranthene	191	ug/kg	21.1	67.2	1	M8270D	4/19/2013	4/23/2013	MDK	1
Fluorene	49 "J"	ug/kg	22.2	70.6	1	M8270D	4/19/2013	4/23/2013	MDK	1
Indeno(1,2,3-cd)pyrene	58 "J"	ug/kg	23.9	76.1	1	M8270D	4/19/2013	4/23/2013	MDK	1
1-Methyl naphthalene	31 "J"	ug/kg	20.7	65.8	1	M8270D	4/19/2013	4/23/2013	MDK	1
2-Methyl naphthalene	39 "J"	ug/kg	20.6	65.4	1	M8270D	4/19/2013	4/23/2013	MDK	1
Naphthalene	24 "J"	ug/kg	22.1	70.2	1	M8270D	4/19/2013	4/23/2013	MDK	1
Phenanthrene	164	ug/kg	22.4	71.1	1	M8270D	4/19/2013	4/23/2013	MDK	1
Pyrene	150	ug/kg	23.1	73.6	1	M8270D	4/19/2013	4/23/2013	MDK	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		4/16/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		4/16/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		4/16/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		4/16/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		4/16/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		4/16/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		4/16/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		4/16/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		4/16/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		4/16/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		4/16/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		4/16/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		4/16/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		4/16/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		4/16/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		4/16/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		4/16/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		4/16/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		4/16/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		4/16/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		4/16/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		4/16/2013	CJR	1

Project Name CENTURY CITY **Invoice #** E25009
Project #

Lab Code 525009MM
Sample ID GC-7 (5-6)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		4/16/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		4/16/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		4/16/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		4/16/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		4/16/2013	CJR	1
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		4/16/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		4/16/2013	CJR	1
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		4/16/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		4/16/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		4/16/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		4/16/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		4/16/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		4/16/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		4/16/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		4/16/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		4/16/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		4/16/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		4/16/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		4/16/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		4/16/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		4/16/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		4/16/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		4/16/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		4/16/2013	CJR	1
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		4/16/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		4/16/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		4/16/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		4/16/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		4/16/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		4/16/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		4/16/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	91	Rec %			1	8260B		4/16/2013	CJR	1
SUR - 4-Bromofluorobenzene	102	Rec %			1	8260B		4/16/2013	CJR	1
SUR - Dibromofluoromethane	93	Rec %			1	8260B		4/16/2013	CJR	1
SUR - Toluene-d8	98	Rec %			1	8260B		4/16/2013	CJR	1

Lab Code 525009NN
Sample ID C.NP-11 (1-2)
Sample Matrix Soil
Sample Date 4/5/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.1	%			1	5021		4/9/2013	MDK	1
Inorganic										
Metals										
Lead, Total	480	mg/kg	0.19	0.5	2	6010B		4/19/2013	ESC	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681E
Sample ID DCD-SB63(6.0-6.7)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	76.7	%			1	5021		10/2/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
PCB'S										
PCB-1016	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1221	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1232	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1242	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1248	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1254	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1260	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C		10/4/2009	MJR	1
Acenaphthene	83	ug/kg	18	59	1	8270C		10/4/2009	MJR	1
Acenaphthylene	25 "J"	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
Anthracene	120	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
Benzo(a)anthracene	244	ug/kg	15	49	1	8270C		10/4/2009	MJR	1
Benzo(a)pyrene	232	ug/kg	7	23	1	8270C		10/4/2009	MJR	1
Benzo(b)fluoranthene	302	ug/kg	10	31	1	8270C		10/4/2009	MJR	1
Benzo(g,h,i)perylene	101	ug/kg	11	35	1	8270C		10/4/2009	MJR	1
Benzo(k)fluoranthene	133	ug/kg	16	52	1	8270C		10/4/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C		10/4/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C		10/4/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C		10/4/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C		10/4/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C		10/4/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C		10/4/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C		10/4/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C		10/4/2009	MJR	1
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Chrysene	260	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C		10/4/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C		10/4/2009	MJR	1
Dibenzofuran	80	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Dibenzo(a,h)anthracene	32 "J"	ug/kg	16	50	1	8270C		10/4/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C		10/4/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C		10/4/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C		10/4/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C		10/4/2009	MJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681E
Sample ID DCD-SB63(6.0-6.7)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C		10/4/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C		10/4/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C		10/4/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C		10/4/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C		10/4/2009	MJR	1
Fluoranthene	521	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
Fluorene	123	ug/kg	23	74	1	8270C		10/4/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C		10/4/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C		10/4/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C		10/4/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C		10/4/2009	MJR	1
Indeno(1,2,3-cd)pyrene	116	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C		10/4/2009	MJR	1
1-Methyl naphthalene	390	ug/kg	27	85	1	8270C		10/4/2009	MJR	1
2-Methyl naphthalene	462	ug/kg	17	55	1	8270C		10/4/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C		10/4/2009	MJR	8
Naphthalene	203	ug/kg	13	40	1	8270C		10/4/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C		10/4/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C		10/4/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C		10/4/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C		10/4/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C		10/4/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C		10/4/2009	MJR	1
Phenanthrene	458	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Phenol	17 "J"	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Pyrene	436	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C		10/4/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C		10/4/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C		10/4/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C		10/4/2009	MJR	1
2-Fluorobiphenyl-surrogate	91.1	%			1	8270C		10/4/2009	MJR	1
2-Fluorophenol-surrogate	42.6	%			1	8270C		10/4/2009	MJR	1
Nitrobenzene-d5-surrogate	70.8	%			1	8270C		10/4/2009	MJR	1
Phenol-d6-surrogate	77.8	%			1	8270C		10/4/2009	MJR	1
p-Terphenyl-d14-surrogate	108	%			1	8270C		10/4/2009	MJR	1
2,4,6-Tribromophenol-surrogate	53.7	%			1	8270C		10/4/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/4/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/4/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/4/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/4/2009	CJR	1
sec-Butylbenzene	177	ug/kg	25	81	1	8260B		10/4/2009	CJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681E
Sample ID DCD-SB63(6.0-6.7)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
n-Butylbenzene	330	ug/kg	35	110	1	8260B		10/4/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/4/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/4/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/4/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/4/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/4/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/4/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/4/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/4/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/4/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/4/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/4/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/4/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/4/2009	CJR	1
1,1-Dichloroethane	47 "J"	ug/kg	22	69	1	8260B		10/4/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/4/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/4/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/4/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/4/2009	CJR	4 7 8
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/4/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/4/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/4/2009	CJR	1
Ethylbenzene	137	ug/kg	16	52	1	8260B		10/4/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/4/2009	CJR	1
Isopropylbenzene	109	ug/kg	30	95	1	8260B		10/4/2009	CJR	1
p-Isopropyltoluene	154	ug/kg	30	95	1	8260B		10/4/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/4/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
Naphthalene	760	ug/kg	117	373	1	8260B		10/4/2009	CJR	1
n-Propylbenzene	207	ug/kg	29	93	1	8260B		10/4/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/4/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/4/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/4/2009	CJR	1
Toluene	23.1 "J"	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/4/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/4/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/4/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/4/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/4/2009	CJR	1
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/4/2009	CJR	1
1,2,4-Trimethylbenzene	800	ug/kg	20	63	1	8260B		10/4/2009	CJR	1
1,3,5-Trimethylbenzene	38 "J"	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/4/2009	CJR	1
m&p-Xylene	105	ug/kg	33	104	1	8260B		10/4/2009	CJR	1
o-Xylene	56	ug/kg	15	47	1	8260B		10/4/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	101	Rec %			1	8260B		10/4/2009	CJR	1
SUR - 4-Bromofluorobenzene	105	Rec %			1	8260B		10/4/2009	CJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681E
Sample ID DCD-SB63(6.0-6.7)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
SUR - Dibromofluoromethane	111	Rec %			1	8260B		10/4/2009	CJR	1
SUR - Toluene-d8	97	Rec %			1	8260B		10/4/2009	CJR	1

Lab Code 5019681F
Sample ID DCD-SB63(19-20)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.6	%			1	5021		10/2/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
PCB'S										
PCB-1016	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1221	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1232	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1242	ESC	mg/kg	0.006	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1248	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1254	ESC	mg/kg	0.004	0.017	1	EPA 8082A		10/10/2009	ESC	1
PCB-1260	ESC	mg/kg	0.005	0.017	1	EPA 8082A		10/10/2009	ESC	1
Semi Volatiles										
Acetophenone	< 26	ug/kg	26	82	1	8270C		10/4/2009	MJR	1
Acenaphthene	< 17	ug/kg	18	59	1	8270C		10/4/2009	MJR	1
Acenaphthylene	< 12	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
Anthracene	< 14	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
Benzo(a)anthracene	< 15	ug/kg	15	49	1	8270C		10/4/2009	MJR	1
Benzo(a)pyrene	< 7	ug/kg	7	23	1	8270C		10/4/2009	MJR	1
Benzo(b)fluoranthene	< 10	ug/kg	10	31	1	8270C		10/4/2009	MJR	1
Benzo(g,h,i)perylene	< 11	ug/kg	11	35	1	8270C		10/4/2009	MJR	1
Benzo(k)fluoranthene	< 16	ug/kg	16	52	1	8270C		10/4/2009	MJR	1
Benzyl Alcohol	< 215	ug/kg	215	667	1	8270C		10/4/2009	MJR	1
Butyl benzyl phthalate	< 50	ug/kg	50	159	1	8270C		10/4/2009	MJR	1
Bis(2-chloroethoxy)methane	< 14	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
Bis(2-chloroethyl)ether	< 24	ug/kg	24	78	1	8270C		10/4/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 34	ug/kg	34	107	1	8270C		10/4/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 215	ug/kg	215	686	1	8270C		10/4/2009	MJR	1
4-Bromophenylphenyl ether	< 18	ug/kg	18	59	1	8270C		10/4/2009	MJR	1
4-Chloro-3-methylphenol	< 19	ug/kg	19	61	1	8270C		10/4/2009	MJR	1
2-Chloronaphthalene	< 14	ug/kg	14	44	1	8270C		10/4/2009	MJR	1
2-Chlorophenol	< 16	ug/kg	16	52	1	8270C		10/4/2009	MJR	1
4-Chlorophenylphenyl ether	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Chrysene	18 "J"	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
o-Cresol	< 13	ug/kg	13	38	1	8270C		10/4/2009	MJR	1
m & p-Cresol	< 44	ug/kg	44	140	1	8270C		10/4/2009	MJR	1
Dibenzofuran	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681F
Sample ID DCD-SB63(19-20)
Sample Matrix soil
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	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Dibenzo(a,h)anthracene	< 16	ug/kg	16	50	1	8270C		10/4/2009	MJR	1
1,4-Dichlorobenzene	< 18	ug/kg	18	56	1	8270C		10/4/2009	MJR	1
1,3-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
1,2-Dichlorobenzene	< 16	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
3,3'-Dichlorobenzidine	< 12	ug/kg	12	39	1	8270C		10/4/2009	MJR	1
2,4-Dichlorophenol	< 17	ug/kg	17	55	1	8270C		10/4/2009	MJR	1
Diethyl phthalate	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
Dimethyl phthalate	< 12	ug/kg	12	37	1	8270C		10/4/2009	MJR	1
2,4-Dimethylphenol	< 13	ug/kg	13	40	1	8270C		10/4/2009	MJR	1
Di-n-butyl phthalate	< 47	ug/kg	47	151	1	8270C		10/4/2009	MJR	1
2,4-Dinitrophenol	< 49	ug/kg	49	150	1	8270C		10/4/2009	MJR	8
2,6-Dinitrotoluene	< 11	ug/kg	11	36	1	8270C		10/4/2009	MJR	1
2,4-Dinitrotoluene	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Di-n-octyl phthalate	< 9	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Diphenylamine	< 21	ug/kg	21	68	1	8270C		10/4/2009	MJR	1
Fluoranthene	< 12	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
Fluorene	< 23	ug/kg	23	74	1	8270C		10/4/2009	MJR	1
Hexachlorobenzene	< 19	ug/kg	19	60	1	8270C		10/4/2009	MJR	1
Hexachlorobutadiene	< 21	ug/kg	21	66	1	8270C		10/4/2009	MJR	1
Hexachlorocyclopentadiene	< 6	ug/kg	6	18	1	8270C		10/4/2009	MJR	8
Hexachloroethane	< 12	ug/kg	12	40	1	8270C		10/4/2009	MJR	1
Indeno(1,2,3-cd)pyrene	< 16	ug/kg	16	51	1	8270C		10/4/2009	MJR	1
Isophorone	< 13	ug/kg	13	41	1	8270C		10/4/2009	MJR	1
1-Methyl naphthalene	< 27	ug/kg	27	85	1	8270C		10/4/2009	MJR	1
2-Methyl naphthalene	40 "J"	ug/kg	17	55	1	8270C		10/4/2009	MJR	1
2-Methyl-4,6-dinitrophenol	< 24	ug/kg	24	75	1	8270C		10/4/2009	MJR	8
Naphthalene	< 13	ug/kg	13	40	1	8270C		10/4/2009	MJR	1
2-Nitroaniline	< 13	ug/kg	13	41	1	8270C		10/4/2009	MJR	1
3-Nitroaniline	< 27	ug/kg	27	86	1	8270C		10/4/2009	MJR	1
4-Nitroaniline	< 23	ug/kg	23	74	1	8270C		10/4/2009	MJR	1
Nitrobenzene	< 12	ug/kg	12	38	1	8270C		10/4/2009	MJR	1
2-Nitrophenol	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
4-Nitrophenol	< 24	ug/kg	24	76	1	8270C		10/4/2009	MJR	1
n-Nitrosodimethylamine	< 46	ug/kg	46	147	1	8270C		10/4/2009	MJR	1
n-Nitrosodi-n-propylamine	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
Pentachlorophenol (PCP)	< 9	ug/kg	9	27	1	8270C		10/4/2009	MJR	1
Phenanthrene	51	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Phenol	< 9	ug/kg	9	30	1	8270C		10/4/2009	MJR	1
Pyrene	< 15	ug/kg	15	48	1	8270C		10/4/2009	MJR	1
Pyridine	< 18	ug/kg	18	58	1	8270C		10/4/2009	MJR	1
2,3,4,6-Tetrachlorophenol	< 22	ug/kg	22	71	1	8270C		10/4/2009	MJR	1
1,2,4-Trichlorobenzene	< 26	ug/kg	26	83	1	8270C		10/4/2009	MJR	1
2,4,5-Trichlorophenol	< 26	ug/kg	26	84	1	8270C		10/4/2009	MJR	1
2,4,6-Trichlorophenol	< 20	ug/kg	20	64	1	8270C		10/4/2009	MJR	1
2-Fluorobiphenyl-surrogate	93.5	%			1	8270C		10/4/2009	MJR	1
2-Fluorophenol-surrogate	77.6	%			1	8270C		10/4/2009	MJR	1
Nitrobenzene-d5-surrogate	79.3	%			1	8270C		10/4/2009	MJR	1
Phenol-d6-surrogate	85.4	%			1	8270C		10/4/2009	MJR	1
p-Terphenyl-d14-surrogate	105	%			1	8270C		10/4/2009	MJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681F
Sample ID DCD-SB63(19-20)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
2,4,6-Tribromophenol-surrogate	41.9	%			1	8270C		10/4/2009	MJR	1
VOC's										
Benzene	< 20	ug/kg	20	64	1	8260B		10/4/2009	CJR	1
Bromobenzene	< 34	ug/kg	34	107	1	8260B		10/4/2009	CJR	1
Bromodichloromethane	< 16	ug/kg	16	51	1	8260B		10/4/2009	CJR	1
Bromoform	< 23	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
tert-Butylbenzene	< 23	ug/kg	23	75	1	8260B		10/4/2009	CJR	1
sec-Butylbenzene	< 25	ug/kg	25	81	1	8260B		10/4/2009	CJR	1
n-Butylbenzene	< 35	ug/kg	35	110	1	8260B		10/4/2009	CJR	1
Carbon Tetrachloride	< 21	ug/kg	21	67	1	8260B		10/4/2009	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		10/4/2009	CJR	1
Chloroethane	< 23	ug/kg	23	73	1	8260B		10/4/2009	CJR	1
Chloroform	< 50	ug/kg	50	160	1	8260B		10/4/2009	CJR	1
Chloromethane	< 43	ug/kg	43	136	1	8260B		10/4/2009	CJR	1
2-Chlorotoluene	< 31	ug/kg	31	97	1	8260B		10/4/2009	CJR	1
4-Chlorotoluene	< 24	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
1,2-Dibromo-3-chloropropane	< 37	ug/kg	37	118	1	8260B		10/4/2009	CJR	1
Dibromochloromethane	< 21	ug/kg	21	66	1	8260B		10/4/2009	CJR	1
1,4-Dichlorobenzene	< 42	ug/kg	42	132	1	8260B		10/4/2009	CJR	1
1,3-Dichlorobenzene	< 41	ug/kg	41	130	1	8260B		10/4/2009	CJR	1
1,2-Dichlorobenzene	< 32	ug/kg	32	103	1	8260B		10/4/2009	CJR	1
Dichlorodifluoromethane	< 33	ug/kg	33	105	1	8260B		10/4/2009	CJR	1
1,2-Dichloroethane	< 24	ug/kg	24	75	1	8260B		10/4/2009	CJR	1
1,1-Dichloroethane	< 22	ug/kg	22	69	1	8260B		10/4/2009	CJR	1
1,1-Dichloroethene	< 27	ug/kg	27	87	1	8260B		10/4/2009	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	92	1	8260B		10/4/2009	CJR	1
1,2-Dichloropropane	< 19	ug/kg	19	59	1	8260B		10/4/2009	CJR	1
2,2-Dichloropropane	< 115	ug/kg	115	365	1	8260B		10/4/2009	CJR	4 7 8
1,3-Dichloropropane	< 21	ug/kg	21	67	1	8260B		10/4/2009	CJR	1
Di-isopropyl ether	< 15	ug/kg	15	48	1	8260B		10/4/2009	CJR	1
EDB (1,2-Dibromoethane)	< 21	ug/kg	21	66	1	8260B		10/4/2009	CJR	1
Ethylbenzene	< 16	ug/kg	16	52	1	8260B		10/4/2009	CJR	1
Hexachlorobutadiene	< 50	ug/kg	50	159	1	8260B		10/4/2009	CJR	1
Isopropylbenzene	< 30	ug/kg	30	95	1	8260B		10/4/2009	CJR	1
p-Isopropyltoluene	< 30	ug/kg	30	95	1	8260B		10/4/2009	CJR	1
Methylene chloride	< 44	ug/kg	44	140	1	8260B		10/4/2009	CJR	1
Methyl tert-butyl ether (MTBE)	< 23	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
Naphthalene	< 117	ug/kg	117	373	1	8260B		10/4/2009	CJR	1
n-Propylbenzene	< 29	ug/kg	29	93	1	8260B		10/4/2009	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	25	79	1	8260B		10/4/2009	CJR	1
1,1,1,2-Tetrachloroethane	< 27	ug/kg	27	87	1	8260B		10/4/2009	CJR	1
Tetrachloroethene	< 18	ug/kg	18	57	1	8260B		10/4/2009	CJR	1
Toluene	< 23	ug/kg	23	72	1	8260B		10/4/2009	CJR	1
1,2,4-Trichlorobenzene	< 53	ug/kg	53	169	1	8260B		10/4/2009	CJR	1
1,2,3-Trichlorobenzene	< 87	ug/kg	87	277	1	8260B		10/4/2009	CJR	1
1,1,1-Trichloroethane	< 27	ug/kg	27	84	1	8260B		10/4/2009	CJR	1
1,1,2-Trichloroethane	< 30	ug/kg	30	94	1	8260B		10/4/2009	CJR	1
Trichloroethene (TCE)	< 20	ug/kg	20	65	1	8260B		10/4/2009	CJR	1

Project Name 3533 NORTH 27TH STREET **Invoice #** E19681
Project #

Lab Code 5019681F
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	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichlorofluoromethane	< 16	ug/kg	16	51	1	8260B		10/4/2009	CJR	1
1,2,4-Trimethylbenzene	< 20	ug/kg	20	63	1	8260B		10/4/2009	CJR	1
1,3,5-Trimethylbenzene	< 24	ug/kg	24	77	1	8260B		10/4/2009	CJR	1
Vinyl Chloride	< 17	ug/kg	17	56	1	8260B		10/4/2009	CJR	1
m&p-Xylene	< 33	ug/kg	33	104	1	8260B		10/4/2009	CJR	1
o-Xylene	< 15	ug/kg	15	47	1	8260B		10/4/2009	CJR	1
SUR - 4-Bromofluorobenzene	104	Rec %			1	8260B		10/4/2009	CJR	1
SUR - Dibromofluoromethane	108	Rec %			1	8260B		10/4/2009	CJR	1
SUR - Toluene-d8	98	Rec %			1	8260B		10/4/2009	CJR	1
SUR - 1,2-Dichloroethane-d4	101	Rec %			1	8260B		10/4/2009	CJR	1

Lab Code 5019681G
Sample ID DCD-SB12(0-2)
Sample Matrix soil
Sample Date 9/30/2009

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.6	%			1	5021		10/2/2009	MDK	1
Inorganic										
Metals										
TAL Metals	ESC			0	1	6010B		10/10/2009	ESC	1
Organic										
Semi Volatiles										
Acetophenone	< 1300	ug/kg	1300	4100	50	8270C		10/4/2009	MJR	1
Acenaphthene	< 850	ug/kg	900	2950	50	8270C		10/4/2009	MJR	1
Acenaphthylene	1720 "J"	ug/kg	600	1900	50	8270C		10/4/2009	MJR	1
Anthracene	1940 "J"	ug/kg	700	2200	50	8270C		10/4/2009	MJR	1
Benzo(a)anthracene	7500	ug/kg	750	2450	50	8270C		10/4/2009	MJR	1
Benzo(a)pyrene	6850	ug/kg	350	1150	50	8270C		10/4/2009	MJR	1
Benzo(b)fluoranthene	9930	ug/kg	500	1550	50	8270C		10/4/2009	MJR	1
Benzo(g,h,i)perylene	2660	ug/kg	550	1750	50	8270C		10/4/2009	MJR	1
Benzo(k)fluoranthene	3240	ug/kg	800	2600	50	8270C		10/4/2009	MJR	1
Benzyl Alcohol	< 10750	ug/kg	10750	33350	50	8270C		10/4/2009	MJR	1
Butyl benzyl phthalate	< 2500	ug/kg	2500	7950	50	8270C		10/4/2009	MJR	1
Bis(2-chloroethoxy)methane	< 700	ug/kg	700	2200	50	8270C		10/4/2009	MJR	1
Bis(2-chloroethyl)ether	< 1200	ug/kg	1200	3900	50	8270C		10/4/2009	MJR	1
Bis(2-chloroisopropyl)ether	< 1700	ug/kg	1700	5350	50	8270C		10/4/2009	MJR	1
Bis(2-ethylhexyl)phthalate	< 2070	ug/kg	10750	34300	50	8270C		10/4/2009	MJR	1
4-Bromophenylphenyl ether	< 900	ug/kg	900	2950	50	8270C		10/4/2009	MJR	1
4-Chloro-3-methylphenol	< 950	ug/kg	950	3050	50	8270C		10/4/2009	MJR	1
2-Chloronaphthalene	< 700	ug/kg	700	2200	50	8270C		10/4/2009	MJR	1
2-Chlorophenol	< 800	ug/kg	800	2600	50	8270C		10/4/2009	MJR	1
4-Chlorophenylphenyl ether	< 750	ug/kg	750	2400	50	8270C		10/4/2009	MJR	1
Chrysene	7570	ug/kg	600	1900	50	8270C		10/4/2009	MJR	1
o-Cresol	< 650	ug/kg	650	1900	50	8270C		10/4/2009	MJR	1
m & p-Cresol	< 2200	ug/kg	2200	7000	50	8270C		10/4/2009	MJR	1
Dibenzofuran	< 750	ug/kg	750	2400	50	8270C		10/4/2009	MJR	1

State of Wisconsin
Waukesha Service Center
141 NW Barstow St., Room 180
Waukesha, WI 53188

Scott Walker, Governor
Cathy Stepp, Secretary
Eric Nitschke, Regional Director
Telephone (262) 574-2100
FAX (262) 574-2117
TDD () -

WISCONSIN DEPT. OF NATURAL RESOURCES

October 3, 2014

Mr. Benjamin Timm
Redevelopment Authority of the City of Milwaukee
809 N. Broadway St.
Milwaukee, WI 41428-6575

SUBJECT: Coverage Under WPDES General Permit No. WI-S067831-04: Construction Site Storm Water Runoff

Permittee Name: Redevelopment Authority of the City of Milwaukee
Site Name: Century City
FIN: 51798

Dear Mr. Timm:

The Wisconsin Department of Natural Resources received your Water Resources Application for Project Permits or Notice of Intent, on September 23, 2014, for the Century City site and has evaluated the information provided regarding storm water discharges from your construction site. We have determined that your construction site activities will be regulated under ch. 283, Wis. Stats., ch. NR 216, Wis. Adm. Code, and in accordance with Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-S067831-04, Construction Site Storm Water Runoff. All erosion control and storm water management activities undertaken at the site must be done in accordance with the terms and conditions of the general permit.

The **Start Date** of permit coverage for this site is October 3, 2014. The maximum period of permit coverage for this site is limited to 3 years from the **Start Date**. Therefore, permit coverage automatically expires and terminates 3 years from the Start Date and storm water discharges are no longer authorized unless another Notice of Intent and application fee to retain coverage under this permit or a reissued version of this permit is submitted to the Department 14 working days prior to expiration.

A copy of the general permit along with extensive storm water information including technical standards, forms, guidance and other documents is accessible on the Department's storm water program Internet site. To obtain a copy of the general permit, please download it and the associated documents listed below from the following Department Internet site:
http://dnr.wi.gov/topic/stormwater/construction/forms.html

- Construction Site Storm Water Runoff WPDES general permit No. WI-S067831-04
- Construction site inspection report form
- Notice of Termination form

If, for any reason, you are unable to access these documents over the Internet, please contact me and I will send them to you.

To ensure compliance with the general permit, please read it carefully and be sure you understand its contents. Please take special note of the following requirements (This is not a complete list of the terms and conditions of the general permit.):

1. The Construction Site Erosion Control Plan and Storm Water Management Plan that you completed prior to submitting your permit application must be implemented and maintained throughout construction. Failure to do so may result in enforcement action by the Department.

2. The general permit requires that erosion and sediment controls be routinely inspected at least every 7 days, and within 24 hours after a rainfall event of 0.5 inches or greater. Weekly written reports of all inspections must be maintained. The reports must contain the following information:

a. Date, time, and exact place of inspection;
b. Name(s) of individual(s) performing inspection;
c. An assessment of the condition of erosion and sediment controls;
d. A description of any erosion and sediment control implementation and maintenance performed;
e. A description of the site's present phase of construction.

3. A **Certificate of Permit Coverage** must be posted in a conspicuous place on the construction site. The Certificate of Permit Coverage (WDNR Publication # WT-813) is enclosed for your use.

4. When construction activities have ceased and the site has undergone final stabilization, a Notice of Termination (NOT) of coverage under the general permit must be submitted to the Department.

It is important that you read and understand the terms and conditions of the general permit because they have the force of law and apply to you. Your project may lose its permit coverage if you do not comply with its terms and conditions. The Department may also withdraw your project from coverage under the general permit and require that you obtain an individual WPDES permit instead, based on the Department's own motion, upon the filing of a written petition by any person, or upon your request.

If you believe that you have a right to challenge this decision to grant permit coverage, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

Thank you for your cooperation with the Construction Site Storm Water Discharge Permit Program. If you have any questions concerning the contents of this letter or the general permit, please contact me at (262) 574-2129.

Sincerely,

Bryan Hartsook, P.E.
Water District South - Waukesha
Water Resources Engineer

ENCLOSURE: Certificate of Permit Coverage

CERTIFICATE OF PERMIT COVERAGE

UNDER THE
WPDES CONSTRUCTION SITE STORM WATER RUNOFF PERMIT
Permit No. WI-S067831-04

Under s. NR 216.455(2), Wis. Adm. Code, landowners of construction sites with storm water discharges regulated by the Wisconsin Department of Natural Resources (WDNR) Storm Water Permit Program are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted WDNR storm water permit coverage. The landowner must implement and maintain erosion control practices to limit sediment-contaminated runoff to waters of the state in accordance with the permit.

EROSION CONTROL COMPLAINTS

should be reported to the WDNR Tip Line at

1-800-TIP-WDNR (1-800-847-9367)

Please provide the following information to the Tip Line:

WDNR Site No. (FIN): 51798

Site Name: Century City

Address/Location: 2725 W. Hopkins St City of MILWAUKEE

Additional Information:

Landowner: Redevelopment Authority of the City of Milwaukee

Landowner's Contact Person: Benjamin Timm

Contact Telephone Number: 414-286-5730

Permit Start Date: October 3, 2014

By: _____

WDNR Publication # WT-813 (10/11)

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Fax 608-267-3579
TTY Access via relay - 711

September 11, 2015

DNR PROJECT NO. S-2015-0492
DNR REGION: SER

TIMOTHY J. THUR, P.E. ENVIRONMENTAL MANAGER
CITY OF MILWAUKEE
ENVIRONMENTAL ENGINEERING SECTION
841 N BROADWAY RM 820
MILWAUKEE, WI 53202

DNR PLAN APPROVAL for SEWERAGE SYSTEM IMPROVEMENT

Wastewater System Owner: MILWAUKEE, CITY
Consultant: CITY OF MILWAUKEE
Engineer: ZAFAR S. YOUSUF, P.E.
Date Project Received: August 14, 2015
Project Description: PLANS for SEWER
Sanitary sewer extension in N Hopkins St consisting of 12-inch (151 lf) pipe, MMSD No.2015073.

The proposed sewerage system improvement included in the above referenced plan submittal is hereby approved in accordance with s. 281.41, Wis. Stats., subject to the following conditions:

1. That a preconstruction conference be held to familiarize the contractor(s) and inspector(s) with the plans, specifications, and conditions of approval.
2. That a competent resident inspector be provided during the course of construction.
3. That erosion control methods be used to prevent siltation to lands and waterways in the vicinity of the construction activity.
4. That all storm and other clear water, including that from sump pumps, roof drains, cistern overflows, and building foundation drains be excluded from these approved sewers (not applicable for combined sewers).
5. That the improvements be installed in accordance with the approved plans and specifications, and the above conditions, or subsequent essential and approved modifications.

This approval is valid for four years from the date of approval. The Department reserves the right to order changes or additions should conditions arise making this necessary.

If you believe you have a right to appeal this decision, you may file a request for a contested case hearing pursuant to s. 227.42, Wis. Stats., or file for judicial review under s. 227.52 and 227.53, Statutes. You have 30 days after this approval is mailed to file your written request for hearing or file and serve your petition for judicial review. Your request for hearing or petition for judical review must name the Secretary of the Department as respondent. This notice is provided pursuant to s. 227.48, Statutes.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Trevor Moen

For: Barton T. Chapman, P.E.
Chief, Wastewater Section

cc: Engineer
SEWRPC - No. SSE - 046-15
Debra Jensen - Milwaukee MSD - E.C.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
FAX 608-267-3579
TTY Access via relay - 711

August 3, 2015

CARRIE LEWIS
MILWAUKEE WATERWORKS
841 N. BROADWAY ROOM 409
MILWAUKEE WI 53202-3613

Project Number: W-2015-0538
Date Received: 07/22/2015
DNR Region: SER

WATER MAIN EXTENSION APPROVAL

Water system name: Milwaukee Waterworks
Engineering Firm: Graef-USA
Professional Engineer: James A. Lisak
Location(s): W. Hopkins Street

Service connections in this area that have static pressures exceeding 80 psi should have individual pressure reducing valves installed in accordance with Department of Safety and Professional Services requirements.

Condition(s) of approval:

1. A preconstruction conference shall be held to ensure the understanding of, and compliance with, the approved plans and specifications, the proposed method of erosion control, the duties of the resident project representative, the disinfection and bacteriological sampling requirements of s. NR 810.09(4), Wis. Adm. Code and any special conditions listed below.
2. Per s. NR 811.73(2)(h), Wis. Adm. Code, erosion control methods shall be used to prevent siltation to lands and waterways adjoining the construction area. These methods shall include but not be limited to the following:
   a. Siltation fences,
   b. Trench stabilization, and
   c. Immediate mulching and seeding.

Approval constraints: The project was reviewed in accordance with s. 281.41, Wis. Stats. for compliance with Chapters NR 108, NR 810 and NR 811, Wis. Adm. Code and is hereby approved in accordance with s. 281.41, Wis. Stats. subject to the conditions listed above. This approval is valid for four years from the date of approval.

Appeal rights: If you believe that you have a right to challenge this decision, you should know that the Wisconsin Statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Requests for contested case hearings must be made in accordance with ch. NR 2, Wis. Adm. Code. Filing a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you must file your petition with the appropriate circuit court and serve the petition on the Department within 30 days after the decision is mailed. A petition for judicial review must name the Department of Natural Resources as the respondent.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

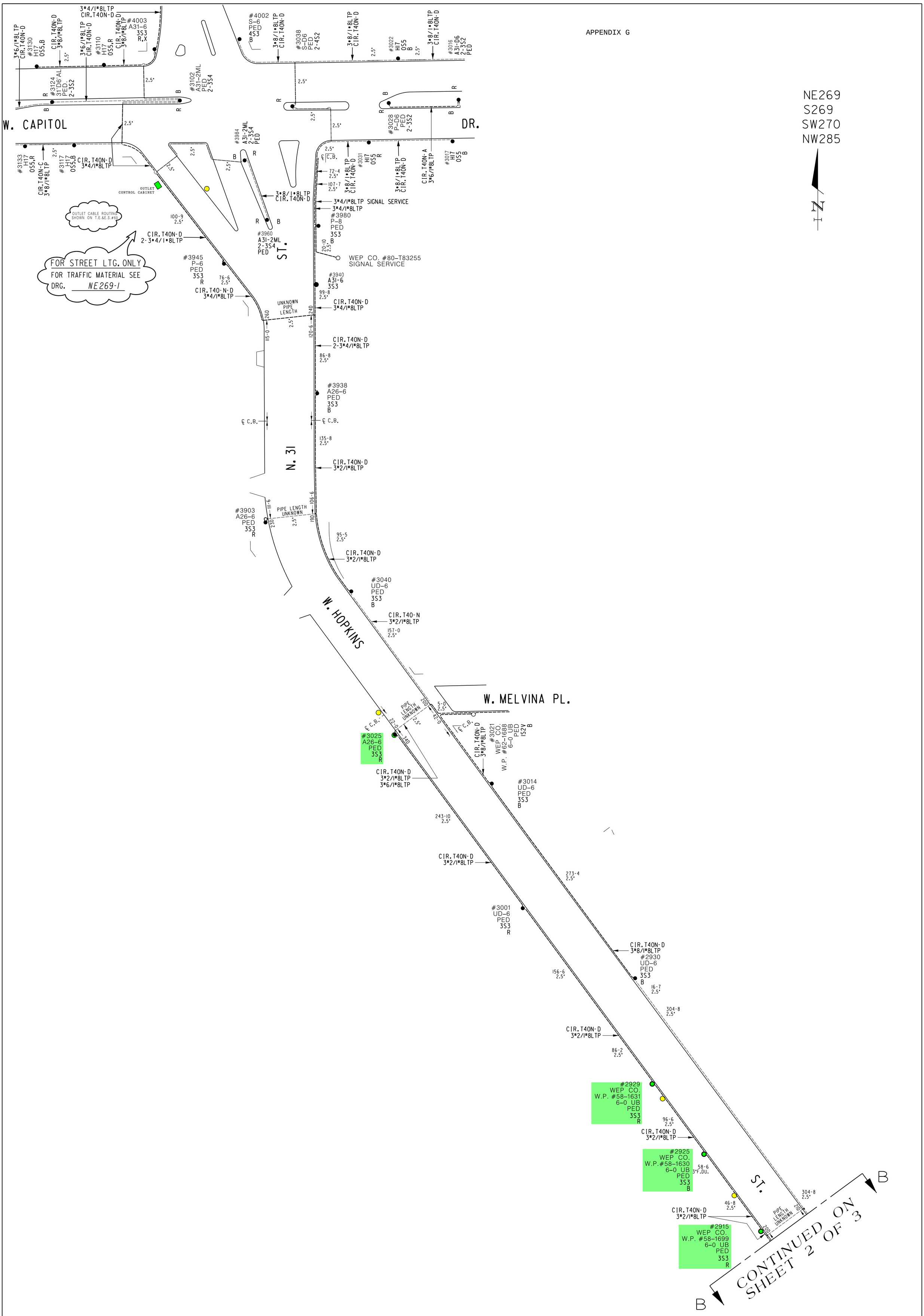
For the Secretary

Norman A. Hahn, Jr.

Norman A. Hahn, Jr., P.E.
Public Water Engineering Section
Bureau of Drinking Water and Groundwater
(608) 267-7661

cc: Pat Pauly, P.E., Milwaukee Waterworks (by email)
James A. Lisak, P.E., Graef-USA (by email)
Amanda Ripperger – DNR, Madison DG/5, Plan Reviewer (by email)

APPENDIX G



MATERIAL TO BE INSTALLED
MATERIAL IN SERVICE TO REMAIN
MATERIAL TO BE REMOVED
MATERIAL TO BE ABANDONED
PROTECT AND ADJUST EXISTING MATERIALS
MATERIAL NOT IN SERVICE
MATERIAL INSTALLED ON OTHER WORK ORDER

OFFICIAL NOTICE NO. PROJECT NO.

CITY OF MILWAUKEE D.P.W.
TRANSPORTATION SECTION
INFRASTRUCTURE SERVICES DIVISION
STREET LIGHTING

TRAFFIC | J.O.# | W.O.

DATE SIGNED
COMMUNICATIONS
DATE SIGNED
REVISION

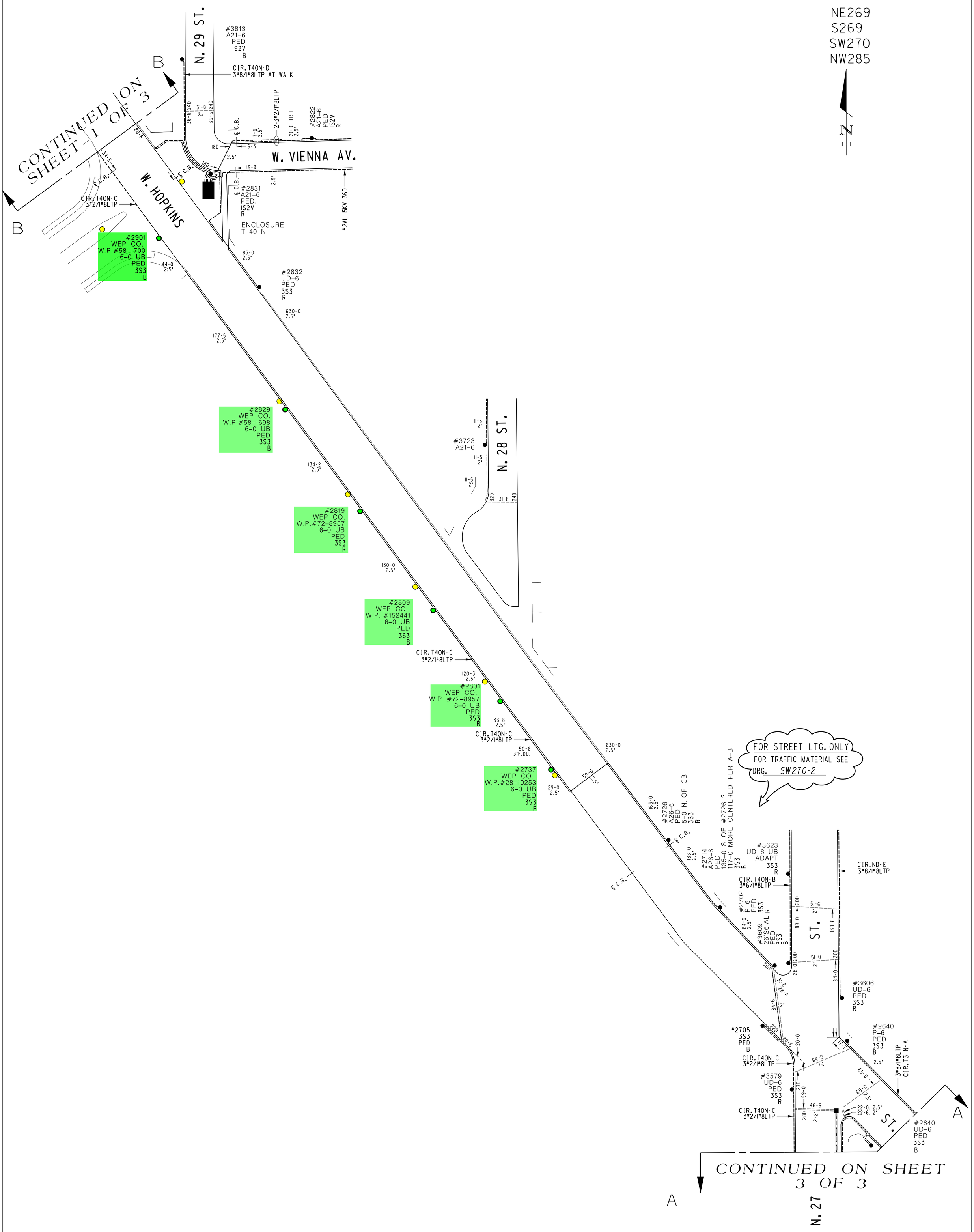
TEMPORARY OVERHEAD 2015 PAVING
W. HOPKINS STREET
W. CAPITOL DR. TO W. TOWNSEND ST.

DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
LRG			
DATE SIGNED	DATE SIGNED	DATE SIGNED	DATE SIGNED
2-9-15			

SCALE: 1" = 50'-0"
REVISED BY: REVISED DATE:
DRG.#
SHEET 1 OF 3

22 X 34

W:\BES\SPECIAL\2015-PROJECT\CENTURY CITY\WHOPKINSN27THSTOH-LIGHTINGPLAN.DGN



- MATERIAL TO BE INSTALLED
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LRG			
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SCALE: 1" = 50'-0" DRG.#
REVISED BY: REVISED DATE: SHEET 2 OF 3

W:\BES\SPECIAL\2015-PROJECT\CENTURY CITY\WHOPKINSN27THSTOH-LIGHTINGPLAN.DGN

22 x 34

CITY OF MILWAUKEE

Official Notice No. 103–1–2015

CENTURY CITY BUSINESS PARK GREENWAY INFRASTRUCTURE IMPROVEMENT PROJECT NORTH 31ST STREET & WEST HOPKINS STREET MILWAUKE, WI

DECEMBER 7, 2015

U.S. Department of Commerce Economic Development Administration Investment No. 06–79–05855

CIVIL SHEET INDEX

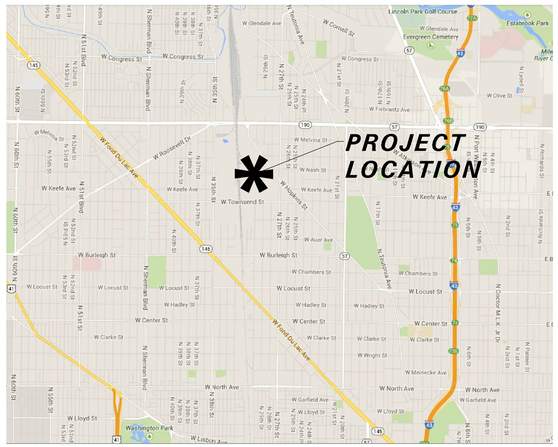
1 COVER SHEET
2 EXISTING CONDITIONS
3 DEMOLITION PLAN
4 DEMOLITION PLAN
5 DEMOLITION PLAN
6 DEMOLITION PLAN
7 SITE PLAN
8 SITE PLAN
9 SITE PLAN
10 SITE PLAN
11 SITE CONSTRUCTION DETAILS
12 GRADING PLAN
13 GRADING PLAN
14 GRADING PLAN
15 GRADING PLAN
16 WATER MAIN PLAN

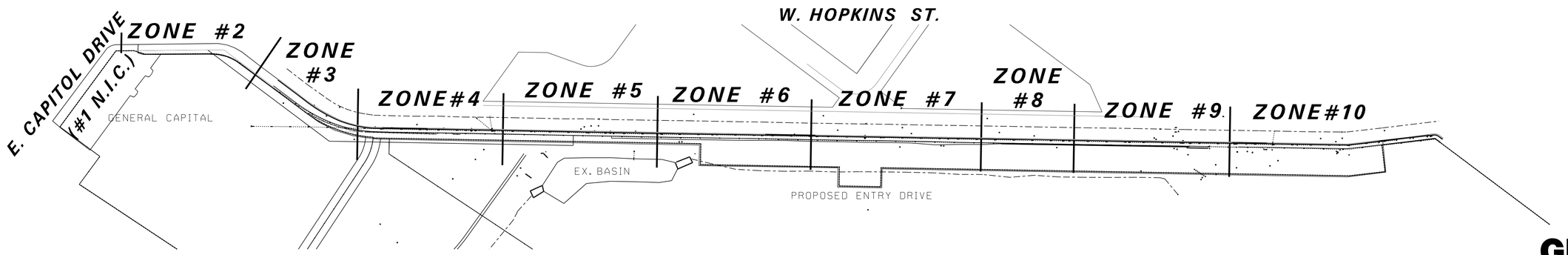
CIVIL SHEET INDEX (cont.)

17 WATER MAIN CONSTRUCTION DETAILS
18 SANITARY SEWER MAIN PLAN
19 STORM SEWER MAIN PLAN
20 STORM SEWER MAIN PLAN
21 STORM SEWER MAIN PLAN
22 SEWER CONSTRUCTION DETAILS

LANDSCAPE SHEET INDEX

23 R.O.W. OVERALL
24 LANDSCAPE PLAN Z. 2–3
25 LANDSCAPE PLAN Z. 4–6
26 LANDSCAPE PLAN Z. 7–8
27 LANDSCAPE PLAN Z. 9–10
28 LANDSCAPE DETAILS
29 LANDSCAPE DETAILS



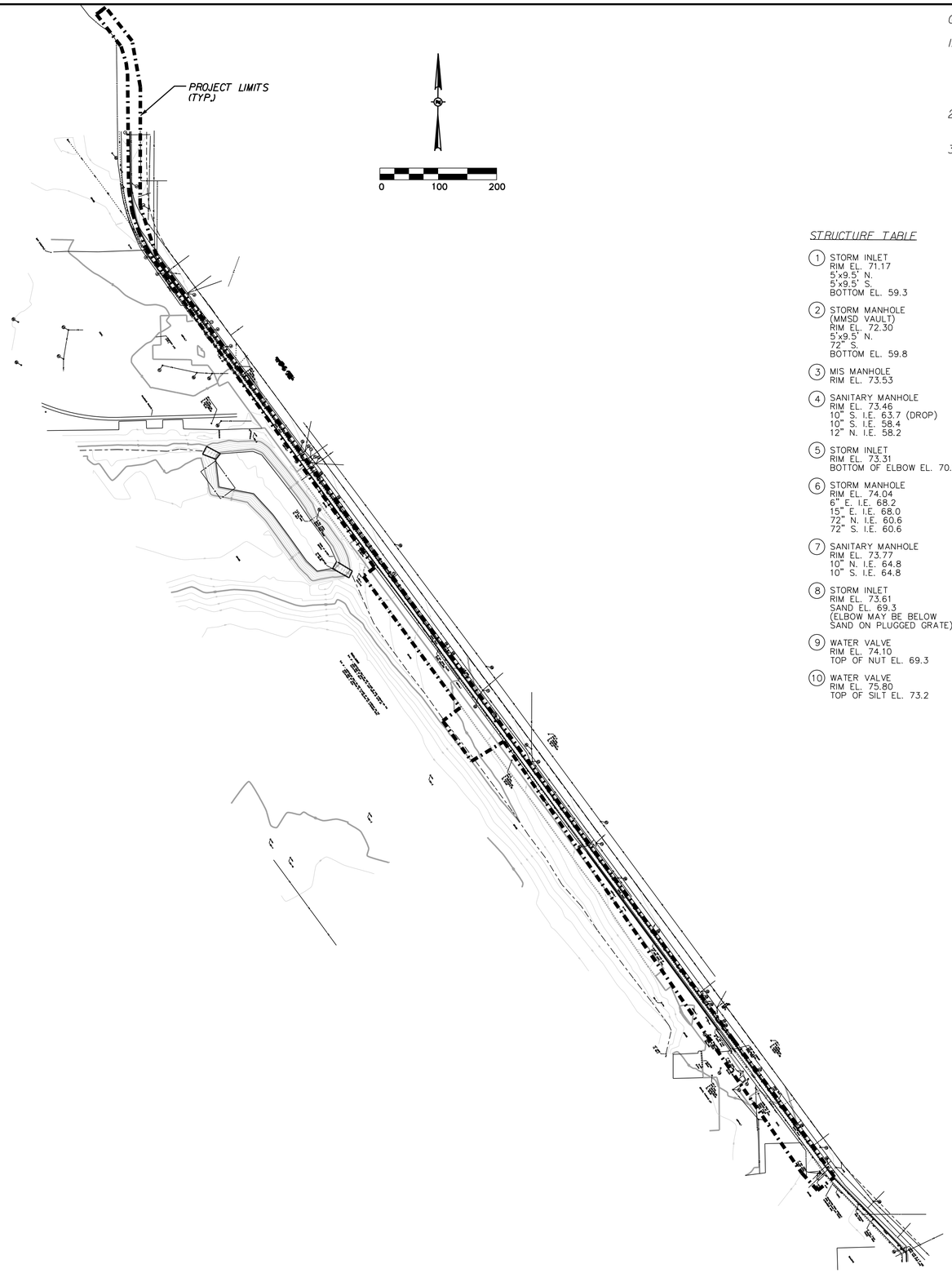


U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION AWARD NUMBER: 06-79-05855

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG, WISCONSIN STATUTE 182.0175 REQUIRES MIN.OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MMSD _____ SCANNED _____ MICROFILMED _____



GENERAL NOTES

1. BASE SURVEY PREPARED BY GRAEF IN 2012.ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
2. ELEVATION SHOWN ON CIVIL AND LANDSCAPE PLANS ARE CITY OF MILWAUKEE DATUM.
3. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE #2.
ELEVATION = 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.
ELEVATION = 76.61

STRUCTURE TABLE

1. STORM INLET
RIM EL. 71.17
5'x9.5' N.
5'x9.5' S.
BOTTOM EL. 59.3

2. STORM MANHOLE
(MMSD VAULT)
RIM EL. 72.30
5'x9.5' N.
72" S.
BOTTOM EL. 59.8

3. MIS MANHOLE
RIM EL. 73.53

4. SANITARY MANHOLE
RIM EL. 73.46
10" S. I.E. 63.7 (DROP)
10" S. I.E. 58.4
12" N. I.E. 58.2

5. STORM INLET
RIM EL. 73.31
BOTTOM OF ELBOW EL. 70.0

6. STORM MANHOLE
RIM EL. 74.04
6" E. I.E. 68.2
15" E. I.E. 68.0
72" N. I.E. 60.6
72" S. I.E. 60.6

7. SANITARY MANHOLE
RIM EL. 73.77
10" N. I.E. 64.8
10" S. I.E. 64.8

8. STORM INLET
RIM EL. 73.61
SAND EL. 69.3
(ELBOW MAY BE BELOW SAND ON PLUGGED GRATE)

9. WATER VALVE
RIM EL. 74.10
TOP OF NUT EL. 69.3

10. WATER VALVE
RIM EL. 75.80
TOP OF SILT EL. 73.2

11. WATER VALVE
RIM EL. 76.13
TOP OF NUT EL. 70.4

12. STORM MANHOLE
RIM EL. 76.15
72" N. I.E. 61.6
72" S. I.E. 61.6

13. STORM MANHOLE
RIM EL. 76.47
8" NW. I.E. 72.2
8" S. I.E. 71.4
24" E. I.E. 66.4
72" N. I.E. 61.6
72" S. I.E. 61.6

14. SANITARY MANHOLE
RIM EL. 75.90
10" S. I.E. 66.6
10" N. I.E. 66.5

15. STORM INLET
RIM EL. 75.66
BOTTOM OF 8"
ELBOW EL. 72.4

16. SANITARY MANHOLE
RIM EL. 76.76
10" S. I.E. 67.2
10" N. I.E. 67.2

17. STORM INLET
RIM EL. 78.01
BOTTOM OF 8"
ELBOW EL. 74.4

18. WATER VALVE
RIM EL. 76.24
TOP OF NUT EL. 71.6

19. STORM INLET
RIM EL. 79.10
BOTTOM OF 8"
ELBOW EL. 75.2

20. SANITARY MANHOLE
RIM EL. 79.27
8" N. I.E. 70.6

21. STORM MANHOLE
RIM EL. 80.40
8" SW. I.E. 76.0
12" E. I.E. 70.9
36" W. I.E. 69.6
72" N. I.E. 63.2
72" S. I.E. 63.2

22. STORM INLET
RIM EL. 79.83
BOTTOM OF 8"
ELBOW EL. 76.6

23. SANITARY MANHOLE
RIM EL. 80.97
12" S. I.E. 69.9
12" NE. I.E. 69.9

24. SANITARY MANHOLE
RIM EL. 81.28
12" S. I.E. 69.6
12" N. I.E. 69.5

25. WATER VALVE
RIM EL. 80.54
TOP OF NUT EL. 75.3

26. STORM INLET
RIM EL. 81.69
BOTTOM OF 8"
ELBOW EL. 78.4

27. STORM MANHOLE
RIM EL. 82.22
8" W. I.E. 77.8
8" E. I.E. 75.0
21" SW. I.E. 73.3
60" S. I.E. 64.8
72" N. I.E. 63.8

28. SANITARY MANHOLE
RIM EL. 82.37
12" N. I.E. 71.5
(BULKHEAD S.)

29. STORM INLET
RIM EL. 82.46
BOTTOM OF 8"
ELBOW EL. 78.6

30. CATCH BASIN
RIM EL. 82.80
8" SE. I.E. 78.6

31. CATCH BASIN
RIM EL. 83.64
8" E. I.E. 79.4

32. WATER VALVE
RIM EL. 82.84
TOP OF NUT EL. 77.5

33. WATER VALVE
RIM EL. 82.76
TOP OF NUT EL. 77.1

34. WATER VALVE
RIM EL. 82.98
TOP OF SILT EL. 78.0

35. WATER VALVE
RIM EL. 83.59
TOP OF NUT EL. 78.5

36. STORM INLET
RIM EL. 84.80
BOTTOM OF 8"
ELBOW EL. 80.9

37. STORM MANHOLE
RIM EL. 85.80
60" S. I.E. 67.2
60" N. I.E. 67.0

38. STORM MANHOLE
RIM EL. 85.77
24" W. I.E. 68.5
24" E. I.E. 68.4

39. STORM MANHOLE
RIM EL. 86.94
66" S. I.E. 67.0
72" N. I.E. 67.0

40. CATCH BASIN
RIM EL. 85.13
8" SE. I.E. 80.3
12" N. I.E. 75.7
12" SW. I.E. 75.6

41. CATCH BASIN
RIM EL. 84.55
8" E. I.E. 77.9
12" S. I.E. 76.5

42. CATCH BASIN
RIM EL. 84.34
TOP OF DIRT EL. 81.0

43. CATCH BASIN
RIM EL. 84.61
TOP OF WATER EL. 80.9
BOTTOM EL. 76.1

44. STORM INLET
RIM EL. 84.37
TOP OF DIRT EL. 82.3

45. CATCH BASIN (72" DIA.)
RIM EL. 75.42
12" W. I.E. 68.1
24" E. I.E. 64.8

46. CATCH BASIN
RIM EL. 75.27
6" E. I.E. 69.8

47. WATER VALVE
RIM EL. 85.99
TOP OF NUT EL. 80.9

48. WATER VALVE
RIM EL. 87.50
TOP OF NUT EL. 85.1

49. CATCH BASIN
RIM EL. 74.77
15" W. I.E. 63.6
15" E. I.E. 63.6

50. CATCH BASIN
RIM EL. 74.83
10" W. I.E. 68.3
15" E. I.E. 63.6

51. CATCH BASIN
RIM EL. 74.55
10" E. I.E. 69.2

52. CATCH BASIN
RIM EL. 72.14
24" E. I.E. 65.2

53. CATCH BASIN
RIM EL. 75.64
12" S. I.E. 68.5
12" E. I.E. 68.4

54. CATCH BASIN
RIM EL. 75.05
6" S. I.E. 69.4
10" W. I.E. 69.0
12" N. I.E. 69.0

55. CATCH BASIN
RIM EL. 75.85
(BROKEN COVER
DID MOT REMOVE)

56. CATCH BASIN
RIM EL. 75.74
TOP OF WATER EL. 67.6
BOTTOM EL. 64.2

57. SANITARY MANHOLE
RIM EL. 82.15
12" S. I.E. 67.3
12" N. I.E. 67.2

58. SANITARY MANHOLE
RIM EL. 80.03
12" S. I.E. 65.9
12" N. I.E. 65.9

59. SANITARY MANHOLE
RIM EL. 78.07
12" S. I.E. 64.9
12" N. I.E. 64.8

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED
BY CONSULTANT.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE #2.ELEVATION = 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION = 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG.WISCONSIN STATUTE 182.0175 REQUIRES MINIOF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRAEF

One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF
THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

EXISTING CONDITIONS

IN
FROM
TO

SCALE	HORIZONTAL 1" = 100'	
	VERTICAL	
1/4 SEC. NO.	393	
PLAN DATE	12-07-2015	
DESIGNED BY	RDL	
DRAWN BY	SRK	
CHECKED BY	JAL	
SYSTEM NO.		
EASEMENT NO.		
CONTRACT NO.		
PROJ. ID.		

APPROVED DATE
DESIGN ENGINEER
ENGINEER IN CHARGE
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROJECT NO. NA	C.C. FILE NO. NA	
OFF. NOTICE NO. NA	DATE ADOPTED NA	

SHEET NO. 2 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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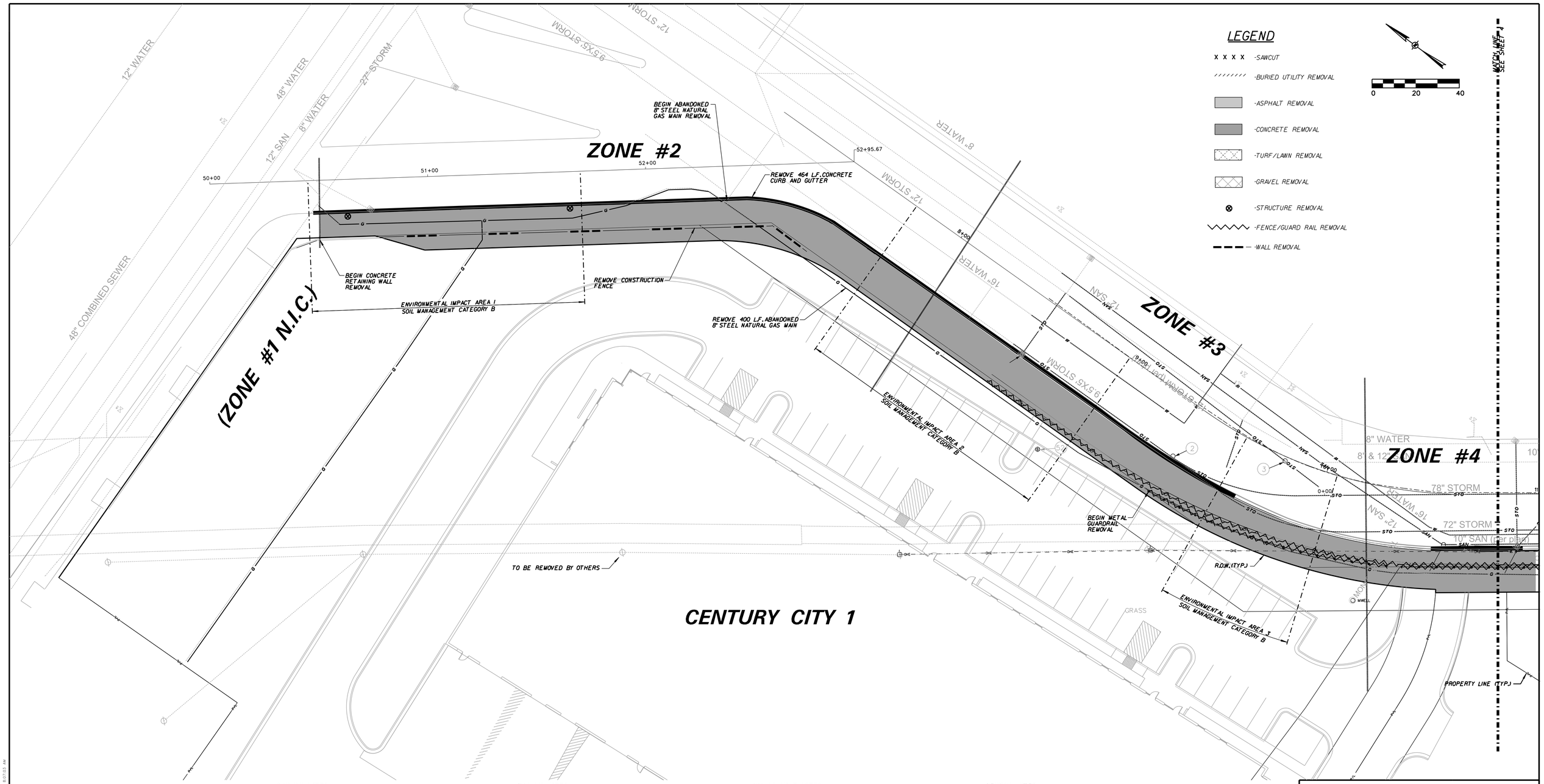

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "STREET CONSTRUCTION SPECIFICATIONS", DATED JULY 1,1992, WITH REVISIONS DATED JULY 2014, AS MODIFIED BY THE GENERAL SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS DATED JANUARY 31,1992 WITH SUBSEQUENT REVISIONS.
2. BASE SURVEY PREPARED BY OTHERS. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
3. ELEVATION SHOWN ON CIVIL AND LANDSCAPE PLANS ARE CITY OF MILWAUKEE. MEAN SEA LEVEL NGVD29 CAN BE OBTAINED BY ADDING 580.6 TO CITY OF MILWAUKEE ELEVATIONS.
4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

TRAFFIC NOTES

1. MAINTAIN ACCESS AT ALL TIMES.
2. PAVEMENT MARKINGS DISTURBED DUE TO CONSTRUCTION MUST BE RETURNED TO ORIGINAL MATERIAL AND CONDITION.
3. PROVIDE SEVEN (7) DAYS ADVANCED NOTICE TO TRAFFIC ENGINEERING AT 414-286-3632 FOR THE TEMPORARY CLOSURE OF TRAFFIC LANES, INSTALLATION OF TEMPORARY "NO PARKING" SIGNS, OR IF THERE ARE ANY QUESTIONS CONCERNING THESE COMMENTS.
4. ANY PERSON WORKING IN THE PUBLIC WAY SHALL COMPLY WITH THE CITY OF MILWAUKEE, DEPARTMENT OF PUBLIC WORKS BOOKLET "TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK", AND PART VI OF THE STATE OF WISCONSIN "MANUAL ON UNIFRM TRAFFIC CONTROL DEVICES".

STREET LIGHT NOTES

1. STREET LIGHTING HAS CONDUITS AND CABLES WITHIN THE PROJECT LIMITS. THESE CONDUITS AND CABLES SHALL BE SUPPORTED IF IMPACTED BY TRENCHING ACTIVITIES. DAMAGES SHALL BE REPORTED TO THE STREET LIGHTING SHOP AT 414-286-3015.
2. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE STREET LIGTING EQUIPMENT, THE CONTRACTOR SHALL CONTACT ENG-KIE LEE IN ENGINEERING AT 414-286-2174 FOR NECESSARY ALTERATIONS.
3. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE TRAFFIC SIGNALS OR TRAFFIC CONTROL EQUIPMENT, THE CONTRACTOR SHALL CONTACT JOSEPH BONDOWSKI IN ENGINEEERING AT 414-286-5162 FOR NECESSARY ALTERATIONS.

REMOVAL NOTES

1. EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND DISCREPANCIES SHALL BE REPORTED TO HE ENGINEER PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL VERIFY ALL EXISTING LINES NOTED FOR ABANDONMENT OR REMOVAL. EXISTING UTILITIES MUST REMAIN IN SERVICE UNTIL NEW UTILITIES OR PLUMBING IS INSTALLED.
3. CONCRETE CURB AND GUTTER AND CONCRETE PAVEMENT NOTED FOR REMOAL SHALL BE SAWCUT OR REMOVED AT NEAREST JOINT.
4. CONTRACTOR IS RESPONSIBLE FOR SECURING THE JOB SITE TO PROTECT THE PUBLIC.
5. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH LOCAL ORDINANCES FOR DUST CONTROL.

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION - 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION - 79.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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GRÄEF
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Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

DEMOLITION PLAN
N. HOPKINS STREET
IN
FROM
TO

SCALE	HORIZONTAL 1" = 20' VERTICAL	APPROVED	DATE
1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 3 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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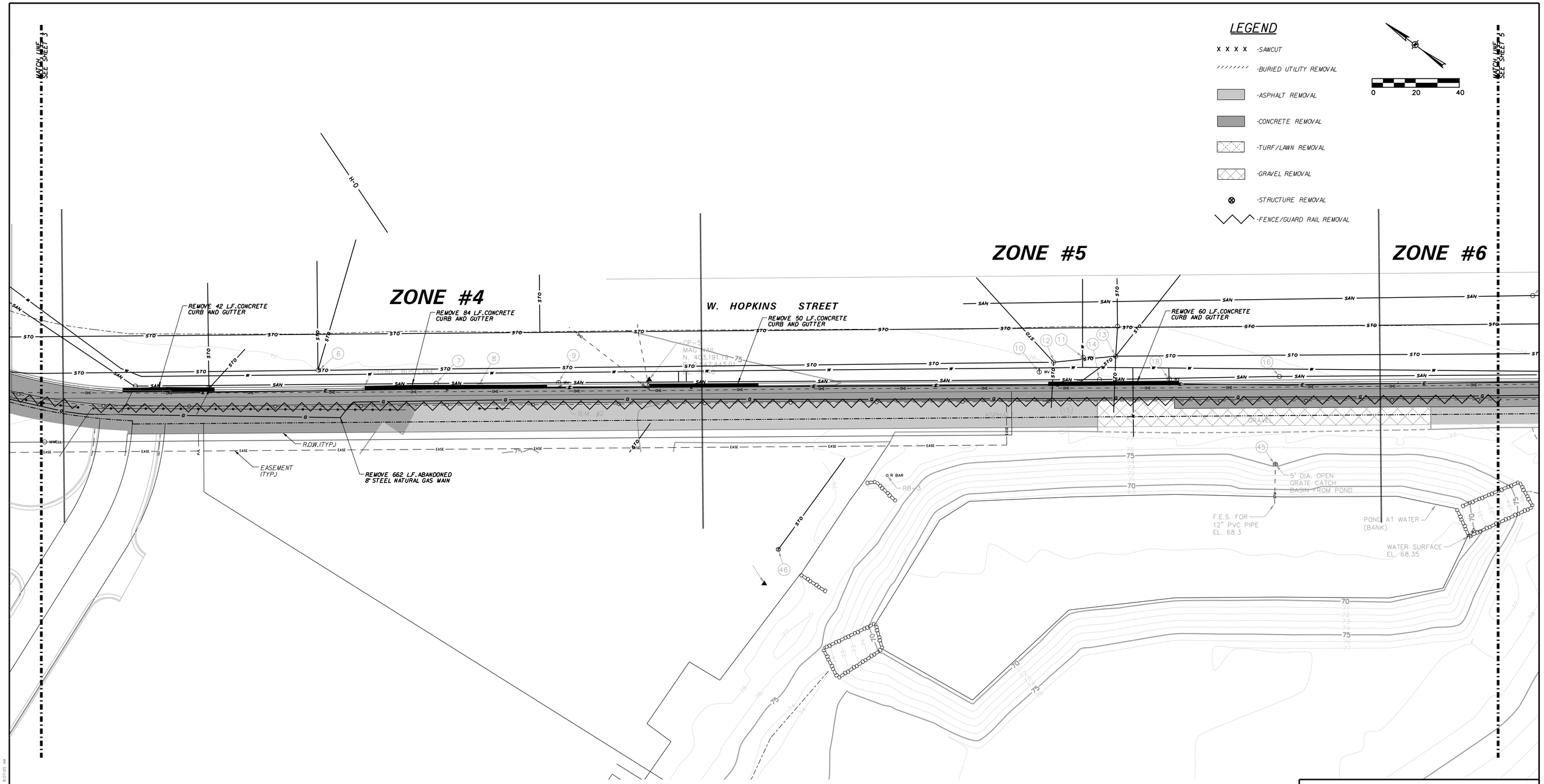

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE *2.ELEVATION - 85.41

B.M.#1- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 79.61

GENERAL NOTES

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4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT AND DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

TRAFFIC NOTES

1. MAINTAIN ACCESS AT ALL TIMES.
2. PAVEMENT MARKINGS DISTURBED DUE TO CONSTRUCTION MUST BE RETURNED TO ORIGINAL MATERIAL AND CONDITION.
3. PROVIDE SEVEN (7) DAYS ADVANCED NOTICE TO TRAFFIC ENGINEERING AT 414-286-3632 FOR THE TEMPORARY CLOSURE OF TRAFFIC LANES, INSTALLATION OF TEMPORARY "NO PARKING" SIGNS, OR IF THERE ARE ANY QUESTIONS CONCERNING THESE COMMENTS.
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STREET LIGHT NOTES

1. STREET LIGHTING HAS CONDUITS AND CABLES WITHIN THE PROJECT LIMITS. THESE CONDUITS AND CABLES SHALL BE SUPPORTED IF IMPACTED BY TRENCHING ACTIVITIES. DAMAGES SHALL BE REPORTED TO THE STREET LIGHTING SHOP AT 414-286-3015.
2. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE STREET LIGTING EQUIPMENT, THE CONTRACTOR SHALL CONTACT ENG-KIE LEE IN ENGINEERING AT 414-286-2174 FOR NECESSARY ALTERATIONS.
3. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE TRAFFIC SIGNALS OR TRAFFIC CONTROL EQUIPMENT, THE CONTRACTOR SHALL CONTACT JOSEPH BONDOWSKI IN ENGINEEERING AT 414-286-5162 FOR NECESSARY ALTERATIONS.

REMOVAL NOTES

1. EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND DISCREPANCIES SHALL BE REPORTED TO HE ENGINEER PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL VERIFY ALL EXISTING LINES NOTED FOR ABANDONMENT OR REMOVAL. EXISTING UTILITIES MUST REMAIN IN SERVICE UNTIL NEW UTILITIES OR PLUMBING IS INSTALLED.
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LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND
BEFORE YOU DIG.WISCONSIN STATUTE 182.0175 REQUIRES
MINIOF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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125 South 84th Street,
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Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

DEMOLITION PLAN
W. HOPKINS STREET

IN
FROM
TO

SCALE HORIZONTAL	1" = 20'	APPROVED	DATE
SCALE VERTICAL		DESIGN ENGINEER	
1/4 SEC. NO.	393		
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 4 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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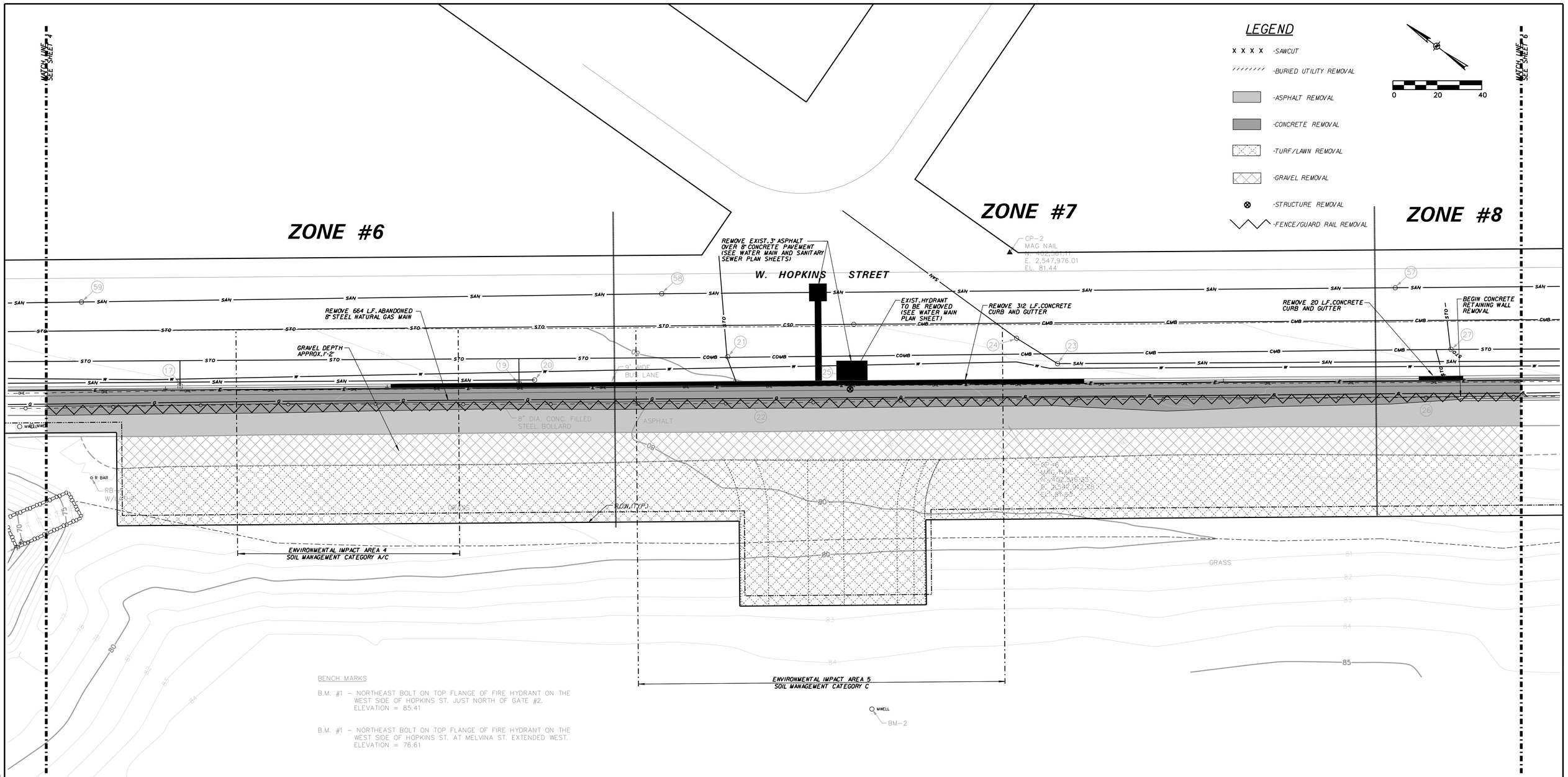

BENCH MARKS

B.M. #1 – NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION = 85.41

B.M. #1 – NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION = 76.61

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE #2.ELEVATION - 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "STREET CONSTRUCTION SPECIFICATIONS", DATED JULY 1,1992 WITH REVISIONS DATED JULY 2014, AS MODIFIED BY THE GENERAL SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS DATED JANUARY 31,1992 WITH SUBSEQUENT REVISIONS.
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4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT AND DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

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STREET LIGHT NOTES

1. STREET LIGHTING HAS CONDUITS AND CABLES WITHIN THE PROJECT LIMITS. THESE CONDUITS AND CABLES SHALL BE SUPPORTED IF IMPACTED BY TRENCHING ACTIVITIES. DAMAGES SHALL BE REPORTED TO THE STREET LIGHTING SHOP AT 414-286-3015.
2. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE STREET LIGTING EQUIPMENT, THE CONTRACTOR SHALL CONTACT ENG-KIE LEE IN ENGINEERING AT 414-286-2174 FOR NECESSARY ALTERATIONS.
3. IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE TRAFFIC SIGNALS OR TRAFFIC CONTROL EQUIPMENT, THE CONTRACTOR SHALL CONTACT JOSEPH BONDOWSKI IN ENGINEEERING AT 414-286-5162 FOR NECESSARY ALTERATIONS.

REMOVAL NOTES

1. EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND DISCREPANCIES SHALL BE REPORTED TO HE ENGINEER PRIOR TO COMMENCING WORK.
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LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

DEMOLITION PLAN

IN
FROM
TO

W. HOPKINS STREET

SCALE	HORIZONTAL 1" = 20' / VERTICAL	APPROVED	DATE
14 SEC. NO.	393		DESIGN ENGINEER
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL		ENGINEER IN CHARGE
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 5 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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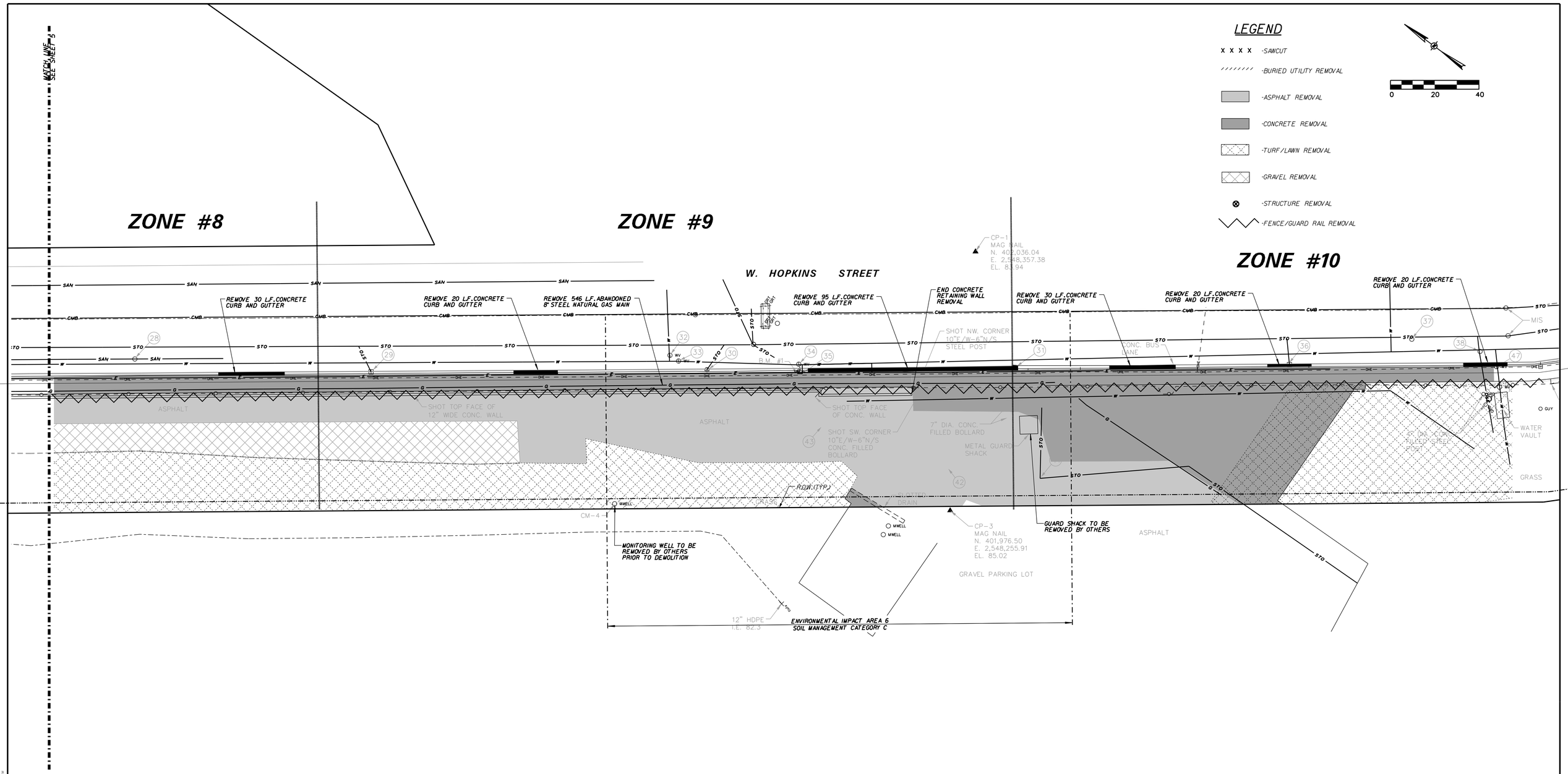

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE *2.ELEVATION - 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

LINE CODE LEGEND

GAS ..... G	COMMUNICATIONS ..... COM	SEWER/WATER 24" & OVER
ELECTRIC ..... E	SANITARY SEWER ..... SAN	STREET LIGHTING
TELEPHONE ..... T	STORM SEWER ..... STO	PAVING LIMITS X X X X
CABLE TELEVISION ..... TV	COMBINED SEWER ..... CMB	STRUCTURE / BUILDING
FIBER OPTICS ..... FO	SEW.DISTRICT SEWER ..... MMSD	FENCE ..... X X X
CITY UNDERGROUND CONDUIT ..... CUC	WATER MAIN ..... W	STEAM ..... ST

GENERAL NOTES

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TRAFFIC NOTES

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2. PAVEMENT MARKINGS DISTURBED DUE TO CONSTRUCTION MUST BE RETURNED TO ORIGINAL MATERIAL AND CONDITION.
3. PROVIDE SEVEN (7) DAYS ADVANCED NOTICE TO TRAFFIC ENGINEERING AT 414-286-3632 FOR THE TEMPORARY CLOSURE OF TRAFFIC LANES,INSTALLATION OF TEMPORARY "NO PARKING" SIGNS,OR IF THERE ARE ANY QUESTIONS CONCERNING THESE COMMENTS.
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REMOVAL NOTES

1. EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND DISCREPANCIES SHALL BE REPORTED TO HE ENGINEER PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL VERIFY ALL EXISTING LINES NOTED FOR ABANDONMENT OR REMOVAL. EXISTING UTILITIES MUST REMAIN IN SERVICE UNTIL NEW UTILITIES OR PLUMBING IS INSTALLED.
3. CONCRETE CURB AND GUTTER AND CONCRETE PAVEMENT NOTED FOR REMOAL SHALL BE SAWCUT OR REMOVED AT NEAREST JOINT.
4. CONTRACTOR IS RESPONSIBLE FOR SECURING THE JOB SITE TO PROTECT THE PUBLIC.
5. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH LOCAL ORDINANCES FOR DUST CONTROL.

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND
BEFORE YOU DIG.WISCONSIN STATUTE 182.0175 REQUIRES
MINIMUM OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE
△			
△			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

DEMOLITION PLAN
IN **W. HOPKINS STREET**
FROM
TO

SCALE HORIZONTAL	1" = 20'
SCALE VERTICAL	
14 SEC. NO.	393
PLAN DATE	12-07-2015
DESIGNED BY	RDL
DRAWN BY	SRK
CHECKED BY	JAL
SYSTEM NO.	
EASEMENT NO.	
CONTRACT NO.	
PROJ. ID.	

APPROVED DATE
DESIGN ENGINEER
ENGINEER IN CHARGE
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROJECT NO. NA | C.C. FILE NO. NA
OFF. NOTICE NO. NA | DATE ADOPTED NA

SHEET NO. 6 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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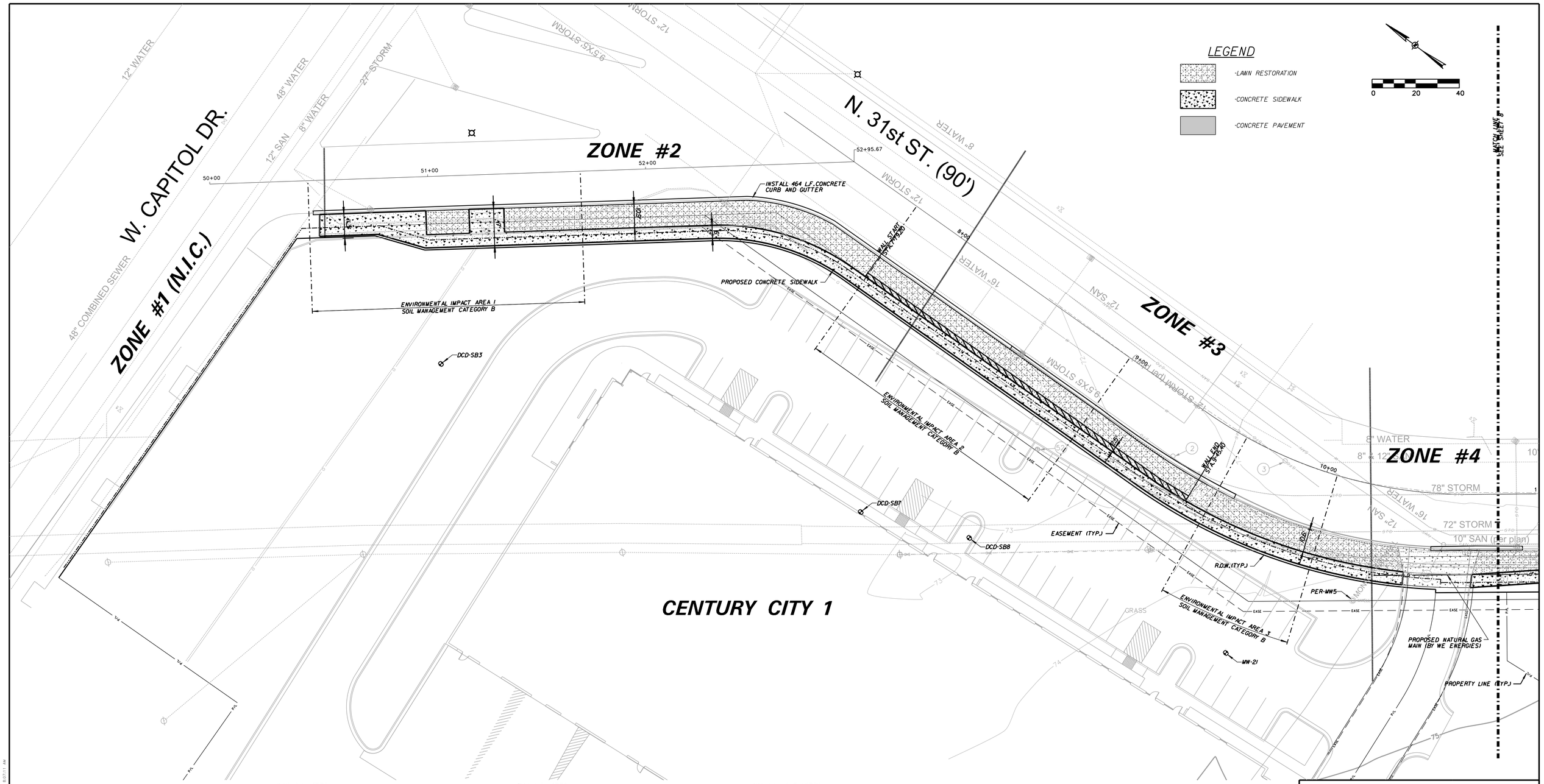

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SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION = 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION = 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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DATE ENT'D. ENT'D. BY

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REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

SITE PLAN

IN N. HOPKINS STREET
FROM
TO

SCALE	HORIZONTAL 1" = 20'	APPROVED	DATE
	VERTICAL		
1/4 SEC. NO.	393		DESIGN ENGINEER
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL		ENGINEER IN CHARGE
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 7 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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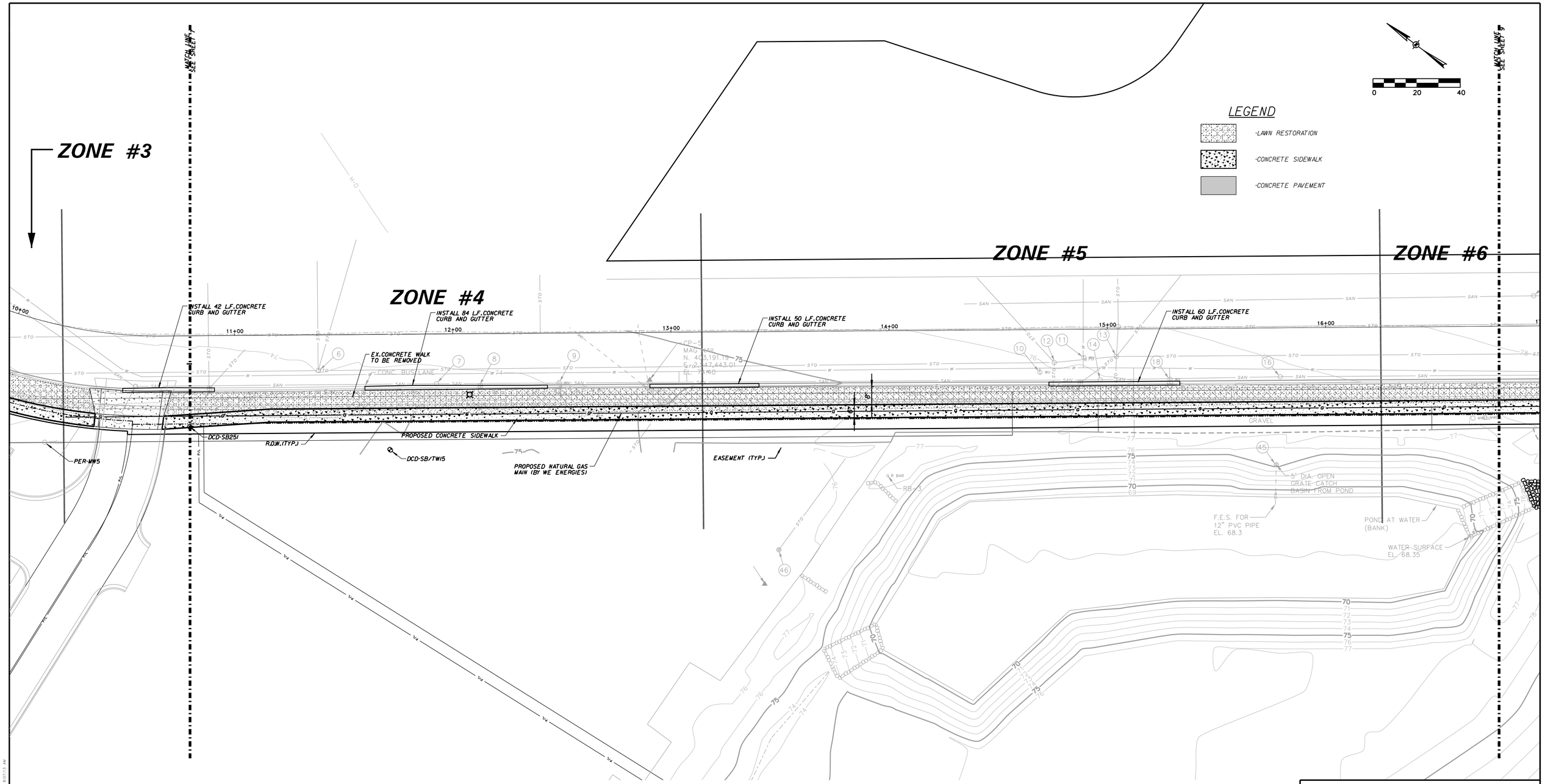

SURVEY: NO CITY OF MILWAUKEE SURVEY.
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GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	N
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
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MILWAUKEE, WISCONSIN

SITE PLAN
IN
FROM
TO
N. HOPKINS STREET

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1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 8 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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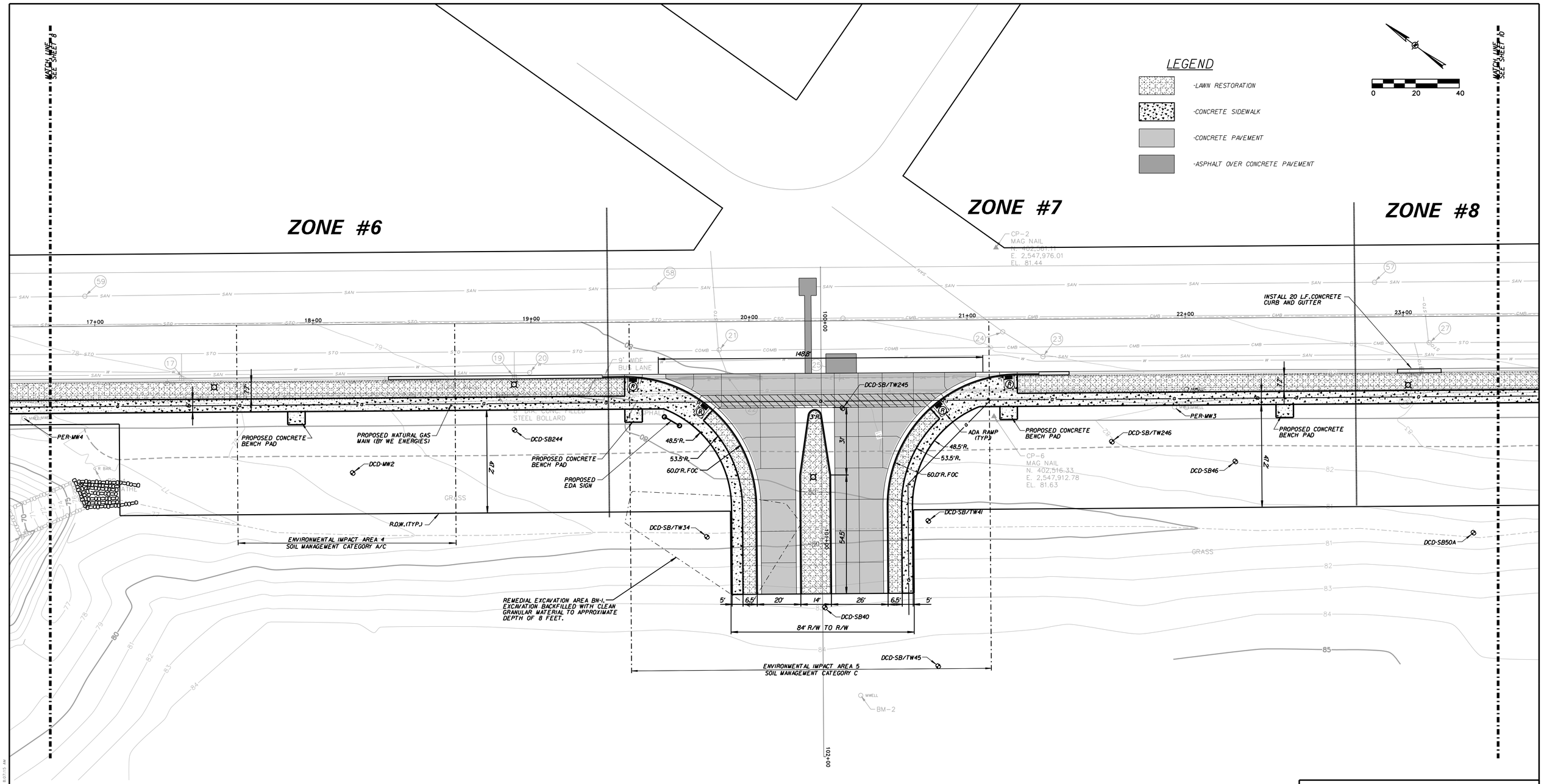

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SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

BM-1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE. *2. ELEVATION - 85.41

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LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
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MILWAUKEE, WISCONSIN

SITE PLAN

IN
FROM
TO

N. HOPKINS STREET

SCALE HORIZONTAL	1" = 20'	APPROVED	DATE
SCALE VERTICAL		DESIGN ENGINEER	
14 SEC. NO.	393		
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 9 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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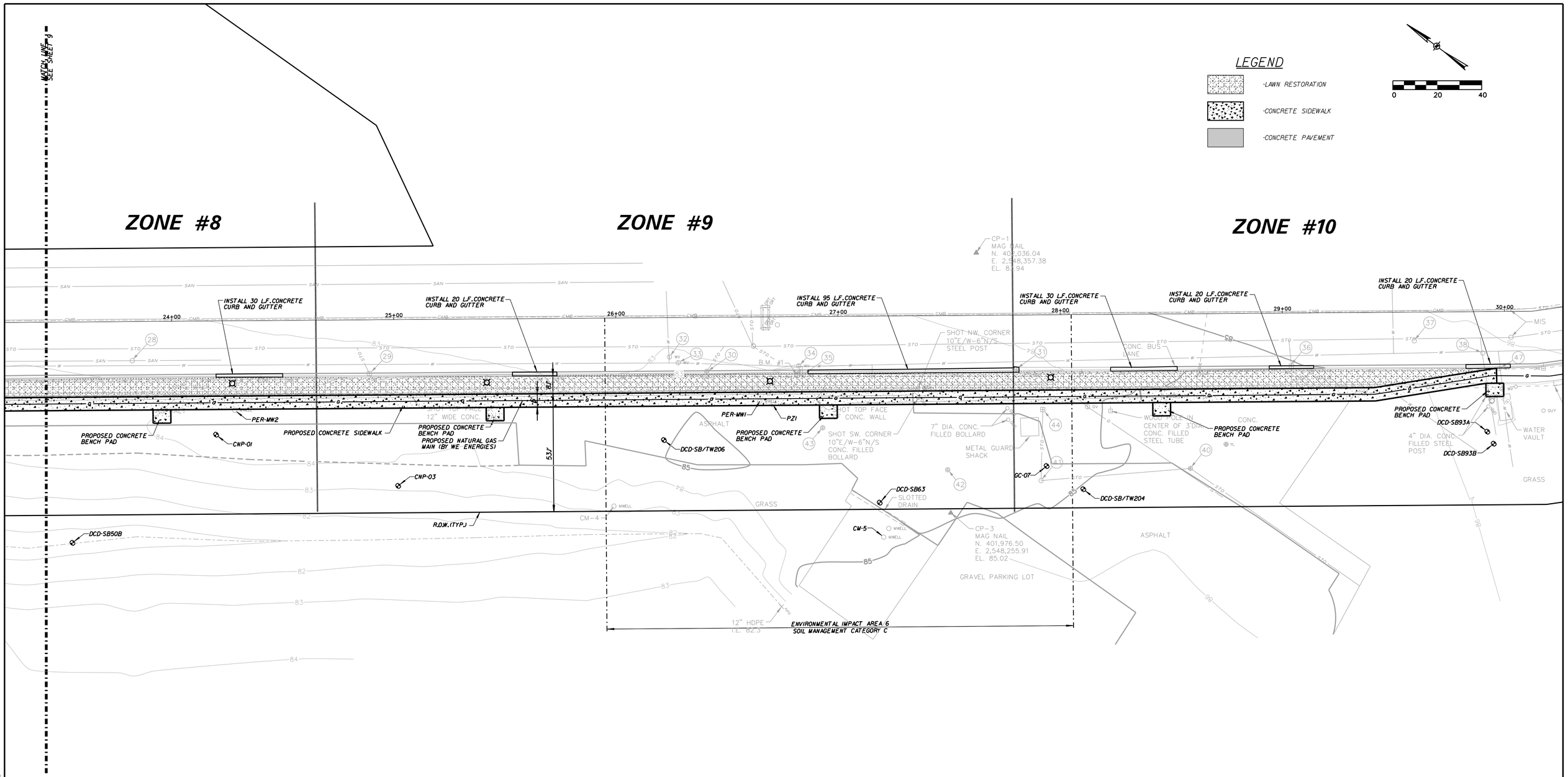

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LINE CODE LEGEND

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TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X X
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PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 10 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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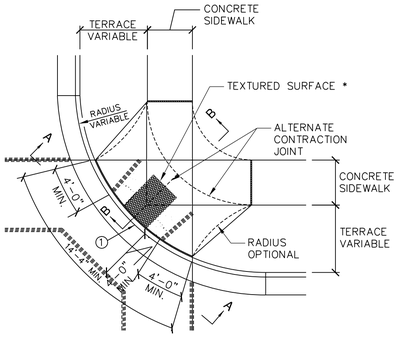
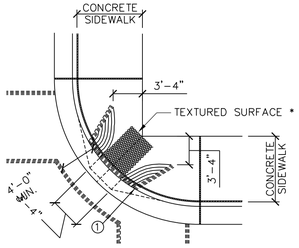
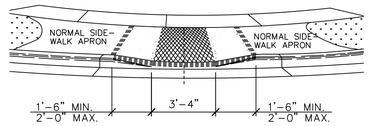


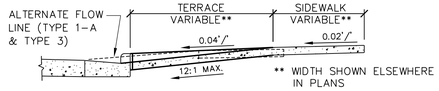
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



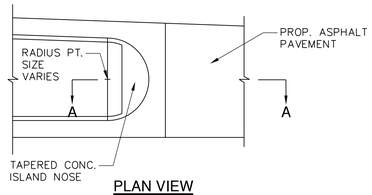
PLAN VIEW
TYPE 1A RAMP
(NO TERRACE)



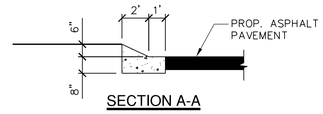
VIEW A-A



SECTION B-B



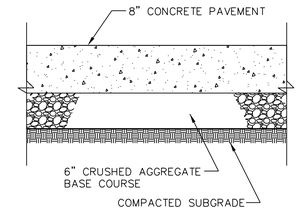
PLAN VIEW



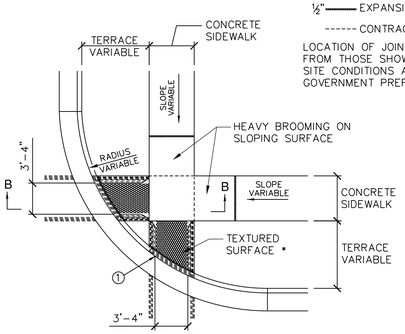
SECTION A-A

GENERAL NOTES
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DETAIL SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STATE SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

PROPOSED CONCRETE ISLAND NOSE
N.T.S.



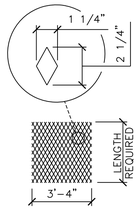
PROPOSED CONCRETE PAVEMENT
N.T.S.

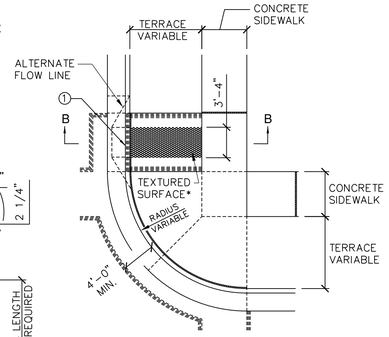


PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

½" —— EXPANSION JOINTS-SIDEWALK
------ CONTRACTION JOINTS

LOCATION OF JOINTS MAY BE VARIED FROM THOSE SHOWN TO BETTER FIT SITE CONDITIONS AND/OR LOCAL GOVERNMENT PREFERENCE.





PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB AND SIDEWALK RAMPS
N.T.S.

GENERAL NOTES:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12:1 OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

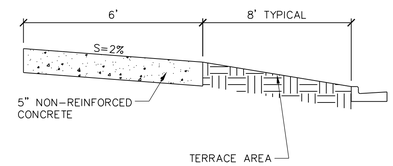
TYPE 1 OR TYPE 1-A RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

CURB RAMPS SHALL BE INCLUDED WITH RESTORATION COST OF SIDEWALK AND CONCRETE CURB AND GUTTER.

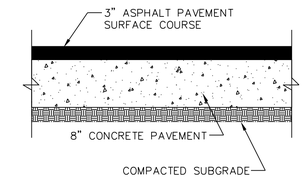
SURFACE TEXTURING SHALL CONSIST OF LINEAR IMPRESSIONS APROXIMATELY ¼" TO ⅜" IN DEPTH AND WIDTH, ORIENTED TO PROVIDE A UNIFORM PATTERN OF DIAMOND SHAPES MEASURING APPROXIMATELY 1¼" IN WIDTH BY 2¼" IN LENGTH, WITH THE LENGTH BEING PARALLEL TO THE DIRECTION OF PEDESTRIAN MOVEMENT. THIS SURFACE TEXTURE MAY BE ACHIEVED BY IMPRESSING AND REMOVING A PIECE OF EXPANDED METAL REGULAR INDUSTRIAL MESH INTO THE SURFACE OF THE RAMP WHILE THE CONCRETE IS IN A PLASTIC STATE.

① THE RAMP SHALL BE BORDERED ON BOTH SIDES AND ON THE CURB LINE WITH A 4" WIDE YELLOW STRIPE OR WITH A BRICK OF A CONTRASTING COLOR. NORMALLY THE PAINT STRIPE ALTERNATE WILL BE USED. THE MUNICAPALITY OR THE DEPARTMENT WILL APPLY THIS STRIPPING UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.

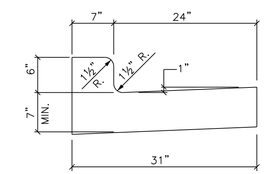
IF A MUNICAPALITY REQUIRES THE BRICK ALTERNATE, SPECIAL DETAILS AND PROVISIONS ARE SHOWN ELSEWHERE IN THE PLANS.



5" CONCRETE SIDEWALK
N.T.S.

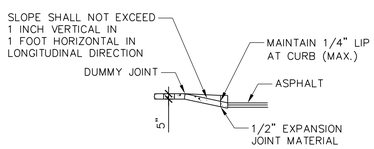


EXISTING CONCRETE PAVEMENT REPAIR
N.T.S.

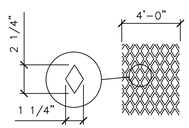


NOTES:
1. WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB & GUTTER.
2. THE BOTTOM OF CURB & GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.

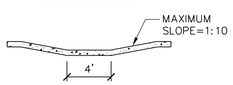
CONCRETE CURB & GUTTER - 31 INCH
N.T.S.



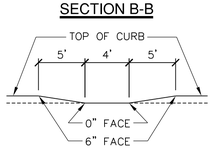
SECTION A-A



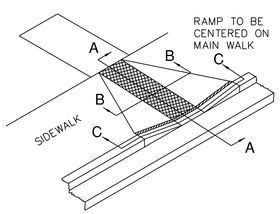
SECTION A-A
IMPRESSIONS 1/4" TO 3/8" DEEP AND 1/4" TO 3/8" WIDE



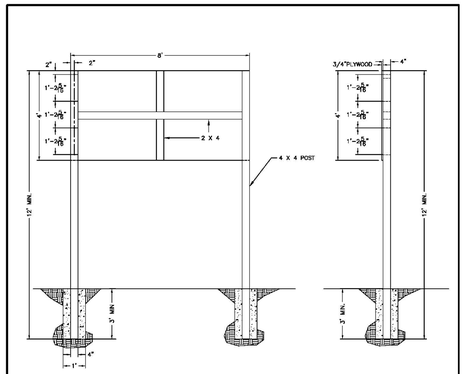
SECTION B-B



SECTION C-C



CURB AND SIDEWALK RAMP WHERE PEDESTRIANS CAN CROSS
N.T.S.



SIGN B
PLYWOOD SIGN
SCALE: 3/8" = 1'

PROJECT - SIGN B
ECONOMIC DEVELOPMENT ADMINISTRATION

EDA SIGN DETAIL
N.T.S.

EDA SIGN GRAPHICS DETAIL
N.T.S.

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

TRAFFIC AND LIGHTING SECTION
INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SITE CONSTRUCTION DETAILS

90% SET

SCALE	HORIZONTAL N.T.S. / VERTICAL N.T.S.	APPROVED / DATE
1/4 SEC. NO.	393	DESIGN ENGINEER
PLAN DATE	6-10-2015	
DESIGNED BY	RDL	
DRAWN BY	SRK	
CHECKED BY	JAL	ENGINEER IN CHARGE
SYSTEM NO.		
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS
CONTRACT NO.		PROJECT NO. NA / C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA / DATE ADOPTED NA

SHEET NO. 11 OF 29 PLAN FILE NO. 000-00

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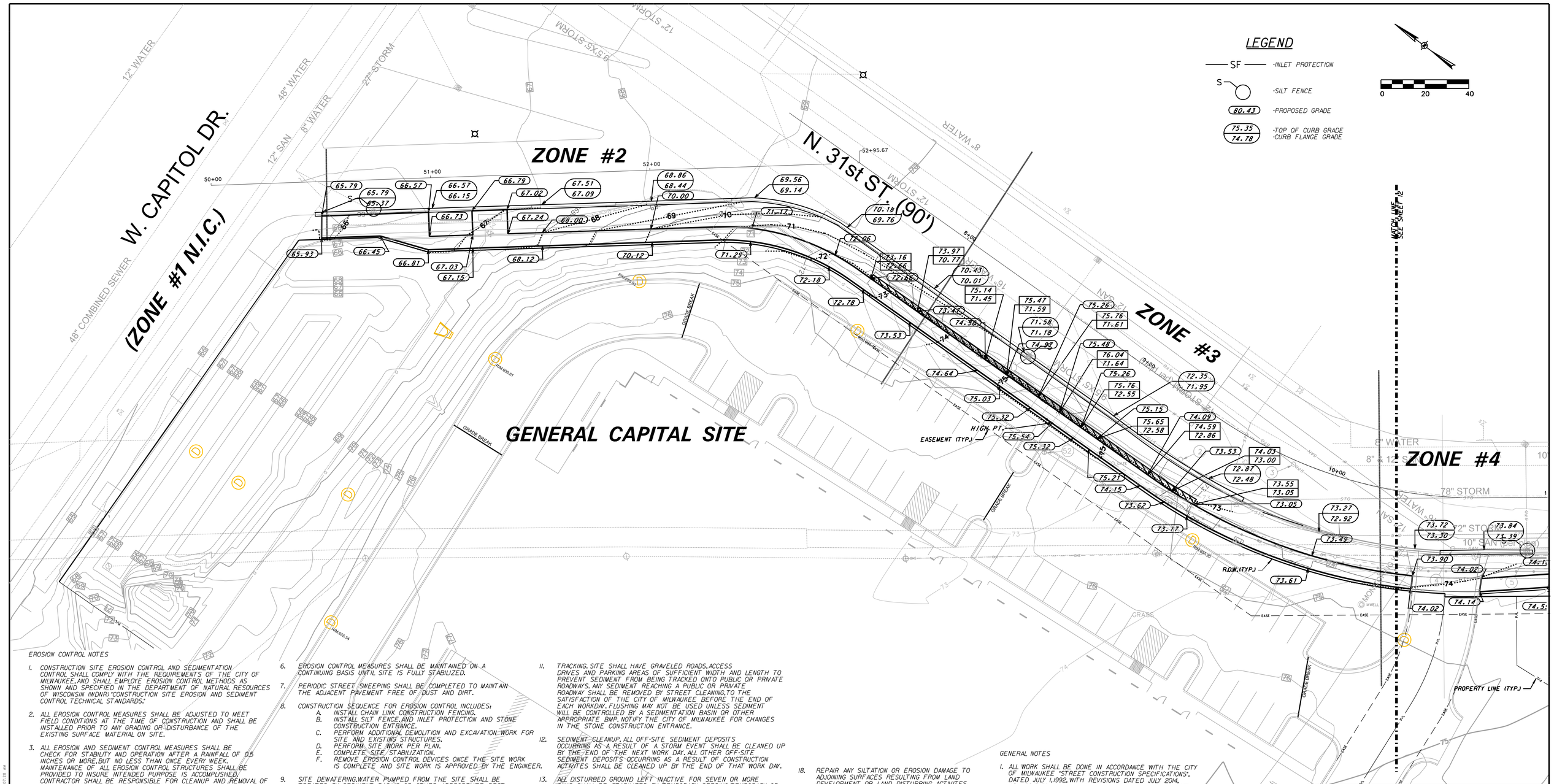

EROSION CONTROL NOTES

1. CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF MILWAUKEE.AND SHALL EMPLOYE EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE DEPARTMENT OF NATURAL RESOURCES OF WISCONSIN (WDNR)"CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS."

2. ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF THE EXISTING SURFACE MATERIAL ON SITE.

3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECK FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE.BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING THE PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT THE END OF EACH WORKDAY. CONTRACTOR SHALL MAINTAIN A LOG BOOK THAT DOCUMENTS EROSION CONTROL INSPECTIONS.

4. SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLAN.OR AS ADDITIONALLY NEEDED BY GENERAL CONTRACTOR PER SITE LOGISTICS TO COMPLETE THE WORK AND COMPLY WITH CITY REQUIREMENTS. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN DEPOSITS REACH A DEPTH OF 6 INCHES. THE SILT FENCE SHALL BE REPAIRS AS NECESSASRY TO MAINTAIN A BARRIER.

5. FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT AS PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.

6. EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.

7. PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN THE ADJACENT PAVEMENT FREE OF DUST AND DIRT.

8. CONSTRUCTION SEQUENCE FOR EROSION CONTROL INCLUDES:
   - A. INSTALL CHAIN LINK CONSTRUCTION FENCING.
   - B. INSTALL SILT FENCE.AND INLET PROTECTION AND STONE CONSTRUCTION ENTRANCE.
   - C. PERFORM ADDITIONAL DEMOLITION AND EXCAVATION WORK FOR SITE AND EXISTING STRUCTURES.
   - D. PERFORM SITE WORK PER PLAN.
   - E. COMPLETE SITE STABILIZATION.
   - F. REMOVE EROSION CONTROL DEVICES ONCE THE SITE WORK IS COMPLETE AND SITE WORK IS APPROVED BY THE ENGINEER.

9. SITE DEWATERING.WATER PUMPED FROM THE SITE SHALL BE TREATED BY SEDIMENT BASINS OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICES (BMP) SPECIFIED BY THE WDNR TECHNICAL STANDARDS. WATER SHALL NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE.ADJACENT SITES.OR RECEIVING CHANNELS.

10. WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING BUT NOT LIMITED TO GARBAGE, DEBRIS.CLEANING WASTES.WASTEWATER.TOXIC MATERIALS.OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.

11. TRACKING. SITE SHALL HAVE GRAVELED ROADS.ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BY STREET CLEANING.TO THE SATISFACTION OF THE CITY OF MILWAUKEE BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENTATION BASIN OR OTHER APPROPRIATE BMP. NOTIFY THE CITY OF MILWAUKEE FOR CHANGES IN THE STONE CONSTRUCTION ENTRANCE.

12. SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORK DAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITES SHALL BE CLEANED UP BY THE END OF THAT WORK DAY.

13. ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY SEEDING.TEMPORARY OR PERMANENT SEEDING AND MULCHING.SODDING.COVERING WITH TARPS.OR EQUIVALENT BMP.

14. IF SOIL OR DIRT STORAGE PILES REMAIN FOR MORE THAN 14 DAYS.PILES SHALL BE STABIUZED BY MULCHING.VEGETATIVE COVER.TARPS OR OTHER EQUIVALENT BMP.

15. NOTIFY THE CITY OF MILWAUKEE WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DVELOPMENT OR LAND DISTURBING ACTIVITY.

16. NOTIFY THE CITY OF MILWUAKEE OF THE COMPLETION OF ANY BMP WITHIN THE NEXT WORKING DAY AFTER INSTALLATION.

17. OBTAIN PERMISSION IN WRITING FROM THE CITY OF MILWAUKEE PRIOR TO MODIFYING THE EROSION CONTROL PLAN.

18. REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITES.

19. KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.

20. STONE CONSTRUCTION ENTRANCE(S) OR EXIT(S) ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON CONTRACTOR'S LOGISTICS PLAN AND PERMITTING WITH THE CITY AND MAY NOT BE LOCATED AS SHOWN.

21. CONTRACTOR SHALL USE THE EXISTING DEWATERING LOCATIONS AS NECESSARY DURING CONSTRUCTION.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "STREET CONSTRUCTION SPECIFICATIONS". DATED JULY 1,1992. WITH REVISIONS DATED JULY 2014. AS MODIFIED BY THE GENERAL SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS DATED JANUARY 31,1992 WITH SUBSEQUENT REVISIONS.

2. BASE SURVEY PREPARED BY OTHERS. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.

3. ELEVATION SHOWN ON CIVIL AND LANDSCAPE PLANS ARE CITY OF MILWAUKEE. MEAN SEA LEVEL NGVD29 CAN BE OBTAINED BY ADDING 580.6 TO CITY OF MILWAUKEE ELEVATIONS.

4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT AND DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.*1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE *2.ELEVATION - 615.41

B.M.*1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 716.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG.WISCONSIN STATUTE 182.0175 REQUIRES MIN.OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRāEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

_GRADING_AND_EROSION_CONTROL_

IN **N. HOPKINS STREET**
FROM
TO

SCALE	HORIZONTAL 1" = 20' VERTICAL	APPROVED	DATE
1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 12 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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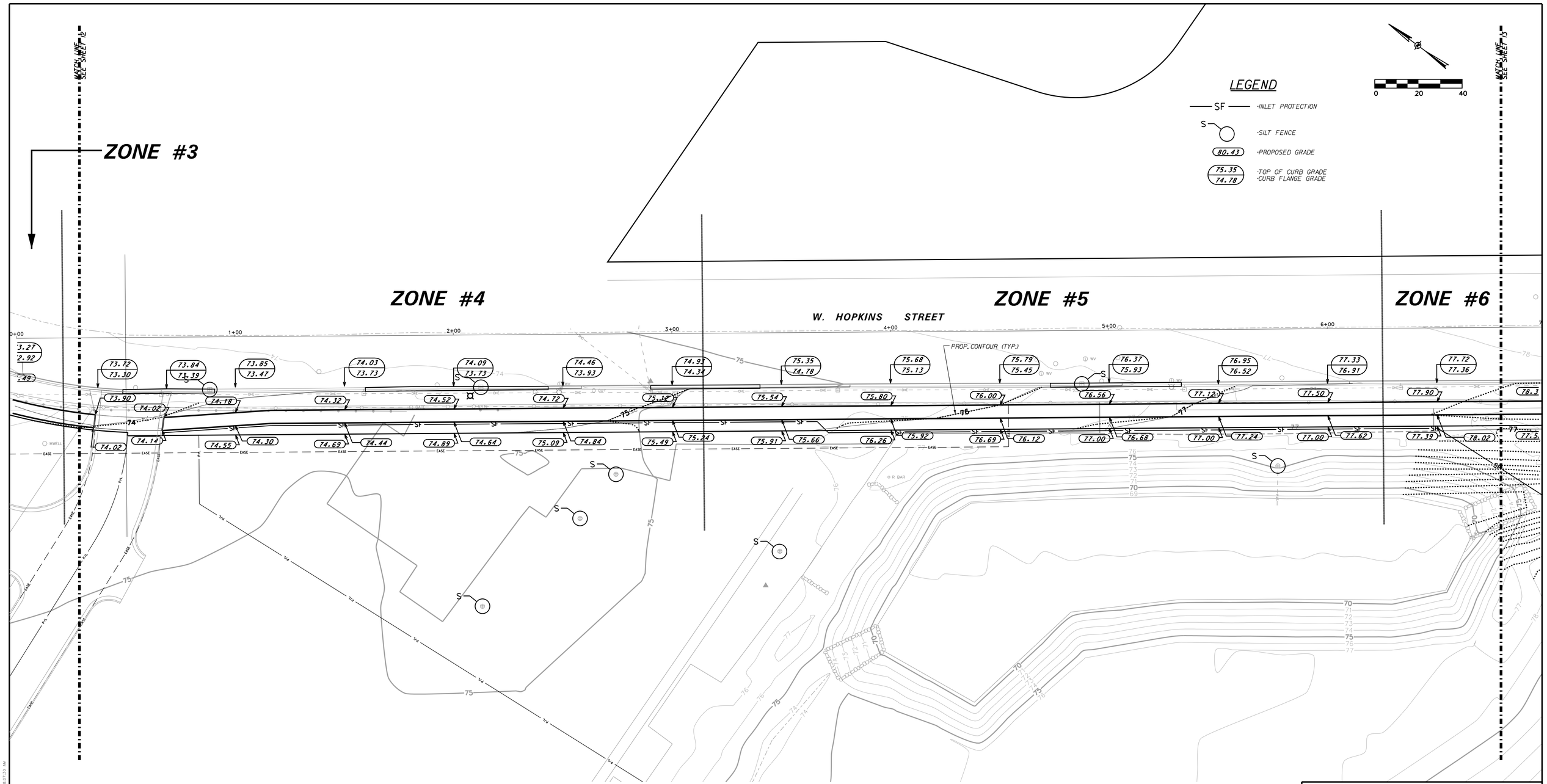

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.#1- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE *2.ELEVATION - 85.41

B.M.#1- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	N
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

EROSION CONTROL NOTES

1. SEE SHEET 12 FOR EROSION CONTROL NOTES.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "STREET CONSTRUCTION SPECIFICATIONS". DATED JULY 1,1992, WITH REVISIONS DATED JULY 2014, AS MODIFIED BY THE GENERAL SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS DATED JANUARY 31,1992 WITH SUBSEQUENT REVISIONS.
2. BASE SURVEY PREPARED BY OTHERS.ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
3. ELEVATION SHOWN ON CIVIL AND LANDSCAPE PLANS ARE CITY OF MILWAUKEE. MEAN SEA LEVEL NGVD29 CAN BE OBTAINED BY ADDING 580.6 TO CITY OF MILWAUKEE ELEVATIONS.
4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT AND DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG.WISCONSIN STATUTE 182.0175 REQUIRES MIN.OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRAEF

One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE

REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

IN **HOPKINS STREET**
FROM **STATION 0+31.63**
TO **STATION 6+79.58**

SCALE	HORIZONTAL 1"=20'0"	APPROVED	DATE
	VERTICAL NA		
1/4 SEC. NO.	393		DESIGN ENGINEER
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL		ENGINEER IN CHARGE
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 13 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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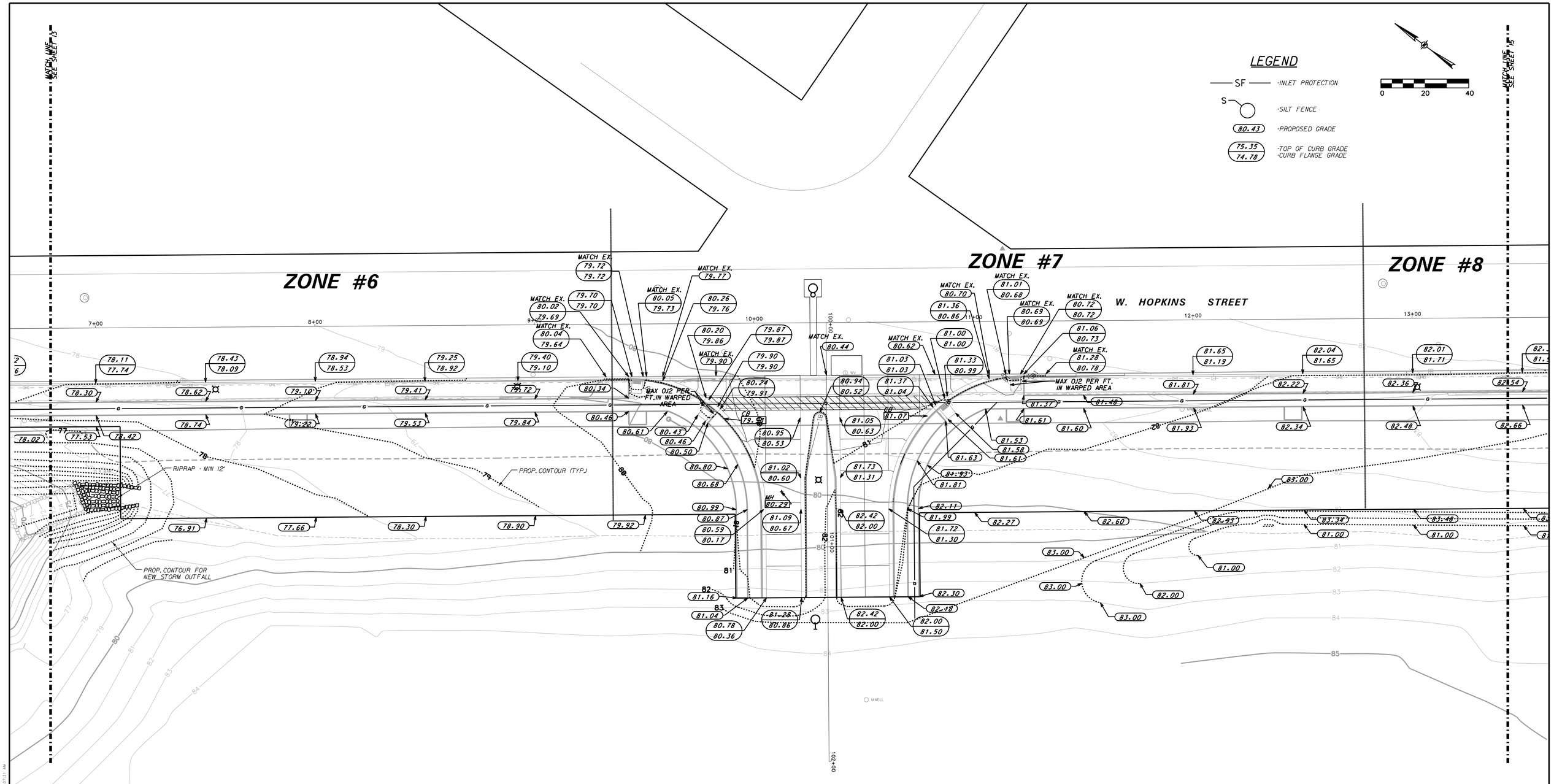

EROSION CONTROL NOTES

1. SEE SHEET 12 FOR EROSION CONTROL NOTES.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "STREET CONSTRUCTION SPECIFICATIONS", DATED JULY 1,1992, WITH REVISIONS DATED JULY 2014, AS MODIFIED BY THE GENERAL SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS DATED JANUARY 31,1992 WITH SUBSEQUENT REVISIONS.
2. BASE SURVEY PREPARED BY OTHERS. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
3. ELEVATION SHOWN ON CIVIL AND LANDSCAPE PLANS ARE CITY OF MILWAUKEE, MEAN SEA LEVEL NGVD29 CAN BE OBTAINED BY ADDING 580.6 TO CITY OF MILWAUKEE ELEVATIONS.
4. CONTRACTOR SHALL VERIFY LOCATIONS OF PROPOSED WORK AND REPORT AND DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION - 85.41

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION - 79.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	G / W
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

IN **HOPKINS STREET**
FROM **STATION 6+79.58**
TO **STATION 13+43.60**

SCALE	HORIZONTAL 1"=20' VERTICAL	APPROVED	DATE
1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 14 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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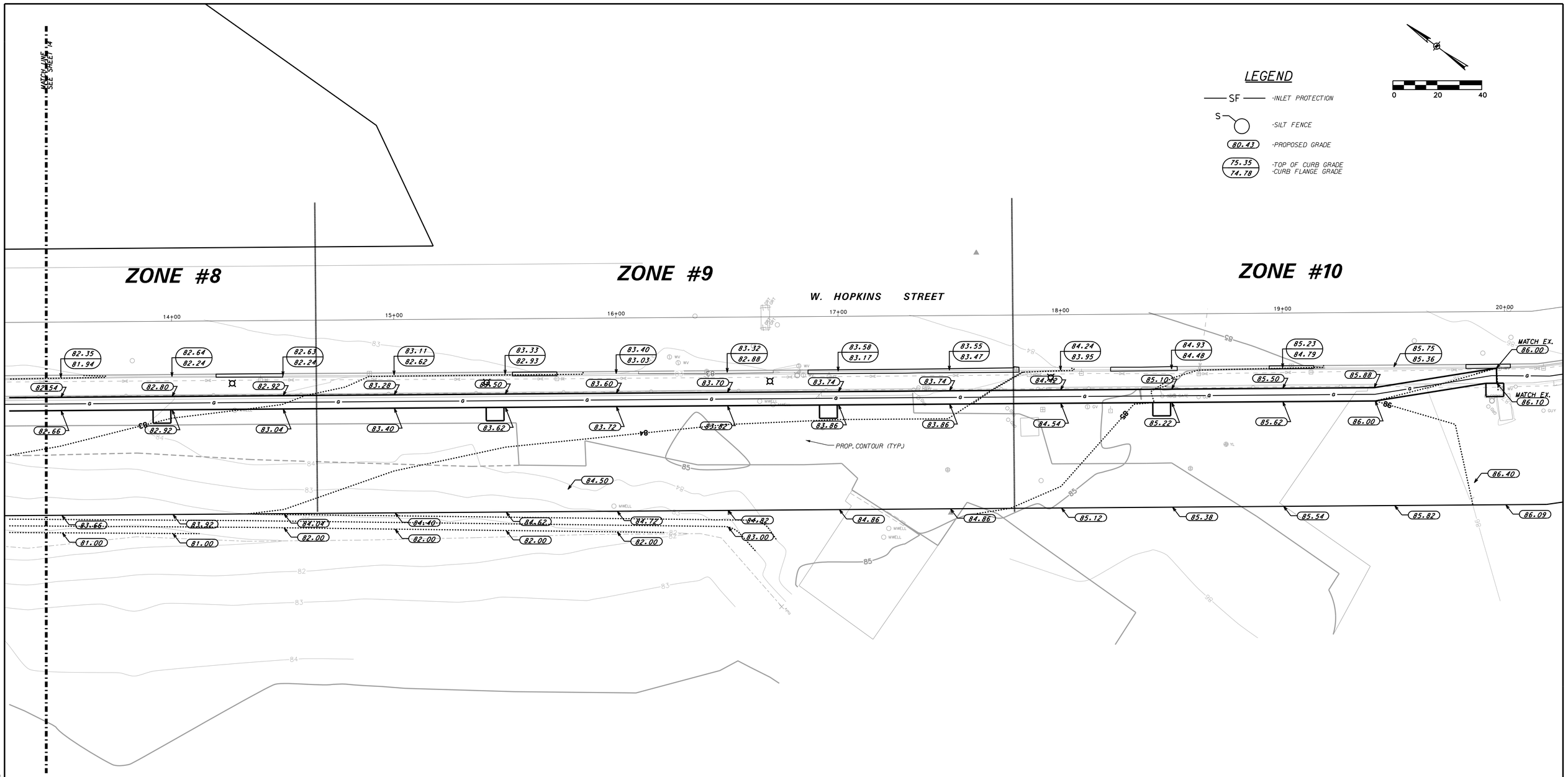

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE #2.ELEVATION - 85.41

B.M.1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

EROSION CONTROL NOTES

1. SEE SHEET 12 FOR EROSION CONTROL NOTES.

GENERAL NOTES

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CALL DIGGERS HOTLINE
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NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE (RACM)
MILWAUKEE, WISCONSIN

IN **HOPKINS STREET**
FROM **STATION 13+43.60**
TO **STATION 19+96.13**

SCALE HORIZONTAL / VERTICAL	1"=20'	APPROVED	DATE
1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	12-07-2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 15 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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ESTIMATE OF QUANTITIES

FOR BIDDING

FURNISH PIPE AND INSTALL

(DUCTILE IRON MECHANICAL JOINT)
118 FT.- 12" WATER MAIN
25 FT.- 6" HYDRANT BRANCH
12 FT.- 16" WATER MAIN

INSTALL

1 - HYDRANT

BARRICADES AND TRAFFIC CONTROL

LUMP SUM

FINISHING OF ROADWAY

LUMP SUM

EXISTING PAVEMENT

EXISTING PAVEMENT IN W.HOPKINS ST.IS
3" ASPHALTIC CONCRETE ON 8" (1931) VIBROLITHIC CONCRETE

ABANDONMENT OF WATER MAINS.VALVES.AND HYDRANT BRANCHES

12" - 16"-1936-LT WATER MAIN

1 - HYDRANT

GENERAL NOTES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MILWAUKEE "WATER MAIN INSTALLATION SPECIFICATIONS", DATED JANUARY 2,1987.ADDITIONALLY,ALL WORK SHALL BE DONE IN ACCORDANCE WITH "THE MILWAUKEE WATER WORKS STANDARD PLAN NOTES REGARDING WATER MAIN CONSTRUCTION", WHICH IS ATTACHED AND MADE PART OF THESE WATER MAIN PLANS AND CONTRACT DOCUMENTS.

THE DEPARTMENT OF PUBLIC WORKS GENERAL SPECIFICATIONS, DATED JANUARY 31,1992.LATEST REVISION,APPLIES TO THIS CONTRACT AND WILL SUPERSEDE ANY PART OF THE SPECIFICATIONS WHICH DIFFERS THEREFROM.

THE MILWAUKEE WATER WORKS WILL FURNISH WATER MAIN MATERIALS AS INDICATED IN SPECIFICATION SECTION 4.3.1. THE CONTRACTOR SHALL FURNISH TEMPORARY TEST CAPS AND PLUGS.THE CONTRACTOR SHALL FURNISH ALL OTHER ITEMS REQUIRED TO COMPLETE THIS PROJECT.

VALVE BOX BASE ADAPTERS

ALL VALVE BOXES SHALL BE INSTALLED ON GATE VALVES WITH THE USE OF THE VALVE BOX BASE ADAPTERS."ADAPTOR II" AS MANUFACTURED BY ADAPTOR INC.OR AN APPROVED EQUAL.THE ADAPTER SHALL BE INSTALLED IN ADDITION TO THE HARDWOOD BLOCKING.COST OF THE ADAPTER SHALL BE INCLUDED IN THE UNIT BID PRICE TO FURNISH AND INSTALL WATER MAIN.

BACKFILL AND BEDDING MATERIAL

THE REQUIREMENTS FOR BACKFILL AND BEDDING MATERIAL SHALL BE AS STATED IN THE "THE MILWAUKEE WATER WORKS STANDARD PLAN NOTES REGARDING WATER MAIN CONSTRUCTION".

HYDRANTS

THE CONTRACTOR SHALL RETURN ALL ABANDONED HYDRANTS TO THE DPW FIELD HEADQUARTERS - INFRASTRUCTURE.OPERATIONS. WATER WORKS.CONTACT MR.BEN GLATZEL AT 414-708-2839 FOR ADDITIONAL INFORMATION.

JOINT RESTRAINT OPTION

DUCTILE IRON PIPE AND FITTINGS (EXCEPT HYDRANT BRANCHES) MAY BE RESTRAINED USING FIELDLOK OR MJ FIELDLOK RESTRAINT.BUTTRESSING MAY BE REQUIRED IN ADDITION TO THE FIELD LOK RESTRAINT.

CONTRACTOR SHALL NOTIFY MWW 414-286-8167 IF FIELD LOK RESTRAINT WILL BE USED PRIOR TO THE REQUIRED EROSION CONTROL SUBMITTAL.ADDITIONAL REQUIREMENTS FOR USE OF FIELD LOK RESTRAINT IS DETAILED IN THE STANDARD PLAN NOTES INCLUDED IN BID DOCUMENTS.

RESIDENT / BUSINESS NOTIFICATION

WITHIN TEN (10) BUSINESS DAYS OF THE AWARD OF THIS CONTRACT,THE CONTRACTOR SHALL MAIL A NOTICE OF THE PROJECT TO THE CITY OF MILWAUKEE CONSTRUCTION SECTION AT 841 N.BROADWAY,ROOM 710,MILWAUKEE,WI 53202 FOR REVIEW AND APPROVAL.WITHIN FIVE (5) BUSINESS DAYS OF APPROVAL,THE CONTRACTOR SHALL MAIL THE PROJECT NOTICE TO ALL AFFECTED AREA RESIDENTS AND BUSINESSES AND INCLUDE ANY INFORMATION DEEMED NECESSARY FOR THE SUCCESSFUL PERFORMANCE OF THE CONTRACT.

IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL NOTICES ARE CONVEYED TO THE PUBLIC REGARDING THIS PROJECT.A MILWAUKEE WATER WORKS SAMPLE NOTICE IS INCLUDED IN THE CONTRACT DOCUMENTS.THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR BARRICADES AND TRAFFIC CONTROL. CONTRACT WORK SHALL NOT START PRIOR TO COMPLETING THE NOTICE REQUIREMENT.ANY DELAY IN CONTRACT COMPLETION AS A RESULT OF NON-COMPLIANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

BENCH MARKS

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE #2. ELEVATION = 85.41

B.M.#1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST. ELEVATION = 76.61

PROJECT IDENTIFICATION

THE CONTRACTOR SHALL POST CITY OF MILWAUKEE PROJECT IDENTIFICATION (1/12 BLUE 8/12) SIGNS AS DIRECTED ON EACH PROJECT IN THIS CONTRACT.THE CITY OF MILWAUKEE CONSTRUCTION SECTION WILL PROVIDE BLANK SIGNS FOR THE CONTRACTOR TO FILL IN CONTACT INFORMATION AND POST.THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR TRAFFIC CONTROL AND BARRICADING.

ABANDONMENT OF VALVE BOXES

IN ACCORDANCE WITH SECTION 5.14.5 OF THE CITY OF MILWAUKEE "WATER MAIN INSTALLATION SPECIFICATIONS", WHEN VALVES OR CURB STOPS ARE TO BE ABANDONED,THE CONTRACTOR SHALL REMOVE ONLY THE TOP SECTION OF THE VALVE OR SERVICE BOX AND BACKFILL THE REMAINING HOLE WITH GRAVEL. ALL VALVE AND CURB STOP BOXES ON MAINS ABANDONED AS PART OF THE CONTRACT SHALL BE ABANDONED IN THIS MANNER.THE ABANDONMENT SHALL INCLUDE ALL NECESSARY PAVEMENT OR SOD REPLACEMENT.

VALVE NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL NEW WATER MAIN,HYDRANT AND BRANCH VALVES ARE IN THE OPEN POSITIONS FOLLOWING THE FINAL WET CONNECTION. ALL CITY OF MILWAUKEE VALVES ARE OPEN RIGHT "CLOCKWISE".

NO LEAD BRASS NOTE

IN ACCORDANCE WITH SENATE BILL 3874,EFFECTIVE AS OF JANUARY 4,2014,ALL BRASS PRODUCTS USED TO COMPLETE THE WATER MAIN PROJECT.SHALL BE "LEAD FREE".

TRAFFIC PROVISIONS

PROVIDE SEVEN (7) DAYS ADVANCED NOTICE TO TRAFFIC ENGINEERING AT 286-3632 FOR THE INSTALLATION OF TEMPORARY "NO PARKING" SIGNS OR IF THERE ARE ANY QUESTIONS CONCERNING THESE COMMENTS.

IF TRAFFIC OR STREET SIGNS ARE TAKEN DOWN DURING CONSTRUCTION ACTIVITIES,THE CONTRACTOR SHALL CONTACT MR.MIKE CHANESKE OF INFRASTRUCTURE SERVICES AT 286-5965 TO HAVE THE SIGNS RE-INSTALLED.

ANY PERSON WORKING IN THE PUBLIC WAY SHALL COMPLY WITH THE CITY OF MILWAUKEE,DEPARTMENT OF PUBLIC WORKS BOOKLET, "TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK" AND PART VI OF THE STATE OF WISCONSIN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

SPECIFICATIONS

MATERIAL SPECIFICATIONS FOR FURNISHED MATERIALS MAY BE FOUND AT

http://city.milwaukee.gov/water/business/standardspecs.htm

LOCAL SUPPLIERS ALSO HAVE COPIES OF THE SPECIFICATIONS FOR ALL MATERIALS.COPIES ARE ALSO AVAILABLE ON REQUEST FROM THE CITY OF MILWAUKEE WATER ENGINEERING DIVISION.

MATERIAL INSPECTION

ALL MATERIALS WILL REQUIRE INSPECTION BY THE CITY.

THE CONTRACTOR SHALL ALLOW FOUR (4) WORKING DAYS NOTICE PRIOR TO START OF CONSTRUCTION FOR MATERIAL INSPECTION AND FOR SCHEDULING CONSTRUCTION INSPECTION.CONTRACTOR SHALL CONTACT MR.STEVEN BRENGOSZ AT 414-286-2391 OR 414-708-2808 FOR MATERIAL INSPECTION AND THE CITY OF MILWAUKEE'S CONSTRUCTION SECTION AT 414-286-2497 FOR INSTALLATION INSPECTION

EXISTING WATER MAIN SHUT-OFF

THE MILWAUKEE WATER WORKS WILL SHUT OFF THE EXISTING WATER MAIN AND PROVIDE TEMPORARY HOSE CONNECTIONS TO AFFECTED SERVICES AS REQUIRED.PLEASE CONTACT MR.STEVEN CIANCIOLA OF THE CONSTRUCTION SECTION AT 414-708-3887,THREE (3) DAYS PRIOR,TO SCHEDULE THE NECESSARY SHUT-OFFS AND/OR CONNECTIONS.

LINE AND GRADE

PRIMARY LINE AND GRADE FOR THIS WORK IS THE RESPONSIBILITY OF THE CONSULTANT / DEVELOPER. SECONDARY LINE AND GRADE IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR. PRIOR TO STARTING WORK,PROPOSED CONNECTIONS,VALVES,BENDS,TEES,AND OTHER APPURTENANCES SHALL BE LOCATED,WITH OFFSET STAKES AS NECESSARY,BY THE CONTRACTOR.

HYDRANT PERMITS

A $65.00 HYDRANT PERMIT/USE FEE WILL BE PART OF THE HYDRANT USE PERMIT.THIS FEE IS PER HYDRANT PER WEEK.

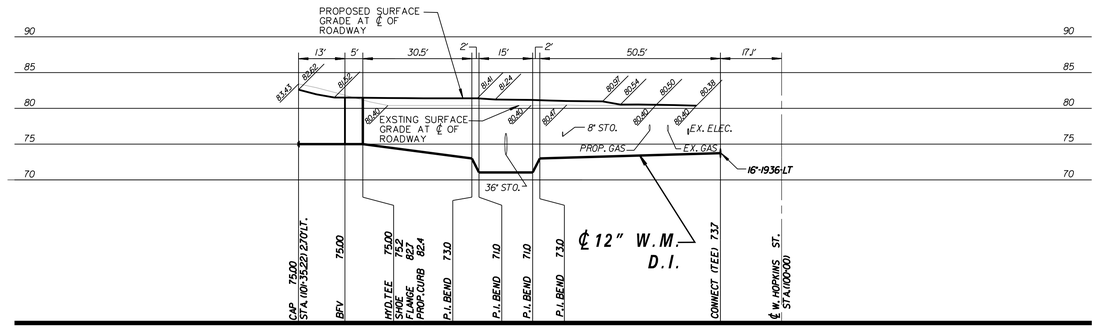
IT IS THE INTENTION OF THE CITY OF MILWAUKEE TO METER AND RECORD ALL WATER USE ON THIS CONTRACT.THE CONTRACTOR MUST OBTAIN A HYDRANT PERMIT FOR THIS CONTRACT WHICH INCLUDES THE REQUIREMENT OF A METER TO MEASURE WATER USAGE.THIS PERMIT CAN BE OBTAINED FROM THE CITY'S DEVELOPMENT CENTER LOCATED AT 809 N.BROADWAY.

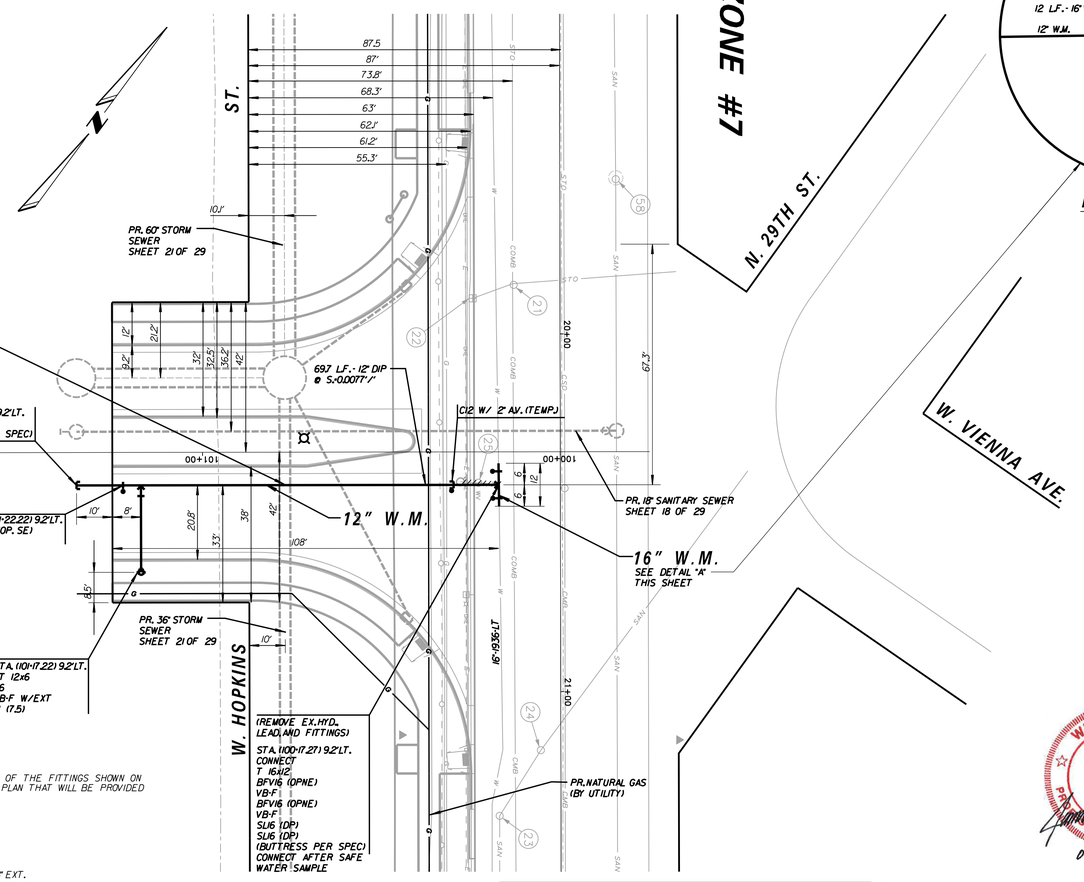
IF IT IS FOUND THAT THE CONTRACTOR IS NOT FOLLOWING THE STANDARD HYDRANT PERMIT USE RULES,THE CITY OF MILWAUKEE WILL TAKE NORMAL ENFORCEMENT ACTION.

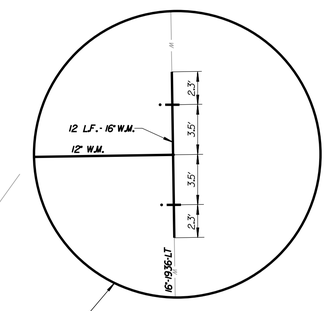
THE PERMIT REQUIRES THE CONTRACTOR TO PLACE A REFUNDABLE $675.00 DEPOSIT FOR EACH METER TO BE USED.THE CONTRACTOR WILL BE REQUIRED TO PAY $325.00 FOR THE SET UP OF THE METER.THE CONTRACTOR WILL BE CHARGED FOR THE VOLUME OF WATER USED AND READ ON THE METER(S).

QUESTIONS,ARRANGING INSTALLATIONS,AND READINGS

MWW METER SERVICES DISPATCHER,414-286-2865
MWW METER SERVICES,414-286-8010







DETAIL "A"
r = 5'

FOLLOWING IS A LIST OF THE FITTINGS SHOWN ON THIS CONSTRUCTION PLAN THAT WILL BE PROVIDED BY THE CITY.

1 - T 16x12
1 - AT 12x6
4 - BI2- 45
2 - BFV 16
1 - BFV 12
1 - V6
1 - VALVE BOX 18" EXT.
3 - VB-F
1 - C12
1 - H (7.5)
2 - SL 16 (DP)

PLAN LINE & UTILITY LEGEND

GAS	G	SANITARY SEWER	SAN	STREET LIGHTING	
ELECTRIC	E	STORM SEWER	STO	CITY UNDERGROUND CONDUIT	CUC
TELEPHONE	T	COMBINED SEWER	CMB	PROPOSED CURB / PVMT	
CABLE TELEVISION	TV	WATER MAIN	W	PAVING LIMITS	X X X X
FIBER OPTICS	FO	WATER SERVICE		STRUCTURE / BUILDING	
PROPOSED UTILITY		PRESSURE DISTRICT		FENCE	x

POWER POLES: CONCRETE, ALUMINUM, WOOD — WATER MAIN VALVES: GATE, BUTTERFLY, W-SERVICE

UTILITIES: TRAFFIC SIGNAL, TRAFFIC CONTROL BOX, GAS VALVE — HYDRANTS: 1 NOZZLE, 1-3 NOZZLE

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NO.	BY	REVISION	DATE
	KSR	MWW REVIEW	6-3-15

WISCONSIN JAMES A. LISAK E-30490 MUSKEGO, WI PROFESSIONAL ENGINEER
07-14-15

CENTURY CITY

Milwaukee Water Works — Water Engineering, Department of Public Works

WATER MAIN

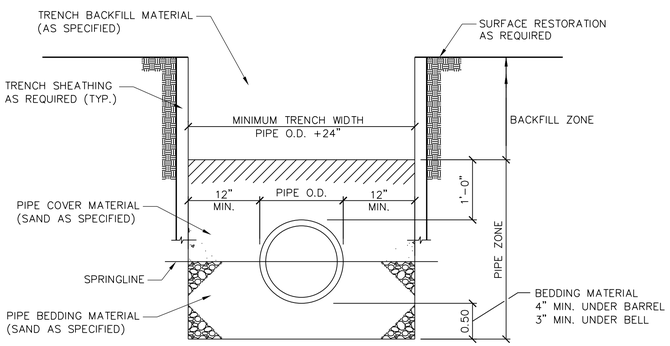
IN: CENTURY CITY ENTRY DR.
FROM: W. HOPKINS ST.
TO: 120' SW/O W. HOPKINS ST.

SCALE: HORIZONTAL 1" = 20' ; VERTICAL 1" = 10'
1/4 SEC. NO. 269
PLAN DATE 6/10/2015
DRAWN BY RDL
CHECKED BY JAL
SURVEY BY GRAEF-USA

APPROVED / DATE
MAINS DESIGN ENGINEER
CHIEF DESIGN ENGINEER
SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

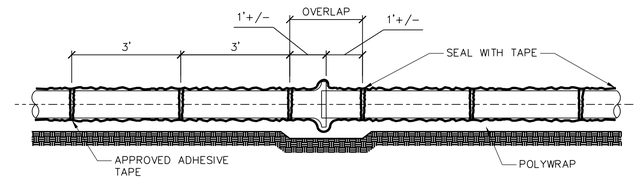
PROGRAM NO. 2015-301 — CONTRACT NO. — C.C. FILE NO. NA
PROJECT NO. WT410153304 — OFFICIAL NOTICE NO. NA — DATE ADOPTED NA

SHEET NO. 1 OF 1 PLAN FILE NO. 2015093



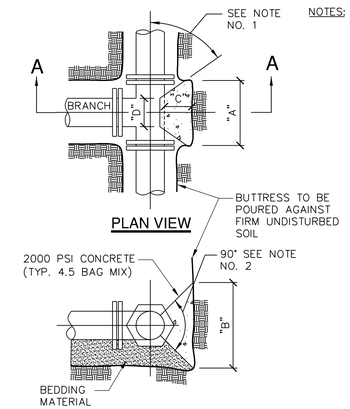
WATER MAIN TRENCH DETAIL

N.T.S.



POLYETHYLENE WRAP

N.T.S.



NOTES:

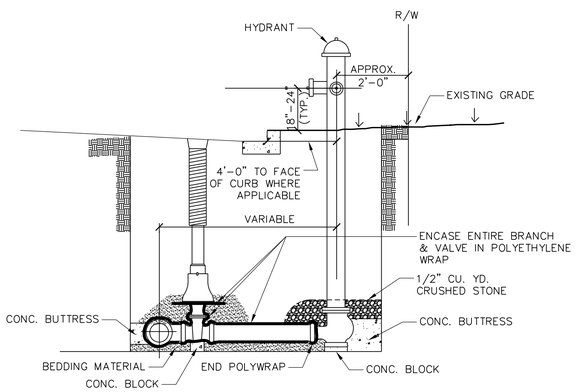
1. DIMENSION "C" SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45 DEGREES.
2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AS A MINIMUM.
3. DIMENSION "D" SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHALL NOT COVER MECHANICAL JOINTS.
4. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

BUTTRESS DIMENSIONS				
B.D.	"A"	"B"	"C"	"D"
6"	1'-3"	1'-0"	SEE NOTE NO. 1	SEE NOTE NO. 3
8"	1'-6"	1'-4"		
12"	2'-3"	2'-0"		
16"	3'-2"	2'-6"		
20"	4'-0"	3'-0"		
24"	5'-3"	3'-4"		
30"	6'-3"	4'-3"		

B.D. = BRANCH DIAMETER

CONCRETE BUTTRESS FOR TEES

N.T.S.

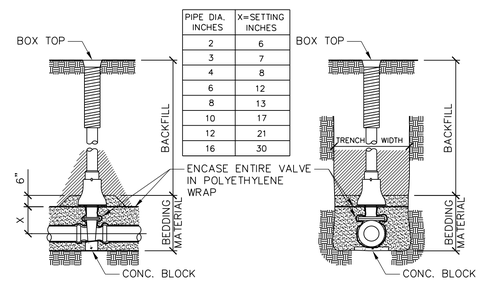


SECTION VIEW

NOTE: ALL FITTINGS SHALL BE RESTRAINED WITH MEGA-LUGS

STANDARD HYDRANT SETTING

N.T.S.



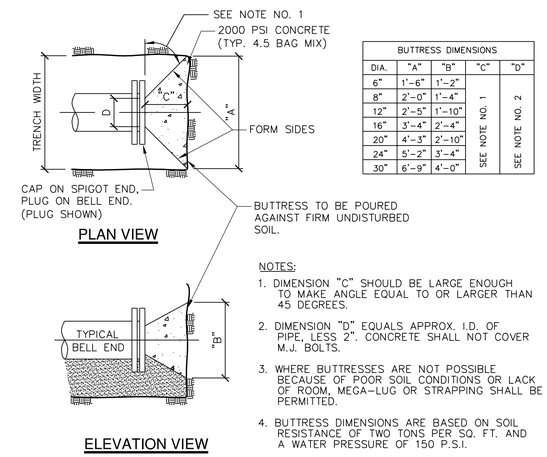
PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
10	17
12	21
16	30

SIDE VIEW

FRONT VIEW

STANDARD GATE VALVE BOX SETTING DETAIL

N.T.S.



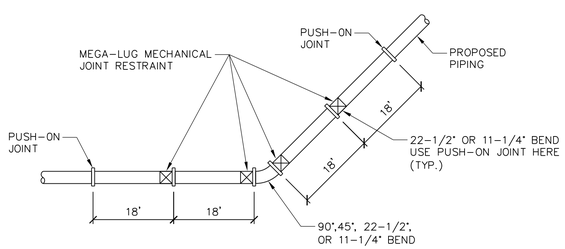
BUTTRESS DIMENSIONS				
DIA.	"A"	"B"	"C"	"D"
6"	1'-6"	1'-2"	SEE NOTE NO. 1	SEE NOTE NO. 2
8"	2'-0"	1'-4"		
12"	2'-5"	1'-10"		
16"	3'-4"	2'-4"		
20"	4'-3"	2'-10"		
24"	5'-2"	3'-4"		
30"	6'-9"	4'-0"		

NOTES:

1. DIMENSION "C" SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45 DEGREES.
2. DIMENSION "D" EQUALS APPROX. I.D. OF PIPE, LESS 2". CONCRETE SHALL NOT COVER M.J. BOLTS.
3. WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, MEGA-LUG OR STRAPPING SHALL BE PERMITTED.
4. BUTTRESS DIMENSIONS ARE BASED ON SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 P.S.I.

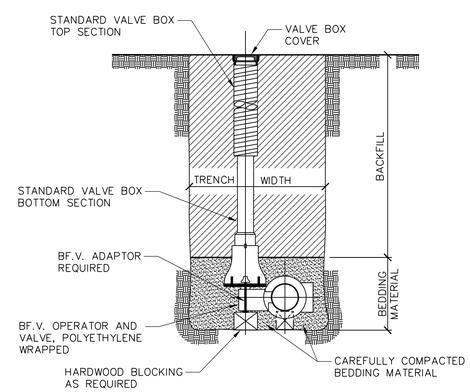
CONCRETE BUTTRESS FOR DEAD ENDS

N.T.S.



RESTRAINED JOINT DETAIL

N.T.S.



FRONT VIEW

STANDARD BUTTERFLY VALVE BOX SETTING DETAIL

N.T.S.

Milwaukee Water Works — Water Engineering, Department of Public Works

WATER MAIN CONSTRUCTION DETAILS

SCALE	HORIZONTAL N.T.S. / VERTICAL N.T.S.	APPROVED	DATE
14 SEC. NO.	393	MAINS DESIGN ENGINEER	
PLAN DATE	6-10-2015		
DRAWN BY	RDL	CHIEF DESIGN ENGINEER	
CHECKED BY	SRK		
SURVEY BY	JAL	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
PROGRAM NO.	3045	CONTRACT NO. NA	C.C. FILE NO. NA
WORK ORDER		O.N. & PROJECT NO. NA	DATE ADOPTED NA

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE

SHEET NO. 17 OF 29 PLAN FILE NO. 000-00

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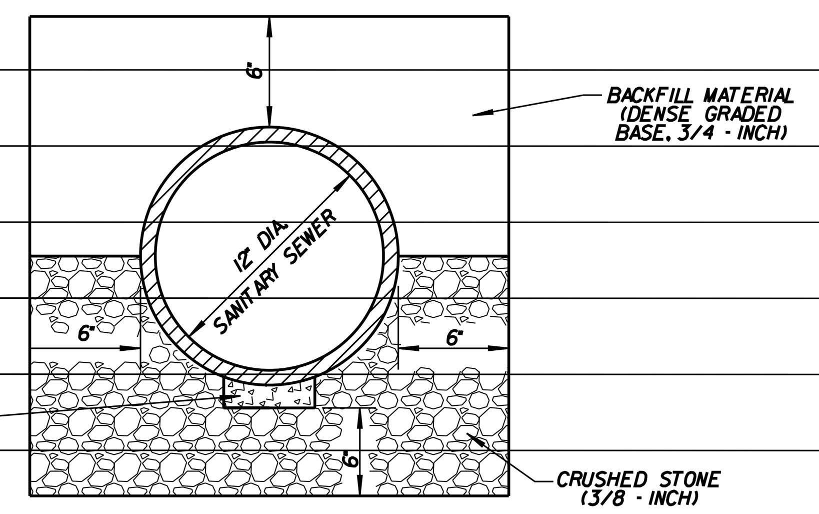
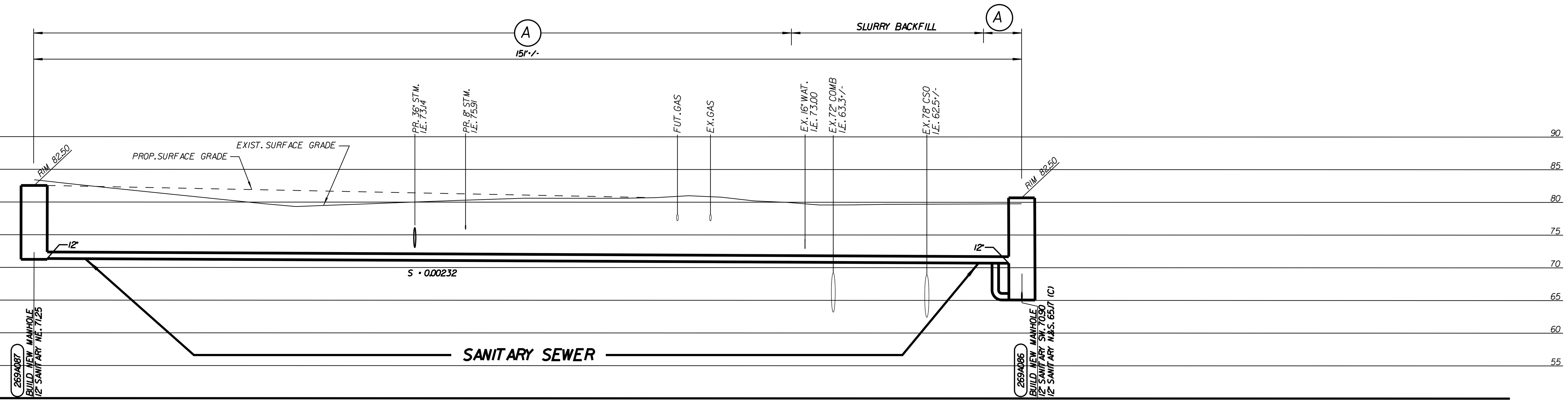
A	
12" SANITARY	CLASS "C" BEDDING MODIFIED
PVC, CLASS IV RCP	



SANITARY SEWER CLASS "C" BEDDING (MODIFIED)

SCALE: N.T.S.



GENERAL NOTES

1. VERTICAL DATUM IS THE CITY OF MILWAUKEE DATUM. APPROXIMATE ELEVATIONS BASED ON DOT DATUM NAVD88 (2007) CAN BE OBTAINED BY ADDING 580.6 FEET ALGEBRAICALLY TO THE CITY DATUM ELEVATIONS.
2. WORKING POINTS FOR MANHOLES ARE AT CENTER OF MANHOLE BARREL.
3. ALL INVERT ELEVATIONS ARE ALONG PROFILE CENTER LINE INVERTS FOR MAIN LINE SEWER ARE AT MANHOLE WORKING POINTS.
4. SURFACE RESTORATIONS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR SANITARY SEWER AND STORM SEWER, CLASS "C" BEDDING (MODIFIED). SPECIAL PROVISIONS FOR PLAN FILE NUMBERS, 240-78, 240-79, 240-80, 240-81 AND 240-82.
5. STANDARD SPECIAL PROVISIONS PLAN FILE NUMBER 52-4-51 (MAY 1, 2013 OR LATEST REVISON THEREOF) ARE PART OF THIS CONTRACT.
6. QUANTITIES ARE ESTIMATED. CONTRACTOR TO PROVIDE MATERIALS AND LABOR REQUIRED TO COMPLETE WORK AS SHOWN ON PLANS. ALL COST SHALL BE INCLUDED IN THE COST OF RESPECTIVE DIA. SEWER WORK, CLASS "C" BEDDIING, (MODIFIED).

SPECIAL PROVISIONS

1. THIS PROJECT HAS BEEN SUBMITTED TO THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD) AND THE DEPARTMENT OF NATURAL RESOURCES (DNR) FOR APPROVALS. NO WORK SHALL BE PERFORMED ON THIS CONTRACT UNTIL MMSD AND DNR APPROVALS HAVE BEEN OBTAINED. THE CONSTRUCTION ENGINEER SHALL CONTACT MS. BRITTANY HESS (MMSD) AT (414) 225-2219 TO CONFIRM THAT THE APPROVALS HAVE BEEN GRANTED.
2. THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROVED SCHEDULE. A PROJECT WORKING DAY IS DEFINED AS ANY DAY THE CONTRACTOR IS ABLE TO WORK A MINIMUM OF FOUR HOURS TOWARDS COMPLETION OF THE PROJECT.
3. THE CONTRACTOR SHALL POST CITY OF MILWAUKEE PROJECT IDENTIFICATION (BLUE) SIGNS AS DIRECTED IN THIS CONTRACT. THE CITY WILL PROVIDE BLANK SIGNS FOR THE CONTRACTOR TO FILL IN CONTACT INFORMATION AND POST.
4. THE CONTRACTOR SHALL SAVE THE CITY HARMLESS FROM ANY AND ALL DAMAGES THAT MAY ARISE OUT OF THE PERFORMANCE OF THIS CONTRACT IN ACCORDANCE WITH THE CONDITIONS OF THIS CONTRACT.
5. THE CONTRACTOR SHALL PROTECT AND SUPPORT ALL THE EXISTING UTILITIES AND UTILITY VAULTS / STRUCTURES WHILE RELAYING THE RESPECTIVE DIAMETER SEWERS. ALL UTILITIES SHALL BE SUPPORTED. THE COST OF SUPPORTING, RAT HOLING, OR TUNNELING UNDER THE EXISTING UTILITIES NECESSARY FOR THE PROPOSED SEWER RELAY SHALL BE INCLUDED IN THE RESPECTIVE DIAMETER SEWER RELAY BID FOR THE PROJECT.
6. THE CITY OF MILWAUKEE HAS STREET LIGHTING FACILITIES AND PIPE CABLE CROSSINGS AT VARIOUS LOCATIONS THROUGHOUT THE PROJECT. DURING OPEN CUT TRENCHING, THE CONTRACTOR SHALL SUPPORT THESE CROSSINGS. ANY ALTERATIONS NEEDED TO THE CITY OF MILWAUKEE STREET LIGHTING FACILITIES MUST BE APPROVED BY THE STREET LIGHTING DEPARTMENT. THE CONTRACTOR SHALL PAY A SERVICE FEE OF APPROXIMATELY $2,200 TO $4,500 FOR EACH STREET LIGHTING POLE WHERE ALTERATIONS ARE NEEDED; HOWEVER, IF ANY ADDITIONAL WORK IS REQUIRED FOR THE ALTERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST.

   THE SUCCESSFUL CONTRACTOR MUST PAY THE NECESSARY SERVICE FEE PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE PROOF OF THE PAYMENT TO THE CONSTRUCTION ENGINEER PRIOR TO STARTING ANY REQUIRED STREET LIGHTING AND TRAFFIC SIGNAL ALTERATIONS WORK. THE CONTRACTOR SHALL CONTACT MR. ENG-KIE LEE AT (414) 286-2174 FOR ALL NECESSARY STREET LIGHTING ALTERATIONS. THE CONTRACTOR SHALL CONTACT MR. JOSEPH BONDOWSKI AT (414) 286-5162 FOR ALL NECESSARY TRAFFIC SIGNAL ALTERATIONS.

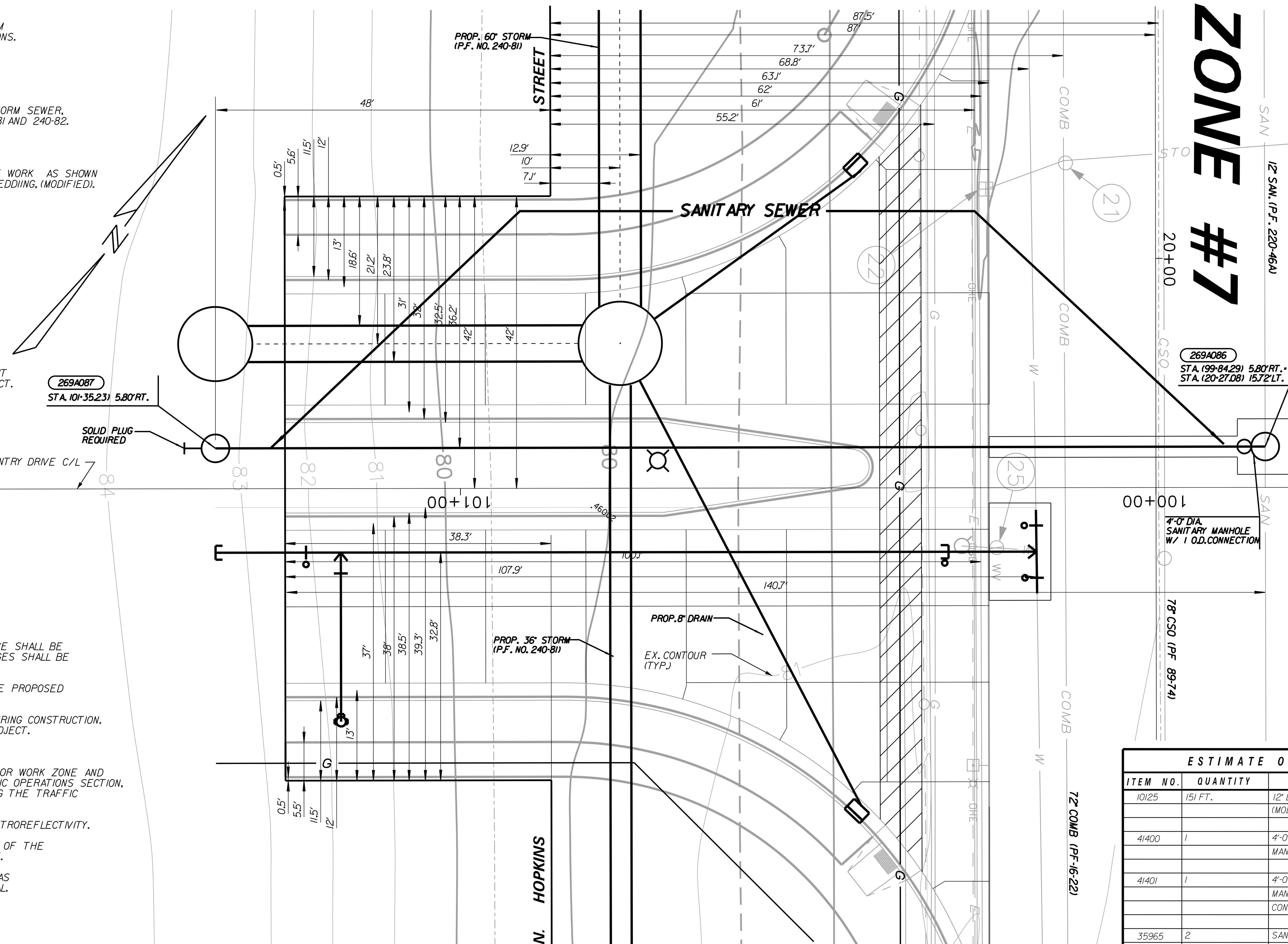
   ANY DAMAGE TO THE CITY-OWNED STREET LIGHTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED BY THE CITY'S STREET LIGHTING DEPARTMENT AT THE CONTRACTOR'S EXPENSE. ANY DAMAGES SHALL BE REPORTED TO THE STREET LIGHTING SHOP AT (414) 286-3481.
7. THE CONTRACTOR SHALL NOT RECONNECT OR RE-ESTABLISH ANY HYDRANT DRAIN CONNECTIONS TO THE PROPOSED SANITARY SEWER MAIN.
8. THERE ARE VARIOUS OVERHEAD WIRES WITHIN THE PROJECT LIMITS THAT MAY REQUIRE SUPPORT DURING CONSTRUCTION. COST FOR THIS SHALL BE INCLUDED IN THE RESPECTIVE DIAMETER SEWER RELAY BID FOR THE PROJECT.
9. THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AND ACCESS TO ALL ADJOINING PROPERTIES.
10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUPPLY A TRAFFIC CONTROL PLAN FOR WORK ZONE AND ACCESS TO BUSINESSES AND RESIDENCES TO MR. JAMES BROWN OF THE CITY OF MILWAUKEE TRAFFIC OPERATIONS SECTION, MUNICIPAL BUILDING, ROOM 920. CONTACT MR. JAMES BROWN AT (414) 286-3276 WITH QUESTIONS REGARDING THE TRAFFIC CONTROL PLAN SUBMITTAL.
11. ALL SIGNS USED FOR TRAFFIC CONTROL SHALL MEET THE NEW NATIONAL REQUIREMENTS FOR SIGN RETROREFLECTIVITY.
12. IN ADDITION TO THE ALLOWABLE 1-1/2 INCH GRADED AGGREGATE, AS PER TABLE 39 OF SECTION 8.43.7 OF THE STANDARD SPECIFICATIONS, THE CONTRACTOR IS ALSO ALLOWED TO USE 1-1/4 INCH GRADED AGGREGATE. THE 1-1/4 INCH GRADED AGGREGATE SHALL MEET THE WISCONSIN DEPARTMENT OF TRASNPORTATION (WISDOT) STANDARDS, AS PER SECTION 305 DENSE GRADED BASE, CONFORMING TO THE TABLE LISTED AS "PERCENT PASSING BY WEIGHT" IN 2012 WISDOT STANDARD SPECIFICATIONS, SUBSECTION 305.2.2.1 GENERAL.

SURVEY: NO CITY OF MILWAUKEE SURVEY.
SURVEY COMPLETED AND EXECUTED
BY CONSULTANT.

BENCH MARKS
B.M. #1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION = 85.41
B.M. #1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION = 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	/ / / / /
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	—X—X—X—
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST



13. THE CONTRACTOR SHALL CONTACT THE OWNERS/RESIDENTS AND BUSINESSES WITHIN THE PROJECT LIMITS TO INFORM THEM OF THE PROJECT AND PROVIDE THEM WITH ANY INFORMATION DEEMED NECESSARY FOR THE SUCCESSFUL PERFORMANCE OF THE CONTRACT.
14. ALL PAVEMENT MARKINGS WITHIN THE PROJECT LIMITS MUST BE REPLACED AT THE LOCATIONS AND CONFIGURATION PRIOR TO CONSTRUCTION AT THE CONTRACTORS EXPENSE.
15. THE CONTRACTOR SHALL NOTE THAT BASED ON THE CONSTRUCTION ENGINEER'S JUDGMENT, THE CONSTRUCTION ENGINEER MAY REQUIRE CHANGES IN THE PAVEMENT RESTORATION, PAVEMENT SAWING, CONCRETE PAYMENT OR ASPHALTIC CONCRETE LIMITS IN THE FIELD. ANY ADDITIONAL PAVEMENT RESTORATION, PAVEMENT SAWING, CONCRETE PAVEMENT OR ASPHALTIC CONCRETE QUANTITIES ORDERED BY THE CONSTRUCTION ENGINEER SHALL BE PAID FOR IN ACCORDANCE WITH THE SUPPLEMENTAL UNIT PRICES.
16. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEE REQUIRED BY UTILITIES AND GOVERNMENT AGENCIES IMPACTED BY THIS PROJECT HAVING JURISDICTION OVER THE RESPECTIVE WORK.
17. THE CONTRACTOR SHALL CONTACT THE CITY OF MILWAUKEE CONSTRUCTION SECTION AT (414) 286-2497 FIVE (5) BUSINESS DAYS PRIOR TO THE START OF ANY WORK ON SITE WORK ON THIS PROJECT.
18. ALL EXISTING UTILITIES SHOWN IN PLAN AND PROFILE ARE LOCATED BASED ON THE BEST AVAILABLE INFORMATION AVAILABLE AT THE TIME OF DESIGN. CONTRACTOR SHALL VERIFY ALL LOCATIONS WHERE THE PROPOSED SEWERS CROSS EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY TO ALLOW SUFFICIENT TIME FOR CONFLICT RESOLUTION. CONTRACTOR SHALL PERFORM ALL MODIFICATIONS TO THE SEWERS.
19. IN ACCORDANCE WITH WISCONSIN STATUTE 182.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THIS DRAWING, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUTE RELATIVE TO EXCAVATOR'S WORK.
20. THE CONTRACTOR SHALL PERFORM LOW PRESSURE SANITARY AIR TESTING OF ALL NEW SANITARY SEWER. THE SANITARY AIR TESTING SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 3.7.3 OF THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN" SIXTH EDITION DATED DECEMBER 22, 2003 AND ADDENDA THERETO. THE COST OF SANITARY AIR TESTING OF THE SANITARY SEWER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SANITARY AIR TESTING.
21. THE CONTRACTOR SHALL PERFORM MANHOLE VACUUM TESTING OF EACH NEW SANITARY MANHOLE ON THIS SEWER CONTRACT. THE VACUUM TESTING SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 3.7.6 OF THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN" SIXTH EDITION DATED DECEMBER 22, 2003 AND ADDENDA THERETO. THE COST OF VACUUM TESTING OF THE SANITARY MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SANITARY MANHOLE VACUUM TESTING.
22. THE CONTRACTOR SHALL PROVIDE THE CITY WITH TWO (2) COPIES OF A POST INSTALLATION DVD EXAMINATION AND REPORT OF ALL SANITARY AND STORM SEWER WORK. THESE RECORDED EXAMS WILL BECOME THE PROPERTY OF THE CITY OF MILWAUKEE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE SEWER EXAM BY CCTV POST CONSTRUCTION.
23. THE CONTRACT SHALL PROVIDE THE CITY OF MILWAUKEE ENVIRONMENTAL ENGINEERING SECTION SURVEYED AS-BUILT PLANS FOR ALL STRUCTURES. THE COST OF AS-BUILT SURVEY SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE RESPECTIVE DIA. SEWER WORK, CLASS "C" BEDDIING, (MODIFIED).
24. THE CONTRACTOR SHALL INSTALL AN INTERNAL FRAME AND CHIMNEY SEAL AS SPECIFIED FOR EACH NEW SANITARY MANHOLE. THE COST OF PROVIDING AND INSTALLING THE SEAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE 4'-0" DIA. SANITARY MANHOLE W/ INTERNAL SEAL.
25. ALL CASTING SHALL BE FURNISHED BY AND PLACED BY THE CONTRACTOR. THE COST OF FURNISHING CASTING INCLUDING ALL LABOR SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE RESPECTIVE DIA. SEWER WORK, CLASS "C" BEDDIING, (MODIFIED).

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

ITEM NO.	QUANTITY	DESCRIPTION

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION
10125	151 FT.	12" DIA. SANITARY SEWER CLASS "C" BEDDING (MODIFIED)
41400	1	4'-0" DIA. SANITARY MANHOLE W/ INTERNAL MANHOLE SEAL
41401	1	4'-0" DIA. SANITARY MANHOLE W/ INTERNAL MANHOLE SEAL AND ONE OUTSIDE DROP CONNECTION
35965	2	SANITARY MANHOLE VACUUM TESTING
50002	151 FT.	SANITARY AIR TESTING
60002	151 FT.	SEWER EXAM BY CCTV - POST CONSTRUCTION
50018	30 CU. YDS.	SLURRY BACKFILL

ENVIRONMENTAL ENGINEERING SECTION
INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SEWER MAIN PLAN

IN **EDA GREENWAY - N. HOPKINS STREET**
FROM STA. 20+27.08, 15.72'LT.
TO STA. 20+27.08, 135.23'RT.

SCALE HORIZONTAL	1" = 10'
SCALE VERTICAL	1" = 10'
1/4 SEC. NO.	393
PLAN DATE	6/10/2015
DESIGNED BY	RDL
DRAWN BY	SRK
CHECKED BY	JAL
SYSTEM NO.	1330
EASEMENT NO.	
CONTRACT NO.	
PROJ. ID.	

APPROVED DATE
DESIGN ENGINEER
ENGINEER IN CHARGE
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROJECT NO. NA	C.C. FILE NO. NA
OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 18 OF 29 PLAN FILE NO. **240-78**

MMSD ______ SCANNED ______ MICROFILMED ______

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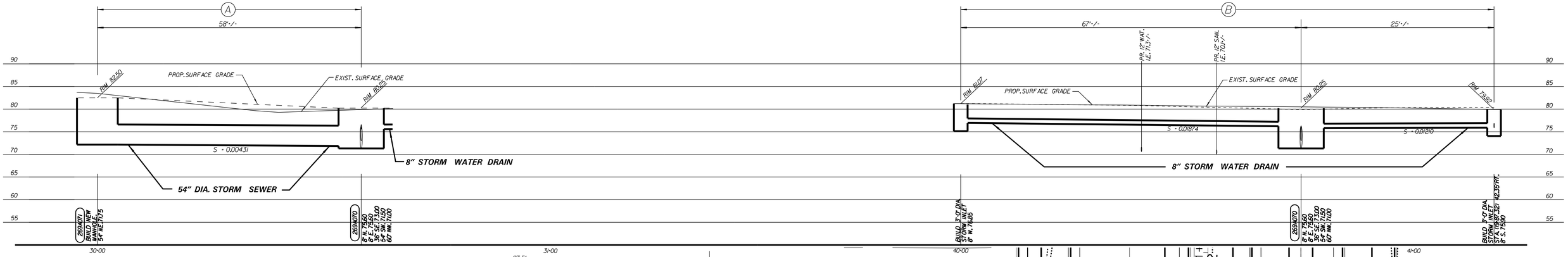
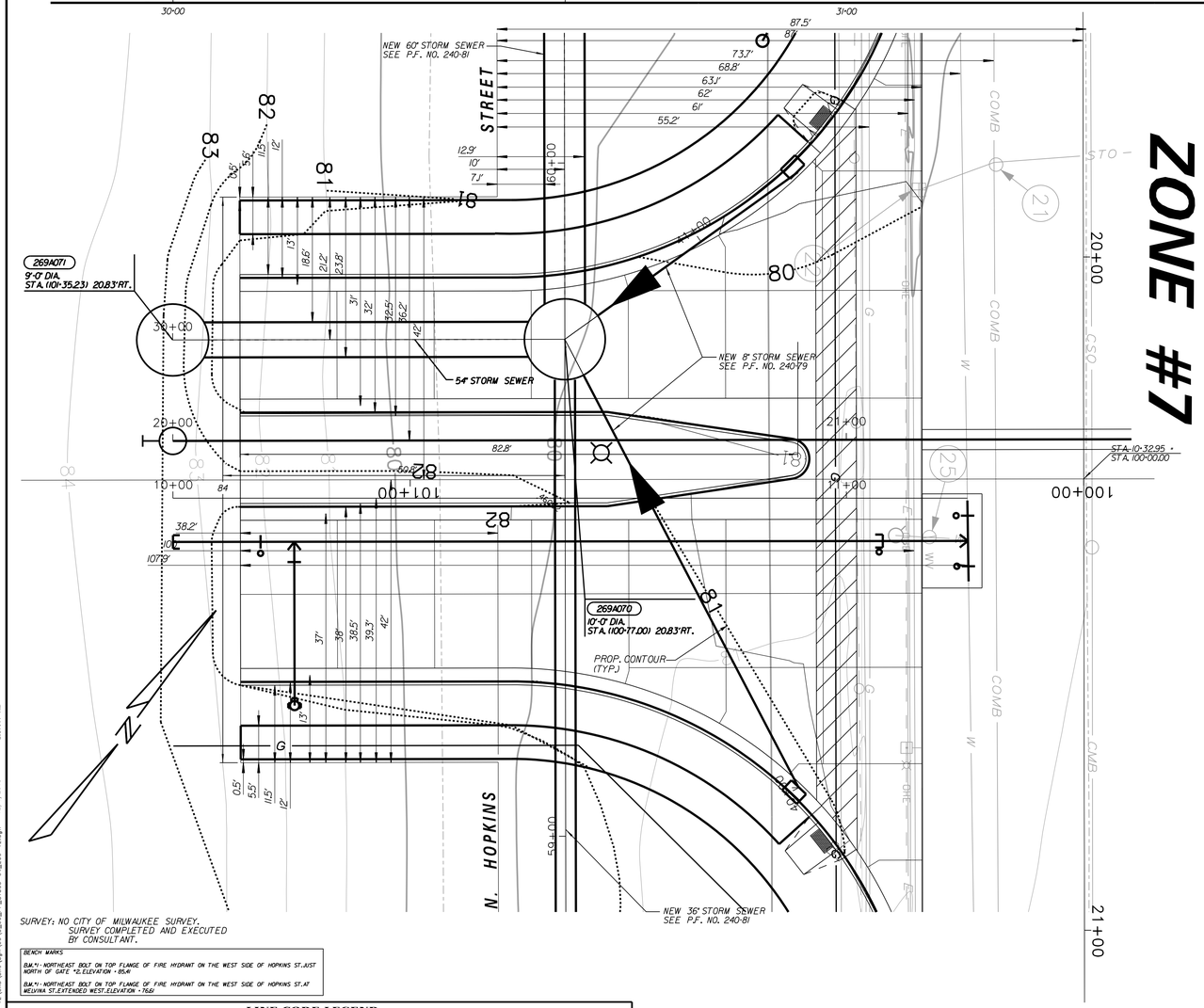
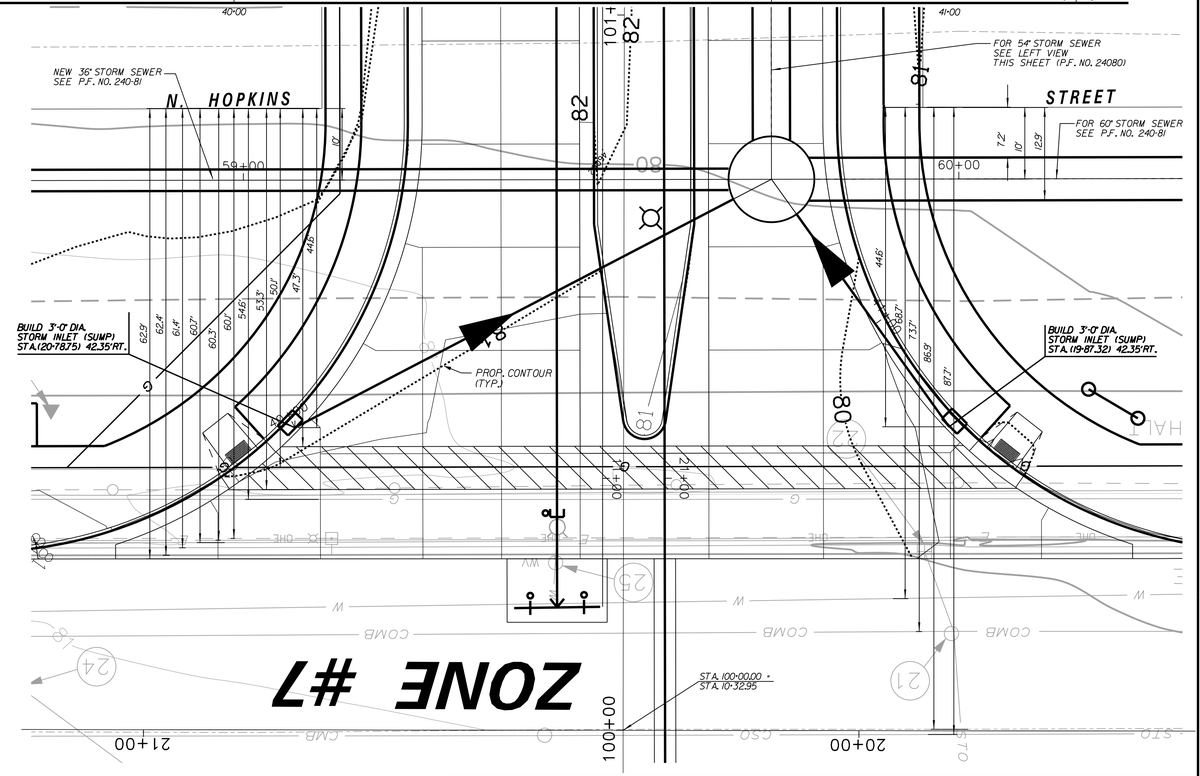
A		B	
54" DIA. STORM	CLASS "C" BEDDING (MODIFIED)	8" DIA. STORM WATER DRAIN	CLASS "C" BEDDING
CLASS V RCP		PVCP	







ESTIMATE OF QUANTITIES		
ITEM NO.	QUANTITY	DESCRIPTION
20541	58 FT.	54" DIA. STORM, CLASS "C" BEDDING (MODIFIED)
42804	1	9'-0" DIA. STORM MANHOLE
50039	92 FT.	8" DIA. STORM WATER DRAIN, CLASS "C" BEDDING
42301	2	3'-0" DIA. STORM INLET W/SUMP
60002	58 FT.	SEWER EXAM BY CCTV - POST CONSTRUCTION

ITEM NO.	QUANTITY	DESCRIPTION

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

BENCH MARKS

B.M.*1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE *2. ELEVATION = 85.41

B.M.*1 - NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION = 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAY'S NOTICE BEFORE YOU EXCAVATE

GRAEF

One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

ENVIRONMENTAL ENGINEERING SECTION
INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SEWER MAIN PLAN

IN EDA GREENWAY - N. HOPKINS STREET
54" DIA. STORM SEWER — FROM STA. 20+12.09, 77.00'RT. TO STA. 20+12.09, 135.23'RT.
8" DIA. STORM SEWER — FROM STA. 19+87.33, 42.36'RT. TO STA. 20+78.75, 42.69'RT.

SCALE	HORIZONTAL 1" = 10'	APPROVED	DATE
	VERTICAL 1" = 10'	DESIGN ENGINEER	
14 SEC. NO.	393		
PLAN DATE	6/10/2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.	2582		
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 19 OF 29 PLAN FILE NO. 240-79

MMSD _____ SCANNED _____ MICROFILMED _____

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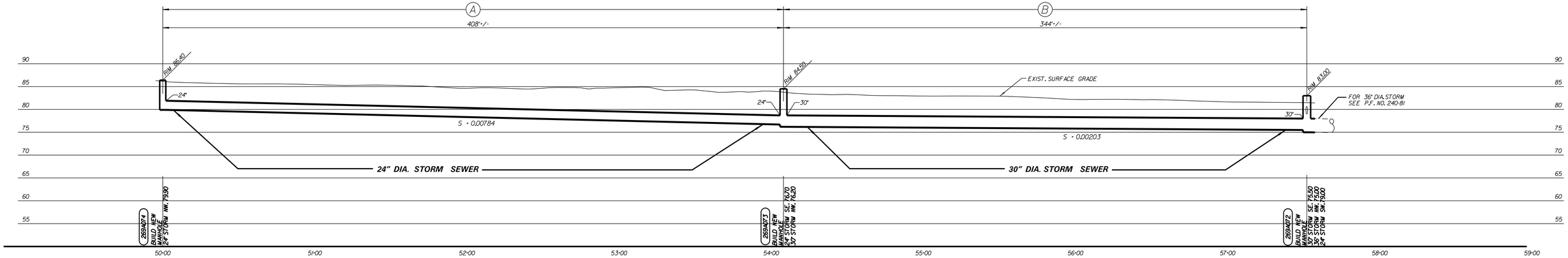
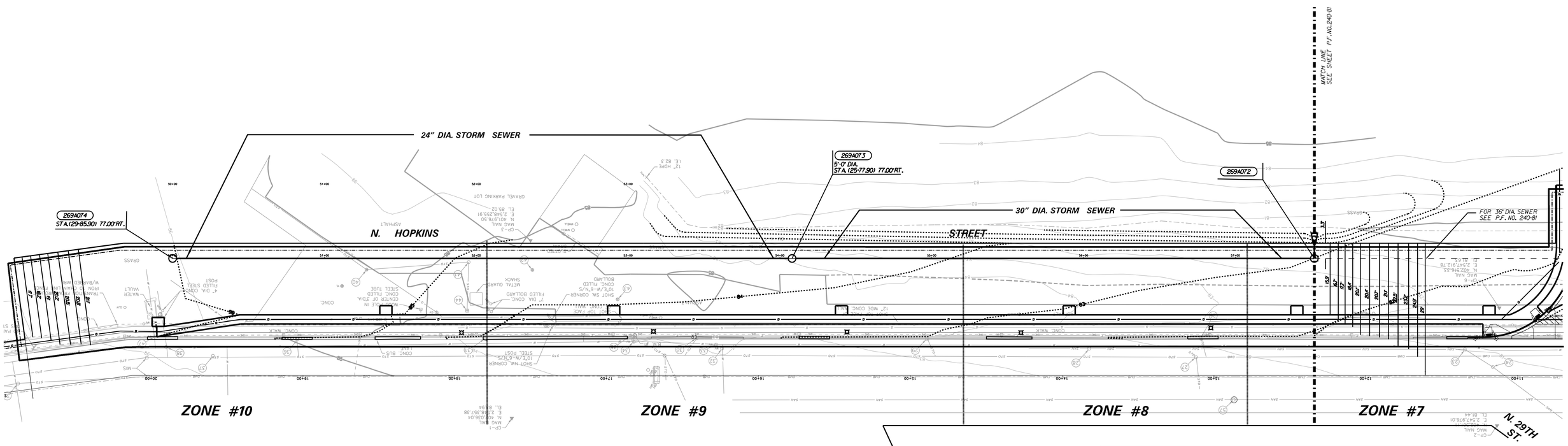
A	B
24" DIA. STORM — CLASS "C" BEDDING	30" DIA. STORM — CLASS "C" BEDDING
CLASS III RCP	CLASS IV RCP





SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M.'+'- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE "E. ELEVATION - 85.46

B.M.'+'- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION - 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
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GRAEF

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125 South 84th Street,
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414 / 259 1500
414 / 259 0037 fax
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ITEM NO.	QUANTITY	DESCRIPTION

NO	BY	REVISION	DATE
△			
△			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION
20241	408 FT.	24" DIA. STORM, CLASS "C" BEDDING (MODIFIED)
20301	344 FT.	30" DIA. STORM, CLASS "C" BEDDING (MODIFIED)
42400	1	4'-0" DIA. STORM MANHOLE
42500	1	5'-0" DIA. STORM MANHOLE
60002	752 FT.	SEWER EXAM BY CCTV - POST CONSTRUCTION

ENVIRONMENTAL ENGINEERING SECTION

INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SEWER MAIN PLAN

IN EDA GREENWAY – N. HOPKINS STREET
FROM STA. 22+33.90, 77.00'RT.
TO STA. 29+85.90, 77.00'RT.

SCALE	HORIZONTAL 1" = 30' / VERTICAL 1" = 10'	APPROVED	DATE
14 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	6/10/2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.	2582		
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 20 OF 29 PLAN FILE NO. 240-80

MMSD _____ SCANNED _____ MICROFILMED _____

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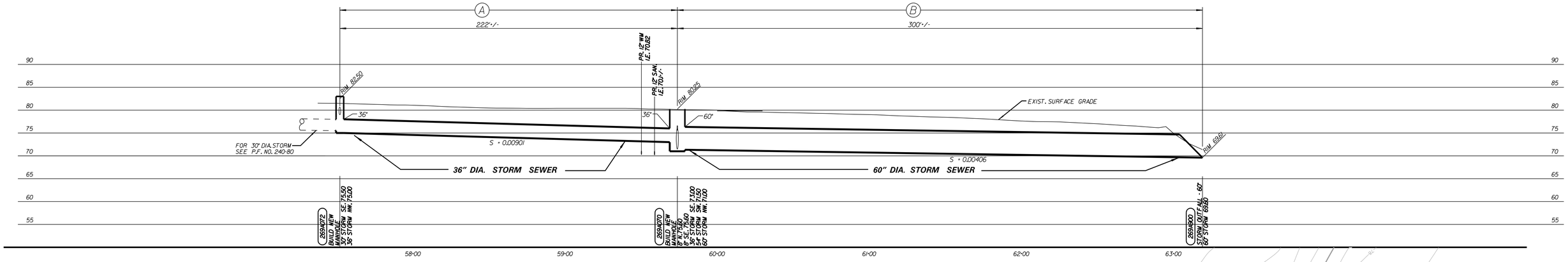
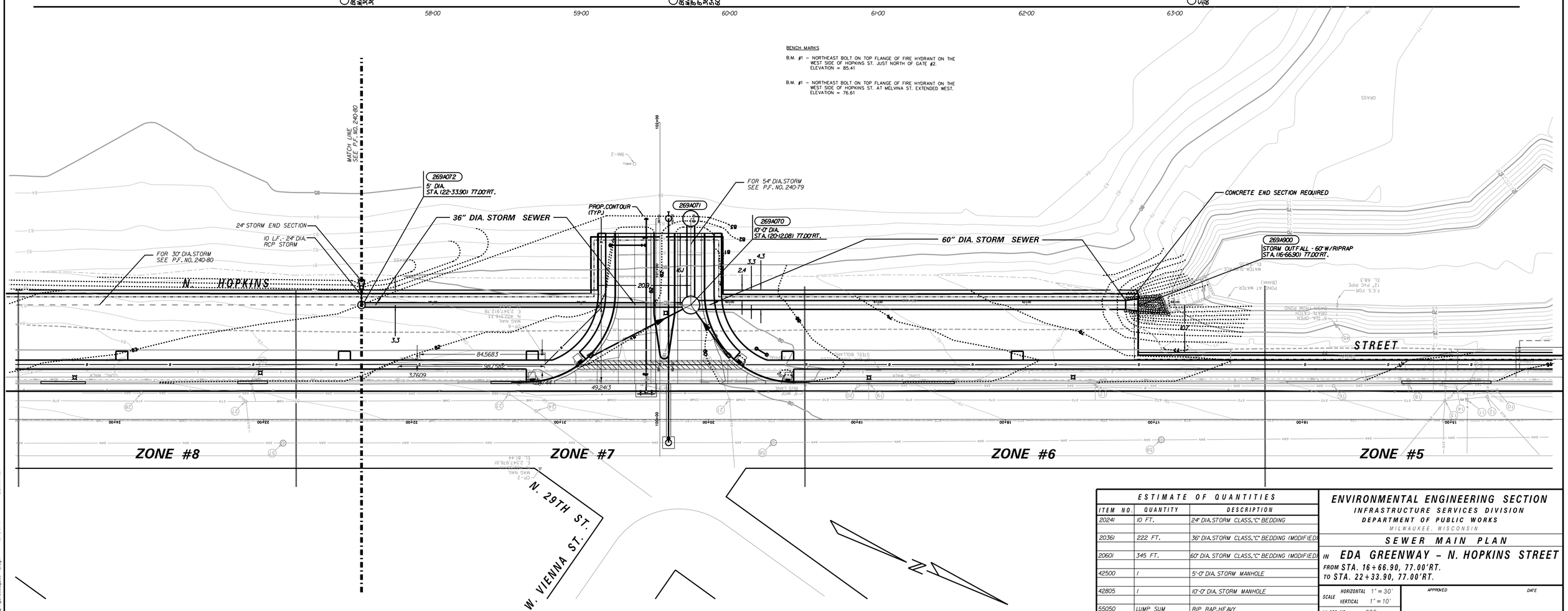
A	B
36" DIA. STORM — CLASS "C" BEDDING (MODIFIED) — CLASS IV RCP	60" DIA. STORM — CLASS "C" BEDDING (MODIFIED) — CLASS V RCP



BENCH MARKS

B.M. #1 – NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. JUST NORTH OF GATE #2. ELEVATION = 85.41

B.M. #1 – NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST. AT MELVINA ST. EXTENDED WEST. ELEVATION = 76.61



SURVEY: NO CITY OF MILWAUKEE SURVEY. SURVEY COMPLETED AND EXECUTED BY CONSULTANT.

BENCH MARKS

B.M."1"- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.JUST NORTH OF GATE "2".ELEVATION - 85.41

B.M."1"- NORTHEAST BOLT ON TOP FLANGE OF FIRE HYDRANT ON THE WEST SIDE OF HOPKINS ST.AT MELVINA ST.EXTENDED WEST.ELEVATION - 76.61

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW. DISTRICT SEWER	MMSD	FENCE	X X X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRÄEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

ITEM NO.	QUANTITY	DESCRIPTION

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

ESTIMATE OF QUANTITIES		
ITEM NO.	QUANTITY	DESCRIPTION
20241	10 FT.	24" DIA. STORM CLASS."C" BEDDING
20361	222 FT.	36" DIA. STORM CLASS."C" BEDDING (MODIFIED)
20601	345 FT.	60" DIA. STORM CLASS."C" BEDDING (MODIFIED)
42500	1	5'-0" DIA. STORM MANHOLE
42805	1	10'-0" DIA. STORM MANHOLE
55050	LUMP SUM	RIP RAP, HEAVY
60002	767 FT.	SEWER EXAMS BY CCTV - POST CONSTRUCTION
55124	1	24" DIA. CONCRETE END SECTION
55160	1	60" DIA. CONCRETE END SECTION WITH GRATE

ENVIRONMENTAL ENGINEERING SECTION

INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SEWER MAIN PLAN

IN EDA GREENWAY – N. HOPKINS STREET
FROM STA. 16+66.90, 77.00'RT.
TO STA. 22+33.90, 77.00'RT.

SCALE	HORIZONTAL 1" = 30' / VERTICAL 1" = 10'	APPROVED	DATE
14 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	6/10/2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.	2582		
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 21 OF 29 PLAN FILE NO. 240-81

MMSD _____ SCANNED _____ MICROFILMED _____

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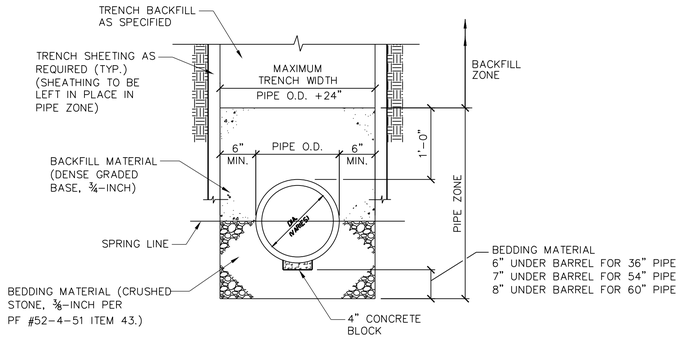
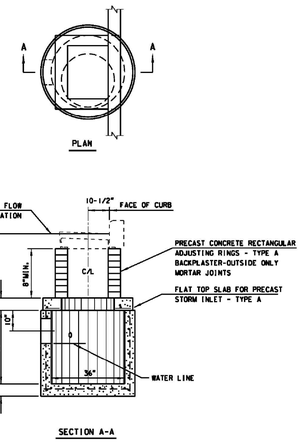


STORM SEWER CLASS "C" BEDDING DETAIL (MODIFIED)

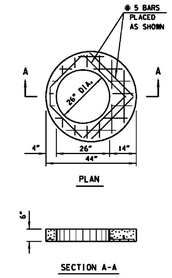
N.T.S.



STORM INLET - TYPE 45A

GENERAL NOTES

1. PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199 AND ASTM DESIGNATION C-478 AND THESE DETAILED REQUIREMENTS WHICH SHALL GOVERN WHERE THEY ALTER THE AASHTO AND ASTM STANDARDS.
2. ALL REINFORCEMENT STEEL SHALL BE GRADE 60 OR GREATER AND EMBEDDED AT LEAST 1" CLEAR.
3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 4 IN DEPTH WHICH MEETS REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.



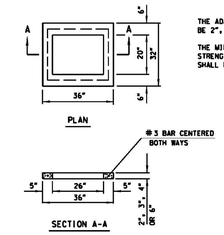
FLAT TOP SLAB SHALL BE 6" THICK REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER LINEAL FOOT IN BOTH DIRECTIONS, PLACED NEAR THE BOTTOM OF THE SLAB WITH 1" CLEAR COVER.

ADDITIONALLY, NO. 5 BARS SHALL BE PLACED AROUND TOP SLAB OPENING AS SHOWN.

REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.

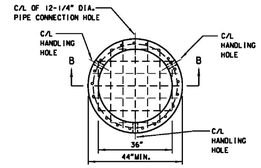
TOP SLAB - TYPE A



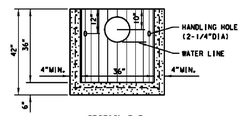
THE ADJUSTING RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 3300 P.S.I.

RECTANGULAR ADJUSTING RING - TYPE A



RISER SECTION WITH INTEGRAL BASE PLAN



CIRCUMFERENTIAL AND LONGITUDINAL REINFORCEMENT IN THE RISER SECTON SHALL EACH CONSIST OF ONE LAYER OF STEEL NOT LESS THAN 0.12 SQ. IN. PER FOOT AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

THE BASE SLAB SHALL BE REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER FOOT IN BOTH DIRECTIONS, PLACED ABOVE THE MIDPOINT OF THE SLAB.

RISER SECTION AND BASE SLAB REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

TWO TO THREE HANDLING HOLES 2-1/4" IN DIAMETER AND A PIPE CONNECTION HOLE 12-1/4" IN DIAMETER SHALL BE CAST OR CORED IN THE RISER SECTION AT THE LOCATIONS SHOWN. LIFTING DEVICES MAY BE SUBSTITUTED FOR HANDLING HOLES.

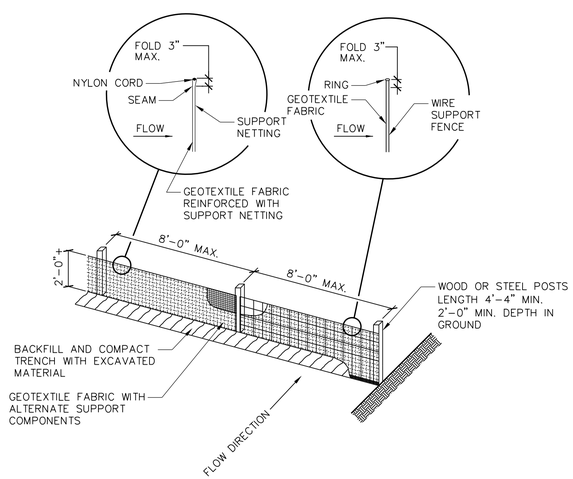
NO JOINTS OR HOLES SHALL BE BELOW THE WATERLINE.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.

RISER SECTION MAY TAPER TO A 33" INTERNAL DIAMETER AT IT'S BOTTOM PROVIDED A 44" MINIMUM OUTSIDE DIAMETER IS MAINTAINED.

CITY OF MILWAUKEE STORM INLET W/SUMP, TYPE 45A

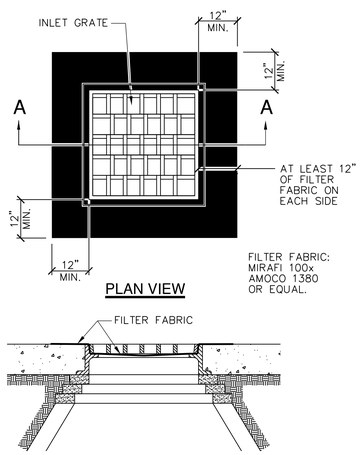
N.T.S.



NOTE:
ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

SILT FENCE

N.T.S.



INLET GRATE SCREEN

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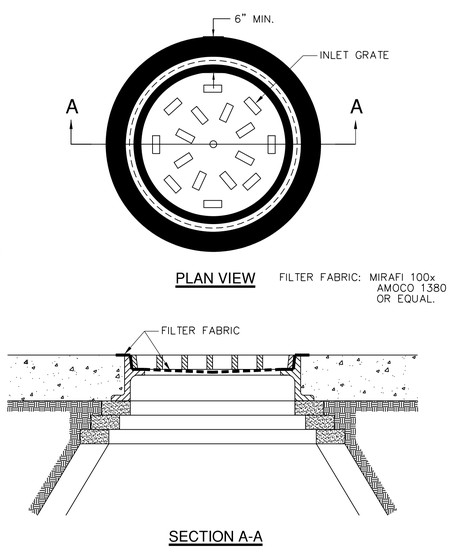

INLET GRATE SCREEN

N.T.S.

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One Honey Creek Corporate Center
125 South 84th Street,
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NO.	BY	REVISION	DATE
△			
△			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

ENVIRONMENTAL ENGINEERING SECTION
INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS
MILWAUKEE, WISCONSIN

SEWER CONSTRUCTION DETAILS
EDA GREENWAY - N. HOPKINS STREET

SCALE	HORIZONTAL N.T.S. VERTICAL N.T.S.	APPROVED	DATE
1/4 SEC. NO.	393	DESIGN ENGINEER	
PLAN DATE	6/10/2015		
DESIGNED BY	RDL		
DRAWN BY	SRK		
CHECKED BY	JAL	ENGINEER IN CHARGE	
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID.		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 22 OF 29 PLAN FILE NO. 240-82

MMSD _____ SCANNED _____ MICROFILMED _____

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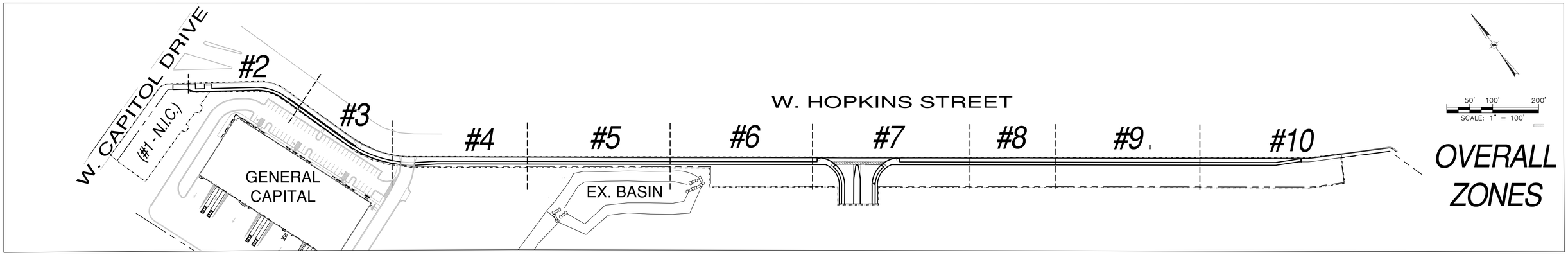

LANDSCAPING AND PLANTING NOTES:

1. BECOME AWARE OF ALL RELATED EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION.
2. INSPECT THE SITE PRIOR TO COMMENCING WORK. DOCUMENT IN WRITING AND PHOTOGRAPH ALL EXISTING CONDITIONS WITHIN, AND IN AREAS ADJACENT TO, THE LIMITS OF CONSTRUCTION. DIGITAL COPIES OF PHOTOGRAPHS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT.
3. CONFIRM FIELD LOCATION OF ALL PUBLIC UNDERGROUND UTILITY LINES, INCLUDING DEPTHS OF SAID, WITHIN THE LIMITS OF CONSTRUCTION.
4. IF IT IS APPARENT THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN, CONTACT OWNER'S REPRESENTATIVE FOR CLARIFICATION.
5. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF SITE CONDITIONS, BOTH SURFACE AND SUBSURFACE. NO EXTRA PAYMENT SHALL ACCRUE BY VIRTUE OF UNKNOWN CONDITIONS FOR DIFFICULTIES IN PERFORMING THE CONTRACTED SCOPE OF WORK.
6. COORDINATE WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH LANDSCAPE WORK, PLANTING WORK, AND RELATED OPERATIONS WITHIN THE CONTRACTED SCOPE.
7. SEE SPECIFICATIONS AND DETAILS FOR PLANTING METHODS, REQUIREMENTS, SOIL TESTING, MATERIALS, EXECUTION AND PLANT PROTECTION, PLANT STAKING METHODS, PLANT PIT DIMENSIONS, BACKFILL AND OTHER RELATED REQUIREMENTS.
8. LAYOUT IS REQUIRED AS SHOWN ON THE LANDSCAPE PLANS. PLANTS MAY REQUIRE ADJUSTMENT FROM LOCATION SHOWN TO BETTER ACCOUNT FOR CITY OF MILWAUKEE UTILITIES (LIGHT POLES, HYDRANTS, VALVES, ETC.) NOT DEPICTED ON THE PLANS.
9. PLANT NAMES MAY BE ABBREVIATED ON THE DRAWINGS. SEE PLANT LIST FOR SYMBOLS, ABBREVIATIONS, BOTANICAL/COMMON NAMES, SIZES, ESTIMATED QUANTITIES (IF GIVEN) AND OTHER REMARKS.
10. FURNISH ALL PLANT MATERIALS FREE OF PESTS OR PLANT DISEASES, AND MAINTAIN AND WARRANT ALL PLANT MATERIALS PER THE SPECIFICATIONS FOR TWO COMPLETE GROWING SEASONS FOLLOWING INSTALLATION AND OWNER'S ACCEPTANCE. ALL PLANTS SHALL BE SUBJECT TO OWNER'S ACCEPTANCE PRIOR TO INSTALLATION.
11. FORM 72–INCH, OR AS OTHERWISE INDICATED, WATERING BASIN AROUND ALL TREES NOT INSTALLED IN LAWN OR PLANTING BEDS.
12. MAINTAIN 72–INCH DIAMETER MINIMUM CLEAR SOIL AREA AROUND ALL TREES IN MANICURED TURF AREAS. MULCH TREE RING WITH SPECIFIED DEPTH OF HARDWOOD BARK MULCH. SEE PLANTING DETAILS.
13. PROVIDE PROPER POSITIVE DRAINAGE THROUGHOUT THIS CONTRACT AREA. VERIFY FIELD CONDITIONS IN CONJUNCTION WITH THE PROPOSED ELEVATIONS TO ENSURE THAT ADEQUATE DRAINAGE IS PROVIDED. REPORT DEVIATIONS OR CONFLICTS TO OWNER'S REPRESENTATIVE. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADES AND SLOPES.
14. FINE GRADE, RAKE AND BE RESPONSIBLE FOR POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES AND THROUGHOUT SITE WITHIN THE LIMITS OF CONSTRUCTION. NO LOW SPOTS OR PONDING OF SURFACE WATER WILL BE ACCEPTED IN THE FINAL WORK. NO ROCKS OR DEBRIS WILL BE ACCEPTED. FINAL GRADE TOLERANCES ARE +/–0.1 FOOT MAXIMUM.
15. WHERE PROVIDED, AREA TAKEOFFS AND PLANT QUANTITY ESTIMATES ARE FOR INFORMATION ONLY. LANDSCAPE CONTRACTOR IS RESPONSIBLE TO CONDUCT QUANTITY TAKE–OFFS FOR ALL PLANT MATERIALS AND SIZES SHOWN ON PLANS. THE PLANS (PLANT SYMBOLS) TAKE PRECEDENCE IN CASE OF ANY DISCREPANCIES BETWEEN CALLOUTS, THE PLANT LIST, AND THE PLANS.
16. COORDINATE WITH OTHER TRADES THE INSTALLATION OF PLANT MATERIAL WITH INSTALLATION OF ALL ADJACENT PAVEMENTS, DRAINAGE CURB AND RELATED STRUCTURES. DAMAGE CAUSED DURING LANDSCAPE INSTALLATION TO EXISTING CONDITIONS AND IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
17. RESTORE ALL AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED. AREAS DISTURBED SHALL BE RESTORED WITH NEW SOD, EXCEPT IN THE SEEDED AREAS SHOWN ON THE PLAN, WHERE SEED IS THE PREFERRED RESTORATIVE.
18. TAKE ALL NECESSARY SCHEDULING AND OTHER PRECAUTIONS TO AVOID WINTER, CLIMATIC, OR OTHER DAMAGE TO PLANTS.
19. ALL PLANT BEDS AND TREE PLANTING PITS ARE TO RECEIVE 3" DEEP LAYER OF SHREDDED HARDWOOD BARK MULCH AS DEFINED IN WRITTEN SPECIFICATIONS.
20. ALL PLANTING BEDS ARE TO BE SEPARATED FROM ADJACENT TURF AREAS WITH SHOVEL CUT EDGE. INSTALL PER LANDSCAPE DETAILS.
21. PLANT SUBSTITUTIONS WILL NOT BE PERMITTED UNLESS IT CAN BE VERIFIED THAT THE PLANTS ARE NOT AVAILABLE FROM NURSERY SOURCES LOCATED A REASONABLE DISTANCE FROM THE PROJECT SITE. IF THIS SHOULD HAPPEN, ANY PROPOSED PLANT SUBSTITUTION WILL REQUIRE PRIOR REVIEW AND ACCEPTANCE BY THE PROJECT LANDSCAPE ARCHITECT.
22. DETERMINE THE NEED FOR TREE STAKING. IF DETERMINED NECESSARY, PROVIDE TREE STAKING AS DESCRIBED IN WRITTEN SPECIFICATIONS.

SPECIAL NOTES:

1. AECOM TO REMEDIATE CONTAMINATED SOILS AT TWO (2) LOCATIONS ALONG HOPKINS AVENUE TO 24" DEPTH. CONFIRM WITH OWNER'S REPRESENTATIVE THAT REMEDIATION HAS BEEN PERFORMED PRIOR TO COMMENCING PLANTING ACTIVITIES.
2. CONFIRM "AS DUG" ROOT BALL DEPTH OF TREES PROPOSED FOR REMEDIED AREAS. IF "AS DUG" ROOT BALL DEPTH OF TREES EXCEEDS 24", NOTIFY OWNER'S REPRESENTATIVE PRIOR TO EXCAVATING PLANTING PITS.
3. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR TWO GROWING SEASONS OF WARRANTY AND MAINTENANCE, INCLUDING ESTABLISHMENT AND MOWING OF TURF AREAS WITHIN THE PROJECT LIMITS. REFER TO DIVISION 1 AND DIVISION 32 SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

PLANT LIST

3/4/2015

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	MATURE SIZE
SHADE TREES					
AFS	*Acer x freemanii* 'Sienna'	Sienna Glen Maple	2.5" BB	as shown	60'h x 40'w
GDE	*Gymnocladus dioica* 'Espresso'	Espresso Kentucky Coffeetree	2.5" BB	as shown	50'h x 50'w
QBC	*Quercus bicolor*	Swamp White Oak	2.0" BB	as shown	50'h x 50'w
ULR	*Ulmus x* 'Regal'	Regal Elm	2.5" BB	as shown	60'h x 45'w
QXS	*Quercus shumardii*	Shumard Oak	2.5" BB	as shown	60'h x 40'w
EVERGREEN TREES					
PGD	*Pinus glauca v. densata*	Black Hills Spruce	6'-8' BB	as shown	30'h x 20'w
POM	*Picea omorika*	Serbian Spruce	6'-8' BB	as shown	55'h x 25'w
PPG	*Picea pungens*	Green Colorado Spruce	6'-8' BB	as shown	60'h x 20'w
ORNAMENTAL TREES					
CPP	*Crataegus phaenopyrum*	Washington Hawthorn	10'-12'clump BB	as shown	30'h x 25'w
MRB	*Malus* 'Robinson'	Robinson Crab	6'-8' BB	as shown	25'h x 25'w
SRI	*Syringa reticulata* 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	10'-12'clump BB	as shown	25'h x 20'w

ESTIMATE OF QUANTITIES		
ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

RIGHT-OF-WAY OVERALL

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL 1"=100'	APPROVED	DATE
	VERTICAL N/A		DESIGN ENGINEER
1/4 SEC. NO.	393		
PLAN DATE	12-07-15		
DESIGNED BY	WJM		
DRAWN BY	WJM		ENGINEER IN CHARGE
CHECKED BY	CWH		
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID. XXX		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 23 OF 29 PLAN FILE NO. 000-00

LINE CODE LEGEND					
GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	X X X X
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MWSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE
1			
2			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

MMSD _____ SCANNED _____ MICROFILMED _____

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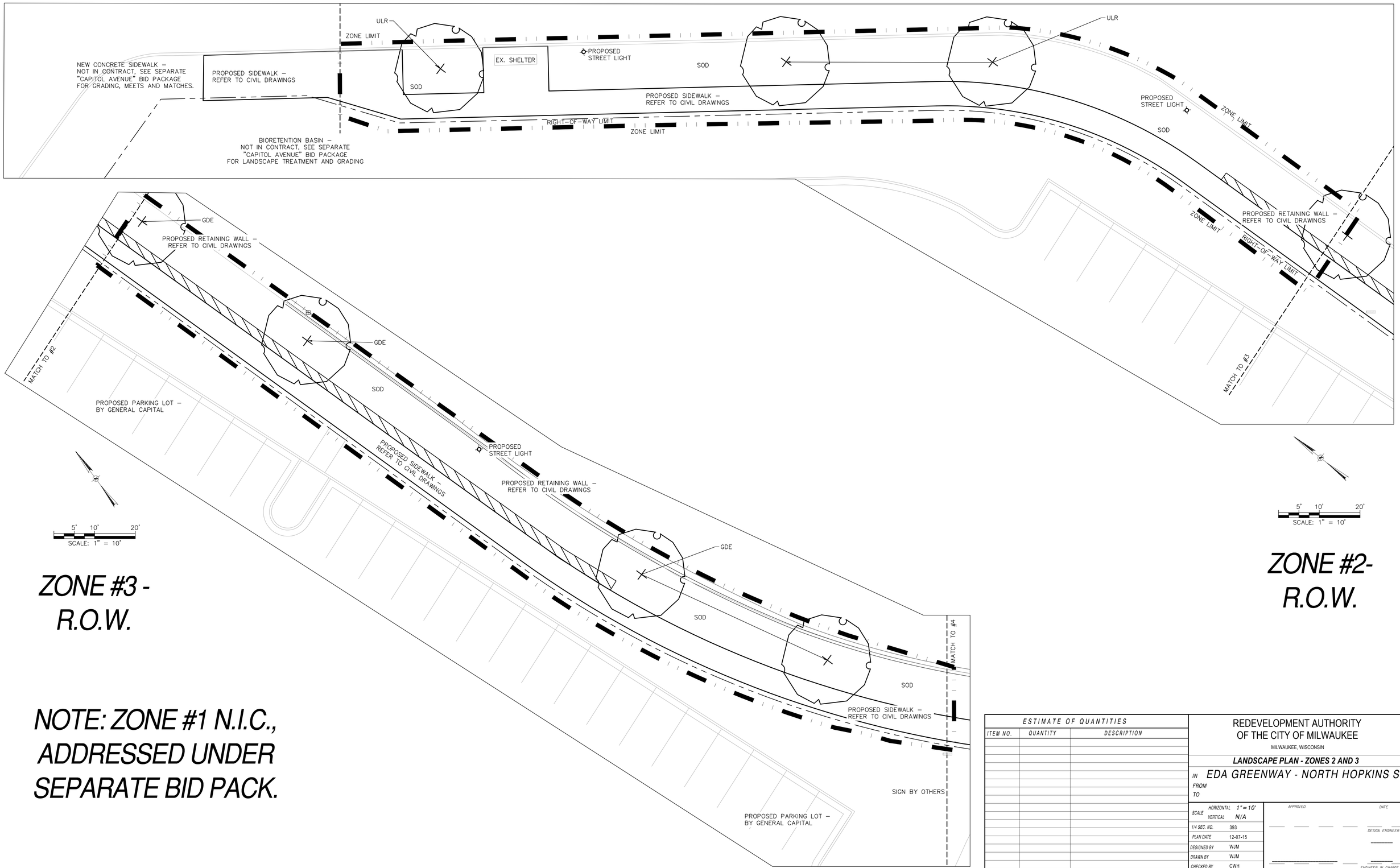

NOTE: ZONE #1 N.I.C., ADDRESSED UNDER SEPARATE BID PACK.

ESTIMATE OF QUANTITIES		
ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE PLAN - ZONES 2 AND 3

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL 1" = 10'	
	VERTICAL N/A	
1/4 SEC. NO.	393	
PLAN DATE	12-07-15	
DESIGNED BY	WJM	
DRAWN BY	WJM	
CHECKED BY	CWH	
SYSTEM NO.		
EASEMENT NO.		
CONTRACT NO.		
PROJ. ID.	XXX	

APPROVED — DATE
DESIGN ENGINEER
ENGINEER IN CHARGE
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROJECT NO. NA	C.C. FILE NO. NA	
OFF. NOTICE NO. NA	DATE ADOPTED NA	

SHEET NO. 24 OF 29 PLAN FILE NO. 000-00

NO.	BY	REVISION	DATE
1			
2			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

MMSD _____ SCANNED _____ MICROFILMED _____

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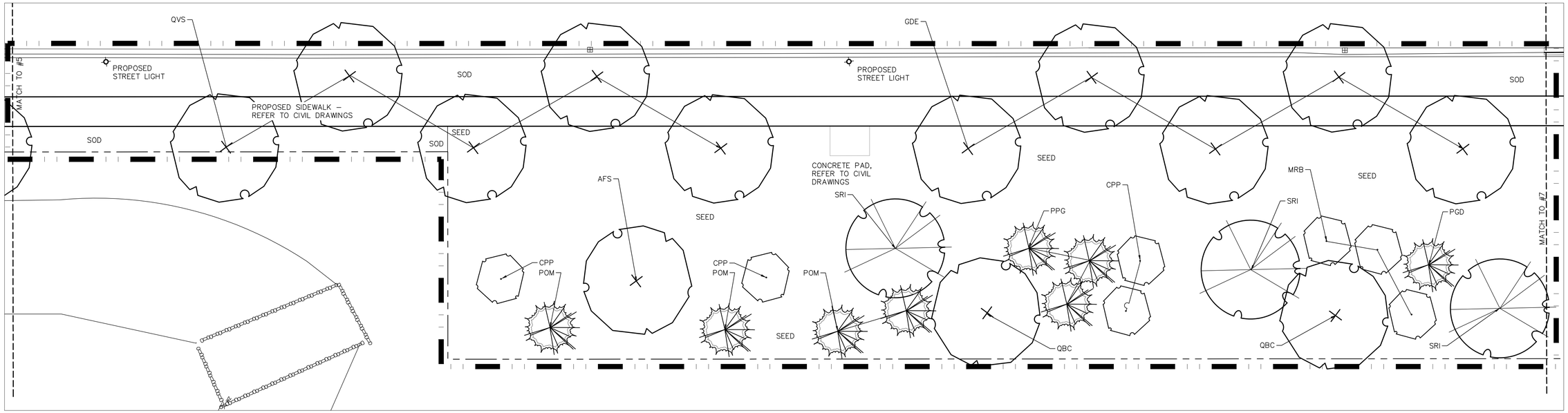
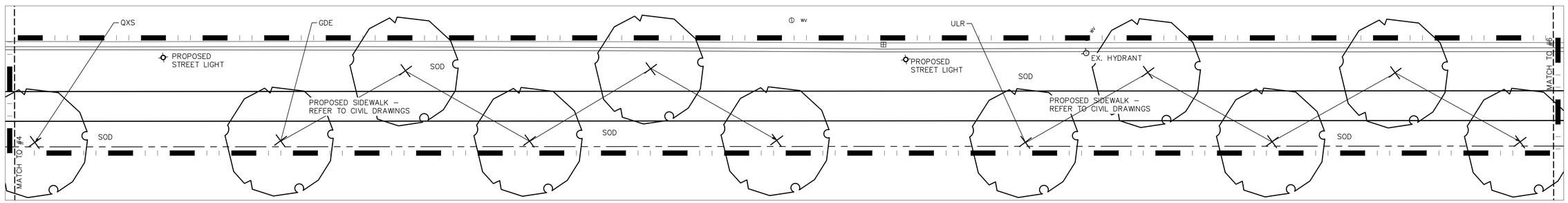


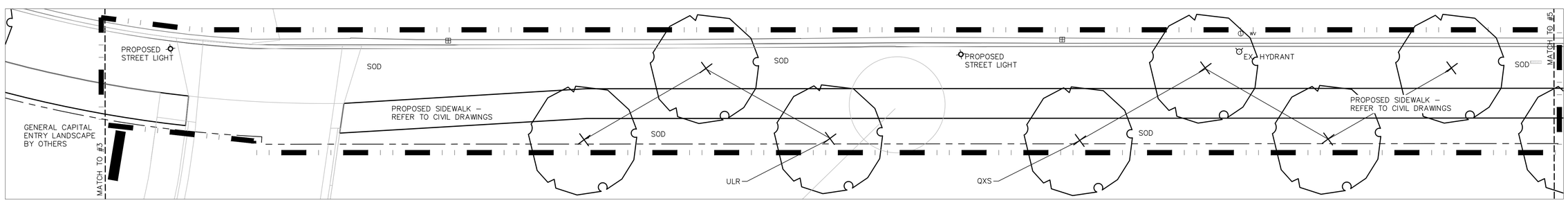
5' 10' 20'
SCALE: 1" = 10'

ZONE #6 - GREENWAY



5' 10' 20'
SCALE: 1" = 10'

ZONE #5 - R.O.W.



5' 10' 20'
SCALE: 1" = 10'

ZONE #4 - R.O.W.

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE PLAN - ZONES 4 THROUGH 6

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL 1"=10'	APPROVED	DATE
	VERTICAL N/A	DESIGN ENGINEER	
1/4 SEC. NO.	393		
PLAN DATE	12-07-15		
DESIGNED BY	WJM	ENGINEER IN CHARGE	
DRAWN BY	WJM		
CHECKED BY	CWH		
SYSTEM NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
EASEMENT NO.			
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID. XXX		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 25 OF 29 PLAN FILE NO. 000-00

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

NO.	BY	REVISION	DATE
1			
2			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

MMSD _____ SCANNED _____ MICROFILMED _____

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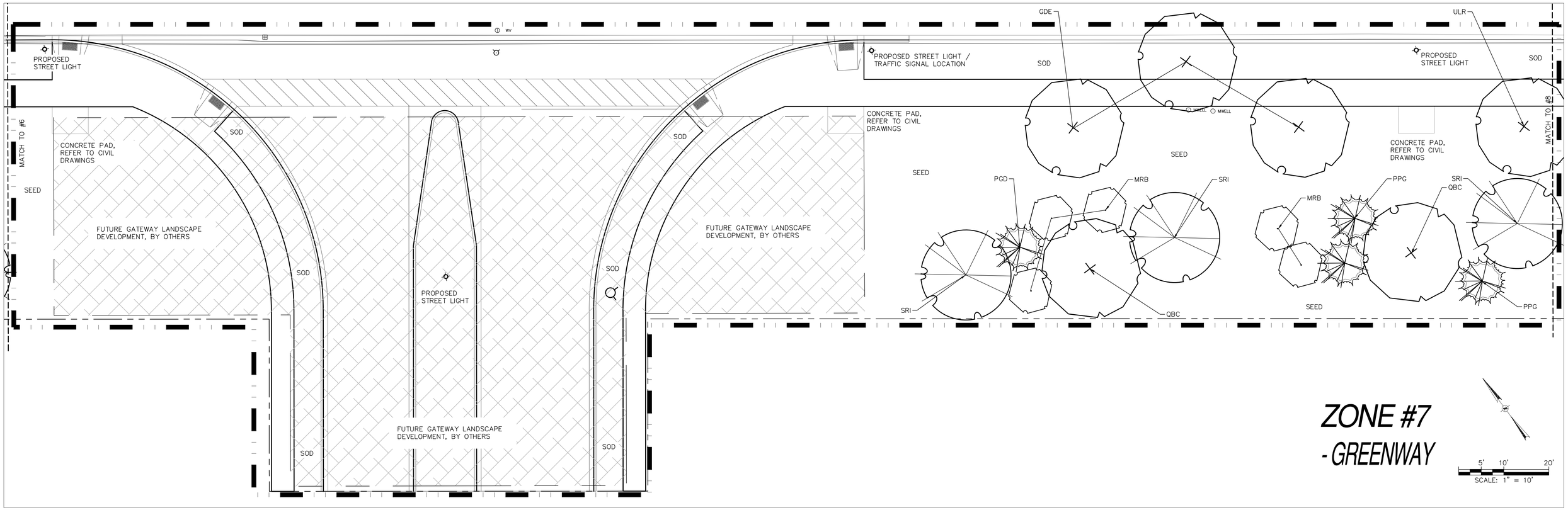

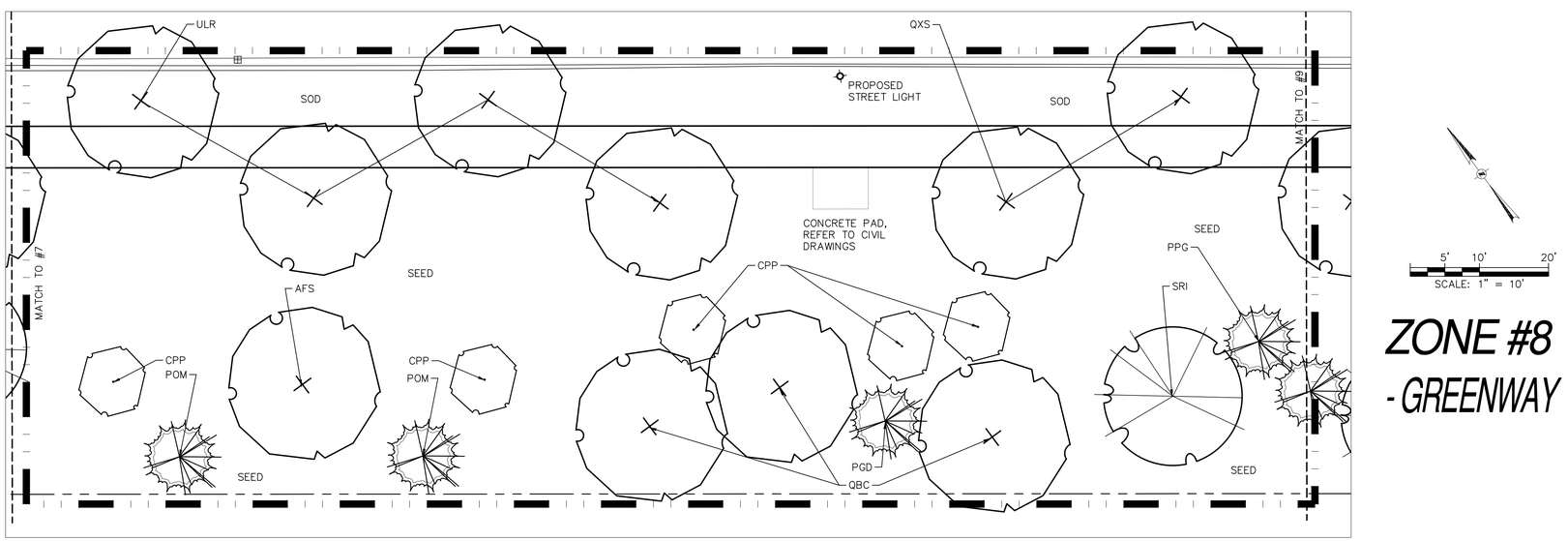

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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NO.	BY	REVISION	DATE
1			
2			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE PLAN - ZONES 7 AND 8

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL 1" = 10' / VERTICAL N/A	APPROVED	DATE
1/4 SEC. NO.	393		DESIGN ENGINEER
PLAN DATE	12-07-15		
DESIGNED BY	WJM		
DRAWN BY	WJM		ENGINEER IN CHARGE
CHECKED BY	CWH		
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID. XXX		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 26 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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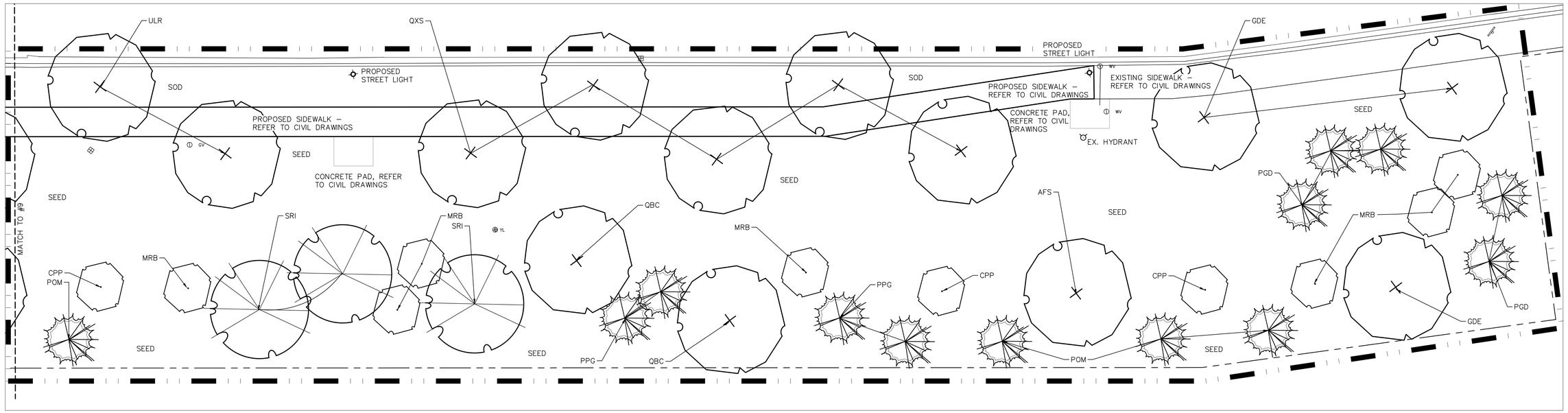

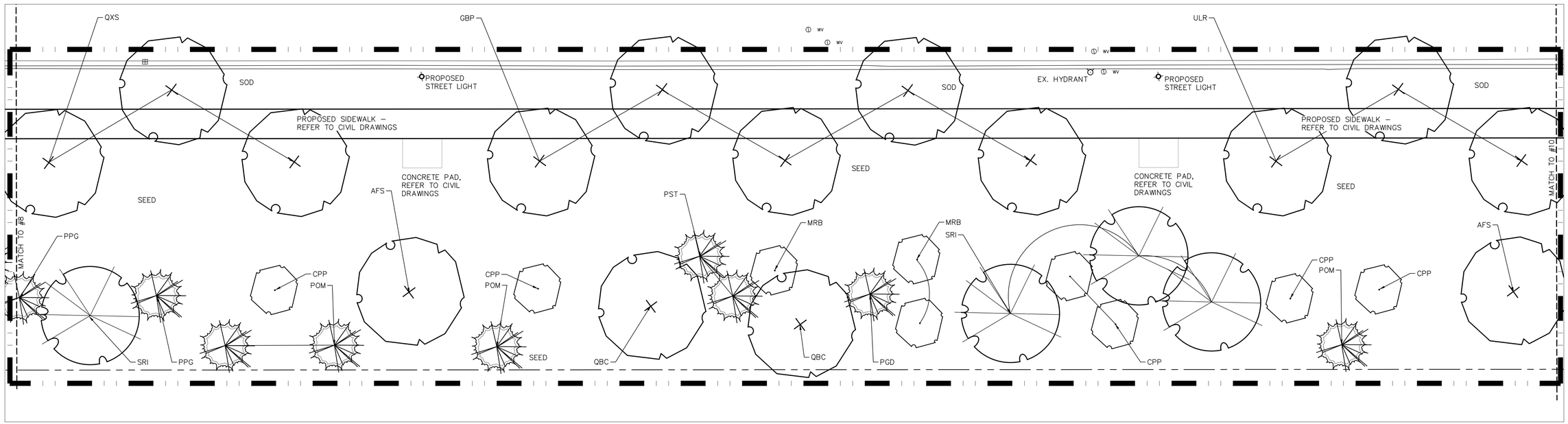

5' 10' 20'
SCALE: 1" = 10'

ZONE #10 -GREENWAY

5' 10' 20'
SCALE: 1" = 10'

ZONE #9 -GREENWAY

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE PLAN - ZONES 9 AND 10

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL	1" = 10'
	VERTICAL	N/A
1/4 SEC. NO.	000	
PLAN DATE	12-07-15	
DESIGNED BY	WJM	
DRAWN BY	WJM	
CHECKED BY	CWH	
SYSTEM NO.		
EASEMENT NO.		
CONTRACT NO.		
PROJ. ID.	XXX	

APPROVED DATE
DESIGN ENGINEER
ENGINEER IN CHARGE
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROJECT NO. NA	C.C. FILE NO. NA	
OFF. NOTICE NO. NA	DATE ADOPTED NA	

SHEET NO. 27 OF 29 PLAN FILE NO. 000-00

NO.	BY	REVISION	DATE
1			
2			
3			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

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TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

MMSD _____ SCANNED _____ MICROFILMED _____

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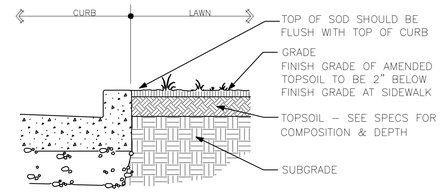
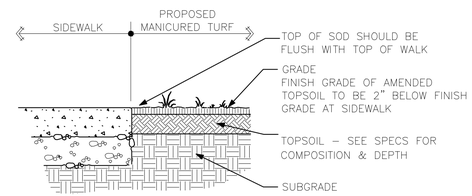
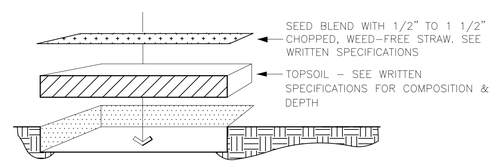


6 SOD LAWN EDGE @ CURB

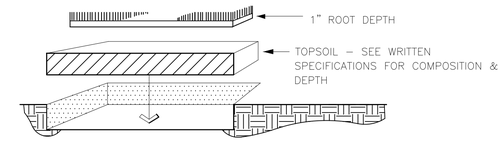


5 SOD LAWN EDGE @ WALK



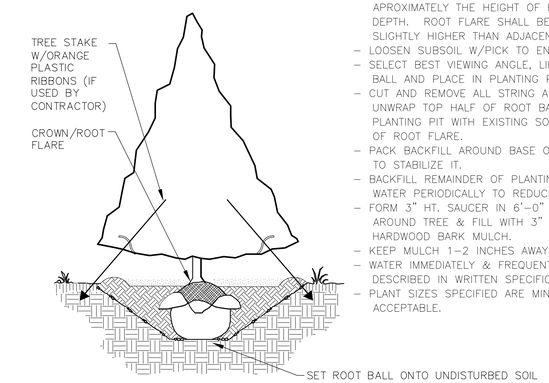
–TOPSOIL SHALL CONFORM TO PROPERTIES AS DESCRIBED IN WRITTEN SPECIFICATION.
–CONTRACTOR TO PROVIDE FINISHED TURF GRADE PER DRAWINGS WITH UNIFORM, NATURAL SLOPES PRIOR TO THE SOWING OF SEED. SEED BLEND & APPLICATION PROCEDURES ARE DESCRIBED IN WRITTEN SPECIFICATION
–LANDSCAPE CONTRACTOR SHALL ESTABLISH VIGOROUS GROWTH AND MOW & MAINTAIN AS DESCRIBED IN WRITTEN SPECIFICATION.

4 MANICURED TURF SEEDING



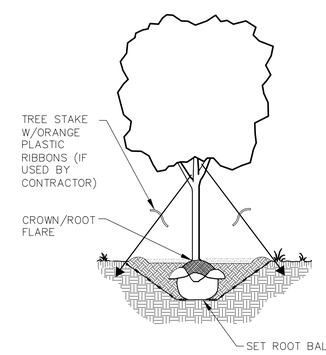
–TOPSOIL SHALL CONFORM TO PROPERTIES AS DESCRIBED IN WRITTEN SPECIFICATION.
–CONTRACTOR TO PROVIDE FINISHED TURF GRADE PER DRAWINGS WITH UNIFORM, NATURAL SLOPES PRIOR TO LAYING SOD. SOD BLEND & APPLICATION PROCEDURES ARE DESCRIBED IN WRITTEN SPECIFICATION
–LAY SOD IN 'RUNNING BOND' FASHION (W/ALTERNATE JOINTS), COMPRESS EACH BUTT JOINT TO REDUCE SHRINKAGE CRACKS. ANCHOR SOD APPLICATIONS ON SLOPES GREATER THAN 1:3 W/10" WOOD PEGS.
–LANDSCAPE CONTRACTOR SHALL ESTABLISH VIGOROUS GROWTH AND MOW & MAINTAIN AS DESCRIBED IN WRITTEN SPECIFICATION.

3 MANICURED TURF SOD



– EXCAVATE PLANTING PIT 3–TIMES THE DIA. & APROXIMATELY THE HEIGHT OF ROOT BALL DEPTH. ROOT FLARE SHALL BE AT OR SLIGHTLY HIGHER THAN ADJACENT F.G.
– LOOSEN SUBSOIL W/PICK TO ENSURE POROSITY.
– SELECT BEST VIEWING ANGLE, LIFT STOCK BY BALL AND PLACE IN PLANTING PIT.
– CUT AND REMOVE ALL STRING AND WIRE AND UNWRAP TOP HALF OF ROOT BALL. BACKFILL PLANTING PIT WITH EXISTING SOIL UP TO BASE OF ROOT FLARE.
– PACK BACKFILL AROUND BASE OF ROOT BALL TO STABILIZE IT.
– BACKFILL REMAINDER OF PLANTING HOLE USING WATER PERIODICALLY TO REDUCE AIR POCKETS.
– FORM 3" HT. SAUCER IN 6'–0" DIAMETER AROUND TREE & FILL WITH 3" SHREDDED HARDWOOD BARK MULCH.
– KEEP MULCH 1–2 INCHES AWAY FROM TRUNK.
– WATER IMMEDIATELY & FREQUENTLY AS DESCRIBED IN WRITTEN SPECIFICATION.
– PLANT SIZES SPECIFIED ARE MINIMUM ACCEPTABLE.

2 EVERGREEN PLANTING DETAIL



– EXCAVATE PLANTING PIT 3–TIMES THE DIA. & APROXIMATELY THE HEIGHT OF ROOT BALL DEPTH. ROOT FLARE SHALL BE AT OR SLIGHTLY HIGHER THAN ADJACENT F.G.
– LOOSEN SUBSOIL W/PICK TO ENSURE POROSITY.
– SELECT BEST VIEWING ANGLE, LIFT STOCK BY BALL AND PLACE IN PLANTING PIT.
– CUT AND REMOVE ALL STRING AND WIRE AND UNWRAP TOP HALF OF ROOT BALL. BACKFILL PLANTING PIT WITH EXISTING SOIL UP TO BASE OF ROOT FLARE.
– PACK BACKFILL AROUND BASE OF ROOT BALL TO STABILIZE IT.
– BACKFILL REMAINDER OF PLANTING HOLE USING WATER PERIODICALLY TO REDUCE AIR POCKETS.
– FORM 3" HT. SAUCER IN 6'–0" DIAMETER AROUND TREE & FILL WITH 3" SHREDDED HARDWOOD BARK MULCH.
– KEEP MULCH 1–2 INCHES AWAY FROM TRUNK.
– WATER IMMEDIATELY & FREQUENTLY AS DESCRIBED IN WRITTEN SPECIFICATION.
– PLANT SIZES SPECIFIED ARE MINIMUM ACCEPTABLE.

1 TREE PLANTING DETAIL

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

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TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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NO.	BY	REVISION	DATE
1	JMK	ITEM AND QUANTITY CHANGES	10/16/2013
2			

AS BUILT CONTRACT NO. _____
DATE ENT'D. _____ ENT'D. BY _____

ESTIMATE OF QUANTITIES

ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE DETAILS

IN EDA GREENWAY - NORTH HOPKINS ST.
FROM
TO

SCALE	HORIZONTAL 1" = 10'	APPROVED	DATE
	VERTICAL N/A		DESIGN ENGINEER
1/4 SEC. NO.	393		
PLAN DATE	12-07-15		
DESIGNED BY	WJM		
DRAWN BY	WJM		ENGINEER IN CHARGE
CHECKED BY	CWH		
SYSTEM NO.			
EASEMENT NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
CONTRACT NO.		PROJECT NO. NA	C.C. FILE NO. NA
PROJ. ID. XXX		OFF. NOTICE NO. NA	DATE ADOPTED NA

SHEET NO. 28 OF 29 PLAN FILE NO. 000-00

MMSD _____ SCANNED _____ MICROFILMED _____

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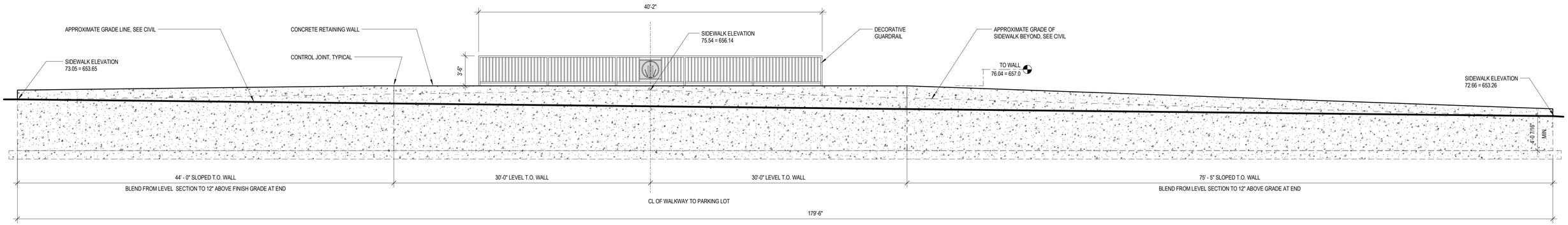
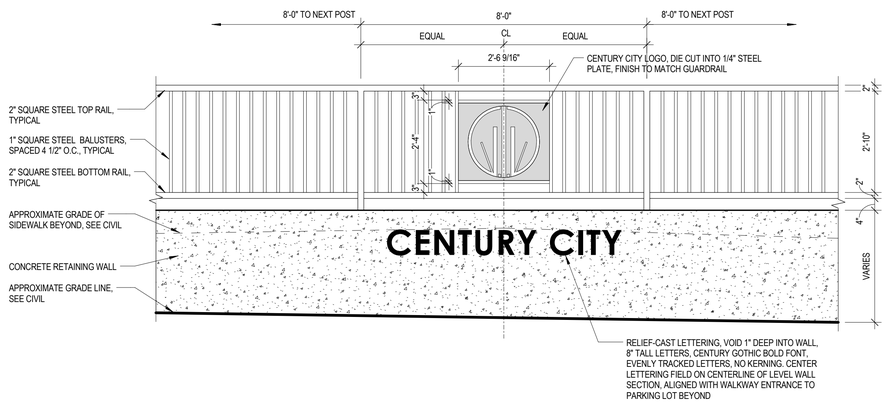


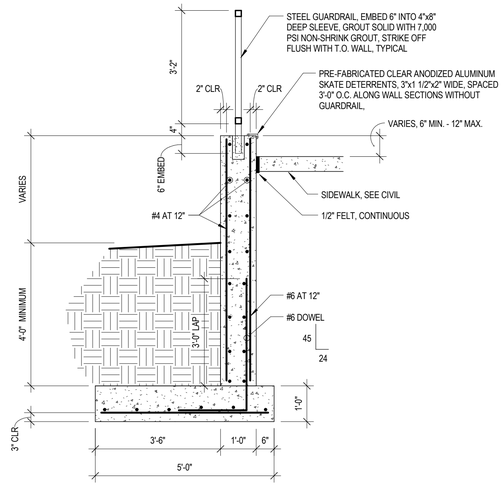
1 RETAINING WALL OVERALL ELEVATION

3/16" = 1'-0"



2 RETAINING WALL ENLARGED ELEVATION

1/2" = 1'-0"



3 RETAINING WALL SECTION

1/2" = 1'-0"

ESTIMATE OF QUANTITIES		
ITEM NO.	QUANTITY	DESCRIPTION

REDEVELOPMENT AUTHORITY
OF THE CITY OF MILWAUKEE
MILWAUKEE, WISCONSIN

LANDSCAPE DETAILS

IN **EDA GREENWAY - NORTH HOPKINS ST.**
FROM **RAILROAD TRACKS**
TO

SCALE	HORIZONTAL N/A	APPROVED	DATE
	VERTICAL N/A	DESIGN ENGINEER	
1/4 SEC. NO.	39393		
PLAN DATE	12-07-2016		
DESIGNED BY	CWH	ENGINEER IN CHARGE	
DRAWN BY	MB:WH		
CHECKED BY	CWH		
SYSTEM NO.		CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
EASEMENT NO.			
CONTRACT NO.		PROJECT NO. N/A	C.C. FILE NO. N/A
PROJ. ID. XXX		OFF. NOTICE NO. N/A	DATE ADOPTED N/A
SHEET NO. 29 OF 29		PLAN FILE NO. 000-00	

LINE CODE LEGEND

GAS	G	COMMUNICATIONS	COM	SEWER/WATER 24" & OVER	
ELECTRIC	E	SANITARY SEWER	SAN	STREET LIGHTING	
TELEPHONE	T	STORM SEWER	STO	PAVING LIMITS	
CABLE TELEVISION	TV	COMBINED SEWER	CMB	STRUCTURE / BUILDING	
FIBER OPTICS	FO	SEW.DISTRICT SEWER	MMSD	FENCE	X
CITY UNDERGROUND CONDUIT	CUC	WATER MAIN	W	STEAM	ST

CALL DIGGERS HOTLINE
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NO.	BY	REVISION	DATE
1			
2			

AS BUILT CONTRACT NO.
DATE ENT'D. ENT'D. BY

MMSD SCANNED MICROFILMED