

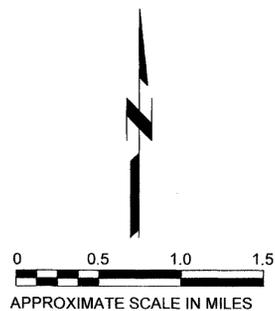
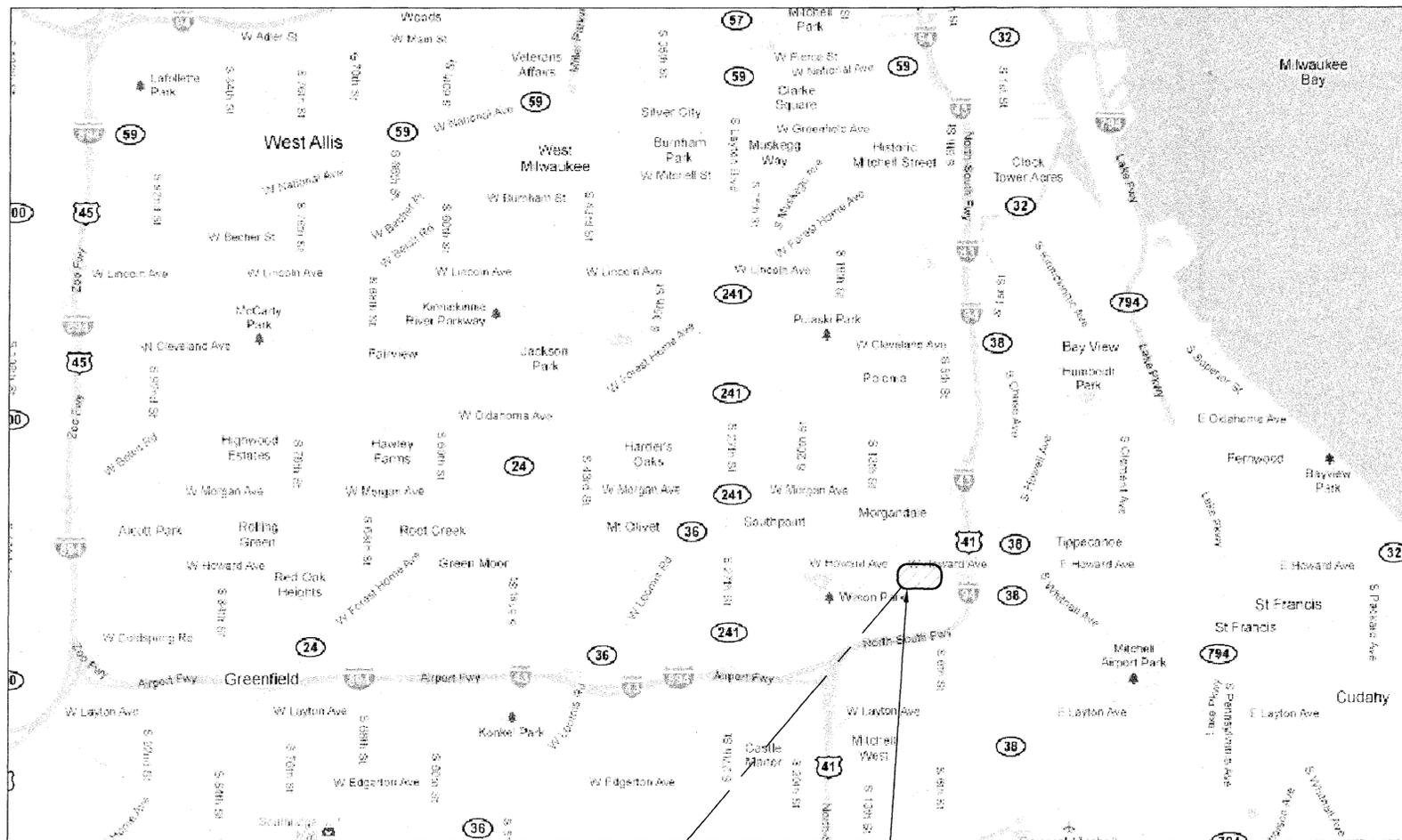
Milwaukee Water Works

HOWARD AVENUE PURIFICATION PLANT

HP-180: OZONE BUILDING WALL STABILIZATION AND REPAIR

DRAWING INDEX

DRAWING NO.	TITLE
HP-180-01	TITLE SHEET AND DRAWING INDEX
HP-180-02	CIVIL - SITE WORK
HP-180-03	STRUCTURAL - FOUNDATION PLAN AND DETAILS
HP-180-04	STRUCTURAL - WALL LAYOUT PLAN AND DETAILS
HP-180-05	STRUCTURAL - WALL LAYOUT PLAN - DETAILS



HOWARD AVENUE PROJECT LOCATION

MILWAUKEE, WISCONSIN LOCATION MAP

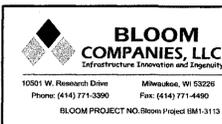


Milwaukee Water Works Water Engineering
Department of Public Works

HOWARD AVENUE PURIFICATION PLANT

HP-180: OZONE BUILDING WALL
STABILIZATION AND REPAIR
TITLE SHEET AND DRAWINGS INDEX

DESIGNED BY	R. DOMANN	DATE	10/25/11
DRAWN BY	J. DREWS	DATE	10/26/11
CHECKED BY	R. DOMANN	DATE	10/26/11
DATE	AUGUST 2011	DATE	10/26/11
SCALE	AS INDICATED	DATE	10/26/11
WORK ORDER	WT450114100	DATE	10/26/11
OFFICIAL NOTICE	165-2011	DATE	10/26/11
FILE NO.	HP-180	DATE	10/26/11
DRAWING NO.	HP-180-01		



NO.	DATE	DESCRIPTION	BY	CHKD.

GENERAL NOTES

1. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS WITH REGARD TO TOPOGRAPHY, SITE DRAINAGE, LANDSCAPING, UTILITIES, EXISTING FOLIAGE, ETC. PRIOR TO BIDDING.
3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
4. IF THE DIMENSIONS NOTED AND THE SCALED DIMENSIONS DO NOT AGREE, THE NOTED DIMENSIONS SHALL GOVERN.
5. CONTRACTOR SHALL CONFINE HIS SITE WORK WITHIN THE SITE WORK LIMITS AS SHOWN ON THIS SHEET.
6. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED CONSTRUCTION ACCESS ARRANGEMENTS, STAGING AREAS, AND ON-SITE MATERIAL STORAGE AREAS WITH THE MILWAUKEE WATER WORKS PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLITION MATERIALS TO AN OFF-SITE LOCATION IN ACCORDANCE WITH STATE AND LOCAL RULES AND REGULATIONS.
8. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL AREAS WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION BY THE CONTRACTOR AT HIS EXPENSE.
9. IF HAZARDOUS MATERIALS OR CONTAMINATED SOIL ARE ENCOUNTERED, PROPER MANAGEMENT AND REMOVAL OF THE CONTAMINATED MATERIAL AND SOIL IS REQUIRED. ALL HAZARDOUS MATERIALS AND CONTAMINATED SOIL SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS.
10. MILWAUKEE WATER WORKS WILL CONTINUE THEIR ON-SITE OPERATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL ON-SITE WORK WITH MILWAUKEE WATER WORKS AND MINIMIZE ANY DISRUPTIONS TO THEIR OPERATIONS.
11. THE CONTRACTOR SHALL VERIFY THE VERTICAL CLEARANCE REQUIREMENTS OF OVERHEAD UTILITIES, GATES, AND STRUCTURES PRIOR TO BIDDING ON THIS PROJECT. THE CONTRACTOR SHALL CONTACT THE OWNER OF OVERHEAD UTILITIES TO DETERMINE ANY WORK RESTRICTIONS AROUND THEIR FACILITIES.
12. THE CONTRACTOR IS RESPONSIBLE FOR SNOW AND ICE REMOVAL WITHIN THE CONSTRUCTION LIMITS TO 12 FEET OUTSIDE THE CONSTRUCTION LIMITS.
13. THE CONTRACTOR SHALL INDEMNIFY THE CITY OF MILWAUKEE, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED IN THE CONSTRUCTION, INSTALLATION AND TESTING OF THE PROJECT WORK.
14. SEEDED AREAS SHALL BE WATERED DAILY BY THE CONTRACTOR TO MAINTAIN ADEQUATE SURFACE SOIL MOISTURE FOR PROPER SEED GERMINATION. WATERING SHALL CONTINUE FOR NOT LESS THAN 30 DAYS FOLLOWING SEEDING. THEREAFTER, APPLY 1/2" OF WATER TWICE WEEKLY UNTIL FINAL ACCEPTANCE.
15. SEEDED AREAS SHALL BE MOWN BY THE CONTRACTOR TO A HEIGHT OF 2-1/2" IN SPRING AND FALL, AND NO LESS THAN 3" FROM JUNE THROUGH SEPTEMBER. THESE HEIGHTS ARE TO BE MAINTAINED THROUGH REPEAT MOWINGS AS NEEDED UNTIL FINAL ACCEPTANCE. NO MORE THAN 40% OF GRASS LEAF SHALL BE REMOVED DURING ANY SINGLE MOWING OPERATION.

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL CONTROL EROSION ON THE SITE. TEMPORARY STABILIZATION MEASURES SHALL BE USED AT LOCATIONS WHERE GAPS IN WORK WILL EXCEED 10 WORKING DAYS.
2. THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PRIOR TO BEGINNING EXTERIOR WORK.
3. CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR CLEAN UP OF ANY ACCIDENTAL RELEASE OF SEDIMENT FROM THE SITE.
5. PRIOR TO COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL CLEAN OUT ALL STORM DRAINAGE STRUCTURES AND RESTORE AREA TO PROPOSED GRADING. ALL MATERIALS REMOVED FROM CLEAN UP SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
6. CONTRACTOR SHALL REMOVE ALL EROSION CONTROL MEASURES, EXCEPT WHERE OTHERWISE DIRECTED BY THE ENGINEER AND/OR GOVERNING REGULATORY AGENCIES, AT THE COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DUST CONTROL ON THE PROJECT THROUGHOUT EACH DAY. ALL DAMAGES RESULTING FROM DUST SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

UTILITY NOTES

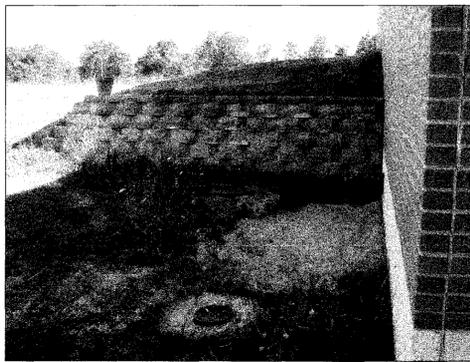
1. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY OWNERS PRIOR TO ANY EXCAVATION. ANY DAMAGE TO UTILITY LINES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES.
2. UTILITIES EXIST WITHIN AND ADJACENT TO THE CONSTRUCTION AREA. EXISTING UTILITY DATA IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE OWNER AND ENGINEER NEITHER ASSUME NOR IMPLY ANY RESPONSIBILITY FOR THE ACCURACY OF THIS DATA. ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN ON THE PLANS.
3. THE CONTRACTOR IS REQUIRED TO CALL DIGGER'S HOTLINE (1-800-242-8511) FOR LOCATIONS OF ALL UTILITIES NOT LESS THAN THREE WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. THE CONTRACTOR SHALL HAVE UTILITIES, NOT MARKED THROUGH DIGGER'S HOTLINE, LOCATED AND MARKED BY A PRIVATE UTILITY LOCATING FIRM. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. WITHIN THE SITE WORK LIMITS, THE CONTRACTOR SHALL HAND DIG TO DETERMINE ACTUAL LOCATIONS OF ALL UTILITIES THAT ARE SHOWN ON THE PLANS OR FIELD MARKED.
4. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS TO MAINTAIN A VIABLE EXCAVATION SAFETY SYSTEM AT ALL TIMES.
5. CAUTION SHALL BE CARRIED OUT WHILE WORKING AROUND EXISTING UTILITIES. THE CONTRACTOR SHALL INSTALL ALL SHORING AND SUPPORT MECHANISMS REQUIRED TO PREVENT MOVEMENT OF THE UTILITIES AND "CAVE-INS" OF THE UTILITY BEDDING.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY BERMS, PUMPS, AND PIPING TO REROUTE STORM WATER AROUND AND/OR OVER EXCAVATIONS.

EARTHWORK NOTES

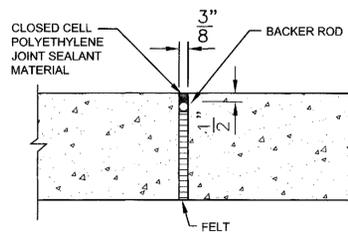
1. REFERENCE PROJECT SOILS REPORT PREPARED BY MIDWEST ENGINEERING SERVICES, INC., PROJECT #7-1103082 DATED JUNE 24, 2011, FOR GENERAL INFORMATION AND SPECIFIC RECOMMENDATIONS AND REQUIREMENTS PERTAINING TO THE SITE.
2. REFER TO SPECIFICATION SECTION 31 20 00 FOR COMPACTION REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. PROPER MANAGEMENT OF SOIL REMOVED FROM THE SITE WORK LIMITS IS REQUIRED.
4. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL GRADING AND FOR THE ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT ALL MATERIAL AS NECESSARY TO COMPLETE THE PROJECT.
5. ALL ROCKS AND OTHER UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF.
6. NO FILL OR BACKFILL SHALL BE PLACED ON A WET OR SOFT SUBGRADE.
7. THE CONTRACTOR SHALL MAINTAIN SITE DRAINAGE AT ALL TIMES DURING CONSTRUCTION.
8. VERIFY COMPACTED SUBGRADE AND BASE ARE DRY AND READY TO SUPPORT PAVING AND IMPOSED LOADS.

MATERIAL SPECIFICATIONS

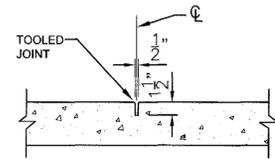
1. BACKFILL MATERIALS: REFER TO SPECIFICATION SECTION 31 20 00 EARTHMOVING
2. THE AGGREGATE BASE COURSE: CRUSHED STONE OR CRUSHED GRAVEL MEETING THE REQUIREMENTS OF 1-1/4" DENSE GRADED BASE AS DEFINED IN SECTION 305.2.2.1(1) OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION IN WISCONSIN.
3. CONCRETE AND REINFORCEMENT: PLACE CONCRETE AND REINFORCEMENT AS SHOWN ON PLANS MEETING THE REQUIREMENTS OF SECTION 602.2 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION IN WISCONSIN. CONCRETE TO HAVE 28-DAY COMP. STRENGTH OF 4000 PSI, REINFORCEMENT TO BE EPOXY COATED.
4. TOPSOIL: CLEAN IMPORTED MATERIAL MEETING REQUIREMENTS OF SECTION 625.2(1) OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION IN WISCONSIN.
4. GRASS AND MULCH: SEED AND MULCH WITH NO. 40 TYPE MIX AS DEFINED IN SECTION 630 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION IN WISCONSIN.



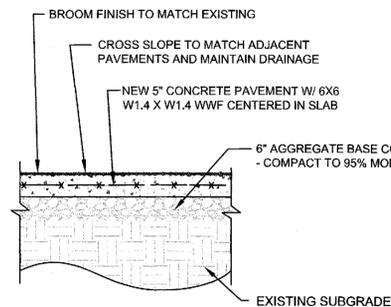
6 EXISTING SEGMENTAL RETAINING WALL
HP-180-02 | N.T.S.



4 TYPICAL EXPANSION JOINT
HP-180-02 | N.T.S.

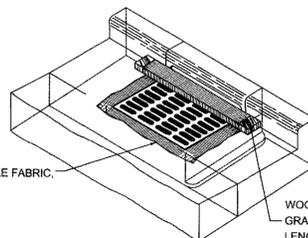


5 TYPICAL CONTROL JOINT
HP-180-02 | N.T.S.



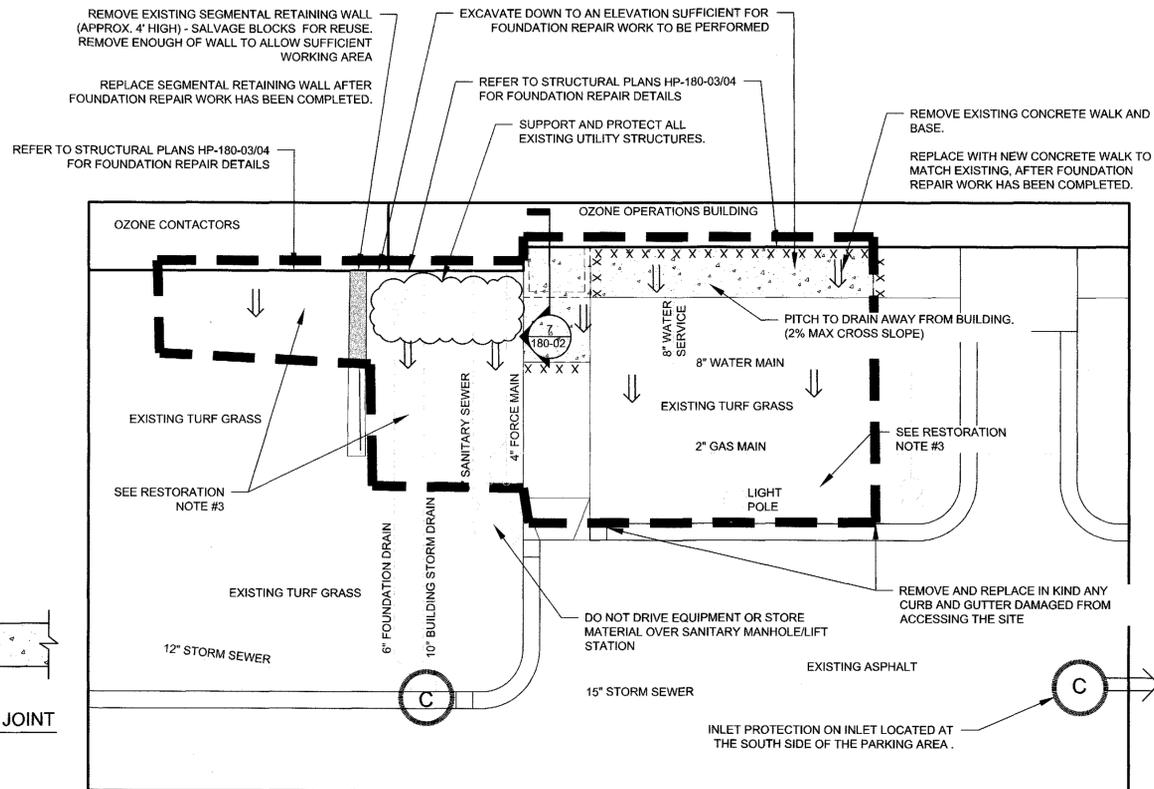
- NOTES:
1. PLACE EXPANSION JOINTS AS INDICATED ON DRAWING.
 2. SPACE CONTROL JOINTS TO MATCH ADJACENT PAVEMENT
 3. SEE TYPICAL EXPANSION AND CONTROL JOINT DETAILS (4 & 5) THIS SHEET.

3 CONCRETE PAVEMENT SECTION - TYPICAL DETAIL
HP-180-02 | N.T.S.

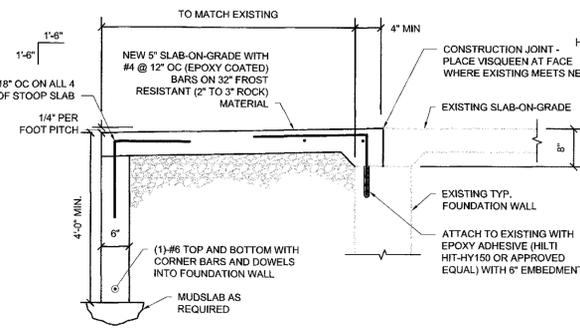


2 INLET PROTECTION TYPICAL DETAIL
HP-180-02 | SCALE: N.T.S.

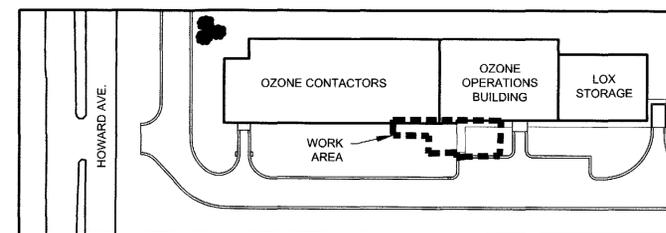
- NOTES:
1. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
 2. FINISHED SIZE SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
 3. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
 4. TRIM EXCESS FABRIC IN THE FLOWLINE TO WITHIN 3" OF THE GRATE.
 5. CONTRACTOR SHALL INSPECT INLET PROTECTION DAILY AND REPAIR OR REPLACE AS NEEDED.
 6. SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN DEPOSITS REACH 1/2 THE DESIGN DEPTH OF THE DEVICE OR WHEN THE DEVICE IS NO LONGER FUNCTIONING AS DESIGNED.



1 SITE WORK AREA
HP-180-02 | SCALE: 1" = 10'



7 TYP. STOOP DETAIL
HP-180-02 | SCALE: 1" = 10'



8 WORK AREA LOCATION MAP
HP-180-02 | SCALE: N.T.S.

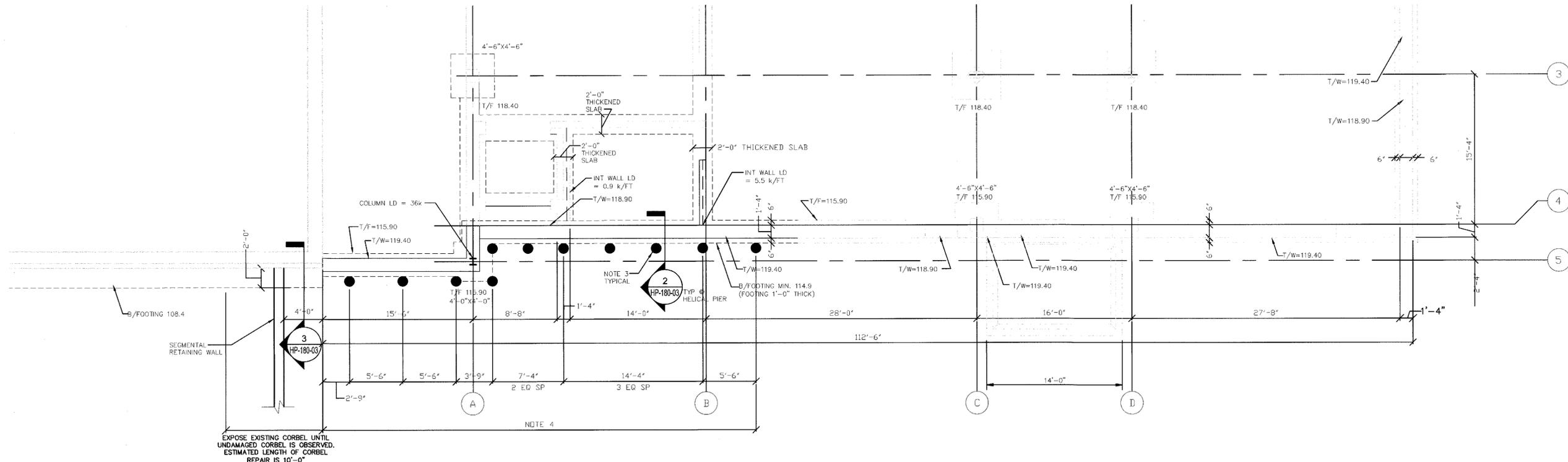
SITE DEMOLITION NOTES:

1. UNLESS OTHERWISE NOTED, ALL REMOVED ITEMS SHALL BECOME PROPERTY OF THE CONTRACTOR.
2. SAW CUT EXISTING PAVEMENTS TO MAKE A FLUSH MATCH TO NEW PAVEMENTS.
3. ANY ITEMS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO THE SPECIFICATIONS OF THE MILWAUKEE WATER WORKS.
4. ALL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND MAINTAINED IN ACCORDANCE WITH THE WDNR TECHNICAL STANDARDS AND THE CITY OF MILWAUKEE REQUIREMENTS.

SITE RESTORATION NOTES:

1. SEGMENTAL RETAINING WALL REPLACED TO THE SAME CONFIGURATION AS EXISTING CONDITIONS - PIECES THAT ARE DAMAGED/BROKEN DURING REMOVAL SHALL BE REPLACED IN KIND AND APPROVED BY CONSTRUCTION REPRESENTATIVE PRIOR TO INSTALLATION. INSTALL WALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS AND SPECIFICATIONS FOR CONDITIONS PRESENT AT THE SITE.
2. PITCH FINISHED GRADE TO MATCH ADJACENT GRADES AND TO DIRECT FLOW AWAY FROM BUILDING.
3. RESTORE ALL AREAS OF DISTURBANCE WITHIN AND OUTSIDE OF PROJECT LIMITS IN KIND UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS. GRASSED AREAS SHALL HAVE AT LEAST 4" OF TOPSOIL.

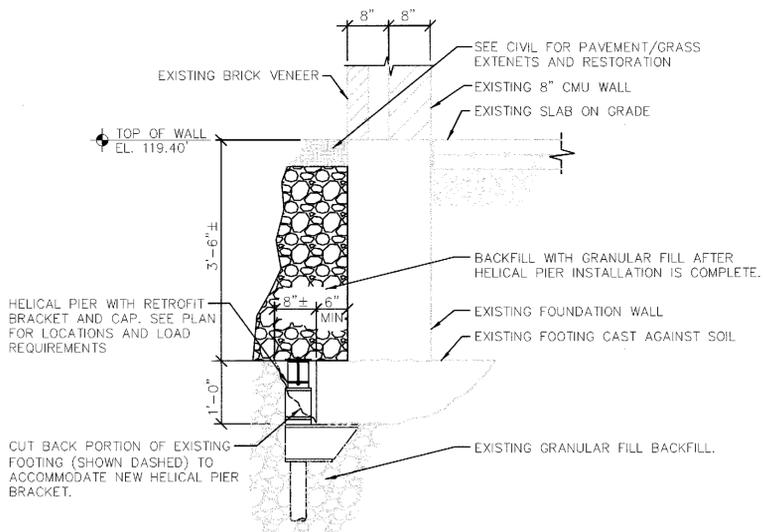
<p>BLOOM COMPANIES, LLC Infrastructure Simulation and Engineering 10501 W. Research Drive Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490 BLOOM PROJECT NO. Bloom Project EMI-3113</p>		<p>LEGEND</p> <p>--- X X X X X X X X --- EXPANSION JOINT</p> <p>↓ DRAINAGE FLOW DIRECTION</p> <p>○ C INLET PROTECTION</p> <p>--- SITE WORK LIMITS</p>	
		<p>Milwaukee Water Works Water Engineering Department of Public Works</p> <p>HOWARD AVENUE PURIFICATION PLANT</p> <p>HP-180: OZONE BUILDING WALL STABILIZATION AND REPAIR SITE WORK</p>	
DESIGNED BY	J. BERKHAHN	CHECKED BY	J. STEINBACH
DRAWN BY	J. BERKHAHN	DATE	AUGUST 2011
SCALE	AS SHOWN	WORK ORDER	WT450114100
OFFICIAL NOTICE	165-2011	FILE NO.	HP - 180
<p>Signature: J. Berkahn PLANT PROJECT ENGINEER</p> <p>Signature: J. Steinbach CHIEF DESIGN ENGINEER</p> <p>Signature: M. Lewis SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS</p>		<p>DRAWING NO. HP-180-02</p>	



1 PARTIAL FOUNDATION PLAN

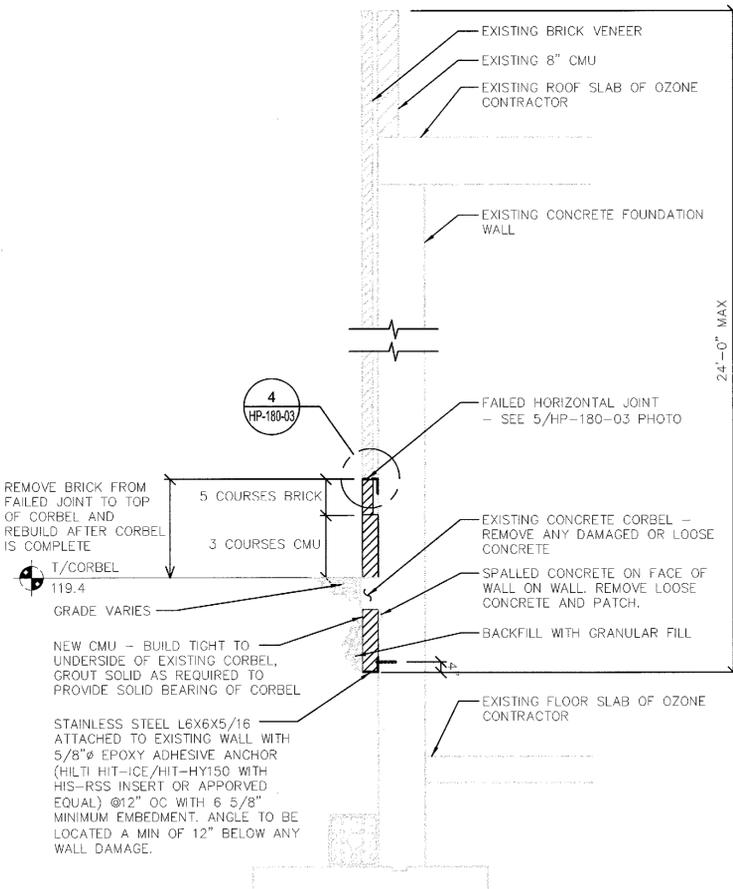
HP-180-03 REF. SCALE: 3/16" = 1'-0"

- NOTES:
1. T/EXISTING SLAB ON GRADE = 119.4'
 2. SEE CIVIL PLANS FOR NEW STOOP AT DOOR AND ALL OTHER PAVEMENT AND SITE WORK.
 3. ALL HELICAL PIERS SHALL DEVELOP AN UNFACTORED ALLOWABLE LOAD OF 14 KIIPS MINIMUM. THE DESIGN OF HELICAL PIER WILL BE BY CONTRACTORS GEOTECHNICAL ENGINEER. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND GEOTECHNICAL REPORT.
 4. LOCATIONS OF HELICAL PIERS MAY BE ADJUSTED AS REQUIRED TO AVOID OBSTACLES PROVIDED THE FOLLOWING CRITERIA IS MET:
 - a) SPACING OF HELICAL PIERS DOES NOT EXCEED 8'-6".
 - b) HELICAL PIER CAN DEVELOP REQUIRED AXIAL LOAD. UNFACTORED WALL LOAD OF 2.4 k/LIN FT IS REQUIRED AT ALL EXTERIOR WALLS PLUS OTHER UNFACTORED LOADS WHERE SHOWN ON PLANS.



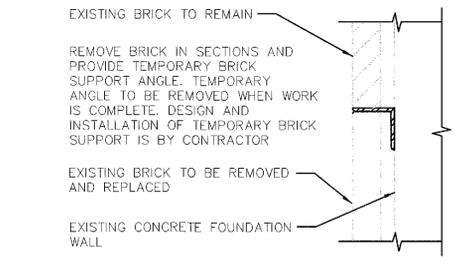
2 SECTION

HP-180-03 REF. SCALE: 3/4" = 1'-0"



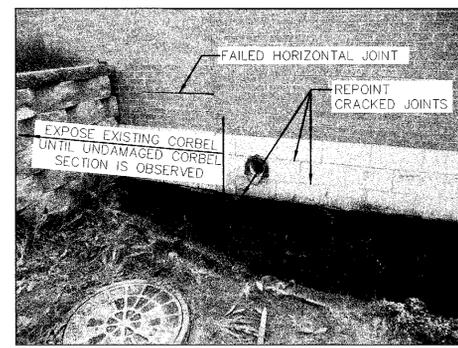
3 SECTION

HP-180-03 REF. SCALE: 3/8" = 1'-0"



4 ENLARGED SECTION

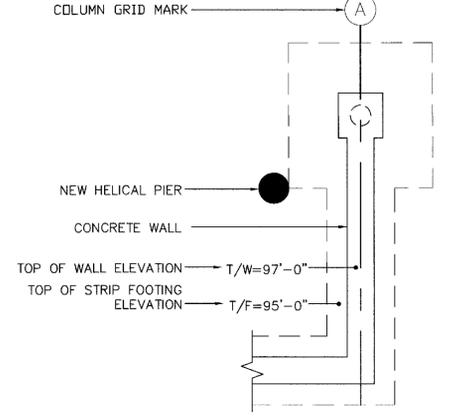
HP-180-03 REF. SCALE: 1" = 1'-0"



5 WALL CORBEL DETAIL

HP-180-03 REF. SCALE: NTS

FOUNDATION LEGEND



Milwaukee Water Works Water Engineering
Department of Public Works

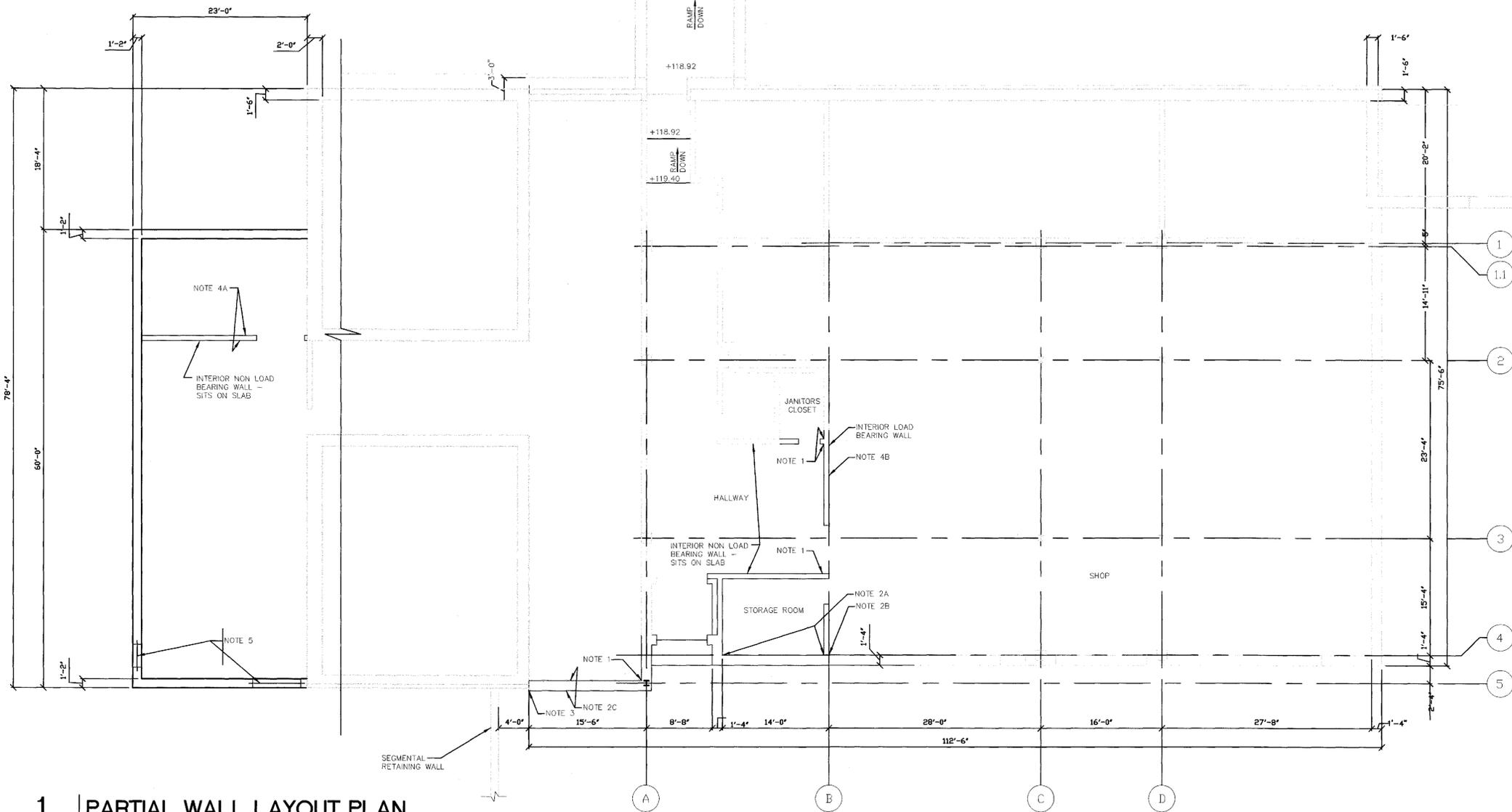
HOWARD AVENUE PURIFICATION PLANT
HP-180: OZONE BUILDING WALL
STABILIZATION AND REPAIR
FOUNDATION PLAN AND DETAILS

DESIGNED BY	R. DOMANN
DRAWN BY	J. DREWS
CHECKED BY	R. DOMANN
DATE	AUGUST 2011
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WORK ORDER	WT450114100
OFFICIAL NOTICE	165-2011
FILE NO.	HP-180

DATE: 10/25/11
[Signature]
 PROJECT ENGINEER
[Signature]
 CHIEF DESIGN ENGINEER
[Signature]
 SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS
 DRAWING NO. HP-180-03

BLOOM COMPANIES, LLC
 Infrastructure Renovation and Integrity
 18901 W. Research Drive Milwaukee, WI 53226
 Phone: (414) 771-3390 Fax: (414) 771-4490
 BLOOM PROJECT NO. Bloom Project B01-3113

NO.	DATE	DESCRIPTION	BY	CHKD.



1 PARTIAL WALL LAYOUT PLAN

HP-180-04 REF. SCALE: 1/8" = 1'-0"

- NOTES:
- AFTER FOUNDATION WORK IS COMPLETE, FILL VERTICAL CRACK IN CORNER WITH SEALANT AND BACKER ROD PER SPECIFICATION. ESTIMATED LINEAR FEET OF VERTICAL CRACKS IS 24'-0".
 - AFTER INSTALLATION OF HELICAL PIERS IS COMPLETE, REPOINT CRACKED MORTAR JOINTS AND CRACKED BLOCK IN CMU WALL. ESTIMATED LENGTH OF POINTING PER LOCATION AS FOLLOWS:
 LOCATION A: 28'-0" SEE PHOTOS 2/HP-180-04 AND 3/HP-180-04
 LOCATION B: 5'-0" SEE PHOTO 4/HP-180-04
 LOCATION C: 33'-0" SEE PHOTO 5/HP-180-03, 5/HP-180-04 AND 6/HP-180-04
 - AFTER INSTALLATION OF HELICAL PIERS IS COMPLETE, REMOVE AND RESET ANY LOOSE BRICKS AT BUILDING INTERFACE AND REPAIR ANY FLASHING AND COPING DAMAGE. SEE PHOTO 11/HP-180-05. SEE SECTION 12/HP-180-05.
 - REPOINT CRACKED HORIZONTAL MORTAR JOINTS IN CMU WALL. ESTIMATED LENGTH OF POINTING PER LOCATION IS AS FOLLOWS:
 LOCATION A: 38'-0" SEE PHOTOS 7/HP-180-04, 8/HP-180-04 AND 9/HP-180-04
 LOCATION B: 7'-0" SEE PHOTOS 10/HP-180-05
 - REPLACE BROKEN GLASS BLOCK AND PROVIDE NEW WINDOW HEAD SUPPORT. SEE 13/HP-180-05 AND 14/HP-180-05 FOR ADDITIONAL INFORMATION.



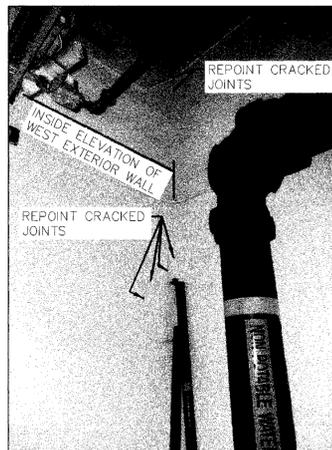
2 PHOTO LOOKING AT NW CORNER OF STORAGE ROOM

HP-180-04 REF. SCALE: NTS



3 PHOTO LOOKING AT SW CORNER OF STORAGE ROOM

HP-180-04 REF. SCALE: NTS



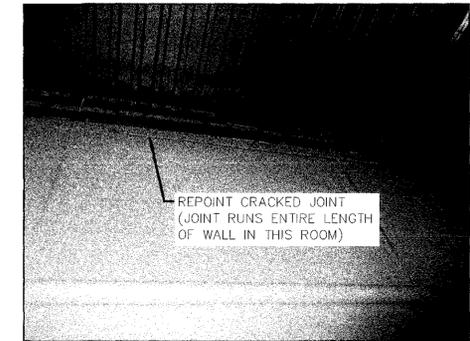
4 PHOTO LOOKING AT NW CORNER OF SHOP

HP-180-04 REF. SCALE: NTS



5 INSIDE ELEVATION OF WEST EXTERIOR WALL (LOW)

HP-180-04 REF. SCALE: NTS



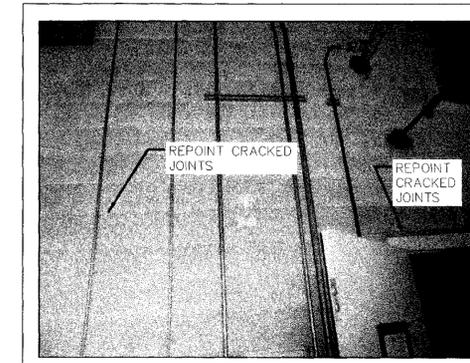
6 INSIDE ELEVATION OF WEST EXTERIOR WALL (HIGH)

HP-180-04 REF. SCALE: NTS



7 EAST ELEVATION OF INTERIOR NON-LOAD BEARING WALL

HP-180-04 REF. SCALE: NTS



8 EAST ELEVATION OF INTERIOR NON-LOAD BEARING WALL (HIGH)

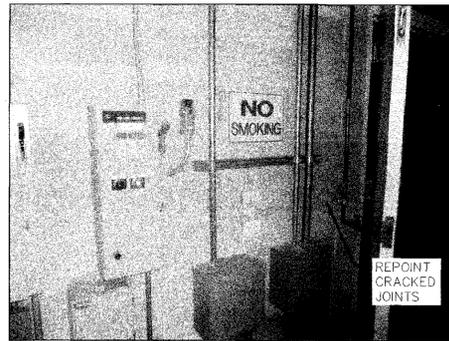
HP-180-04 REF. SCALE: NTS

BLOOM COMPANIES, LLC
 Infrastructure Innovation and Engineering
 10501 W. Research Drive Milwaukee, WI 53226
 Phone: (414) 771-3300 Fax: (414) 771-4490
 BLOOM PROJECT NO. Bloom Project BM1-0113

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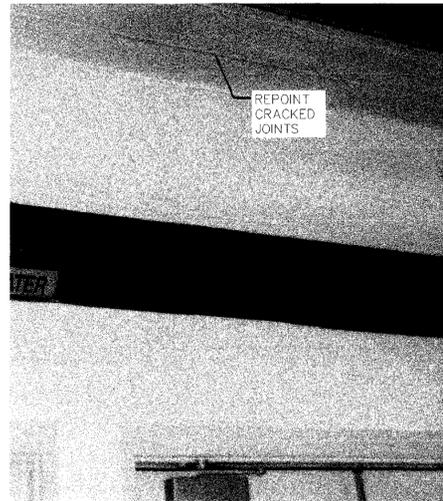
Milwaukee Water Works Department of Public Works
Water Engineering Department of Public Works
 HOWARD AVENUE PURIFICATION PLANT
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 WALL LAYOUT PLAN AND DETAILS

DESIGNED BY	R. DOMANN	DATE	10/25/11
DRAWN BY	J. DREWS	PROJECT ENGINEER	<i>[Signature]</i>
CHECKED BY	R. DOMANN	DATE	10/26/11
DATE	AUGUST 2011	CLERK OF WORKS	<i>[Signature]</i>
SCALE	AS INDICATED	DATE	10/26/11
WORK ORDER	WT450114100	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	<i>[Signature]</i>
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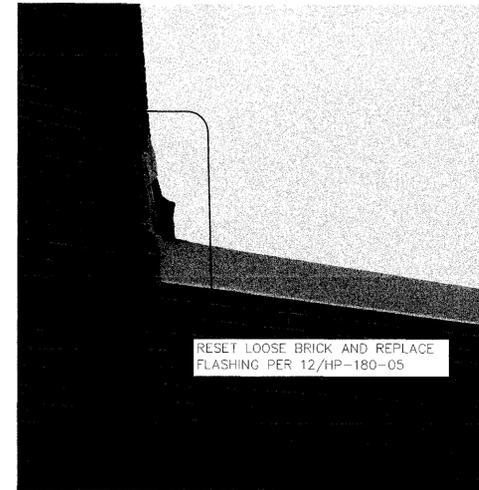
9 WEST ELEVATION OF INTERIOR NON LOAD BEARING WALL (LOW)

HP-180-05 REF. SCALE: NTS



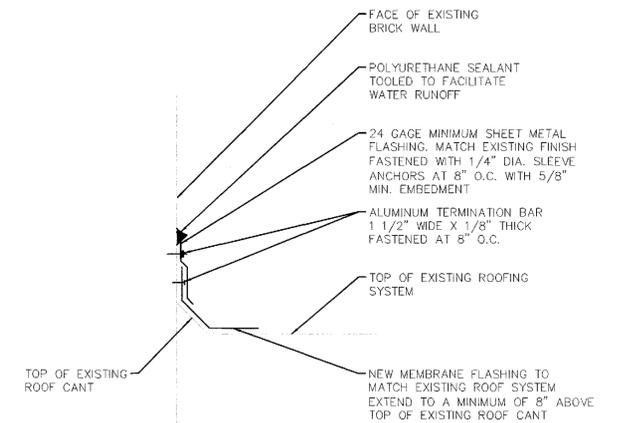
10 SOUTH ELEVATION OF INTERIOR LOAD BEARING WALL

HP-180-05 REF. SCALE: NTS



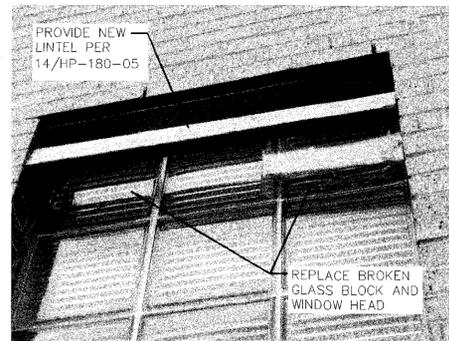
11 ROOF FLASHING AT LOW/HIGH ROOF INTERFACE

HP-180-05 REF. SCALE: NTS



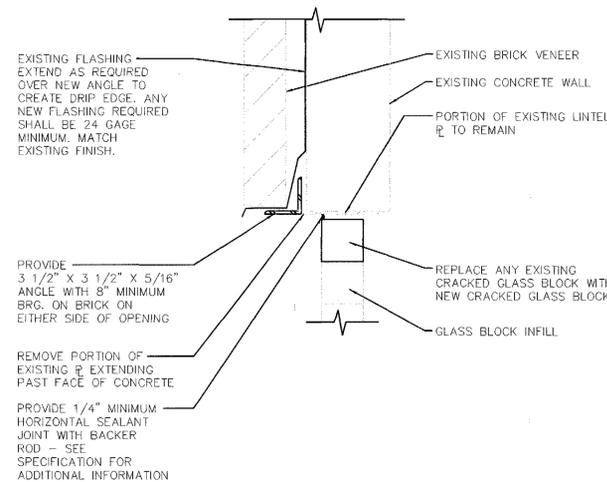
12 SECTION • WALL FLASHING

HP-180-05 REF. SCALE: 1 1/2" = 1'-0"



13 EXISTING WINDOW WITH GLASS BLOCK REPLACEMENT AT NORTHWEST CORNER

HP-180-05 REF. SCALE: NTS



14 SECTION • GLASS BLOCK WINDOW

HP-180-05 REF. SCALE: 1 1/2" = 1'-0"

Milwaukee Water Works Water Engineering Department of Public Works

HOWARD AVENUE PURIFICATION PLANT

HP-180: OZONE BUILDING WALL STABILIZATION AND REPAIR WALL LAYOUT PLAN - DETAILS

DESIGNED BY	R. DOMANN	APPROVED	DATE
DRAWN BY	J. DREWS	<i>Richard N. Drews</i>	10/25/11
CHECKED BY	R. DOMANN	<i>Richard N. Drews</i>	10/26/11
DATE	AUGUST 2011	<i>Richard N. Drews</i>	10/26/11
SCALE	AS INDICATED	<i>Richard N. Drews</i>	10/26/11
WORK ORDER	WT450114100	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE	165-2011	DRAWING NO. HP-180-05	
FILE NO.	HP-180		

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BLOOM PROJECT NO. Bloom Project BM1-3113

NO.	DATE	DESCRIPTION	BY	CHKD.	FILE NO.