

ESTIMATE OF QUANTITIES

FOR BIDDING

FURNISH PIPE AND INSTALL

- 198 FT. - 36" WATER MAIN (HDPE DR 13.5) (SLIPLINED INSIDE 42" CAST IRON)
- 92 FT. - 36" WATER MAIN (HDPE DR 13.5)
- 3 FT. - 6" BLOW-OFF PIPE (HDPE DR 11)
- 4 FT. - 6" BLOW-OFF PIPE (DUCTILE IRON)
- 7 FT. - 12" RISER PIPE (DUCTILE IRON)

CONSTRUCT

- 1 - RISER MANHOLE (COMPLETE)
- REMOVE
- 20 - 42" INTERIOR JOINT SEALS (SEE NOTE)

PERMANENT PAVEMENT

- 5 SQ. YDS. - 3" ASPHALTIC CONCRETE
- 120 SQ. YDS. - 8" CONCRETE (FULL SLAB REPLACEMENT)
- 5 SQ. YDS. - 8" CONCRETE BASE

FURNISH AND INSTALL DOWEL BARS

- 20 BARS
- CURB AND GUTTER
- 60 LIN. FT. - CONCRETE
- WALK
- 360 SQ. FT. - CONCRETE

BARRICADES AND TRAFFIC CONTROL

- LUMP SUM
- SAWCUTTING
- 25 LIN. FT. - IN ASPHALT ON CONCRETE BASE (FULL DEPTH)

SLURRY BACKFILL

- 180 CU. YDS.
- FINISHING OF ROADWAY

LUMP SUM

FURNISH, INSTALL, AND MAINTAIN EROSION CONTROL

- LUMP SUM
- 225 CU. YDS. EXCESS EXCAVATED MATERIAL

FOLLOWING IS A LIST OF THE FITTINGS SHOWN ON THIS CONSTRUCTION PLAN THAT WILL BE PROVIDED BY THE CITY.

- 1 - T 12x6
- 1 - V6
- 1 - VB-DD
- 1 - 24" EXT.
- 1 - VB TOP SECTION (TRACER WIRE ACCESS POINT)
- 1 - P12
- 1 - C12 (RISER)
- 1 - P16

PAVEMENT TYPE

- HUMBOLDT RAMP AND N. RIVERBOAT RD. - 8" CONCRETE (2010)
- N. COMMERCE ST. - V.T.A.C. ON 8" CONCRETE BASE (1999)

ABANDONMENT OF WATER MAINS, VALVES, AND HYDRANT BRANCHES

- 290' - 42" 1927-L WATER MAIN

SCHEDULE

ALL WORK ON THIS PROJECT SHALL BE COMPLETED BY DECEMBER 2, 2011. CONTRACTOR SHALL NOT BEGIN WORK ON THIS PROJECT PRIOR TO SEPTEMBER 19, 2011.

PRE-BID MEETING

A MANDATORY PRE-BID MEETING WILL BE HELD ON TUESDAY, JUNE 28TH, AT 10 AM, IN THE MMW CONFERENCE ROOM 412 OF THE ZEIDLER MUNICIPAL BUILDING.

PRE-CON MEETING

A PRE-CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CONTRACTOR FOLLOWING AWARD OF CONTRACT.

JOINT SEAL REMOVAL NOTE

THE 42" JOINT SEALS WERE INSTALLED IN 2007 BY MILLER PIPELINE CORPORATION OF INDIANAPOLIS. IN REMOVAL OF JOINT SEALS SHALL OCCUR FOLLOWING PIPE REMOVAL NECESSARY FOR SLIP-LINING.

LAWN REPLACEMENT

ALL LAWN REPLACEMENT SHALL BE TYPE A PER SPEC. NO. 5.16.20. ALL COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISH AND INSTALL WATER MAIN.

PLAN LINE & UTILITY LEGEND

GAS	○	SANITARY SEWER	— SAN —	STREET LIGHTING	—
ELECTRIC	— E —	STORM SEWER	— STO —	CITY UNDERGROUND CONDUIT	— CUC —
TELEPHONE	— T —	COMBINED SEWER	— CMB —	PROPOSED CURB / PAVT	—
CABLE TELEVISION	— TV —	WATER MAIN	— W —	PAVING LIMITS	— X — X — X —
FIBER OPTICS	— FO —	WATER SERVICE	— WS —	STRUCTURE / BUILDING	—
PROPOSED UTILITY	—	PRESSURE DISTRICT	— PD —	FENCE	—
POWER POLES	○-CONCRETE ○-ALUMINUM ○-WOOD	WATER MAIN VALVES	— GATE —	BUTTERFLY	— W — SERVICE
UTILITIES	⊗-TRAFFIC SIGNAL ⊗-TRAFFIC CONTROL BOX ⊗-GAS VALVE	HYDRANTS	⊗-1 NOZZLE ⊗-3 NOZZLE		

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 11" 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 MILWAUKEE WATER WORKS STANDARD PLAN NOTES REGARDING WATER MAIN CONSTRUCTION.

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.

MILWAUKEE WATER WORKS ONLY PROJECTS ISSUED THROUGH DPW

THE PERMIT REQUIRES THE CONTRACTOR TO PLACE A REFUNDABLE \$675.00 DEPOSIT FOR EACH METER TO BE USED. THE CONTRACTOR WILL NOT BE REQUIRED TO PAY \$395.00 FOR THE SETUP OF THE METER. THE \$65.00 HYDRANT PERMIT/USE FEE WILL BE WAIVED BY THE UTILITY. THE CONTRACTOR WILL NOT BE CHARGED FOR THE VOLUME OF WATER USED.

QUESTIONS, ARRANGING INSTALLATIONS, AND READINGS

MMW METER SERVICES DISPATCHER, 414-286-2865
MR. TIM GARCZYNSKI, WATER METER PROJECT MANAGER, 414-286-8119

HIGH-DENSITY POLYETHYLENE PIPE NOTE

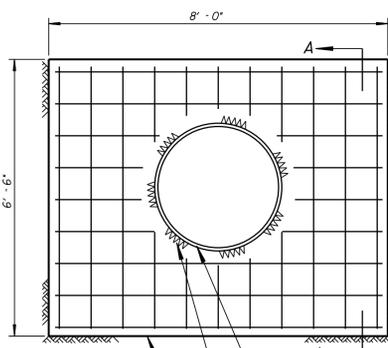
HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL BE MANUFACTURED AND INSTALLED PER SPECIFICATION NO. 4-4V 2/02, DATED FEBRUARY 2002, TITLED "PIPE, POLYETHYLENE 4 INCH THROUGH 18 INCH (COPY INCLUDED IN CONTRACT DOCUMENTS). THE FOLLOWING EXCEPTIONS SHALL APPLY:

- 1) PIPING COMPONENTS SHALL BE MADE FROM PRESSURE RATED PE4710, EXTRA HIGH MOLECULAR WEIGHT, HIGH DENSITY POLYETHYLENE MATERIAL WITH A HYDROSTATIC DESIGN STRESS OF 1000 PSI AT 73 DEGREES.
- 2) THE 36" PIPE SHALL BE DR13.5, IPS DIAMETER (36.00" OD) AND A WORKING PRESSURE RATING OF 160PSI.
- 3) THE 36" PIPE SHALL BE ANCHORED PER THE DETAIL SHOWN ON THIS PLAN.
- 4) THE EXISTING 42" CAST IRON PIPE SHALL BE SLIPLINED WITH 36" HDPE PIPE FROM THE SOUTH LINE OF N. RIVERBOAT RD. TO THE NORTH CURB LINE OF N. COMMERCE ST. THE CONTRACTOR WILL NOT BE ALLOWED TO REMOVE ADDITIONAL 42" PIPE NORTH OF THE SOUTH LINE OF RIVERBOAT RD. UNDER ANY CIRCUMSTANCES.
- 5) TRACER WIRE SHALL NOT BE REQUIRED ALONG THE LENGTH OF THE 36" WATER MAIN. THE CONTRACTOR SHALL ATTACH TRACER WIRE TO EACH END OF THE 42" CAST IRON HOIST PIPE AND SHALL BRING THE WIRE TO THE SURFACE PER SPEC. DRWG. NO. HDPE-3.
- 6) THE HDPE PIPE SHALL BE PRESSURE TESTED USING THE "NON-MONITORED MAKE-UP WATER TEST" PER THE PLASTIC PIPE INSTITUTE HANDBOOK OF POLYETHYLENE PIPE.
- 7) A DETAILED DRAWING OF THE 6" BRANCH SADDLE AND SPECIFICATION SHEETS FOR THE 36" PIPE SHALL BE SUBMITTED TO THE SUPERINTENDENT OF MILWAUKEE WATER WORKS FOR REVIEW PRIOR TO MANUFACTURE.

COUPLING NOTE

DETAILED DRAWINGS OF THE 42" X 36" REDUCING COUPLINGS SHALL BE SUBMITTED TO THE SUPERINTENDENT OF MILWAUKEE WATER WORKS FOR REVIEW. THE REDUCING COUPLINGS SHALL NOT BE INSTALLED UNTIL THE REVIEW IS COMPLETE. REDUCING COUPLINGS SHALL MEET THE REQUIREMENTS OF SPECIFICATION NO. 30-D-5 (COPY INCLUDED IN CONTRACT DOCUMENTS). THE FOLLOWING EXCEPTIONS SHALL APPLY:

- 1) COUPLING SHALL BE JOM 204 STEEL REDUCING COUPLING OR APPROVED EQUAL.
- 2) COUPLING SHALL TRANSITION FROM 42" CAST IRON (45.10" O.D.) TO 36" HDPE (36.00" O.D.).
- 3) A 6" WIDE PIPE STIFFENER IS REQUIRED ON THE HDPE PIPE.

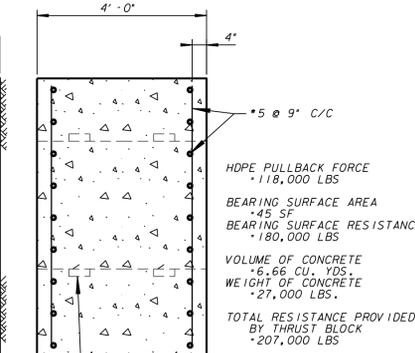


CONCRETE THRUST BLOCK FOR 36" HDPE PIPE

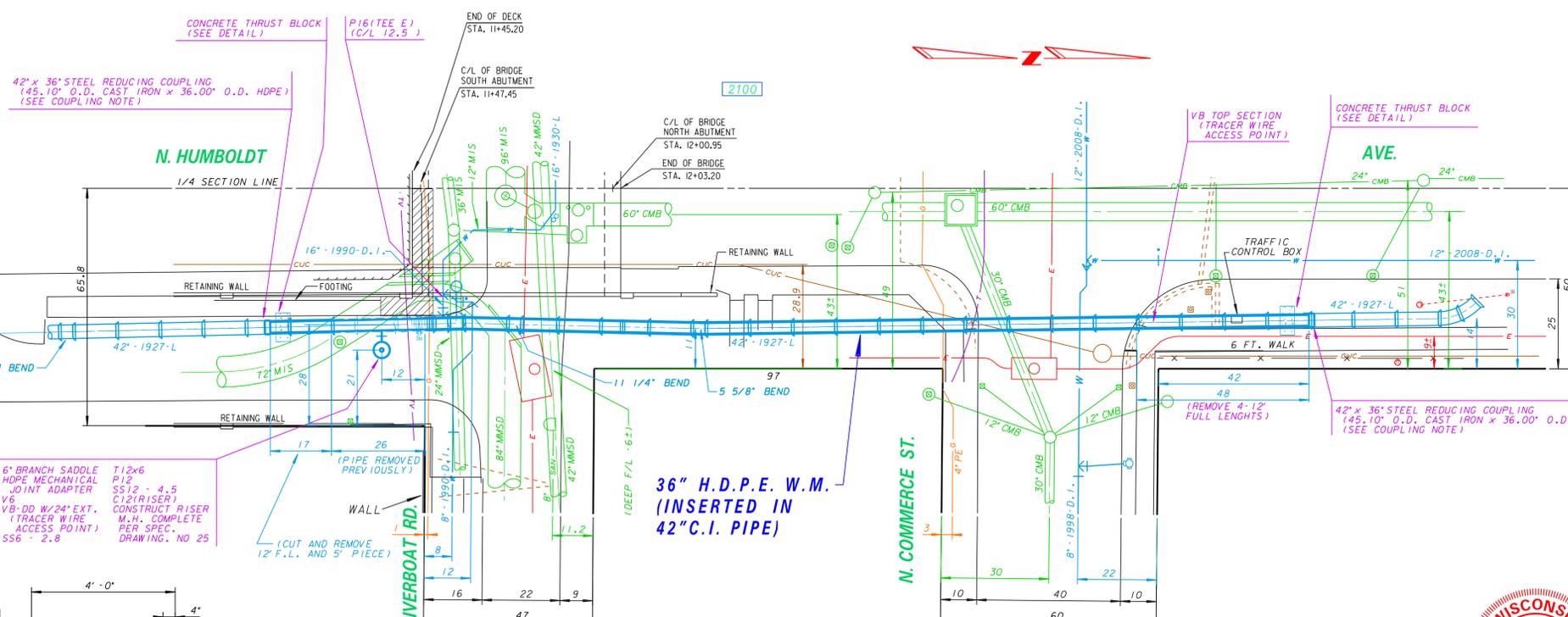
HIGH DENSITY POLYETHYLENE PIPE
ELECTROFUSION FLEX RESTRAINTS (NUMBER REQUIRED PER MANUFACTURER RECOMMENDATIONS)
CONCRETE THRUST BLOCK

SECTION AA

- NOTES
1. CONCRETE THRUST COLLAR DESIGN BASED ON WATER PRESSURE OF 150 PSI AND ON SOIL BEARING PRESSURE OF 4000 LBS. PER SQ. FT.
 2. CONCRETE TO BE CLASS "A".
 3. TRENCH TO BE BACKFILLED WITH SLURRY.



HDPE PULLBACK FORCE
• 118,000 LBS
BEARING SURFACE AREA
• 45 SF
BEARING SURFACE RESISTANCE
• 180,000 LBS
VOLUME OF CONCRETE
• 6.66 CU. YDS
WEIGHT OF CONCRETE
• 27,000 LBS.
TOTAL RESISTANCE PROVIDED BY THRUST BLOCK
• 207,000 LBS



TRAFFIC PROVISIONS

RAMP TO N. RIVERBOAT RD. - CAN BE CLOSED TO TRAFFIC.

N. RIVERBOAT RD. - MAINTAIN TWO WAY TRAFFIC.

N. COMMERCE ST. - DURING WORKING AND NON-WORKING HOURS MAINTAIN ONE (1) 11'-0" MINIMUM TRAFFIC LANE FOR EACH DIRECTION.

N. HUMBOLDT AVE. - DURING WORKING AND NON-WORKING HOURS MAINTAIN ONE (1) 11'-0" MINIMUM TRAFFIC LANE FOR EACH DIRECTION, ON THE PROPER SIDE OF THE ROAD.

PAVEMENT MARKINGS MUST BE RETURNED TO ORIGINAL MATERIAL AND CONDITION.

PLEASE CONTACT TRAFFIC ENGINEERING AT 286-3632 FOR THE INSTALLATION OF TEMPORARY "NO PARKING" SIGNS OR IF THERE ARE ANY QUESTIONS CONCERNING THESE COMMENTS.

ANY PERSON WORKING IN THE PUBLIC WAY SHALL COMPLY WITH THE CITY OF MILWAUKEE, DEPARTMENT OF PUBLIC WORKS WORK "TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK" AND PART V (I) OF THE STATE OF WISCONSIN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. WISCONSIN STATUTE 182.015 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

STREET LIGHTING NOTE

STREET LIGHTING HAS PIPES AND CABLES CROSSING WITHIN THE PROJECT LIMITS. THESE PIPES AND CABLES SHALL BE SUPPORTED IF OPEN CUT TRENCHING IS USED. DAMAGES SHALL BE REPORTED TO THE STREET LIGHTING SHOP AT 414-286-3481.

IF THERE ARE ANY IMPACTS TO CITY OF MILWAUKEE STREET LIGHTING EQUIPMENT, THE CONTRACTOR SHALL CONTACT ENG-KIE LEE IN ENGINEERING AT 414-286-2174 FOR NECESSARY ALTERATIONS.

TRAFFIC SIGNAL AND CONTROL CABINET NOTE

RELOCATION OF THE TRAFFIC CONTROL CABINET TO AN ALTERNATE PERMANENT LOCATION, AND TEMPORARILY MOVING AND THEN RESTORING THE SIGNAL STANDARDS SHALL BE PERFORMED BY THE CITY OF MILWAUKEE TRAFFIC SECTION. THE CONTRACTOR SHALL CONTACT MR. JOE BONDOWSKI OF SIGNAL ENGINEERING AT 414-286-5162 AT LEAST TWENTY (20) WORKING DAYS PRIOR TO CONSTRUCTION START TO PREPARE AND STAGE RELOCATION. ANY DAMAGE TO TRAFFIC CONTROL FACILITIES SHALL BE REPORTED TO THE SIGNAL SHOP AT 414-286-3687.

NO.	BY	REVISION	DATE



Milwaukee Water Works Water Engineering
Department of Public Works

WATER MAIN
N. HUMBOLDT AVE.
N. RIVERBOAT RD.
N. COMMERCE ST.

APPROVED: *Mark J. Scheller* 6-5-11
DATE: 6-5-11
DESIGN ENGINEER

DESIGNED BY: *Paul J. Sant* 6-6-11
DATE: 6-6-11
A.P.J.
CHIEF DESIGN ENGINEER

CHECKED BY: *Paul J. Sant* 6/6/11
DATE: 6/6/11
SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS

PROGRAM NO. 2011-781 CONTRACT NO. C.C. FILE NO. 110164
WORK ORDER WT410110781 O.M. & PROJECT NO. 11-127-1 DATE ADOPTED 6-14-11

SHEET NO. 1 OF 1 PLAN FILE NO. 2011026