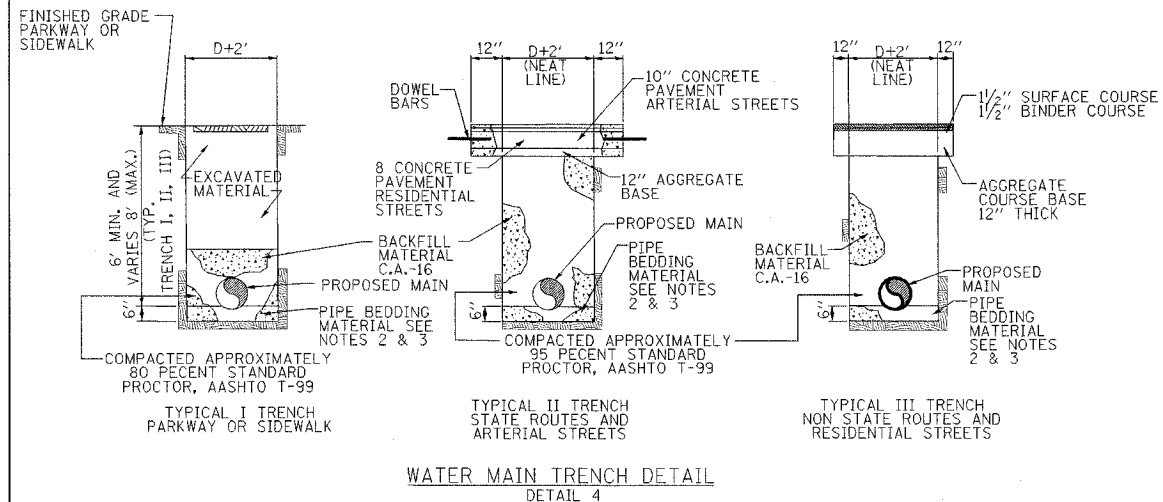
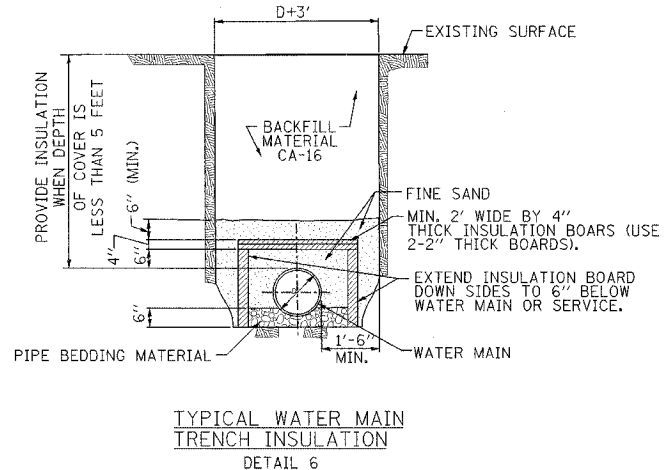


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-31	COOK	62	25
STA. 20+23.42 TO STA. 28+00.00				
FED. RD. DIST. NO. ILLINOIS			FED. AID PROJECT	
CONTRACT NO. 60440				



**NOTES:**

1. PROVIDE PIPE BEDDING OF COMPACTED GRANULAR MATERIAL, GRAVEL, OR CRUSHED STONE TO A DEPTH OF 1/8" OF PIPE DIAMETER, 6" MINIMUM.
2. BEDDING MATERIAL CA-16 UP TO 16-INCH DIA. PIPES.
3. BEDDING MATERIAL CA-11 FOR LARGER THAN 16-INCH DIA. PIPES.
4. POUR CONCRETE PATCH FLUSH WITH SURROUNDING PAVEMENT WHEN TYPE II TRENCH IS USED IN STREETS WITH CONCRETE PAVEMENT.
5. BACKFILL MUST BE COMPACTED UP TO TRENCH AND TO THE TOP OF THE TRENCHES.
6. ALL EXCAVATIONS SHALL BE PROPERLY SHORED, SHEETED AND BRACED TO PROVIDE SAFE WORKING CONDITIONS, ALL IN COMPLIANCE WITH THE U.S. DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION STIPULATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT, (O.S.H.A.).
7. FOR PAVEMENT RESTORATION SEE CDOT OR IDOT REQUIREMENTS.



**NOTES:**

1. INSULATION BOARD TO BE DOW CHEMICAL CORP. (SM OR XFS4399I) OR APPROVED EQUAL.
2. BACKFILL MATERIAL AROUND INSULATION SHALL BE FINE SAND FREE FROM ROOTS, ORGANIC MATTER, OR OTHER INJURIOUS MATERIALS.
3. OVERLAP ALL INSULATION BOARD JOINTS.

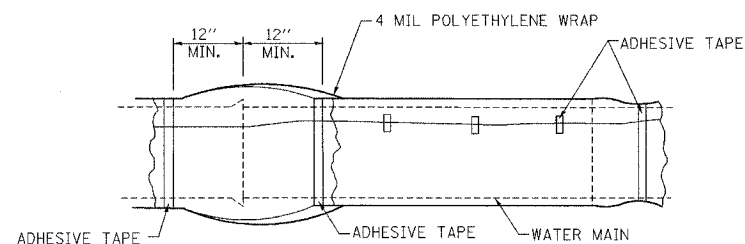
**GENERAL NOTES AND SPECIFICATIONS**

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF CHICAGO DEPARTMENT (CDOW) OF WATER STANDARD SPECIFICATION AND CONSTRUCTION DETAILS FOR WATER MAIN INSTALLATION EXCEPT AS MODIFIED IN THE SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL CONTACT GEORGE PANAGES, CHICAGO WATER PARTNERS (CWP) CONSTRUCTION MANAGER AT (312) 742-5921 TWO WEEKS PRIOR TO CONSTRUCTION OF WATERMAIN.
3. 2-2" AND 1-1" TAPS AND VALVE BOX AND LID FOR 1" TAP TO BE PROVIDED BY CDOW. CONTRACTOR SHALL CONTACT EDWIN AFARIN OF CDOW AT (312) 744-5060 TO COORDINATE DELIVERY.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND SEQUENCING WATERMAIN INSTALLATION ACTIVITIES WITH ROADWAY IMPROVEMENTS AND CDOW EFFORTS.
5. ALL WATERMAIN PIPE SHALL BE 24" DIAMETER ASPHALT COATED (ANSI A21.10/AWWA C10), CEMENT LINED (ANSI A21.4/AWWA C104) CLASS 54 DUCTILE IRON PIPE (ANSI A21.51/AWWA C151).
6. CONTRACTOR SHALL PROVIDE A CUT OPENING IN THE TEMPORARY SHEET PILING FOR EXTENSION OF THE 24" WATERMAIN THROUGH THE SHEET PILING. OPENING SHALL BE OF SUFFICIENT SIZE TO ENABLE INSTALLATION OF WATERMAIN WITHOUT DAMAGE TO THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL PROTECT INSTALLED IMPROVEMENTS DURING DISMANTLING/ABANDONMENT OF TEMPORARY SHEET PILING. SHEET PILING UNDER WATERMAIN SHALL REMAIN IN PLACE. THE COST SHALL BE INCLUDED IN THE DUCTILE IRON PIPE WATERMAIN - 24 INCHES ITEM.
7. CONTRACTOR SHALL PROVIDE AND INSTALL SUITABLE END CAPS AT ENDS OF INSTALLED WATERMAIN.
8. CONCRETE THRUST BLOCKS WITH STEEL SHEET PILING (SECTION MODULUS > 37.7 IN<sup>3</sup>/FT) SHALL BE PROVIDED AT ALL PIPE BEND LOCATIONS. SHEET PILING SHALL CONSIST OF TWO-18" WIDE SHEETS EXTENDING TO THE ELEVATIONS INDICATED IN TABLE BELOW.

**THRUST BLOCK SHEET PILE ELEVATION TABLE**

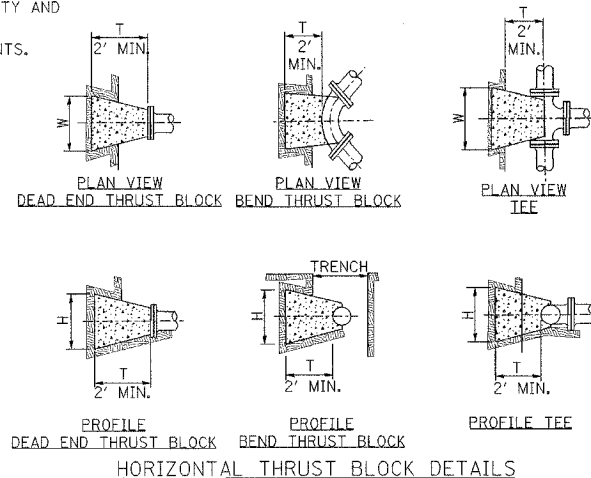
STATION	TOP ELEVATION	BOT. ELEV.	DESCRIPTION
TBD	602.2	583.4	CONNECTION TO EXISTING (S/O BRIDGE)
STA. 22+94.1, 7' LT	9" BELOW SLAB	589.3	1/8 BEND
STA. 24+36.3, 7' LT	9" BELOW SLAB	589.7	1/8 BEND
TBD	603.7	585.8	CONNECTION TO EXISTING (N/O BRIDGE)

STATION PROVIDED IS FOR CORRESPONDING BEND. ACTUAL LOCATION OF PILING TO BE COORDINATED IN THE FIELD.



**NOTE:**

1. ONE LENGTH OF POLYETHYLENE TUBE FOR EACH LENGTH OF PIPE. OVERLAPPED AT JOINT AND EXCESS FOLDED OVER TOP FOR SLACK REDUCTION. INSTALL PER ANSI A21.5/AWWA C105.



**NOTES:**

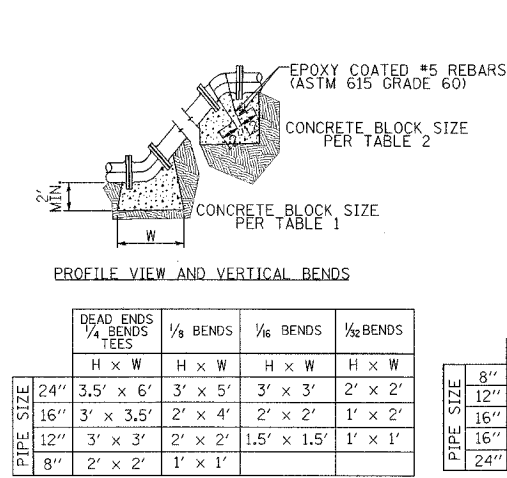
1. FULL CONCRETE THRUST BLOCKS AS SHOWN ARE REQUIRED WHEN MEGALUGS ARE NOT USED FOR THE CONNECTIONS.
2. WHEN MEGALUGS ARE INSTALLED FOR THE CONNECTIONS, CONCRETE THRUST BLOCKS SHALL BE PROVIDED UP TO THE DOTTED LINE AS SHOWN IN THE DRAWINGS.
3. ALL BOLTS, NUTS, MEGALUGS AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE TUBING TO PREVENT CORROSION AND CONCRETE ADHESION.

TEE SIZE	L <sub>B</sub>
8" x 8" (8", 12", 16" OR 24") x 12"	0
16" x 16"	42'
24" x 36"	277'

HORIZONTAL TEES (RESTRAINT JOINTS)

PIPE SIZE	L1	L2
8"	26'	26'
12"	37'	11'
16"	67'	20'
24"	67'	20'

1/8 VERTICAL BENDS DISTANCE OF RESTRAINED JOINTS



PIPE SIZE	DEAD ENDS 1/4 BENDS TEES				1/8 BENDS		1/4 BENDS	
	H x W	H x W	H x W	H x W	H x W	H x W	H x W	
24"	3.5' x 6'	3' x 5'	3' x 3'	2' x 2'	2' x 2'	1' x 2'	1' x 1'	
16"	3' x 3.5'	2' x 4'	2' x 2'	1' x 2'	1' x 2'	1' x 1'	1' x 1'	
12"	3' x 3'	2' x 2'	1.5' x 1.5'	1' x 1'	1' x 1'	1' x 1'	1' x 1'	
8"	2' x 2'	1' x 1'	1' x 1'	1' x 1'	1' x 1'	1' x 1'	1' x 1'	

T = THICKNESS OF THE THRUST BLOCK  
H = HEIGHT OF THE THRUST BLOCK  
W = WIDTH OF THRUST BLOCK

TABLE 1

PIPE SIZE	1/8 BENDS	
	8"	12"
8"	0.3	1.0
12"	2.5	3.0
16"	3.0	5.0
24"	5.0	5.0

TABLE 2  
MINIMUM VOLUME OF CONCRETE REQUIRED IN CUBIC YARDS FOR VARIOUS PIPE SIZES AND BENDS.

THRUST BLOCK DIMENSIONS FOR VARIOUS PIPE SIZES AND FITTINGS MINIMUM DIMENSIONS IN FEET

**VERTICAL CONCRETE THRUST BLOCK DETAILS (WITH RESTRAINED JOINTS)**

PIPE SIZE	DISTANCE OF RESTRAINED JOINTS REQUIRED EITHER SIDE OF BENDS			
	1/2	1/4	1/8	1/4
8"	3'	6'	12'	29'
12"	4'	8'	17'	41'
16"	7'	15'	30'	73'
24"	7'	15'	30'	73'

HORIZONTAL BENDS (RESTRAINED JOINTS)

**JOINT RESTRAINT DETAILS**  
DETAIL 8

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION ILLINOIS ROUTE 50 (CICERO AVENUE) OVER NORTH BRANCH CHICAGO RIVER
NAME	DATE	
		WATERMAIN DETAILS

SCALE: NONE  
DATE AUGUST 18, 2006  
DRAWN BY SPG  
CHECKED BY AAC

