

**STANDARD CONSTRUCTION DETAILS
FOR CONSTRUCTION OF WATER AND SEWER MAINS**

March 2020

**For the
Water and Sewer Departments**

**City of Baldwin
Habersham County, Georgia**



BALDWIN CITY COUNCIL

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**CITY OF BALDWIN WATER & SEWER DEPARTMENTS
STANDARD CONSTRUCTION DETAILS
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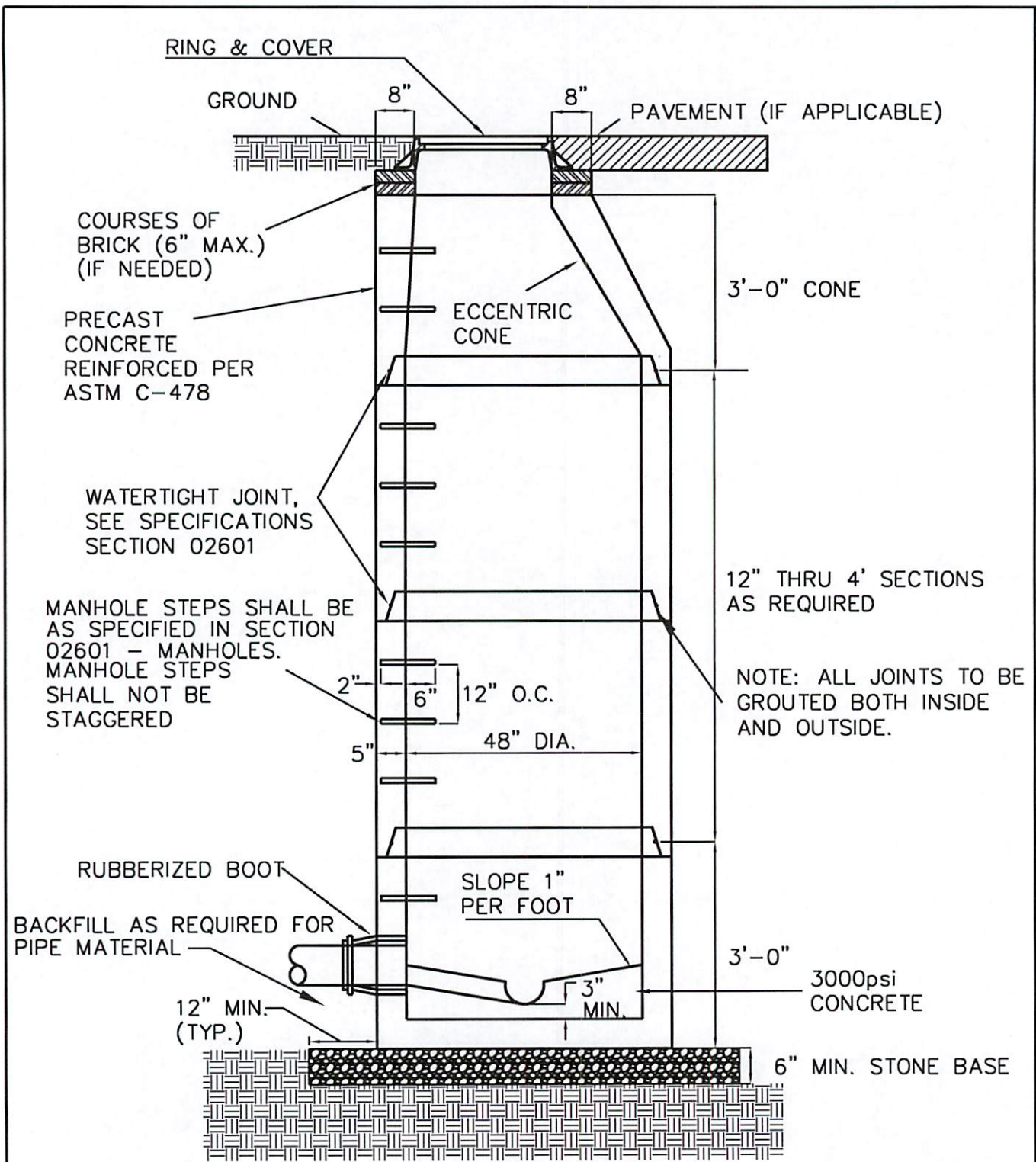
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STANDARD CONSTRUCTION DETAILS
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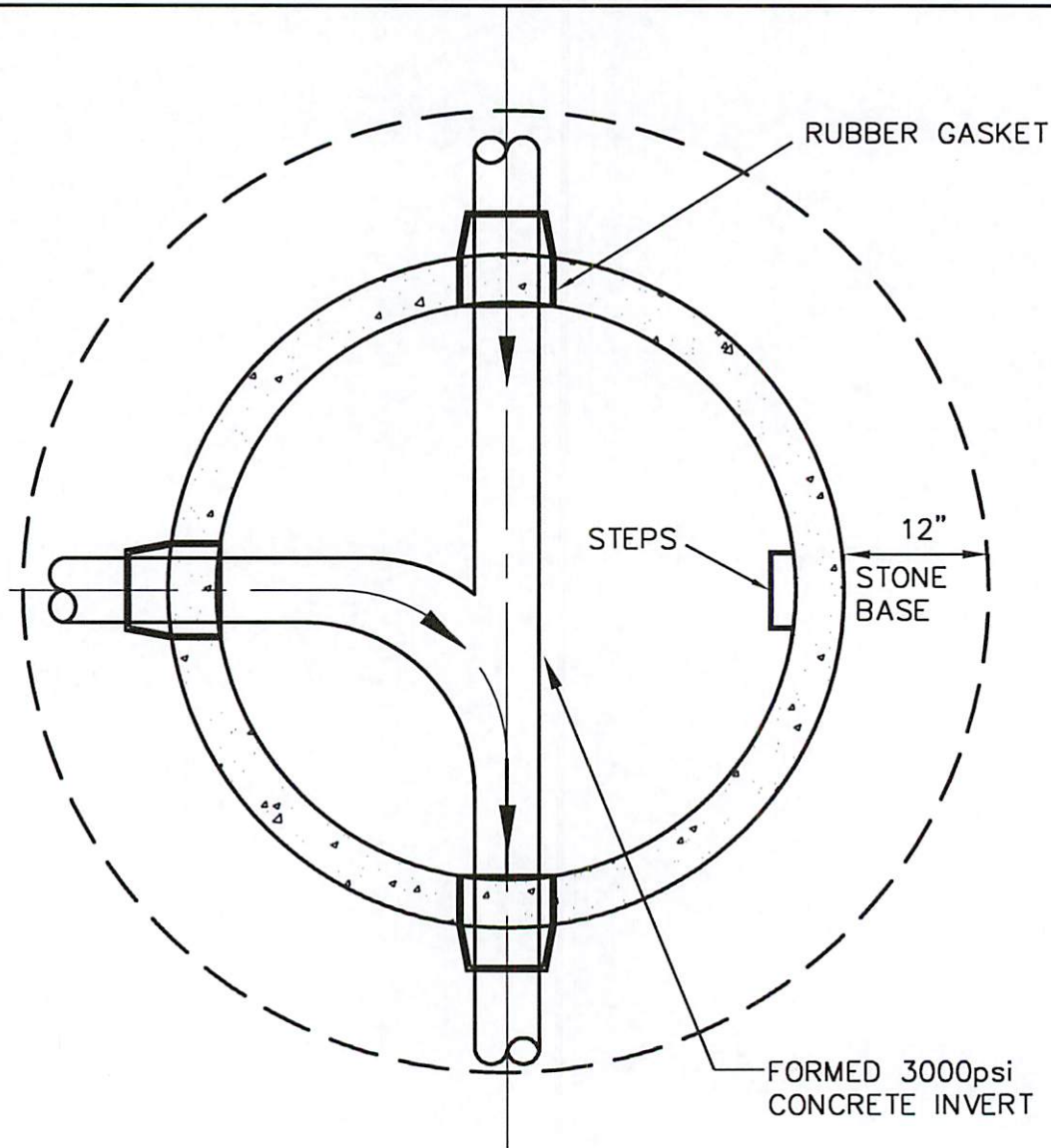
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NOTE:
 DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM VACUUM TESTS
 IN ACCORDANCE WITH SECTION 02601-MANHOLES

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE STANDARD MANHOLE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. S-1		FILE No. 11052IS-1.dwg	SCALE: N.T.S.		



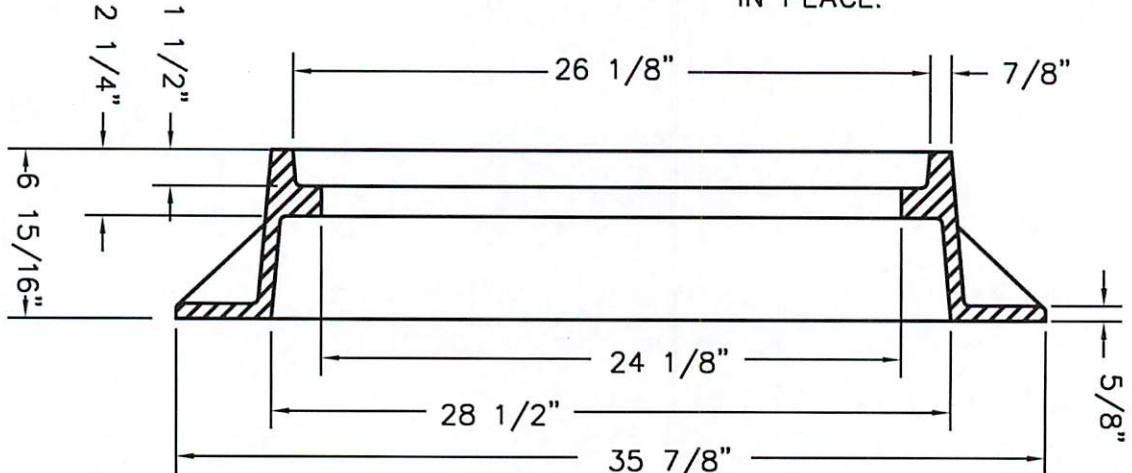
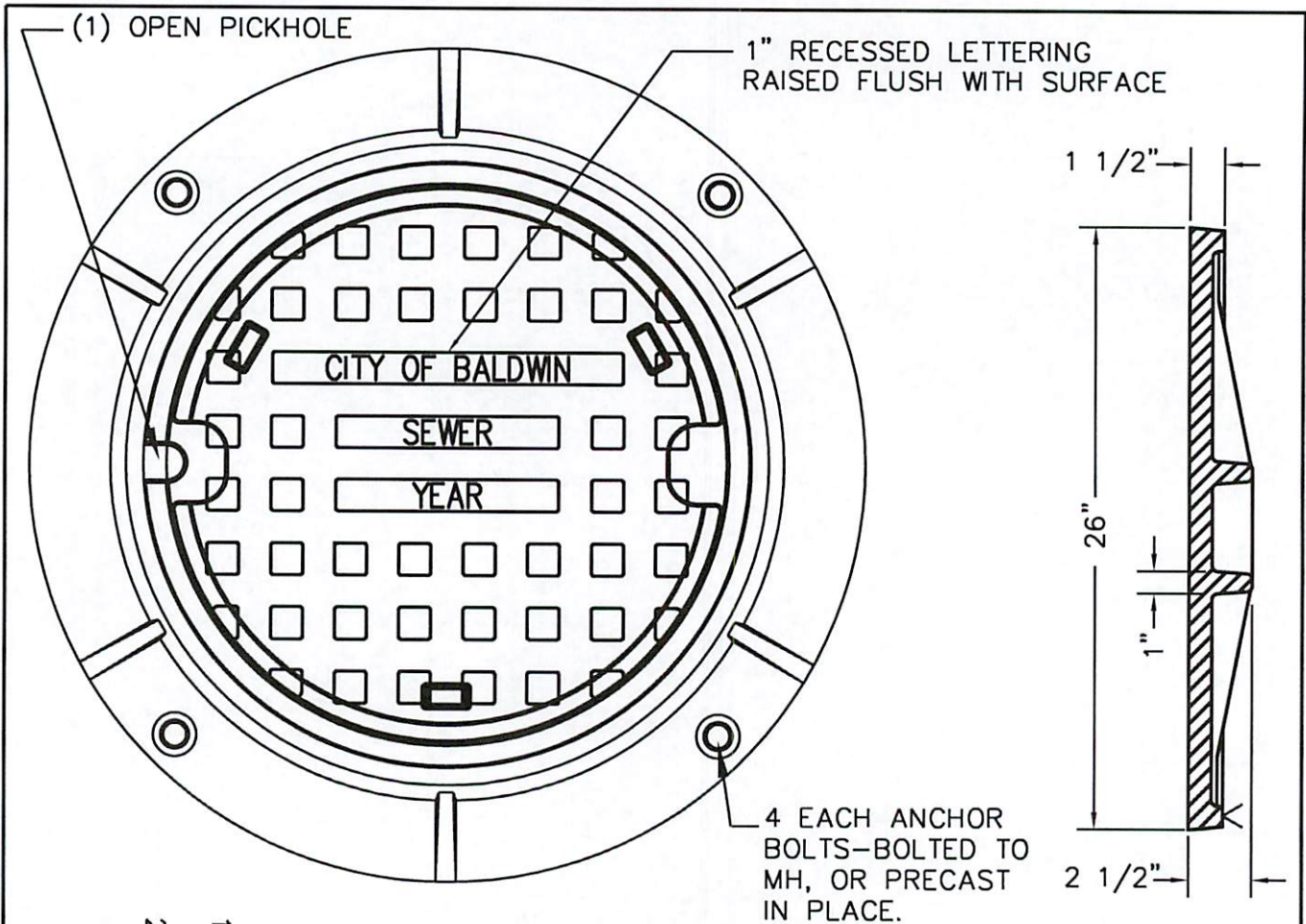
PLAN VIEW OF MANHOLE

NOTES:

1. A MINIMUM OF 0.2' (2/10') FALL ACROSS MANHOLE INVERT FROM INLET TO OUTLET IS REQUIRED.
2. TABLES ARE TO BE GENTLY SLOPED AND TROWELED FROM MANHOLE WALL TO INVERT WALL HEIGHT AND CONSTRUCTED OF AGGREGATE-MIX CEMENT WITH SMOOTH VENEER FINISH.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

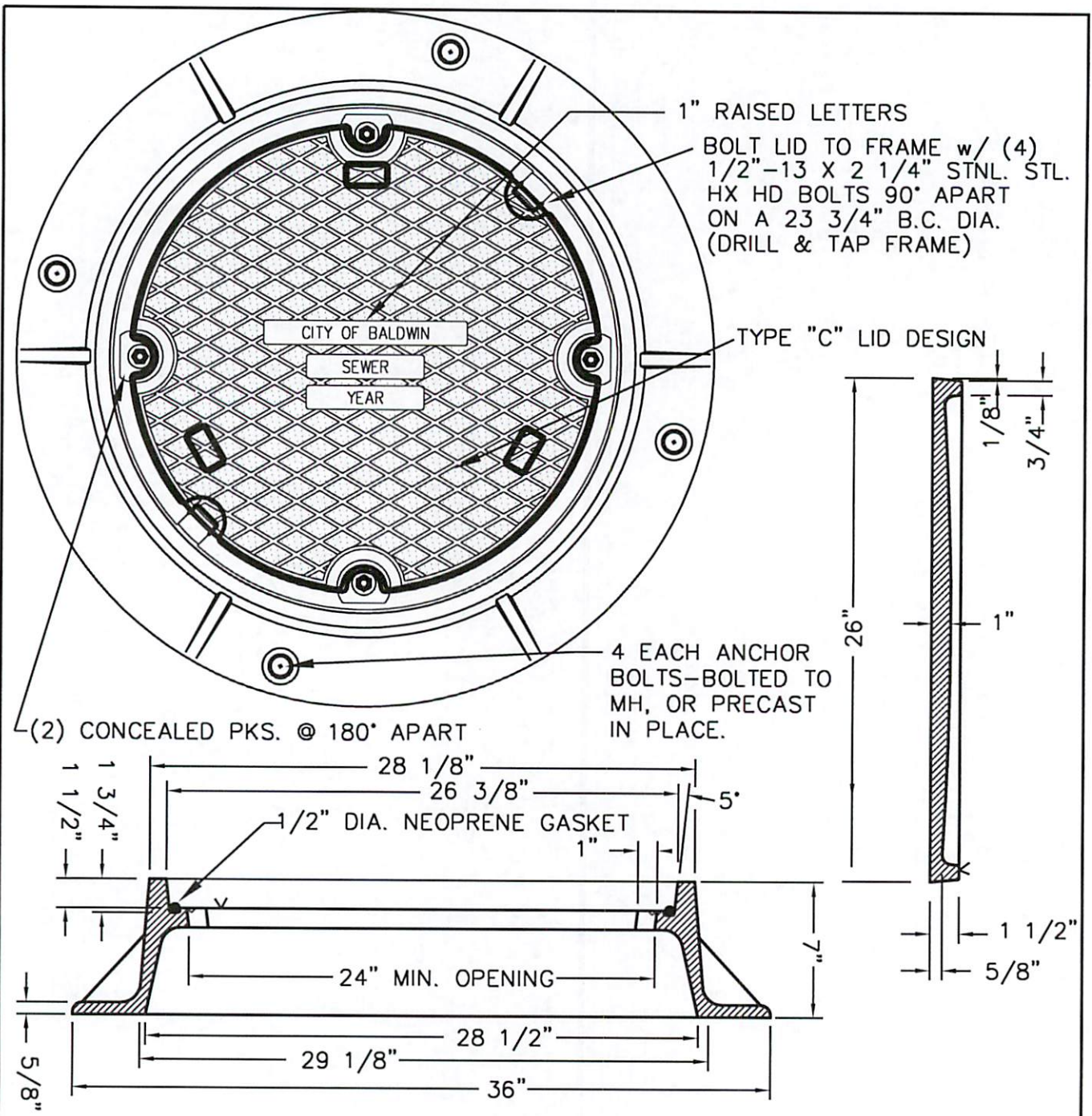
JOB TITLE STANDARD DETAIL	SHEET TITLE MANHOLE INVERT	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. S-2	FILE No. 11052\IS-2.dwg	SCALE: N.T.S.		



MATERIAL: CAST GRAY IRON ASTM A48, CLASS 35B
 FINISH UNPAINTED
 WEIGHT 276LBS. PER SET
 PER NEENAH FOUNDRY R-1642
 OR APPROVED EQUIVALENT BY CITY

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

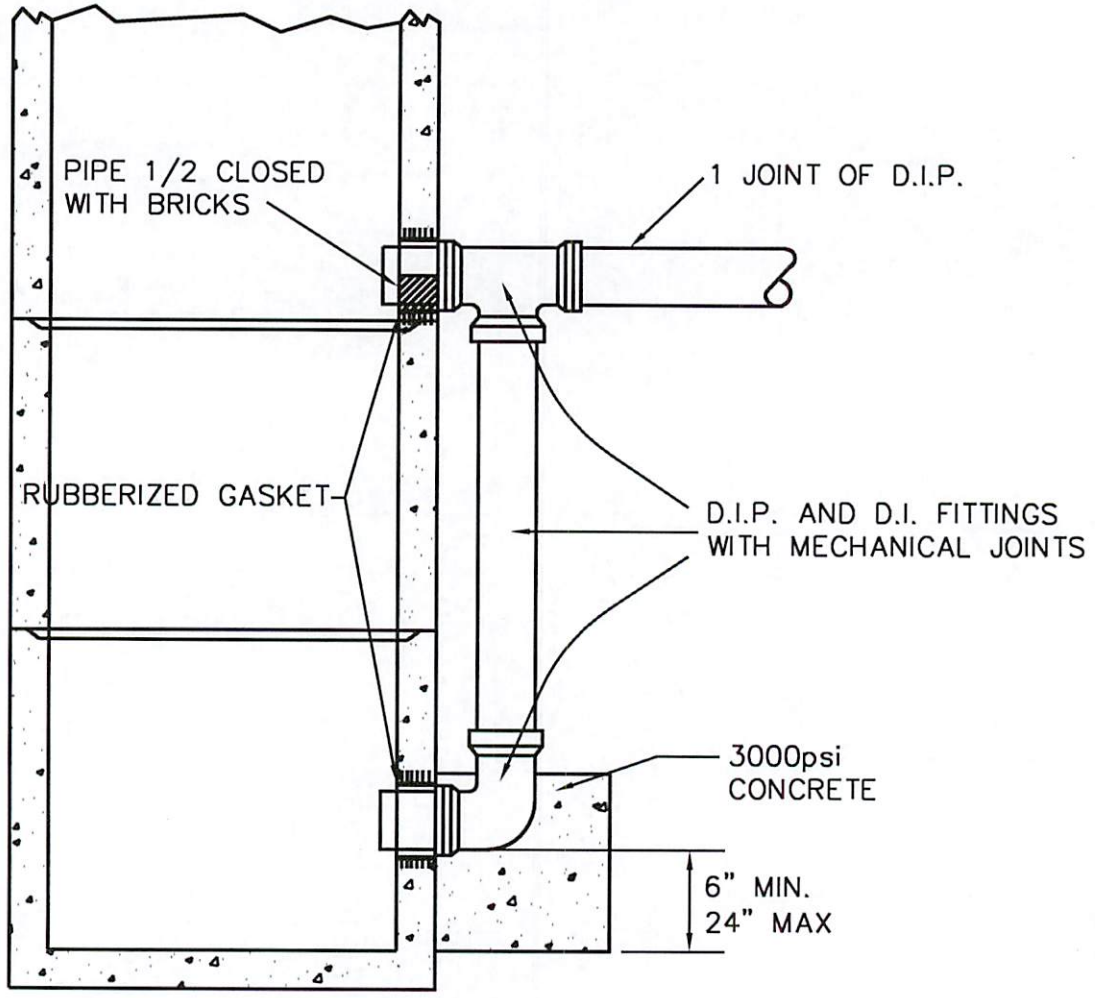
JOB TITLE STANDARD DETAIL	SHEET TITLE ON-ROAD MANHOLE COVER	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-3	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\S-3.dwg	SCALE: N.T.S.		



MATERIAL: CAST GRAY IRON ASTM A48, CLASS 35B
 FINISH UNPAINTED
 WEIGHT 342 LBS. PER SET
 PER NEENAH FOUNDRY R-1916-F
 OR APPROVED EQUIVALENT BY CITY

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE OFF-ROAD MANHOLE COVER	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. S-4	FILE No. 11052\S-4.dwg	SCALE: N.T.S.	



NOTE

MANHOLE SHALL BE INSTALLED LIKE STANDARD PRECAST MANHOLE, EXCEPT FOR DROP.

AN OUTSIDE DROP MANHOLE SHOULD BE PROVIDED FOR A SEWER ENTERING A MANHOLE AT AN ELEVATION OF 24 INCHES OR MORE ABOVE THE MANHOLE INVERT. WHEN THE DIFFERENCE IN ELEVATION BETWEEN INCOMING SEWER AND MANHOLE INVERT IS LESS THAN 24 INCHES THE INVERT SHOULD FILLETED TO PREVENT SOLIDS DEPOSITION.

MAXIMUM ALLOWABLE DROP FOR LOWER INLET ON OUTSIDE DROP MANHOLES SHALL BE 24 INCHES.

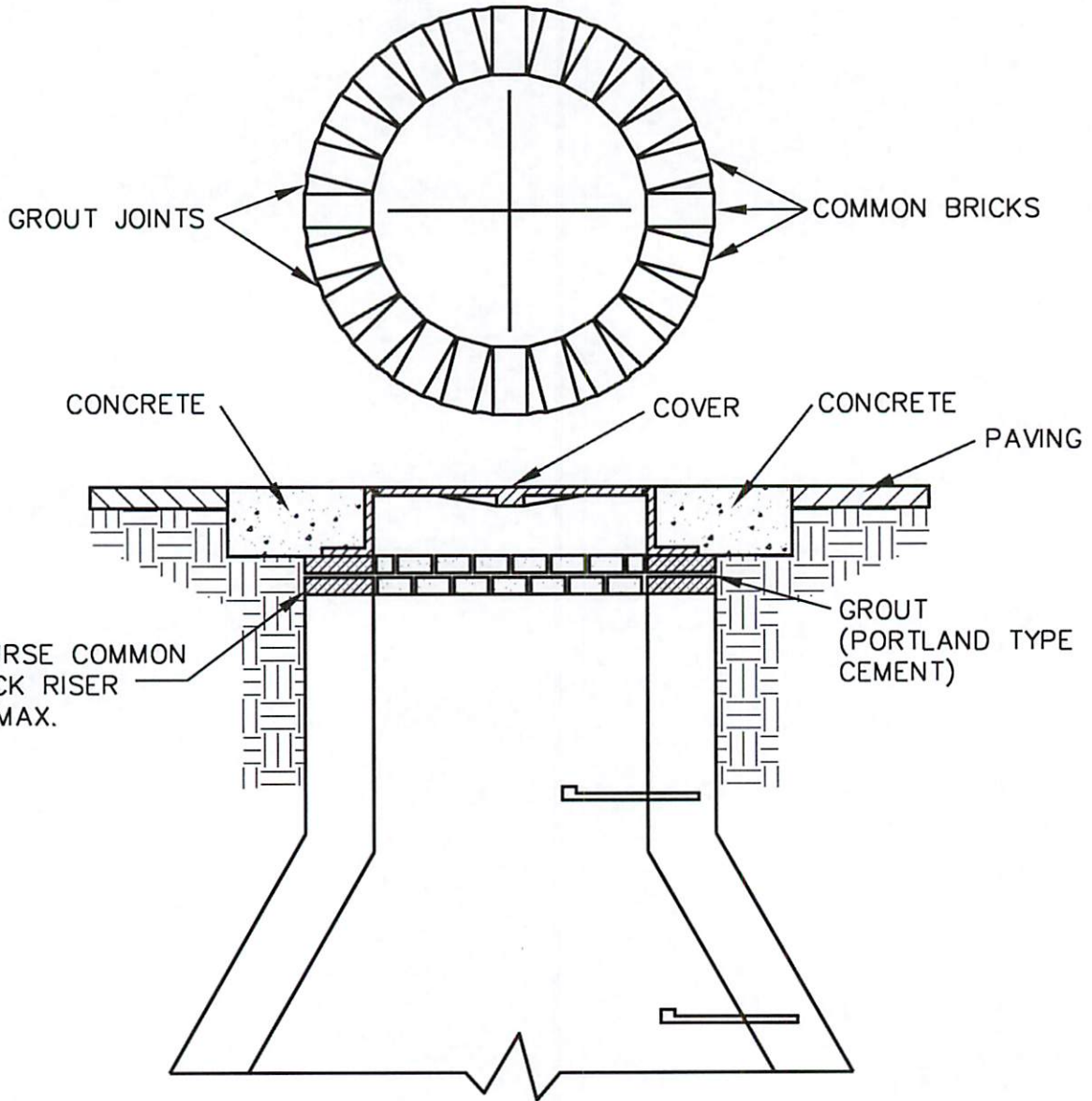
NOTE:

DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM VACUUM TESTS IN ACCORDANCE WITH SECTION 02601-MANHOLES

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE OUTSIDE DROP MANHOLE DETAIL No. S-6	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
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TOP VIEW OF BRICK
RISER DETAIL

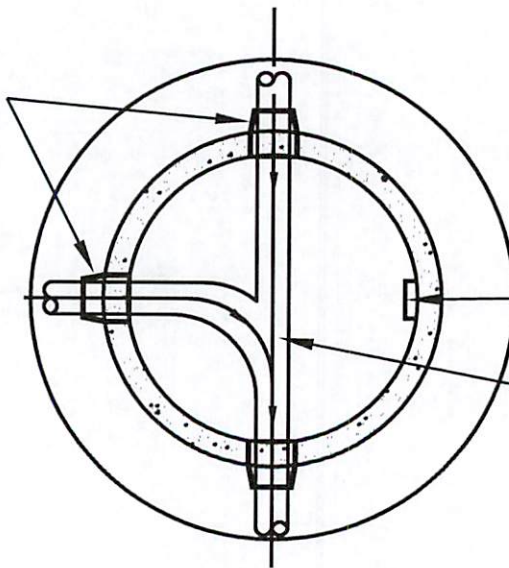


NOTE: BRICK SHALL BE USED WHEN UPWARD ADJUSTMENTS TO FINISHED GRADE ARE REQUIRED.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE LID GROUTING DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
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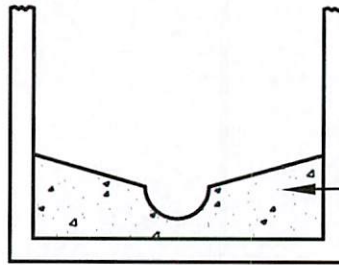
RUBBER BOOT,
SEAL & CLAMP
(TYP.)



STEPS

FORMED 3000psi
CONCRETE INVERT

PLAN VIEW OF MANHOLE



FORMED 3000psi
CONCRETE INVERT

SOLID INVERT

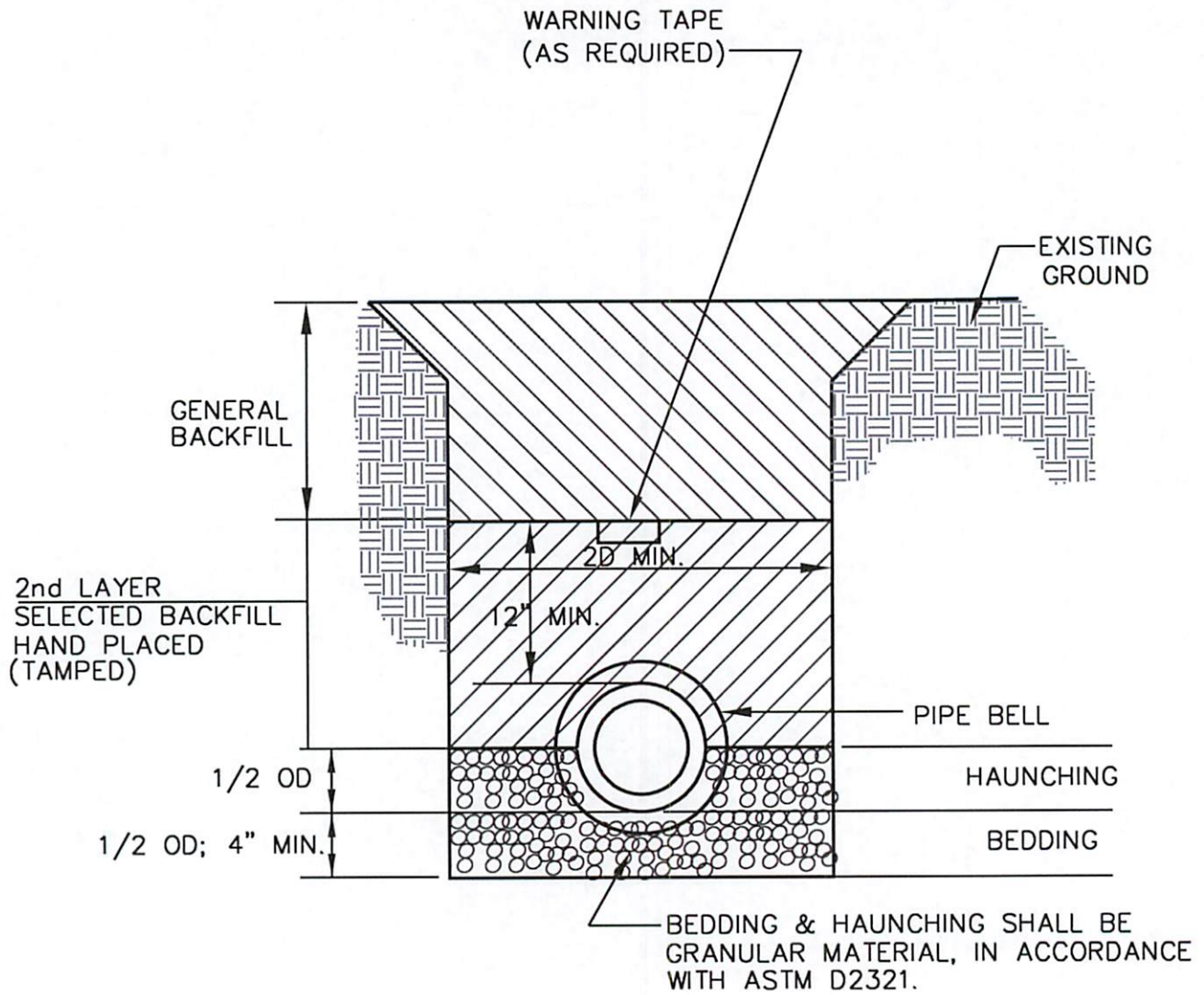
- NOTE: 1. PRECAST INVERTS ARE ACCEPTABLE.
2. A 0.2 FOOT DROP ACROSS INVERT REQUIRED.

NOTE:

DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM VACUUM TESTS
IN ACCORDANCE WITH SECTION 02601-MANHOLES

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

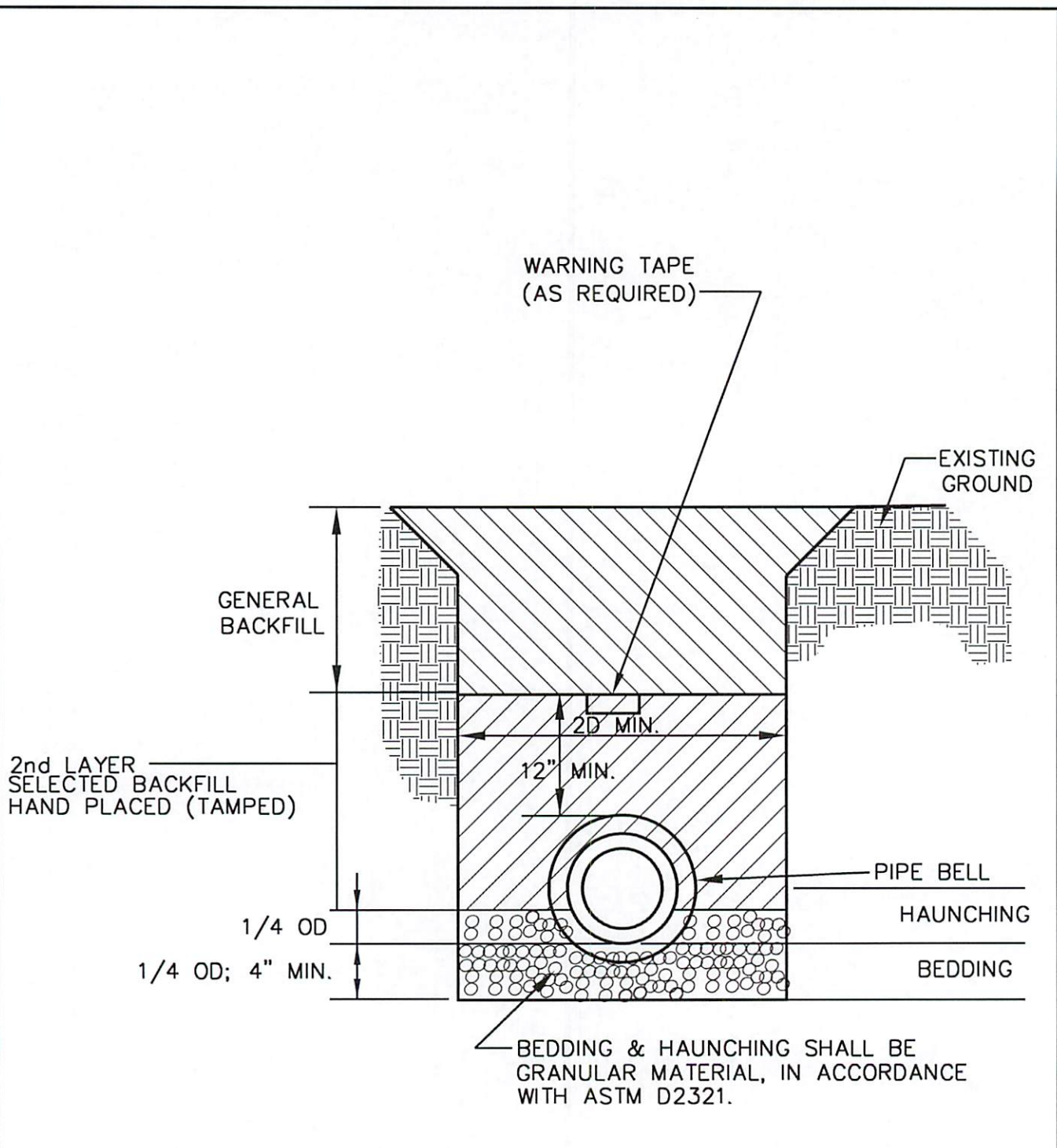
JOB TITLE STANDARD DETAIL	SHEET TITLE INVERT CONSTRUCTION	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. S-8	FILE No. 11052\S-8.dwg	SCALE: N.T.S.	



- NOTES:
1. SEE SPECIFICATIONS SECTION 02225(EARTHWORK FOR UTILITIES) FOR BEDDING MATERIALS, BACKFILL MATERIALS, METHODS, AND ADDITIONAL REQUIREMENTS.
 2. REGARDLESS OF TYPE OF PIPE, WHEN WET TRENCH CONDITIONS ARE ENCOUNTERED A MINIMUM OF CLASS 5 BEDDING SHALL BE REQUIRED.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE CLASS "5" BEDDING DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-9	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
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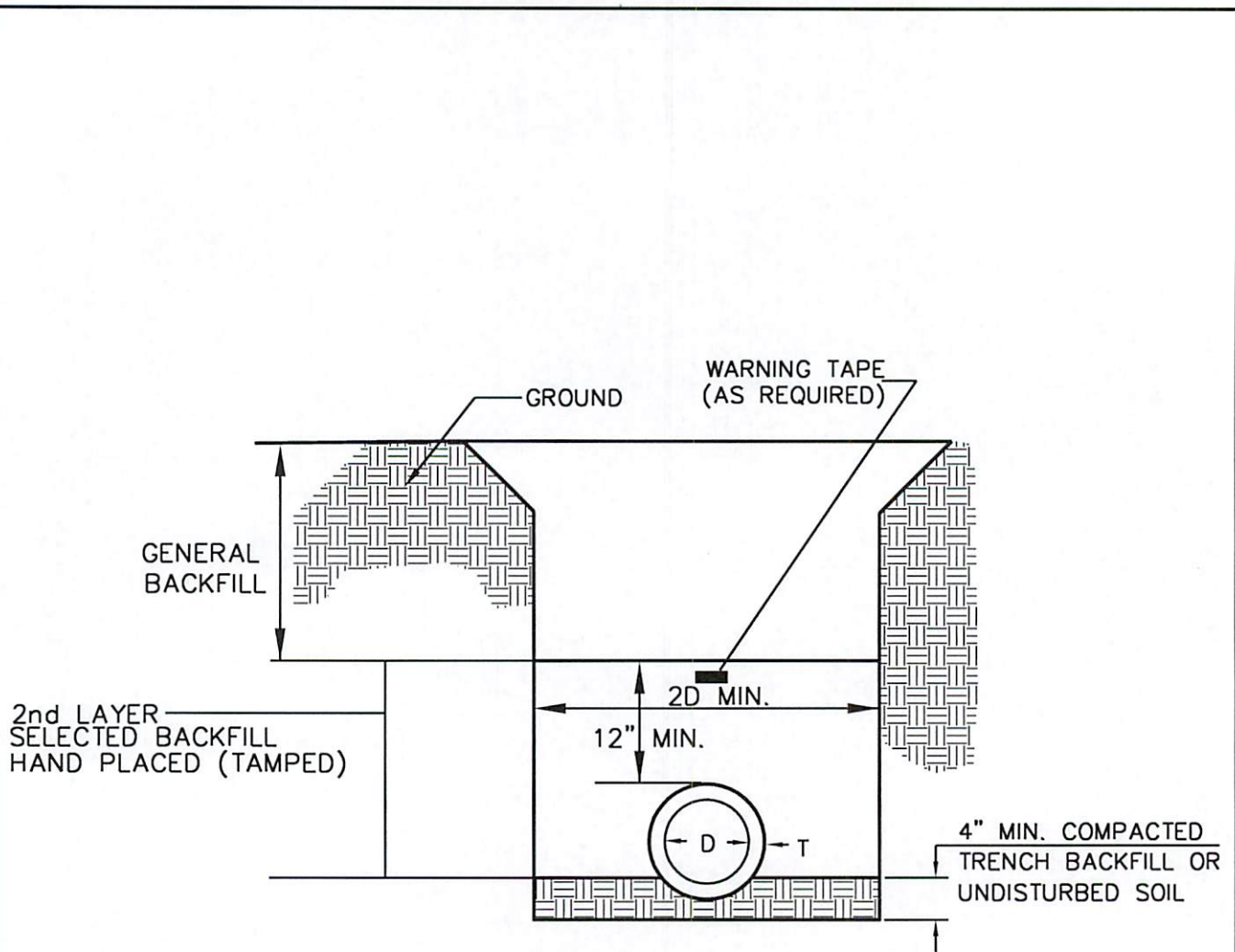


NOTES:

1. SEE SPECIFICATIONS SECTION 02225(EARTHWORK FOR UTILITIES) FOR BEDDING MATERIALS, BACKFILL MATERIALS, METHODS, AND ADDITIONAL REQUIREMENTS.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE CLASS "4" BEDDING DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
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		APPD. BY:			
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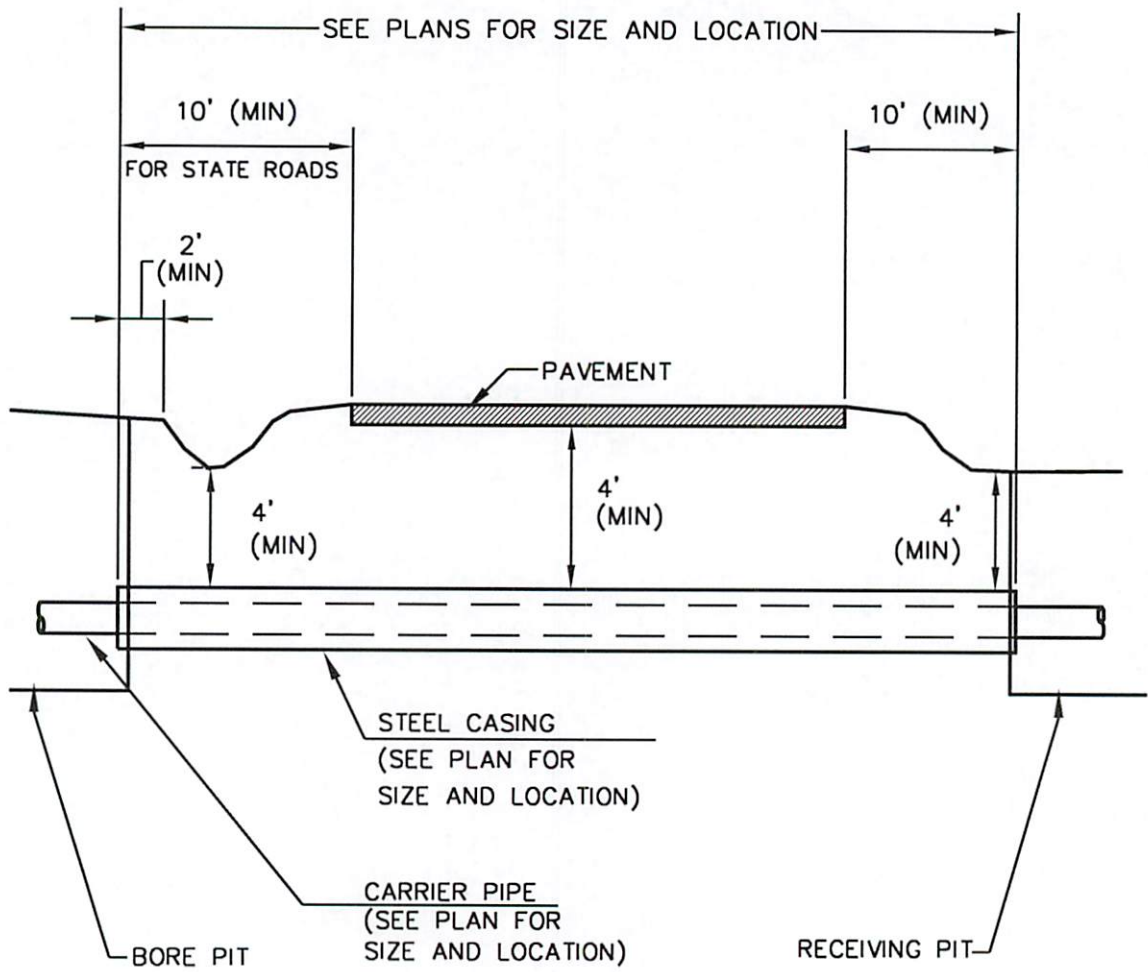


NOTES:

1. SEE SPECIFICATIONS SECTION 02225(EARTHWORK FOR UTILITIES) FOR BEDDING MATERIALS, BACKFILL MATERIALS, METHODS, AND ADDITIONAL REQUIREMENTS.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE CLASS "2" BEDDING DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
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DETAIL No. S-11		FILE No. 11052IS-11.dwg	SCALE: N.T.S.		



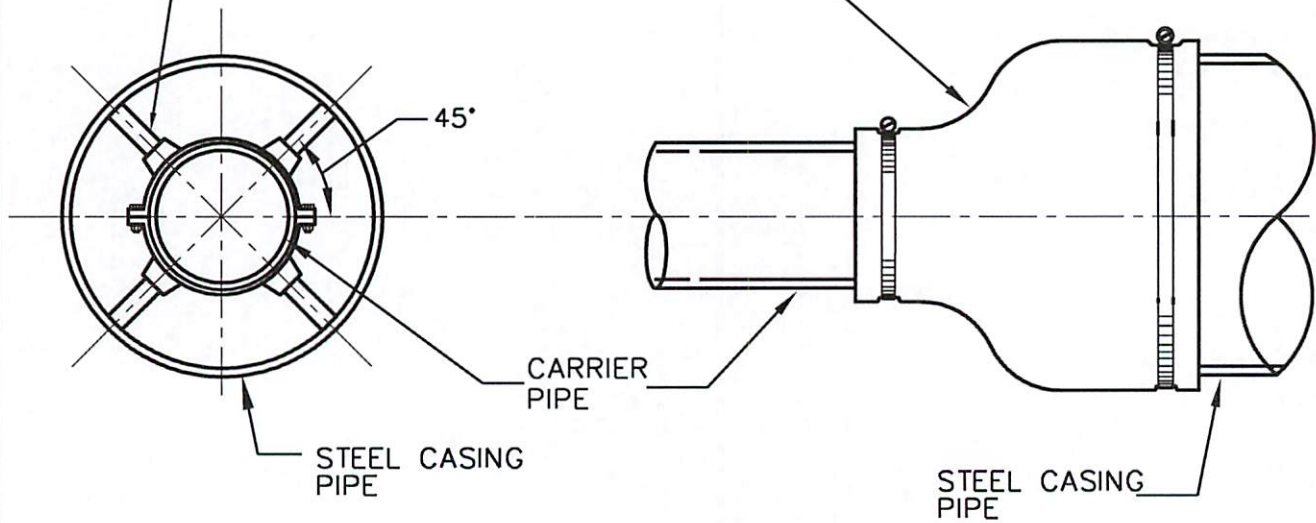
NOTE: ALL CASINGS TO BE INSTALLED BY JACKING AND BORING FOR EXISTING ROADS

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
STANDARD DETAIL	TYPICAL ROAD BORE DETAIL	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. S-12	FILE No. 11052\S-12.dwg	SCALE: N.T.S.		

STAINLESS STEEL SPACER
AS MFG. BY APS, INC. OR
APPROVED EQUAL.

SEAMLESS SYNTHETIC RUBBER SEAL,
1/8"MIN. THICKNESS W/ STAINLESS
STEEL BANDING STRAPS(2EA.) AS MFG.
BY APS, INC. OR APPROVED EQUAL.



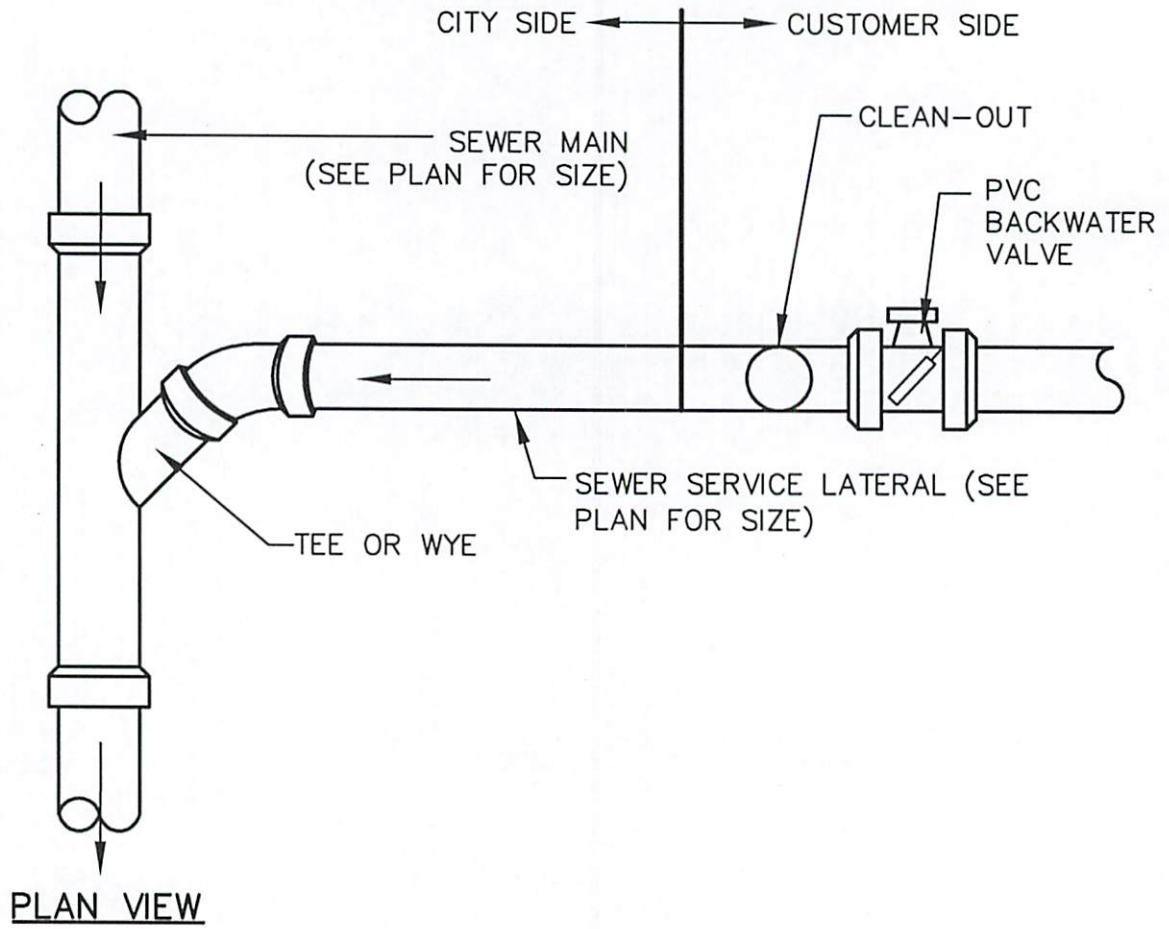
SPACER DETAIL

END SEAL DETAIL

NOTE: SPACERS REQUIRED AT EACH END OF CASING, AT BELLS,
AND IN THE MIDDLE OF EACH JOINT OF PIPE.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
STANDARD DETAIL	CASING DETAIL	APPD. BY:			
		DATE: AUG 2012			
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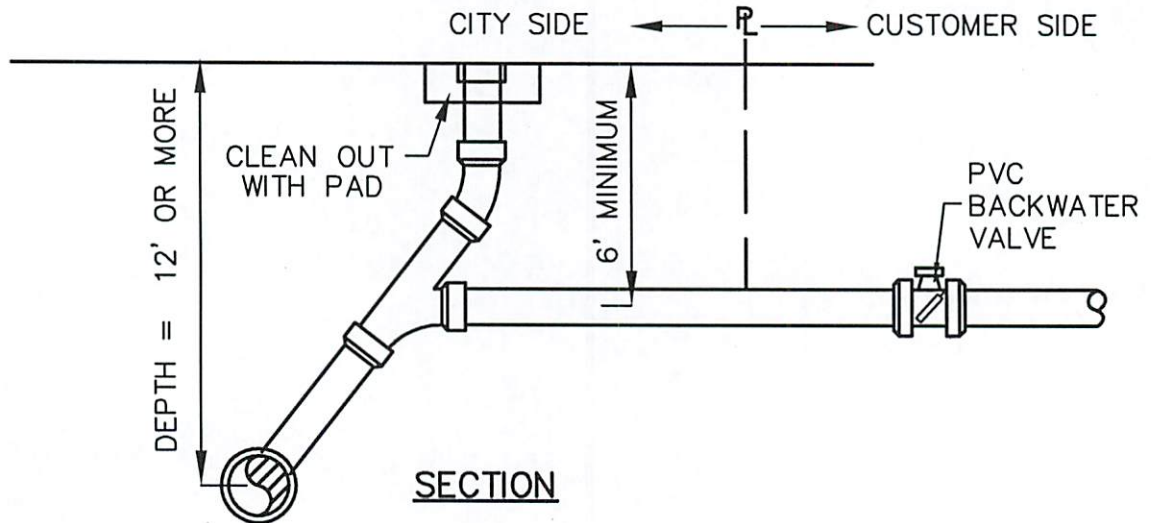
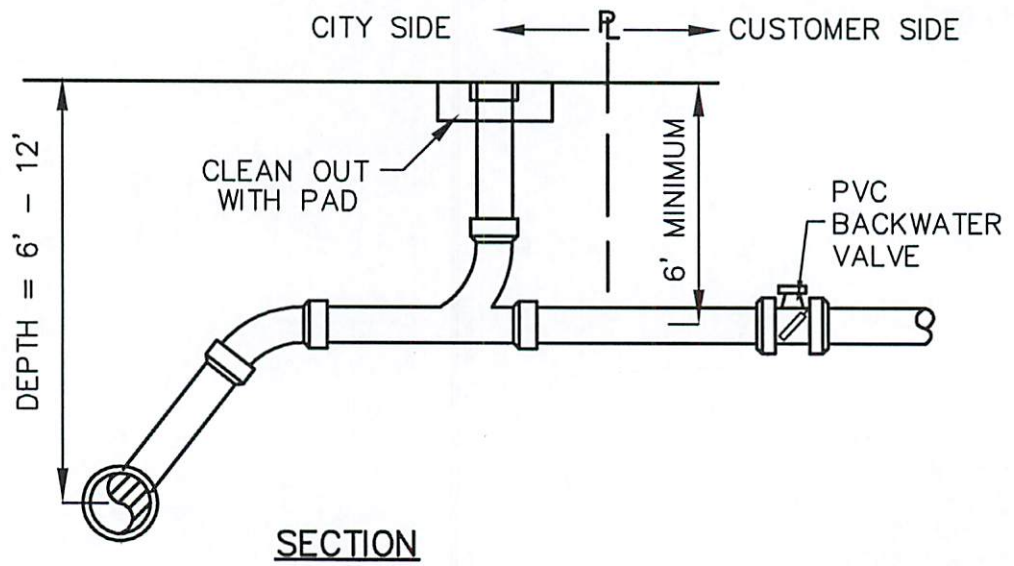
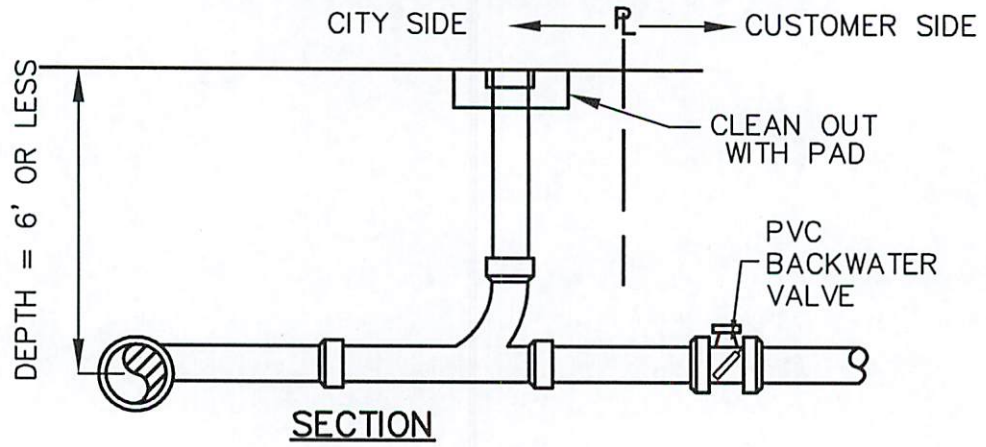


NOTE:

- 1) A CLEANOUT SHALL BE PLACED ON SERVICE LATERALS AT EVERY HORIZONTAL BEND.
- 2) ON STRAIGHT RUNS OF SERVICE LATERALS, CLEAN OUTS SHALL BE PLACED BETWEEN PROPERTY LINE AND HOUSE WITH SPACING NOT TO EXCEED 80'.
- 3) MINIMUM SLOPE FOR SERVICE LATERALS IS 1.00%.
- 4) PVC BACKWATER VALVE REQUIRED ON CUSTOMER SIDE OF PROPERTY LINE.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
STANDARD DETAIL	SERVICE LATERAL	APPD. BY:			
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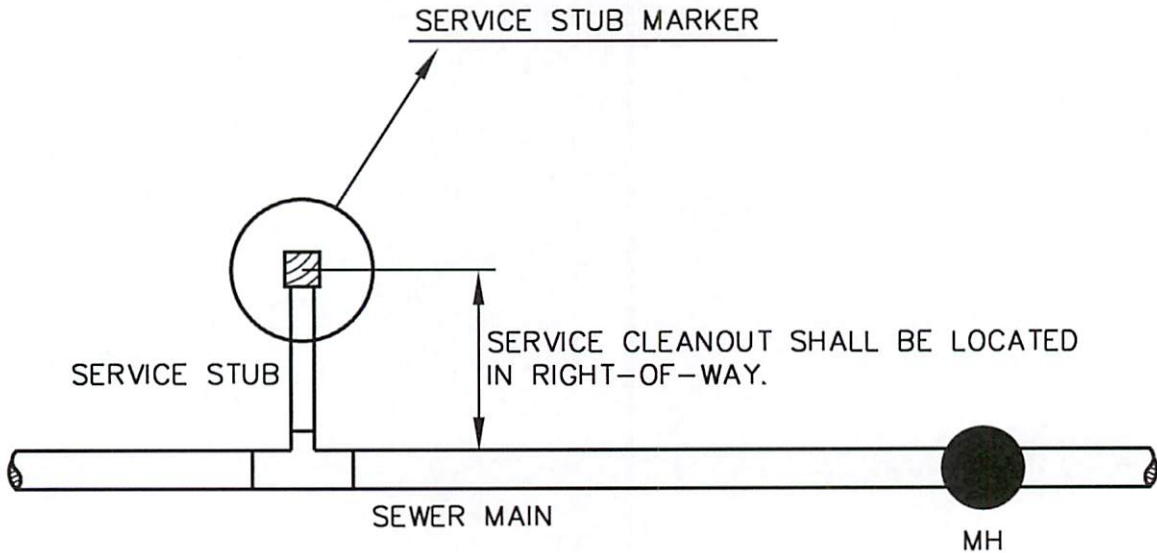
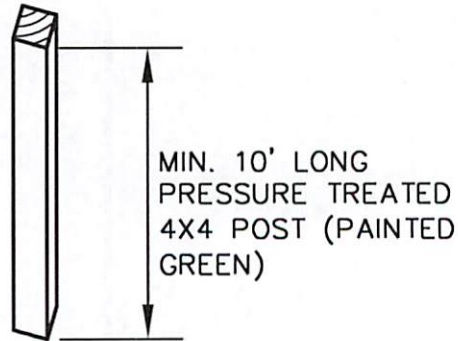


NOTE: CLEANOUTS MUST BE FLUSH TO GRADE WITH CAP AND PAD.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

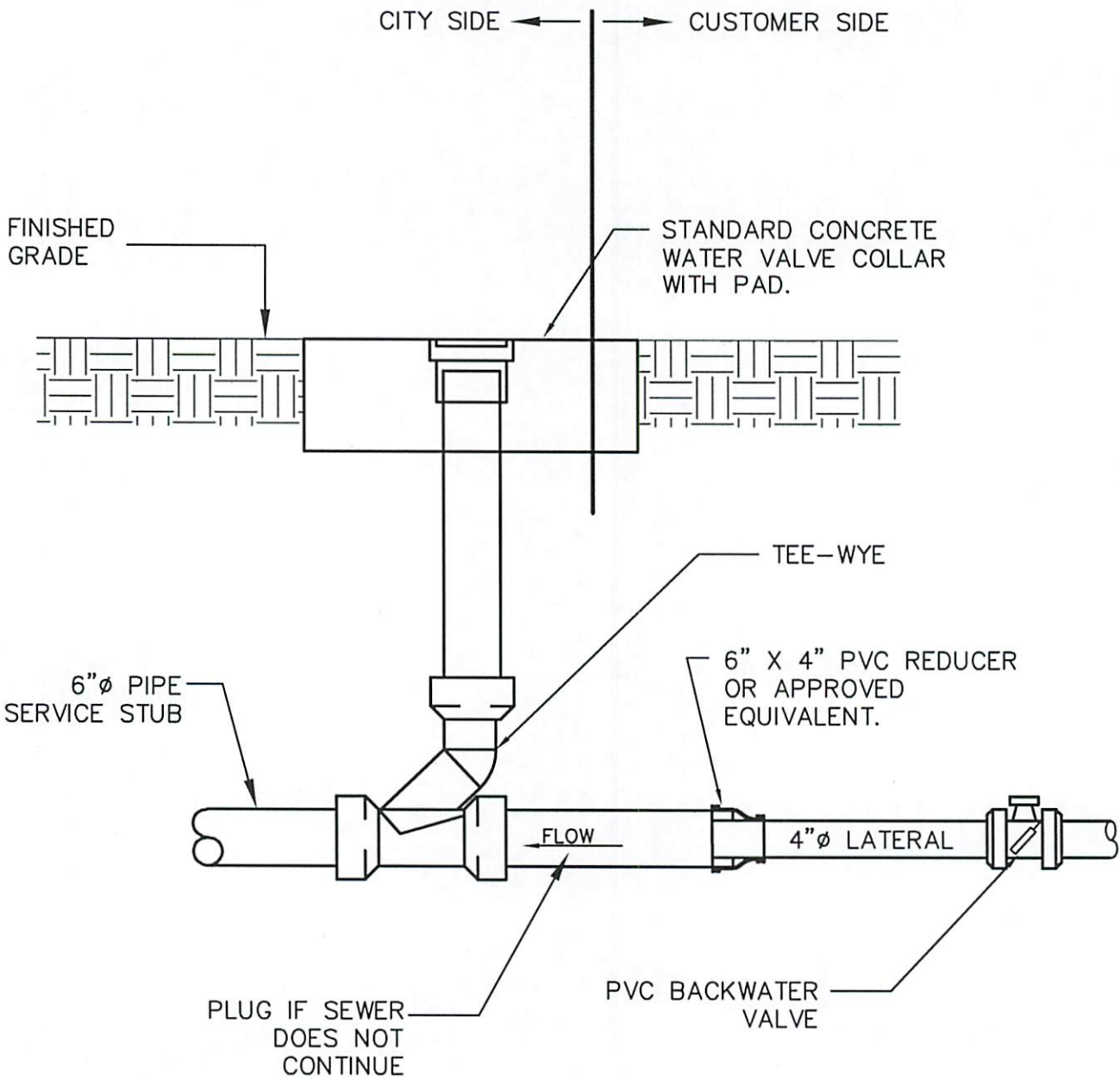
JOB TITLE STANDARD DETAIL	SHEET TITLE SERVICE LATERAL DETAIL No. S-15	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\IS-15.dwg	SCALE: N.T.S.		

NOTE:
 SERVICE STUB MARKERS SHALL
 BE BURIED TO THE BOTTOM OF
 THE DITCH WITH 6' REMAINING
 TO TOP OF GROUND.



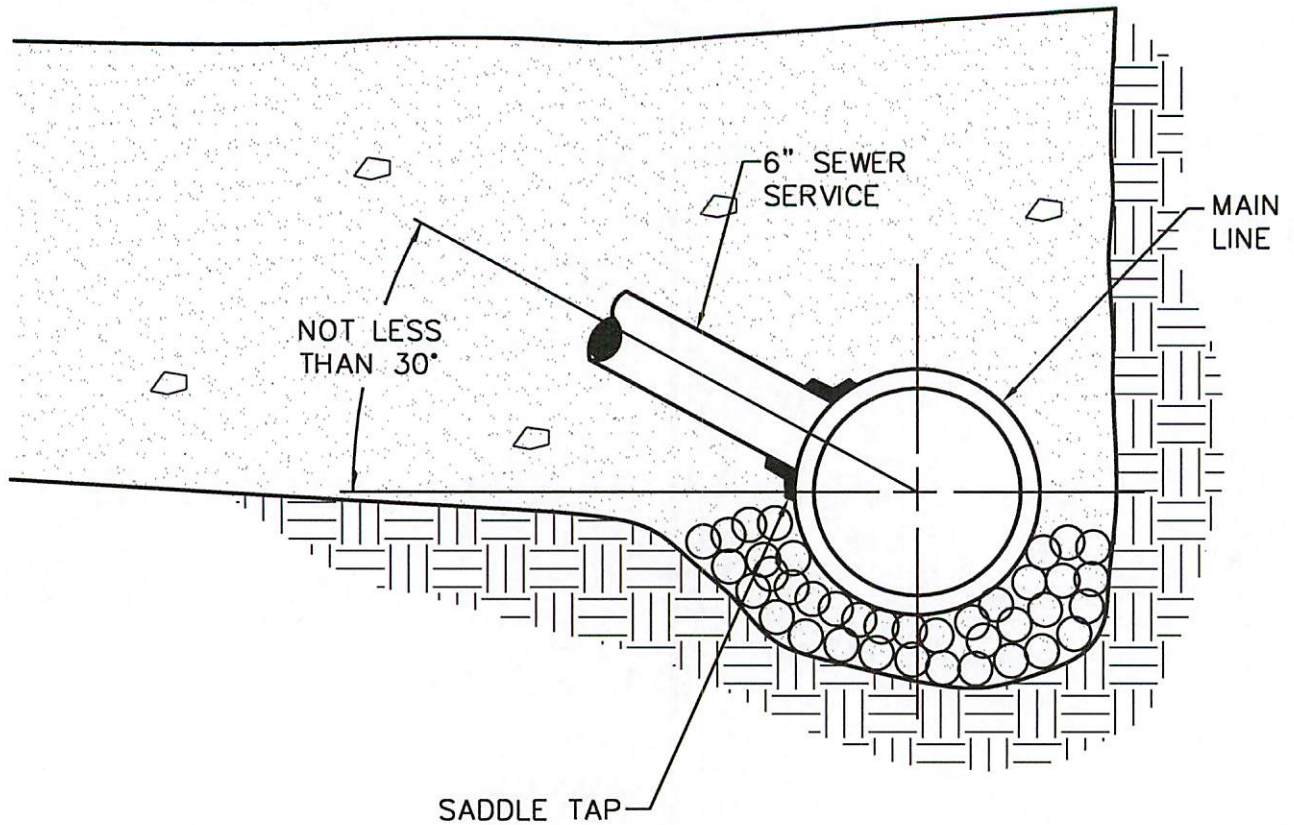
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE SERVICE STUB MARKER DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. S-16	FILE No. 11052\S-16.dwg	SCALE: N.T.S.	



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE 6" CLEANOUT DETAIL AT P/L	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-17	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
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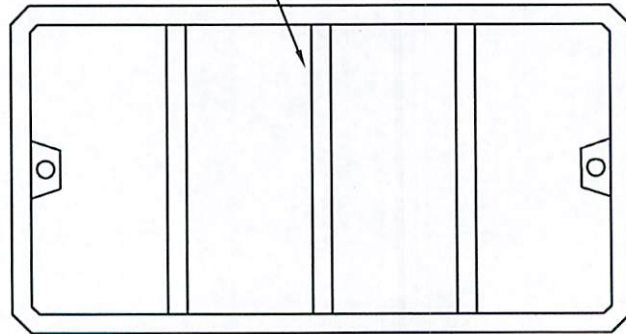


CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE SEWER SERVICE MAIN TAP DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
	APPD. BY:				
	DATE: AUG 2012				
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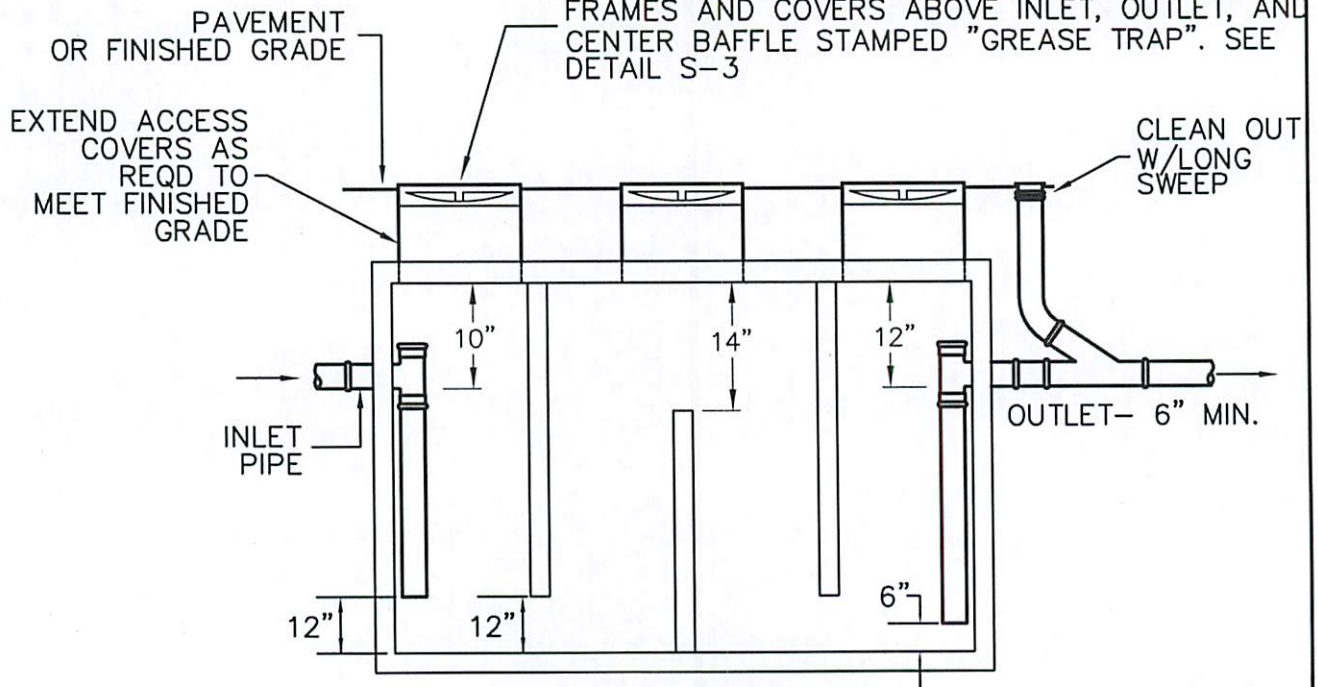
NOTE: TYPICAL SIZE FOR 1,500 GALLON GREASE TRAP IS 10'L X 5'W X 5'D.

3 ea. BAFFLE WALLS - TYP.



PLAN VIEW

3-Traffic rated, 24" DIA opening, manhole frames and covers above inlet, outlet, and center baffle stamped "GREASE TRAP". SEE DETAIL S-3



SECTION - VIEW

NOTES:

1. MINIMUM CAPACITY OF 1500 GALLONS FOR ALL GREASE TRAPS.
2. DEVELOPER SHALL SUBMIT GREASE TRAP DESIGN PRIOR TO DEVELOPMENT PERMIT ISSUANCE. SEE DETAIL S-20 FOR MINIMUM DESIGN CAPACITIES.
3. DEVELOPER MUST DESIGN ANY GREASE TRAP IN ACCORDANCE WITH DEPARTMENT OF HUMAN RESOURCES PUBLIC HEALTH, CHAPTER 290-5-26, SECTION D, GREASE TRAPS. DEVELOPER TO SUBMIT CALCULATIONS WITH DESIGN DRAWINGS PRIOR TO PERMITTING.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE GREASE TRAP DETAIL DETAIL No. S-19	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\IS-19.dwg	SCALE: N.T.S.		

DESIGN CRITERIA

THE FOLLOWING DESIGN EQUATIONS ARE TO BE USED
WHEN SIZING A GREASE TRAP.
MINIMUM SIZE: 1500 GALLONS

1. RESTAURANTS

$S \times GS \times HR/12 \times LF = \text{GREASE TRAP SIZE IN GALLONS}$

WHERE:

S = NUMBER OF SEATS IN DINING AREA

GS = GALLONS OF WASTEWATER PER SEAT
(USE 25 GAL. PER SEAT MIN.)

HR = NUMBER OF HOURS OPEN

LF = LOADING FACTOR – 1.25 INTERSTATE FREEWAYS
1.00 OTHER FREEWAYS
1.00 RECREATIONAL AREAS
0.80 MAIN HIGHWAYS
0.50 OTHER HIGHWAYS

2. HOSPITALS, NURSING HOMES, OTHER TYPE COMMERCIAL KITCHENS WITH VARIED SEATING CAPACITIES.

WHERE:

S = NUMBER OF SEATS IN DINING AREA OR MEALS SERVED

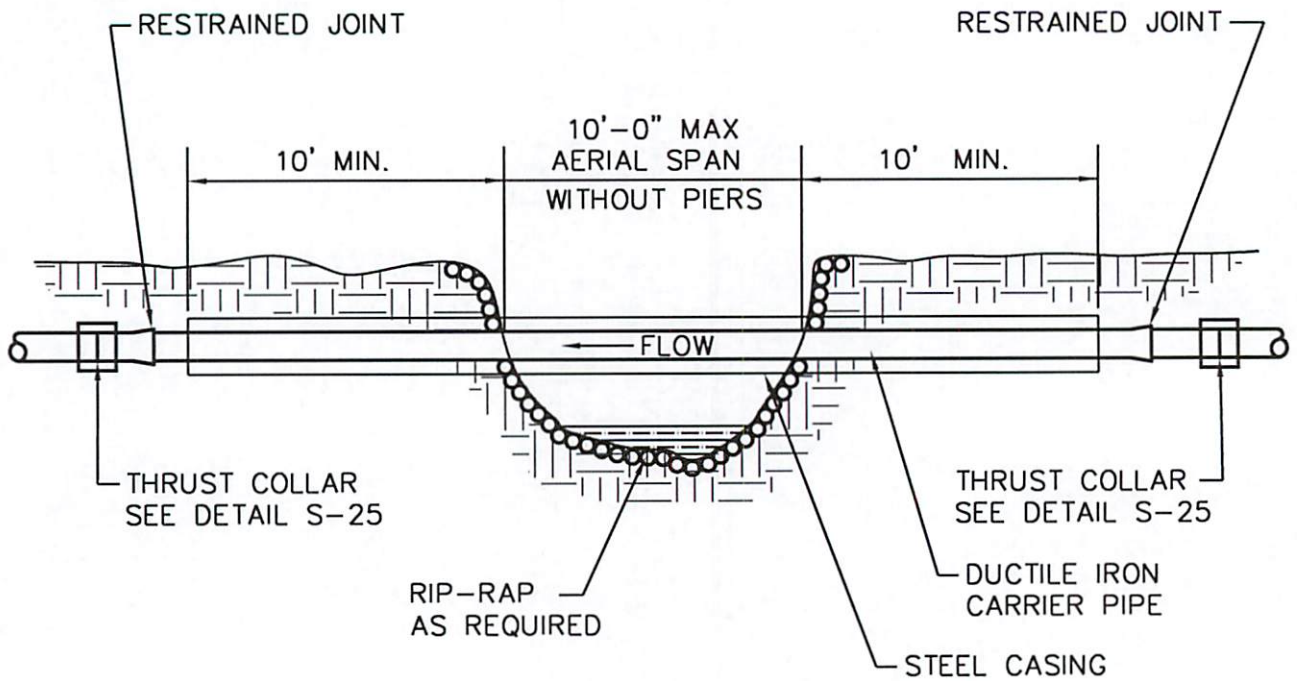
GS = GALLONS OF WASTEWATER PER SEAT
(USE 25 GAL. PER SEAT MIN.)

HR = NUMBER OF HOURS OPEN

LF = LOADING FACTOR – 1.25

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE GREASE TRAP DESIGN CALCULATIONS	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No.	S-20	FILE No. 11052IS-20.dwg	SCALE: N.T.S.		

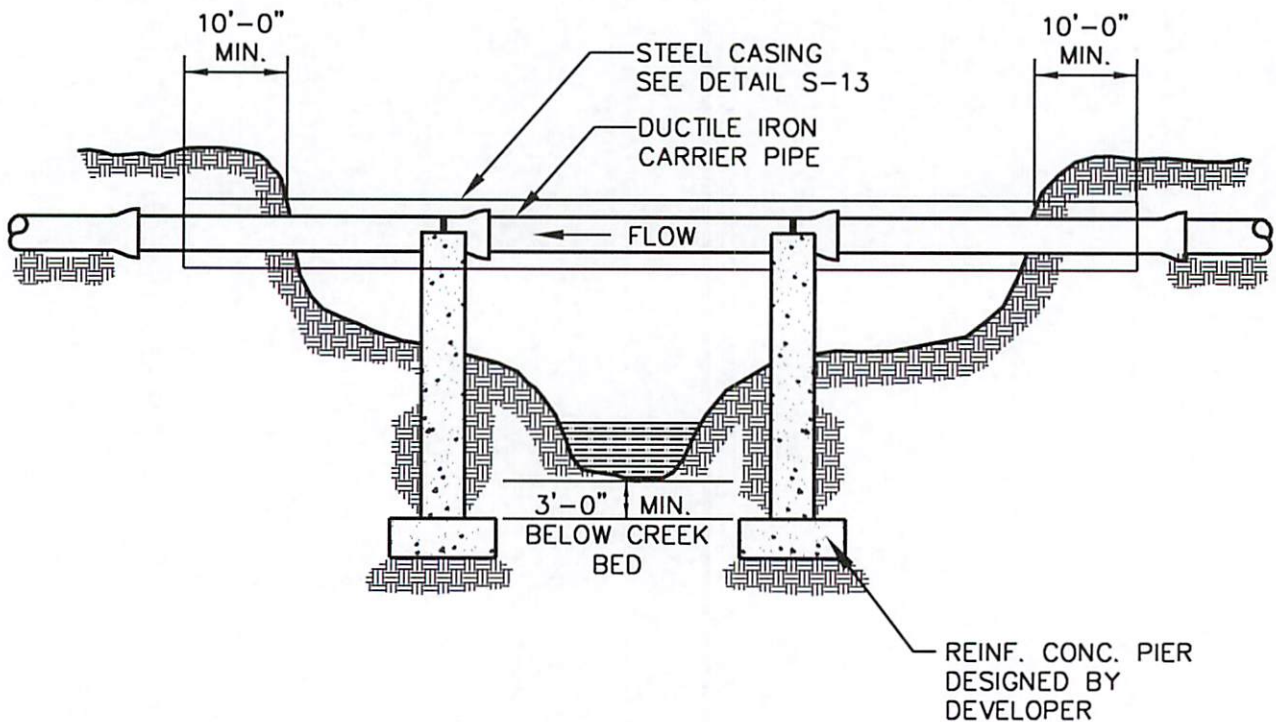


NOTES:

1. AERIAL CROSSINGS MUST BE APPROVED BY CITY.
2. PIPE CONNECTIONS (I.E. JOINTS) SHALL NOT BE EXPOSED ON AERIAL LINES, EXCEPT WITH PIERS.
3. CASING IS REQUIRED ON ALL EXPOSED AERIAL LINES.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE NON-PIER AERIAL D.I.P. SEWER LINE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. S-21		FILE No. 11052\S-21.dwa	SCALE: N.T.S.		

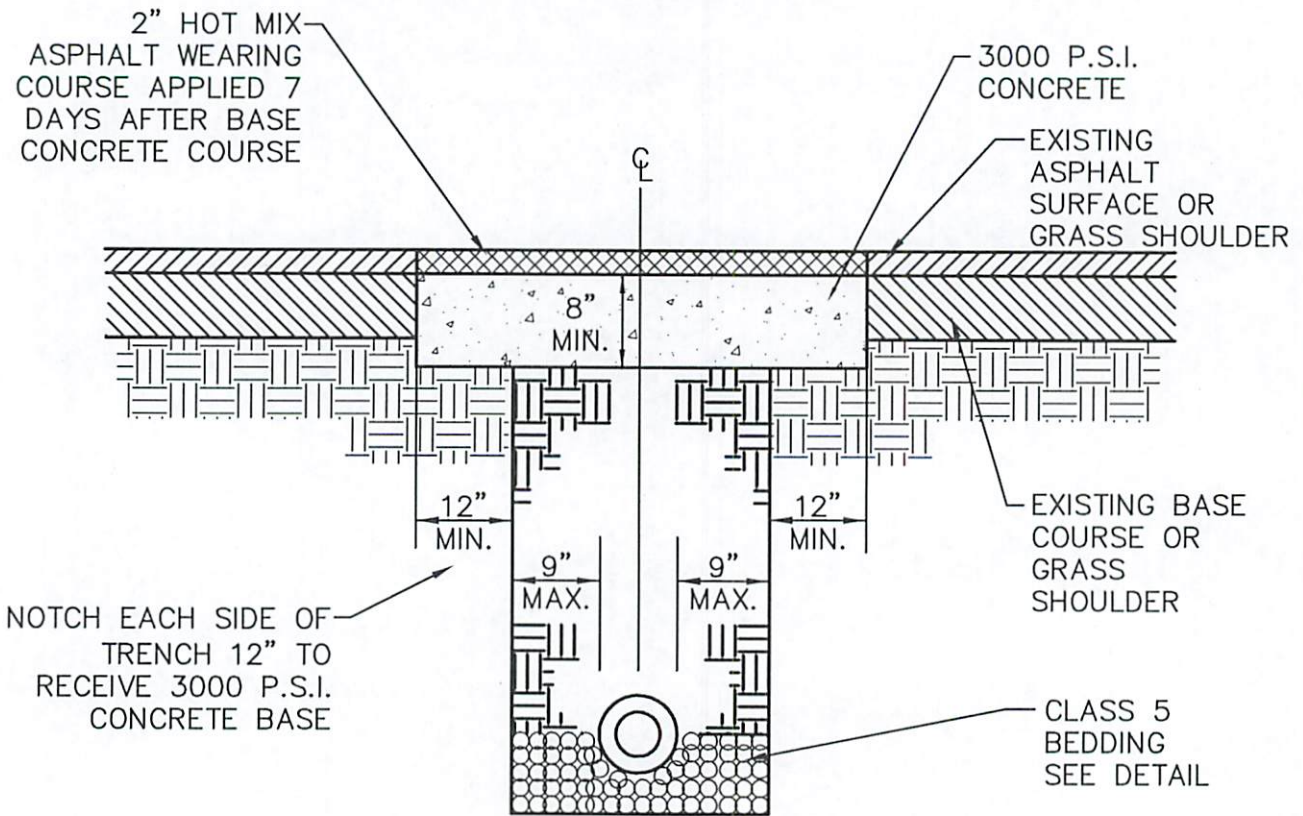


NOTE:

1. WHENEVER POSSIBLE NO PIERS SHALL BE PLACED WITHIN NORMAL FLOW OF CREEK. FOOTINGS SHALL BE PLACED 3 FEET MINIMUM BELOW CREEK BED.
2. REINFORCED CONCRETE PIERS SHALL BE PLACED AND DESIGNED BY DEVELOPER'S ENGINEER.
3. ALL PIER PLACEMENT SHALL BE APPROVED BY CITY OF BALDWIN.
4. DESIGN ENGINEER SHALL PROVIDE A CONCRETE PIER DETAIL APPROPRIATE FOR SPECIFIC PROJECT CONDITIONS ON THE PLANS
5. DISTURBED AREA SHALL BE RIP-RAPPED AS REQUIRED.
6. DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM INSPECTION TEST IN ACCORDANCE WITH SECTION 02736-SANITARY SEWER
7. DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR STREAM CROSSING, STATE AND FEDERAL.
8. ELEVATION OF THE BOTTOM OF PIPE SHALL BE AT OR ABOVE THE 50-YEAR FLOOD ELEVATION.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE PIER PLACEMENT FOR D.I.P. AERIAL LINES	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-22	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\S-22.dwg	SCALE: N.T.S.		



GENERAL NOTES:

1. PROVIDE STRAIGHT VERTICAL SAW CUTS TO A NEAT LINE.
2. CONCRETE SURFACES TO BE CLEANED AND BITUMINOUS TACK OR PRIME COAT APPLIED BEFORE PLACEMENT OF ASPHALTIC TOPPING.
3. CONTRACTOR TO UTILIZE STEEL RUNNING PLATES OR OTHER APPROVED METHODS DURING CURING OF CONCRETE. PLATES TO BE REMOVED UPON SATISFACTION OF CITY.
4. CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH GEORGIA D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES (LATEST EDITION).

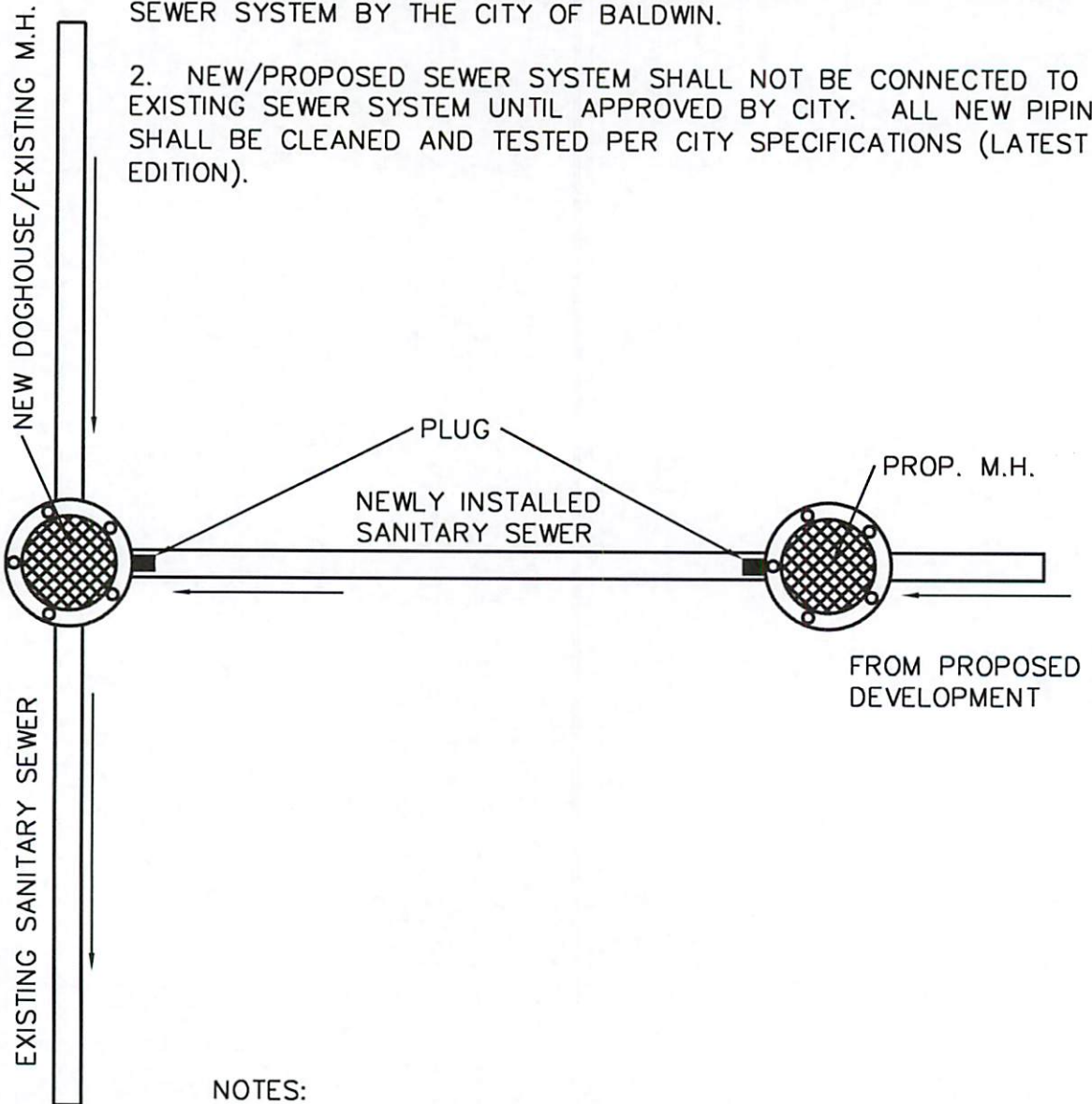
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE PAVEMENT CUT REPAIR DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-23	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\S-23.dwg	SCALE: N.T.S.		

NOTES:

1. FIRST SECTION OF PROPOSED SEWER LINE SHALL BE ISOLATED FROM THE REST OF THE PROPOSED SYSTEM. THE FIRST MANHOLE OF THE PROPOSED SYSTEM SHALL BE USED TO PUMP OUT ANY INFLOW/ INFILTRATION, MUD, ETC., THAT ENTERED DURING CONSTRUCTION. THE PLUGS SHALL NOT BE REMOVED UNTIL APPROVAL OF PROPOSED SEWER SYSTEM BY THE CITY OF BALDWIN.

2. NEW/PROPOSED SEWER SYSTEM SHALL NOT BE CONNECTED TO EXISTING SEWER SYSTEM UNTIL APPROVED BY CITY. ALL NEW PIPING SHALL BE CLEANED AND TESTED PER CITY SPECIFICATIONS (LATEST EDITION).



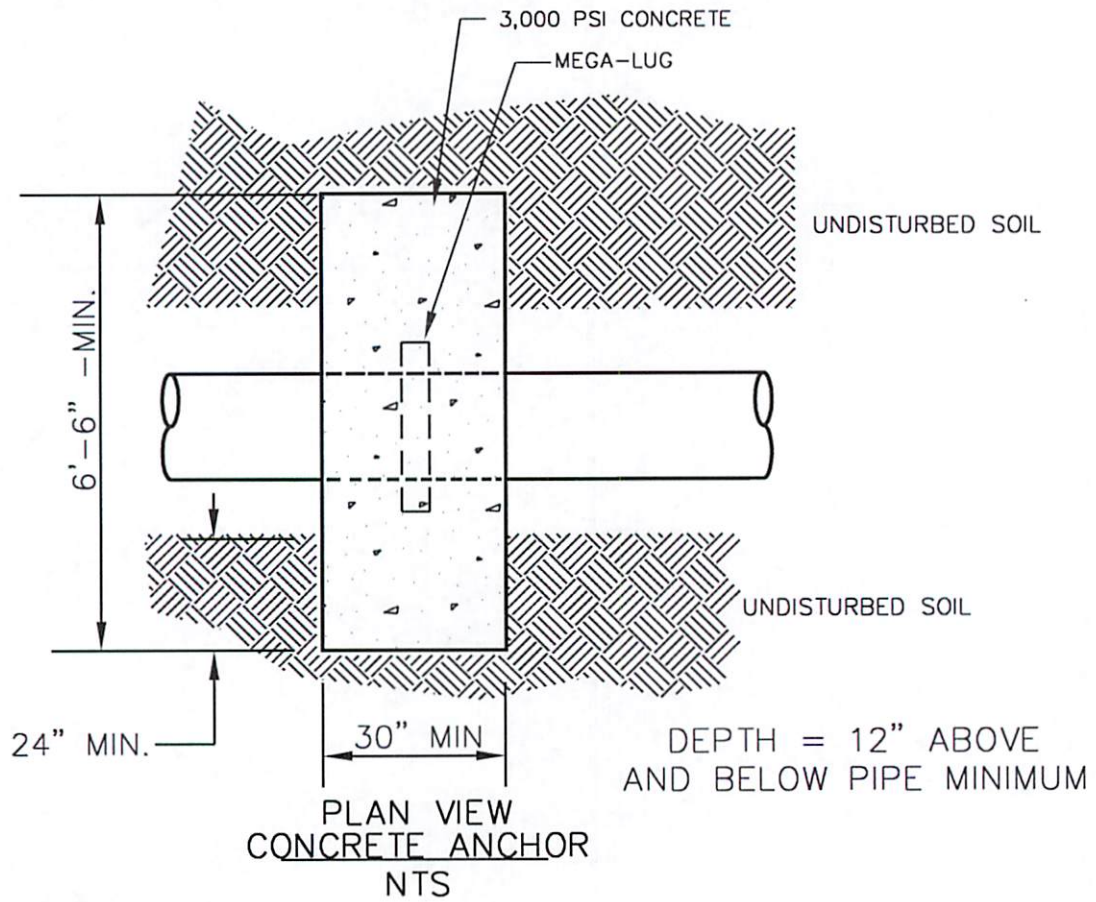
NOTES:

1. TEST MANHOLE REQUIRED FOR COMMERCIAL & INDUSTRIAL DEVELOPMENT.

2. LOCATION TO BE APPROVED BY CITY.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

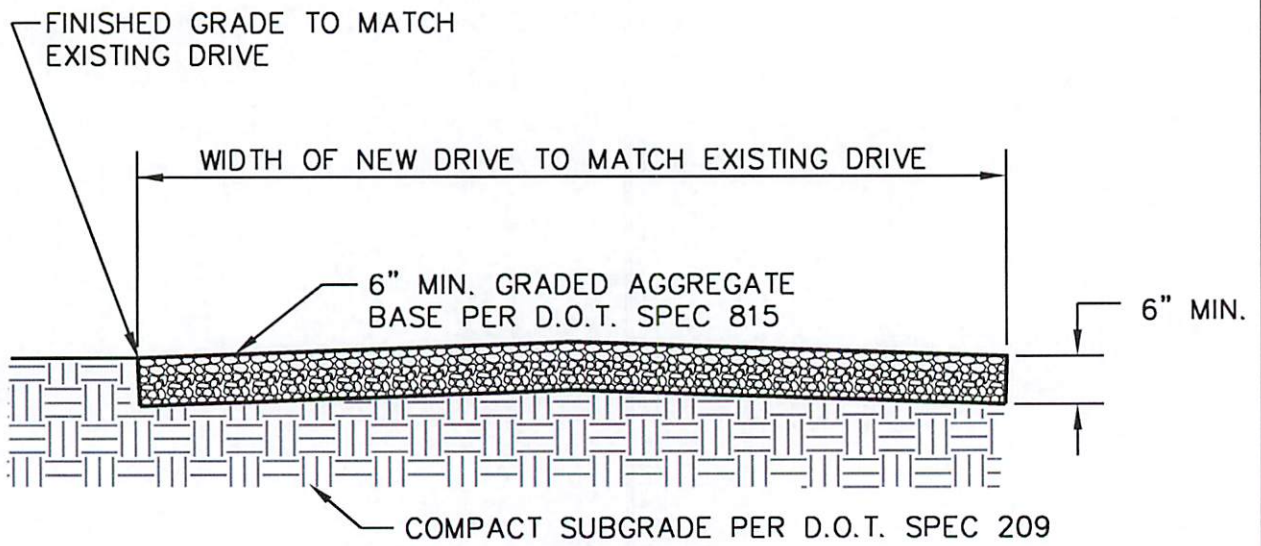
JOB TITLE STANDARD DETAIL	SHEET TITLE PLUG LOCATION DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. S-24	FILE No. 11052\S-24.dwg	SCALE: N.T.S.		



NOTE: DIMENSIONS SHOWN ARE MINIMUM ACCEPTABLE DIMENSIONS. DESIGN ENGINEER SHALL PROVIDE A THRUST COLLAR DETAIL APPROPRIATE FOR SPECIFIC PROJECT CONDITIONS ON THE PLANS.

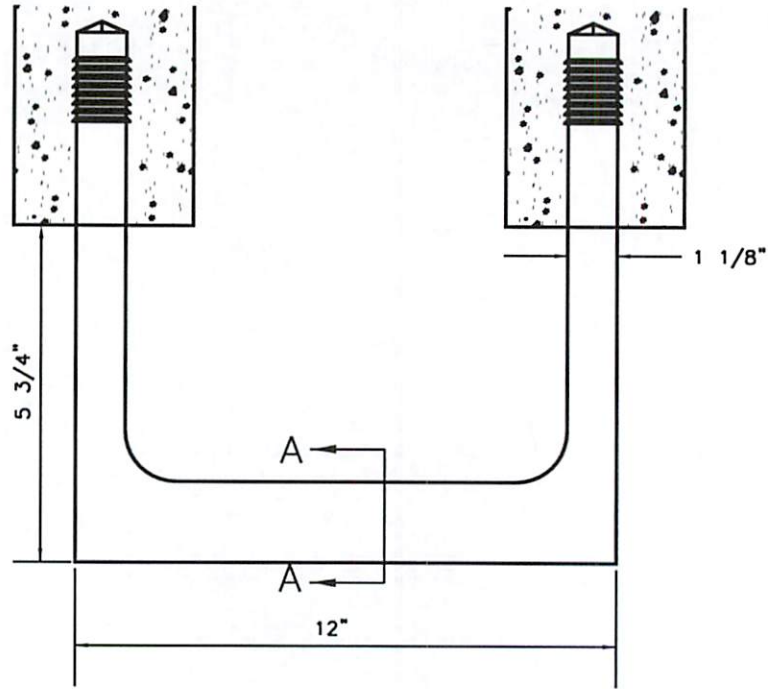
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY:	EMI	REV. NO.	BY	DATE
STANDARD DETAIL	THRUST COLLAR	CKD BY:				
		APPD. BY:				
		DATE:	AUG 2012			
		DETAIL No.	S-25	FILE No.	11052\S-25.dwg	SCALE:



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE GRAVEL DRIVE REPAIR DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. S-26	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\S-26.dwg	SCALE: N.T.S.		



1/2" GRADE 60
STEEL REINFORCEMENT

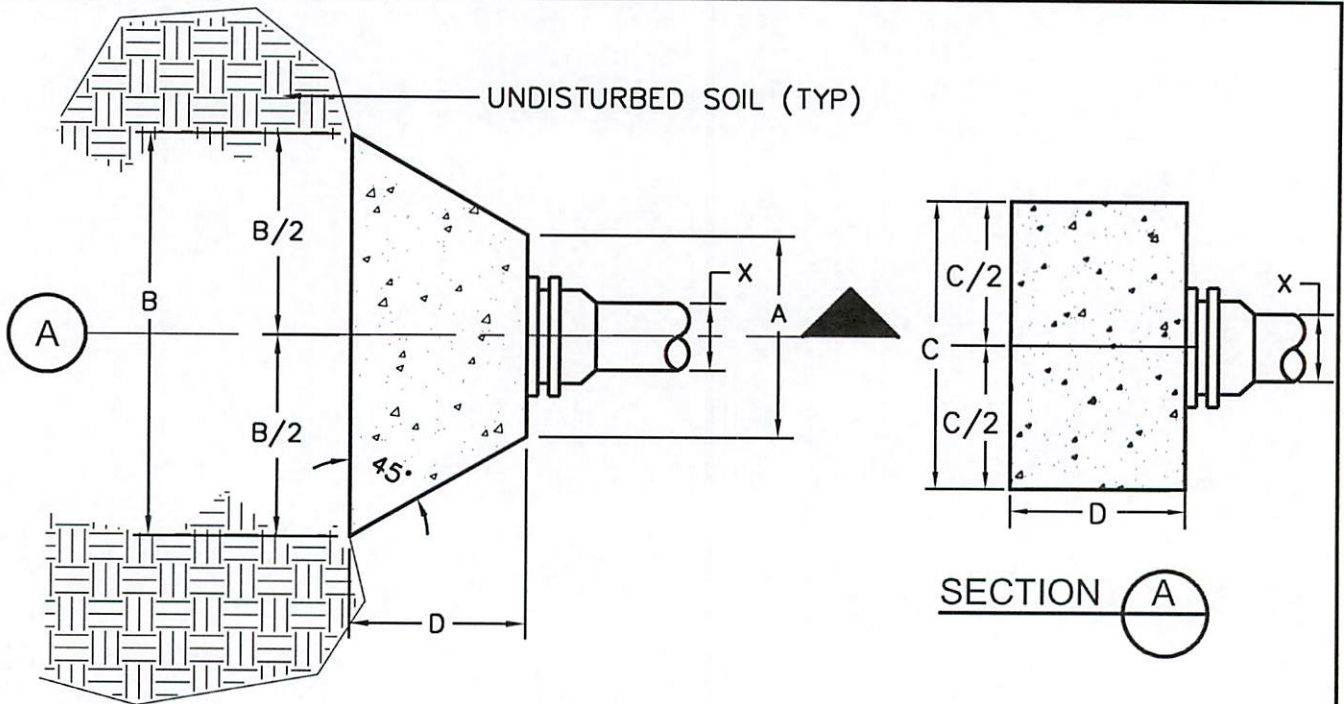


SECTION A

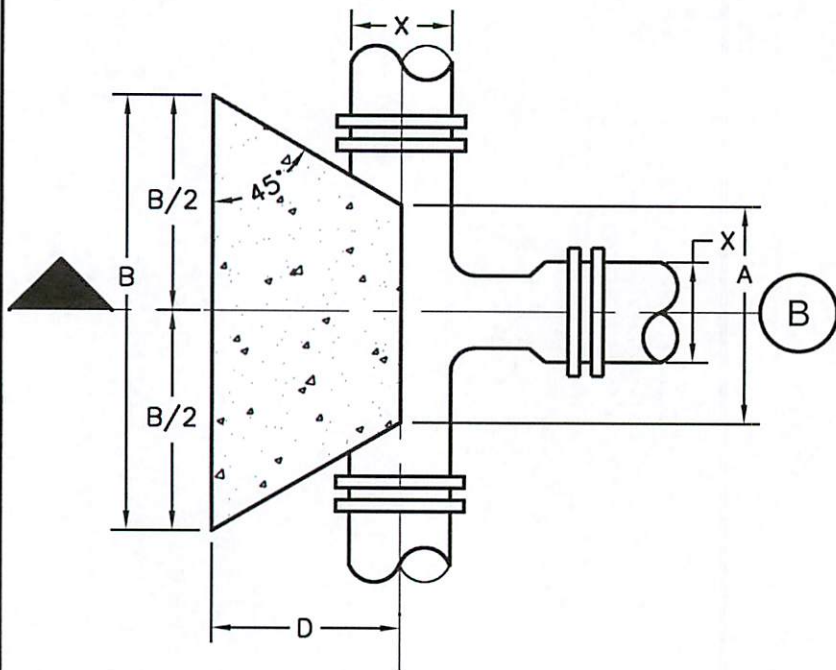
NOTE: SEE SECTION 02601 SUBSECTION 2.01, PART C, OF SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

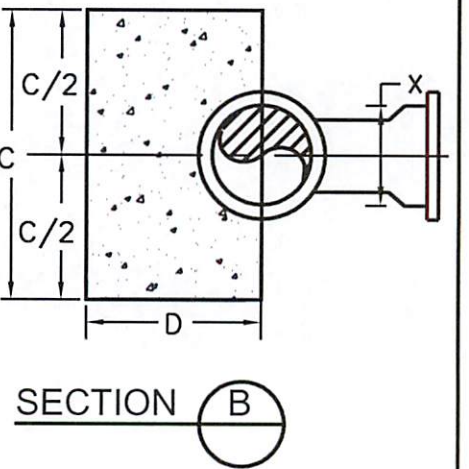
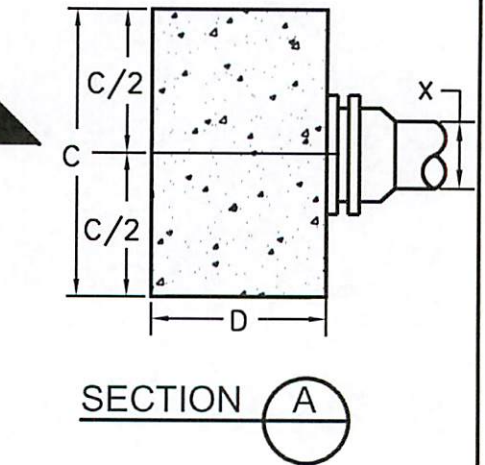
JOB TITLE STANDARD DETAIL	SHEET TITLE MANHOLE STEP	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. S-27	FILE No. 11052\S-27.dwg	SCALE: N.T.S.		



UNBALANCED TEE OR PLUG - PLAN



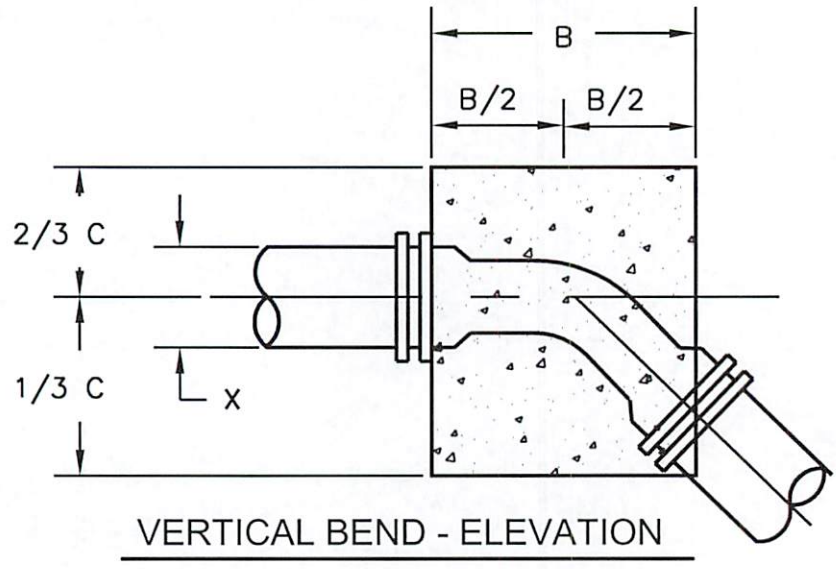
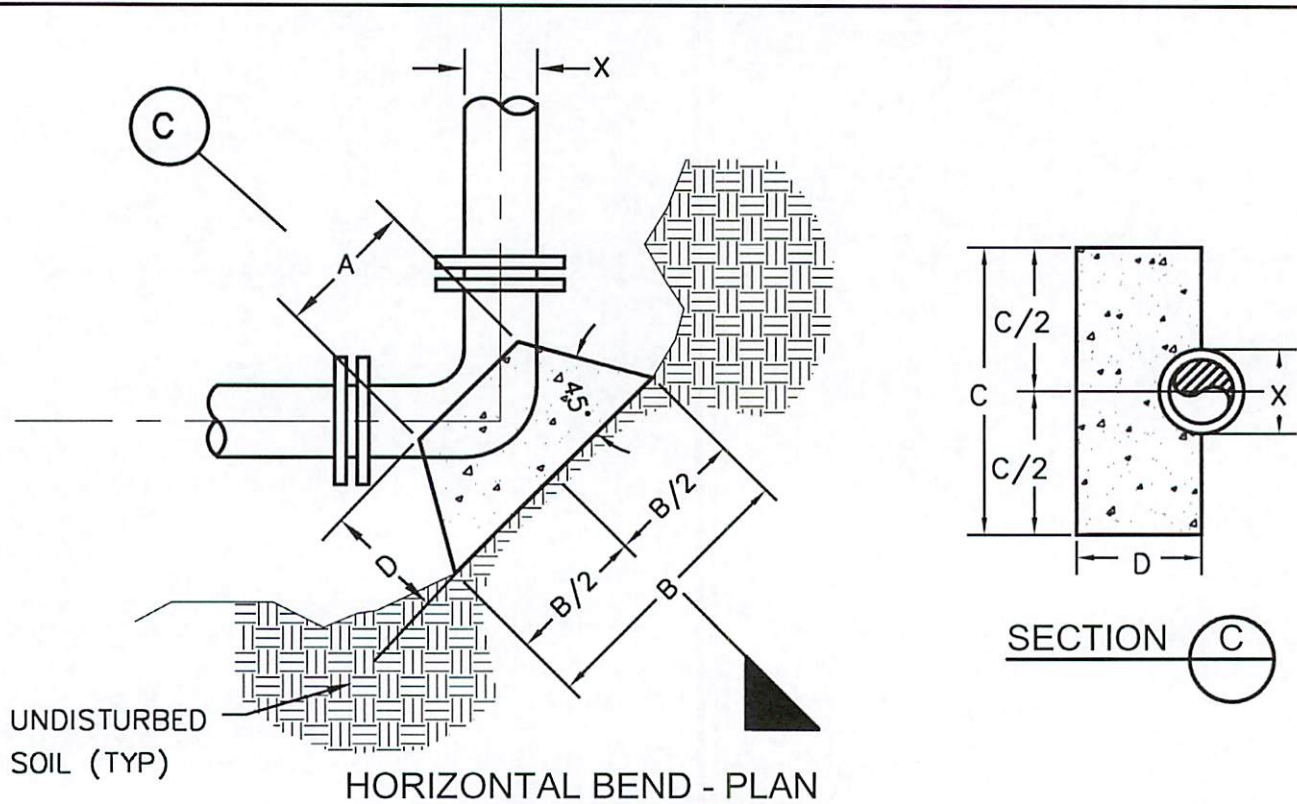
TEE - PLAN



NOTE:
 DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM HYDROSTATIC PRESSURE TESTS IN ACCORDANCE WITH SECTION 02660-"WATER DISTRIBUTION SYSTEMS".

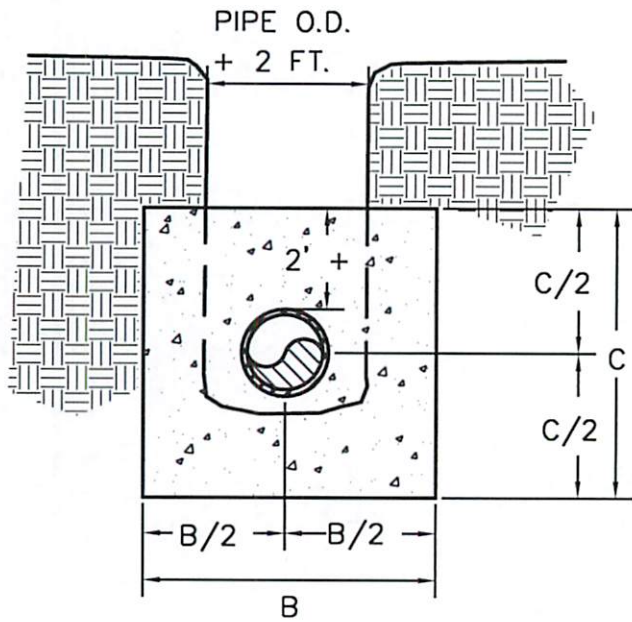
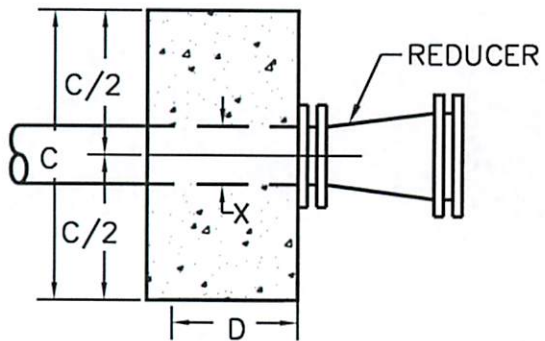
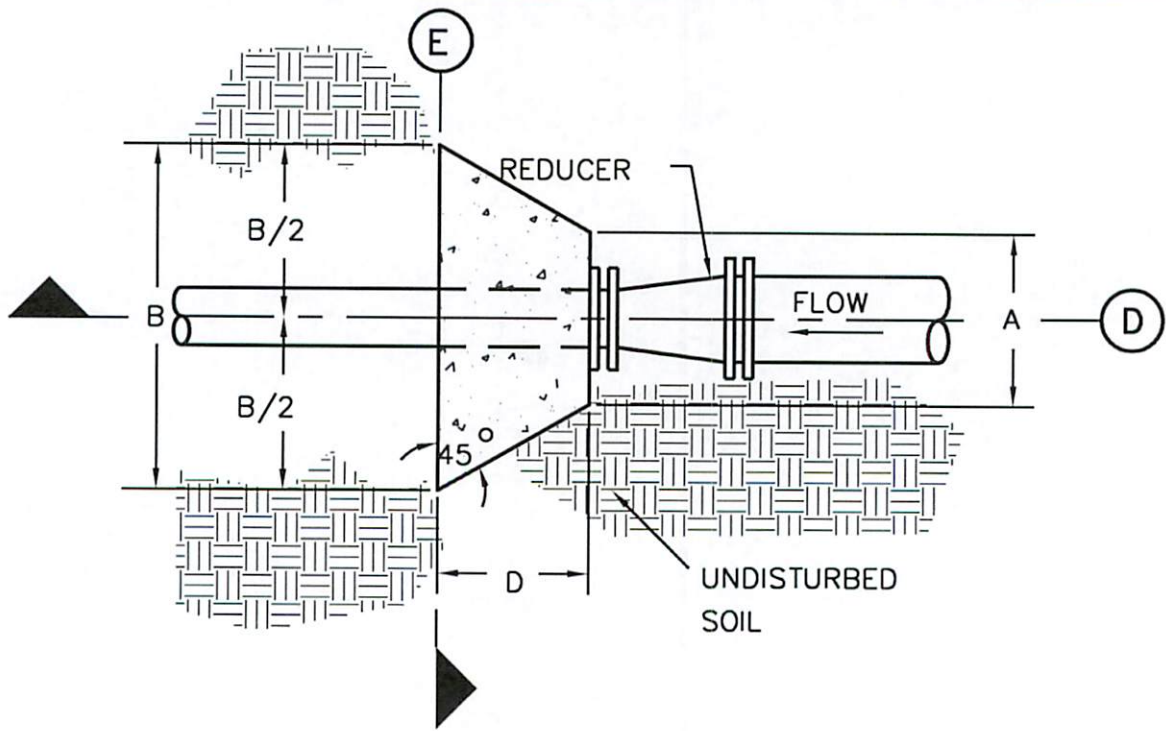
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE THRUST BLOCKING DIMENSIONS (200 psi LINE PRESSURE) DETAIL No. W-1	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052/W-1.dwg	SCALE: N.T.S.		



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
STANDARD DETAIL	THRUST BLOCKING DIMENSIONS (200 psi LINE PRESSURE)	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. W-2		FILE No. 11052/W-2.dwg	SCALE: N.T.S.		



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
	THRUST BLOCKING DIMENSIONS (200 psi LINE PRESSURE)	CKD BY:			
	DETAIL No. W-3	APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052/W-3.dwg	SCALE: N.T.S.		

Line Pressure = 200 PSI Soil Pressure = 2000 PSF				
Pipe Size X	A	B	C	D
90 DEGREE BEND				
12"	1'-4"	4'-6"	3'-6"	2'-2"
10"	1'-3"	3'-4"	3'-4"	1'-4"
8"	1'-0"	3'-4"	2'-3"	1'-8"
6"	0'-11"	3'-4"	2'-3"	1'-6"
45 DEGREE BEND				
12"	1'-4"	3'-9"	3'-6"	1'-8"
10"	1'-3"	4'-0"	2'-3"	1'-11"
8"	1'-0"	3'-4"	2'-3"	1'-2"
6"	0'-11"	2'-2"	2'-0"	1'-0"

Line Pressure = 200 PSI Soil Pressure = 2000 PSF				
Pipe Size X	A	B	C	D
11 1/4 DEGREE BEND				
12"	1'-2"	2'-0"	2'-0"	1'-0"
10"	1'-0"	1'-8"	1'-8"	1'-0"
8"	0'-10"	1'-5"	1'-5"	1'-0"
6"	0'-9"	1'-0"	1'-0"	1'-0"
22 1/2 DEGREE BEND				
12"	1'-2"	3'-7"	2'-3"	1'-3"
10"	1'-0"	2'-7"	2'-3"	1'-0"
8"	0'-10"	1'-8"	2'-3"	1'-0"
6"	0'-9"	1'-9"	1'-3"	1'-0"

Line Pressure = 200 PSI Soil Pressure = 2000 PSF				
Pipe Size X	A	B	C	D
Unbalanced Tee & Plug				
12"	1'-8"	6'-0"	3'-6"	2'-4"
10"	1'-6"	4'-8"	3'-6"	1'-9"
8"	1'-4"	4'-4"	2'-3"	1'-8"
6"	1'-2"	2'-3"	2'-7"	1'-0"
Tee				
12"	1'-4"	6'-0"	3'-6"	2'-4"
10"	1'-3"	4'-8"	3'-6"	1'-9"
8"	1'-0"	4'-4"	2'-3"	1'-8"
6"	0'-11"	2'-3"	2'-7"	1'-3"

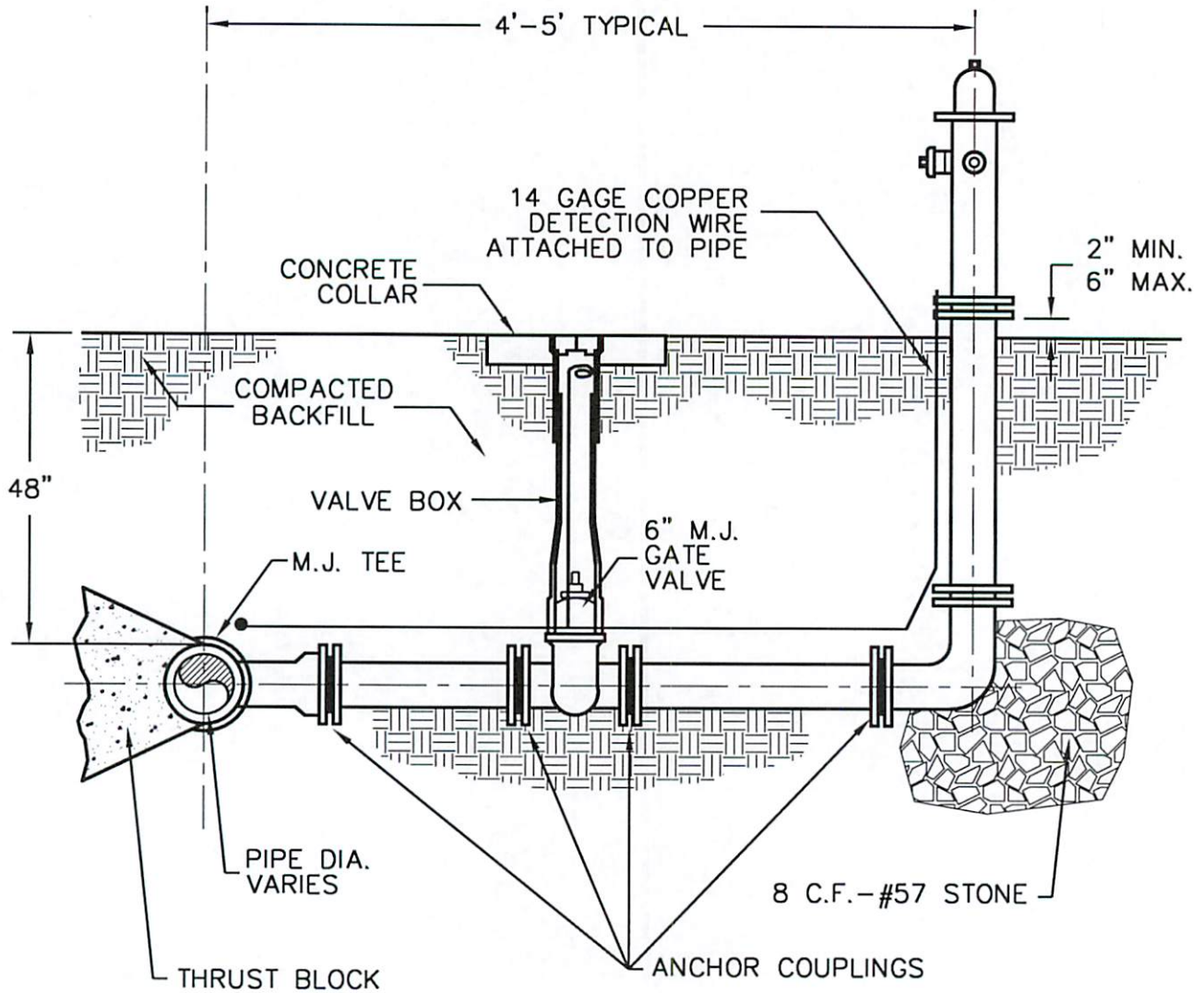
NOTES :

1. BLOCKING SHALL BE 3000psi CONCRETE ; "SACKCRETE" WILL NOT BE ALLOWED.
2. SEE SPECIFICATION SECTION 02660 FOR ALL REQUIREMENTS.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
	THRUST BLOCKING DIMENSIONS (200 psi LINE PRESSURE)	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. W-4	FILE No. 11052/W-4.dwa	SCALE: N.T.S.			

3-WAY FIRE HYDRANT PER SECTION 02645

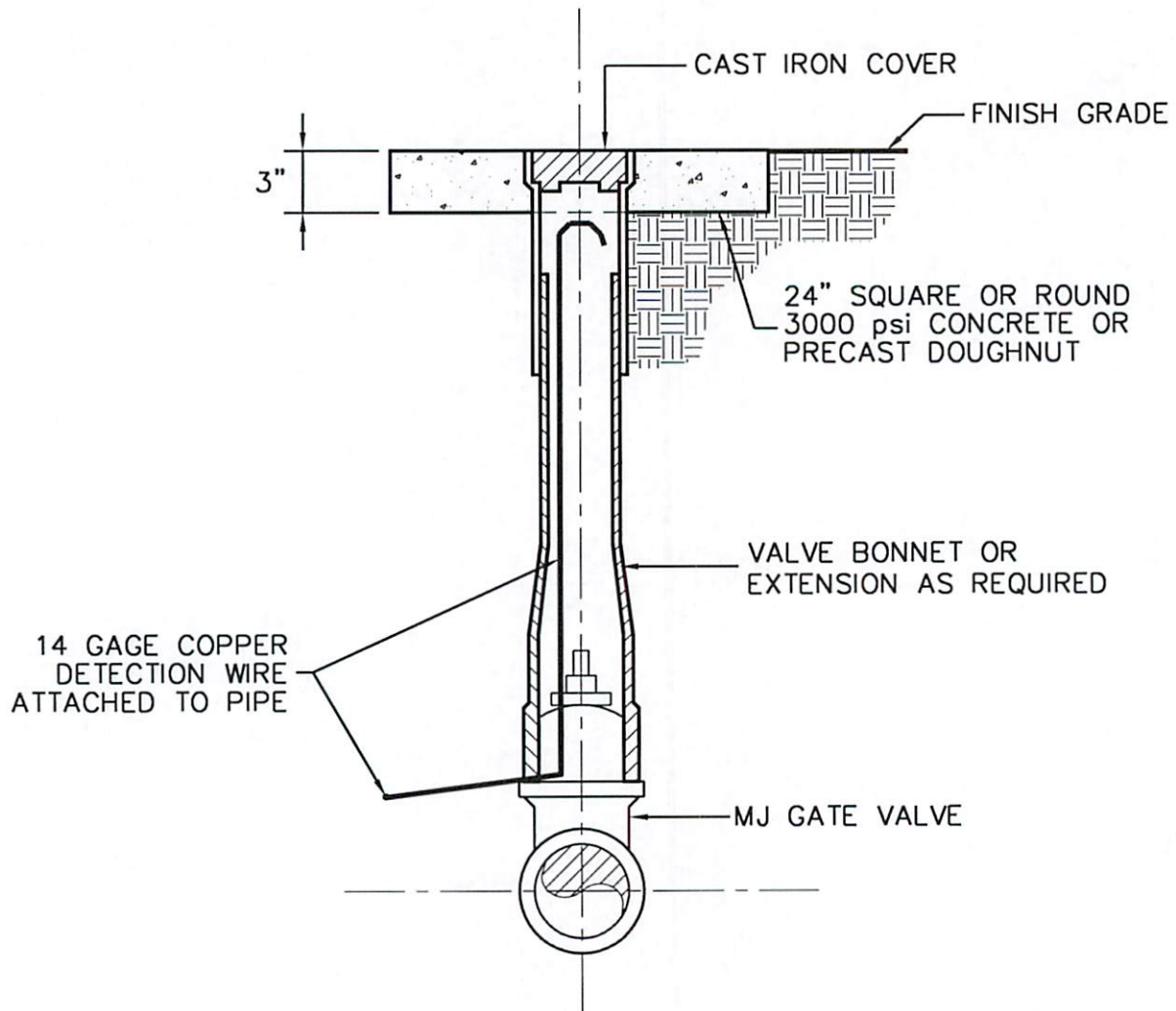


NOTE:

1. FIRE HYDRANTS MAY BE MANUFACTURED BY MUELLER SUPER CENTERION, OR M & H.
2. INSTALL NON-METALLIC TAPE APPROXIMATELY 18" ABOVE PIPE.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE FIRE HYDRANT ASSEMBLY	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. W-5		FILE No. 11052W-5.dwa	SCALE: N.T.S.		

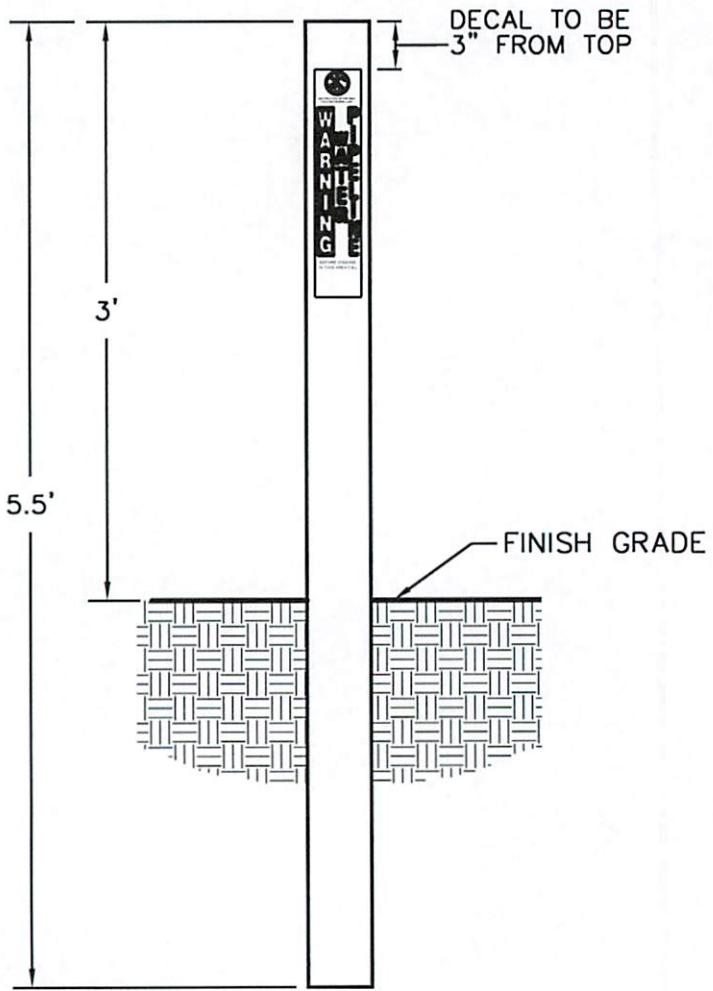


NOTES:

1. CAST IRON COVER TO BE STAMPED "WATER" FOR WATERLINE VALVES, "SEWER" FOR FORCEMAIN VALVES

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE VALVE BOX	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. W-6	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052\W-6.dwg	SCALE: N.T.S.		



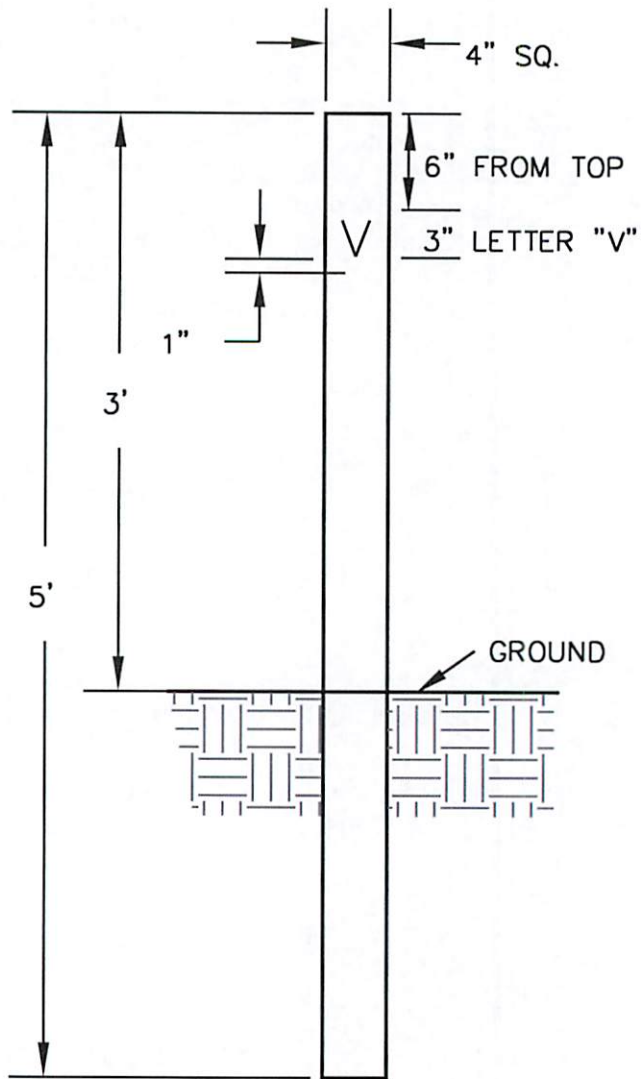
CITY APPROVED DECALS

NOTES:

1. VALVE MARKER SHALL BE RHINO 3-RAIL OR APPROVED EQUAL.
2. VALVE MARKER SHALL BE BLUE FOR WATER VALVES, GREEN FOR FORCEMAIN VALVES.
3. DECAL SHALL BE 2-7/8" X 14" OR APPROVED EQUAL.
4. THIS TYPE MARKER REQUIRED ON STATE ROADS.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

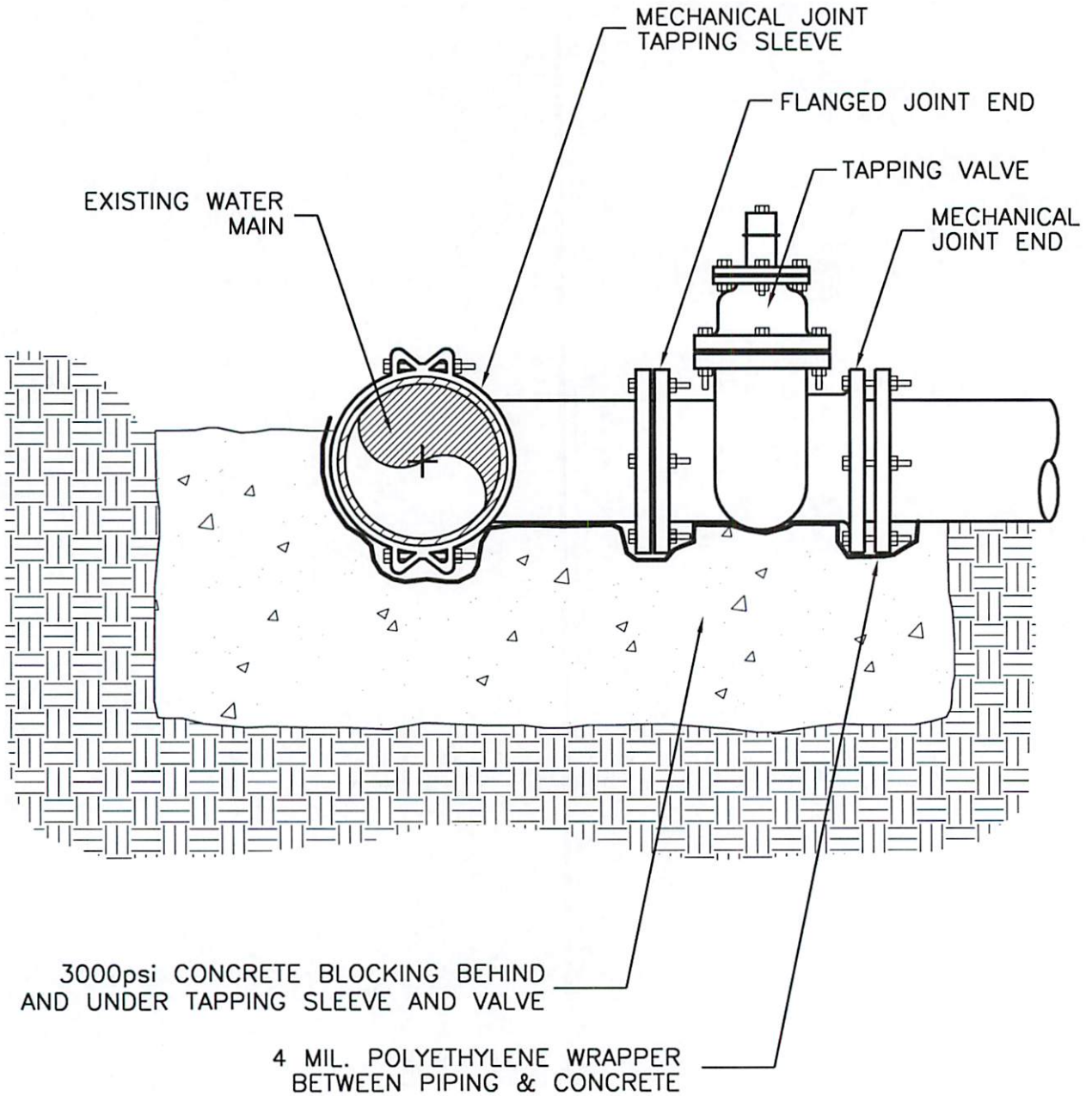
JOB TITLE STANDARD DETAIL	SHEET TITLE FLEXIBLE VALVE MARKER	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. W-7	CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		FILE No. 11052W-7.dwa	SCALE: N.T.S.		



3000psi CONCRETE
WITH #4 REBAR
IN CONCRETE

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
STANDARD DETAIL	RIGID VALVE MARKER	APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. W-8	FILE No. 11052W-8.dwg	SCALE: N.T.S.	

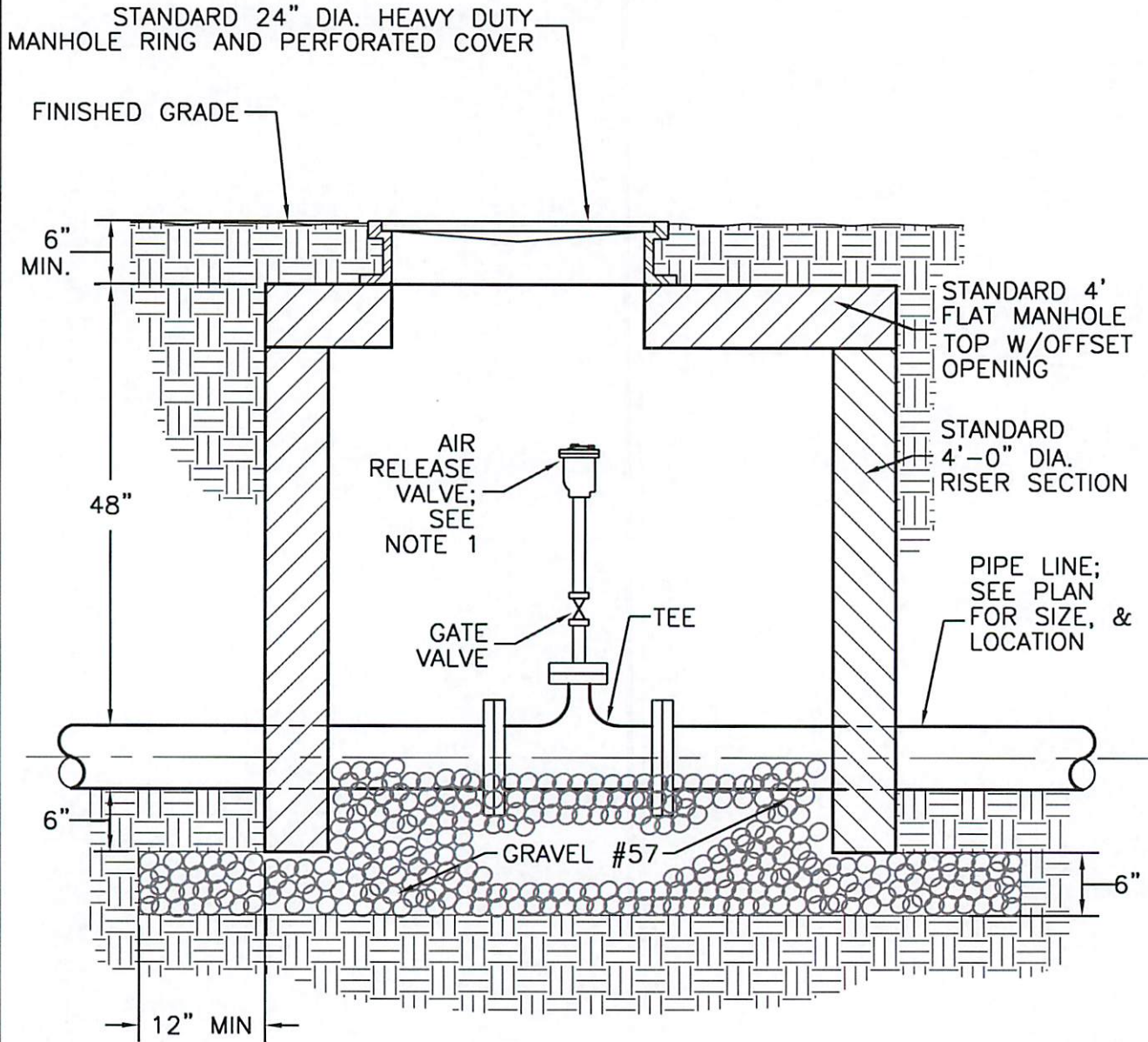


NOTES:

1. TAPPING SLEEVE TO BE PER STANDARD SPECIFICATIONS SECTION 2660.
2. DEVELOPER/CONTRACTOR IS REQUIRED TO PERFORM HYDROSTATIC PRESSURE TESTS IN ACCORDANCE WITH SECTION 02660.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE TAPPING SLEEVE AND VALVE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. W-9	FILE No. 11052W-9.dwg	SCALE: N.T.S.		

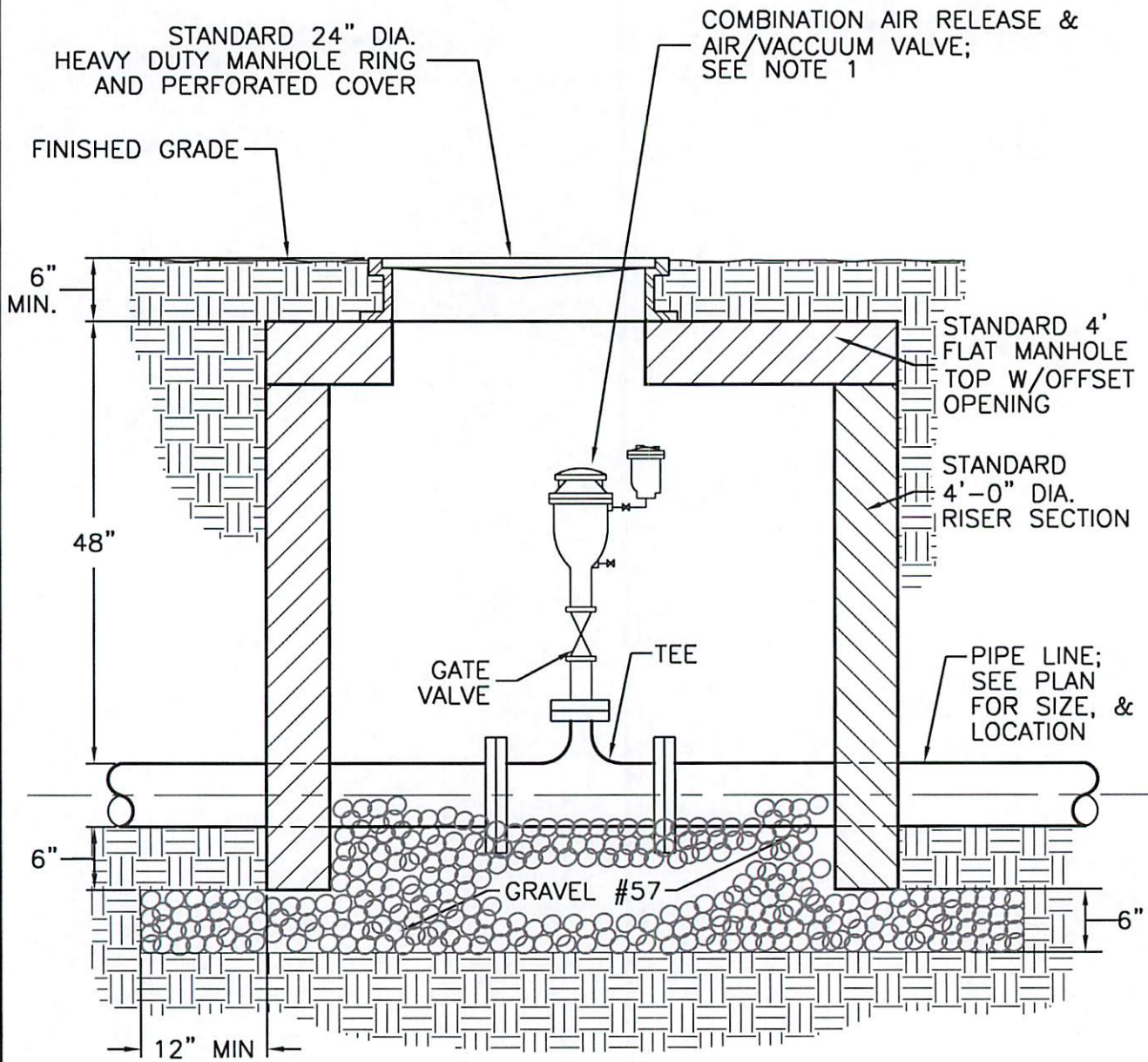


NOTE:

1. SEE SPECIFICATIONS SECTION 02660 FOR TYPE AND SIZE OF AIR RELEASE VALVE.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE AIR RELEASE VALVE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. W-10	FILE No. 11052W-10.dwg	SCALE: N.T.S.		

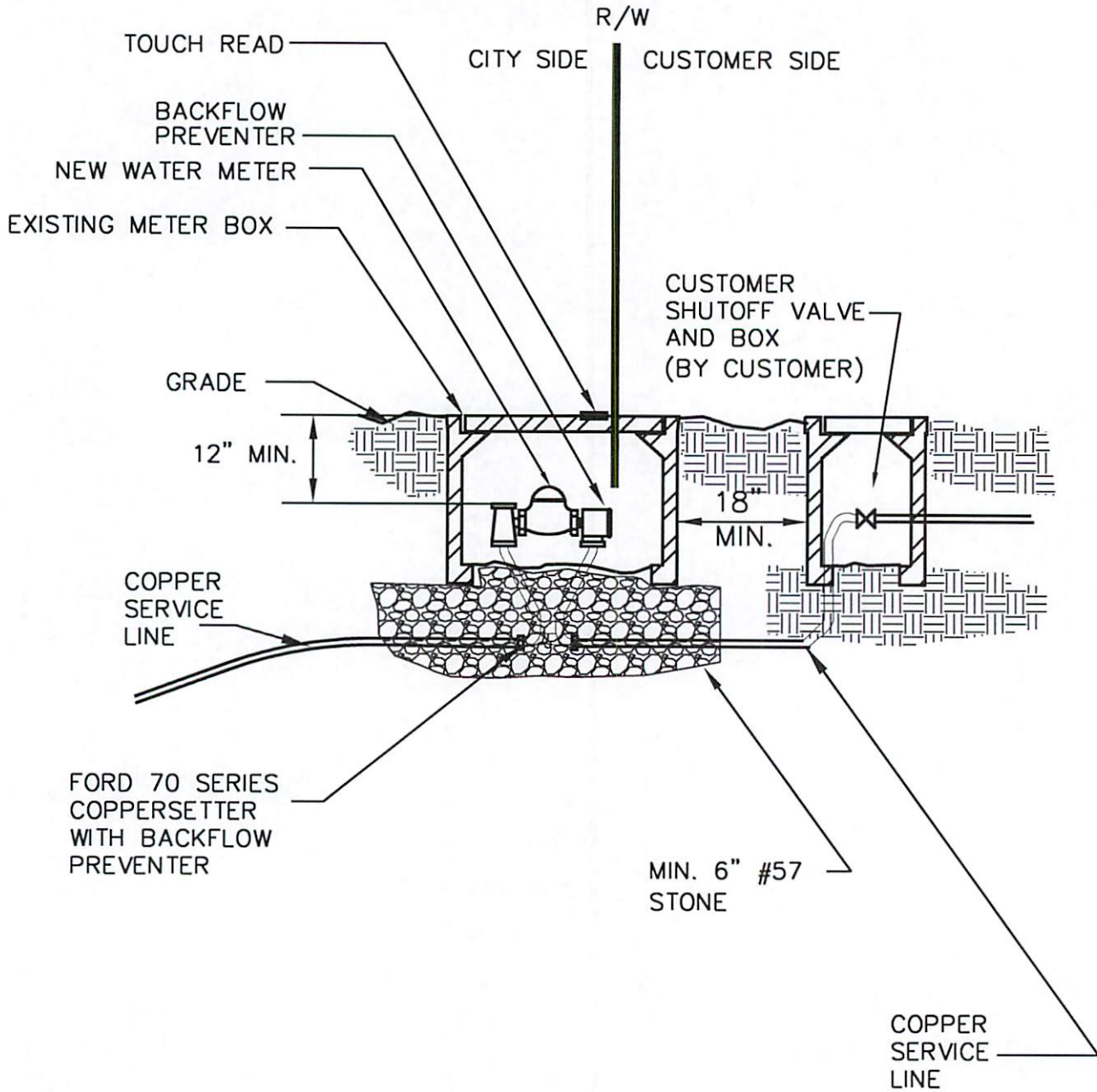


NOTE:

1. SEE SPECIFICATIONS SECTION 02660 FOR TYPE AND SIZE OF AIR RELEASE VALVE AND AIR/VACUUM VALVE.

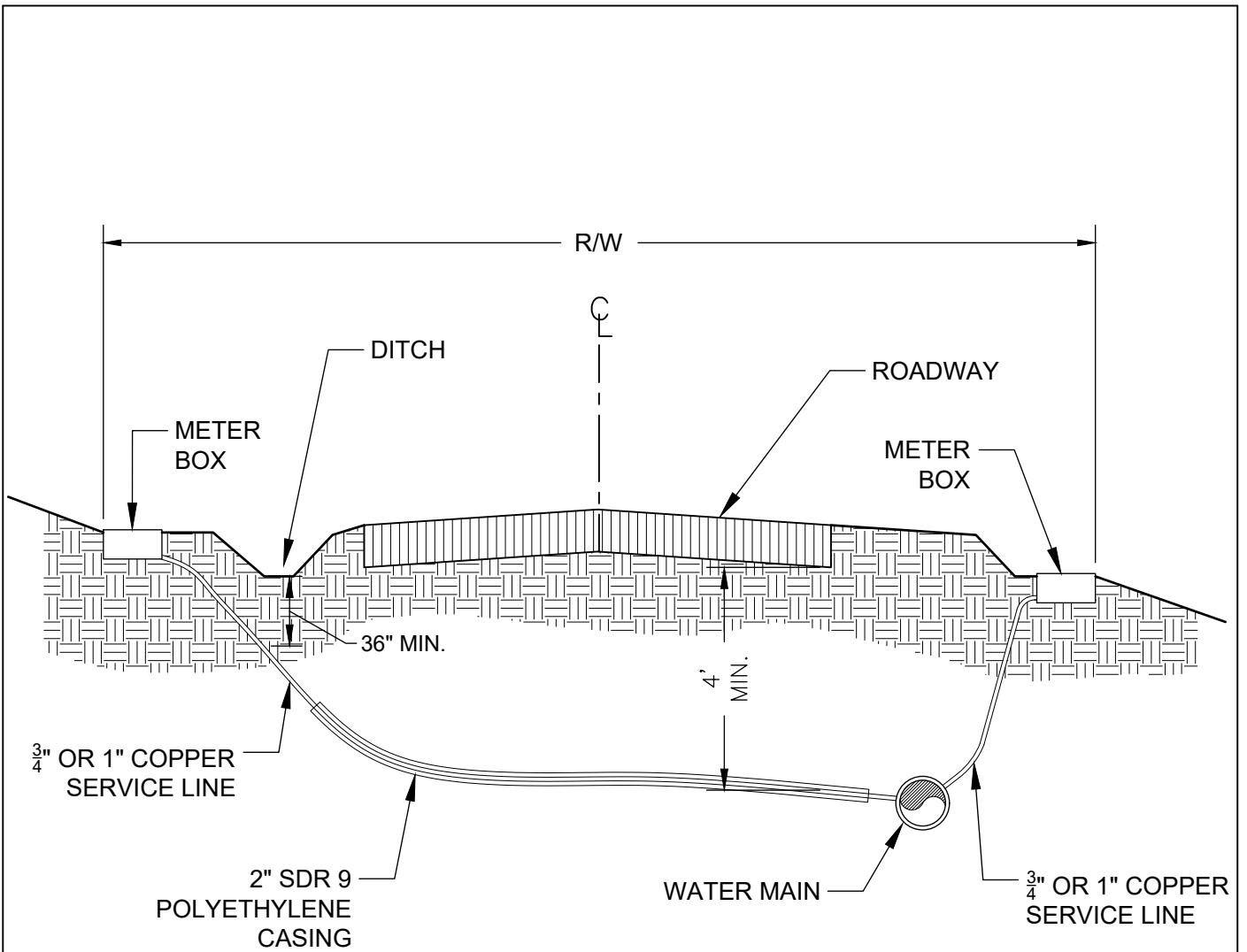
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE COMBINATION AIR RELEASE AND AIR VACUUM VALVE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. W-11	FILE No. 11052W-11.dwg	SCALE: N.T.S.		



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE SERVICE CONNECTION	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. W-12		FILE No. 11052W-12.dwg	SCALE: N.T.S.		

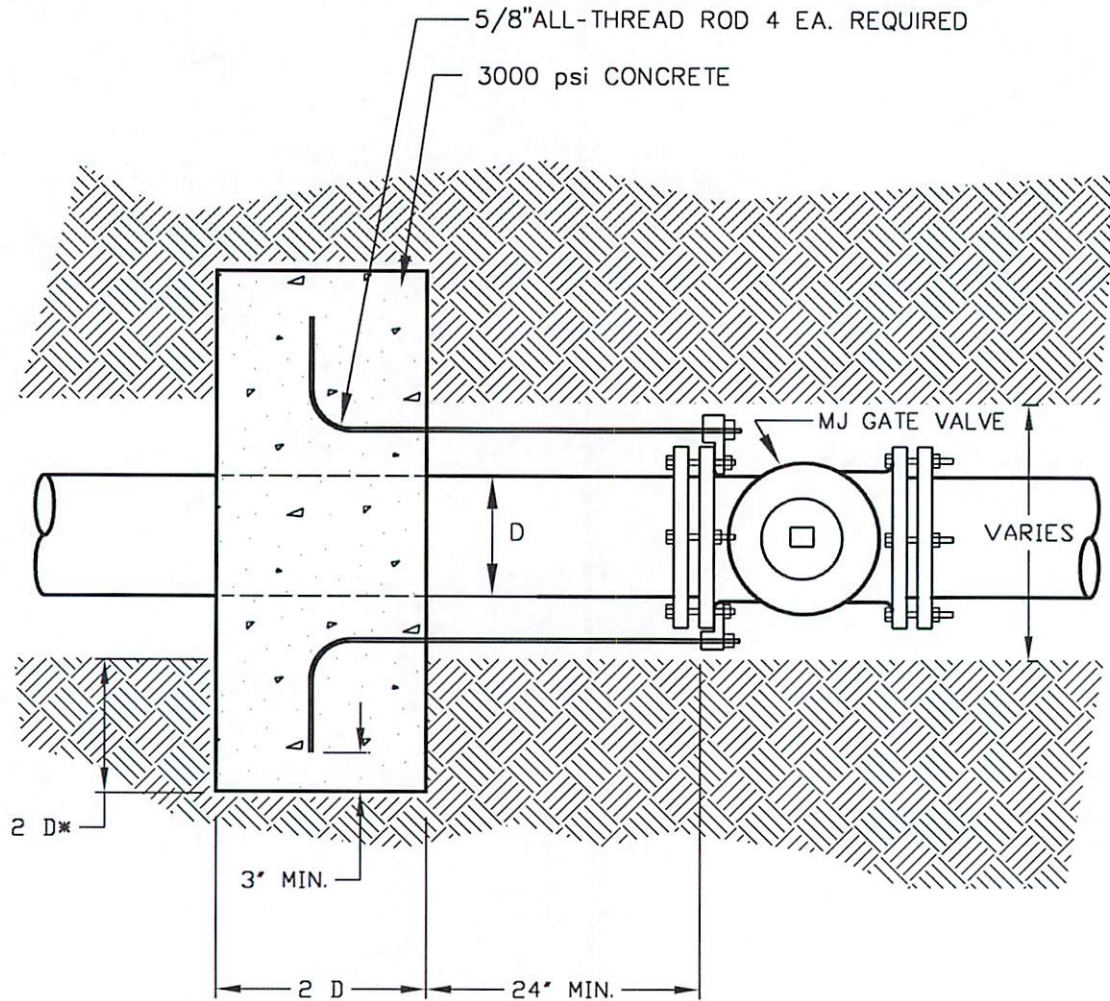


NOTES:

1. METER BOXES TO BE PLACED ON BACK SIDE OF DITCH.
2. ALL SERVICE LINES ARE TO BE PLACED OVER EXISTING GAS LINES.
3. 3/4" & 1" SERVICE LINES ARE TO BE TYPE "K" COPPER TUBING.
4. 2" SDR 9 POLYETHYLENE CASING MUST EXTEND A MINIMUM OF TWO FEET PAST EDGE OF ROADWAY.
5. 2" SDR 9 POLYETHYLENE CASING MUST BE INSTALLED TRENCHLESS. NO PAVEMENT CUTTING WILL BE ALLOWED.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE 3/4" & 1" SERVICE INSTALLATION (ROADWAY)	DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. W-13	CKD BY:			
		APPD. BY:			
		DATE: FEB 2020			
		FILE No. 11052W-13.dwg	SCALE: N.T.S.		

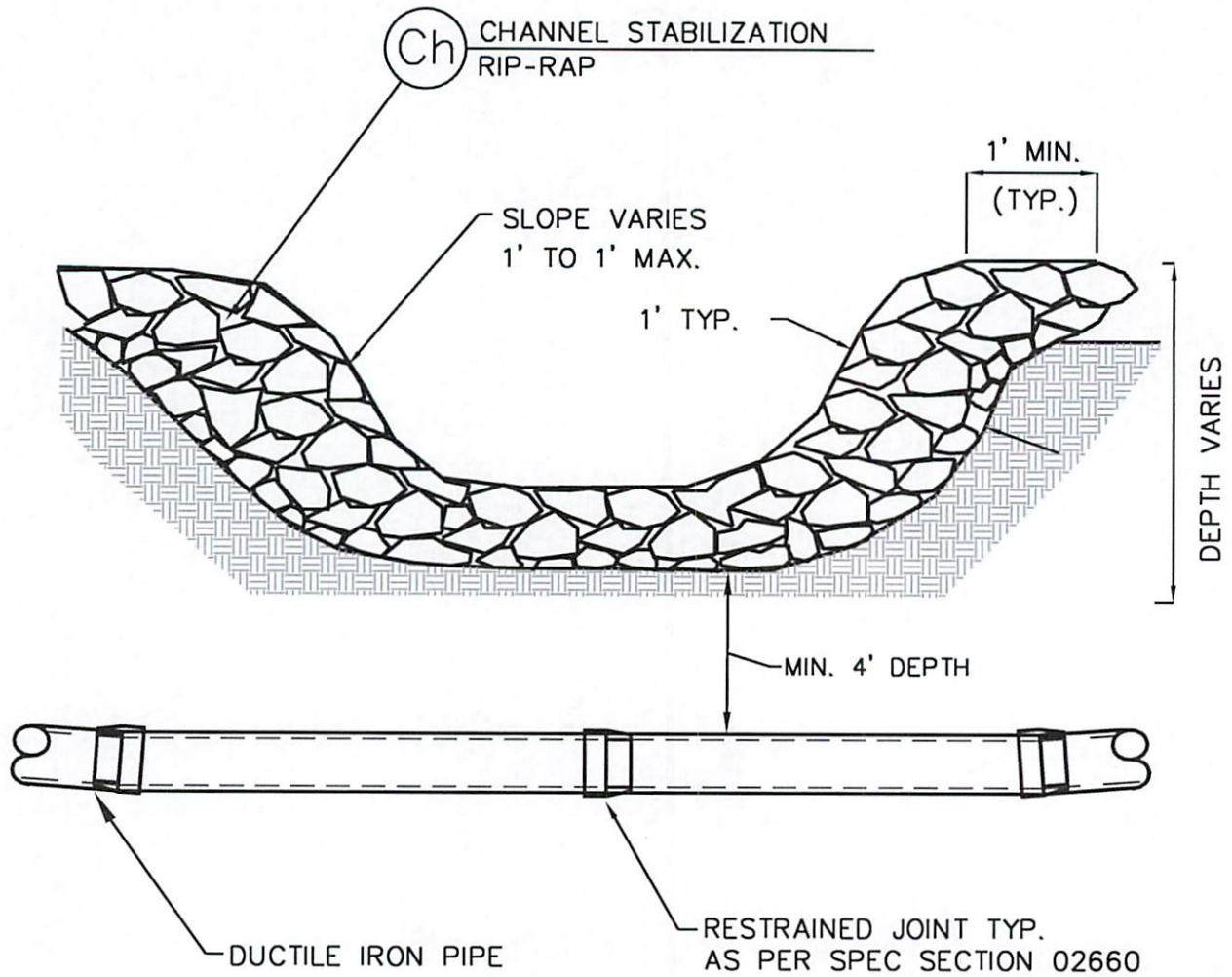


NOTE: DIMENSIONS SHOWN ARE MINIMUM ACCEPTABLE DIMENSIONS. DESIGN ENGINEER SHALL PROVIDE A THRUST COLLAR DETAIL APPROPRIATE FOR SPECIFIC PROJECT CONDITIONS ON THE PLANS.

* DENOTES CONCRETE ANCHOR TO BE SET IN UNDISTURBED SOIL

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE CONCRETE RESTRAINT ANCHOR	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. W-14		FILE No. 11052/W-14.dwg	SCALE: N.T.S.		



NOTE: CONTRACTOR TO USE RESTRAINED JOINTS UNDER CREEK BED AND A MINIMUM OF 20' PAST THE TOP OF THE BANK

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE MINOR CREEK CROSSING	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. W-15	FILE No. 11052\W-15.dwg	SCALE: N.T.S.	

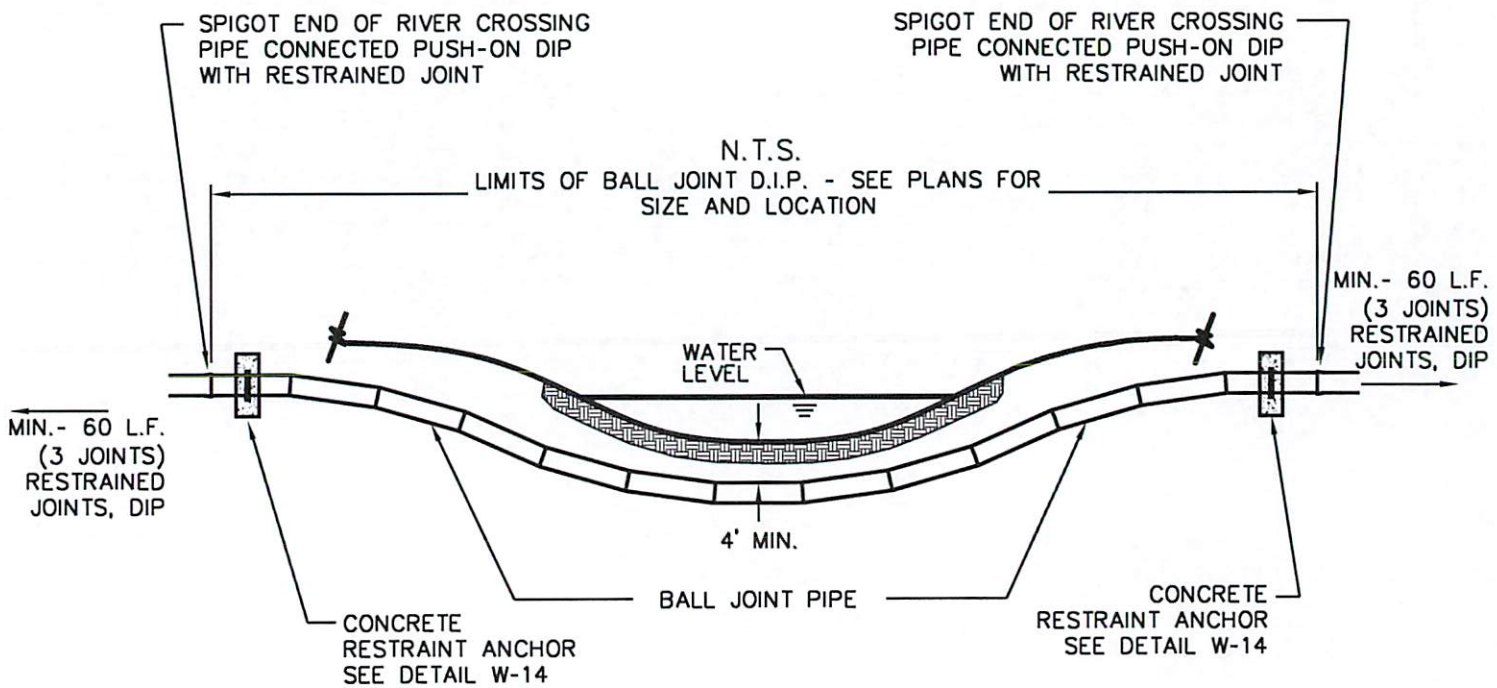
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE
STANDARD DETAIL

SHEET TITLE
MAJOR CREEK CROSSING

DETAIL No. W-16

DRN. BY: EMI	REV. NO.	BY	DATE
CKD BY:			
APPD. BY:			
DATE: AUG 2012			
FILE No. 11052W-16.dwg	SCALE: N.T.S.		



NOTES:

A PRECONSTRUCTION CONFERENCE MUST BE HELD WITH THE CITY AND THE CONTRACTOR OF RECORD BEFORE ANY WORK MAY BEGIN.

DESIGN CRITERIA:

FLOW PER SINGLE FAMILY RESIDENCE – 350 GPD

COMMERCIAL/INDUSTRIAL APPLICATIONS: ENGINEER SHALL SUBMIT INFORMATION USED FOR DESIGN FLOW.

PEAK FACTOR: MIN. 2.5, CASE BY CASE DETERMINED

DESIGN FLOWS _____ AVERAGE _____ PEAK

STATIC HEAD _____ TDH _____

FORCE MAIN DIAMETER _____

FORCE MAIN VELOCITY _____ (MIN. 2.5 F.P.S.)

HIGH ALARM ELEVATION _____

LOWEST OVERFLOW ELEVATION _____

STORAGE VOLUME _____

STORAGE TIME AT DESIGN FLOW _____

PUMPS:

MANUFACTURER _____

MODEL _____

IMPELLER DIAMETER _____

HORSEPOWER _____

_____ V _____ DIA _____ WIRE _____ CYCLE

WET WELL VOLUME _____

PUMP CYCLE TIME: _____ AT ADF

THIS SHALL SERVE AS MINIMUM GUIDELINE FOR DEVELOPER/CONTRACTOR TO PROVIDE THIS INFORMATION AT PLAN REVIEW SUBMITTAL. CALCULATIONS SHALL ALSO ACCOMPANY SUBMITTAL SHOWING CALCULATIONS AND ASSUMPTIONS FOR TDH, CYCLE TIMES, AND PUMP ON AND OFF ELEVATIONS. BOUYANCY CALCULATIONS ARE ALSO REQUIRED.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

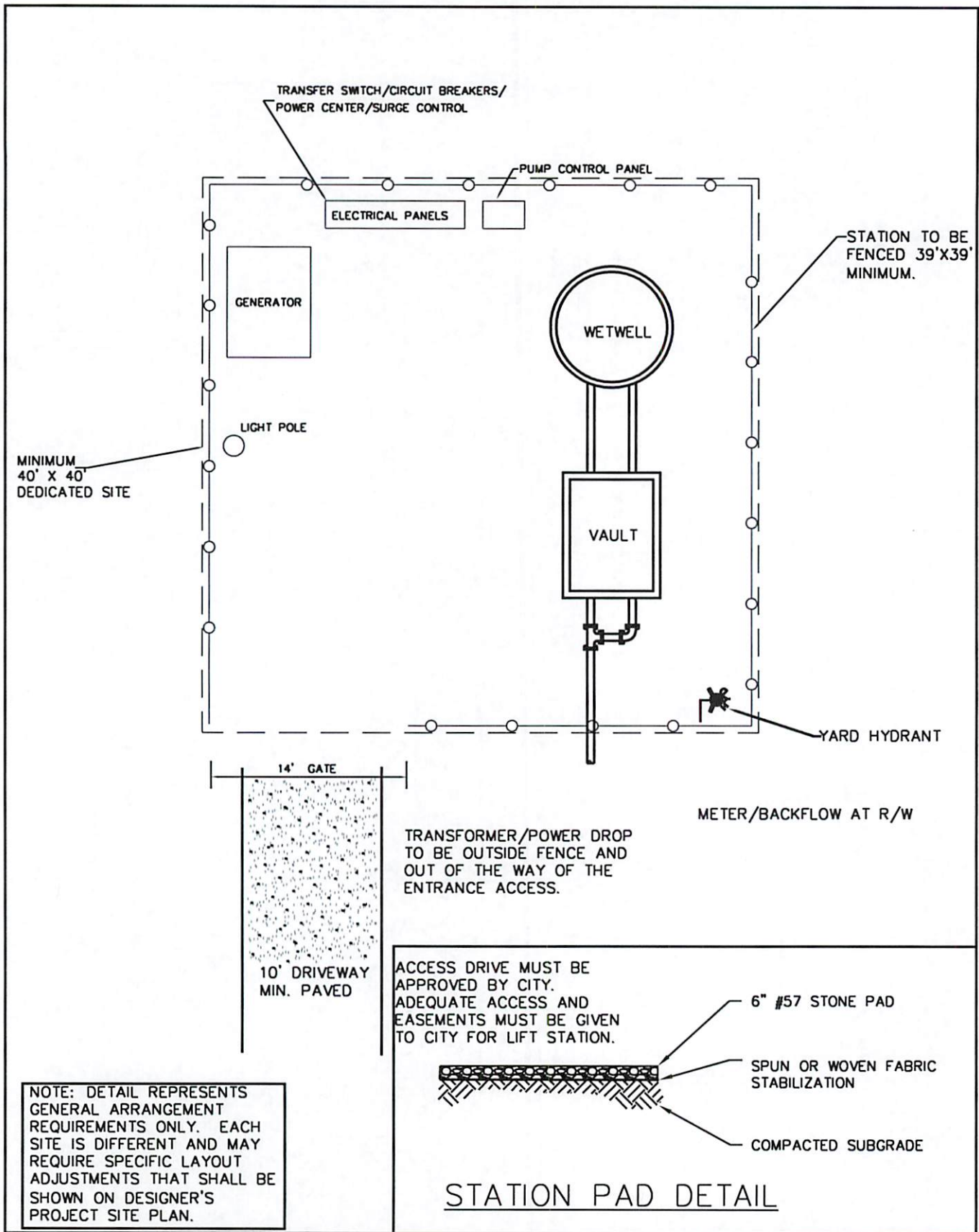
JOB TITLE STANDARD DETAIL	SHEET TITLE LIFT STATION DATA	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. LS-1	FILE No. 11052\LS-1.dwg	SCALE: N.T.S.		

NOTES:

1. SEE CITY SPECIFICATIONS FOR APPROVED SUBMERSIBLE SEWAGE LIFT STATION.
2. SEE SPECIFICATION SECTIONS 16000 AND 16621 FOR ELECTRICAL REQUIREMENTS.
3. FOR ALL PIPE PENETRATIONS THROUGH CONCRETE WALLS USE LINK SEAL WS PRODUCTS.
4. VAULT SHALL BE REINFORCED CONCRETE (MIN. 3000 PSI) IN ACCORDANCE WITH ASTM C 913.
5. ALL PIPING FROM PUMPS TO DISCHARGE OF VALVE VAULT TO BE FLANGED DIP.
6. WETWELL SHALL BE COATED AS PER SPECIFICATIONS—SEE SECTION 02601.
6. DETAIL AND ARRANGEMENT SHOWN AS MINIMUM GUIDELINES ONLY.
7. NOT ALL REQUIRED ITEMS ARE SHOWN.

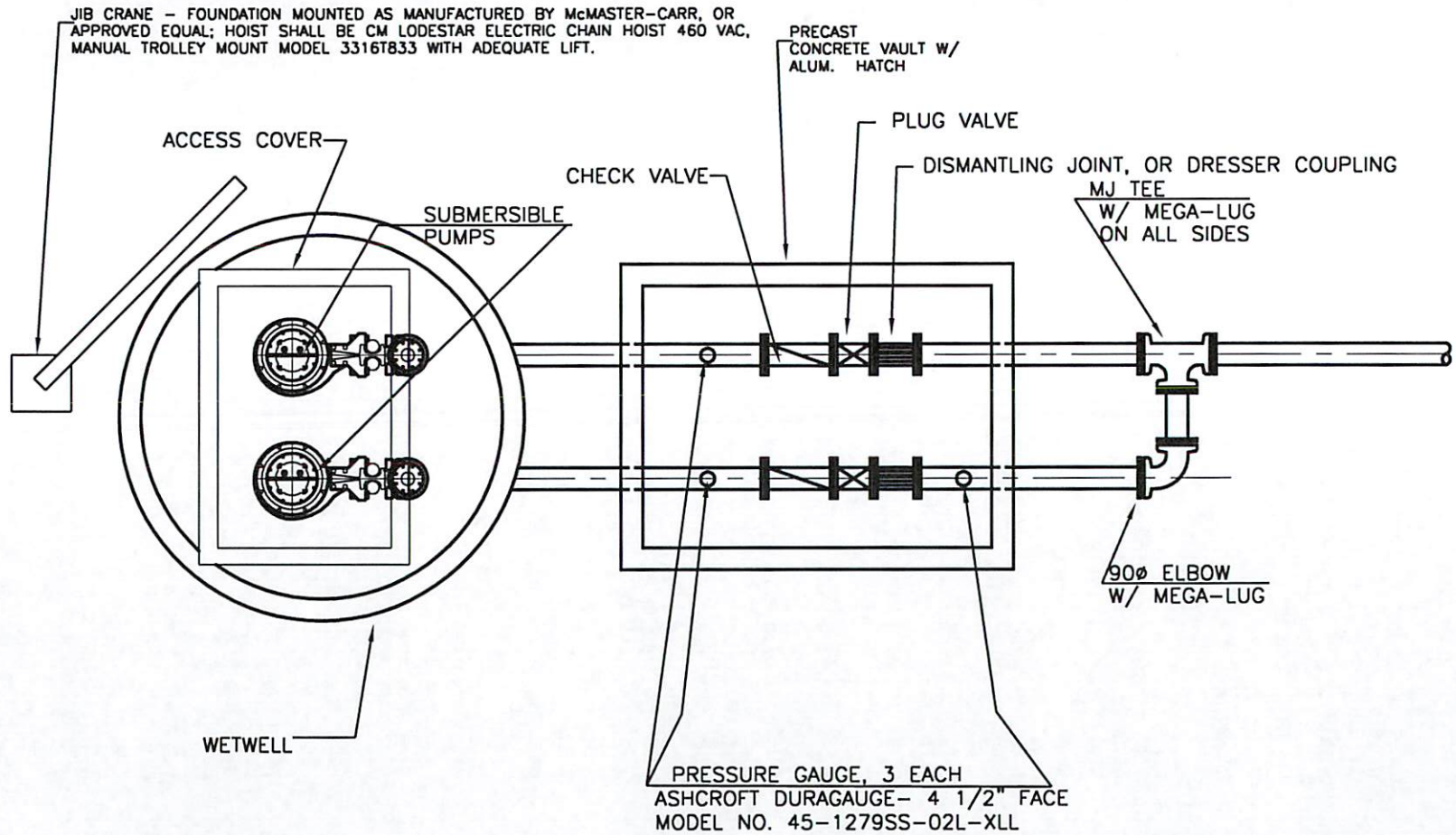
CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE LIFT STATION DETAIL NOTES	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. LS-2	FILE No. 11052\LS-2.dwg	SCALE: N.T.S.			



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

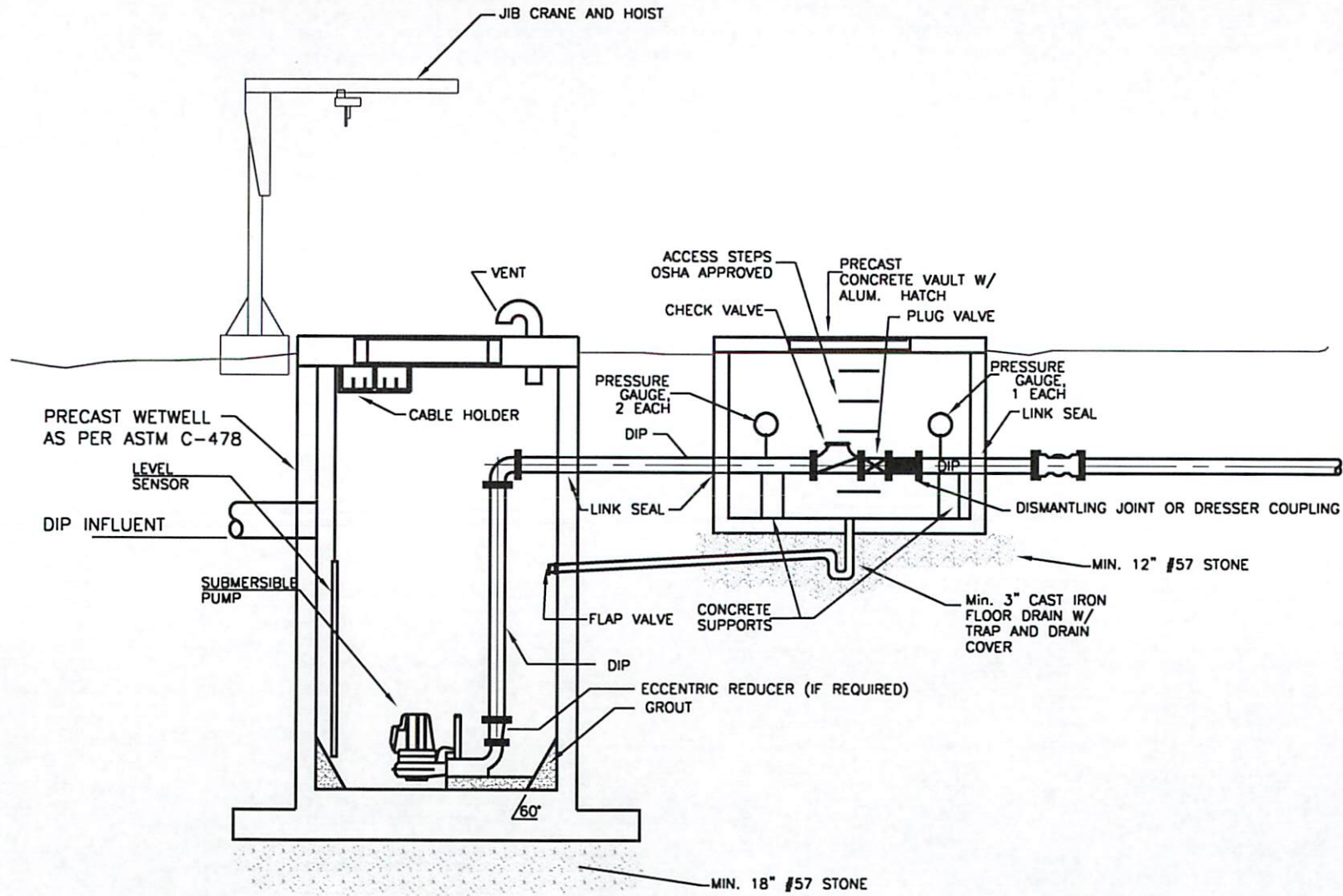
JOB TITLE STANDARD DETAIL	SHEET TITLE LIFT STATION SITE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. LS-3		FILE No. 11052\LS-3.dwa	SCALE: N.T.S.		



**PLAN VIEW
LIFT STATION**

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

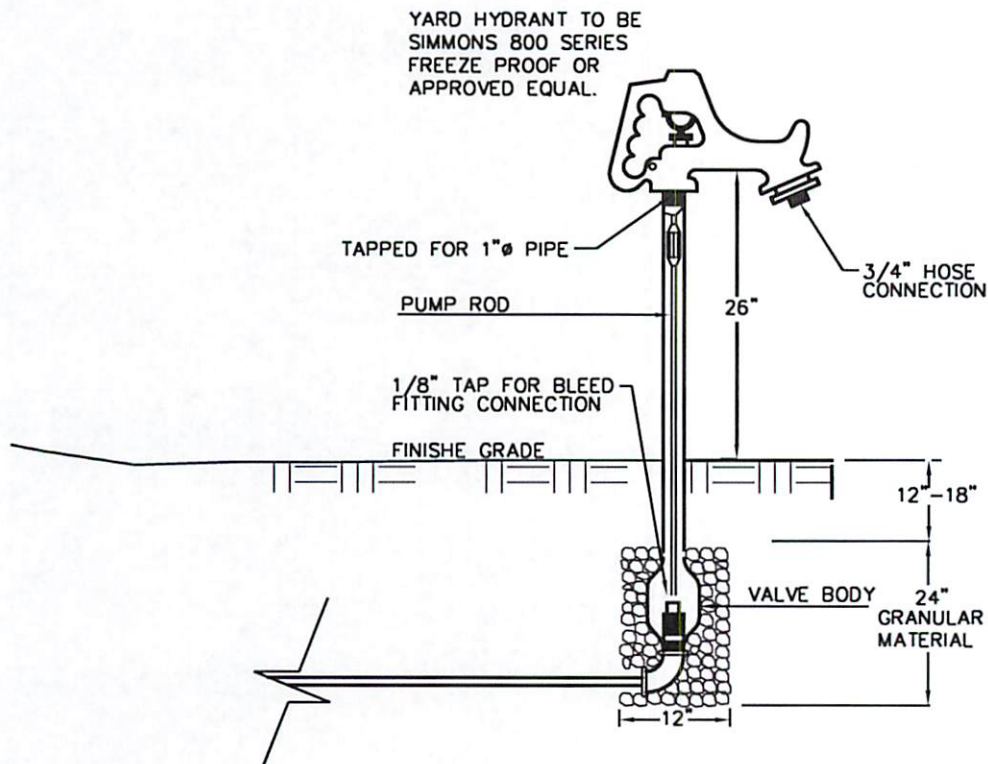
JOB TITLE	SHEET TITLE				DRN. BY:	EMI	REV. NO.	BY	DATE
	LIFT STATION PLAN VIEW				CKD BY:				
STANDARD DETAIL					APPD. BY:				
					DATE:	AUG 2012			
DETAIL No. LS-4				FILE No.	11052/LS-4.dwg	SCALE:		N.T.S.	



**SECTION VIEW
LIFT STATION**

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE LIFT STATION SECTION VIEW		DRN. BY: EMI	REV. NO.	BY	DATE
	DETAIL No. LS-5		CKD BY:			
			APPD. BY:			
			DATE: AUG 2012			
			FILE No. 11052LS-5.dwg			SCALE: N.T.S.



CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE	SHEET TITLE	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
STANDARD DETAIL	YARD HYDRANT	APPD. BY:			
		DATE: AUG 2012			
		DETAIL No. LS-6	FILE No. 11052\LS-6.dwg	SCALE: N.T.S.	

RUBBERIZED BOOT,
SEAL AND CLAMP

EXISTING TABLES SHALL
BE MODIFIED AS REQUIRED

SLOPE

FORCE MAIN
INLET

GRAVITY SEWER
OUTLET

DEAD END MANHOLE

FORCE MAIN
INLET

FLG. BELL MOUTH
90° BEND

6" MIN.

RUBBERIZED BOOT,
SEAL AND CLAMP

GRAVITY SEWER
OUTLET

MID STREAM MANHOLE

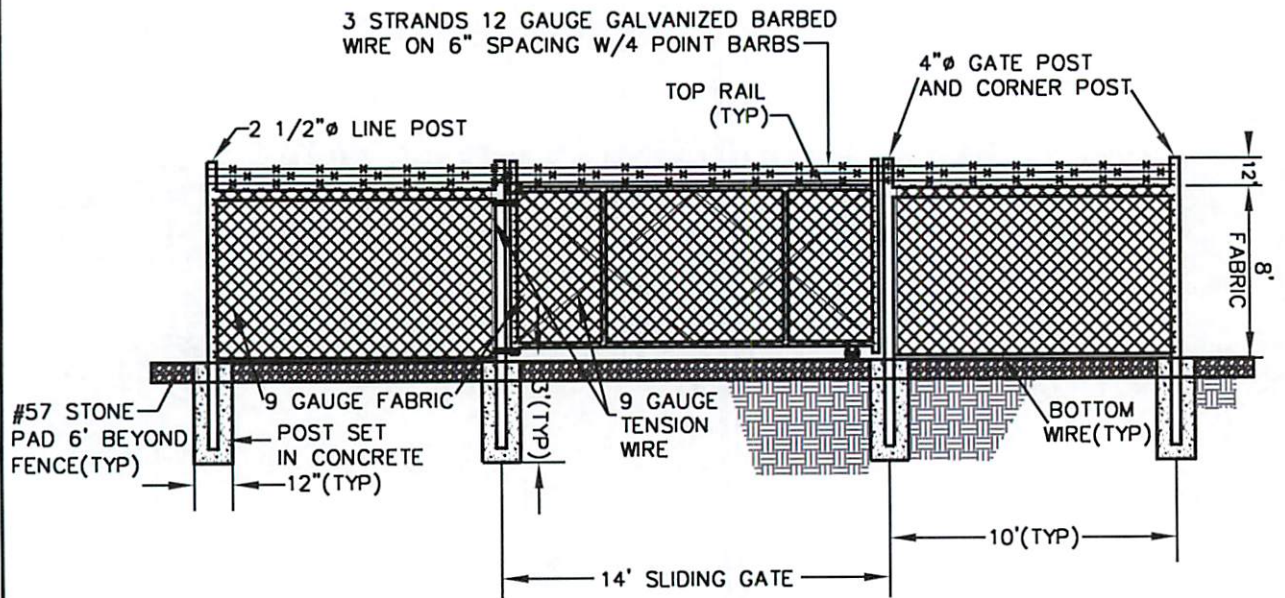
NOTES:

1. EXISTING MANHOLES SHALL BE CORED FOR FORCE MAIN INSTALLATION. NO MANHOLE SHALL BE CORED WITHOUT CITY APPROVAL AND CITY PERSONNEL ON SITE DURING THE CORING.

2. THE MANHOLE WHERE A FORCEMAIN TIES INTO SHALL BE COATED AS PER SPECIFICATION SECTION 2601. THIS APPLIES TO NEW MANHOLES AS WELL AS EXISTING ONES.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE FORCE MAIN TO MANHOLE CONNECTION	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
	DETAIL No. LS-8	FILE No. 11052\LS-8.dwg	SCALE: N.T.S.		



NOTES:

1. PVC FENCE SLATS MAY BE REQUIRED AT SOME LOCATIONS AND AT THE DEVELOPERS OPTION AT OTHERS OR AS REQUIRED BY CITY.
2. 7 GAUGE TENSION WIRES ARE REQUIRED AT THE TOP AND BOTTOM OF THE FENCE.
3. CONTRACTOR/DEVELOPER SHALL FURNISH GATE LOCK AND TWO KEYS – MASTER KEYED TO CITY'S SYSTEM.
4. SLIDING GATES ON ROLLERS REQUIRED.

CITY OF BALDWIN WATER & SEWER DEPARTMENTS

JOB TITLE STANDARD DETAIL	SHEET TITLE CHAIN LINK FENCE & GATE DETAIL	DRN. BY: EMI	REV. NO.	BY	DATE
		CKD BY:			
		APPD. BY:			
		DATE: AUG 2012			
DETAIL No. LS-9		FILE No. 11052\LS-9.dwg	SCALE: N.T.S.		