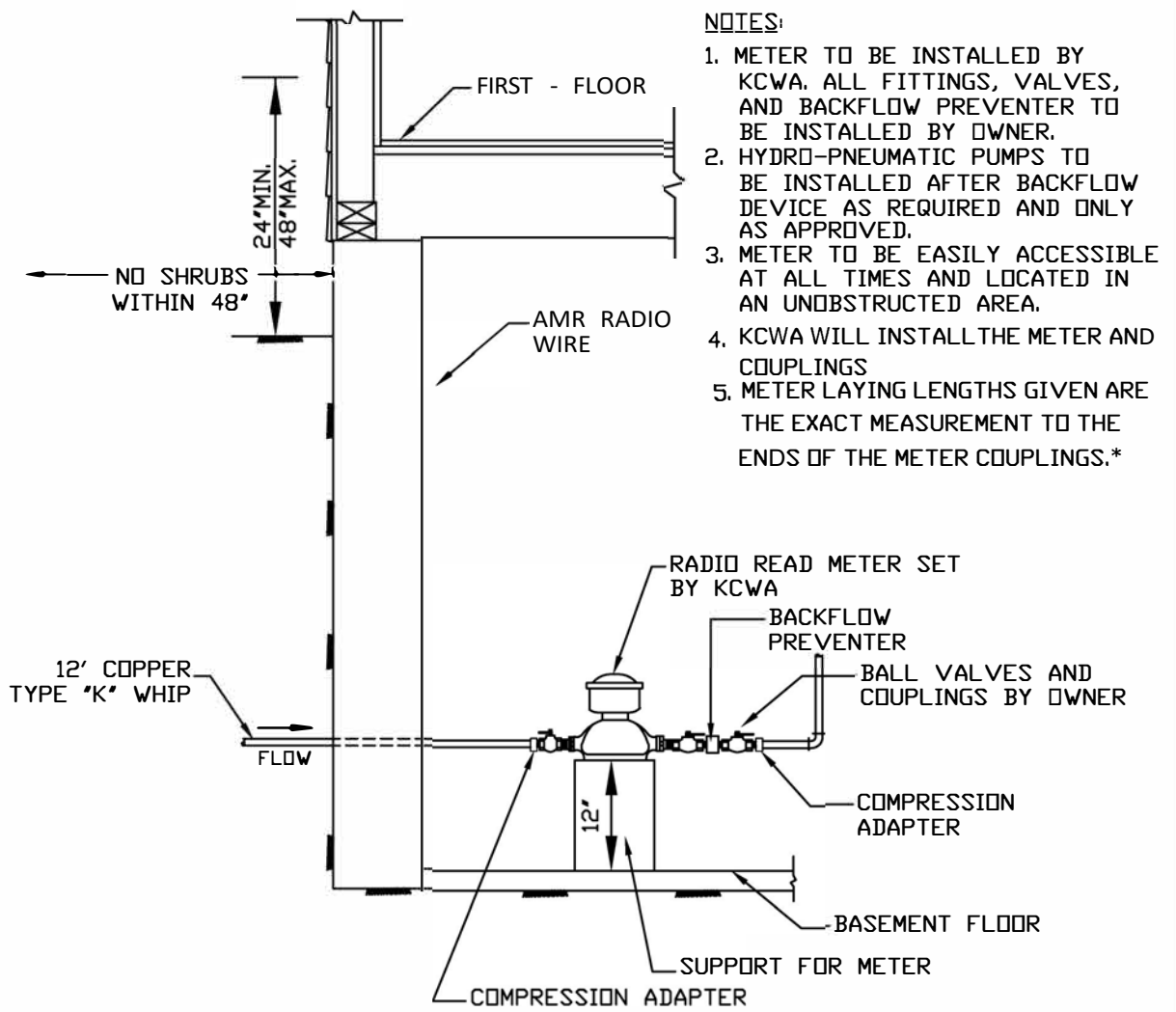
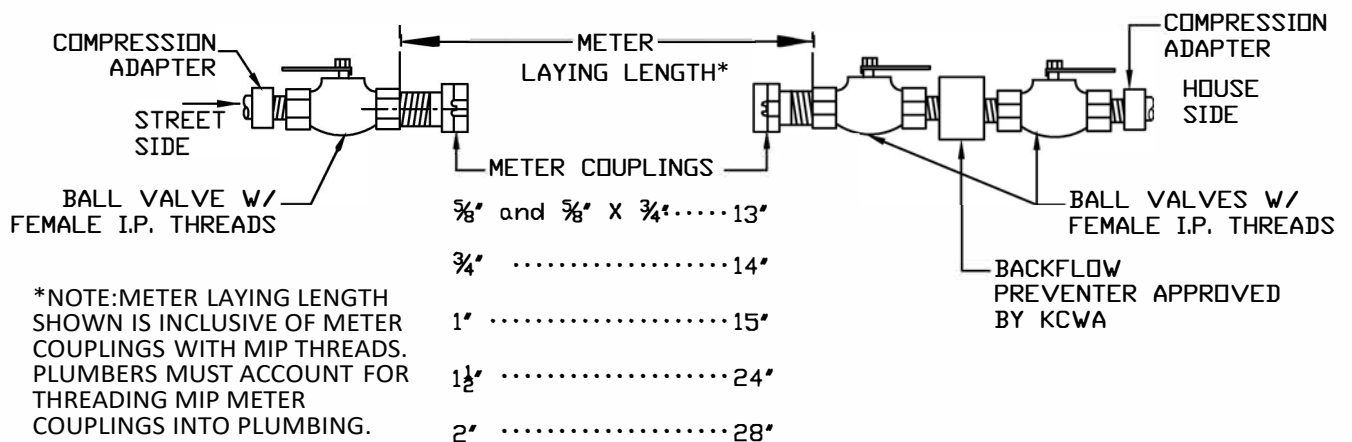


**APPENDIX B**

**STANDARD DETAILS**



## WATER METER INSTALLATION



## WATER METER SETTINGS WITH FITTINGS

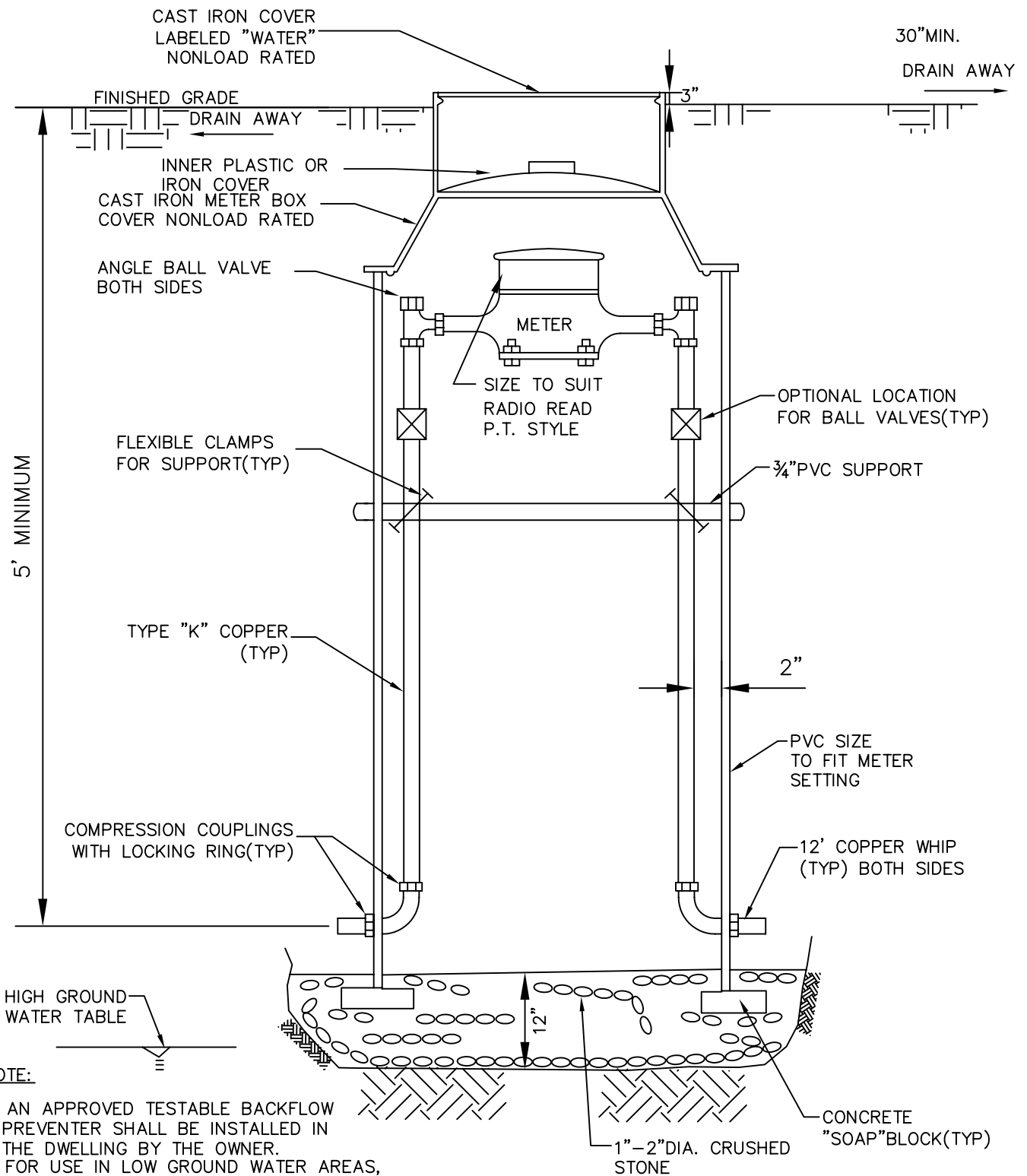
KENT COUNTY WATER AUTHORITY  
**WATER METER INSTALLATION**

**KCWA**

"proudly serving"

NOT TO SCALE

DATE: 02/2020



**NOTE:**

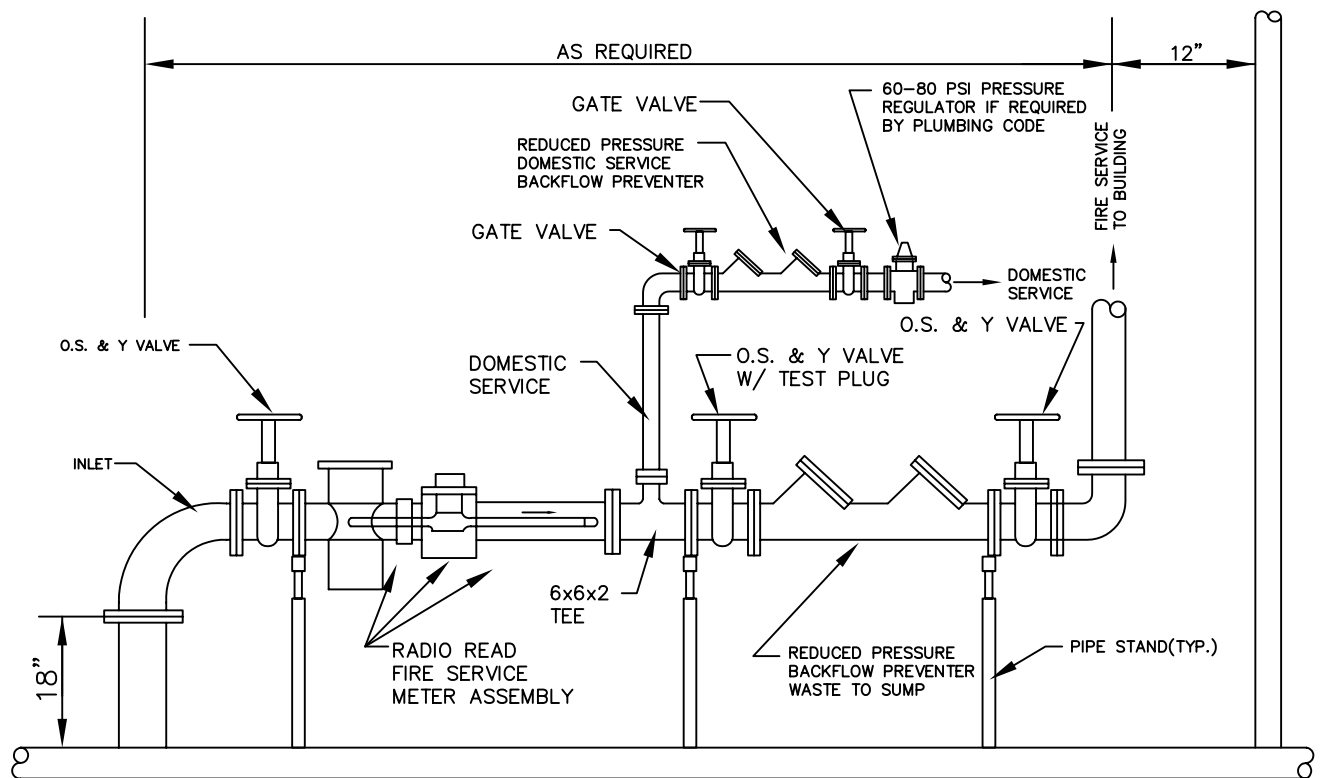
1. AN APPROVED TESTABLE BACKFLOW PREVENTER SHALL BE INSTALLED IN THE DWELLING BY THE OWNER.
2. FOR USE IN LOW GROUND WATER AREAS, CHAMBER MAY NOT BE SUBJECT TO FLOODING.

**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**OFF ROAD SINGLE SERVICE**  
**METER PIT NONLOAD RATED**

NOT TO SCALE

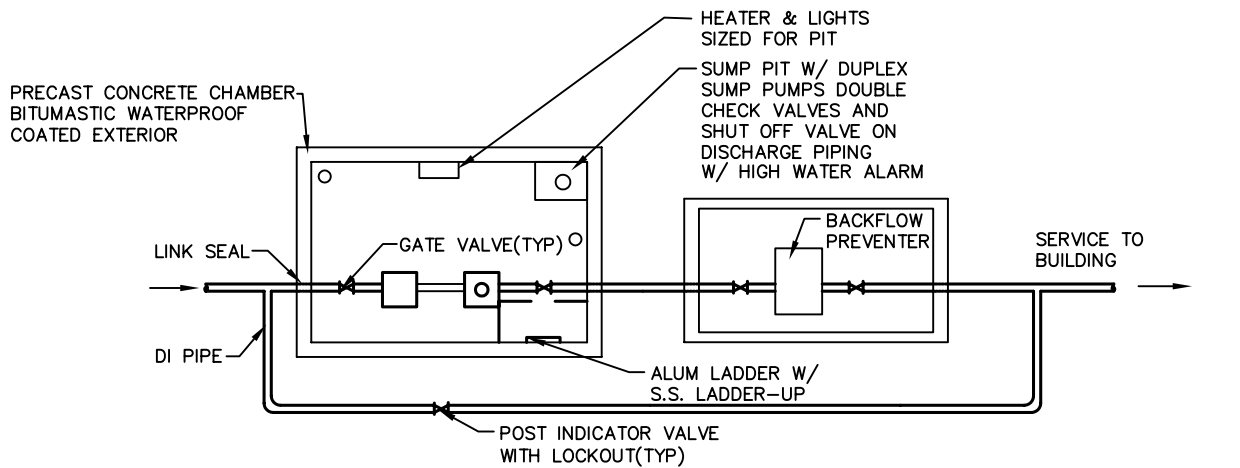
DATE: 09/2006



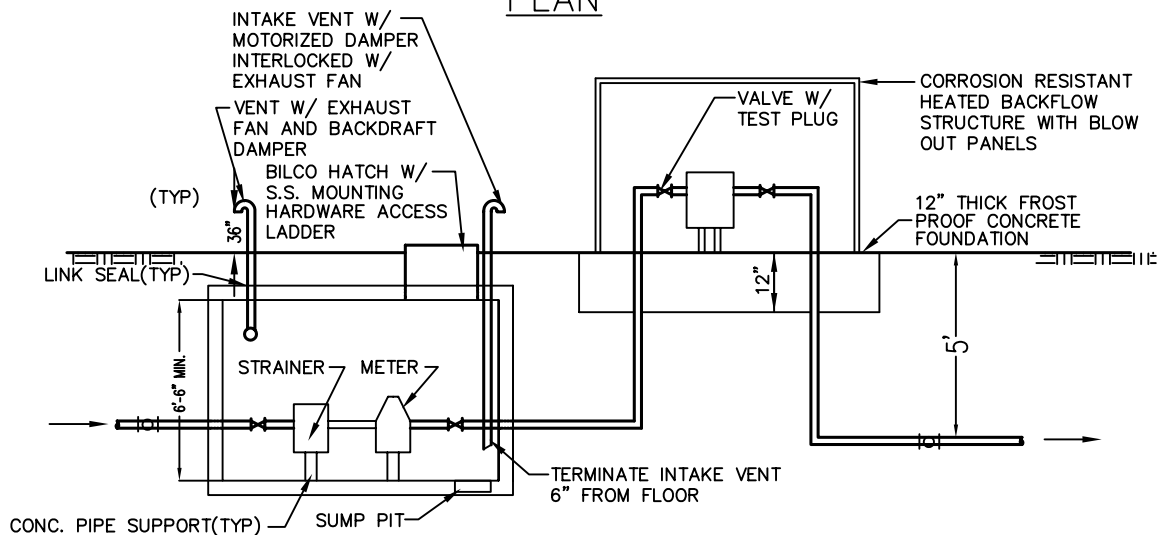
**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**ABOVE GRADE FIRE &  
DOMESTIC INSTALLATION**  
NOT TO SCALE

DATE: 09/2006



PLAN



ELEVATION

NOTES:

- 1.) ALL EXTERIOR PIPING, VALVES AND FITTING JOINTS TO HAVE RESTRAINED JOINTS.
- 2.) SUMP PUMP DISCHARGE PIPING TO HAVE 2 CHECK VALVES AND SHUT OFF VALVE.
- 3.) PROVIDE LIGHTING, HEATER WITH THERMOSTAT AND POWER VENTILATION SYSTEM. SWITCH FOR LIGHTS AND VENTILATION TO BE MOUNTED AT OPENING.
- 4.) INTERIOR PIPING AND VALVE JOINTS TO BE FLANGED.
- 5.) PIT MUST HAVE POSITIVE DRAINAGE SUFFICIENT FOR RPZ FLOW OR RPZ MUST BE LOCATED IN AN ABOVE GROUND ENCLOSURE.
- 6.) SLOPE FLOOR TO SUMP PUMP PIT.
- 7.) METER AND BACKFLOW PREVENTERS TO BE PROPERLY SUPPORTED ABOVE FLOOR.
- 8.) GOOSENECK VENT PIPE AT EACH END OF CHAMBER. SIZE TO MEET OSHA REQUIREMENTS W/ S.S. NON REMOVABLE INSECT SCREEN AND VERMIN SCREEN.

**KCWA**

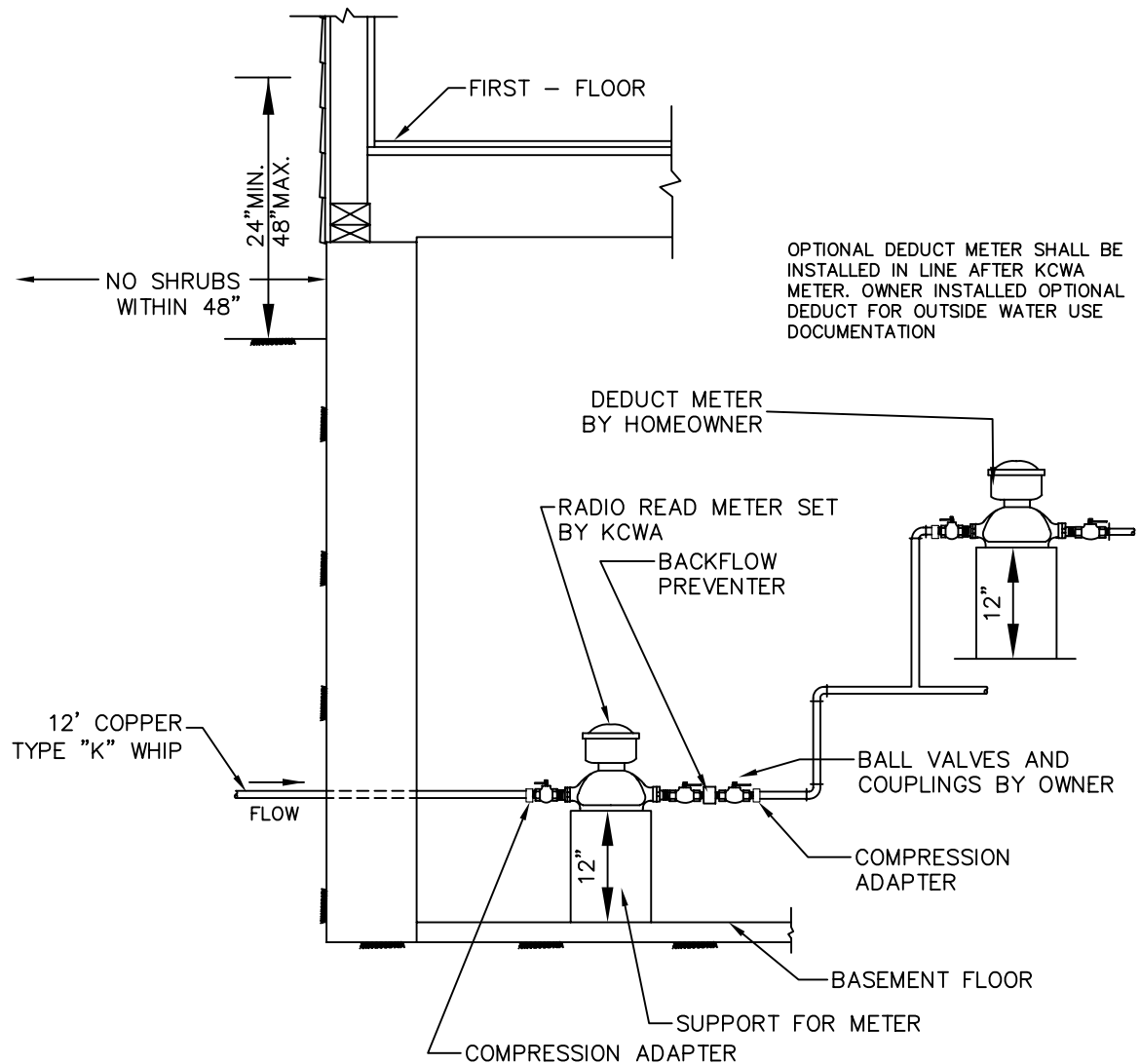
"proudly serving"

KENT COUNTY WATER AUTHORITY

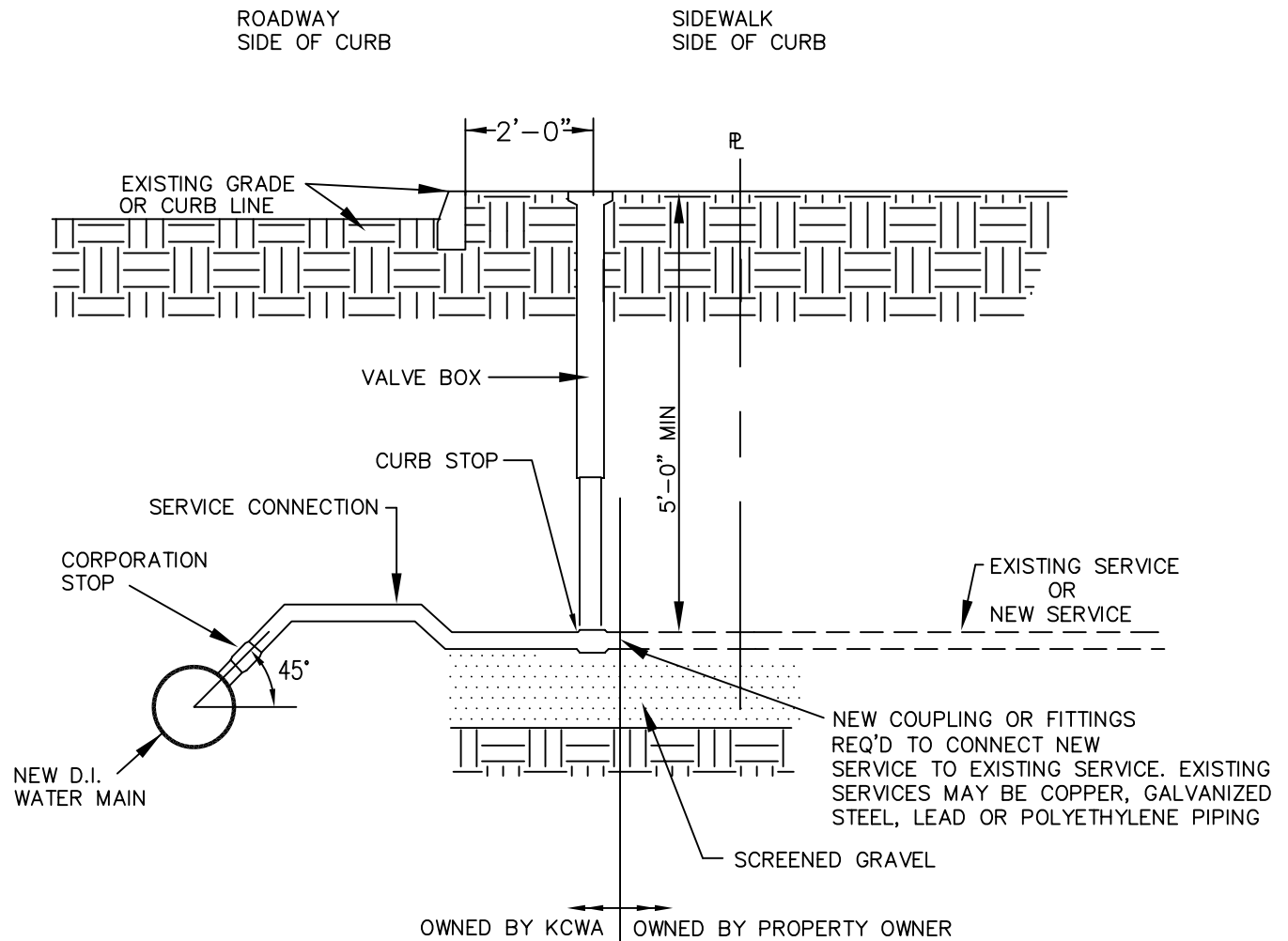
**ABOVE GROUND BACKFLOW CHAMBER**

NOT TO SCALE

DATE: 09/2006



TRENCHDT.DWG



NOTE:

- 1.) SERVICE MATERIALS PER KCWA SPECIFICATION UNLESS CITY OR TOWN CODES REQUIRE SPECIFIC MATERIALS THAT HAVE BEEN APPROVED BY KCWA.
- 2.) SERVICE LINE FROM CURB BOX TO BUILDING SHALL BE INSPECTED, TESTED AND APPROVED BY THE LOCAL PLUMBING INSPECTOR.

**KCWA**  
"proudly serving"

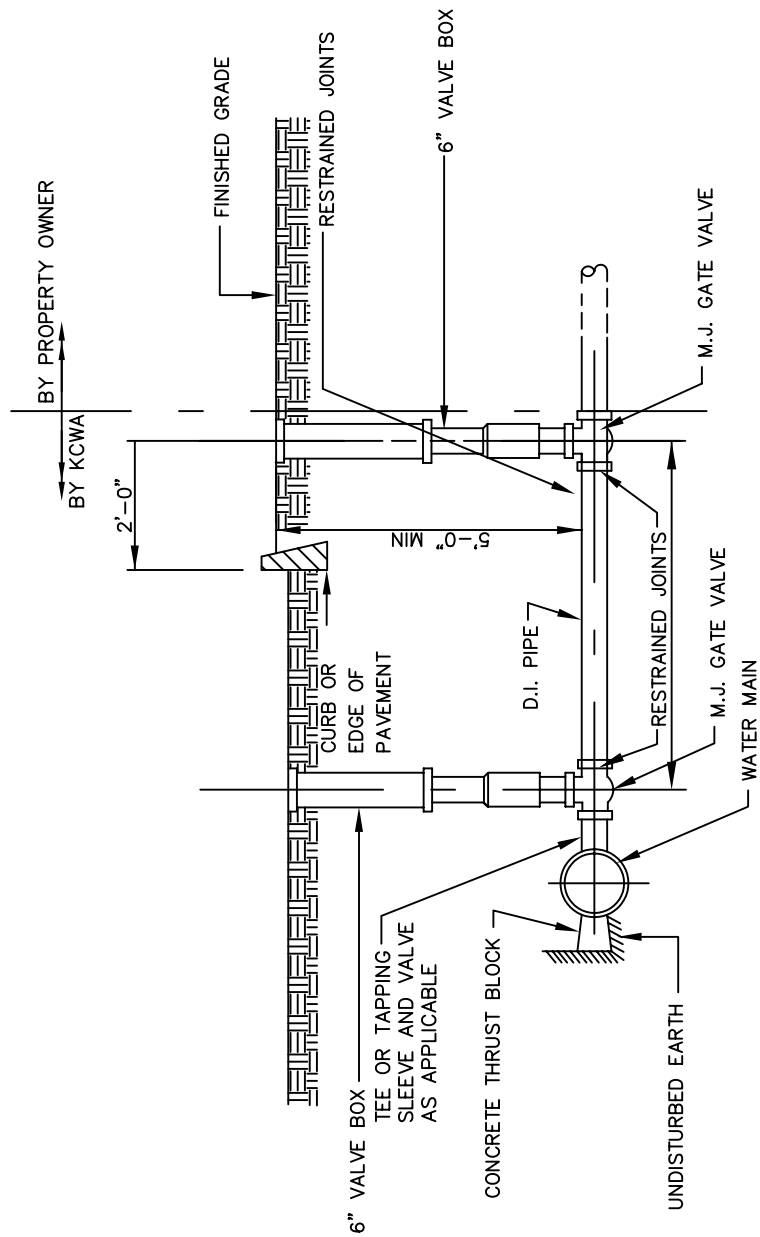
KENT COUNTY WATER AUTHORITY

**SERVICE CONNECTION**

NOT TO SCALE

DATE: 09/2006





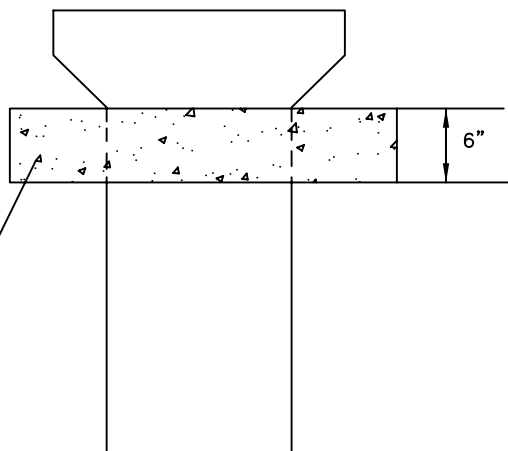
NOTE:  
1. MATERIALS PER KCWA SPECIFICATIONS

**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**SERVICE CONNECTION**  
**GREATER THAN 4 INCHES**  
NOT TO SCALE

DATE: 09/2006

CONCRETE COLLAR  
12" DIA. FOR GATE  
BOXES AND 8" DIA.  
FOR CURB STOP BOXES



GATE BOXES AND CURB STOP BOXES

**KCWA**  
"proudly serving"

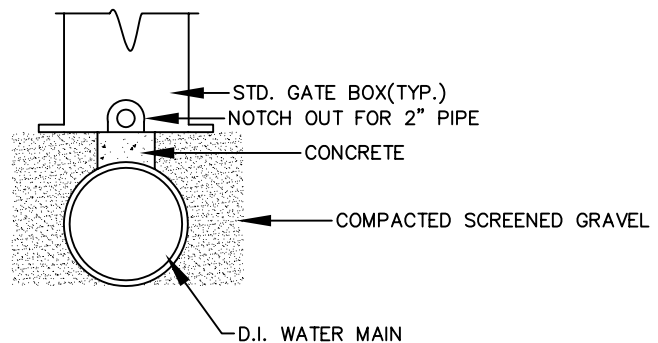
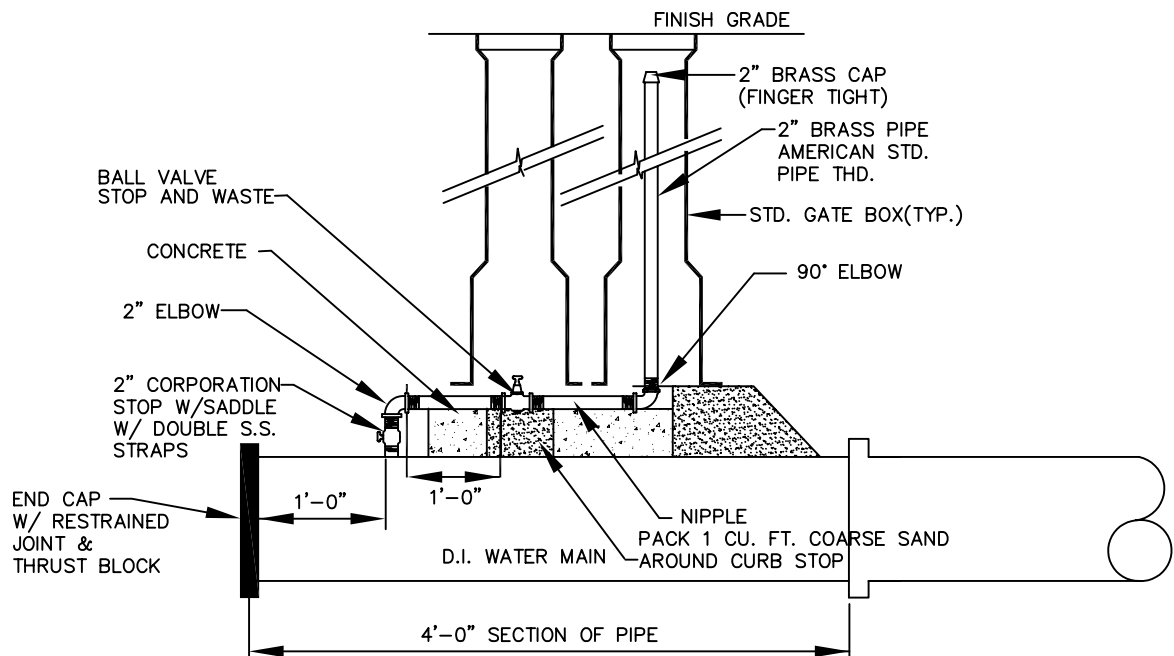
KENT COUNTY WATER AUTHORITY

**CONCRETE COLLAR**

NOT TO SCALE

DATE: 09/2006

CONCCOLLAR.DWG



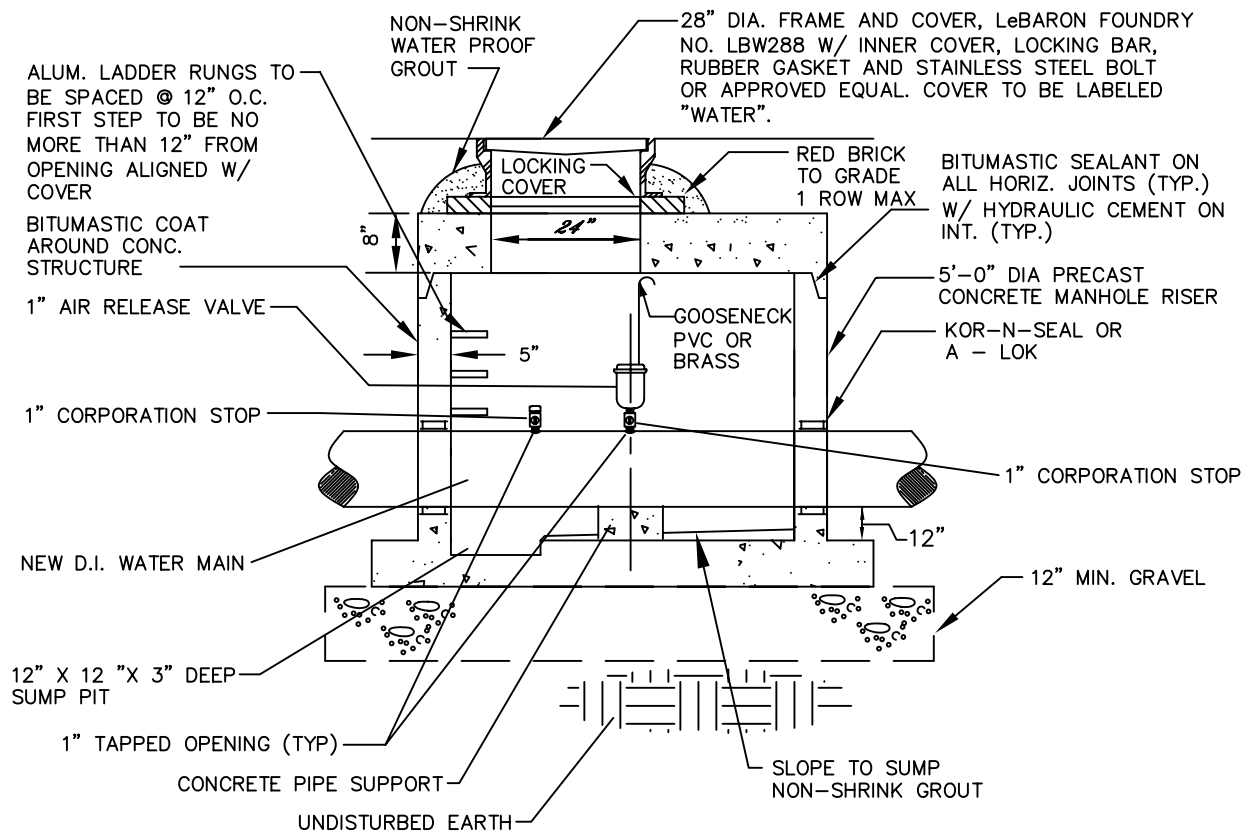
KCWA

"proudly serving"

KENT COUNTY WATER AUTHORITY  
**PERMANENT BLOWOFF ASSEMBLY**

NOT TO SCALE

DATE: 09/2006



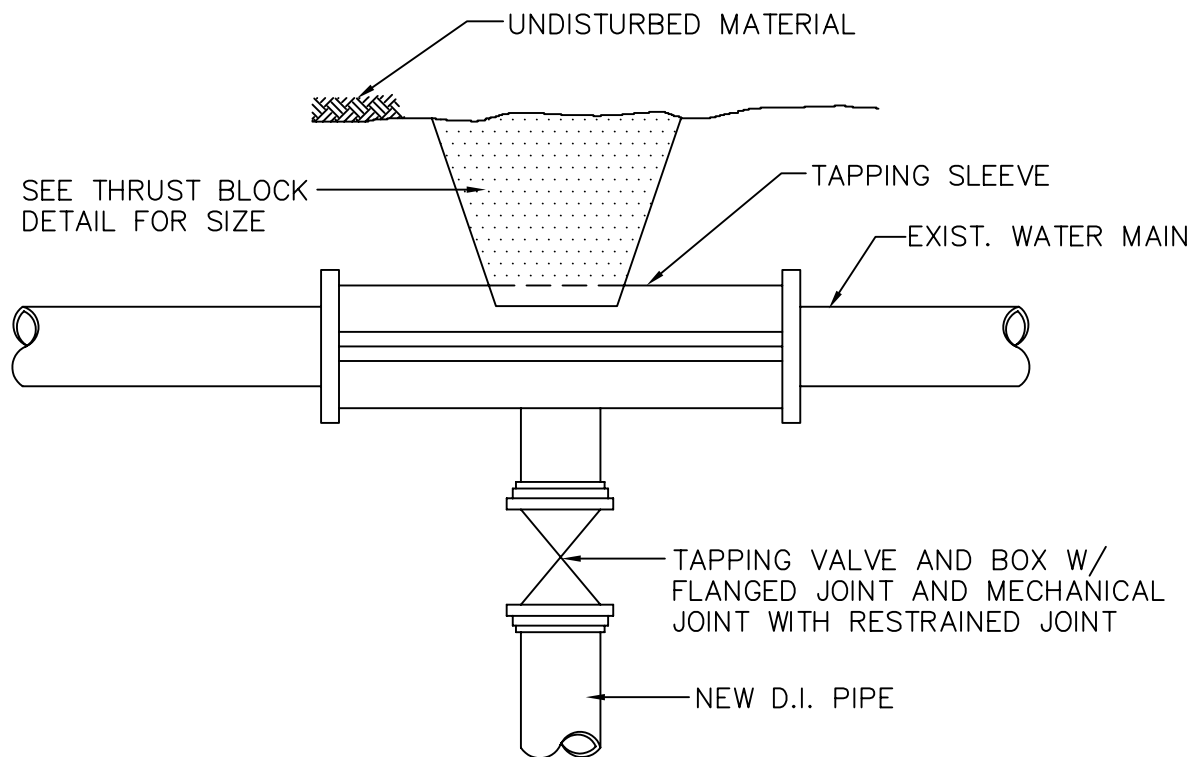
**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**AUTOMATIC AIR RELEASE MANHOLE**

NOT TO SCALE

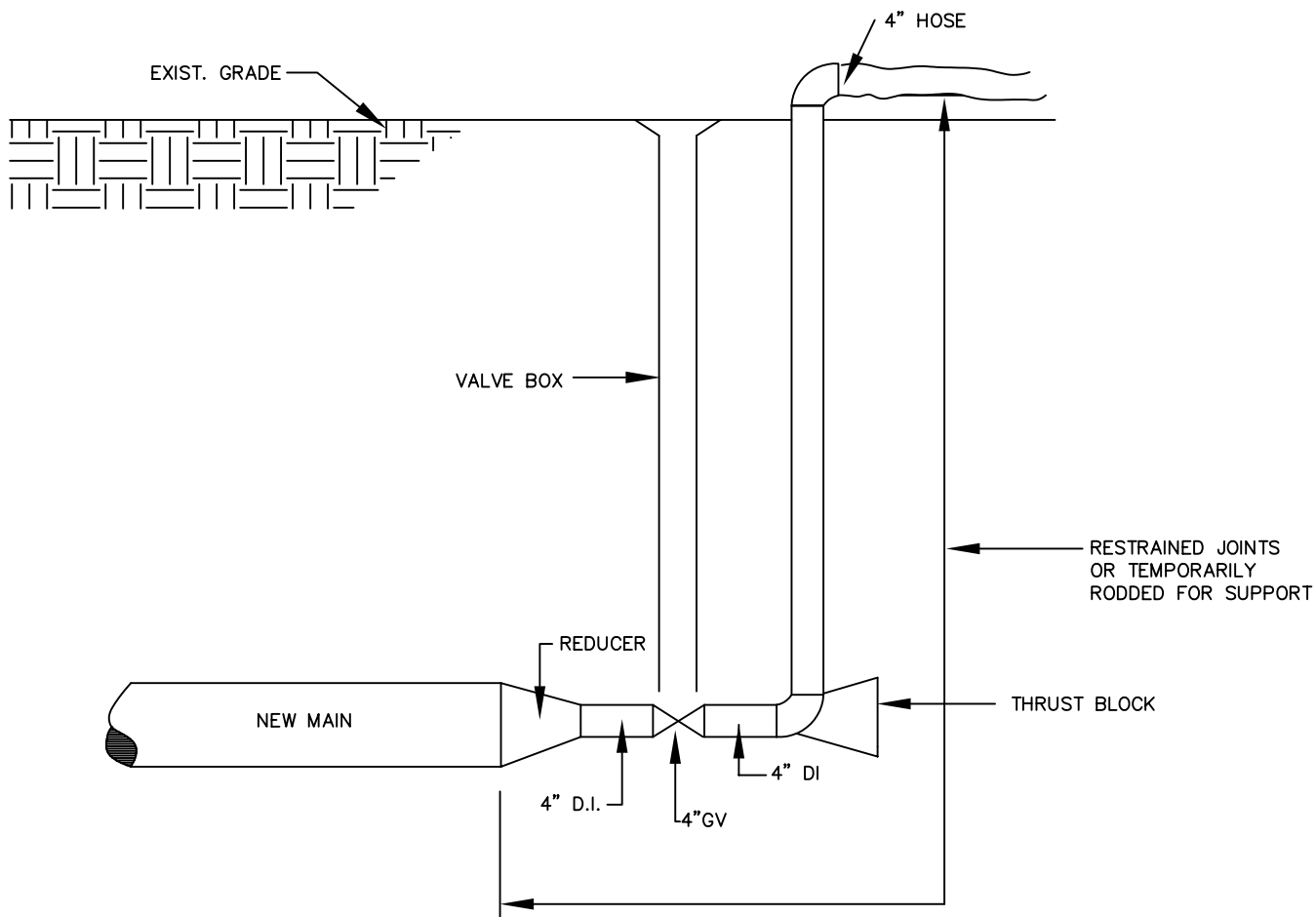
DATE: 09/2006

NOTE:  
MECHANICAL JOINT PIPE W/  
RESTRAINED JOINTS FOR  
BRANCHES OVER ONE LENGTH  
OF PIPE



NOTE:

- 1.) TAPPING SLEEVE AND VALVE TO BE SWABBED WITH CHLORINE SOLUTION.



**NOTE:**

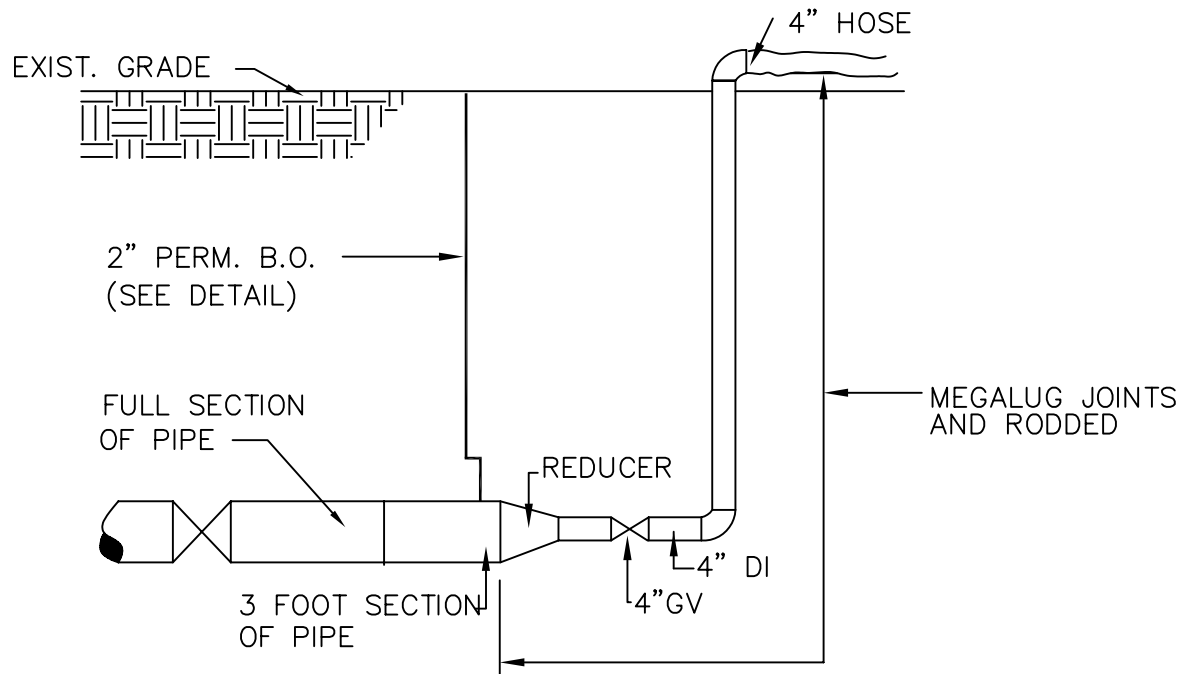
AFTER THE COMPLETION OF THE FINAL FLUSHING THE CONTRACTOR SHALL REMOVE THE TEMPORARY FLUSHING CONNECTION AND CONNECT THE NEW WATER TO THE EXIST. WATER MAIN ALL PIPING AND FITTING SHALL BE DISINFECTED TO THE SATISFACTION OF THE KCWA.

**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**TEMPORARY FLUSHING CONNECTION**

NOT TO SCALE

DATE: 09/2006



AFTER THE COMPLETION OF THE  
FINAL FLUSHING THE CONTRACTOR  
SHALL REMOVE THE TEMPORARY  
FLUSHING CONNECTION AND INSTALL  
A CAP WITH MEGALUGS AND A  
THRUST BLOCK

**KCWA**

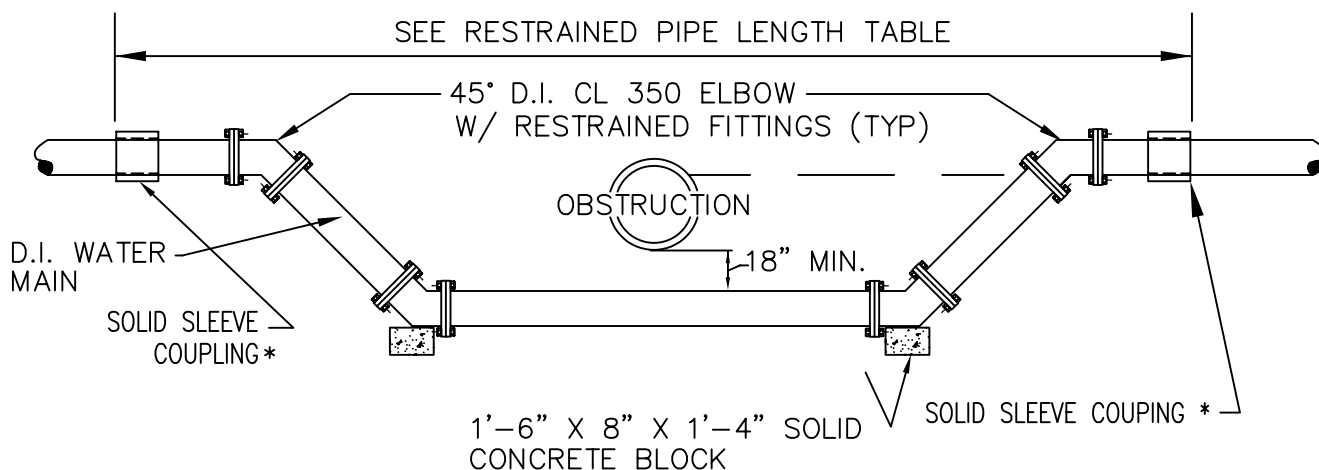
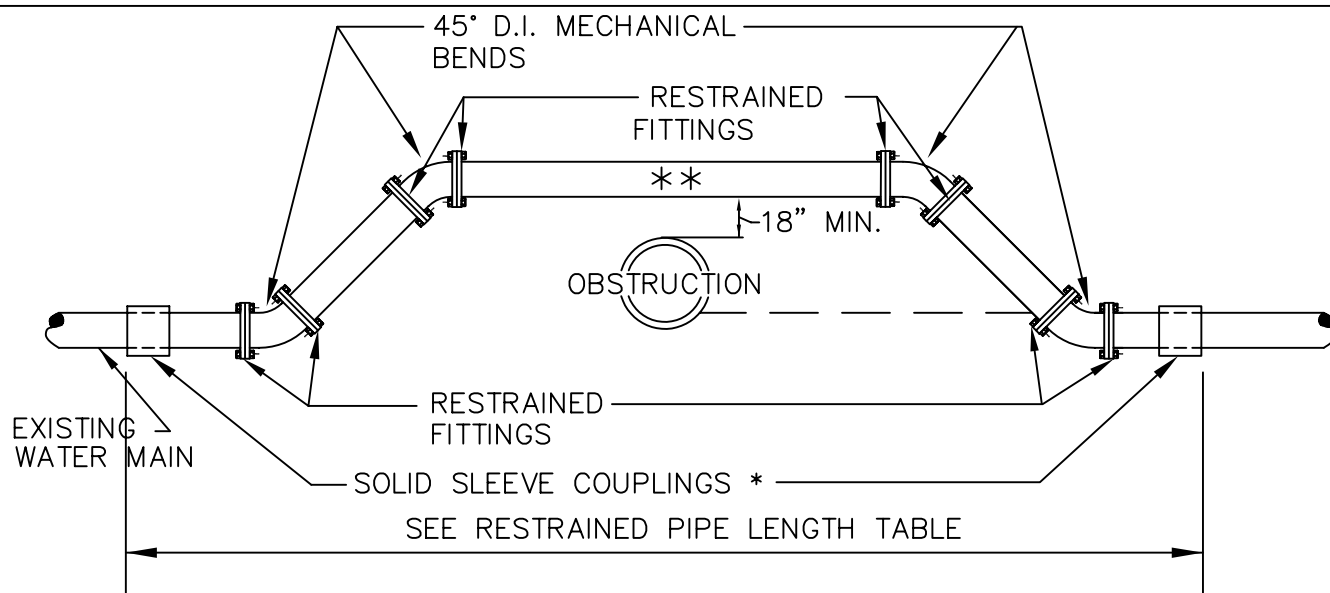
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**TEMPORARY FLUSHING CONNECTION**  
**ON DEAD END WATER MAIN**

NOT TO SCALE

DATE: 09/2006





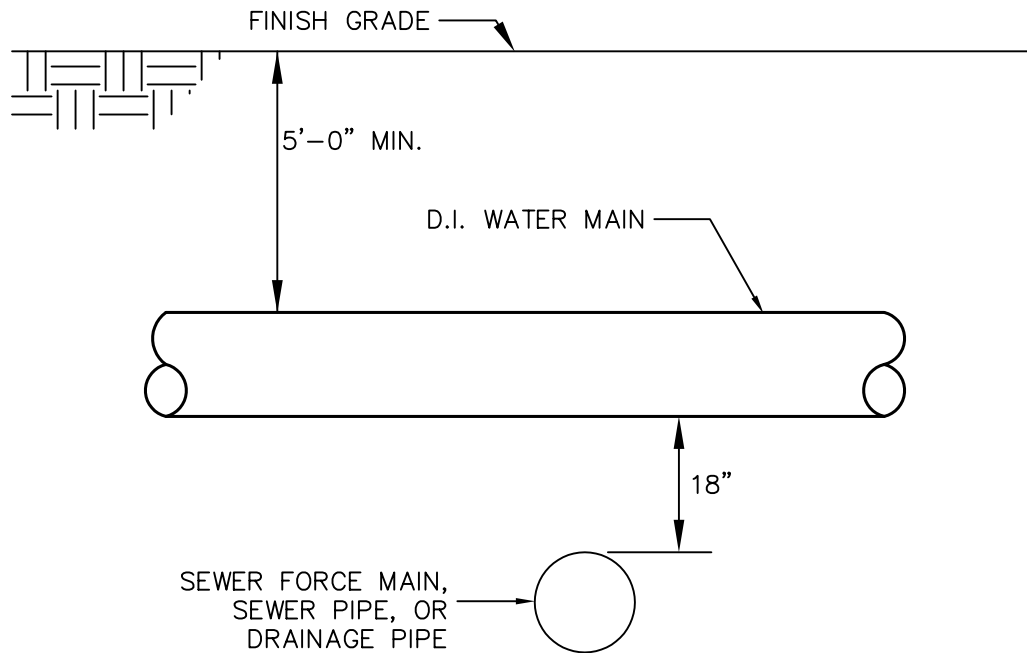
- \* TRANSITION COUPLING, DRESSER STYLE, TO BE USED ONLY WHEN EXISTING WATER MAIN IS OF DIFFERENT MATERIAL OTHER THAN DUCTILE IRON.
- \* SOLID SLEEVE TO BE RESTRAINED WITH APPROVED RESTRAINT FITTINGS
- \* ONLY TO BE USED WHEN CALCULATED FRICTION LOSS WILL NOT ADVERSELY EFFECT DISTRIBUTION PRESSURE AND FLOW
- \*\* MINIMUM DEPTH OF COVER SHALL BE 2'-0". THE WATER PIPE SHALL BE CLASS 54 AND INSULATED WITH 2" FOAMGLASS INSULATION W/ PITT WRAP OR EQUAL WHERE THE WATER PIPE HAS LESS THAN 5' OF COVER

**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**WATER MAIN HORIZONTAL OR  
VERTICAL RELOCATION**

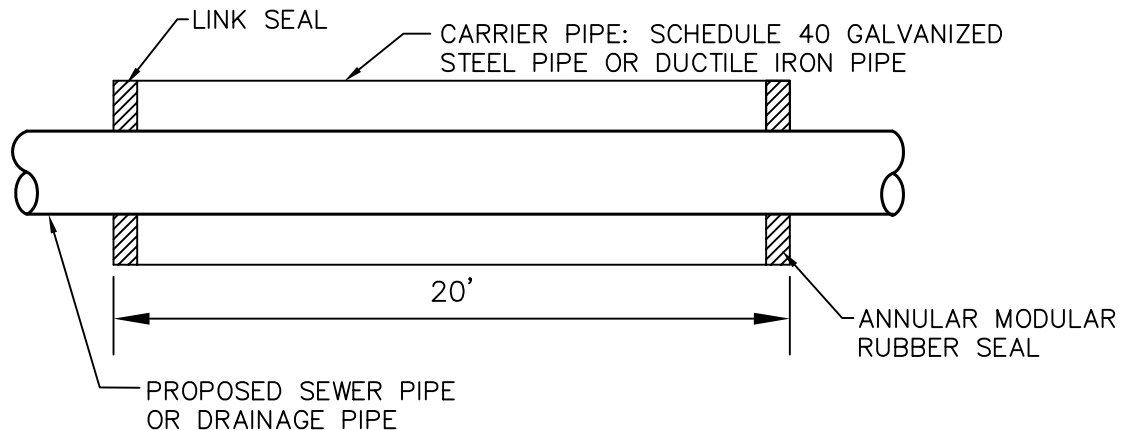
NOT TO SCALE

DATE: 09/2006

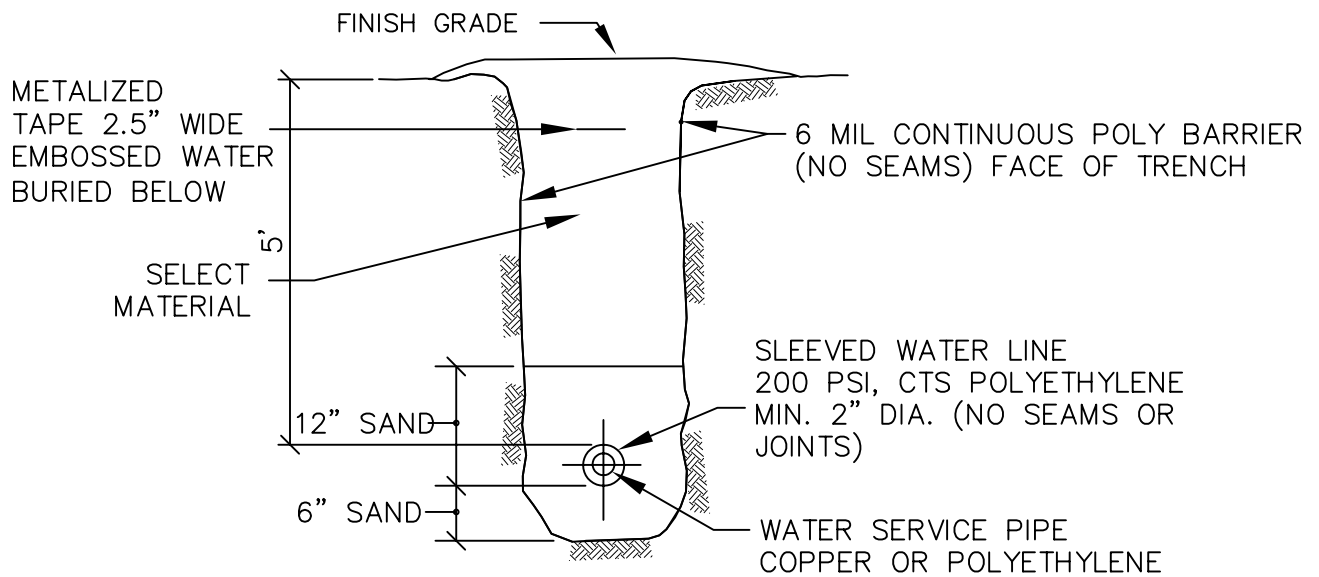


**NOTES:**

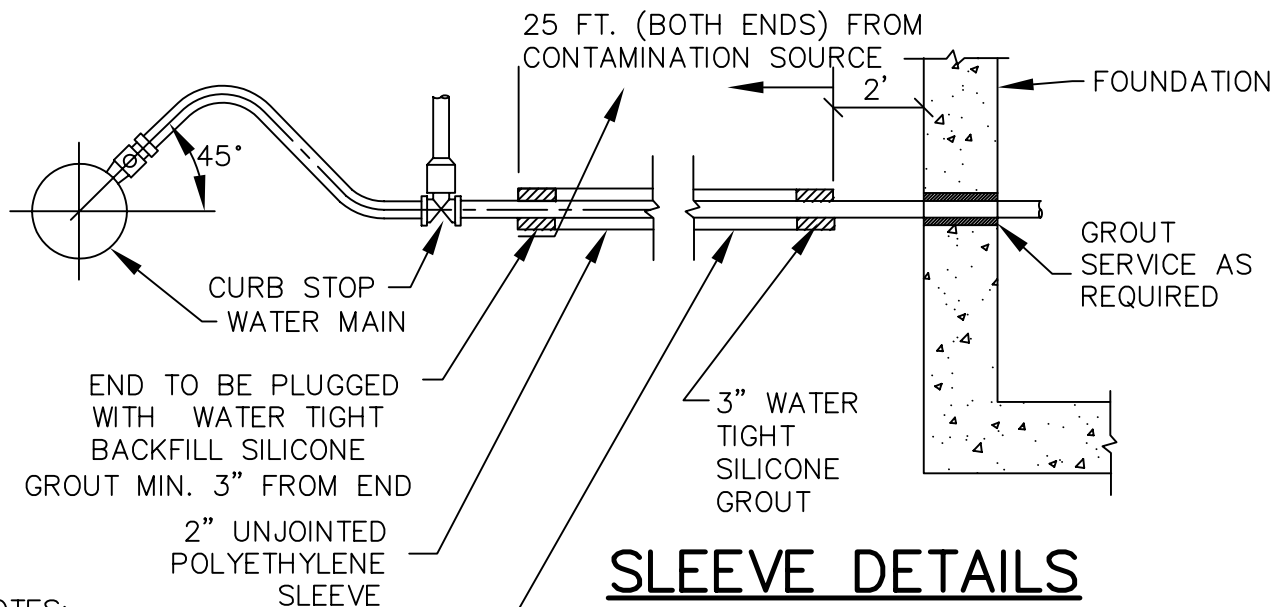
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE KCWA.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASEMENT IS NOT ALLOWED.



**CARRIER PIPE DETAIL**



## TRENCH DETAIL



## SLEEVE DETAILS

### NOTES:

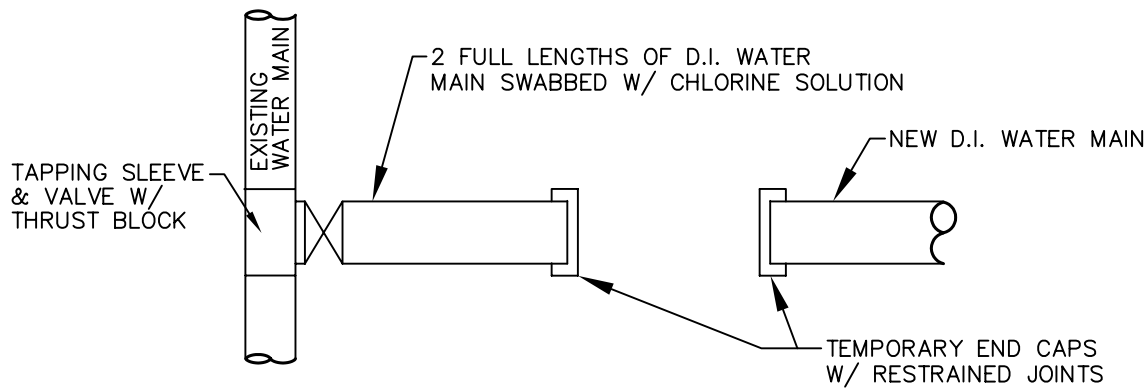
- 1.) 12' COPPER WHIP REQUIRED POLYETHYLENE MAY NOT BE SUITABLE.
- 2.) EXISTING SYSTEM ONLY. NOT TO BE USED FOR NEW CONST. MUST OBTAIN PRIOR APPROVAL FROM KCWA GENERAL MANAGER/ CHIEF ENGINEER.

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KENT COUNTY WATER AUTHORITY  
**WATER SERVICE WITHIN 25 FT.  
OF CONTAMINATION SOURCE**

NOT TO SCALE

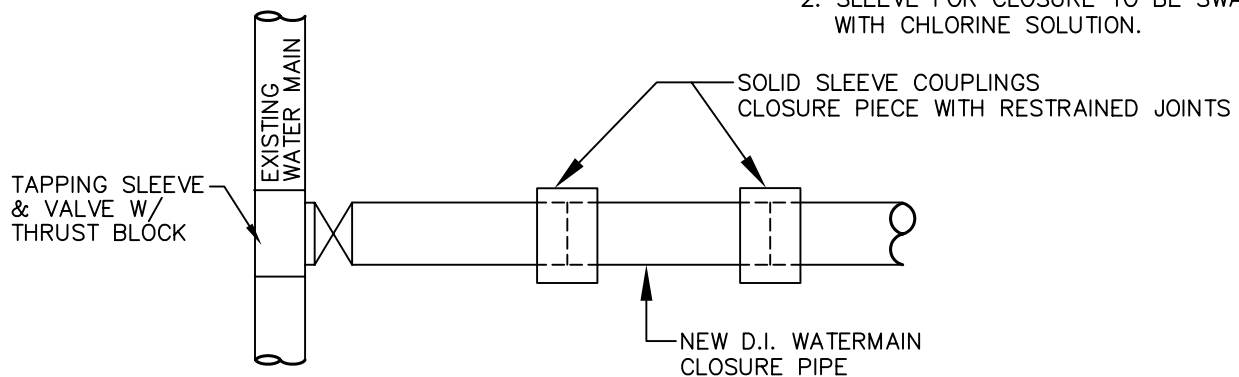
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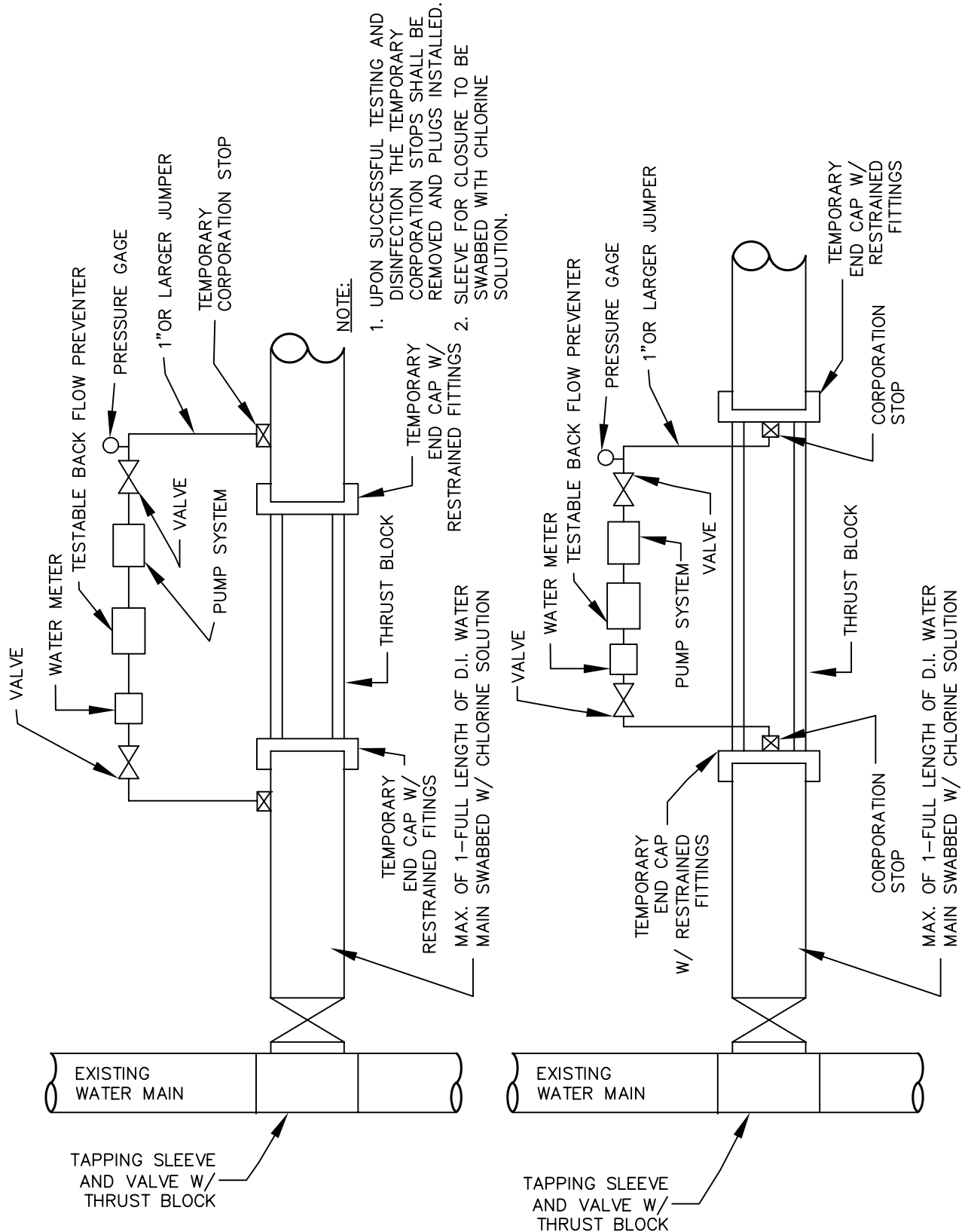
## PRIOR TO CONNECTION

### NOTE:

1. PRIOR TO FINAL APPROVAL FOR PERMANENT CONNECTION FROM KCWA, CONTRACTOR SHALL PERFORM. PRESSURE TESTING AND CHLORINATION.
2. SLEEVE FOR CLOSURE TO BE SWABBED WITH CHLORINE SOLUTION.



## CONNECTION



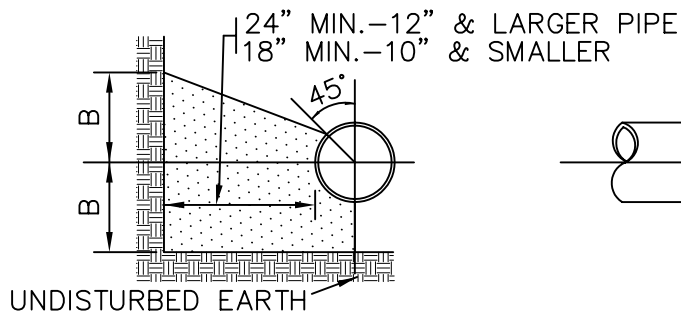
**KCWA**

"proudly serving"

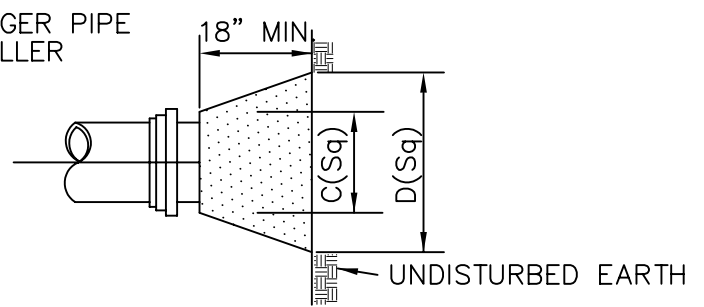
KENT COUNTY WATER AUTHORITY  
**TEMPORARY CONNECTION FOR PRESSURE  
 TESTING AND DISINFECTION**

NOT TO SCALE

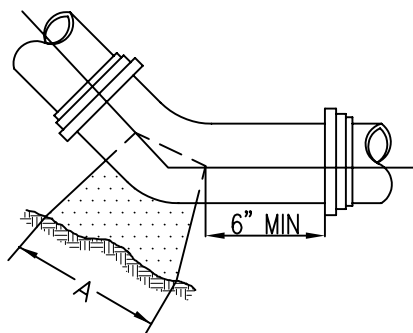
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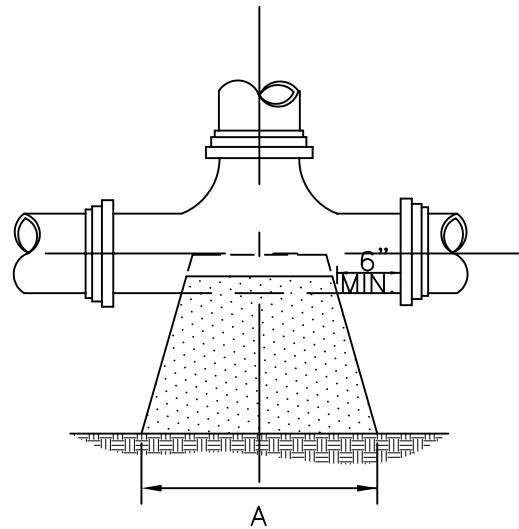
BENDS & TEES SECTION



PLAN & ELEVATION PLUGS



PLAN BENDS



PLAN TEES

NOTES:

- 1.) ALL CONCRETE SHALL BE 4000 P.S.I @ 28 DAYS.
- 2.) CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
- 3.) FORMS TO BE USED AS NECESSARY.
- 4.) ALL BOLTS AND NUTS TO BE PROTECTED FROM CONCRETE AND EASILY ACCESSIBLE WHEN THRUST BLOCK INSTALLED.
- 5.) REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF R.I. SHALL VERIFY ALL CALCULATIONS DURING DESIGN TO MEET CONDITIONS OF PROJECT AND KCWA REQUIREMENTS.

SIZE	TEES		PLUGS		90° BEND		45° BEND		22½° BEND		11¼° BEND	
	A	B	C	D	A	B	A	B	A	B	A	B
6"	20"	10"	10"	21"	24"	12"	18"	9"	13"	7"	9"	5"
8"	26"	13"	12"	26"	32"	16"	24"	12"	17"	9"	12"	6"
10"	34"	17"	14"	34"	40"	20"	30"	15"	22"	11"	15"	8"
12"	41"	20"	16"	41"	48"	24"	35"	18"	25"	13"	18"	9"
16"	54"	27"	20"	54"	64"	32"	47"	23"	34"	17"	24"	12"

KENT COUNTY WATER AUTHORITY

**KCWA**

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**THRUST BLOCK**

NOT TO SCALE

DATE: 09/2006

# RESTRAINED PIPE LENGTHS FOR RESTRAINED FITTINGS

FITTING	RESTRAINED LENGTH
12" PLUG	94'
12" TEE	44'
12" 90°	58'
12" 45°	44'
12" 22 1/2°	22'
12" 11 1/4°	22'
8" PLUG	58'
8" TEE	44'
8" 90°	44'
8" 45°	22'
8" 22 1/2°	22'
8" 11 1/4°	22'
8" X 6"	44'
6" PLUG	44'
6" TEE	22'
6" 90°	22'
6" 45°	22'
6" 22 1/2°	22'
6" 11 1/4°	22'

## NOTE:

1. ALL JOINTS, INCLUDING PIPE JOINTS, VALVE JOINTS, AND FITTING JOINTS, SHALL BE RESTRAINED WITHIN THE LIMITS OF RESTRAINED LENGTHS LISTED ON THIS TABLE. MECHANICAL JOINT PIPE AND MECHANICAL RESTRAINTS WILL BE IN ACCORDANCE WITH THE ABOVE TABLE.
2. THE TABLE SHOWS LENGTHS OF PIPES WHICH MUST BE RESTRAINED ON BOTH SIDES OF THE FITTING.
3. ALL DEAD END PIPE SHALL BE PROPERLY RESTRAINED PRIOR TO PRESSURE TESTING.
4. REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF R.I. SHALL VERIFY ALL RESTRAINING CALCULATIONS & LENGTHS DURING DESIGN, MEETING ALL REQUIREMENTS OF THE KCWA.

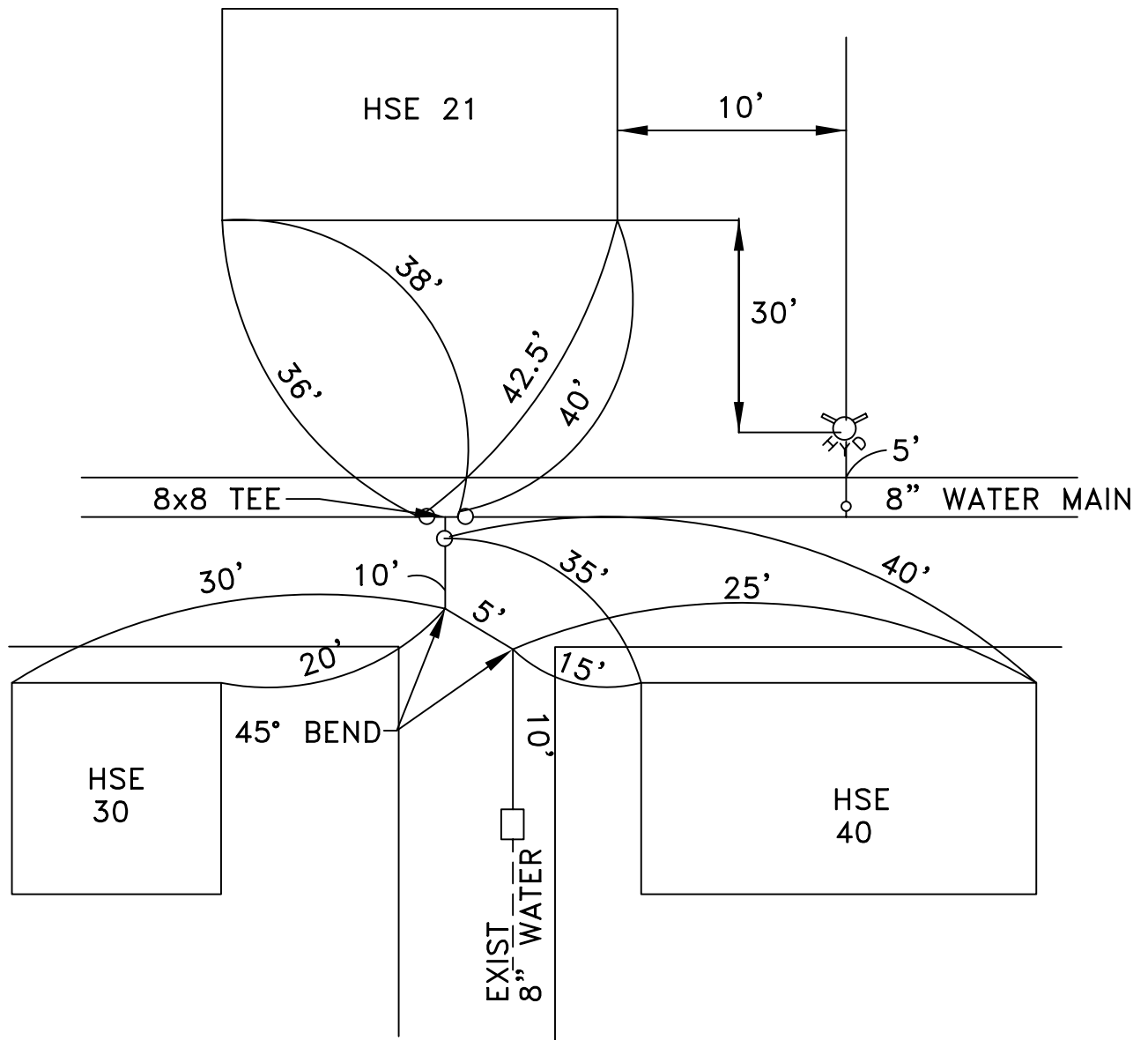
**KCWA**  
"proudly serving"

KENT COUNTY WATER AUTHORITY  
**RESTRAINED PIPE LENGTHS**

NOT TO SCALE

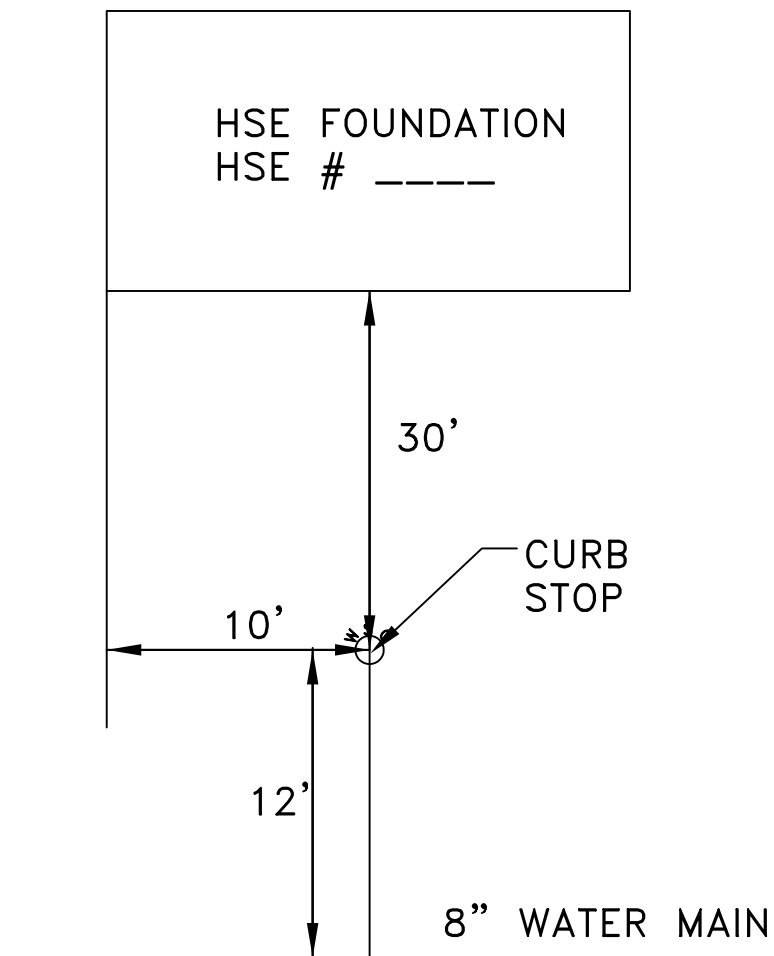
DATE: 09/2006

EXAMPLE OF LOCATION  
OF VALVES, FITTINGS AND  
HYDRANTS FOR AS-BUILT  
DRAWINGS





EXAMPLE OF HOUSE  
SERVICE AS- BUILTS



DEPTH OF MAIN = 5'  
STANDARD SIZE OF SERVICE = 3/4"