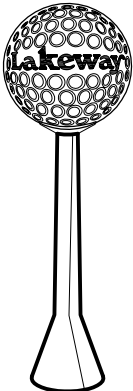


NEW PIPE

NOTE:

SELECT BACKFILL SHALL CONTAIN NO MORE THAN 2" DIAMETER ROCK FROM SPOILS.



LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

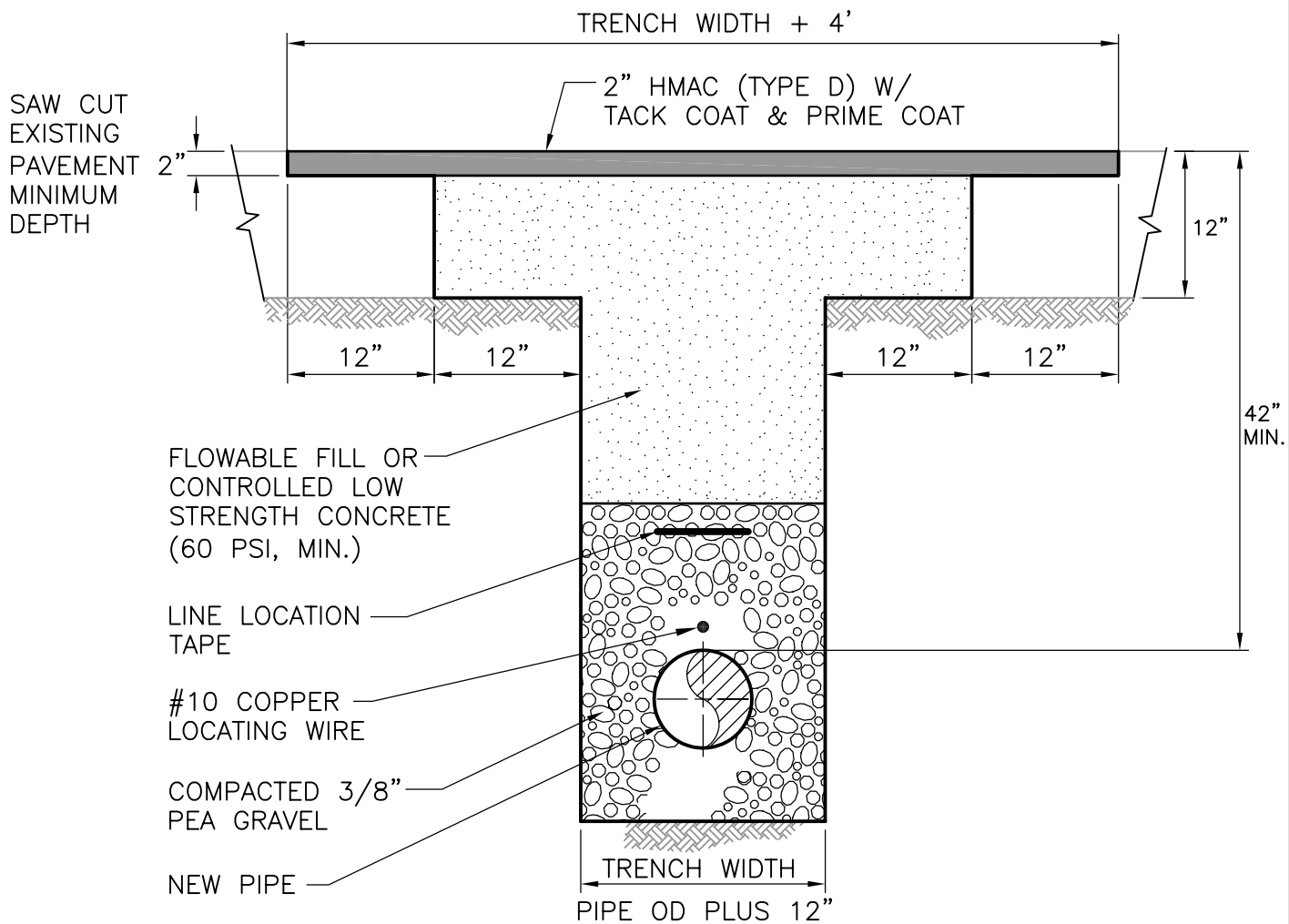
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Date Issued: May 29, 2007

Rev.#	Date	By	Remarks

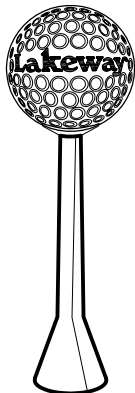
PIPE TRENCH DETAILS
UNPAVED AREAS

STANDARD
DETAIL
G-1



NOTES:

1. IF SAW CUT LINE FALLS WITHIN 2' OF CURB OR STRUCTURE, REMOVE AND REPLACE PAVEMENT TO THE CURB OR STRUCTURE.
2. DETAIL SHALL ALSO BE USED FOR ELECTRICAL DUCTBANK.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

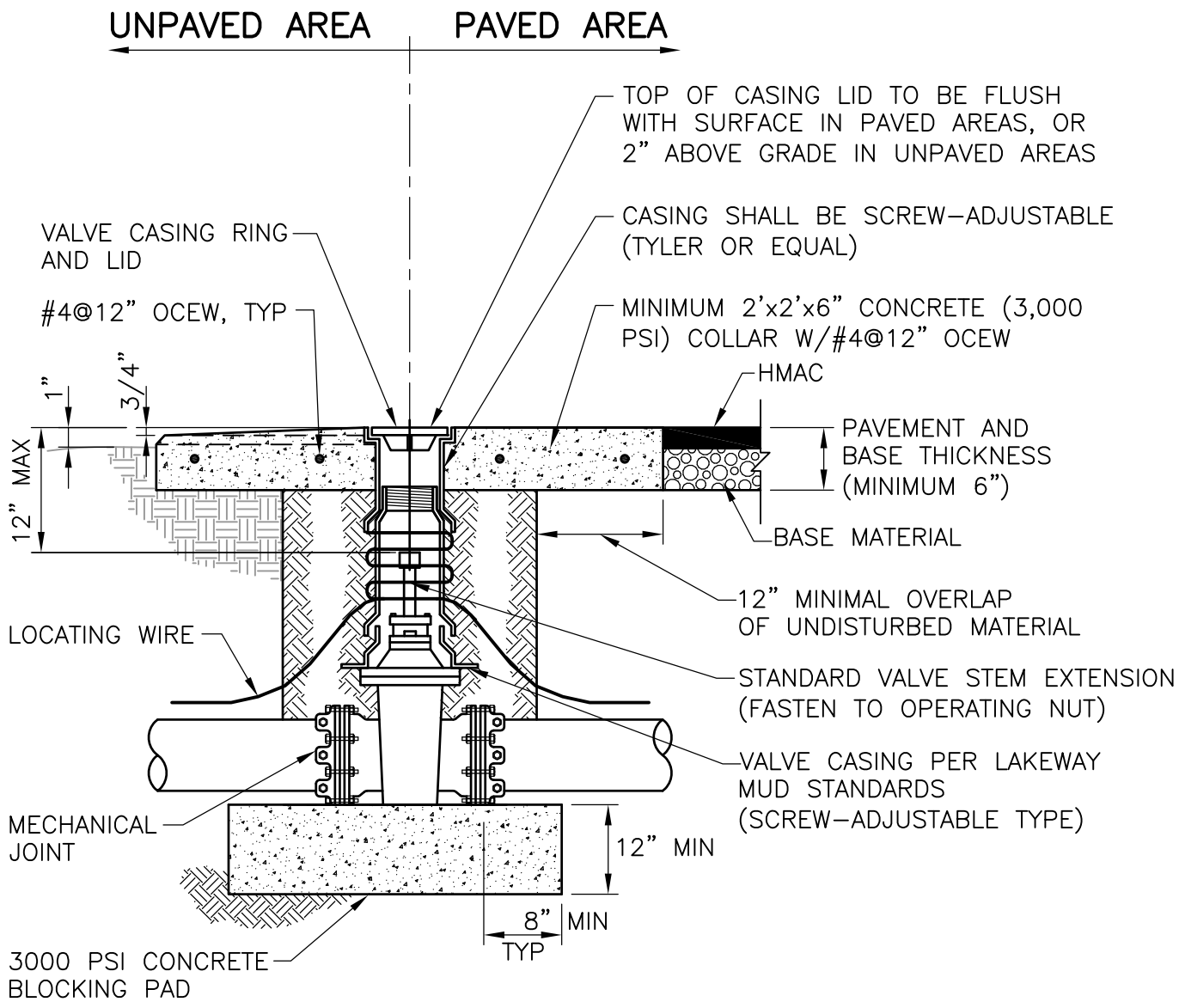
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Date Issued: May 29, 2007

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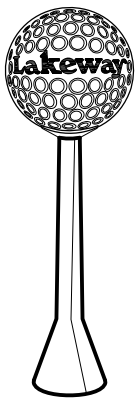
**PAVEMENT REPLACEMENT
FOR ASPHALT PAVEMENT**

**STANDARD
DETAIL
G-2**



NOTES:

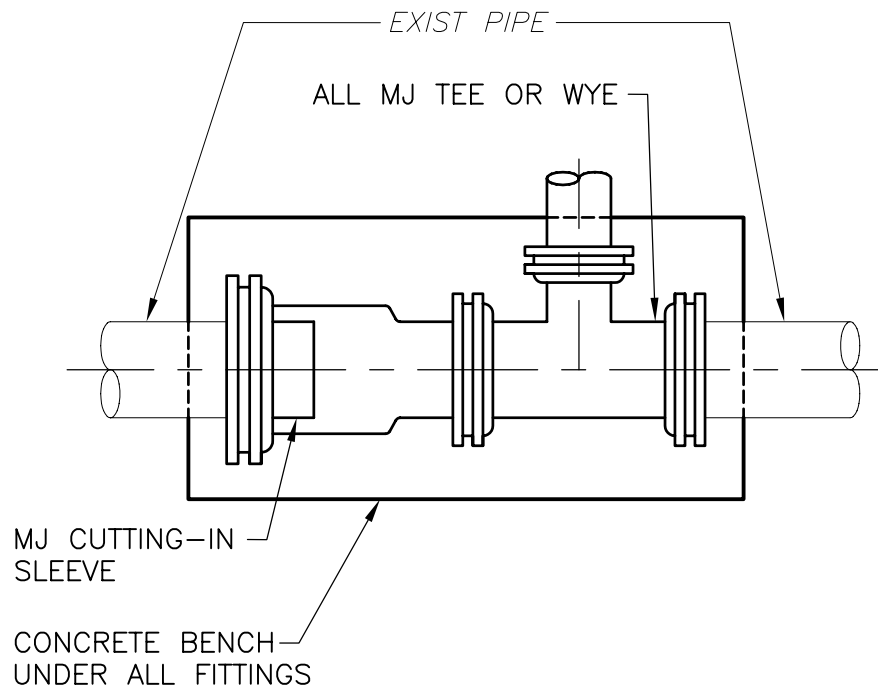
1. VALVES IN POTABLE AND REUSE SERVICE SHALL BE RESILIENT WEDGE GATE VALVES BY AMERICAN AVK COMPANY.
2. VALVES IN RAW WASTEWATER SERVICE SHALL BE ECCENTRIC RESILIENT PLUG TYPE WITH CAST IRON BODY, ACRYLONITRILE-BUTADIENE (NBR) PLUG, WELDED-IN NICKEL SEAT. PROVIDE WORM GEAR ACTUATOR WITH 2" SQUARE NUT. ACTUATOR SHALL HAVE RADIAL SHAFT AND ROLLER THRUST BEARINGS. PLUG VALVES SHALL BE BY VALMATIL OR APPROVED EQUAL.
3. VALVES IN WASTEWATER FORCE MAINS 3" DIAMETER AND BELOW SHALL BE 304 STAINLESS STEEL BALL TYPE WITH 2" OPERATING NUT.
4. VALVE CASING, RING, LID, ETC., SHALL BE DESIGNED FOR HS-20 LOADING WHERE INSTALLED IN PAVED AREAS.
5. STRIP 6' OF #10 COPPER WIRE (EACH DIRECTION) AND WRAP AROUND EACH VALVE BOX.



LAKEWAY MUNICIPAL UTILITY DISTRICT

LAKEWAY, TEXAS

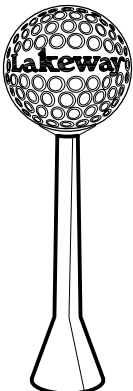
Scale: NTS				BURIED VALVE, VALVE BOX & COVER	STANDARD DETAIL G-3
Date Issued: May 29, 2007					
Rev.#	Date	By	Remarks		
1	7-09	BAP	NOTE 5, LOCATING WIRE		



PLAN VIEW

NOTES:

1. OUT OF EXIST PIPELINE, CUT ONLY THE LENGTH OF PIPE NECESSARY TO EQUAL OVERALL LENGTH OF FITTING TO BE INSERTED PLUS 10"+/- FOR INSERTING CUTTING-IN SLEEVE.
2. WRAP ALL IN 8 MIL PLASTIC.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

Scale: NTS

Date Issued: May 29, 2007

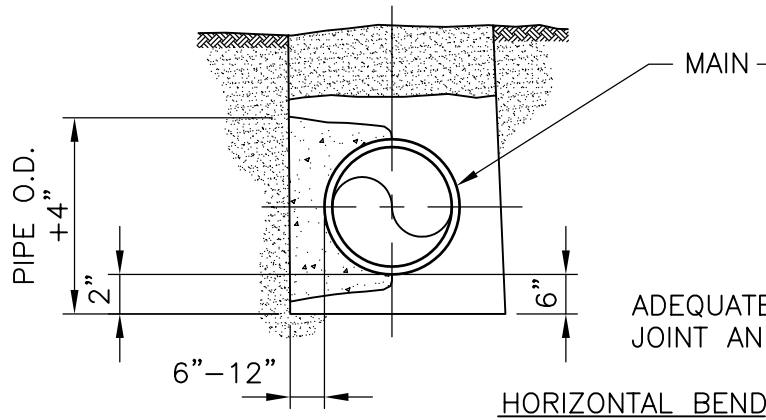
Rev.#	Date	By	Remarks

CUTTING-IN SLEEVE

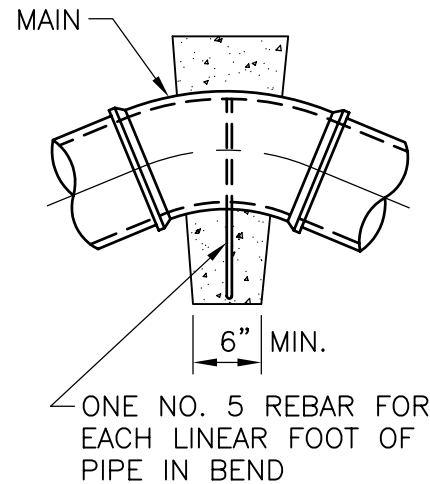
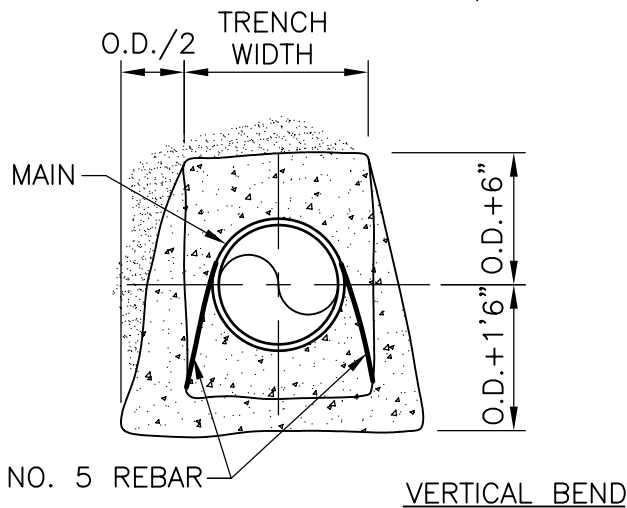
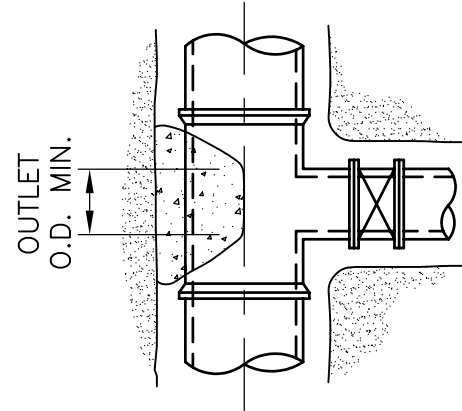
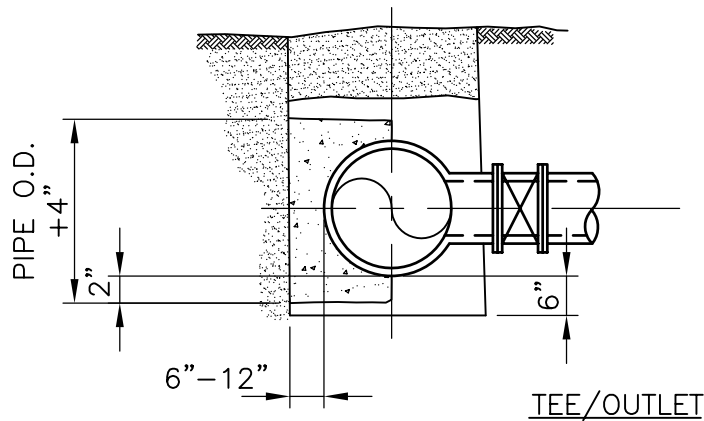
STANDARD
DETAIL
G-4

CONCRETE SHALL BE CLASS D, 2500 PSI

WRAP FITTINGS IN 8 MIL PLASTIC, TYPICAL



ADEQUATE TO CLEAR JOINT AND BOLTS



THRUST BLOCK DESIGN AS FOLLOWS:

- A. PRESSURE OF 150 PSI (ACTUAL IF HIGHER) +50% SURGE ALLOWANCE
- B. MAXIMUM SOIL BEARING

SOIL TYPE	PRESSURE
LIMESTONE	4000 LBS/SQ FT
UNDISTURBED SOIL,	-
CALICHE	2000 LBS/SQ FT
LOOSE OR SPONGY SOIL	1500 LBS/SQ FT

LAKEWAY MUNICIPAL UTILITY DISTRICT

LAKEWAY, TEXAS

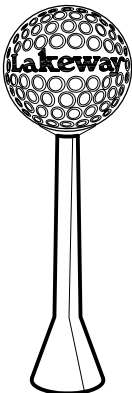
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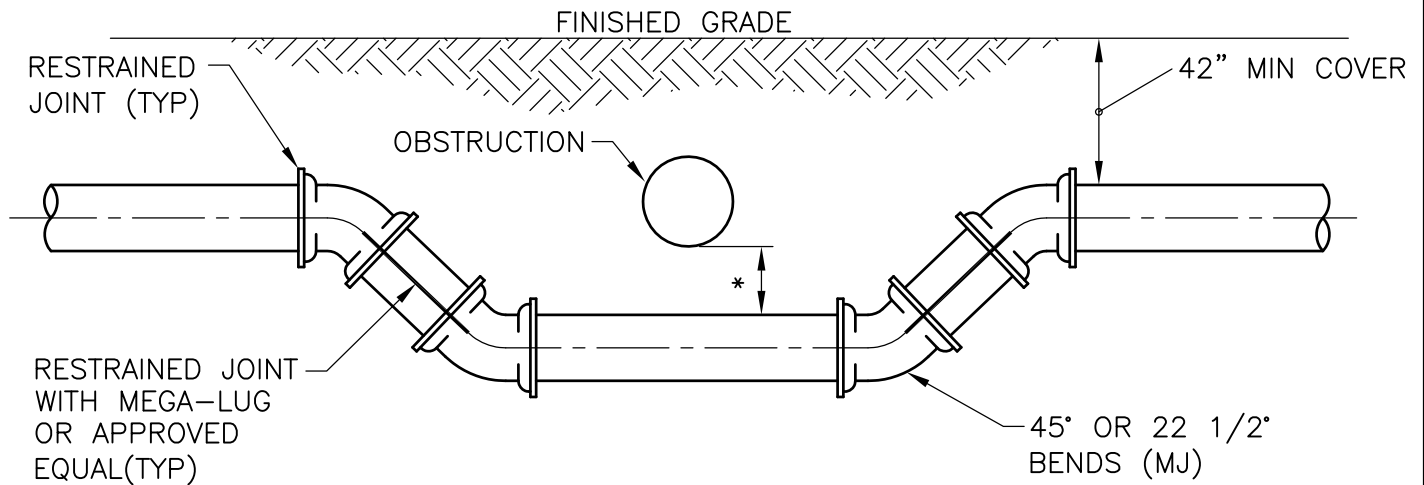
Date Issued: May 29, 2007

Rev.# Date By Remarks

THRUST BLOCKING

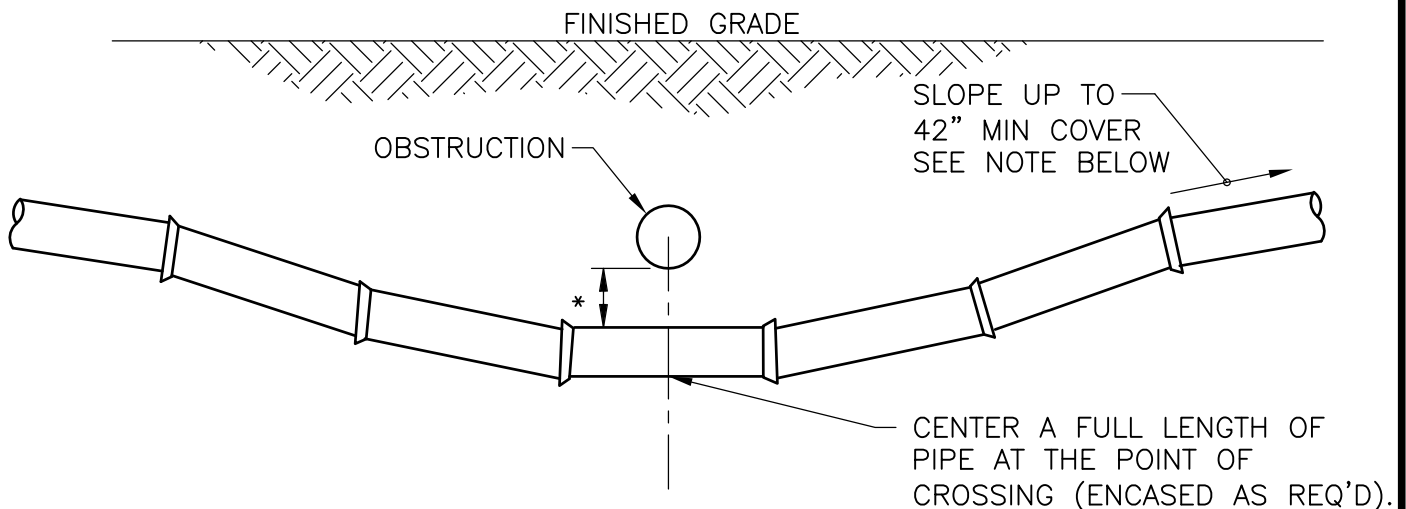
STANDARD
DETAIL
G-5





SPECIAL UTILITY CROSSING – FITTING TYPE

*24" MINIMUM CLEARANCE REQUIRED FOR WATER AND WASTEWATER MAIN CROSSINGS. 12" MINIMUM CLEARANCE REQUIRED FOR OTHER TYPE UTILITIES CROSSING. RETAIN SEPARATION DISTANCE, REFER TO TAC 290.44. THE DEFLECTION TYPE CROSSING SHALL BE USED WHERE POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER WILL THE FITTING TYPE CROSSING BE ALLOWED. CONSTRUCT STANDARD CROSSING USING 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION. AIR RELEASE VALVES MAY BE REQUIRED.



STANDARD UTILITY CROSSING – DEFLECTION TYPE

NOTE: AIR RELEASE VALVES MAY BE REQUIRED

LAKeway MUNICIPAL UTILITY DISTRICT
LAKeway, TEXAS

Scale: NTS

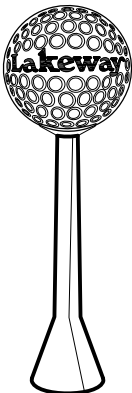
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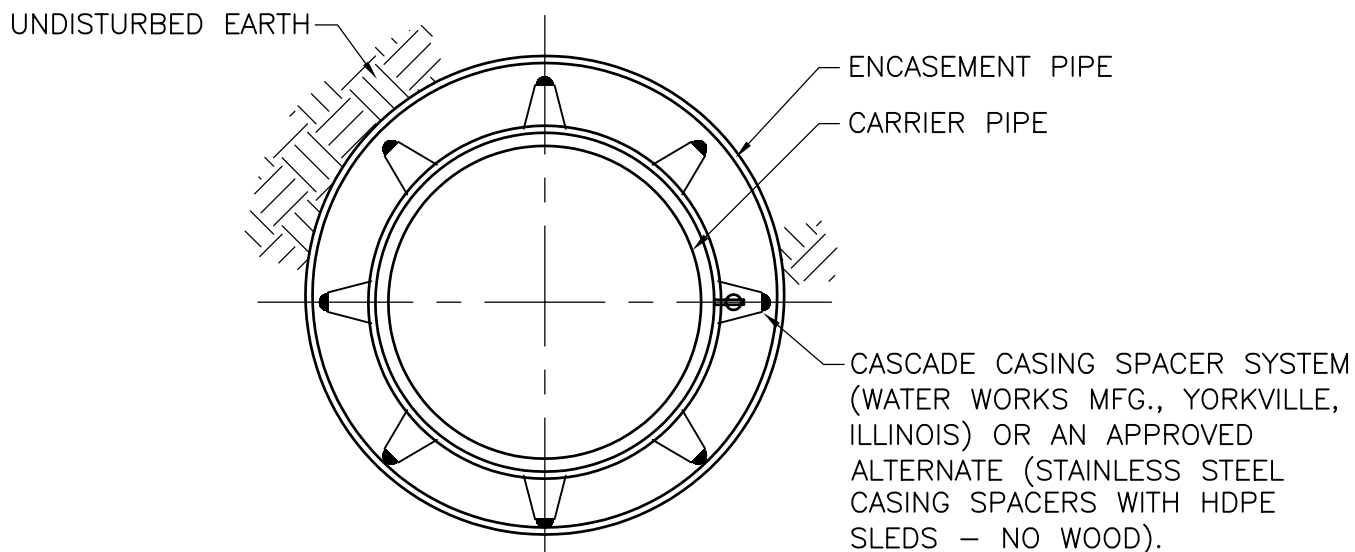
Rev.# Date By Remarks

1 7-09 BAP ARV NOTE

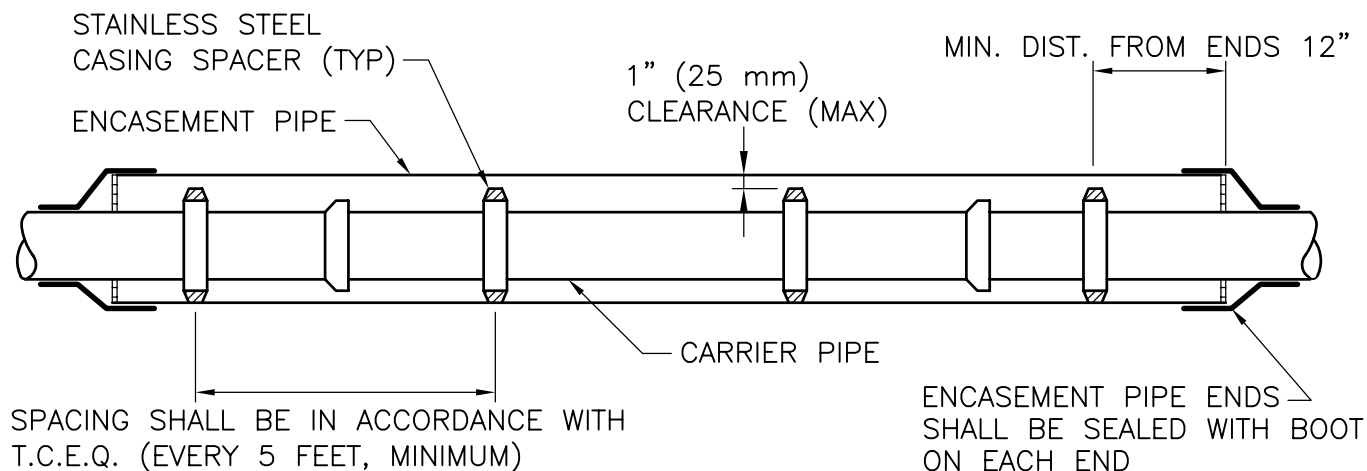
UTILITY CROSSING

STANDARD
DETAIL
G-6

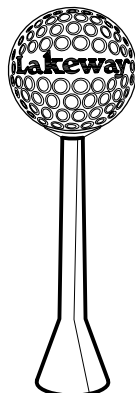




TYPICAL SECTION WITH CASING SPACERS



CENTERLINE PROFILE



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

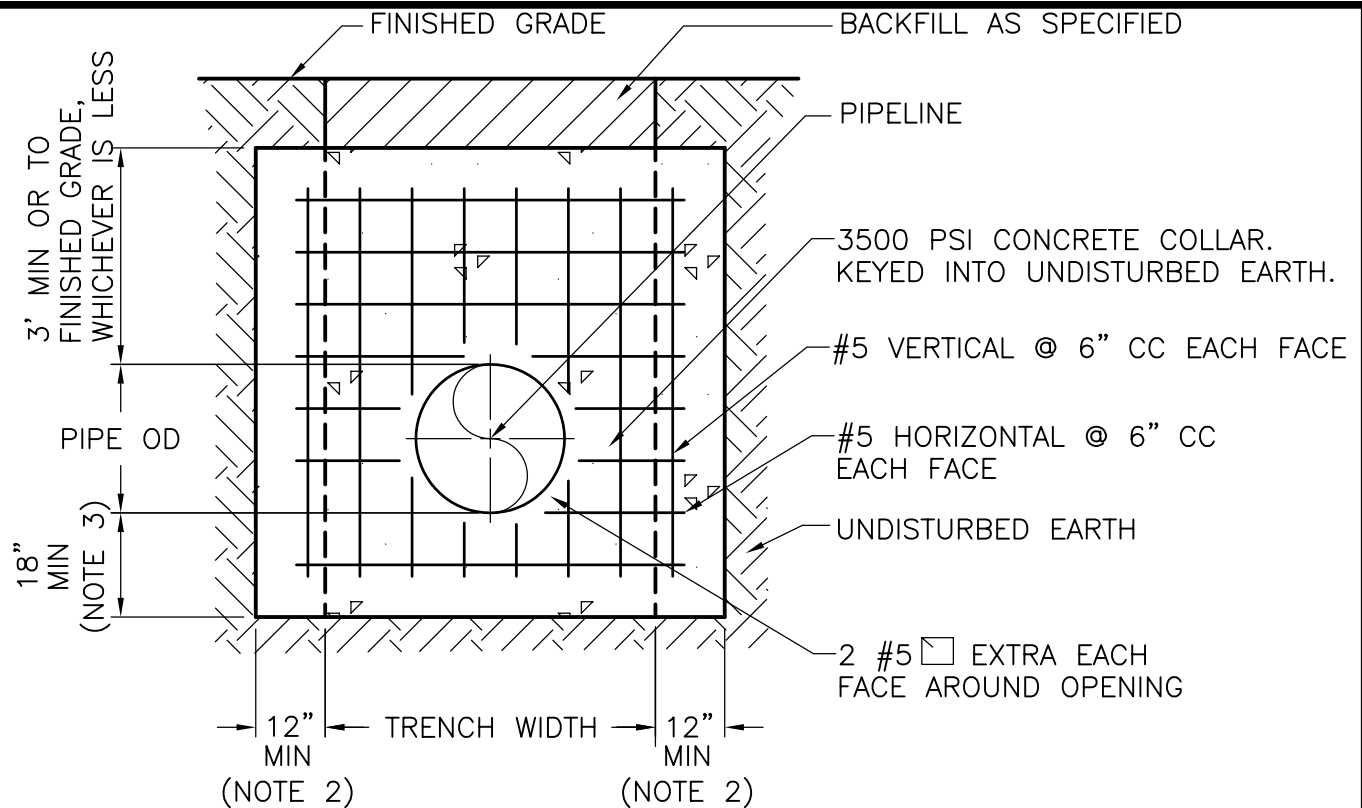
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Date Issued: May 29, 2007

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**ENCASEMENT DETAIL
WITH CASING SPACERS**

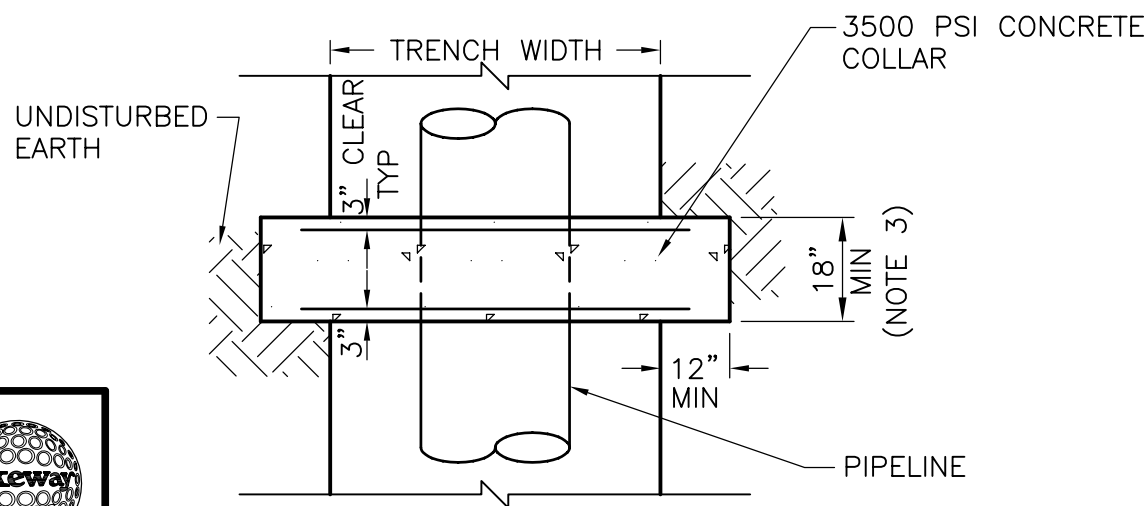
**STANDARD
DETAIL
G-7**



NOTES:

1. LOCATE CONCRETE PIPE COLLARS WHERE INDICATED ON PLANS AND OR PROFILES.
2. DIMENSION SHALL BE ONE-THIRD OF PIPELINE DIAMETER, BUT 12" MINIMUM.
3. DIMENSION SHALL BE ONE-THIRD OF PIPELINE DIAMETER, BUT 18" MINIMUM.
4. PLACE RETARDS SUCH THAT THE TOP 12" OF RETARD AT LOWER ELEVATION OVERLAPS BOTTOM 12" OF THE NEXT RETARD AT UPPER ELEVATION.

ELEVATION



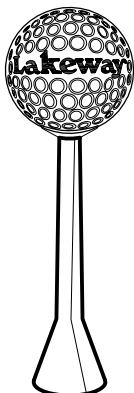
PLAN VIEW

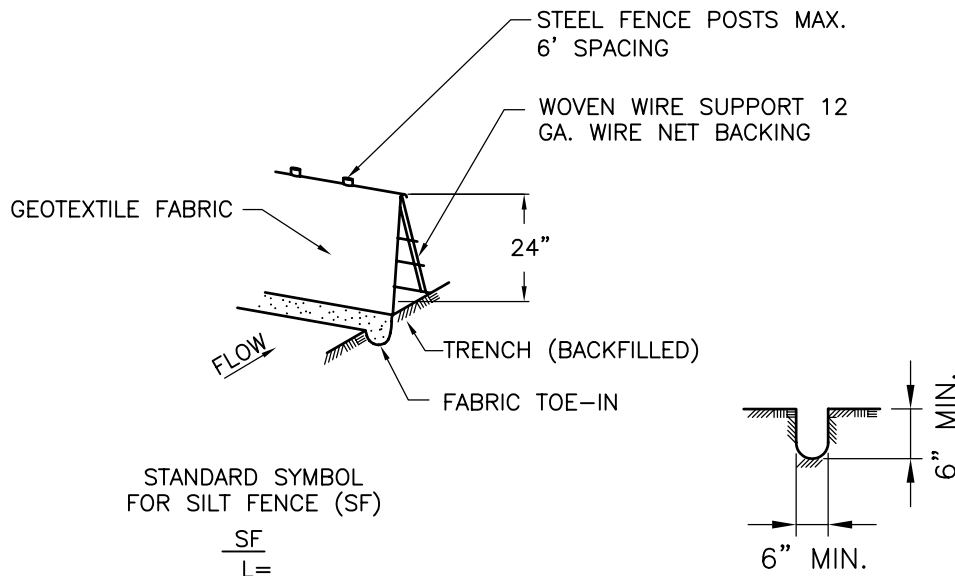
LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

Scale: NTS			
Date Issued: May 29, 2007			
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**CONCRETE PIPE COLLAR
(RETARD)**

**STANDARD
DETAIL
G-8**

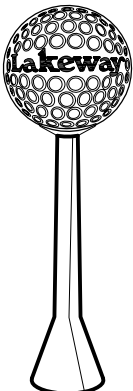




TRENCH CROSS SECTION

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 18".
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6". THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. ALL EROSION CONTROL MEASURES MUST CONFORM TO LCRA REQUIREMENTS FOR NON-POINT SOURCE POLLUTION.



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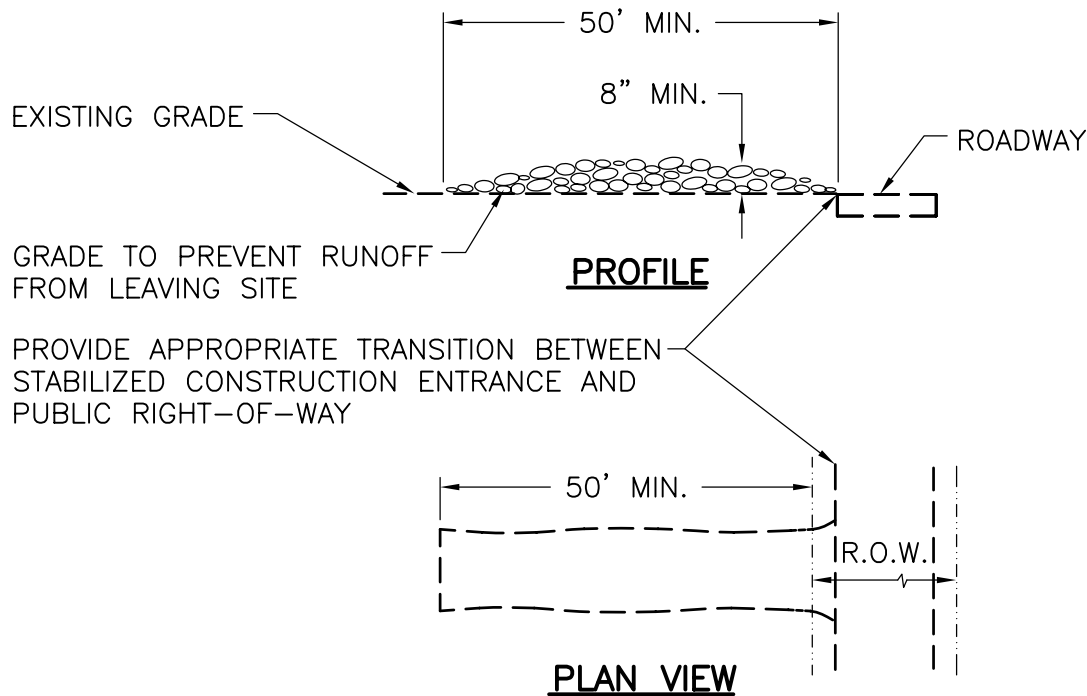
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Rev.#	Date	By	Remarks

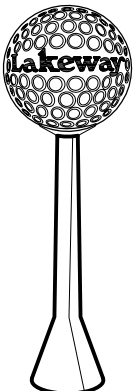
SILT FENCE

STANDARD
DETAIL
G-9



NOTES:

1. STONE SIZE: 3-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.



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LAKEWAY, TEXAS

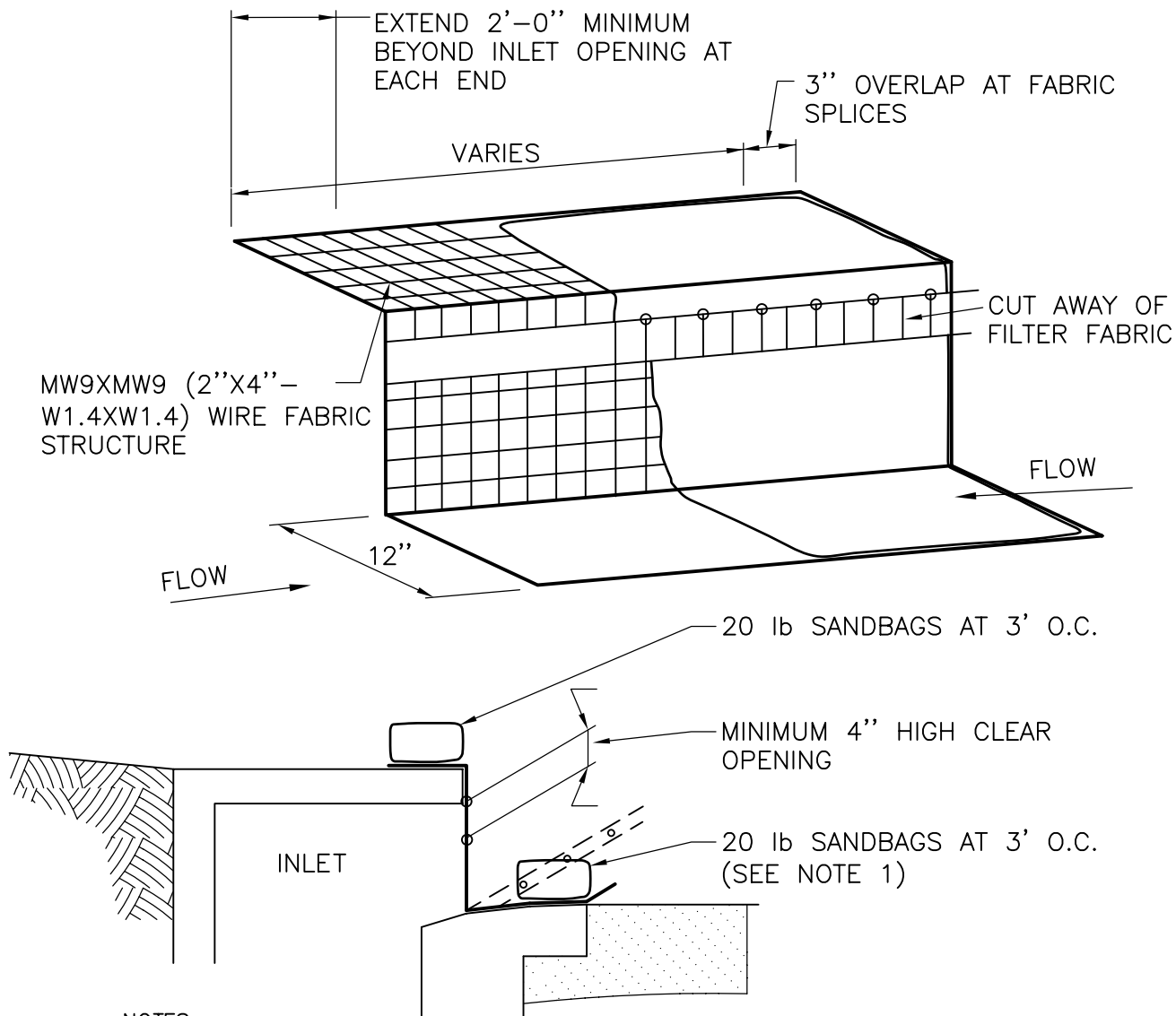
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Rev.#	Date	By	Remarks

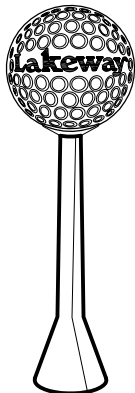
**STABILIZED CONSTRUCTION
ENTRANCE**

**STANDARD
DETAIL
G-10**



NOTES:

1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVERTOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.



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LAKEWAY, TEXAS

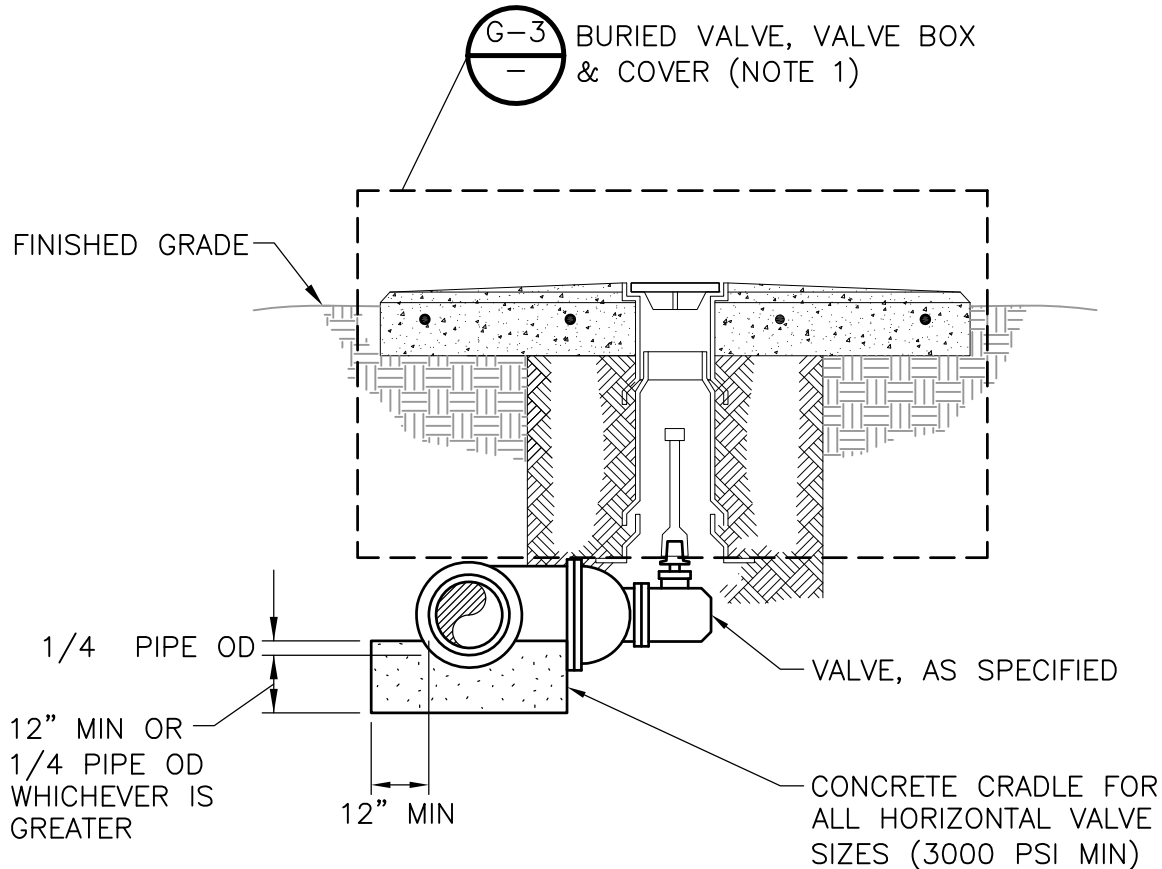
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Date Issued: May 29, 2007

Rev.#	Date	By	Remarks

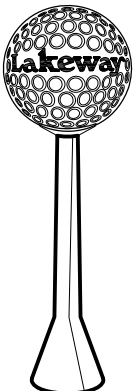
**FILTER DIKE CURB INLET
PROTECTION**

**STANDARD
DETAIL
G-11**



NOTES:

1. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX AND COVER DETAIL FOR ADDITIONAL REQUIREMENTS.
2. VALVES IN POTABLE AND REUSE SERVICE SHALL BE RESILIENT WEDGE GATE VALVES BY AMERICAN AVK COMPANY.
3. VALVES IN RAW WASTEWATER SERVICE SHALL BE ECCENTRIC RESILIENT PLUG TYPE WITH CAST IRON BODY, ACRYLONITRILE-BUTADIENE (NBR) PLUG, WELDED-IN NICKEL SEAT. PROVIDE WORM GEAR ACTUATOR WITH 2" SQUARE NUT. ACTUATOR SHALL HAVE RADIAL SHAFT AND ROLLER THRUST BEARINGS. PLUG VALVES SHALL BE BY VALMATIL OR APPROVED EQUAL.
4. VALVES IN WASTEWATER FORCE MAINS 3" DIAMETER AND BELOW SHALL BE 304 STAINLESS STEEL BALL TYPE WITH 2" OPERATING NUT.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

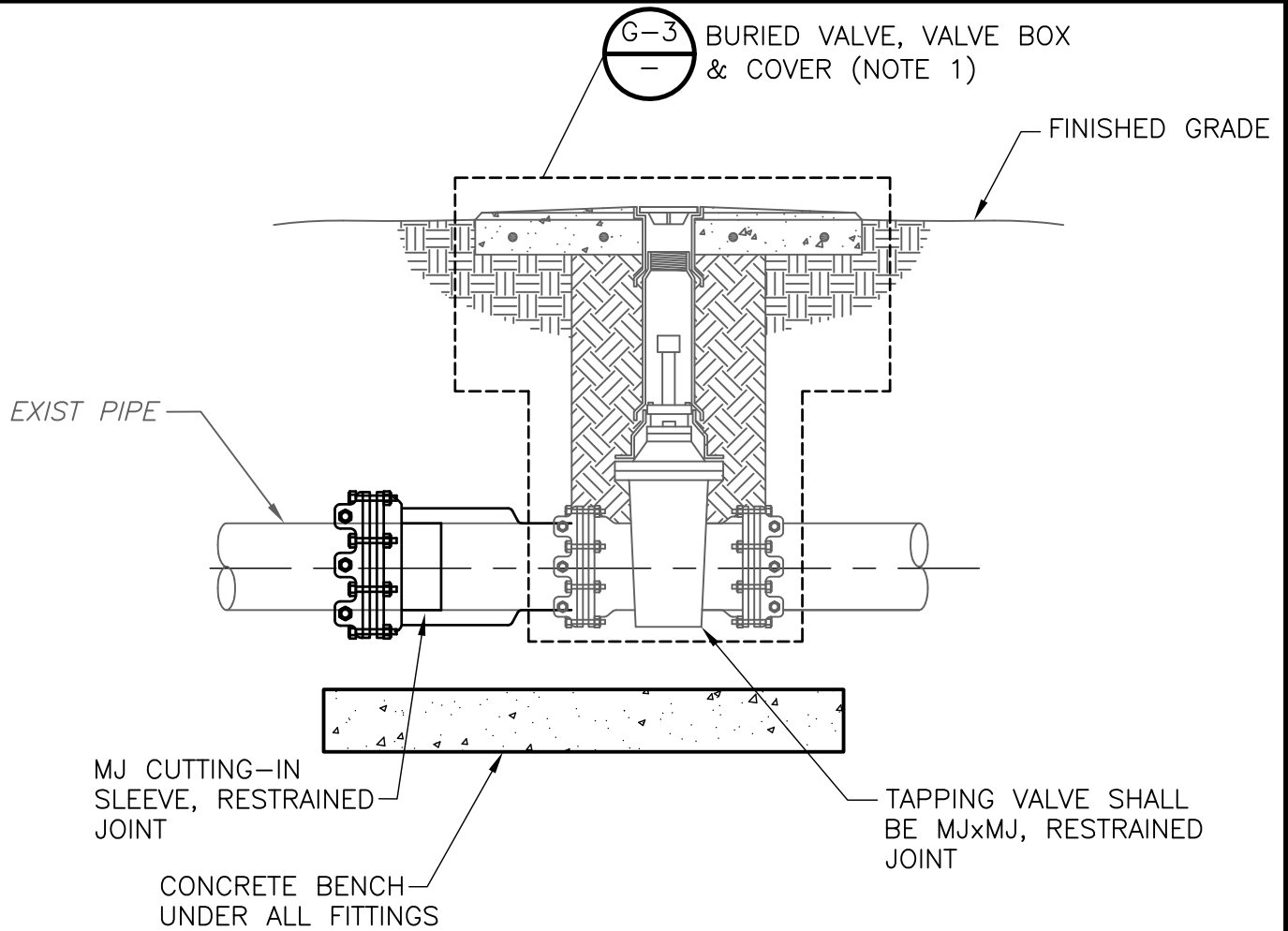
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**HORIZONTAL BURIED VALVE,
VALVE BOX AND COVER**

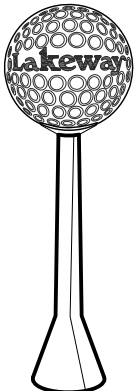
**STANDARD
DETAIL
G-12**



SECTION VIEW

NOTES:

1. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX AND COVER FOR ADDITIONAL REQUIREMENTS.
2. OUT OF EXIST PIPELINE, CUT ONLY THE LENGTH OF PIPE NECESSARY TO EQUAL OVERALL LENGTH OF FITTING TO BE INSERTED PLUS 10" +/- FOR INSERTING CUTTING-IN SLEEVE.
3. WRAP ALL IN 8 MIL PLASTIC.



LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

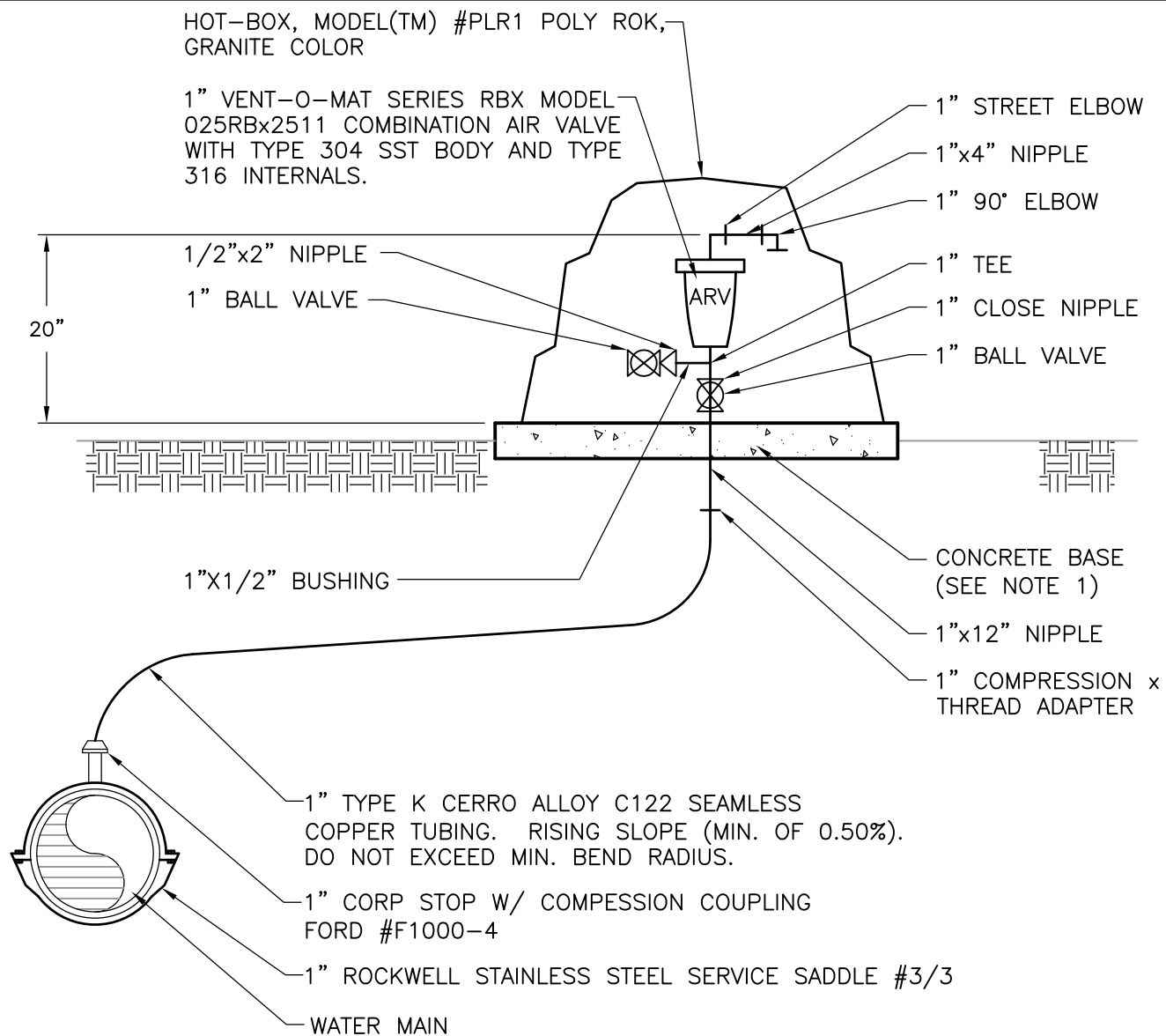
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Date Issued: November 15, 2011

Rev.#	Date	By	Remarks

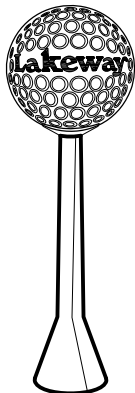
IN-LINE TAPPING VALVE
AND CUTTING-IN SLEEVE

STANDARD
DETAIL
G-13



NOTE:

1. CONCRETE FOUNDATION 6" THICK, REINFORCED W/ #3 REBAR 6" OCEW. DIMENSIONS 40"x27".
2. ALL VALVES, NIPPLES AND FITTINGS SHALL BE BRASS UNLESS NOTED.
3. INSTALL AND ESTABLISH 3-(5) GALLON TEXAS SAGE SHRUBS TO SCREEN EACH AIR RELEASE ENCLOSURE.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

Scale: NTS

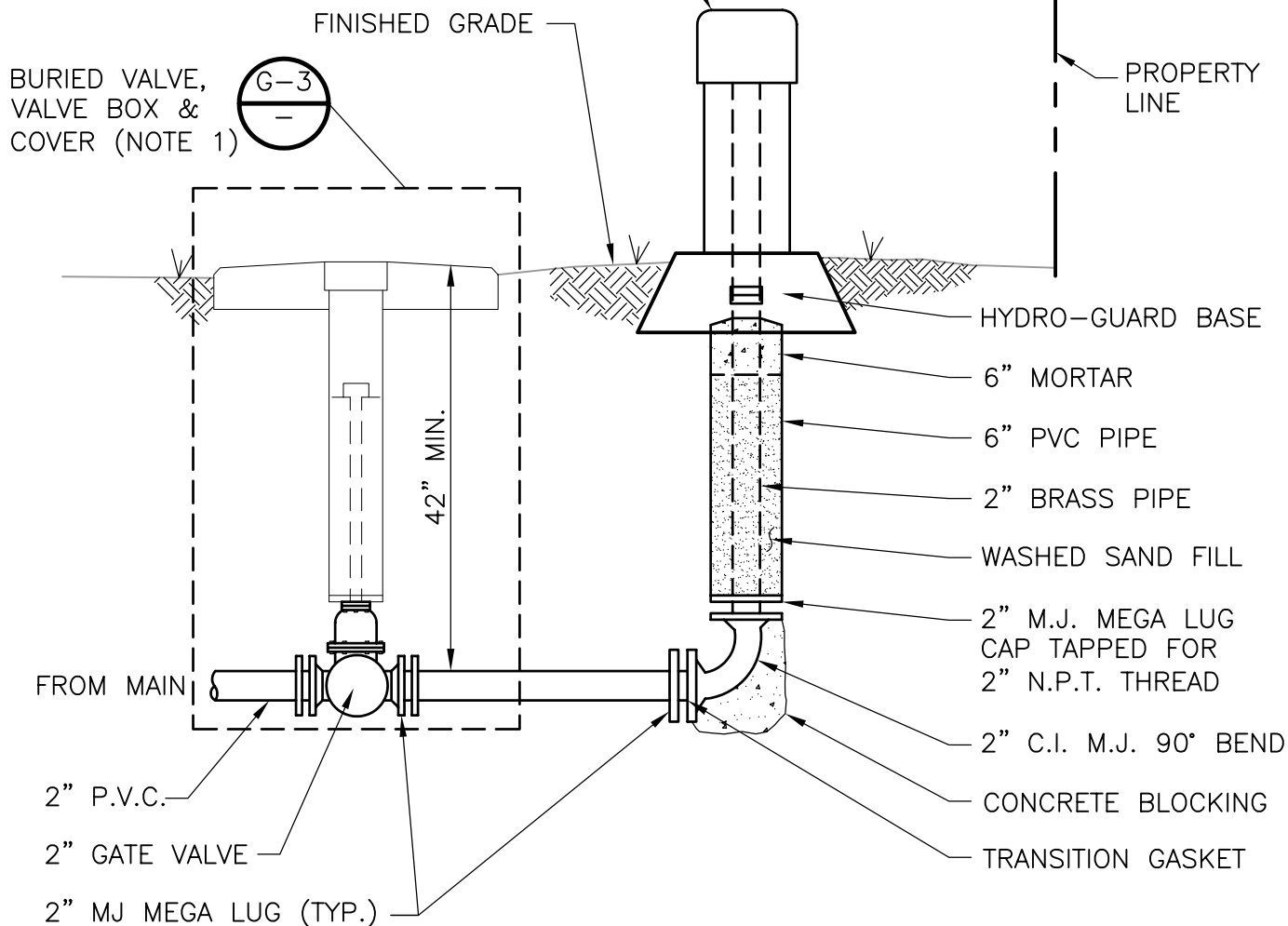
Date Issued: May 29, 2007

Rev.#	Date	By	Remarks
1	7-09	BAP	NOTE 3, 1" ARV NOTE

**AIR RELEASE FOR
WATER SERVICE**

**STANDARD
DETAIL
W-1**

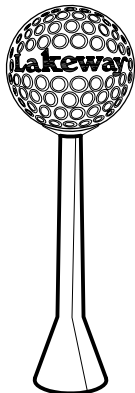
HYDRO-GUARD AUTOMATIC FLUSH VALVE AS
MANUFACTURED BY ENVIRONMENTAL
ENHANCEMENT AND TECHNOLOGIES USA, INC.



ELEVATION

NOTE:

1. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX
AND COVER DETAIL FOR ADDITIONAL REQUIREMENTS.



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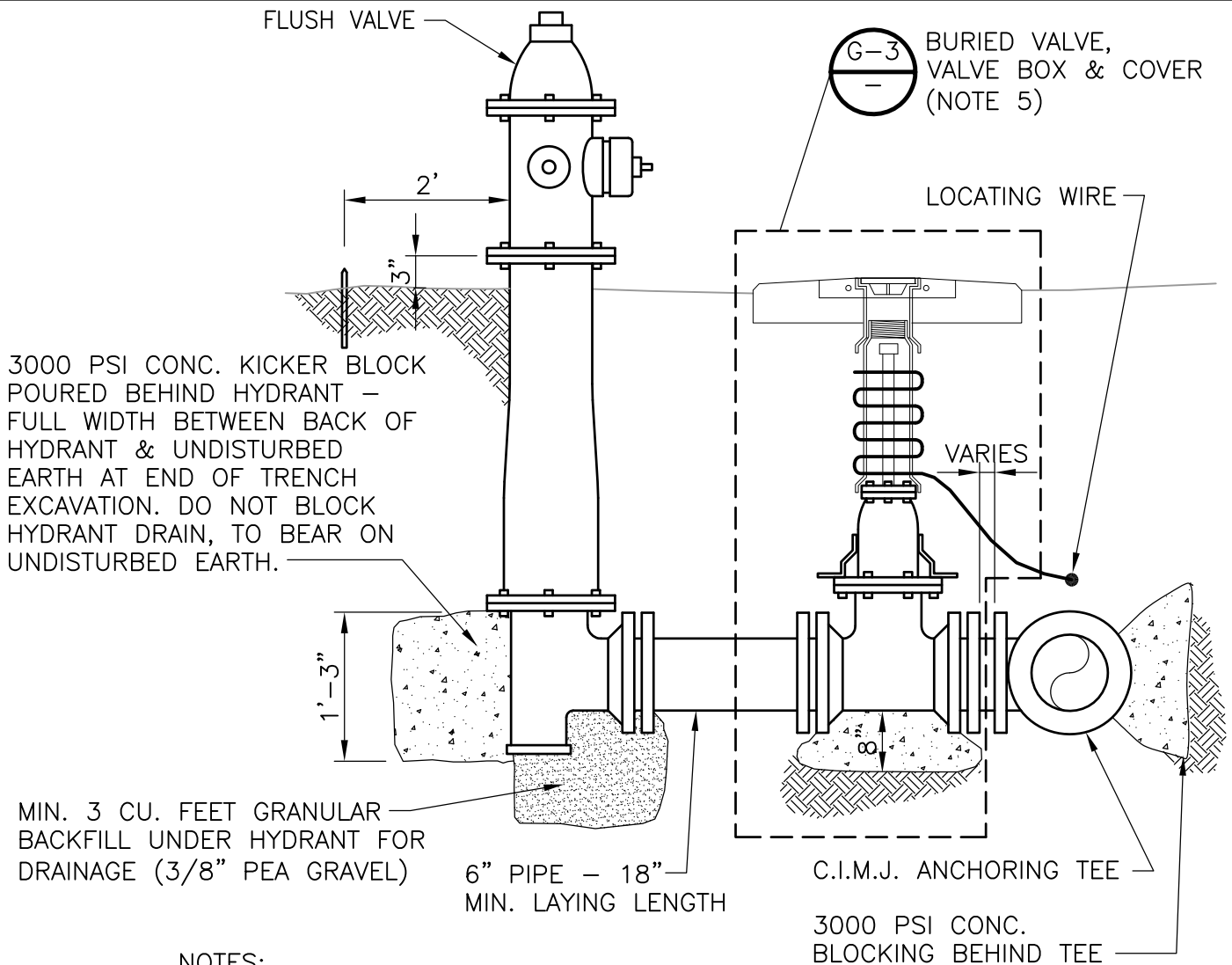
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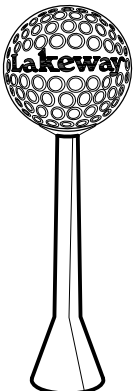
FLUSHING VALVE CONNECTION

STANDARD
DETAIL
W-2



NOTES:

1. VALVE BOXES TO BE SET FLUSH WITH PAVEMENT SURFACE WHEN SET IN ROADWAY.
2. HYDRANT DRAIN TO BE LEFT CLEAN AND OPERABLE.
3. WHEN HYDRANT IS TO BE LOCATED BEHIND CURB AND GUTTER, IT SHALL BE SET AT A DISTANCE OF 4' FROM CENTER LINE TO BACK OF CURB.
4. AMERICAN AVK SERIES 27 DRY BARREL FIRE HYDRANT OR APPROVED EQUAL.
5. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX & COVER DETAIL FOR ADDITIONAL REQUIREMENTS.
6. ALL FITTINGS AND VALVES USE MEGA-LUG OR EQUAL MECHANICAL JOINTS.
7. ALL HYDRANTS SHALL BE PAINTED PER LMUD SPECS.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

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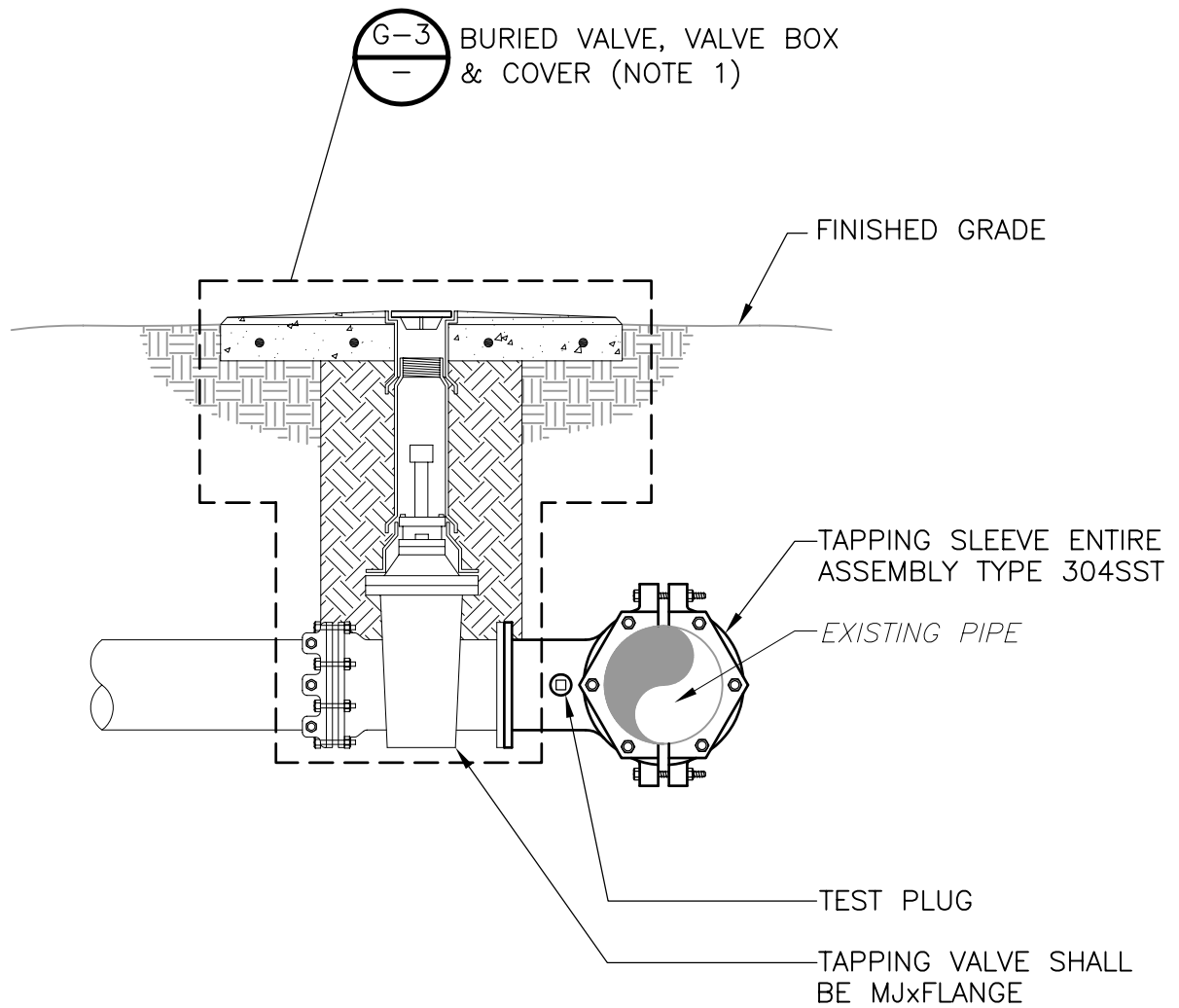
Date Issued: May 29, 2007

Rev.# Date By Remarks

1 7-09 BAP NOTE 7

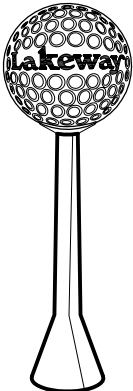
FIRE HYDRANT

STANDARD
DETAIL
W-3



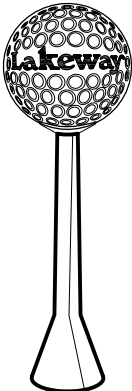
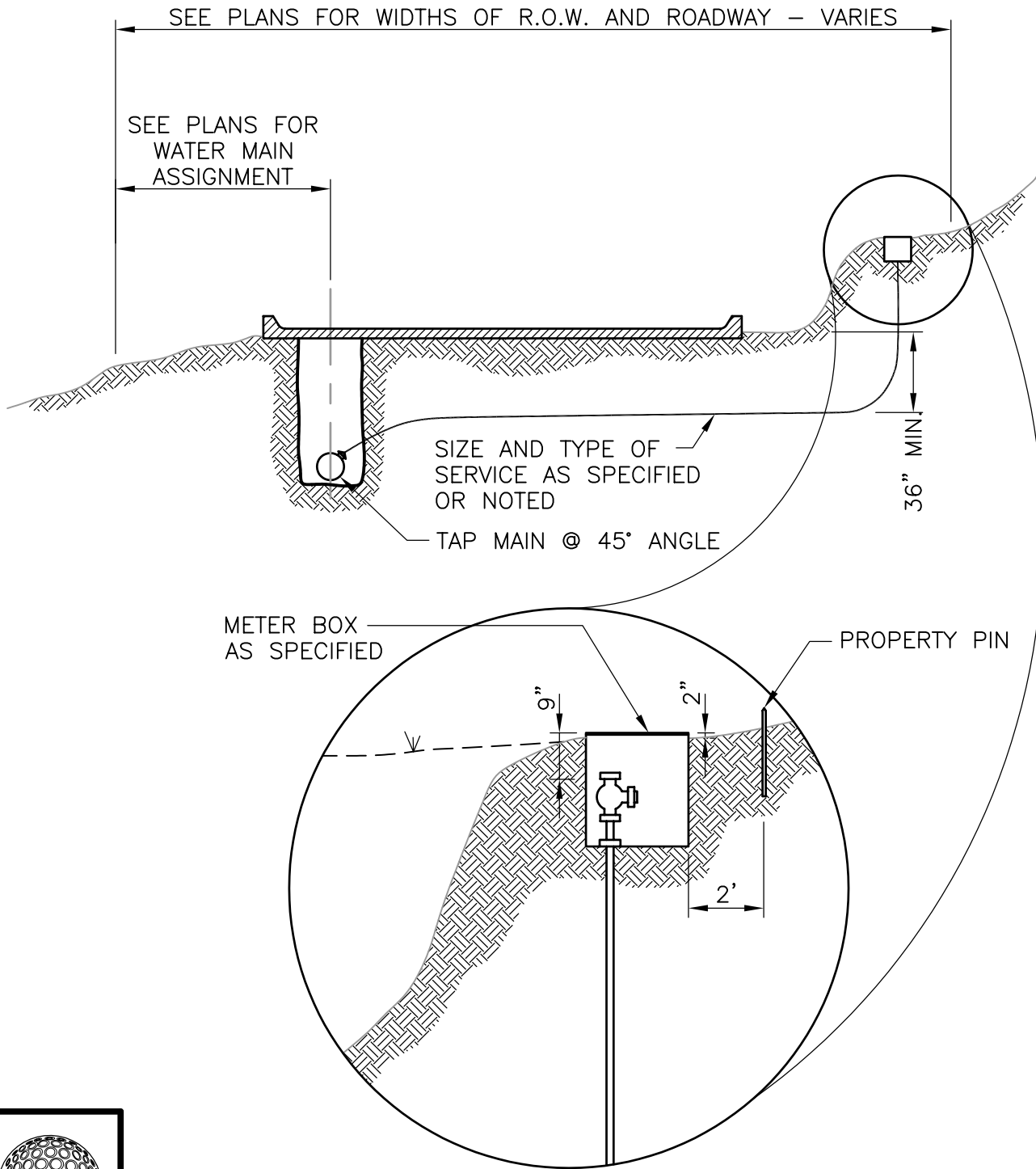
NOTE:

1. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX AND COVER FOR ADDITIONAL REQUIREMENTS.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

Scale: NTS				TAPPING SLEEVE AND VALVE	STANDARD DETAIL W-4
Date Issued: May 29, 2007					
Rev.#	Date	By	Remarks		



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

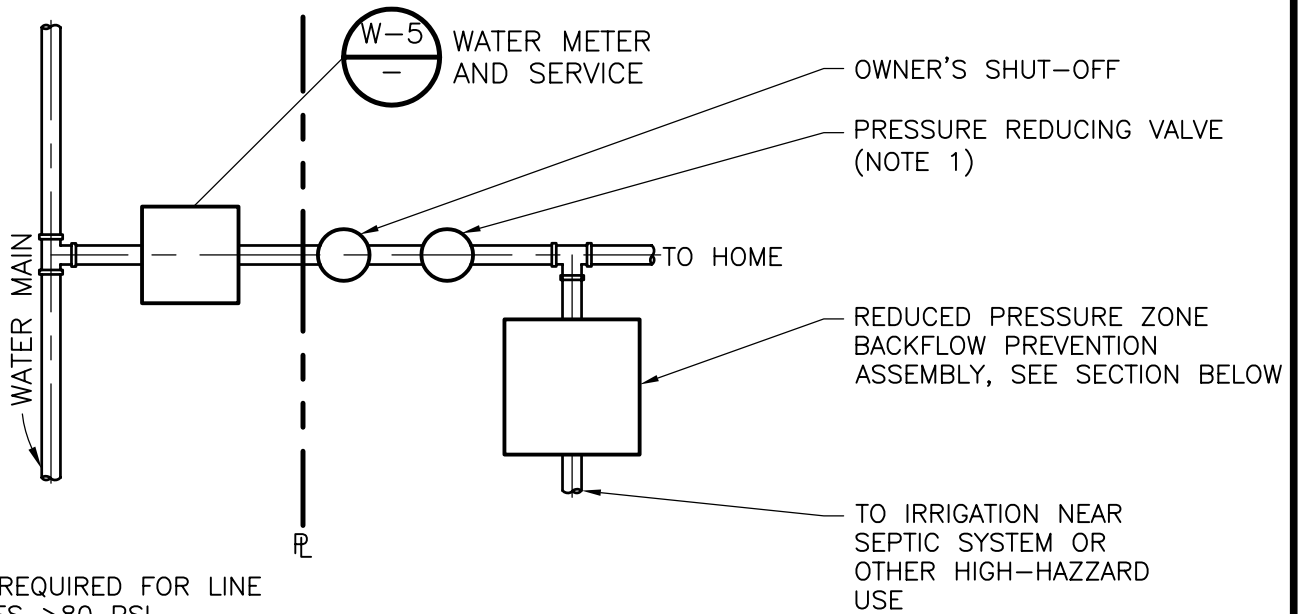
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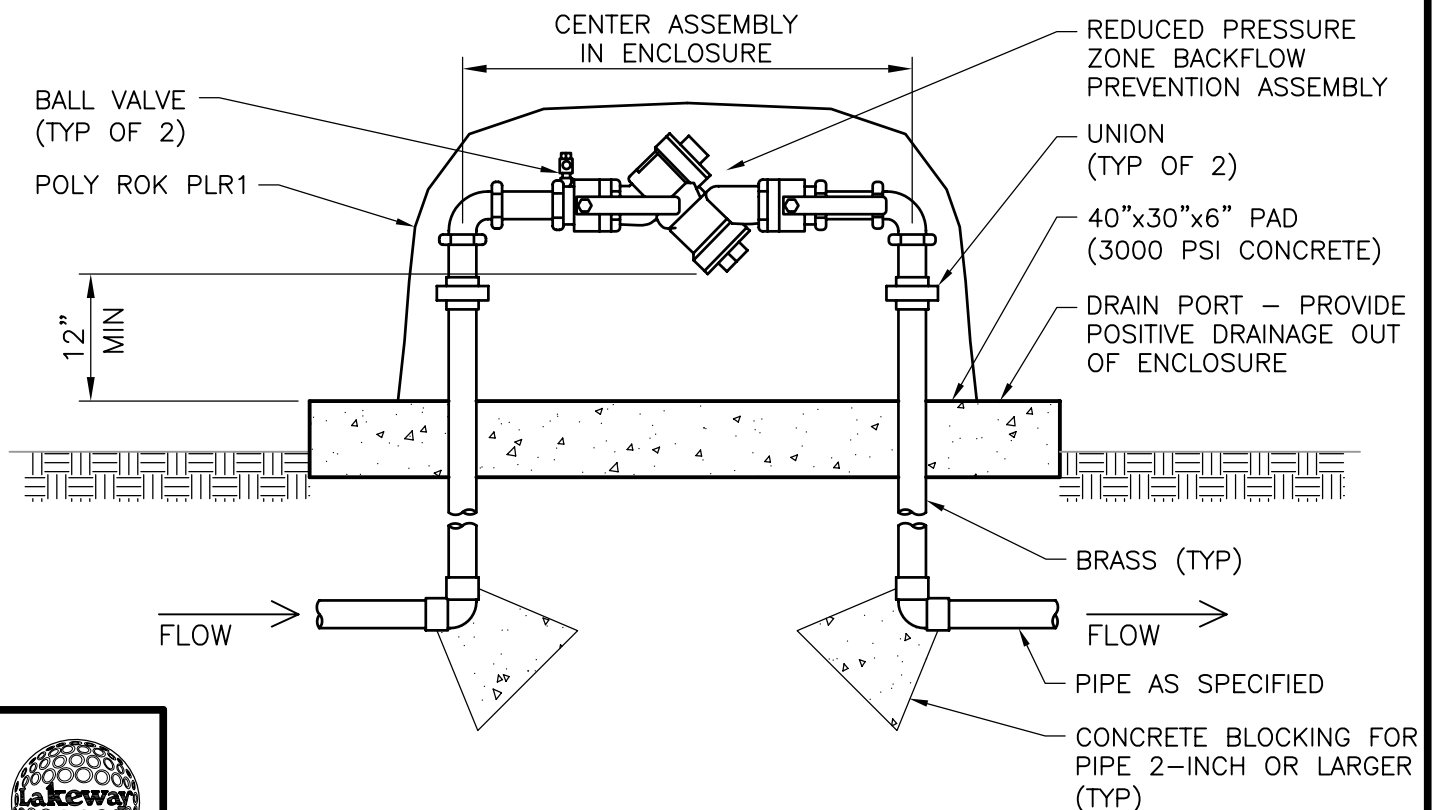
Rev.#	Date	By	Remarks

WATER SERVICE

STANDARD
DETAIL
W-5



REDUCED PRESSURE ZONE PLAN SCHEMATIC



REDUCED PRESSURE ZONE SECTION

LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

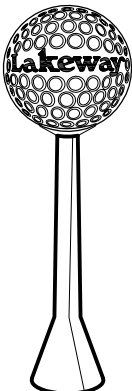
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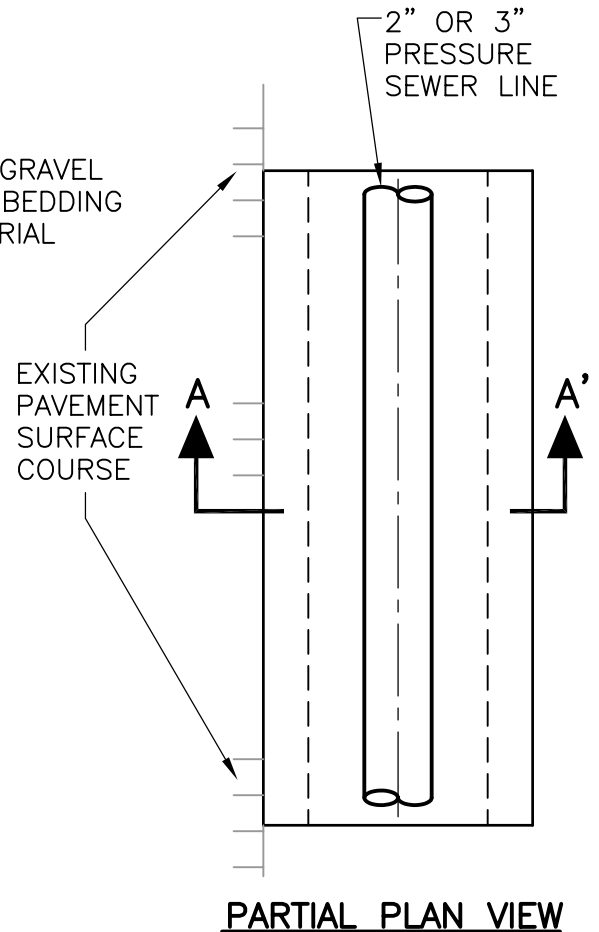
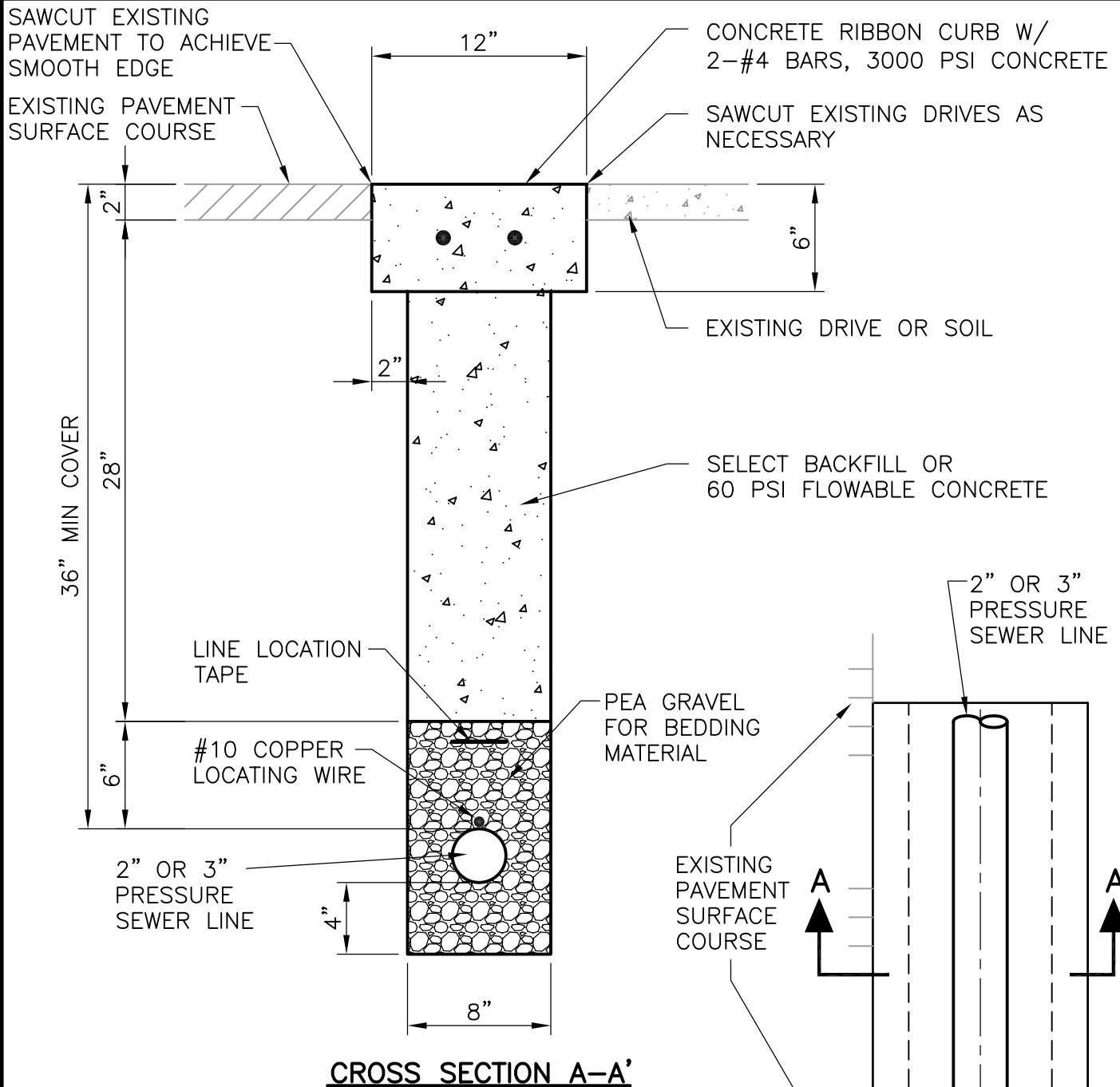
Date Issued: May 29, 2007

Rev.#	Date	By	Remarks

**IRRIGATION SERVICE
DETAIL**

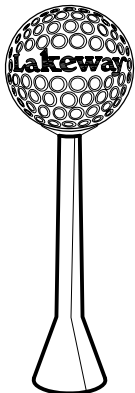
**STANDARD
DETAIL
W-6**





NOTE:

CONSTRUCTION JOINTS REQUIRED FOR EVERY 40 LF AND EDGES ON EVERY DRIVEWAY.



LAKEWAY MUNICIPAL UTILITY DISTRICT

LAKEWAY, TEXAS

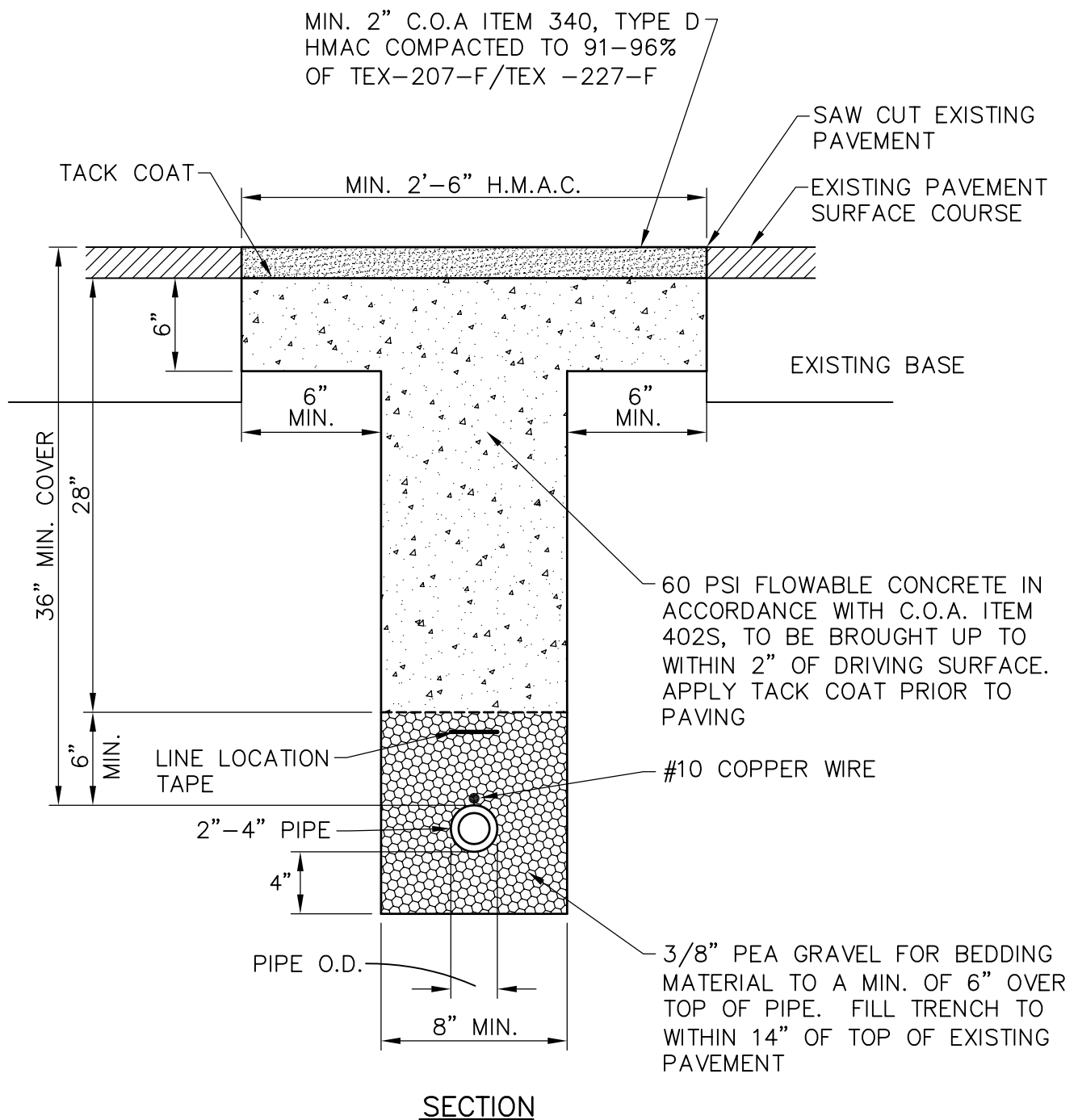
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TRENCH WITH RIBBON CURB

STANDARD
DETAIL
WW-2



TRENCH AND PAVEMENT REPAIR DETAIL PIPES 4" AND SMALLER IN DIAMETER

LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

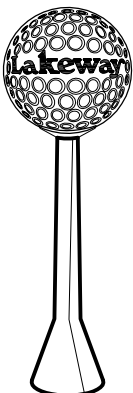
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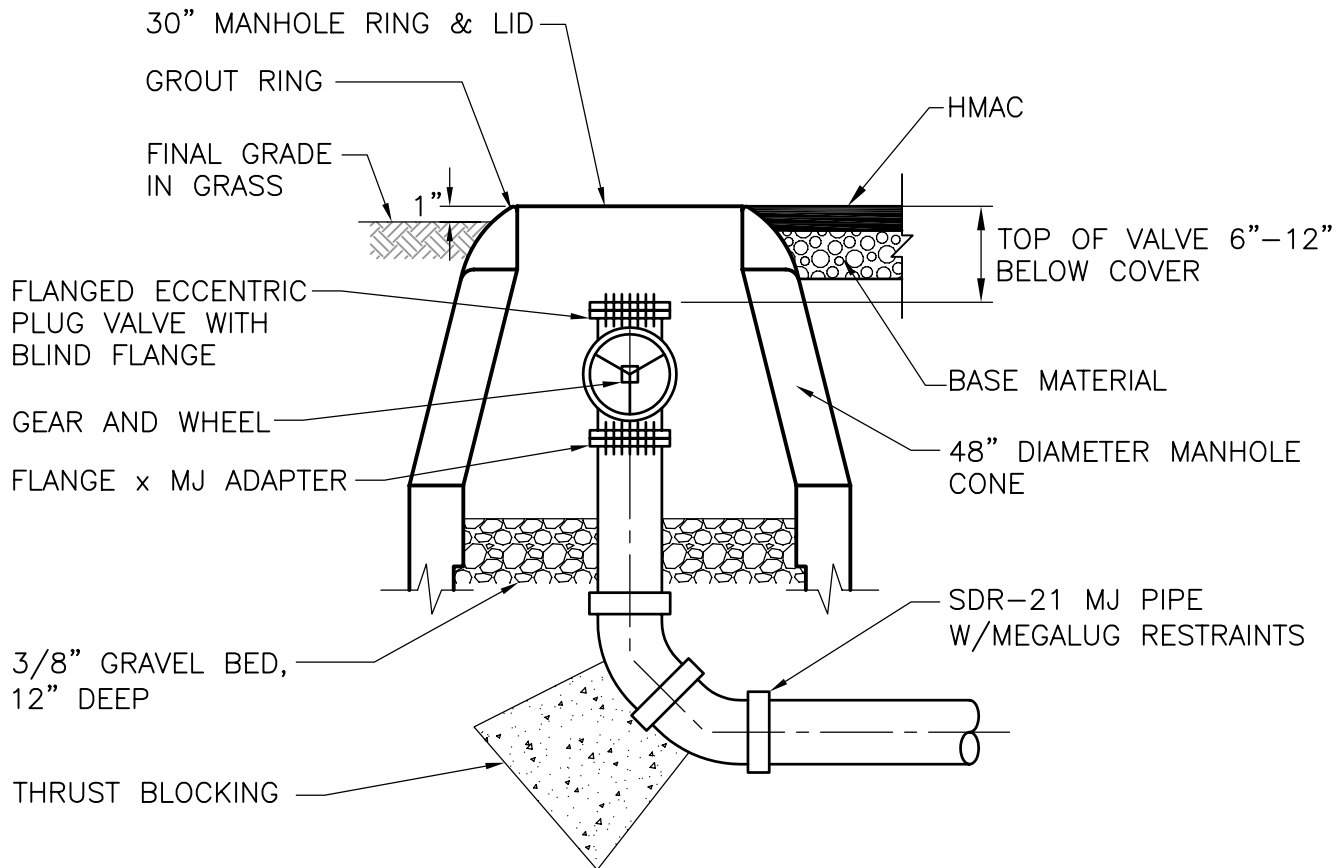
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SMALL DIAMETER
FORCE MAIN BEDDING DETAIL
IN STREET

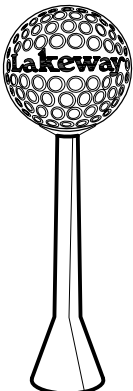
STANDARD
DETAIL
WW-3





NOTE:

PLUG VALVE SHALL BE ECCENTRIC RESILIENT PLUG TYPE WITH CAST IRON BODY, ACRYLONITRILE - BUTADIENE (NBR) PLUG, WELDED-IN NICKEL SEAT. PROVIDE WORM GEAR ACTUATOR WITH HANDWHEEL. ACTUATOR SHALL HAVE RADIAL SHAFT AND ROLLER THRUST BEARINGS. PLUG VALVES SHALL BE BY VALMATIC OR APPROVED EQUAL.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

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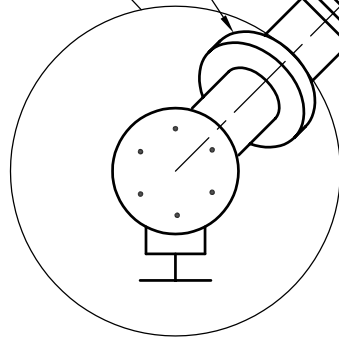
Rev.#	Date	By	Remarks

LARGER DIAMETER
IN-LINE FLUSHING
ASSEMBLY ACCESS

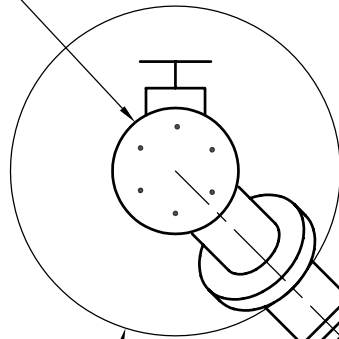
STANDARD
DETAIL
WW-4

2-45°, ELBOWS
(TYP)

FLUSHING
ASSEMBLY
ACCESS

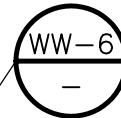
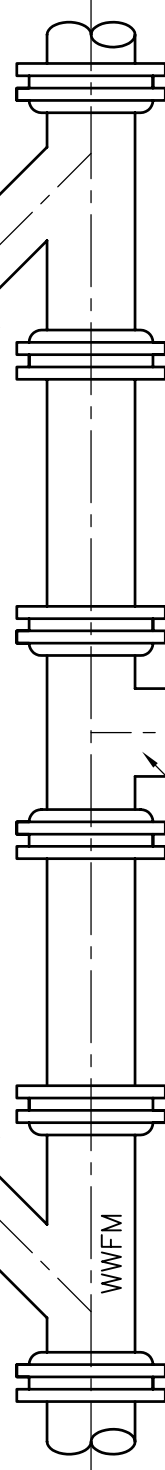


PLUG VALVE,
FLANGED (TYP)



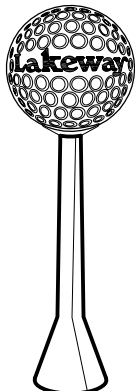
30" MANHOLE RING
& LID (TYP)

WYE/MJ(R)
(TYP)



HORIZONTAL
BURIED VALVE

FULL-PORTED ECCENTRIC
PLUG VALVE VALMATIC
OR EQUAL WITH GEAR
REDUCER (MECH. JOINT
FOR BURIED SERVICE)



NOTE: ALL PLUG VALVES SHALL BE 100% FULL-PORTED ECCENTRIC RESILIENT PLUG TYPE WITH CAST IRON BODY, ACRYLONITILE-BUTADIENE (NBR) PLUG, WELDED-IN NICKEL SEAT. PROVIDE WORM GEAR ACTUATOR WITH HAND WHEEL. ACTUATOR SHALL HAVE RADIAL SHAFT AND ROLLER THRUST BEARINGS. PLUG VALVES SHALL BE VALMATIC OR APPROVED EQUAL. ALL FITTINGS SHALL BE RESTRAINED (MEGALUG OR ENGINEER-APPROVED EQUAL).

LAKEWAY MUNICIPAL UTILITY DISTRICT

LAKEWAY, TEXAS

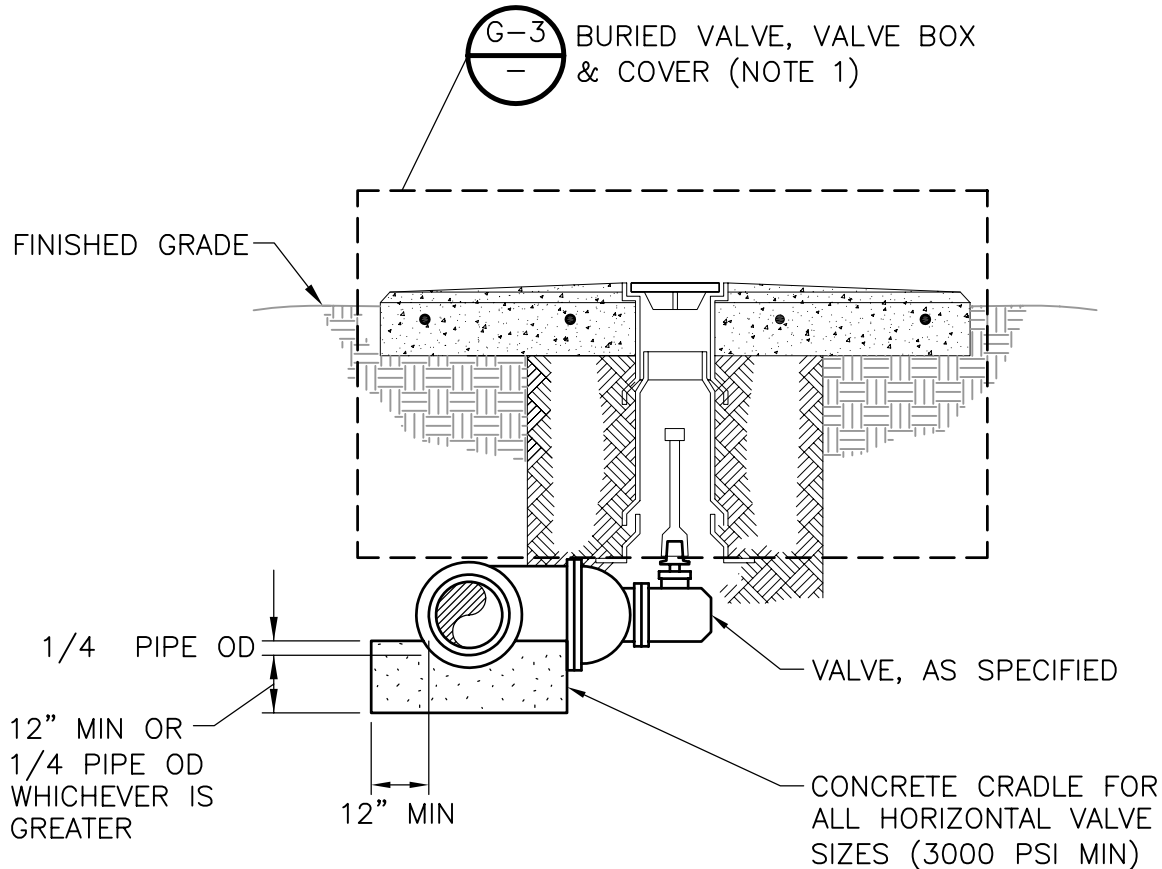
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Date Issued: May 29, 2007

Rev.#	Date	By	Remarks

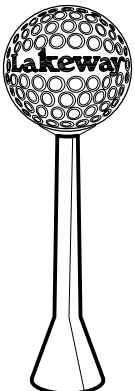
IN-LINE FORCE MAIN
FLUSHING ASSEMBLY

STANDARD
DETAIL
WW-5



NOTES:

1. CONTRACTOR SHALL REFER TO BURIED VALVE, VALVE BOX AND COVER DETAIL FOR ADDITIONAL REQUIREMENTS.
2. VALVES IN POTABLE AND REUSE SERVICE SHALL BE RESILIENT WEDGE GATE VALVES BY AMERICAN AVK COMPANY.
3. VALVES IN RAW WASTEWATER SERVICE SHALL BE ECCENTRIC RESILIENT PLUG TYPE WITH CAST IRON BODY, ACRYLONITRILE-BUTADIENE (NBR) PLUG, WELDED-IN NICKEL SEAT. PROVIDE WORM GEAR ACTUATOR WITH 2" SQUARE NUT. ACTUATOR SHALL HAVE RADIAL SHAFT AND ROLLER THRUST BEARINGS. PLUG VALVES SHALL BE BY VALMATIL OR APPROVED EQUAL.
4. VALVES IN WASTEWATER FORCE MAINS 3" DIAMETER AND BELOW SHALL BE 304 STAINLESS STEEL BALL TYPE WITH 2" OPERATING NUT.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

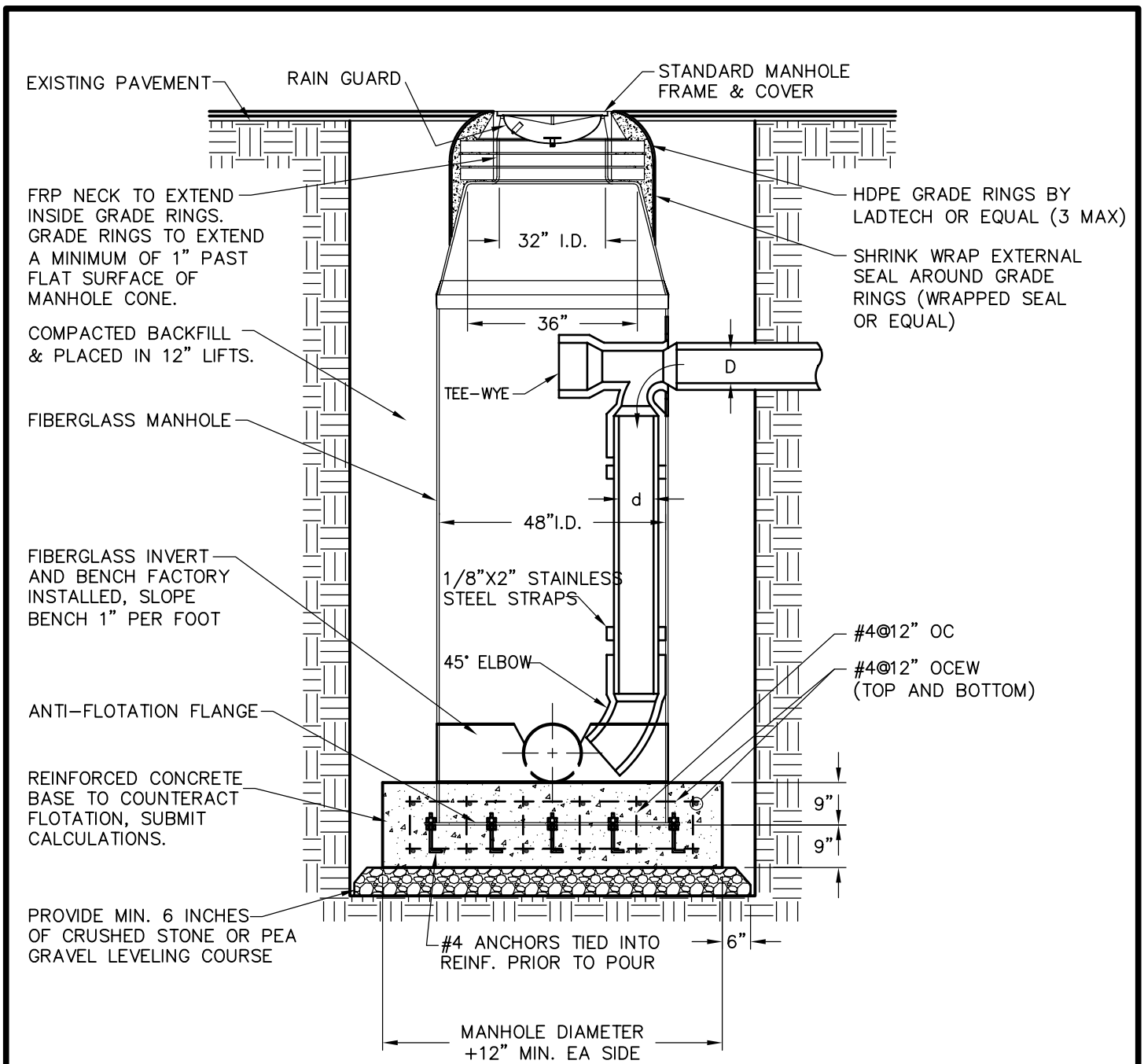
Scale: NTS

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Rev.#	Date	By	Remarks

**HORIZONTAL BURIED VALVE,
VALVE BOX AND COVER**

**STANDARD
DETAIL
WW-6**

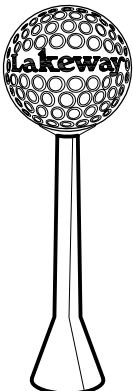


NOTES:

CONNECTIONS TO EXISTING FRP MANHOLES SHALL BE INSERTA TEE OR EQUAL. SUBMIT PROPOSED INSTALLATION FOR APPROVAL.

CONTRACTOR SHALL SUBMIT SKETCH FOR EACH MANHOLE SHOWING PENETRATION ELEVATIONS. ALSO SUBMIT GRADE RINGS, ADHESIVE, SHRINK WRAP, AND MANHOLE COVER. COA COVER NOT ACCEPTABLE.

SCHEDULE FOR DROP MANHOLE	
INLET PIPE DIAMETER "D"	DROP PIPE DIAMETER "d"
8"	8"
10"	8"
12"	10"
15"	12"



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

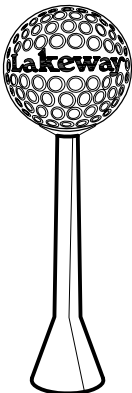
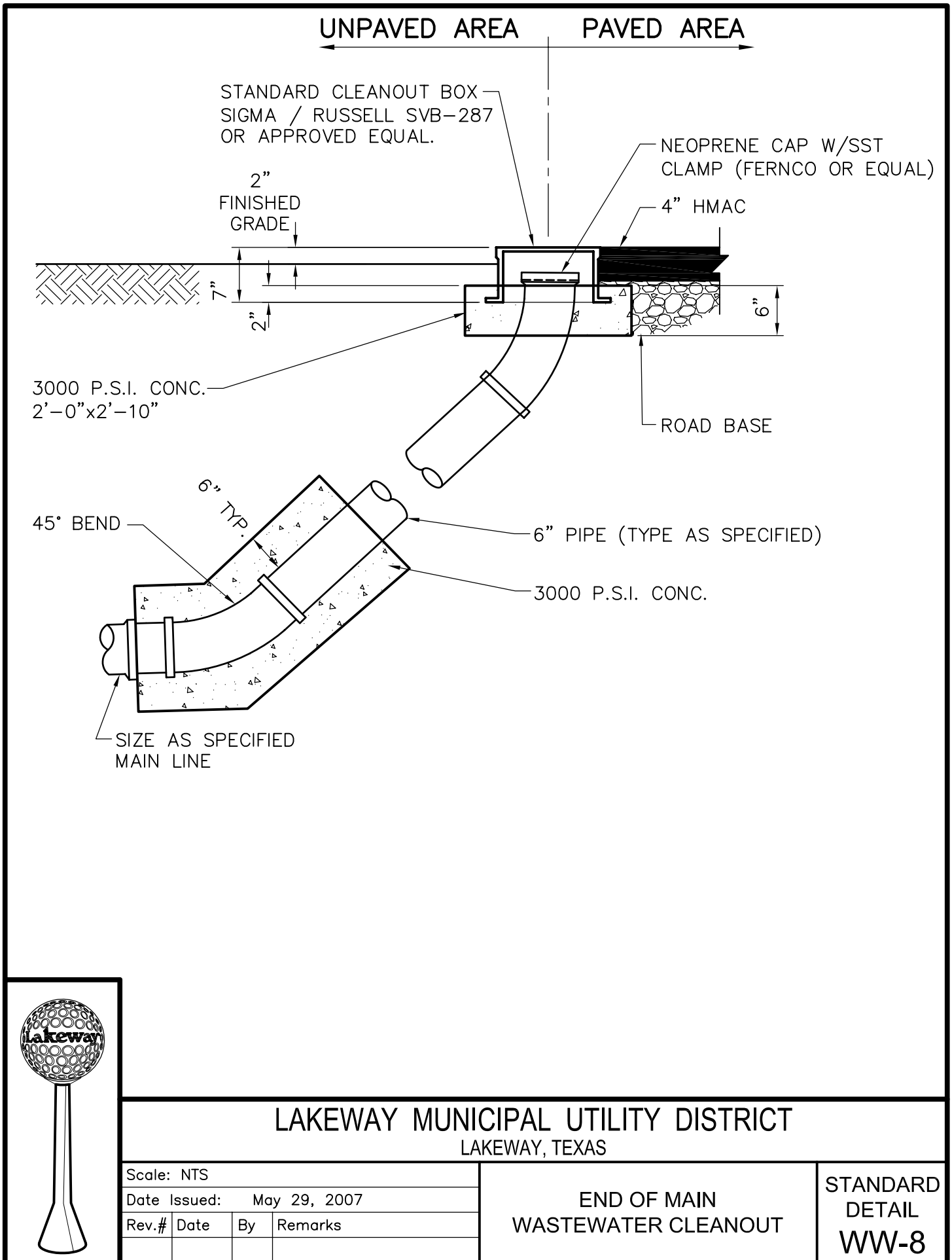
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Rev.# Date By Remarks

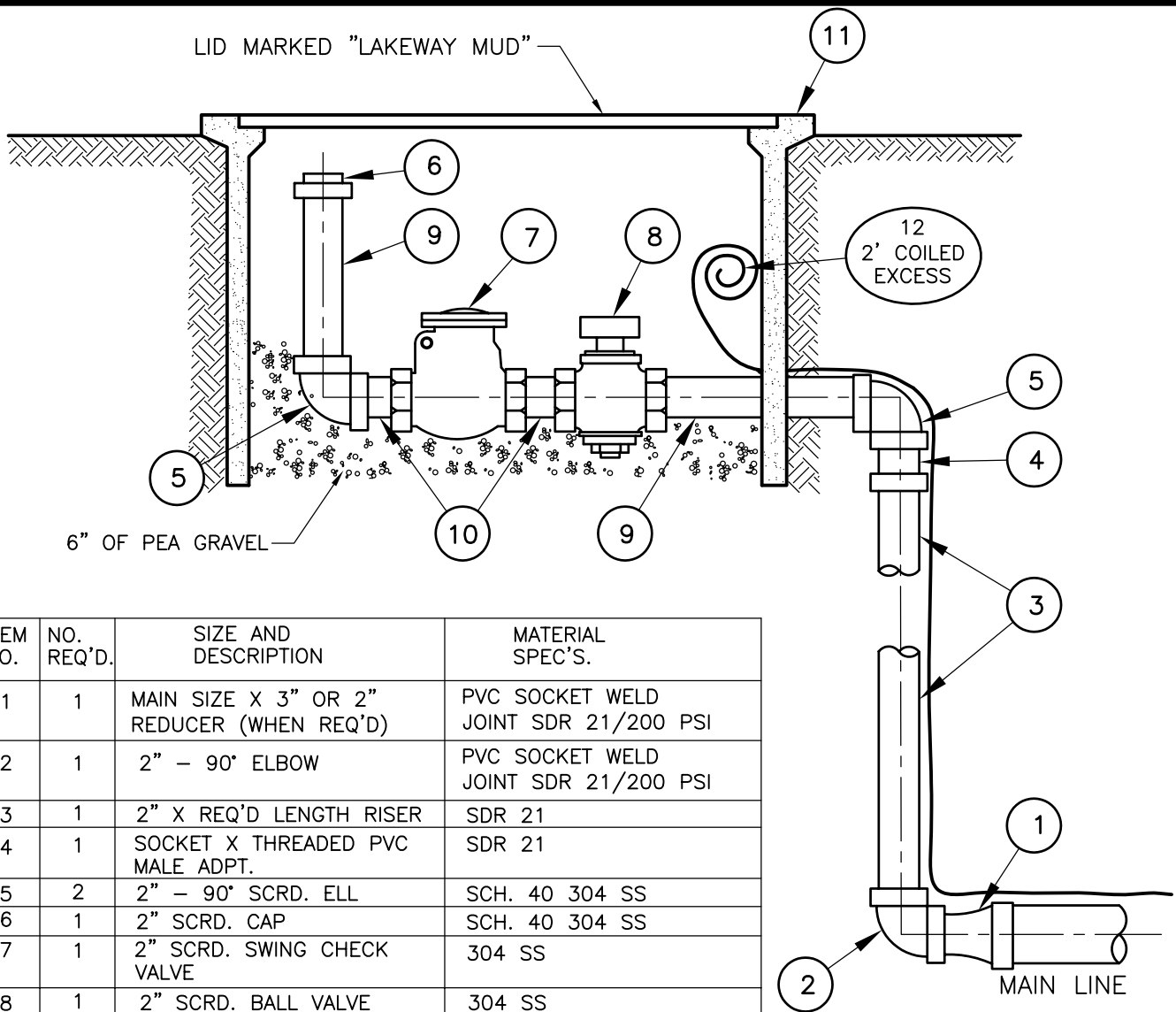
FRP MANHOLE

STANDARD
DETAIL
WW-7



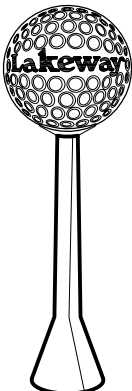
LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

Scale: NTS				END OF MAIN WASTEWATER CLEANOUT	STANDARD DETAIL WW-8
Date Issued: May 29, 2007					
Rev.#	Date	By	Remarks		



ITEM NO.	NO. REQ'D.	SIZE AND DESCRIPTION	MATERIAL SPEC'S.
1	1	MAIN SIZE X 3" OR 2" REDUCER (WHEN REQ'D)	PVC SOCKET WELD JOINT SDR 21/200 PSI
2	1	2" - 90° ELBOW	PVC SOCKET WELD JOINT SDR 21/200 PSI
3	1	2" X REQ'D LENGTH RISER	SDR 21
4	1	SOCKET X THREADED PVC MALE ADPT.	SDR 21
5	2	2" - 90° SCR.D. ELL	SCH. 40 304 SS
6	1	2" SCR.D. CAP	SCH. 40 304 SS
7	1	2" SCR.D. SWING CHECK VALVE	304 SS
8	1	2" SCR.D. BALL VALVE	304 SS
9	1	2" DIA. X 10" NIPPLE	SCH. 40 304 SS
10	3	2" SHORT NIPPLES	SCH. 40 304 SS
11	1	METER BOX	EAST JORDAN R-548P 24 - 30" LID #32143107
12	1	#10 COPPER WIRE W/ PVC JACKET	

NOTE: FOR EACH FLUSH VALVE ASSEMBLY, PROVIDE SST BALL VALVE WITH 2" SQUARE OPERATING NUT 2' UPSTREAM OF TEE ON FORCE MAIN.



LAKEWAY MUNICIPAL UTILITY DISTRICT

LAKEWAY, TEXAS

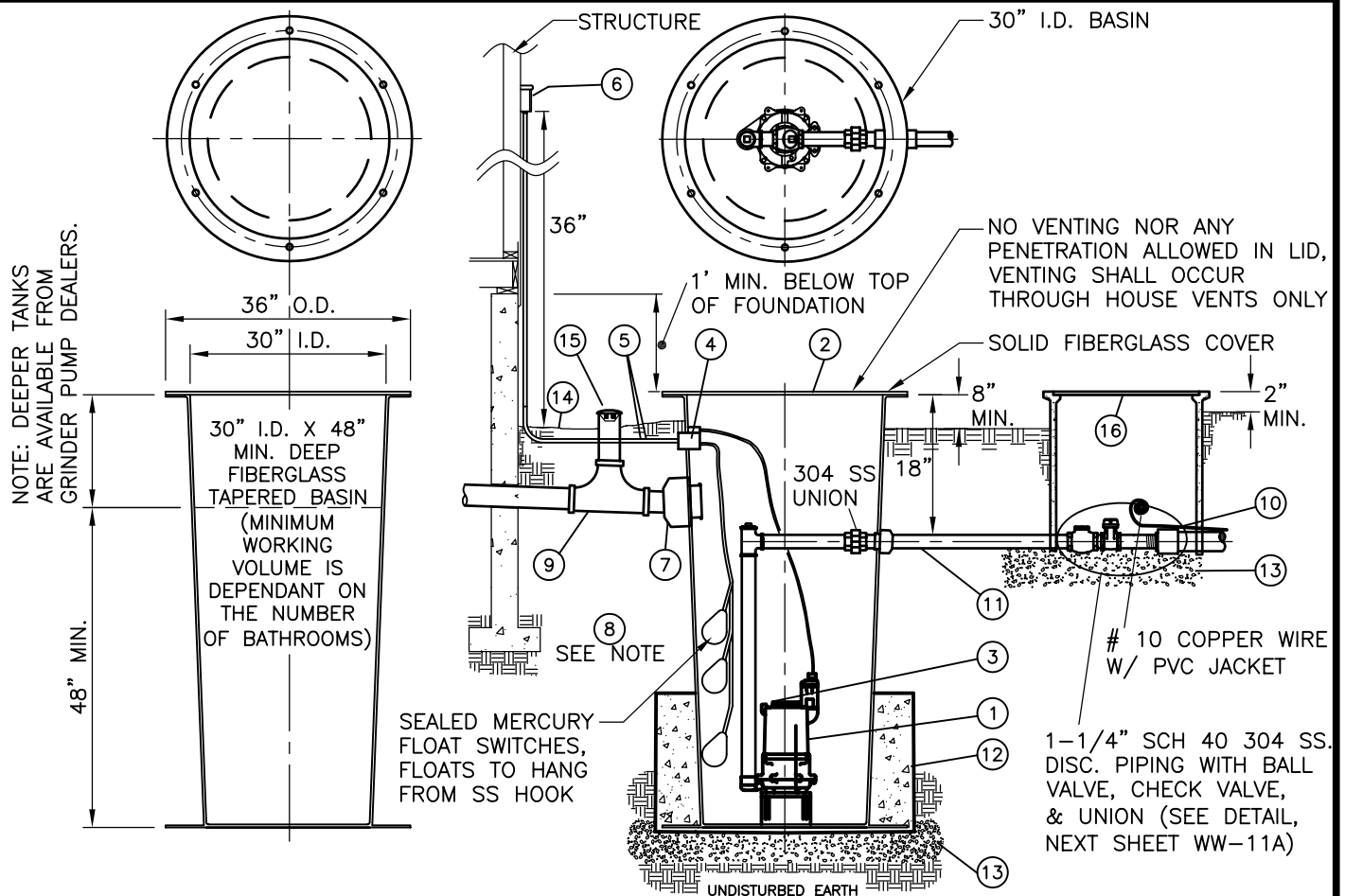
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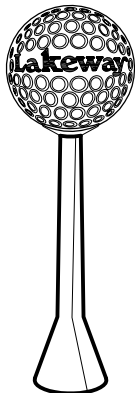
SMALL DIAMETER FORCE
MAIN FLUSHING ASSEMBLY

STANDARD
DETAIL
WW-10



REQUIRED GRINDER PUMP INSTALLATION

1. 2 HP. BARNES CENTRIFUGAL PUMP, MODEL NO. OGP OR OGVH, SIMPLEX GRINDER PUMP. THE DISTRICT WILL AID IN DETERMINING PUMP HEAD REQUIREMENTS.
 2. ACCESSWAY, COVER, AND PUMP TANK TO BE FIBERGLASS REINFORCED POLYESTER (F.R.P.)
 3. LIFTING EYES- FOR LIFTING COMPLETE GRINDER PUMP.
 4. ELECTRICAL ENTRY BUSHINGS FOR LEADS FROM GRINDER PUMP AND FLOATS TO THE CONTROL PANEL (ITEM 6) DUCK SEAL FLEXIBLE CLAY BOTH ENDS OF 1.5" CONDUIT.
 5. GRINDER PUMP AND ALARM LEADS - CIRCUIT TO BE RUN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. (ALL POWER AND FLOAT LEADS MUST BE 1.5-INCH MINIMUM CONDUIT).
 6. RAINPROOF (NEMA 3R OR 4X) CONTROL PANEL - WITH CIRCUIT BREAKERS OR DISCONNECT SWITCH AND HIGH WATER ALARM, FLASHING BECON MOUNTED ON EXTERIOR OF PANEL. NOTE: PUMP POWER AND CONTROL POWER ARE ON SEPARATE SUPPLY BREAKERS.
 7. TANK INLET - 4" PIPE GROMMET 420P-4 (5" HOLE), TANK OUTLET 420P-1.25 (2" HOLE).
 8. TANK VENT - TANK MUST BE VENTED THRU THE HOUSE SERVICE LINE.
 9. GRAVITY SERVICE LINE - 4" DRAIN WASTE VENT W/ COMBINATION POP-UP RELIEF VALVE ON DUAL SWEEP CLEAN OUT. IF GREATER THAN 12" BELOW GRADE, THEN 2 CLEAN-OUT SWEEPS ARE REQUIRED.
- ADDITIONAL REQUIREMENTS, SEE STANDARD DETAIL WW-11A.



LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

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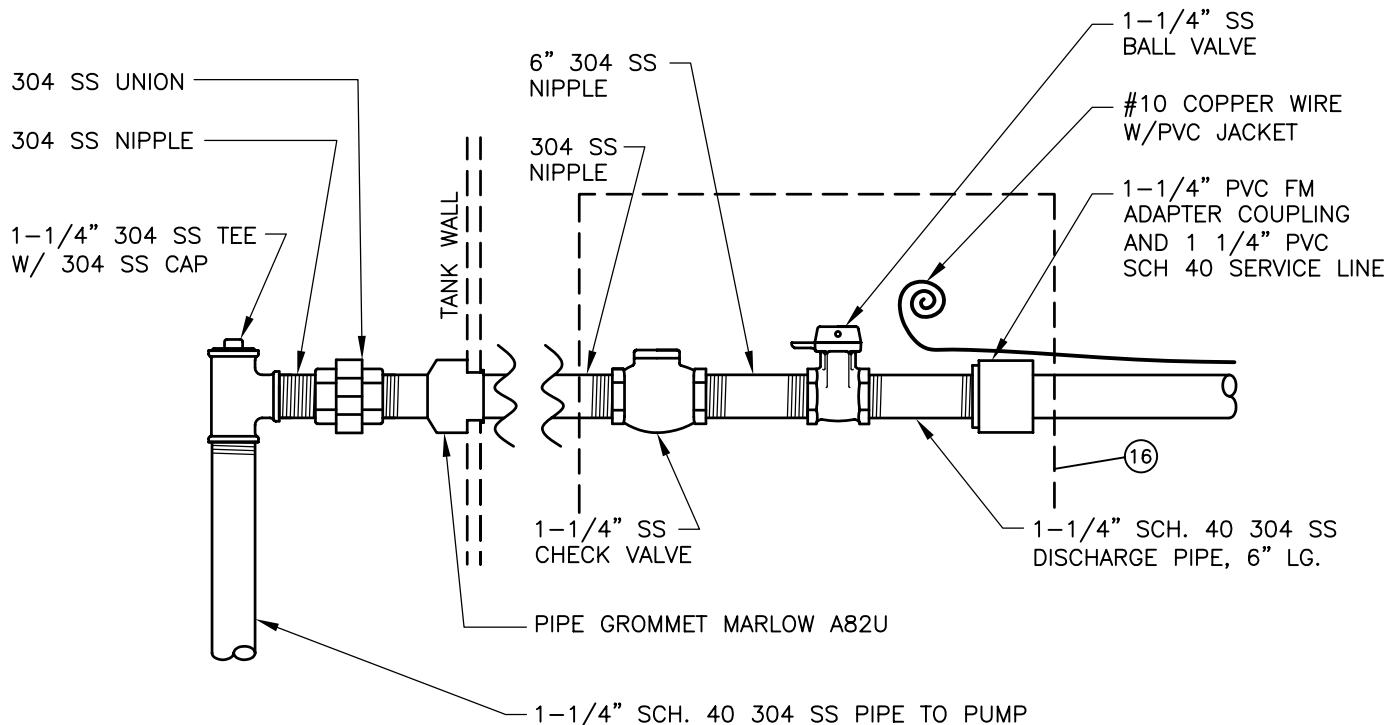
Rev.#	Date	By	Remarks

TYPICAL GRINDER PUMP
INSTALLATION (SHEET 1 OF 2)

STANDARD
DETAIL
WW-11

INSIDE BASIN

INSIDE VALVE VAULT



DISCHARGE PIPING - AT GRINDER PUMP

CONTINUED NOTES:

10. DISCHARGE OUTLET - 1 1/4" MALE PIPE THREAD W/ 1 1/4" PVC ADAPTER BUSHING.

11. GRINDER PUMP DISCHARGE LINE WITH GROMMET - 1 1/4" SCH 40 304 SS NOMINAL PIPE SIZE.

12. CONCRETE ANCHOR: 900 LBS. (6 CU.FT.) PLUS 600 BLS. (4 CU.FT.) PER FOOT OF ACCESSWAY. EXAMPLE: W/2' ACCESSWAY - 900+1200=2100 lbs. (14 CU.FT.). SLEEVE OVER INLET LINE IS REQUIRED IF ANCHOR IS POURED TO A LEVEL ABOVE THE INLET. (REQUIRED IN FLOOD PLAIN AS DESIGNATED BY BUILDING INSPECTOR)

13. BEDDING MATERIAL - 6" MINIMUM, ROUNDED AGGREGATE (PEA GRAVEL).

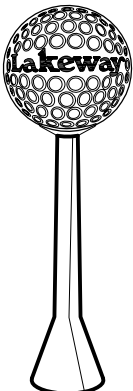
14. FINISHED GRADE - GRADE LINE TO BE 8" BELOW TOP OF ACCESSWAY AND SLOPE AWAY FROM ACCESSWAY OPENING.

15. 4" COMBINATION POP-UP RELIEF VALVE / CLEAN-OUT SET IN 4" PVC ADAPTER. POP-UP RELIEF VALVE SHALL BE 4" ABOVE GROUND AND 4" BELOW TOP OF TANK.

16. EAST JORDAN IRON WORKS VALVE BOX, STD. BOX #548P24 w/ "LAKEWAY" CAST IN LID.

17. WHERE PUMP IS LOCATED ABOVE MAIN LINE GRADE AT STREET, INSTALL 1-1/4" TEE AND BALL VALVE TO PIPE RETURN TO TANK THROUGH GROMMET.

18. ALL DISCHARGE PIPING, FITTINGS AND HARDWARE TO BE SCH. 40 304 STAINLESS STEEL



LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

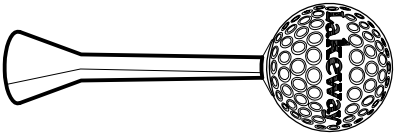
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TYPICAL GRINDER PUMP
INSTALLATION (SHEET 2 OF 2)

STANDARD
DETAIL
WW-11A

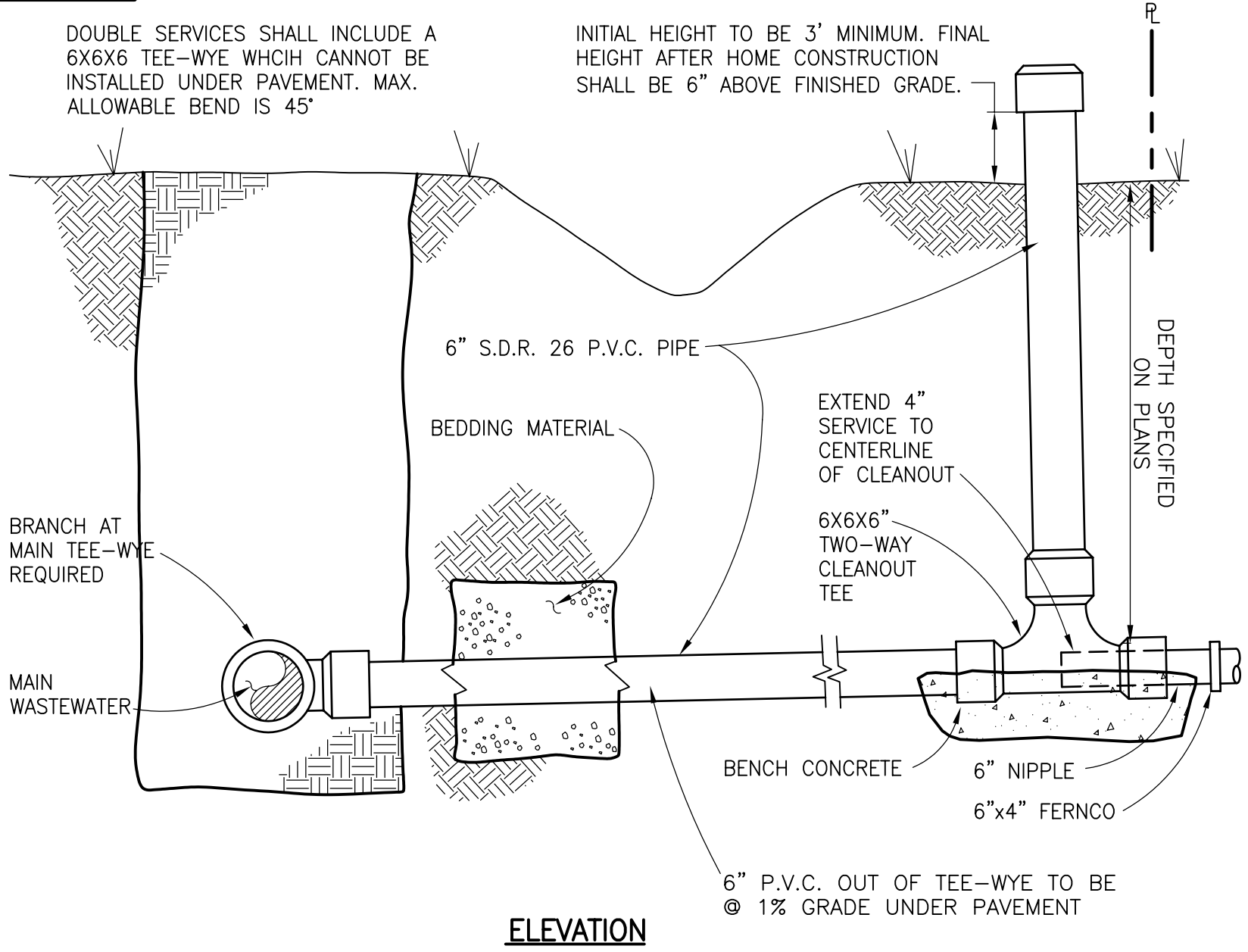


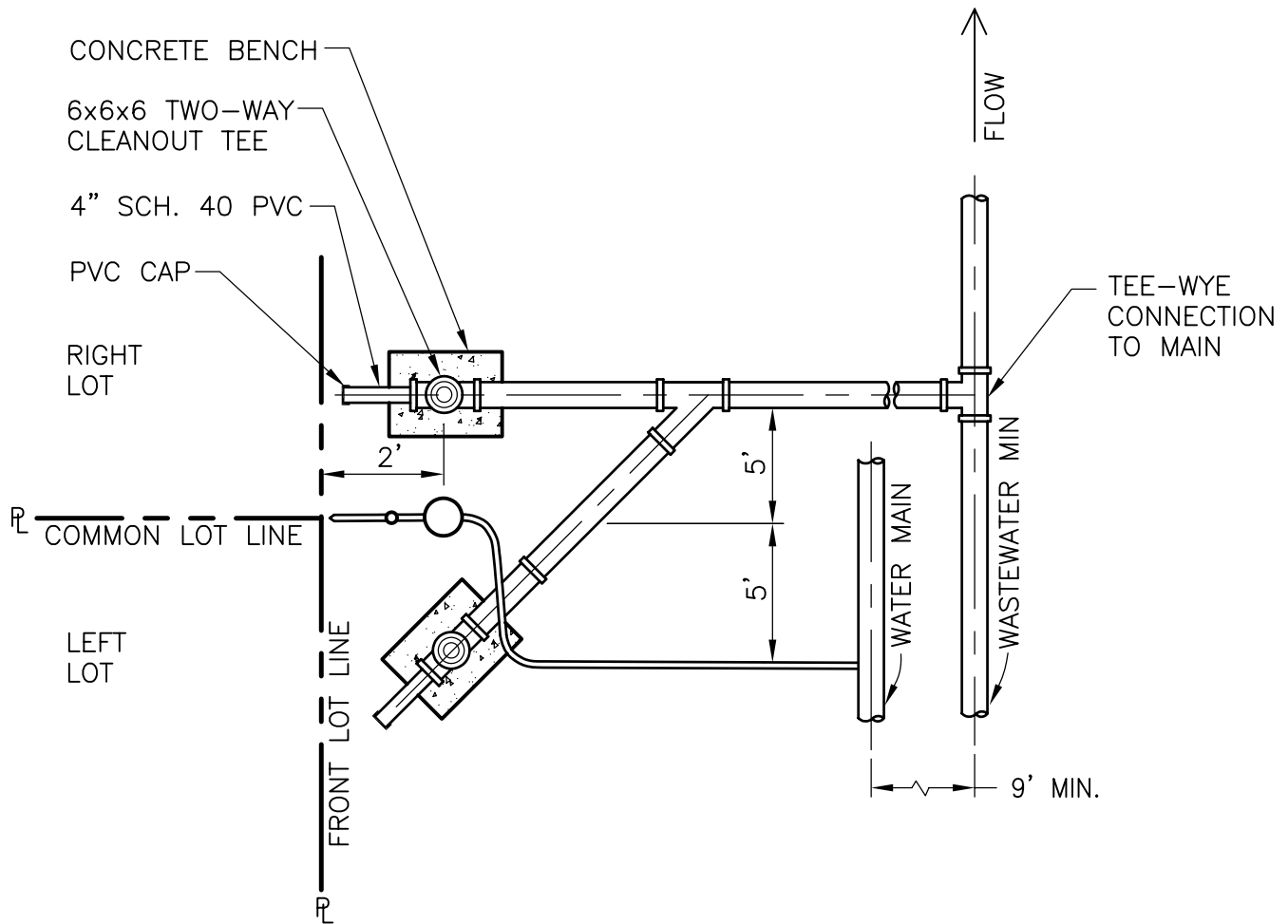
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Rev.#
Date
By
Remarks

WASTEWATER SERVICE
PROFILE

STANDARD
DETAIL
WW-12

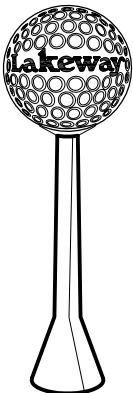
LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS





NOTE:

DO NOT USE 6X6X6 TEE-WYE FOR SINGLE SERVICE. WATER SERVICE CAN BE STRAIGHT IF WASTEWATER SERVICES ARE NOT PRESENT.



LAKEWAY MUNICIPAL UTILITY DISTRICT
LAKEWAY, TEXAS

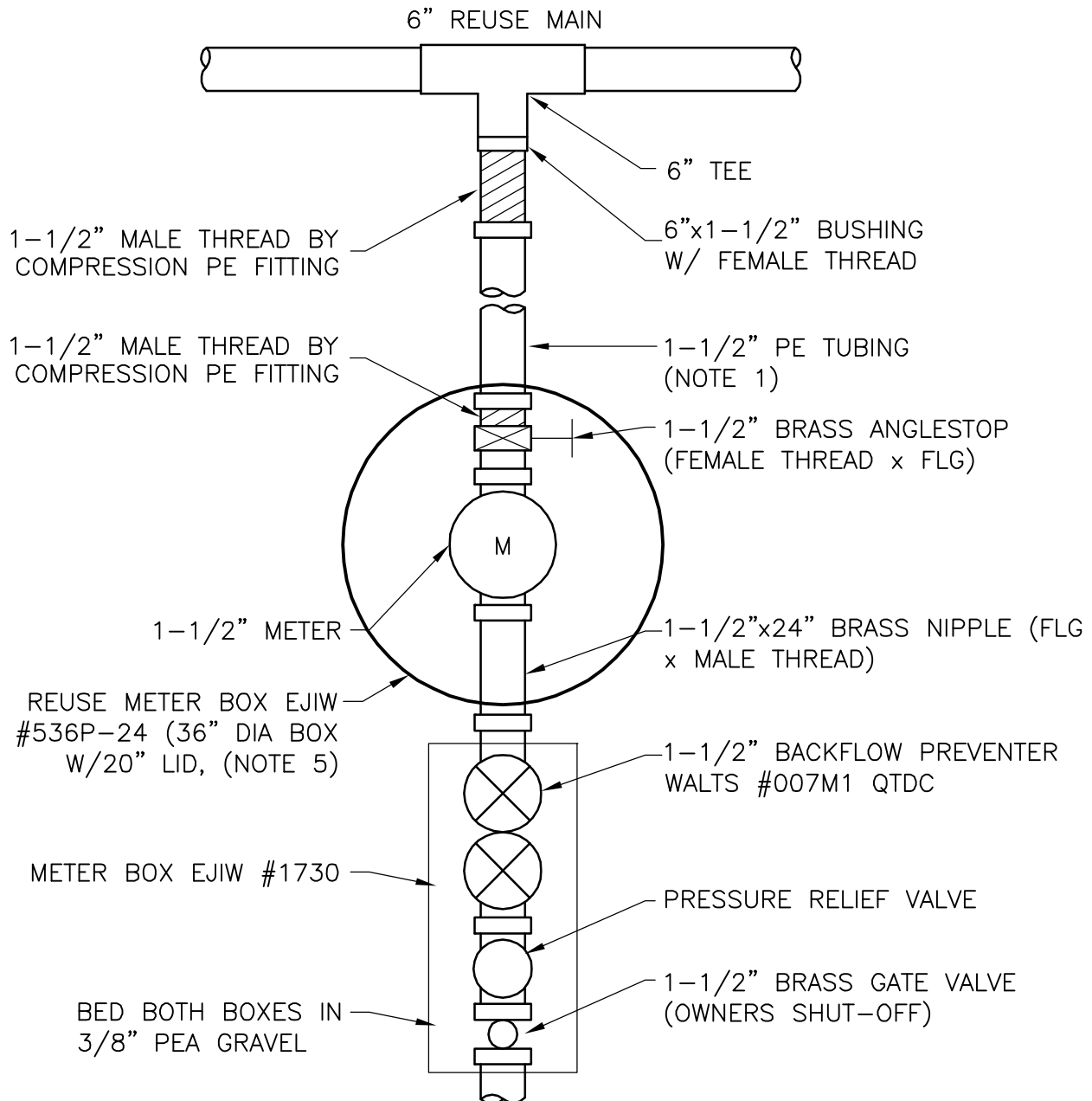
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**WATER AND WASTEWATER
DETAIL SERVICE PLAN**

**STANDARD
DETAIL
WW-13**



NOTES:

1.) BLACK PE TUBING (150 PSI) W/ PURPLE STRIPE OR PURPLE TUBING. NO PE WRAP. PROVIDE PURPLE MARKING WITH PURPLE 3M TAPE OR EQUAL.

2.) ALL FITTINGS AND LINES 1-1/2" UNLESS SPECIFIED OTHERWISE.

3.) BOX LIDS SHALL BE PAINTED SAFETY PURPLE.

4.) PROVIDE 1-1/2" PRESSURE REDUCING VALVE BY WATTS OR EQUAL UNLESS OTHERWISE SPECIFIED.

5.) LMUD SHALL FURNISH METER BOX LID TO CONTRACTOR AT COST. LID SHALL HAVE "LAKEWAY MUNICIPAL UTILITY DISTRICT".

LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

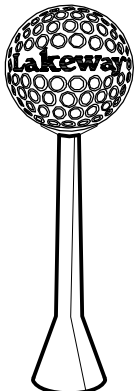
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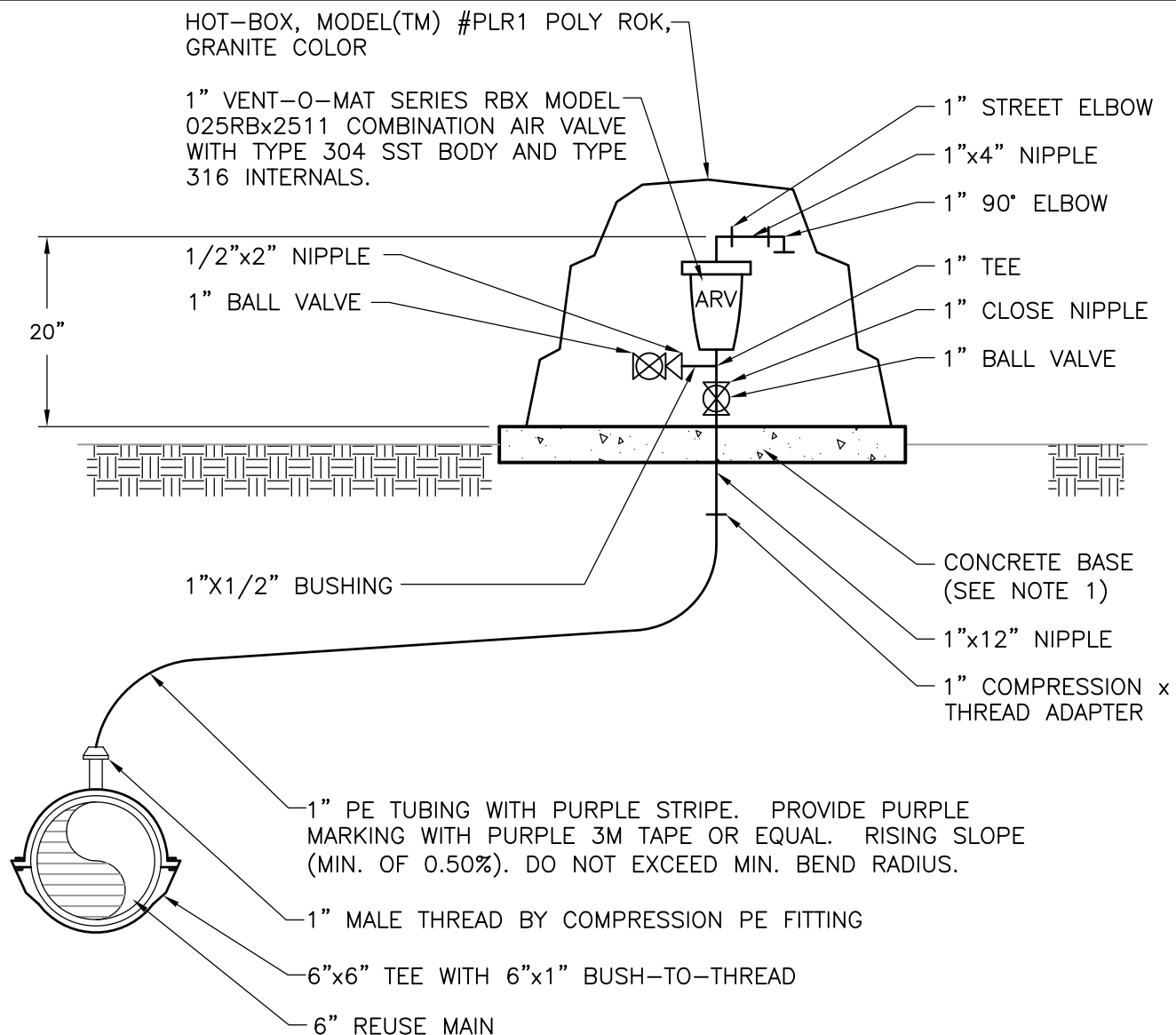
Date Issued:

Rev.#	Date	By	Remarks
1	7-09	BAP	36" BOX AND NOTES

IRRIGATION SERVICE

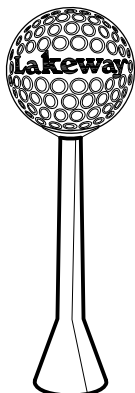
STANDARD
DETAIL
R-1





NOTE:

1. CONCRETE FOUNDATION 6" THICK, REINFORCED W/ #3 REBAR 6" OCEW. DIMENSIONS 40"x27".
2. ALL VALVES, NIPPLES AND FITTINGS SHALL BE TYPE 304 STAINLESS STEEL UNLESS NOTED.
3. INSTALL AND ESTABLISH 3-(5) GALLON TEXAS SAGE SHRUBS TO SCREEN EACH AIR RELEASE ENCLOSURE.



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LAKEWAY, TEXAS

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**AIR RELEASE FOR
REUSE SERVICE**

**STANDARD
DETAIL
R-2**