



STANDARD DRAWINGS
FOR WATER, RECYCLED WATER AND SEWER FACILITIES

W Potable Water and Recycled Water Facilities

S Sewer Facilities

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Standard Drawings for Potable and Recycled Water Facilities

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WI-05 *Not Used*

WI-06(1)	Standard Symbols for Potable and Recycled Water Construction Drawings
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WM-03(2)	Retaining Wall for Water and Recycled Water Appurtenances - Notes
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Standard Drawings for Potable and Recycled Water Facilities

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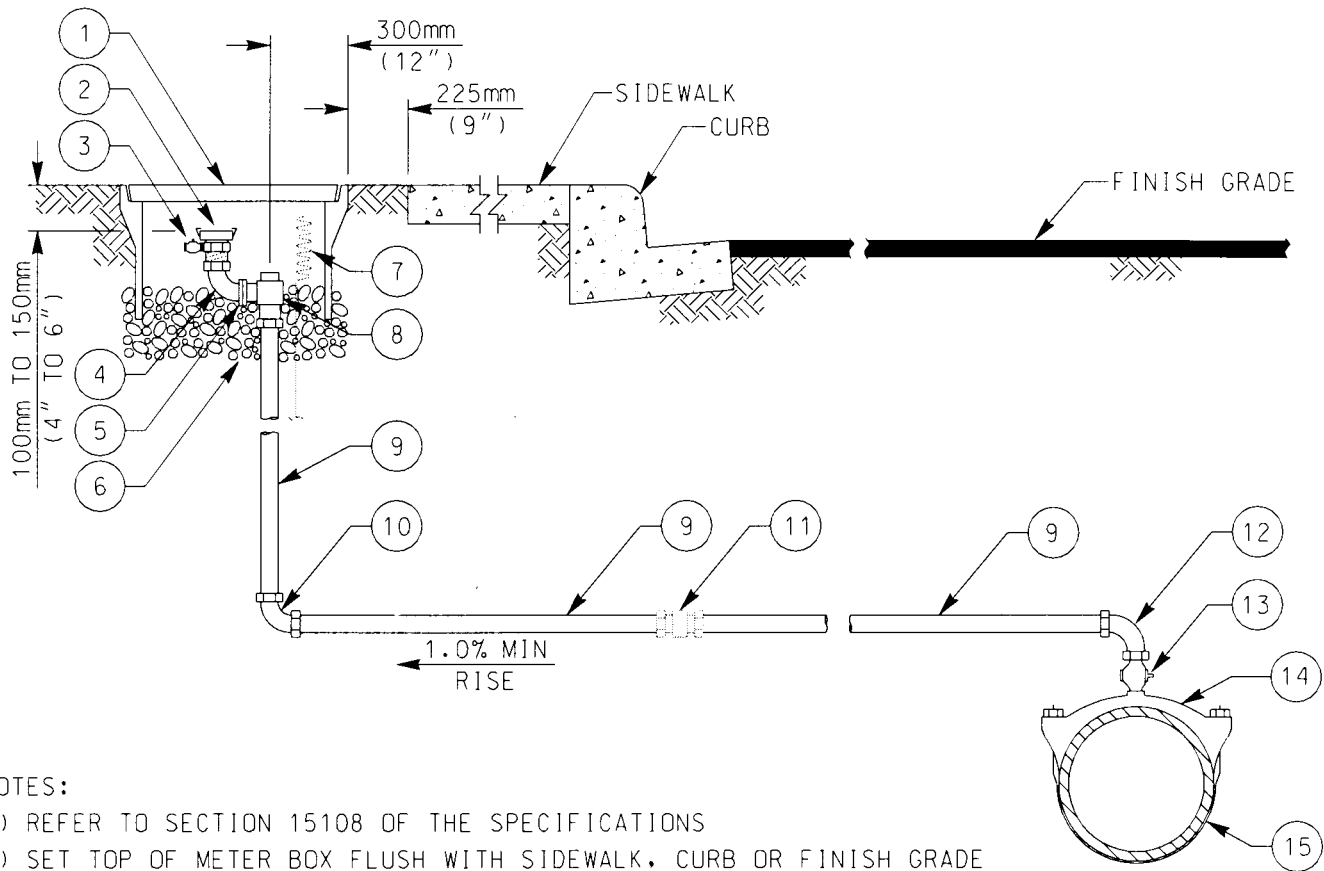
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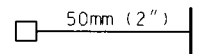
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NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 3) LOCATE METER BOX AS SHOWN ON WS-03
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) MANUAL AIR VALVE INSTALLATION AT END OF MAIN TO BE SADDLED 24" FROM END CAP
- 6) MANUAL AV ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED AS REQUIRED FOR THE PRESSURE RELEASE PET COCK
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	POLYMER METER BOX WITH LID 430mm x 760mm (17" x 30"), SEE NOTE 3	8	50mm (2") BRONZE COMP x FLG ANGLE METER STOP WITH LOCK WING
2	50mm (2") CAM & GROOVE FITTING ADAPTER x MIPT WITH LOCKING DUST CAP, SEE NOTE 8	9	50mm (2") x REQUIRED LENGTH COPPER PIPE, TYPE "K", RIGID OR SOFT
3	6mm (1/4") PRESSURE RELEASE PET COCK	10	50mm (2") 90° BRONZE COMPRESSION ELL
4	50mm (2") 90° BRONZE MIPT x FIPT ELL	11	50mm (2") BRONZE COMPRESSION COUPLING COPPER TO COPPER (IF REQUIRED)
5	50mm (2") OVAL METER FLANGE FLG x FIPT, WITH GASKET	12	50mm (2") 90° BRONZE FIPT x COMP ELL
6	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	13	50mm (2") BRONZE MIPT x MIPT CORPORATION STOP
7	TRACER WIRE (AS REQUIRED), SEE WP-01	14	SIZE x 50mm (2") SERVICE SADDLE
		15	WATER MAIN

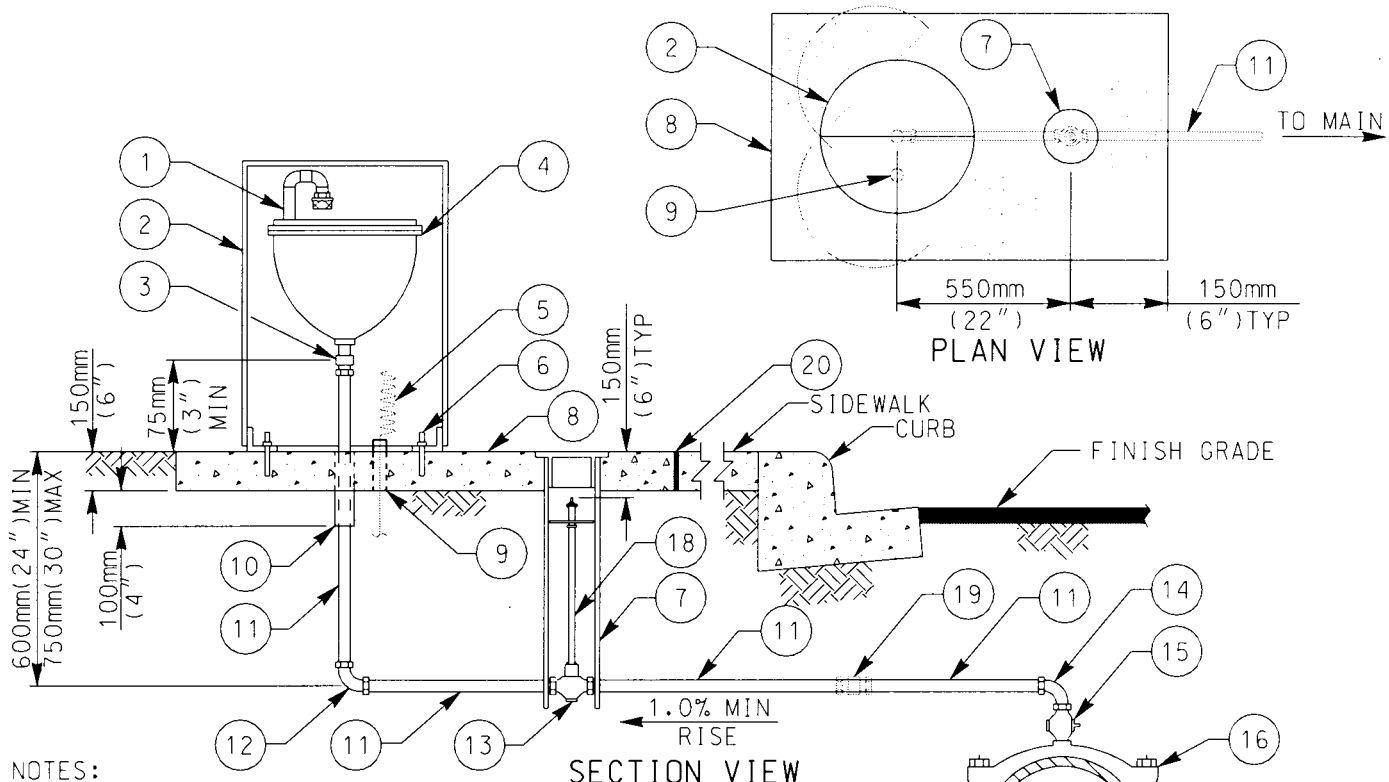
50mm (2") MANUAL AIR VALVE

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/03/2006

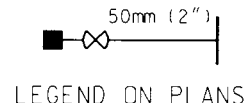
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NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON WA-03
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) AIR & VACUUM VALVES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 6) NOTCH BASE OF GATE WELL TO CENTER OVER VALVE. SET LID FLUSH WITH SLAB.
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

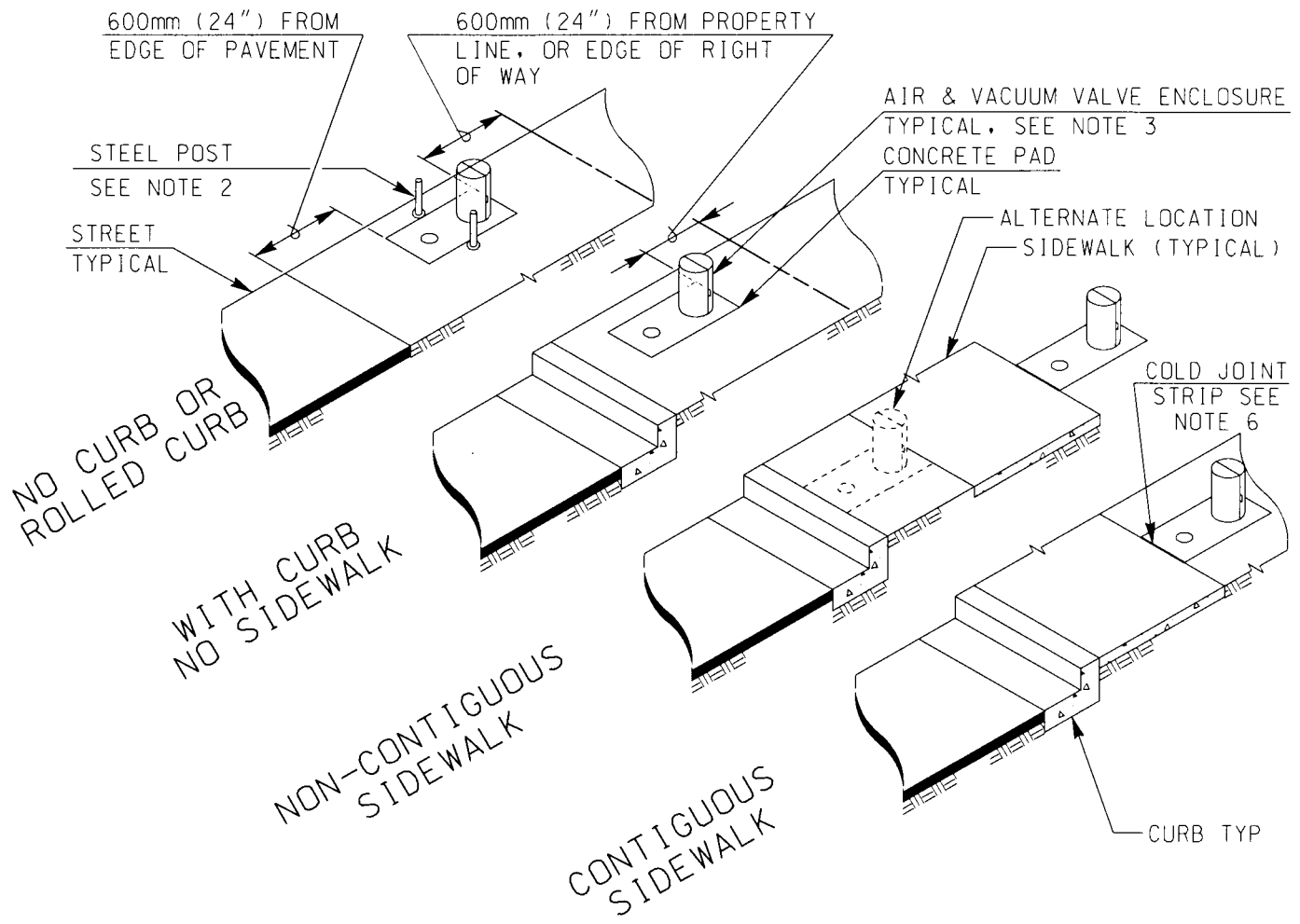


ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	50mm (2") PVC SCH 80 CLOSE NIPPLE & 2-SCH 80 STREET ELLS & SUCTION SCREEN	10	50mm(2") x 13mm(1/2") BLACK FOAM SLEEVE
2	VALVE ENCLOSURE	11	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K", SOFT
3	50mm (2") MIPT x COMPRESSION ADAPTER	12	50mm (2") 90° BRONZE COMPRESSION ELL
4	50mm (2") AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE	13	50mm (2") COMP BALL VALVE W/ TEE HEAD
5	TRACER WIRE (IF REQUIRED), SEE WP-01	14	50mm (2") 90° BRONZE FIPT x COMP ELL
6	13mm x 75mm (1/2" x 3") STAINLESS STEEL DROP-IN ANCHORS (3 EA @ 120° APART)	15	50mm (2") BRONZE MIPT x MIPT CORPORATION STOP
7	100mm (4") SDR-35 SEWER PIPE GATE WELL WITH LID, SEE NOTE 6	16	SIZE x 50mm (2") SERVICE SADDLE
8	1050mm x 750mm x 150mm THICK (42"x 30"x 6" THICK) CONCRETE SLAB	17	WATER MAIN
9	25mm (1") PVC CONDUIT FOR TRACER WIRE INSTALLED 50mm (2") ABOVE SLAB	18	VALVE STEM EXTENSION, (REQ'D) SEE WV-05
		19	50mm (2") BRONZE COMPRESSION COUPLING (IF REQUIRED)
		20	COLD JOINT STRIP

50mm (2") AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE INSTALLATIONS

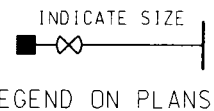
WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 11/03/2006
 DRAWING NUMBER: WA-02

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NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER PER WM-04
- 3) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF ENCLOSURE
- 4) THE ENCLOSURE SHALL BE CHOCOLATE BROWN AS MANUFACTURED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 5) ENCLOSURES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 6) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 7) AIR & VACUUM VALVES & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



50mm (2") AIR & VACUUM VALVE ENCLOSURE LOCATIONS

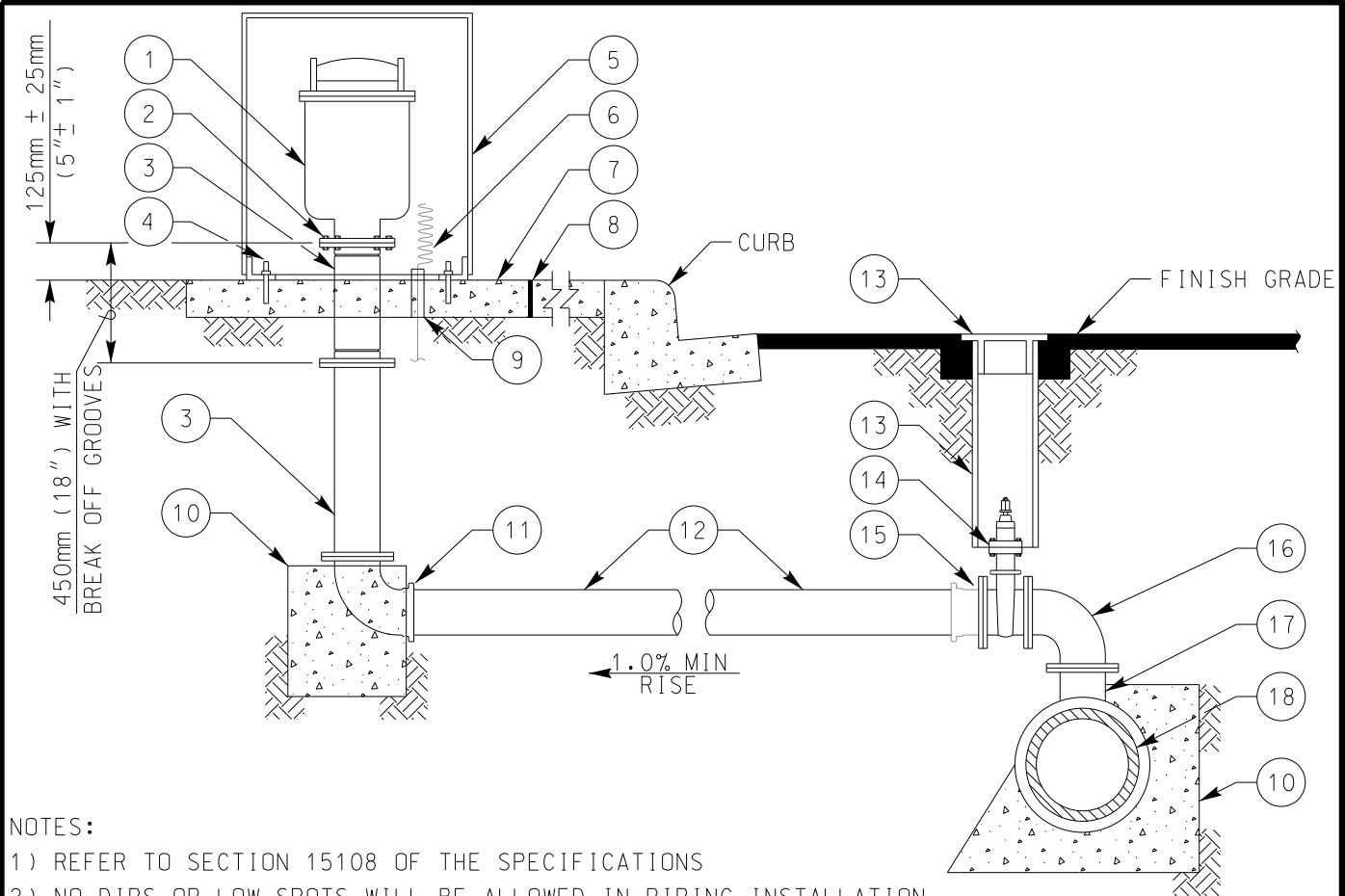
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/03/2006

DRAWING NUMBER: WA-03

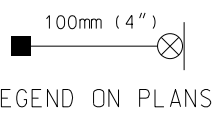
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NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON WA-06
- 4) INSTALL WARNING/IDENTIFICATION TAPE SHOWN ON WP-01
- 5) BOLTS SHALL BE A307 ZINC-PLATED BOLTS. INSTALL WITH NUTS ON TOP OF THE FLANGE.
- 6) AIR & VACUUM VALVES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

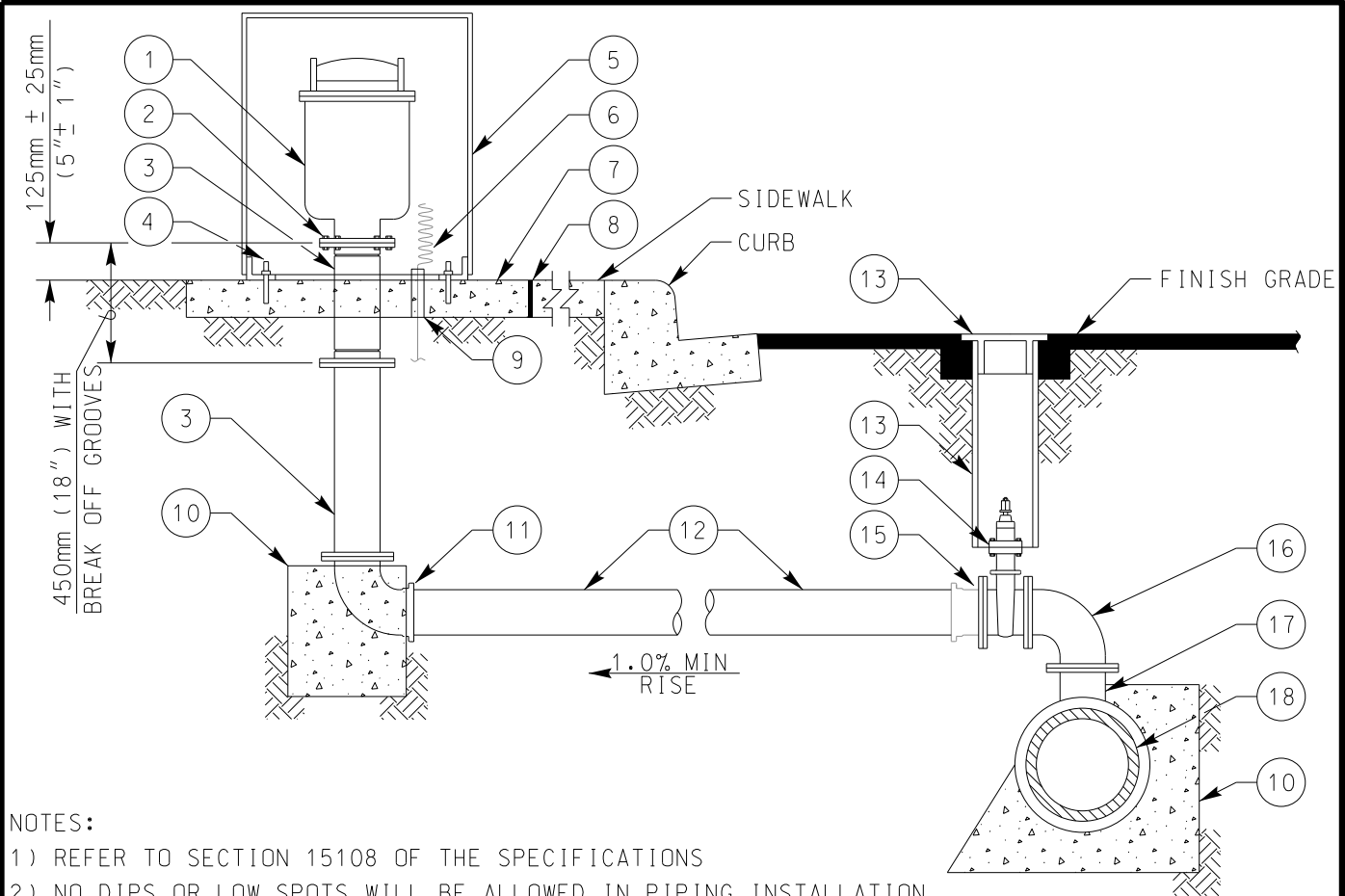


ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	100mm (4") AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE ASSEMBLY WITH INSECT SCREEN	9	25mm (1") PVC CONDUIT FOR TRACER WIRE INSTALLED 50mm (2") ABOVE SLAB
2	BOLTS, SEE NOTE 5	10	CONCRETE THRUST/ANCHOR BLOCK SEE WT-01
3	100mm (4") FLANGED 8-BOLT DUCTILE IRON PIPE x REQ'D LENGTH (MAX OF 2 SPOOLS)	11	100mm (4") FLG x MJ/PO 90° BEND
4	13mm x 75mm (1/2" x 3") STAINLESS STEEL DROP-IN ANCHORS (3 EA @ 120° APART)	12	100mm (4") C-900 PVC PIPE
5	VALVE ENCLOSURE	13	200mm (8") GATE WELL WITH LID SEE WV-01 OR WV-02
6	TRACER WIRE (IF REQUIRED), SEE WP-01	14	100mm (4") FLG x MJ/PO/FLG RWGV
7	1250mm x 1250mm x 150mm THICK (50"x 50"x 6" THICK) CONCRETE SLAB	15	100mm (4") FLG x MJ/PO ADAPTER (IF REQUIRED)
8	COLD JOINT STRIP	16	100mm (4") FLANGE 90° BEND
		17	SIZE x 100mm (4") MJ/PO/FLG x FLG TEE
		18	WATER MAIN

**100mm (4") AUTOMATIC COMBINATION
 AIR RELEASE & AIR/VACUUM
 VALVE INSTALLATIONS**

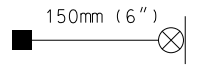
WATER AGENCIES' STANDARDS
 COMMITTEE APPROVAL: 12/16/2019
 DRAWING NUMBER: WA-04

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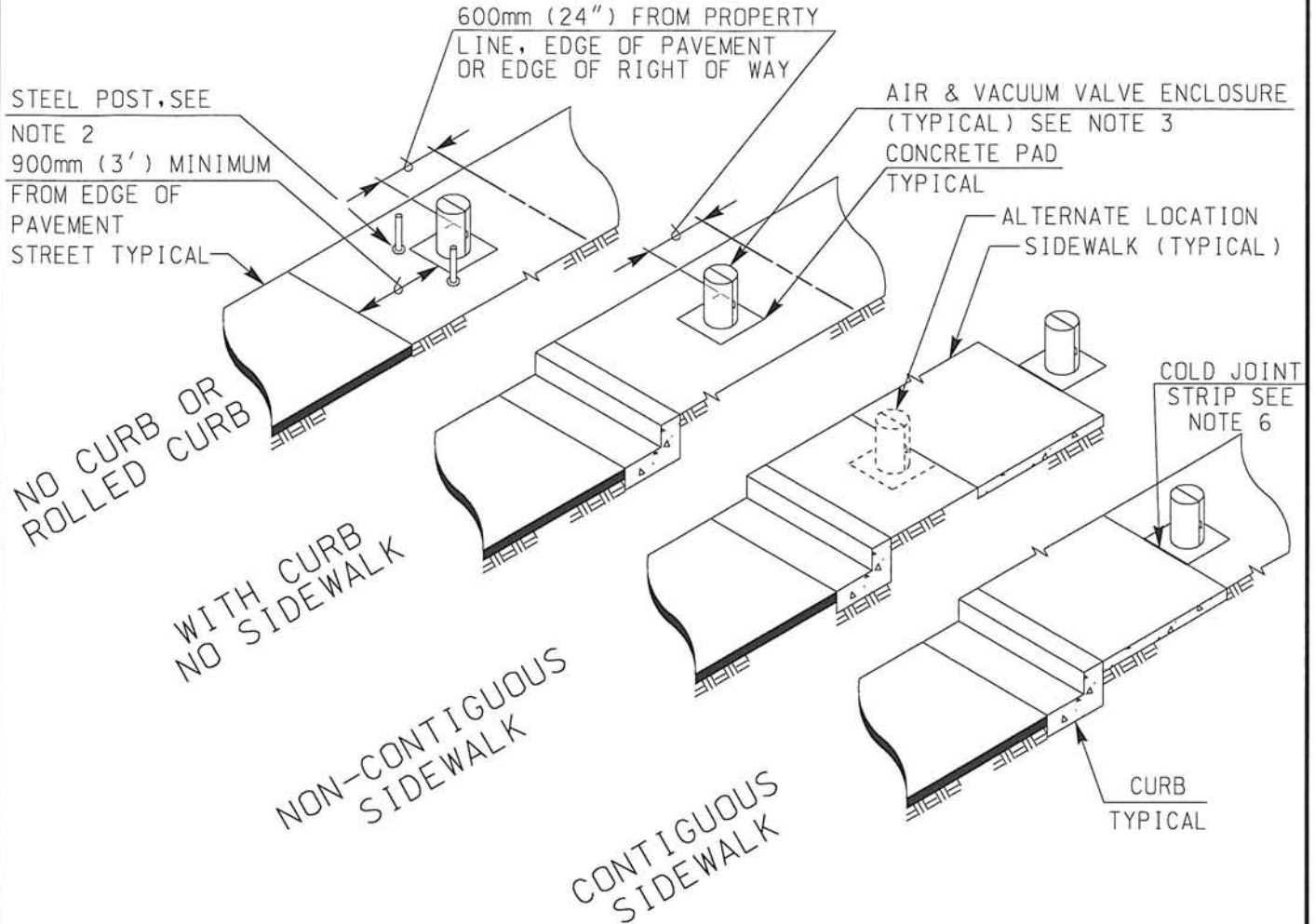
- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON WA-06
- 4) INSTALL WARNING/IDENTIFICATION TAPE SHOWN ON WP-01
- 5) BOLTS SHALL BE A307 ZINC-PLATED BOLTS. INSTALL WITH NUTS ON TOP OF THE FLANGE.
- 6) AIR & VACUUM VALVES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	150mm (6") AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE ASSEMBLY WITH INSECT SCREEN	9	25mm (1") PVC CONDUIT FOR TRACER WIRE INSTALLED 50mm (2") ABOVE SLAB
		10	CONCRETE THRUST/ANCHOR BLOCK SEE WT-01
2	BOLTS, SEE NOTE 5	11	150mm (6") FLG x MJ/PO 90° BEND
3	150mm (6") FLANGED 8-BOLT DUCTILE IRON PIPE x REQ'D LENGTH (MAX OF 2 SPOOLS)	12	150mm (6") C-900 PVC PIPE
		13	200mm(8") GATE WELL WITH LID SEE WV-01 OR WV-02
4	13mm x 75mm (1/2" x 3") STAINLESS STEEL DROP-IN ANCHORS (3 EA @ 120° APART)	14	150mm (6") FLG x MJ/PO/FLG RWGV
5	VALVE ENCLOSURE	15	150mm (6") FLG x MJ/PO ADAPTER (IF REQUIRED)
6	TRACER WIRE (IF REQUIRED), SEE WP-01	16	150mm (6") FLANGE 90° BEND
7	1250mm x 1250mm x 150mm THICK (50"x 50"x 6" THICK) CONCRETE SLAB	17	SIZE x 150mm (6") MJ/PO/FLG x FLG TEE
		18	WATER MAIN
8	COLD JOINT STRIP		

**150mm (6") AUTOMATIC COMBINATION
 AIR RELEASE & AIR/VACUUM
 VALVE INSTALLATIONS**

WATER AGENCIES' STANDARDS
 COMMITTEE APPROVAL: 12/16/2019
 DRAWING NUMBER: WA-05



NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER PER WM-04
- 3) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF ENCLOSURE
- 4) THE ENCLOSURE SHALL BE CHOCOLATE BROWN AS MANUFACTURED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 5) 1200mm (24") MINIMUM CLEARANCE SHALL BE MAINTAINED ALL AROUND PAD WHEN INSTALLED WITH OR BY A WALL OR OTHER OBSTRUCTIONS
- 6) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 7) AIR & VACUUM VALVES & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



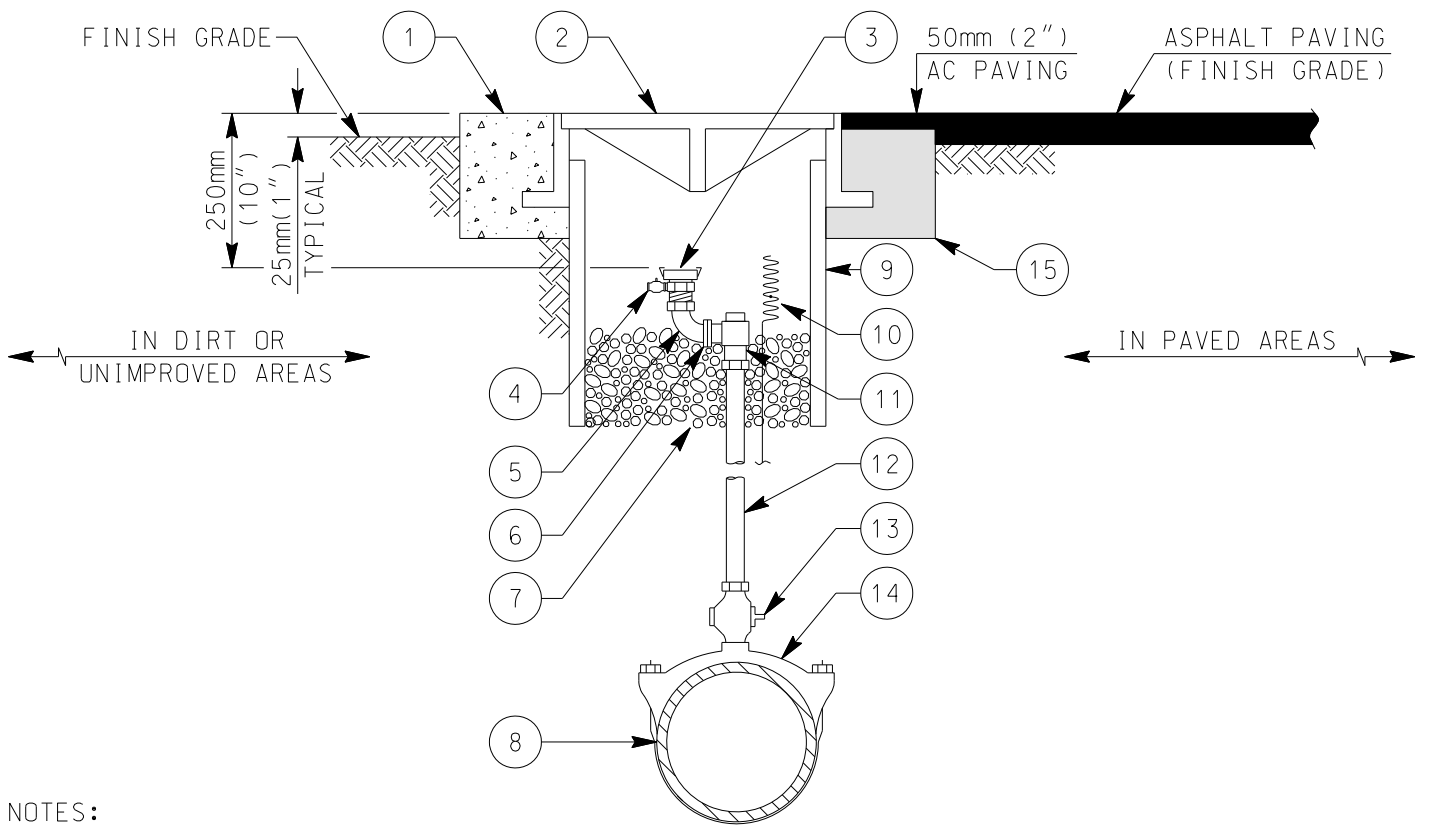
LEGEND ON PLANS

100mm & 150mm (4" & 6") AIR & VACUUM VALVE ENCLOSURE LOCATIONS

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 09/28/2009

DRAWING NUMBER: WA-06



NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 3) INSTALLATION AT END OF MAIN TO BE SADDLED 300mm (24") FROM END CAP
- 4) MANUAL AV ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 5) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 6) CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED AS REQUIRED FOR THE PRESSURE RELEASE PET COCK
- 7) LIDS SHALL BE MANUFACTURED WITH THE WORD "WATER" OR "RECYCLED WATER" AS SHOWN ON WV-03
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

50mm (2")

LEGEND ON PLANS

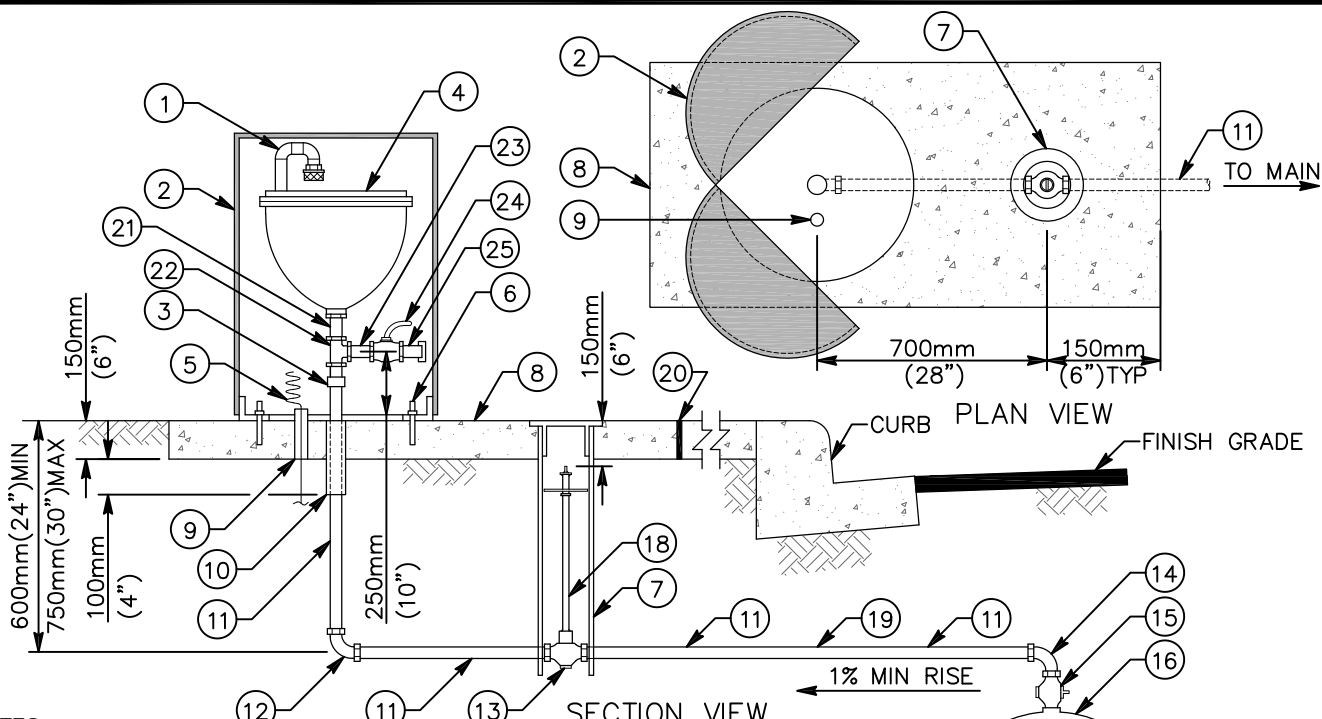
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm (8") HIGH x 200mm (8") WIDE CONCRETE RING	8	WATER MAIN
2	300mm (12") 2-PIECE FRAME AND LID VALVE BOX, SEE NOTE 7	9	300mm (12") SDR 35 PVC PIPE x 600mm (24") LONG GATE WELL
3	50mm (2") CAM & GROOVE FITTING ADAPTER x MIPT WITH LOCKING DUST CAP SEE NOTE 8	10	TRACER WIRE (AS REQUIRED), SEE WP-01
4	6mm (1/4") PRESSURE RELEASE PET COCK	11	50mm (2") BRONZE COMP x FLG ANGLE METER STOP WITH LOCK WING
5	50mm (2") 90° BRONZE MIPT x FIPT ELL	12	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" RIGID OR SOFT
6	50mm (2") OVAL METER FLANGE FLG x FIPT, WITH GASKET	13	50mm (2") BRONZE MIPT x COMPRESSION CORPORATION STOP
7	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	14	SIZE x 50mm (2") SERVICE SADDLE
		15	200mm (8") HIGH x 200mm (8") WIDE ASPHALT CONCRETE RING

50mm (2") BELOW GROUND MANUAL AIR VALVE IN 300mm (12") CAN

WATER AGENCIES' STANDARDS

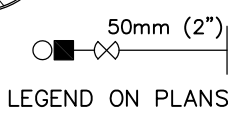
COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: WA-07



NOTES:

- 1) REFER TO SECTION 15108 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON WA-03
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) AIR & VACUUM VALVES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 6) NOTCH BASE OF GATE WELL TO CENTER OVER VALVE. SET LID FLUSH WITH SLAB
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

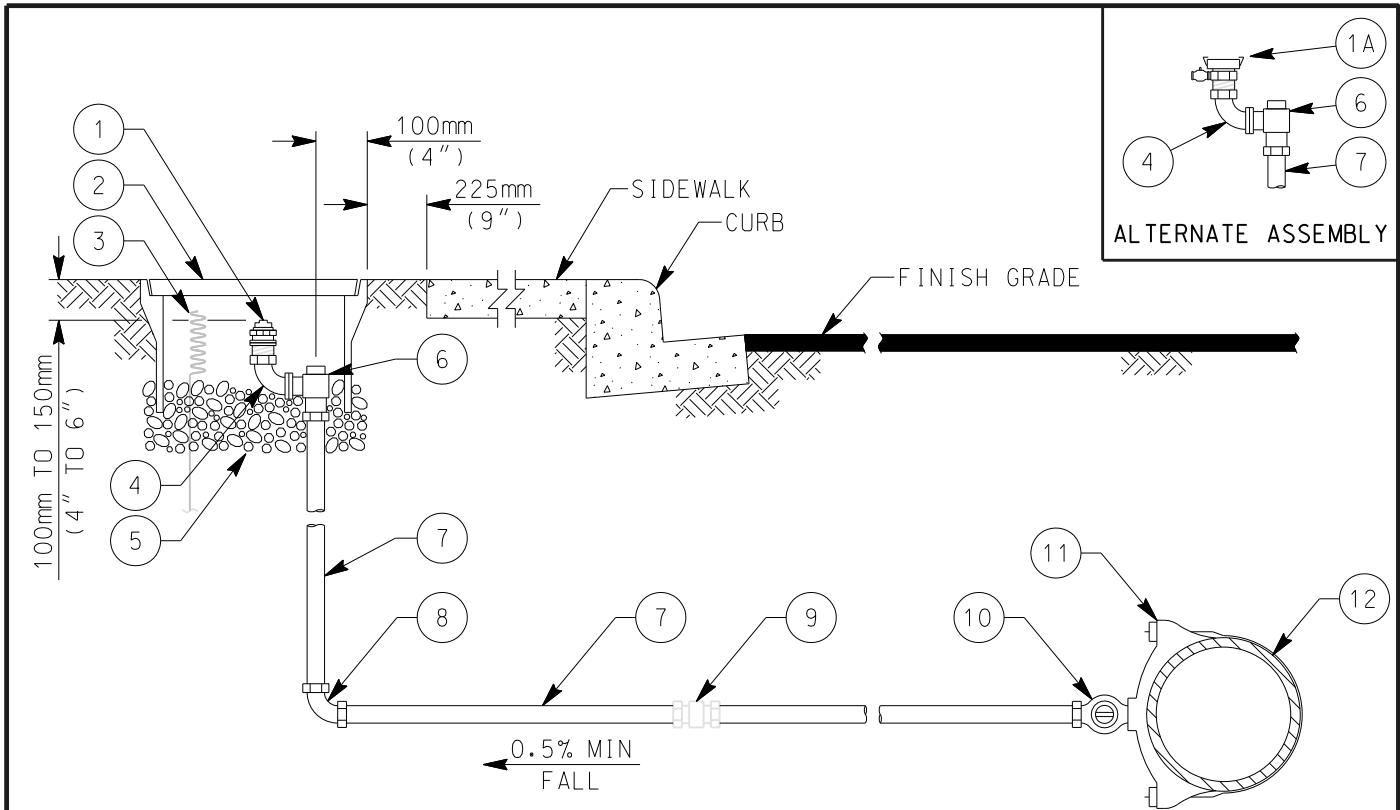


ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	50mm (2") PVC SCH 80 CLOSE NIPPLE & 2-SCH 80 STREET ELLS & SUCTION SCREEN	⑫	50mm (2") 90° BRONZE COMPRESSION ELL
②	VALVE ENCLOSURE (24"x36")	⑬	50mm (2") COMP BALL VALVE W/TEE HEAD
③	50mm (2") MIP x COMPRESSION ADAPTER	⑭	50mm (2") 90° BRONZE FIPT x COMP ELL
④	50mm (2") AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE	⑮	50mm (2") BRONZE MIPT x MIPT CORPORATION STOP
⑤	TRACER WIRE (IF REQUIRED), SEE WP-01	⑯	SIZE x 50mm (2") SERVICE SADDLE
⑥	13mm x 75mm (1/2"x3") STAINLESS STEEL DROP-IN ANCHORS (3 EA @ 120° APART)	⑰	WATER MAIN
⑦	100mm (4") SDR-35 SEWER PIPE GATE WELL WITH LID. SEE NOTE 6	⑱	50mm (2") BRONZE COMPRESSION COUPLING (IF REQUIRED)
⑧	1200mm x 900mm x 150mm THICK (48"x36"x6" THICK) CONCRETE SLAB	⑳	COLD JOINT STRIP
⑨	25mm (1") PVC CONDUIT FOR TRACER WIRE INSTALLED 50mm (2") ABOVE SLAB	㉑	50mm x 75mm (2"x3") NIPPLE, (BRASS)
⑩	50mm x 13mm (2"x1/2") BLACK FOAM SLEEVE	㉒	50mm (2") FIPT TEE (BRONZE)
⑪	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K", SOFT	㉓	50mm (2") X CLOSE END NIPPLE (BRASS)
		㉔	50mm (2") BALL VALVE W/LOCKABLE HANDLE
		㉕	50mm x 63mm (2"x2.5") MIP X HOSE ADAPTER WITH 63mm (2.5") CAP

50mm (2") AUTOMATIC COMBINATION AIR RELEASE/VACUUM VALVE WITH BLOWOFF VALVE INSTALLATION

WATER AGENCIES' STANDARDS
 COMMITTEE APPROVAL: 11/12/2020
 DRAWING NUMBER: WA-08

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NOTES:

- 1) REFER TO SECTION 15074 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 3) LOCATE METER BOX AS SHOWN ON WS-03
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) FOR BLOWOFF INSTALLATION AT END OF MAIN SEE WB-04
- 6) BLOWOFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) ALTERNATE ASSEMBLY IF DIRECTED BY THE DISTRICT ENGINEER. IF USED, CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED FITTED WITH 6mm (1/4") PRESSURE RELEASE PET COCK PRIOR TO INSTALLATION
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

50mm (2")
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	50mm (2") THREADED BRASS PLUG	6	50mm (2") BRONZE COMP x FIP ANGLE STOP WITH LOCK WING
1A	50mm (2") CAM & GROOVE FITTING x MIPT ADAPTER WITH LOCKING DUST CAP AND 6mm (1/4") PRESSURE RELEASE PET COCK SEE NOTE 8 (ALTERNATE ASSEMBLY)	7	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT
		8	50mm (2") 90° BRONZE COMPRESSION ELL
		9	50mm (2") BRONZE COMPRESSION COUPLING COPPER TO COPPER (IF REQUIRED)
2	POLYMER METER BOX WITH LID 430mm x 760mm (17" x 30"), SEE NOTE 3	10	50mm (2") BRONZE MIPT x COMP CORPORATION STOP
3	TRACER WIRE (AS REQUIRED), SEE WP-01	11	SIZE x 50mm (2") SERVICE SADDLE
4	50mm (2") 90° BRONZE MIPT x FIPT ELL	12	WATER MAIN
5	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP		

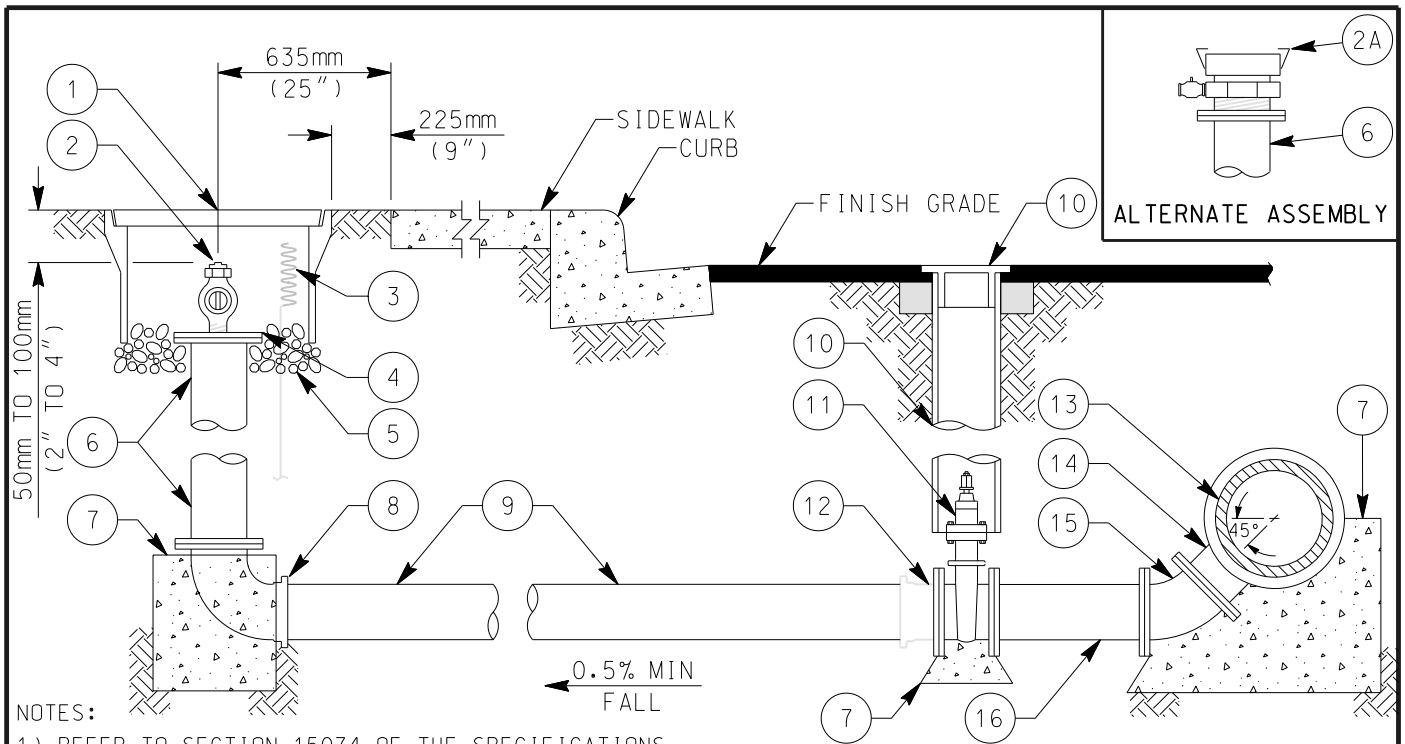
50mm (2") BLOWOFF INSTALLATION

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 07/28/2014

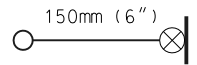
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NOTES:

- 1) REFER TO SECTION 15074 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 3) LOCATE METER BOX AS SHOWN ON WS-03
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) FOR BLOWOFF INSTALLATION AT END OF MAIN SEE WB-04
- 6) BLOWOFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061 AND AS SHOWN ON WB-04
- 8) 45° BEND SHALL BE USED FOR MAINS UP TO 750mm (30"). 90° BEND SHALL BE USED FOR MAINS IN EXCESS OF 750mm (30") AS DIRECTED BY THE ENGINEER
- 9) ALTERNATE ASSEMBLY IF DIRECTED BY THE DISTRICT ENGINEER. IF USED, CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED FITTED WITH 6mm (1/4") PRESSURE RELEASE PET COCK PRIOR TO INSTALLATION
- 10) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	POLYMER METER BOX WITH LID 430mm x 760mm (17" x 30") SEE NOTE 3	6	150mm (6") FLG DI PIPE x REQUIRED LENGTH (MAXIMUM OF 2 SPOOLS)
2	50mm (2") FIP x MIP BRASS LOCKABLE BALL VALVE WITH 50mm (2") THREADED BRASS PLUG	7	CONCRETE THRUST BLOCK SEE WT-01
		8	150mm (6") FLG x MJ/PO 90° BEND
2A	50mm (2") CAM & GROOVE FITTING x MIPT ADAPTER WITH LOCKING DUST CAP AND 150mm (6") FLANGED COMPANION x FIPT SEE NOTE 8 (ALTERNATE ASSEMBLY)	9	150mm (6") C-900 PVC PIPE
		10	200mm (8") GATE WELL WITH LID SEE WV-01 OR WV-02
3	TRACER WIRE (AS REQUIRED), SEE WP-01	11	150mm (6") FLG x MJ/PO/FLG RWGV
4	150mm (6") FLANGED COMPANION x FIPT	12	150mm (6") FLG x MJ/PO ADAPTER (IF REQUIRED)
		13	WATER MAIN
5	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	14	SIZE x 150mm (6"), MJ/PO/FLG x FLG TEE
		15	150mm (6") FLG'D 45° BEND, SEE NOTE 8
		16	150mm (6") x 600mm (24") FLG DI SPOOL

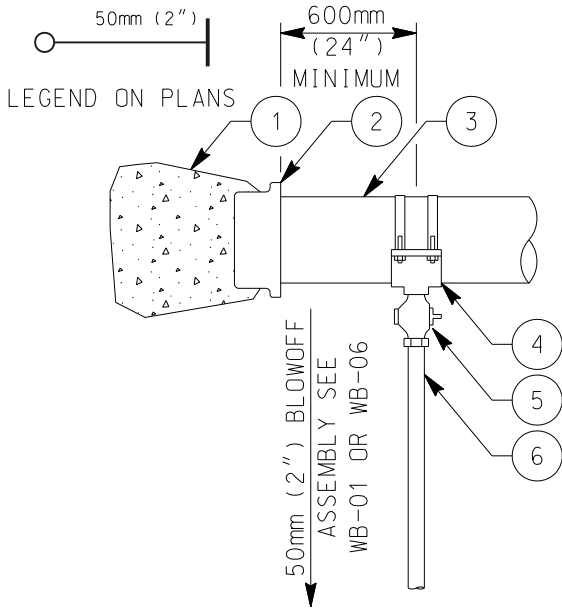
150mm (6 inch) BLOWOFF INSTALLATION

WATER AGENCIES STANDARDS

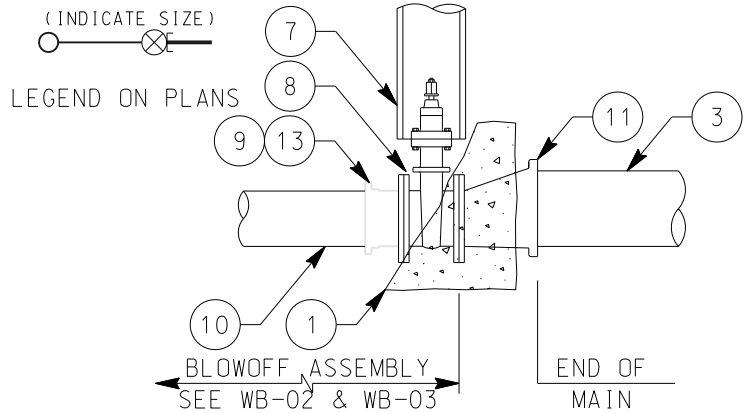
COMMITTEE APPROVAL: 07/28/2014

DRAWING NUMBER: WB-03

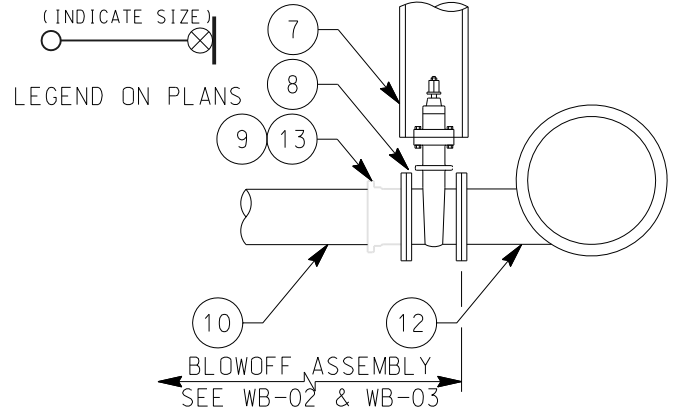
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50mm (2") BLOWOFF FROM END OF MAIN (PLAN VIEW)



100mm & 150mm (4" & 6") BLOWOFF FROM END OF MAIN (PROFILE VIEW)



100mm & 150mm (4" & 6") BLOWOFF FROM STEEL MAIN (PROFILE VIEW)

NOTES:

- 1) REFER TO SECTION 15074 OF THE SPECIFICATIONS
- 2) FOR INSTALLATION OF BLOWOFF ASSEMBLIES SEE DRAWINGS WB-01, WB-02, WB-03 AND WB-06
- 3) BLOWOFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 4) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

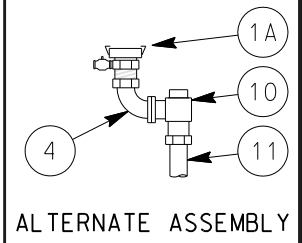
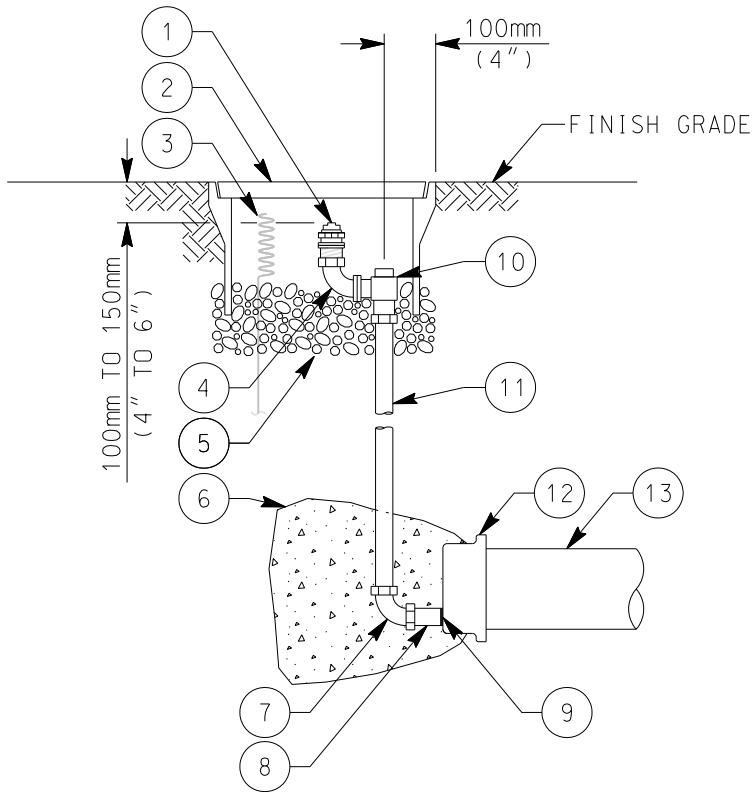
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	CONCRETE THRUST BLOCK SEE WT-01	7	200mm (8") GATE WELL SEE WV-01 & WV-02
2	DUCTILE IRON END CAP	8	FLG x MJ/PO/FLG RWGV
3	WATER MAIN	9	FLG x MJ/PO ADAPTER (IF REQUIRED)
4	SIZE x 50mm (2") SERVICE SADDLE	10	C-900 PVC PIPE, SEE WB-02 & WB-03
5	50mm (2") BRONZE MIPT x MIPT CORPORATION STOP	11	FLG x MJ/PO ECCENTRIC DI REDUCER
6	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT, SEE WB-01	12	MAIN SIZE x BLOWOFF SIZE FLANGE
		13	FLG x MJ/PO BEND (IF REQUIRED)

BLOWOFF INSTALLATION FROM END OF MAINS AND FROM STEEL MAINS

WATER AGENCIES STANDARDS

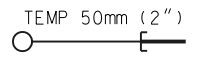
COMMITTEE APPROVAL: 07/28/2014

DRAWING NUMBER: WB-04



NOTES:

- 1) REFER TO SECTIONS 15000 AND 15074 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX 50mm (2") ABOVE FINISH GRADE
- 3) BLOWOFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 4) THE INSTALLATION OF TEMPORARY END CAPS AND BLOWOFFS FOR THE USE OF TESTING AND FLUSHING OF NEW MAINS OR TEMPORARY MAINTENANCE OR SERVICE OF EXISTING WATER MAINS ONLY
- 5) ALTERNATE ASSEMBLY IF DIRECTED BY THE DISTRICT ENGINEER. IF USED, CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED FITTED WITH 6mm (1/4") PRESSURE RELEASE PET COCK PRIOR TO INSTALLATION
- 6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



TEMP 50mm (2")
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	50mm (2") THREADED BRASS PLUG	6	CONCRETE THRUST BLOCK SEE WT-01
1A	50mm (2") CAM & GROOVE FITTING x MIPT ADAPTER WITH LOCKING DUST CAP AND 6mm (1/4") PRESSURE RELEASE PET COCK SEE NOTE 5 (ALTERNATE ASSEMBLY)	7	50mm (2") 90° BRONZE COMP x FIPT ELL
		8	50mm (2") CLOSE NIPPLE IPT
		9	63mm (2 1/2") x 50mm (2") NYLON DIELECTRIC BUSHING
2	POLYMER METER BOX WITH LID 430mm x 760mm (17" x 30")	10	50mm (2") BRONZE COMP x FIP ANGLE STOP WITH LOCK WING
3	TRACER WIRE (AS REQUIRED) SEE WP-01	11	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT
4	50mm (2") 90° BRONZE MIPT x FIPT ELL		
5	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	12	DUCTILE IRON END CAP WITH 63mm (2 1/2") FIPT OUTLET
		13	WATER MAIN

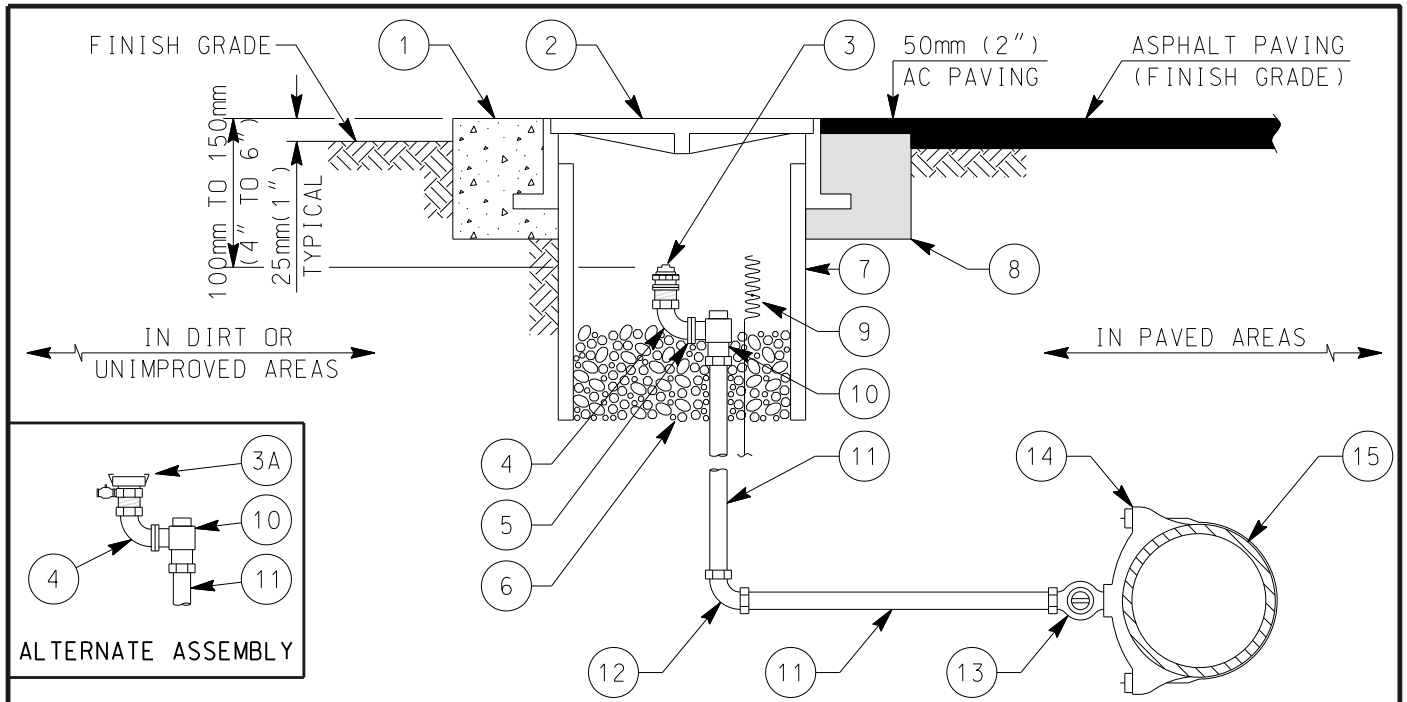
TEMPORARY END CAP AND
50mm (2") BLOWOFF INSTALLATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 07/28/2014

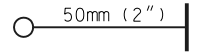
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NOTES:

- 1) REFER TO SECTION 15074 OF THE SPECIFICATIONS
- 2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 3) FOR INSTALLATION AT END OF MAIN REFER TO WB-04
- 4) BLOWOFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 5) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 6) ALTERNATE ASSEMBLY IF DIRECTED BY THE DISTRICT ENGINEER. IF USED, CAM & GROOVE FITTING ADAPTER SHALL BE DRILLED AND TAPPED FITTED WITH 6mm (1/4") PRESSURE RELEASE PET COCK PRIOR TO INSTALLATION
- 7) LIDS SHALL BE MANUFACTURED WITH THE WORD "WATER" OR "RECYCLED WATER" AS SHOWN ON WV-03
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION		
1	200mm (8") HIGH x 200mm (8") WIDE CONCRETE RING	7	300mm (12") SDR 35 PVC PIPE x 600mm (24") LONG GATE WELL
2	300mm (12") 2-PIECE FRAME AND LID VALVE BOX, SEE NOTE 7	8	200mm (8") HIGH x 200mm (8") WIDE ASPHALT CONCRETE RING
3	50mm (2") THREADED BRASS PLUG	9	TRACER WIRE (AS REQUIRED), SEE WP-01
3A	50mm (2") CAM & GROOVE FITTING x MIPT ADAPTER WITH LOCKING DUST CAP AND 6mm (1/4") PRESSURE RELEASE PET COCK SEE NOTE 6 (ALTERNATE ASSEMBLY)	10	50mm (2") BRONZE COMP x FLG ANGLE METER STOP WITH LOCK WING
		11	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT
4	50mm (2") 90° BRONZE MIPT x FIPT ELL	12	50mm (2") 90° BRONZE COMPRESSION ELL
5	50mm (2") OVAL METER FLANGE FLG x FIPT, WITH GASKET	13	50mm (2") BRONZE MIPT x COMPRESSION CORPORATION STOP
6	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	14	SIZE x 50mm (2") SERVICE SADDLE
		15	WATER MAIN

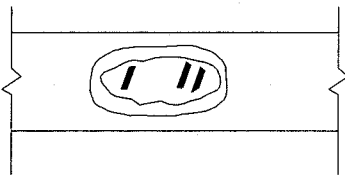
**50mm (2 inch) BLOWOFF INSTALLATION
IN 300mm (12 inch) CAN**

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 07/28/2014

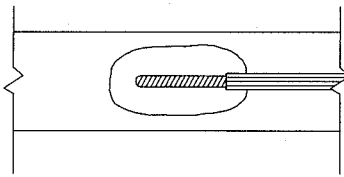
DRAWING NUMBER: WB-06

STEP 1



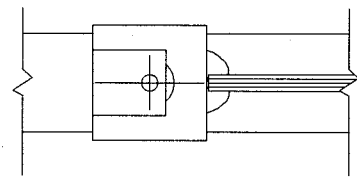
CHIP OUT MORTAR AND
FILE OR GRIND SURFACE
TO BRIGHT METAL AND CLEAN

STEP 2



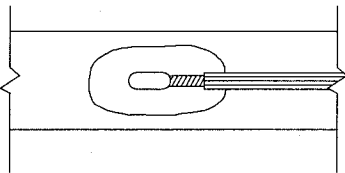
STRIP INSULATION
FROM WIRE

STEP 3



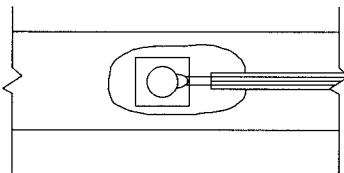
HOLD WELDER FIRMLY
WITH OPENING AWAY
FROM OPERATOR AND
IGNITE STARTING POWDER

STEP 4



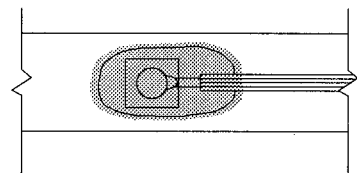
REMOVE SLAG
FROM CONNECTION

STEP 5

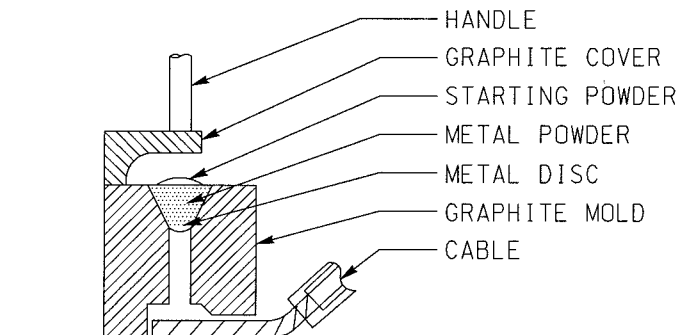


COVER CONNECTION
WITH A ELASTOMERIC
WELD CAP

STEP 6



APPLY HAND PLACED
REPAIR GROUT IN ACCORDANCE
WITH SECTION 15061



WELDER SECTION

NOTES:

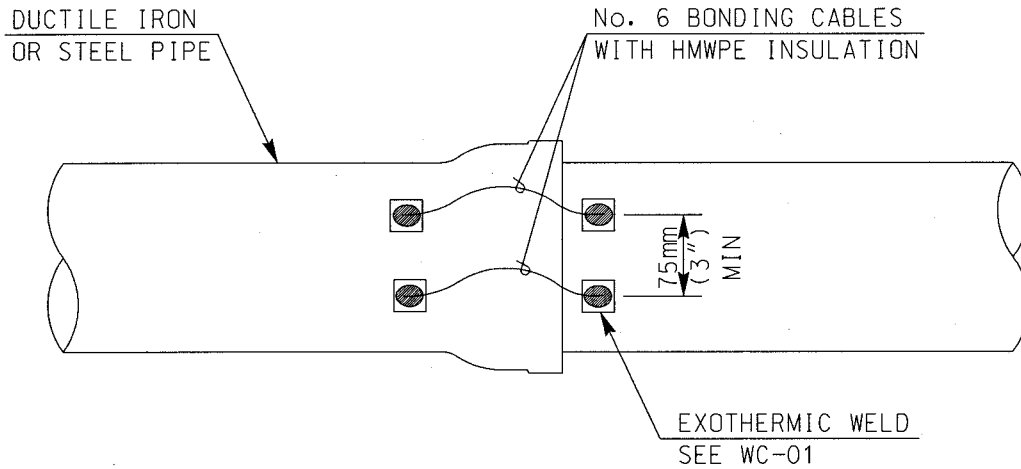
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) WELDER SHOWN IS FOR HORIZONTAL SURFACES. FOR VERTICAL SURFACES SIDE WELDER IS REQUIRED
- 3) ALL WIRE WELDS SHALL BE 75mm (3") APART, MINIMUM
- 4) STANDARD WELD CARTRIDGES SHALL BE USED FOR DUCTILE IRON AND STEEL SURFACES
- 5) COVER WELD WITH ELASTOMERIC WELD CAP. USE ROYSTON HANDY CAP OR EQUIVALENT
- 6) APPLY GENEROUS COAT OF BITUMEN OVER WELD CAP AND WELD AREA OVERLAPPING PIPE COATING BY 75mm (3"). USE KOPPERS BIT 50 OR EQUAL
- 7) PATCH MORTAR COATING WITH QUICK SETTING MORTAR
- 8) TEST WELD STRENGTH BY HAMMER TEST IN ACCORDANCE WITH THE SPECIFICATIONS

EXOTHERMIC WELD DETAIL

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-01



DUCTILE IRON OR STEEL PIPE

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) REFER TO STANDARD DRAWING WC-01 FOR EXOTHERMIC WELDING
- 3) DO NOT PLACE ALUMINO-THERMIC WELD ON PIPE BELL
- 4) BOND WIRES SHALL BE OF MINIMUM LENGTH. LAY WIRE AGAINST PIPE AND FITTINGS WITHOUT BRIDGING OVER FLANGE, COUPLING OR JOINT

RUBBER-RING JOINT BONDING DETAIL
FOR METALLIC PIPELINES

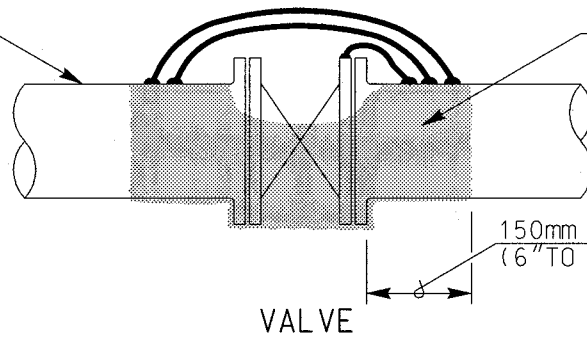
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-02

METALLIC PIPE
TYPICAL

LOOSE POLYETHYLENE
WRAP, SEE NOTE 6

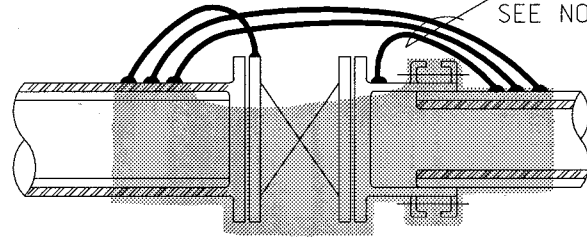


3 BOND WIRES
(SEE NOTE 3)

150mm TO 200mm
(6" TO 8") TYPICAL

VALVE

No. 6 HMWPE TYPICAL,
SEE NOTE 2

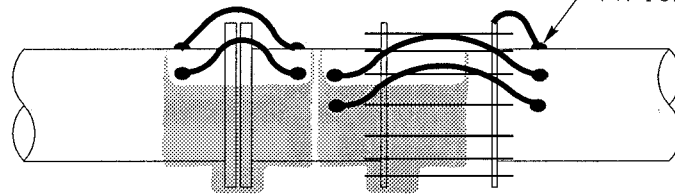


4 BOND WIRES
(SEE NOTE 3)

VALVE FLANGE ADAPTOR

EXOTHERMIC WELD
TYPICAL, SEE WC-01

2 BOND WIRES



3 BOND WIRES

FLANGE SLEEVE-TYPE OR
VICTAULIC TYPE
COUPLING

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) BOND WIRE SIZE SHALL BE No. 6 AWG WITH HMWPE INSULATION UNLESS OTHERWISE SPECIFIED
- 3) NUMBER OF BOND WIRES THAT COMPLETELY SPAN THE FITTING SHALL BE:

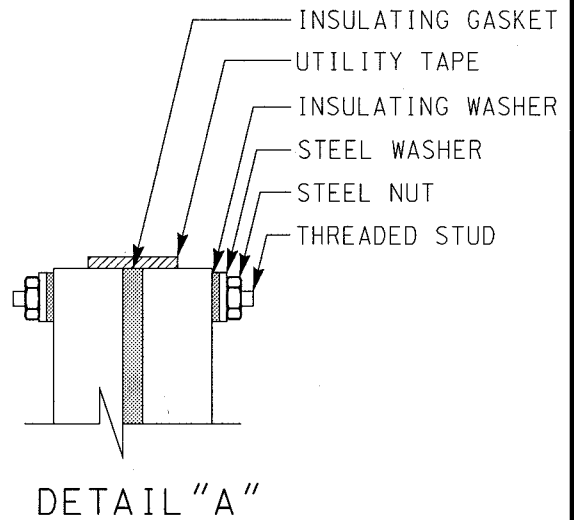
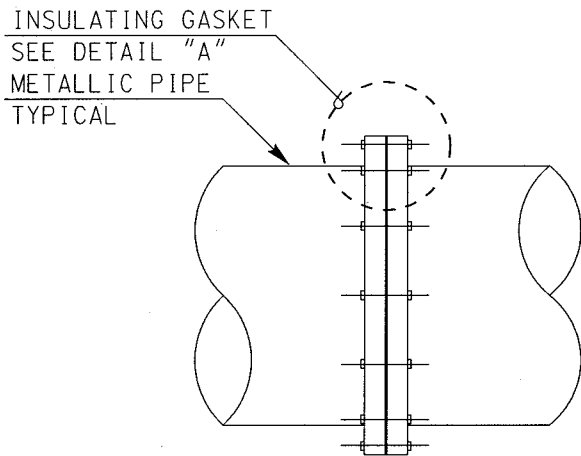
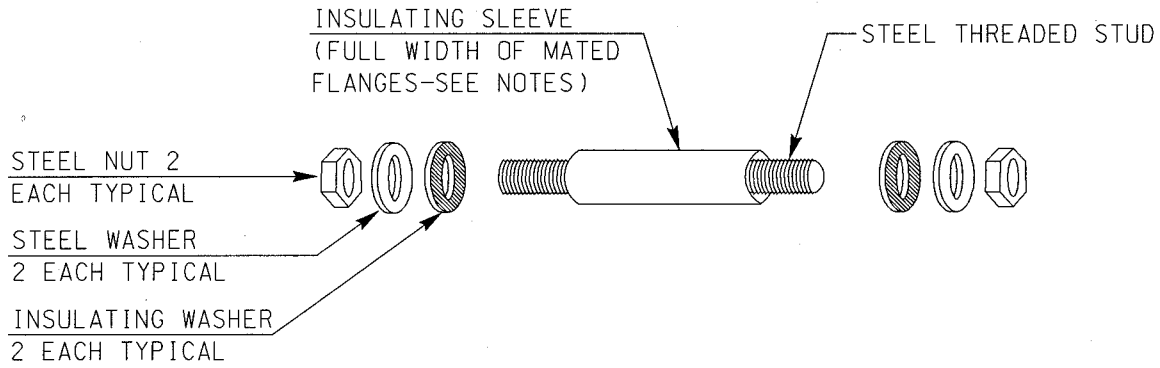
PIPE SIZE	No. OF WIRES
LESS THAN 750mm (30")	2
750mm (30") OR GREATER	3
- 4) ONE ADDITIONAL WIRE REQUIRED AT IN-LINE VALVE, COUPLING OR ADAPTOR AS SHOWN
- 5) BOND WIRES SHALL BE OF MINIMUM LENGTH. LAY WIRE AGAINST PIPE AND FITTINGS WITHOUT BRIDGING OVER FLANGE, COUPLING OR JOINT
- 6) ALL BURIED VALVES, FLANGES (NON-INSULATING), COUPLINGS AND OTHER NON-MORTAR COATED FITTINGS SHALL BE DOUBLE WRAPPED IN 8 MILL POLYETHYLENE SHEET UNLESS OTHERWISE DIRECTED. THE POLYETHYLENE SHEET SHALL BE LOOSELY WRAPPED OVER BOND WIRES SUCH THAT IT DOES NOT BRIDGE AND TEAR ACROSS IRREGULAR SURFACES FROM SOIL PRESSURE. OVERLAP PIPE COATING 150mm (6") AND SECURELY TAPE EDGE OF PLASTIC TO PIPE
- 7) EXOTHERMIC WELDS SHALL BE 75mm (3") APART MINIMUM. INSTALL AND TEST WELDS PER WC-01
- 8) DO NOT INSTALL BOND WIRES ACROSS INSULATING JOINTS

BURIED MECHANICAL JOINT BONDING
DETAIL FOR METALLIC PIPELINES

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-03



NOTES:

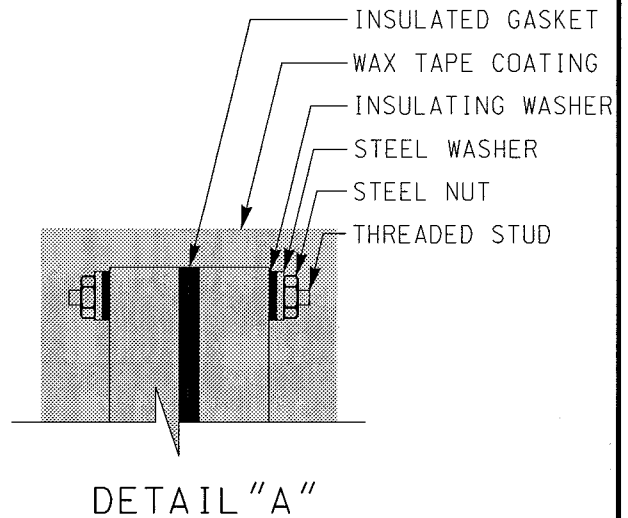
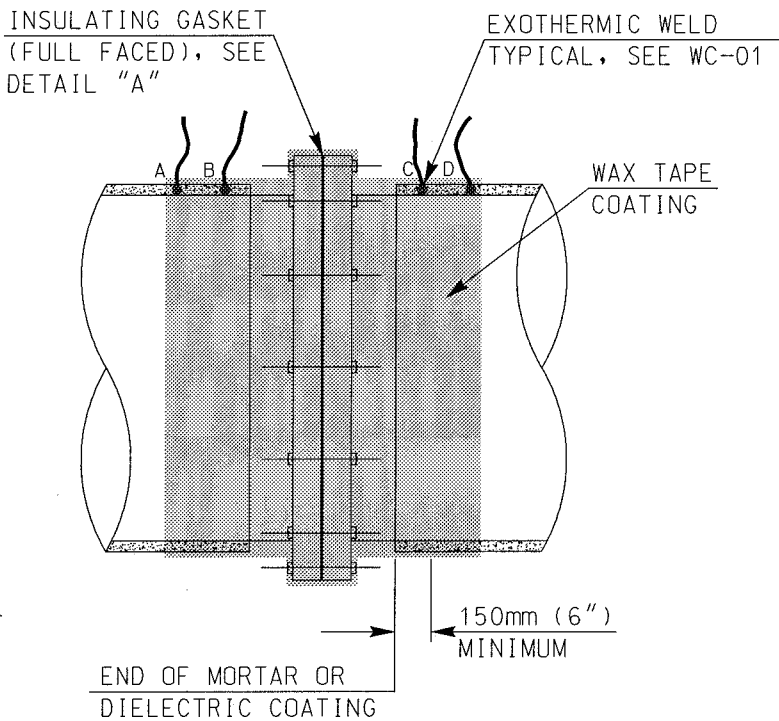
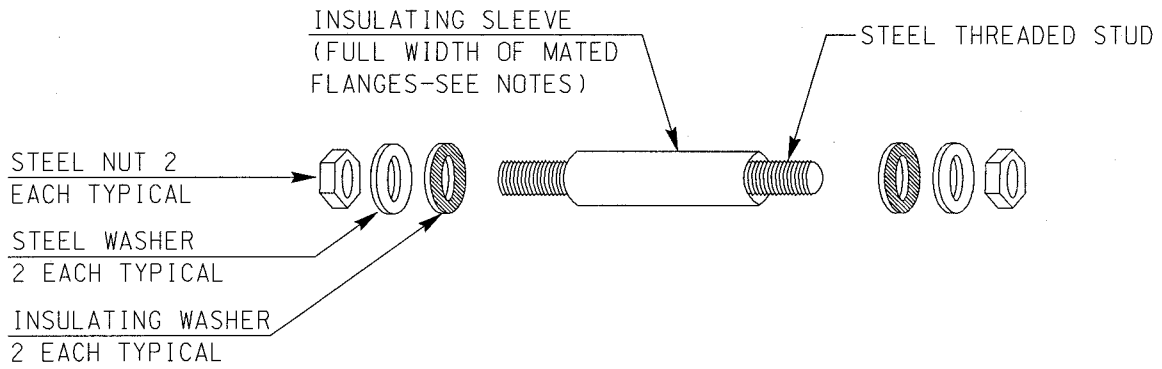
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) USE HALF WIDTH SLEEVES AT THREADED FLANGE BOLTS (I.E. AT BFV BONNET)
- 3) INSULATING MATERIALS:
 GASKET: 400mm (16") OR GREATER - TYPE "E" FULLFACED PHENOLIC WITH RECTANGULAR NITRILE OR VITON O-RING SEAL. LESS THAN 400mm (16") - TYPE "E" FULLFACED NEOPRENE FACED PHENOLIC
 SLEEVE: 0.78mm (1/32") THICK, FULL LENGTH TUBE, LAMINATED G-10 GLASS SHEET
 WASHER: 3.2mm (1/8") THICK LAMINATED G-10 GLASS SHEET
- 4) ALIGN FLANGE PROPERLY AND FOLLOW GASKET MANUFACTURER BOLT TIGHTENING SEQUENCE INSTRUCTIONS
- 5) DO NOT PAINT OUTER SURFACE OF FLANGE WITH METALLIC PIGMENTED OR CONDUCTIVE PAINTS
- 6) TEST MATED FLANGES WITH GAS ELECTRONICS MODEL 601 INSULATION CHECKER (OR EQUIVALENT) PRIOR TO ACCEPTANCE

ABOVE GROUND INSULATING FLANGE

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-04



NOTES:

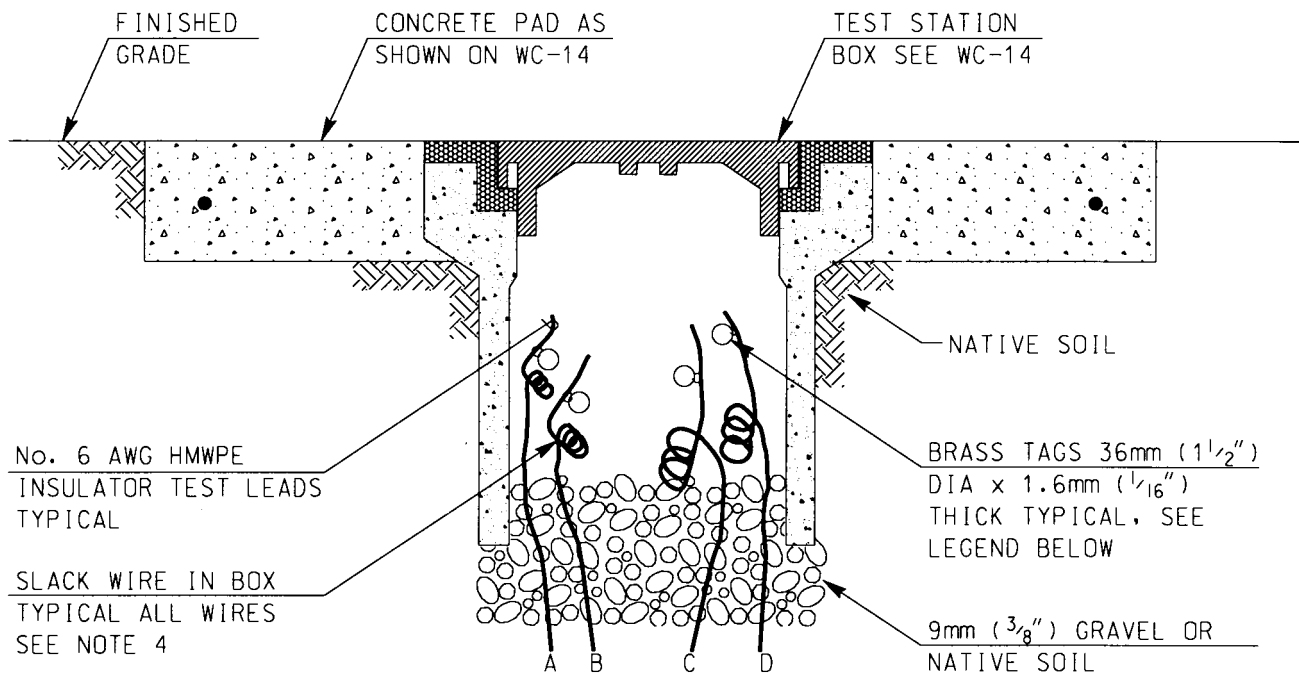
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) TESTING REQUIREMENTS: PRIOR TO APPLICATION OF WAX TAPE TEST ASSEMBLED FLANGE WITH INSULATOR TESTER (GAS ELECTRONICS MODEL 601). MUST READ 100% INSULATION. IF PARTIAL SHORT INDICATED, TEST EACH BOLT AND REPAIR SLEEVE AS NECESSARY. RETEST BEFORE WAX TAPE AND REFILL
- 3) FOR TEST STATION DETAILS, SEE DRAWING WC-06

BURIED INSULATING FLANGE DETAIL

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-05



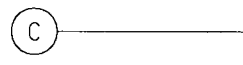
BRASS TAG LEGEND

WIRE	SIZE	IDENTIFICATION STAMP (SEE NOTE 5)
A	No. 6	"AGENCY, SIZE, SERVICE TYPE, S OR W"
B	No. 6	"AGENCY, SIZE, SERVICE TYPE, S OR W"
C	No. 6	"AGENCY, SIZE, SERVICE TYPE, N OR E"
D	No. 6	"AGENCY, SIZE, SERVICE TYPE, N OR E"

EXAMPLE: "OWD, 42", W, E"

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) SEE DRAWING WC-05 FOR BURIED INSULATING FLANGE DETAIL OR WC-07 FOR BURIED INSULATED VALVE
- 3) SEE DRAWING WC-14 FOR TEST BOX INSTALLATION REQUIREMENTS
- 4) ALLOW ENOUGH SLACK IN EACH WIRE TO EXTEND 600mm (24") ABOVE TOP OF BOX
- 5) BRASS TAGS SHALL BE FIRMLY STAMPED WITH 6mm (1/4") HIGH CHARACTERS AS SHOWN ABOVE. SERVICE TYPE SHALL IDENTIFY THE UTILITY SUCH AS "W" FOR POTABLE WATER AND "RW" FOR RECYCLED WATER
- 6) SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH NYLON WIRE TIES PRIOR TO PLACEMENT OF BACKFILL OVER THE WIRES



LEGEND ON PLANS

**BURIED INSULATING FLANGE
TEST STATION WIRING DIAGRAM**

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 07/30/2007

DRAWING NUMBER: WC-06

TEST STATION BOX & CONCRETE
PAD SEE WC-06

INSULATING GASKET
2 EACH SEE WC-05

INSULATING WASHER AND
STEEL WASHER TYPICAL
SEE NOTES BELOW AND
WC-05

HALF-LENGTH SLEEVE
REQUIRED AT THREADED
FLANGE BOLTS

EXOTHERMIC WELD
TYPICAL, SEE WC-01

PIPE DIAMETER "D"

INTERNAL COATING
SEE NOTE 5

WAX TAPE SEE WC-05

INTERNAL COATING
2-PIPE DIAMETERS "D"
TYPICAL, SEE NOTE 5

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) FOR INSULATING FLANGE MATERIALS SEE WC-04
- 3) INSULATING WASHERS REQUIRED ON BOTH SIDES OF EACH FLANGE PAIR
- 4) FULL LENGTH INSULATING SLEEVES REQUIRED ON ALL FLANGE STUDS HALF LENGTH SLEEVES REQUIRED ON FLANGE BOLTS NEAR BONNET
- 5) INTERNAL COATING SHALL BE APPLIED OVER MORTAR LINING IN ACCORDANCE WITH SECTION 13110
- 6) FOR TESTING REQUIREMENTS SEE WC-05

BURIED INSULATED VALVE DETAIL

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 07/30/2007

DRAWING NUMBER: WC-07

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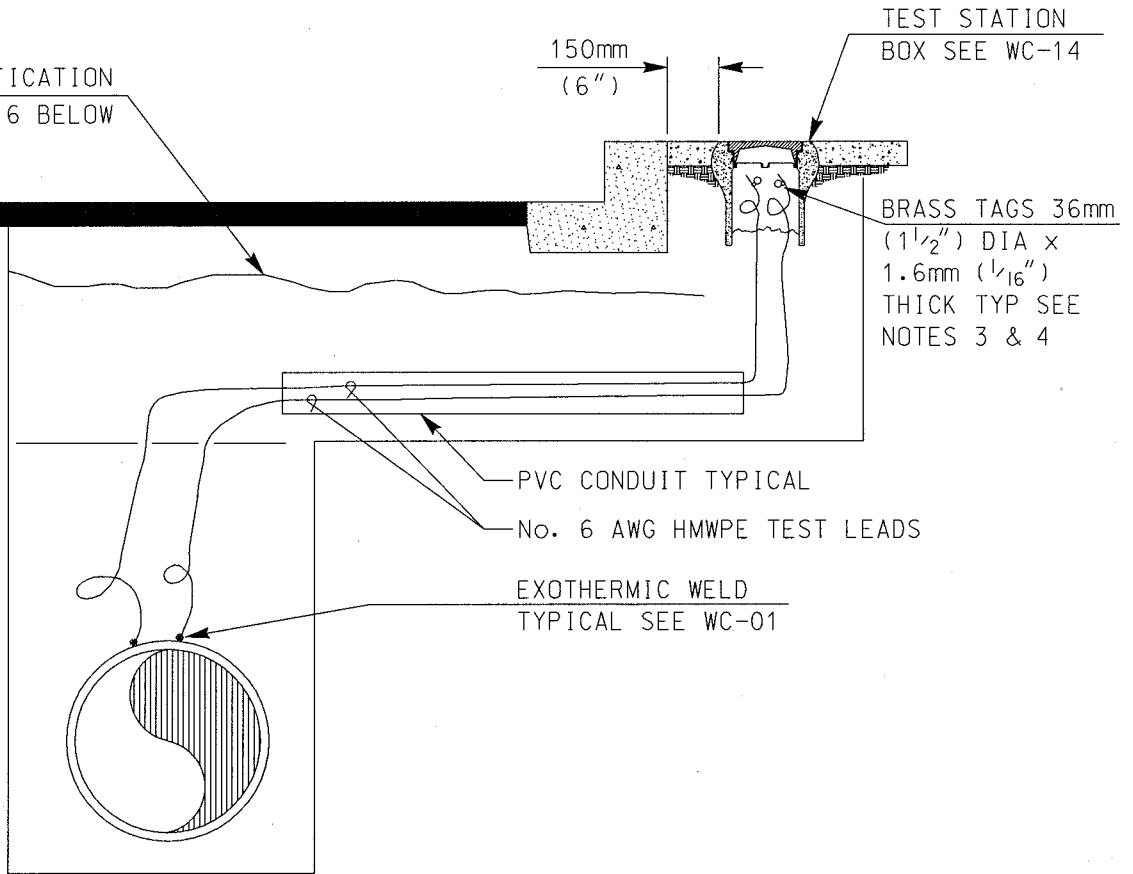
WARNING/IDENTIFICATION
TAPE, SEE NOTE 6 BELOW

TEST STATION
BOX SEE WC-14

150mm
(6")

BRASS TAGS 36mm
(1 1/2") DIA x
1.6mm (1/16")
THICK TYP SEE
NOTES 3 & 4

600mm (24") MIN
SEE NOTE 5
300mm (12")



NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) PROVIDE ENOUGH SLACK IN EACH WIRE TO EXTEND 600mm (24") ABOVE TOP OF BOX
- 3) BRASS TAGS SHALL BE FIRMLY STAMPED WITH 6mm (1/4") HIGH CHARACTERS AS FOLLOWS: "AGENCY, SIZE, SERVICE TYPE" (EXAMPLE: OWD,42"W). SERVICE TYPE SHALL IDENTIFY THE UTILITY SUCH AS "W" FOR POTABLE WATER AND "RW" FOR RECYCLED WATER
- 4) SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH NYLON WIRE TIES PRIOR TO PLACEMENT OF BACKFILL OVER THE WIRES
- 5) WIRE TRENCH SHALL BE A MINIMUM OF 600mm (24") DEEP. PLACE 75mm (3") OF SAND OR DG BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 150mm (6") OF SAND OR DG
- 6) WARNING/IDENTIFICATION TAPE SHALL BE AS CALLED FOR IN SECTION 15000 IN ACCORDANCE WITH WP-01

(C) —————
LEGEND ON PLANS

TWO WIRE TEST STATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-09

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TEST STATION
SEE DETAIL BELOW

CONCRETE PAD AS
SHOWN ON WC-14

WARNING/IDENTIFICATION
TAPE SEE NOTE 6 BELOW

600mm (24")
(SEE NOTE 5)

300mm
(12")

PVC CONDUIT TYPICAL

STEEL PIPE CASING
SEE WP-04

EXOTHERMIC WELD
TYPICAL SEE WC-01
STEEL MAIN
"CARRIER PIPE"

TEST STATION
BOX SEE WC-14

75mm (3")
MIN (TYP)

BRASS TAGS TYPICAL
SEE LEGEND

No. 6 AWG HMWPE
CASING TEST
LEADS (YELLOW)

No. 6 AWG HMWPE
PIPE TEST LEADS

9mm (3/8") GRAVEL
OR NATIVE SOIL

BRASS TAG LEGEND

WIRE SIZE IDENTIFICATION STAMP (SEE NOTE 3)

A	No. 6	"AGENCY, SIZE, CASING, S OR W"
B	No. 6	"AGENCY, SIZE, CASING, S OR W"
C	No. 6	"AGENCY, SIZE, SERVICE TYPE, N OR E"
D	No. 6	"AGENCY, SIZE, SERVICE TYPE, N OR E"

EXAMPLE: "QWD, 20", CASING, E"
"QWD, 12", W, E"

NOTES:

- REFER TO SECTION 13110 OF THE SPECIFICATIONS
- PROVIDE ENOUGH SLACK IN EACH WIRE TO EXTEND 600mm (24") ABOVE TOP OF BOX
- BRASS TAGS SHALL BE FIRMLY STAMPED WITH 6mm (1/4") HIGH CHARACTERS AS SHOWN ABOVE. SERVICE TYPE SHALL IDENTIFY THE UTILITY SUCH AS "W" FOR POTABLE WATER AND "RW" FOR RECYCLED WATER
- SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH NYLON WIRE TIES PRIOR TO PLACEMENT OF BACKFILL OVER WIRES
- WIRE TRENCH SHALL BE A MINIMUM OF 600mm (24") DEEP. PLACE 75mm (3") OF SAND OR DG BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 150mm (6") OF SAND OR DG
- WARNING/IDENTIFICATION TAPE SHALL BE AS CALLED FOR IN SECTION 15000 IN ACCORDANCE WITH WP-01



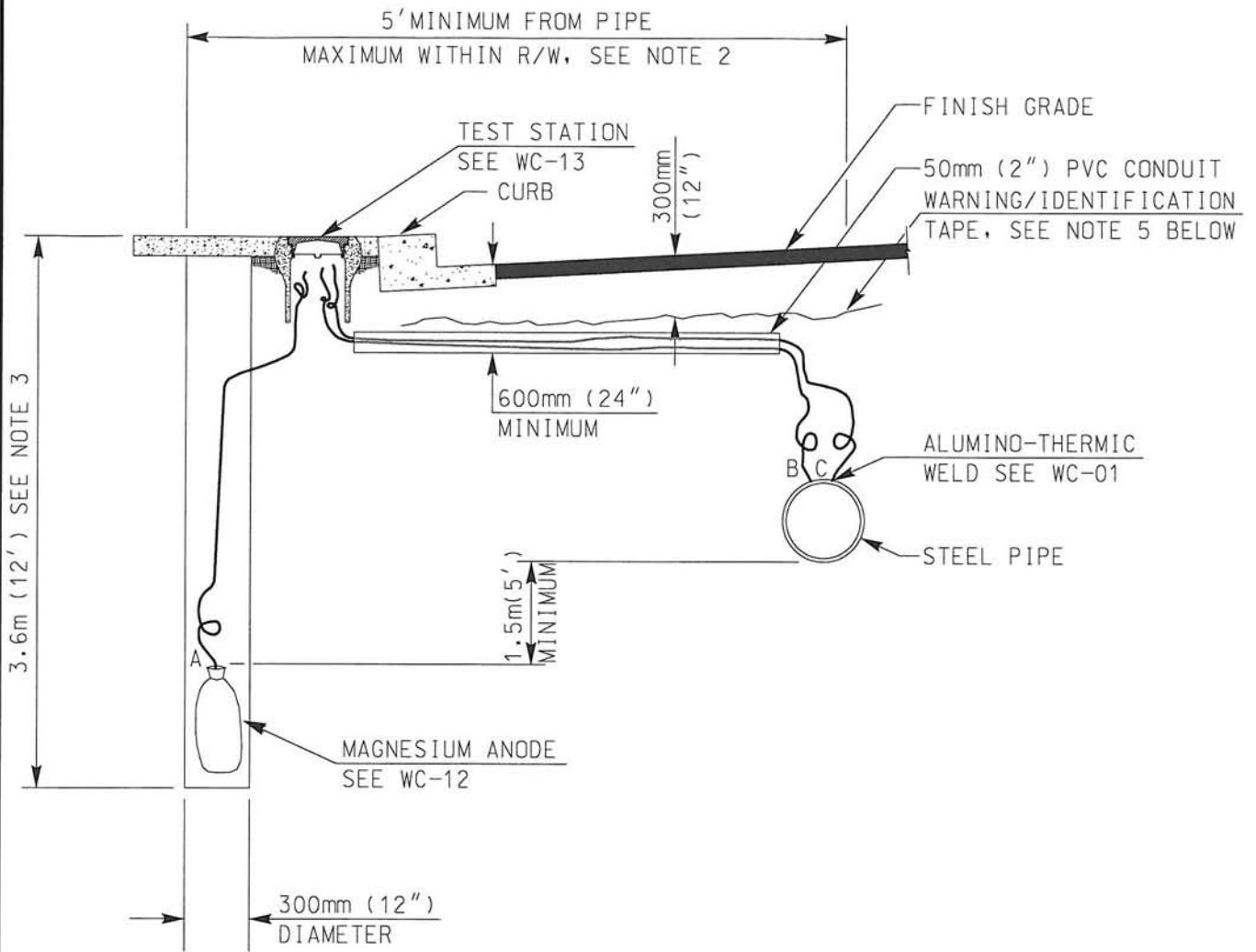
LEGEND ON PLANS

CASING TEST STATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-10



NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) HORIZONTAL DISTANCES OFF PIPE SHALL BE 5' MINIMUM AND MAXIMUM WITHIN RIGHT-OF-WAY OR AS INDICATED IN PLAN DRAWINGS. DO NOT INSTALL ANODE SUCH THAT A FOREIGN METALLIC PIPELINE EXISTS BETWEEN ANODE AND PIPE
- 3) DEPTH IS 3.6m (12') UNLESS OTHERWISE INDICATED ON THE APPROVED PLANS
- 4) RELATIVE POSITION OF ANODE, PIPE AND TEST BOX CAN VARY FROM POSITION SHOWN. SEE THE APPROVED PLANS FOR SPECIFIC INSTALLATION REQUIREMENTS
- 5) WARNING/IDENTIFICATION TAPE SHALL BE AS CALLED FOR IN SECTION 15000 IN ACCORDANCE WITH WP-01

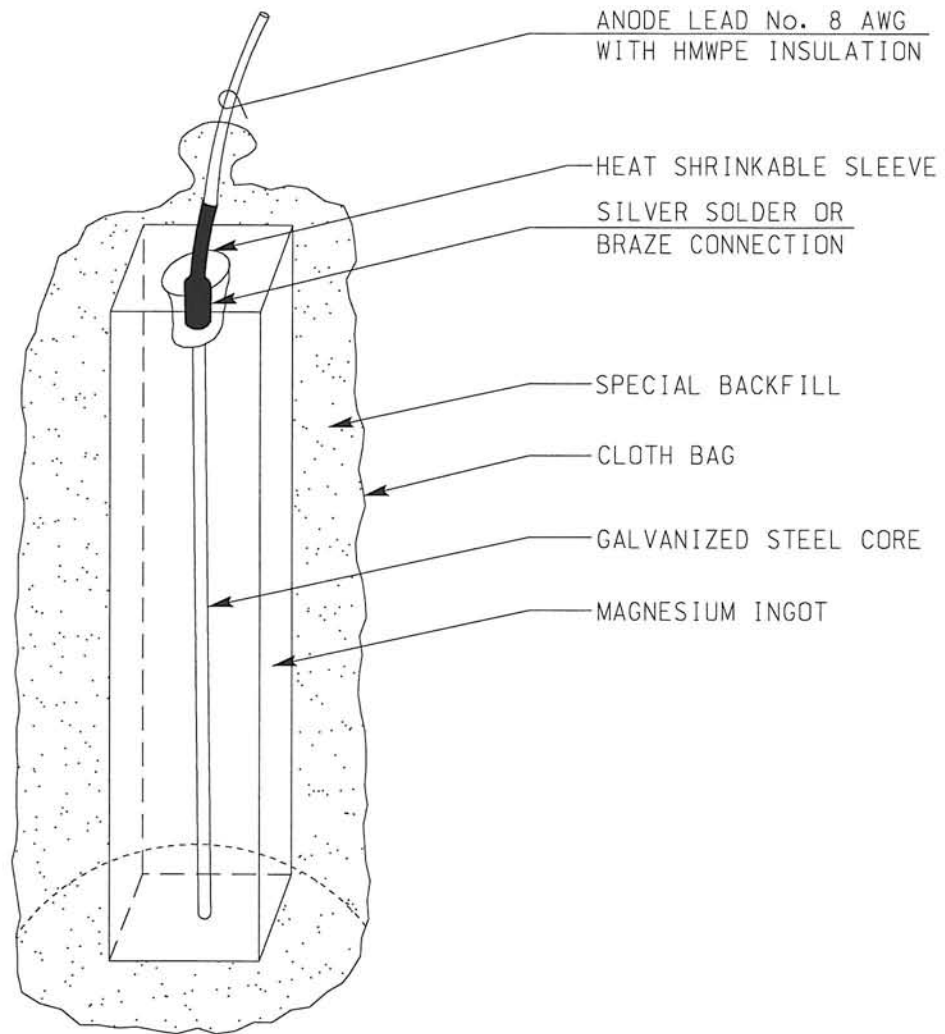


SINGLE ANODE INSTALLATION DETAIL

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 09/28/2009

DRAWING NUMBER: WC-11



NOTES:

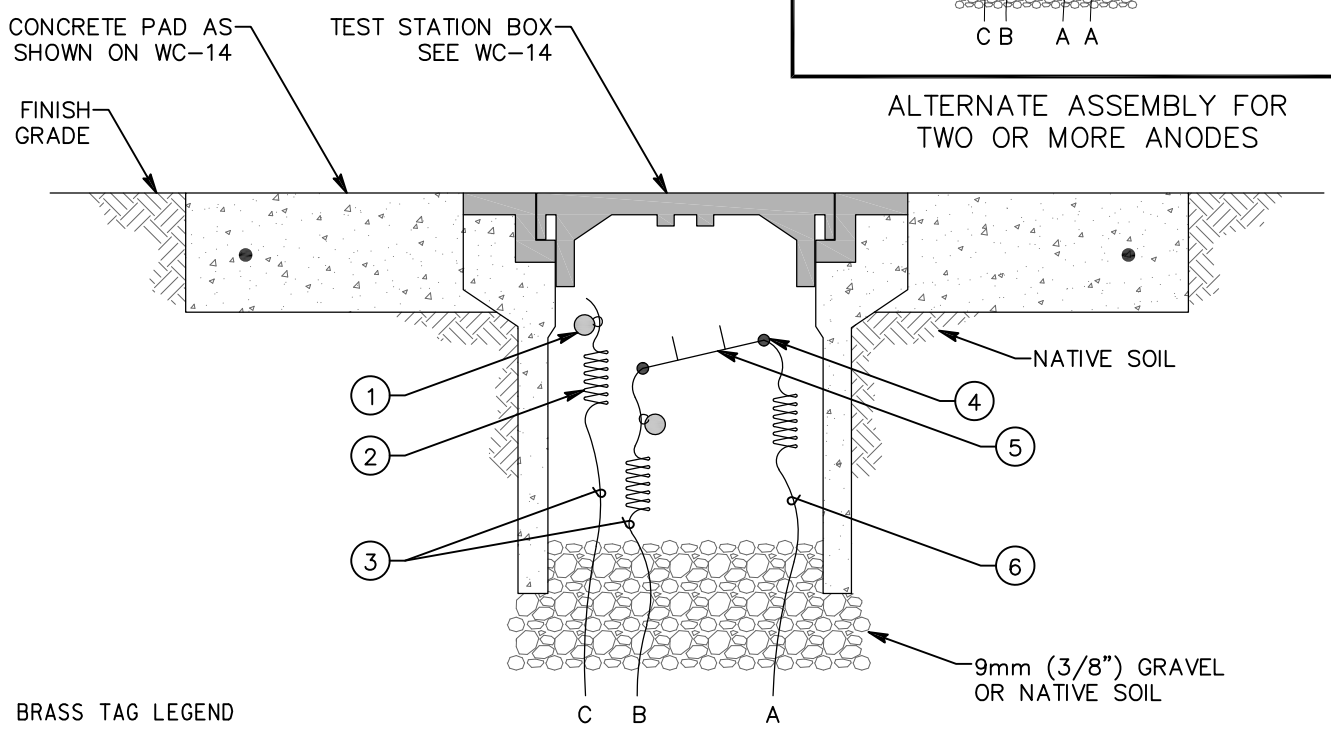
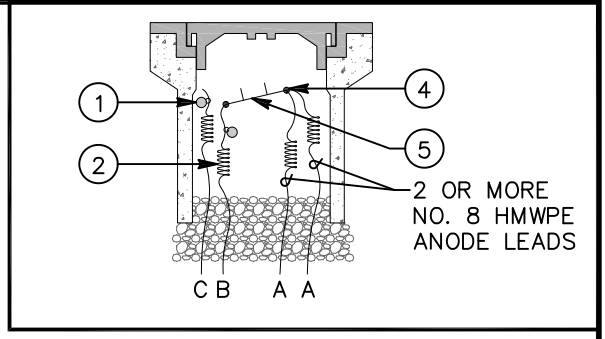
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) USE HIGH POTENTIAL OR STANDARD POTENTIAL ANODES AS INDICATED ON THE APPROVED PLANS

PREPACKAGED MAGNESIUM ANODE DETAIL

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 09/28/2009

DRAWING NUMBER: WC-12



BRASS TAG LEGEND

WIRE	SIZE & TYPE	IDENTIFICATION STAMP (SEE NOTE 5)
A	No. 8 HMWPE	NO TAG REQUIRED, SEE NOTE 6
B	No. 6 HMWPE	"AGENCY, SIZE, SERVICE TYPE, S OR W"
C	No. 6 HMWPE	"AGENCY, SIZE, SERVICE TYPE, N OR E"

EXAMPLE: "OWD,42",WTR,E"

NOTES:

- REFER TO SECTION 13110 OF THE SPECIFICATIONS
- SEE DRAWING WC-14 FOR TEST BOX INSTALLATION REQUIREMENTS
- ALLOW ENOUGH SLACK IN EACH WIRE TO EXTEND 600mm (24") ABOVE TOP OF BOX
- BRASS TAGS SHALL BE FIRMLY STAMPED WITH 6mm (1/4") HIGH CHARACTERS AS SHOWN ABOVE. SERVICE TYPE SHALL IDENTIFY THE UTILITY SUCH AS "WTR" FOR POTABLE WATER AND "RW" FOR RECYCLED WATER
- SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH NYLON WIRE TIES PRIOR TO PLACEMENT OF BACKFILL OVER THE WIRES
- BRASS TAGS ARE NOT REQUIRED ON ANODE LEADS

Ⓒ ————
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	BRASS TAGS 36mm (1-1/2") DIA x 1.6mm (1/16") THICK (TYP)	④	BRASS SPLITBOLT CONNECTORS WITH RUBBER AND PLASTIC TAPE, TYP
②	SLACK WIRE IN BOX, TYP ALL WIRES, SEE NOTE 3	⑤	0.01 OHM SHUNT
③	NO. 6 AWG HMWPE INSULATION TEST LEADS	⑥	NO. 8 AWG HMWPE ANODE LEAD

ANODE TEST STATION WIRING DIAGRAM

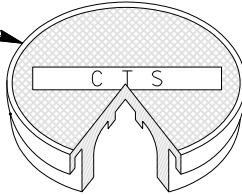
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/12/2020

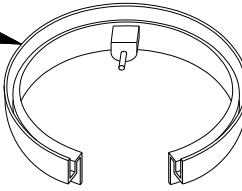
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DUCTILE IRON TRAFFIC
COVER MARKED "CTS"



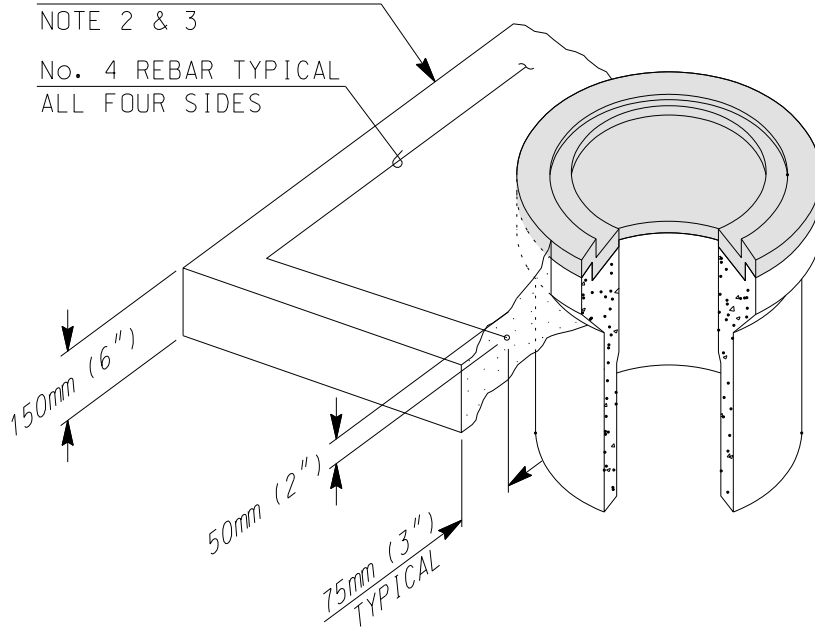
LOCKING GRADE RING



CONCRETE PAD, SEE
NOTE 2 & 3

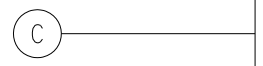
No. 4 REBAR TYPICAL
ALL FOUR SIDES

CONCRETE BODY TRAFFIC
RATED, SEE NOTE 2



NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) TEST BOX TO BE LOCATED BEHIND THE CURB, OFF PAVED ROADWAY AS SHOWN ON THE APPROVED PLANS OR DIRECTLY OVER PIPE IN UNPAVED AREAS OR IN PARKING LOTS. DO NOT PLACE IN PARKING SPACES, DRIVEWAYS OR SIDEWALKS. TEST BOX TO BE CENTERED IN CONCRETE PAD
- 3) PROVIDE 600mm x 600mm x 12mm (24" x 24" x 6") THICK REINFORCED CONCRETE PAD AROUND TEST BOXES AT UNPAVED SITES
- 4) CATHODIC TEST STATION BOX SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

CATHODIC TEST STATION BOX

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 08/03/2018

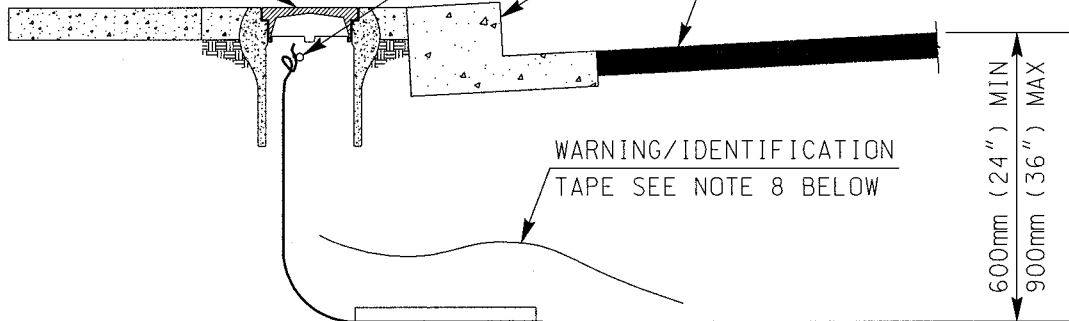
DRAWING NUMBER: WC-14

TEST STATION
BOX SEE WC-14

BRASS TAG SEE
NOTES 5 & 6

CURB

FINISH GRADE



600mm (24") MIN
900mm (36") MAX

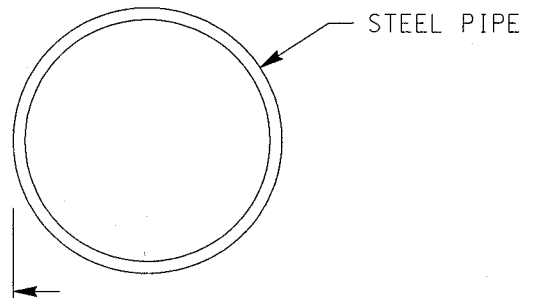
WARNING/IDENTIFICATION
TAPE SEE NOTE 8 BELOW

50mm (2") PVC
CONDUIT

No. 10 AWG HMWPE
ELECTRODE LEAD

REFERENCE ELECTRODE PER
WC-16 INSTALLED AT SPRING
LINE OF THE STEEL PIPE

300mm
(12")



STEEL PIPE

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) RELATIVE POSITION OF ELECTRODE, PIPE AND TEST BOX CAN VARY FROM POSITION SHOWN. SEE THE APPROVED PLANS FOR SPECIFIC INSTALLATION REQUIREMENTS
- 3) INSTALLATION OF ELECTRODES SHALL INCORPORATE A TWO WIRE TEST STATION AS SHOWN ON WC-09
- 4) PROVIDE ENOUGH SLACK IN EACH WIRE TO EXTEND 600mm (24") ABOVE TOP OF BOX
- 5) BRASS TAGS SHALL BE FIRMLY STAMPED WITH 6mm (1/4") HIGH CHARACTERS AS SHOWN ABOVE. SERVICE TYPE SHALL IDENTIFY THE UTILITY SUCH AS "W" FOR POTABLE WATER AND "RW" FOR RECYCLED WATER
- 6) SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH NYLON WIRE TIES PRIOR TO PLACEMENT OF BACKFILL OVER WIRES
- 7) WIRE TRENCH SHALL BE A MINIMUM OF 600mm (24") DEEP. PLACE 75mm (3") OF SAND OR DG BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 150mm (6") OF SAND OR DG
- 8) WARNING/IDENTIFICATION TAPE SHALL BE AS CALLED FOR IN SECTION 15000 IN ACCORDANCE WITH WP-01



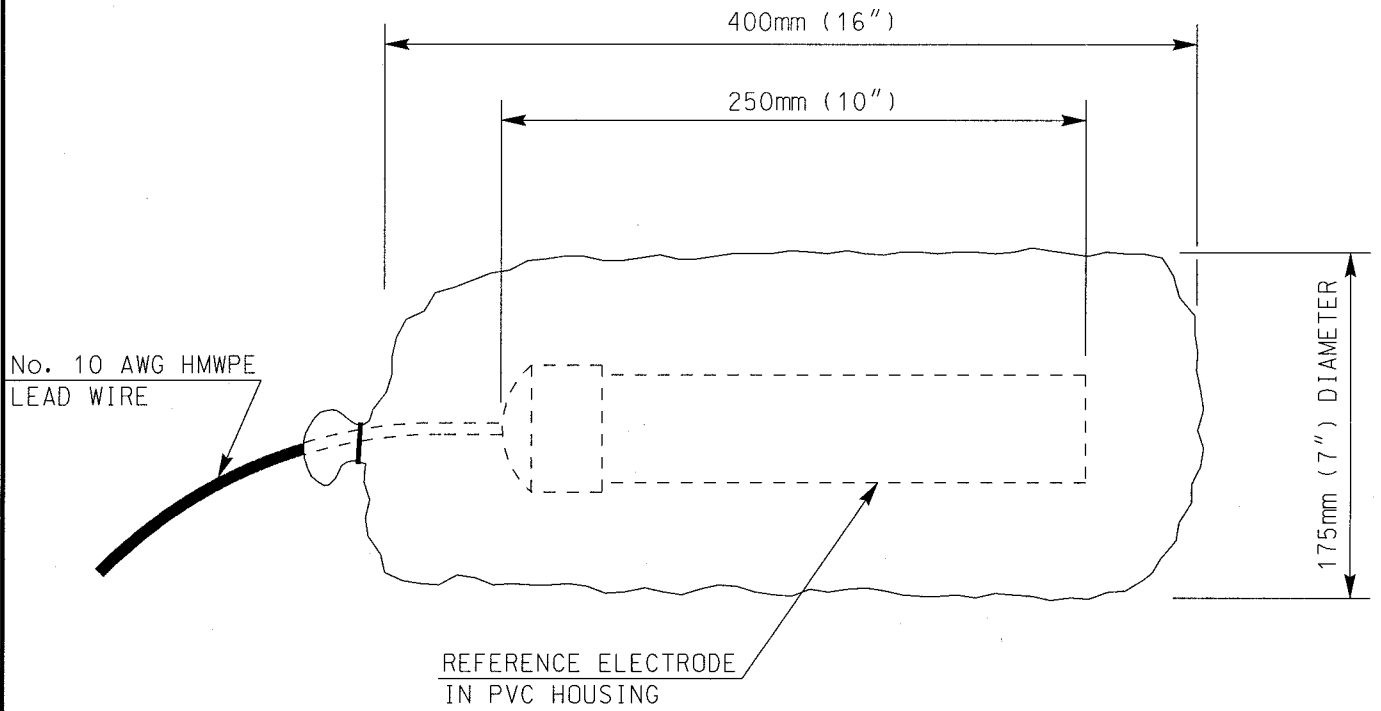
LEGEND ON PLANS

REFERENCE ELECTRODE
INSTALLATION DETAIL

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-15



NOTES:

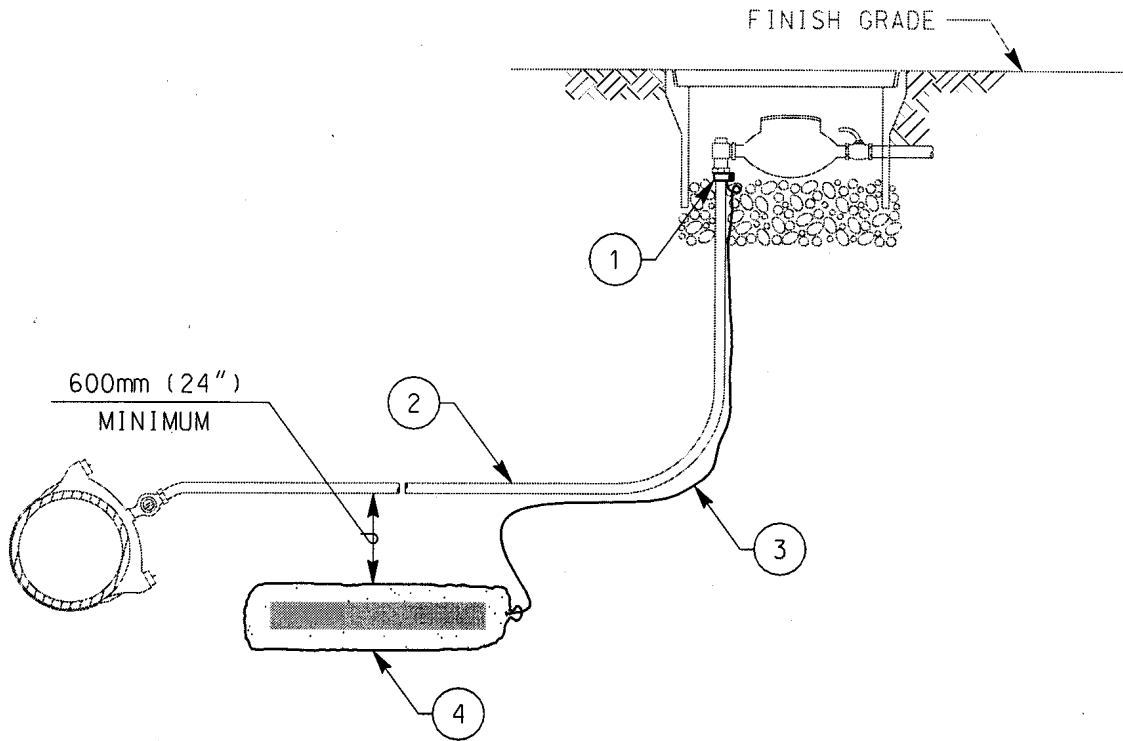
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) USE HIGH POTENTIAL OR STANDARD POTENTIAL COPPER-COPPER SULFATE REFERENCE ELECTRODES AS INDICATED ON APPROVED PLANS

PREPACKAGED REFERENCE
ELECTRODE DETAIL

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WC-16



NOTES:

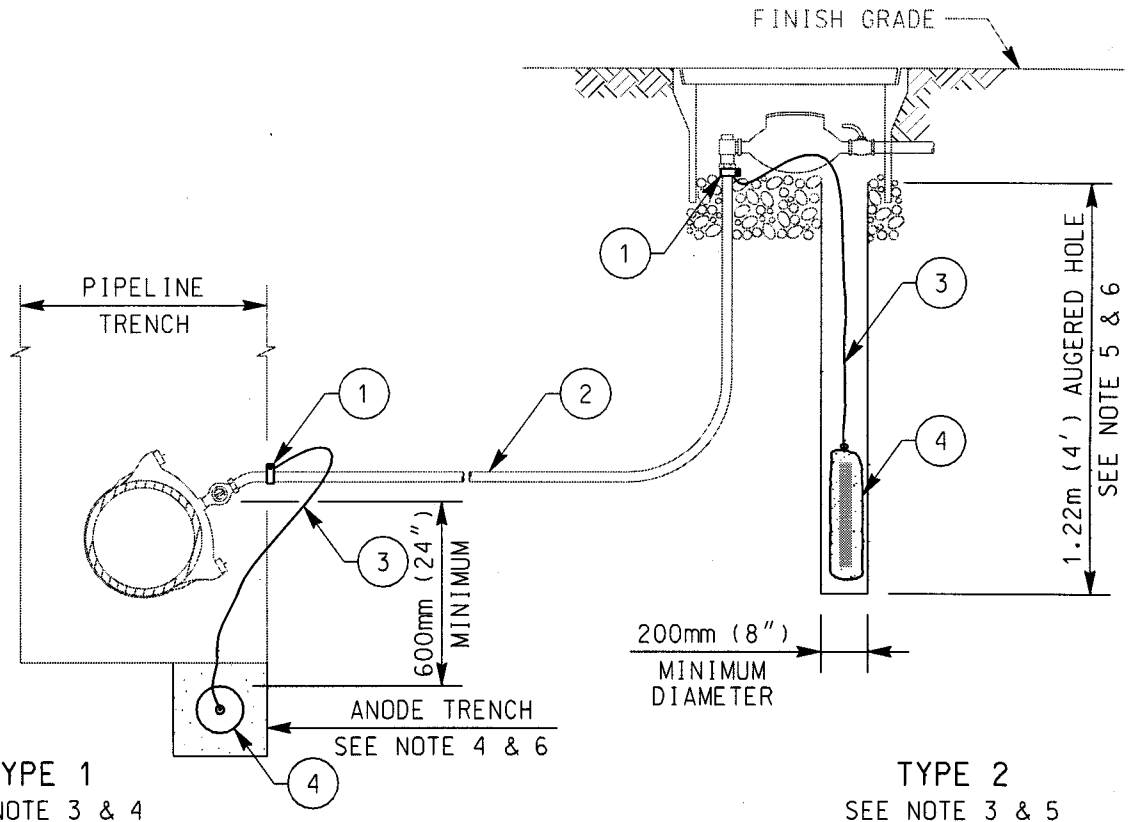
- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) WATER SERVICE SHOWN HEREON IS SHOWN AS AN EXAMPLE ONLY. ANODES SHALL BE INSTALLED ON ALL COPPER TUBING WHEN INDICATED ON THE APPROVED PLANS.
- 3) CLAMP ANODE LEAD WIRE TO COPPER TUBING AND SECURELY WRAP WITH DIELECTRIC TAPE.
- 4) LOCATE ANODE WITHIN THE PAVED ROADWAY APPROXIMATELY 1.52m (5') TO 3.05m (10') FROM EDGE OF ROADWAY.
- 5) LOCATE ANODE WIRE WITHIN COPPER TUBING TRENCH SECURELY ATTACHED TO THE TUBING. 600mm (24") OF EXCESS WIRE SHALL BE COILED ABOVE GROUND WITHIN METER BOX OR ENCLOSURE.
- 6) ANODE BACKFILL MATERIALS SHALL BE AS INDICATED IN SECTION 13110.
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

(C)W ————
 LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	MECHANICAL GROUNDING CLAMP, SEE NOTE 3	4	6.8kg (15-lbs) MINIMUM PREPACKAGED ZINC ANODE, SEE NOTE 4
2	COPPER TUBING, SEE NOTE 2		
3	#12 AWG STRANDED COPPER WIRE WITH THW INSULATION, MINIMUM 7.62m (25') LONG, SEE NOTE 5		

NEW INSTALLATION OF
 SACRIFICIAL ANODES FOR COPPER TUBING

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 12/31/2003
 DRAWING NUMBER: WC-17



TYPE 1
SEE NOTE 3 & 4

TYPE 2
SEE NOTE 3 & 5

NOTES:

- 1) REFER TO SECTION 13110 OF THE SPECIFICATIONS
- 2) WATER SERVICE SHOWN HEREON IS SHOWN AS AN EXAMPLE ONLY. ANODES SHALL BE INSTALLED ON ALL COPPER TUBING WHEN INDICATED ON THE APPROVED PLANS.
- 3) CLAMP ANODE LEAD WIRE TO COPPER TUBING AND SECURELY WRAP WITH DIELECTRIC TAPE.
- 4) FOR TYPE 1 INSTALLATION LOCATE ANODE WITHIN THE PIPELINE TRENCH UNDER THE CORPORATION STOP AS SHOWN ABOVE WITH WIRE SECURELY ATTACHED TO THE TUBING.
- 5) FOR TYPE 2 INSTALLATION LOCATE ANODE WITHIN AUGERED HOLE AS SHOWN ABOVE. 600mm (24") OF EXCESS WIRE SHALL BE COILED ABOVE GROUND WITHIN METER BOX OR ENCLOSURE.
- 6) ANODE BACKFILL MATERIALS SHALL BE AS INDICATED IN SECTION 13110.
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

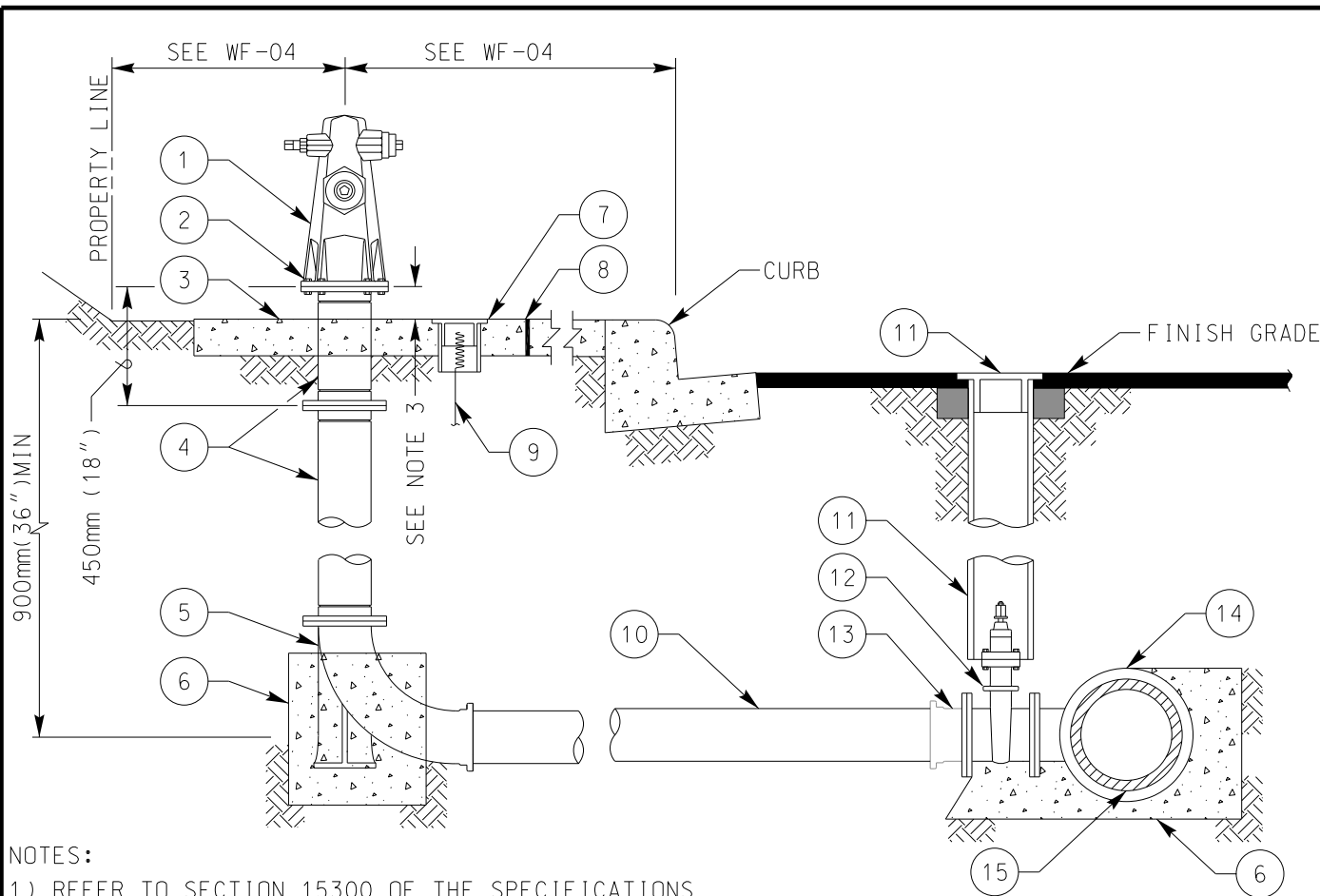
(C) (W) ————
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	MECHANICAL GROUNDING CLAMP, SEE NOTE 3	4	6.8kg (15-lbs) MINIMUM PREPACKAGED ZINC ANODE
2	EXISTING COPPER TUBING, SEE NOTE 2		
3	#12 AWG STRANDED COPPER WIRE WITH THW INSULATION, MINIMUM 7.62m (25') LONG,		

RETROFIT INSTALLATION OF SACRIFICIAL ANODES FOR COPPER TUBING

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 12/31/2003
 DRAWING NUMBER: WC-18

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NOTES:

- 1) REFER TO SECTION 15300 OF THE SPECIFICATIONS
- 2) THE NUMBER AND SIZE OF OUTLETS SHALL BE AS SHOWN ON PLANS
- 3) FIRE HYDRANT FLANGE SHALL BE 150mm ± 25mm (6" ± 1") ABOVE TOP OF CURB OR SPLASH PAD SEE PLANS FOR ELEVATION
- 4) LOCATE FIRE HYDRANT AS SHOWN ON WF-04
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) FIRE HYDRANT FLANGE BOLTS SHALL BE A307 ZINC-PLATED BOLTS INSTALLED WITH NUTS ON TOP OF THE FLANGE.
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



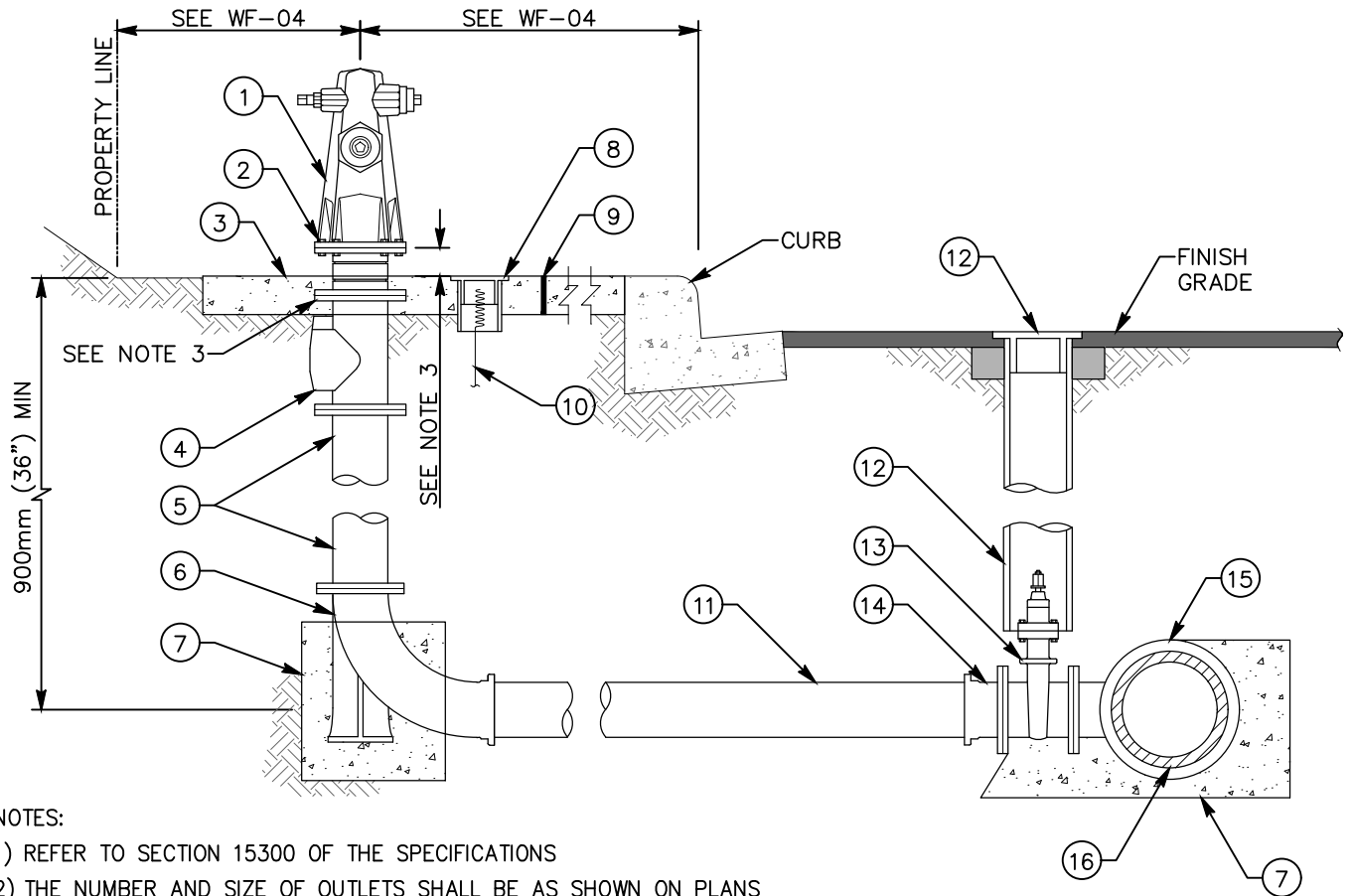
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	150mm (6") FIRE HYDRANT SEE NOTE 2	7	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR SEWER PIPE W/ CAP
2	BOLTS, SEE NOTE 6	8	COLD JOINT STRIP
3	1200mm x 1200mm x 150mm THICK (4' x 4' x 6" THICK) CONCRETE SPLASH PAD	9	TRACER WIRE PER WP-01
4	150mm (6") FLANGE DI HYDRANT EXTENSION SPOOL(S) WITH BREAK OFF GROOVES (MAXIMUM OF 2 SPOOLS)	10	150mm (6") C-900 PVC PIPE
5	150mm x 400mm (6" x 16") LONG RADIUS FLG x MJ/PO BURY ELL	11	200mm (8") GATE WELL SEE WV-01& WV-02
6	CONCRETE THRUST BLOCK SEE WT-01	12	150mm (6") FLG x MJ/PO/FLG RWGV
		13	150mm (6") FLG x MJ/PO ADAPTER (IF REQUIRED)
		14	SIZE x 150mm (6") MJ/PO/FLG x FLG TEE
		15	WATER MAIN

150mm (6") FIRE HYDRANT INSTALLATION

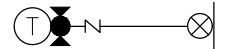
WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 12/16/2019
 DRAWING NUMBER: WF-01

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NOTES:

- 1) REFER TO SECTION 15300 OF THE SPECIFICATIONS
- 2) THE NUMBER AND SIZE OF OUTLETS SHALL BE AS SHOWN ON PLANS
- 3) INSTALL BREAK-OFF CHECK VALVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
- 4) LOCATE FIRE HYDRANT AS SHOWN ON WF-04
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) FIRE HYDRANT FLANGE BOLTS SHALL BE A307 ZINC-PLATED BOLTS INSTALLED WITH NUTS ON TOP OF THE FLANGE.
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

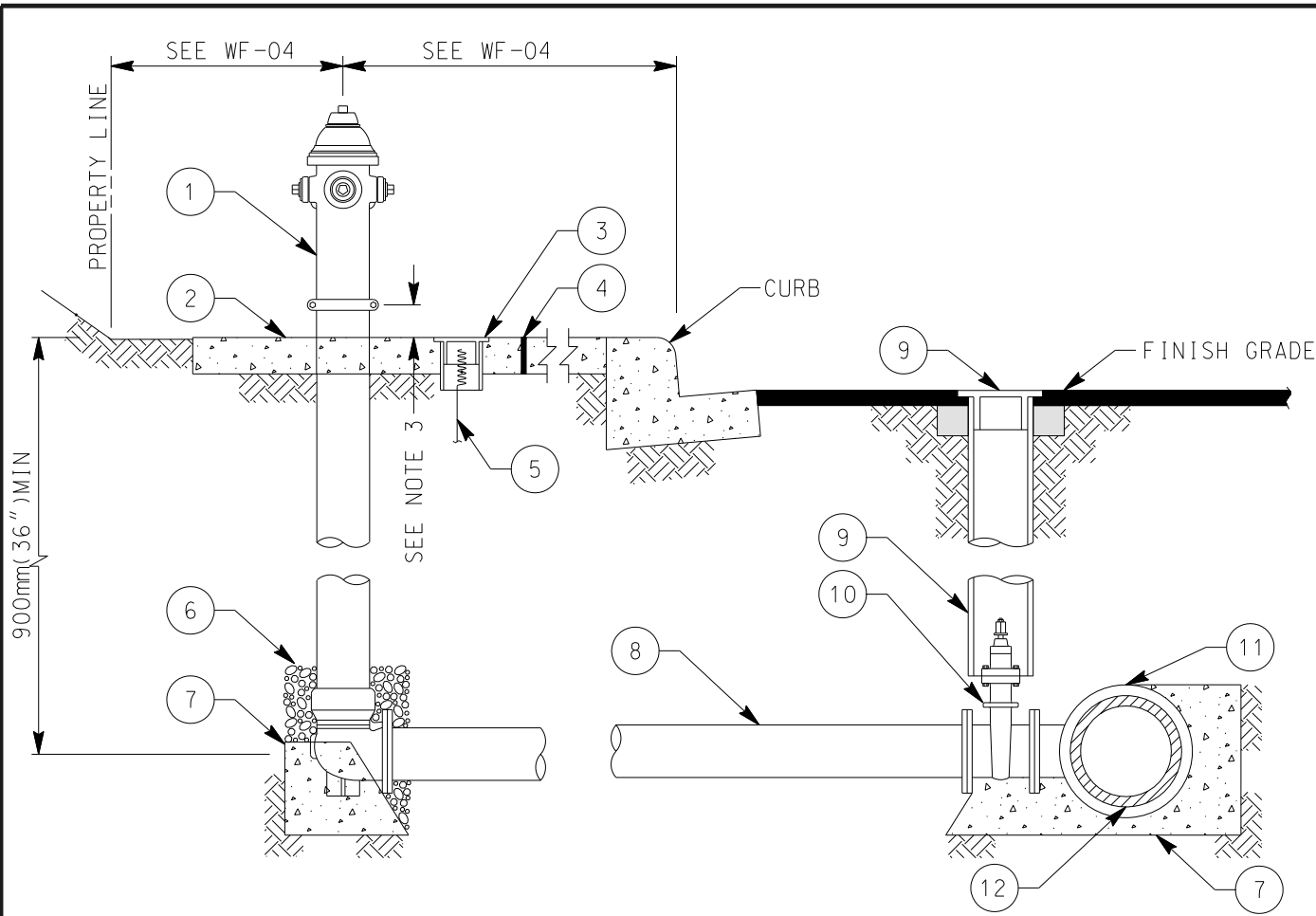
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	150mm (6") FIRE HYDRANT, SEE NOTE 2	⑨	COLD JOINT STRIP
②	BOLTS, SEE NOTE 6	⑩	TRACER WIRE PER WP-01
③	1200mm x 1200mm x 200mm (4'x4'x8") THICK CONCRETE SPLASH PAD	⑪	150mm (6") C-900 PVC PIPE
④	150mm (6") FLG BREAK-OFF CHECK VALVE, SEE NOTE 3	⑫	200mm (8") GATE WELL WITH LID, SEE WV-01 AND WV-02
⑤	150mm (6") FLANGE DI SPOOL(S) (MAXIMUM OF 2 SPOOLS) NO GROOVES	⑬	150mm (6") FLG x MJ/PO/FLG RWGV
⑥	150mm x 400mm (6"x16") LONG RADIUS FLG x MJ/PO BURY ELL	⑭	150mm (6") FLG x MJ/PO ADAPTER (IF REQUIRED)
⑦	CONCRETE THRUST BLOCK, SEE WT-01	⑮	SIZE x 150mm (6") MJ/PO/FLG x FLG TEE
⑧	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR-35 SEWER PIPE WITH CAP. SET FLUSH WITH PAD	⑯	WATER MAIN

150mm (6") FIRE HYDRANT INSTALLATION WITH BREAK-OFF CHECK VALVE

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WF-02



NOTES:

- 1) REFER TO SECTION 15300 OF THE SPECIFICATIONS
- 2) THE NUMBER AND SIZE OF OUTLETS SHALL BE AS SHOWN ON PLANS
- 3) FIRE HYDRANT COUPLING SHALL BE 100mm TO 150mm (4" TO 6") ABOVE TOP OF CURB OR SPLASH PAD SEE PLANS FOR ELEVATION
- 4) LOCATE FIRE HYDRANT AS SHOWN ON WF-04
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

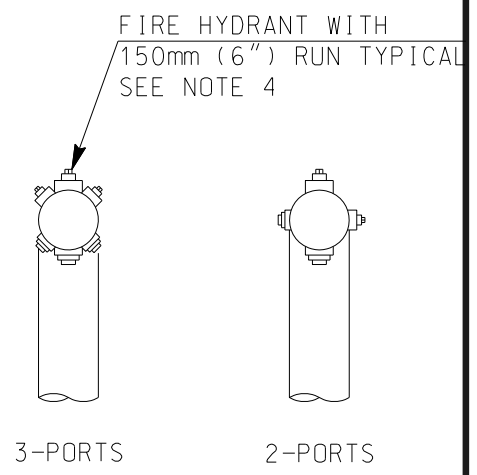
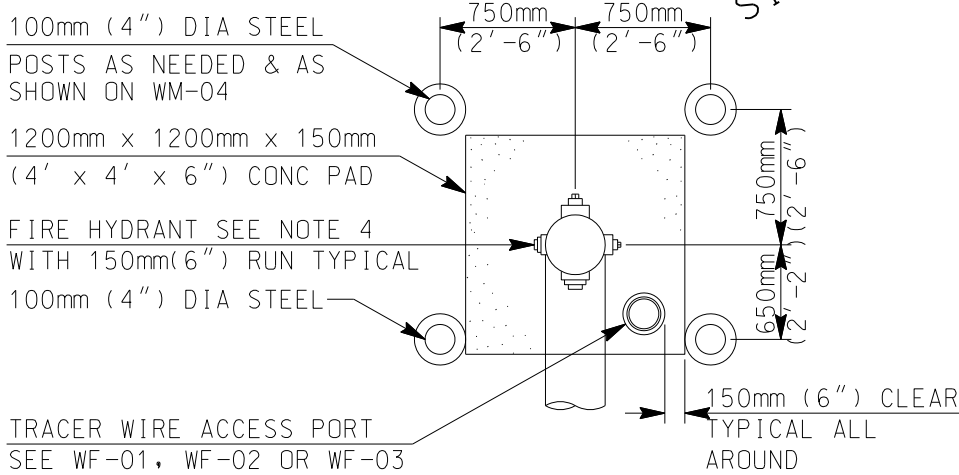
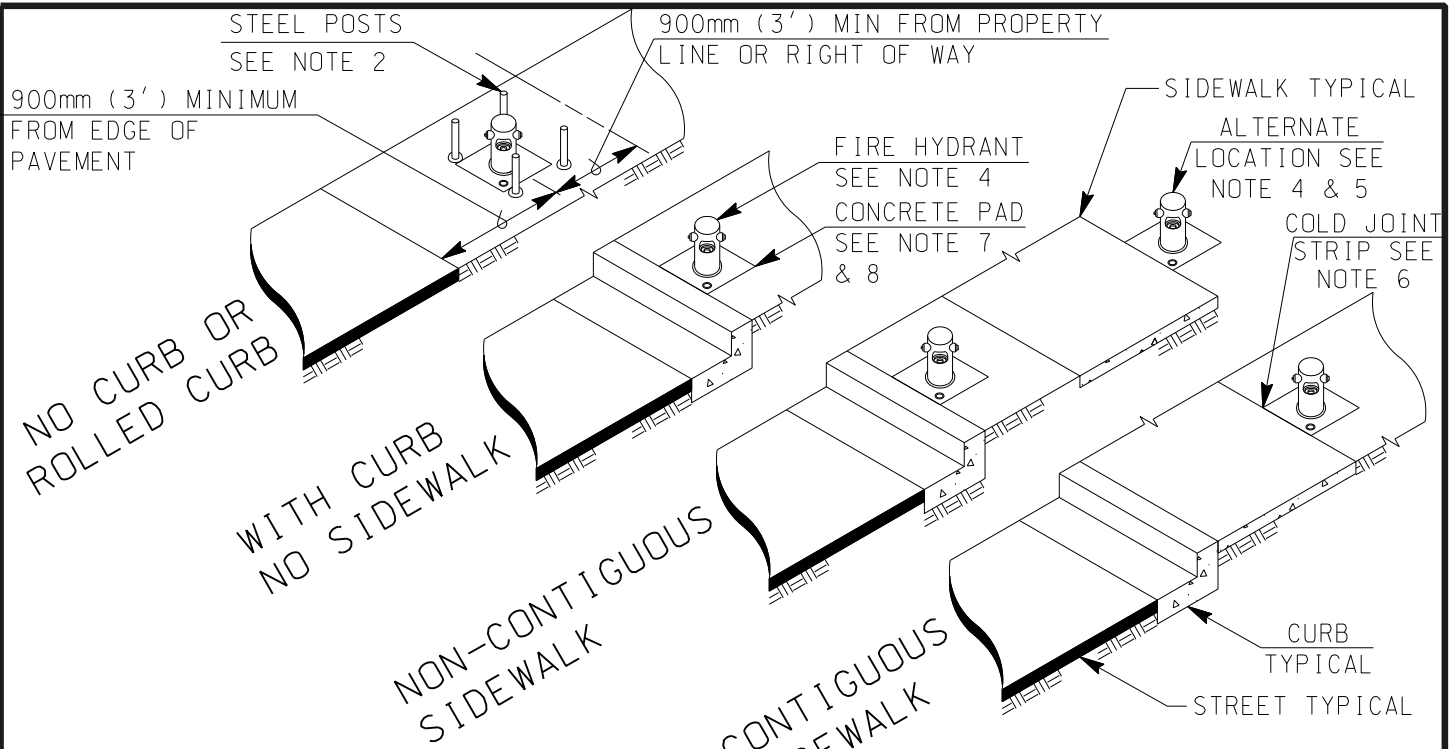
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	150mm (6") FIRE HYDRANT (DRY BARREL) ASSEMBLY SEE NOTE 2	6	10mm (3/8") ROCK FOR DRAINHOLES
2	1200mm x 1200mm x 150mm THICK (4' x 4' x 6" THICK) CONCRETE SPLASH PAD	7	CONCRETE THRUST BLOCK SEE WT-01
3	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR SEWER PIPE W/ CAP	8	150mm (6") FLANGED DUCTILE IRON PIPE
4	COLD JOINT STRIP	9	200mm (8") GATE WELL SEE WV-01& WV-02
5	TRACER WIRE PER WP-01	10	150mm (6") FLANGED RWGV
		11	SIZE x 150mm (6") MJ/PO/FLG x FLG TEE
		12	WATER MAIN

**HIGH PRESSURE DRY BARREL
FIRE HYDRANT INSTALLATION**

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 10/28/2016

DRAWING NUMBER: WF-03

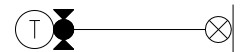


PROTECTION POST LOCATIONS

PORT ORIENTATION

NOTES:

- 1) REFER TO SECTION 15300 OF THE SPECIFICATIONS
- 2) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE DISTRICT ENGINEER PER WM-04
- 3) LOCATE FIRE HYDRANT AS SHOWN ABOVE OR AS DIRECTED BY THE DISTRICT ENGINEER
- 4) FIRE HYDRANTS SHALL BE INSTALLED WITH THE LARGEST PORT PERPENDICULAR TO THE STREET
- 5) AN EASEMENT MAY BE REQUIRED DEPENDING ON LOCATION OF FIRE HYDRANT
- 6) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE CURB OR SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 7) 1200mm (24") MINIMUM CLEARANCE SHALL BE MAINTAINED ALL AROUND PAD WHEN INSTALLED WITH OR BY A WALL OR OTHER OBSTRUCTIONS
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

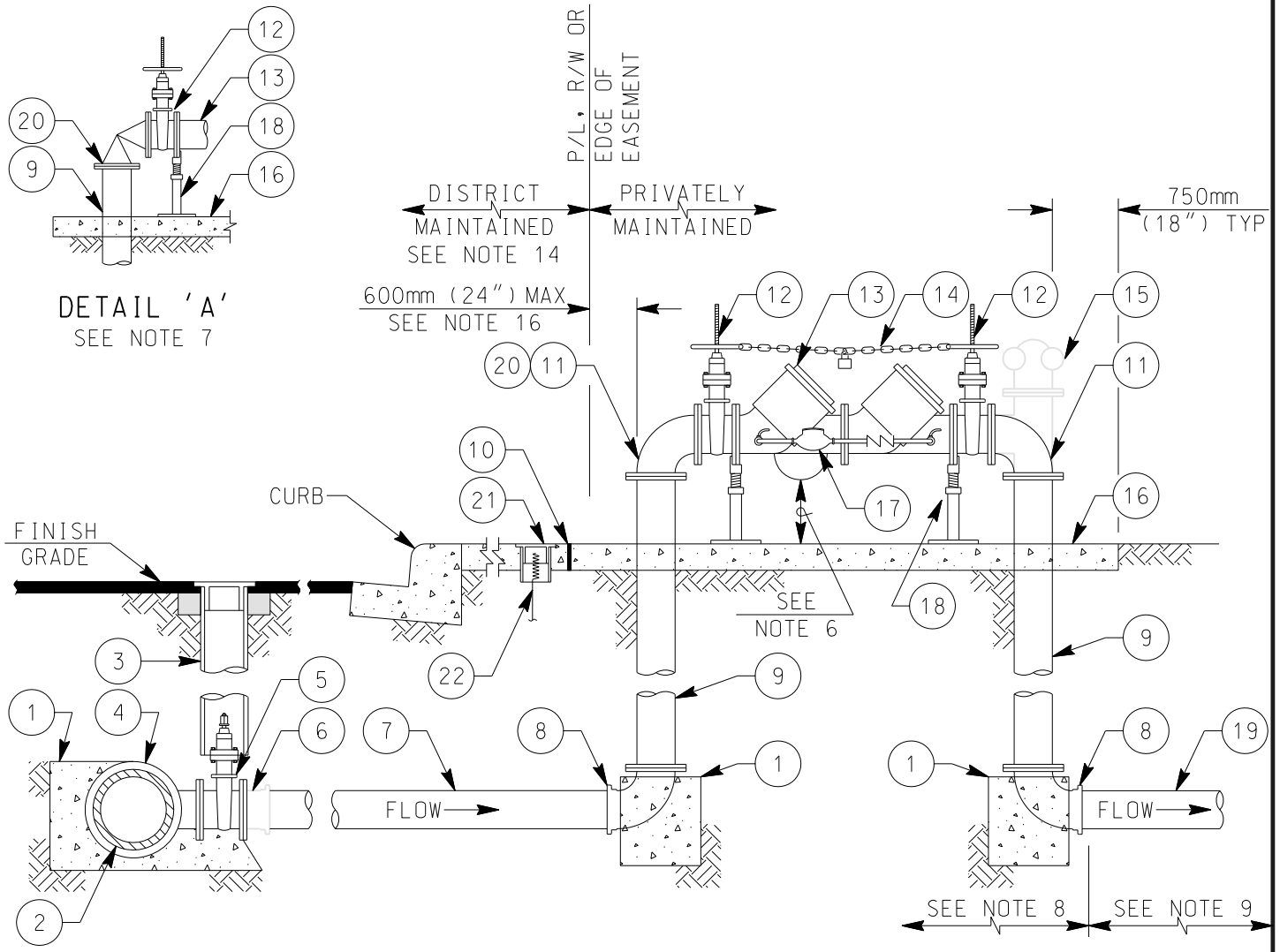
FIRE HYDRANT LOCATIONS AND PORT ORIENTATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/12/2008

DRAWING NUMBER: WF-04

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DETAIL 'A'
SEE NOTE 7

FOR NOTES REGARDING THE INSTALLATION OF
FIRE SERVICES SEE WF-05, SHEET 2 OF 2

RPFS 
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	CONCRETE THRUST BLOCK SEE WT-01	13	RPDA SEE NOTE 4
2	WATER MAIN	14	CHAIN WITH KNOX LOCK SEE NOTE 4
3	200mm (8") GATE WELL WITH LID SEE WV-01 OR WV-02	15	FLANGED TEE WITH "FDC" SEE NOTE 4
4	SIZE x SIZE MJ/PO/FLG x FLG TEE	16	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 900mm (36") WIDE x AS REQUIRED SEE NOTE 15
5	FLG x MJ/PO/FLG RWGV	17	19mm (3/4") BYPASS, METER & RP DEVICE
6	FLG x MJ/PO ADAPTER (IF REQUIRED)	18	ADJUSTABLE VALVE SUPPORT
7	C-900 PVC PIPE	19	PVC OR DI PIPE SEE NOTE 9
8	MJ/PO x FLG 90° BEND	20	FLANGED ANGLE PRESSURE REDUCING VALVE SEE NOTE 7
9	DOUBLE SPOOL MAXIMUM, FLANGED DUCTILE IRON PIPE	21	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR SEWER PIPE W/ CAP
10	COLD JOINT STRIP	22	TRACER WIRE PER WP-01
11	FLANGED 90° BEND, SEE NOTE 7		
12	FLG'D OS&Y RWGV WITH HAND WHEEL		

100mm (4") AND LARGER
FIRE SERVICE INSTALLATION

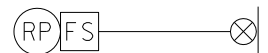
WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 09/11/2017
 DRAWING NUMBER: WF-05 (1 OF 2)

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NOTES:

- 1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
- 2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 3) LOCATION OF FIRE SERVICES SHALL BE AS DIRECTED BY THE FIRE DEPARTMENT OF JURISDICTION. FIRE SERVICES SHOULD BE LOCATED IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION, REPAIR, AND USAGE
- 4) TAMPER SWITCH, AUTOMATIC RESET, CHAIN WITH KNOX LOCK, AND FIRE DEPARTMENT CONNECTION ("FDC") SHALL BE AS REQUIRED BY THE FIRE DEPARTMENT OF JURISDICTION
- 5) BALL VALVE TEST COCKS SHALL BE PROVIDED AND LOCATED PER THE MANUFACTURES RECOMMENDATIONS AND THE REQUIREMENTS OF THE WATER AGENCY STANDARDS
- 6) INSTALL FIRE SERVICES SO THAT THE DISTANCE BETWEEN THE BOTTOM OF THE RELIEF DIAPHRAGM AND THE CONCRETE SLAB OR FINISH GRADE IS 300mm (12") MINIMUM AND 600mm (24") MAXIMUM
- 7) INSTALL AN ANGLE PRESSURE REDUCING VALVE IN LIEU OF THE FIRST 90° BEND WHEN SYSTEM STATIC PRESSURE EXCEEDS 1.03 MPa (150 PSI), WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER, OR AS REQUIRED BY THE DISTRICT ENGINEER
- 8) INSTALL PIPE AND RELATED APPURTENANCES IN THIS AREA PER THE REQUIREMENTS OF THE WATER AGENCY STANDARDS
- 9) INSTALL PIPE AND RELATED APPURTENANCES IN THIS AREA AS REQUIRED BY THE FIRE DEPARTMENT OF JURISDICTION
- 10) ABOVE GROUND APPURTENANCES SHALL BE PAINTED AND IDENTIFIED AS CALLED FOR BY THE FIRE DEPARTMENT OF JURISDICTION
- 11) TESTING SHALL BE CONDUCTED AS CALLED FOR IN SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
- 12) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 13) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST
- 14) DISTRICT RESPONSIBILITY ENDS AT EDGE OF PROPERTY LINE, RIGHT OF WAY, OR EASEMENT
- 15) 1200mm (24") MINIMUM CLEARANCE SHALL BE MAINTAINED ALL AROUND PAD WHEN INSTALLED WITH OR BY A WALL OR ANY OTHER OBSTRUCTIONS
- 16) INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN P/L, R/W OR EDGE OF EASEMENT AND THE RISER TO RPDA EXCEEDS 600mm (24"). NO CONNECTIONS OF ANY KIND WILL BE PERMITTED IN THIS AREA. INSPECTION REQUIRED PRIOR TO BACKFILL. LENGTHS IN EXCESS OF 600mm (24") TO BE APPROVED BY DISTRICT ENGINEER
- 17) DG BACKFILL IS REQUIRED

FOR DETAILS REGARDING THE INSTALLATION OF
FIRE SERVICES SEE WF-05, SHEET 1 OF 2



LEGEND ON PLANS

100mm (4") AND LARGER
FIRE SERVICE INSTALLATION
NOTES

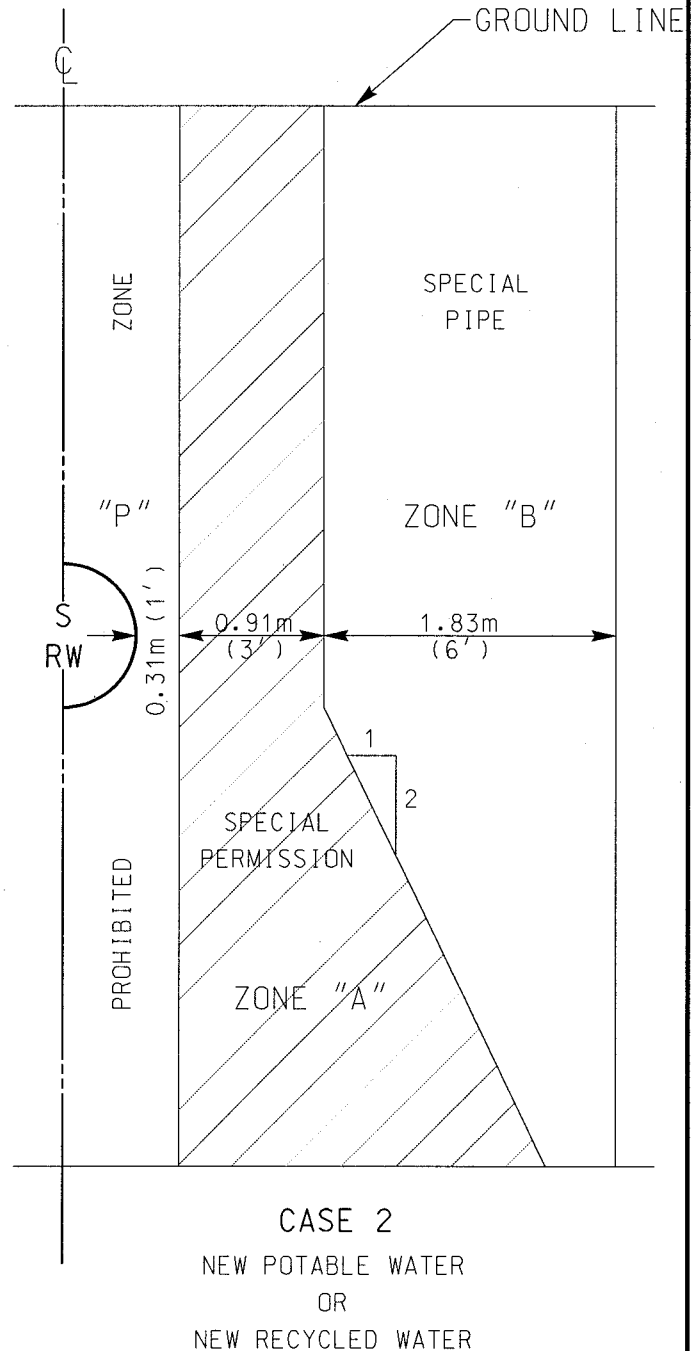
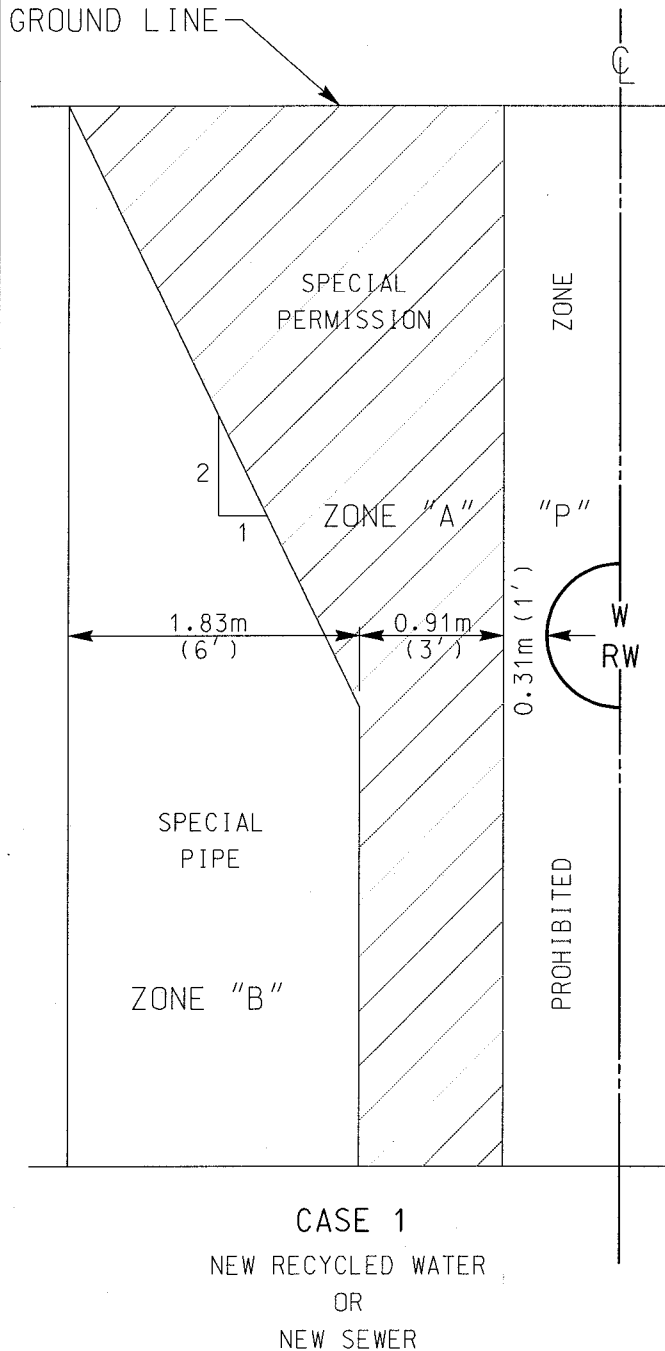
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 09/11/2017

DRAWING NUMBER: WF-05 (2 OF 2)

NOTES:

- 1) ZONES IDENTICAL ON EITHER SIDE OF CENTERLINE AS SHOWN BELOW
- 2) REQUIREMENTS OF THE STATE OF CALIFORNIA, HEALTH AND WELFARE AGENCY, DEPARTMENT OF HEALTH SERVICES
- 3) SEE WI-03 FOR NOTES ON WATER, RECYCLED WATER AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATIONS
- 4) REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS



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**WATER, RECYCLED WATER AND SEWER
MAIN PARALLEL SEPARATIONS**

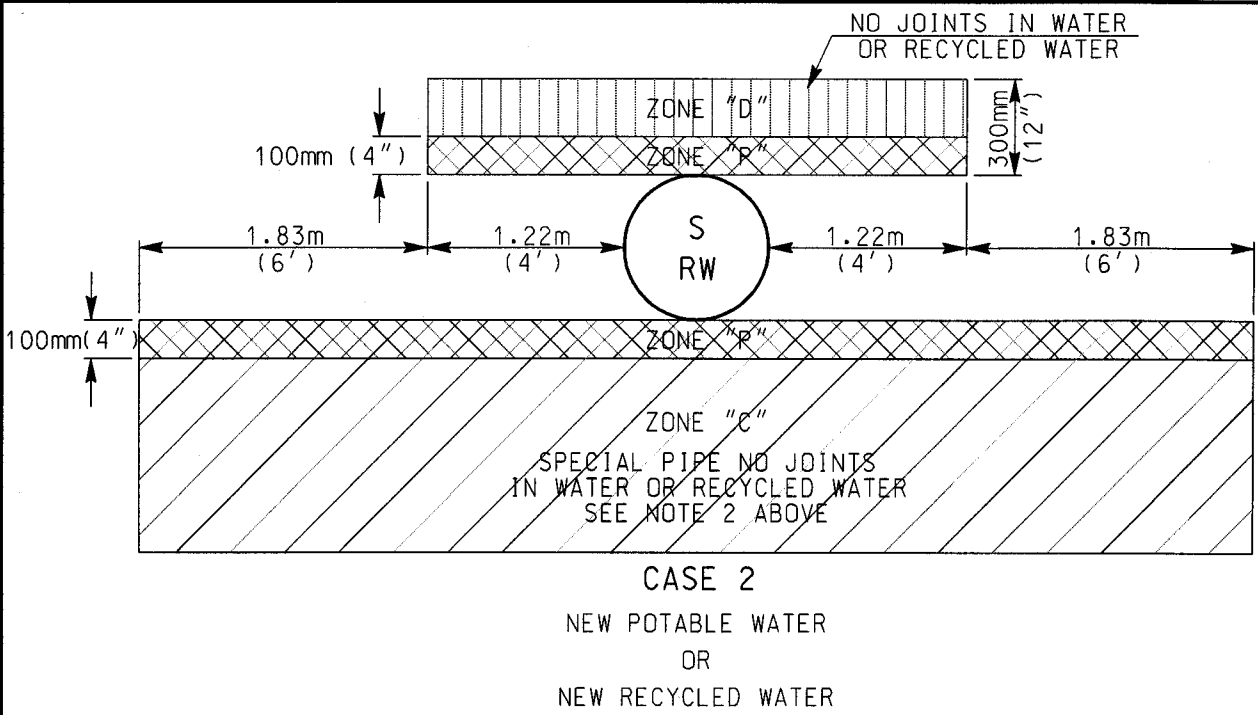
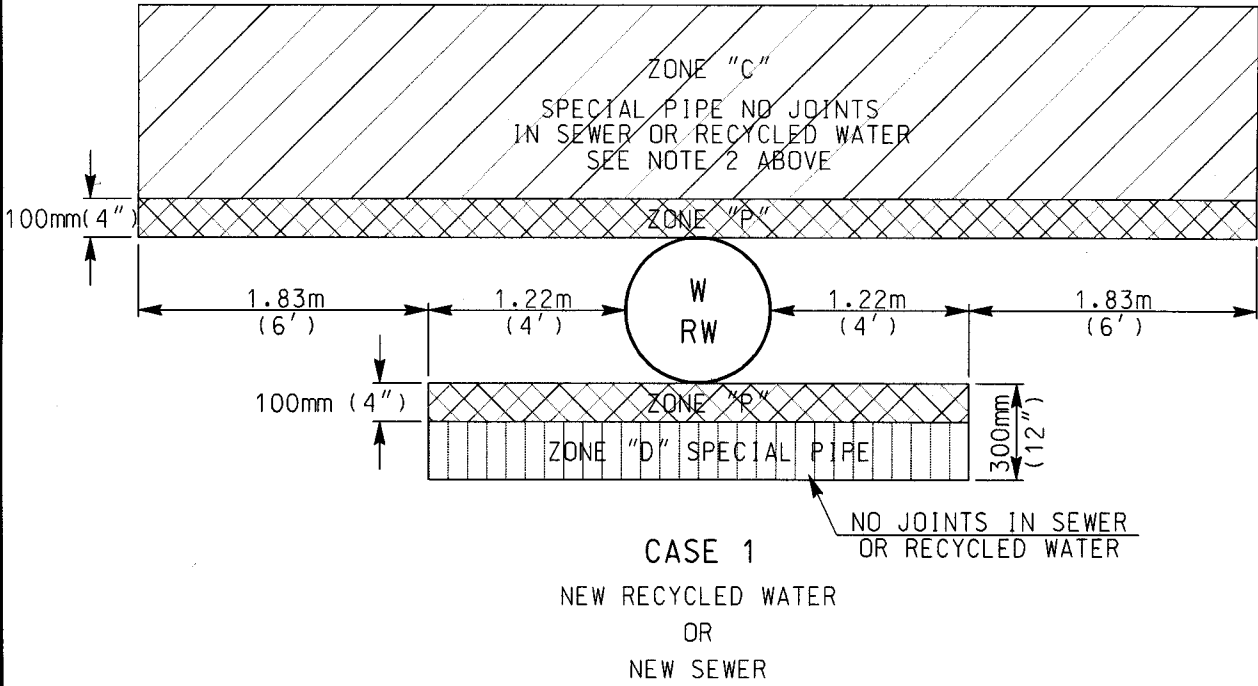
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WI-01

NOTES:

- 1) REQUIREMENTS OF THE STATE OF CALIFORNIA, HEALTH AND WELFARE AGENCY, DEPARTMENT OF HEALTH SERVICES
- 2) SEE WI-03 FOR NOTES ON WATER, RECYCLED WATER AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATIONS
- 3) MAINS SHALL CROSS OTHER UTILITIES AT A PERPENDICULAR ANGLE, UNLESS OTHERWISE APPROVED. IN ANY CASE, UTILITIES CROSSING AT A SKEW ANGLE OF SEVENTY FIVE DEGREES (75°) OR LESS SHALL BE AVOIDED.
- 4) REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS



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WATER, RECYCLED WATER AND SEWER MAIN PERPENDICULAR SEPARATIONS

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2003

DRAWING NUMBER: **WI-02**

CONSTRUCTION REQUIREMENTS FOR WATER, RECYCLED WATER AND SEWER MAINS

CASE 1: NEW RECYCLED WATER OR SEWER MAINS

ZONE

- A SPECIAL PERMISSION REQUIRED. DO NOT LOCATE ANY PARALLEL SEWER OR RECYCLED WATER MAINS IN THIS AREA WITHOUT DISTRICT AND STATE HEALTH DEPARTMENT APPROVAL
- B PVC SEWER PIPE WITH PUSH-ON TYPE RUBBER RING JOINTS FOR SEWER MAINS
C-900,CL305 OR C-905,CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR RECYCLED WATER MAINS
- C A 6.1m (20') SECTION OF PVC SEWER PIPE CENTERED AT THE MAIN BEING CROSSED, OR SEWER PIPE INSTALLED IN A CASING (FOR SEWER MAINS)
A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC PIPE CENTERED AT THE MAIN BEING CROSSED, OR RECYCLED WATER PIPE INSTALLED IN A CASING (FOR RECYCLED WATER MAINS)
- D A 6.1m (20') SECTION OF PVC SEWER PIPE CENTERED AT THE MAIN BEING CROSSED, OR SEWER PIPE INSTALLED IN A CASING (FOR SEWER MAINS)
A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC PIPE CENTERED AT THE MAIN BEING CROSSED, OR RECYCLED WATER PIPE INSTALLED IN A CASING (FOR RECYCLED WATER MAINS)
- P PROHIBITED ZONE; NO SEWER, WATER OR RECYCLED WATER MAINS; SECTION 64630 (e) (2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22

CONSTRUCTION REQUIREMENTS FOR WATER, RECYCLED WATER AND SEWER MAINS

CASE 2: NEW WATER OR RECYCLED WATER MAINS

ZONE

- A SPECIAL PERMISSION REQUIRED. DO NOT LOCATE ANY PARALLEL WATER OR RECYCLED WATER MAINS IN THIS AREA WITHOUT DISTRICT AND STATE HEALTH DEPARTMENT APPROVAL
- B C-900,CL305 OR C-905,CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR WATER MAINS
C-900,CL305 OR C-905,CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR RECYCLED WATER MAINS
- C A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC PIPE CENTERED AT THE MAIN BEING CROSSED, OR WATER PIPE INSTALLED IN A CASING (FOR WATER MAINS)
A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC PIPE CENTERED AT THE MAIN BEING CROSSED, OR RECYCLED WATER PIPE INSTALLED IN A CASING (FOR RECYCLED WATER MAINS)
- D A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC PIPE CENTERED AT THE MAIN BEING CROSSED, OR WATER PIPE INSTALLED IN A CASING (FOR WATER MAINS)
A 6.1m (20') SECTION OF C-900,CL305 OR C-905,CL235 PVC, PIPE CENTERED AT THE MAIN BEING CROSSED, OR RECYCLED WATER PIPE INSTALLED IN A CASING (FOR RECYCLED WATER MAINS)
- P PROHIBITED ZONE; NO SEWER, WATER OR RECYCLED WATER MAINS; SECTION 64630 (e) (2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22

REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS

WATER, RECYCLED WATER AND SEWER MAIN
PARALLEL AND PERPENDICULAR
SEPARATION NOTES

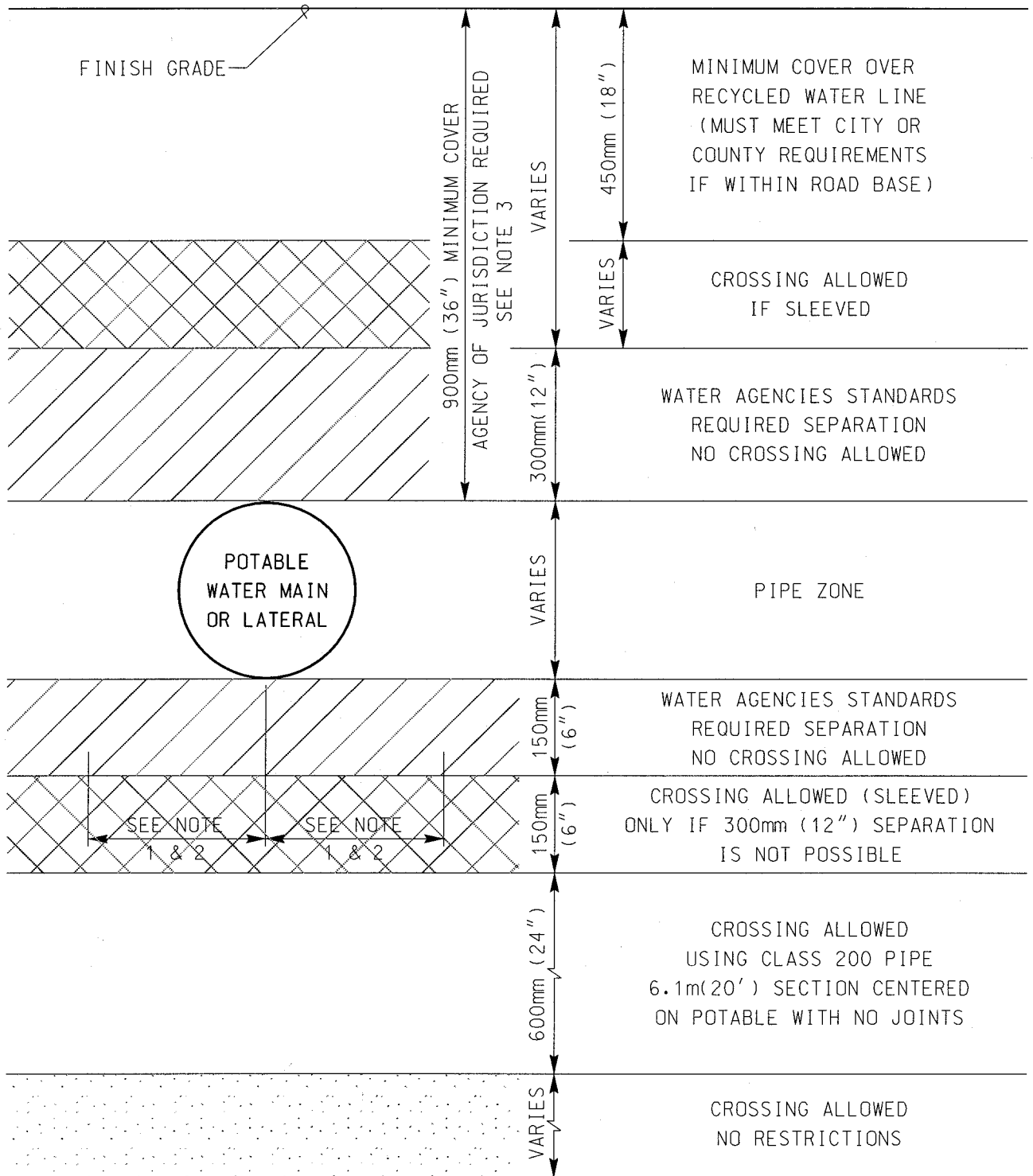
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: WI-03

NOTES:

- 1) EXTEND SLEEVE 1.52m (5') ON EITHER SIDE OF POTABLE WATER LAT'S 75mm (3") DIA OR SMALLER
- 2) EXTEND SLEEVE 3.05m (10') ON EITHER SIDE OF POTABLE WATER LATERALS 100mm (4") DIAMETER OR LARGER (NO JOINTS IN SLEEVE OR PIPE)
- 3) IF POTABLE WATER LINE HAS LESS THAN 900mm (36") COVER, RECYCLED WATER LINE MUST CROSS BELOW POTABLE WATER LINE
- 4) REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS



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POST METER CONSTANT PRESSURE RECYCLED WATER LINE 75mm (3") DIAMETER OR LESS CROSSING POTABLE WATER MAIN OR LATERAL WITHIN PUBLIC RIGHT OF WAY

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: **WI-04**

WATER & RECYCLED WATER-LEGEND ON PLANS
USE ONLY THOSE SYMBOLS THAT APPLY TO THESE DRAWINGS

DESCRIPTION	STANDARD DRAWING	SYMBOL
NEW WATER OR RECYCLED WATER MAIN (INDICATE SIZE, CLASS, AND TYPE)	N/A	<u>8" CL 200 PVC</u>
EXISTING RECYCLED WATER MAIN (INDICATE SIZE AND TYPE)	N/A	<u>EXIST 8" PVC</u> <u> RW</u>
EXISTING POTABLE WATER MAIN (INDICATE SIZE AND TYPE)	N/A	<u>EXIST 8" PVC</u> <u> W</u>
50mm (2") MANUAL AIR VALVE INSTALLATION	WA-01	
50mm (2") AUTOMATIC COMBINATION AIR RELEASE AND AIR/VACUUM VALVE INSTALLATION	WA-02 & WA-03	
100mm & 150mm (4" & 6") AUTOMATIC COMBINATION AIR RELEASE AND AIR/VACUUM VALVES (INDICATE SIZE)	WA-04, WA-05, WA-06	
50mm (2") BLOWOFF INSTALLATION	WB-01 & WB-04	
TEMPORARY 50mm (2") BLOWOFF INSTALLATION	WB-05	
100mm & 150mm (4" & 6") BLOWOFF INSTALLATIONS (INDICATE SIZE)	WB-02, WB-03, & WB-04	
CATHODIC TEST STATIONS	WC SERIES	
SACRIFICIAL ANODE FOR COPPER TUBING	WC-17 & WC-18	
150mm (6") FIRE HYDRANT WITH ___100mm & ___63.5mm (___4" & ___2 1/2") PORTS (INDICATE FLANGE ELEVATION ON PLANS)	WF-01 & WF-04	
150mm (6") FIRE HYDRANT WITH BREAK-OFF CHECK VALVE ___100mm & ___63.5mm (___4" & ___2 1/2") PORTS (INDICATE FLANGE ELEVATION ON PLANS)	WF-02 & WF-04	

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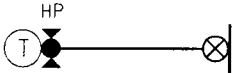
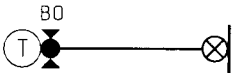
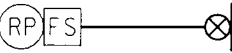
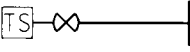




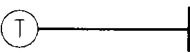
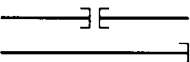
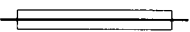

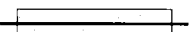
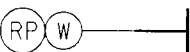

**STANDARD SYMBOLS FOR POTABLE AND
RECYCLED WATER CONSTRUCTION DRAWINGS**

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: **WI-06** (1 OF 4)

WATER & RECYCLED WATER—LEGEND ON PLANS
USE ONLY THOSE SYMBOLS THAT APPLY TO THESE DRAWINGS

DESCRIPTION	STANDARD DRAWING	SYMBOL
150mm (6") HIGH PRESSURE FIRE HYDRANT (___-4" & ___-2 1/2") PORTS (INDICATE FLANGE ELEVATION ON PLANS)	WF-03 & WF-04	
150mm (6") FIRE HYDRANT WITH ___100mm & ___63.5mm (___-4" & ___-2 1/2") PORTS (INDICATE FLANGE ELEVATION ON PLANS) <i>FIRE HYDRANT IS USED IN PLACE OF BLOWOFF</i>	WF-01 & WF-04	
100mm (4") AND LARGER FIRE SERVICE (INDICATE SIZE)	WF-05	
WATER TEST STATION INSTALLATION	WM-01 & WM-02	
RETAINING WALL FOR WATER APPURTENANCES	WM-03	
PROTECTION POST INSTALLATIONS	WM-04	
DEMDUNTABLE PROTECTION POST INSTALLATIONS	WM-05	
EASEMENT/UTILITY MARKER POST INSTALLATION	WM-06	
TRACER WIRE ACCESS POINT	WP-01	
CUTTING AND PLUGGING ABANDONED MAINS	WP-03	
PIPE CASING FOR MAINS	WP-04	
SLOPE PROTECTION FOR MAINS & CUT-OFF WALLS	WP-05 & WP-07	
CONCRETE PIPE ENCASEMENTS & PROTECTION PADS	N/A & WP-06	
19mm THROUGH 50mm (3/4" THRU 2") REDUCED PRESSURE BACKFLOW PREVENTION DEVICE (INDICATE SIZE)	WR-01	 

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STANDARD SYMBOLS FOR POTABLE AND RECYCLED WATER CONSTRUCTION DRAWINGS

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/03/2006

DRAWING NUMBER: **WI-06** (2 OF 4)

WATER & RECYCLED WATER-LEGEND ON PLANS
USE ONLY THOSE SYMBOLS THAT APPLY TO THESE DRAWINGS

DESCRIPTION	STANDARD DRAWING	SYMBOL
75mm (3") & LARGER REDUCED PRESSURE BACKFLOW PREVENTION DEVICE (INDICATE SIZE)	WR-02	
TEMPORARY POTABLE TO RECYCLED INTER-CONNECTION (INDICATE SIZE)	WR-05	
25mm & 50mm (1" & 2") WATER OR RECYCLED WATER SERVICES (INDICATE SIZE)	WS-01, WS-02 & WS-03	
100mm & 150mm (4" & 6") METER INSTALLATIONS (INDICATE SIZE)	WS-05 & WS-06	
25mm (1") DUAL DOMESTIC/FIRE WATER SERVICE ASSEMBLY INSTALLATION	WS-09	
EXISTING WATER SERVICE ASSEMBLY RECONNECTION	WS-07	
EXISTING WATER SERVICE ABANDONMENT	WS-08	
BALL VALVE (INDICATE SIZE)	N/A	
GATE VALVE (INDICATE SIZE)	WV-01, WV-02 & WV-03	
BUTTERFLY VALVE (OPERATOR TOWARD CURB) (INDICATE SIZE)	WV-01, WV-02 & WV-03	
REDUCER (INDICATE SIZE)	N/A	

STANDARD SYMBOLS FOR POTABLE AND RECYCLED WATER CONSTRUCTION DRAWINGS

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: WI-06 (3 OF 4)

WATER & RECYCLED WATER-LEGEND ON PLANS
 USE ONLY THOSE SYMBOLS THAT APPLY TO THESE DRAWINGS

DESCRIPTION	STANDARD DRAWING	SYMBOL
END CAP FOR MAINS (INDICATE SIZE)	N/A	—————┘

NOTES:

1. STANDARD SYMBOLS FOR SEWER FACILITIES SHALL BE AS SHOWN ON SI-08
2. USE ONLY THOSE SYMBOLS THAT APPLY TO THE IMPROVEMENT PLANS

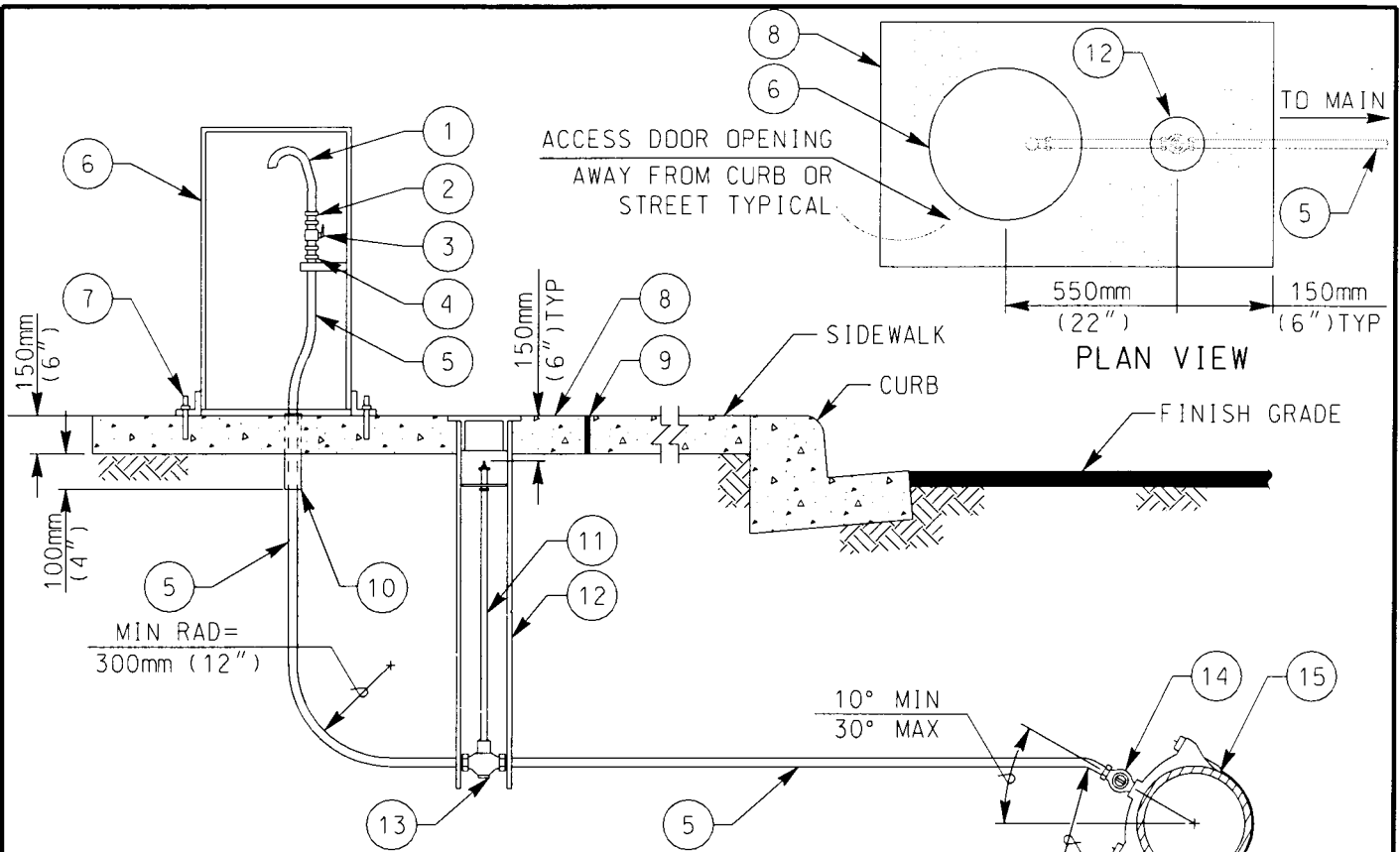
STANDARD SYMBOLS FOR POTABLE AND
 RECYCLED WATER CONSTRUCTION DRAWINGS

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

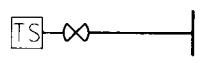
DRAWING NUMBER: WI-06 (4 OF 4)

h:\WASUupdate12-31-04\DrawingsWater\w106-40.dwg R-2005 11:17



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 3) LOCATE ENCLOSURE AS SHOWN ON WM-02 WITH ACCESS DOOR OPENING AWAY FROM THE CURB OR STREET
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) WATER TEST STATIONS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 6) NOTCH BASE OF GATE WELL TO CENTER OVER VALVE. SET LID FLUSH WITH SLAB.
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



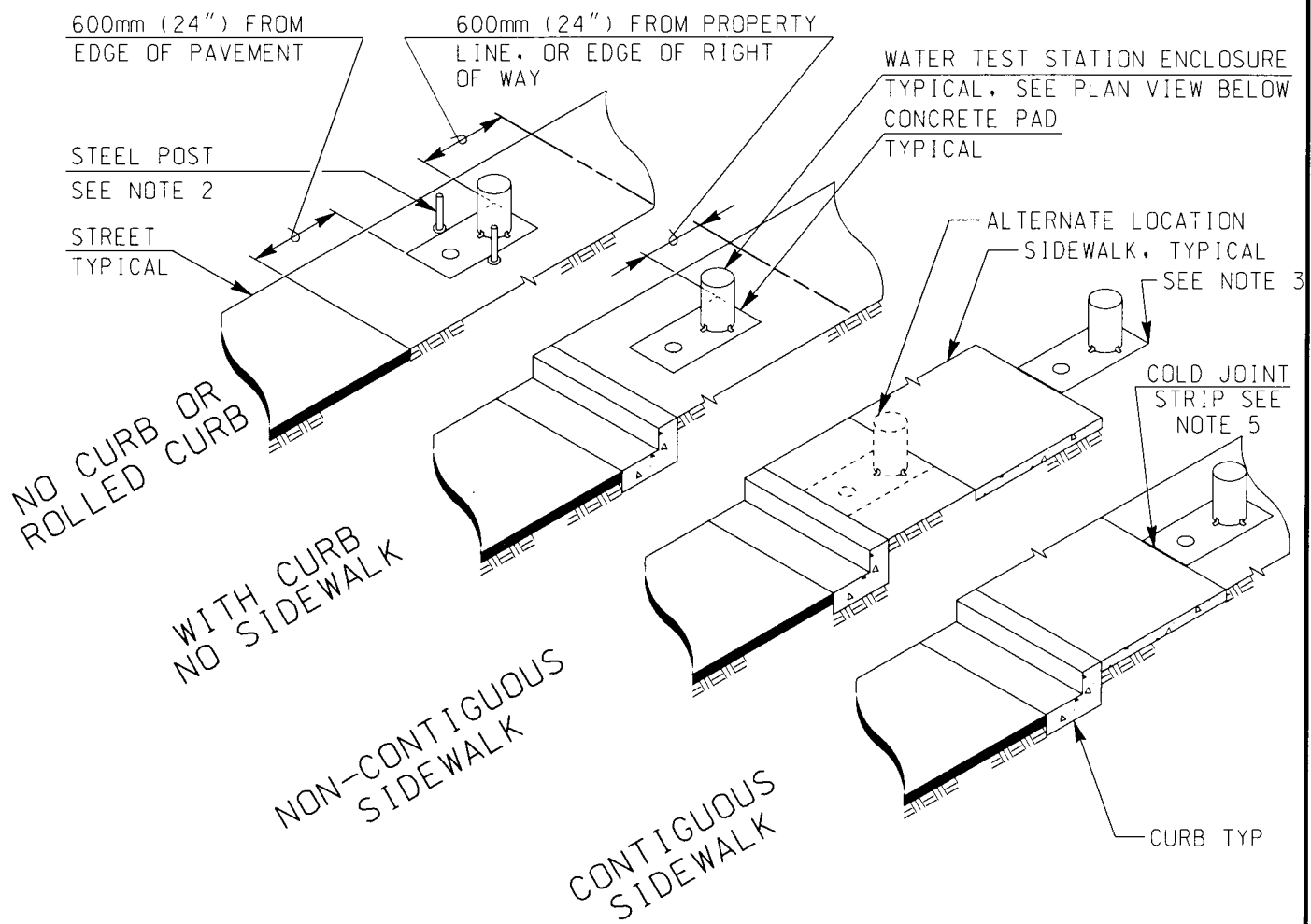
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	9.4mm (3/8") COPPER RETURN	8	1000mm x 600mm x 150mm THICK (40"x 24"x 6" THICK) CONCRETE BASE
2	9.4mm (3/8") MIPT x COMPRESSION ADAPTER	9	COLD JOINT STRIP
3	9.4mm (3/8") FIPT x FIPT BRASS BALL VALVE WITH HANDLE	10	25mm (1") x 13mm (1/2") BLACK FOAM SLEEVE
4	25mm (1") x 9.4mm (3/8") BRASS REDUCING BUSHING	11	VALVE STEM EXTENSION REQ'D, SEE WV-05
5	25mm (1") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT	12	100mm (4") SDR-35 SEWER PIPE GATE WELL WITH LID, SEE NOTE 6
6	WATER TEST STATION ENCLOSURE	13	25mm (1") COMP BALL VALVE W/ TEE HEAD
7	13mm x 89mm (1/2" x 3 1/2") 304 STAINLESS STEEL SLEEVE EXPANSION ANCHOR WITH SS NUT & WASHER (3 EA @ 120° APART)	14	25mm (1") BRONZE MIPT x COMPRESSION CORPORATION STOP
		15	WATER MAIN
		16	SIZE x 25mm (1") SERVICE SADDLE

WATER TEST STATION INSTALLATION

WATER AGENCIES STANDARDS

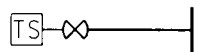
COMMITTEE APPROVAL: 11/03/2006
 DRAWING NUMBER: WM-01

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 28-NOV-2006 20:01 keng



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) PROTECTION POSTS SHALL BE INSTALLED WHERE CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER PER WM-04
- 3) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF ENCLOSURE
- 4) THE ENCLOSURE SHALL BE CHOCOLATE BROWN AS MANUFACTURED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 5) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE CURB OR SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 6) WATER TEST STATIONS & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

WATER TEST STATION ENCLOSURE LOCATIONS

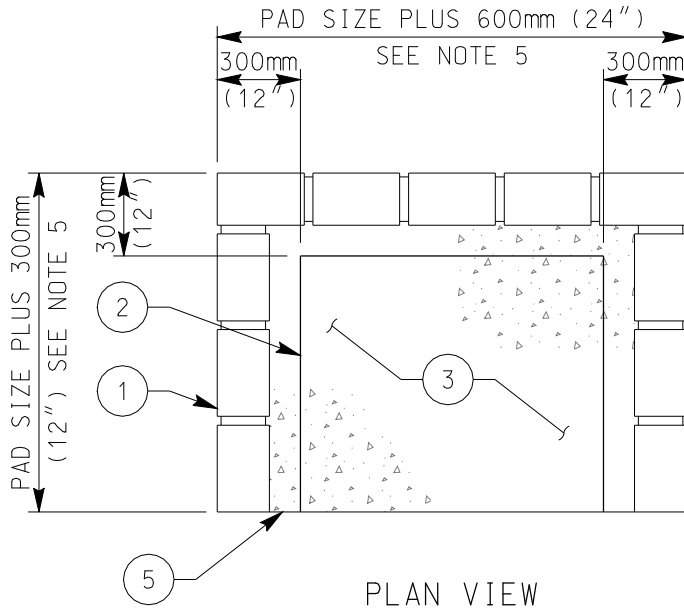
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/03/2006

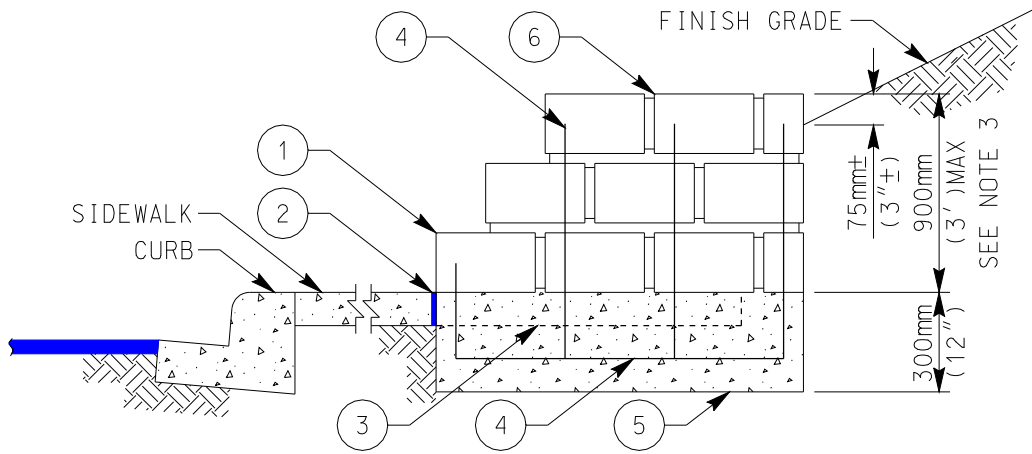
DRAWING NUMBER: WM-02

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h:\WAS&WASDG\2008\WAS&WASDG09-12-08\WAS\StandardDrawings\Water\wm03-1_09-12-08.dgn
 PEN TBL: k:\table\WASDETAL.PEN
 25-SEP-2008 11:19 kgallo



PLAN VIEW



SECTION VIEW

FOR MATERIAL DESCRIPTIONS AND NOTES SEE WM-03 (2 OF 2)

LEGEND ON PLANS

RETAINING WALL FOR WATER AND
RECYCLED WATER APPURTENANCES

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/12/2008

DRAWING NUMBER: WM-03 (1 OF 2)

FOR DRAWING OF RETAINING WALL SEE WM-03 (2 OF 2)

NOTES:

- 1) REFER TO SECTION 03000 OF THE SPECIFICATIONS
- 2) RETAINING WALLS FOR USE IN CONJUNCTION WITH THE INSTALLATION OF WATER APPURTENANCES SUCH AS AIR VALVES, WATER TEST STATIONS, AND OTHER APPURTENANCES SHALL BE INSTALLED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE DISTRICT ENGINEER
- 3) FIGURES SHOWN REPRESENT MINIMUMS ONLY. ALL RETAINING WALLS ABOVE 900mm (3') SHALL BE DESIGNED BY THE ENGINEER OF WORK AND PERMITTED PER THE AGENCY OF JURISDICTION. ALSO REFER TO SAN DIEGO REGIONAL STANDARD DRAWINGS. FULL SUBMITTAL TO BE APPROVED BY THE DISTRICT ENGINEER PRIOR TO INSTALLATION
- 4) VERTICAL BARS TO BE INSTALLED AT 400mm (16") ON CENTER. INSTALL MINIMUM 1-BAR IN THE CENTER OF THE FOOTING FOR WALL
- 5) PAD SIZE TO MATCH SIZE OF PAD REQUIRED FOR APPURTENANCE TO BE INSTALLED
- 6) WALLS USED FOR FIRE HYDRANTS SHALL BE SIZED AND APPROVED BY THE FIRE AGENCY OF JURISDICTION PRIOR TO INSTALLATION
- 7) GRAVITY WALL MAY BE INSTALLED ONLY WITH PRIOR APPROVAL OF SUBMITTAL FOR INSTALLATION.
- 8) AN EASEMENT MAY BE REQUIRED DEPENDING ON LOCATION OF WALL

LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm x 200mm x 400mm (8" x 8" x 16") CONCRETE OR SLUMP BLOCK (SOLID GROUT ALL CELLS), SEE NOTE 7	4	#4 REBAR TYPICAL, SEE NOTE 4
		5	300mm x 300mm (12" x 12") CONCRETE FOOTING, SEE NOTE 7
2	COLD JOINT STRIP	6	CONCRETE CAP BLOCK, SEE NOTE 7
3	CONCRETE PAD, SEE NOTE 5		

RETAINING WALL FOR WATER AND RECYCLED WATER APPURTENANCES

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 09/12/2008
 DRAWING NUMBER: WM-03 (2 OF 2)

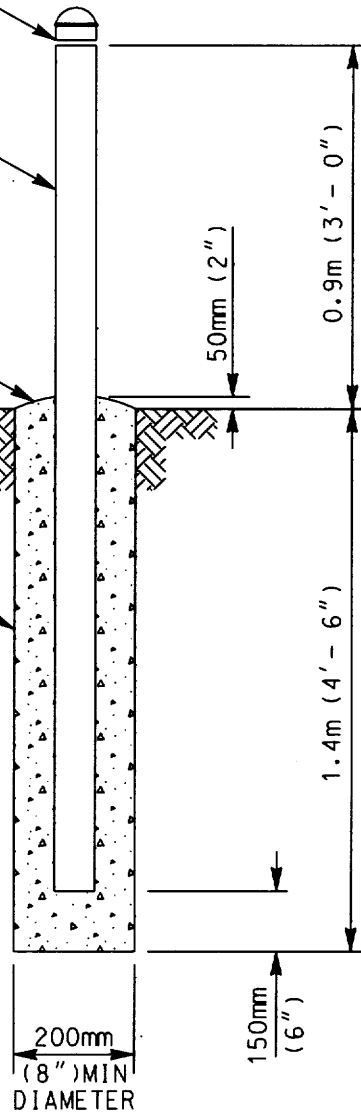
100mm (4") FENCE POST CAP OR
ROUNDED CONCRETE CAP

100mm (4") DIAMETER GALVANIZED
STEEL POST, 6.4mm (1/4") WALL
FILLED WITH CONCRETE

ROUND CONCRETE

FINISH GRADE

CONCRETE FOOTING



NOTES:

- 1) PROTECTION POSTS SHALL BE INSTALLED WHERE INDICATED ON THE APPROVED PLANS OR AS DIRECTED BY THE ENGINEER
- 2) PROTECTION POSTS SHALL BE COATED USING SAFETY YELLOW IN ACCORDANCE WITH SECTION 09910 OF THE SPECIFICATIONS

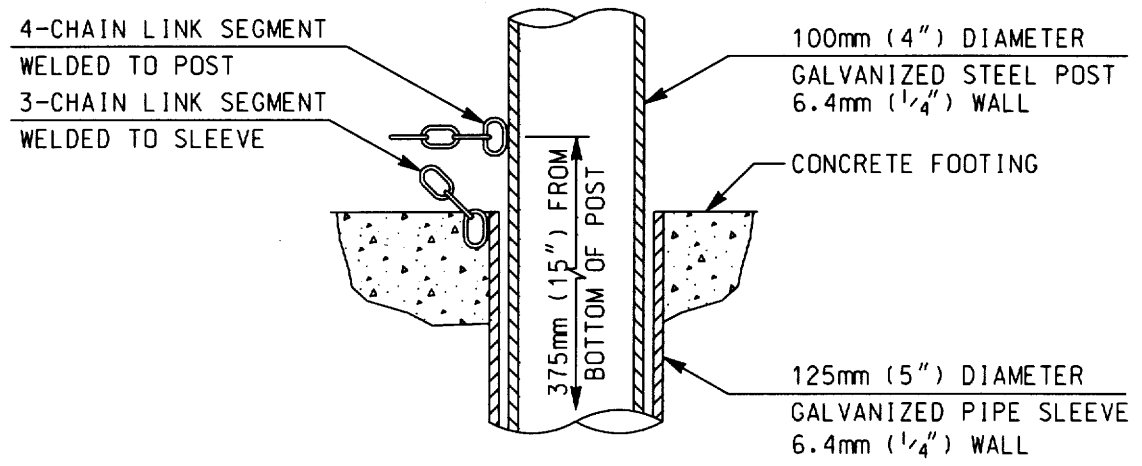
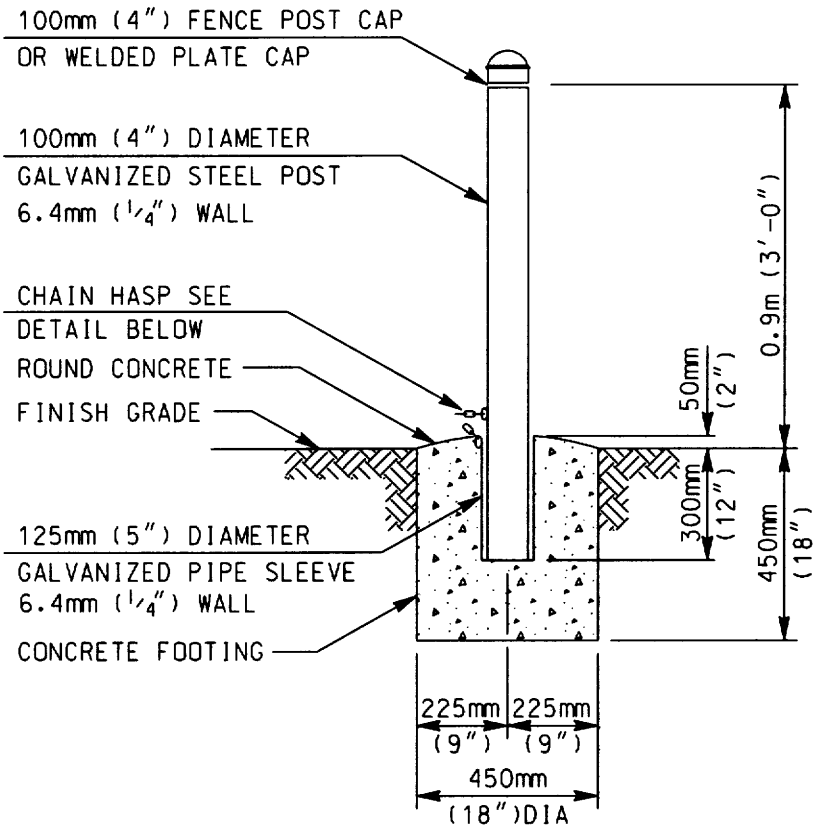
LEGEND ON PLANS

PROTECTION POST INSTALLATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: WM-04



CHAIN HASP DETAIL

NOTES:

- 1) DEMOUNTABLE PROTECTION POST SHALL BE INSTALLED WHERE CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SDG&E REQUIREMENTS DICTATE IN AREAS OF SDG&E EQUIPMENT
- 2) CHAIN TO BE 6.4mm (1/4") PROOF COIL CHAIN GALVANIZED STEEL. WELD 4-LINK SEGMENT TO POST AND 3-LINK SEGMENT TO SLEEVE
- 3) DEMOUNTABLE PROTECTION POST SHALL BE COATED USING SAFETY YELLOW IN ACCORDANCE WITH SECTION 09910 OF THE SPECIFICATIONS



LEGEND ON PLANS

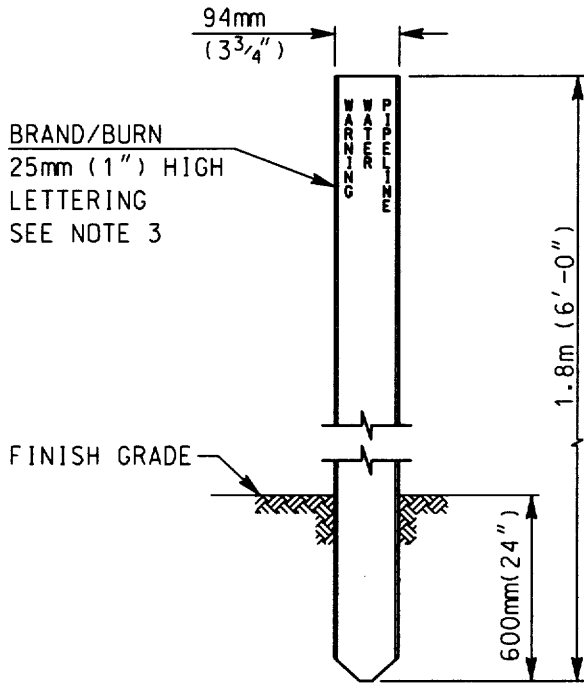
DEMOUNTABLE PROTECTION POST INSTALLATION

WATER AGENCIES STANDARDS

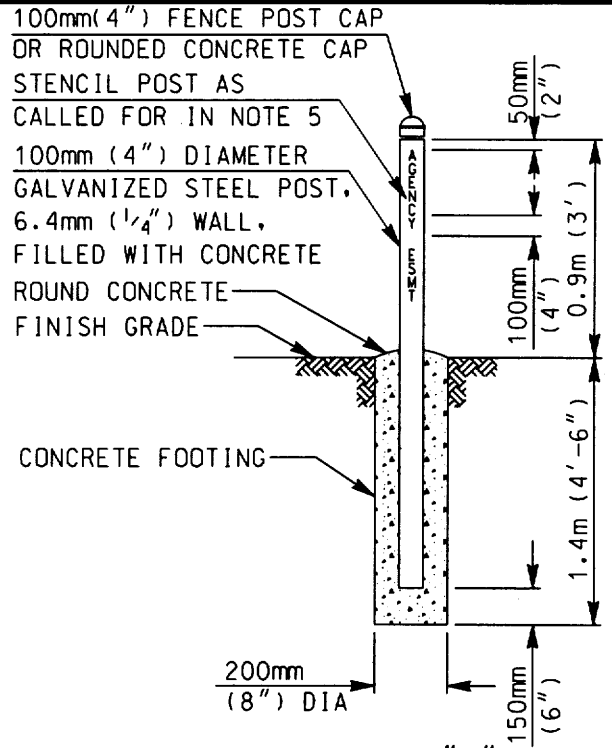
COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: WM-05

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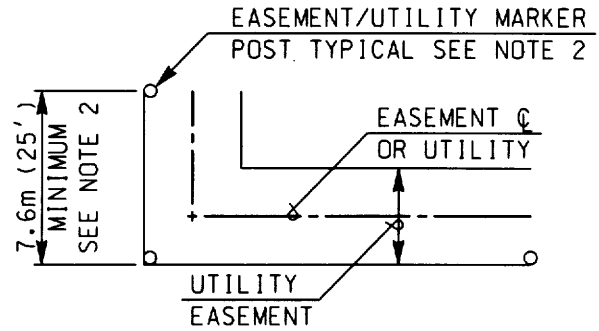
**MARKER POST TYPE "A"
CARSONITE UTILITY MARKER**



**MARKER POST TYPE "B"
STEEL POST**

COLOR	MARKER POSTS USED FOR:
BLUE	POTABLE WATER MAINS
GREEN	SEWER MAINS
PURPLE	RECYCLED WATER MAINS
WHITE	GENERAL USE
YELLOW	ELECTRICAL UTILITIES

UTILITY MARKER COLORS



MARKER POST POSITIONING

NOTES:

- 1) EASEMENT/UTILITY MARKER POST SHALL BE INSTALLED WHERE CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER
- 2) EASEMENT/UTILITY MARKER POST SHALL BE INSTALLED TO THE SOUTH AND WEST OF THE UTILITY OR CENTERLINE OF EASEMENT. PLACE ALONG THE EASEMENT AS INDICATED ON THE APPROVED PLANS
- 3) TYPE A MARKER SHALL INCORPORATE 25mm (1") HIGH LETTERING BRANDED/BURNED INTO PADDLE. LETTERING SHALL INCLUDE THE AGENCY OF JURISDICTION ALONG WITH THE UTILITY IDENTIFIED. THE COLOR OF THE PADDLE SHALL BE AS SHOWN ABOVE
- 4) TYPE B MARKER POST SHALL BE COATED USING A COLOR SHOWN ABOVE IN ACCORDANCE WITH SECTION 09910 OF THE SPECIFICATIONS. TYPE A MARKER POST SHALL BE MANUFACTURED WITH A COLOR SHOWN ABOVE
- 5) TYPE B MARKER POST SHALL INCORPORATE 50mm (2") HIGH BLACK LETTERING STENCILED ONTO THE POST. LETTERING SHALL INCLUDE THE AGENCY OF JURISDICTION ALONG WITH THE UTILITY IDENTIFIED

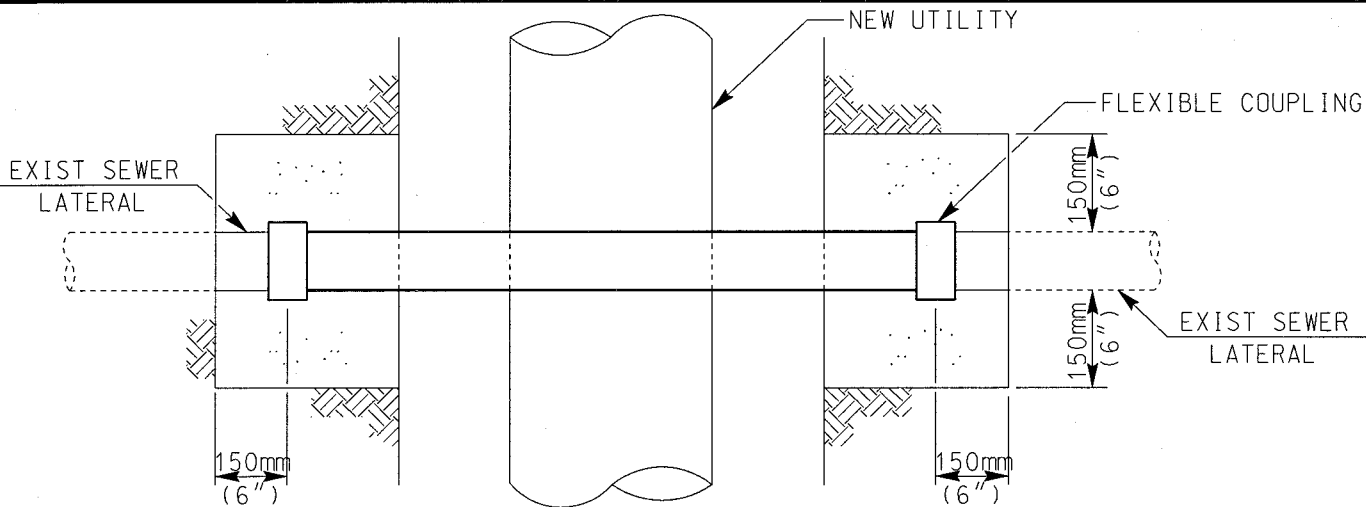
○
LEGEND ON PLANS

**EASEMENT/UTILITY MARKER
POST INSTALLATION**

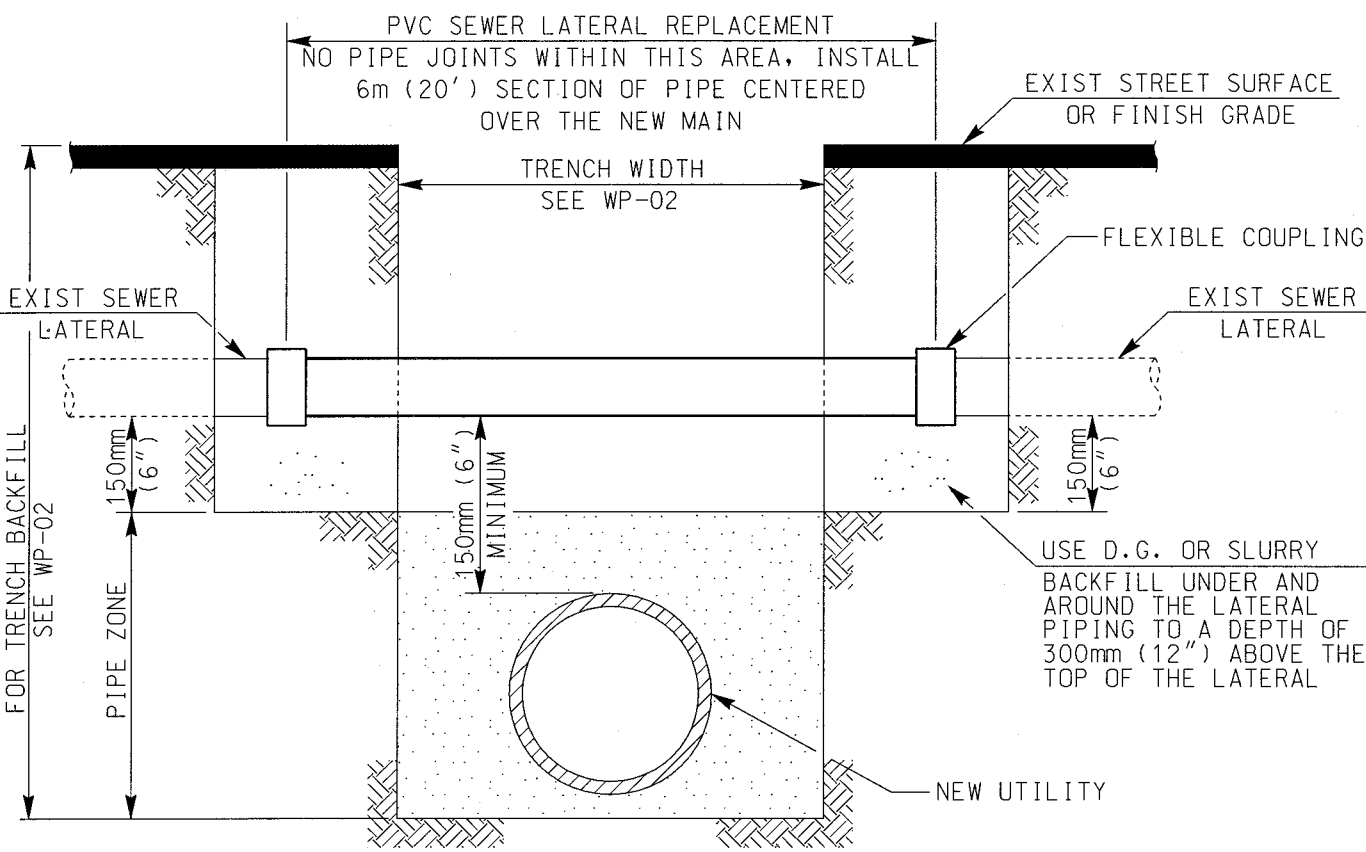
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: WM-06



PLAN



ELEVATION

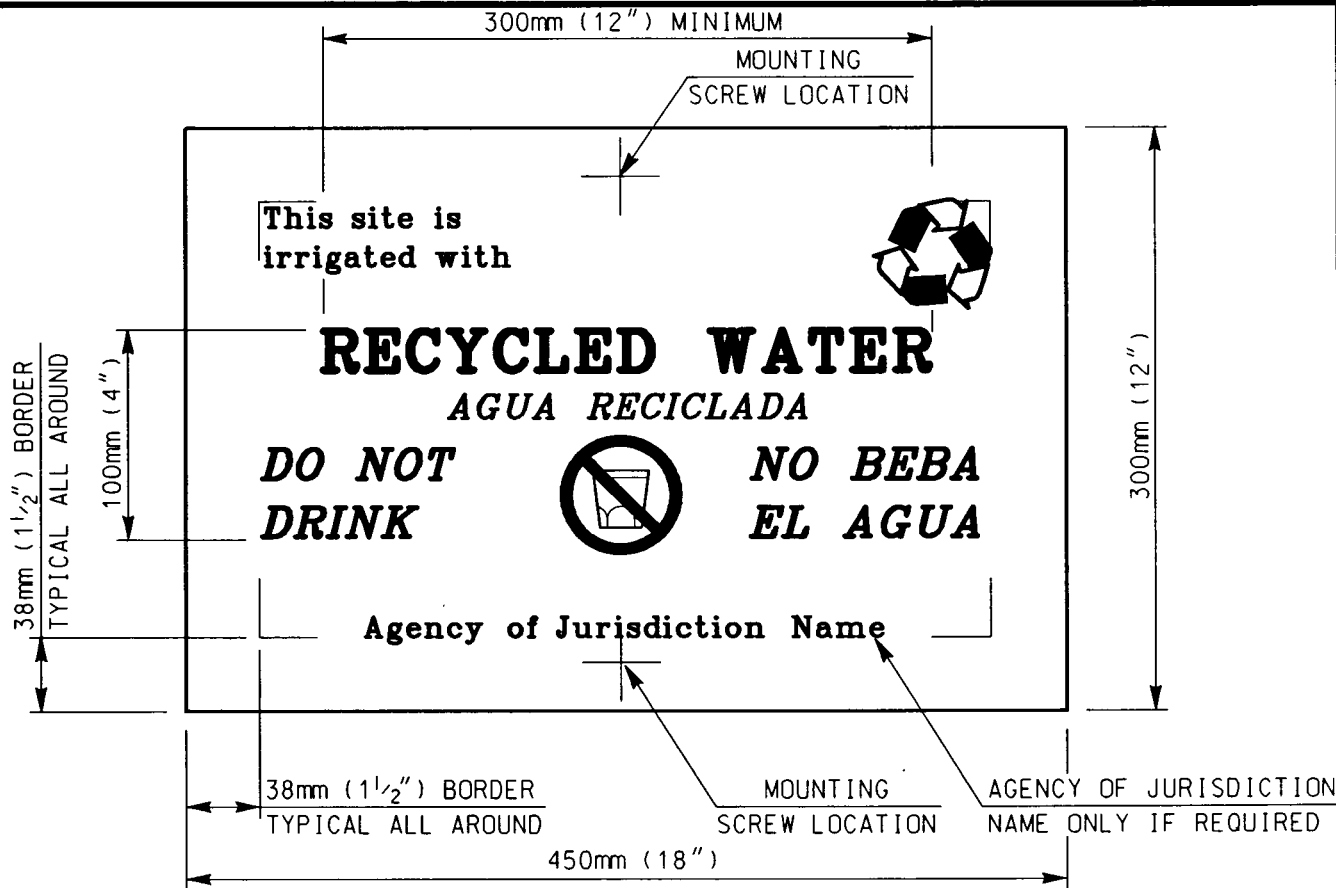
NOTES:

- 1) REFER TO SECTION 01000 OF SPECIFICATIONS FOR PROTECTION OF EXISTING FACILITIES
- 2) APPROVAL OF THE AGENCY OF JURISDICTION REQUIRED PRIOR TO REPLACEMENT
- 3) REPLACEMENT OF SEWER LATERALS SHALL BE PERFORMED IN ACCORDANCE WITH THIS DRAWING OR AS REQUIRED BY THE AGENCY OF JURISDICTION
- 4) SEWER LATERAL CROSSINGS SHALL BE REPLACED AS SHOWN OR ENCASED WITH CONCRETE FROM JOINT TO JOINT DEPENDENT UPON FIELD CONDITIONS AS DETERMINED BY THE DISTRICT ENGINEER
- 5) FOR PIPE BEDDING AND TRENCH BACKFILL SEE WP-02

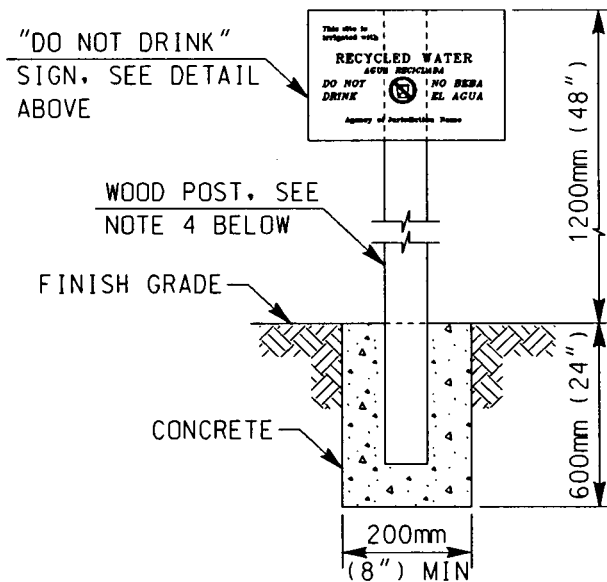
REPLACEMENT OF SEWER LATERAL CROSSINGS

WATER AGENCIES STANDARDS	
COMMITTEE APPROVAL:	03/01/2001
DRAWING NUMBER:	WM-07

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"DO NOT DRINK" SIGN



NOTES:

- 1) REFER TO SECTION 15151 OF THE SPECIFICATIONS
- 2) SIGNS SHALL BE MANUFACTURED OF ALUMINUM SHEET, THICKNESS 1.6mm (0.063" OR 18 GAGE)
- 3) THE SIGN SHALL INCORPORATE A PURPLE BACKGROUND WITH WHITE LETTERS AND SYMBOLS
- 4) SIGNS SHALL BE MOUNTED ON A 100mm x 100mm (4" x 4") PRESSURE TREATED WOOD POST SET IN CONCRETE. ATTACH THE SIGN TO THE POST USING 6.4mm x 38mm (1/4" x 2 1/2") ANODIZED LAG SCREWS AND WASHERS (2 EACH)

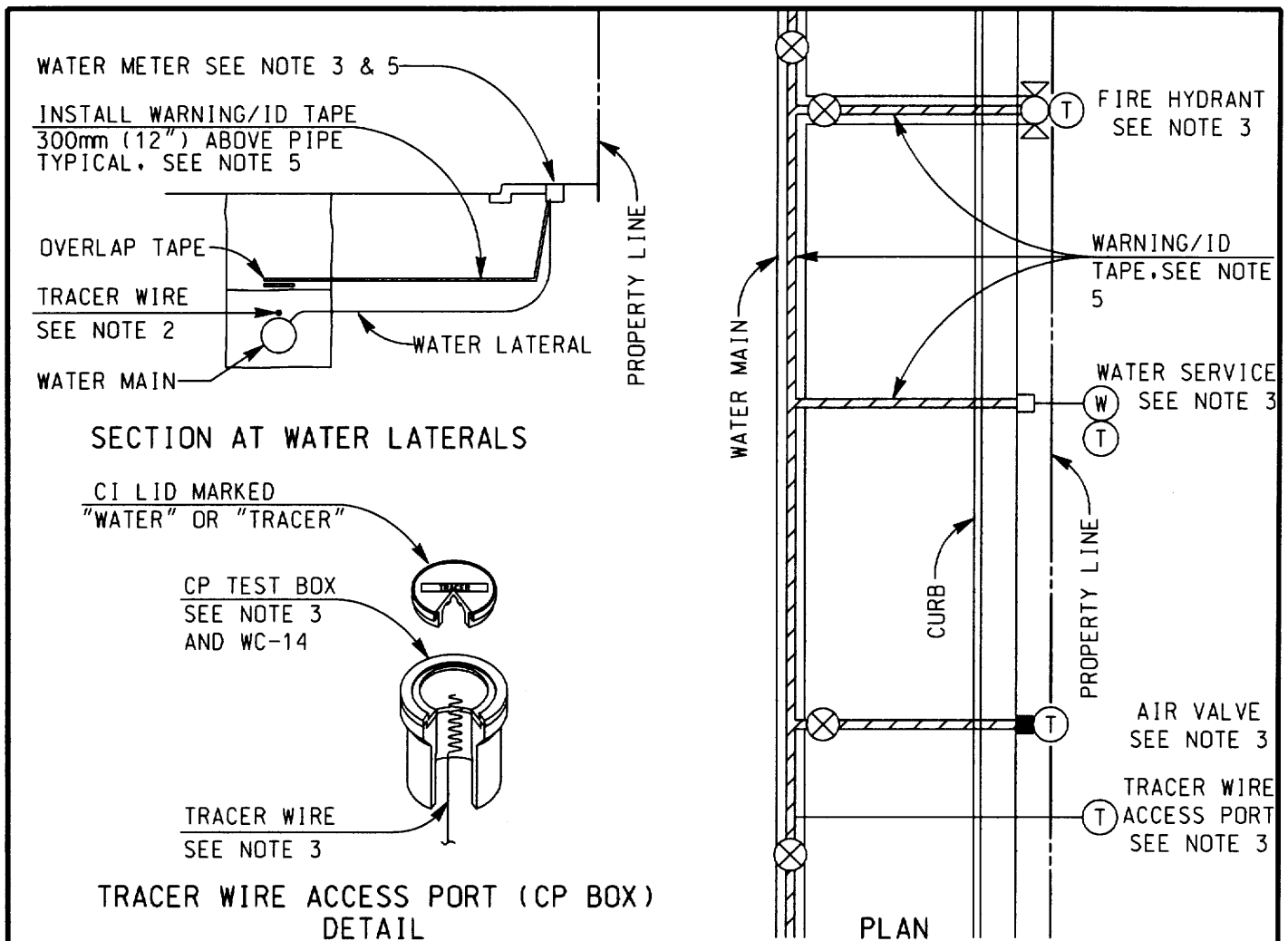
h:\WAS\WASDC\2007\WAS\WASDC\1-16-07\WAS\StandardDrawings\Water\wm08_11-16-07.dgn
 16-NOV-2007 10:21 keng PEN_TBL: k:\table\wasdetail.pen

RECYCLED WATER "DO NOT DRINK" SIGN

WATER AGENCIES STANDARDS

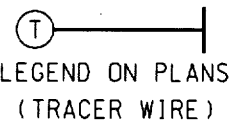
COMMITTEE APPROVAL: 11/16/2007

DRAWING NUMBER: WM-08



NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) TRACER WIRE TO RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF WATER MAINS. WIRE SHALL BE SECURED TO THE PIPE AND MAINTAINED ON PIPE CENTERLINE DURING TRENCH BACKFILL
- 3) TRACER WIRE ACCESS PORTS SHALL BE INSTALLED WITHIN THE CONCRETE SPLASH PAD OF ALL FIRE HYDRANTS IN ACCORDANCE WITH THE STANDARD DRAWINGS. TRACER WIRE MAY TERMINATE WITHIN METER BOX, BLOWOFF BOX OR AIR VALVE PER SECTION 15000. TRACER WIRE MAY TERMINATE IN A CP TEST BOX ONLY IF NO OTHER APPURTENANCE EXISTS WITHIN THE REQUIRED 305m (1000') INTERVAL. ALL BURIED WIRES THAT REQUIRE TRENCHING TO A TEST BOX LOCATION SHALL BE INSTALLED, WITHOUT SPLICE, IN A CONDUIT IN THE TRENCH AT A MINIMUM DEPTH OF 600mm (24")
- 4) WIRE SPLICE CONNECTORS SHALL BE SILICONE FILLED TYPE
- 5) WARNING/IDENTIFICATION TAPE SHALL BE INSTALLED 300mm (12") ABOVE THE PIPE AND RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF THE PIPE AND ALL RELATED APPURTENANCES IN ACCORDANCE WITH SECTION 15000
- 6) FOR PIPE BEDDING AND TRENCH BACKFILL SEE WP-02
- 7) FOR INSTALLATION OF WARNING/IDENTIFICATION ON SEWER LINES SEE SP-01
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

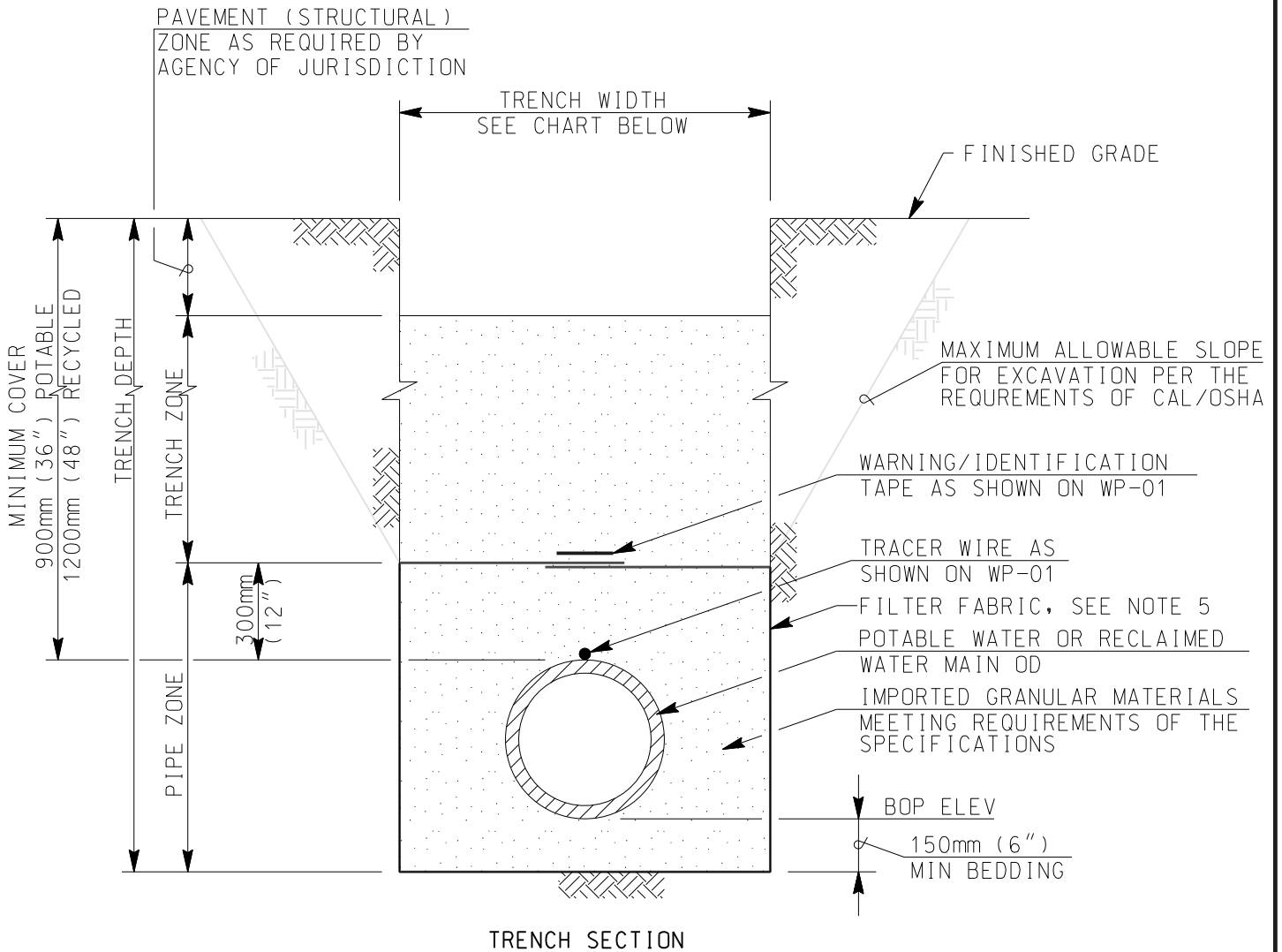


WARNING IDENTIFICATION TAPE AND TRACER WIRE INSTALLATIONS

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2004

DRAWING NUMBER: WP-01



TRENCH SECTION

NOTES:

- 1) REFER TO SECTION 02223 OF THE SPECIFICATIONS
- 2) PAVING OR PAVEMENT REPAIR TO BE DONE IN ACCORDINACE TO CITY OR COUNTY STANDARDS
- 3) EXCAVATE BELL HOLES AT EACH PIPE JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT
- 4) ALL PIPELINE TRENCHES SHALL BE EXCAVATED SO THAT THE DISTANCE BETWEEN TRENCH WALLS AT THE TOP OF PIPE SHALL BE AS SHOWN BELOW:

TRENCH WIDTH

NOMINAL PIPE INSIDE DIAMETER	MINIMUM DISTANCE	MAXIMUM DISTANCE
100mm (4") & SMALLER	450mm (18")	700mm (28")
150mm & 200mm (6" & 8")	600mm (24")	800mm (32")
250mm & 300mm (10" & 12")	700mm (28")	900mm (36")
400mm THRU 900mm (16" THRU 36")	OD PLUS 600mm(24")	OD PLUS 900mm(36")

- 5) FILTER FABRIC (BURRITO WRAP) AS REQUIRED IN SECTION 02223 OF THE SPECIFICATIONS WITH A MINIMUM 300mm (12") OVERLAP
- 6) FOR BEDDING AND BACKFILL OF SEWER FACILITIES SEE SP-02

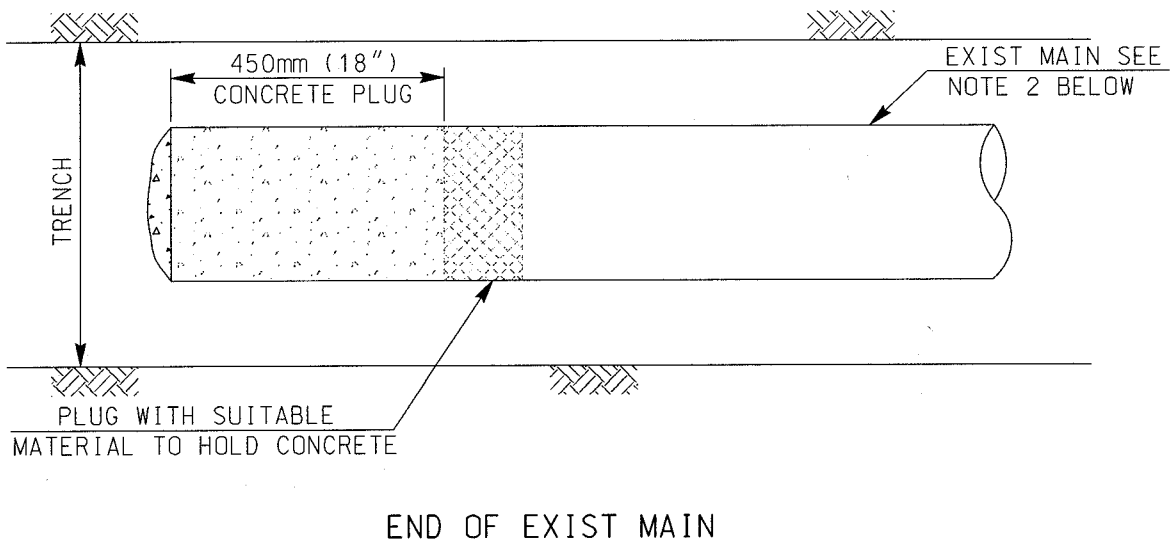
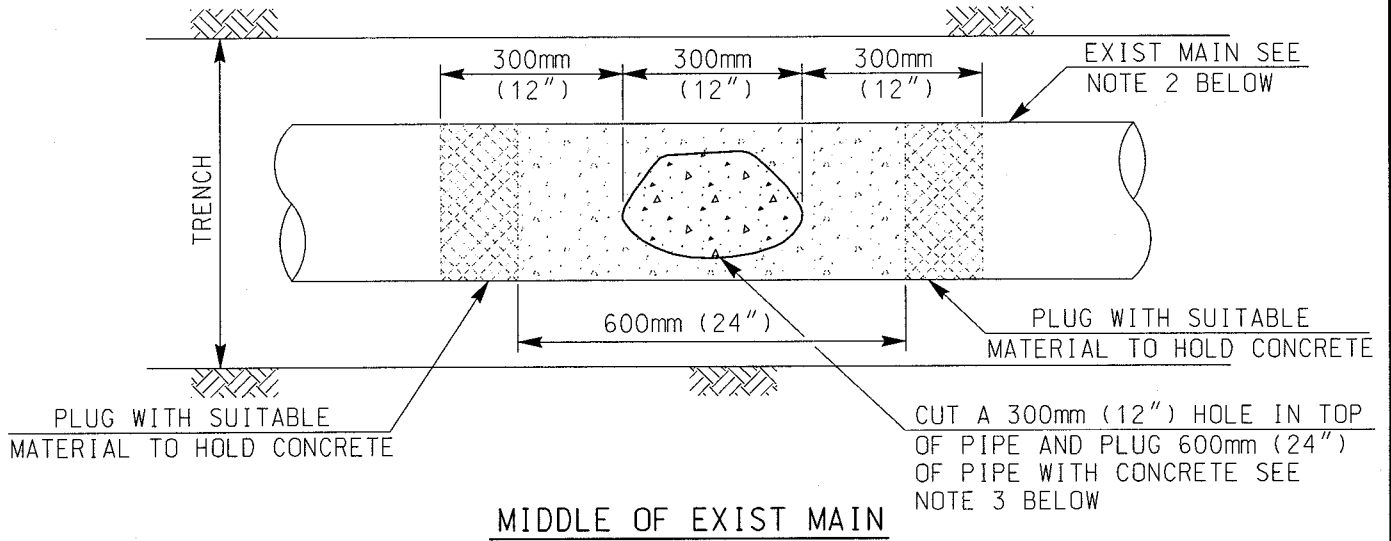
PIPE BEDDING AND TRENCH BACKFILL
FOR POTABLE AND RECYCLED WATER

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 08/03/2018

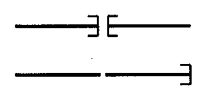
DRAWING NUMBER: WP-02

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 12:34:40 PM
 PLOT: TBL: ... \WAS-9 12 10.tbl
 A9a10



NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) WATER AND RECYCLED WATER MAINS AND SEWER LATERALS 100mm (4") DIAMETER AND SMALLER SHALL HAVE A SHORT SECTION OF PIPE REMOVED AND PIPE ENDS ENCASED IN CONCRETE
- 3) EXISTING MAIN TO BE PLUGGED WITH CONCRETE OR PRESSURE GROUTED AT INTERVALS OF ABOUT 61m (200') OR AS DIRECTED BY THE DISTRICT ENGINEER
- 4) EXISTING MAINS 400mm (16") AND LARGER REQUIRE THE ENTIRE LENGTH OF THE PIPE TO BE FILLED BY PRESSURE GROUTING OR BY BLOWN SAND
- 5) EXISTING VALVES SHALL BE TURNED TO THE CLOSED POSITION. REMOVE GATE WELL AND REPLACE WITH COMPACTED BACKFILL
- 6) FOR ABANDONMENT OF MANHOLES SEE SM-08
- 7) PRIOR DISTRICT APPROVAL REQUIRED FOR CUTTING & PLUGGING

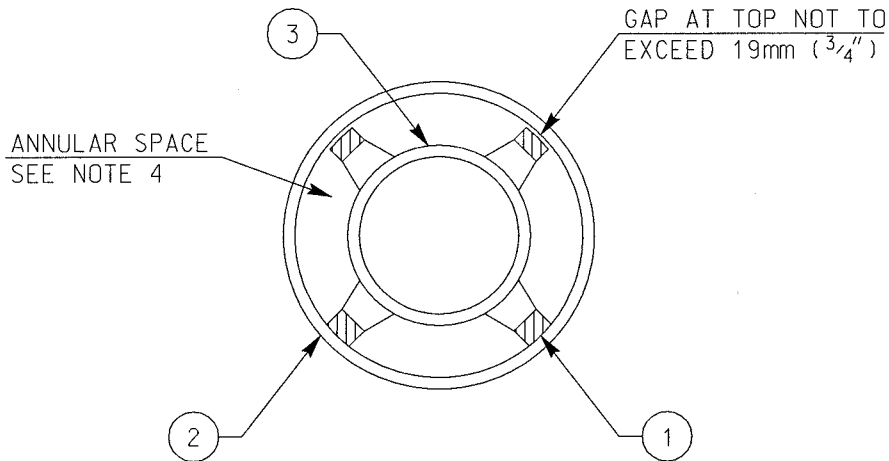
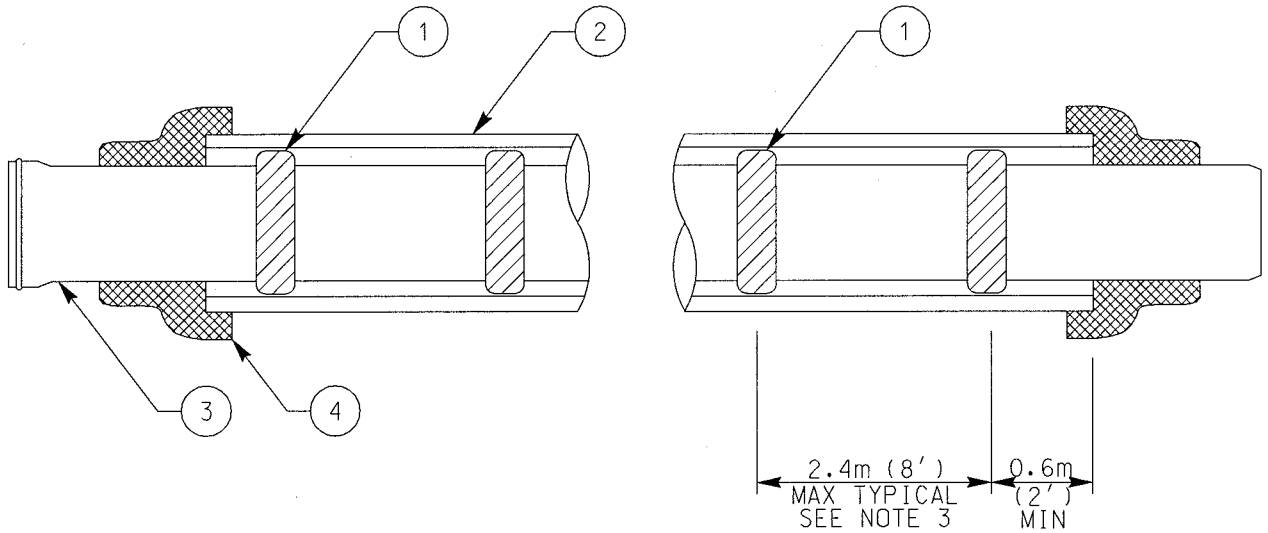


LEGEND ON PLANS

CUTTING AND PLUGGING ABANDONED WATER,
RECYCLED WATER AND SEWER MAINS

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 03/01/2001
 DRAWING NUMBER: WP-03

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NOTES:

- 1) REFER TO SECTION 15121 OF THE SPECIFICATIONS
- 2) CASING SPACERS SHALL BE CENTER RESTRAINED POSITION TYPE
- 3) INSTALL A MINIMUM OF 3 SPACERS PER 6m (20') CARRIER PIPE SECTION EQUALLY SPACED
- 4) THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND THE CASING SHALL NOT BE FILLED WITH ANY MATERIAL UNLESS OTHERWISE NOTED ON PLANS
- 5) IN AREAS WHERE A STEEL CASING IS TO BE USED THE INSTALLATION SHALL INCLUDE AN ANODE PER WC-11 AND/OR A TEST STATION PER WC-10
- 6) INSTALL WARNING/IDENTIFICATION TAPE & TRACER WIRE AS SHOWN ON WP-01 AND SP-01
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

LEGEND ON PLANS

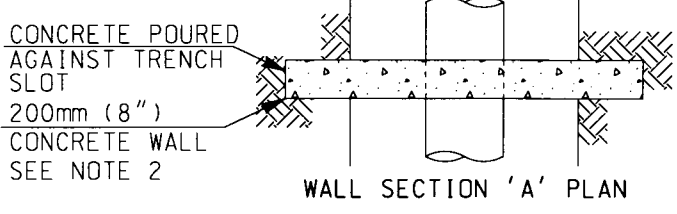
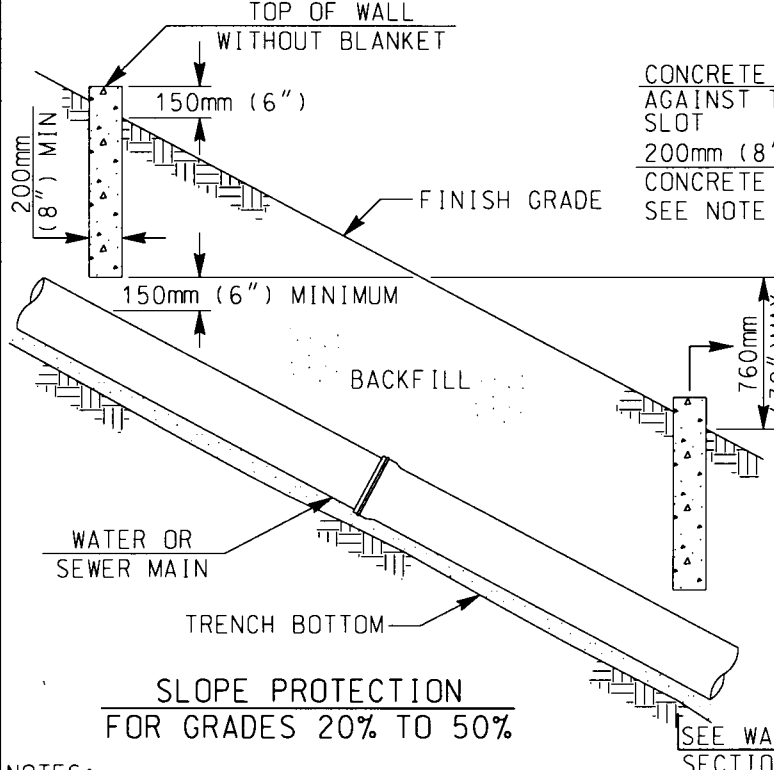
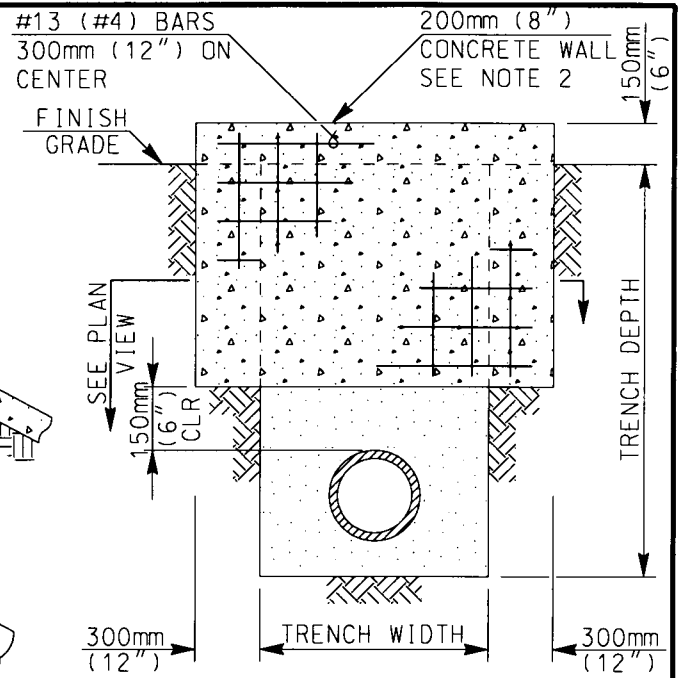
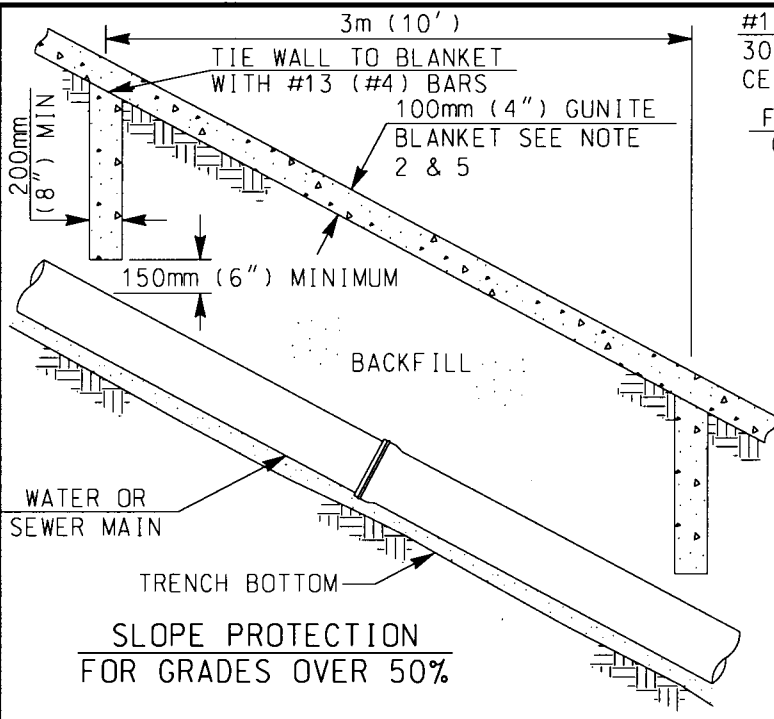
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	STAINLESS STEEL CASING SPACER SEE NOTE 2	3	WATER, RECYCLED WATER OR SEWER MAIN "CARRIER PIPE"
2	PVC OR STEEL CASING SEE NOTE 4 & 5	4	CASING END SEAL

PIPE CASING INSTALLATION

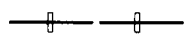
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WP-04



- NOTES:
- 1) REFER TO SECTION 02202 OF THE SPECIFICATIONS
 - 2) DETAILS SHOWN REPRESENT THE MINIMUM REQUIRED. THE PROJECT ENGINEER IS REQUIRED TO PROVIDE A SUBMITTAL TO THE DISTRICT FOR REVIEW AND APPROVAL BY THE DISTRICT ENGINEER PRIOR TO INSTALLATION
 - 3) WALLS SHALL BE REINFORCED CONCRETE OR 200mm x 200mm x 400mm (8" x 8" x 16") CONCRETE BLOCK, REINFORCED AND ALL CORES FILLED WITH GROUT SEE SPECIFICATIONS (ALTERNATE 1)
 - 4) FOR GRADES OVER 50%, SLOPE PROTECTION SHALL ALSO INCLUDE AC PAVING, CONCRETE SLAB OR GUNITE BLANKET PLACED OVER THE PIPELINE ALIGNMENT
 - 5) 100mm (4") GUNITE BLANKET WITH 150mm (6") SQUARE x 10 GAGE (6 x 6 - W1.4 x W1.4) WIRE FABRIC AT THE ENGINEERS DESCRETION

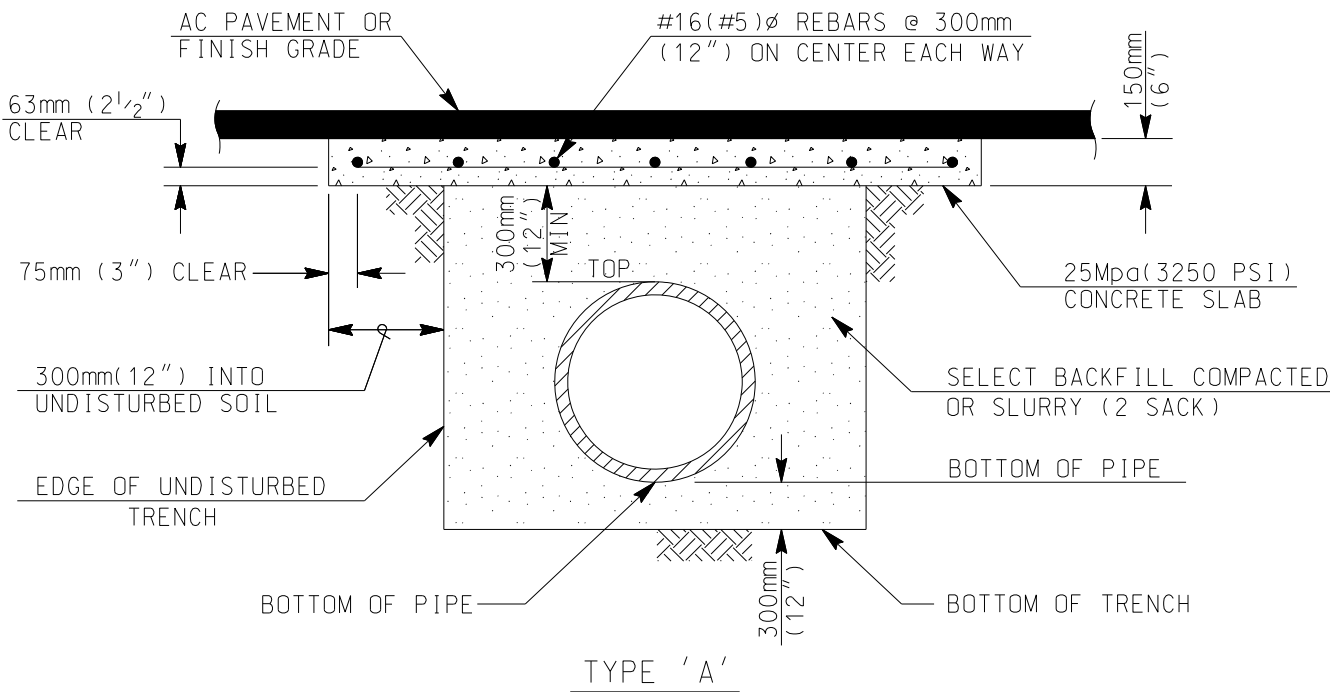


LEGEND ON PLANS

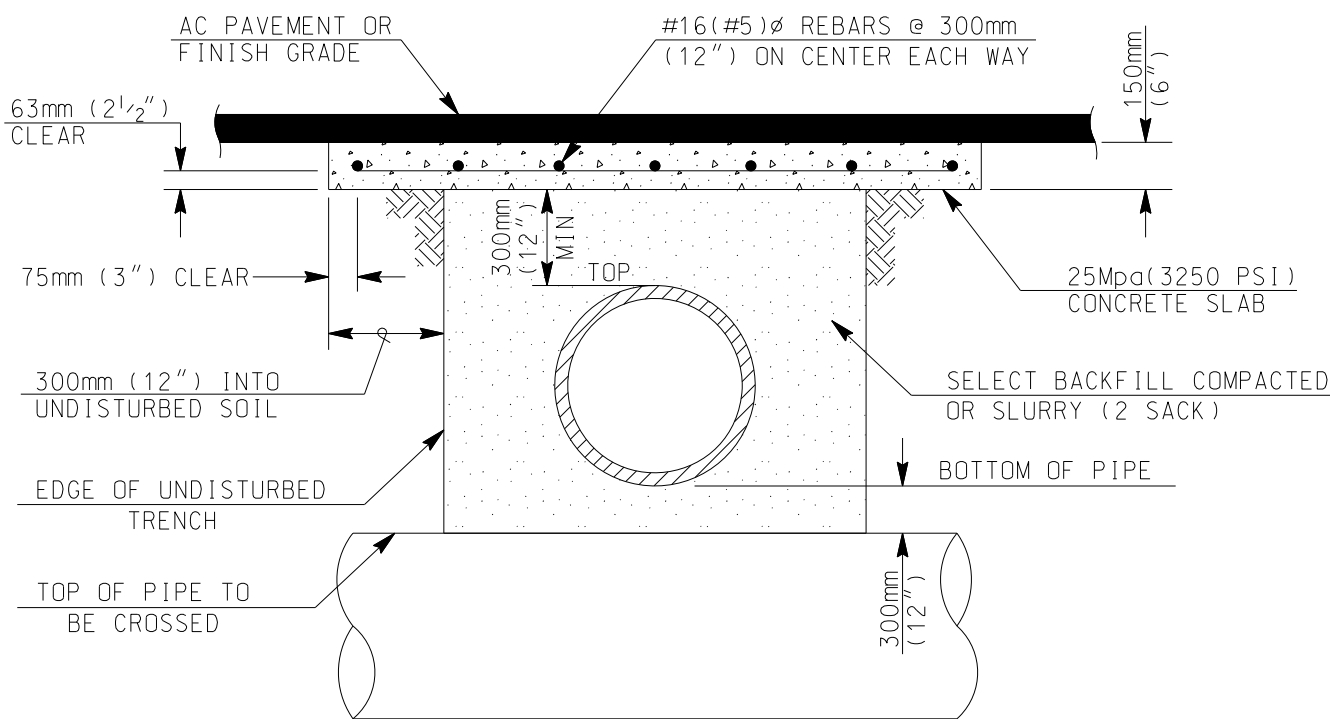
SLOPE PROTECTION INSTALLATIONS

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 07/30/2007
 DRAWING NUMBER: WP-05

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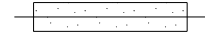
TYPE 'A'



TYPE 'B'

NOTE:

- 1) THE DETAILS SHOWN REPRESENT THE MINIMUM REQUIRED. THE PROJECT ENGINEER IS REQUIRED TO PROVIDE A SUBMITTAL TO THE DISTRICT FOR REVIEW AND APPROVAL BY THE DISTRICT ENGINEER PRIOR TO INSTALLATION
- 2) TYPE "A" PROTECTION PAD SHALL BE USED IN AREAS WHERE THE PIPE HAS INSUFFICIENT COVER
- 3) TYPE "B" PROTECTION PAD SHALL BE USED IN AREAS WHERE THE PIPE HAS INSUFFICIENT COVER AT THE CROSSING OF ANOTHER PIPE OR UTILITY



LEGEND ON PLANS

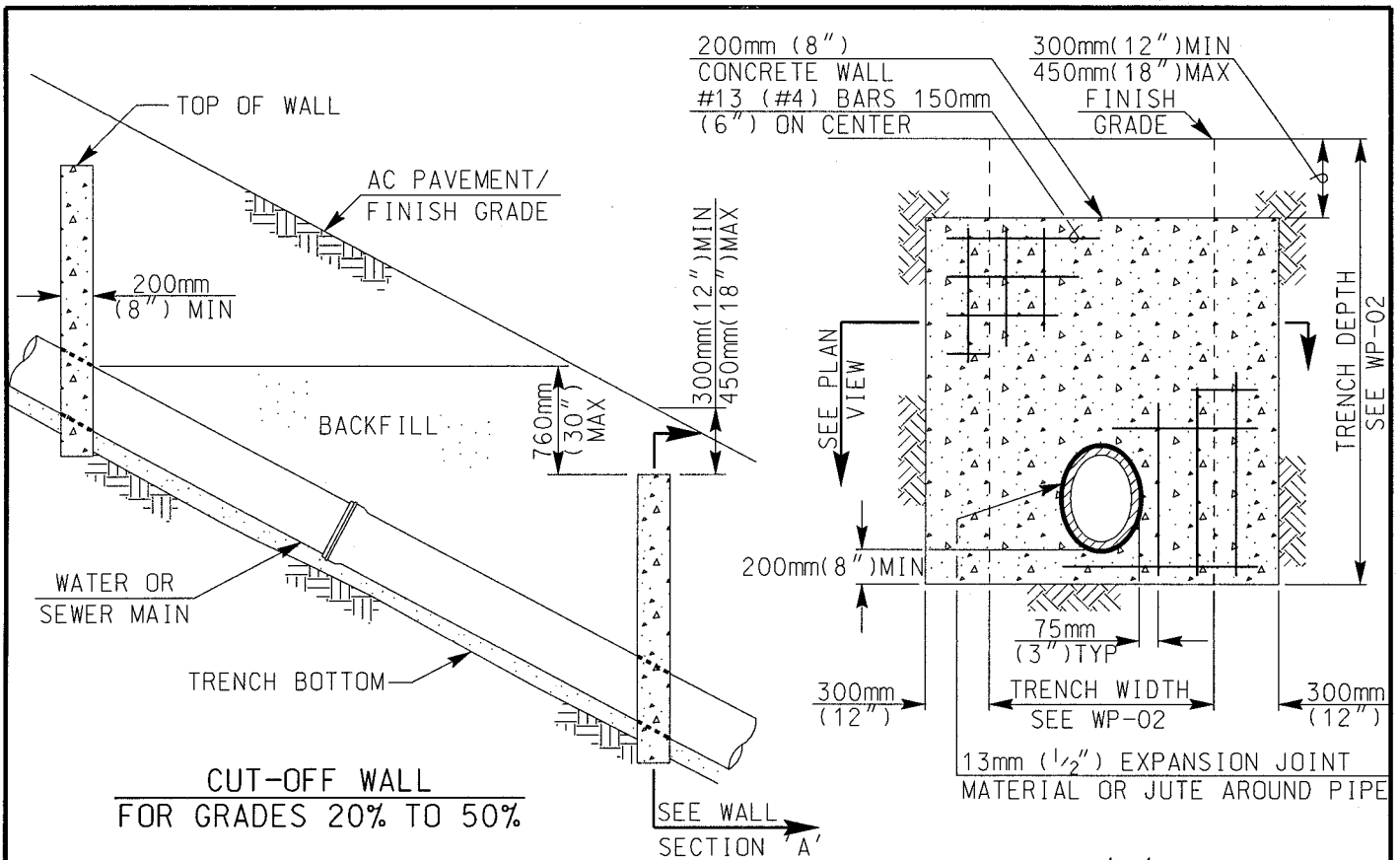
PIPE PROTECTION PAD INSTALLATIONS

WATER AGENCIES STANDARDS

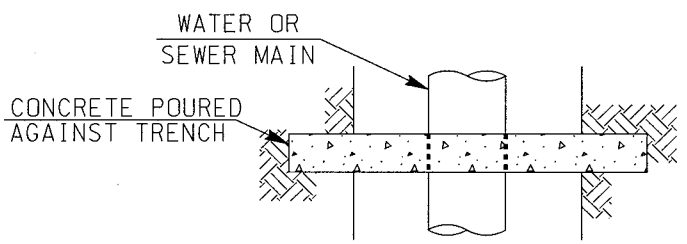
COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WP-06

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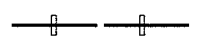
WALL SECTION 'A' ELEVATION



WALL SECTION 'A' PLAN

NOTES:

- 1) REFER TO SECTION 02202 OF THE SPECIFICATIONS
- 2) FOR USE AS TRENCH BACKFILL STABILIZATION IN TRAVELED AREAS
- 3) THE DETAILS SHOWN REPRESENT THE MINIMUM REQUIRED. THE PROJECT ENGINEER IS REQUIRED TO PROVIDE A SUBMITTAL TO THE DISTRICT FOR REVIEW AND APPROVAL BY THE DISTRICT ENGINEER PRIOR TO INSTALLATION
- 4) WALLS SHALL BE REINFORCED CONCRETE OR 200mm x 200mm x 400mm (8" x 8" x 16") CONCRETE BLOCK, REINFORCED AND ALL CORES FILLED WITH GROUT SEE SPECIFICATIONS
- 5) FOR GRADES OVER 50% SEE WP-05



LEGEND ON PLANS

CUT-OFF WALL INSTALLATION
IN TRAVELED AREAS

WATER AGENCIES STANDARDS

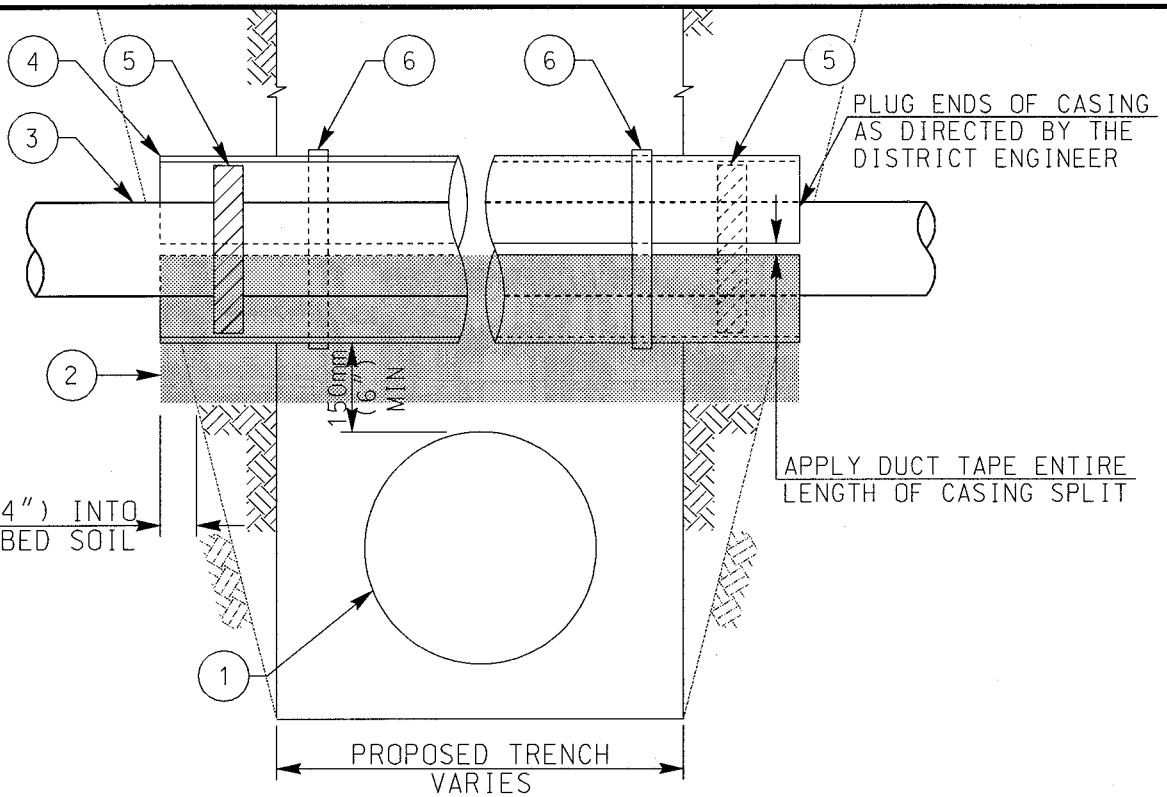
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DRAWING NUMBER: WP-07

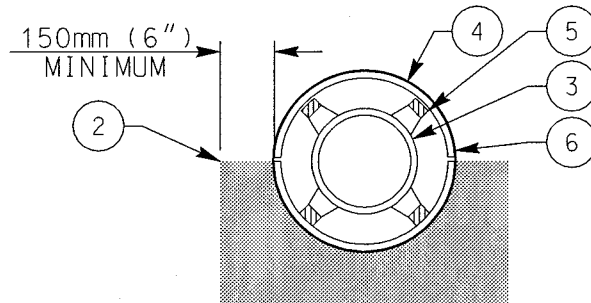
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SEE SECTION BELOW

600mm (24") INTO UNDISTURBED SOIL MINIMUM



SECTION THROUGH PROPOSED UTILITY MAIN



SECTION THROUGH EXISTING WATER

NOTES:

- 1) REFER TO SECTION 01000 OF SPECIFICATIONS FOR PROTECTION OF EXISTING FACILITIES
- 2) TO BE USED ONLY AT THE DISCRETION OF THE DISTRICT ENGINEER
- 3) THIS DETAIL TO BE USED WHEN A WATER MAIN IS TO REMAIN IN SERVICE TO HELP ALLEVIATE FUTURE SETTLEMENT OF AN UNDERCUT MAIN
- 4) CASING SPACERS SHALL BE CENTER RESTRAINED POSITION TYPE, EQUALLY SPACED
- 5) BACKFILL WITH A TWO-SACK SLURRY MIX FROM TOP OF PROPOSED UTILITY TO THE SPRING LINE OF THE EXISTING MAIN

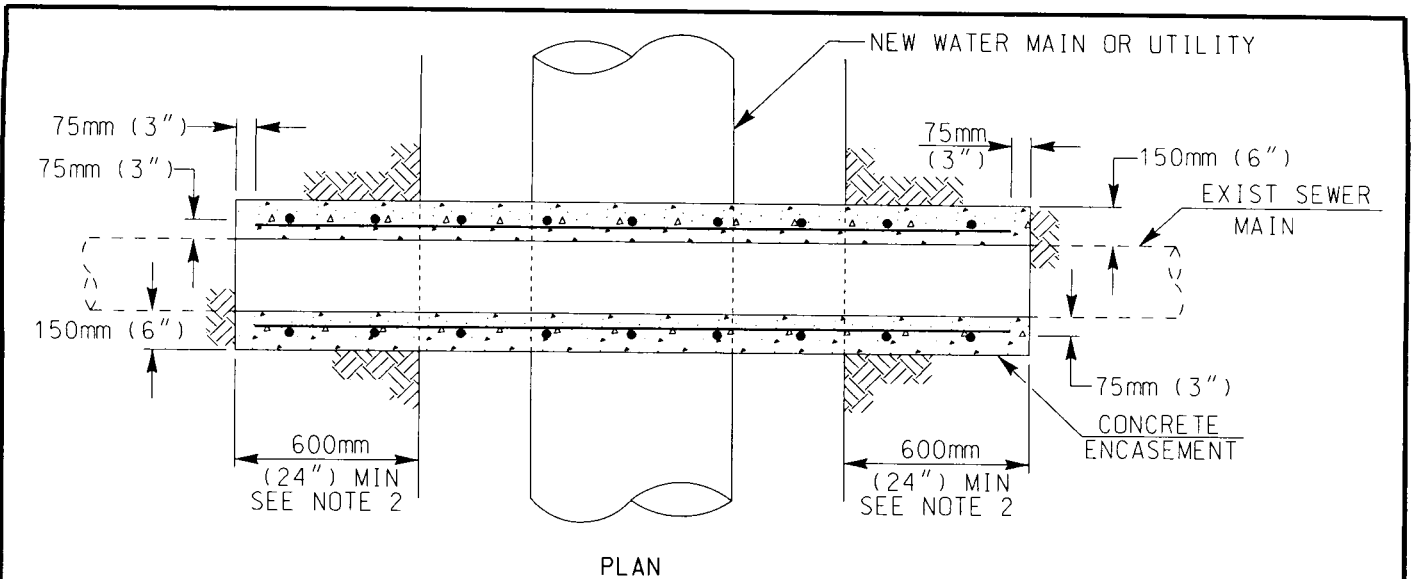
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	PROPOSED UTILITY UNDERCUTTING EXISTING WATER MAIN	5	STAINLESS STEEL CASING SPACER (MINIMUM OF 3), SEE NOTE 4
2	CONCRETE SLURRY, SEE NOTE 5	6	MINIMUM 16mm (5/8") WIDE STAINLESS STEEL BANDS, MINIMUM OF 3 EQUALLY SPACED
3	EXISTING MAIN, SEE NOTES 1, 2, & 3		
4	CLASS 200 PVC SPLIT SLEEVE CASING		

PIPE ENCASEMENT FOR EXISTING WATER MAIN AT UTILITY UNDERCUTS

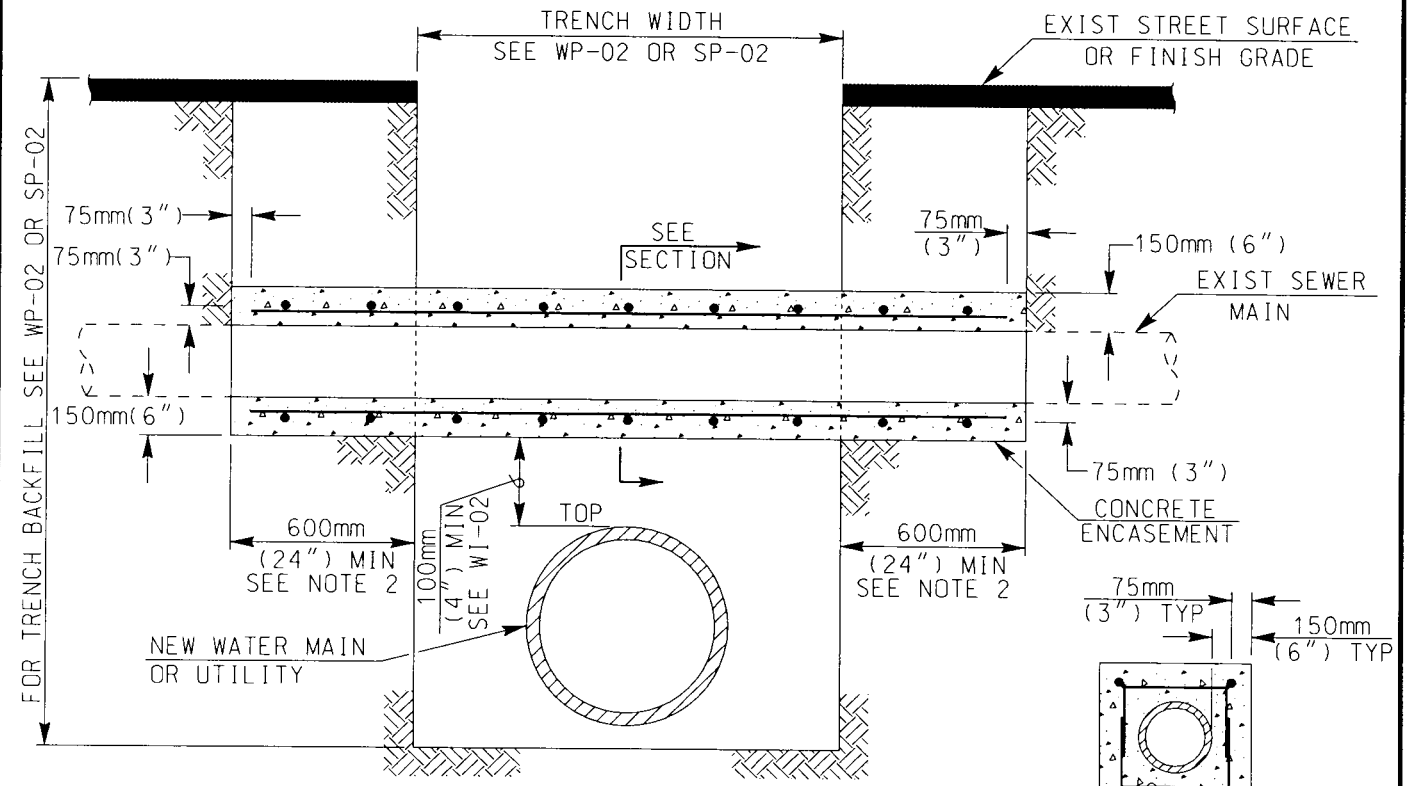
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/03/2001

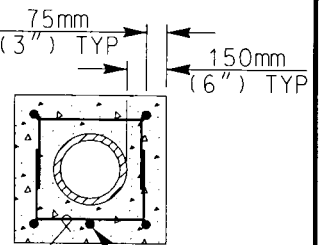
DRAWING NUMBER: WP-08



PLAN



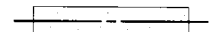
ELEVATION



ENCASEMENT SECTION

NOTE:

- 1) REFER TO SECTION 01000 OF SPECIFICATIONS FOR PROTECTION OF EXISTING FACILITIES
- 2) ENCASEMENT SHALL EXTEND TO FIRST JOINT OR TO A DISTANCE OF 600mm (24") BEYOND BOTH SIDES OF TRENCH WHICHEVER IS GREATER
- 3) FOR PIPE BEDDING AND TRENCH BACKFILL SEE WP-02 OR SP-02



LEGEND ON PLANS

PIPE SUPPORT FOR UNDERCUT SEWER MAINS

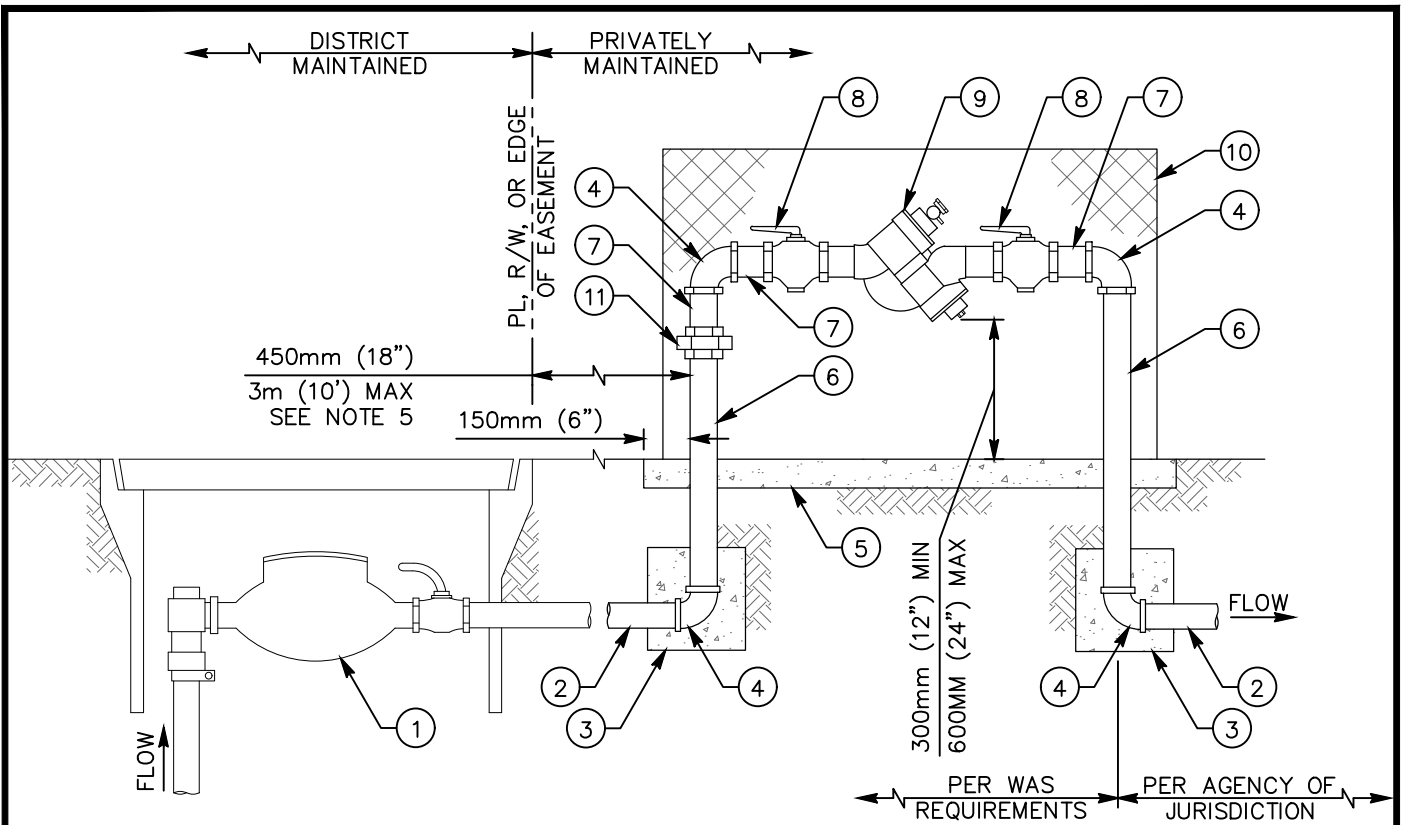
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/01/2002

DRAWING NUMBER: WP-09

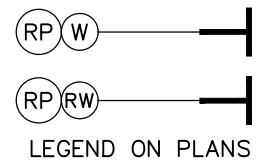
03-OCT-2002 16:12

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NOTES:

- 1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
- 2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 3) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION & REPAIR
- 4) ALL ABOVE GROUND PIPING, UNIONS, ELBOWS, & NIPPLES SHALL BE SOLDERED OR THREADED BRASS
- 5) NO CONNECTIONS OF ANY KIND WILL BE ALLOWED IN THIS AREA, INSPECTION BY THE DISTRICT SHALL TAKE PLACE PRIOR TO BACKFILL. INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN THE METER BOX AND THE RISER TO THE BPD EXCEEDS 450mm (18").
- 6) INSTALL A PRESSURE REDUCING VALVE IN LINE WHEN SYSTEM PRESSURE EXCEEDS 1.03 MPa (150 PSI) OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER
- 7) TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
- 8) BPD & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



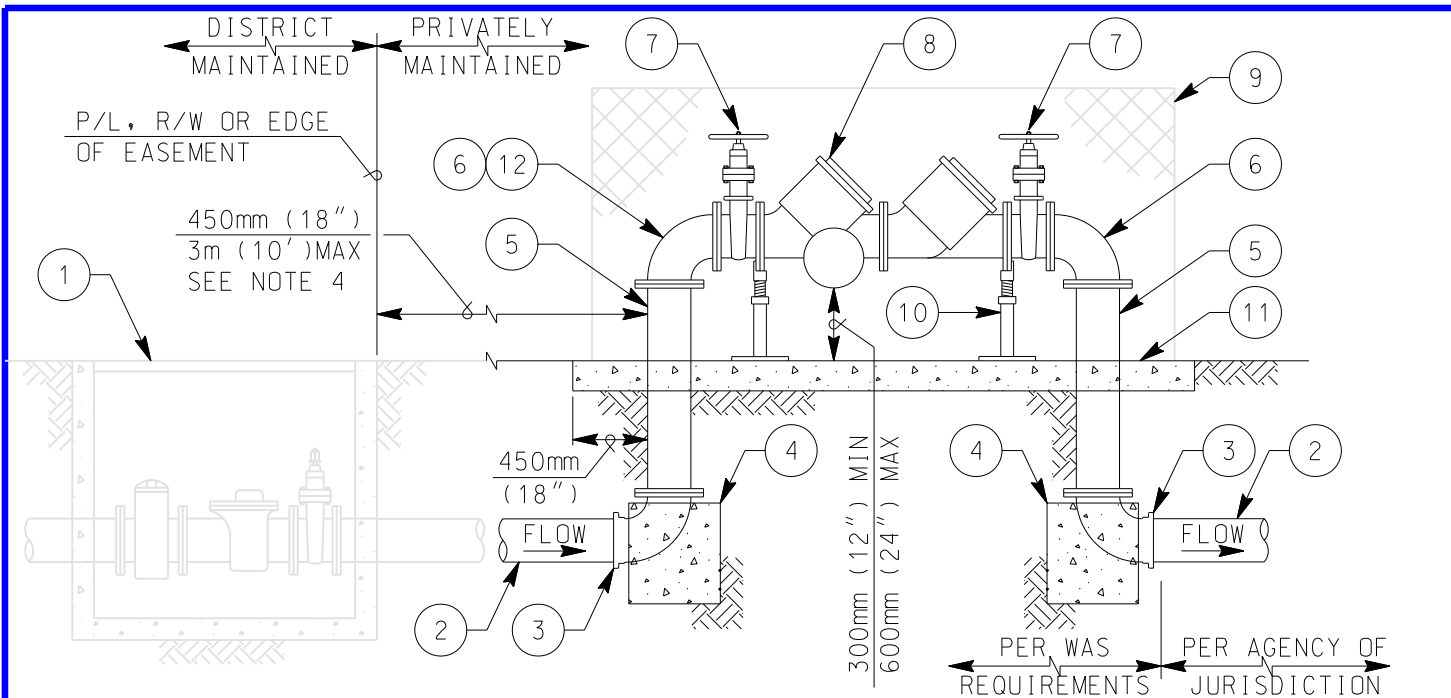
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	METER BOX & METER ASSEMBLY SEE WS-01 & WS-02	⑥	BRASS OR COPPER PIPE, SEE NOTES 4 & 6
②	SCH 80 PVC, BRASS OR COPPER PIPE	⑦	75mm (3") LONG NIPPLE, SEE NOTES 4 & 6
③	CONCRETE THRUST BLOCK, SEE WT-01	⑧	BALL VALVE "SHUT-OFF"
④	90° ELL, SEE NOTE 4	⑨	REDUCED PRESSURE BACKFLOW DEVICE
⑤	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 450mm (18") WIDE	⑩	ENCLOSURE (OPTIONAL)
		⑪	UNION, SEE NOTE 4 (ONLY ONE REQUIRED)

19mm THRU 50mm (3/4" THRU 2") REDUCED PRESSURE BACKFLOW PREVENTION DEVICE

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/12/2020

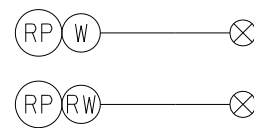
DRAWING NUMBER: WR-01



NOTES:

- 1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
- 2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 3) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION & REPAIR
- 4) INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN THE METER BOX AND THE RISER TO THE BPD EXCEEDS 450mm (18"). NO CONNECTIONS OF ANY KIND WILL BE PERMITTED IN THIS AREA, INSPECTION REQUIRED PRIOR TO BACKFILL
- 5) INSTALL AN ANGLE PRESSURE REDUCING VALVE IN LIEU OF THE FIRST 90° ELL WHEN SYSTEM PRESSURE EXCEEDS 1.03 MPa (150 PSI) OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER
- 6) TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
- 7) BPD & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

DETAIL 'A'
SEE NOTE 5



LEGEND ON PLANS

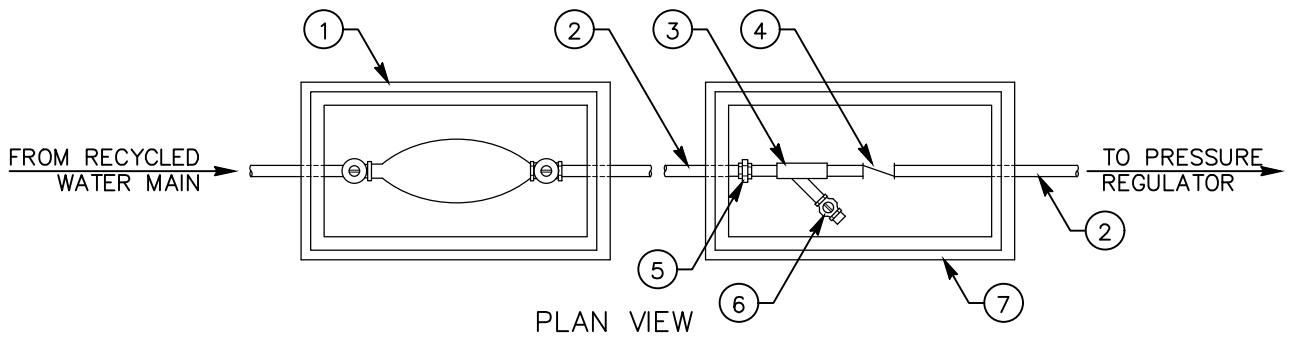
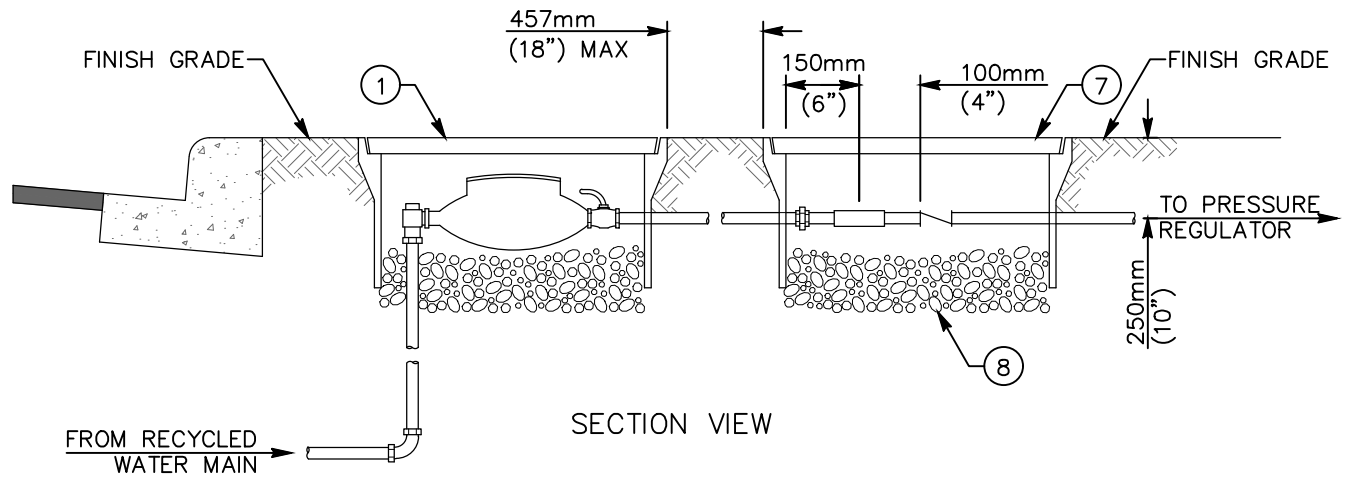
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER VAULT & METER ASSEMBLY, SEE WS-04	8	REDUCED PRESSURE BACKFLOW DEVICE
2	PVC OR DUCTILE IRON PIPE	9	ENCLOSURE (OPTIONAL)
3	FLG x FLG OR MJ/PO x FLG 90° BEND	10	ADJUSTABLE VALVE SUPPORT
4	CONCRETE THRUST BLOCK SEE WT-01	11	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 900mm (36") WIDE
5	FLANGED DUCTILE IRON PIPE	12	FLANGED ANGLE PRESSURE REDUCING VALVE SEE NOTE 5
6	FLANGED 90° BEND, SEE NOTE 5		
7	FLANGED RESILIENT WEDGE GATE VALVE		

75mm (3") AND LARGER REDUCED PRESSURE BACKFLOW PREVENTION DEVICE

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: WR-02



POC SEQUENCE

NOTES:

- 1) REFER TO SECTION 15151 AND 15152 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB, OR FINISH GRADE
- 3) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 4) WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 5) INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
- 6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST
- 7) A MORE PRESCRIPTIVE METHOD OF BACKFLOW PREVENTION MAY BE REQUIRED AS SHOWN ON THE APPROVED PLANS
- 8) WHEN THE POC SEQUENCE IS MORE THAN 2 FEET, INSTALL A SLEEVE AND ENCASE THE LINE IN SLURRY

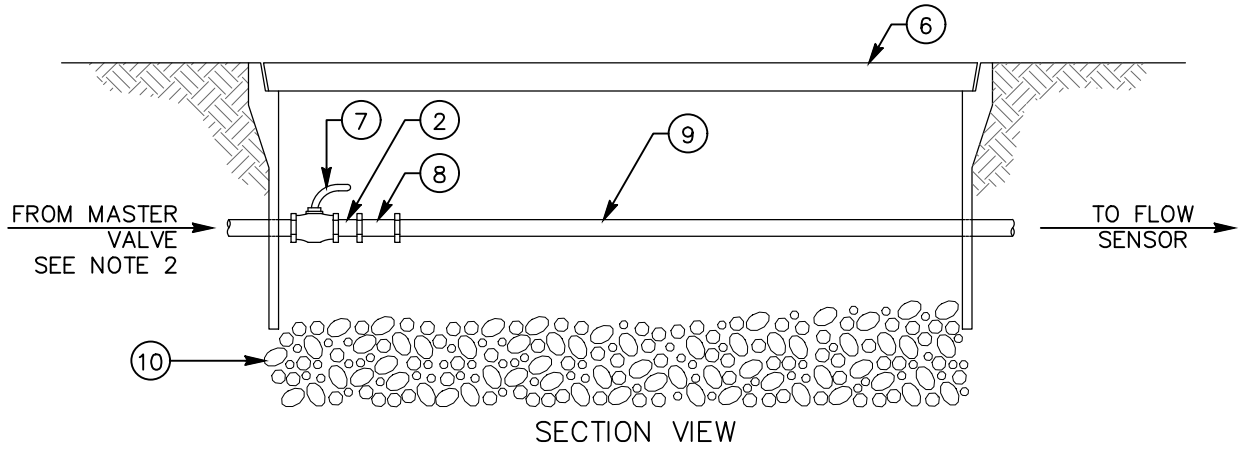
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	METER ASSEMBLY PER WS-01 & WS-02	⑥	13mm (1/2") BRASS BALL VALVE W/BRASS HANDLE
②	BRASS OR COPPER PIPE	⑦	METER BOX WITH LID 250mm x 500mm (10"x20") OR 425mm x 750mm (17"x30")
③	WYE STRAINER, SEE NOTE 5	⑧	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
④	BRASS CHECK VALVE		
⑤	SCREWED BRASS UNION		

25mm (1") AND 50mm (2")
RECYCLED WATER IRRIGATION
CHECK VALVE INSTALLATION

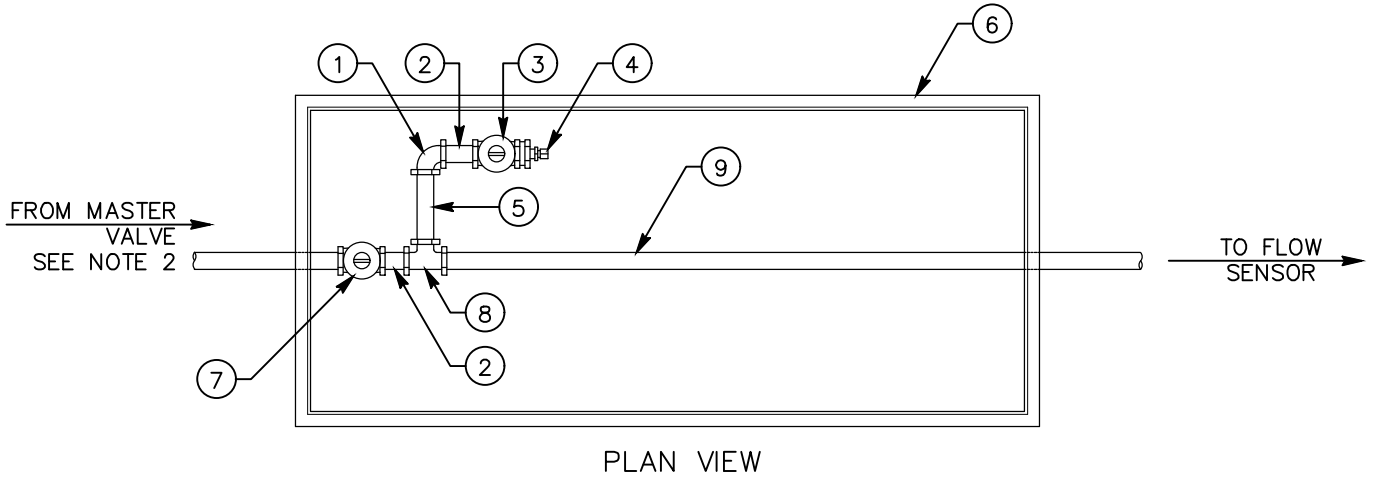
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WR-03



SECTION VIEW



PLAN VIEW



POC SEQUENCE

NOTES:

- 1) REFER TO SECTION 15151 AND 15152 OF THE SPECIFICATIONS
- 2) INSTALL ONE TEST STATION LOCATED DIRECTLY DOWNSTREAM OF MASTER VALVE AND PRESSURE REGULATOR VALVE PER WR-03. TEST STATION MAY BE SUBSTITUTED WITH A QUICK COUPLER AT THE DISCRETION OF THE PURVEYOR
- 3) SECOND CROSS CONNECTION TEST STATION INSTALLED AT FAR END OF ON-SITE MAIN LINE
- 4) BRAND "TS" ON PLASTIC TEST STATION LIDS
- 5) FITTINGS SHALL BE ALL BRASS

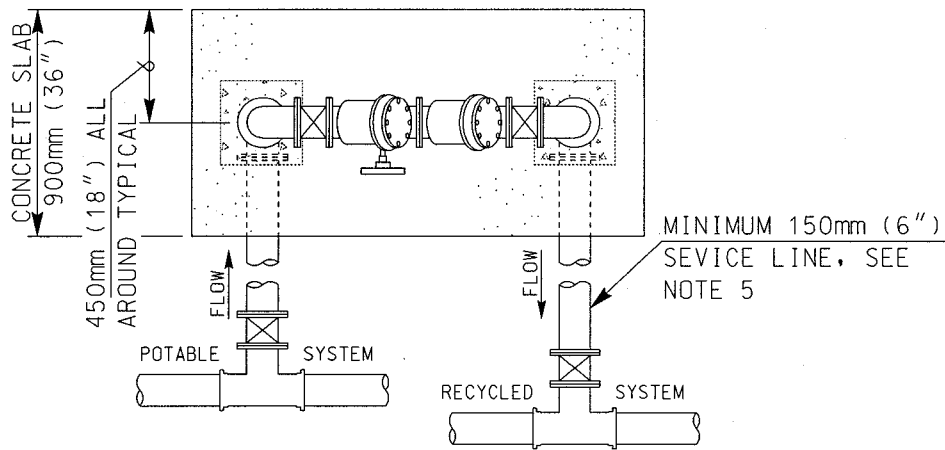
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	19mm (3/4") SCH 80 BRASS 90 ELL	⑥	JUMBO BOX WITH PURPLE COLORED LID
②	19mm (3/4") SCH 80 BRASS CLOSE NIPPLE	⑦	LINE SIZE BRASS BALL VALVE W/BRASS HANDLE
③	19mm (3/4") BRASS LOCKABLE BALL VALVE, FIP x METER SWIVEL	⑧	LINE SIZE x 19mm (3/4") SCH 80 BRASS TEE
④	19mm x 6mm (3/4" x 1/4") BRASS THREADED BUSHING WITH 6.3mm (1/4") NPT x 6.3mm (1/4") FLARED FITTING	⑨	TYPE "K" COPPER OR BRASS PIPE ONLY
⑤	19mm (3/4") SCH 80 BRASS NIPPLE	⑩	150mm (6") BASE OF 10mm (3/8") ROCK

25mm (1") AND 50mm (2")
RECYCLED WATER IRRIGATION
CROSS CONNECTION TEST STATION

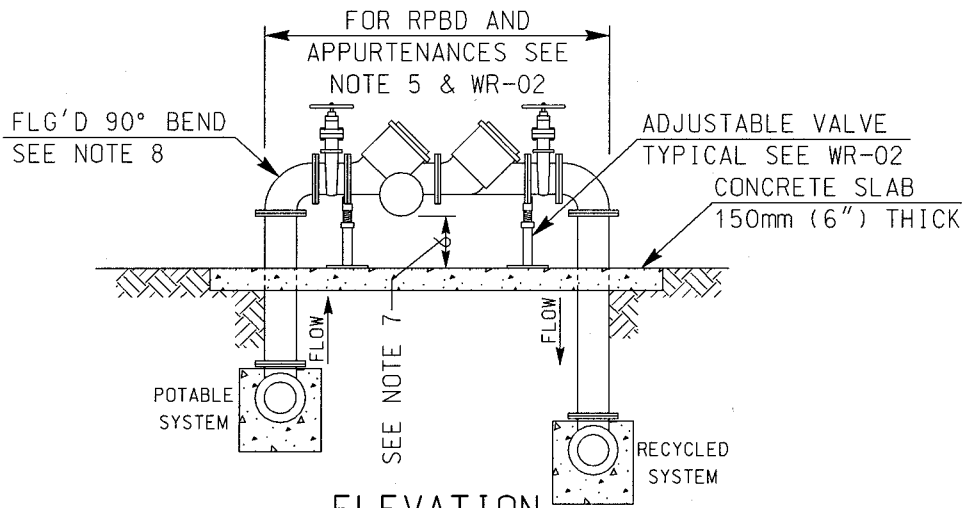
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WR-04



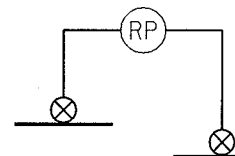
PLAN VIEW



ELEVATION

NOTES:

- 1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
- 2) TO BE USED AS A TEMPORARY CONNECTION SERVING POTABLE WATER TO A SYSTEM SERVED BY FUTURE RECYCLED WATER. TO BE USED ONLY AS DIRECTED BY THE DISTRICT ENGINEER
- 3) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 4) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT IT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION & REPAIR
- 5) THE SERVICE PIPE DIAMETER SHALL BE A MINIMUM 150mm (6"), OR LARGER AS REQUIRED, TO MATCH BACKFLOW PREVENTER. REDUCE SERVICE PIPE AS SHOWN FOR INSTALLATIONS SMALLER THAN 150mm (6")
- 6) ALL ABOVE GROUND PIPING AND FITTINGS SHALL BE FLANGED DUCTILE IRON
- 7) INSTALL BPD SO THAT THE DISTANCE BETWEEN THE BOTTOM OF THE RELIEF DIAPHRAGM AND THE CONCRETE SLAB OR FINISH GRADE IS 300mm (12") MINIMUM & 900mm (36") MAXIMUM
- 8) INSTALL AN ANGLE PRESSURE REDUCING VALVE IN LIEU OF THE FIRST 90° BEND WHEN SYSTEM STATIC PRESSURE EXCEEDS 1.03 MPa (150 PSI). SEE DETAIL "A" ON WR-02
- 9) TESTING SHALL BE CONDUCTED AS CALLED FOR IN SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
- 10) BPD & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 11) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



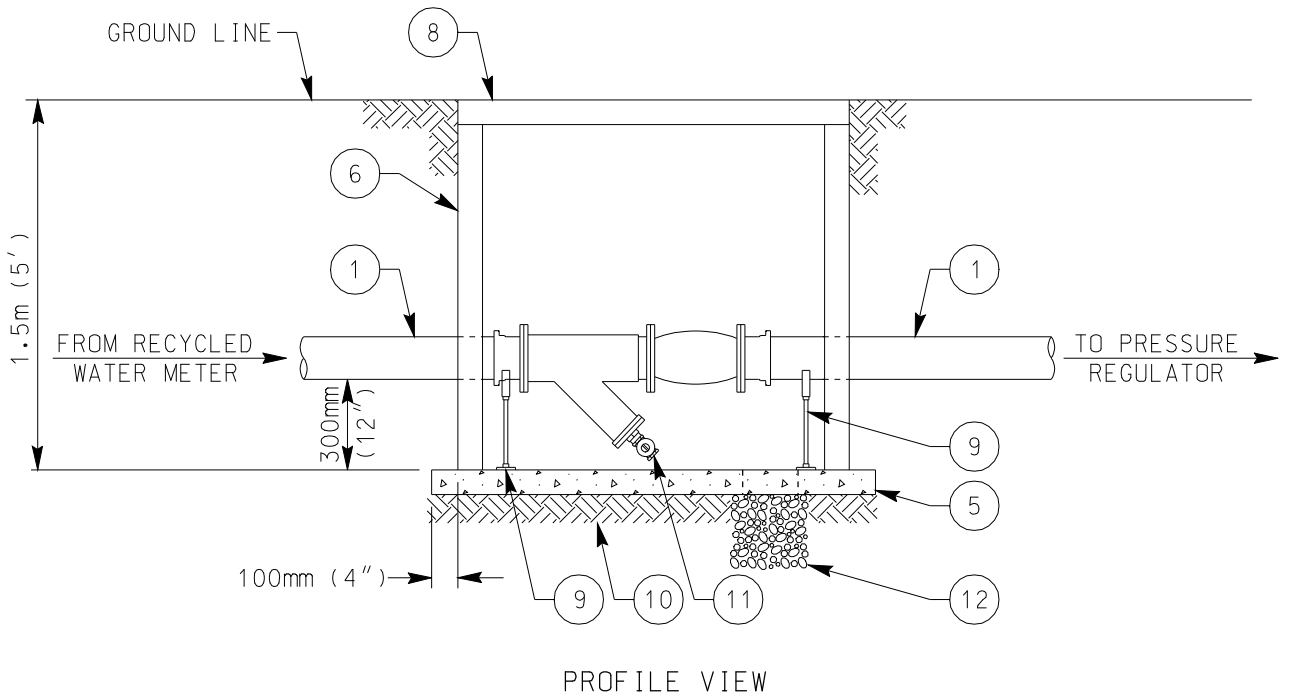
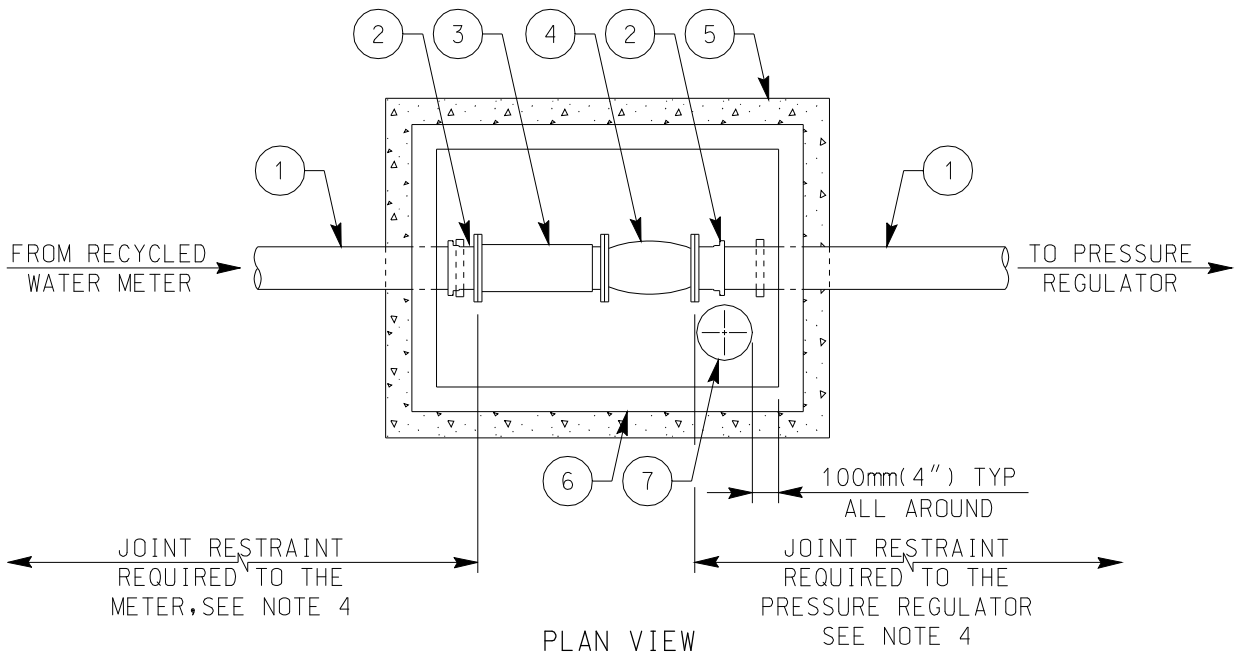
LEGEND ON PLANS

TEMPORARY POTABLE WATER TO RECYCLED WATER INTER-CONNECTION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WR-05



POC SEQUENCE

FOR MATERIAL DESCRIPTIONS AND NOTES SEE WR-06 (2 OF 2)

75mm (3") OR LARGER RECYCLED WATER IRRIGATION WYE STRAINER & CHECK VALVE INSTALLATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/12/2008

DRAWING NUMBER: WR-06 (1 OF 2)

FOR DRAWING OF THE WYE STRAINER AND CHECK VALVE INSTALLATION SEE WR-06 (SHEET 1 OF 2)

NOTES:

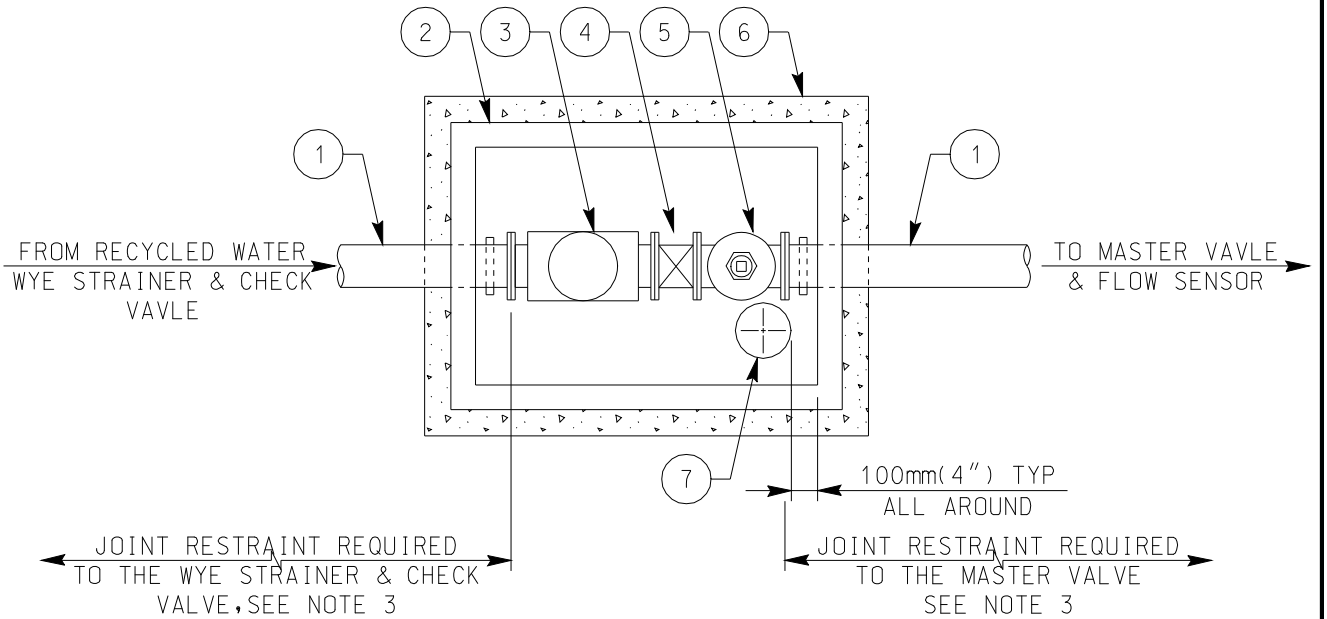
- 1) REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS
- 2) INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
- 3) A MORE STRINGENT METHOD OF BACKFLOW PREVENTION MAY BE REQUIRE AS SHOWN ON THE APPROVED PLANS
- 4) IF PO x FLG ADAPTORS WITH JOINT RESTRAINT CLAMPS ARE INSTALLED, JOINT RESTRAINT SHALL BE IN ACCORDANCE WITH SECTION 15000 OF THE SPECIFICATIONS
- 5) 75mm (3") AND 100mm (4") WYE STRAINER & CHECK VALVE REQUIRES A 1200mm x 1500mm (48" x 60") VAULT 150mm (6") WYE STRAINER & CHECK VALVE REQUIRES A 1200mm x 1800mm (48" x 72") VAULT
- 6) 300mm (12") MINIMUM DISTANCE SHALL BE MAINTAINED BETWEEN SUCCEEDING VAULTS, SUCH AS PRESSURE REGULATOR VAULT & TEST STATION VAULT
- 7) IN AREAS WHERE GROUND WATER IS PRESENT THE DISTRICT ENGINEER MAY REQUIRE A SEALED SUMP TO BE INSTALLED
- 8) HOSE-BIB CONNECTIONS ARE NOT ALLOWED
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	LINE SIZE x REQUIRED LENGTH DUCTILE IRON PIPE	8	HINGED VAULT ACCESS DOOR
		9	ADJUSTABLE PIPE SUPPORT (TYPICAL)
2	LINE SIZE PO x FLG ADAPTOR WITH JOINT RESTRAINT, SEE NOTE 4	10	150mm (6") DG BASE COMPACTED TO 90%
		11	LINE SIZE x 100mm (4") WITH 25mm (1") COMP. FLG. 25mm (1") x 20mm (3/4") NYLON BUSHING WITH 19mm (3/4") BALL VALVE SEE NOTE 8
3	LINE SIZE WYE STRAINER	12	300mm (12") DIAMETER x 300mm (12") DEEP, 19mm (3/4") GRAVEL SUMP SEE NOTE 7
4	LINE SIZE CHECK VALVE		
5	150mm (6") CLASS "B" CONCRETE FLOOR WITH #3 BARS @ 300mm (12") C.C.		
6	FRP VAULT WITH HINGED ACCESS DOOR, SEE NOTE 5		
7	300mm (12") DIAMETER x 150mm (6") LONG PVC PIPE FOR SUMP		

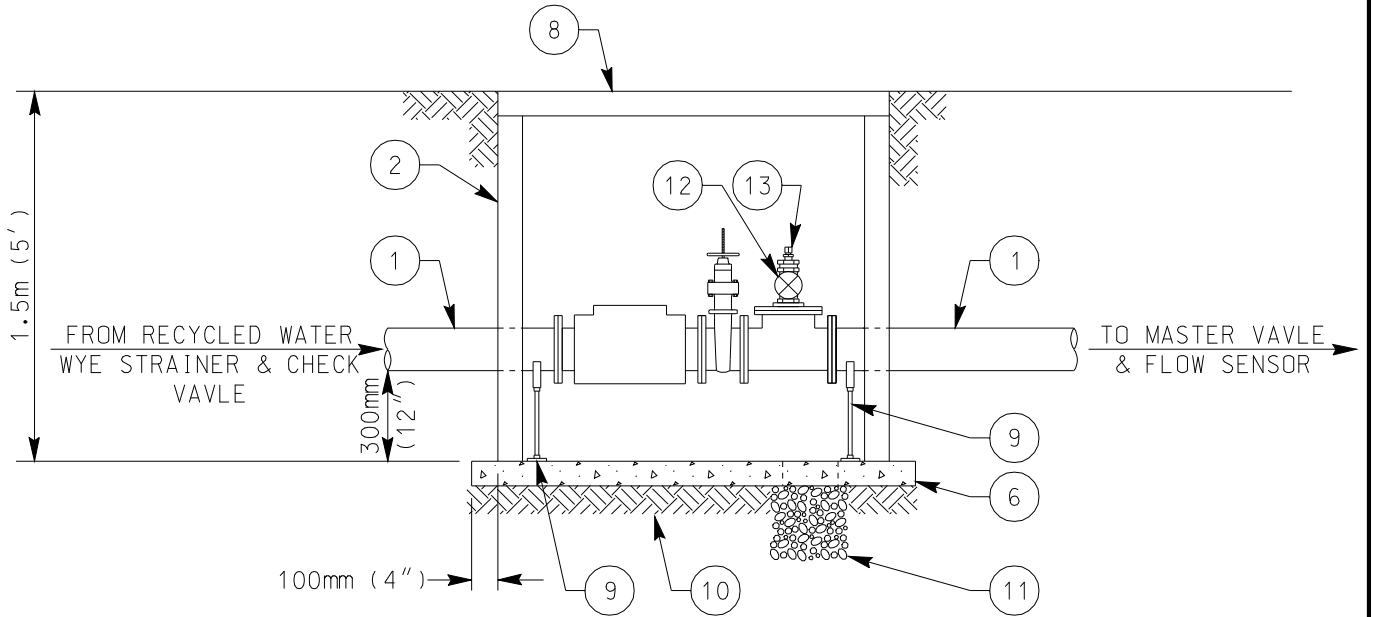
75mm (3") OR LARGER RECYCLED WATER IRRIGATION WYE STRAINER & CHECK VALVE INSTALLATION

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 09/12/2008
 DRAWING NUMBER: WR-06 (2 OF 2)

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PLAN VIEW



PROFILE VIEW



POC SEQUENCE

FOR MATERIAL DESCRIPTIONS AND NOTES SEE WR-07 (2 OF 2)

75mm (3") OR LARGER RECYCLED WATER
IRRIGATION CROSS CONNECTION TEST
STATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/12/2008

DRAWING NUMBER: WR-07 (1 OF 2)

FOR MATERIAL DESCRIPTIONS AND NOTES SEE WR-07 (1 OF 2)

NOTES:

- 1) REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS
- 2) A SECOND CROSS CONNECTION TEST STATION MAY BE REQUIRED TO BE INSTALLED AT THE FAR END OF THE ON-SITE MAIN LINE
- 3) IF PO x FLG ADAPTORS WITH JOINT RESTRAINT CLAMPS ARE INSTALLED, JOINT RESTRAINT SHALL BE IN ACCORDANCE WITH SECTION 15000 OF THE SPECIFICATIONS
- 4) 75mm (3") AND 100mm (4") TEST STATION REQUIRES A 1200mm x 1500mm (48" x 60") VAULT
150mm (6") TEST STATION REQUIRES A 1200mm x 1800mm (48" x 72") VAULT
- 5) 300mm (12") MINIMUM DISTANCE SHALL BE MAINTAINED BETWEEN SUCCEEDING VAULTS, SUCH AS PRESSURE REGULATOR VAULT & TEST STATION VAULT
- 6) IN AREAS WHERE GROUND WATER IS PRESENT THE DISTRICT ENGINEER MAY REQUIRE A SEALED SUMP TO BE INSTALLED
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

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28-SEP-2009 09:51 kgallo

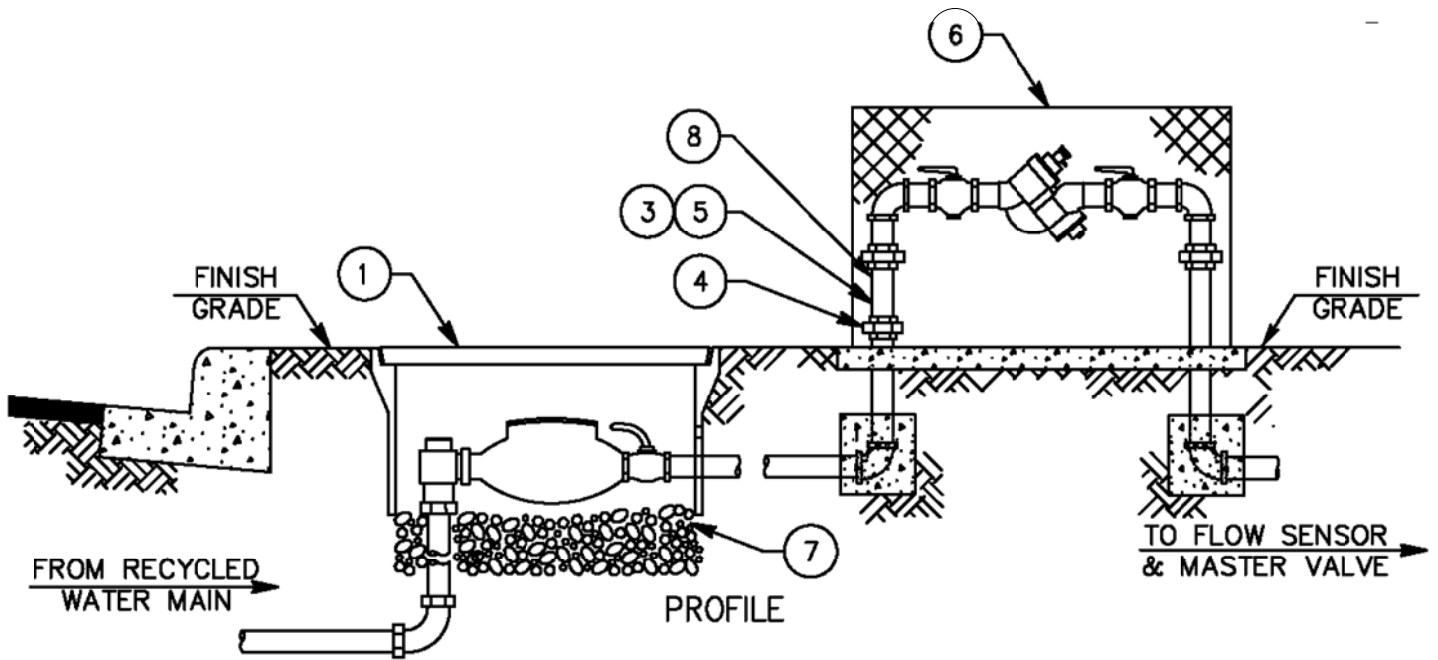
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	LINE SIZE x REQUIRED LENGTH DUCTILE IRON PIPE	8	HINGED VAULT ACCESS DOOR
		9	ADJUSTABLE PIPE SUPPORT (TYPICAL)
2	FRP VAULT WITH HINGED ACCESS DOOR, SEE NOTE 4	10	150mm (6") DG BASE COMPACTED TO 90%
		11	300mm (12") DIAMETER x 300mm (12") DEEP, 19mm (3/4") GRAVEL SUMP SEE NOTE 6
3	LINE SIZE FLANGED CLAY VALVE PRESSURE REGULATOR		
4	LINE SIZE FLANGED RESILIENT WEDGE GATE VALVE	12	19mm (3/4") BRASS LOCKABLE BALL VALVE, FIP x METER SWIVEL WITH 50mm(2") NYLON BUSHING, 50mm x 19mm(2" x 3/4") REDUCING BUSHING
5	LINE SIZE DUCTILE IRON FLANGED TEE		
6	150mm (6") CLASS "B" CONCRETE FLOOR WITH #3 BARS @ 300mm (12") C.C.	13	19mm x 6.5mm (3/4" x 1/4") BRASS THREADED BUSHING WITH 6.5mm (1/4") CAPPED OUTLET
7	300mm (12") DIAMETER x 150mm (6") LONG PVC PIPE FOR SUMP		

75mm (3") OR LARGER RECYCLED WATER IRRIGATION CROSS CONNECTION TEST STATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 09/12/2008

DRAWING NUMBER: WR-07 (2 OF 2)



POC SEQUENCE

NOTES:

- 1) REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS
- 2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 3) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 4) WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 5) INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
- 6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

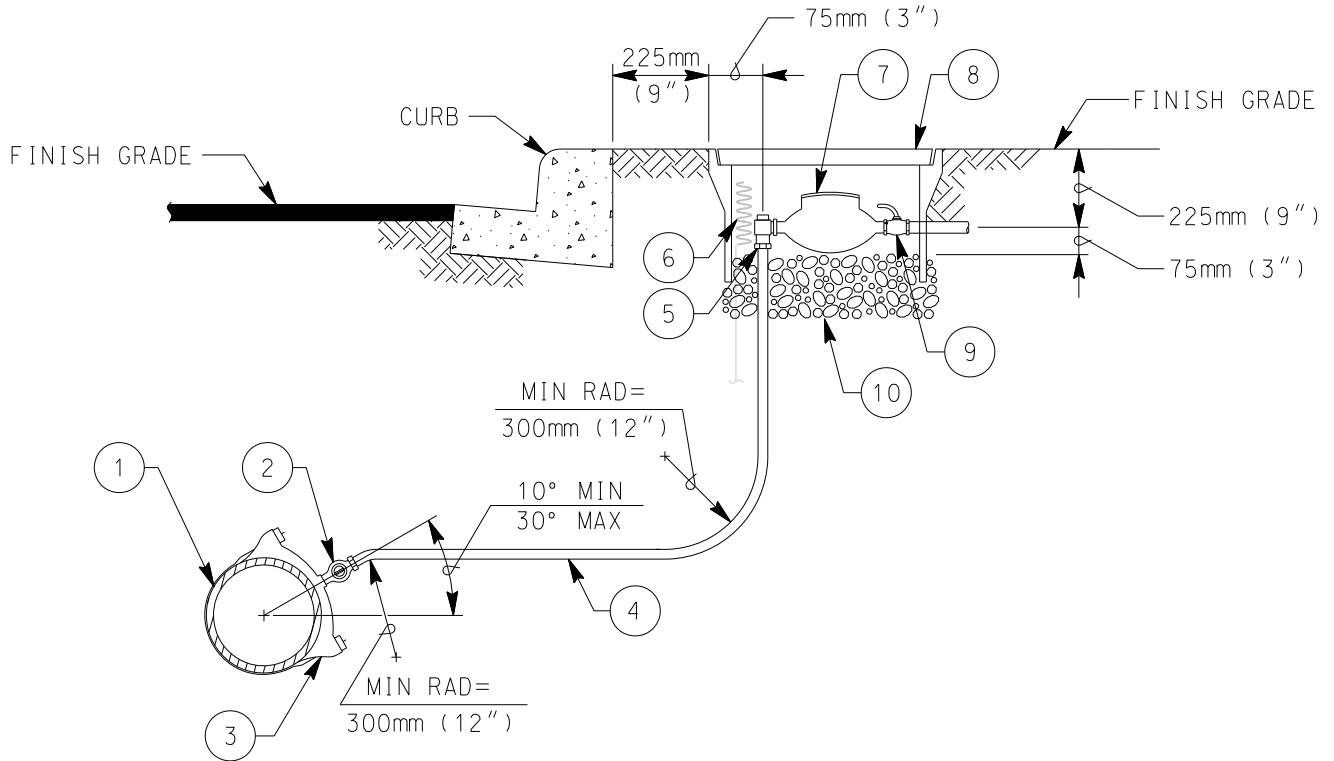
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER ASSEMBLY PER WS-01 & WS-02	6	REDUCED PRESSURE BACKFLOW DEVICE AND OPTIONAL ENCLOSURE
2	BRASS OR COPPER PIPE	7	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
3	WYE STRAINER, SEE NOTE 5		
4	SCREWED BRASS UNION	8	PRESSURE REGULATOR
5	13mm (1/2") BRASS BALL VALVE		

25mm AND 50mm (1" AND 2") RECYCLED WATER IRRIGATION REDUCED PRESSURE BACKFLOW DEVICE INSTALLATION

WATER AGENCIES' STANDARDS

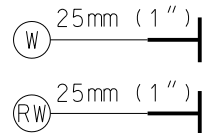
COMMITTEE APPROVAL: 08/03/2018

DRAWING NUMBER: WR-08



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 3) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB, OR FINISH GRADE
- 4) LOCATE METER BOX AS SHOWN ON WS-03
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

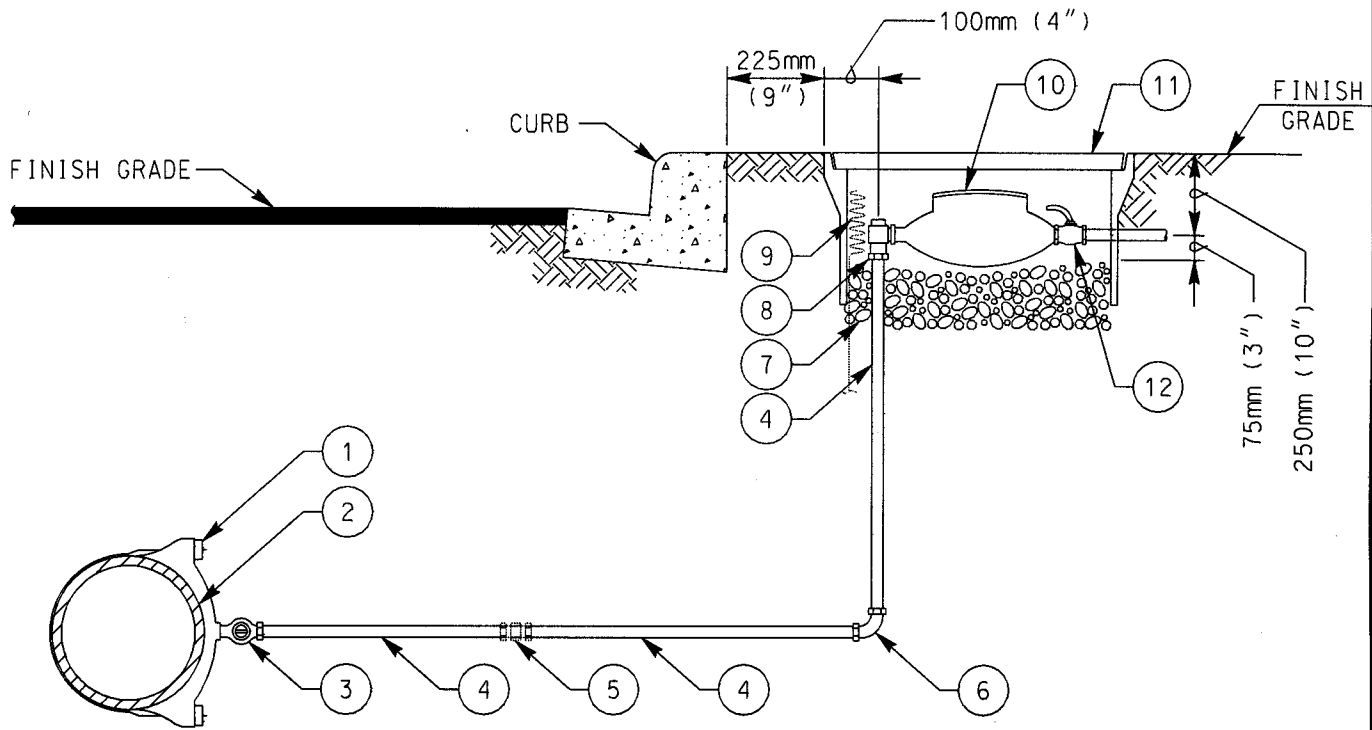
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	WATER MAIN	7	WATER METER FURNISHED & INSTALLED BY THE WATER AGENCY OF JURISDICTION
2	25mm (1") BRONZE CORPORATION STOP	8	METER BOX WITH LID, 250mm x 500mm (10" x 20")
3	SIZE x 25mm (1") SERVICE SADDLE	9	CUSTOMER SHUT-OFF VALVE (LOCKABLE) FURNISHED AND INSTALLED BY THE WATER AGENCY OF JURISDICTION
4	25mm (1") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT	10	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
5	25mm (1") BRONZE ANGLE METER STOP WITH LOCKWING		
6	TRACER WIRE (AS REQUIRED), SEE WP-01		

25mm (1") WATER SERVICE INSTALLATION

WATER AGENCIES' STANDARDS

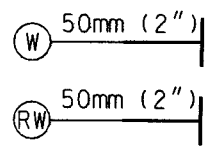
COMMITTEE APPROVAL: 07/28/2014

DRAWING NUMBER: WS-01



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 3) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- 4) LOCATE METER BOX AS SHOWN ON WS-03
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) WATER LATERALS INSTALLED FOR THE USE OF RECLAIMED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



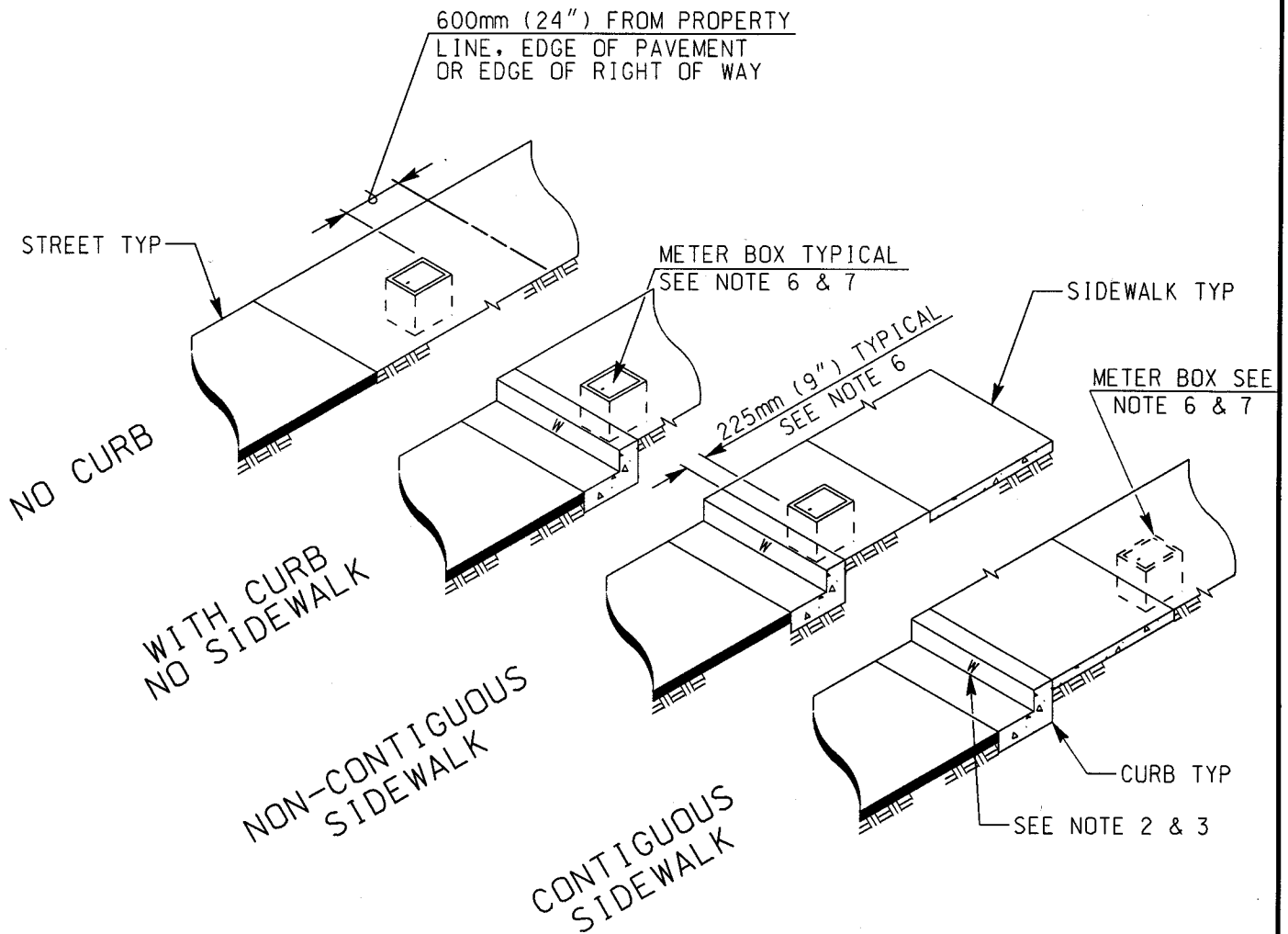
LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	SIZE x 50mm (2") SERVICE SADDLE	8	50mm (2") BRONZE ANGLE METER STOP WITH LOCKWING
2	WATER MAIN		
3	50mm (2") BRONZE CORPORATION STOP	9	TRACER WIRE (AS REQUIRED), SEE WP-01
4	50mm (2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT/RIGID	10	WATER METER FURNISHED AND INSTALLED BY THE WATER AGENCY OF JURISDICTION
5	50mm (2") BRONZE COMPRESSION COUPLING COPPER TO COPPER (IF REQUIRED)	11	METER BOX WITH LID, 425mm x 750mm (17"x 30")
6	50mm (2") 90° BRONZE COMPRESSION ELL	12	CUSTOMER SHUT-OFF VALVE (LOCKABLE)
7	10mm (3/8") ROCK, 100mm x 150mm (4" TO 6") DEEP		

50mm (2") WATER SERVICE INSTALLATION

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 12/31/2003
 DRAWING NUMBER: WS-02

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NOTES:

- 1) REFER TO SECTION 15000 AND 15057 OF THE SPECIFICATIONS
- 2) STAMP OR CHISEL A 50mm (2") HIGH "W" IN CURB FACE TO IDENTIFY POTABLE WATER SERVICE LOCATION
- 3) STAMP OR CHISEL A 50mm (2") HIGH "RW" IN CURB FACE TO IDENTIFY RECYCLED WATER SERVICE LOCATION
- 4) METER BOXES ARE NOT TO BE INSTALLED IN DRIVEWAYS, SIDEWALKS OR WITHIN PAVED ROADWAYS
- 5) MULTIPLE METER BOXES SHALL BE INSTALLED WITH A MINIMUM OF 150mm (6") BETWEEN BOXES
- 6) METER BOX SHALL BE INSTALLED 225mm (9") FROM THE BACK OF BERM, CURB, OR SIDEWALK TYPICAL.
- 7) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF METER BOX
- 8) METER BOXES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

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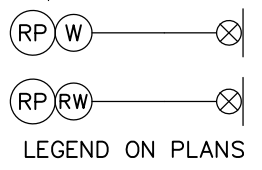
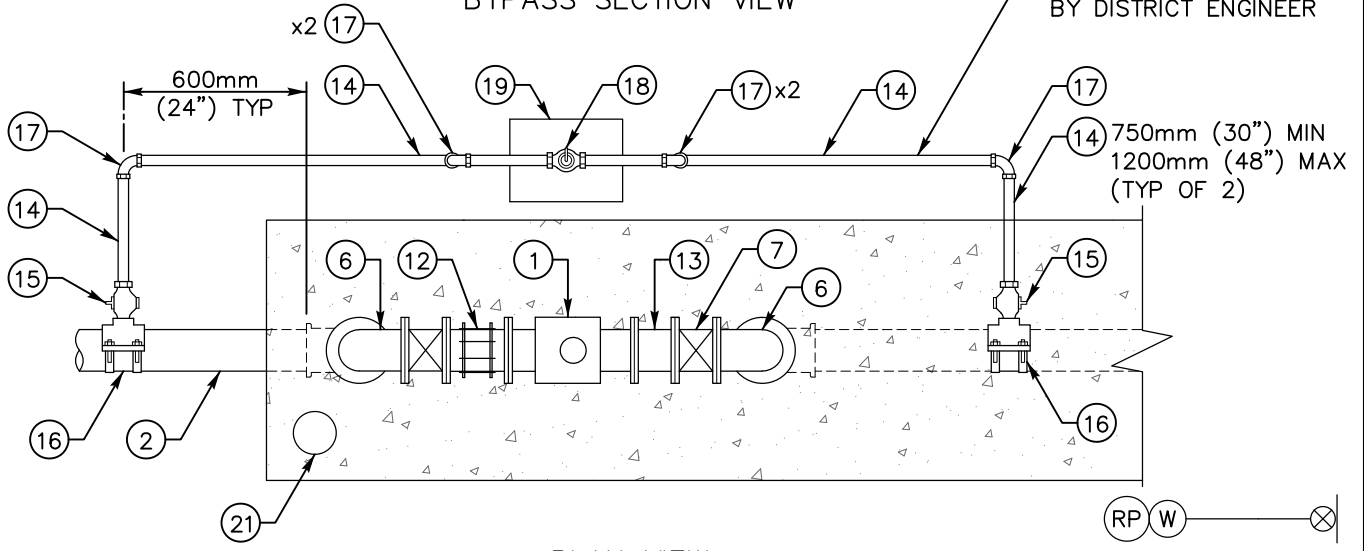
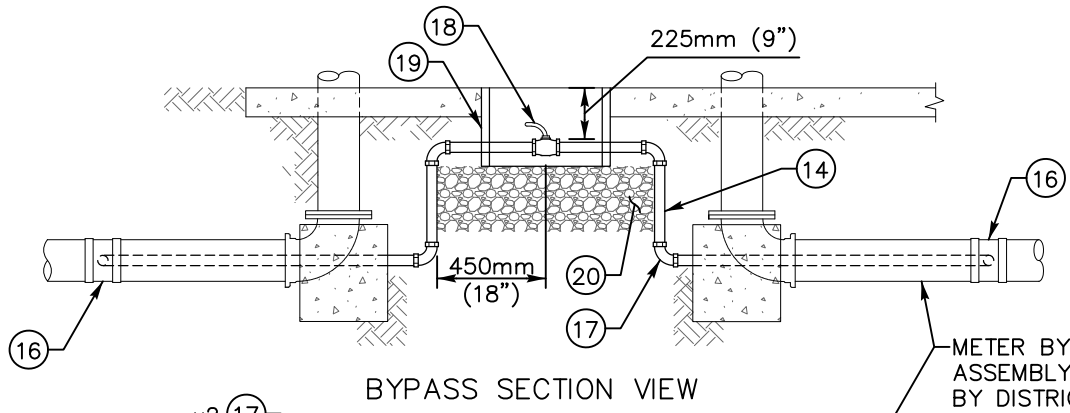
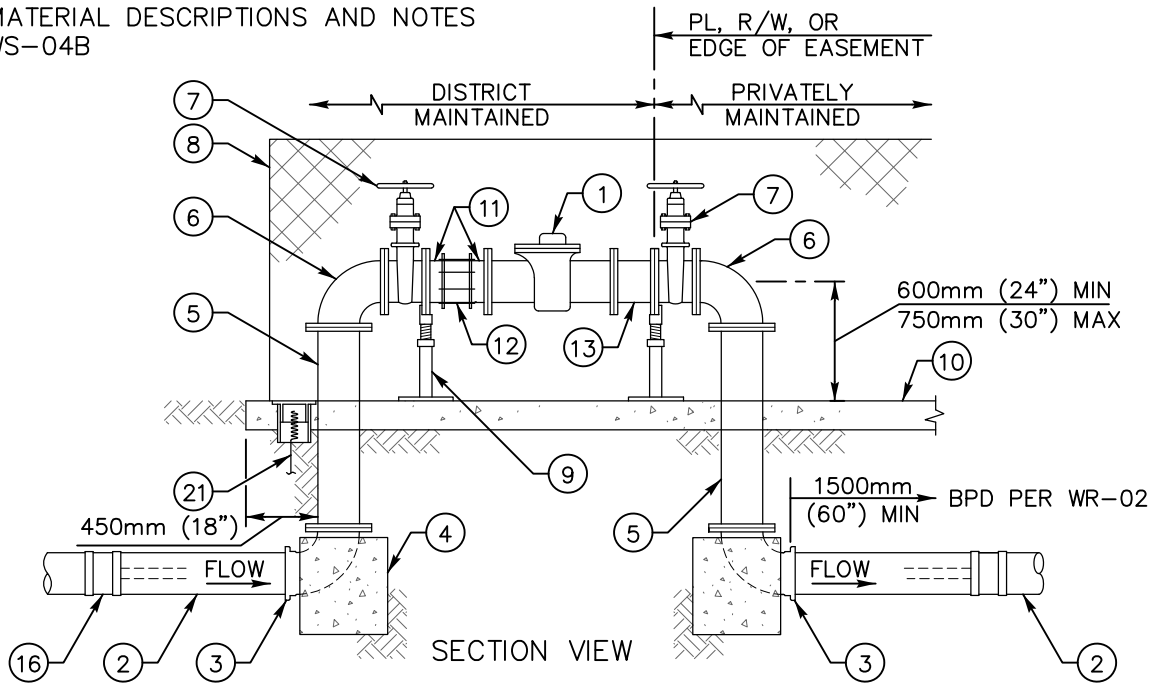
METER BOX LOCATIONS FOR WATER AND RECYCLED WATER APPURTENANCES

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 12/31/2003

DRAWING NUMBER: **WS-03**

FOR MATERIAL DESCRIPTIONS AND NOTES
SEE WS-04B



75mm (3"), 100mm (4") OR 150mm (6")
ABOVE GRADE METER INSTALLATION

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 02/11/2020

DRAWING NUMBER: WS-04A

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FOR DRAWING OF THE METER INSTALLATION SEE WS-04A

NOTES:

- 1) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 2) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION AND REPAIR
- 3) STRAINERS SHALL NOT BE INSTALLED PRIOR TO THE FIRST SHUT-OFF VALVE
- 4) INSTALL A PRESSURE REDUCING VALVE WHEN SYSTEM PRESSURE EXCEEDS 1.03 MPa (150 PSI), WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER, OR AS DIRECTED BY DISTRICT ENGINEER
- 5) APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST
- 7) INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN THE DOWNSTREAM METER RISER TO THE BPD EXCEEDS 1500mm (60"). INSPECTION REQUIRED PRIOR TO BACKFILL
- 8) METER BYPASS SHALL BE 50mm (2") MINIMUM, OR AS DIRECTED BY THE DISTRICT ENGINEER. BYPASS LARGER THAN 50mm (2") WILL REQUIRE A FULL SUBMITTAL

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	METER ASSEMBLY	⑫	MJ SLEEVE W/RESTRAINT JOINTS
②	PVC OR DUCTILE IRON PIPE	⑬	DI SPOOL, LENGTH TO BE DETERMINED BY DISTRICT ENGINEER
③	FLG x FLG OR MJ/PO x FLG 90° BEND	⑭	50mm (2") x REQUIRED LENGTH TYPE "K" COPPER PIPE, REFER TO NOTE 8
④	CONCRETE THRUST BLOCK, SEE WT-01	⑮	50mm (2") BRONZE CORPORATION STOP
⑤	FLANGED DUCTILE IRON PIPE	⑯	LINE SIZE x 50mm (2") SERVICE SADDLE
⑥	FLANGED 90° BEND	⑰	50mm (2") 90° COMPRESSION ELL (TYPICAL)
⑦	FLANGED RESILIENT WEDGE GATE VALVE	⑱	50mm (2") COMPRESSION, LOCKABLE BALL VALVE
⑧	ENCLOSURE AS DIRECTED BY DISTRICT ENGINEER	⑲	17" x 30" METER BOX
⑨	ADJUSTABLE VALVE SUPPORT	⑳	10mm (3/8") ROCK, 100mm TO 150mm (4" - 6") DEEP
⑩	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 900mm (36") WIDE	㉑	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR SEWER PIPE W/CAP & TRACER WIRE PER WP-01
⑪	FLG x PE DUCTILE IRON SPOOL, LENGTH TO BE DETERMINED BY DISTRICT ENGINEER		

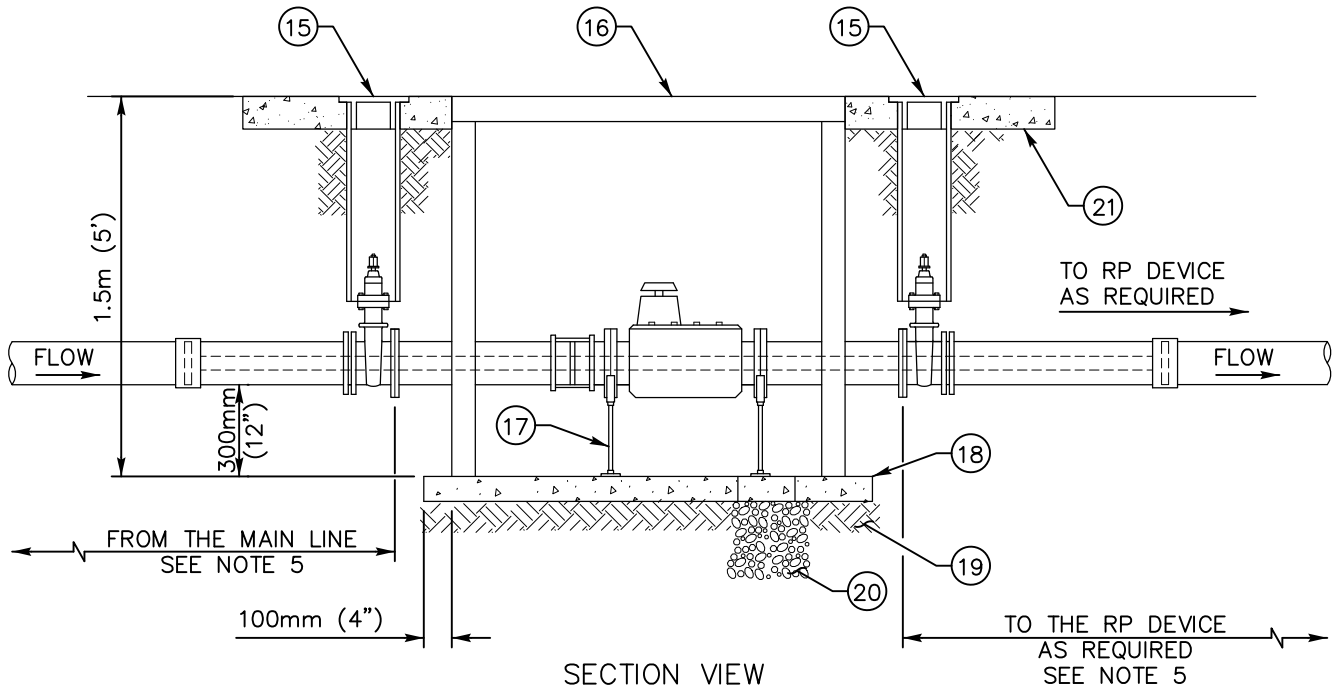
75mm (3"), 100mm (4") OR 150mm (6")
ABOVE GRADE METER INSTALLATION

WATER AGENCIES' STANDARDS

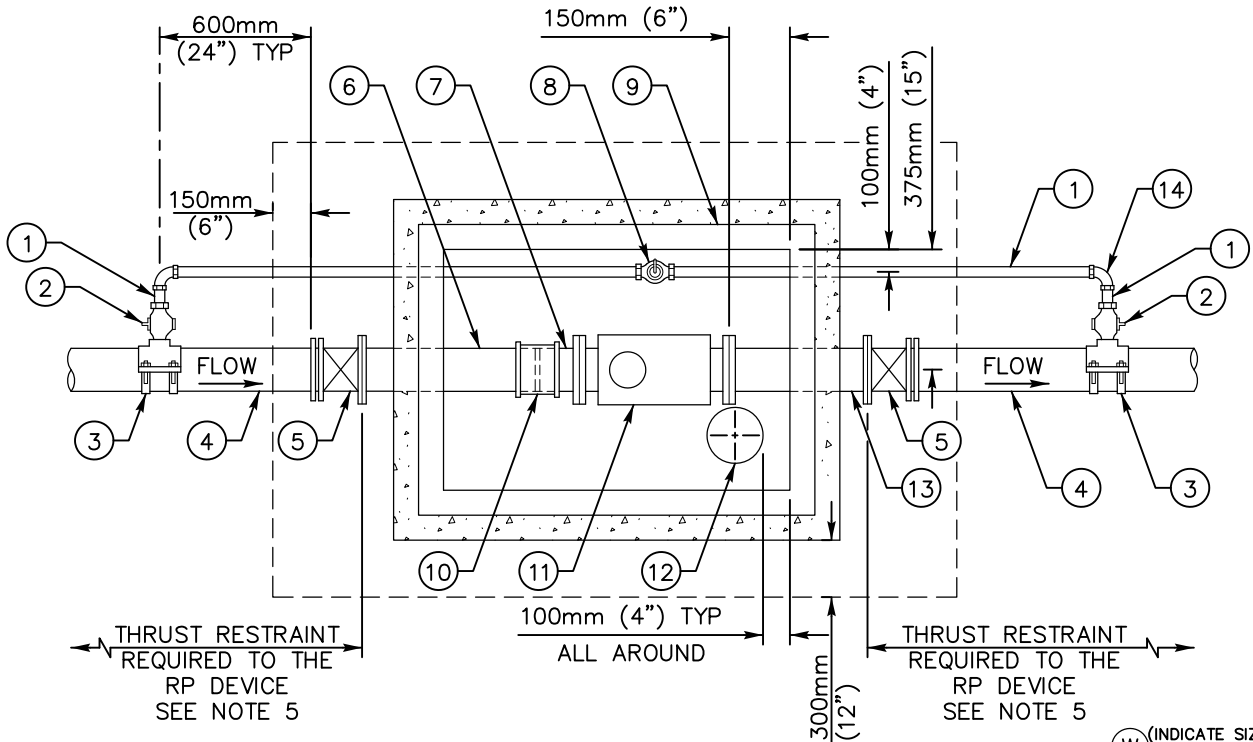
COMMITTEE APPROVAL: 02/11/2020

DRAWING NUMBER: WS-04B

FOR MATERIAL DESCRIPTIONS AND NOTES SEE WS-05B



SECTION VIEW



PLAN VIEW

W (INDICATE SIZE) ⊗

RW (INDICATE SIZE) ⊗

LEGEND ON PLANS

75mm (3"), 100mm (4") OR 150mm (6")
METER INSTALLATION

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 02/11/2020

DRAWING NUMBER: WS-05A

FOR DRAWING OF THE METER INSTALLATION SEE WS-05A

NOTES:

- 1) REFER TO SECTION 06620 OF THE SPECIFICATIONS
- 2) CONCRETE PAD TO BE PLACED INDEPENDENT OF CURB, SIDEWALK, OR OTHER ADJACENT STRUCTURES. A COLD JOINT SHALL BE INSTALLED WHERE THE CONCRETE PAD ABUTS OTHER CONCRETE OR STRUCTURES
- 3) LOCATION OF 75mm (3"), 100mm (4") OR 150mm (6") METER TO BE APPROVED BY DISTRICT ENGINEER IN ACCORDANCE WITH STANDARD DWG WS-06
- 4) 200mm (8") OR 250 (10") METERS TO BE DESIGNED BY AN ENGINEER AND SUBMITTED FOR DISTRICT'S APPROVAL AS NECESSARY ON A CASE-BY-CASE BASIS
- 5) THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH SECTION 15000 OF THE SPECIFICATIONS
- 6) METER BYPASS SHALL BE 50mm (2") MINIMUM, OR AS DIRECTED BY THE DISTRICT ENGINEER. BYPASS LARGER THAN 50mm (2") WILL REQUIRE A FULL SUBMITTAL
- 7) METERS SHALL BE FURNISHED AND INSTALLED BY THE AGENCY OF JURISDICTION
- 8) METERS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 9) IN AREAS WHERE GROUND WATER IS PRESENT THE DISTRICT ENGINEER MAY REQUIRE A SEALED SUMP TO BE CONSTRUCTED
- 10) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061 OF THE SPECIFICATIONS
- 11) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

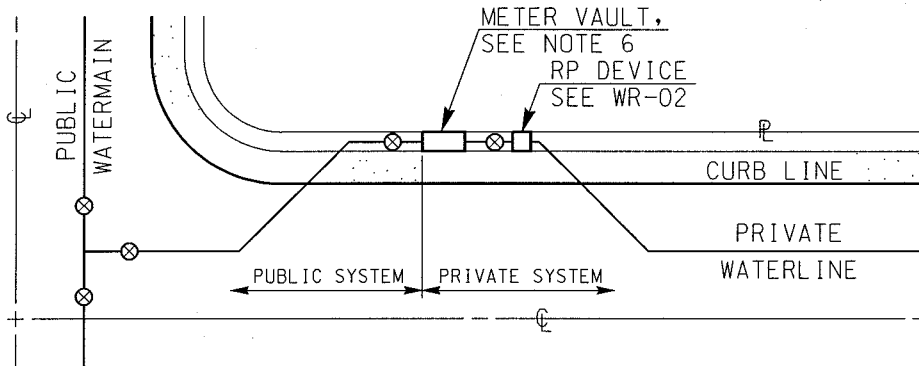
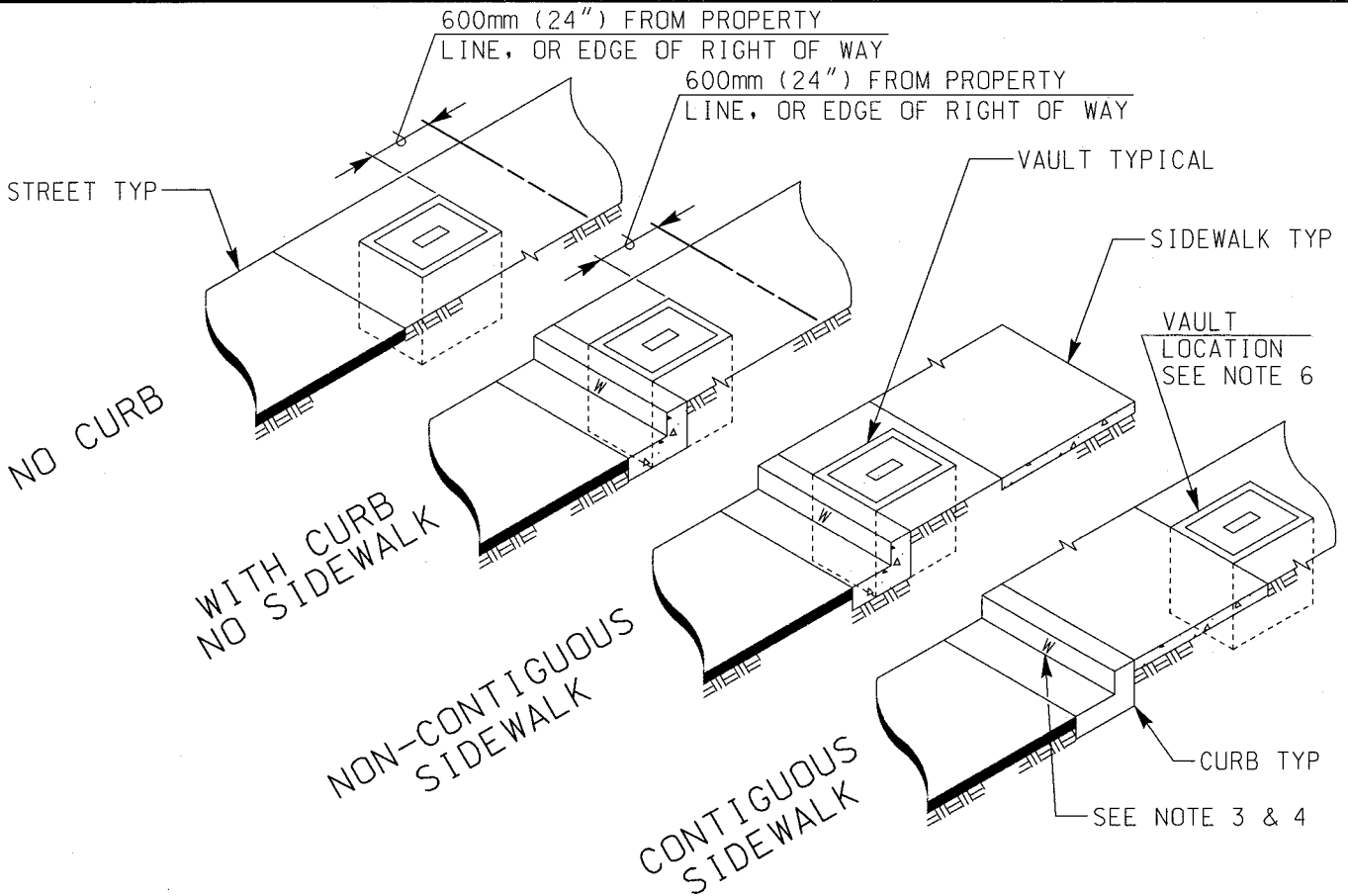
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	50mm (2") x REQUIRED LENGTH TYPE "K" COPPER PIPE, REFER TO NOTE 6	⑪	75mm (3"), 100mm (4") OR 150mm (6") COMPOUND METER, SEE NOTE 7
②	50mm (2") BRONZE CORPORATION STOP	⑫	300mm (12") DIAMETER x 150mm (6") LONG PVC PIPE FOR SUMP
③	LINE SIZE x 50mm (2") SERVICE SADDLE	⑬	LINE SIZE x 1200mm (48") LONG FLANGED DUCTILE IRON SPOOL
④	75mm (3"), 100mm (4") OR 150mm (6") PVC PIPE ONLY	⑭	50mm (2") 90° COMPRESSION ELL (TYPICAL)
⑤	75mm (3"), 100mm (4") OR 150mm (6") FLG x MJ RWGV MECHANICALLY RESTRAINED, SEE NOTE 5	⑮	200mm (8") GATE WELL WITH LID, SEE WV-01 OR WV-02
⑥	LINE SIZE x 1200mm (48") LONG FLG x PE DUCTILE IRON SPOOL	⑯	HINGED VAULT ACCESS DOOR
⑦	LINE SIZE x 150mm (6") LONG FLG x PE DUCTILE IRON SPOOL	⑰	ADJUSTABLE PIPE SUPPORT (TYPICAL)
⑧	50mm (2") COMPRESSION, LOCKABLE BALL VALVE	⑱	150mm (6") CLASS "B" CONCRETE FLOOR WITH #3 BARS @ 300mm (12") C.C.
⑨	1200mm x 1800mm (48" x 72") FRP VAULT WITH HINGED ACCESS DOOR	⑲	150mm (6") DG BASE COMPACTED TO 90%
⑩	75mm (3"), 100mm (4") OR 150mm (6") FLEXIBLE COUPLING	⑳	300mm (12") DIAMETER x 300mm (12") DEEP, 19mm (3/4") GRAVEL SUMP, SEE NOTE 9
		㉑	150mm (6") DEEP CONCRETE PAD AROUND VAULT LID AND VALVES WITH #3 BARS @ 150mm (6") C.C.

75mm (3"), 100mm (4") OR 150mm (6")
METER INSTALLATION

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 02/11/2020

DRAWING NUMBER: WS-05B



PARALLEL TO PRIVATE ROAD CENTERLINE

NOTES:

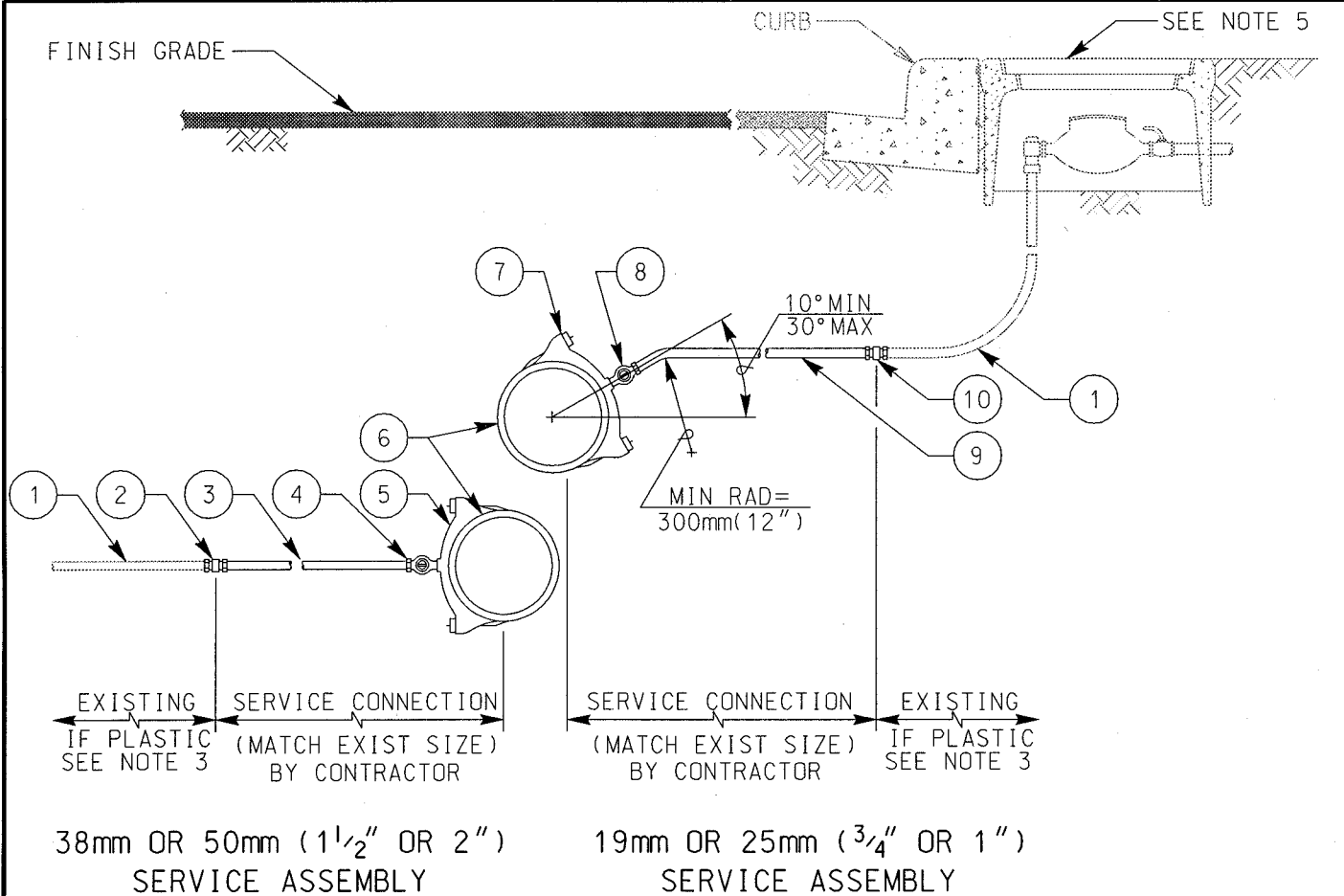
- 1) REFER TO SECTION 03462 AND 06620 OF THE SPECIFICATIONS
- 2) FOR VAULT INSTALLATION SEE WS-04 OR WS-05
- 3) STAMP OR CHISEL A 50mm (2") HIGH "W" IN CURB FACE TO IDENTIFY POTABLE WATER SERVICE LOCATION
- 4) STAMP OR CHISEL A 50mm (2") HIGH "RW" IN CURB FACE TO IDENTIFY RECYCLED WATER SERVICE LOCATION
- 5) VAULTS ARE NOT TO BE INSTALLED IN DRIVEWAYS OR SIDEWALKS
- 6) SOME LOCATIONS MAY REQUIRE AN EASEMENT FOR INSTALLATION OF METER VAULT
- 7) VAULTS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

VAULT LOCATIONS FOR 100mm (4")
AND LARGER WATER SERVICES

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

DRAWING NUMBER: WS-06



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 3) REPLACE EXISTING SERVICE WITH COPPER TUBING FROM MAIN TO METER IF EXISTING SERVICE IS PLASTIC
- 4) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 5) EXISTING COPPER PIPE, METER BOX, AND METER ASSEMBLY TO REMAIN
- 6) SERVICE ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGENDS ON PLANS

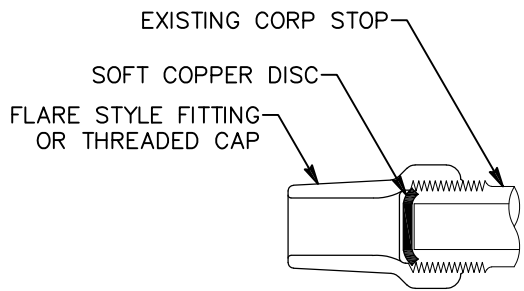
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	EXISTING SERVICE, SEE NOTE 3	6	WATER MAIN
2	38mm OR 50mm (1 1/2" OR 2") BRONZE COMPRESSION COUPLING COPPER TO COPPER	7	SIZE x 19mm OR 25mm (3/4" OR 1") SERVICE SADDLE
3	38mm OR 50mm (1 1/2" OR 2") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT/RIGID	8	19mm OR 25mm (3/4" OR 1") BRONZE CORPORATION STOP
4	38mm OR 50mm (1 1/2" OR 2") BRONZE CORPORATION STOP	9	19mm OR 25mm (3/4" OR 1") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT
5	SIZE x 38mm OR 50mm (1 1/2" OR 2") SERVICE SADDLE	10	19mm OR 25mm (3/4" OR 1") COMPRESSION COUPLING COPPER TO COPPER

EXISTING WATER SERVICE ASSEMBLY RECONNECTION

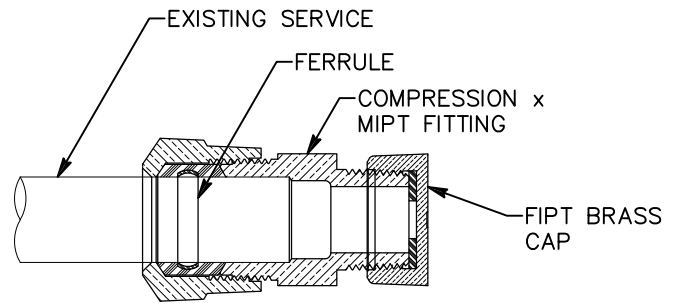
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 03/01/2001

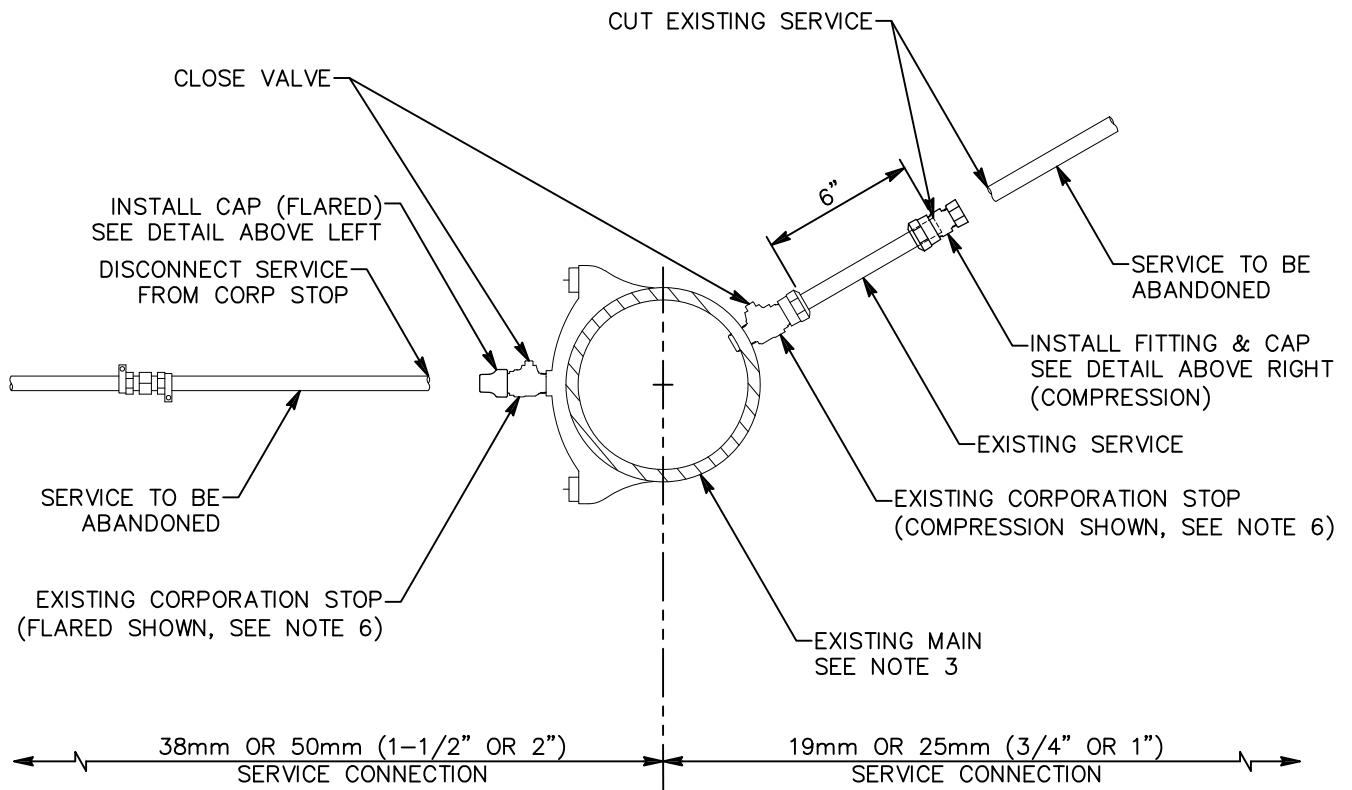
DRAWING NUMBER: WS-07



FLARED CORPORATION STOP DETAIL

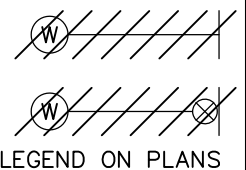


COMPRESSION CORPORATION STOP DETAIL



NOTES:

- 1) REFER TO SECTION 15000 & 15057 OF THE SPECIFICATIONS
- 2) EXISTING VALVES SHALL BE TURNED TO THE CLOSED POSITION AND VALVE BOXES CUT OFF AND REMOVED
- 3) USE THREADED PLUG TO PLUG SERVICE WITH THREADED CONNECTION
- 4) FOR ABANDONMENT OF EXISTING MAINS SEE WP-03
- 5) PRIOR DISTRICT APPROVAL REQUIRED
- 6) EXISTING CORPORATION STOP CAN BE EITHER FLARED OR COMPRESSION FOR ALL PIPE SIZES. REFER TO APPROPRIATE CORP STOP DETAIL ABOVE FOR WATER SERVICE ABANDONMENT.



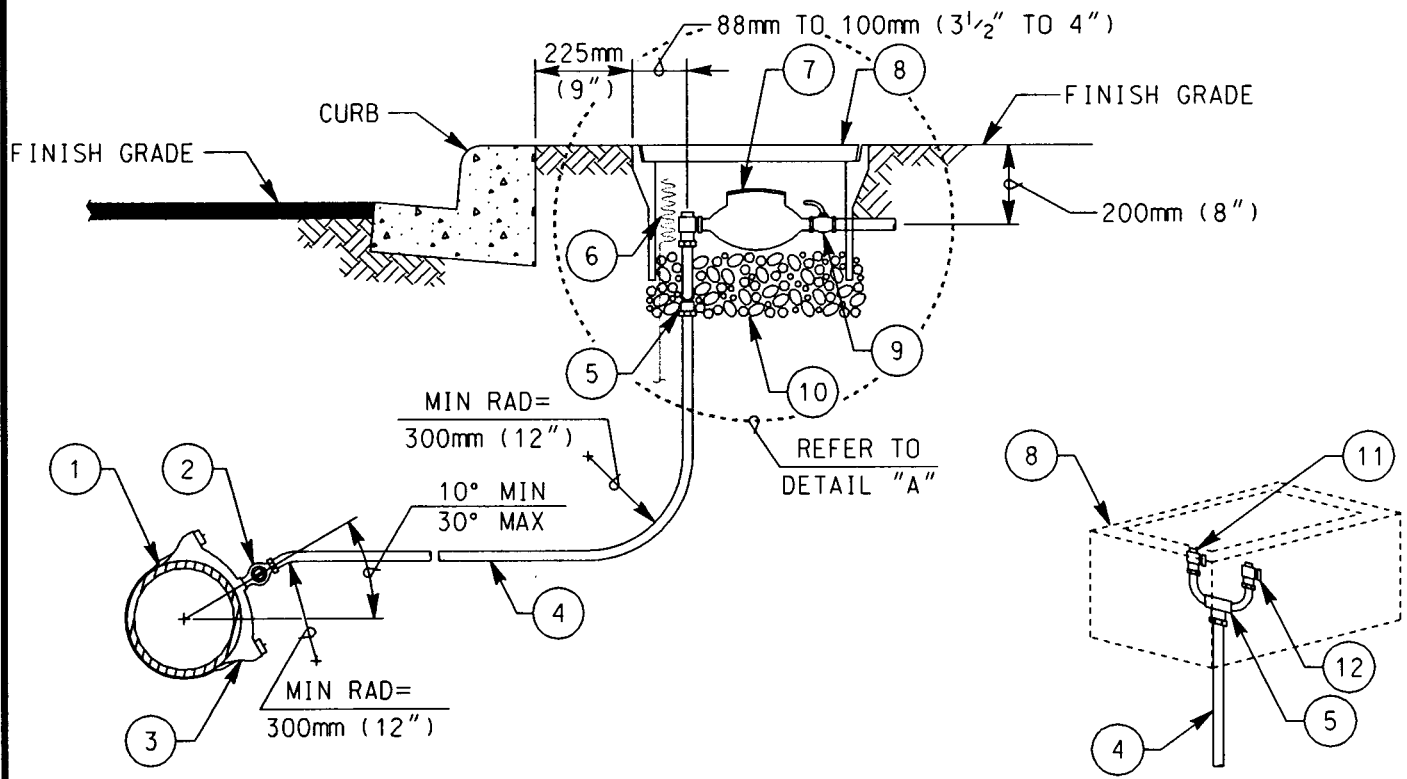
LEGEND ON PLANS

EXISTING WATER SERVICE ABANDONMENT

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/12/2020

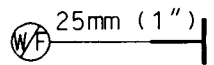
DRAWING NUMBER: WS-08



NOTES:

- 1) REFER TO SECTION 15057 OF THE SPECIFICATIONS
- 2) INSTALL CORPORATION STOP WITH KEY IN THE SIDE POSITION
- 3) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB, OR FINISH GRADE
- 4) LOCATE METER BOX AS SHOWN ON WS-03
- 5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- 6) WATER SERVICES SHALL BE INSTALLED WITH ANODES AS SHOWN ON WC-17 WHERE INDICATED ON THE APPROVED PLANS
- 7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST
- 9) SPECIAL BRANCH VALVE ASSEMBLY WITH METER VALVES TO BE ASSEMBLED AND TESTED AT THE FACTORY

DETAIL 'A'



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	WATER MAIN	9	CUSTOMER SHUT-OFF VALVE(S) (LOCKABLE) FURNISHED AND INSTALLED BY THE WATER AGENCY OF JURISDICTION
2	25mm (1") BRONZE CORPORATION STOP		
3	SIZE x 25mm (1") SERVICE SADDLE		
4	25mm (1") x REQUIRED LENGTH COPPER PIPE TYPE "K" SOFT	10	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
5	25mm (1") BRASS U-BRANCH DUAL METER ASSEMBLY	11	25mm (1") BRONZE ANGLE METER STOP WITH LOCKWING (LEFT SIDE TYPICAL) FIRE SERVICE ONLY
6	TRACER WIRE (AS REQUIRED), SEE WP-01		
7	WATER METER(S) FURNISHED & INSTALLED BY THE WATER AGENCY OF JURISDICTION	12	18.8mm (3/4") BRONZE ANGLE METER STOP WITH LOCKWING (RIGHT SIDE TYPICAL) DOMESTIC SERVICE ONLY
8	METER BOX WITH LID 325mm x 600mm x 300mm (13"x 24"x 12")		

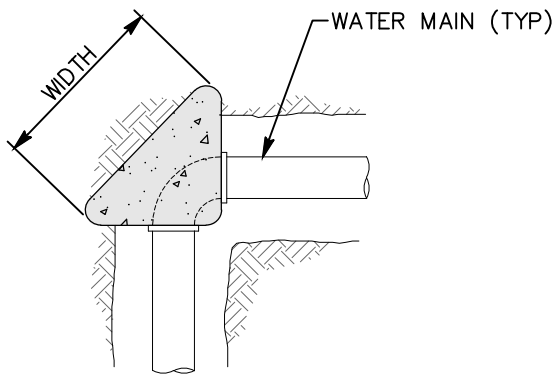
25mm (1") DUAL DOMESTIC/FIRE WATER SERVICE INSTALLATION

WATER AGENCIES STANDARDS

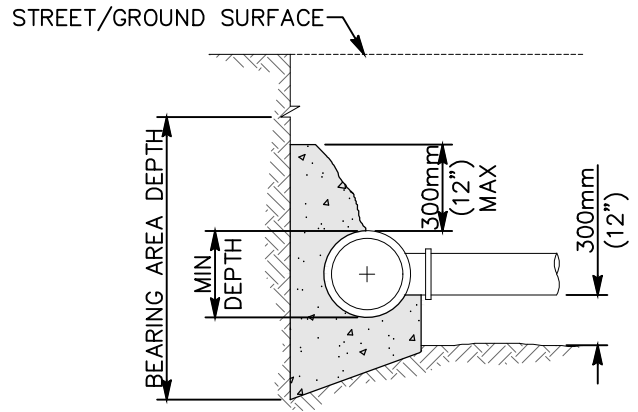
COMMITTEE APPROVAL: 11/16/2007

DRAWING NUMBER: **WS-09**

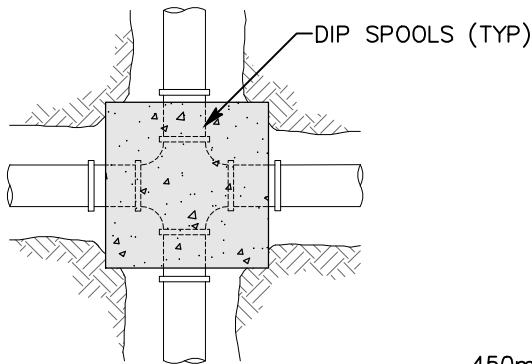
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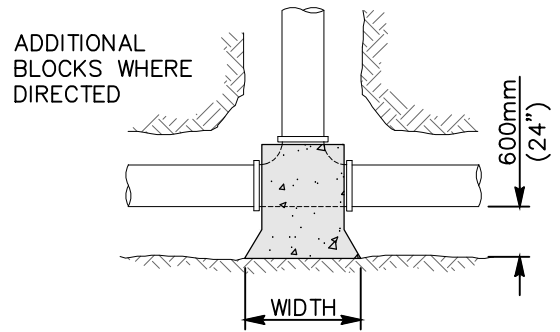
BEND



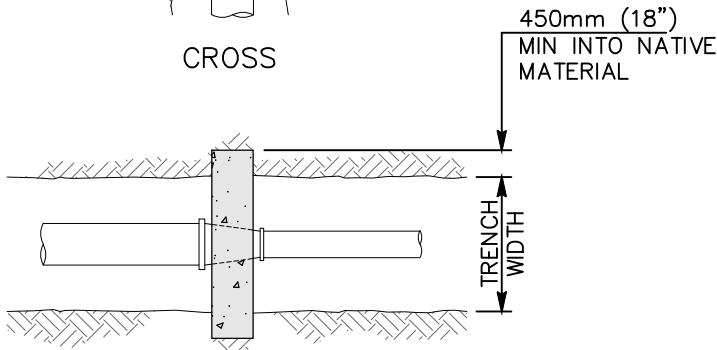
TEE - SECTION VIEW



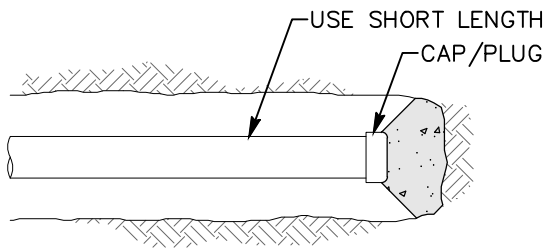
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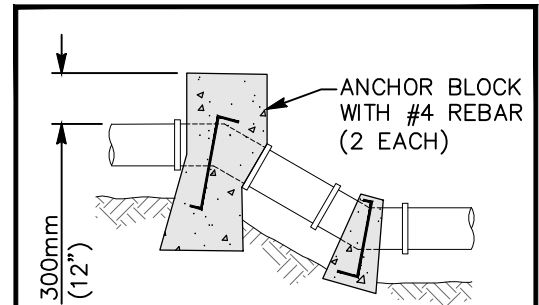
TEE - PLAN VIEW



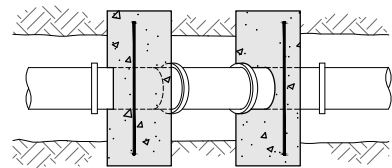
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END CAP



SECTION VIEW



PLAN VIEW

ANCHOR BLOCKS
VERTICAL BENDS

NOTES:

- 1) DETAILS SHOWN ARE SCHEMATIC ONLY. REFER TO NOTES ON WT-01B.
- 2) FOR ADDITIONAL THRUST BLOCKS, SEE WT-01C.

CONCRETE THRUST AND
ANCHOR BLOCK INSTALLATIONS

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WT-01A

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NOTES:

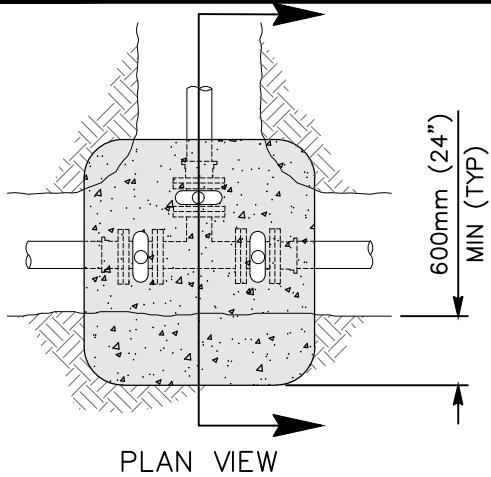
- 1) REFER TO SECTION 03000 OF THE SPECIFICATIONS
- 2) THRUST BLOCKS AND ANCHOR BLOCKS SHALL BE SIZED BY THE DESIGN ENGINEER IN ACCORDANCE WITH SECTION 5.2 OF THE WATER AGENCIES' STANDARDS GUIDELINES (WASDG)
- 3) THRUST BLOCKS SHALL BE CENTERED ON THE FITTING SO THAT THE BEARING AREA IS EXACTLY OPPOSITE THE RESULTANT DIRECTION OF THRUST
- 4) CONCRETE SHALL BE PLACED SUCH THAT FITTINGS AND VALVES WILL BE ACCESSIBLE FOR REPAIRS OR REPLACEMENT
- 5) ALL THRUST AND ANCHOR BLOCKS SHALL BE POURED AGAINST WETTED UNDISTURBED SOIL
- 6) FOR MINIMUM CONCRETE CURING TIME REFER TO SECTION 03000 OF THE SPECIFICATIONS
- 7) FOR ADDITIONAL THRUST BLOCKS SEE WT-01A AND WT-01C
- 8) DETAILS SHOWN ON WT-01A AND WT-01C ARE SCHEMATIC ONLY

CONCRETE THRUST AND
ANCHOR BLOCK INSTALLATIONS
NOTES

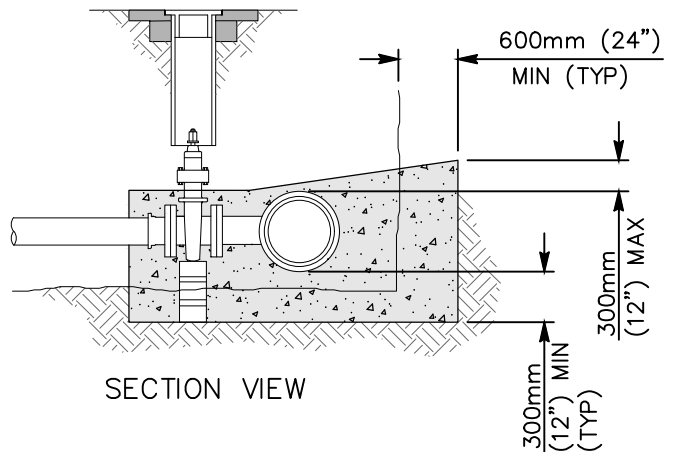
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WT-01B

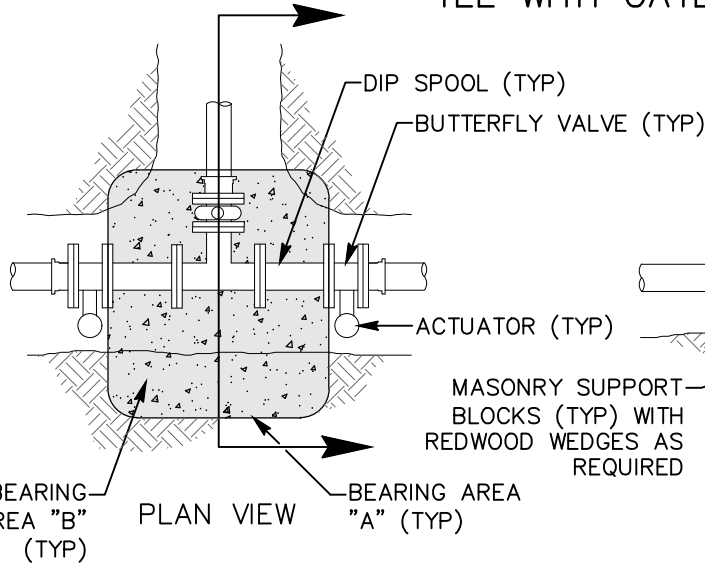


PLAN VIEW

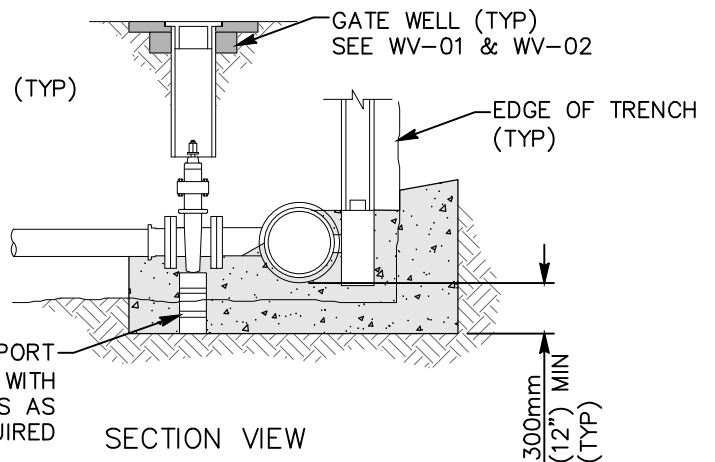


SECTION VIEW

TEE WITH GATE VALVES

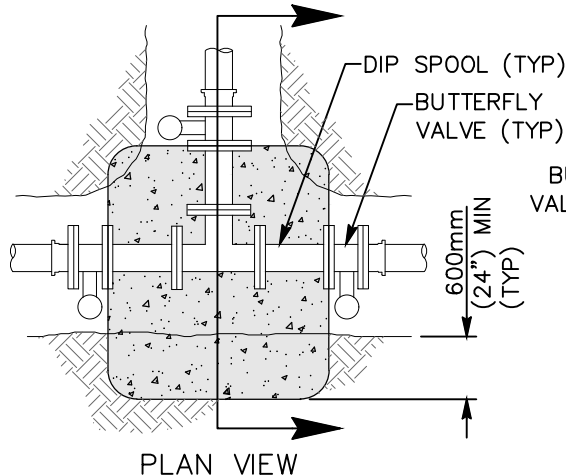


PLAN VIEW

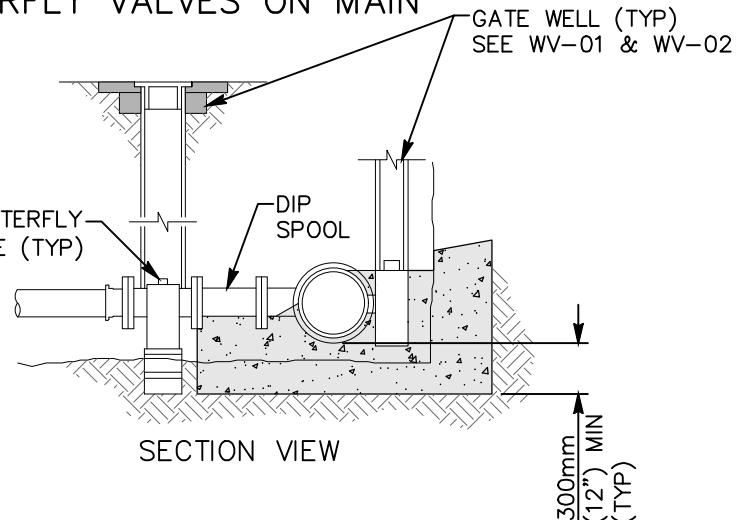


SECTION VIEW

TEE WITH BUTTERFLY VALVES ON MAIN



PLAN VIEW



SECTION VIEW

TEE WITH BUTTERFLY VALVES

NOTES:

- 1) BEARING AREA "B" MUST BE EQUAL TO OR GREATER THAN THE AREA REQUIRED FOR A 90° ELBOW INSTALLATION
- 2) BUTTERFLY VALVES INSTALLED AT CROSSES OR TEES REQUIRE A FLANGED DUCTILE IRON SPOOL TO BE INSTALLED BETWEEN THE FITTING AND VALVE IN ACCORDANCE WITH SECTION 15056 OF THE SPECIFICATIONS

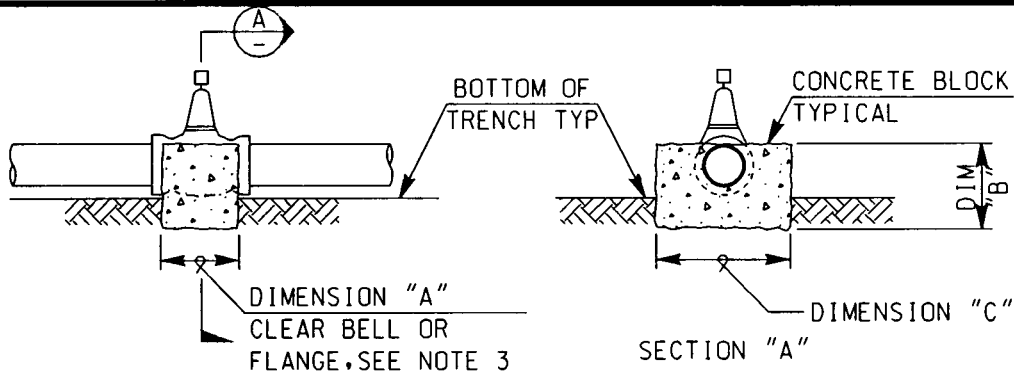
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CONCRETE THRUST AND ANCHOR BLOCK INSTALLATIONS

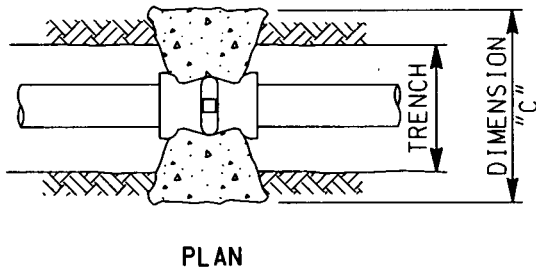
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 01/26/2022

DRAWING NUMBER: WT-01C



ELEVATION



PLAN

VALVE SUPPORT BLOCK

VALVE SIZE	DIMENSION "A"	DIMENSION "B"
100mm(4")	300mm(12")	300mm(12")
150mm(6")	300mm(12")	300mm(12")
200mm(8")	325mm(13")	350mm(14")
250mm(10")	350mm(14")	400mm(16")
300mm(12")	375mm(15")	450mm(18")

DIMENSION "C" = TRENCH WIDTH PLUS TWO TIMES THE PIPE DIAMETER
 FIGURES SHOWN ARE MINIMUMS ONLY
 REFER TO NOTE 2

NOTES:

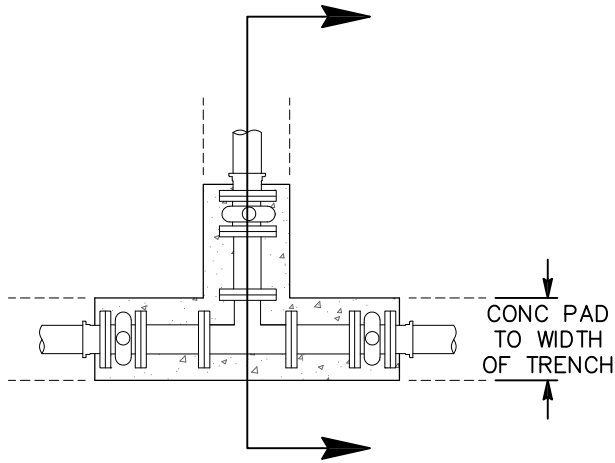
- 1) REFER TO SECTION 03000 OF SPECIFICATIONS
- 2) SUPPORT BLOCKS ARE NOT INTENDED TO PROVIDE THRUST RESTRAINT WHEN VALVES ARE OPERATED. IN LOCATIONS WHERE VALVES ARE NOT LOCATED ADJACENT TO PIPE FITTINGS OR ARE OTHERWISE NOT PROVIDED WITH THRUST RESTRAINT, THRUST BLOCKS ARE REQUIRED INSTEAD OF SUPPORT BLOCKS. THE ENGINEER OF WORK SHALL DESIGN ANCHOR AND/OR THRUST BLOCKS IN ACCORDANCE WITH SECTION 5.2 OF THE WATER AGENCIES' STANDARDS DESIGN GUIDELINES (WADG)
- 3) ALL VALVES REQUIRE SUPPORT BLOCKS. CONCRETE SHALL BE POURED AGAINST WETTED UNDISTURBED SOIL AND PLACED SO THAT VALVES WILL BE ACCESSIBLE FOR REPAIRS OR REPLACEMENT
- 4) FOR MINIMUM CONCRETE CURING TIME REFER TO SECTION 03000 OF SPECIFICATIONS

VALVE SUPPORT BLOCKS

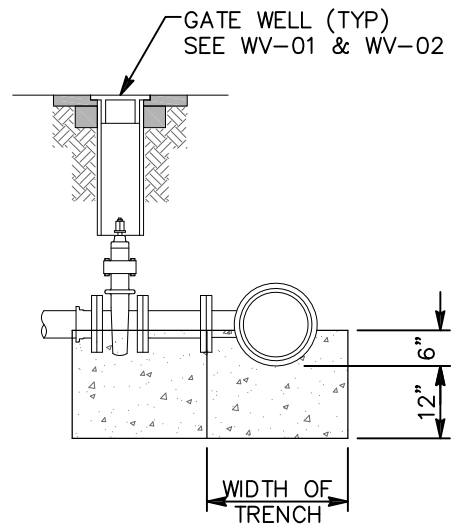
WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/16/2007

DRAWING NUMBER: WT-02

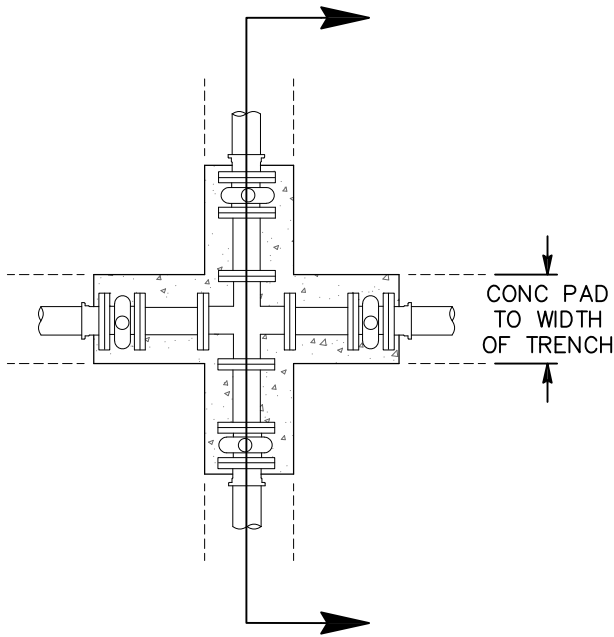


PLAN VIEW

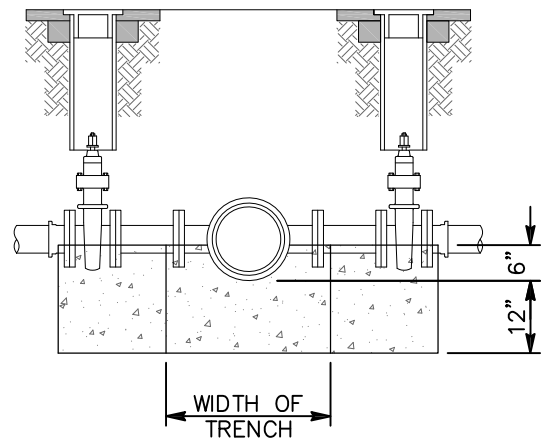


SECTION VIEW

TEE WITH GATE VALVES



PLAN VIEW



SECTION VIEW

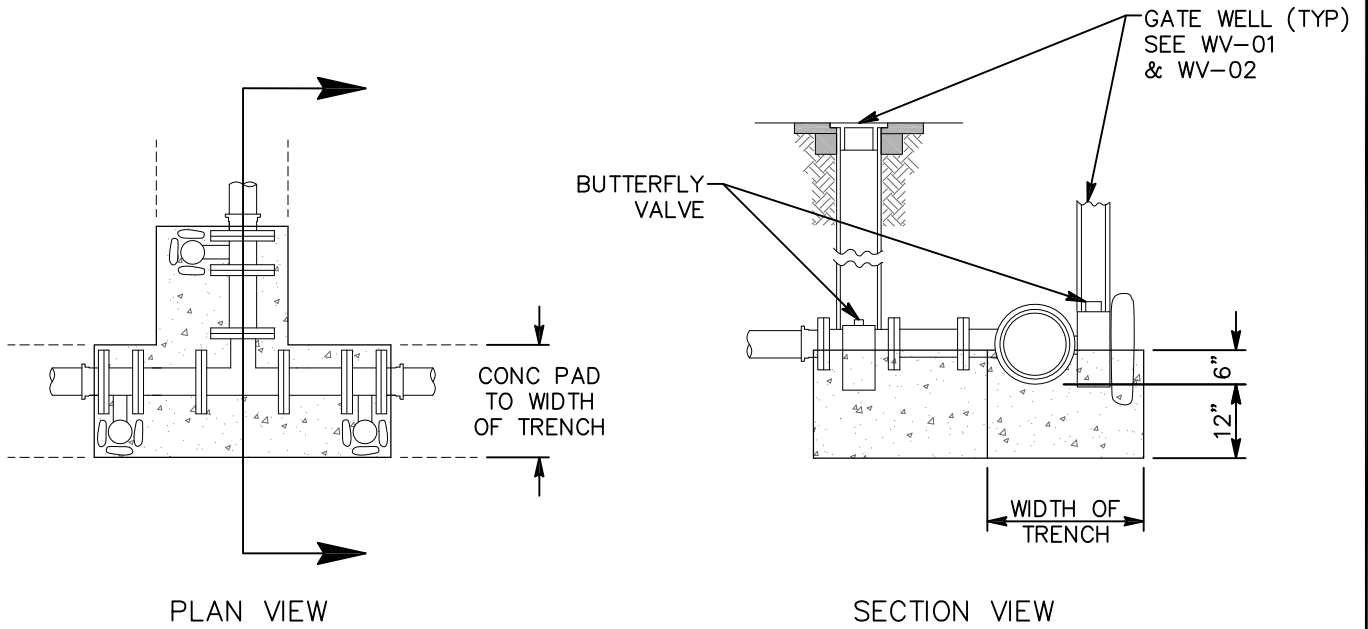
CROSS WITH GATE VALVES

RESTRAINT FITTING SUPPORT BLOCK

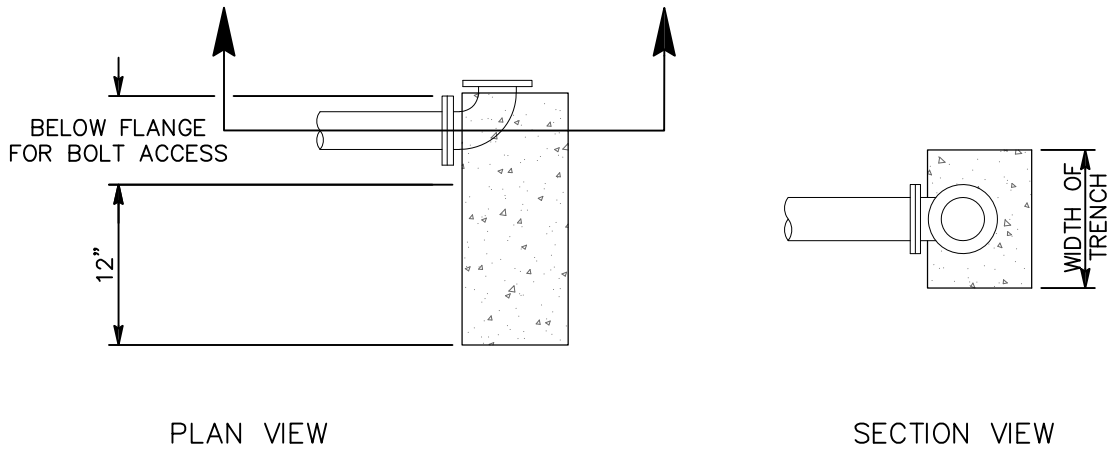
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/12/2020

DRAWING NUMBER: WT-03A



TEE WITH BUTTERFLY VALVES



RESTRAINED JOINT SUPPORT BLOCK FOR VERTICAL APPLICATIONS, 90° BENDS, AIR VACS, BLOWOFFS, AND BACKFLOWS

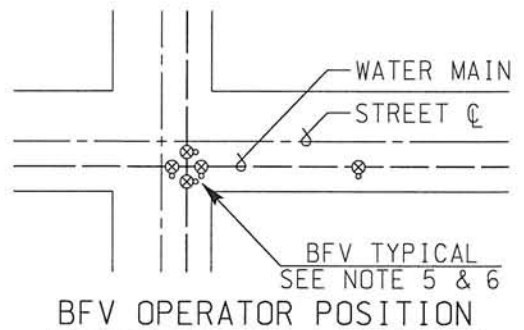
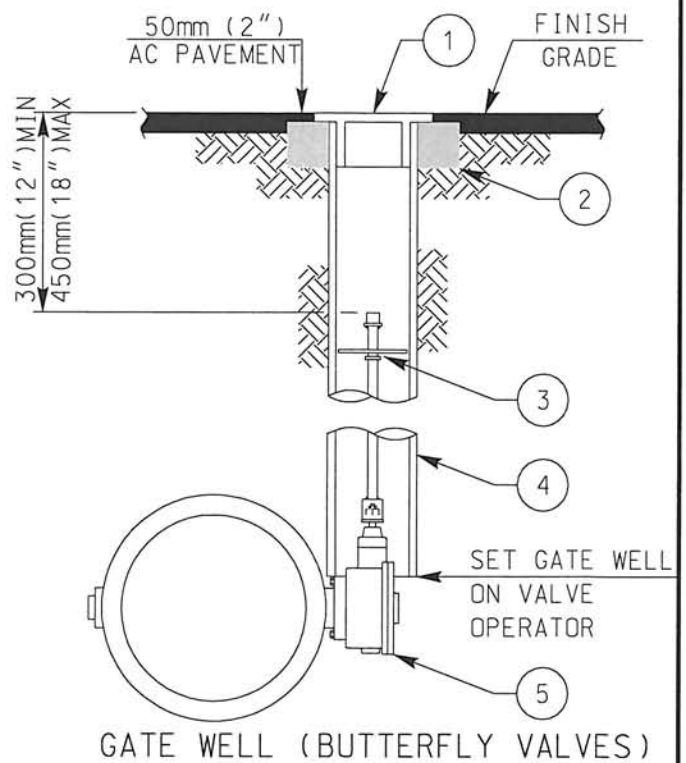
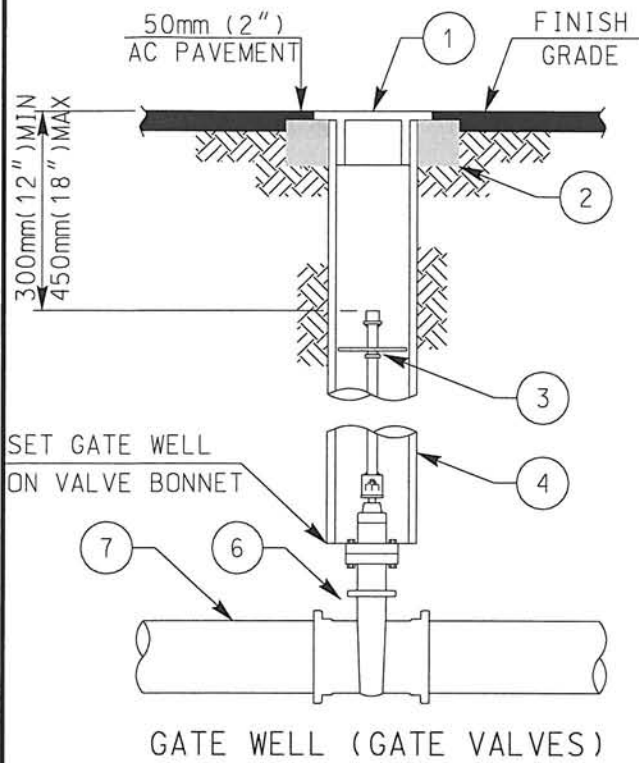
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RESTRAINT FITTING SUPPORT BLOCK (CONT)

WATER AGENCIES' STANDARDS

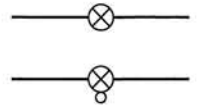
COMMITTEE APPROVAL: 11/12/2020

DRAWING NUMBER: WT-03B



NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) VALVES DEEPER THAN 1.5m (5') REQUIRE A VALVE STEM EXTENSION
- 3) EXTENSION STEMS SHALL NOT BE ATTACHED/BOLTED TO OPERATING NUT
- 4) GATE WELL AND LID SHALL BE SET SO THAT NO MORE THAN TWO 25mm (1") ADJUSTMENT RINGS ARE USED
- 5) BFV OPERATORS TO BE LOCATED TO THE CURBLINE SIDE OF WATER MAIN
- 6) BFV'S INSTALLED AT CROSSES OR TEES REQUIRE A FLANGED DUCTILE IRON SPOOL TO BE INSTALLED BETWEEN THE FITTING AND VALVE IN ACCORDANCE WITH SECTION 15056 OF THE SPECIFICATIONS
- 7) GATE WELLS AND LIDS SHALL BE IDENTIFIED AS DESCRIBED ON WV-03
- 8) FOR INLINE VALVE ANCHOR BLOCK INSTALLATION SEE WT-02
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm (8") GATE WELL LID SEE NOTE 7	4	200mm (8") PVC CL200,C-900 PIPE x
2	150mm (6") HIGH x 150mm (6") WIDE COMPACTED ASPHALT-CONCRETE RING	5	REQUIRED LENGTH GATE WELL SEE NOTE 7
3	VALVE STEM EXTENSION SEE NOTES 2 & 3	6	BUTTERFLY VALVE
		7	RESILIENT WEDGE GATE VALVE
			WATER MAIN

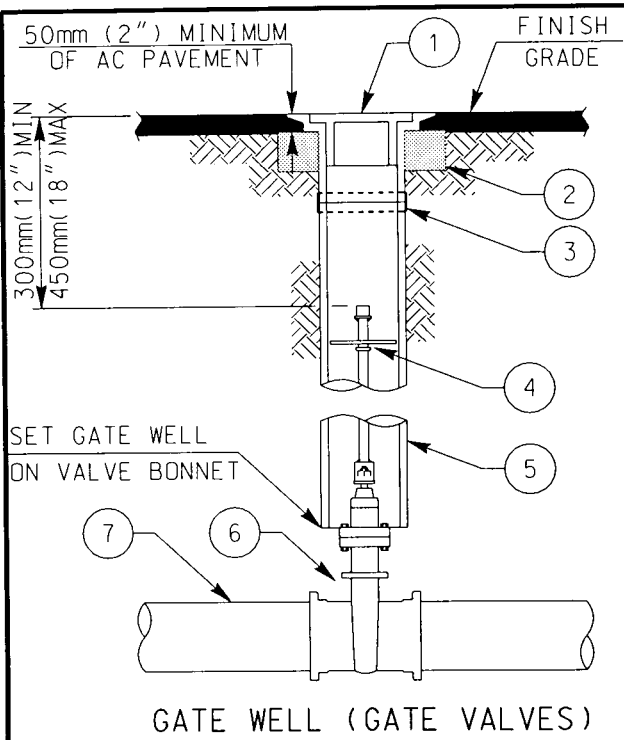
GATE WELL INSTALLATION, TYPE 1
FOR VALVES 100mm (4") AND LARGER

WATER AGENCIES STANDARDS

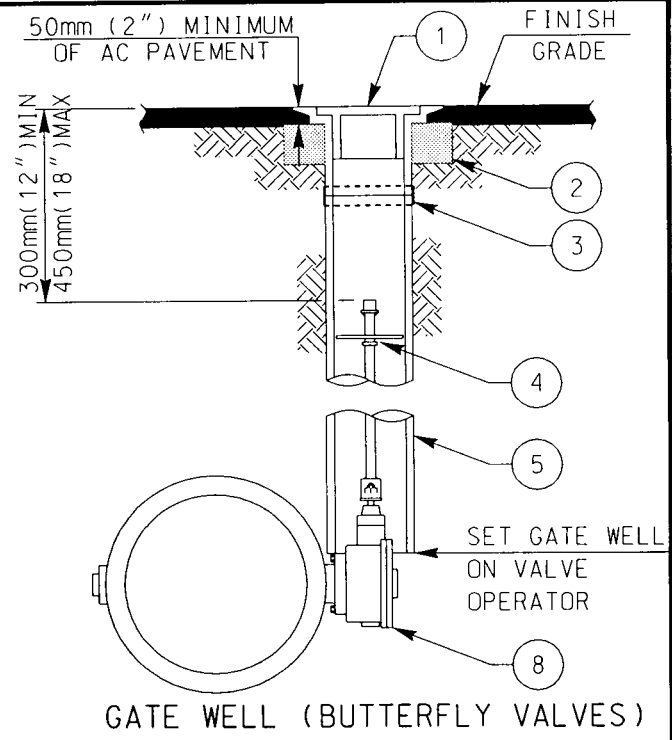
COMMITTEE APPROVAL: 12/31/2003

DRAWING NUMBER: WV-01

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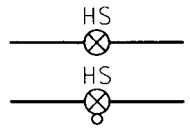
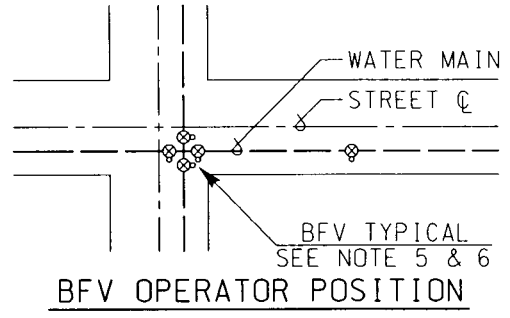
GATE WELL (GATE VALVES)



GATE WELL (BUTTERFLY VALVES)

NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) VALVES DEEPER THAN 1.5m (5') REQUIRE A VALVE STEM EXTENSION
- 3) EXTENSION STEMS SHALL NOT BE ATTACHED/BOLTED TO OPERATING NUT
- 4) GATE WELL AND LID SHALL BE SET SO THAT NO MORE THAN TWO 25mm (1") ADJUSTMENT RINGS ARE USED
- 5) BFV OPERATORS TO BE LOCATED TO THE CURBLINE SIDE OF WATER MAIN
- 6) BFV'S INSTALLED AT CROSSES OR TEES REQUIRE A FLANGED DUCTILE IRON SPOOL TO BE INSTALLED BETWEEN THE FITTING AND VALVE IN ACCORDANCE WITH SECTION 15056 OF THE SPECIFICATIONS
- 7) GATE WELLS AND LIDS SHALL BE IDENTIFIED AS DESCRIBED ON WV-03
- 8) FOR INLINE VALVE ANCHOR BLOCK INSTALLATION SEE WT-02
- 9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm (8") GATE WELL 2-PIECE MACHINED FRAME AND LID SEE NOTE 7	5	200mm (8") PVC CL200, C-900 PIPE x REQUIRED LENGTH GATE WELL SEE NOTE 7
2	150mm (6") HIGH x 150mm (6") WIDE ASPHALT CONCRETE RING	6	RESILIENT WEDGE GATE VALVE
3	CAULDER COUPLING	7	WATER MAIN
4	VALVE STEM EXTENSION SEE NOTES 2 & 3	8	BUTTERFLY VALVE

GATE WELL INSTALLATION, TYPE 2
FOR VALVES 100mm (4") AND LARGER

WATER AGENCIES STANDARDS
 COMMITTEE APPROVAL: 11/01/2002
 DRAWING NUMBER: WV-02

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RECYCLED
WATER



POTABLE
WATER

GATE WELL LIDS

SEE NOTE 2 BELOW

COLOR	GATE WELL LIDS USED FOR:
RED	NORMALLY CLOSED SYSTEM VALVES (NCV)
PURPLE	RECYCLED WATER VALVES: LINE VALVES & AIR VALVES
YELLOW	POTABLE WATER VALVES: LINE VALVES, FIRE SERVICES, & AIR VALVES
WHITE	FIRE HYDRANTS

GATE WELL LID COLORS

SEE NOTE 5 BELOW

COLOR	GATE WELL AND LIDS USED FOR:
RED	NORMALLY CLOSED SYSTEM VALVES (NCV)
WHITE	RESILIENT WEDGE GATE VALVES
GREEN	BUTTERFLY VALVES

PAINTED IDENTIFICATION MARKING

SEE NOTE 4 BELOW

NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) GATE WELL LIDS SHALL BE CAST WITH THE "AGENCY NAME" AND THE WORD "WATER" FOR USE WITH POTABLE WATER SYSTEMS AND "RECYCLED" FOR USE WITH RECYCLED WATER SYSTEMS. LIDS SHALL INCLUDE A LIFTING SLOT
- 3) PVC GATE WELLS SHALL BE MANUFACTURED IN WHITE OR BLUE FOR USE WITH POTABLE WATER, AND PURPLE FOR USE WITH RECYCLED WATER
- 4) THE INSIDE PORTIONS OF THE GATE WELL LID AND PVC GATE WELL SHALL BE IDENTIFIED WITH A PAINTED IDENTIFICATION MARKING. IDENTIFICATION MARKINGS SHALL BE OF THE COLORS SHOWN ABOVE
- 5) THE TOP EXTERIOR PORTION OF GATE WELL LIDS SHALL BE PAINTED WITH COLORS TO IDENTIFY THE USE OF THE VALVE INSTALLED, AS SHOWN ABOVE
- 6) INSTALLATION FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECS AND AS NOTED ABOVE
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

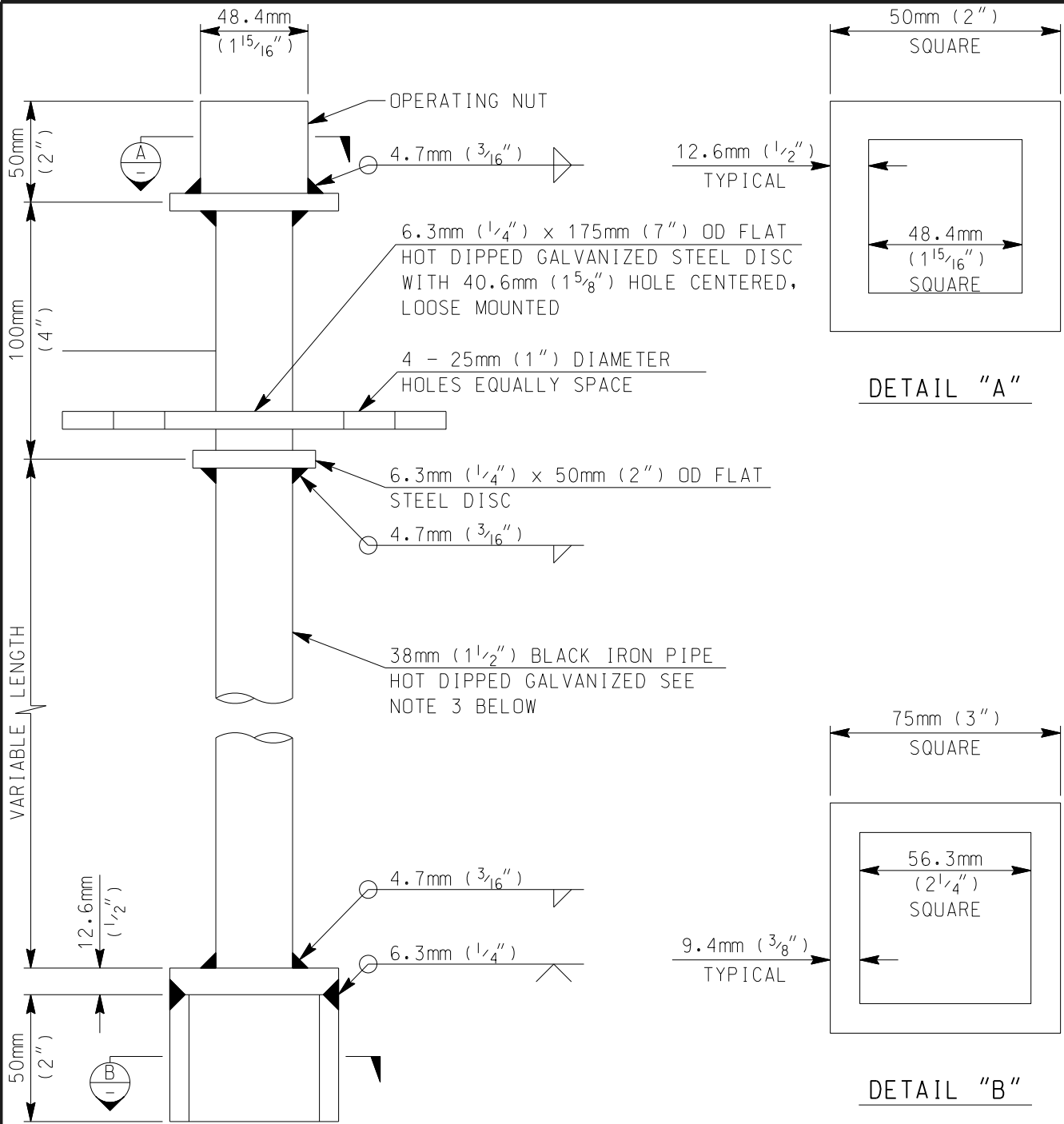
GATE WELL IDENTIFICATION

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 11/16/2007

DRAWING NUMBER: **WV-03**

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NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS AND STANDARD DRAWINGS WV-01 AND WV-02
- 2) STEEL EXTENSION STEMS SHALL BE USED ONLY WHERE THE MAXIMUM LENGTH OF THE EXTENSION EXCEEDS 2.4m (8') AND AT THE REQUEST OF THE DISTRICT ENGINEER
- 3) EXTENSION STEMS SHALL BE ROUND OR SQUARE STEEL TUBING OF SOLID DESIGN (NO PINNED COUPLINGS PERMITTED)
- 4) FIBERGLASS EXTENSION STEMS MAY BE USED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 5) VALVES DEEPER THAN 1.5m (5') REQUIRE A VALVE STEM EXTENSION
- 6) EXTENSION STEMS SHALL NOT BE ATTACHED/BOLTED TO OPERATING NUT OF THE VALVE
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

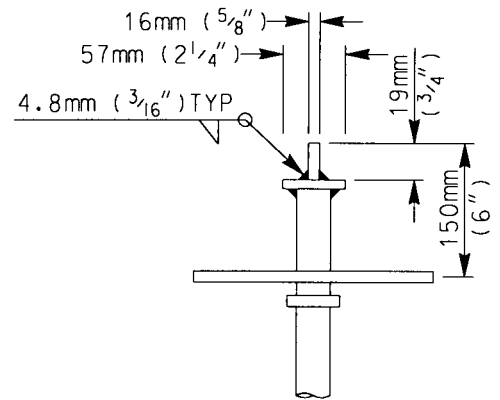
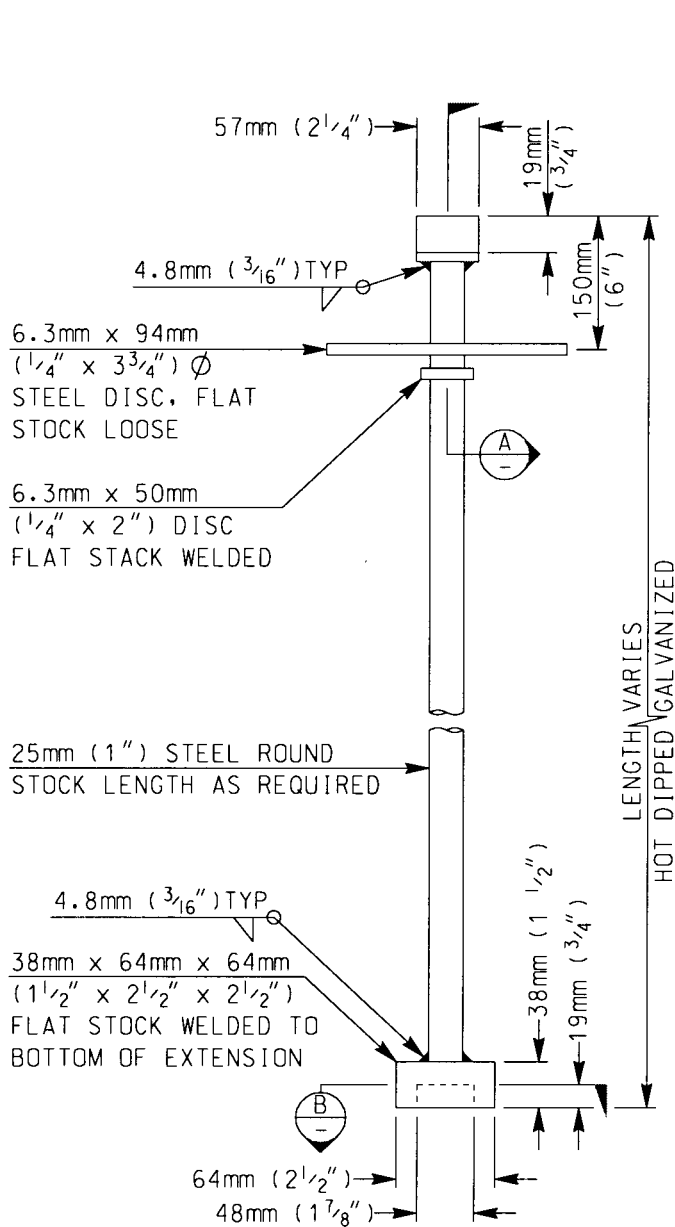
**STEEL VALVE STEM EXTENSION
FOR VALVES 100mm (4") AND LARGER**

WATER AGENCIES STANDARDS

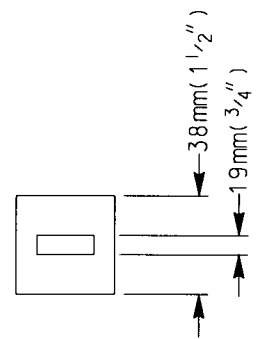
COMMITTEE APPROVAL: 08/03/2018

DRAWING NUMBER: WV-04

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SECTION "A"
TOP EXTENSION SLOT,
SEE NOTE 2



SECTION "B"
BOTTOM VALVE SLOT,
SEE NOTE 2

NOTES:

- 1) REFER TO SECTION 15000 OF THE SPECIFICATIONS
- 2) VALVE STEM TO BE ASSEMBLED WITH TOP EXTENSION SLOT AND BOTTOM VALVE SLOT IN THE SAME ALIGNMENT TO REFLECT THE OPEN OR CLOSED STATUS OF THE VALVE WHEN INSTALLED.
- 3) EXTENSION STEMS SHALL BE ROUND STEEL TUBING OF SOLID DESIGN (NO PINNED COUPLINGS PERMITTED)
- 4) ALL VALVES 50mm (2") AND SMALLER REQUIRING THE INSTALLATION OF A GATE WELL REQUIRE A VALVE STEM EXTENSION, REGARDLESS OF DEPTH
- 5) EXTENSION STEMS SHALL NOT BE ATTACHED/BOLTED TO OPERATING NUT OF THE VALVE
- 6) REFER TO WV-04 FOR VALVE STEM EXTENSIONS FOR VALVES LARGER THAN 50mm (2")

STEEL VALVE STEM EXTENSION
FOR VALVES 50mm (2") AND SMALLER

WATER AGENCIES STANDARDS

COMMITTEE APPROVAL: 07/30/2007

DRAWING NUMBER: WV-05