



Standard Drawings for Potable and Recycled Water Facilities

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DRAWING NUMBER	APPROVAL DATE	DRAWING DESCRIPTION
WA		
AIR AND VACUUM VALVE DETAILS		
WA-01	11/03/2006	50mm (2") Manual Air Valve
WA-02	11/03/2006	50mm (2") Automatic Combination Air Release and Air/Vacuum Valve Installations
WA-03	11/03/2006	50mm (2") Air and Vacuum Valve Enclosure Locations
WA-04	09/28/2009	100mm (4") Automatic Combination Air Release and Air/Vacuum Valve Installations
WA-05	09/28/2009	150mm (6") Automatic Combination Air Release and Air/Vacuum Valve Installations
WA-06	09/28/2009	100mm & 150mm (4" & 6") Air and Vacuum Valve Enclosure Locations
WA-07	11/23/2011	50mm (2") Below Ground Manual Air Valve in 300mm (12") Can
WB		
BLOWOFF DETAILS		
WB-01	12/31/2003	50mm (2") Blowoff Installation
WB-02	11/03/2006	100mm (4") Blowoff Installation
WB-03	11/03/2006	150mm (6") Blowoff Installation
WB-04	03/01/2001	Blowoff Installation from End of Mains and from Steel Mains
WB-05	12/31/2004	Temporary End Cap and 50mm (2") Blowoff installation
WB-06	11/23/2011	50mm (2") Blowoff Installation in 300mm (12") Can
WC		
CATHODIC PROTECTION DETAILS		
WC-01	03/01/2001	Exothermic Weld Detail
WC-02	03/01/2001	Rubber-Ring Joint Bonding Detail for Metallic Pipelines
WC-03	03/01/2001	Buried Mechanical Joint Bonding Detail for Metallic Pipelines
WC-04	03/01/2001	Above Ground Insulating Flange
WC-05	03/01/2001	Buried Insulating Flange Detail
WC-06	07/30/2007	Buried Insulating Flange Test Station Wiring Diagram
WC-07	07/30/2007	Buried Insulated Valve Detail
WC-08		"Not Used"
WC-09	03/01/2001	Two Wire Test Station
WC-10	03/01/2001	Casing Test Station
WC-11	09/28/2009	Single Anode Installation Detail
WC-12	09/28/2009	Prepackaged Magnesium Anode Detail
WC-13	07/30/2007	Single Anode Test Station Wiring Diagram
WC-14	07/30/2007	Cathodic Test Station Box
WC-15	03/01/2001	Reference Electrode Installation Detail
WC-16	03/01/2001	Prepackaged Reference Electrode Detail
WC-17	12/31/2003	New Installation of Sacrificial Anodes for Copper Tubing
WC-18	12/31/2003	Retrofit Installation of Sacrificial Anodes for Copper Tubing



Standard Drawings for Potable and Recycled Water Facilities

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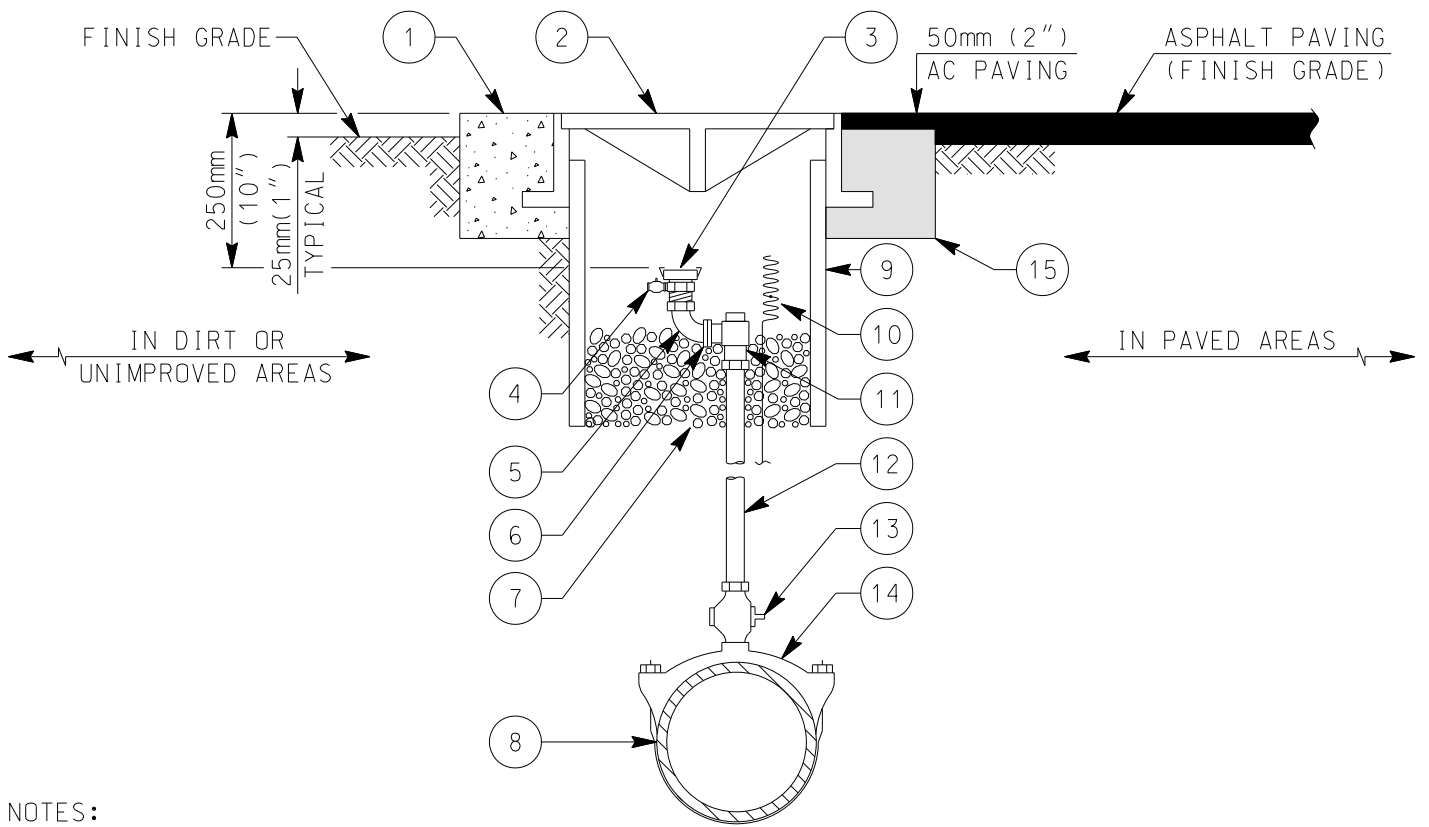
DRAWING NUMBER	APPROVAL DATE	DRAWING DESCRIPTION
WF FIRE HYDRANT AND FIRE SERVICE DETAILS		
WF-01	11/01/2002	150mm (6") Fire Hydrant Installation
WF-02	07/30/2007	150mm (6") Fire Hydrant Installation with Break-Off Check Valve
WF-03	09/03/2001	High Pressure Dry Barrel Fire Hydrant Installation
WF-04	09/12/2008	Fire Hydrant Locations and Port Orientation
WF-05	09/12/2008	100mm (4") and Larger Fire Service Installation (1 of 2)
WF-05	11/23/2011	100mm (4") and Larger Fire Service Installation Notes (2 of 2)
WI GENERAL WATER INFORMATION DETAILS		
WI-01	03/01/2001	Water, Recycled Water and Sewer Main Parallel Separations
WI-02	12/31/2003	Water, Recycled Water and Sewer Main Perpendicular Separations
WI-03	11/23/2011	Water, Recycled Water and Sewer Main Parallel and Perpendicular Separation Notes
WI-04	03/01/2001	Post Meter Constant Pressure Recycled Water Line 75mm (3") Diameter or Less Crossing Potable Water Main or Lateral within Public Right of Way
WI-05	09/03/2001	Allowable Leakage Chart for Testing of Pipes with Rubber Joints
WI-06	12/31/2004	Standard Symbols for Potable and Recycled Water Construction Drawings (1 of 4)
WI-06	11/03/2006	Standard Symbols for Potable and Recycled Water Construction Drawings (2 of 4)
WI-06	12/31/2004	Standard Symbols for Potable and Recycled Water Construction Drawings (3 of 4)
WI-06	12/31/2004	Standard Symbols for Potable and Recycled Water Construction Drawings (4 of 4)
WM MISCELLANEOUS WATER DETAILS		
WM-01	11/03/2006	Water Test Station Installation
WM-02	11/03/2006	Water Test Station Enclosure Locations
WM-03	09/12/2008	Retaining Wall for Fire Hydrants and Water and Recycled Water Appurtenances (1 of 2)
WM-03	09/12/2008	Retaining Wall for Fire Hydrants and Water and Recycled Water Appurtenances (2 of 2)
WM-04	12/31/2004	Protection Post Installation
WM-05	12/31/2004	Demountable Protection Post Installation
WM-06	12/31/2004	Easement/Utility Marker Post Installation
WM-07	03/01/2001	Replacement of Sewer Lateral Crossings
WM-08	11/16/2007	Recycled Water "Do Not Drink" Sign
WP PIPELINE DETAILS		
WP-01	12/31/2004	Warning/Identification Tape and Tracer Wire Installations
WP-02	07/30/2007	Pipe Bedding and Trench Backfill for Potable and Recycled Water
WP-03	03/01/2001	Cutting and Plugging Abandoned Water, Recycled Water and Sewer Mains
WP-04	03/01/2001	Pipe Casing Installation
WP-05	07/30/2007	Slope Protection Installations
WP-06	03/01/2001	Pipe Protection Pad Installations
WP-07	03/01/2001	Cut - Off Wall Installation in Traveled Areas
WP-08	09/03/2001	Pipe Encasement for Existing Water Main at Utility Undercuts
WP-09	11/01/2002	Pipe Support for Undercut Sewer Mains



Standard Drawings for Potable and Recycled Water Facilities

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DRAWING NUMBER	APPROVAL DATE	DRAWING DESCRIPTION
WR		
BACKFLOW PREVENTION DETAILS		
WR-01	02/01/2008	19mm through 50mm (3/4" through 2") Reduced Pressure Backflow Prevention Device
WR-02	11/23/2011	75mm (3") and Larger Reduced Pressure Backflow Prevention Device
WR-03	11/16/2007	25mm and 50mm (1" and 2") Recycled Water Irrigation Check Valve Installation
WR-04	11/03/2006	Recycled Water Irrigation Cross Connection Test Station
WR-05	03/01/2001	Temporary Potable Water to Recycled Water Inter-Connection
WR-06	09/12/2008	75mm (3") or Larger Recycled Water Irrigation Wye Strainer & Check Valve (1 of 2)
WR-06	09/12/2008	75mm (3") or Larger Recycled Water Irrigation Wye Strainer & Check Valve (2 of 2)
WR-07	09/12/2008	75mm (3") or Larger Recycled Water Irrigation Cross Connection Test Station (1 of 2)
WR-07	09/12/2008	75mm (3") or Larger Recycled Water Irrigation Cross Connection Test Station (2 of 2)
WS		
WATER SERVICE LATERAL DETAILS		
WS-01	03/01/2001	25mm (1") Water Service Installation
WS-02	12/31/2003	50mm (2") Water Service Installation
WS-03	12/31/2003	Meter Box Locations for Water and Recycled Water Appurtenances
WS-04	03/01/2001	100mm (4") or 150mm (6") Fireline/Master Meter Installation (1 of 2)
WS-04	11/03/2006	100mm (4") or 150mm (6") Fireline/Master Meter Installation (2 of 2)
WS-05	11/03/2006	100mm (4") or 150mm (6") Meter Installation (1 of 2)
WS-05	11/03/2006	100mm (4") or 150mm (6") Meter Installation (2 of 2)
WS-06	03/01/2001	Vault Locations for 100mm (4") and Larger Water Services
WS-07	03/01/2001	Existing Water Service Assembly Reconnection
WS-08	03/01/2001	Existing Water Service Abandonment
WS-09	11/16/2007	25mm (1") Duel Domestic/Fire Water Service Installation
WT		
THRUST AND ANCHOR BLOCKS AND PIPE RESTRAINT DETAILS		
WT-01	11/16/2007	Concrete Thrust and Anchor Block Installations (1 of 3)
WT-01	11/16/2007	Concrete Thrust and Anchor Block Installations (2 of 3)
WT-01	11/01/2002	Concrete Thrust and Anchor Block Installations (3 of 3)
WT-02	11/16/2007	Valve Support Blocks
WV		
VALVE DETAILS		
WV-01	12/31/2003	Gate Well Installation, Type 1 for Valves 100mm (4") and Larger
WV-02	11/01/2002	Gate Well Installation, Type 2 for Valves 100mm (4") and Larger
WV-03	11/16/2007	Gate Well Identification
WV-04	03/01/2001	Steel Valve Stem Extension for Valves 100mm (4") and Larger
WV-05	07/30/2007	Steel Valve Stem Extension for Valves 50mm (2") and Smaller



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

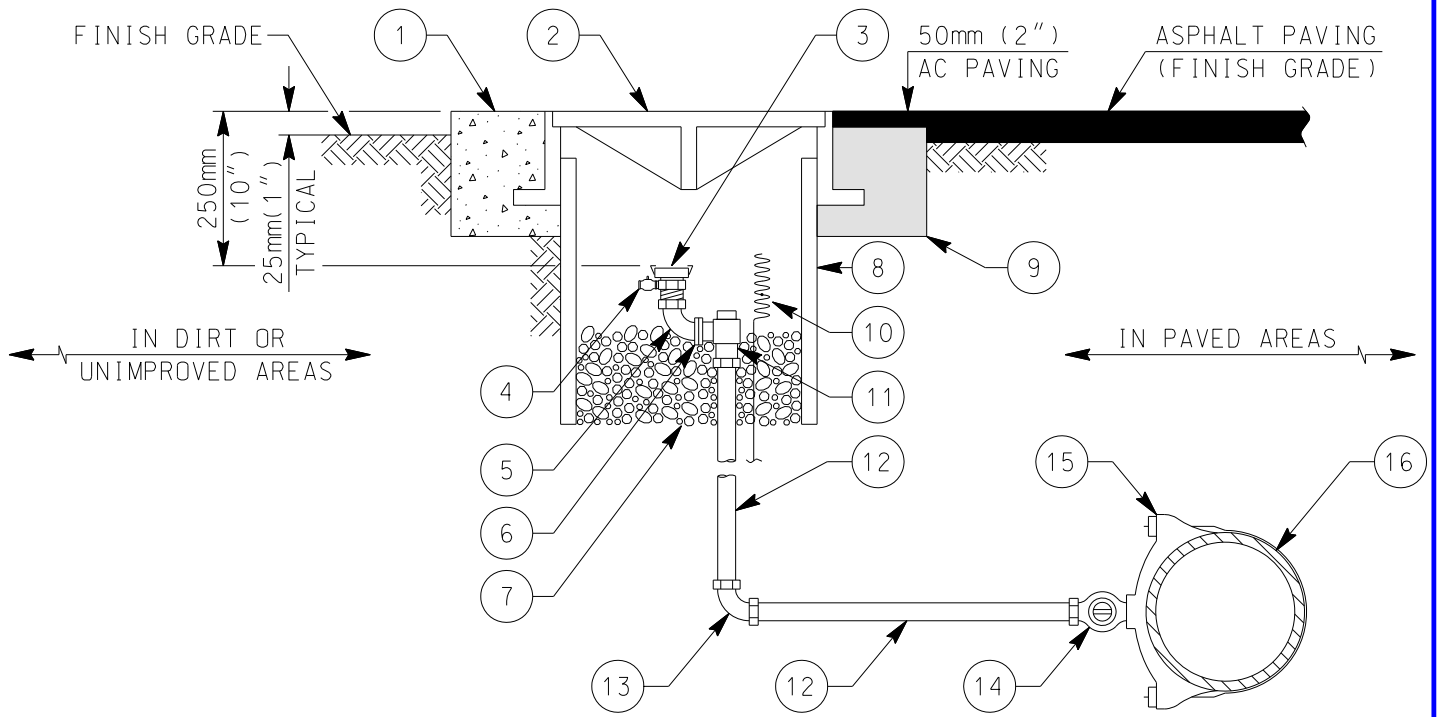
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm (8") HIGH x 200mm (8") WIDE CONCRETE RING	8	WATER MAIN
2	300mm (12") 2-PIECE FRAME AND LID VALVE BOX, SEE NOTE 7	9	300mm (12") SDR 35 PVC PIPE x 600mm (24") LONG GATE WELL
3	50mm (2") CAM & GROOVE FITTING ADAPTER x MIPT WITH LOCKING DUST 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 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) 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 LEGEND ON PLANS

50mm (2")

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	200mm (8") HIGH x 200mm (8") WIDE CONCRETE RING	8	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	9	200mm (8") HIGH x 200mm (8") WIDE ASPHALT CONCRETE RING
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") 90° BRONZE COMPRESSION ELL
7	10mm (3/8") ROCK 100mm TO 150mm (4" TO 6") DEEP	14	50mm (2") BRONZE MIPT x COMPRESSION CORPORATION STOP
		15	SIZE x 50mm (2") SERVICE SADDLE
		16	WATER MAIN

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

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: WB-06

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

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: 11/23/2011

DRAWING NUMBER: WF-05 (2 OF 2)

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

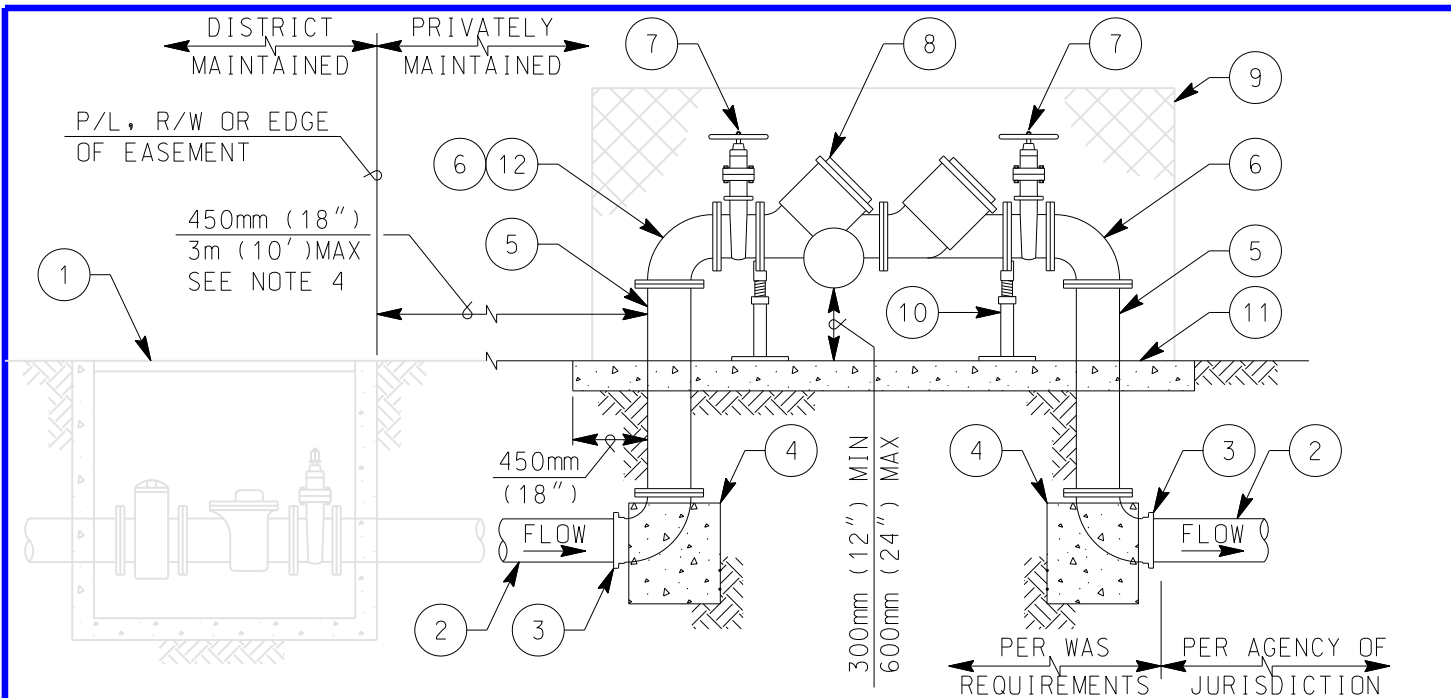
REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS

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

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

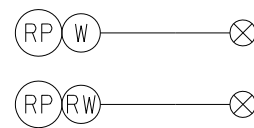
DRAWING NUMBER: WI-03



NOTES:

- 1) 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

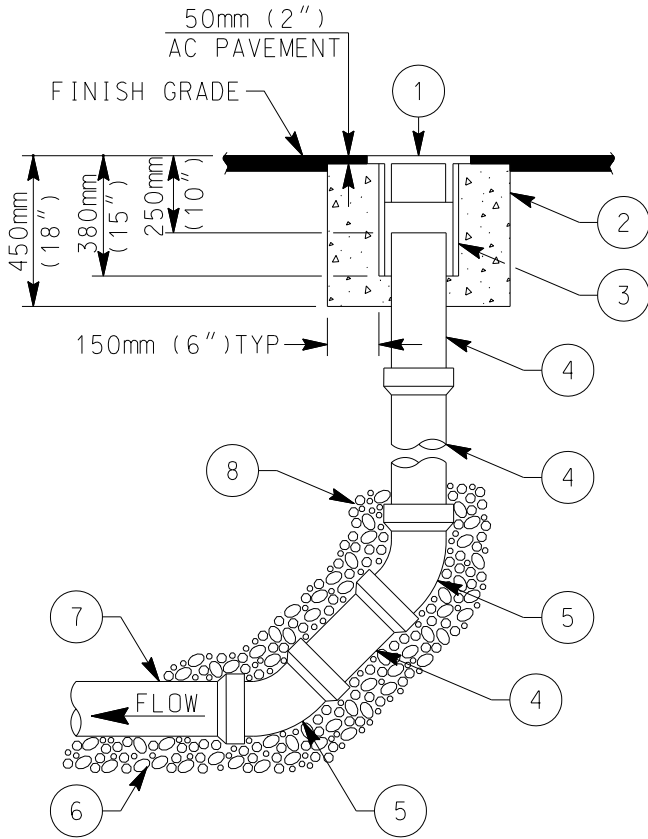
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Standard Drawings for Sewer Facilities

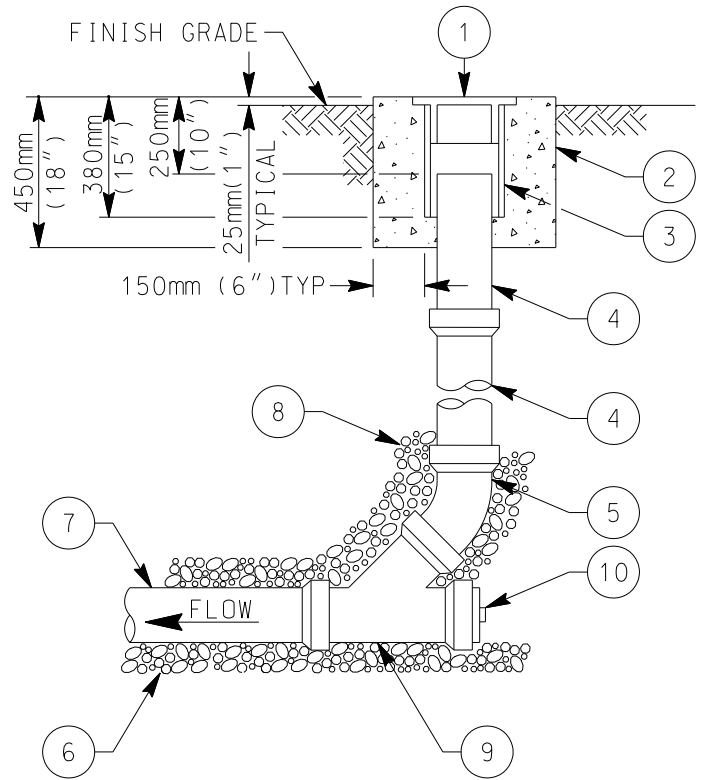
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DRAWING NUMBER	APPROVAL DATE	DRAWING DESCRIPTION
SC		CLEANOUT DETAILS
SC-01	11/23/2011	Sewer Cleanout
SI		SEWER INFORMATION
SI-01	11/23/2011	Standard Symbols for Sewer Construction Drawings
SM		MANHOLE DETAILS
SM-01	03/01/2001	1500mm (60") Diameter Precast Manhole Installation
SM-02	03/01/2001	1500mm (60") Diameter Shallow Precast Manhole Installation
SM-03	12/31/2003	1500mm (60") Diameter Manhole Bases
SM-04	03/01/2001	Manhole Pipe Connectors
SM-05	03/01/2001	Manhole Access Locations and Stub Out and Joint Details
SM-06	03/01/2001	900mm (36") Manhole Frame and Two Concentric Covers
SM-07	03/01/2001	Manhole Coating and Lining System
SM-08	03/01/2001	Existing Manhole Abandonment
SM-09	03/01/2001	1500mm (60") Diameter Drop Manhole for Sewer Mains
SM-10	03/01/2001	1500mm (60") Diameter Drop Manhole Sections, Details and Notes
SM-11	03/01/2001	Locking Manhole Cover
SP		PIPELINE DETAILS
SP-01	03/01/2001	Warning/Identification Tape Installation
SP-02	11/01/2002	Pipe Bedding and Trench Backfill for Sewer Facilities
SP-03	03/01/2001	Concrete Pipe Cradle
SS		SEWER SERVICE LATERAL DETAILS
SS-01	11/23/2011	100mm (4") and 150mm (6") Sewer Lateral Installation
SS-02	11/23/2011	100mm (4") and 150mm (6") Deep-Cut Sewer Lateral Installation
SS-03	11/23/2011	Sewer Lateral Notes and Detail
SS-04	11/23/2011	100mm (4") and 150mm (6") Sewer Cut-In Wye Connections



TYPE A

FOR 150mm (6") AND
200mm (8") MAINS
SEE NOTE 1



TYPE B

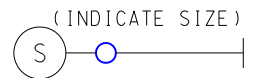
FOR 100mm (4") AND
150mm (6") LATERALS

NOTES:

- 1) CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS IN ACCORDANCE WITH SECTION 15065 OF SPECIFICATIONS
- 2) CLEANOUT PIPE TO BE SAME SIZE AND MATERIAL AS SEWER MAIN OR LATERAL
- 3) BACKFILL TO TOP OF 45° BEND WITH 19mm (3/4") CRUSHED ROCK
- 4) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

(INDICATE SIZE)

(INDICATE SIZE)



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	300mm (12") CI CLEANOUT BOX COVER MARKED "SEWER"	5	45° ELBOW
2	CONCRETE RING	6	19mm (3/4") CRUSHED ROCK PIPE BEDDING
3	300mm (12") PVC, C-900 x 380mm (15") LONG (CLEANOUT BOX)	7	SEWER MAIN OR LATERAL
4	SIZE x REQUIRED LENGTH PVC PIPE	8	19mm (3/4") CRUSHED ROCK SEE NOTE 3
		9	PVC WYE BRANCH
		10	PVC PLUG OR CAP

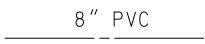
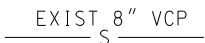
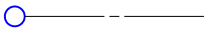
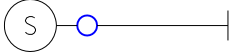
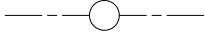
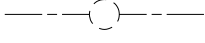
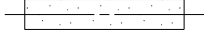
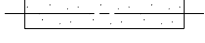
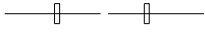

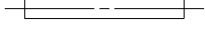

SEWER CLEANOUT

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: SC-01

SEWER-LEGEND ON PLANS
USE ONLY THOSE SYMBOLS THAT APPLY TO THESE DRAWINGS

DESCRIPTION	STANDARD DRAWING	SYMBOL
NEW SEWER MAIN (INDICATE SIZE AND TYPE)	N/A	
EXISTING SEWER MAIN (INDICATE SIZE AND TYPE)	N/A	
SEWER MAIN CLEANOUT (INDICATE SIZE)	SC-01	
SEWER LATERAL CLEANOUT (INDICATE SIZE)	SC-01	
MANHOLE FOR SEWER MAINS 1500mm (60")	SM-01, SM-02, SM-09	
EXISTING SEWER MANHOLE ABANDONMENT	SM-08	
CONCRETE PIPE CRADLE	SP-03	
PIPE SUPPORT FOR UNDERCUT SEWER MAINS	WP-09	
SLOPE PROTECTION FOR SEWER MAINS	WP-05, WP-07	
CUTTING AND PLUGGING ABANDONED SEWER MAINS	WP-03	
PIPE CASING INSTALLATION FOR SEWER MAINS	WP-04	
PVC SEWER LATERAL (INDICATE SIZE)	SS-01, SS-02, SS-03	

NOTES:

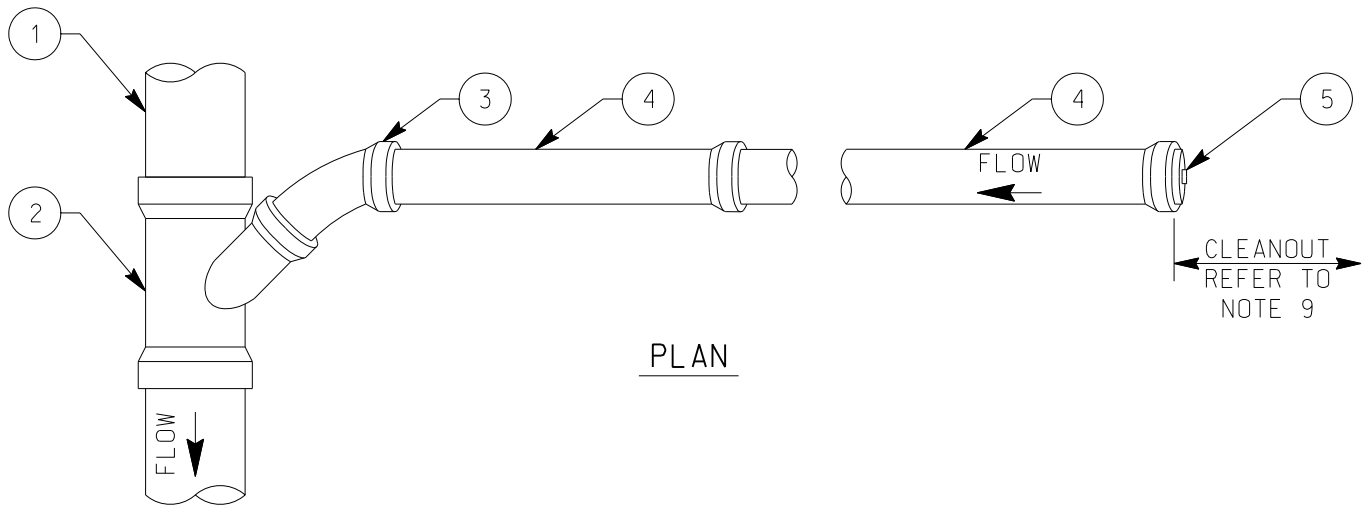
1. STANDARD SYMBOLS FOR POTABLE AND RECYCLED FACILITIES SHALL BE AS SHOWN ON WI-06
2. USE ONLY THOSE SYMBOLS THAT APPLY TO THE IMPROVEMENT PLANS

STANDARD SYMBOLS FOR
SEWER CONSTRUCTION DRAWINGS

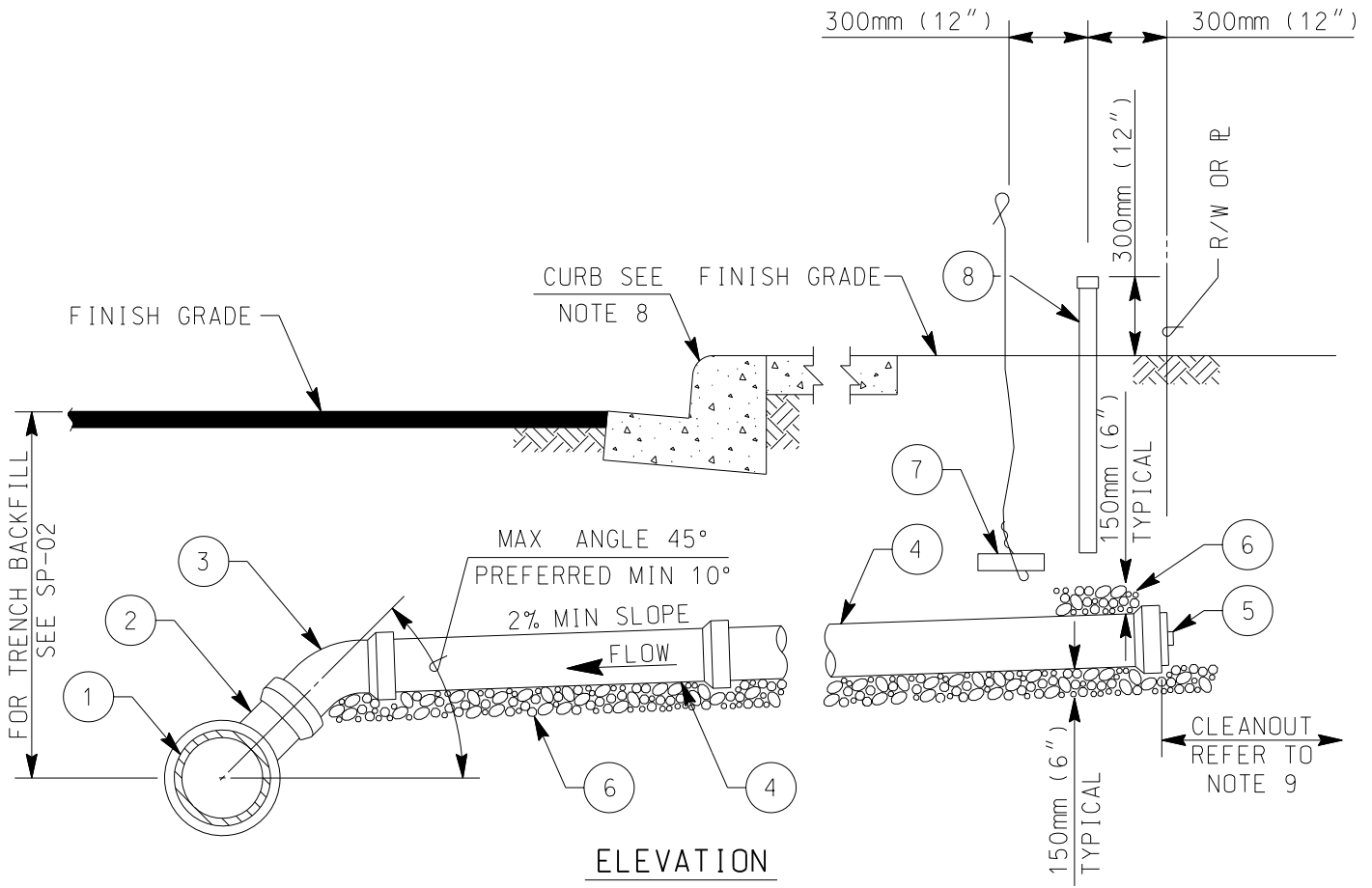
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: S I - 0 1



PLAN



ELEVATION

(INDICATE SIZE)
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 LEGEND ON PLANS

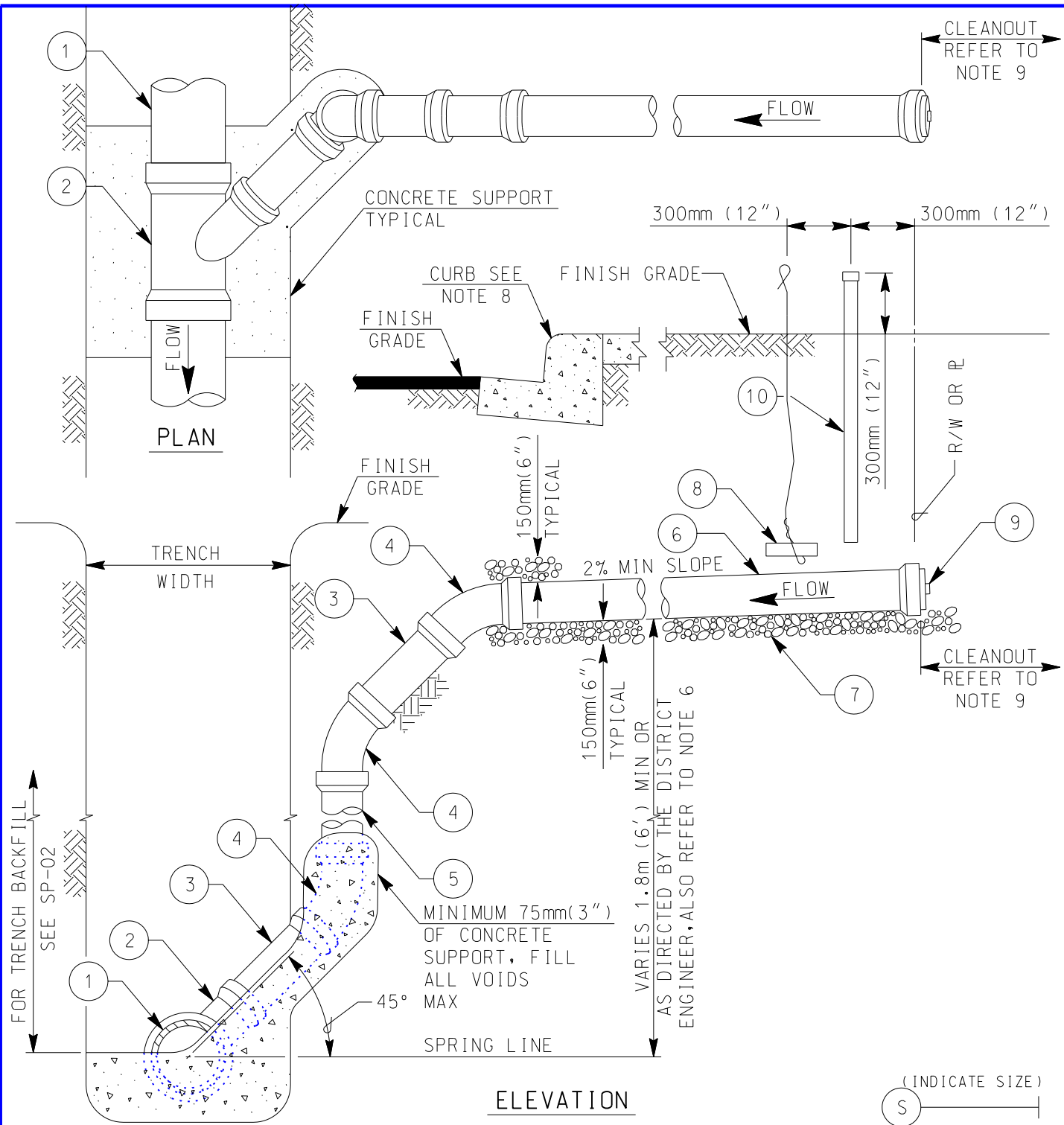
FOR SEWER LATERAL NOTES SEE DETAIL SS-03

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	SEWER MAIN	5	PVC PLUG OR CAP
2	45° WYE	6	19mm (3/4") MAXIMUM CRUSHED ROCK
3	45° ELBOW	7	#9 WIRE ATTACHED TO A BRICK
4	PVC PIPE LATERAL SEE NOTE 3 & 5	8	100mm (4") PVC PIPE WITH GLUED CAP

100mm (4") AND 150mm (6") SEWER LATERAL INSTALLATION

WATER AGENCIES' STANDARDS
 COMMITTEE APPROVAL: 11/23/2011
 DRAWING NUMBER: SS-01

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FOR SEWER LATERAL NOTES SEE DETAIL SS-03

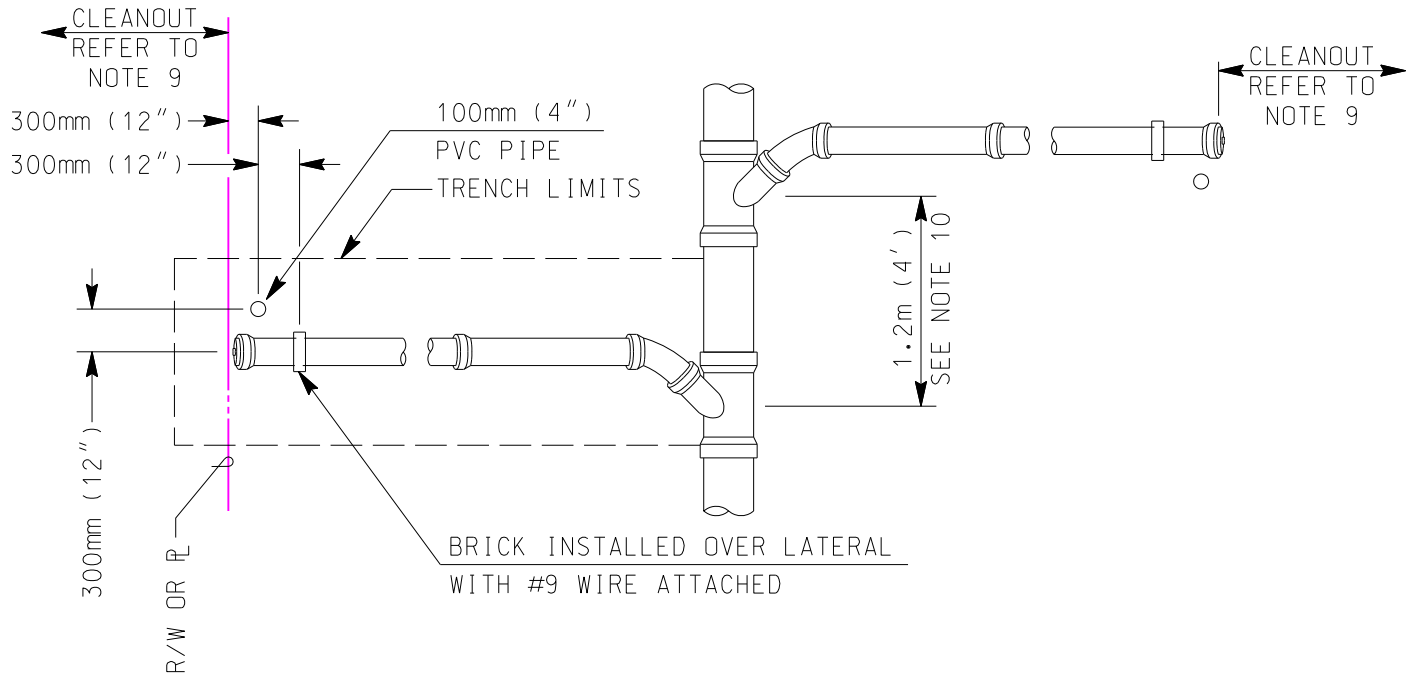
(INDICATE SIZE)
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 LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	SEWER MAIN	6	PVC PIPE LATERAL SEE NOTE 3 & 5
2	45° WYE	7	19mm (3/4") MAXIMUM CRUSHED ROCK
3	PVC PIPE	8	#9 WIRE ATTACHED TO A BRICK
4	45° ELBOW	9	PVC PLUG OR CAP
5	PVC PIPE SEE NOTE 6	10	100mm (4") PVC PIPE WITH GLUED CAP

100mm (4") AND 150mm (6") DEEP-CUT
 SEWER LATERAL INSTALLATION

WATER AGENCIES' STANDARDS
 COMMITTEE APPROVAL: 11/23/2011
 DRAWING NUMBER: SS-02

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SEWER LATERAL DETAIL

SEE NOTE 11 BELOW

NOTES:

- 1) REFER TO SECTION 15065 OF THE SPECIFICATIONS
- 2) IN NO CASE SHALL LATERAL CONNECT DIRECTLY ON TOP OF SEWER MAIN
- 3) LATERAL SHALL BE INSTALLED TO PROPERTY LINE UNLESS SPECIFIED ON PLANS
- 4) MINIMUM 1.2m (4') COVER ABOVE LATERAL AT PROPERTY LINE
- 5) LATERAL TO HAVE A MINIMUM SLOPE OF 2%
- 6) VERTICAL PIPE SHALL BE BRACED WHILE BACKFILLING TRENCH
- 7) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON SP-01
- 8) STAMP OR CHISEL A 50mm (2") HIGH "S" IN CURB FACE OVER LATERAL TO IDENTIFY SEWER LATERAL LOCATION
- 9) TYPE B CLEANOUT PER SC-01 TO BE INSTALLED AS REQUIRED BY THE AGENCY OF JURISDICTION
- 10) MINIMUM 0.9m (3') SECTION OF PIPE IS REQUIRED BETWEEN FITTINGS
- 11) FOR SEWER LATERAL INSTALLATIONS SEE SS-01 AND SS-02
- 12) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

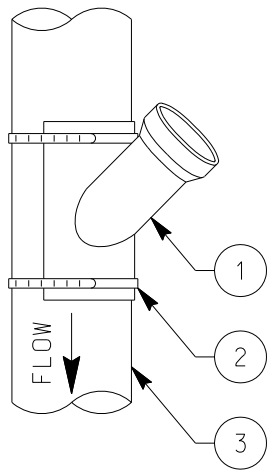
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SEWER LATERAL NOTES AND DETAIL

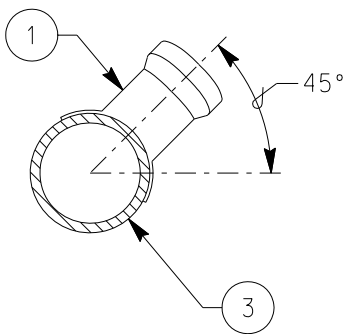
WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: SS-03

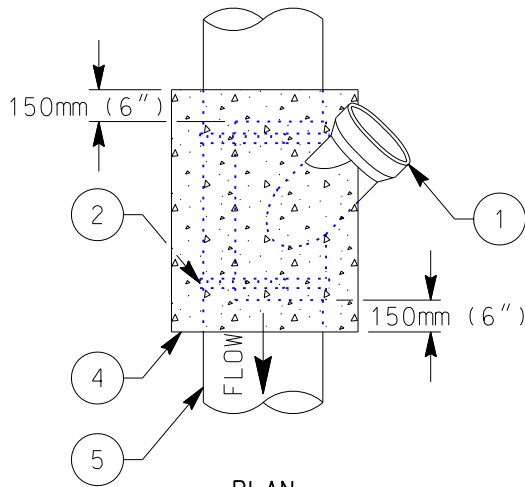


PLAN

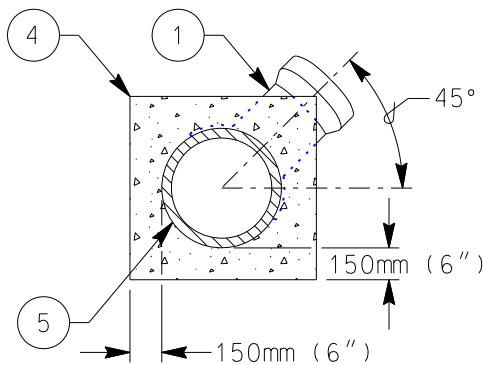


ELEVATION

**TYPE A
CUT IN WYE CONNECTION
FOR EXISTING PVC PIPE**

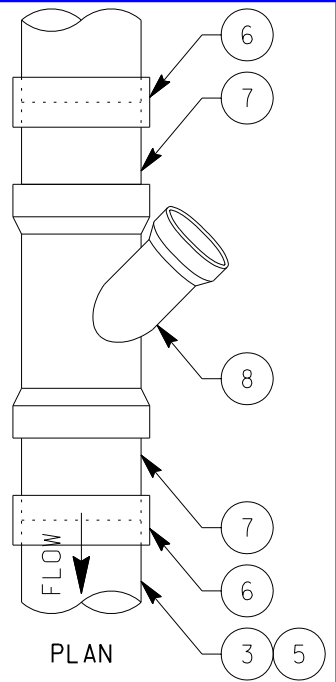


PLAN

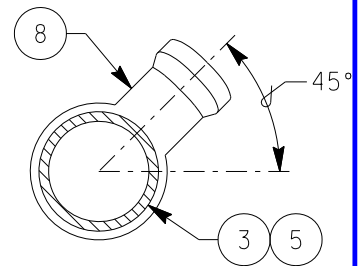


ELEVATION

**TYPE B
CUT IN WYE CONNECTION
FOR EXISTING VCP PIPE**



PLAN



ELEVATION

**TYPE C
CUT IN WYE CONNECTION
FOR EXISTING VCP OR
PVC PIPE**

NOTES:

- 1) REFER TO SECTION 15065 AND 15000 OF THE SPECIFICATIONS
- 2) CONNECTIONS TO EXISTING SEWER MAINS TO BE MADE BY DISTRICT PERSONNEL IN ACCORDANCE WITH 15000 UNLESS OTHERWISE NOTED ON PLANS
- 3) IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN
- 4) NO MORE THAN ONE CUT IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING VCP SEWER MAIN
- 5) FOR SEWER LATERAL INSTALLATION SEE SS-01 AND SS-02
- 6) FOR TRENCH BACKFILL SEE SP-02
- 7) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	45° SADDLE WYE WITH GASKET	5	EXISTING VCP SEWER MAIN
2	STAINLESS STEEL HOSE CLAMPS (2-EACH)	6	CAULDER COUPLING
3	EXISTING PVC SEWER MAIN	7	0.9m (3') PVC SEWER PIPE SPOOL
4	CONCRETE ENCASEMENT	8	45° PVC WYE

100mm (4") AND 150mm (6")
SEWER CUT-IN WYE CONNECTIONS

WATER AGENCIES' STANDARDS

COMMITTEE APPROVAL: 11/23/2011

DRAWING NUMBER: SS-04