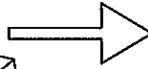
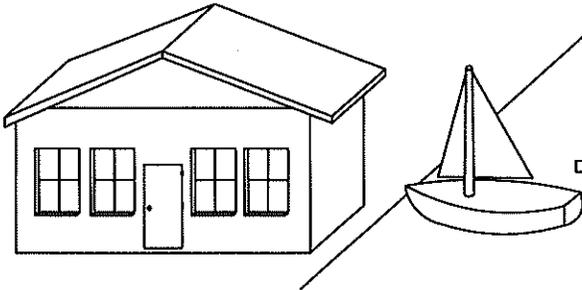


609 PAGE 2
609B

USE STANDARD

BACKFLOW PROTECTION NOTES
RESIDENTIAL FIRE AND DOMESTIC
DOUBLE CHECK VALVE BACKFLOW
ASSEMBLY (DCV)

SINGLE FAMILY RESIDENTIAL (INCLUDING DUPLEX)
1" TO 2" DIAMETER WATER SERVICE
FOR METER UPSIZE OR NEW WATER METER SERVICE ONLY

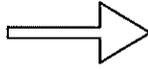
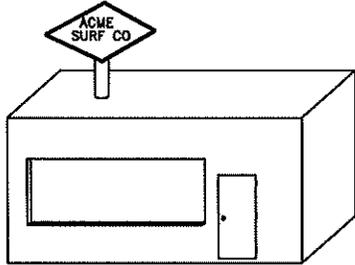


609 PAGE 2
609C

USE STANDARD

BACKFLOW PROTECTION NOTES
RESIDENTIAL FIRE AND DOMESTIC
REDUCED PRESSURE PRINCIPAL
DEVICE (RPPD)

WATER FRONT SINGLE FAMILY RESIDENTIAL (INCLUDING DUPLEX)
1" TO 2" DIAMETER WATER SERVICE
FOR METER UPSIZE OR NEW WATER METER SERVICE ONLY

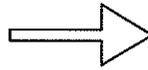
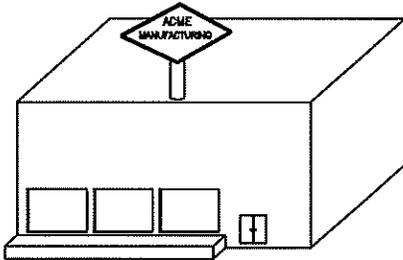


609 PAGE 2
609A
618

USE STANDARD

BACKFLOW PROTECTION NOTES
1" TO 2" RPPD
2.5" THROUGH 10" DOUBLE CHECK
DETECTOR ASSEMBLY (DCDA)
(FIRE SERVICE ONLY)

SMALL COMMERCIAL, INDUSTRIAL FACILITIES,
OR MULTI FAMILY RESIDENTIAL
1" TO 2" DIAMETER WATER SERVICE



609 PAGE 2
609D
618

USE STANDARD

BACKFLOW PROTECTION NOTES
3" THROUGH 10" RPPD
2.5" THROUGH 10" DOUBLE CHECK
DETECTOR ASSEMBLY (DCDA)
(FIRE SERVICE ONLY)

LARGE COMMERCIAL OR INDUSTRIAL FACILITIES
OR MULTI FAMILY RESIDENTIAL
3" TO 10" DIAMETER WATER SERVICE

APPROVED:

CITY ENGINEER

DATE: 02/15/17

CITY OF HUNTINGTON BEACH

DEPARTMENT OF PUBLIC WORKS



BACKFLOW STANDARD PLANS
OVERVIEW

STANDARD PLAN
609
PAGE 1

BACKFLOW PROTECTION

- A. ALL INDUSTRIAL, COMMERCIAL AND MULTI-FAMILY DWELLING SERVICE CONNECTIONS SHALL HAVE APPROPRIATE BACKFLOW PROTECTION INSTALLED AND MAINTAINED BY OWNER.
- B. ALL RESIDENTIAL SERVICES TO COMBINATION FIRE AND DOMESTIC USE SHALL HAVE DOUBLE CHECK VALVE BACKFLOW ASSEMBLY INSTALLED (EXCEPT RESIDENTIAL WATER FRONT PROPERTIES SHALL HAVE RPPD INSTALLED).
- C. ALL BACKFLOW PREVENTION DEVICES MUST BE TESTED BY A CERTIFIED TESTER AT LEAST ANNUALLY AND IMMEDIATELY AFTER INSTALLATION, RELOCATION OR REPAIR. NO NEW SERVICE SHALL BE DEEMED ACCEPTABLE UNTIL TESTED AND CERTIFIED AFTER INSTALLATION.
- D. ALL BACKFLOW PREVENTION DEVICES MUST BE U.S.C LISTED AND APPROVED BY THE STATE HEALTH DEPARTMENT.
- E. ANY WATER SYSTEM PROVIDED WITH A CHECK VALVE, BACKFLOW PREVENTER, OR ANY OTHER NORMALLY CLOSED DEVICE THAT PREVENTS DISSIPATION OF BUILDING PRESSURE BACK INTO THE WATER MAIN SHALL BE PROVIDED WITH AN APPROVED, LISTED, AND ADEQUATELY SIZED EXPANSION TANK OR OTHER APPROVED DEVICE HAVING A SIMILAR FUNCTION TO CONTROL THERMAL EXPANSION, PER BUILDING DIVISION.
- F. EXISTING FIRE SERVICES REQUIRING REPAIRS SHALL HAVE THE BACKFLOW PROTECTION UPGRADED TO COMPLY WITH STD. PLAN 618, AS A MINIMUM AND SHALL REQUIRE A SUB-APPROVAL/PERMIT CLEARANCE BY A UTILITY CROSS-CONNECTION CONTROL SPECIALIST, AND FIRE DEPARTMENT INSPECTOR. FIRE DEPARTMENT CONNECTION (FDC) SIZE, LOCATION, AND ELEVATION PER FIRE DEPARTMENT REQUIREMENTS AND WILL REQUIRE SEPARATE PERMIT FROM FIRE DEPARTMENT.
- G. AFTER ABANDONMENT AND REMOVAL OF CHECK-VALVE AND VAULT, REPAIR PAVEMENT PER STD 606 OR REPLACE SIDEWALK PER CITY STANDARD.
- H. ALL SEPARATE IRRIGATION WATER SERVICE CONNECTIONS SHALL HAVE SEPARATE RPPD'S AS APPROVED BY THE UTILITY CROSS-CONNECTION CONTROL SPECIALISTS.
- I. ALL WORK PERTAINING TO BACKFLOW DEVICES SHALL BE INSPECTED BY THE PUBLIC WORKS WATER INSPECTOR. FOR NON-RESIDENTIAL PROPERTIES ALL PIPING BETWEEN METER AND BACKFLOW DEVICE SHALL ALSO BE INSPECTED BY THE UTILITY CROSS CONNECTION CONTROL SPECIALIST. FOR RESIDENTIAL PROPERTIES ALL PIPING BETWEEN METER AND BACKFLOW DEVICE SHALL BE INSPECTED BY BUILDING DIVISION.
- J. NO PERSON SHALL FILL SPECIAL USE TANKS, TANKERS, OR VAULTS CONTAINING SEWAGE, PESTICIDES, FERTILIZERS, UNAPPROVED AUXILIARY WATER, OR TOXIC CHEMICALS OR THEIR RESIDUES EXCEPT AT A LOCATION EQUIPPED WITH AN APPROVED AIR GAP (2 X DIAMETER OF SUPPLY PIPE WITH A MINIMUM GAP OF 1"). NO SUPPLIER OF WATER SHALL PERMIT THE FILLING OF SUCH SPECIAL USE CONTAINERS EXCEPT AT LOCATIONS SO EQUIPPED, REFER TO STANDARD PLAN 609E.
- K. MINIMUM METER AND BACKFLOW DEVICE SIZE IS PER FIRE DEPARTMENT AND/OR BUILDING DIVISION REQUIREMENTS.

APPROVED:



CITY ENGINEER

DATE: 02/15/17

CITY OF HUNTINGTON BEACH

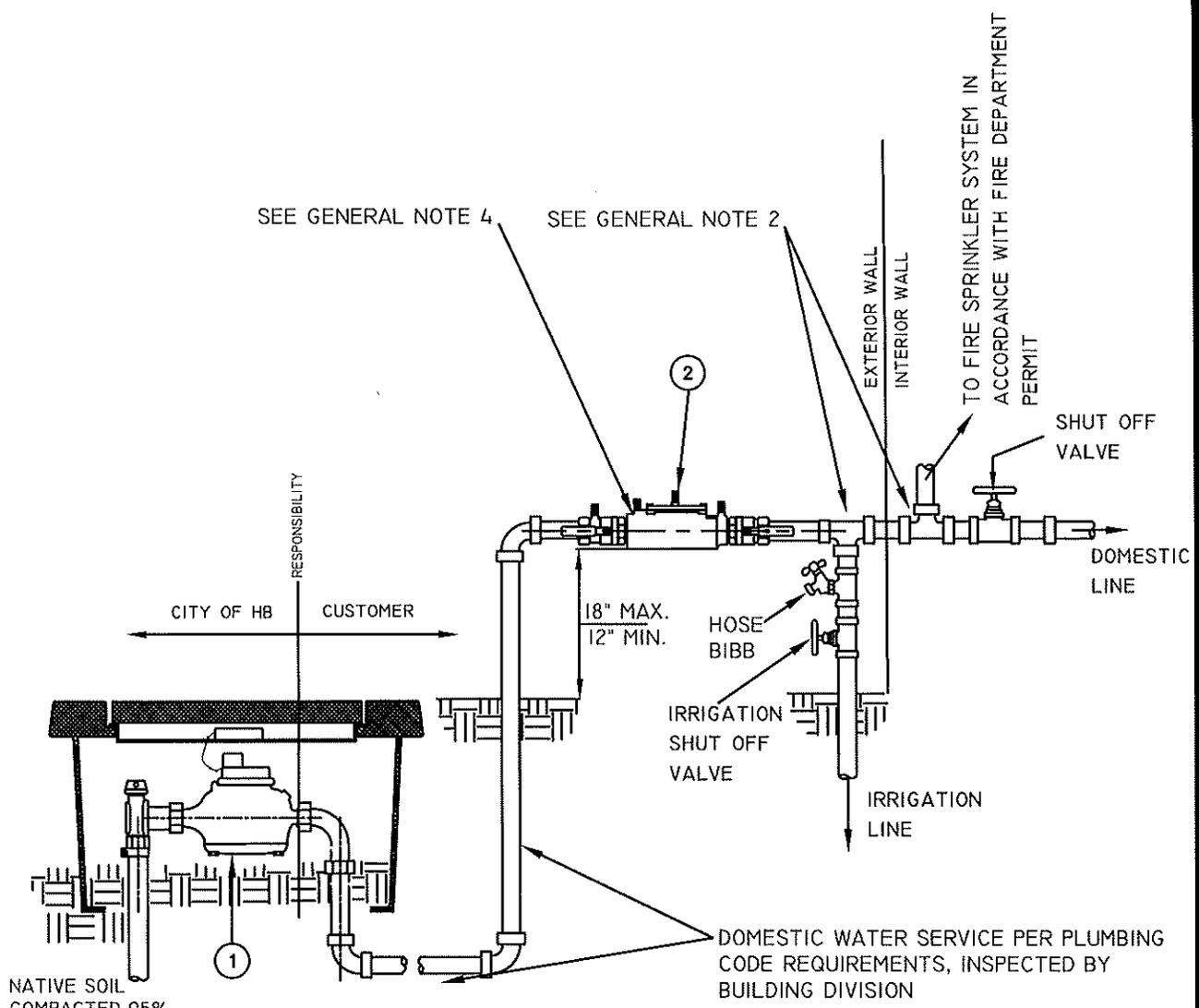
DEPARTMENT OF PUBLIC WORKS



BACKFLOW PROTECTION NOTES

STANDARD PLAN

609
PAGE 2



GENERAL NOTES

1. IMMEDIATELY AFTER INSTALLATION, ALL BACKFLOW DEVICES SHALL BE TESTED BY A CERTIFIED TESTER APPROVED BY THE CITY. NO SERVICE SHALL BE DEEMED ACCEPTABLE UNTIL THE DEVICE IS TESTED AND CERTIFIED AFTER INSTALLATION.
2. TEES OR OTHER APPURTENANCES ARE PROHIBITED BETWEEN THE METER AND THE BACKFLOW DEVICE AND SHALL BE CONSTRUCTED DOWNSTREAM OF THE BACKFLOW DEVICE.
3. DOUBLE CHECK VALVE BACKFLOW ASSEMBLY SHALL BE THE SAME SIZE DIAMETER AS THE WATER SERVICE.
4. THE BACKFLOW DEVICE IS A PART OF THE PUBLIC WORKS ENCROACHMENT PERMIT AND THE PW INSPECTOR AND CROSS-CONNECTION CONTROL SPECIALIST WILL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE FINAL LOCATION OF THE DCV.
5. SEE PLANNING DIVISION FOR THERMAL EXPANSION REQUIREMENTS PER STANDARD PLAN 609 PAGE 2 NOTE E.

ITEM	DESCRIPTION	PLAN OR SPECIFICATION	QTY
①	RESIDENTIAL METER; 1" THROUGH 2".	STD 601-603	--
②	DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY (LEAD FREE)	02087.1	--

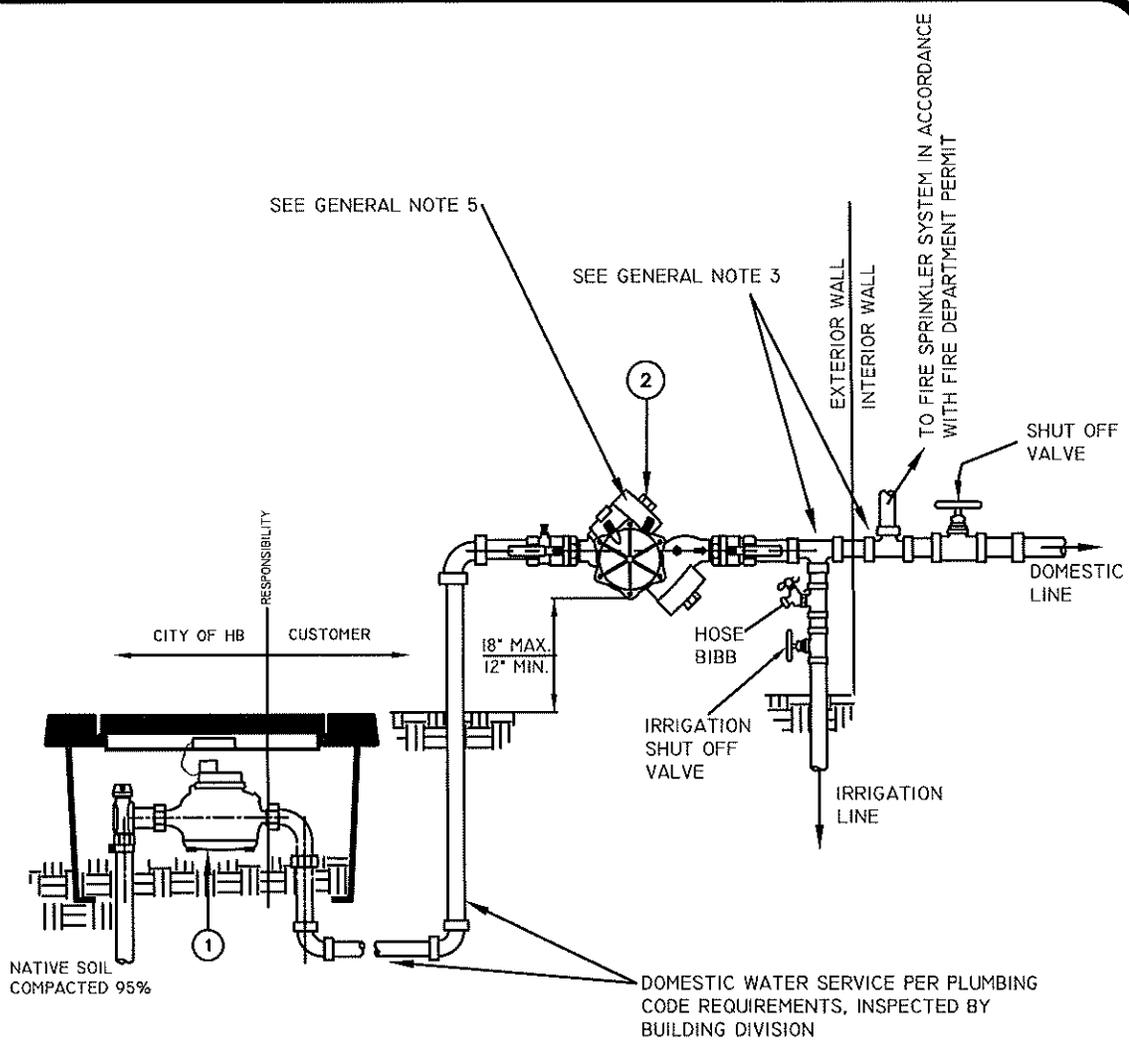
APPROVED:

 CITY ENGINEER
 DATE: 3/1/19

CITY OF HUNTINGTON BEACH
 DEPARTMENT OF PUBLIC WORKS
 RESIDENTIAL FIRE AND DOMESTIC DOUBLE CHECK VALVE BACKFLOW ASSEMBLY (DCV) (FOR NEW RESIDENTIAL FIRE SPRINKLER SYSTEMS)



STANDARD PLAN
609B



GENERAL NOTES

1. FOR RESIDENTIAL WATERFRONT PROPERTIES ONLY
2. IMMEDIATELY AFTER INSTALLATION, ALL RPPDs SHALL BE TESTED BY A CERTIFIED TESTER APPROVED BY THE CITY. NO SERVICE SHALL BE DEEMED ACCEPTABLE UNTIL THE DEVICE IS TESTED AND CERTIFIED AFTER INSTALLATION.
3. TEES OR OTHER APPURTENANCES ARE PROHIBITED BETWEEN THE METER AND THE RPPD BACKFLOW DEVICE AND SHALL BE CONSTRUCTED DOWNSTREAM OF THE RPPD BACKFLOW DEVICE.
4. RPPD BACKFLOW ASSEMBLY SHALL BE THE SAME SIZE DIAMETER AS THE WATER SERVICE.
5. THE BACKFLOW DEVICE IS A PART OF THE PUBLIC WORKS ENCROACHMENT PERMIT AND THE PW INSPECTOR AND CROSS-CONNECTION CONTROL SPECIALIST WILL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE FINAL LOCATION OF THE DCV.
6. SEE PLANNING DIVISION FOR THERMAL EXPANSION REQUIREMENTS PER STANDARD PLAN 609 PAGE 2 NOTE E.

ITEM	DESCRIPTION	PLAN OR SPECIFICATION	QTY
①	RESIDENTIAL METER; 1" THROUGH 2".	STD 601-603	--
②	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY RPPD (LEAD FREE)	02087.1	--

APPROVED:

Tom [Signature]

CITY ENGINEER

DATE: 3/1/19

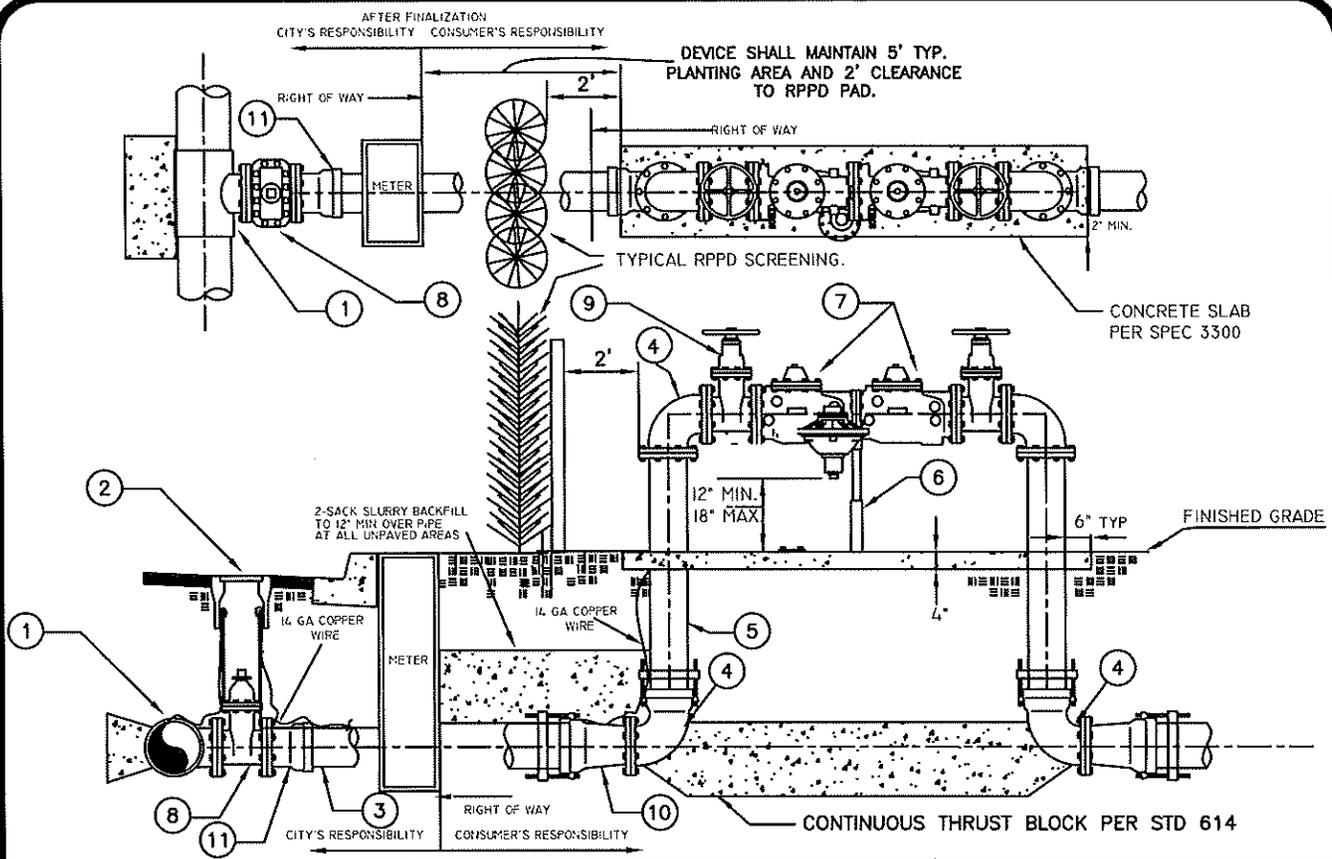
CITY OF HUNTINGTON BEACH

DEPARTMENT OF PUBLIC WORKS



RESIDENTIAL FIRE AND DOMESTIC REDUCED PRESSURE PRINCIPLE
DEVICE (RPPD) BACKFLOW ASSEMBLY
FOR WATERFRONT PROPERTIES ONLY
(FOR NEW RESIDENTIAL FIRE SPRINKLER SYSTEMS)

STANDARD PLAN
609C



GENERAL NOTES:

1. ALL DUCTILE IRON SPOOLS SHALL BE ONE PIECE, CLASS 53, FLANGED, AND SHALL BE INSTALLED PER THE CITY OF HUNTINGTON BEACH STANDARD PLANS AND SPECIFICATIONS.
2. ALL FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.
3. PIPE SUPPORT(S) ARE REQUIRED PER STANDARD PLAN 616.
4. ALL ABOVE GROUND PIPING, INCLUDING BACKFLOW DEVICE, SHALL BE PAINTED ACCORDING TO SPEC. 02087.1.
5. CONTRACTOR MUST POSSESS AN A OR C34 CONTRACTORS LICENSE TO PERFORM THE FIRE SERVICE CONSTRUCTION.
6. ALL FITTINGS SHALL BE DUCTILE IRON.
7. ALL FITTINGS SHALL BE INSTALLED PER STANDARD PLAN 614.
8. IMMEDIATELY AFTER INSTALLATION, RELOCATION, OR REPAIR, ALL BACKFLOW PREVENTION DEVICES SHALL BE TESTED BY A CERTIFIED TESTER APPROVED BY THE CITY OF HUNTINGTON BEACH. NO SERVICE SHALL BE DEEMED ACCEPTABLE UNTIL THE DEVICE IS TESTED AND CERTIFIED AFTER INSTALLATION.
9. TEE OR OTHER APPURTENANCES ARE PROHIBITED BETWEEN THE METER AND THE RPPD.

ITEM	DESCRIPTION	SPECIFICATION	QTY
①	TEE OR TAPPING TEE, FLG, PER STD PLAN No.619. 4" MIN. OR RPPD SIZE, WHICH EVER GREATER.	02085.9	1
②	VALVE BOX PER STD PLAN No. 612.	02085.9	1
③	P.V.C. PIPE AWWA C900, DR18. (4" MIN.)	02510.9	AR
④	90° ELBOW, FLANGED ABOVE GROUND, FLG OR MJ RESTRAINED BELOW GROUND.	02510.1	4
⑤	D.I. PIPE, TC 53, FLG X MJ, W/POLYETHYLENE ENCASEMENT. LENGTH AS REQUIRED.	02510.1	1
⑥	ADJUSTABLE PIPE SUPPORT PER STD. PLAN No. 616.	02510.8	1
⑦	REDUCED PRESSURE PRINCIPLE ASSY. PER STATE DIVISION OF DRINKING WATER APPROVED LIST.	02087.1	1
⑧	GATE VALVE PER STD. PLAN No. 619 (4" MIN.)	02085.9	1
⑨	RESILIENT WEDGE VALVE, FLANGED, W/HAND WHEEL	02085.9	1
⑩	REDUCER IF REQUIRED FLG OR MJ RESTRAINED.	02510.1	1
⑪	FLG X MJ ADAPTER.	02510.1	1

APPROVED:

Tom [Signature]
CITY ENGINEER

DATE: 11/17/16

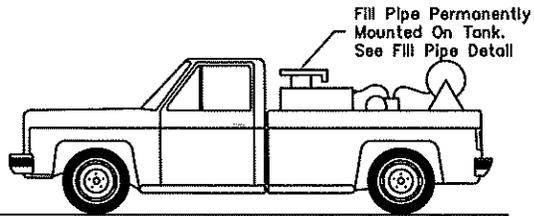
CITY OF HUNTINGTON BEACH

DEPARTMENT OF PUBLIC WORKS

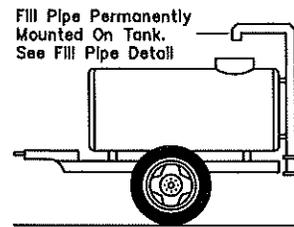


3" THROUGH 10"
REDUCED PRESSURE PRINCIPLE DEVICE
(RPPD)

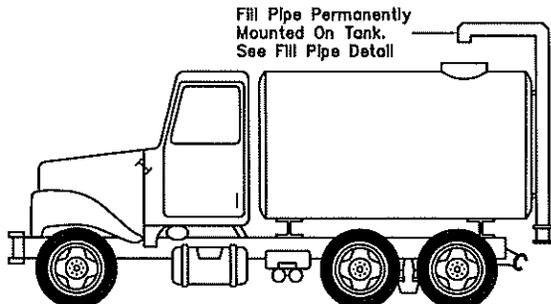
STANDARD PLAN
609D



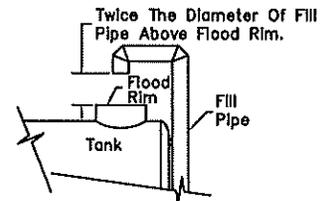
PESTICIDE APPLICATOR TRUCK



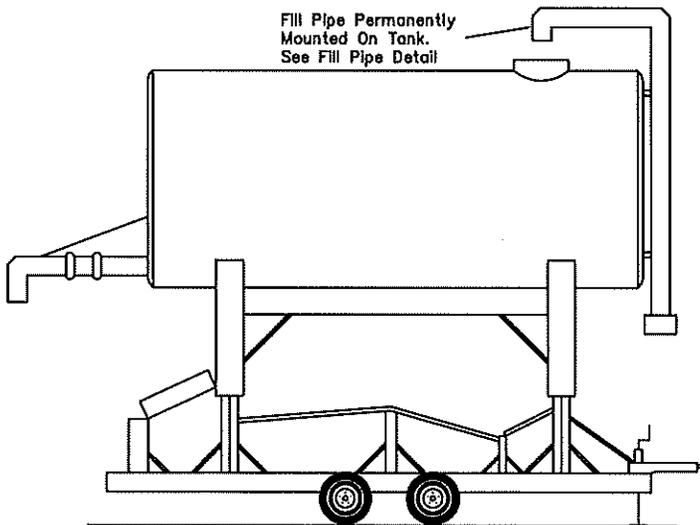
WATER WAGON



WATER TRUCK



FILL PIPE DETAIL



ELEVATED TANK

ANY OTHER SPECIALIZED AIR GAP DESIGNS AND INSTALLATIONS MUST BE APPROVED BY CITY UTILITY CROSS CONNECTION CONTROL SPECIALIST PRIOR TO USE.

CUSTOMIZED AIR GAP

APPROVED:

CITY ENGINEER

DATE: 11/17/16

CITY OF HUNTINGTON BEACH

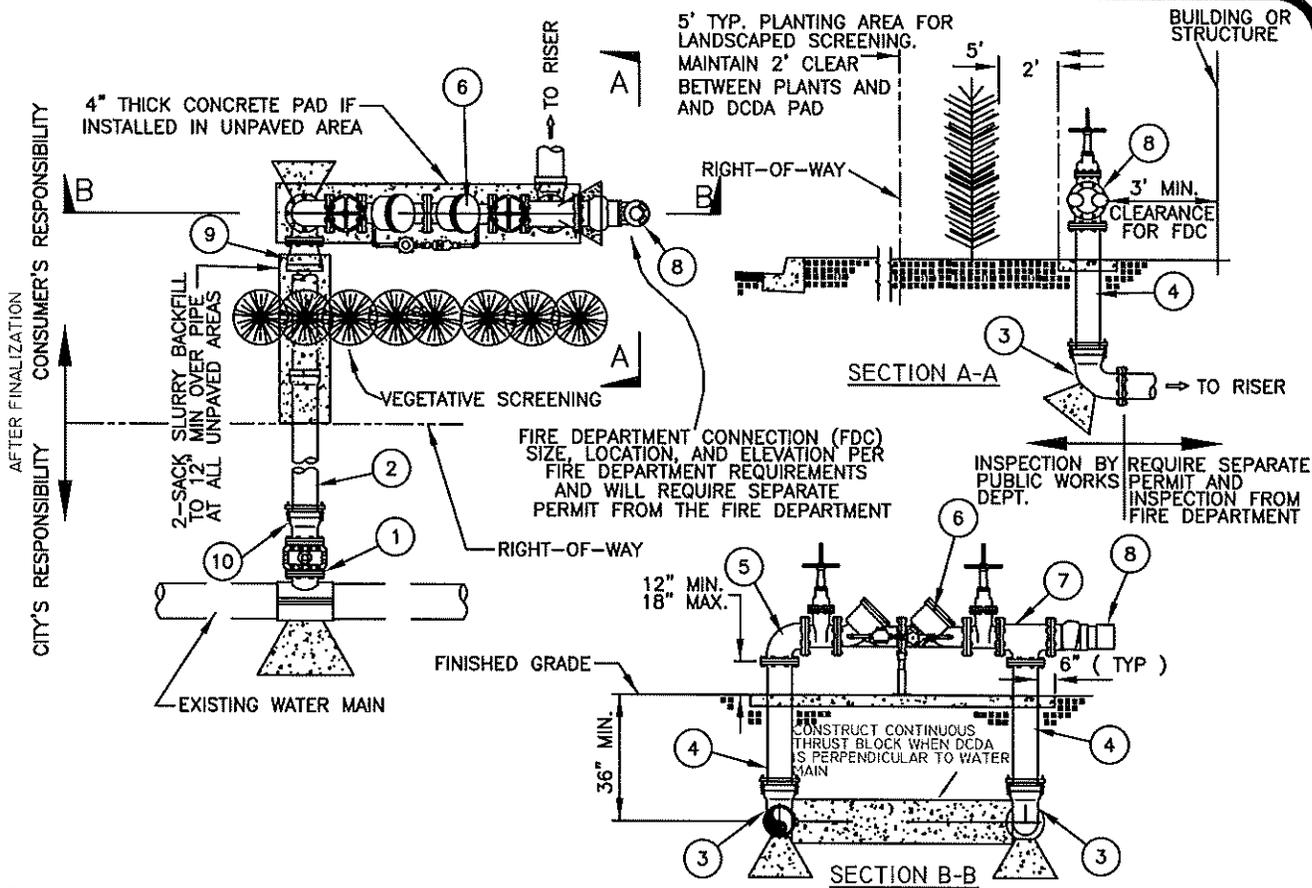
DEPARTMENT OF PUBLIC WORKS



AIR GAP BACKFLOW ASSEMBLY

STANDARD PLAN

609E



GENERAL NOTES:

1. ALL DUCTILE IRON SPOOLS SHALL BE ONE PIECE, CLASS 53, FLANGED, AND SHALL BE INSTALLED PER THE CITY OF HUNTINGTON BEACH STANDARD PLANS AND SPECIFICATIONS.
2. ALL FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.
3. PIPE SUPPORT(S) ARE REQUIRED PER STANDARD PLAN 616.
4. ALL ABOVE GROUND PIPING, INCLUDING BACKFLOW DEVICE, SHALL BE PAINTED ACCORDING TO SPEC. 02087.2. THE MARKINGS, INDICATION FLOW, SIZE, MODEL NUMBER, AND SERIAL NUMBER SHALL BE PERMANENTLY FIXED TO THE BODY OF THE BACKFLOW DEVICE, AND MUST REMAIN VISIBLE AFTER PAINTING.

5. CONTRACTOR MUST POSSESS AN A OR C34 CONTRACTORS LICENSE TO PERFORM THE FIRE SERVICE CONSTRUCTION.
6. ALL FITTINGS SHALL BE DUCTILE IRON.
7. ALL FITTINGS SHALL BE INSTALLED PER STANDARD PLAN 614.
8. IMMEDIATELY AFTER INSTALLATION, RELOCATION, OR REPAIR, ALL BACKFLOW PREVENTION DEVICES SHALL BE TESTED BY A CERTIFIED TESTER APPROVED BY THE CITY OF HUNTINGTON BEACH. NO SERVICE SHALL BE DEEMED ACCEPTABLE UNTIL THE DEVICE IS TESTED AND CERTIFIED AFTER INSTALLATION.
9. RPDA REQUIRED FOR USE WITH FIRE FOAM SYSTEM OR WITH WHARF HYDRANT SYSTEM.

ITEM	DESCRIPTION	SPECIFICATION	QTY
①	TEE AND VALVE OR TAPPING TEE AND VALVE, PER STD. 619, 4" MIN OR DCDA SIZE WHICH EVER IS GREATER	02085.9	1
②	PVC PIPE OR D.I. PIPE LATERAL. (4" MIN.) SEE APPROVED PROJECT DRAWINGS.	02510.9	AR
③	D.I. 90° ELL, CL.350, FLANGED OR MJ RESTRAINED, P.E. WRAPPED, W/THRUST BLOCK PER STANDARD 614.	02510.1	1
④	D.I. FLG X MJ, TC 53, P.E. WRAPPED - LENGTH AS REQUIRED.	02510.1	2
⑤	D.I. 90° ELL, CL. 350, FLG. X FLG. (TYP)	02510.1	1
⑥	DOUBLE CHECK DETECTOR CHECK (2.5" MIN.), WITH 3/4" METER, NON-TOUCH READ PER CALIFORNIA DEPARTMENT OF PUBLIC HEALTH APPROVED LIST, AND SIZE PER FIRE DEPARTMENT	02087.2	1
⑦	D.I. FLANGED TEE, CL. 350, WITH FLANGED BRANCH, FOR FDC	02085.9	1
⑧	MINIMUM DIAMETER PER FIRE DEPT. WITH APPROVED CHECK VALVE AND FDC	--	--
⑨	REDUCER IF REQUIRED FLG OR MJ RESTRAINED	02510.1	AR
⑩	FLG X PO ADAPTER	02510.1	1

APPROVED:

Tom [Signature]

CITY ENGINEER

DATE: 11/17/16

CITY OF HUNTINGTON BEACH

DEPARTMENT OF PUBLIC WORKS

2.5" - 10" DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) (FIRE SERVICE ONLY)

STANDARD PLAN
618