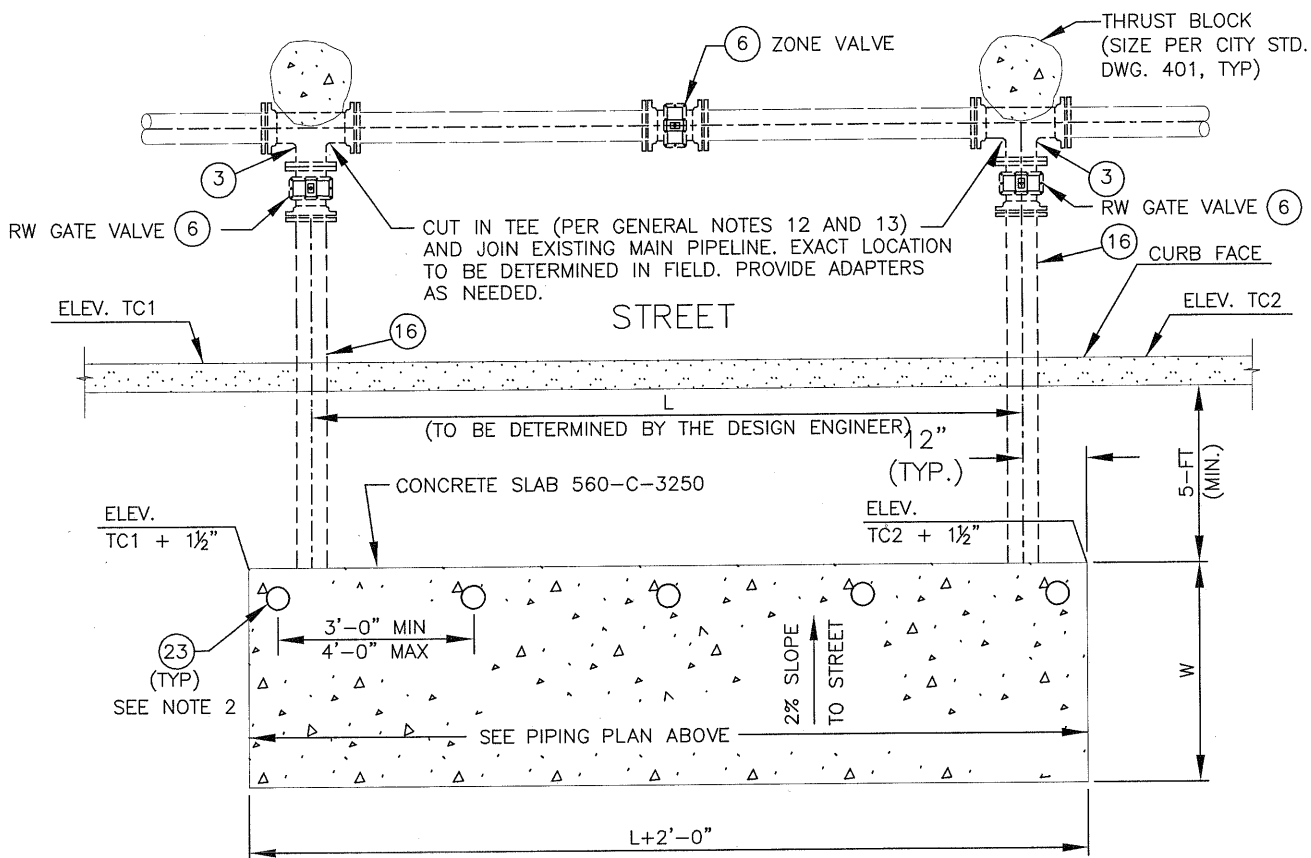


PIPING PLAN - OPTION 1



SITE PLAN

NOTES:



1. THE DESIGN ENGINEER MUST SUBMIT TO THE DWP GENERAL MANAGER OR DESIGNEE A SPECIFIC DESIGN BASED ON THE TYPICAL LAYOUT FOR EACH INSTALLATION FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION.
2. PROVIDE MIN. 3-FOOT CLEARANCE BETWEEN GUARD POSTS AND ABOVE GROUND PIPING AND EQUIPMENT.
3. FOR MAGMETER INSTALLED HORIZONTALLY, SEE SHEETS 1 AND 2 FOR DETAIL. FOR MAGMETER INSTALLED VERTICALLY, SEE SHEETS 3 AND 4 FOR DETAIL.

REFER TO SHEET 2 FOR SECTION AND DETAILS AND SHEETS 5, 6 AND 7 FOR GENERAL REQUIREMENTS, GENERAL NOTES, AND MATERIALS LIST.

NOT TO SCALE

PRESSURE REGULATING STATION

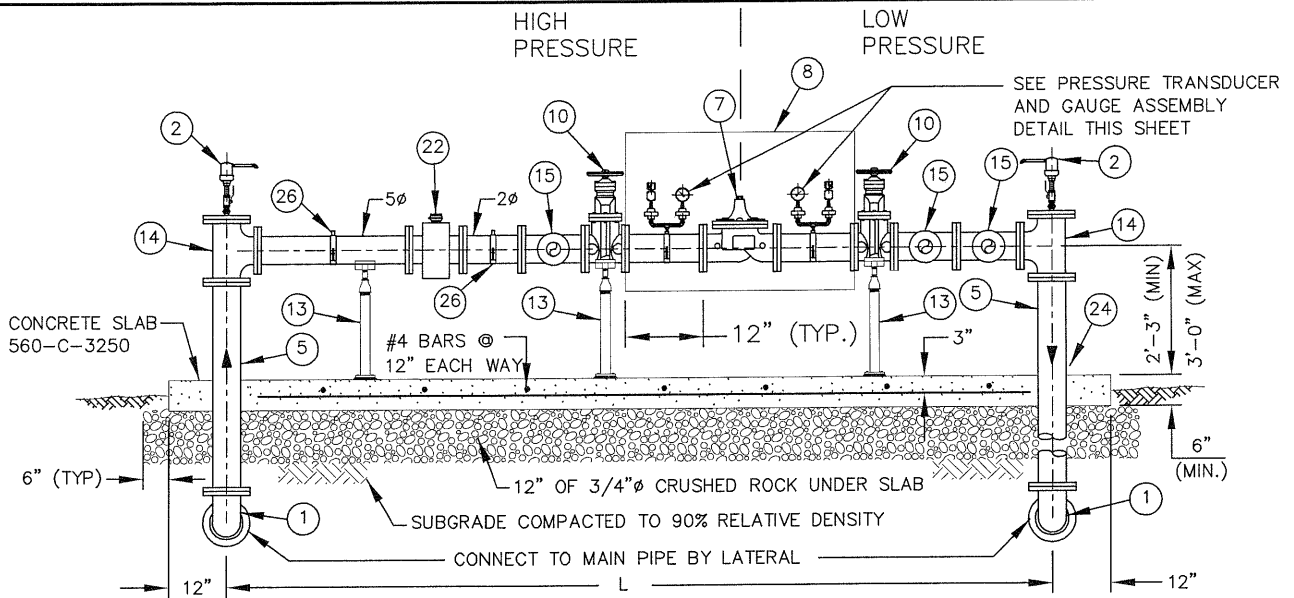
REVISION		
NO.	APPROVED	DATE

APPROVED:

 NELSON D. NELSON, PE,
 CITY ENGINEER

 TOM KOPER, PE, DISTRICT ENGINEER,
 DEPARTMENT OF WATER AND POWER

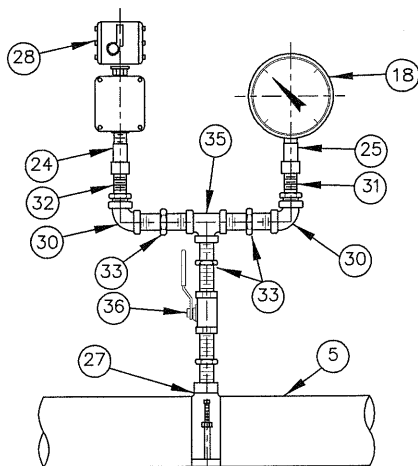
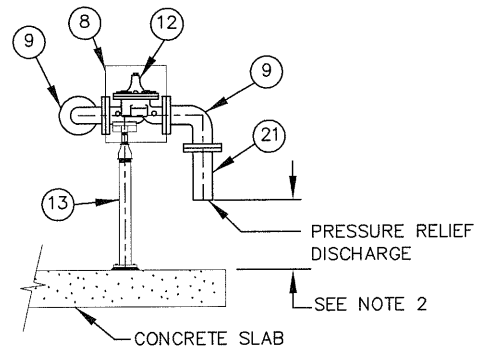
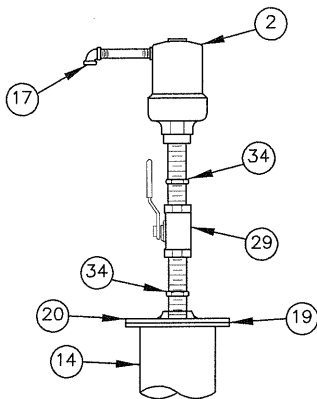
11-27-12
 DATE
 11-20-12
 DATE



CITY OF CORONA
 STD 410
 SHEET 1 OF 7



SECTION A
1



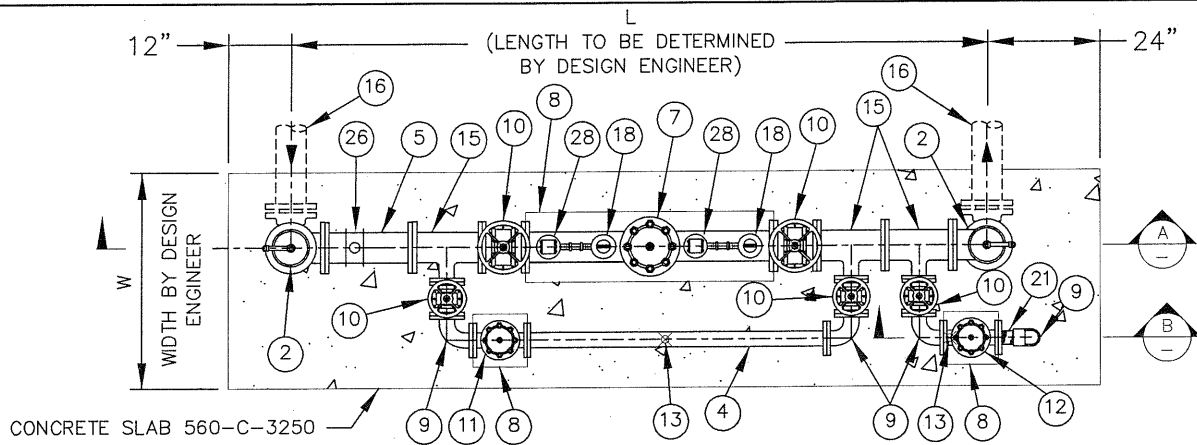
NOTES:

1. COAT ALL PIPES, FITTINGS, AND EQUIPMENT ABOVE GROUND, EXCEPT BRASS, BRONZE AND STAINLESS STEEL, WITH TNEMEC EPOXY; PRIMED WITH SERIES 66 OR 69 HI-BUILD EPOXOLINE 3 TO 5 MILS THICK, AND FINISHED WITH SERIES 73, 74, OR 75 ENDURE-SHIELD 2 OR 3 MILS THICK, COLOR TO BE GREEN IF IN AN AREA WHERE LANDSCAPING LIKELY, OTHERWISE COLOR SHALL BE BLUE.
2. THE GREATER OF THE FOLLOWING: 2X DIAMETER OF OVERFLOW (MIN.) OR 18-INCHES (MIN.)

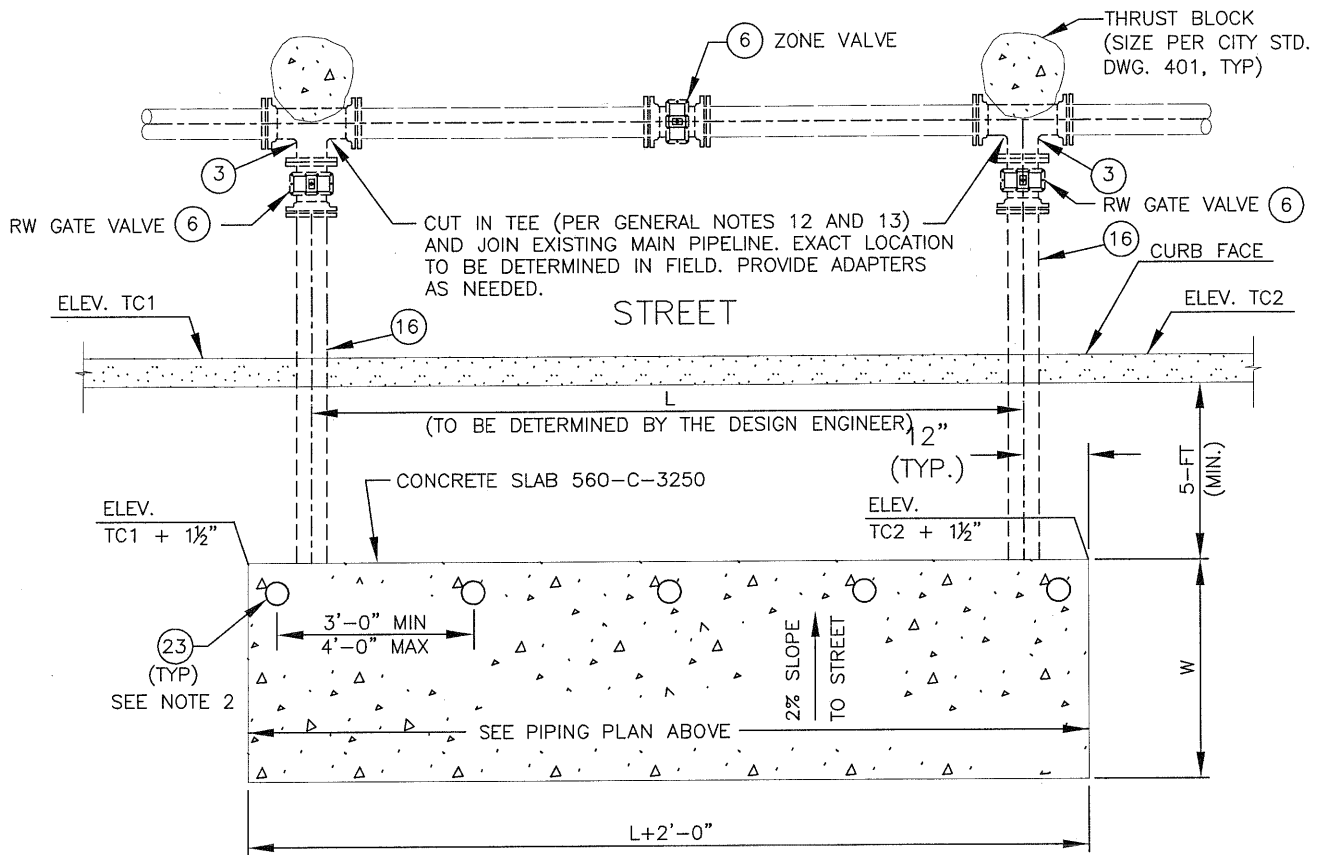
NOT TO SCALE

PRESSURE REGULATING STATION

REVISION			APPROVED:	DATE	CITY OF CORONA
NO.	APPROVED	DATE	<i>Nelson D. Nelson</i>	11-27-12	
			NELSON D. NELSON, PE, CITY ENGINEER	DATE	SHEET 2 OF 7
			<i>Tom Koper</i>	11-20-12	
			TOM KOPER, PE, DISTRICT ENGINEER, DEPARTMENT OF WATER AND POWER	DATE	



PIPING PLAN - OPTION 2



SITE PLAN

NOTES:

1. THE DESIGN ENGINEER MUST SUBMIT TO THE DWP GENERAL MANAGER OR DESIGNEE A SPECIFIC DESIGN BASED ON THE TYPICAL LAYOUT FOR EACH INSTALLATION FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION.
2. PROVIDE MIN. 3-FOOT CLEARANCE BETWEEN GUARD POSTS AND ABOVE GROUND PIPING AND EQUIPMENT.
3. FOR MAGMETER INSTALLED HORIZONTALLY, SEE SHEETS 1 AND 2 FOR DETAIL. FOR MAGMETER INSTALLED VERTICALLY, SEE SHEETS 3 AND 4 FOR DETAIL.

REFER TO SHEET 4 FOR SECTION AND DETAILS AND SHEETS 5, 6 AND 7 FOR GENERAL REQUIREMENTS, GENERAL NOTES, AND MATERIALS LIST.

NOT TO SCALE

PRESSURE REGULATING STATION

REVISION		
NO.	APPROVED	DATE

APPROVED:

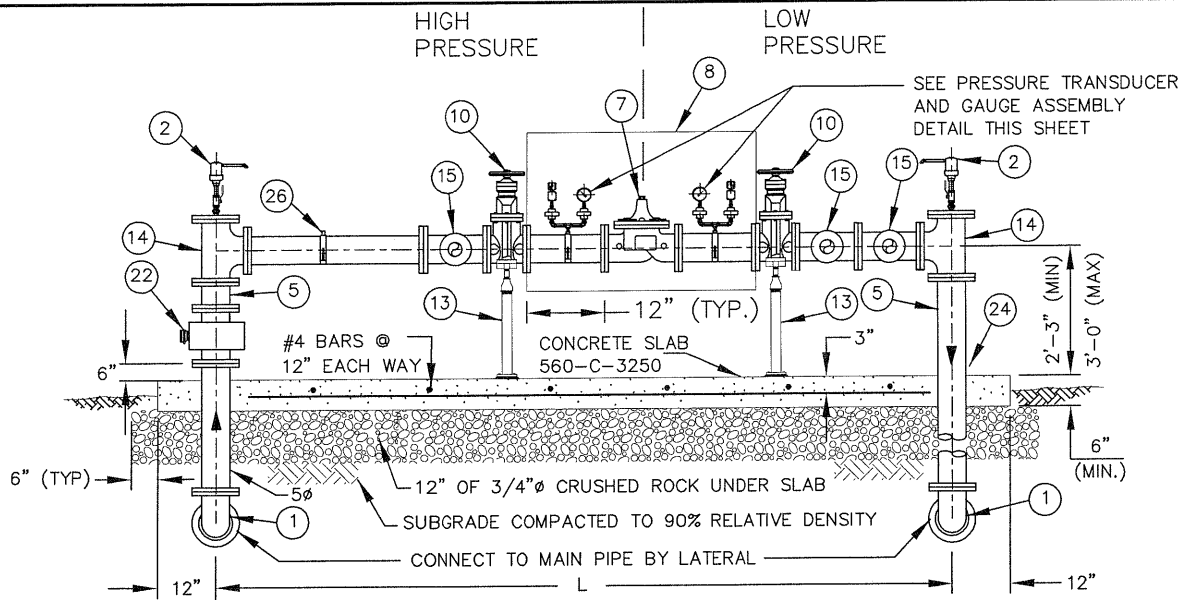
 NELSON D. NELSON, PE,
 CITY ENGINEER

 TOM KOPER, PE, DISTRICT ENGINEER,
 DEPARTMENT OF WATER AND POWER

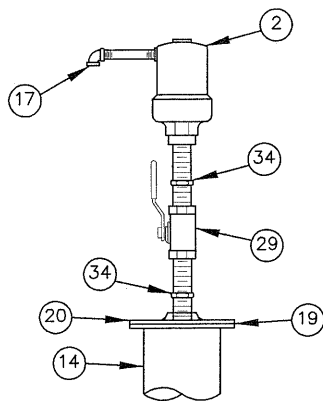
11-27-12
 DATE
 11-20-12
 DATE



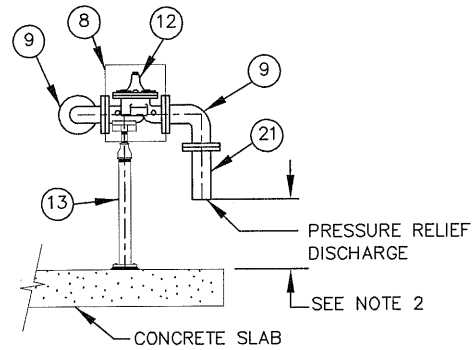
CITY OF CORONA
 STD 410
 SHEET 3 OF 7



SECTION A
3



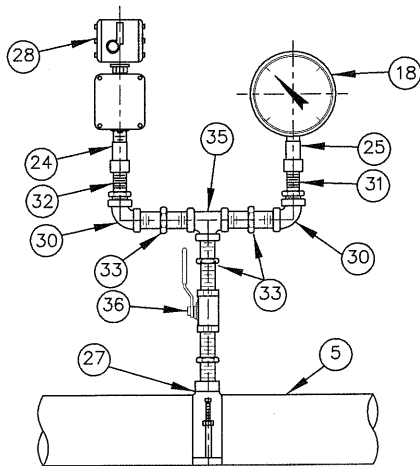
AIR RELEASE ASSEMBLY DETAIL



SECTION B
3

NOTES:

1. COAT ALL PIPES, FITTINGS, AND EQUIPMENT ABOVE GROUND, EXCEPT BRASS, BRONZE AND STAINLESS STEEL, WITH TNEMEC EPOXY; PRIMED WITH SERIES 66 OR 69 HI-BUILD EPOXOLINE 3 TO 5 MILS THICK, AND FINISHED WITH SERIES 73, 74, OR 75 ENDURE-SHIELD 2 OR 3 MILS THICK, COLOR TO BE GREEN IF IN AN AREA WHERE LANDSCAPING LIKELY, OTHERWISE COLOR SHALL BE BLUE.
2. THE GREATER OF THE FOLLOWING: 2X DIAMETER OF OVERFLOW (MIN.) OR 18-INCHES (MIN.)



PRESSURE TRANSDUCER AND GAUGE ASSEMBLY DETAIL

NOT TO SCALE

PRESSURE REGULATING STATION

REVISION		
NO.	APPROVED	DATE

APPROVED: *Nelson D. Nelson* 11-27-12
 NELSON D. NELSON, PE,
 CITY ENGINEER
Tom Koper 11-20-12
 TOM KOPER, PE, DISTRICT ENGINEER,
 DEPARTMENT OF WATER AND POWER



CITY OF CORONA
 STD 410
 SHEET 4 OF 7

GENERAL NOTES

1. PROVIDE CALCULATIONS AND CAPACITY/PRESSURES TO THE DEPARTMENT OF WATER AND POWER
2. ALL MATERIALS, MATERIALS TESTING, AND INSPECTION SHALL BE IN ACCORDANCE WITH CITY STANDARD REQUIREMENTS.
3. NOTIFY CITY AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL SHORE ALL EXCAVATIONS IN ACCORDANCE WITH CAL-OSHA REQUIREMENTS.
5. THE DESIGN SHOWN IS TYPICAL AND SYMMETRICAL, THE DWP GENERAL MANAGER OR DESIGNEE WILL INDICATE WHICH FEATURES SHALL BE MODIFIED.
6. PRESSURE CLASS TO BE DETERMINED BY THE DWP GENERAL MANAGER OR DESIGNEE.
7. ALL MATERIALS USED SHALL BE NSF 61 APPROVED AND IN COMPLIANCE WITH THE MOST RECENT CALIFORNIA VOLATILE ORGANIC COMPOUNDS (VOC) REGULATIONS.
8. BELOW GROUND FITTINGS SHALL BE MECHANICAL JOINT WITH "MEGA-LUG" TYPE RESTRAINTS RATED FOR THE TEST PRESSURE OF THE PIPE.
9. PROVIDE ELECTRICAL SERVICE TO PRESSURE REGULATING STATION.
10. INSTALL CONDUITS AND WIRING TO ALL DEVICES REQUIRING POWER AND SCADA COMMUNICATIONS. CONNECT WIRING TO ALL DEVICES, ELECTRICAL PANEL, AND RADIO/SCADA PANEL. CITY WILL FURNISH RADIO/SCADA PANEL.
11. RESTRAIN ALL JOINTS BETWEEN WATER MAIN AND PRESSURE REGULATING STATION (BOTH UPSTREAM AND DOWNSTREAM)
12. IF EXISTING MAIN LINE IS ACP, REMOVE WHOLE STICKS OF PIPE AND DISPOSE OF LEGALLY. USE TRANSITION COUPLINGS AND DUCTILE IRON RESTRAINED MECHANICAL JOINT PIPE AND FITTINGS (MEGA-LUG TYPE OR EQUAL) AS NEEDED.
13. IF EXISTING MAIN LINE IS STEEL JOIN MAINLINE WITH NOZZLE AND FULLY WELDED FULL WRAPPER. REPAIR LINING AND COATING PER APPLICABLE AWWA STANDARDS IN KIND.
14. MATERIALS LIST MAY VARY DEPENDING ON FINAL DESIGN.

PRESSURE REGULATING STATION

REVISION		
NO.	APPROVED	DATE

APPROVED:

Nelson D. Nelson

 NELSON D. NELSON, PE,
 CITY ENGINEER

Tom Koper

 TOM KOPER, PE, DISTRICT ENGINEER,
 DEPARTMENT OF WATER AND POWER

11-27-12

 DATE

11-20-12

 DATE



CITY OF CORONA



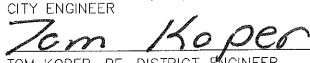
STD 410

SHEET 5 OF 7

MATERIALS LIST

EQUIPMENT	SIZE	MATERIALS/MAKE/MODEL
① 90° ELBOW	AS REQ'D	DI, FLG, CL 350, AWWA C153
② COMBINATION AIR/VAC VALVE ASSEMBLY	1"	PER CITY STD. DWG. 413 PROVIDE 2" AIR/VAC ASSEMBLY IF REQUIRED BY CITY
③ TEE ON WATER MAIN	MAINSIZE X 8"	DI, MJ X FLG, CL 350
④ PIPE	4"	DI, FLG, AWWA C115
⑤ PIPE	8"	DI, FLG, AWWA C115
⑥ RW GATE VALVE WITH 2" OPERATING NUT AND VALVE CAN	AS REQ'D	PER CITY STD. DWGS. 420, 421, AND 422
⑦ LARGE PRESSURE REDUCING VALVE--SIZE SUBJECT TO CITY APPROVAL	8"	CLA-VAL MODEL 90-01BPSVYKCX (FLG) WITH STAINLESS STEEL PILOT SYSTEM FITTED WITH WYE STRAINERS AND BALL VALVE FLUSHING POINTS. PRESSURE CLASS IF 150 PSI. VALVE ADJUSTMENT RANGE 30 TO 300 PSI. OPERATING PRESSURE TO BE SET AS DIRECTED BY THE CITY.
⑧ TYPE 316SS CAGE WITH EXPANDED METAL	-	PAINTED SAME AS ABOVE-GROUND PIPING
⑨ 90° ELBOW	4"	DI, FLG, CL350, AWWA C153
⑩ RW GATE VALVE WITH HANDWHEEL FOR ABOVE GROUND	-	AWWA C515, FLG
⑪ SMALL PRESSURE REDUCING VALVE	4" OR 8"	CLA-VAL MODEL 90-01BPDVYKCX (FLG) WITH STAINLESS STEEL PILOT SYSTEM FITTED WITH WYE STRAINERS AND BALL VALVE FLUSHING POINTS. PRESSURE CLASS IS 150 PSI. VALVE ADJUSTMENT RANGE 30 TO 300 PSI. OPERATING PRESSURE TO BE SET AS DIRECTED BY THE CITY.
⑫ PRESSURE RELIEF VALVE	-	CLA-VAL MODEL 50G-01BPKCX WITH STAINLESS STEEL PILOT SYSTEM FITTED WITH WYE STRAINERS AND BALL VALVE FLUSHING POINTS. PRESSURE CLASS IS 150 PSI. VALVE ADJUSTMENT RANGE 30 TO 300 PSI.
⑬ ADJUSTABLE PIPE SUPPORT	3" DIA.	CITY STD. DWG. 418
⑭ TEE	8"	DI, FLG, CL 350, AWWA C153
⑮ TEE	8" X 4"	DI, FLG, CL350, AWWA C153
⑯ LATERAL PIPE	8"	DIP, CLASS 350, RESTRAIN ALL JOINTS
⑰ SCREEN	-	THREADED TYPE 316SS
⑱ LIQUID FILLED PRESSURE GAUGE	4" DIAL	0-300 PSI, ASHCROFT TYPE 1008S, STAINLESS STEEL
⑲ FLANGE INSULATING KIT	-	CITY STD. DWG. 458
⑳ BLIND FLANGE	8"	TYPE 316SS WITH 1" WELDED HEAVY DUTY HALF COUPLING
㉑ PIPE	4"	DI, FLG X PE, CL350, AWWA C115

PRESSURE REGULATING STATION

REVISION			APPROVED:			CITY OF CORONA	
NO.	APPROVED	DATE	 NELSON D. NELSON, PE, CITY ENGINEER	11-27-12 DATE			STD 410
			 TOM KOPER, PE, DISTRICT ENGINEER, DEPARTMENT OF WATER AND POWER	11-20-12 DATE			

MATERIALS LIST (CONT.)

EQUIPMENT	SIZE	MATERIALS/MAKE/MODEL
(22) MAGNETIC FLOW METER	8"	ELECTROMAGNETIC FLOW METER ENDRESS+HAUSER PROLINE PROMAG 53W2H-ULGB1AA0BACA
(23) REMOVABLE GUARD POST	-	PER CITY STD. DWG. 405
(24) PRESSURE SNUBBER	1/2"	TYPE 316SS, OMEGA MOD. PS-4E, NOSHOK MOD. 5050
(25) PRESSURE SNUBBER	1/4"	TYPE 316SS, OMEGA MOD. PS-2E, NOSHOK MOD. 5050
(26) PITOT TUBE INSERTION POINT	1"	TYPE 316SS, DOUBLE STRAP SADDLE TAP, CLOSE NIPPLE, FULL PORT BALL VALVE, THREADED PLUG
(27) SADDLE TAP	1"	TYPE 316SS, DOUBLE STRAP
(28) PRESSURE TRANSDUCER	0-300 PSI	ENDRESS+HAUSER CERABAR SPMC71
(29) BALL VALVE W/ LOCKABLE HANDLE	1"	TYPE 316SS, FIPT
(30) REDUCING 90° ELBOW	3/4" X 1/4"	
(31) EXTRA HEAVY HEX HEAD PIPE NIPPLE	1/4"	TYPE 316SS
(32) EXTRA HEAVY HEX HEAD PIPE NIPPLE	1/2"	TYPE 316SS
(33) EXTRA HEAVY HEX HEAD PIPE NIPPLE	3/4"	TYPE 316SS
(34) EXTRA HEAVY HEX HEAD PIPE NIPPLE	1"	TYPE 316SS
(35) TEE	1" X 3/4"	TYPE 316SS, FIPT
(36) BALL VALVE	3/4"	TYPE 316SS, FIPT

PRESSURE REGULATING STATION

REVISION		
NO.	APPROVED	DATE

APPROVED: *Nelson D. Nelson* 11-27-12
 NELSON D. NELSON, PE,
 CITY ENGINEER
 DATE

Tom Koper 11-20-12
 TOM KOPER, PE, DISTRICT ENGINEER,
 DEPARTMENT OF WATER AND POWER
 DATE



CITY OF CORONA

STD 410

SHEET 7 OF 7