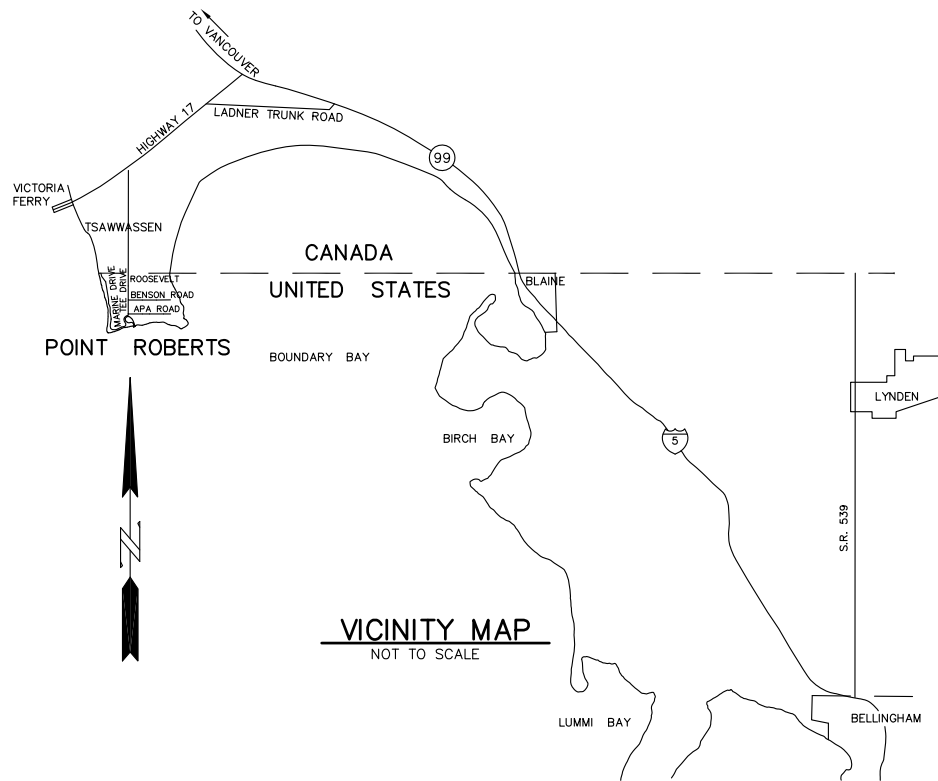


POINT ROBERTS WATER DISTRICT NO. 4

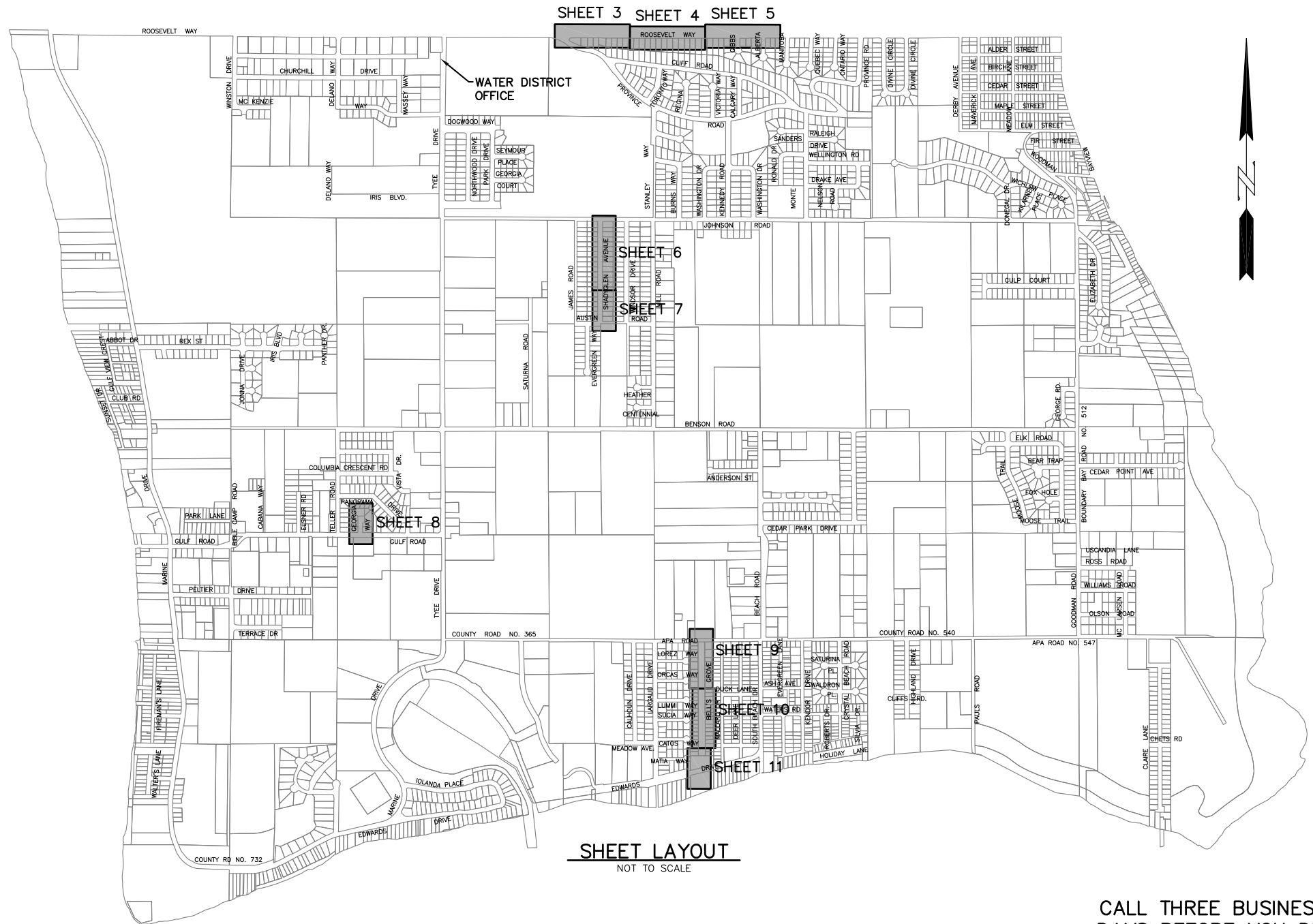
2011 WATER MAIN REPLACEMENTS

POINT ROBERTS, WA



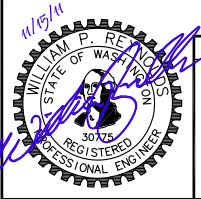
INDEX TO DRAWINGS

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- SHEET 2 SYMBOLS & ABBREVIATIONS
- SHEET 3 EAST ROOSEVELT ROAD - STA 10+00 TO STA 18+00
- SHEET 4 EAST ROOSEVELT ROAD - STA 18+00 TO STA 26+00
- SHEET 5 EAST ROOSEVELT ROAD - STA 26+00 TO STA 34+50
- SHEET 6 SHADYGLEN AVENUE - STA 70+00 TO STA 78+00
- SHEET 7 SHADYGLEN AVENUE - STA 78+00 TO STA 83+50
- SHEET 8 GEORGIA WAY - STA 90+00 TO STA 92+75
- SHEET 9 BELL'S GROVE - STA 100+00 TO STA 107+00
- SHEET 10 BELL'S GROVE - STA 107+00 TO STA 114+00
- SHEET 11 BELL'S GROVE - STA 114+00 TO STA 117+00
- SHEET 12 DETAILS
- SHEET 13 DETAILS



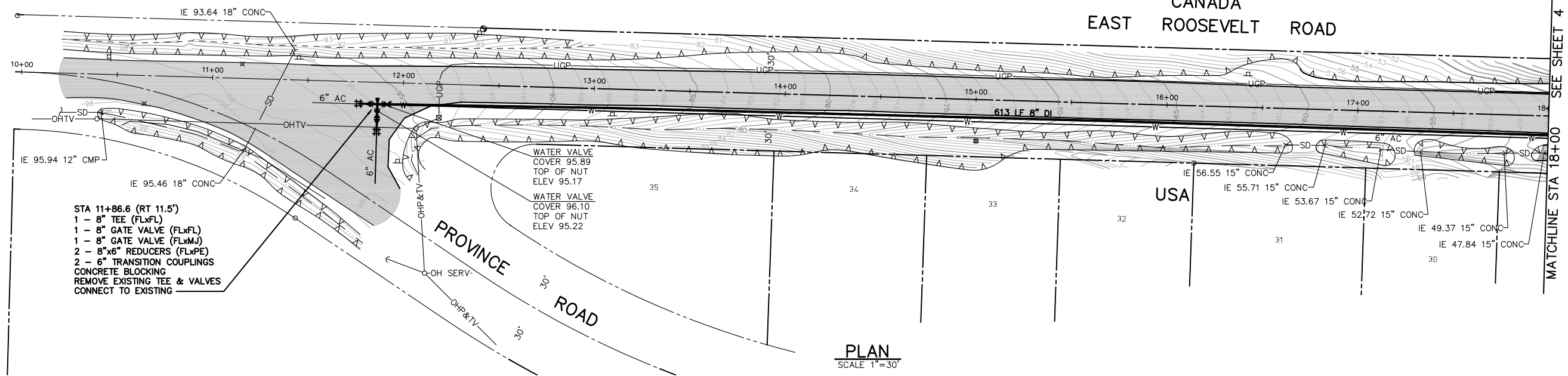
CALL THREE BUSINESS
DAYS BEFORE YOU DIG
1-800-424-5555

REF: DRAWING: \\FS1\VOL1\PROJECTS\09\09100001\DWG\S1 S2 PH2.DWG LAYOUT TAB: S1 DATE: 11/15/2011 TIME: 11:15:10 AM PLOTTED BY: JITILEY LAST UPDATED: Mon, 10 Oct 2011



REVISIONS	GENERAL NOTES	DESIGNED BY WR DRAWN BY MR CHECKED BY APPROVED BY DATE PRINTED 11/15/11 SCALE AS NOTED F.B. NO. N/A	<div style="text-align: center;"> <p>HAMMOND COLLIER WADE LIVINGSTONE</p> <p>SEATTLE (206) 632-2664 WENATCHEE (509) 662-1762 OMAK (509) 826-5861</p> </div>
THIS DOCUMENT WAS INTENDED FOR THE CLIENT'S USE ONLY AND ANY ATTEMPT TO COPY, RE-USE, AND/OR RE-DISTRIBUTE THIS DOCUMENT IN PART OR IN WHOLE IS PROHIBITED.			POINT ROBERTS WATER DISTRICT NO. 4 2011 WATER MAIN REPLACEMENTS POINT ROBERTS, WA
COVER SHEET			JOB NO. 0910001-02 DRAWING NO. SHEET 1 OF 13

CANADA
EAST ROOSEVELT ROAD

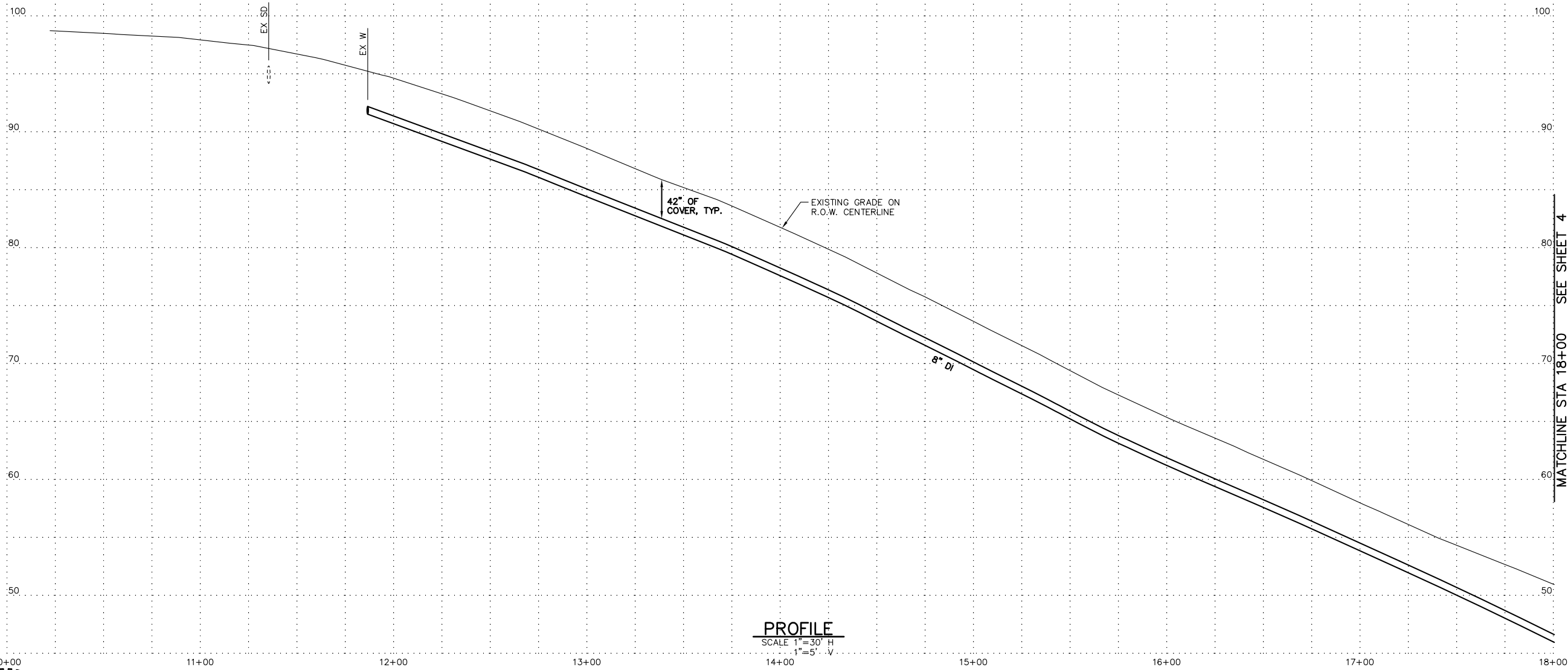
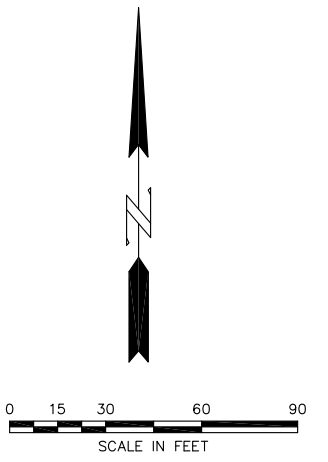


- STA 11+86.6 (RT 11.5')
- 1 - 8" TEE (FLxFL)
 - 1 - 8" GATE VALVE (FLxFL)
 - 1 - 8" GATE VALVE (FLxMJ)
 - 2 - 8"x6" REDUCERS (FLxPE)
 - 2 - 6" TRANSITION COUPLINGS
- CONCRETE BLOCKING
REMOVE EXISTING TEE & VALVES
CONNECT TO EXISTING

WATER VALVE
COVER 95.89
TOP OF NUT
ELEV 95.17

WATER VALVE
COVER 96.10
TOP OF NUT
ELEV 95.22

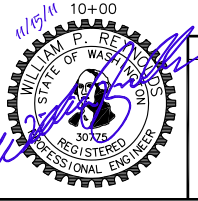
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

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REFS: DRAWING: \\FS1\VOL1\PROJECTS\09\0910000\0910001\DWG\0910001\BMAPA PH2.DWG LAYOUT TAB: ROOSEVELT 3 DATE: 11/15/2011 TIME: 11:28:35 AM PLOTTED BY: JUILLEY LAST UPDATED: Wed, 5 Oct, 2011



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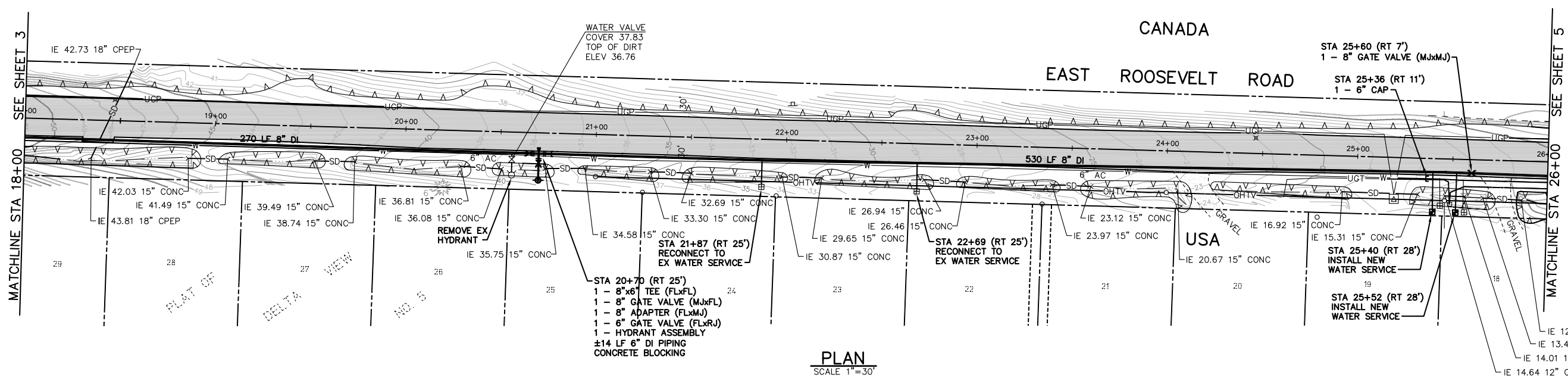
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WADE LIVINGSTONE

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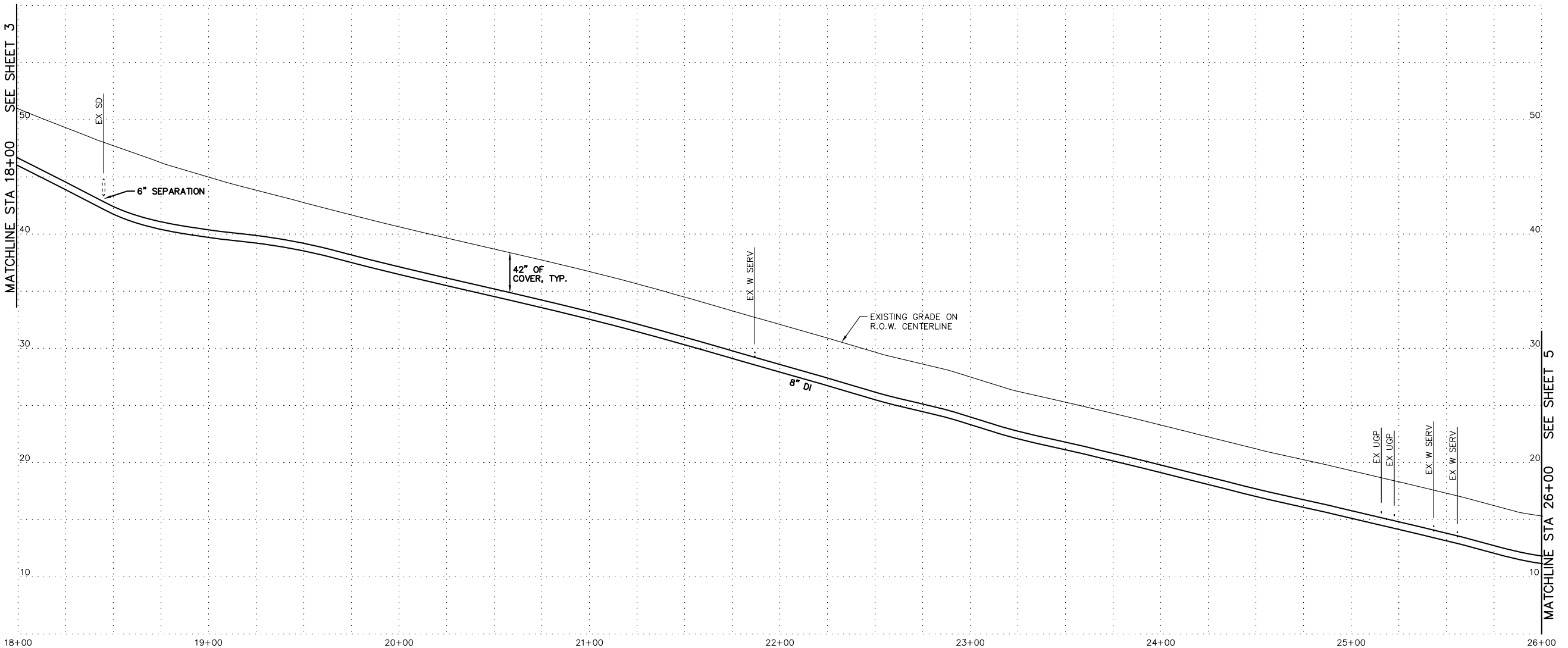
POINT ROBERTS WATER DISTRICT NO. 4
2011 WATER MAIN REPLACEMENTS
POINT ROBERTS, WA

EAST ROOSEVELT ROAD - STA 10+00 TO STA 18+00

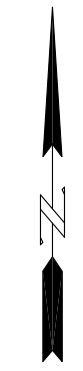
JOB NO.	0910001-02
DRAWING NO.	
SHEET OF	3 OF 13



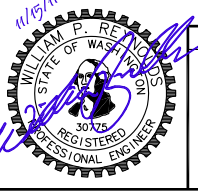
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V



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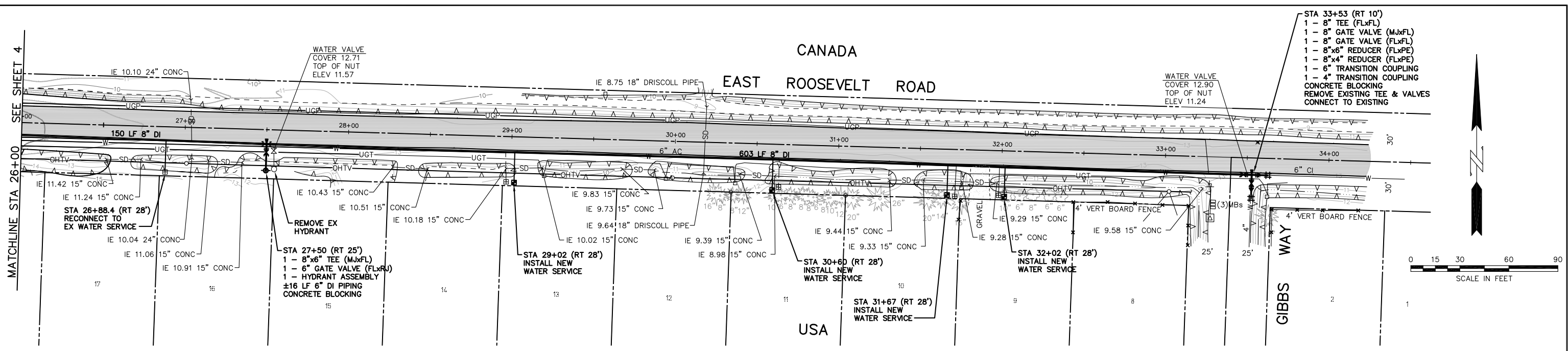
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POINT ROBERTS WATER DISTRICT NO. 4
 2011 WATER MAIN REPLACEMENTS
 POINT ROBERTS, WA
 EAST ROOSEVELT ROAD - STA 18+00 TO STA 26+00

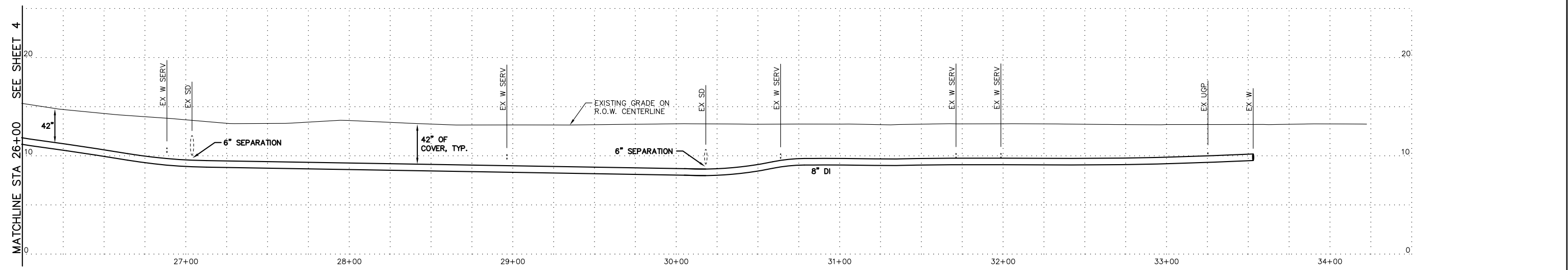
JOB NO.	0910001-02
DRAWING NO.	
SHEET OF	4 OF 13

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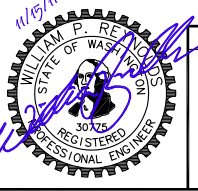
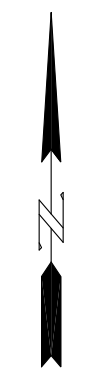


PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

- STA 33+53 (RT 10')
- 1 - 8" TEE (FLxFL)
 - 1 - 8" GATE VALVE (MjxFL)
 - 1 - 8" GATE VALVE (FLxFL)
 - 1 - 8"x6" REDUCER (FLxPE)
 - 1 - 8"x4" REDUCER (FLxPE)
 - 1 - 6" TRANSITION COUPLING
 - 1 - 4" TRANSITION COUPLING
- CONCRETE BLOCKING
REMOVE EXISTING TEE & VALVES
CONNECT TO EXISTING



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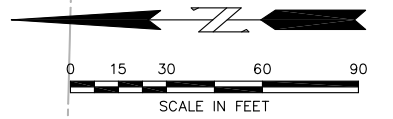
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POINT ROBERTS WATER DISTRICT NO. 4
2011 WATER MAIN REPLACEMENTS
POINT ROBERTS, WA

EAST ROOSEVELT ROAD - STA 26+00 TO STA 34+50

JOB NO.	0910001-02
DRAWING NO.	
SHEET OF	5 OF 13

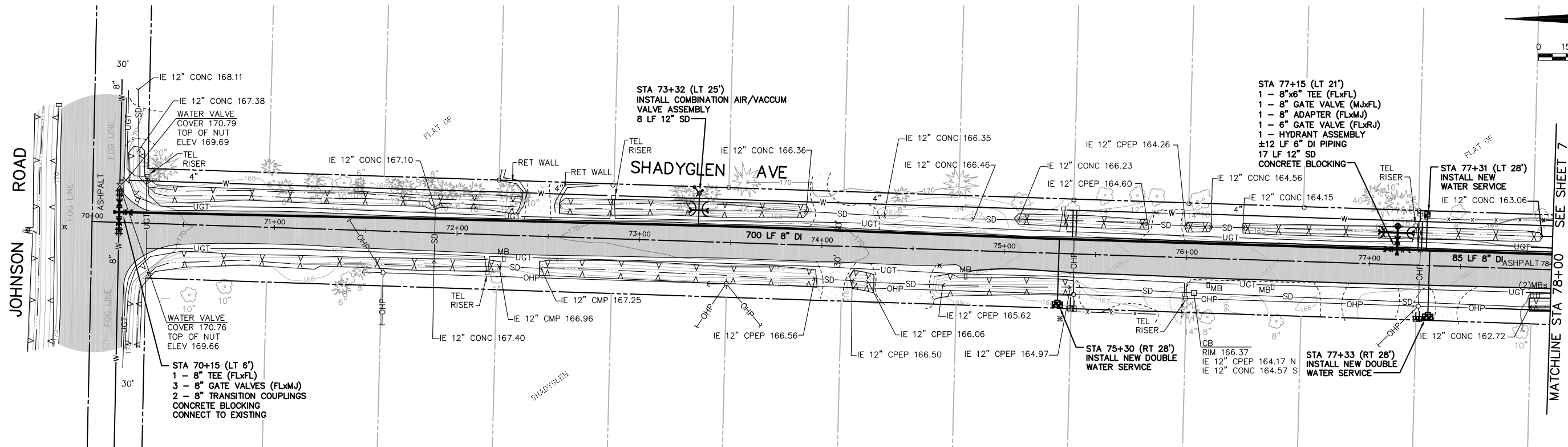
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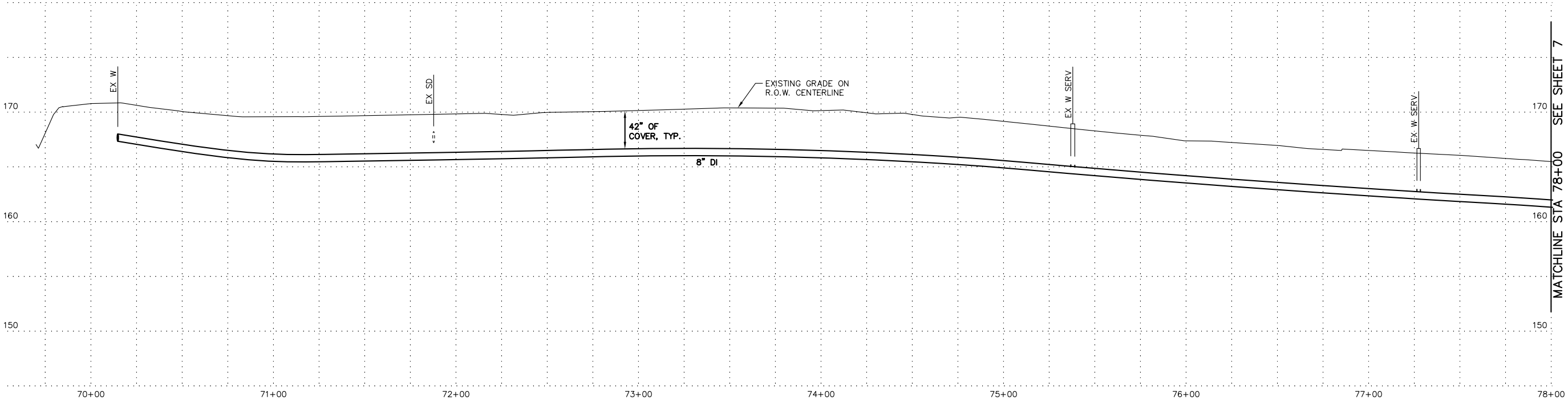
JOHNSON ROAD

SHADYGLEN AVE

MATCHLINE STA 78+00 SEE SHEET 7



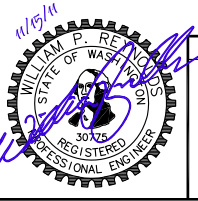
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

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VREFS: DRAWING: \\FS1\VOL1\PROJECTS\09\0910000\0910001\DWG\0910001\BMAPC_PH2.DWG LAYOUT TAB: SHADYGLEN 6 DATE: 11/15/2011 TIME: 11:33:20 AM PLOTTED BY: JUILLEY LAST UPDATED: Mep, 10 Oct 2011



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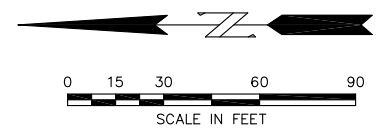
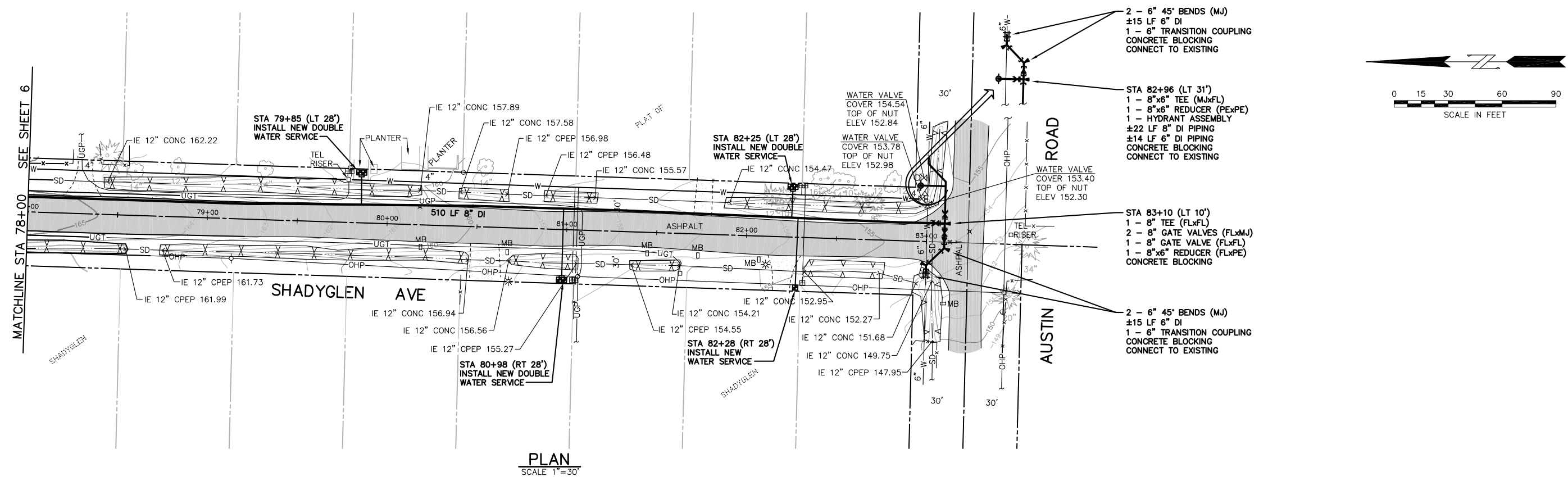
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POINT ROBERTS WATER DISTRICT NO. 4
 2011 WATER MAIN REPLACEMENTS
 POINT ROBERTS, WA

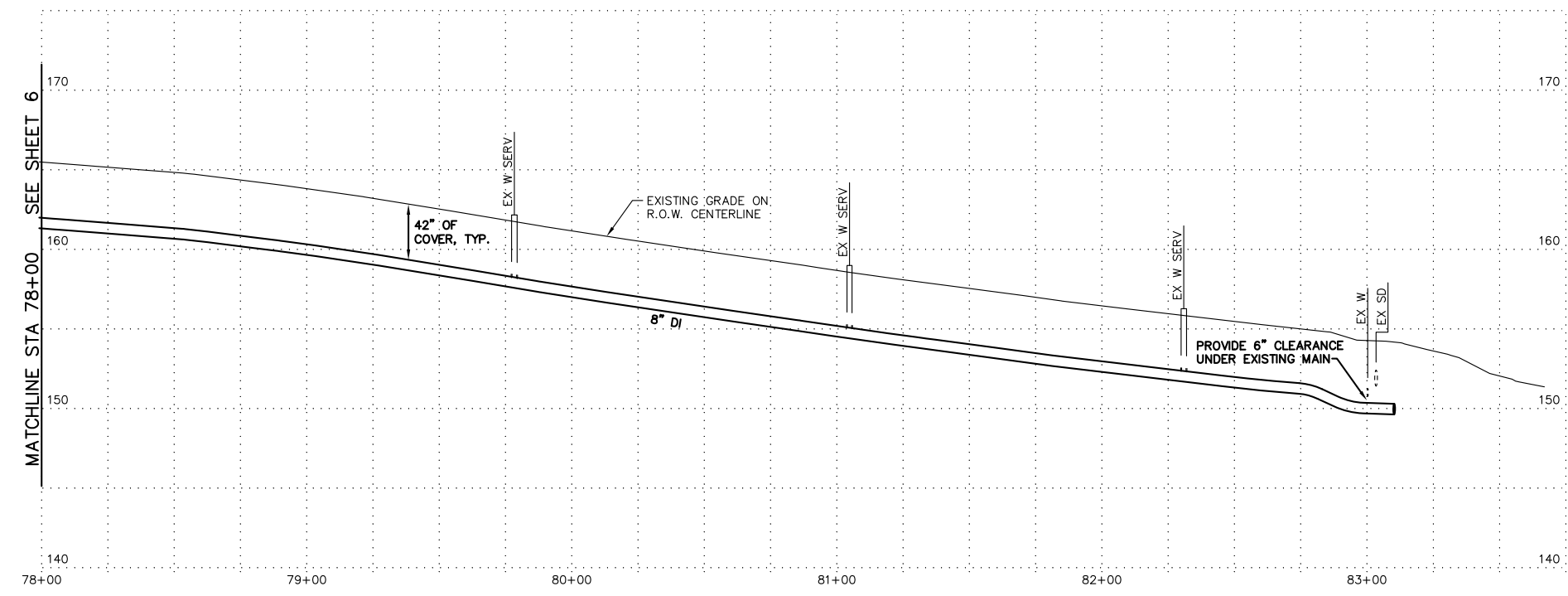
SHADYGLEN AVENUE - STA 70+00 TO STA 78+00

JOB NO. 0910001-02
DRAWING NO.
SHEET 6 OF 13

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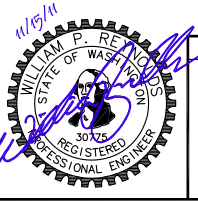


PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

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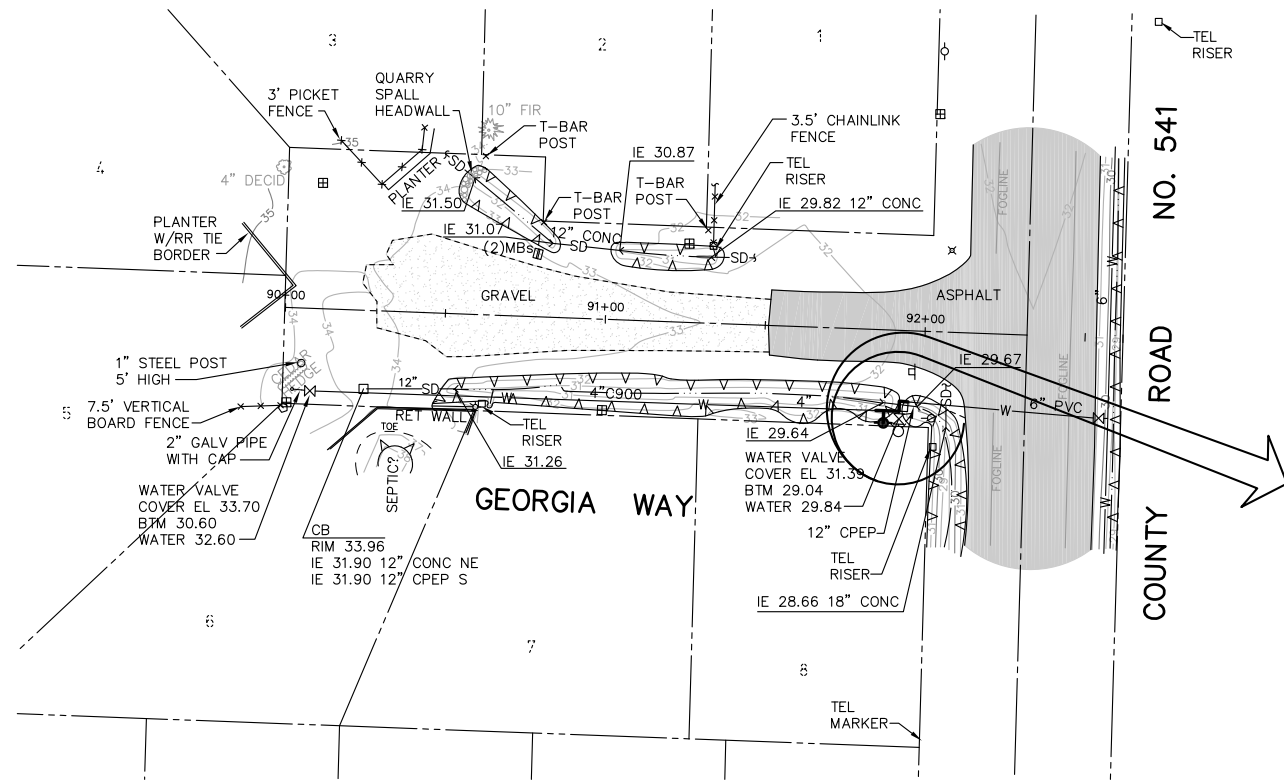
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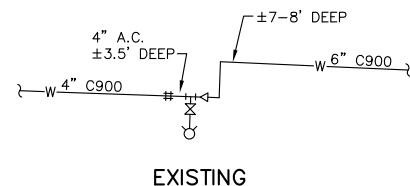
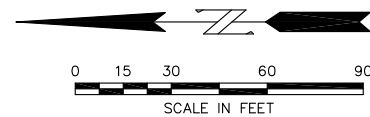


POINT ROBERTS WATER DISTRICT NO. 4 2011 WATER MAIN REPLACEMENTS POINT ROBERTS, WA	JOB NO. 0910001-02
SHADYGLEN AVENUE - STA 78+00 TO STA 83+50	DRAWING NO.
	SHEET 7 OF 13

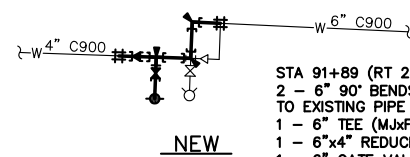
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PLAN
SCALE 1"=30'

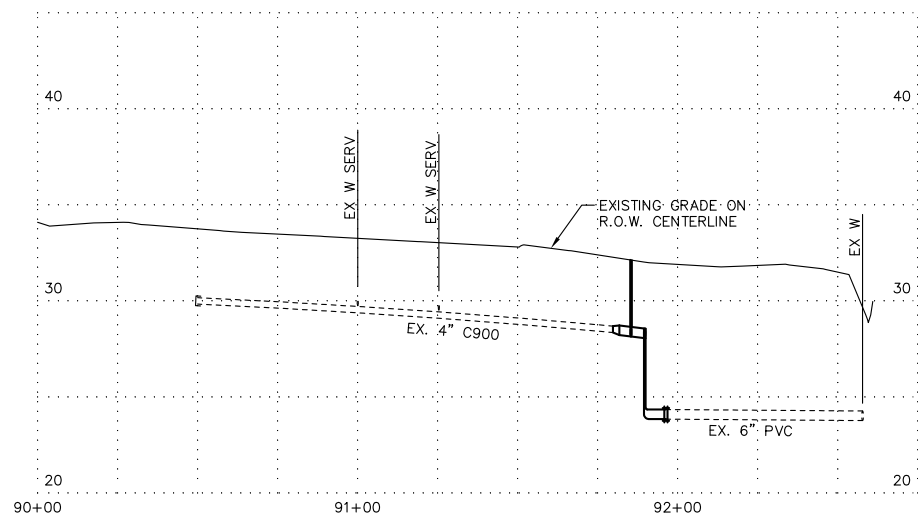


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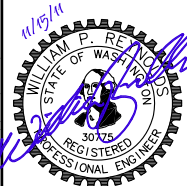
NEW

- STA 91+89 (RT 28')
 2 - 6" 90° BENDS (RJ) ROTATE
 TO EXISTING PIPE DEPTHS
 1 - 6" TEE (MxFL)
 1 - 6"x4" REDUCER (MxMJ)
 1 - 6" GATE VALVE (FLxRJ)
 1 - HYDRANT ASSEMBLY
 2 - 6" TRANSITION COUPLINGS
 ±13 LF 6" DI PIPING
 ±2 LF 4" DI PIPING
 CONCRETE BLOCKING



PROFILE
SCALE 1"=30' H
1"=5' V

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 DAYS BEFORE YOU DIG
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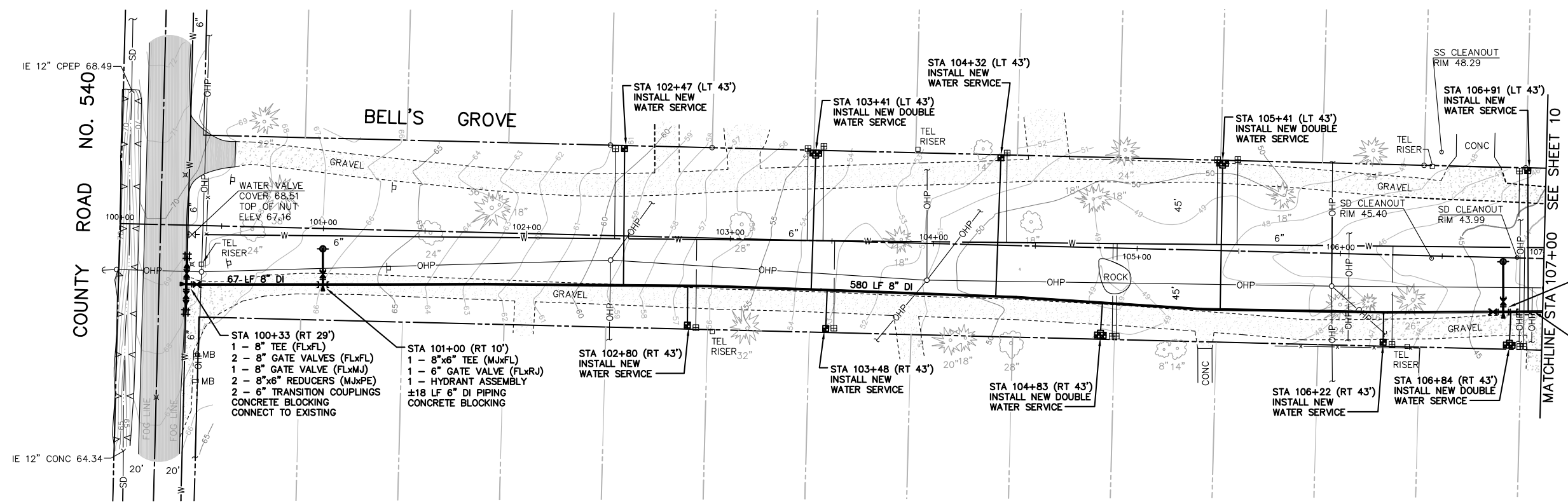
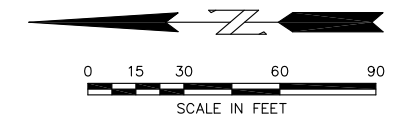
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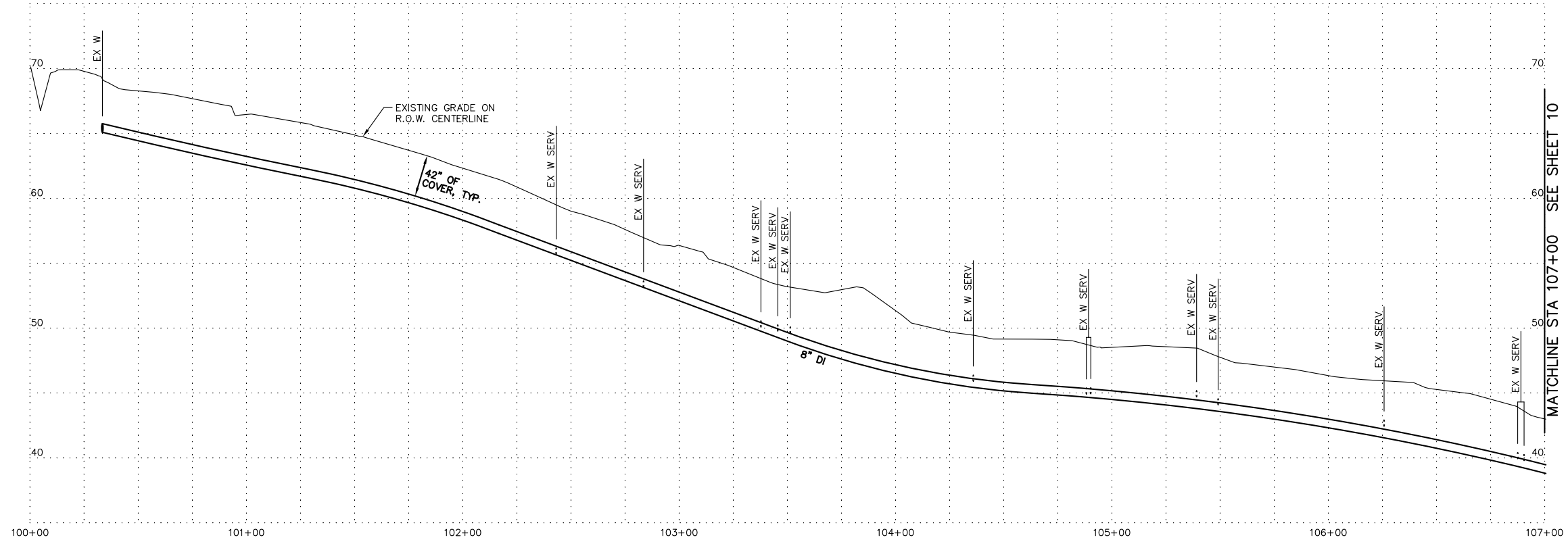
POINT ROBERTS WATER DISTRICT NO. 4
 2011 WATER MAIN REPLACEMENTS
 POINT ROBERTS, WA

GEORGIA WAY - STA 90+00 TO STA 92+75

JOB NO.	0910001-02
DRAWING NO.	
SHEET OF	8 OF 13



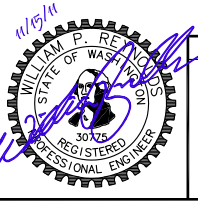
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

- STA 106+80 (RT 2')
- 1 - 8"x6" TEE (FLxFL)
- 1 - 8" GATE VALVE (MJxFL)
- 1 - 8" ADAPTER (FLxMJ)
- 1 - 6" GATE VALVE (FLxRJ)
- 1 - HYDRANT ASSEMBLY
- ±25 LF 6" DI PIPING
- CONCRETE BLOCKING

REF: DRAWING: \\FS1\VOL1\PROJECTS\09\09100001\DWG\09100001\BMAPE_PH2.DWG LAYOUT TAB: BELL'S GROVE 09 DATE: 11/15/2011 TIME: 11:38:34 AM PLOTTED BY: JTILLEY LAST UPDATED: Thu, 6 Oct 2011



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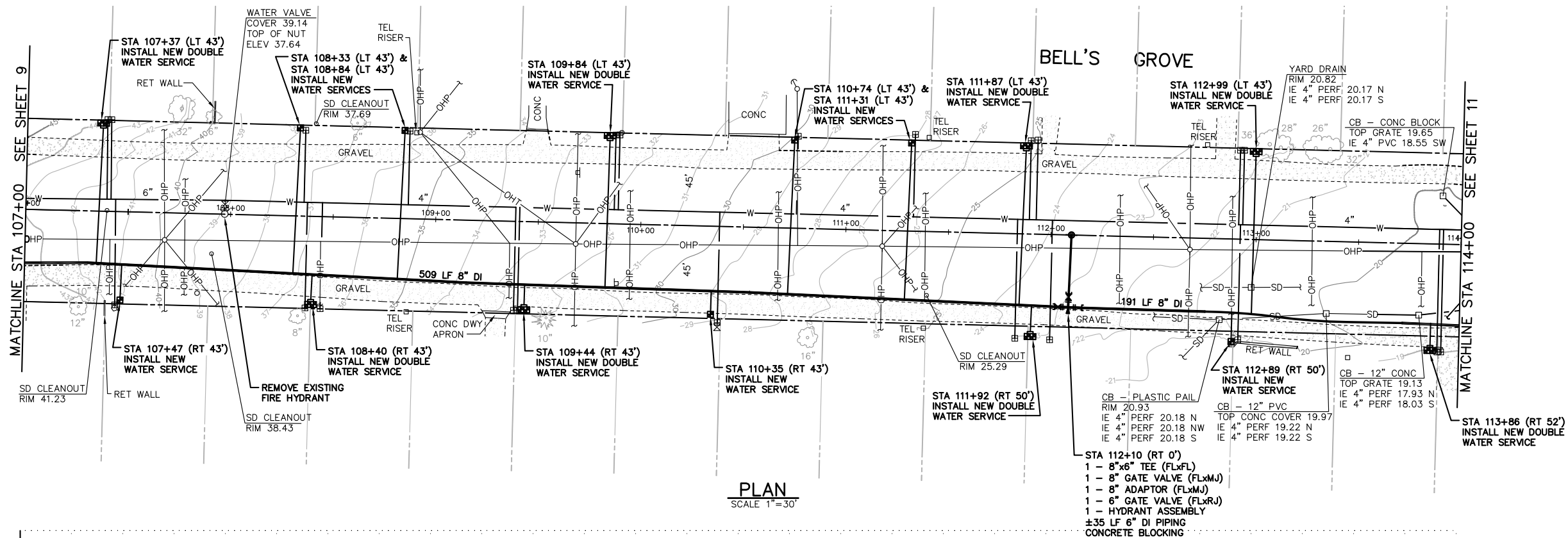
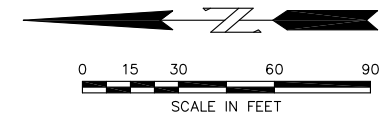
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POINT ROBERTS WATER DISTRICT NO. 4
 2011 WATER MAIN REPLACEMENTS
 POINT ROBERTS, WA

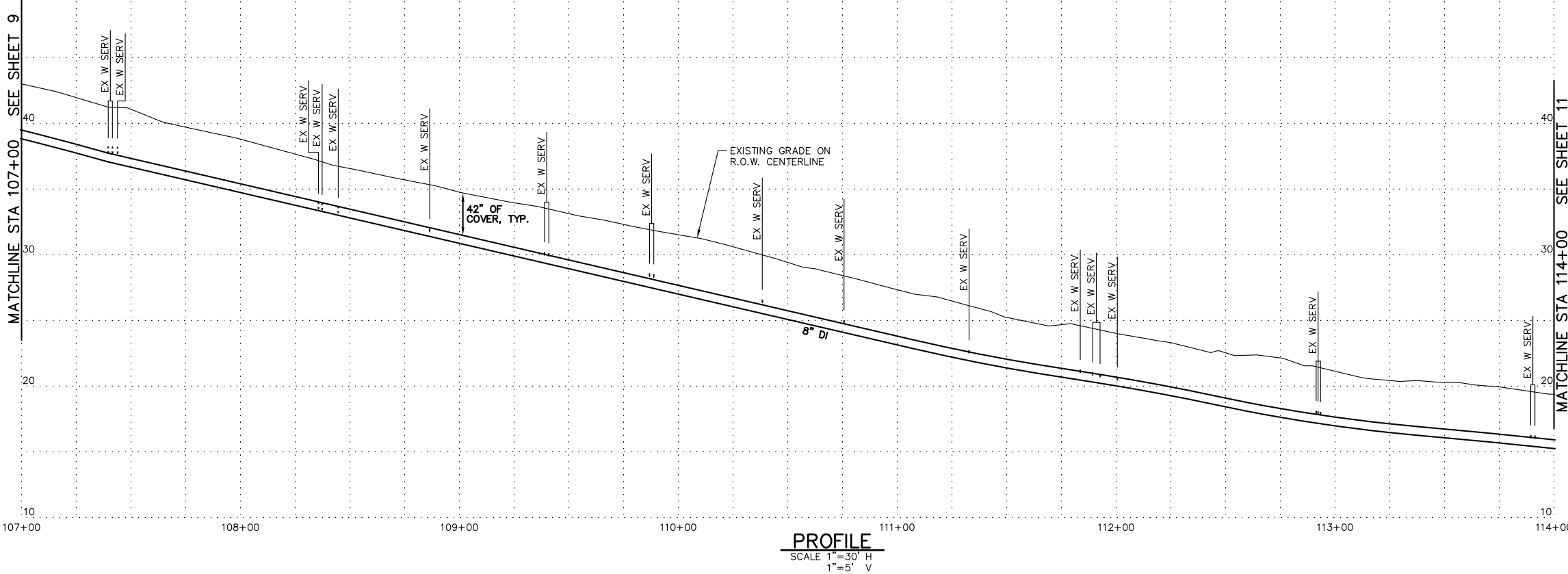
BELL'S GROVE - STA 100+00 TO STA 107+00

JOB NO. 0910001-02
 DRAWING NO.
 SHEET 9 OF 13

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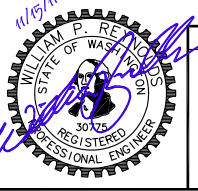
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V

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DAYS BEFORE YOU DIG
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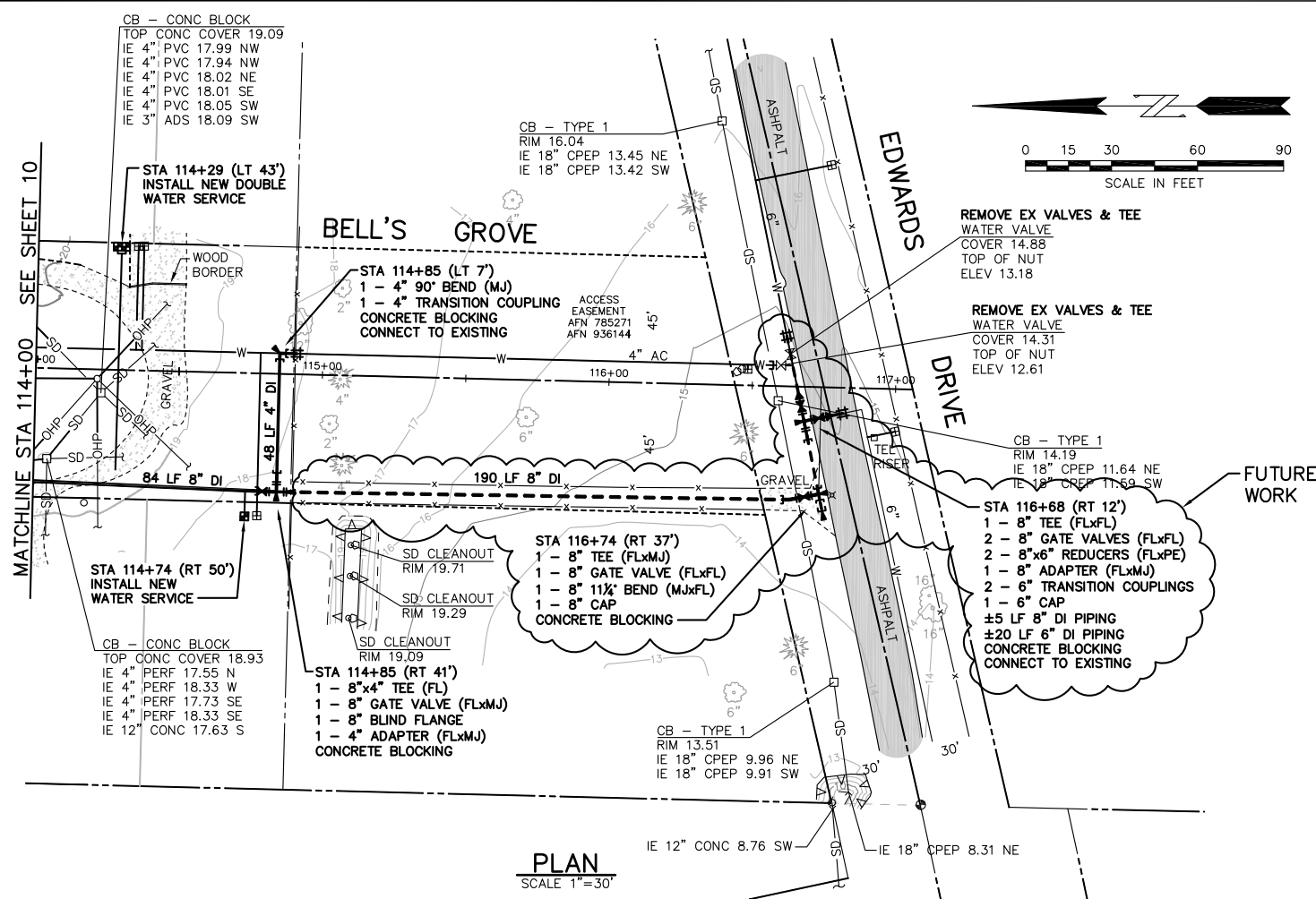
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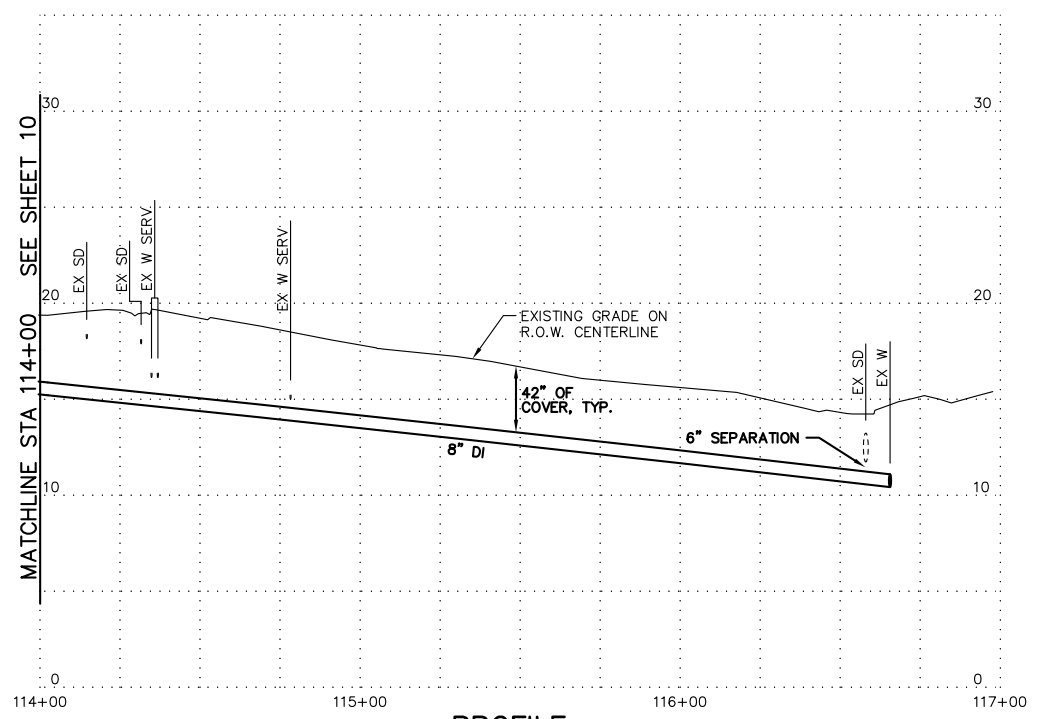
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POINT ROBERTS WATER DISTRICT NO. 4 2011 WATER MAIN REPLACEMENTS POINT ROBERTS, WA	JOB NO. 0910001-02
BELL'S GROVE - STA 107+00 TO STA 114+00	DRAWING NO.
	SHEET OF 10 13

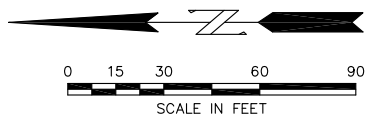
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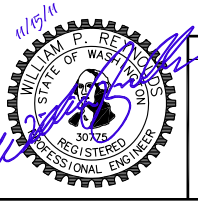
PLAN
SCALE 1"=30'



PROFILE
SCALE 1"=30' H
1"=5' V



CALL THREE BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555



REVISIONS	GENERAL NOTES

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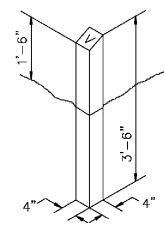
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POINT ROBERTS WATER DISTRICT NO. 4
 2011 WATER MAIN REPLACEMENTS
 POINT ROBERTS, WA

BELL'S GROVE - STA 114+00 TO STA 117+00

JOB NO. 0910001-02
DRAWING NO.
SHEET OF 11 13



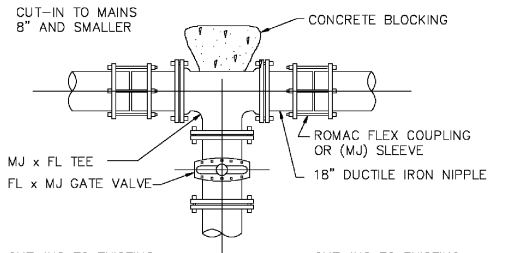
VALVE MARKER POST

NOTES:

VALVE MARKER POST SHALL BE A MINIMUM 42" LONG PRECAST CONCRETE AS MANUFACTURED BY FOG-TITE METER SEAL CO., OR EQUAL. PAINT POST WITH SAFETY BLUE ENAMEL #257, AS MANUFACTURED BY FARWEST PAINT MFG. CO. NEATLY STENCIL DISTANCE TO VALVE ON POST W/2" NUMERALS, USING WHITE ENAMEL PAINT.

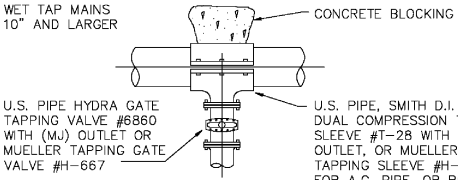


VALVE MARKER POST



CUT-INS TO EXISTING C.I. OR D.I. PIPE REQUIRE 1-18" D.I. NIPPLE 1-(MJ) SLEEVE

CUT-INS TO EXISTING A.C. OR STL. PIPE REQUIRE 2-18" D.I. NIPPLES 2-ROMAC FLEX COUPLING 1-(MJ) SLEEVE

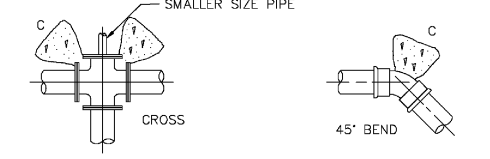
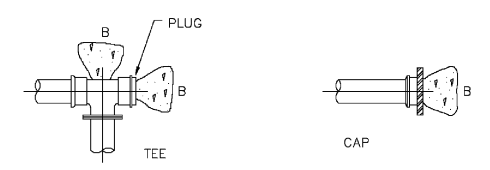
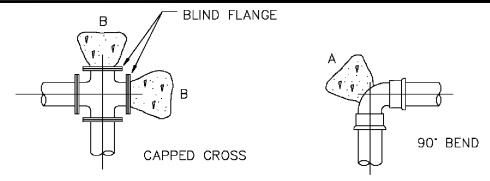


U.S. PIPE HYDRA GATE TAPPING VALVE #6860 WITH (MJ) OUTLET OR MUELLER TAPPING GATE VALVE #H-667

U.S. PIPE, SMITH D.I. DUAL COMPRESSION TAPPING SLEEVE #T-28 WITH FLANGE OUTLET, OR MUELLER (MJ) TAPPING SLEEVE #H-619 FOR A.C. PIPE, OR ROMAC STAINLESS STL. TAPPING SLEEVE.



CUT-INS & LIVE TAPS



- NOTES:
- SEE THRUST BLOCK TABLE
 - PROVIDE POLYETHYLENE SHEETING TO COVER BOLTS AND JOINTS FOR DISMANTLING.



CONCRETE BLOCKING

THRUST BLOCK - TABLE
MIN. BEARING AREA AGAINST UNDISTURBED SOIL SQUARE FEET

PIPE SIZE	A (FT. ²)	B (FT. ²)	C (FT. ²)	D (FT. ²)	E (FT. ²)
3"	3	2	2	2	2
6"	4	4	2	2	2
8"	7	6	4	2	2
10"	11	10	6	3	2
12"	16	14	9	5	3
14"	22	19	12	6	3
16"	29	25	16	8	4
18"	36	31	20	10	5
20"	45	39	24	13	6
22"	54	47	29	15	8
24"	64	56	35	18	9
28"	87	76	48	24	12
30"	101	87	55	28	14
36"	145	125	78	40	20
42"	197	171	107	55	27
48"	257	223	140	71	36

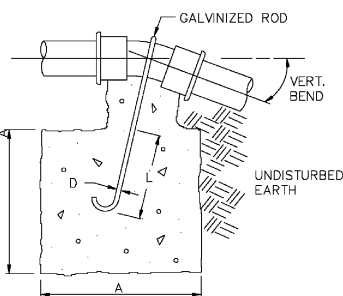
- NOTES:
- BEARING AREA OF CONC. THRUST BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 POUNDS PER SQUARE FOOT.
 - AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES AND SOIL CONDITIONS.
 - CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
 - BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.
 - CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.



THRUST BLOCK TABLE

VERTICAL BLOCKING FOR 11 1/4", 22 1/2", 30" BENDS

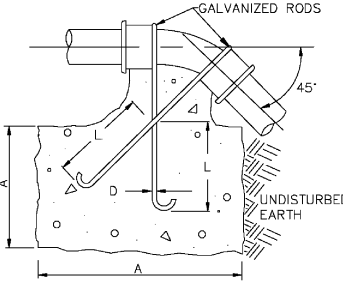
PIPE SIZE	V B	CU FT	A	D	L
4"	11 1/4' 30"	8 17	2.0' 2.6'	3/4"	1.5' 2.0'
6"	11 1/4' 30"	11 25	2.2' 2.9'	3/4"	2.0'
8"	11 1/4' 30"	16 41	2.5' 3.5'	3/4"	2.0'
12"	11 1/4' 30"	32 70	3.2' 4.1'	3/4"	2.5'
16"	11 1/4' 30"	70 132	4.1' 5.1'	7/8"	3.0'
20"	11 1/4' 30"	184 275	5.3' 6.5'	1 1/8"	4.0'
24"	11 1/4' 30"	411 511	7.1' 8.5'	1 1/4"	4.5'



VERTICAL BLOCKING FOR 11 1/4", 22 1/2" & 30" BENDS

VERTICAL BLOCKING FOR 45" BENDS

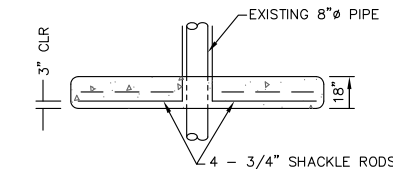
PIPE SIZE	V B	CU FT	A	D	L
4"	45'	30	3.1'	3/4"	2.0'
6"		68	4.1'		
8"		123	5.0'		
12"		232	6.1'	3/4"	2.5'
16"		478	7.8'	1 1/8"	4.0'
20"		860	9.8'	1 1/4"	4.5'
24"		1410	12.5'	1 3/8"	5.5'



NOTE: CONCRETE BLOCKING BASED ON 200 PSI PRESSURE AND 2500 PSI CONCRETE

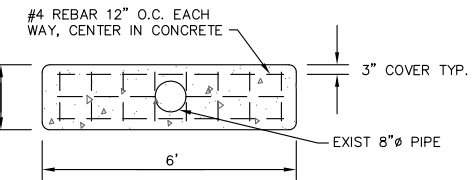


VERTICAL BLOCKING



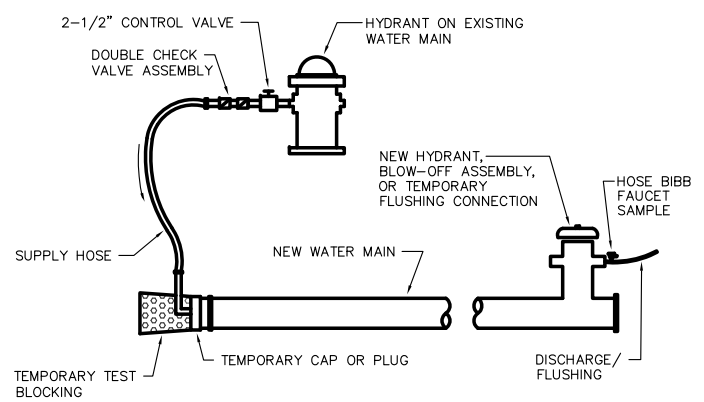
- NOTES:
- PLACE CONCRETE AGAINST UNDISTURBED EARTH, BOTH FACES
 - CLASS 5 1/2 SACK CONCRETE 3000 PSI MIN

PLAN VIEW



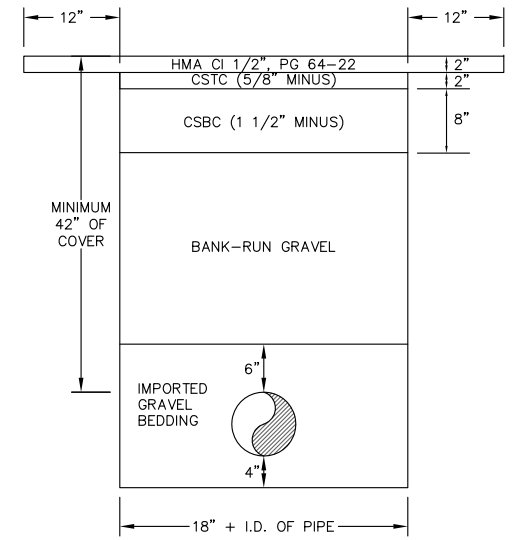
ELEVATION VIEW

TYPICAL CONCRETE DEAD-MAN ANCHOR



- NOTES:
- AN APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED BETWEEN THE EXISTING AND NEW WATER LINES DURING DISINFECTION AND FLUSHING OF NEW WATER MAIN.
 - THE BACKFLOW PREVENTION ASSEMBLY AND SUPPLY HOSE MUST BE DISCONNECTED DURING HYDROSTATIC PRESSURE TESTING OF THE NEW MAIN.
 - THE NEW WATER MAIN SHALL BE CONNECTED TO THE EXISTING SYSTEM ONLY AFTER NEW MAIN IS FLUSHED, DISINFECTED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED.
 - THE INTERIORS OF ALL PIPES AND FITTINGS TO BE USED IN FINAL CONNECTION MUST BE SWABBED OR SPRAYED WITH A 1% AVAILABLE CHLORINE SOLUTION.

TEMPORARY BLOWOFF ASSEMBLY

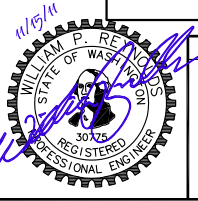


* WHEN TRENCH IS IN SHOULDER, EXTRA 2" OF CSTC SHALL BE INSTALLED IN PLACE OF HMA

TYPICAL TRENCH DETAIL AND PAVEMENT SECTION

SCALE: 1"=1'

REFS: DRAWING: \\FS1\VOL1\PROJECTS\09\09100001\DWG\09100001\PH2.DWG LAYOUT TAB. LAYOUT DATE: 11/15/2011 TIME: 11:43:02 AM PLOTTED BY: JUILLEY LAST UPDATED: Thu, 6 Oct 2011



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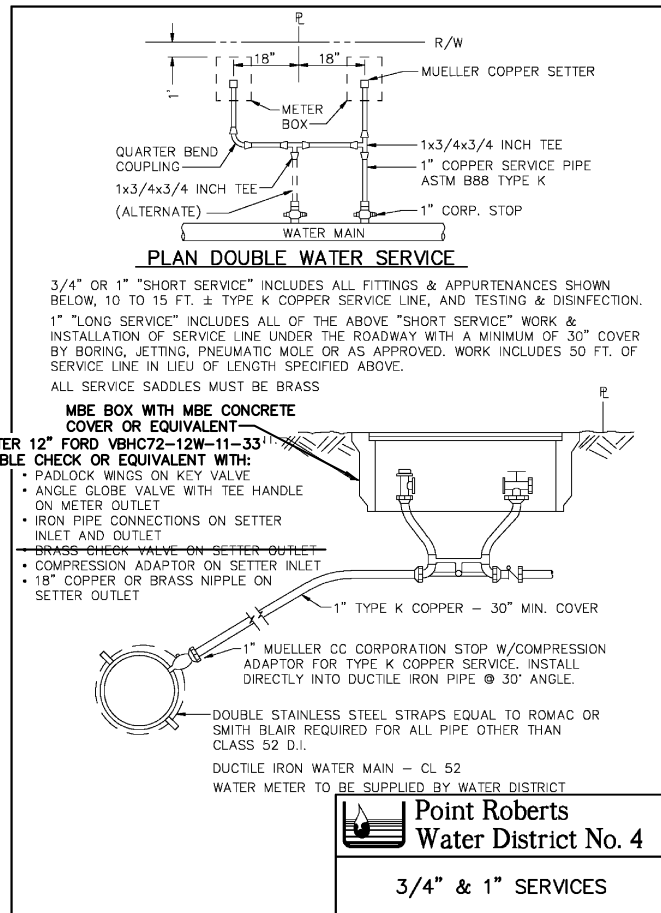
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2011 WATER MAIN REPLACEMENTS
POINT ROBERTS, WA

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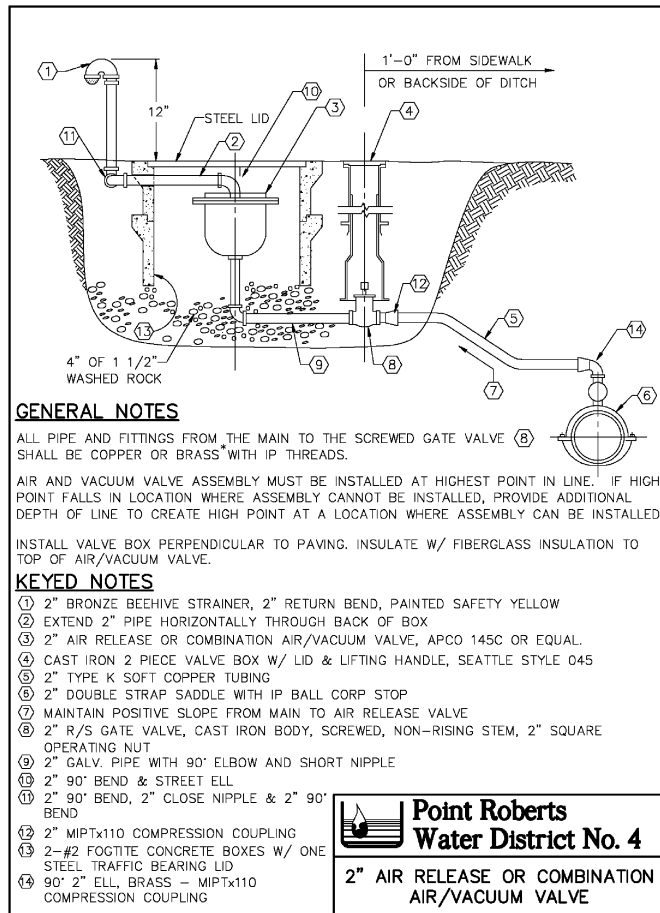
DETAILS

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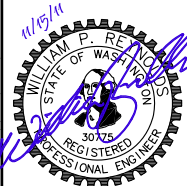
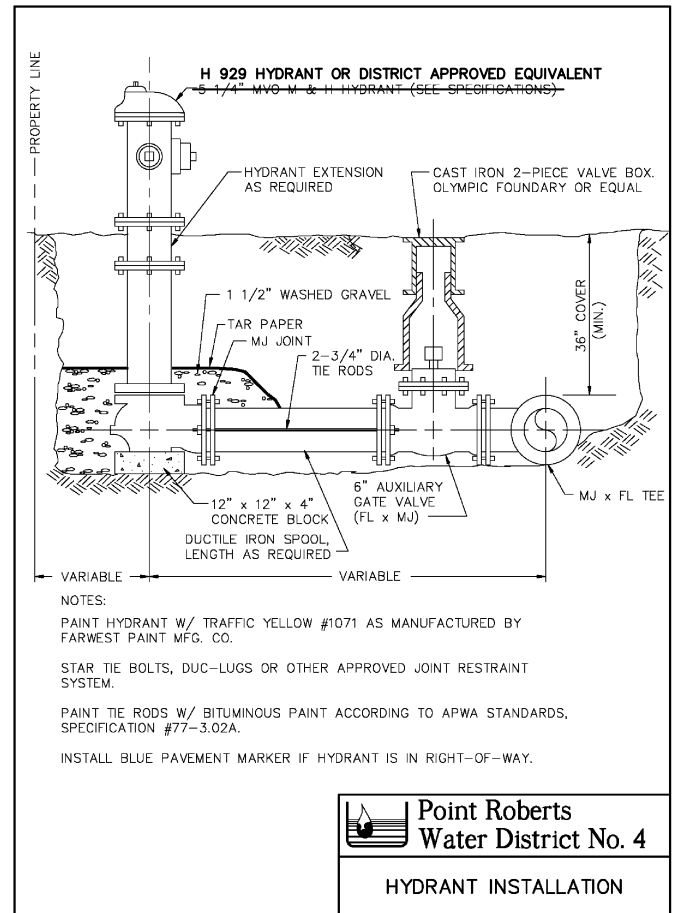
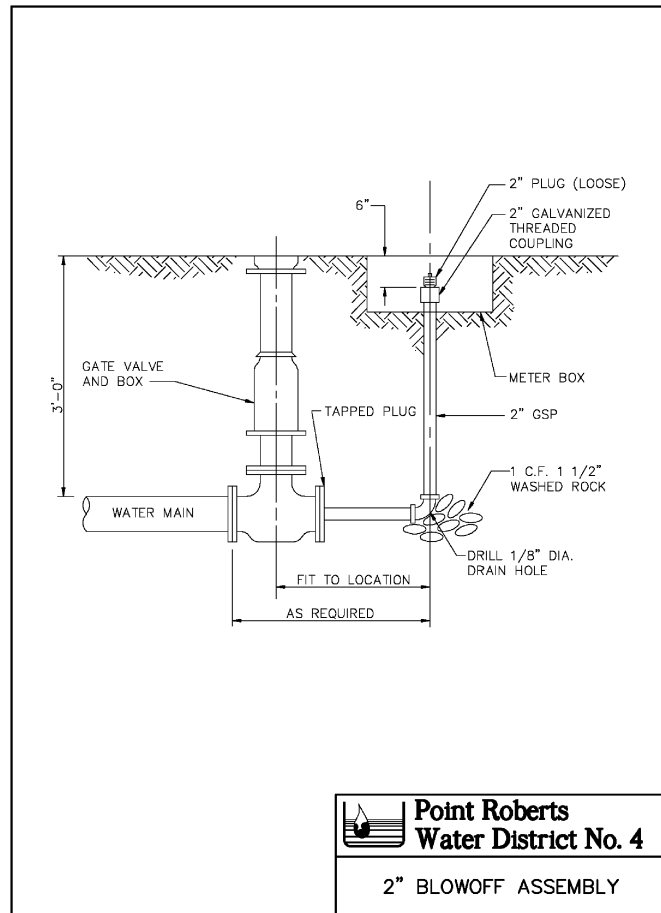
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3/4" & 1" SERVICES



**Point Roberts
Water District No. 4**

2" AIR RELEASE OR COMBINATION AIR/VACUUM VALVE



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