

LEGEND

EXISTING				
---	TB	---	=	EXISTING TOP OF BANK
---	BB	---	=	EXISTING BOTTOM OF BANK
-.-.-		-.-.-	=	EXISTING DITCH
----		----	=	EXISTING GRADE BREAK
----	-95-	----	=	EXISTING MAJOR CONTOUR
----	-95-	----	=	EXISTING MINOR CONTOUR
----	□	----	=	EXISTING GUARDRAIL
----	X	----	=	EXISTING FENCE
----	○	----	=	EXISTING HANDRAIL
----		----	=	EXISTING GRAVEL
----		----	=	EXISTING WALL
////		////	=	EXISTING BUILDING
----	----	----	=	EXISTING PROPERTY BOUNDARY
----	----	----	=	EXISTING RIGHT OF WAY
----	----	----	=	EXISTING RIGHT OF WAY
----	----	----	=	EXISTING EASEMENT
----	-.-.-	----	=	EXISTING SECTION LINE
----	----	----	=	EXISTING ROAD
----	----	----	=	EXISTING WETLANDS BOUNDARY
----	----	----	=	EXISTING STRIPE
----	----	----	=	EXISTING EDGE OF PAVEMENT
----	----	----	=	EXISTING FLOWLINE
----	----	----	=	EXISTING TOP BACK OF CURB
----	----	----	=	EXISTING SIDEWALK
----	UGP	----	=	EXISTING BURIED POWER
----	OHP	----	=	EXISTING OVERHEAD POWER
----	UGC	----	=	EXISTING BURIED COMMUNICATIONS
----	OHC	----	=	EXISTING OVERHEAD COMMUNICATIONS
----	FO	----	=	EXISTING BURIED FIBER OPTICS
----	TV	----	=	EXISTING BURIED TV
----	T	----	=	EXISTING BURIED TELEPHONE
----	C	----	=	EXISTING CONDUIT
----	G	----	=	EXISTING GAS MAIN
----	W	----	=	EXISTING WATER MAIN
----	IRR	----	=	EXISTING IRRIGATION LINE
----	FM	----	=	EXISTING SANITARY SEWER FORCE MAIN
----	SS	----	=	EXISTING SANITARY SEWER
----	SD	----	=	EXISTING STORM DRAIN
----	OHW	----	=	EXISTING ORDINARY HIGH WATER
+		+	=	EXISTING RR TRACKS
X		X	=	EXISTING CULVERT
~~~~		~~~~	=	EXISTING TREE LINE
~~~~		~~~~	=	EXISTING CONCRETE

LINETYPES

PROPOSED		
-----TB-----	-----TB-----	= PROPOSED TOP OF BANK
-----BB-----	-----BB-----	= PROPOSED TOE OF BANK
-.-.-.-.-	-.-.-.-.-	= PROPOSED DITCH
-----	-----	= PROPOSED GRADE BREAK
-----95-----	-----95-----	= PROPOSED MAJOR CONTOUR
-----95-----	-----95-----	= PROPOSED MINOR CONTOUR
-----□-----	-----□-----	= PROPOSED GUARDRAIL
-----X-----	-----X-----	= PROPOSED FENCE
-----○-----	-----○-----	= PROPOSED HANDRAIL
-----	-----	= PROPOSED GRAVEL
-----	-----	= PROPOSED WALL
////	////	= PROPOSED BUILDING
-----	-----	= PROPOSED PAVEMENT VALLEY
-----	-----	= PROPOSED RIGHT OF WAY
-----	-----	= PROPOSED CONSTRUCTION EASEMENT
-----	-----	= PROPOSED ROAD
-----	-----	= PROPOSED SAWCUT
-----	-----	= PROPOSED STRIPE
-----	-----	= PROPOSED EDGE OF PAVEMENT
-----	-----	= PROPOSED CURB AND GUTTER
-----	-----	= PROPOSED PATH
-----	-----	= PROPOSED SIDEWALK
-----	-----	= PROPOSED BURIED POWER
-----	-----	= PROPOSED OVERHEAD POWER
-----	-----	= PROPOSED TRAFFIC SIGNAL CONDUCTOR
-----	-----	= PROPOSED FIBER OPTICS
-----	-----	= PROPOSED BURIED COMMUNICATIONS
-----	-----	= PROPOSED OVERHEAD COMMUNICATIONS
-----X-----	-----X-----	= PROPOSED SILT FENCE
-----C-----	-----C-----	= PROPOSED CONDUIT
-----IRR-----	-----IRR-----	= PROPOSED IRRIGATION LINE
-----W-----	-----W-----	= PROPOSED WATER MAIN
-----FM-----	-----FM-----	= PROPOSED SANITARY SEWER FORCE MAIN
-----SS-----	-----SS-----	= PROPOSED SANITARY SEWER
-----SD-----	-----SD-----	= PROPOSED STORM DRAIN
X-----X	X-----X	= PROPOSED CULVERT
~~~~~	~~~~~	= PROPOSED TREE/SHRUB LINE
~~~~~	~~~~~	= PROPOSED CONC. SIDEWALK/DRIVEWAY
~~~~~	~~~~~	= PROPOSED INFILTRATION TRENCH
~~~~~	~~~~~	= PROPOSED INFILTRATION FILTER MEDIA
~~~~~	~~~~~	= PROPOSED GRIND
~~~~~	~~~~~	= PROPOSED DEMOLITION AREA
~~~~~	~~~~~	= PROPOSED ASPHALT
~~~~~	~~~~~	= PROPOSED RIGHT OF WAY TAKE

EXISTING	
	= EXISTING SIGNAL POLE
	= EXISTING SIGNAL POLE W/ LUMINAIRE
	= EXISTING STREET LIGHT ASSEMBLY
	= EXISTING YARD LIGHT
	= EXISTING GUY WIRE
	= EXISTING GAS METER
	= EXISTING GAS VALVE
	= EXISTING TRANSFORMER PAD
	= EXISTING POWER VAULT
	= EXISTING J-BOX
	= EXISTING SOIL BORING LOCATION
	= EXISTING MAIL BOX
	= EXISTING WATER SPIGOT
	= EXISTING WATER BLOW OFF
	= EXISTING WATER METER
	= EXISTING WATER VALVE
	= EXISTING FIRE HYDRANT
	= EXISTING TRAFFIC SIGNAL VAULT
	= EXISTING SEWER MANHOLE
	= EXISTING STORM AREA DRAIN
	= EXISTING STORM DRAIN CATCH BASIN TYPE I/INLET
	= EXISTING STORM DRAIN CATCH BASIN TYPE II
	= EXISTING UTILITY POLE
	= EXISTING MONITORING WELL
	= EXISTING STORM CLEANOUT
	= EXISTING SEWER CLEANOUT
	= EXISTING SIGN
	= EXISTING TELEPHONE PEDESTAL
	= EXISTING COMMUNICATIONS VAULT
	= EXISTING BENCH MARK
	= EXISTING NAIL AND SHINER
	= EXISTING IRON PIPE
	= EXISTING MONUMENT (IN CASE)
	= EXISTING MONUMENT (SURFACE)
	= EXISTING ANGLE POINT
	= EXISTING ROCK WALL
	= EXISTING TREE STUMP
	= EXISTING SHRUB
	= EXISTING TREE

SYMBOLS

PROPOSED	
	= PROPOSED STORM AREA DRAIN
	= PROPOSED COUPLER
	= PROPOSED WATER METER
	= PROPOSED WATER VALVE
	= PROPOSED STORM DRAIN CATCH BASIN TYPE II
	= PROPOSED SANITARY SEWER MANHOLE
	= PROPOSED STORM DRAIN CATCH BASIN TYPE I/INLET
	= PROPOSED HYDRANT
	= PROPOSED UTILITY POLE
	= PROPOSED J-BOX (TYPE I, II, III)
	= PROPOSED MONITORING WELL
	= PROPOSED STORM CLEANOUT
	= PROPOSED SANITARY SEWER CLEAN OUT
	= PROPOSED SIGN
	= FLOW ARROW
	= PROPOSED ROCK WALL
	= PROPOSED TREE
	= SECTION MARK

ABBREVIATIONS

Ø	= DIAMETER	EVCE	= END VERTICAL CURVE ELEVATION	MIN	= MINIMUM	RET	= RETAINING
AC	= ASBESTOS CEMENT	EVLS	= END VERTICAL CURVE STATION	MJ	= MECHANICAL JOINT	ROW	= RIGHT OF WAY
AD	= ALGEBRAIC DIFFERENCE	EX, EXIST	= EXISTING	MOD	= MODIFIED	RT	= RIGHT
ASPH	= ASPHALT	IR	= EXISTING IRRIGATION	MON	= MONUMENT	S	= SOUTH
BLDG	= BUILDING	F&C	= FRAME & COVER	MPOC	= MID-POINT ON CURVE	SCH	= SCHEDULE
BVCE	= BEGIN VERTICAL CURVE ELEVATION	F&G	= FRAME & GRATE	MTR	= METER	SD	= STORM DRAIN
BVCE	= BEGIN VERTICAL CURVE STATION	FF	= FINISHED FLOOR	MW	= MONITORING WELL	SDCB	= STORM DRAIN CATCH BASIN
C&G	= CURB & GUTTER	FG	= FINISHED GRADE	N	= NORTH	SDMH	= STORM DRAIN MANHOLE
C&V	= CABLE TELEVISION	FL	= FLOW LINE, FLANGE	N/A	= NOT APPLICABLE	SE	= SOUTHEAST
C&F	= CONTROLLED DENSITY FILL	FND	= FOUND	NE	= NORTHEAST	SE	= EXISTING SIGN
CL	= CLASS	FT	= FEET	NW	= NORTHWEST	SP	= STANDARD PLAN
CL	= CLASS	FT/FT	= FEET PER FOOT	NTS	= NOT TO SCALE	SP	= SANITARY SEWER MANHOLE
OMP	= CORRUGATED METAL PIPE	GALV	= GALVANIZED	OC	= ON CENTER	STA	= STATION
CMU	= CONCRETE MASONRY UNIT	GRVL	= GRAVEL	PVMT	= PAVEMENT	STD	= STANDARD
COMP	= COMPACTED	GV	= GATE VALVE	PC	= POINT OF CURVATURE	SW	= SOUTHWEST
CON	= CONIFER	HDPE	= HIGH DENSITY POLYETHYLENE	PCC	= POINT OF COMPOUND CURVATURE,	TBC	= TOP BACK OF CONCRETE
CONC	= CONCRETE	HMA	= HOT MIX ASPHALT		PORTLAND CEMENT CONCRETE	TEL	= TELEPHONE
CONT	= CONTOUR	HP	= HIGH POINT	PED	= PEDESTAL	TL	= TRAFFIC LOOP
CPSSP	= CORRUGATED POLYETHYLENE	HYD	= HYDRANT	POC	= POINT ON CURVE	TYP	= TYPICAL
	STORM SEWER PIPE	IE, INV	= INVERT ELEVATION	POSS	= POSSIBLE	UP	= UTILITY POLE
CULV	= CULVERT	IW	= INJECTION WELL	PRC	= POINT OF REVERSE CURVE	UTIL	= UTILITY
D/W	= DRIVEWAY	L	= LENGTH	PROP	= PROPOSED	VC	= VERTICAL CURVE
DEC	= DECIDUOUS	LDSC	= LANDSCAPING	PT	= POINT OF TANGENCY	VLT	= VAULT
DI	= DUCTILE IRON	LF	= LINEAR FEET	PVC	= POLYVINYL CHLORIDE	VPC	= VERTICAL POINT OF CURVATURE
E	= EAST	LOC	= LOCATION	PVI	= POINT OF VERTICAL INTERSECTION	VPI	= VERTICAL POINT OF INTERSECTION
EL	= ELEVATION	LP	= LOW POINT	PWR	= POWER	VPT	= VERTICAL POINT OF TANGENCY
EOP, EP	= EDGE OF PAVEMENT	LT	= LEFT	R	= RADIUS	W	= WEST
EQUIV	= EQUIVALENT	MAX	= MAXIMUM	R&C	= RING & COVER	WM	= WATER METER / WATER MAIN
						WSDOT	= WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

EROSION CONTROL LEGEND

WASHINGTON STATE DEPT. OF ECOLOGY
BEST MANAGEMENT PRACTICES (BMP)
REF.: STORMWATER MANAGEMENT MANUAL
FOR WESTERN WASHINGTON, 2012

- NOTES:
- BMP C120 (PERMANENT SEEDING) AND BMP C130 (SURFACE ROUGHENING) SHOWN IN LANDSCAPING AND PLANTING PLAN.
 - SEE TESC DETAILS AND TESC GENERAL NOTES, SHEET 5.
 - GENERALLY THE SILT FENCE AND CLEARING LIMITS FOLLOW THE RIGHT OF WAY OR CONSTRUCTION EASEMENTS UNLESS OTHERWISE DRAWN ON THE PLANS. THERE ARE AREAS WHERE THE HIGH VISIBILITY SILT FENCE IS DELINEATING THE MAXIMUM EXTENT OF WETLAND IMPACTS.

	HVSF		= BMP C103 AND C233: CLEARING LIMITS AND HIGH VISIBILITY SILT FENCE - SEE DETAIL SHEET 5
	P		= BMP C220: INLET PROTECTION - CB INSERT - SEE DETAIL SHEET 5
	SC		= BMP C105 AND C140: STREET CLEANING



SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
KK/PJC
DRAWN BY
PJC/LMH
CHECKED BY
LP

R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
LEGEND AND ABBREVIATIONS

DWG 16034 COVER

JOB#

16034

SCALE

H: 1"=20'

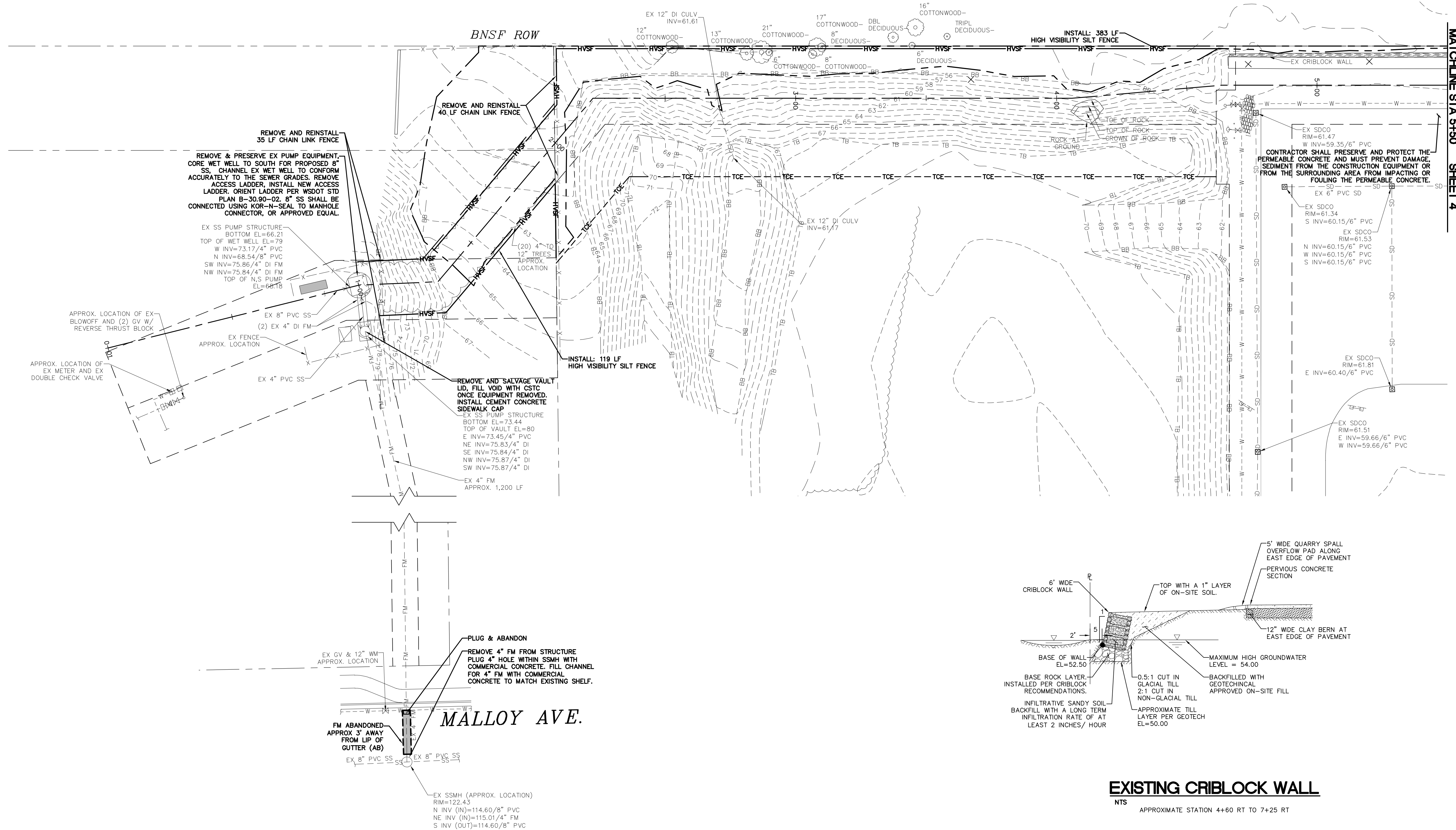
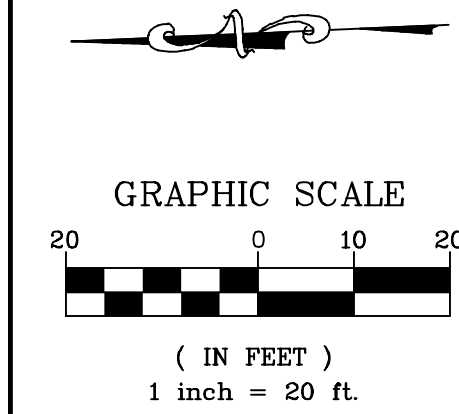
V: 1"=2'

DATE

11/05/2020

SHEET

2
of 20



MATCHLINE STA 5+50 SHEET 4

11/9/21

AS-BUILT

DESIGNED BY
KK/PJC
DRAWN BY
PJC/LMH
CHECKED BY
LP

R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
EX CONDITIONS, DEMO AND TESC - PS19 TO STA 5+50

DWG 16034 PS19 SEWER

JOB#

16034

SCALE

H: 1"=20'

V: N/A

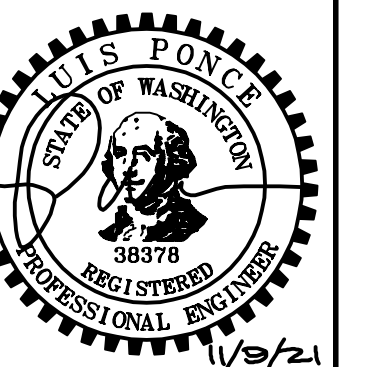
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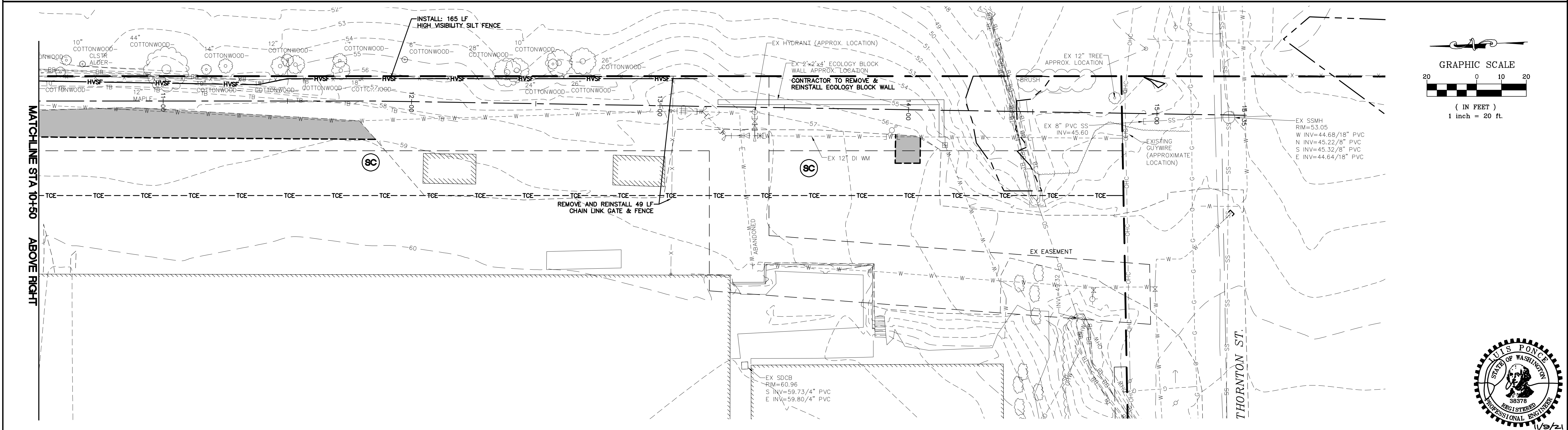
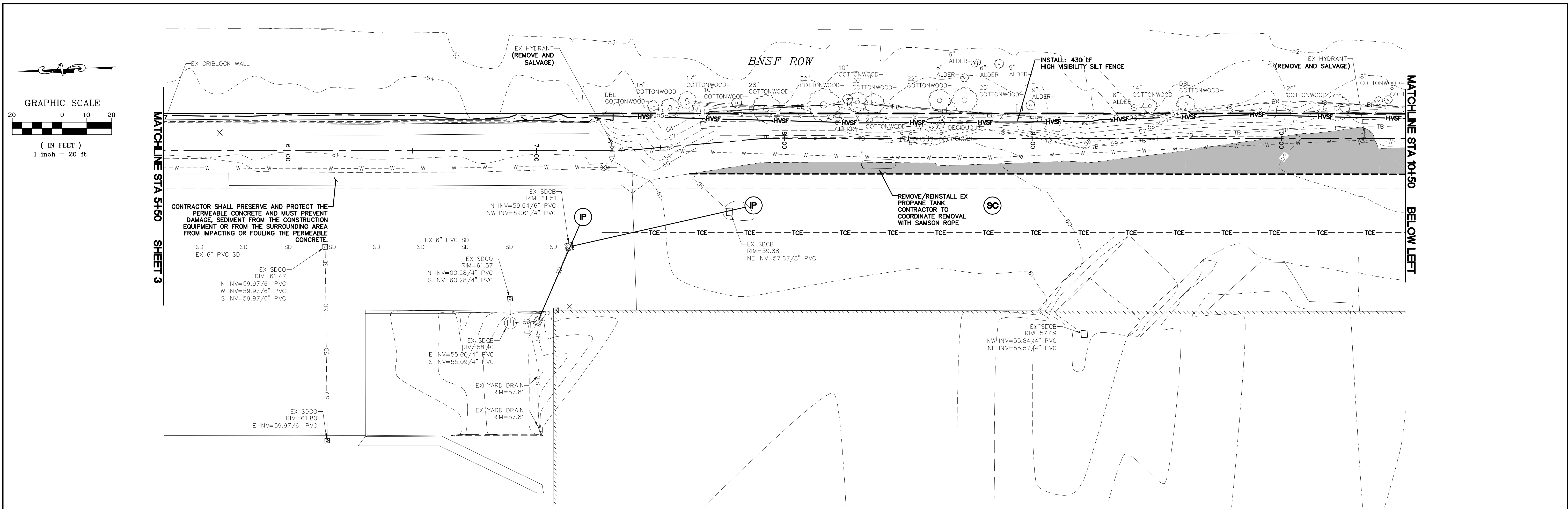
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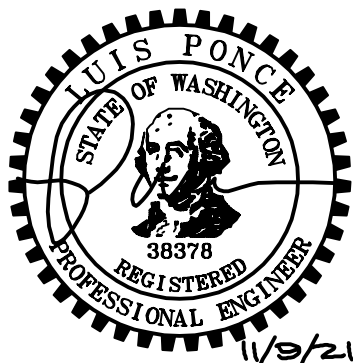
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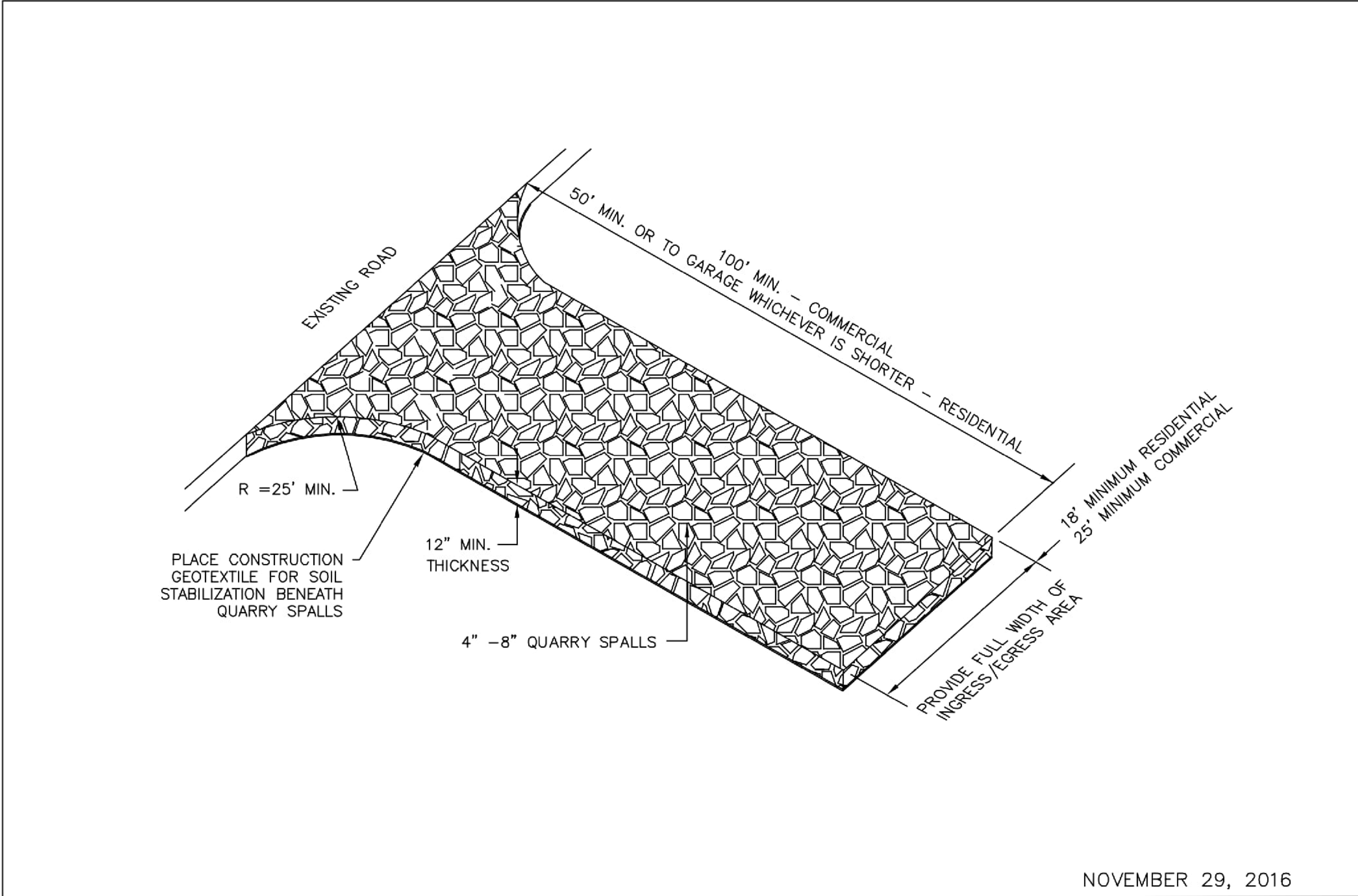
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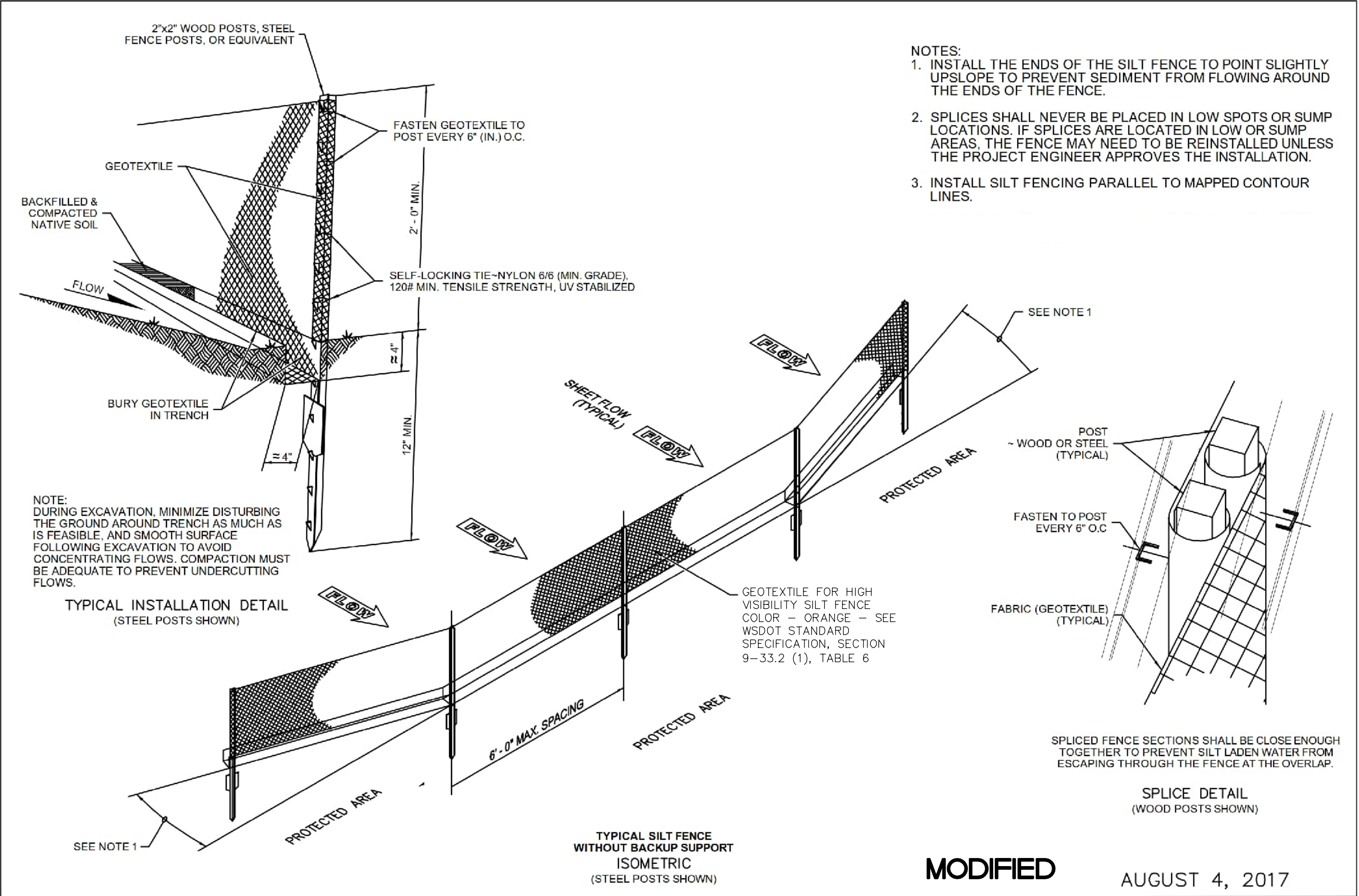


11/9/21 AS-BUILT	DESIGNED BY KK/PJC	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 423 Front Street Lynden, WA 98264 (360) 354-3687					CITY OF FERNDAL 2095 MAIN STREET FERNDAL, WA 98226	THORNTON STREET PS19 DECOMMISSIONING EX CONDITIONS, DEMO AND TESC - STA 5+50 TO STA 15+00	DWG 16034 PS19 SEWER		DATE 11/05/2020
	DRAWN BY PJC/LMH								JOB# 16034	SCALE H: 1"=20' v: N/A	SHEET 4 of 20
	CHECKED BY LP										
					NO.	DATE			DESCRIPTION	BY	





	APPROVED		NOVEMBER 29, 2016
		8/11/17	TEMPORARY CONSTRUCTION ENTRANCE
	Public Works Director	Date	STANDARD DETAIL ST-25
			NOT TO SCALE



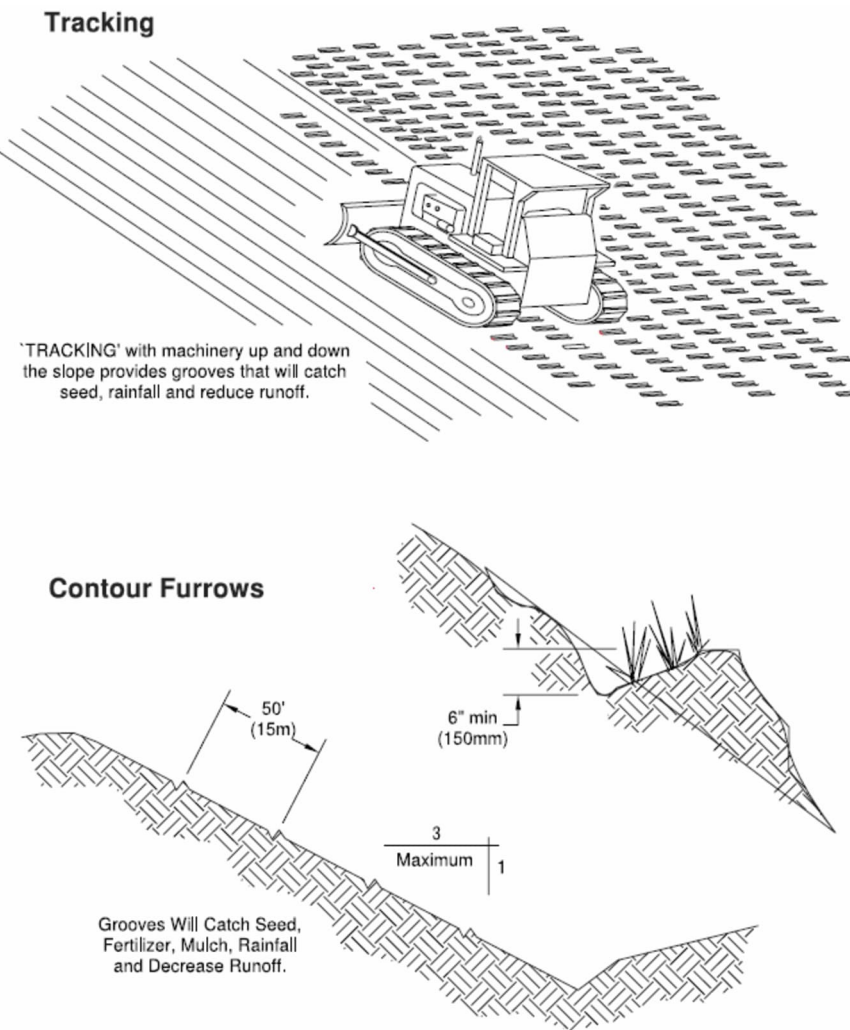
	APPROVED		MODIFIED
		8/11/17	AUGUST 4, 2017
	Public Works Director	Date	SILT FENCE
			STANDARD DETAIL ST-27
			NOT TO SCALE

TESC GENERAL NOTES

- THIS PLAN REPRESENTS THE MINIMUM REQUIREMENTS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE ENGINEER AS ARE FOUND NECESSARY.
- THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO ALL OTHER SITE CONSTRUCTION.
- ALL CLEARING LIMITS SHALL BE VISIBLY MARKED PRIOR TO CLEARING.
- ANY VEGETATION NOT IN THE CONSTRUCTION AREA SHALL BE LEFT UNDISTURBED.
- CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE ENGINEER OF ANY PROPOSED CHANGES IN PLAN PRIOR TO CONSTRUCTION OF THAT CHANGE. CONTRACTOR SHALL KEEP RECORD OF DEVIATIONS AND FORWARD TO THE ENGINEER.
- MAINTENANCE AND OPERATION OF THE EROSION CONTROL AND SEDIMENTATION SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SEDIMENTATION AND EROSION CONTROL MEASURES, AS SHOWN AND AS INSTALLED ON AN AS NEEDED BASIS.
- THE CONSTRUCTED EROSION CONTROL AND SEDIMENTATION PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO PERFORMING ANY SITE GRADING OR CLEARING.
- CONTRACTOR WILL HAVE A WATER TRUCK AVAILABLE ON SITE AT ALL TIMES. CONTRACTOR WILL WATER SURFACES OFTEN ENOUGH TO ABATE DUST AS APPROVED BY THE ENGINEER. WATERING WILL INCLUDE WEEKENDS AND HOLIDAYS.
- THE CONTRACTOR SHALL PERFORM ALL STREET CLEANING BY HAND OR WITH A SELF-PROPELLED PICKUP STREET SWEEPER. A STANDARD SELF-PROPELLED STREET SWEEPER WILL NOT BE ALLOWED.
- ALL DISTURBED AREAS SHALL BE HYDROSEED. GRASS SEEDING SHALL BE BROADCAST IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED AND FERTILIZED FOR EROSION CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR SLOPE EROSION UNTIL VEGETATION IS FIRMLY ESTABLISHED.
- ALL STORM DRAIN FACILITIES WITHIN THE PROJECT BOUNDARY, OR WHICH ARE IMPACTED BY THE PROJECT ARE TO BE CLEARED OF SEDIMENT AND DEBRIS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

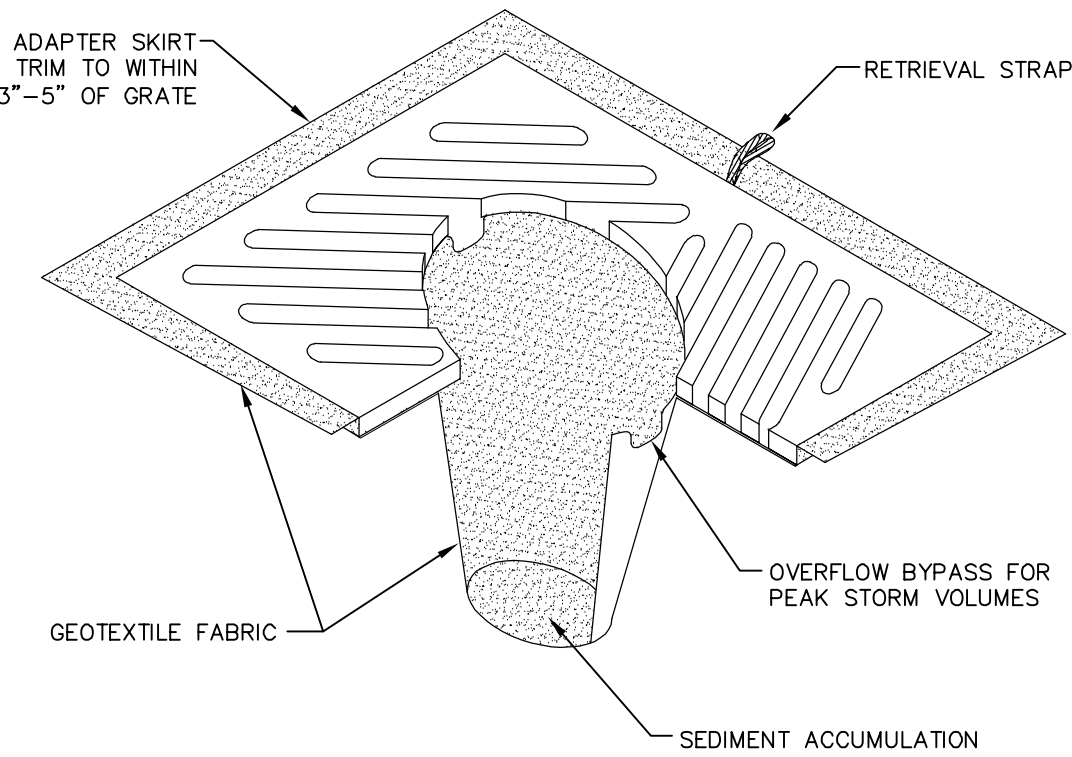
DUST CONTROL:
CONTRACTOR SHALL LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE EXCAVATION AND GRADING SHALL TAKE PLACE MAINTAINING THE ORIGINAL GROUND COVER AS LONG AS PRACTICAL. DUST CONTROL METHODS SHALL BE PERFORMED BY METHODS LISTED IN NOTE NUMBER EIGHT OF THE TESC GENERAL NOTES. SURFACES SHALL BE SPRAYED WITH WATER AS NEEDED IN ORDER TO ABATE DUST AS APPROVED BY THE ENGINEER.

STREET CLEANING:
CONTRACTOR SHALL PERFORM ALL STREET CLEANING AT A MINIMUM OF AT LEAST ONCE AT THE END OF EVERY DAY WORKED AND ON AN AS NEEDED BASIS BASED ON VEHICLE TRACK OUT. STREET CLEANING SHALL BE PERFORMED BY THE METHODS LISTED IN NOTE NUMBER TEN OF THE TESC GENERAL NOTES AND SHALL NOT ALLOW SEDIMENT INTO STORMWATER CONVEYANCE DITCHES OR STRUCTURES. STREET CLEANING METHODS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE BEGINNING OF CONSTRUCTION.



SURFACE ROUGHENING

NTS



INLET PROTECTION

NTS

- NOTES:
- INSERT SHALL BE INSTALLED PRIOR TO CLEARING & GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
 - SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
 - SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, & RE-INSERTING IT INTO THE CATCH BASIN.



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NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
TESC NOTES AND DETAILS

DWG 16034 DETAIL

JOB#

16034

SCALE

H: N/A

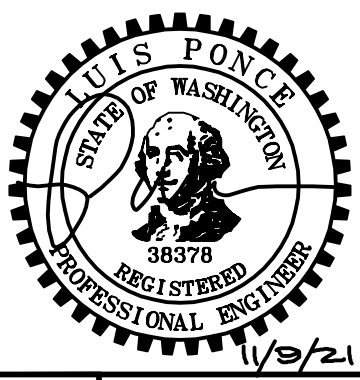
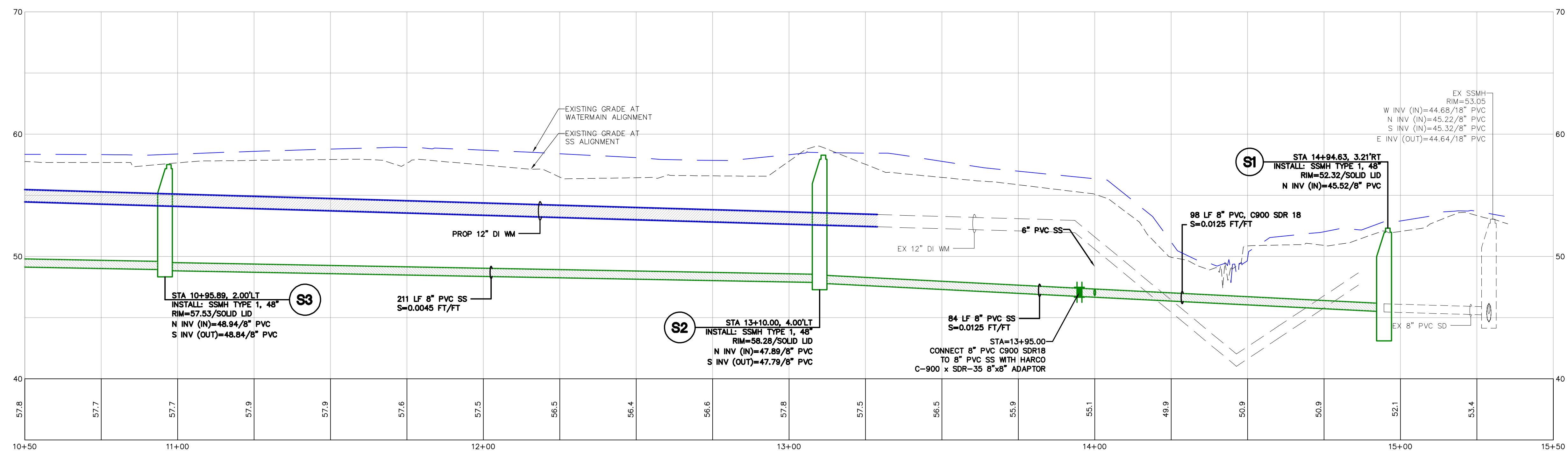
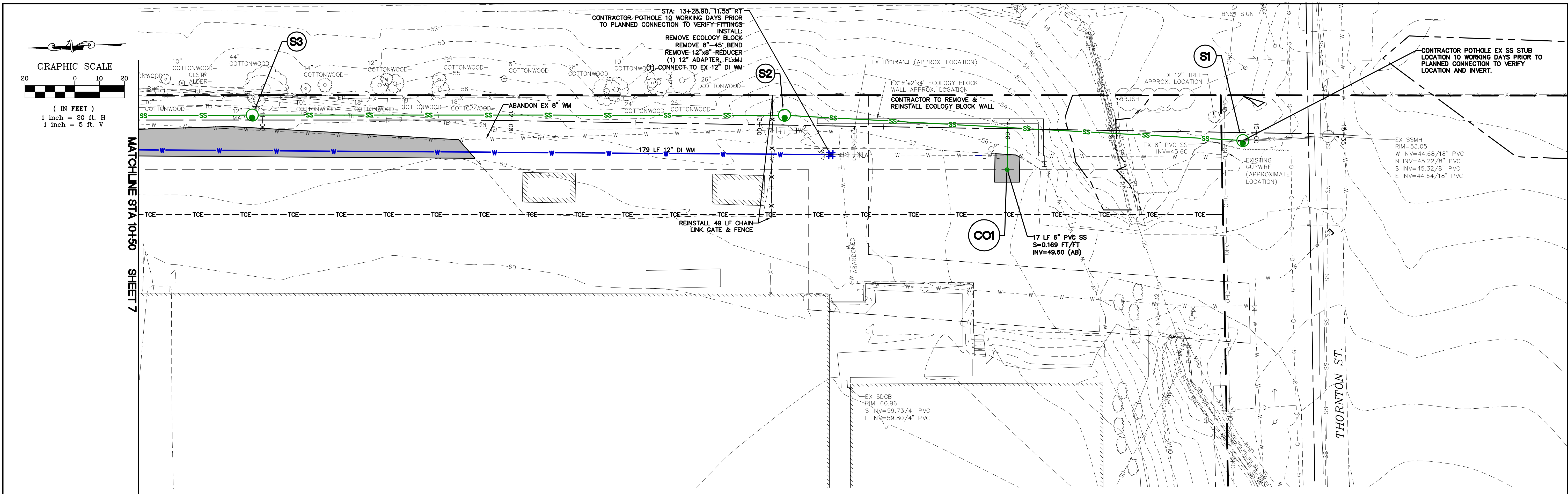
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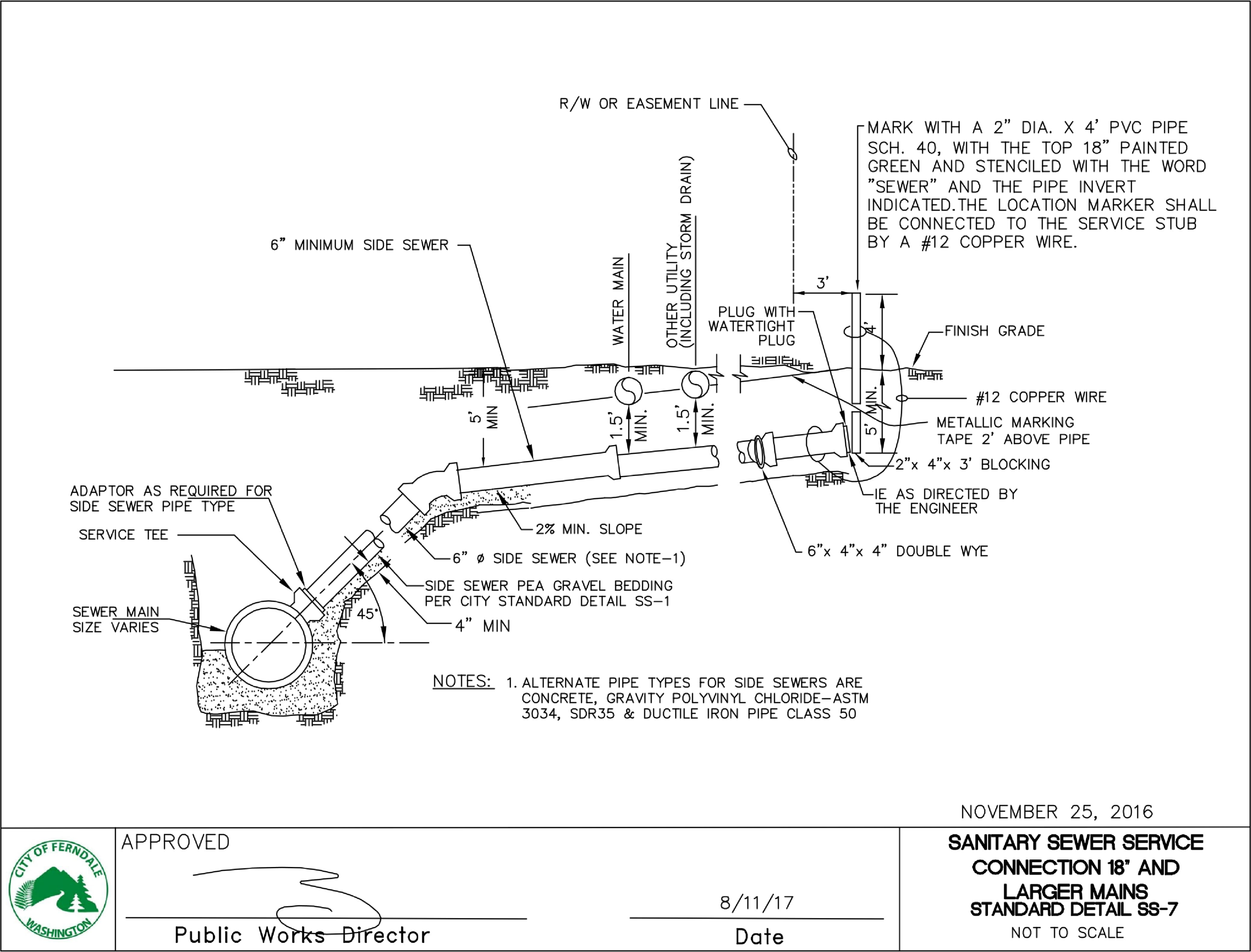
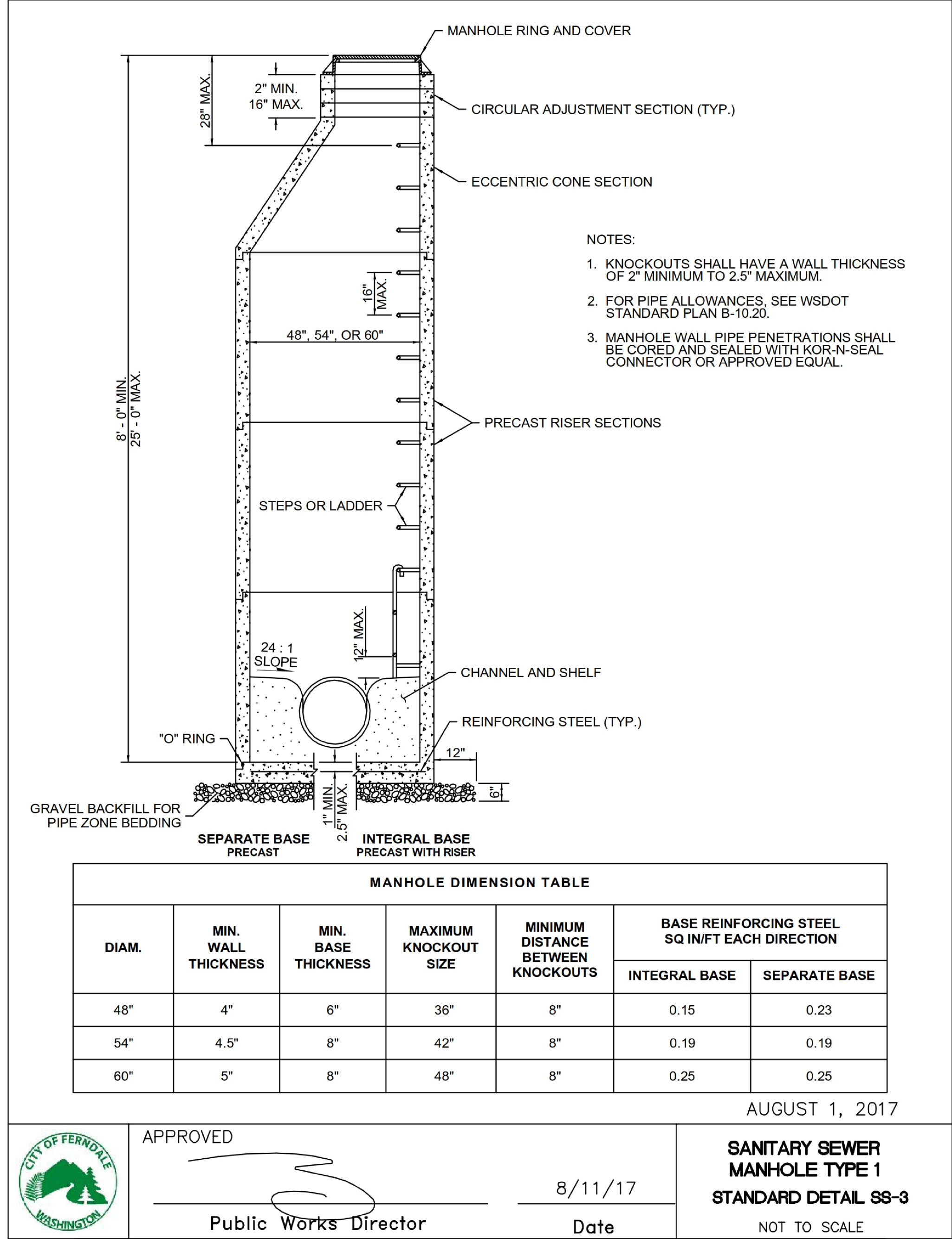
11/05/2020

SHEET

5
of 20



11/9/21 AS-BUILT	DESIGNED BY KK/PJC	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 423 Front Street Lynden, WA 98264 (360) 354-3687					CITY OF FERDALE 2095 MAIN STREET FERDALE, WA 98226	THORNTON STREET PS19 DECOMMISSIONING PLAN AND PROFILE - STA 10+50 TO STA 15+00	DWG 16034 PS19 SEWER		DATE 11/05/2020
	DRAWN BY PJC/LMH								JOB# 16034	SCALE H: 1"=20' V: 1"=5'	SHEET 8 of 20
	CHECKED BY LP										
					NO.	DATE			DESCRIPTION	BY	



SUBMITTED WITH
DESIGN PLAN

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KK/PJC
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LP

R&E

Reichhardt & Ebe

ENGINEERING INC

P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

NO.

DATE

DESCRIPTION

BY

CITY OF FERDALE
2095 MAIN STREET
FERDALE, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
SEWER DETAILS 1

DWG 16034 DETAIL

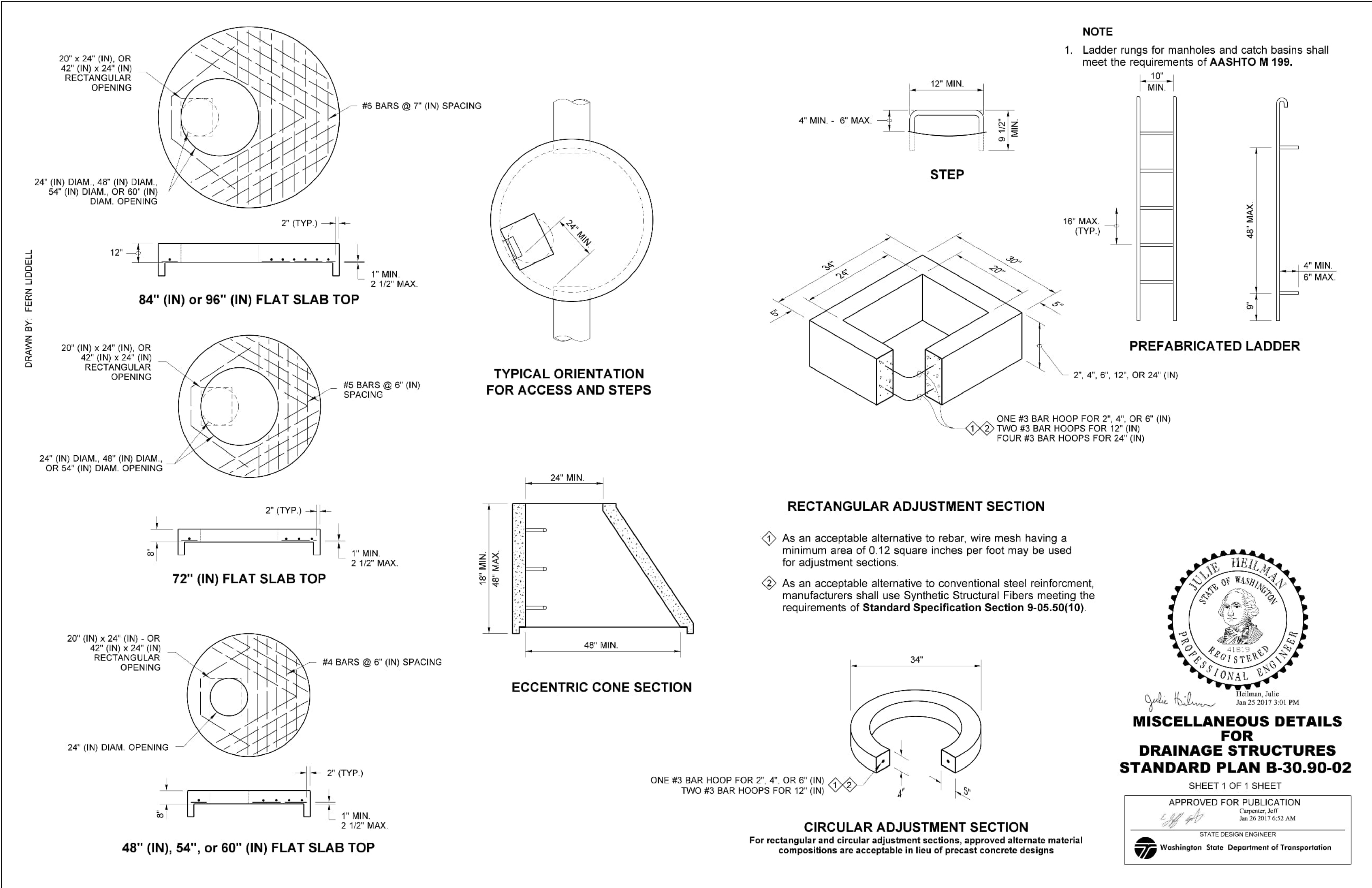
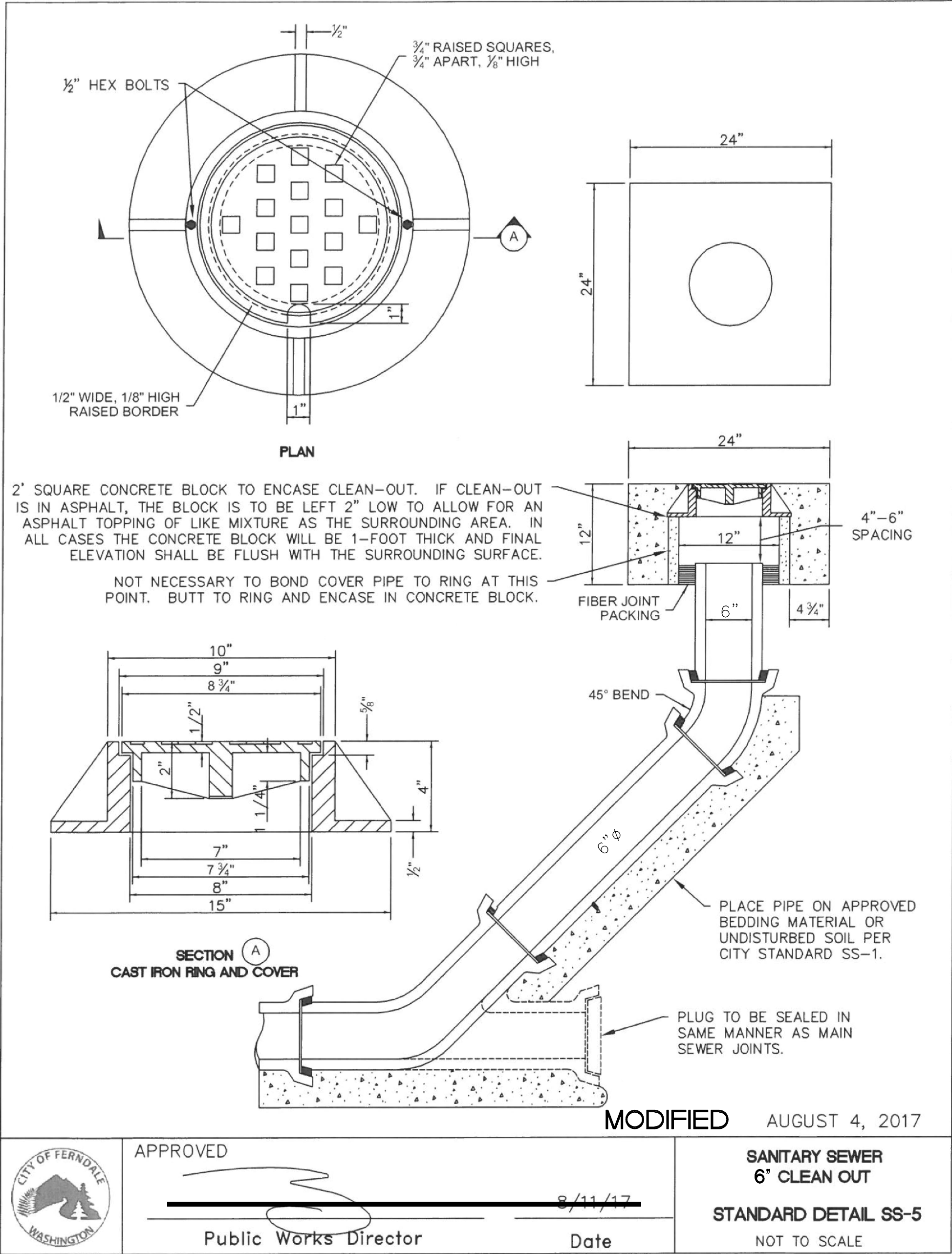
JOB# 16034

SCALE H: N/A V: N/A

DATE 11/05/2020

SHEET 9 of 20

00722.009 11/09/21 RH



SUBMITTED WITH
DESIGN PLAN

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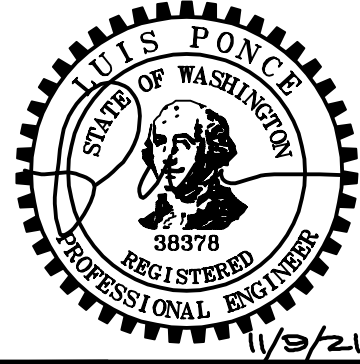
R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

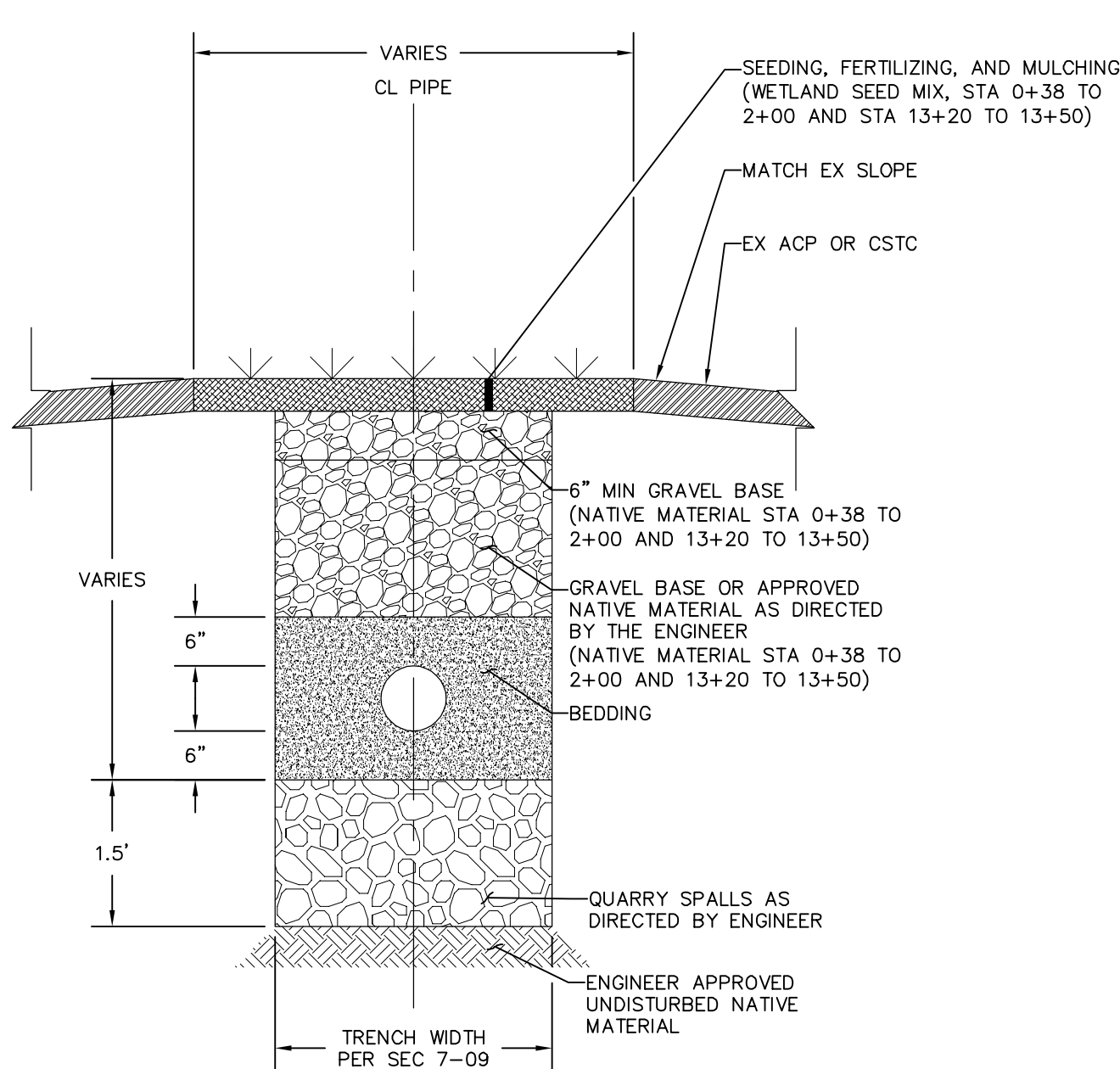
NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
SEWER DETAILS 2

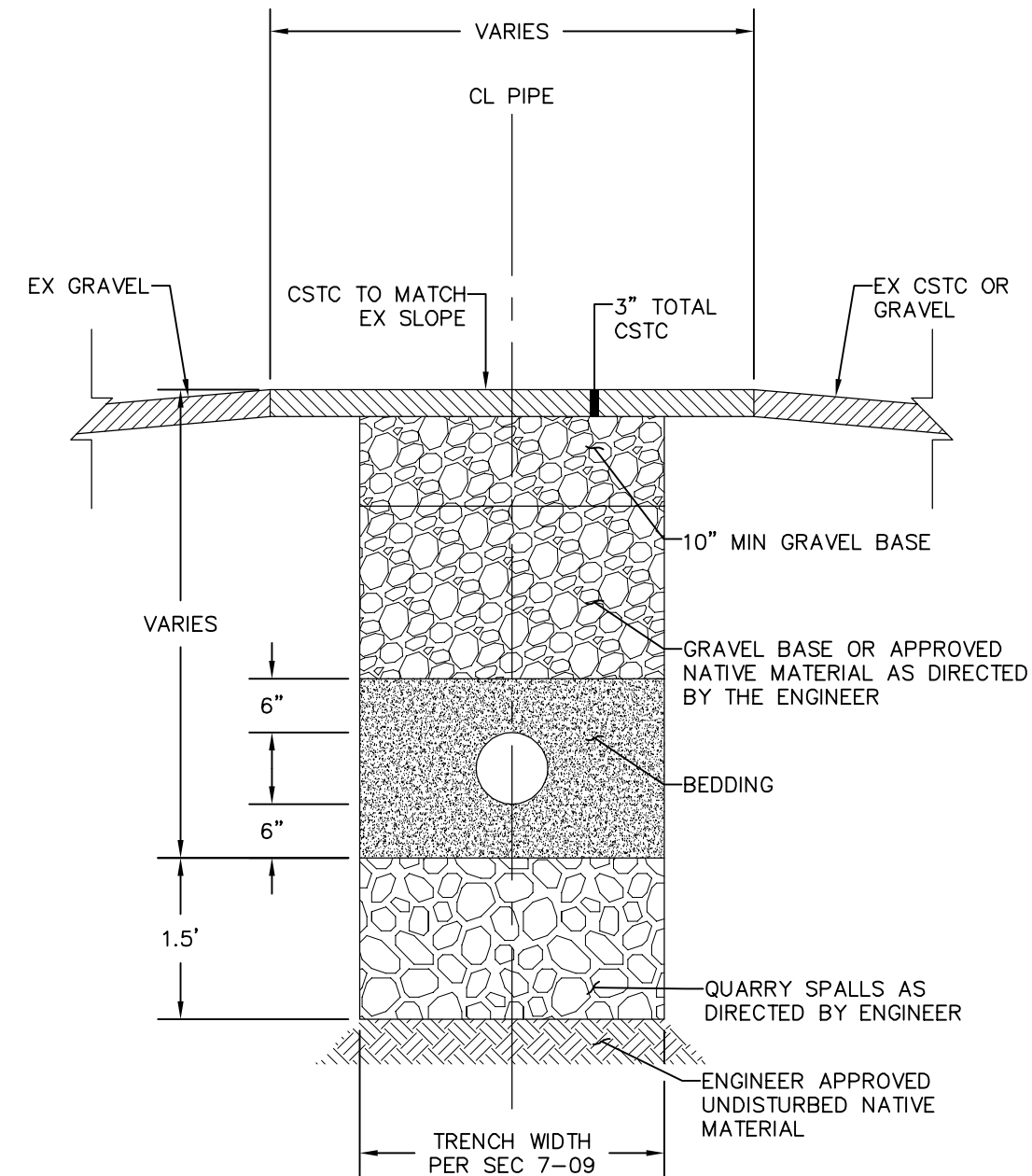
DWG 16034 DETAIL	DATE 11/05/2020
JOB# 16034	SCALE H: N/A V: N/A
SHEET 10 of 20	





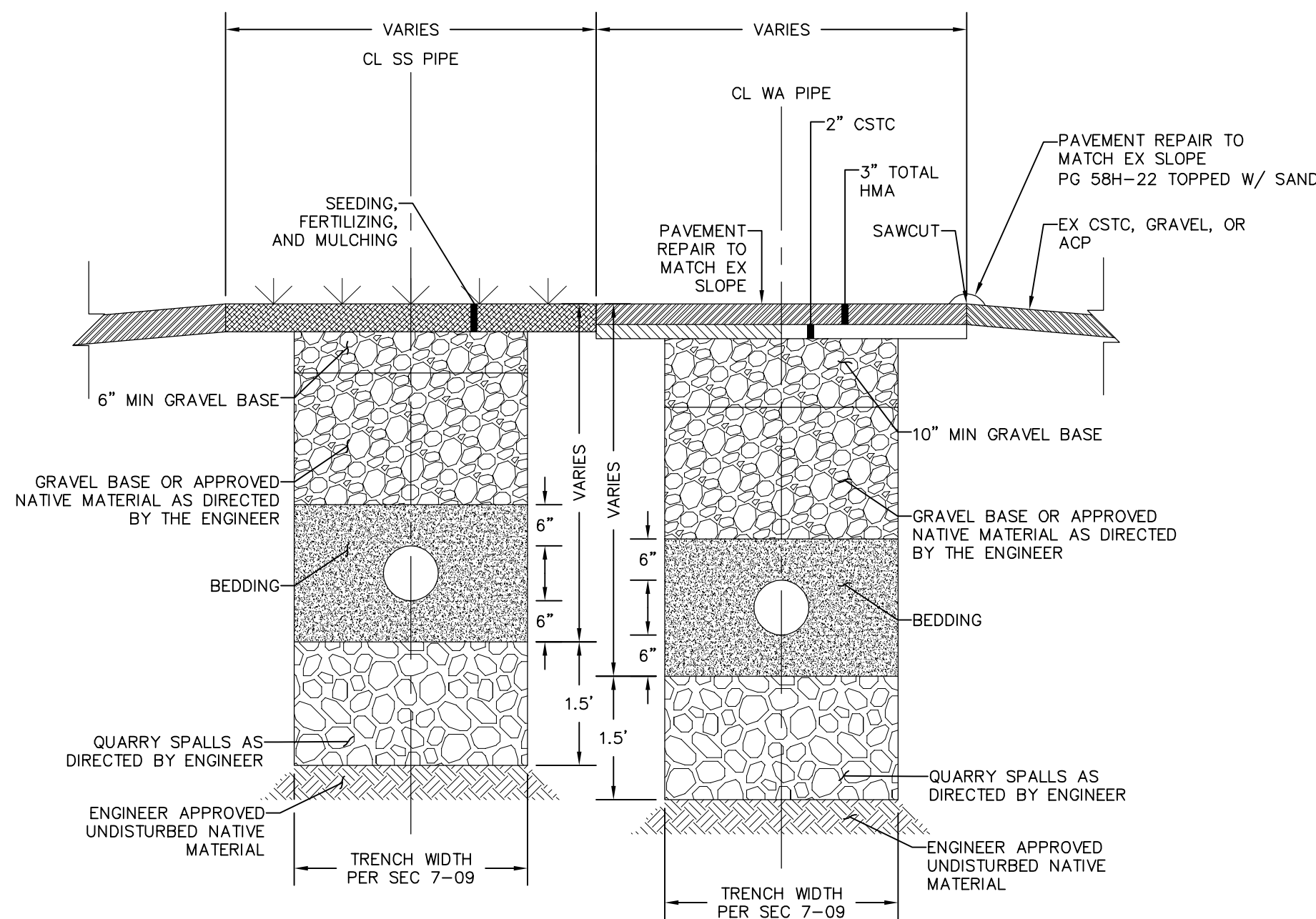
**TYPICAL TRENCH SECTION
UNDEVELOPED SECTION**

NTS
STATION 0+38 TO 7+33
STATION 11+85 TO 13+05



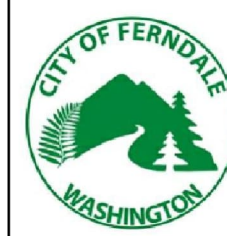
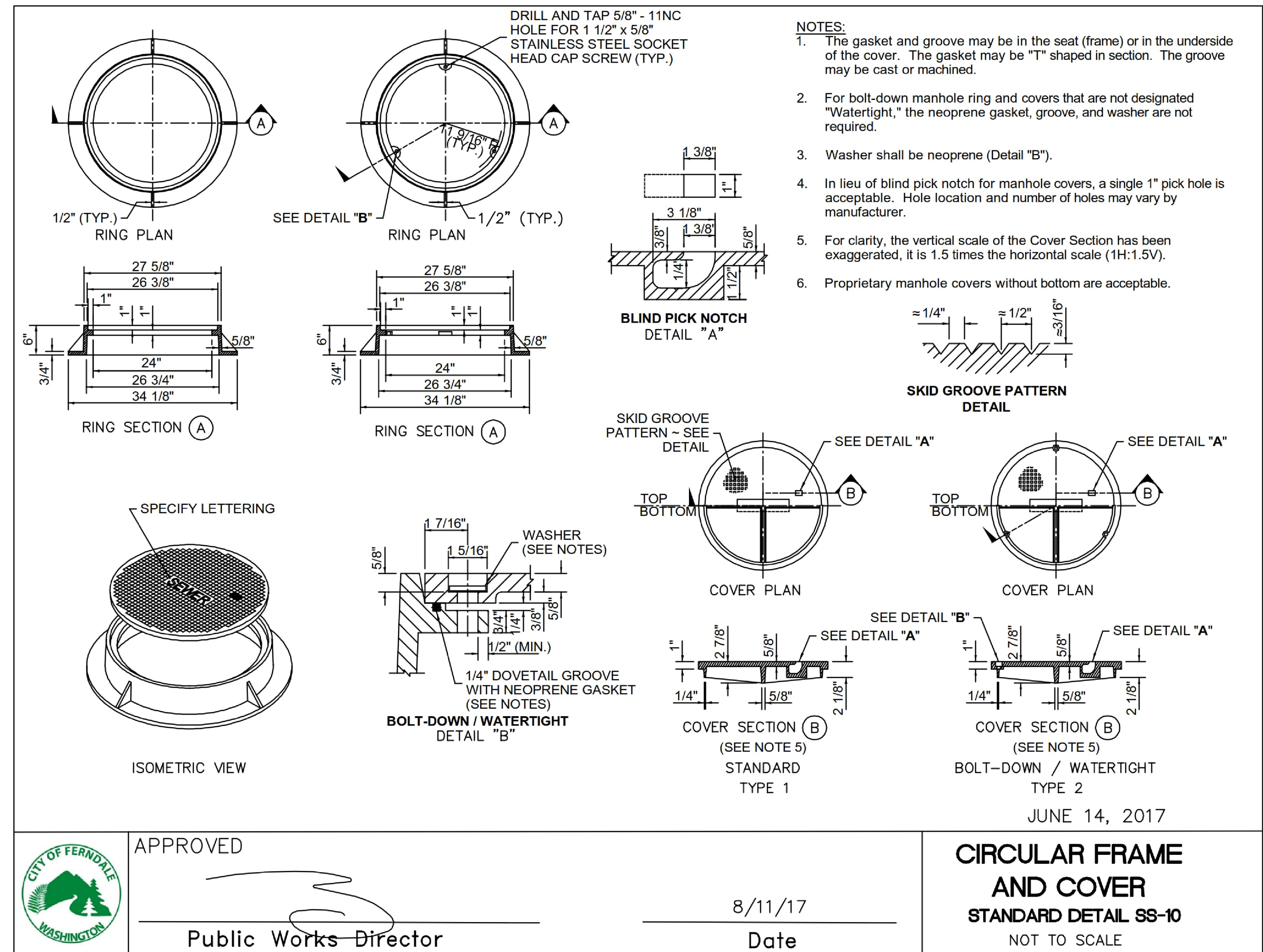
**TYPICAL TRENCH SECTION
GRAVEL ROAD SECTION**

NTS
STATION 7+33 TO 7+61



**TYPICAL COMBINED
TRENCH SECTION**

NTS
STATION 7+61 TO 11+85



APPROVED

Public Works Director

8/11/17

Date

**SUBMITTED WITH
DESIGN PLAN**

DESIGNED BY
KK/PJC
DRAWN BY
PJC/LMH
CHECKED BY
LP

**R&E Reichhardt & Ebe
ENGINEERING INC**
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

NO.	DATE	DESCRIPTION	BY

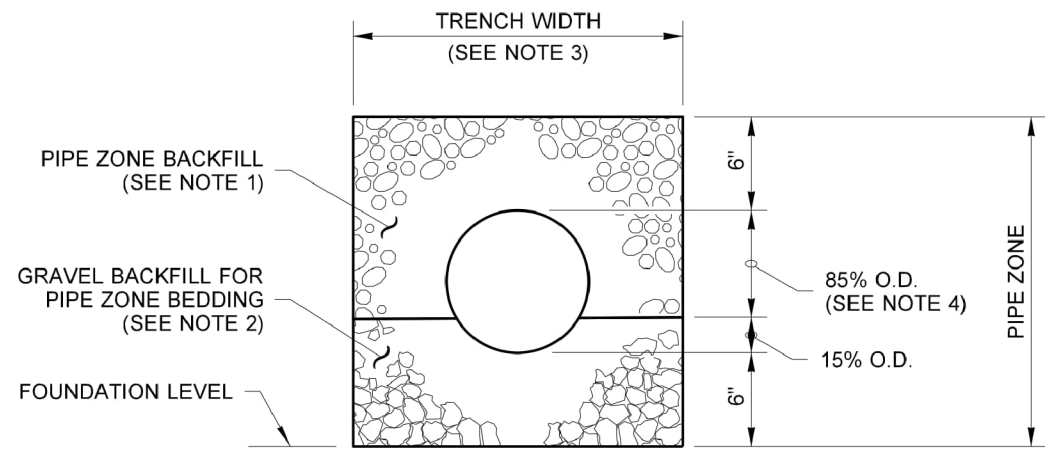
CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

**THORNTON STREET
PS19 DECOMMISSIONING
SEWER DETAILS 3**

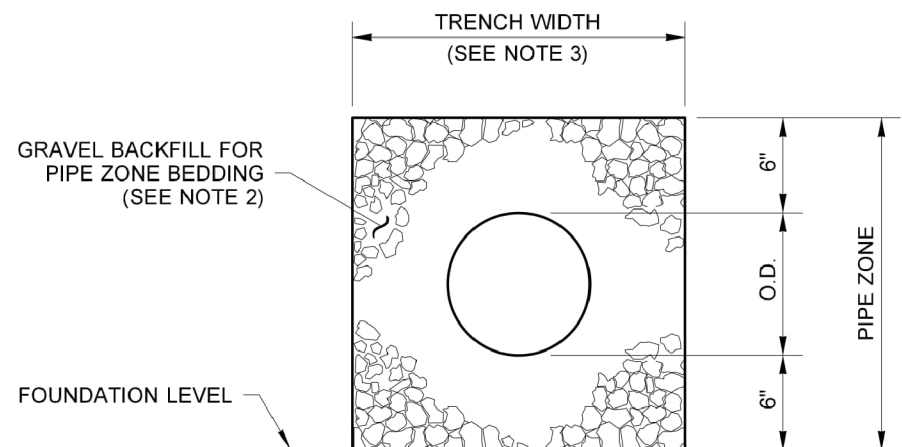
DWG 16034 DETAIL	DATE 11/05/2020
JOB# 16034	SCALE H: N/A V: N/A
SHEET 11 of 20	



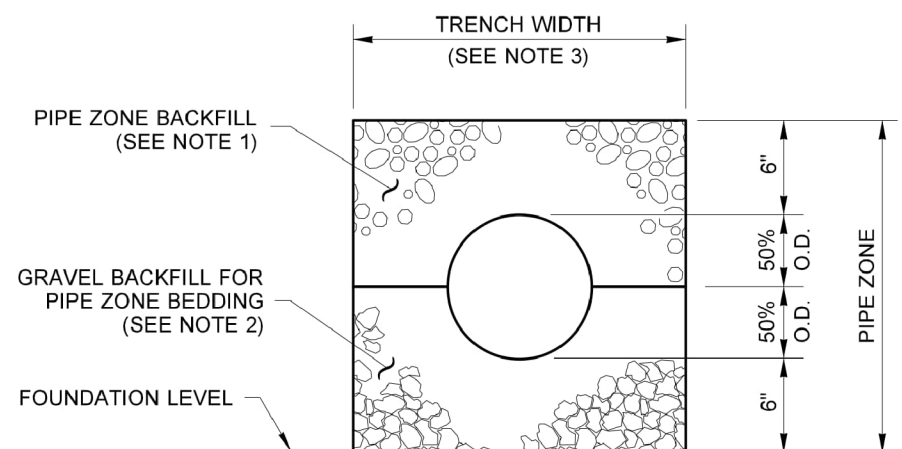
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CONCRETE AND DUCTILE IRON PIPE



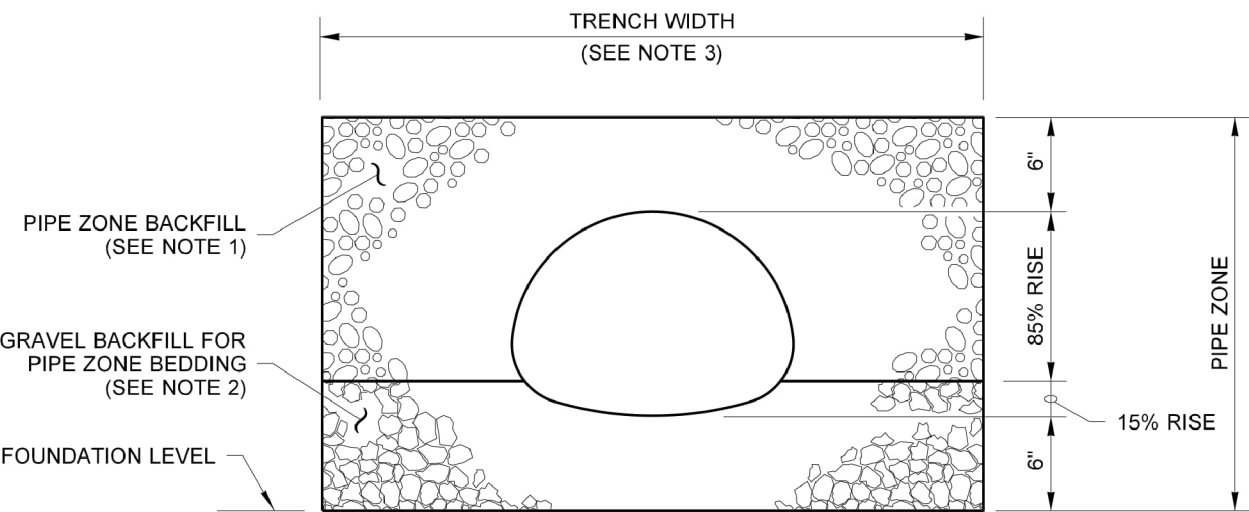
THERMOPLASTIC PIPE



METAL AND STEEL RIB
REINFORCED POLYETHYLENE PIPE

NOTES

1. See **Standard Specifications Section 7-08.3(3)** for Pipe Zone Backfill.
2. See **Standard Specifications Section 9-03.12(3)** for Gravel Backfill for Pipe Zone Bedding.
3. See **Standard Specifications Section 2-09.4** for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be bedded to spring line.



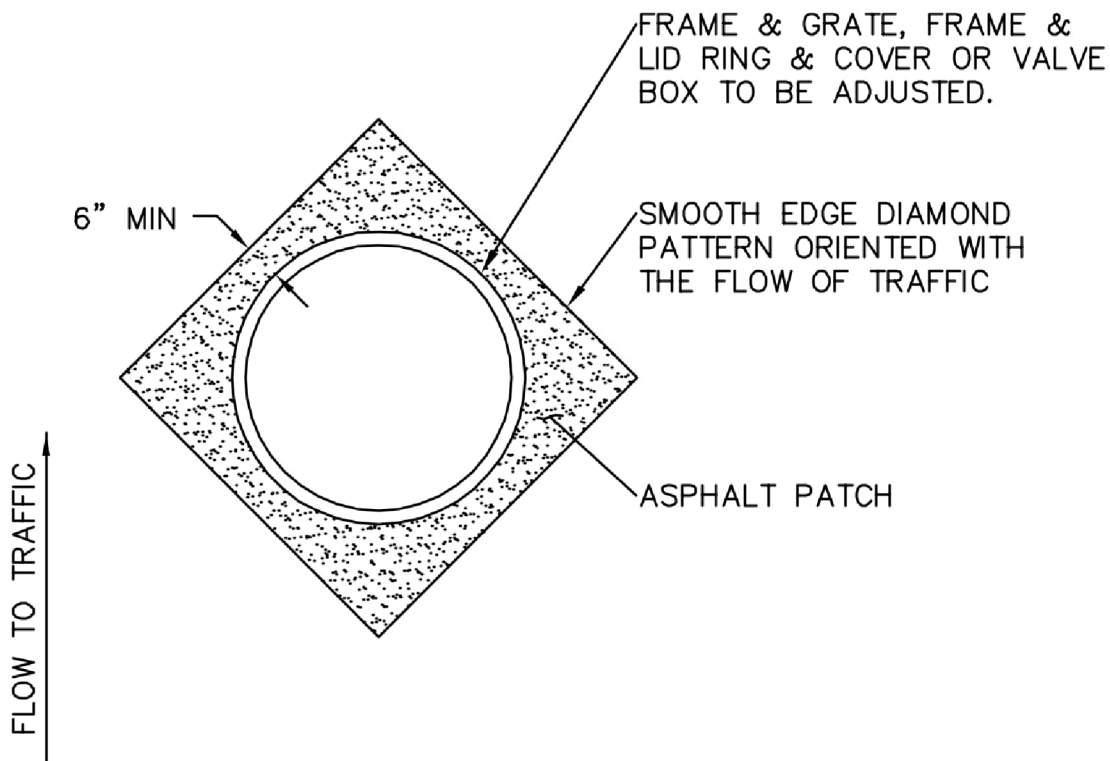
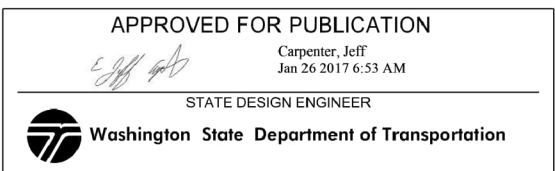
PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	SIZE	MINIMUM DISTANCE BETWEEN BARRELS
CIRCULAR PIPE (DIAMETER)	12" to 24"	12"
	30" to 96"	DIAM. /2
	102" to 180"	48"
PIPE ARCH (SPAN)	18" to 36"	12"
	43" to 142"	SPAN /3
METAL ONLY	148" to 200"	48"



Heilman, Julie
Jan 25 2017 3:01 PM

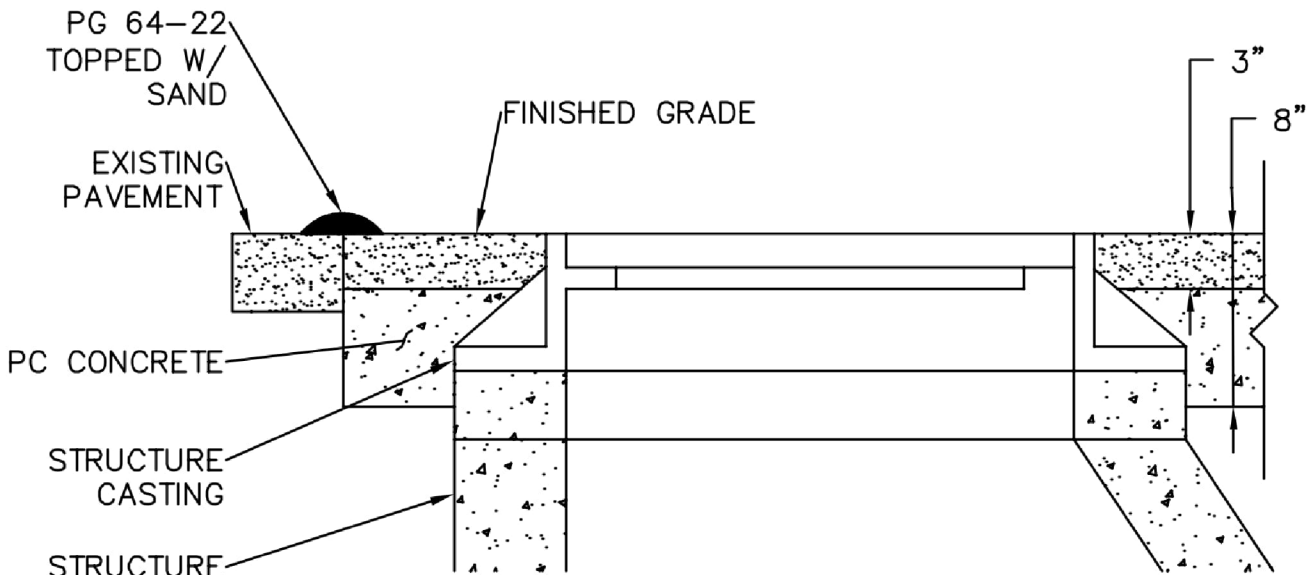
**PIPE ZONE BEDDING
AND BACKFILL**
STANDARD PLAN B-55.20-01
SHEET 1 OF 1 SHEET



NOTES:

ALL FRAMES, COVERS & VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:

1. CUT THE ASPHALT IN A DIAMOND AROUND THE STRUCTURE CASTING TO BE ADJUSTED.
2. REMOVE THE FILL MATERIAL WITHIN THE CUT PAVEMENT AREA TO 8 INCHES MIN. BELOW FINISH GRADE.
3. PLACE THE CASTING AT FINISH GRADE.
4. PLACE PORTLAND CEMENT CONCRETE TO WITHIN THE TOP 3 INCHES OF FINISH GRADE.
5. APPLY TACK TO THE STRUCTURE CASTING, CUT PAVEMENT, & PC CONCRETE.
6. PLACE & COMPACT 3 INCHES OF HMA TO FINISH GRADE.
7. SEAL PAVEMENT JOINTS W/ HOT PG 64-22 & TOP W/ SAND.



AUGUST 1, 2017



APPROVED

Public Works Director

8/11/17

Date

**ADJUSTING CASINGS
TO FINISHED GRADE**
STANDARD DETAIL SS-19

NOT TO SCALE



**SUBMITTED WITH
DESIGN PLAN**

DESIGNED BY
KK/PJC
DRAWN BY
PJC/LMH
CHECKED BY
LP

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ENGINEERING INC
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CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

**THORNTON STREET
PS19 DECOMMISSIONING**
SEWER DETAILS 4

DWG 16034 DETAIL

JOB#

16034

SCALE

H: N/A

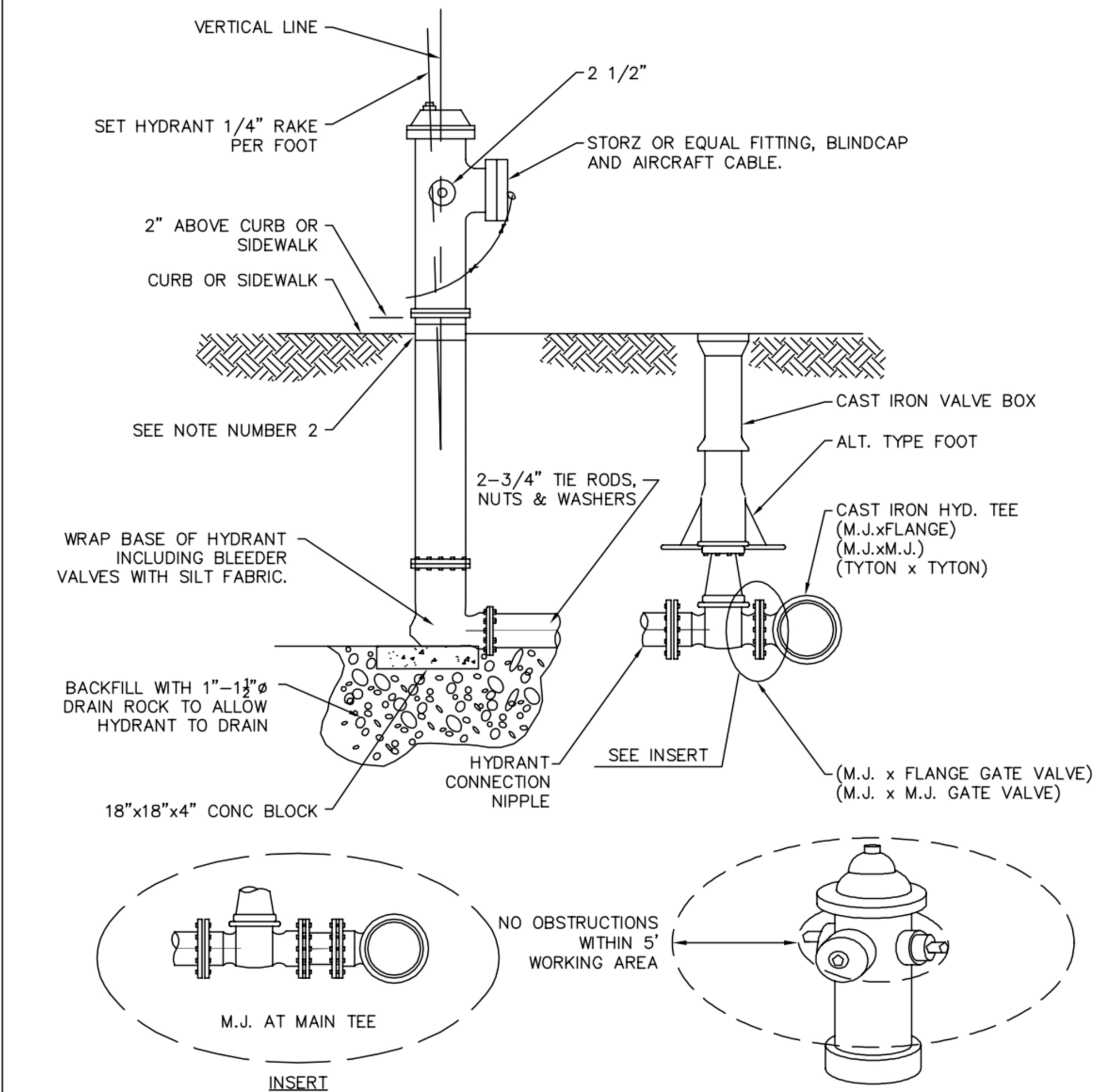
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DATE

11/05/2020

SHEET

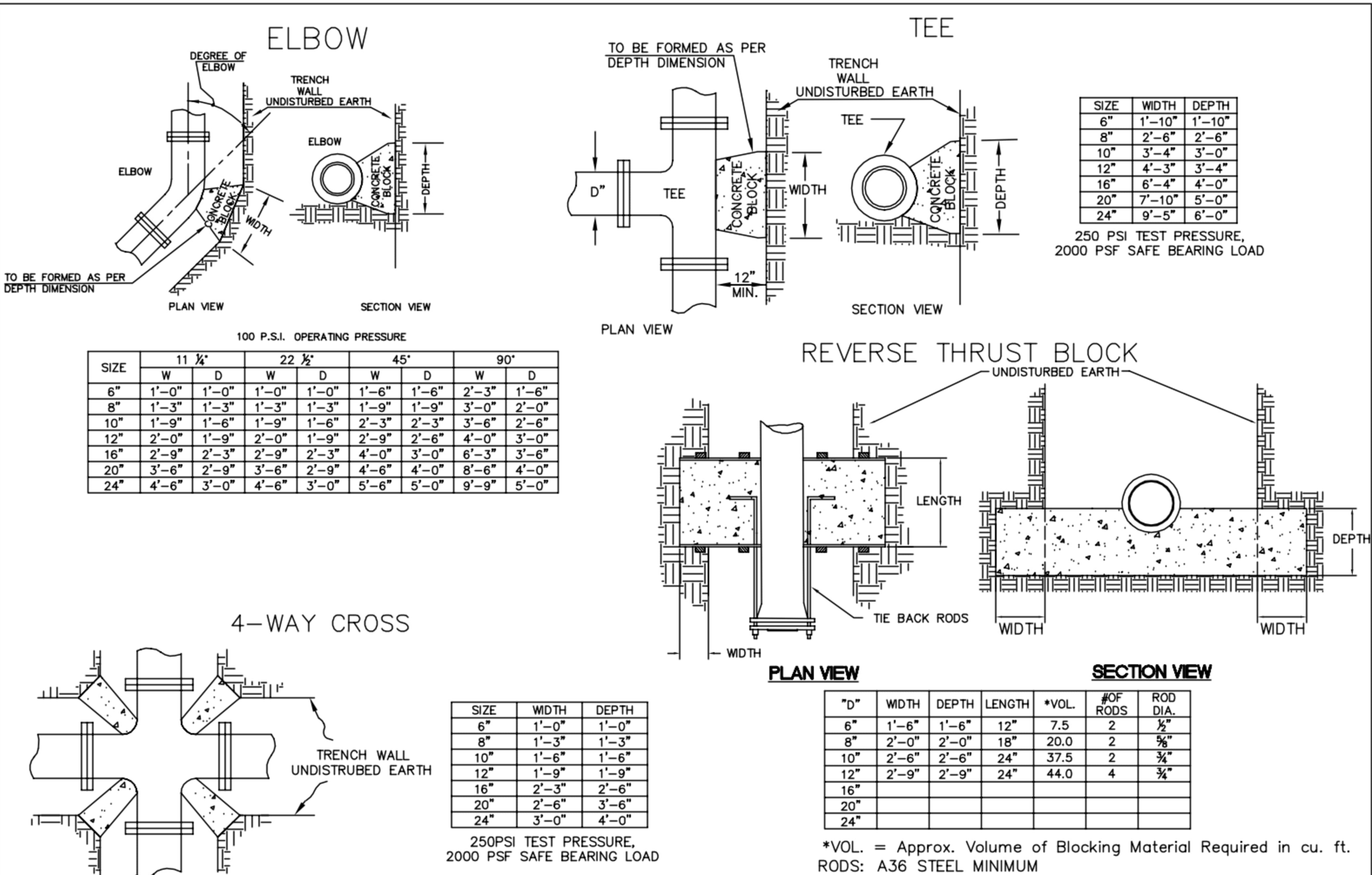
12
of 20



- NOTES:
1. FOR CLOSE COUPLED HYDRANTS USE ALL FLANGE TYPE CONNECTIONS.
 2. IF HYDRANT RISES THROUGH CONCRETE USE EXPANSION STRIP AROUND HYDRANT BARREL.
 3. ALL HYDRANT ASSEMBLIES WILL BE M&H MODEL 929T.

AUGUST 2, 2017

	APPROVED		FIRE HYDRANT ASSEMBLY
		8/11/17	STANDARD DETAIL W-1
	Public Works Director	Date	NOT TO SCALE



NOVEMBER 23, 2016

	APPROVED		THRUST BLOCKING DETAIL
		8/11/17	STANDARD DETAIL W-2
	Public Works Director	Date	NOT TO SCALE

SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
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DRAWN BY
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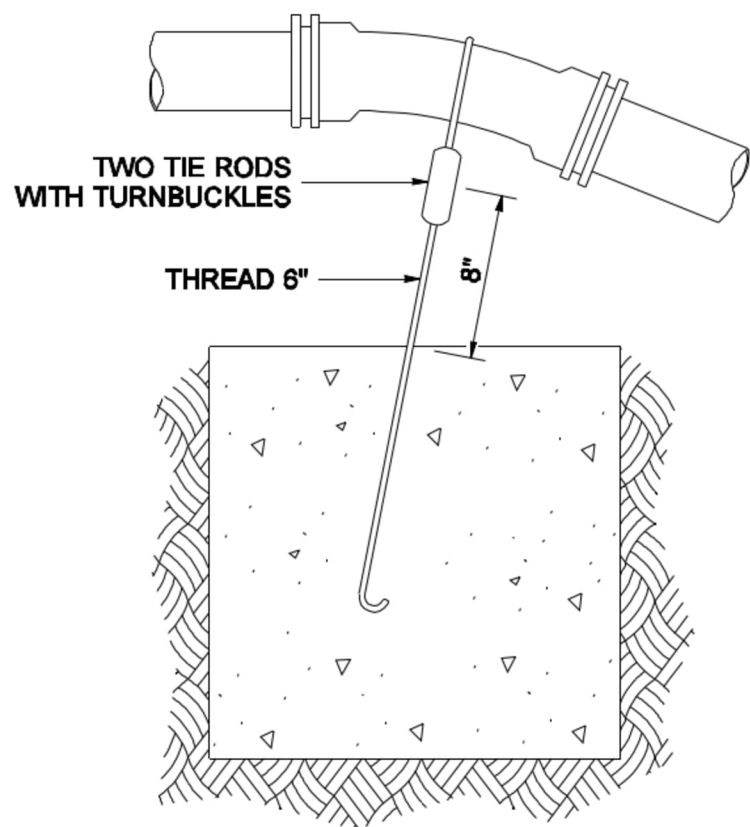
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2095 MAIN STREET
FERNDAL, WA 98226

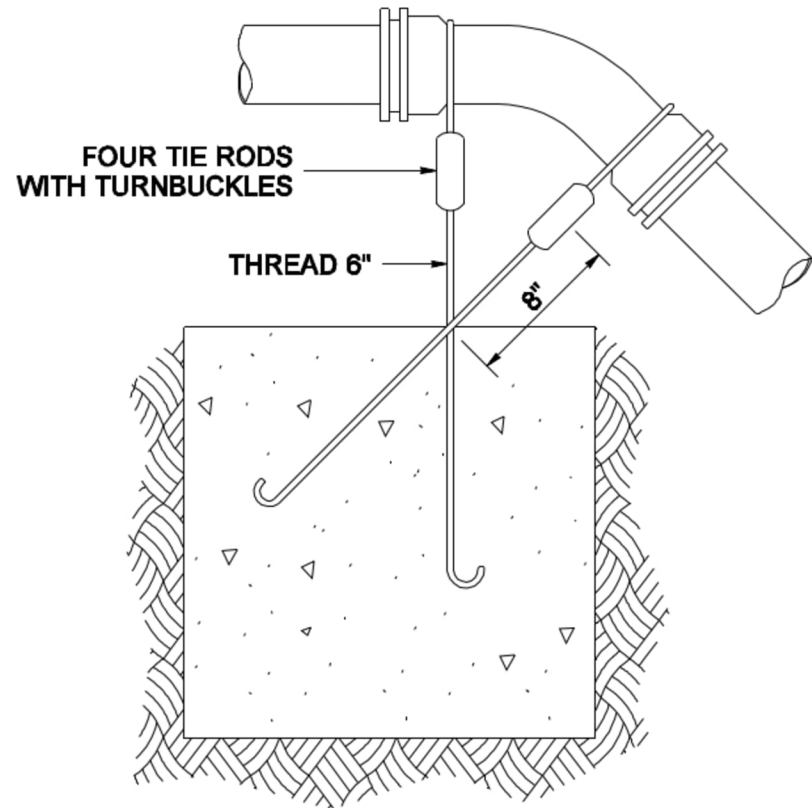
THORNTON STREET
PS19 DECOMMISSIONING
WATER DETAILS 1

DWG 16034 DETAIL	DATE 11/05/2020
JOB# 16034	SCALE H: N/A V: N/A
SHEET 13 of 20	





BLOCKING FOR 11.25° OR 22.5° VERTICAL BENDS



BLOCKING FOR 45° VERTICAL BENDS

NOTE
Steel tie rods to be heavily coated with asphalt after installation.

DIMENSION TABLE						
PIPE DIAM.	TEST PRESSURE (PSI)	BEND ANGLE	CONCRETE VOLUME (Ft ³)	CUBE SIZE (Ft)	TIE ROD DIAM.	TIE ROD EMBEDMENT
4"	250	11.25°	6	1.8	5/8"	17"
		22.5°	12	2.3		
		45°	22	2.8		
6"	250	11.25°	14	2.4	5/8"	17"
		22.5°	27	3.0		
		45°	50	3.7		
8"	250	11.25°	25	2.9	5/8"	17"
		22.5°	48	3.6		
		45°	89	4.5		
10"	250	11.25°	38	3.4	5/8"	17"
		22.5°	75	4.2		
		45°	139	5.2		
12"	250	11.25°	55	3.8	5/8"	17"
		22.5°	108	4.8		
		45°	200	5.8	7/8"	24"
14"	250	11.25°	75	4.2	5/8"	17"
		22.5°	147	5.3	3/4"	20"
		45°	272	6.5	1"	27"
16"	250	11.25°	98	4.6	5/8"	17"
		22.5°	192	5.8	7/8"	24"
		45°	355	7.1	1 1/8"	30"

STATE OF WASHINGTON

REGISTERED PROFESSIONAL ENGINEER

15588

MATTHEW J. WITICKI

EXPIRES: JULY 1, 2007

CONCRETE THRUST BLOCK FOR CONVEX VERTICAL BENDS

STANDARD PLAN B-90.50-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso

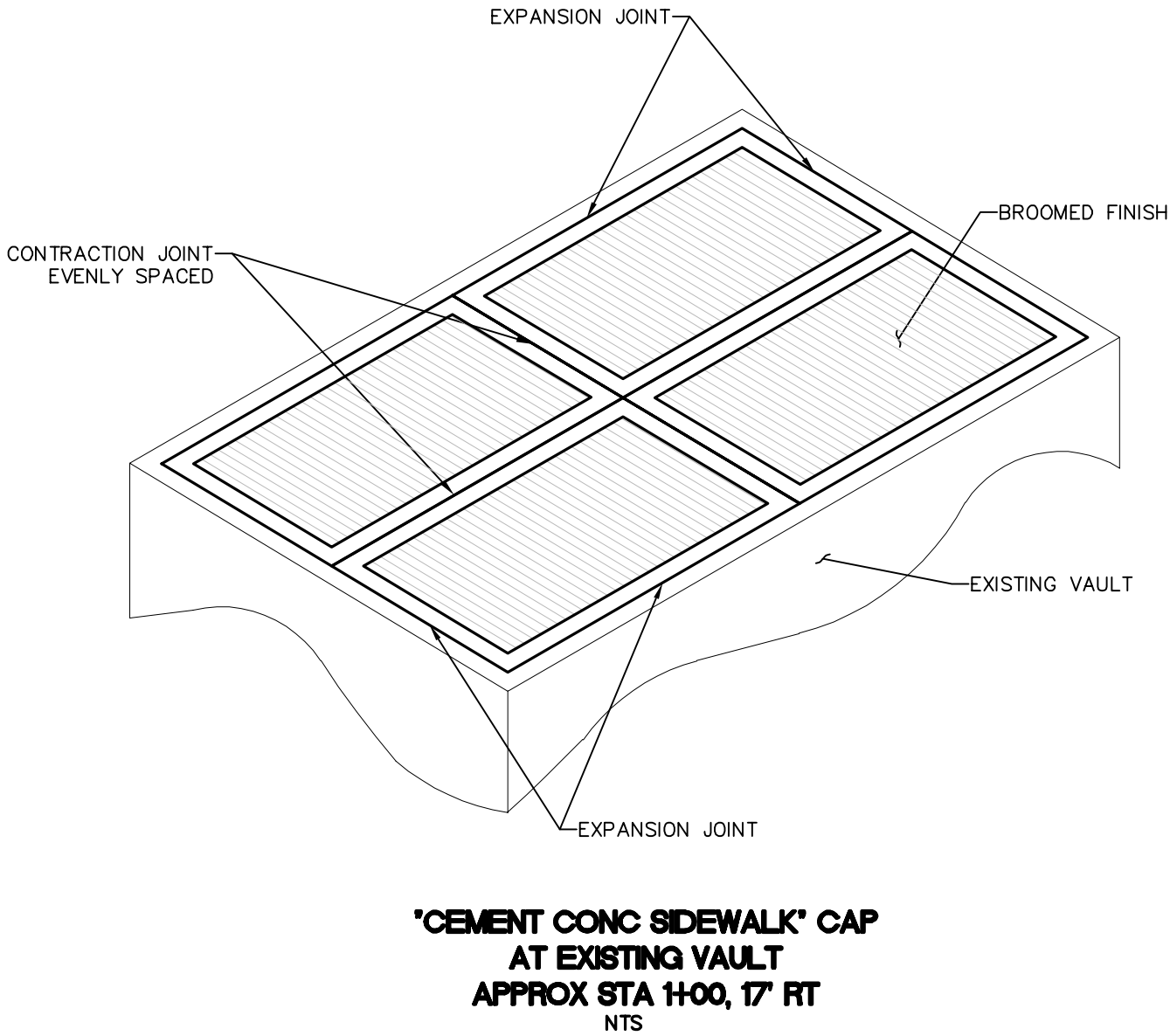
STATE DESIGN ENGINEER

06-08-06

DATE

Washington State Department of Transportation

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT. IT IS FOR INFORMATION ONLY. THE USER SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THE INFORMATION AND FOR THE PROPER USE OF THE INFORMATION. A COPY MUST BE OBTAINED FROM THE DESIGNER.



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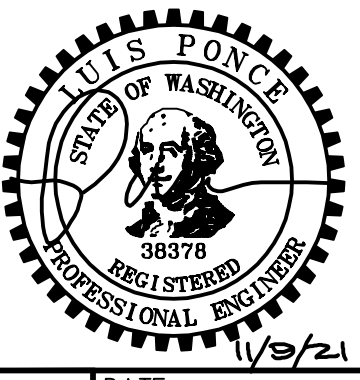
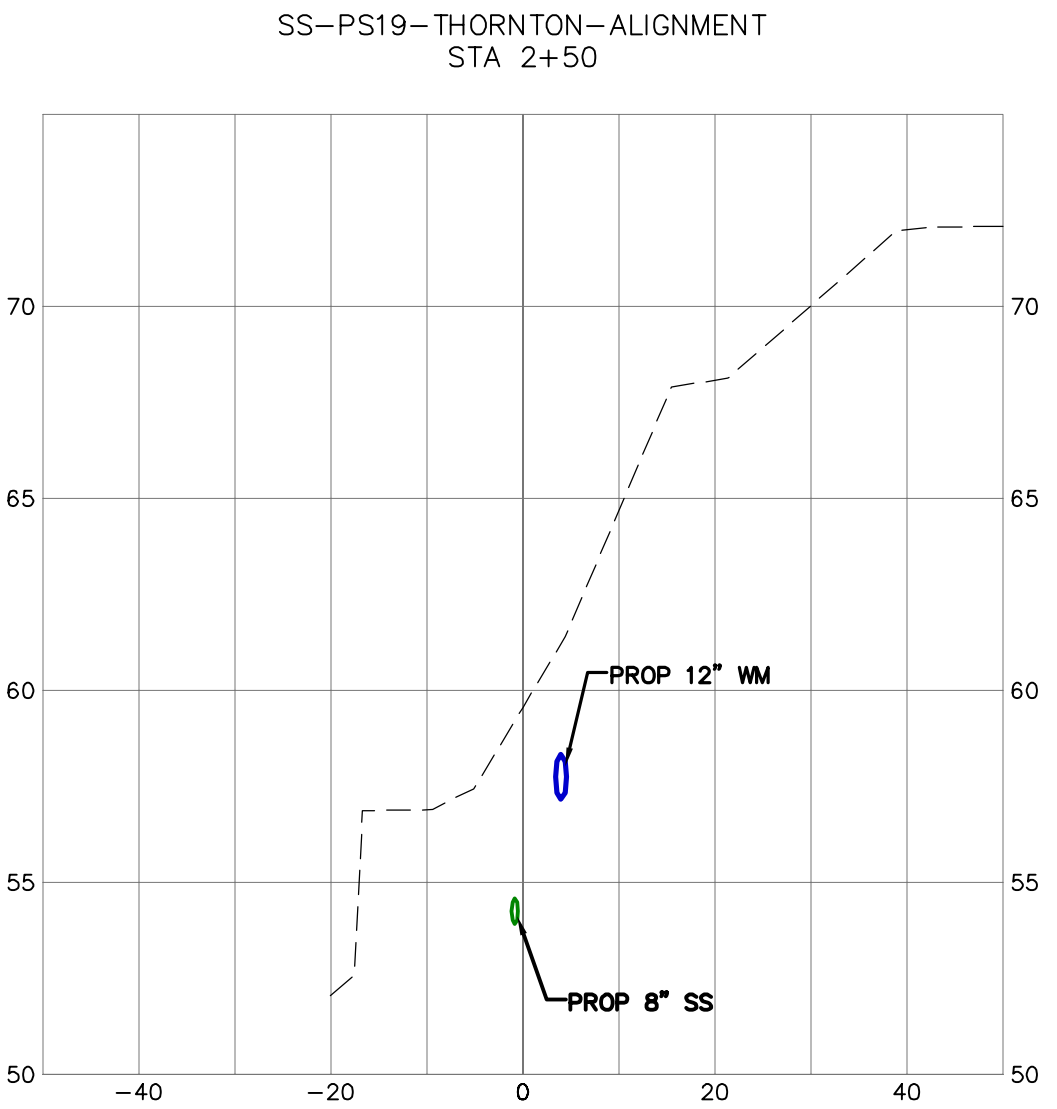
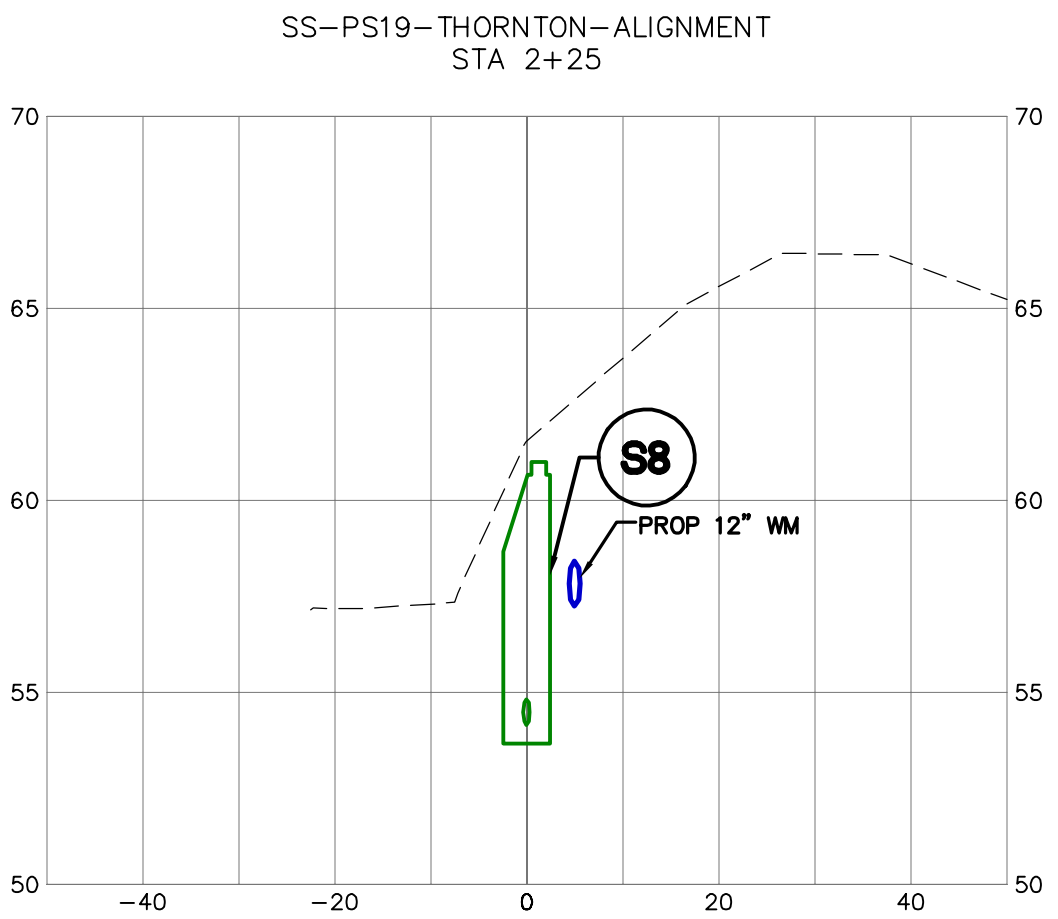
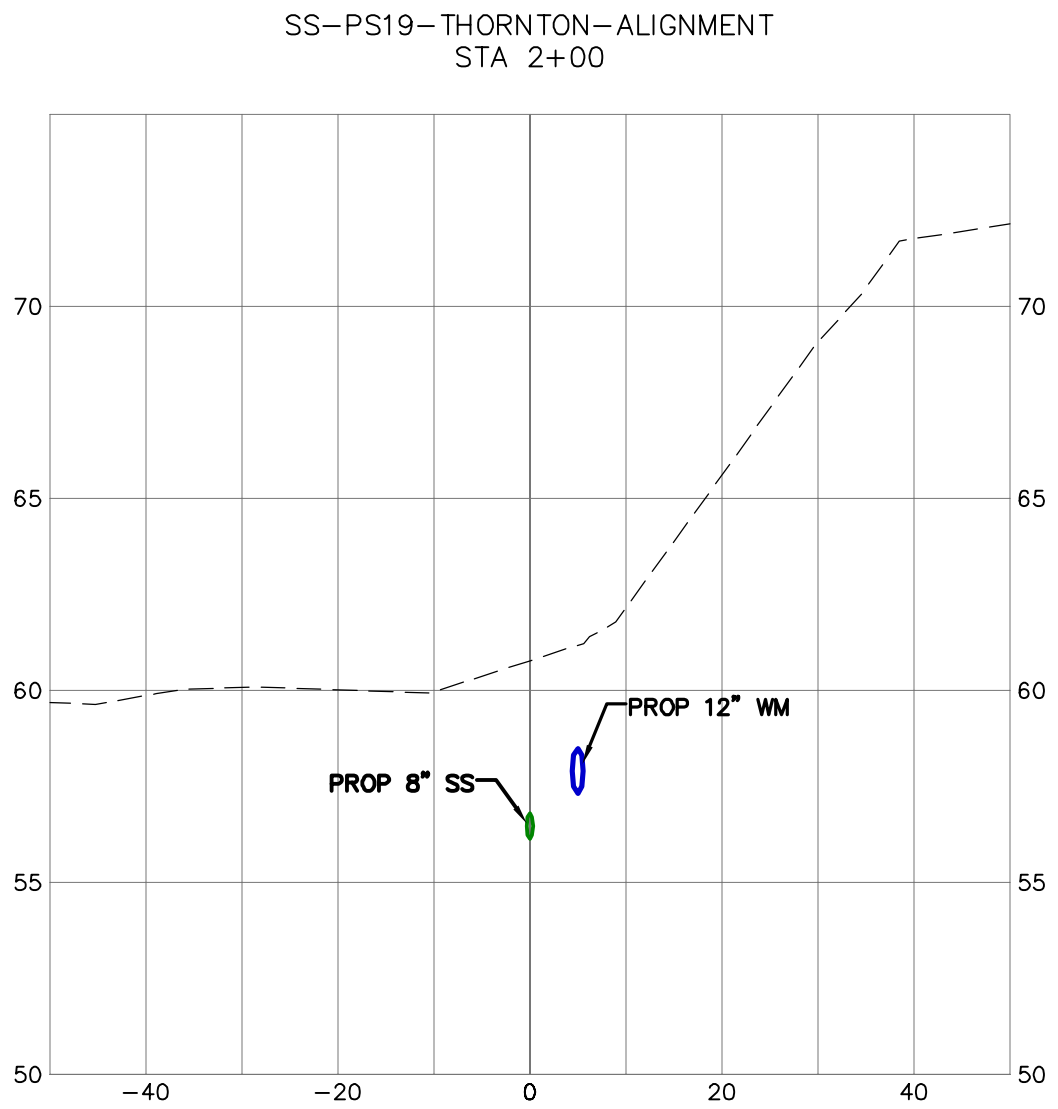
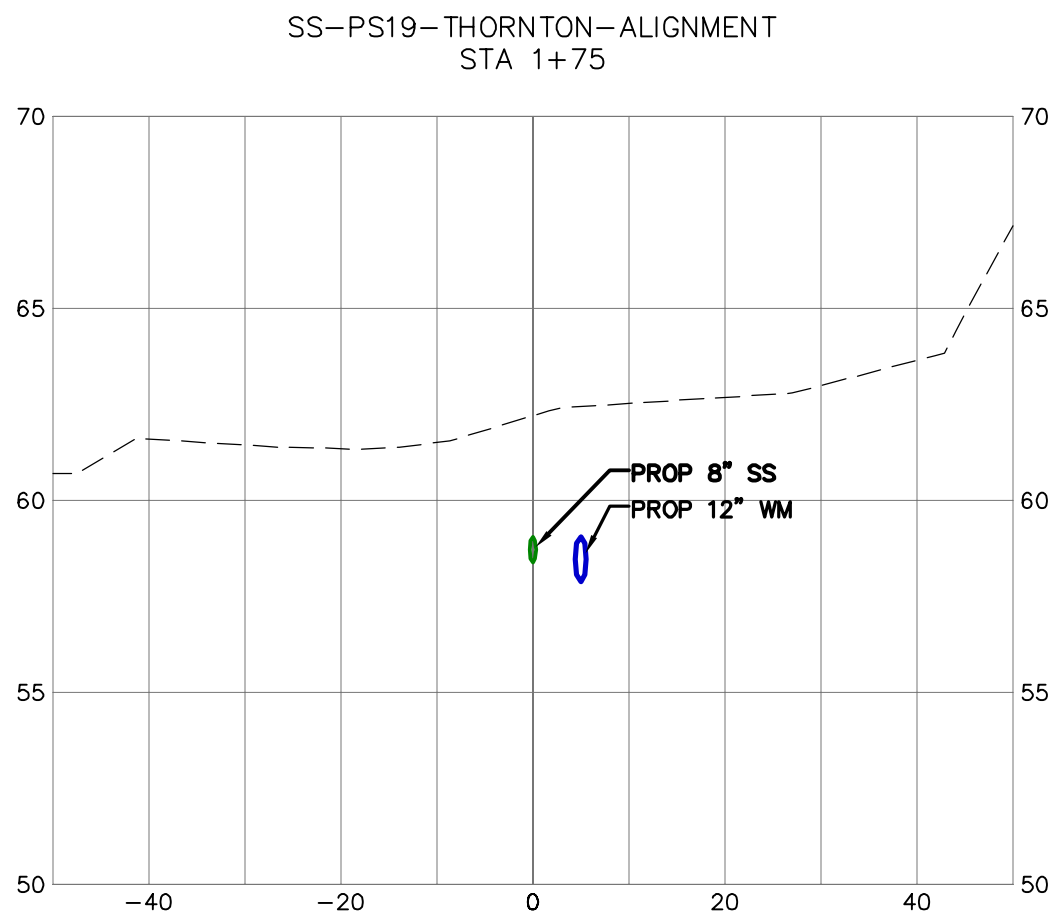
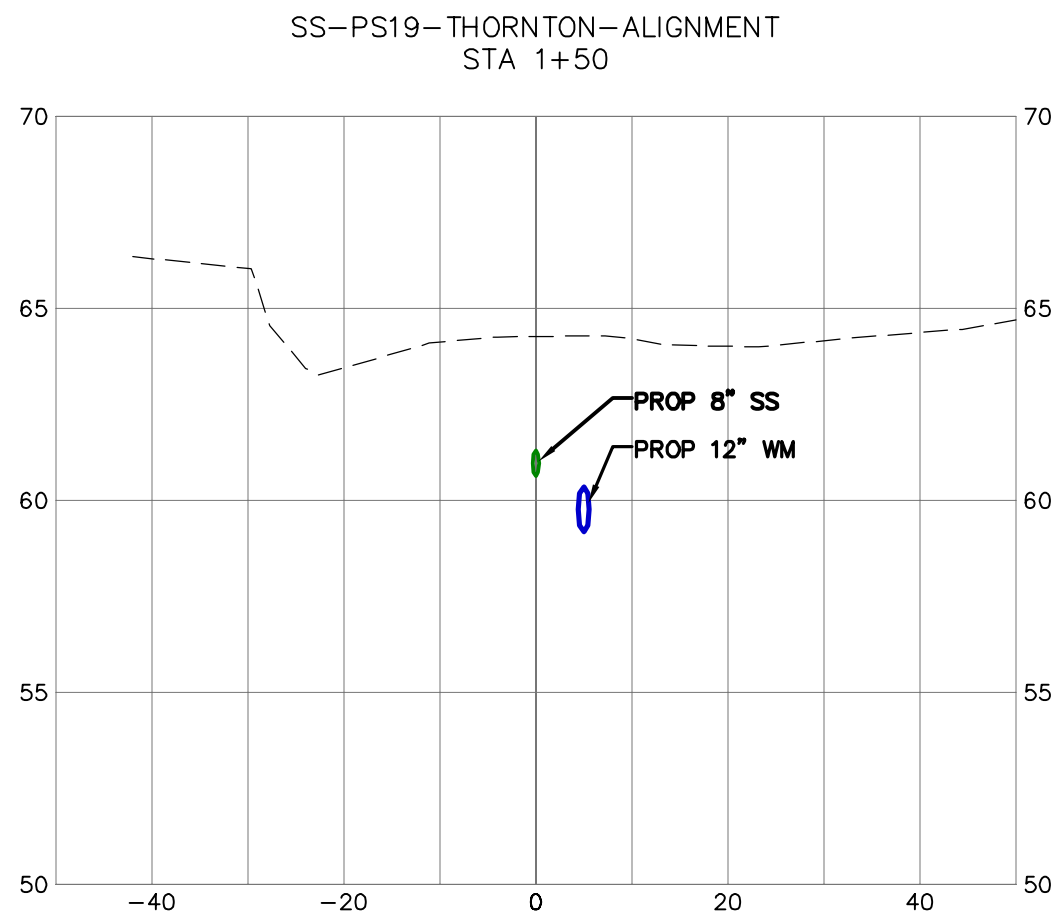
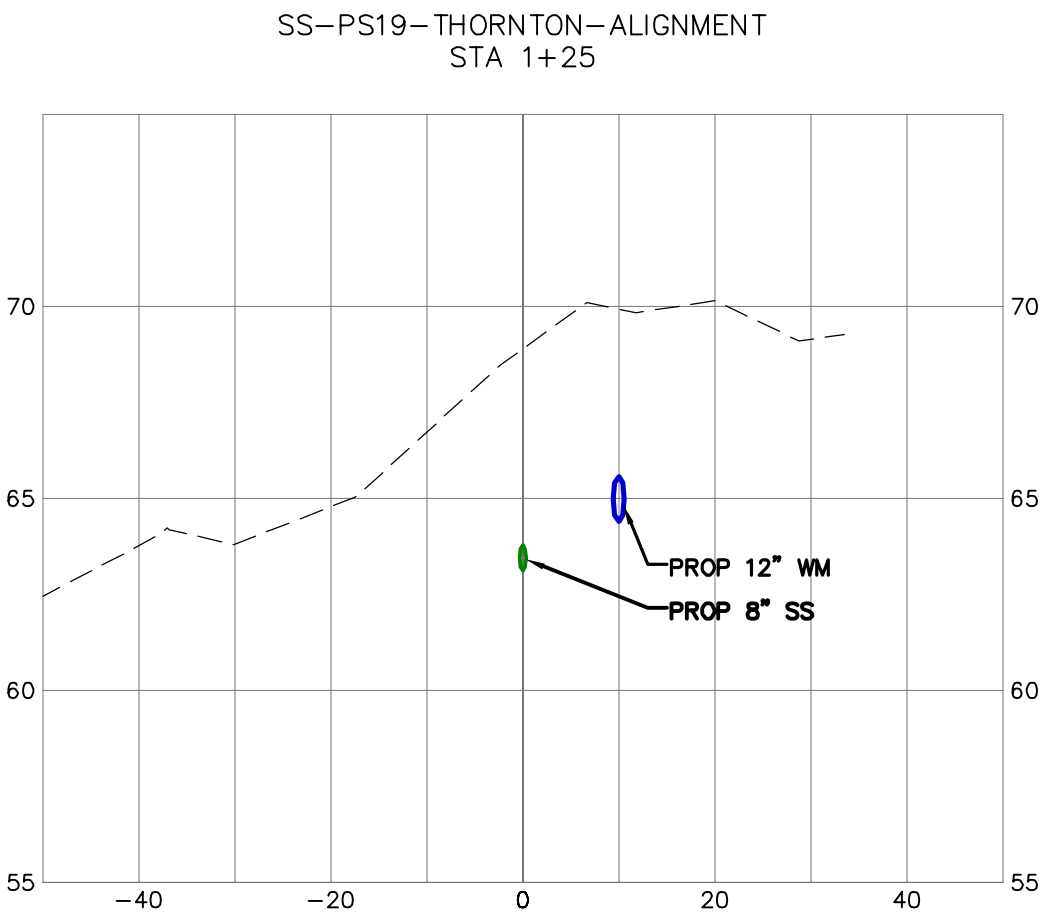
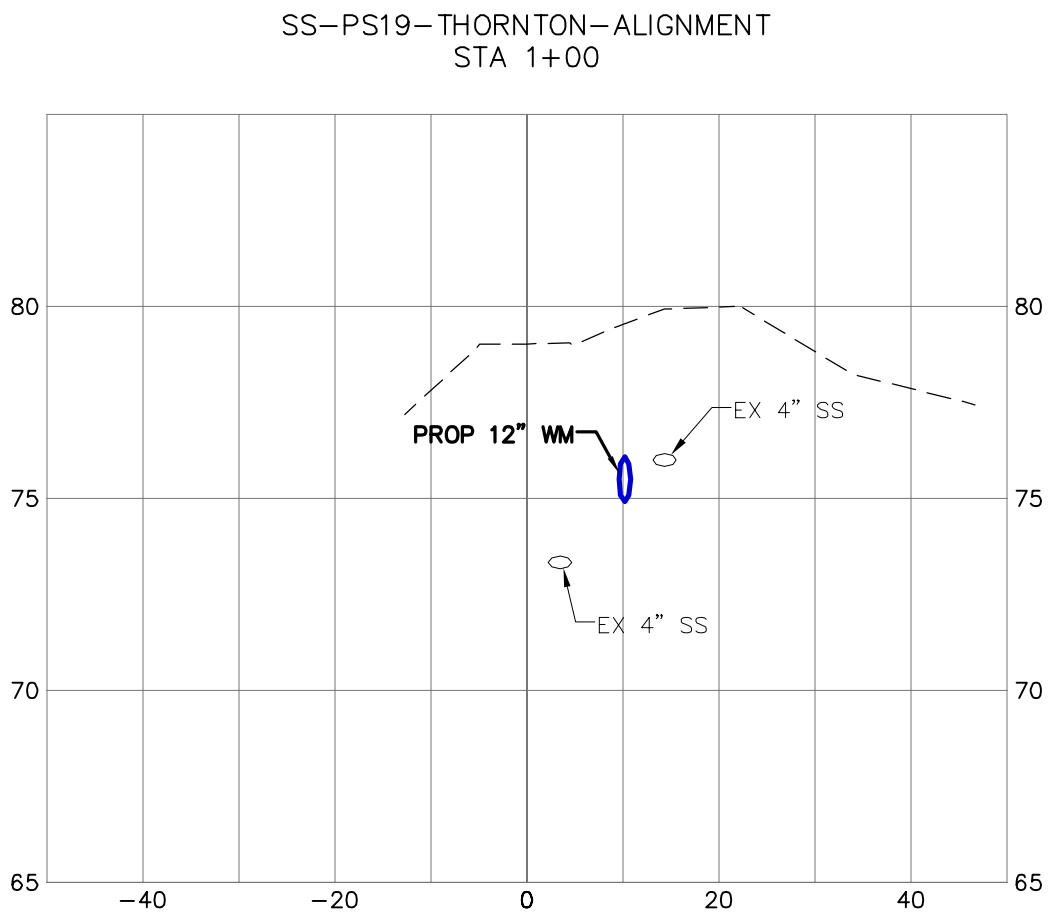
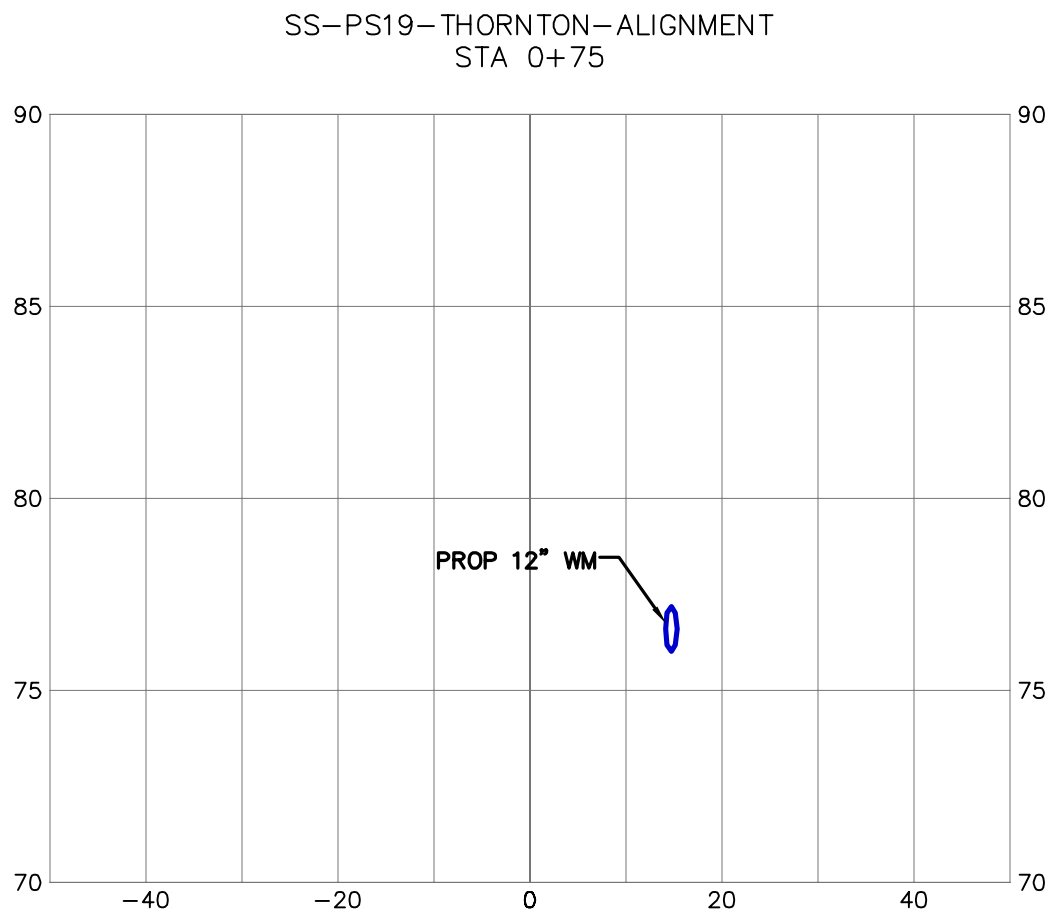
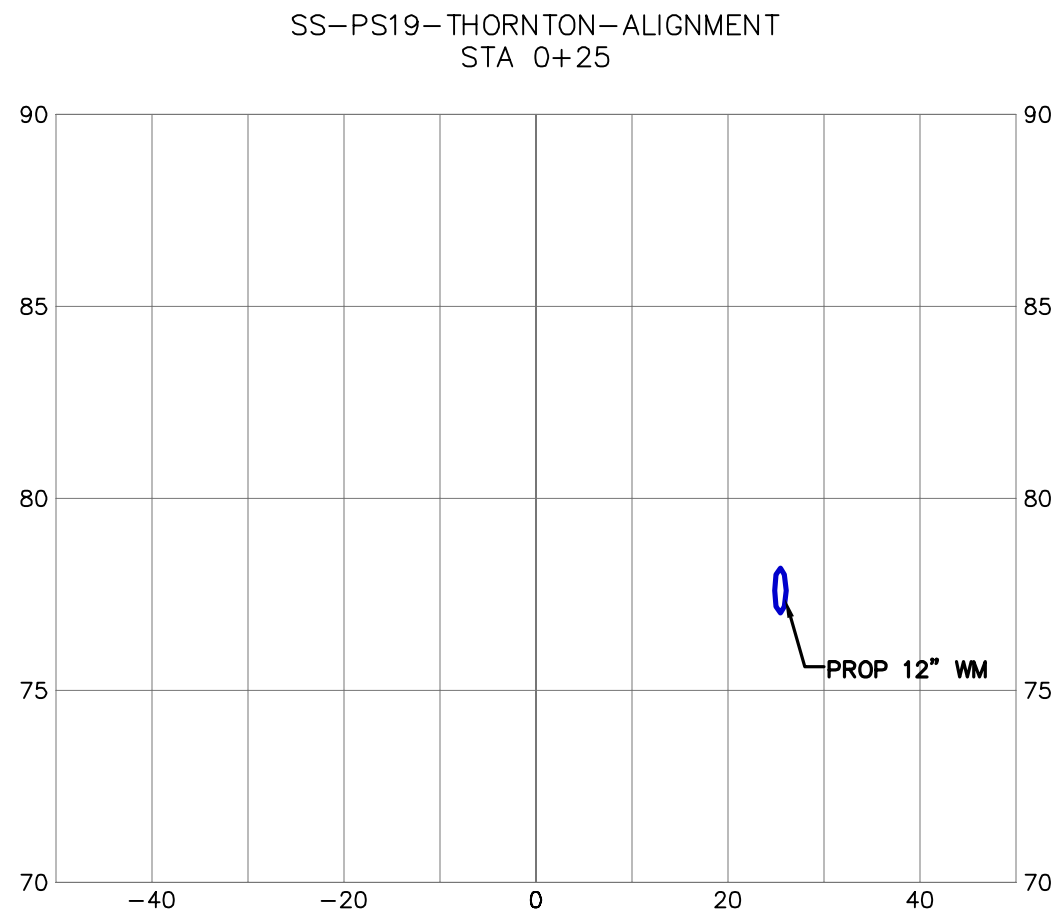
R&E Reichhardt & Ebe
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Lynden, WA 98264 (360) 354-3687

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
WATER DETAILS 2

DWG 16034 DETAIL		DATE 11/05/2020	
JOB# 16034	SCALE H: N/A V: N/A	SHEET 14 of 20	



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PJC/LMH
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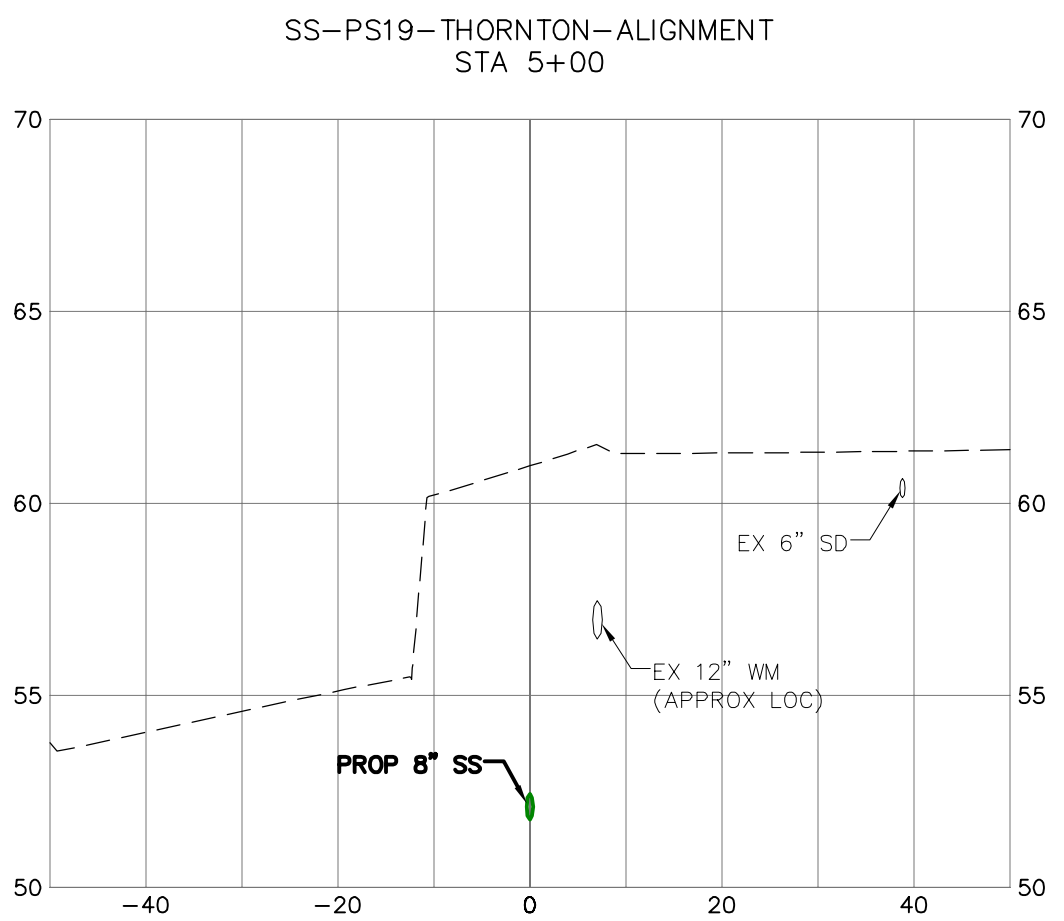
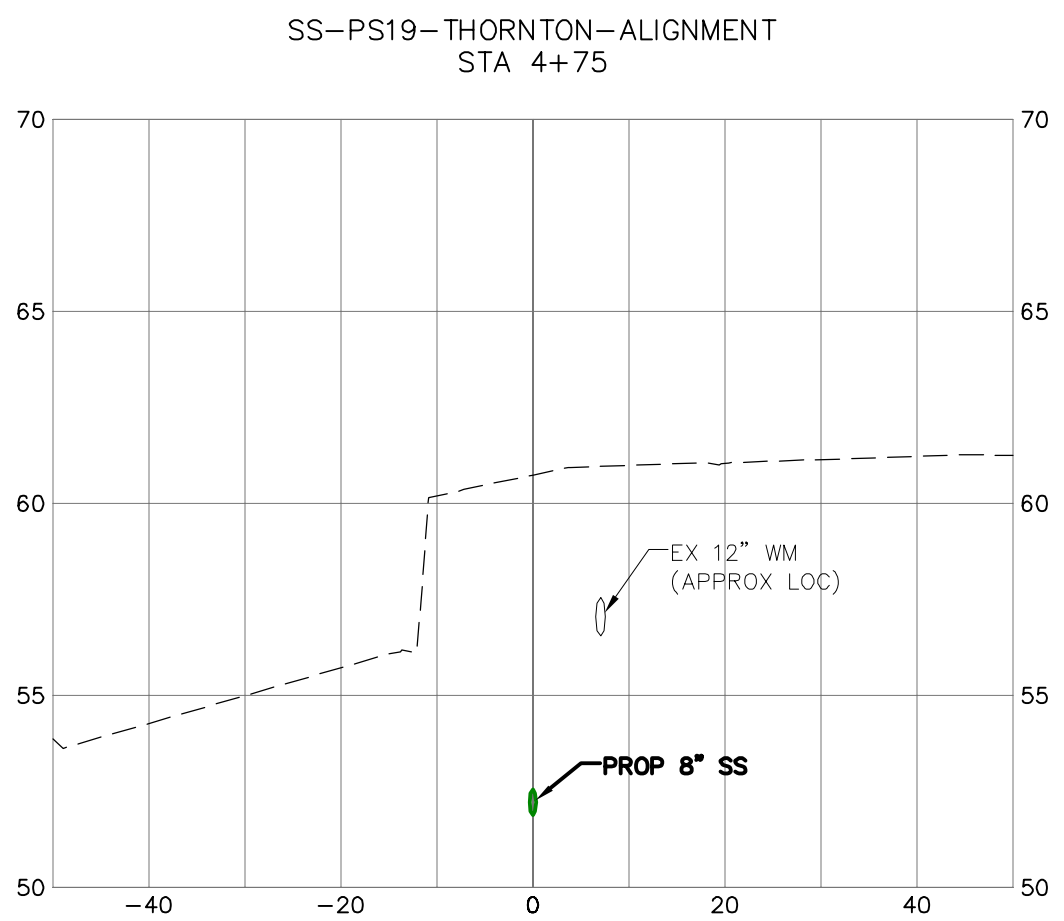
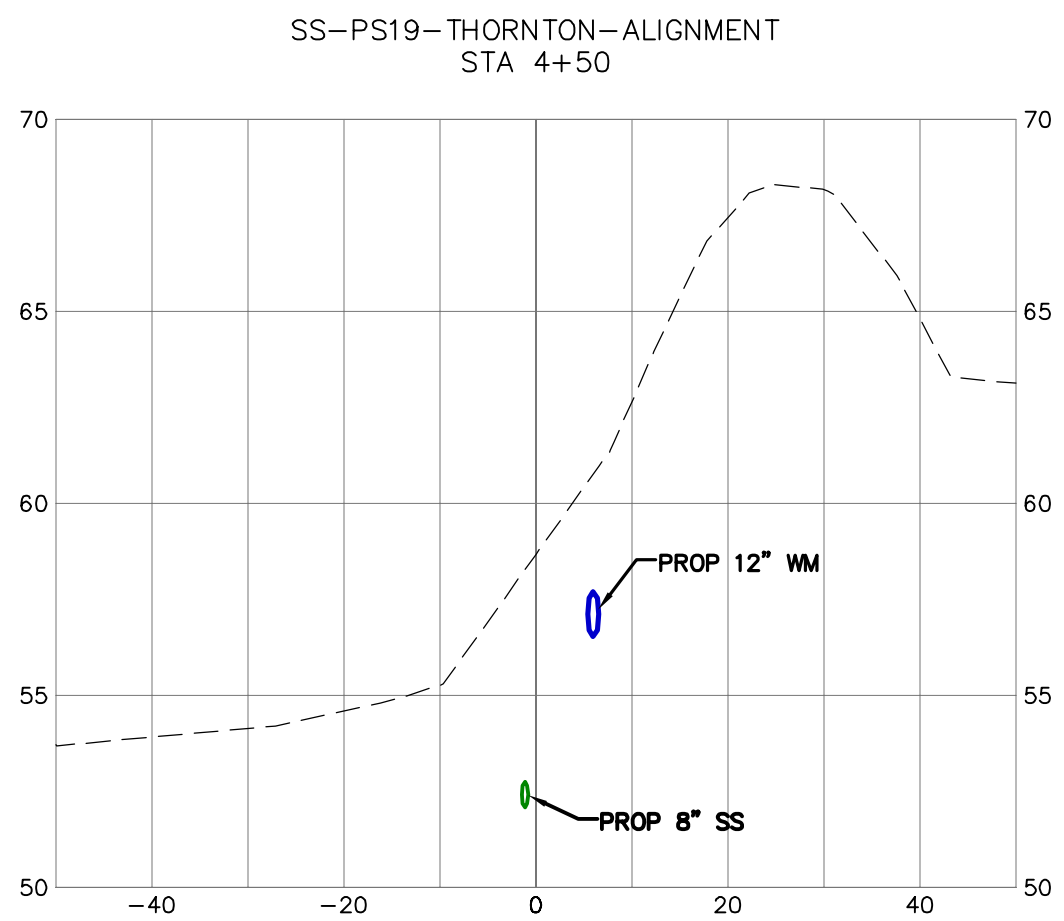
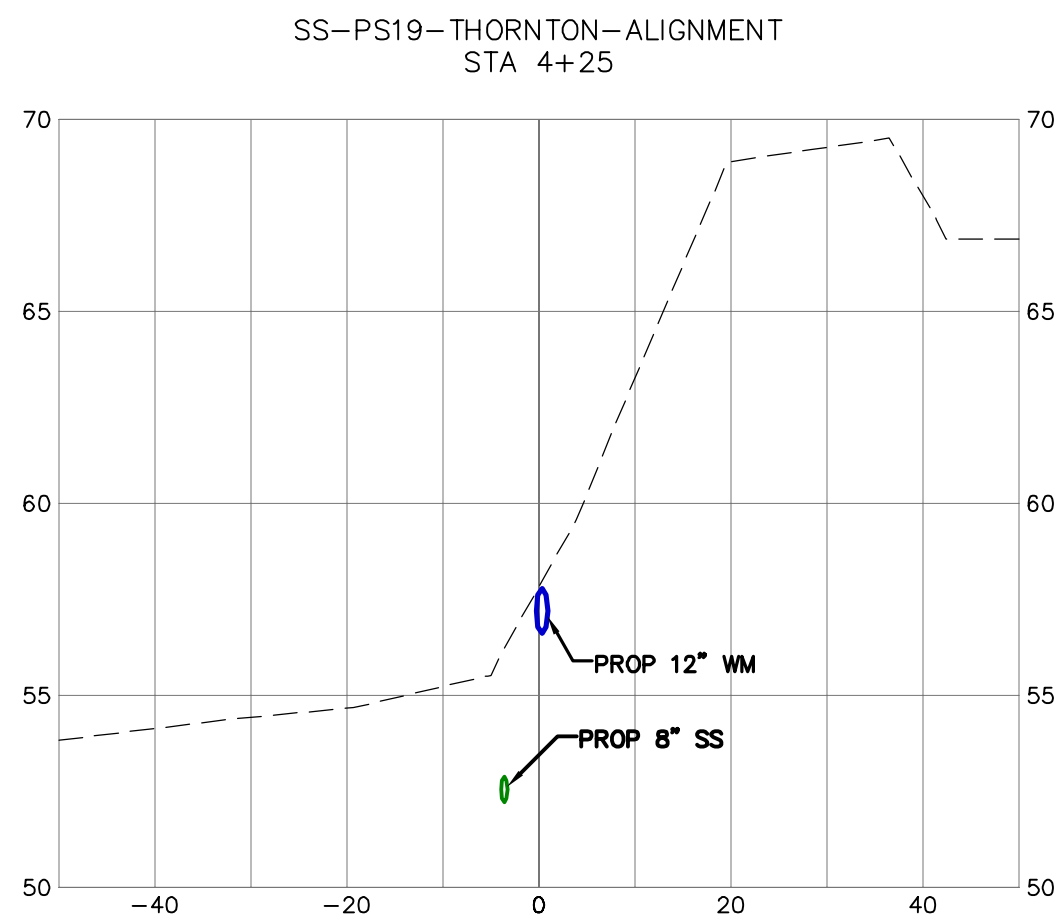
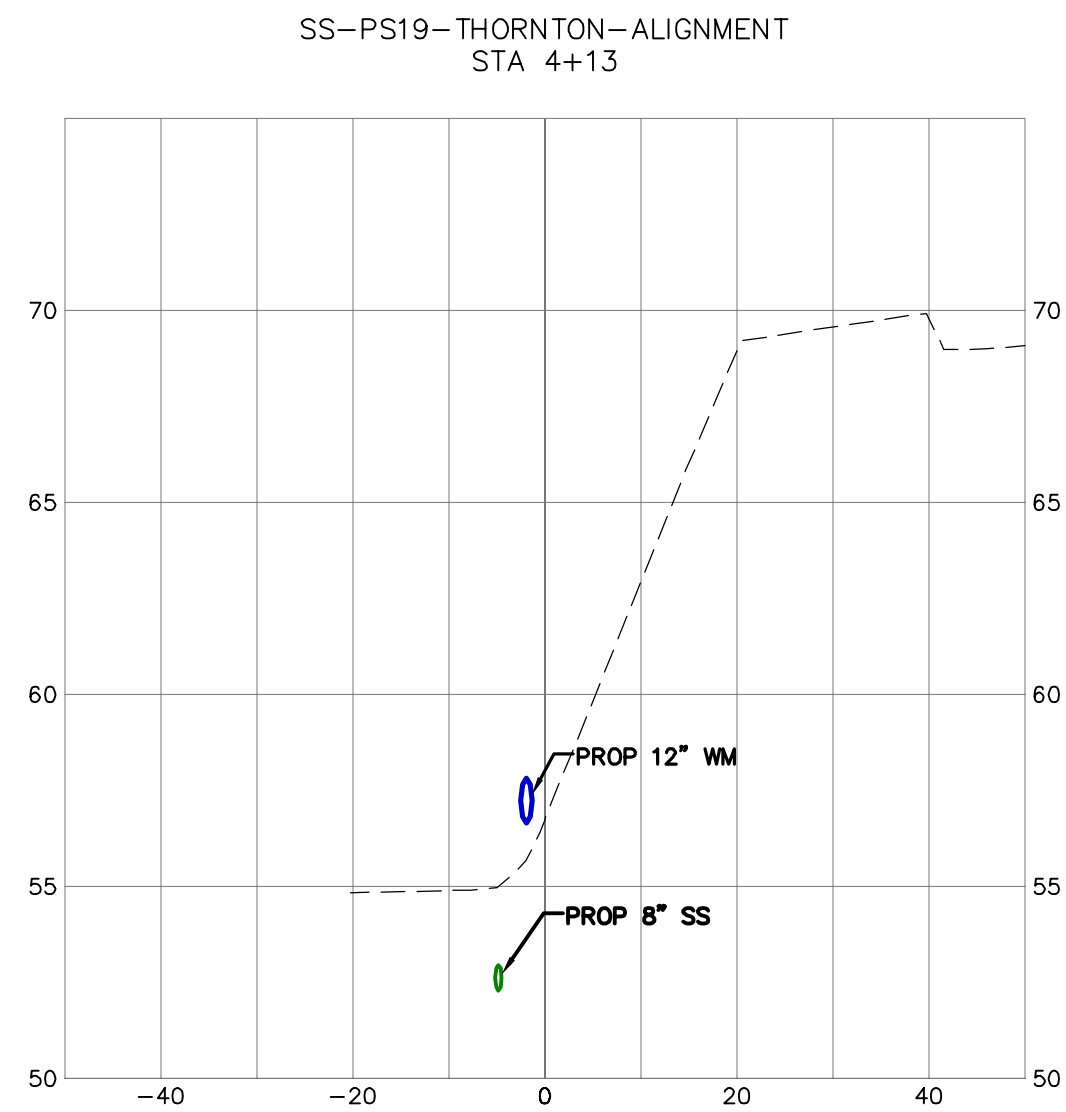
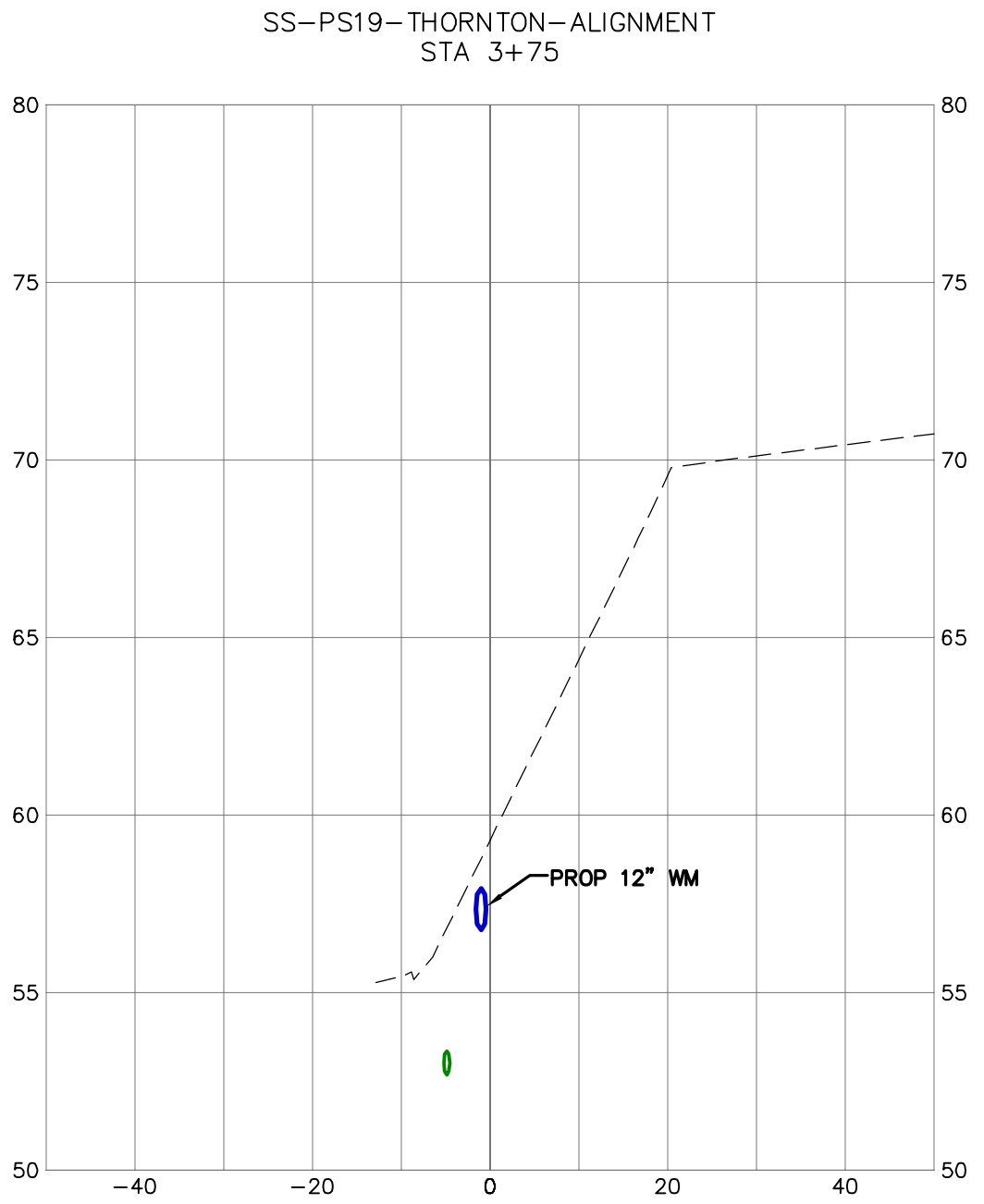
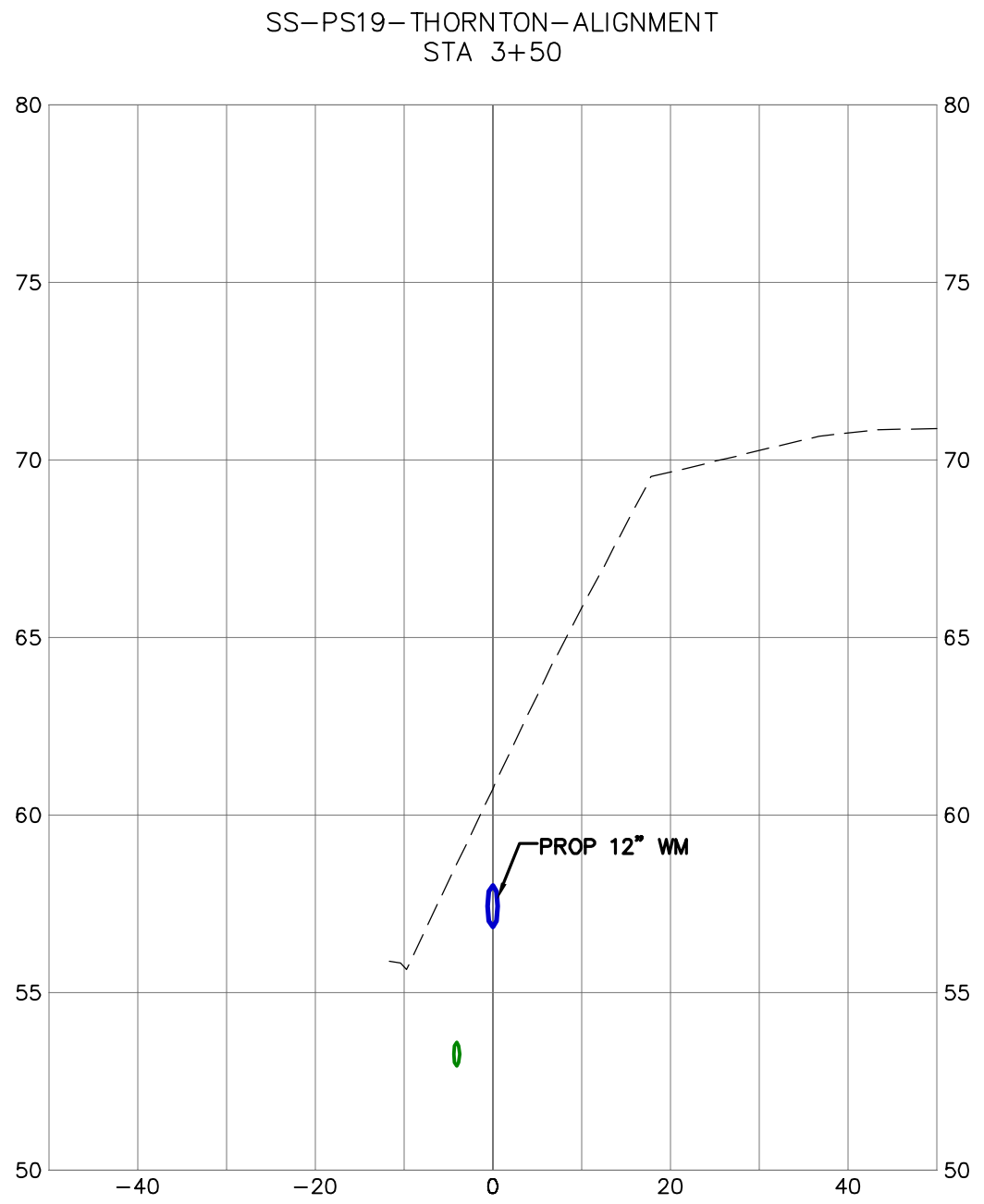
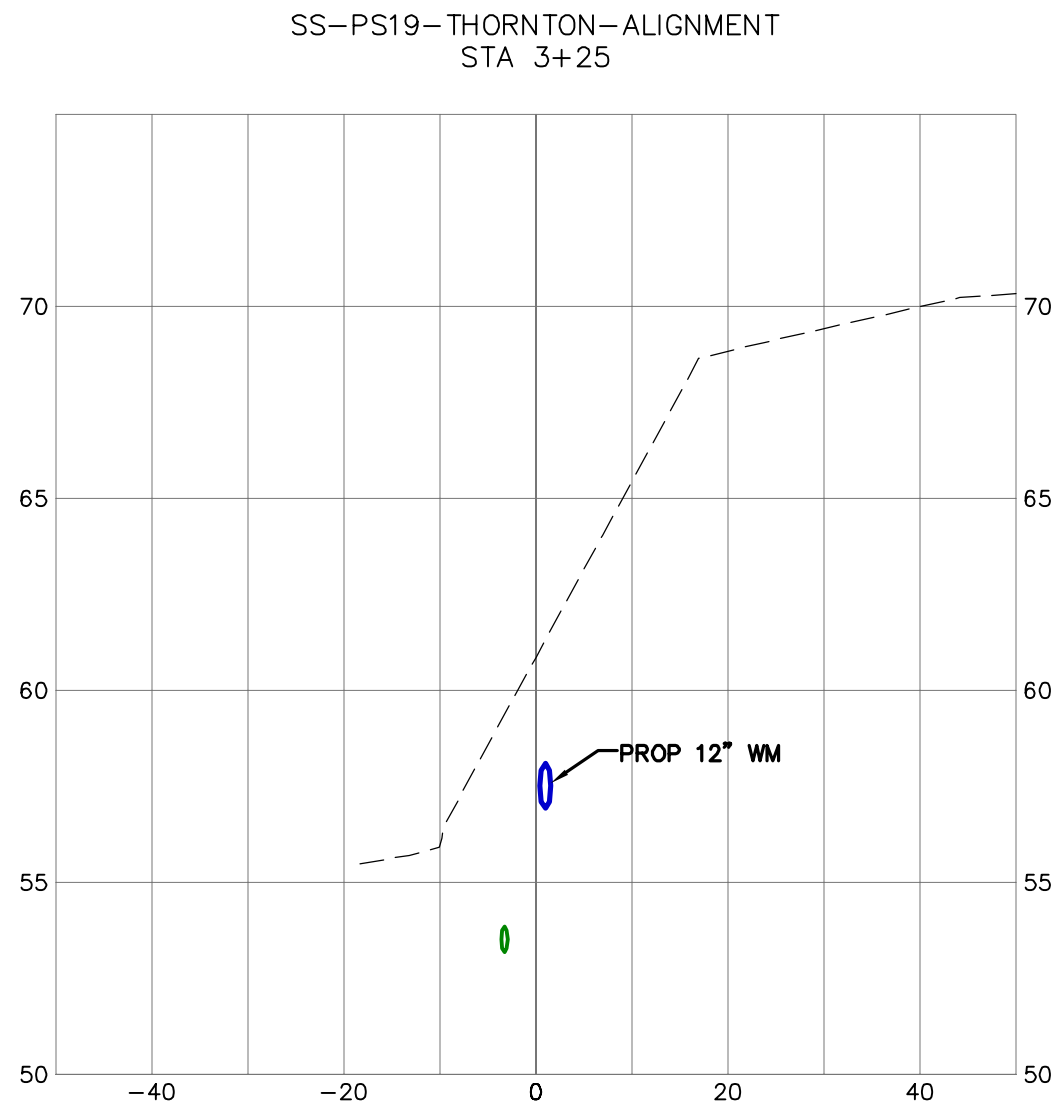
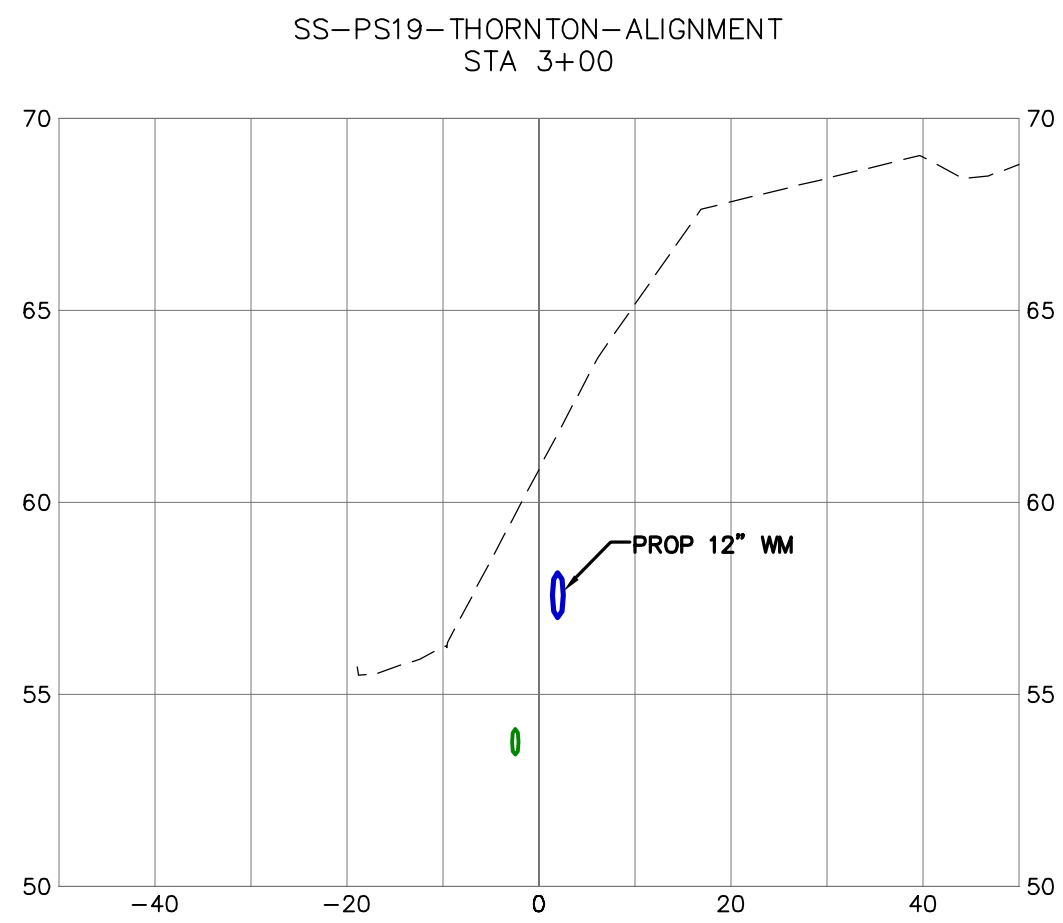
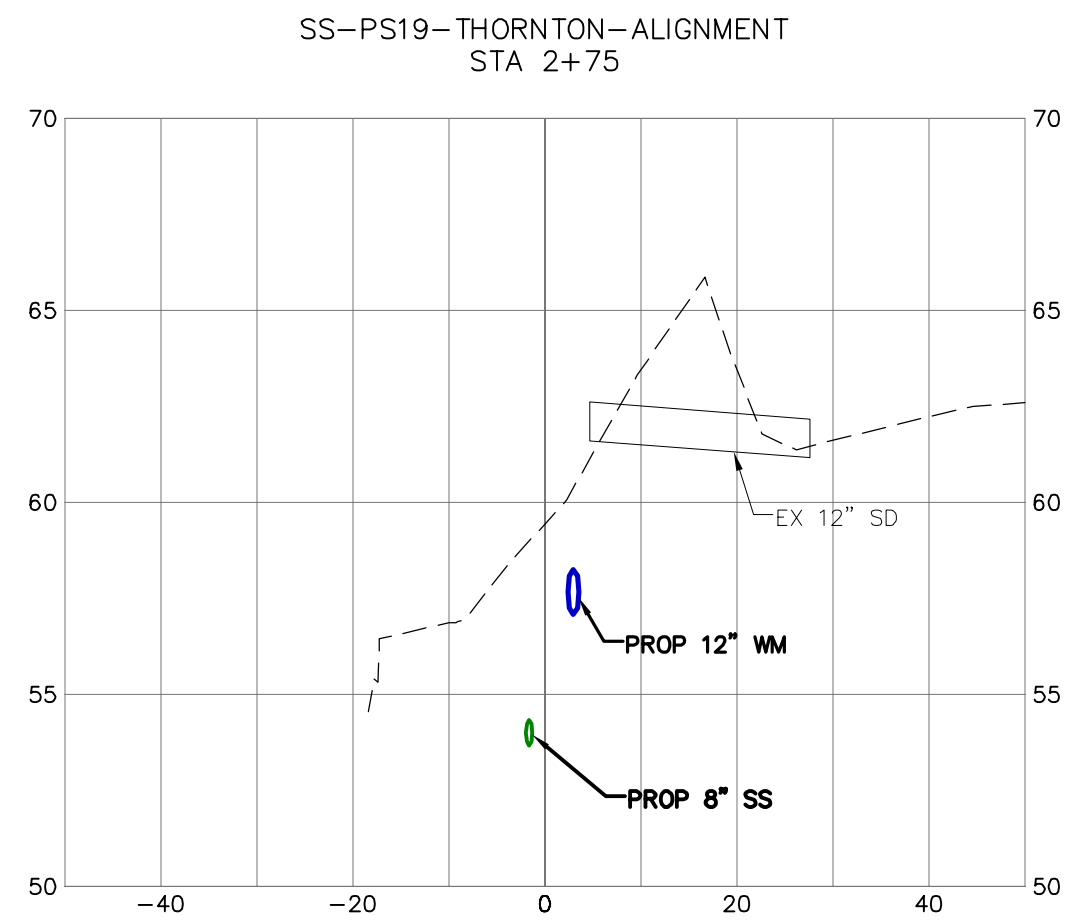
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2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
CROSS SECTIONS 1

DWG 16034 PS19 SEWER	DATE 11/05/2020
JOB# 16034	SCALE H: 1"=20' V: 1"=5'
SHEET 16 of 20	



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CROSS SECTIONS 2

DWG 16034 PS19 SEWER

JOB#

16034

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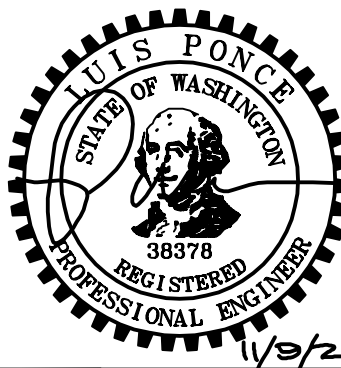
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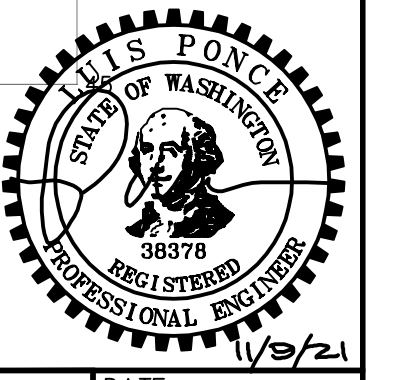
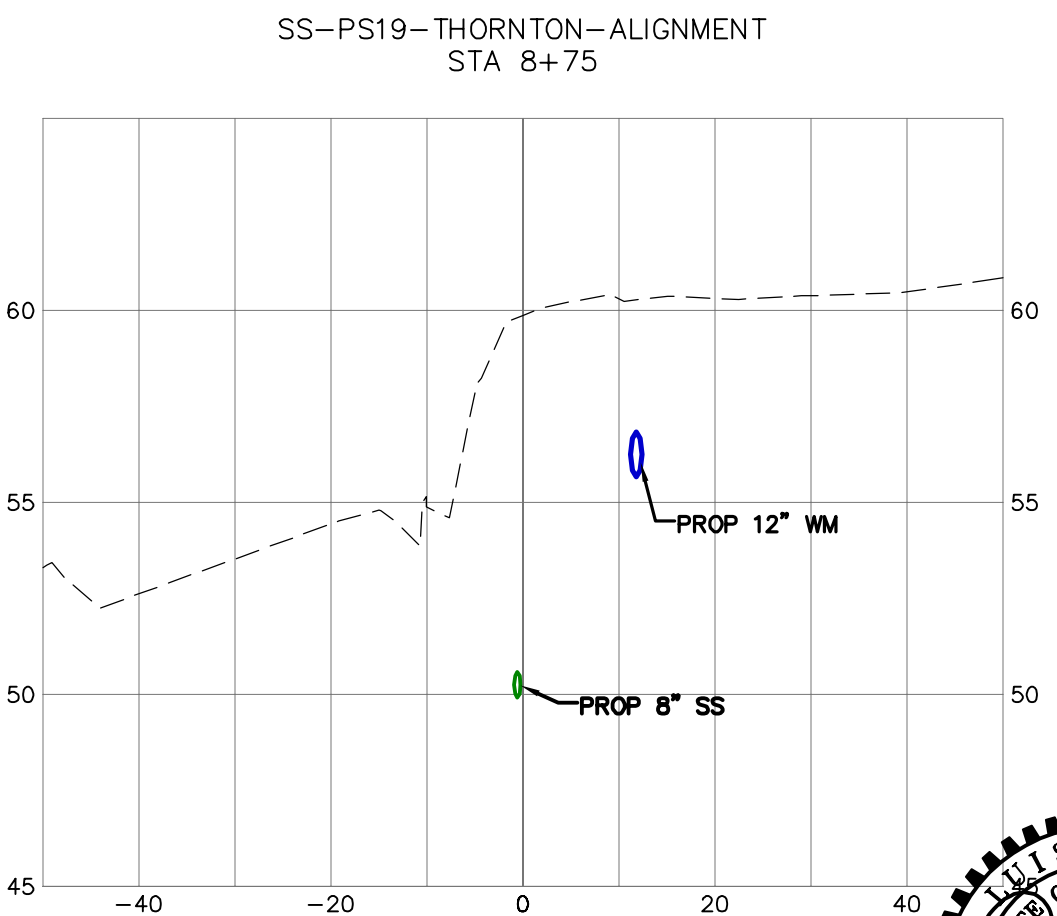
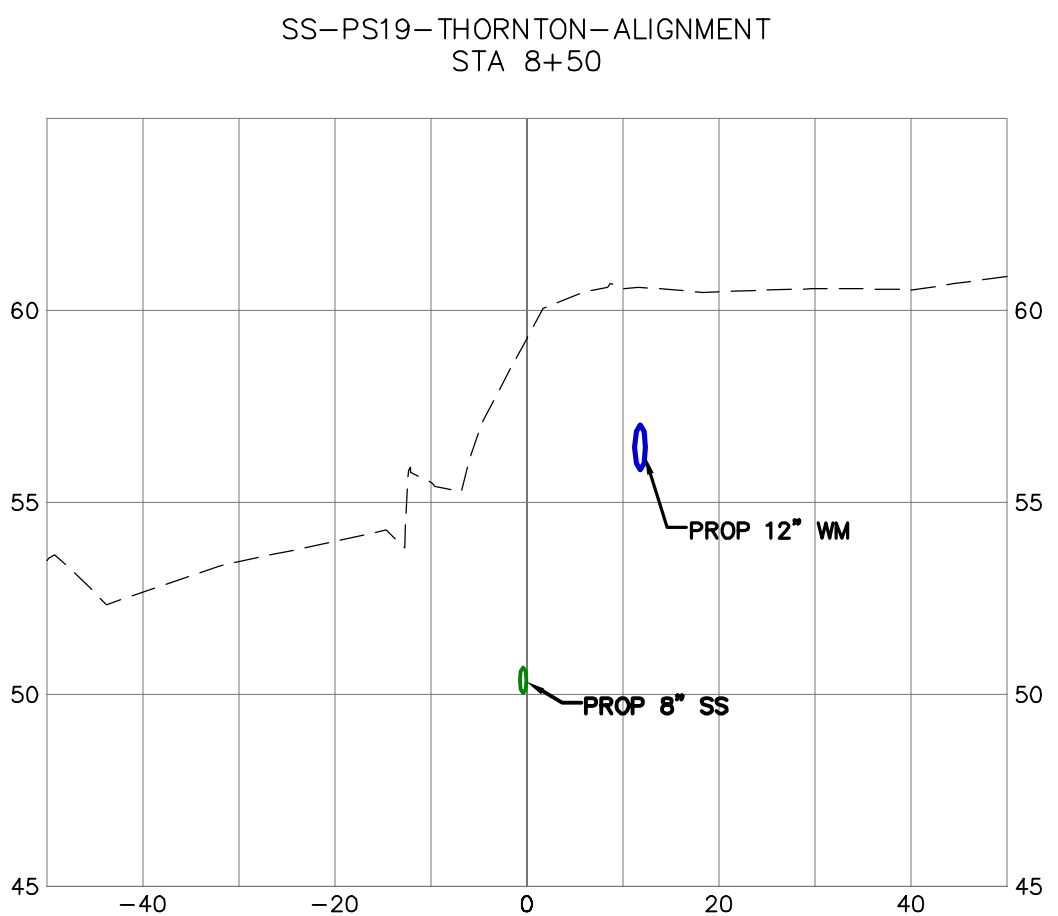
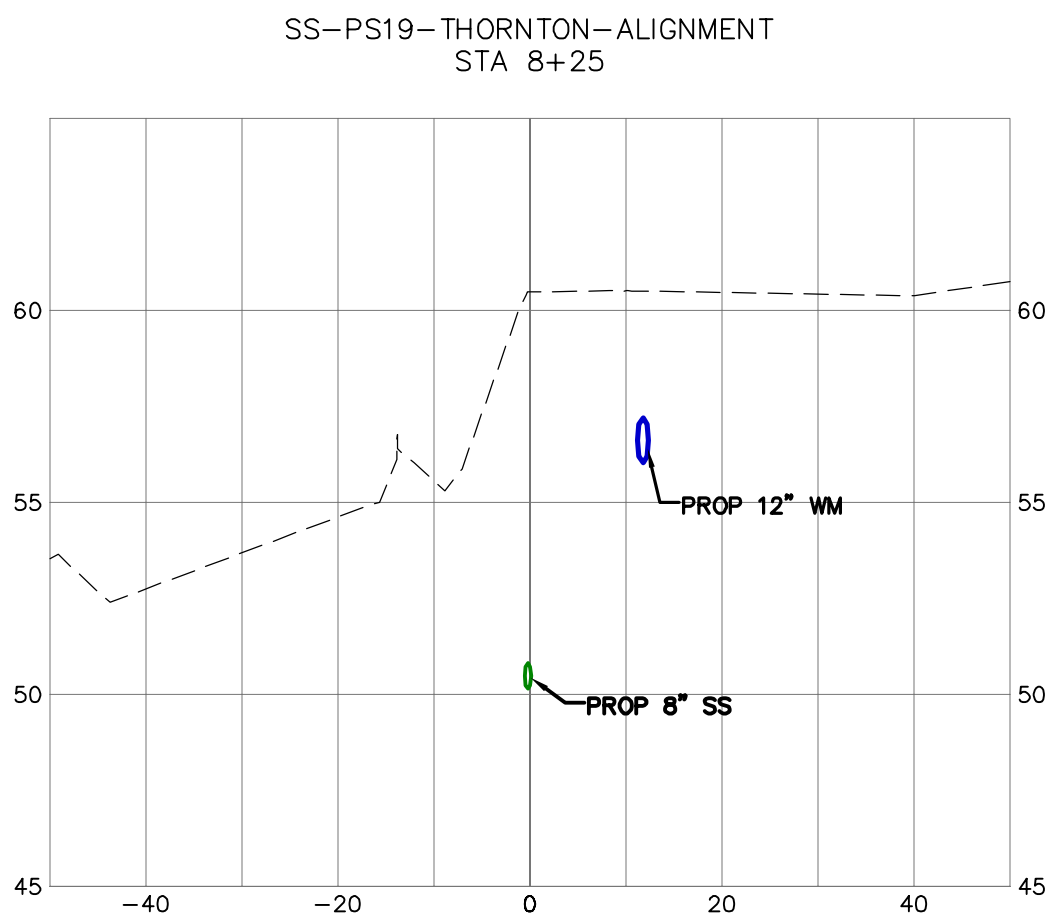
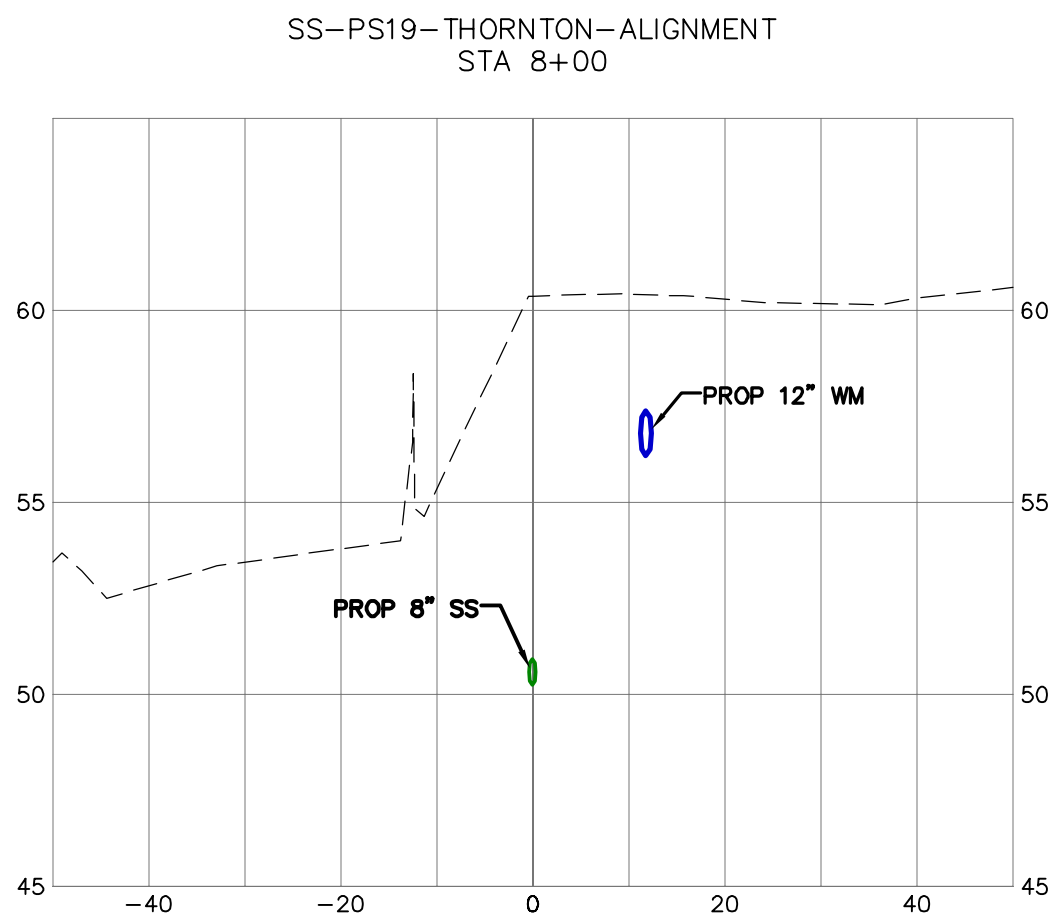
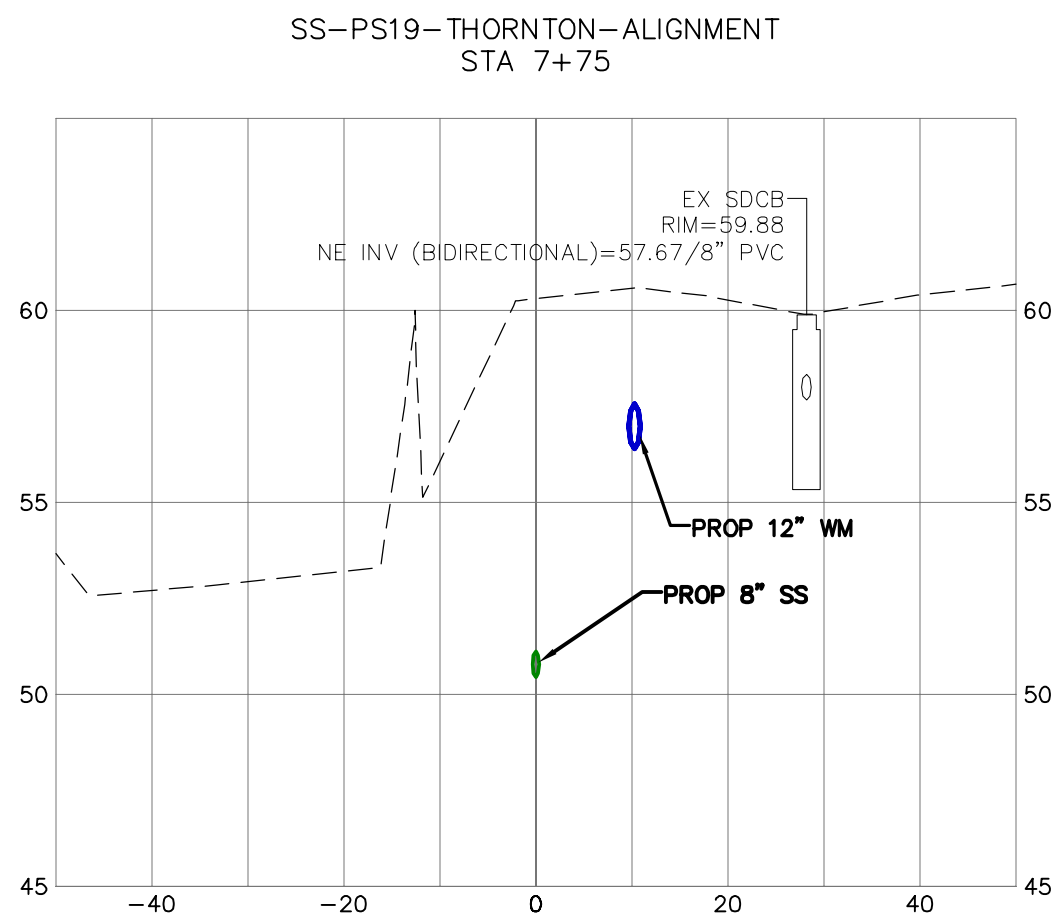
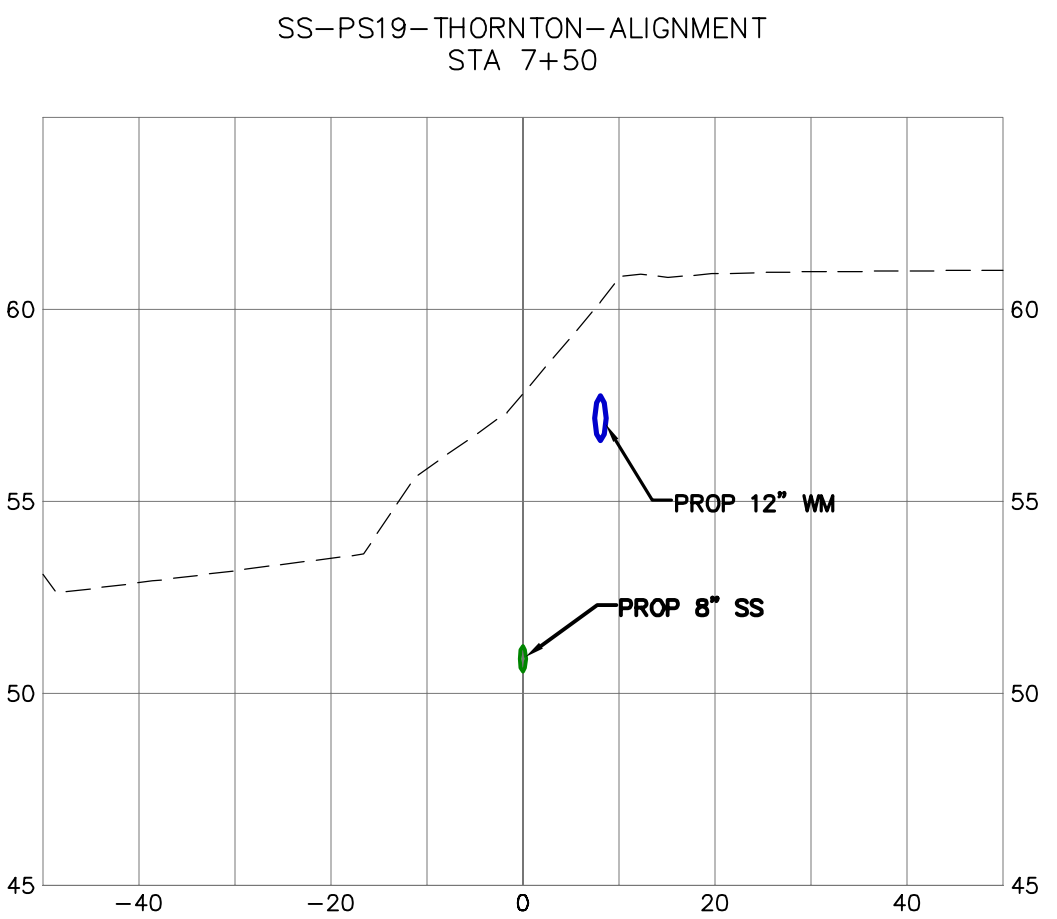
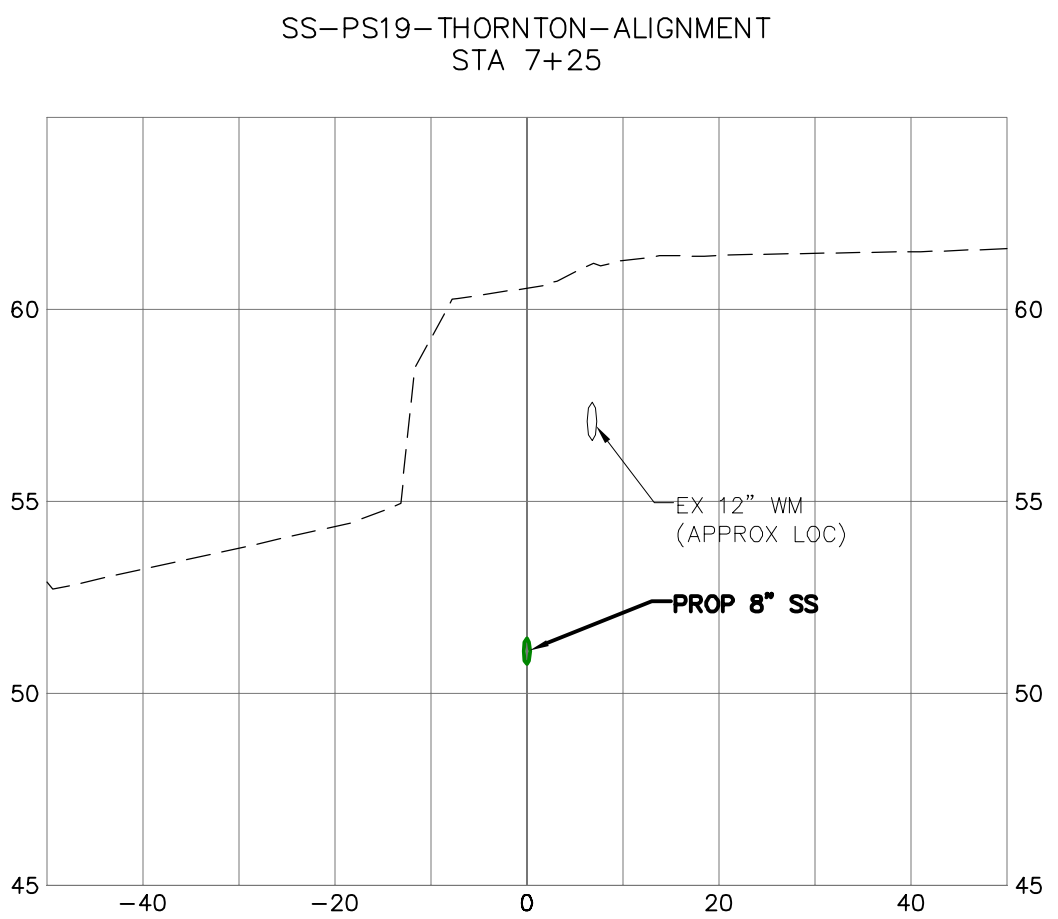
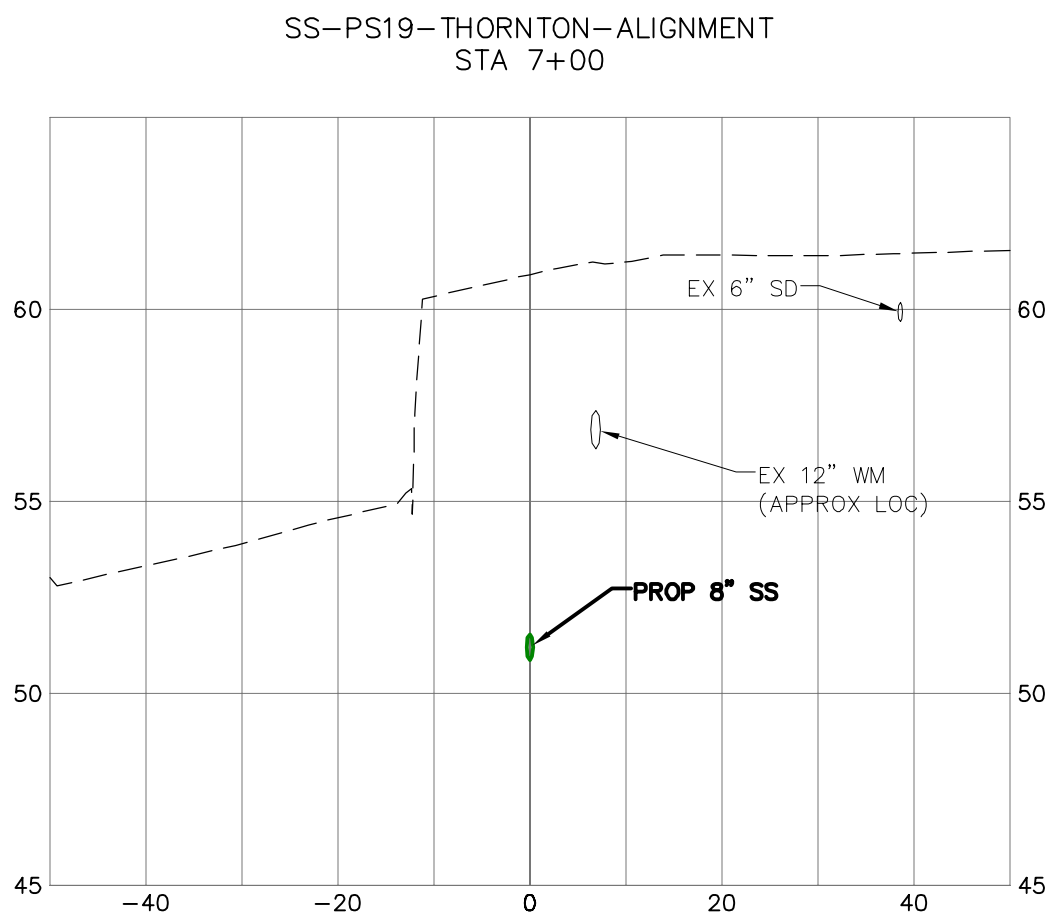
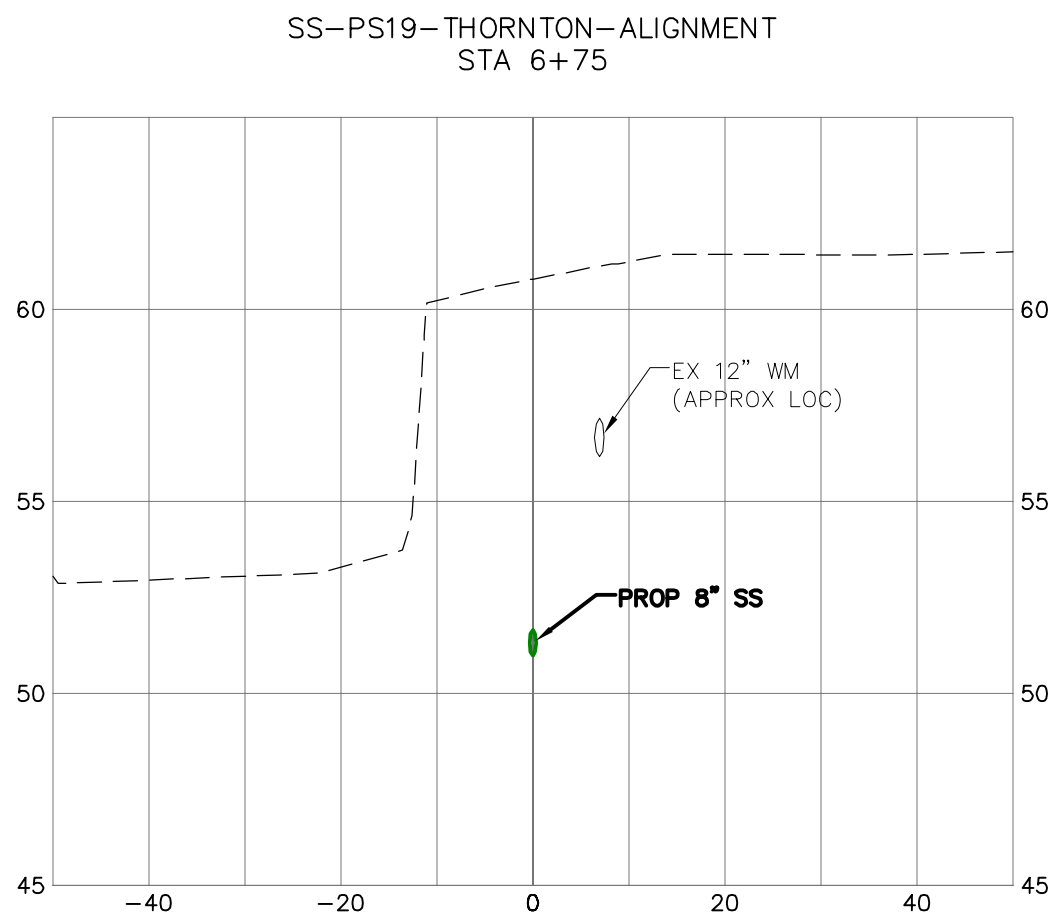
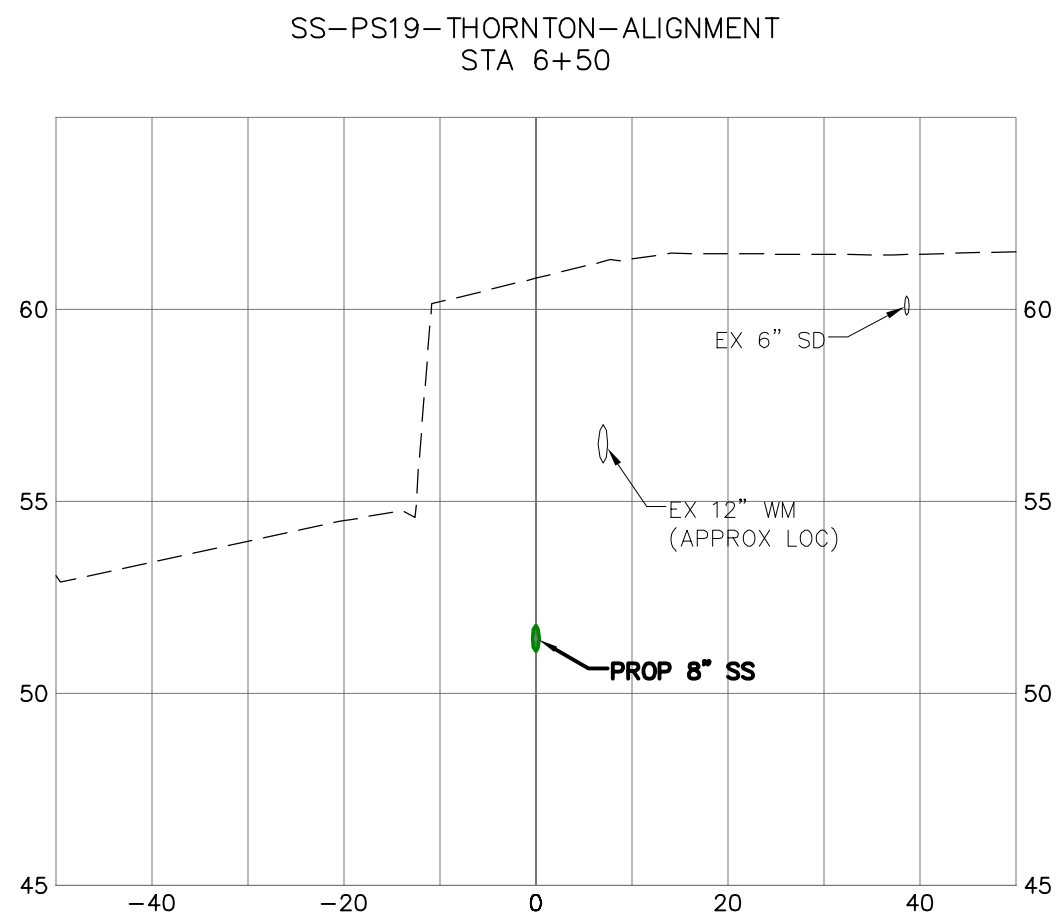
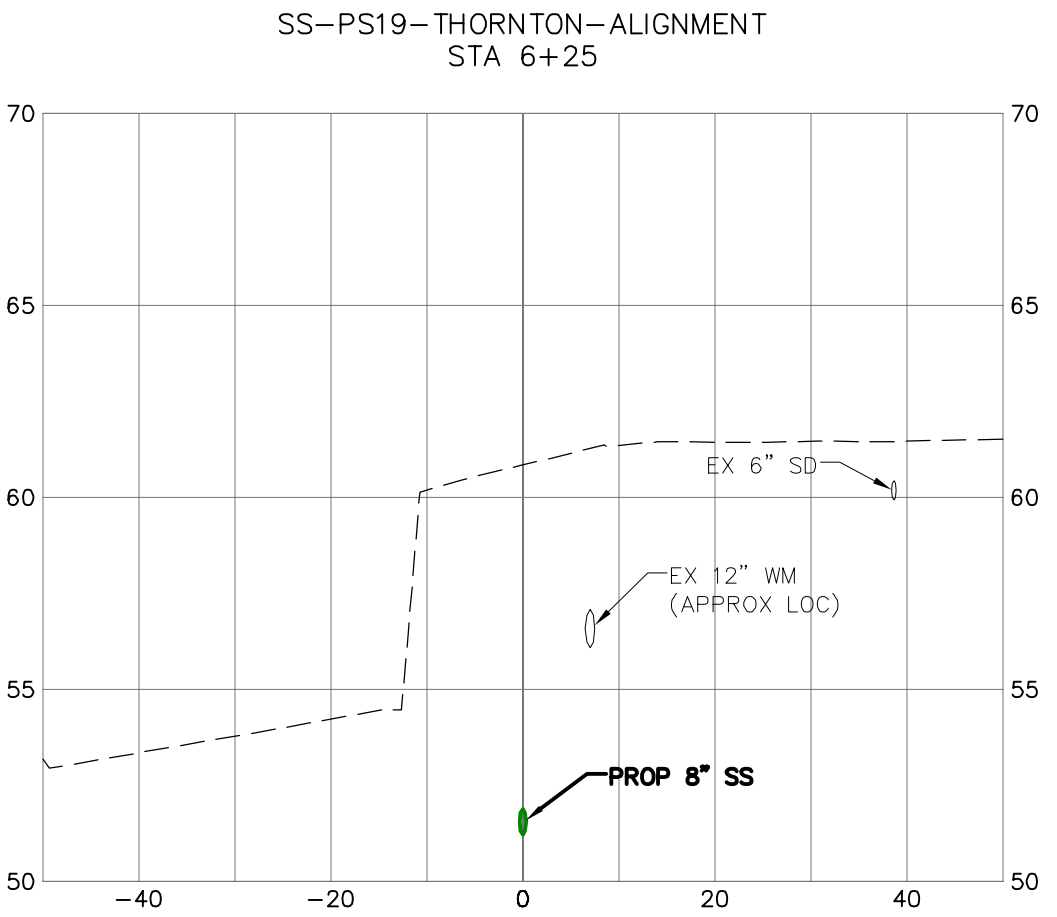
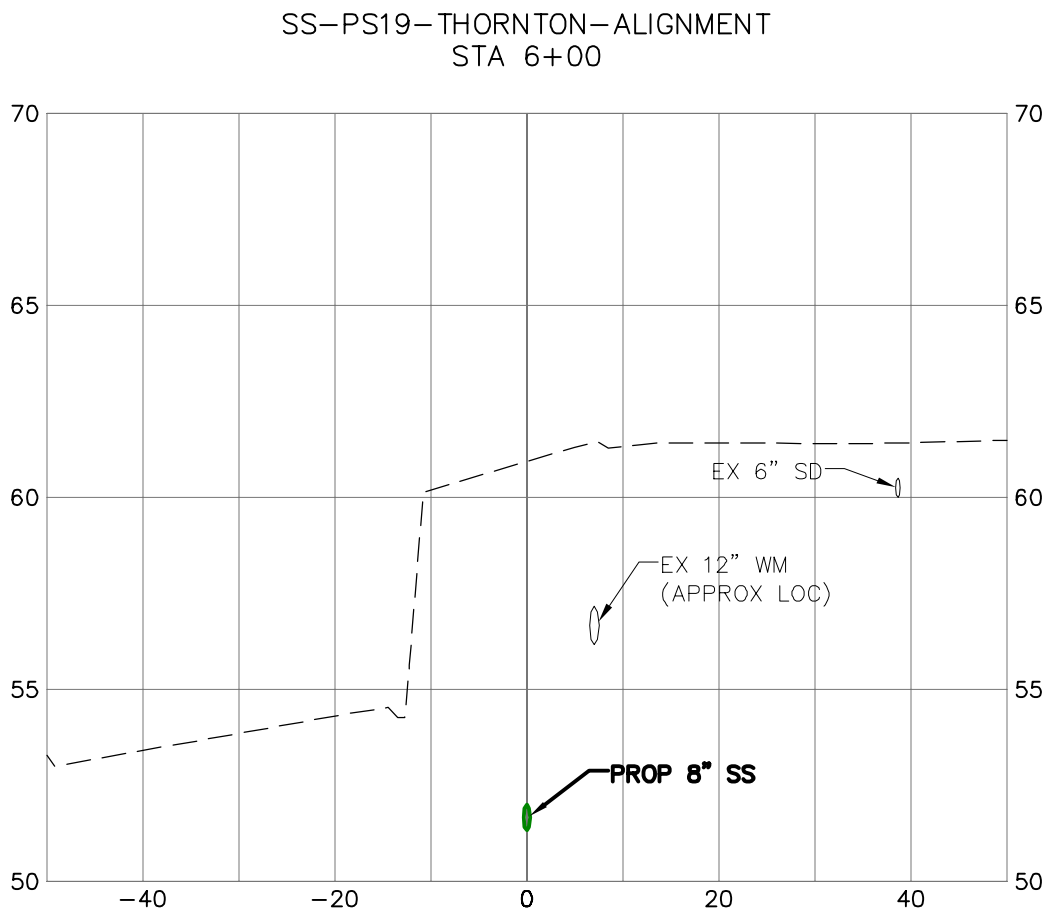
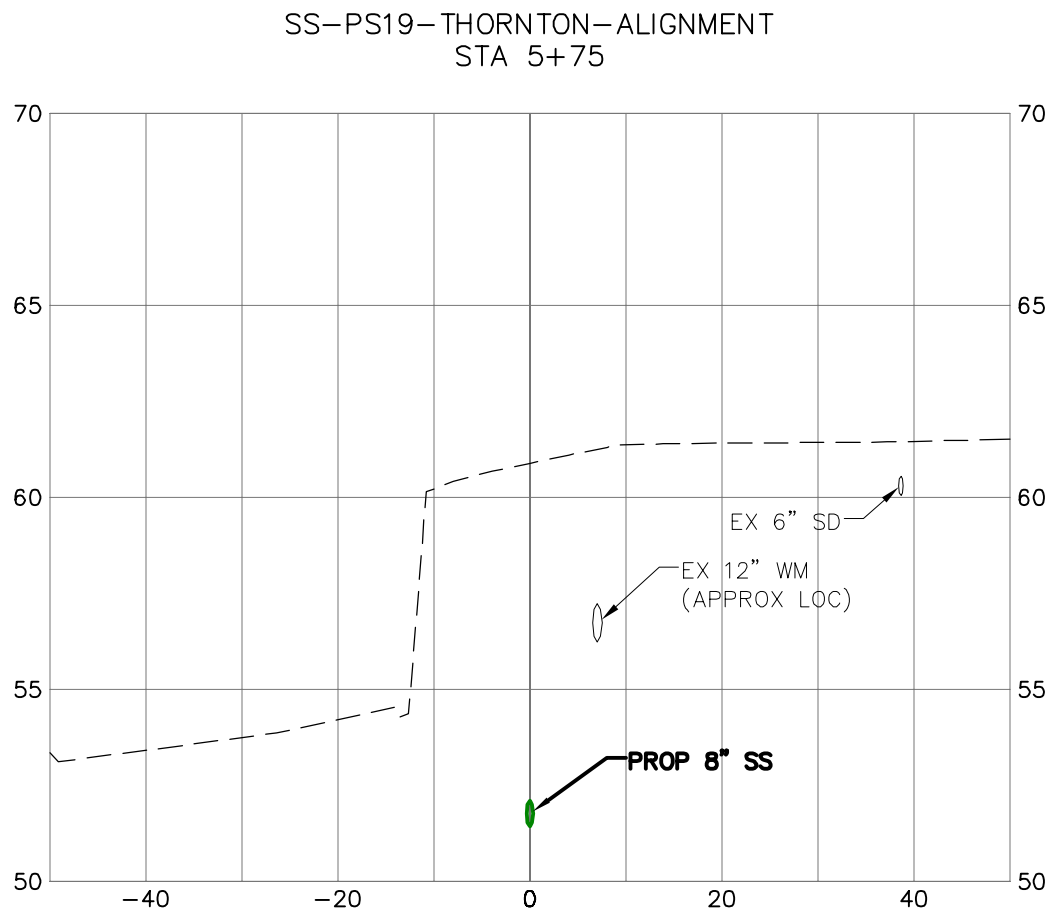
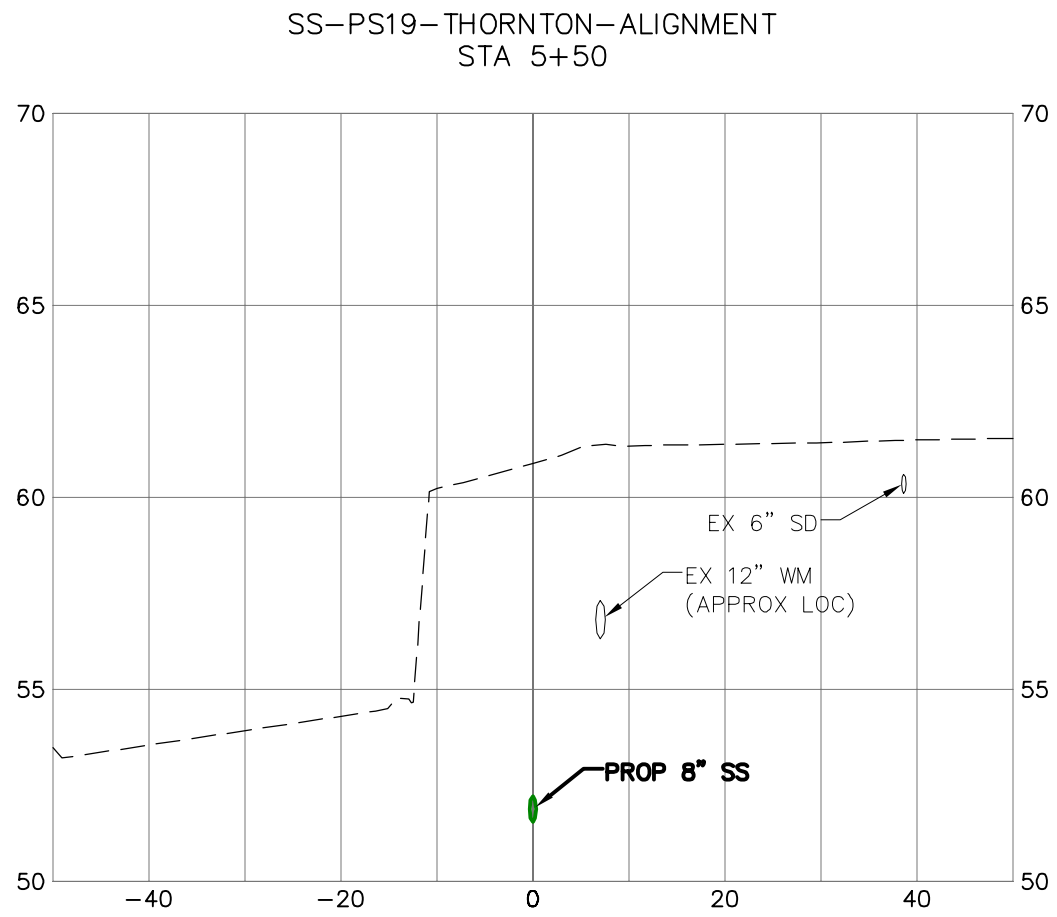
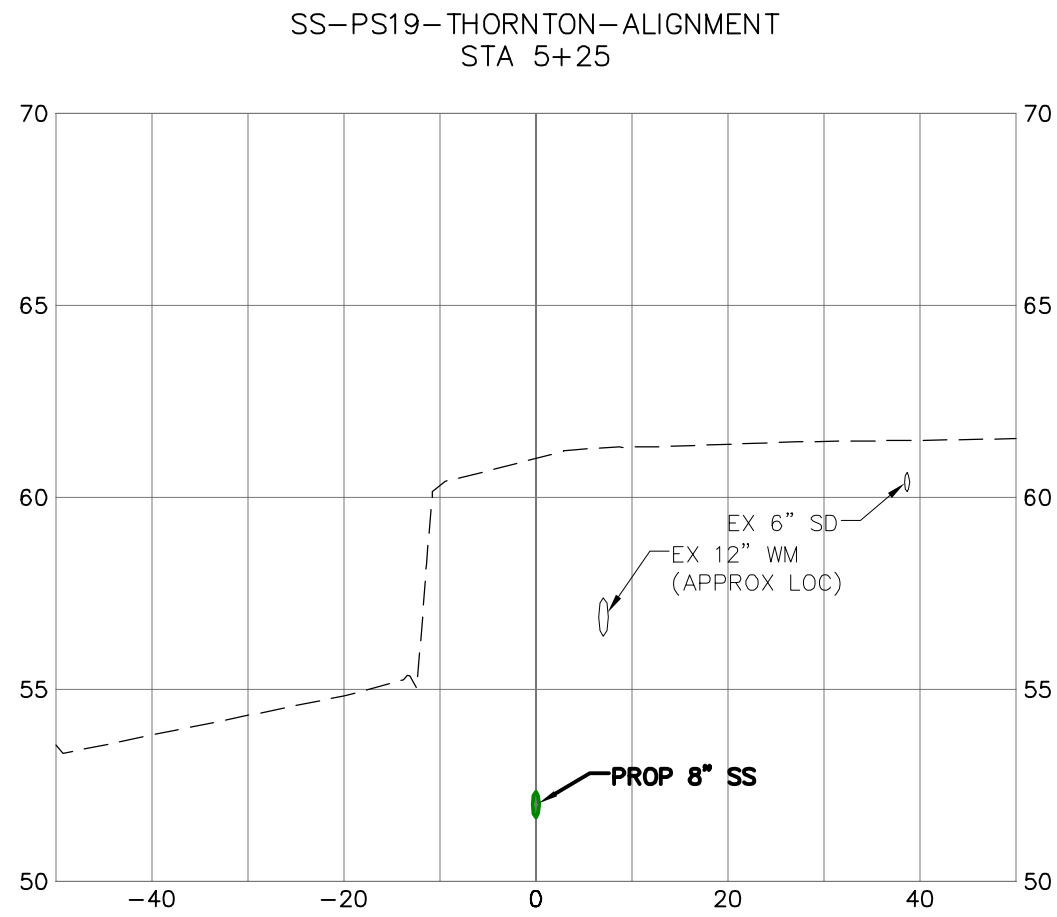
DATE

11/05/2020

SHEET

17
of 20





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FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
CROSS SECTIONS 3

DWG 16034 PS19 SEWER

JOB#

16034

SCALE

H: 1"=20'

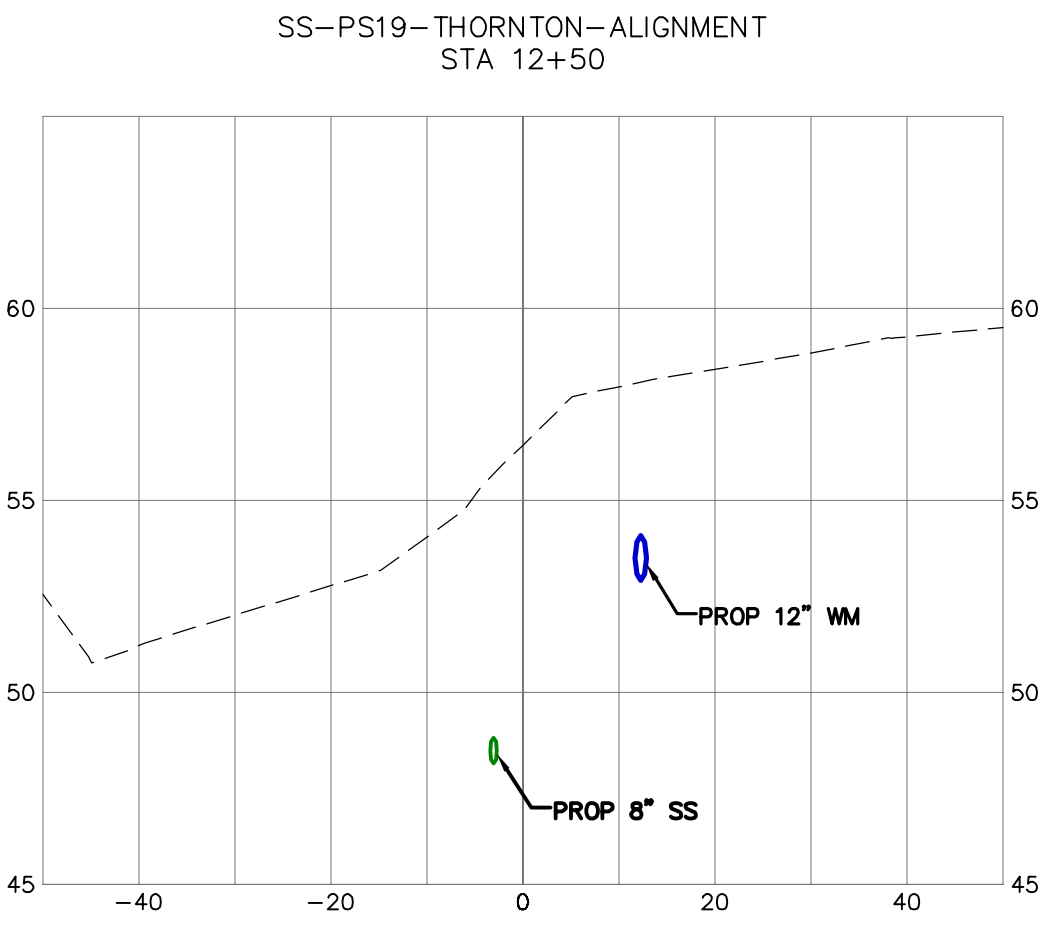
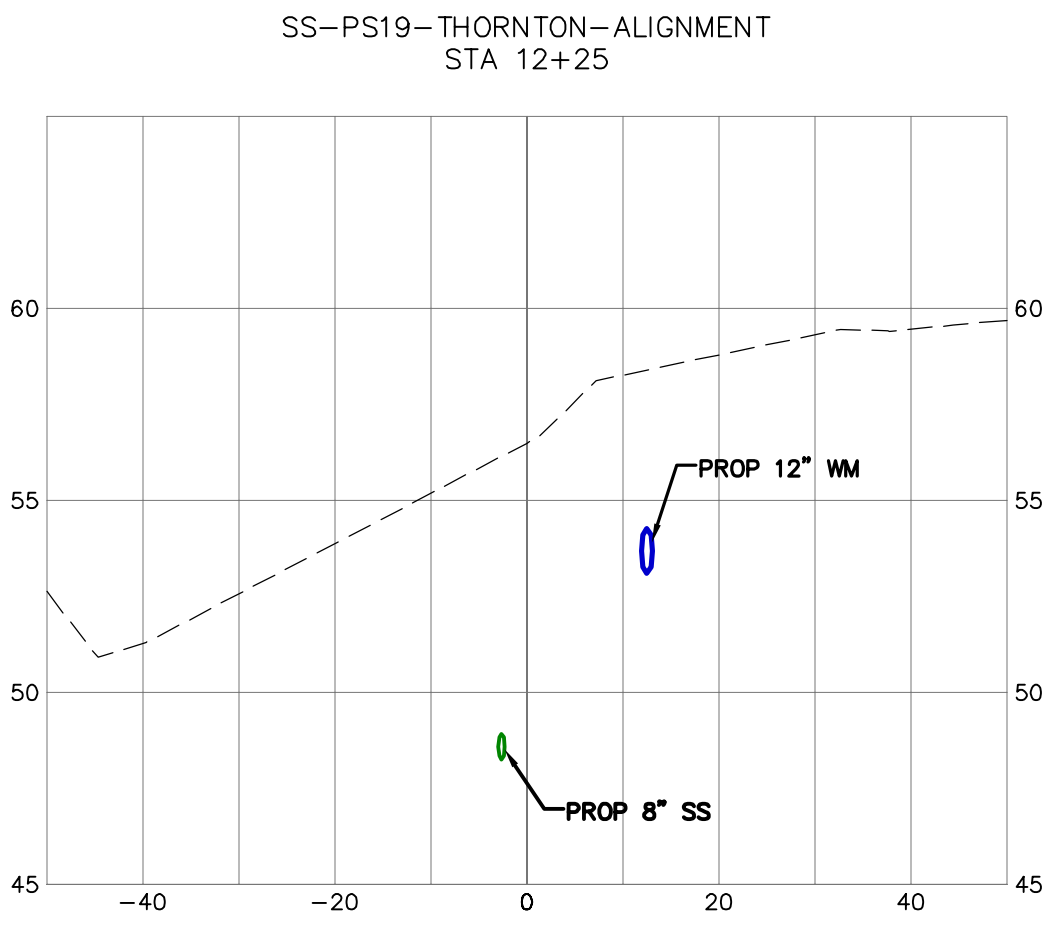
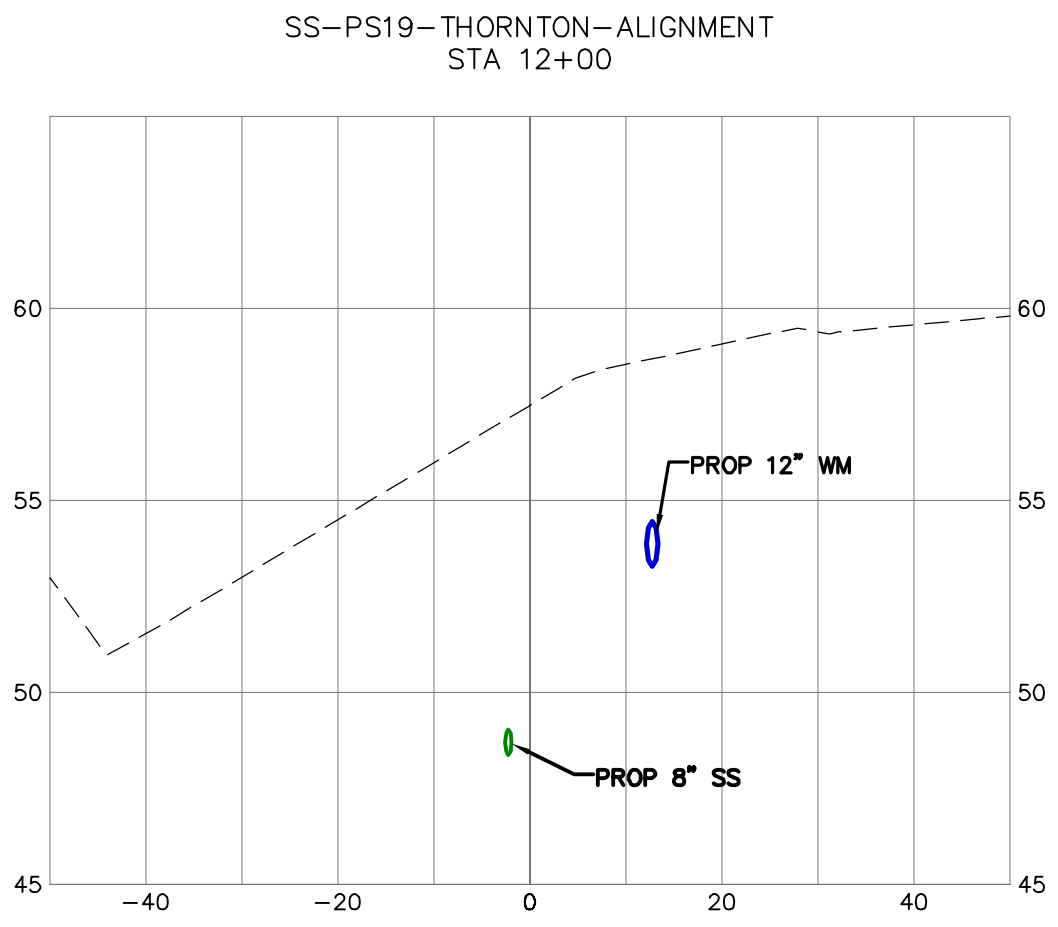
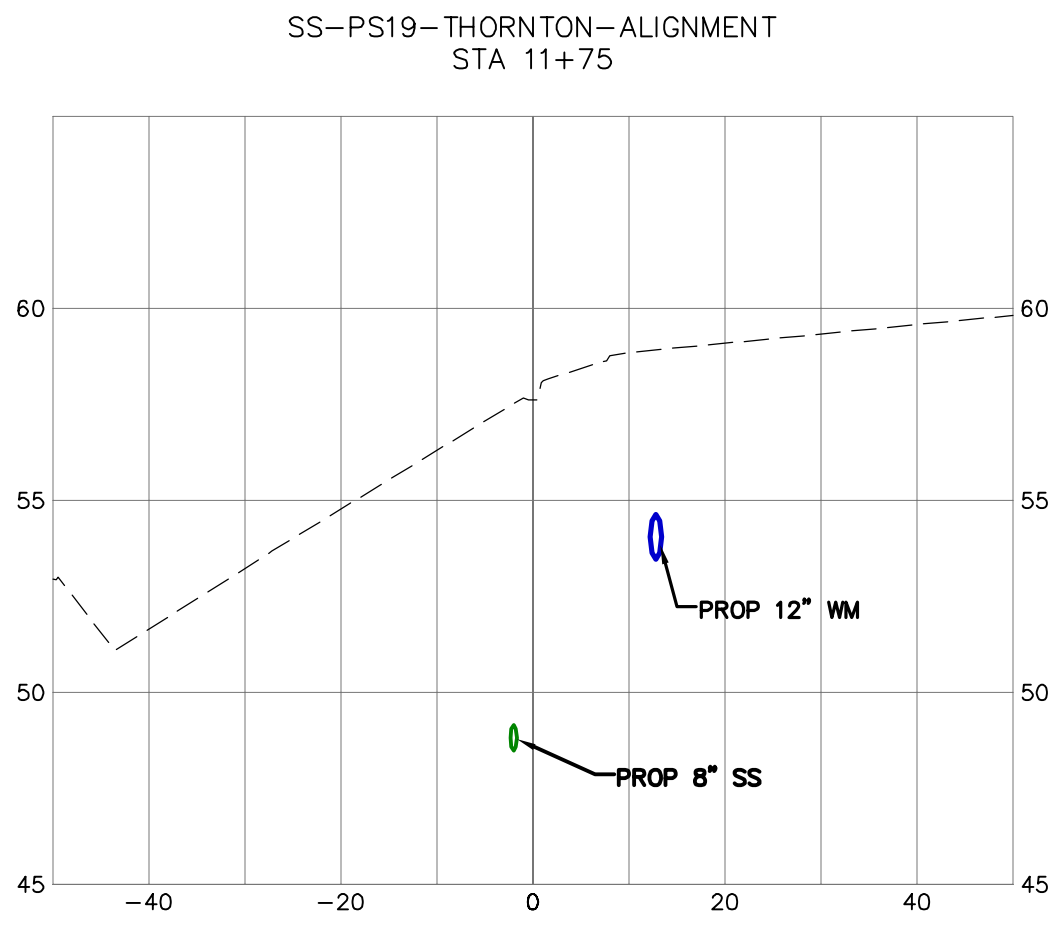
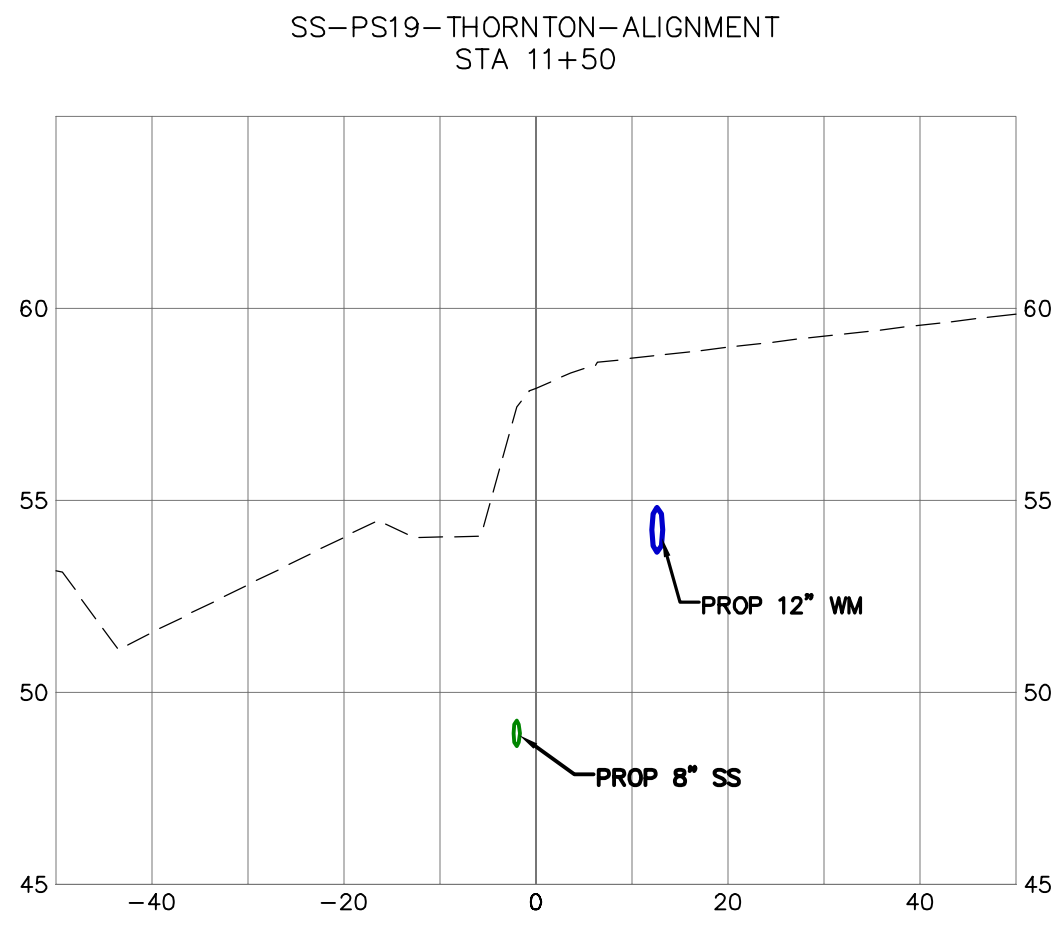
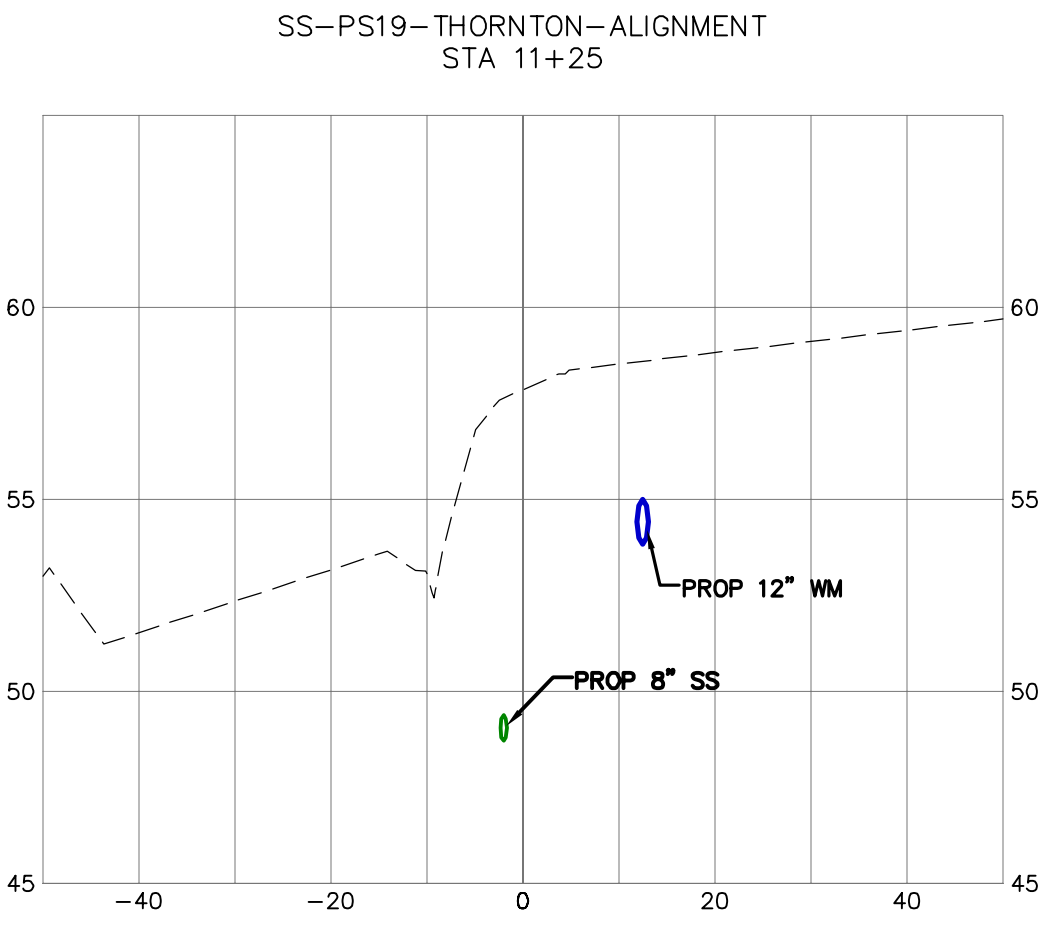
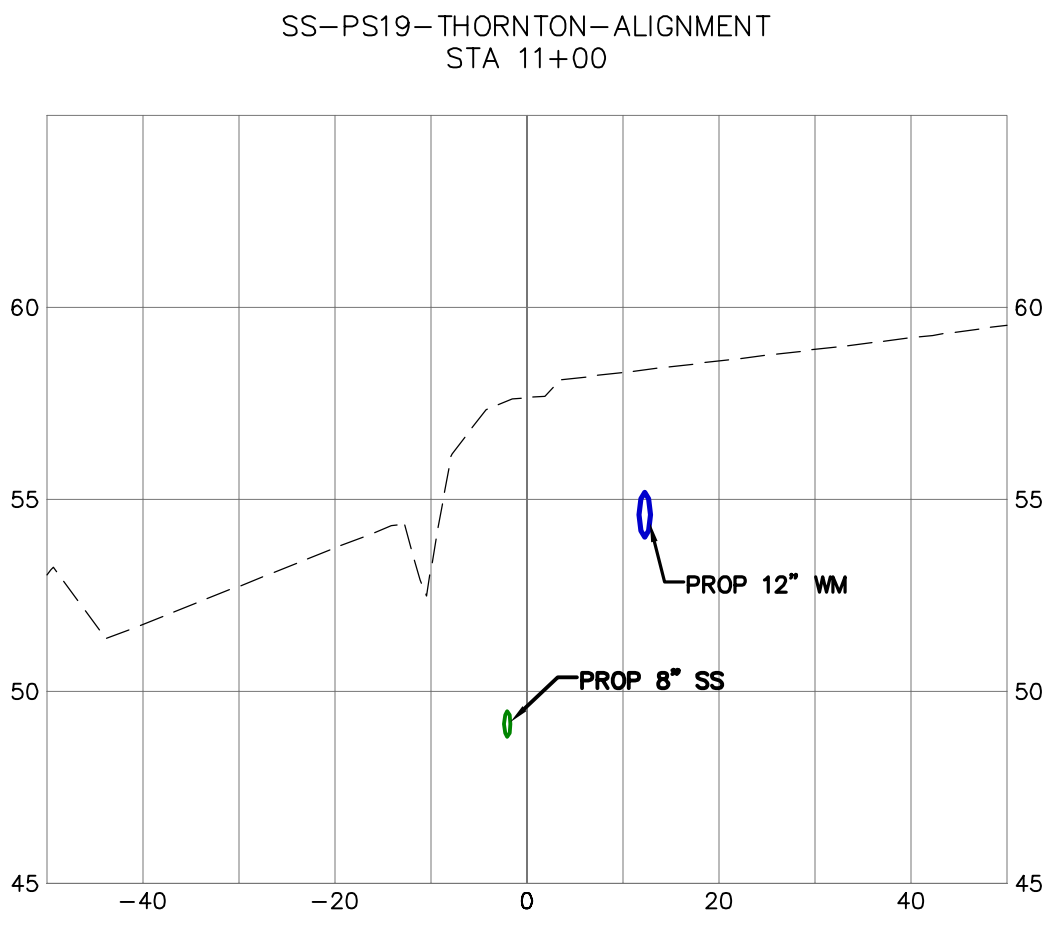
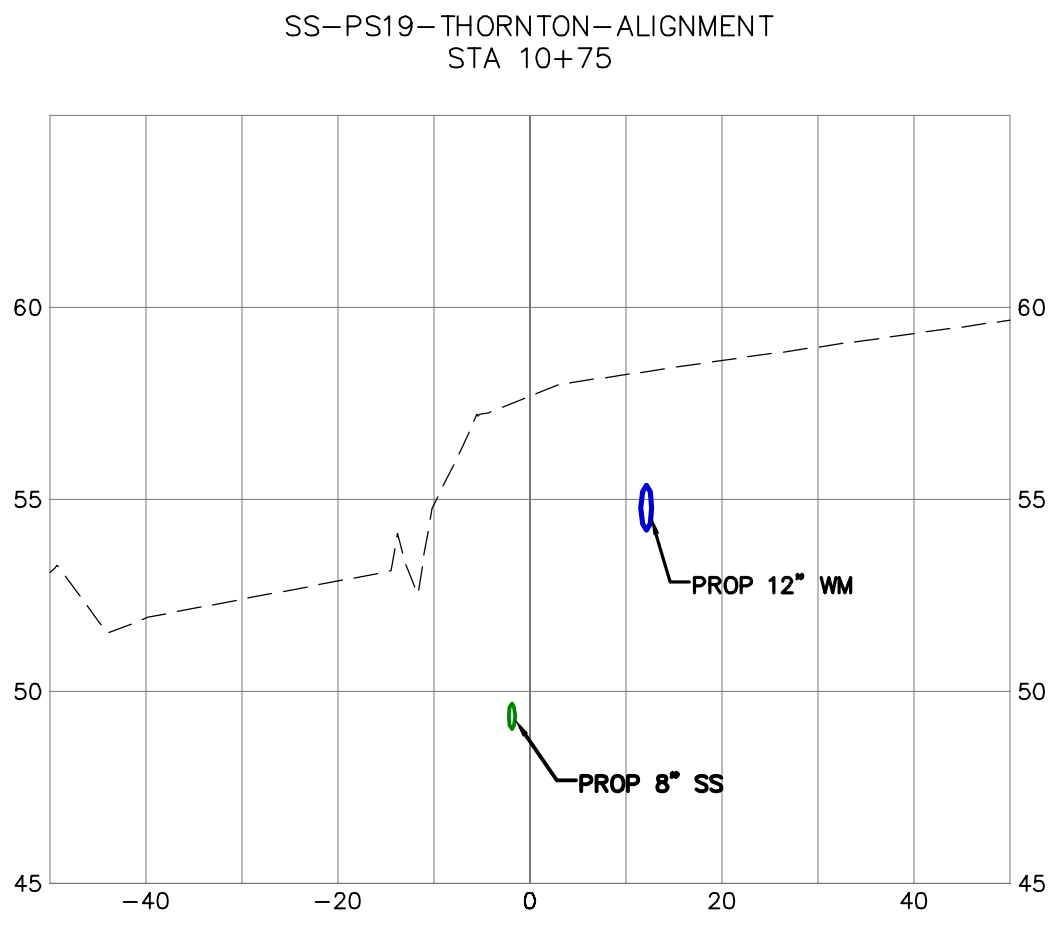
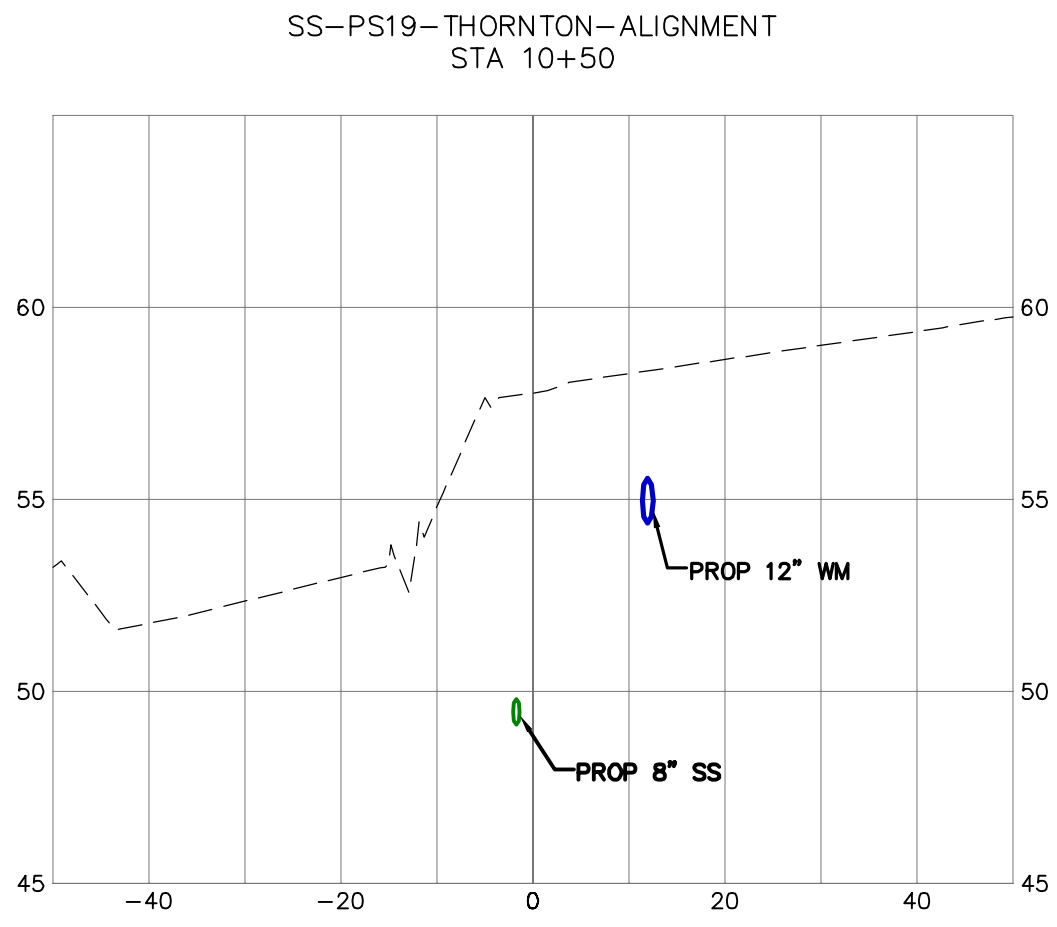
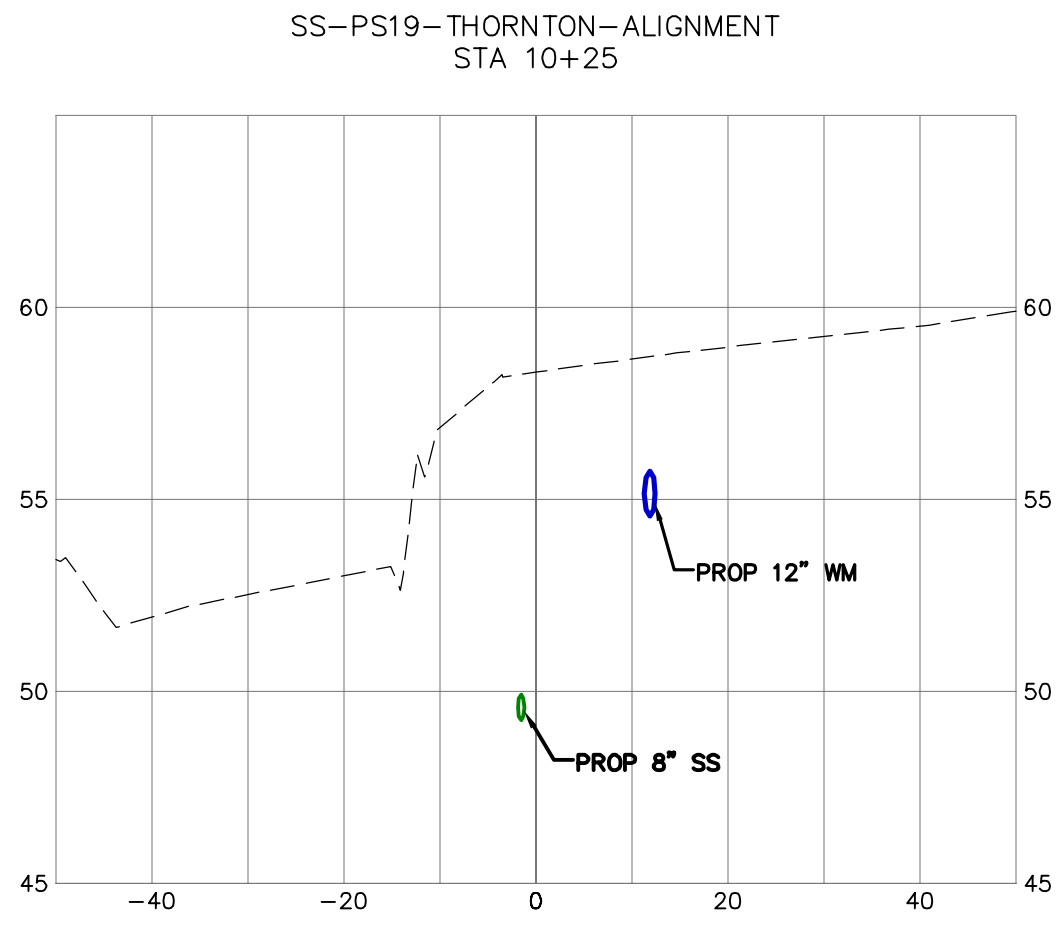
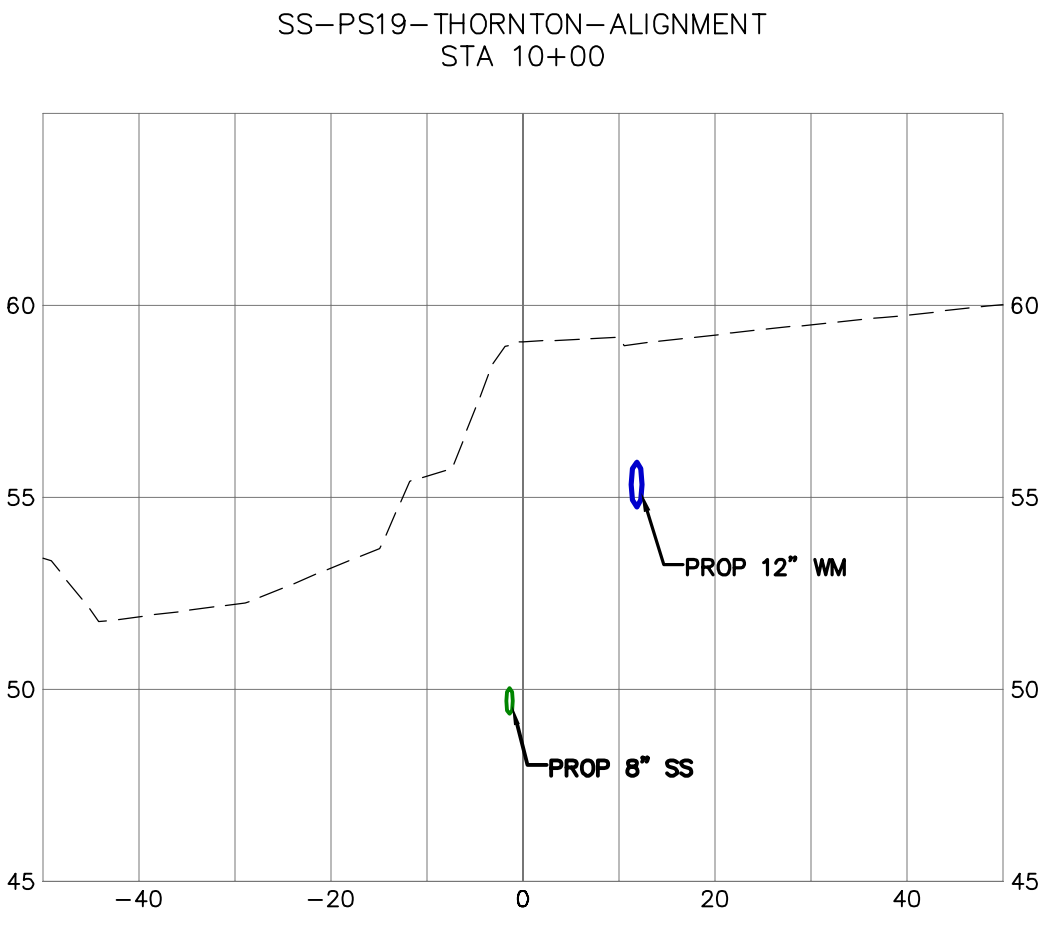
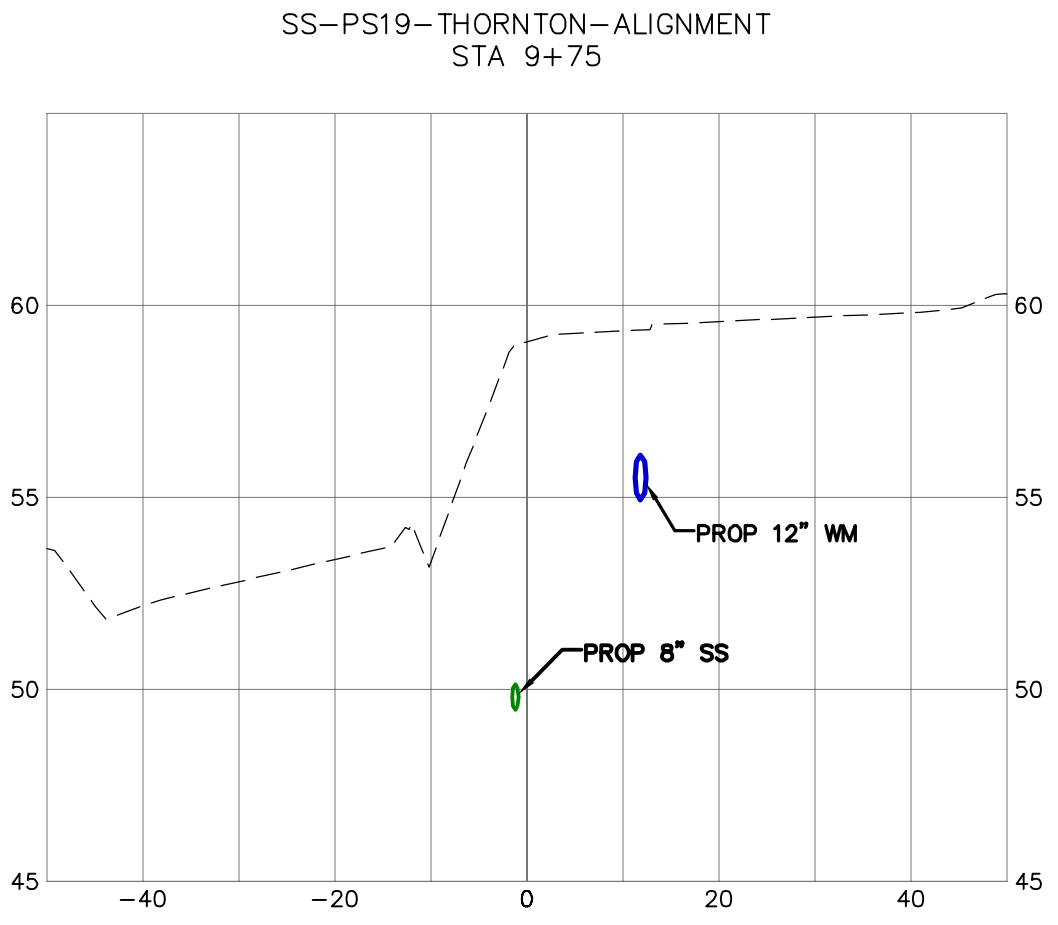
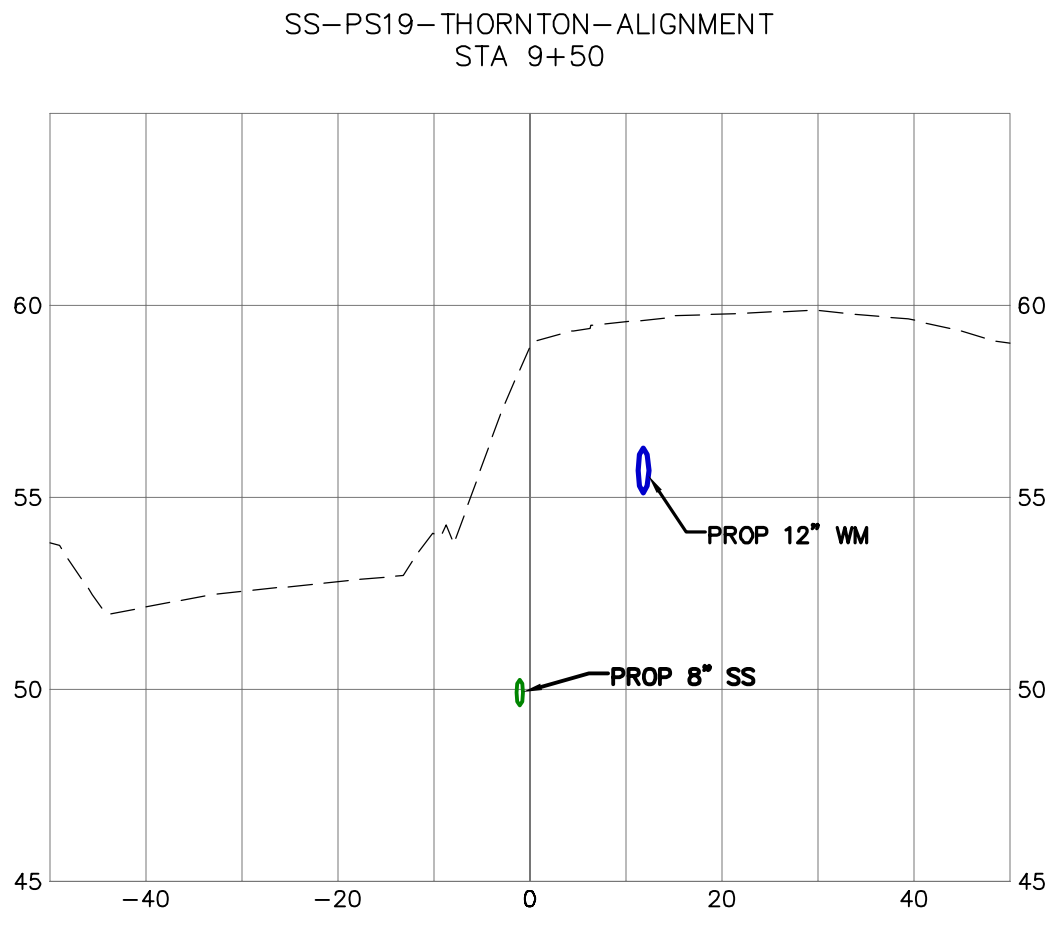
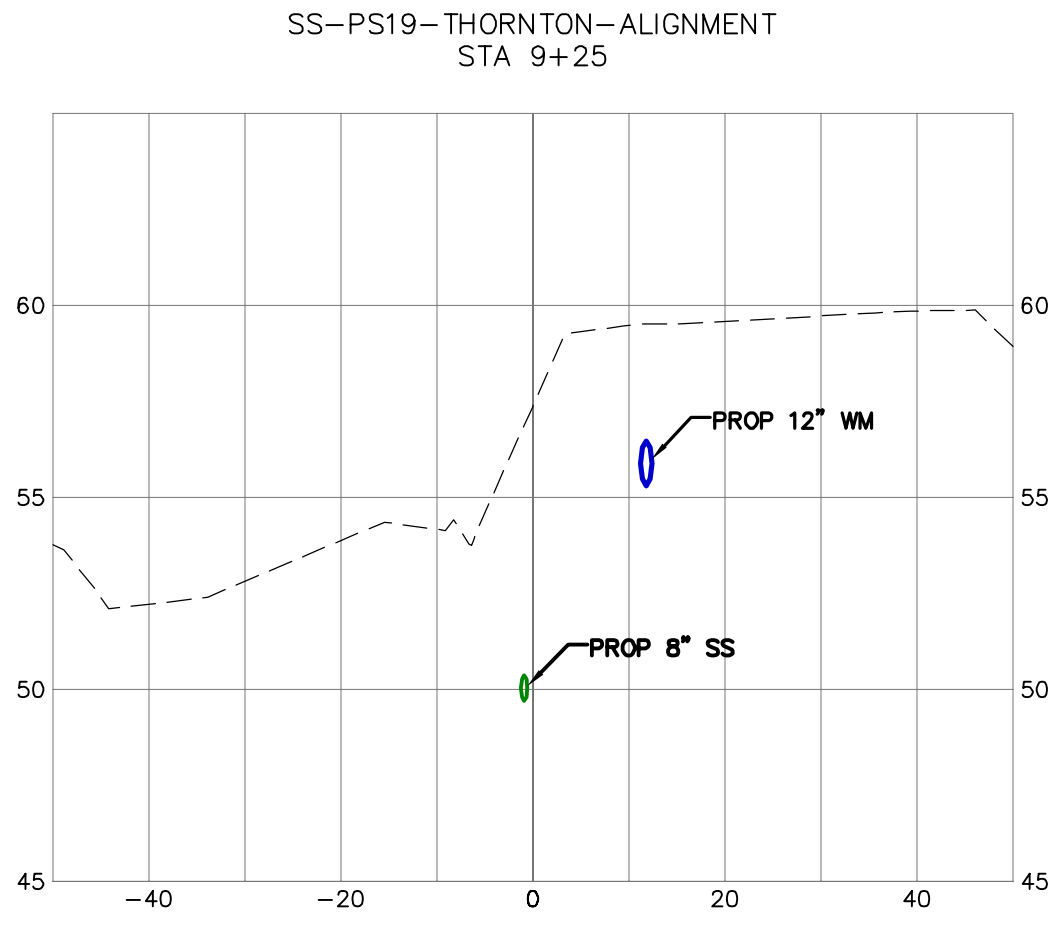
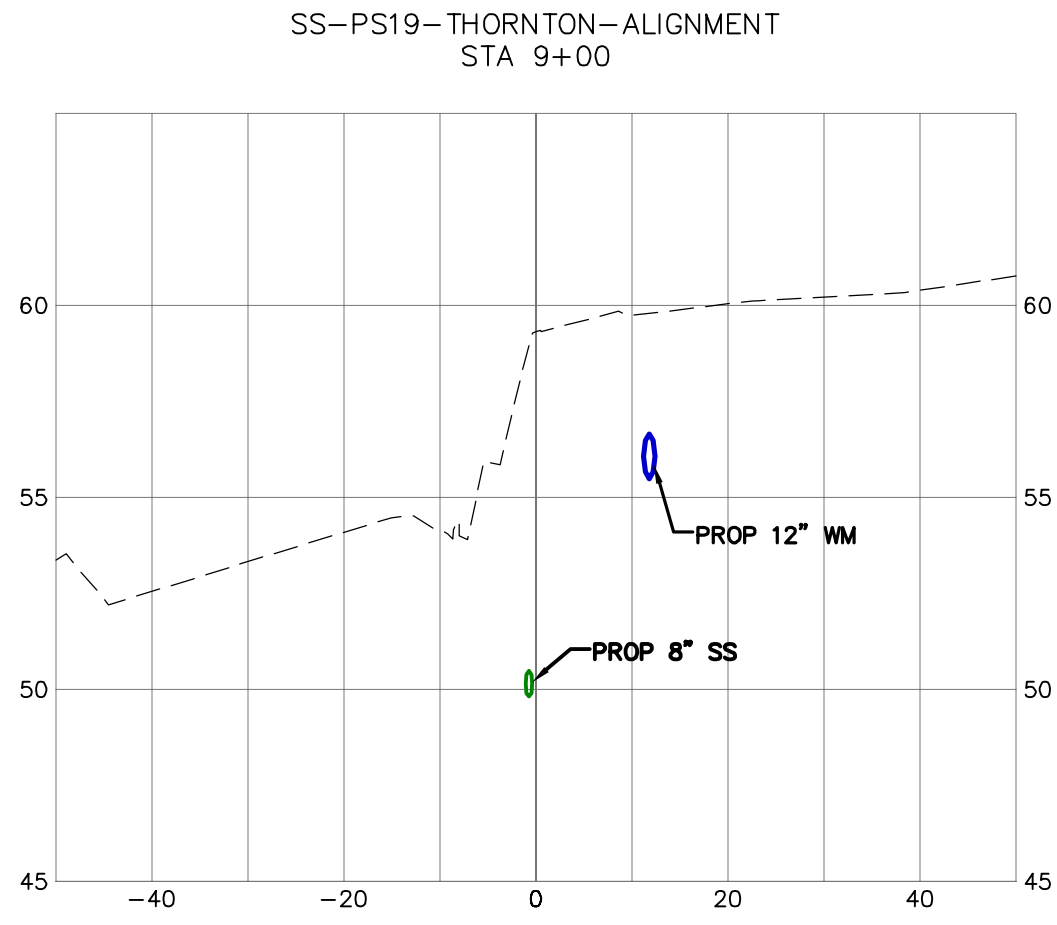
V: 1"=5'

DATE

11/05/2020

SHEET

18
of 20



SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
KK/PJC
DRAWN BY
PJC/LMH
CHECKED BY
LP

R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98226

THORNTON STREET
PS19 DECOMMISSIONING
CROSS SECTIONS 4

DWG 16034 PS19 SEWER

JOB#

16034

SCALE

H: 1"=20'

V: 1"=5'

DATE

11/05/2020

SHEET

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of 20

