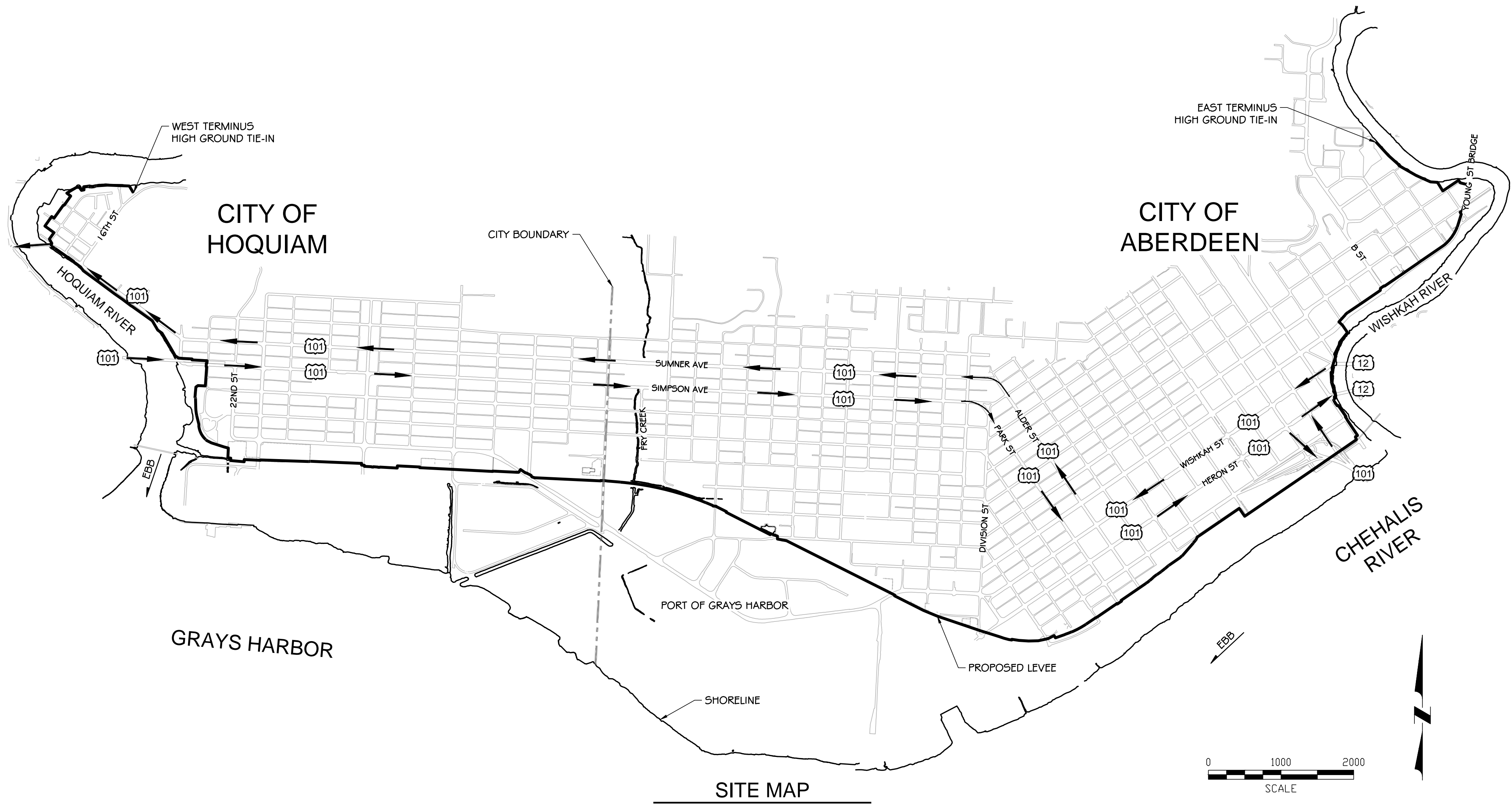
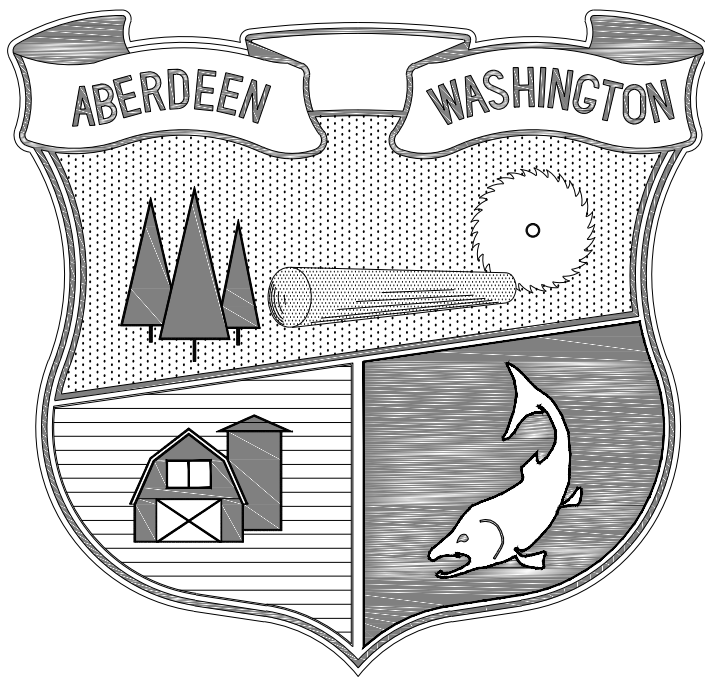


NORTH SHORE LEVEE

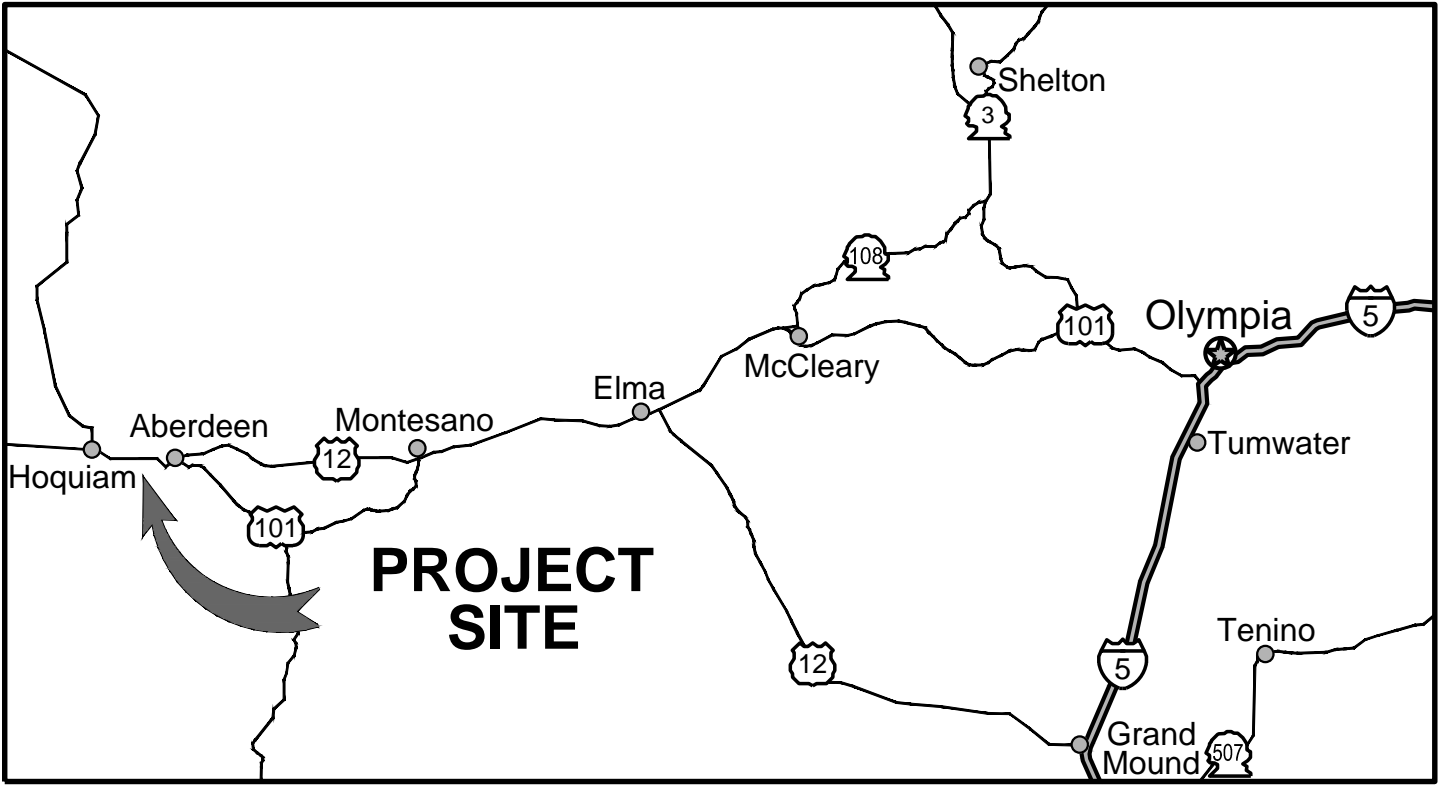
WISHKAH RIVER, CHEHALIS RIVER, HOQUIAM RIVER, & GRAYS HARBOR

60% DESIGN - CLOMR SUBMITTAL



SITE MAP

SHEET INDEX		
SHEET	DWG.	TITLE
1	C1.00	COVER SHEET
2	C1.01	GENERAL NOTES & LEGEND
3-5	C2.00-C2.02	OVERALL PLAN
6-7	C5.00-5.01	LEVEE PLAN KEY MAP
8-56	C5.01-C5.49	LEVEE PLANS
57-59	C6.00-C6.02	ROADWAY SECTIONS & DETAILS
60-64	C6.03-C6.07	STOPLOG DETAILS
65	C7.00	ROADWAY PROFILES
66-69	C8.00-C8.03	LEVEE DETAILS
70-72	C9.00-C9.02	PUMP STATION PLANS
73-75	C10.00-C10.02	LEVEE CREST PLANS
76-79	C10.03-C10.06	LEVEE CREST PROFILES



VICINITY MAP
SCALE: NT5

OWNER:
CITY OF ABERDEEN
200 E MARKET ST
ABERDEEN, WA 98520
TEL: (360) 537-3228
CONTACT: KRIS KOSKI

CITY OF HOQUIAM
609 8TH ST
HOQUIAM, WA 98550
TEL: (360) 538-3983
CONTACT: BRIAN SHAY

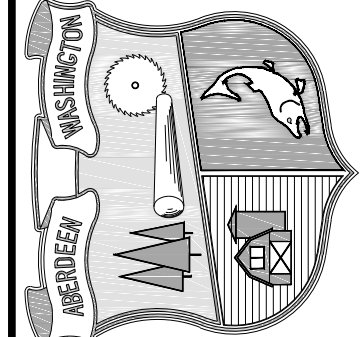
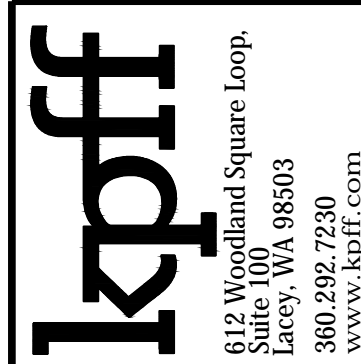
CIVIL ENGINEER:
KPFF CONSULTING ENGINEERS
612 WOODLAND SQ LP SE, SUITE 100
LACEY, WA 98503
TEL: (360) 292-7230
FAX: (360) 292-7231
CONTACT: MARK STEEPY, P.E.

SURVEYOR:
KPFF CONSULTING ENGINEERS
612 WOODLAND SQ LP SE, SUITE 100
LACEY, WA 98503
TEL: (360) 292-7230
FAX: (360) 292-7231
CONTACT: TOM SWIFT, P.L.S.

GEOTECHNICAL ENGINEER:
GEOENGINEERS INC.
1101 S FAWCETT AVE, #200
TACOMA, WA 98402
TEL: (253) 383-4940
CONTACT: LYLE STONE

HYDRAULIC ANALYSIS:
WATERSHED SCIENCE & ENGINEERING
110 PREFONTAINE PLACE S, SUITE 508
SEATTLE, WA 98104
TEL: (206) 521-3000
CONTACT: LARRY KARPICK, P.E.

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MRS	MRS		

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
COVER SHEET

DRAWING

C1.00

APPROX	APPROXIMATELY
AVE	AVENUE
BFE	BASE FLOOD ELEVATION
BUILDG	BUILDING
C	CURVE
CB	CATCH BASIN
CLOMR	CONDITIONAL LETTER OF MAP REVISION
CONC	CONCRETE
CP	CONTROL POINT
DEMO	DEMOLISH, DEMOLITION
DWG	DRAWING
E	EAST, EASTING
EB	EAST BOUND
ELV	ELEVATION
EX	EXISTING
FL	FLOWLINE
G	GAS
H	HORIZONTAL
L	LINE
LT	LEFT
M	MONUMENT
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NO	NUMBER
NTS	NOT TO SCALE
OHWM	ORDINARY HIGH WATER MARK
P	POWER
R	RIGHT-OF-WAY
RR	RAILROAD
SRT GATE	SELF-REGULATING TIDE GATE
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TYP	TYPICAL
V	VERTICAL
W	WATER, WEST
W/	WITH
WB	WEST BOUND

	ROADWAY CENTERLINE
	RIGHT OF WAY
	PROPERTY LINE
	SIDEWALK
	DRIVEWAY
	BACK OF CURB
	FACE OF CURB
	EDGE OF PAVEMENT
	DEMO LINE
	ORDINARY HIGH WATER MARK (OHWM)
	FENCE LINE
	RAILROAD TRACK
	PROPOSED GAS LINE
	PROPOSED WATER LINE
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN LINE
	PROPOSED FORCE MAIN STORM DRAIN LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	LEVEE CREST (MIN ELV 15.2' NAVD88)
	EXISTING ASPHALT
	EXISTING GRAVEL
	EXISTING WETLANDS
	EXISTING CONCRETE
	PROPOSED CONCRETE
	PROPOSED ASPHALT PAVEMENT
	PROPOSED PLANTER
	GRADING DAYLIGHT LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	CONCRETE FLOOD WALL
	CONCRETE FLOOD WALL FOOTING
	SHEET PILE FLOOD WALL
	CATCH BASIN
	STOPLOG CLOSURE

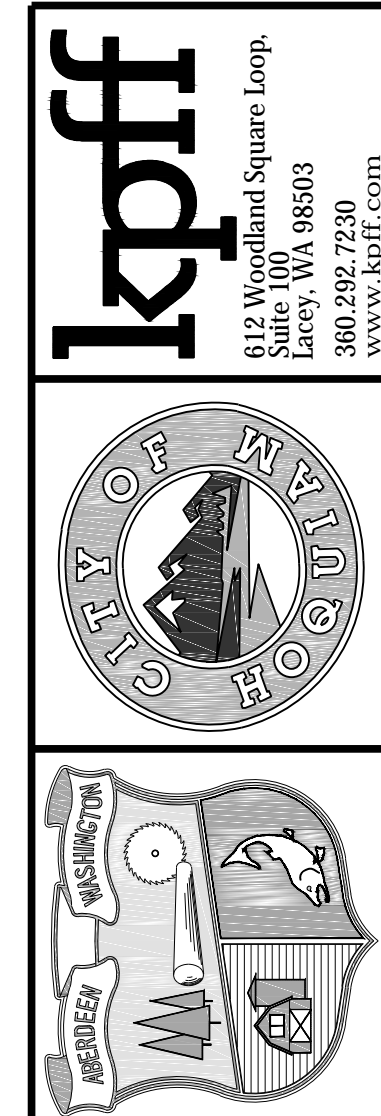
1. THIS 60% DESIGN SET IS FOR FEMA REVIEW AS PART OF THE CLOMR APPLICATION FOR THE NORTH SHORE LEVEE. IT EMPHASIZES LEVEE DESIGN AND FLOOD PROTECTION MEASURES. ADDITIONAL DETAILS AND DESIGN WILL BE ADDED UPON APPROVAL OF THE PRELIMINARY DESIGN.
2. TESC AND DEMO PLANS HAVE NOT BEEN INCLUDED WITH THIS SUBMITTAL AS THEY DO NOT SHOW INFORMATION THAT IS PERTINENT TO THE ISSUANCE OF A CLOMR.
3. THE PUMP STATION DESIGNS SHOWN ON C9.00-C9.02 ARE PRELIMINARY AND WILL BE IMPROVED UPON APPROVAL OF CONCEPT. THE PUMP STATIONS ARE SIZED FOR THE 100-YEAR STORM, WILL BE AUTOMATIC, AND WILL NOT REQUIRE ANY PRIOR FLOOD WARNING FOR OPERATION.

1. BACKGROUNDS SHOWING TOPOGRAPHY, BUILDINGS, AND STREETS WERE PREPARED BY DAVID C. SMITH & ASSOCIATES BASED ON AERIAL PHOTOGRAPHS DATED APRIL 8TH, 2016.
2. BACKGROUNDS SHOWING UTILITIES WERE PREPARED BY KFFF CONSULTING ENGINEERS BASED ON FIELD SURVEY IN 2015 - 2017.
3. BACKGROUNDS SHOWING RIGHT-OF-WAY LINES WERE PREPARED BY KFFF CONSULTING ENGINEERS BASED ON INFORMATION AVAILABLE IN 2016. RIGHT-OF-WAYS AND PROPERTY LINES ARE APPROXIMATE IN SOME AREAS AND WILL BE FINALIZED AS DESIGN CONTINUES.

1. IN AREAS WHERE LEAKAGE AND SEEPAGE IS EXPECTED, SUCH AS UTILITY TRENCHES (EXISTING AND PROPOSED), A FILTER SOIL LAYER WILL BE RECOMMENDED ON THE LANDWARD SIDE OF THE LEVEE. THE RECOMMENDED SOIL LAYER CONSISTS OF WSDOT SPECIFICATION 9-03.1(2) (FINE AGGREGATE FOR PORTLAND CONCRETE CEMENT). THE FILTER MATERIAL SHOULD BE PLACED FROM THE UTILITY PENETRATION OR OTHER SEEPAGE SOURCE UP TO THE ELEVATION OF EXISTING GROUND. THE FILTER SHOULD EXTEND ABOUT 1 FOOT BEYOND THE SEEPAGE SOURCE PARALLEL TO THE LEVEE AND SHOULD EXTEND AT LEAST 5 FEET PERPENDICULAR TO THE LEVEE.
2. EXISTING CITY AND PRIVATELY OWNED COLLECTION AND CONVEYANCE STORM SYSTEMS INTERNAL TO PROPOSED LEVEE WILL BE MODIFIED/UPGRADED TO ADEQUATELY CONVEY STORM FLOWS. ALL UPGRADED STORM SYSTEMS WILL CONNECT TO THE EXISTING CONVEYANCE SYSTEM THAT ULTIMATELY FLOWS TO THE PROPOSED PUMP STATIONS.
3. MEASURES WILL BE TAKEN TO BLOCK ALL FLOOD WATERS FROM FLOWING THROUGH ANY UTILITY TRENCHES. THE FOLLOWING MEASURES FOR EACH UTILITY ARE:

DRY UTILITIES: SEAL LARGE CONDUITS
STORM DRAINAGE: INSTALL IN-LINE CHECK VALVES
WATER & GAS: MAINTAIN PRESSURE
SANITARY SEWER: INSTALL LOCKING WATER-TIGHT UDS
4. ALL EXISTING TREES AND VEGETATION IN LEVEE FOOTPRINT SHALL BE REMOVED.
5. ALL LOCATIONS SHOWING A STOPLOG CLOSURE WILL BE EVALUATED AT FUTURE DESIGN ON THE FEASIBILITY AND APPLICABILITY OF USING A PASSIVE (FLOATING) BARRIER RATHER THAN A STOPLOG ENCLOSURE. COST, LOCATION, LENGTH/SIZE, AND TRAFFIC CHARACTERISTICS WILL BE SOME OF THE FACTORS TO THE DECISION OF THE TYPE OF CLOSURE TO USE.
6. ALL LOCATIONS SHOWING A PEDESTRIAN HINGED FLOODGATE WILL BE EVALUATED AT FUTURE DESIGN. PEDESTRIAN HINGED FLOODGATES ARE INTENDED FOR SPECIFIC AREAS THAT REQUIRE PEDESTRIAN ACCESS.

NO	DATE	BY	CHD APPR	REVISION



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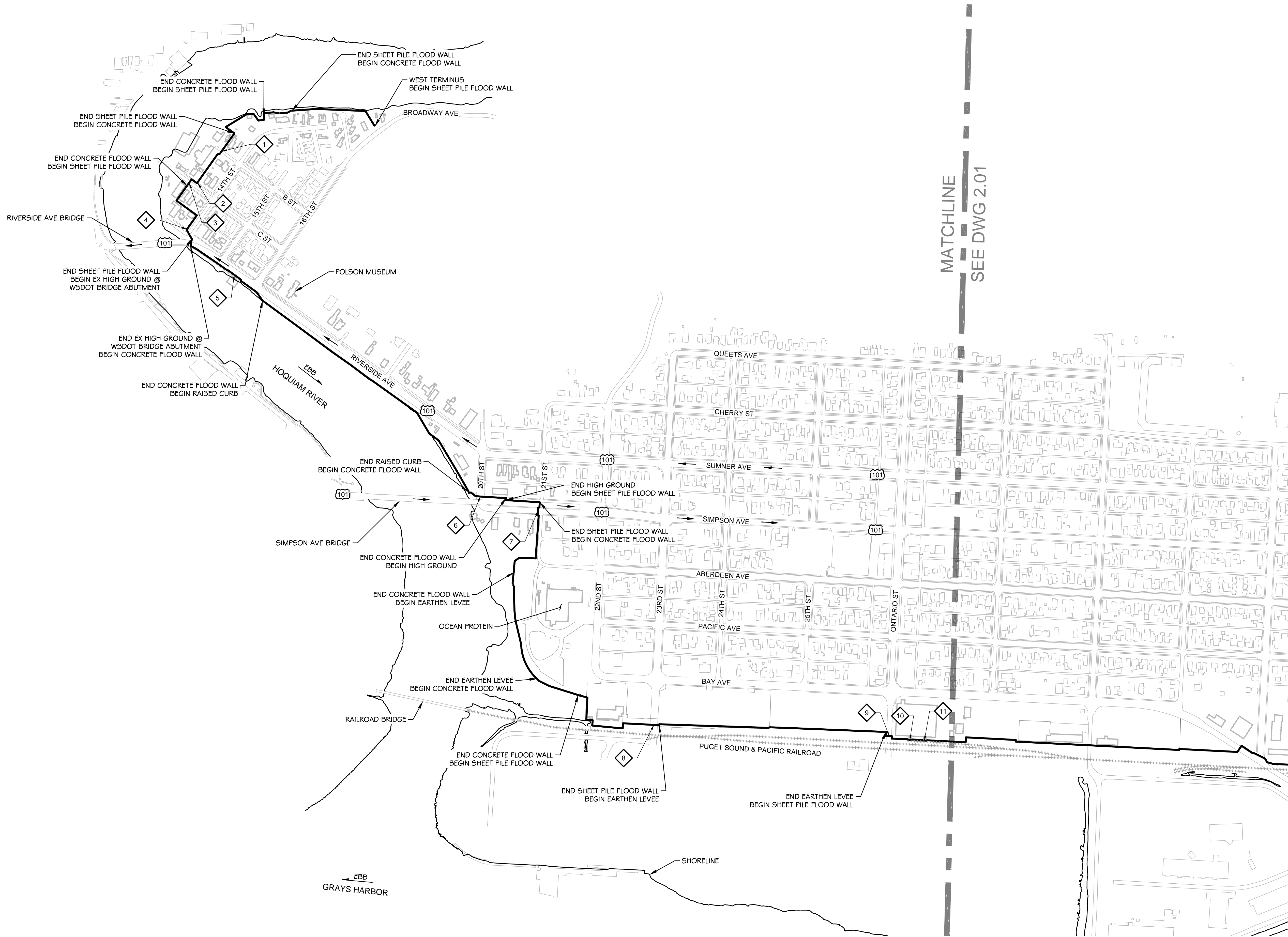
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ABERDEEN & HOQUIAM, WASHINGTON

GENERAL NOTES
& LEGEND

DRAWING

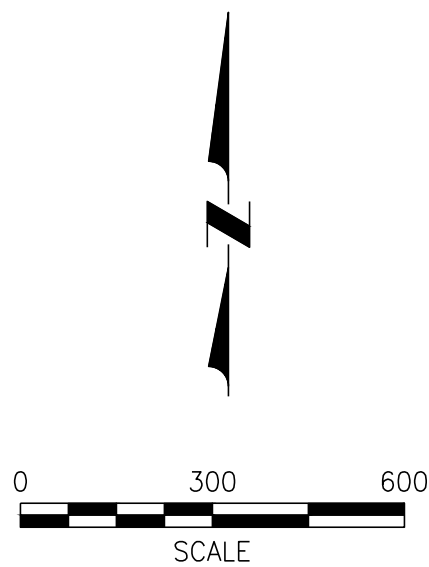
C1.01

SHEET 2 OF 79



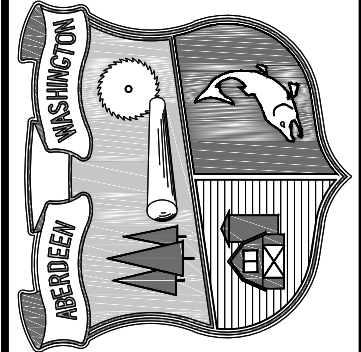
KEY NOTES:

STOP LOG NUMBER AND LOCATION



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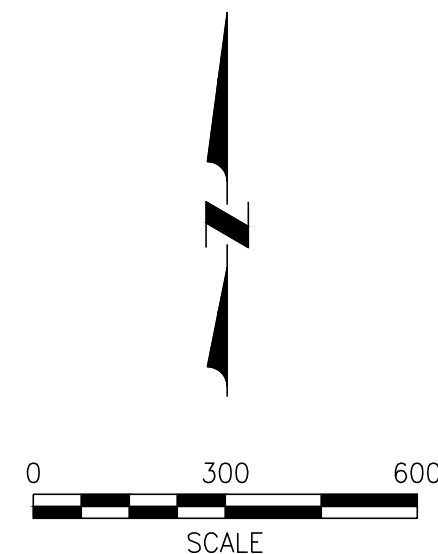
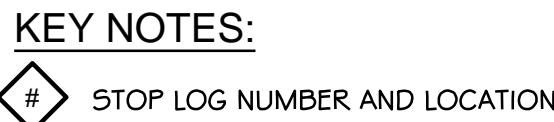


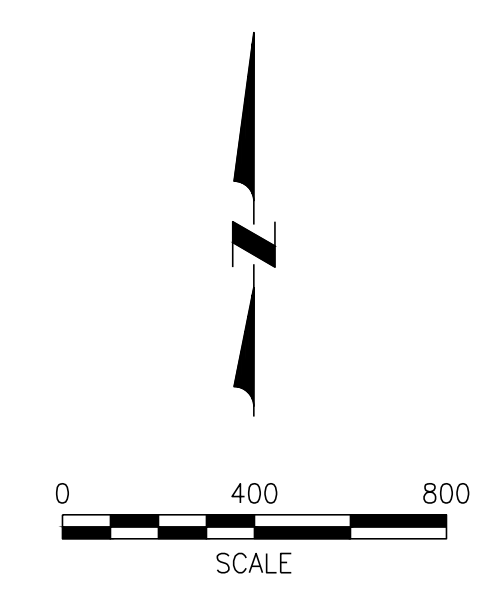
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OVERALL PLAN	

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C2.00
SHEET 3 OF 79





MATCHLINE
SEE DWG 5.01

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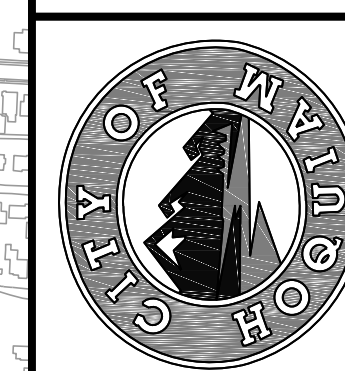
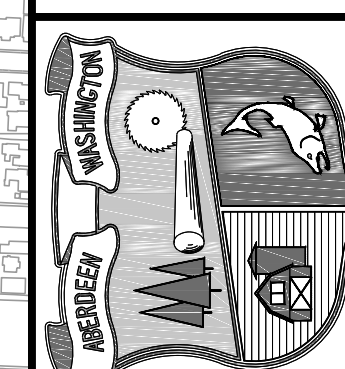
LEVEE PLAN KEY MAP

C5.00

SHEET 6 OF 79

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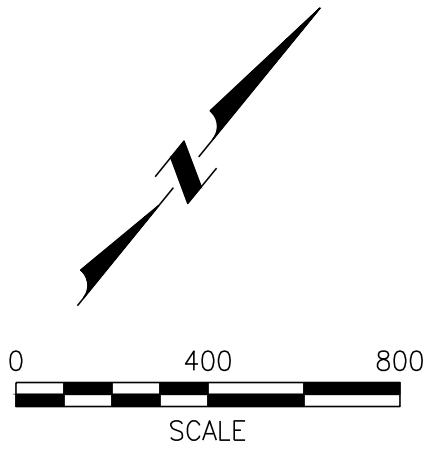
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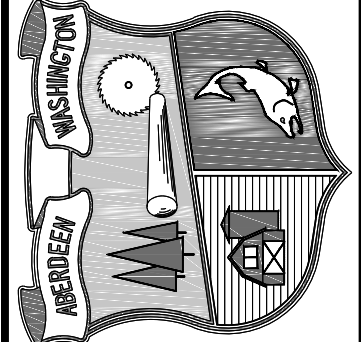


GRAYS HARBOR



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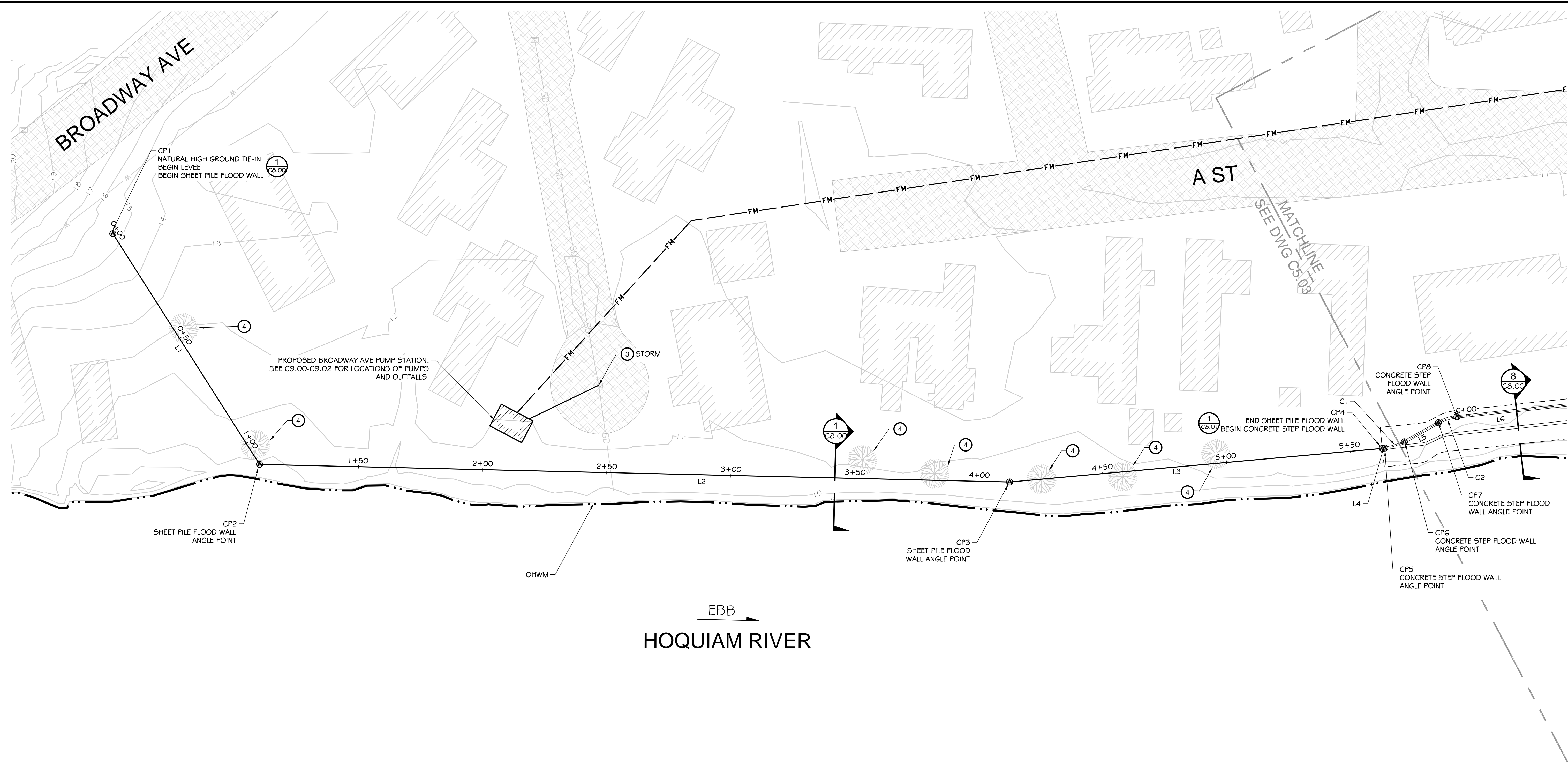
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NORTH SHORE LEVEE
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LEVEE PLAN
KEY MAP

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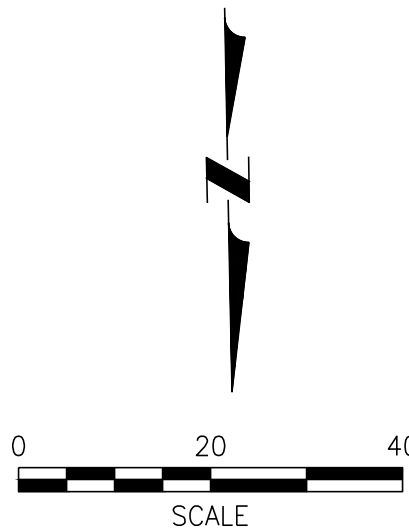
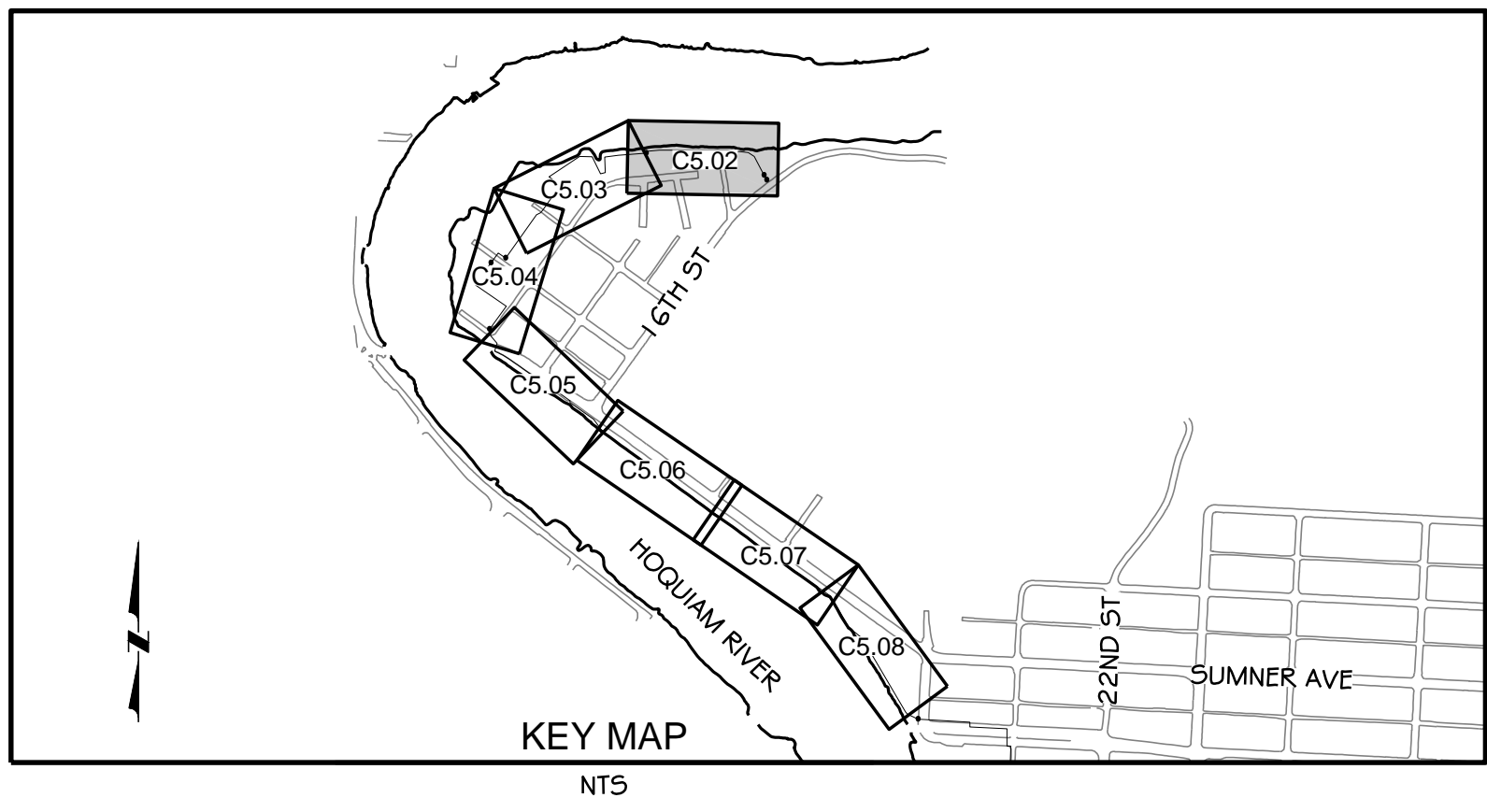


KEY NOTES:

- ① MATCH EXISTING
- ② PROPOSED CATCH BASIN
- ③ CONNECT TO EXISTING UTILITY
- ④ REMOVE TREE(S)

HORIZONTAL CONTROL

LINE TABLE						CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG		CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L1	110.10'	N31° 23' 51"W	I	C10.03		C1	573° 22' 20"W	8.33'	20.50'	I	C10.03	CP1	619,147.08	797,347.39
L2	302.21'	N67° 34' 38"W	I	C10.03		C2	573° 22' 20"W	7.92'	19.50'	I	C10.03	CP2	619,241.06	797,290.03
L3	150.75'	S85° 55' 43"W	I	C10.03								CP3	619,253.83	796,988.08
L4	1.04'	S85° 00' 26"W	I	C10.03								CP4	619,243.13	796,837.71
L5	15.69'	S61° 44' 13"W	I	C10.03								CP5	619,243.04	796,836.68
L6	45.32'	S85° 00' 26"W	I	C10.03								CP6	619,240.67	796,828.76
												CP7	619,233.24	796,814.94
												CP8	619,230.99	796,807.41



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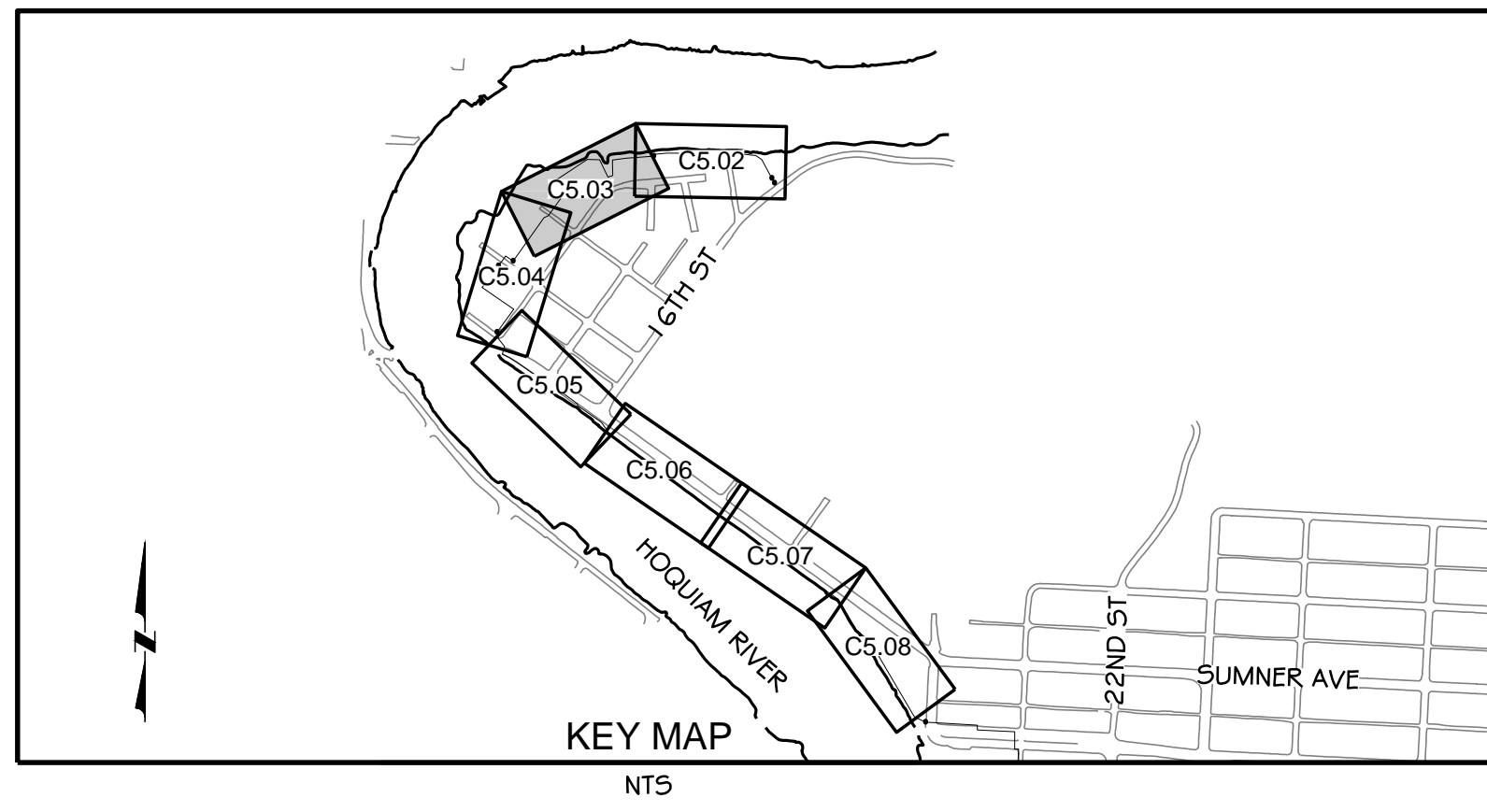
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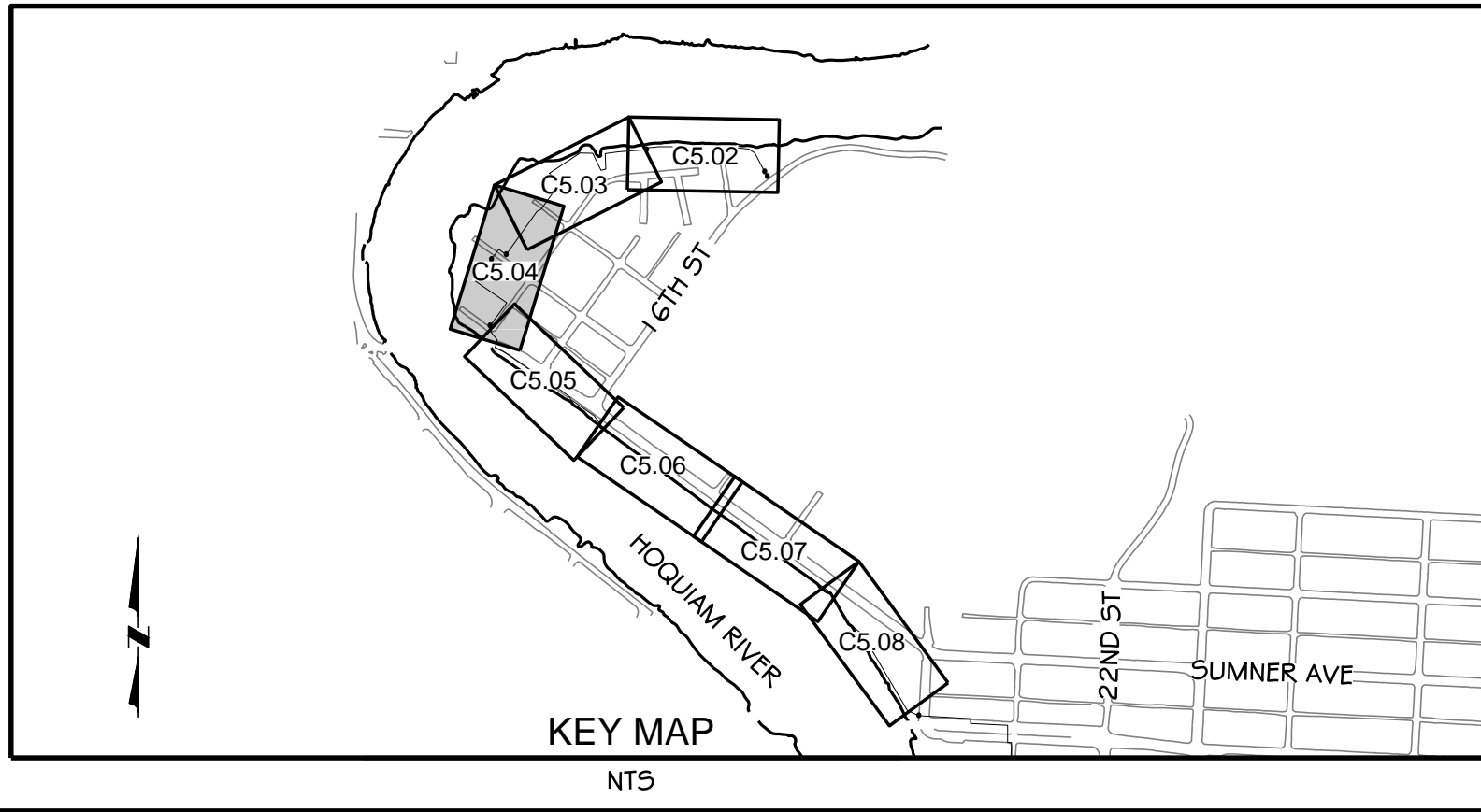
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SHEET 8 OF 79

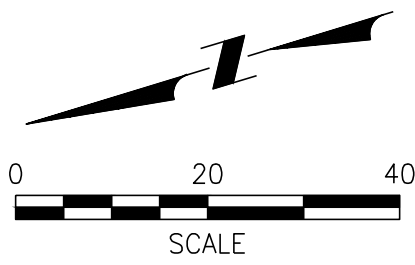
LEVEE PLAN





HORIZONTAL CONTROL						
LINE TABLE					POINT TABLE	
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING
L18	217.61'	S35° 27' 26"W	I	C10.03	CP21	618,978.94
L19	40.46'	N53° 57' 51"W	I	C10.03	CP22	618,974.77
L20	160.62'	S35° 27' 43"W	I	C10.03	CP23	618,797.51
L21	154.32'	S54° 00' 54"E	I	C10.03	CP24	618,821.31
L22	108.63'	S35° 26' 41"W	I	C10.03	CP25	618,690.49
L23	14.28'	S29° 49' 43"E	I	C10.03	CP26	618,599.81
L24	52.14'	S30° 12' 26"E	I	C10.03	CP27	618,511.31
L25	17.24'	S14° 38' 23"W	I	C10.03	CP28	618,498.93
					CP29	618,453.86
						796,223.47

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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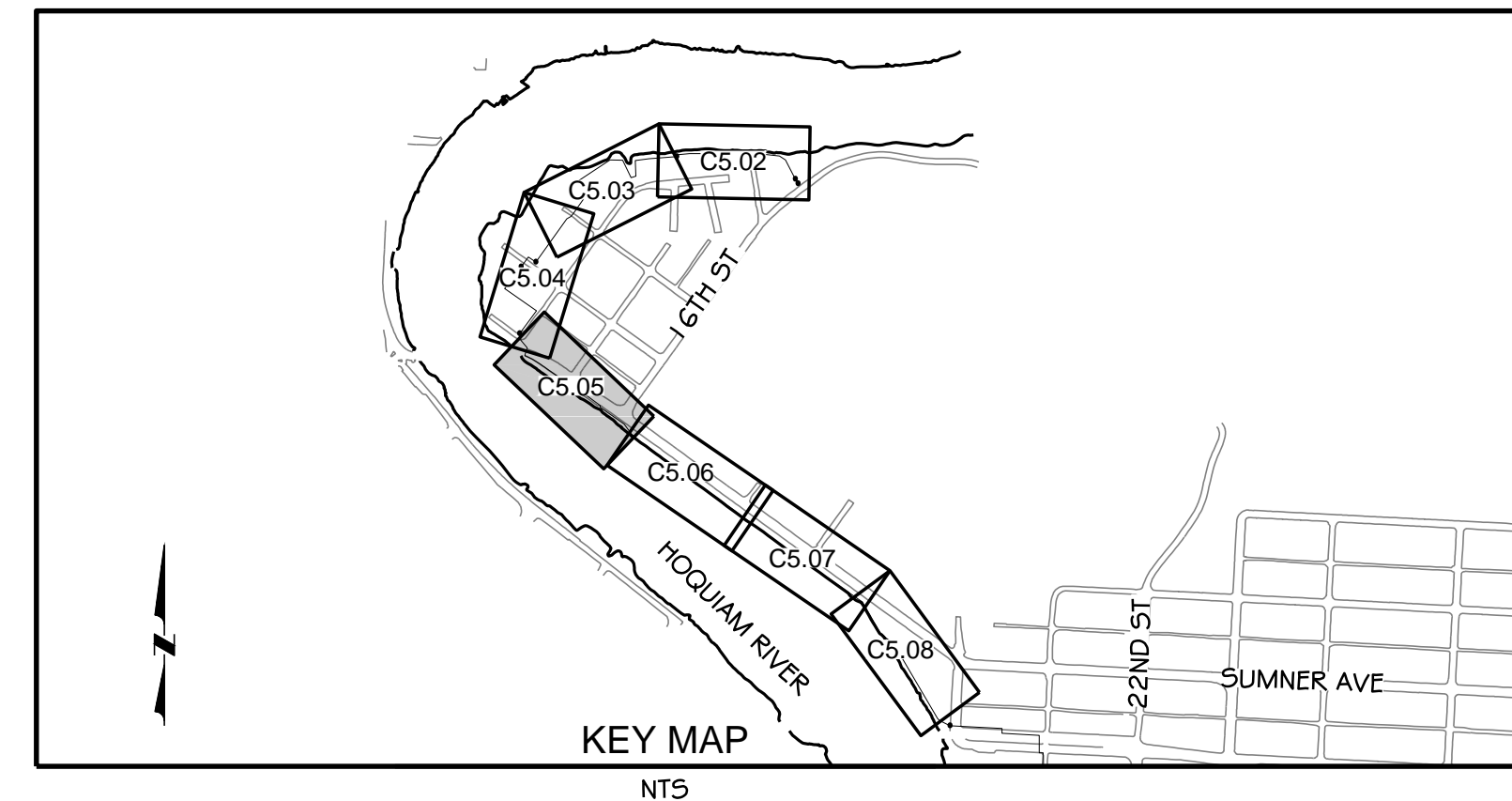
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LEVEE PLAN

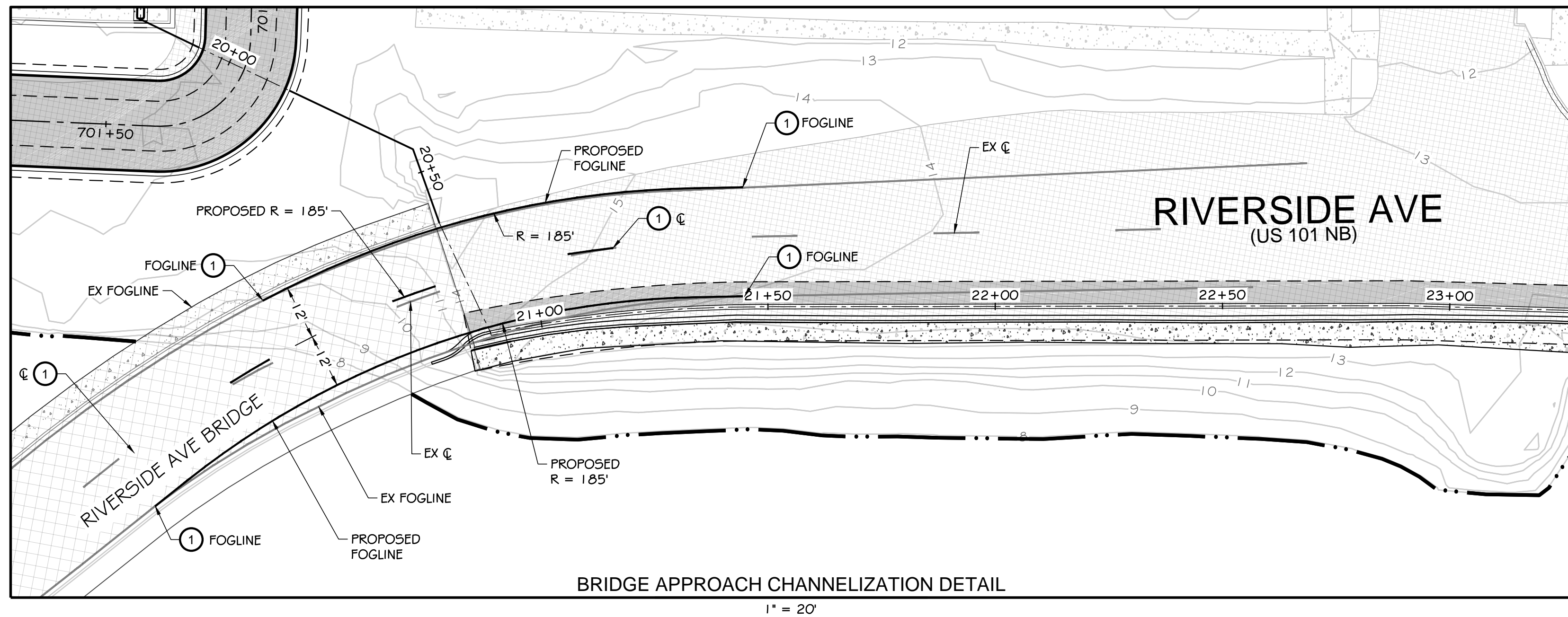


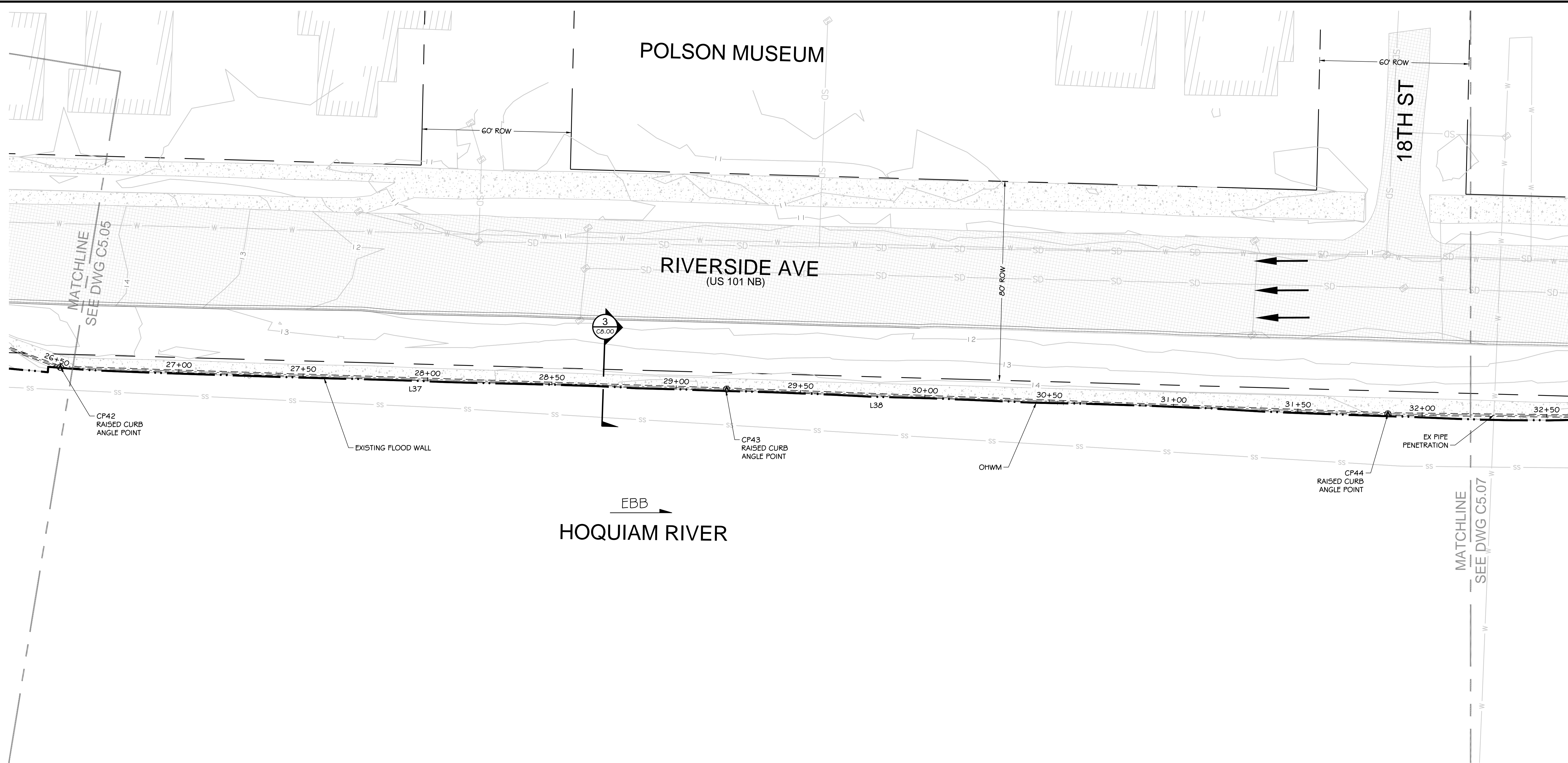
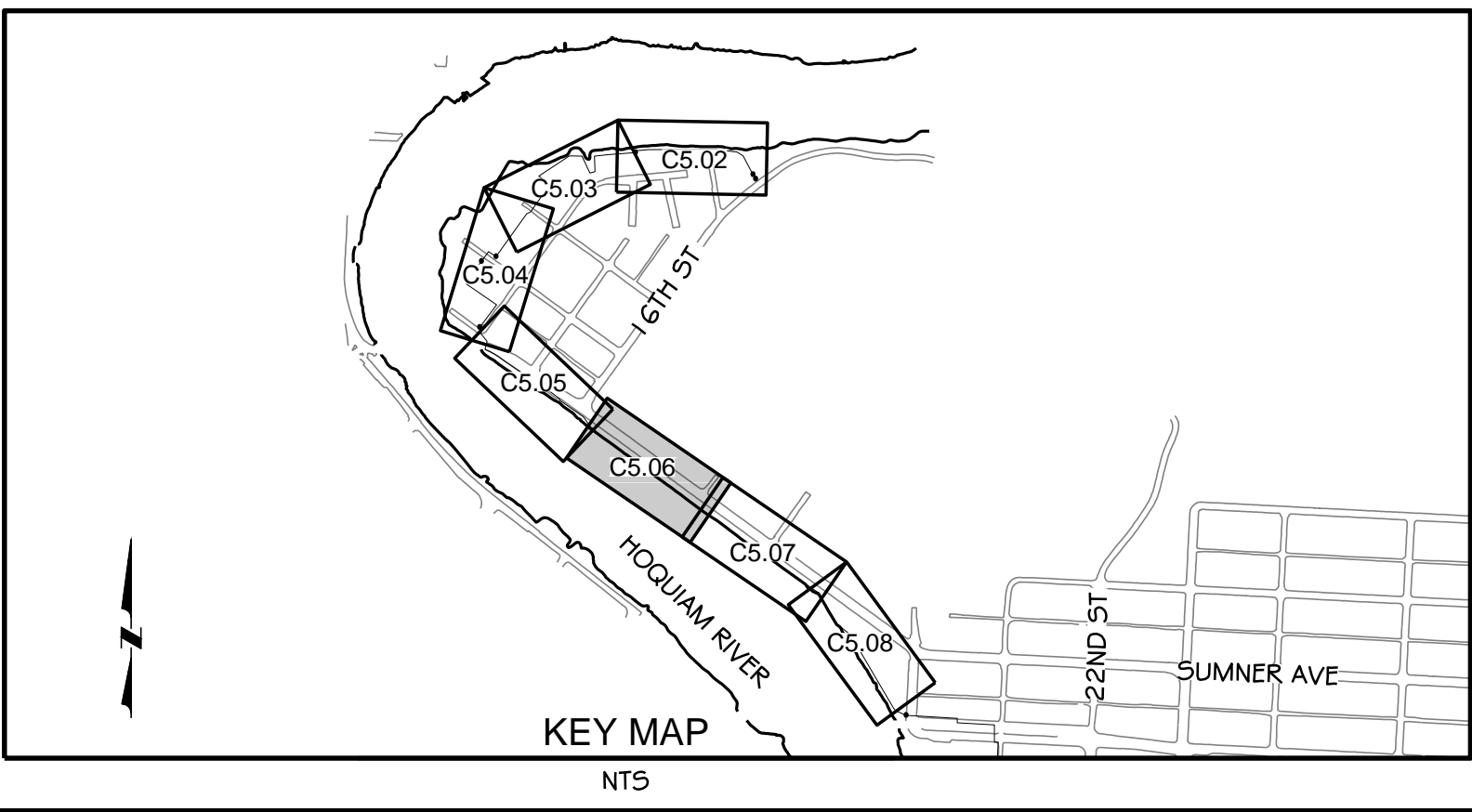
KEY NOTES:

- ① MATCH EXISTING
- ② PROPOSED CATCH BASIN
- ③ CONNECT TO EXISTING UTILITY
- ④ REMOVE TREE(S)

NOTE:

1. ROADWAY CHANNELIZATION AND ROW TO BE COORDINATED WITH WSDOT DURING FUTURE DESIGN.

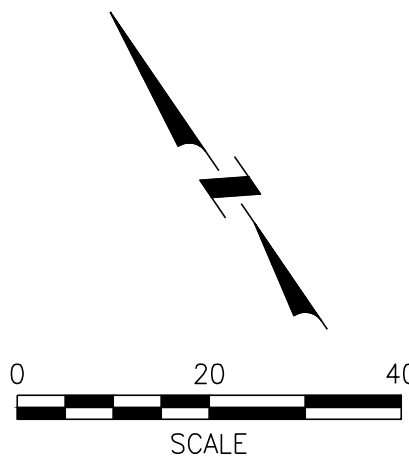




HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L37	267.90'	553° 44' 19"E	2	C10.03	CP42	618,075.14	796,657.60
L38	265.94'	553° 27' 48"E	2	C10.03	CP43	617,916.69	796,873.61
					CP44	617,758.37	797,087.29

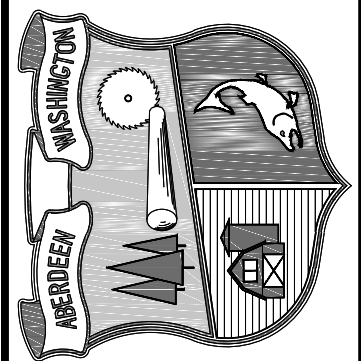
KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)



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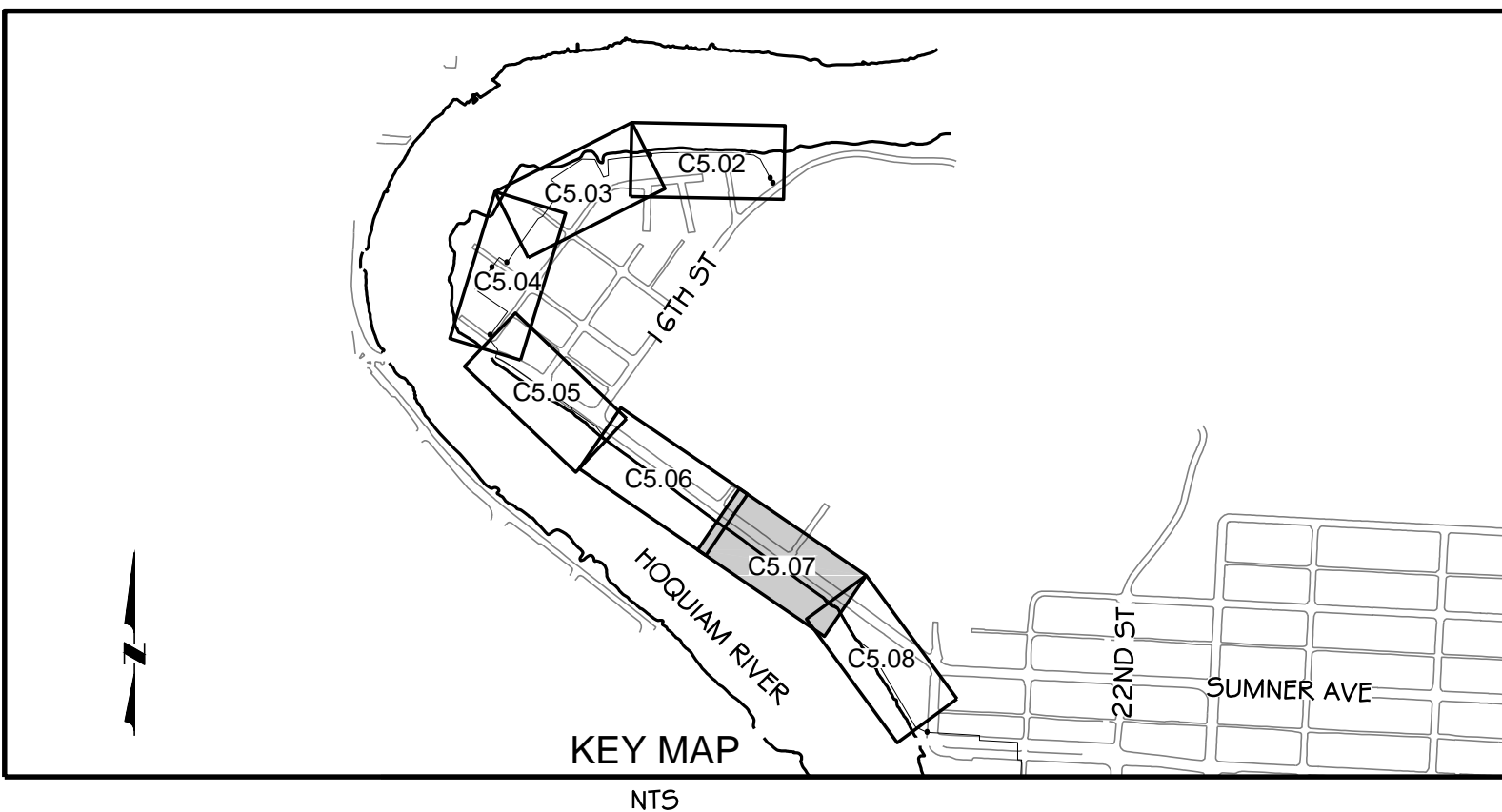
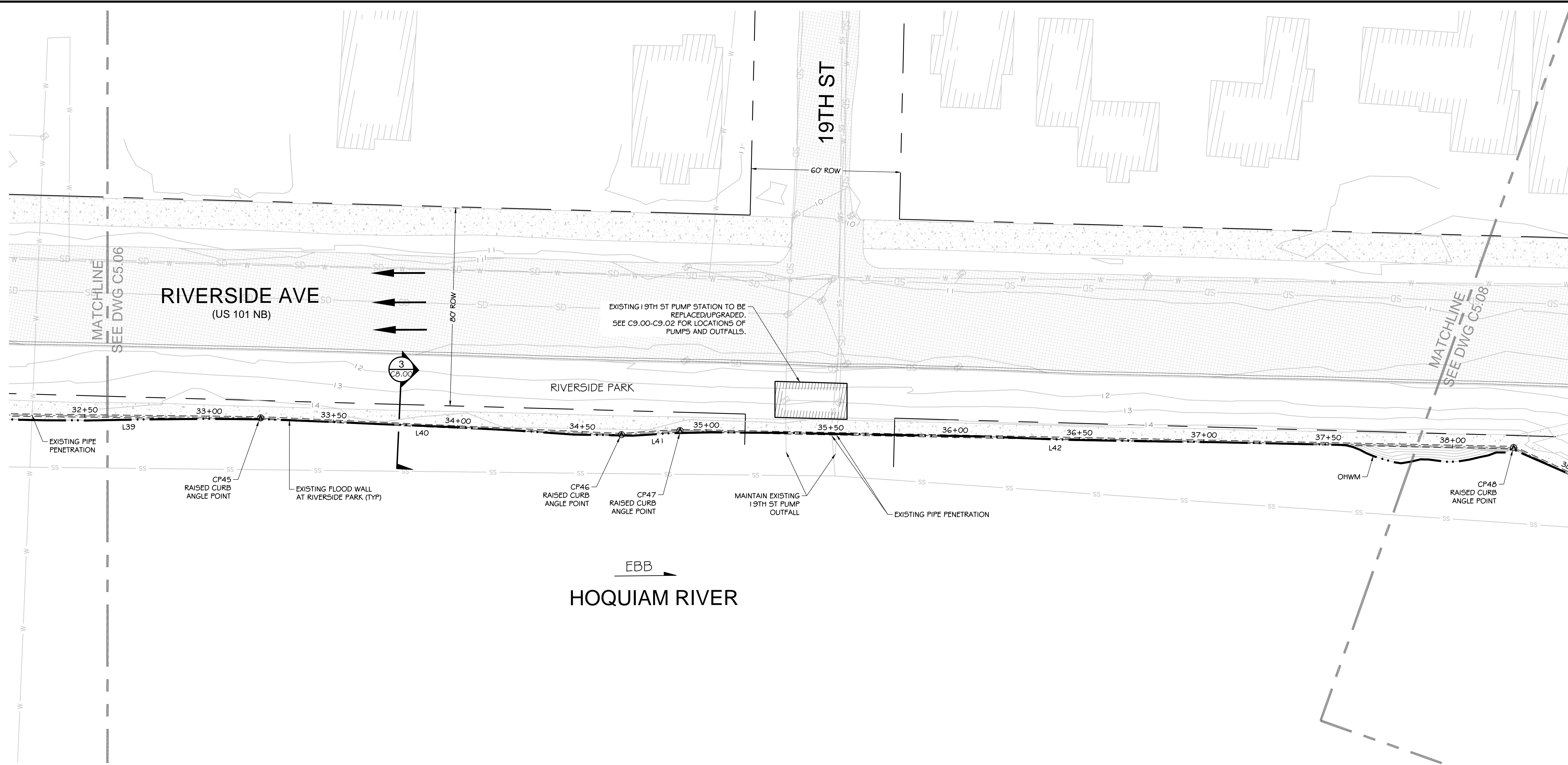
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LEVEE PLAN	
DRAWING	
C5.06	
SHEET 12 OF 79	



HORIZONTAL CONTROL							
LINE TABLE				POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L39	134.43'	S54° 56' 46"E	2	C10.03	CP45	617,681.16	797,197.33
L40	145.20'	S52° 57' 38"E	2	C10.03	CP46	617,593.69	797,313.24
L41	23.59'	S59° 32' 58"E	2	C10.03	CP47	617,581.74	797,333.57
L42	335.12'	S54° 26' 37"E	2	C10.03	CP48	617,386.87	797,606.21

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)

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NORTH SHORE LEVEE

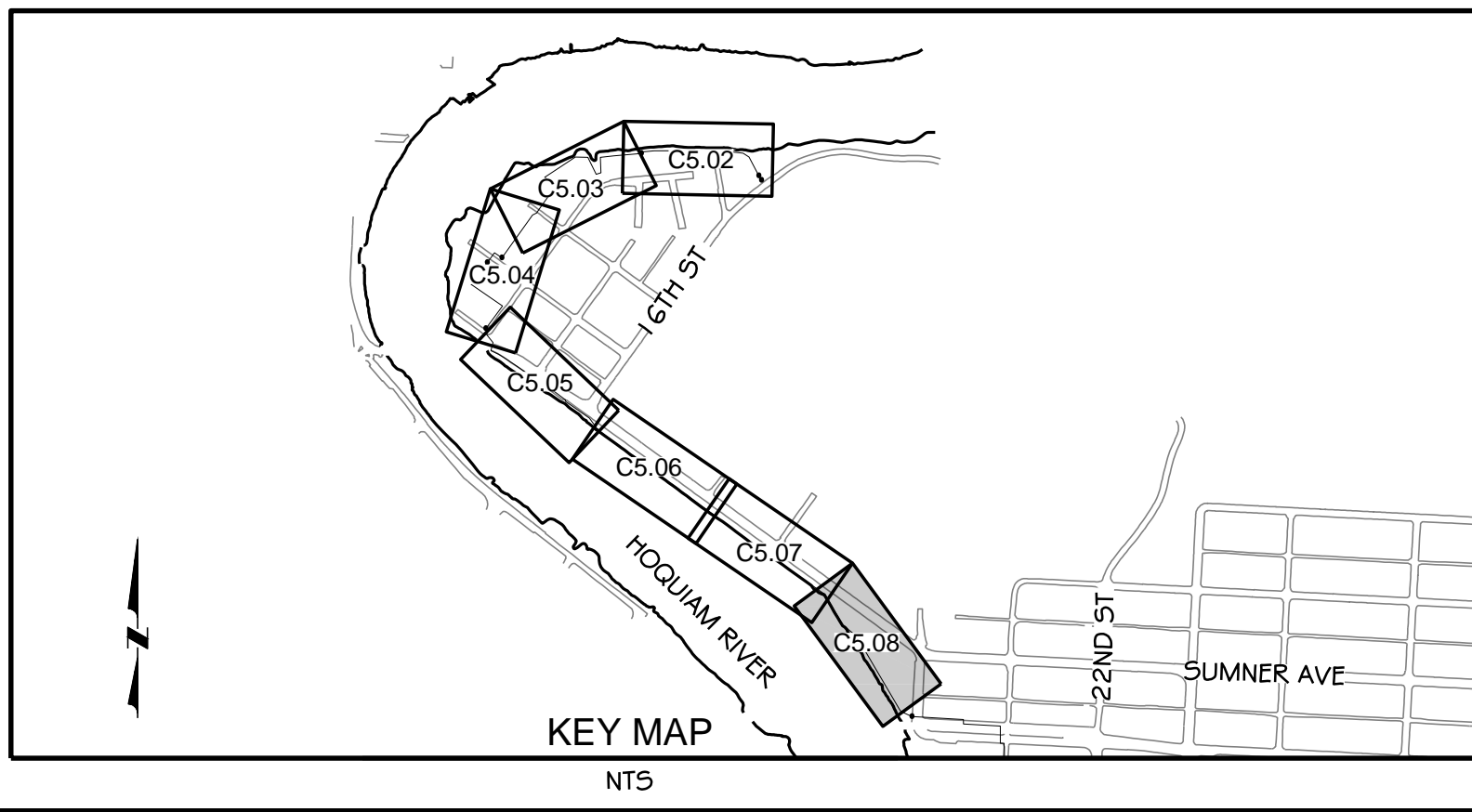
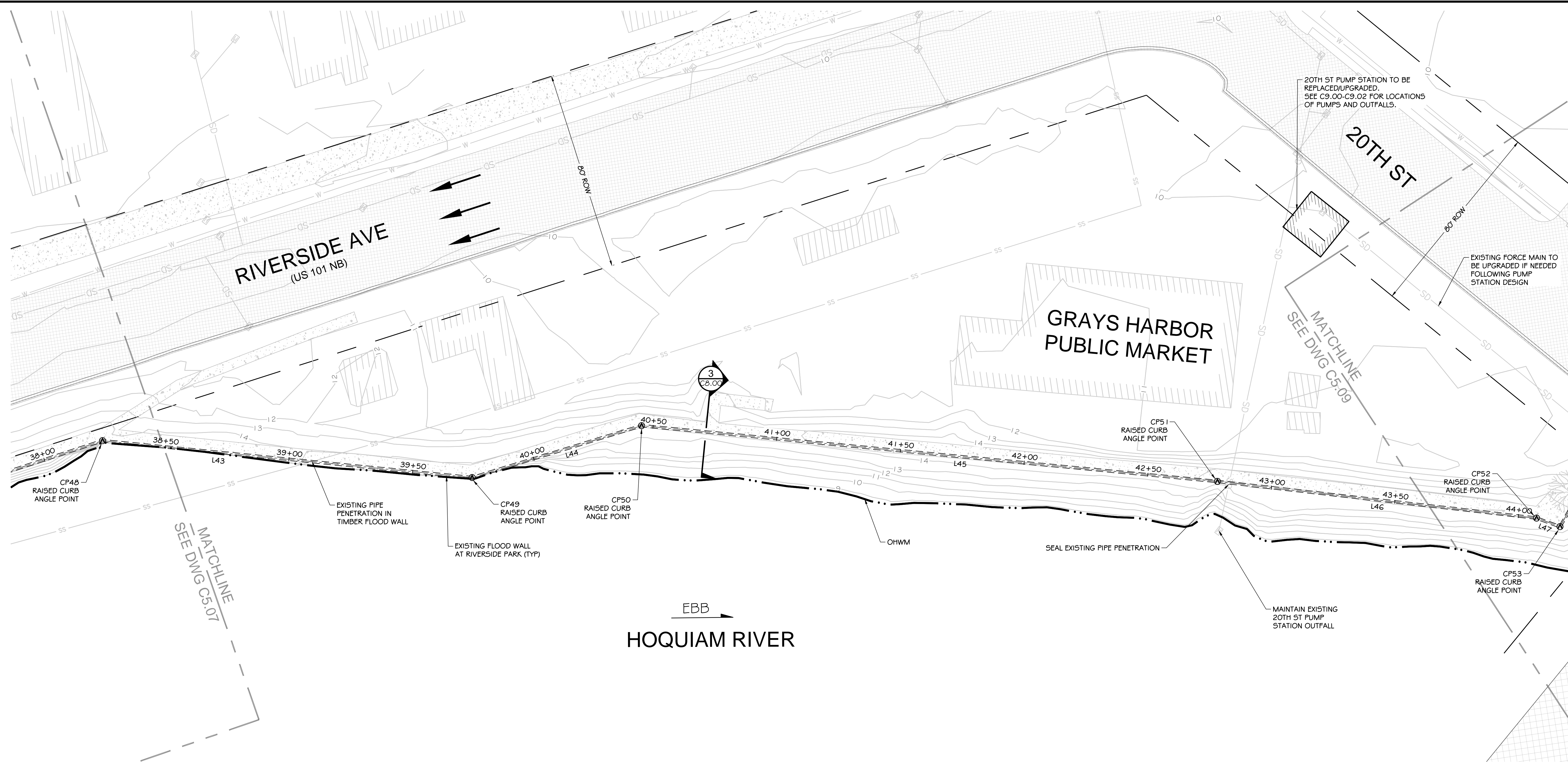
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LEVEE PLAN

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C5.07

SHEET 13 OF 79

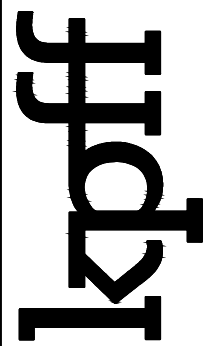


KEY NOTES:

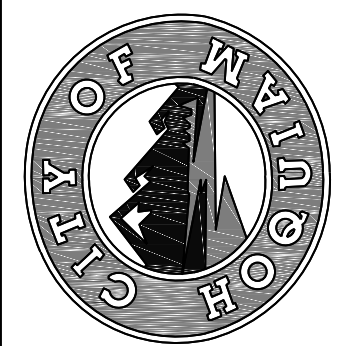
- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)

HORIZONTAL CONTROL							
LINE TABLE				POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L43	149.46'	S30° 37' 38"E	2	C10.03	CP48	617,386.87	797,606.21
L44	71.30'	S53° 21' 13"E	2	C10.03	CP49	617,258.25	797,682.35
L45	232.81'	S30° 47' 27"E	2	C10.03	CP50	617,215.70	797,739.56
L46	129.26'	S29° 46' 02"E	2	C10.03	CP51	617,015.70	797,858.73
L47	10.05'	S16° 19' 08"E	2	C10.03	CP52	616,903.50	797,922.91
					CP53	616,893.85	797,925.73

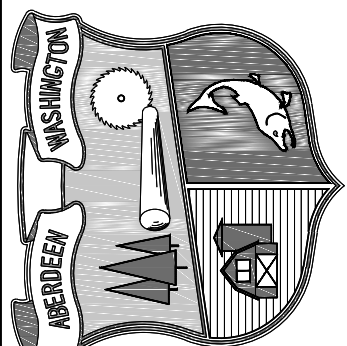
NOT FOR DESIGN				60% DESIGN			
NOT FOR CONSTRUCTION				CLOMR SUBMITTAL			
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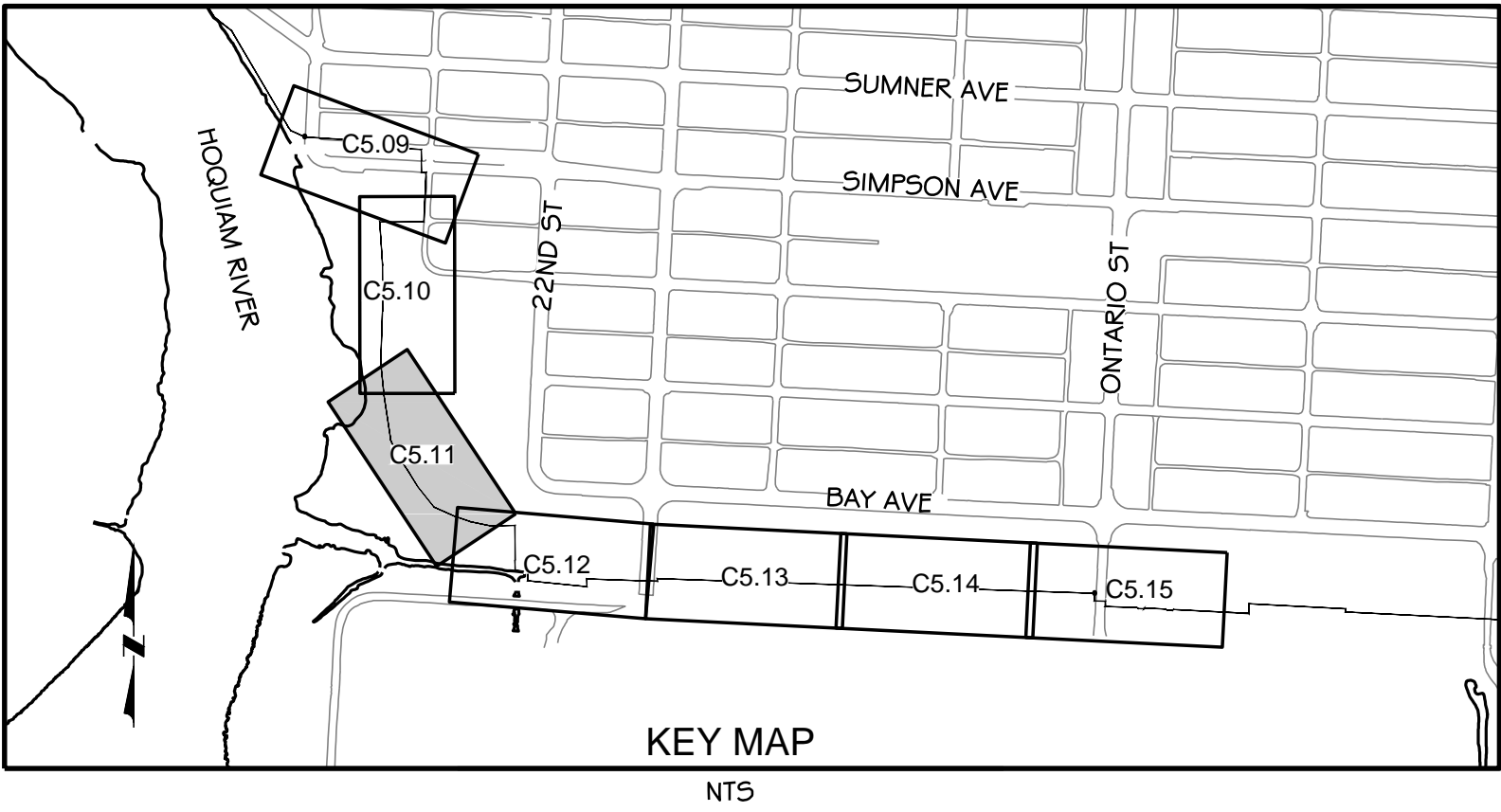
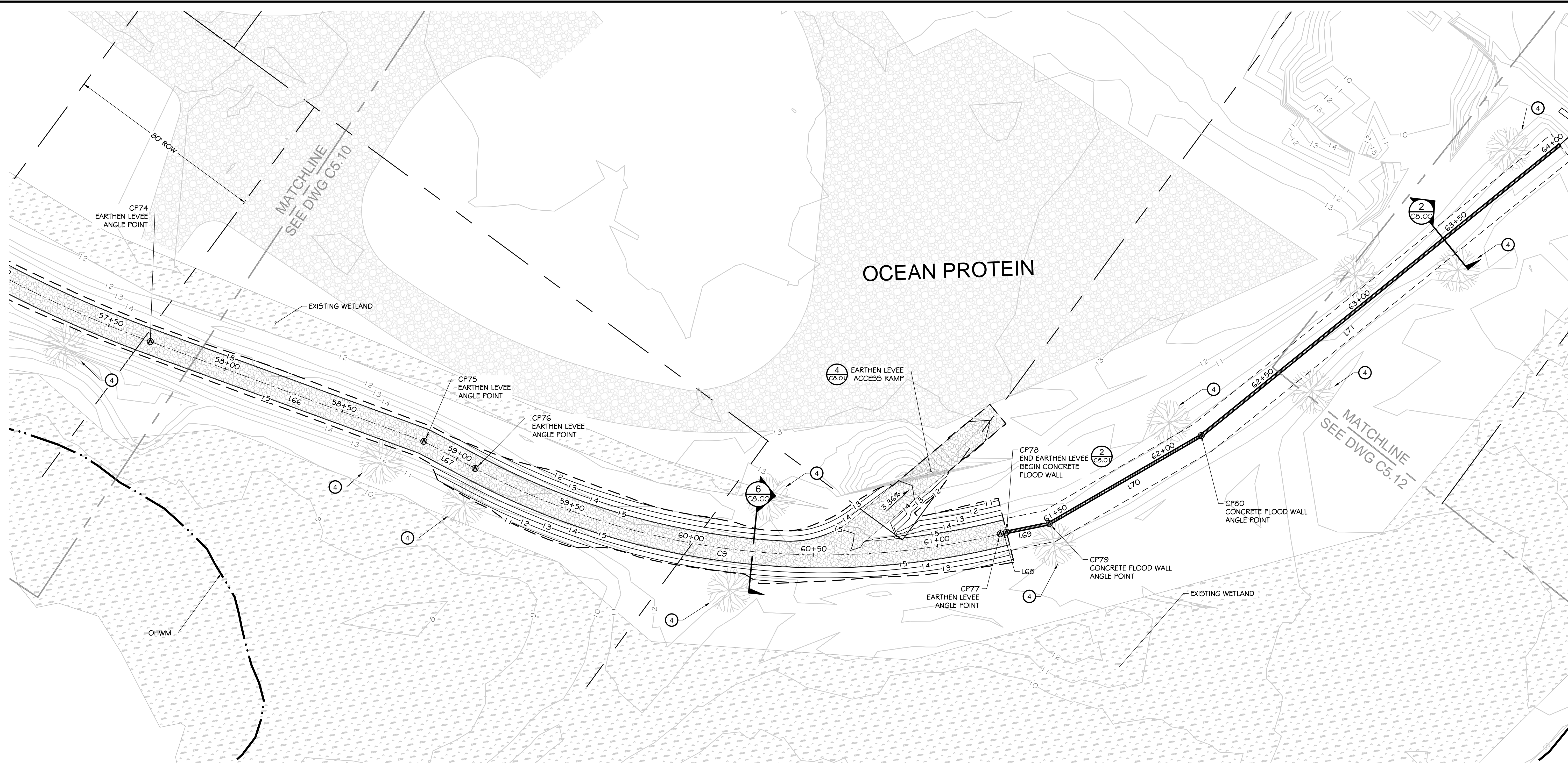
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ABERDEEN & HOQUIAM, WASHINGTON

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C5.08

SHEET 14 OF 79



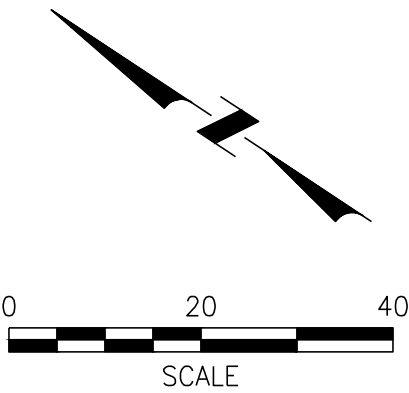
HORIZONTAL CONTROL											
LINE TABLE					CURVE TABLE						POINT TABLE
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #
L66	117.03'	S13° 26' 22"E	3	C10.03	C9	S26° 23' 20"E	217.43'	300.00'	3	C10.03	CP74
L67	23.30'	S05° 37' 33"E	3	C10.03							CP75
L68	2.59'	S47° 09' 52"E	3	C10.03							CP76
L69	17.47'	S45° 00' 00"E	3	C10.03							CP77
L70	70.65'	S63° 33' 26"E	3	C10.03							CP78
L71	185.48'	S72° 31' 44"E	3	C10.03							CP79
											CP80

KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 TRIM OR REMOVE TREE(S) AS NEEDED FOR LEVEE CONSTRUCTION

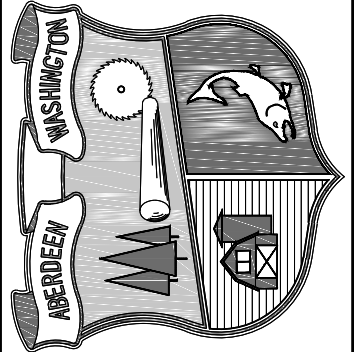
GENERAL NOTES:

1. WETLAND BOUNDARIES LOCATED BY SITE RECONNAISSANCE. WETLAND TO BE INVESTIGATED FURTHER FOR MORE ACCURATE DELINEATION DURING LATER DESIGN. SEE BIOLOGICAL ASSESSMENT AND ESSENTIAL FISH HABITAT EVALUATION FOR MORE INFORMATION.



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DATE	DATE
07-10-2017	07-10-2017
JOB NO: 41600177	

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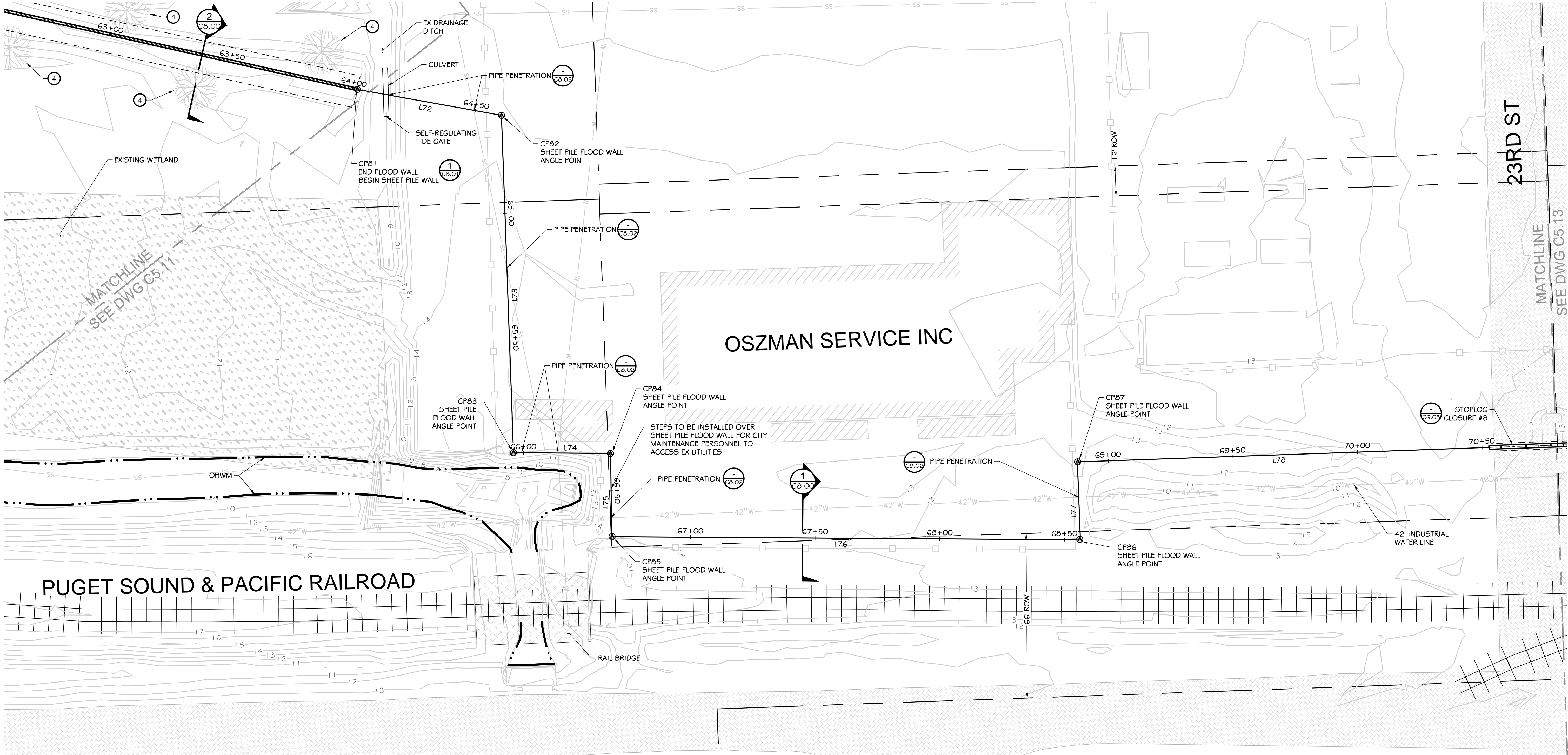
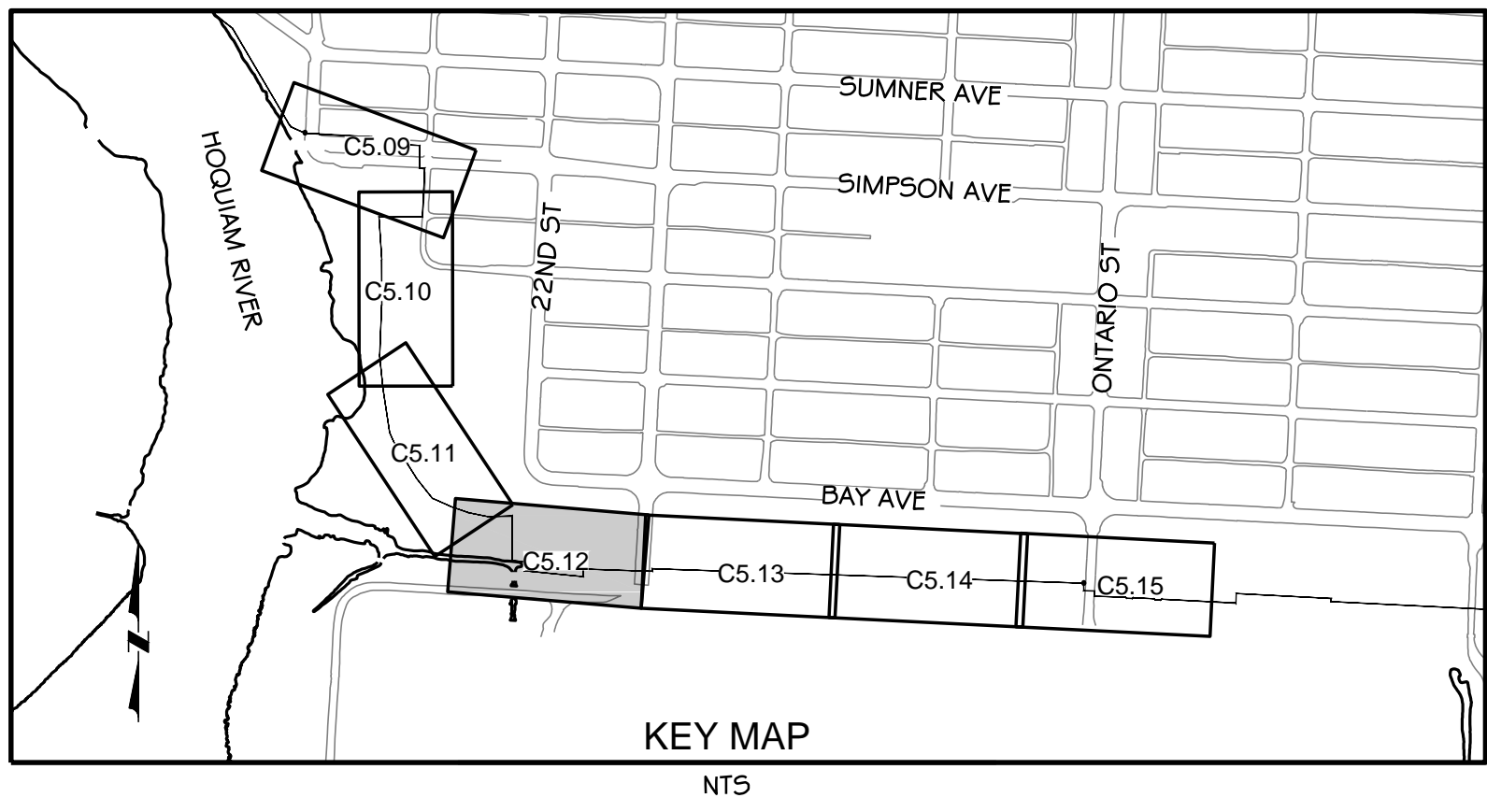
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SHEET 17 OF 79

FILE: I:\2016\1600177 - North Shore Levee-City of Aberdeen\CADD\DWG\C5.09-C5.15 - LEVEE PLAN

PLOTTED: Jul 06, 2017 - 10:56a7p7 PLOTTED BY: jakeed



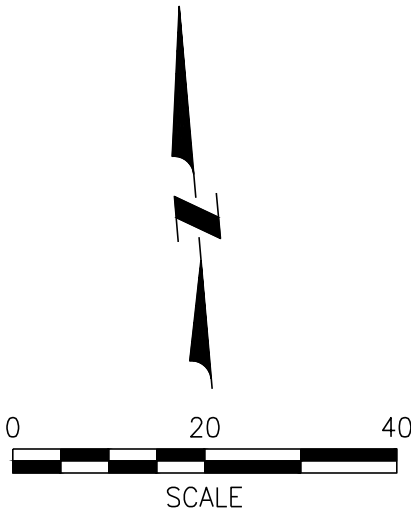
HORIZONTAL CONTROL									
LINE TABLE					POINT TABLE				
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING		
L72	58.78'	S74° 54' 33"E	3	C10.03	CP81	615,650.32	798,597.63		
L73	135.36'	S02° 51' 40"W	3	C10.03	CP82	615,635.02	798,654.38		
L74	38.99'	S84° 39' 41"E	3	C10.03	CP83	615,499.83	798,647.62		
L75	33.42'	S04° 14' 07"W	3	C10.03	CP84	615,496.20	798,686.45		
L76	187.97'	S84° 44' 17"E	3	C10.03	CP85	615,462.88	798,683.98		
L77	31.23'	N02° 44' 21"E	3	C10.03	CP86	615,445.64	798,871.15		
L78	222.79'	S87° 07' 14"E	3	C10.03	CP87	615,476.83	798,872.65		

KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)

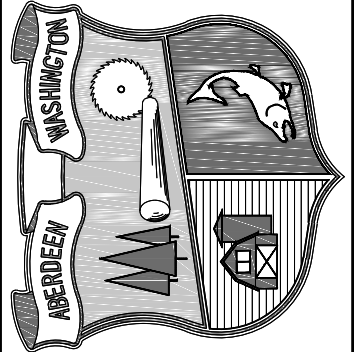
GENERAL NOTES:

1. WETLAND BOUNDARIES LOCATED BY SITE RECONNAISSANCE. WETLAND TO BE INVESTIGATED FURTHER FOR MORE ACCURATE DELINEATION DURING LATER DESIGN. SEE BIOLOGICAL ASSESSMENT AND ESSENTIAL FISH HABITAT EVALUATION FOR MORE INFORMATION.
2. CULVERT AND SRT GATE TO BE EVALUATED DURING FUTURE DESIGN.
3. STEPS OVER LEVEE FOR MAINTENANCE ACCESS TO BE DESIGNED DURING FUTURE DESIGN.



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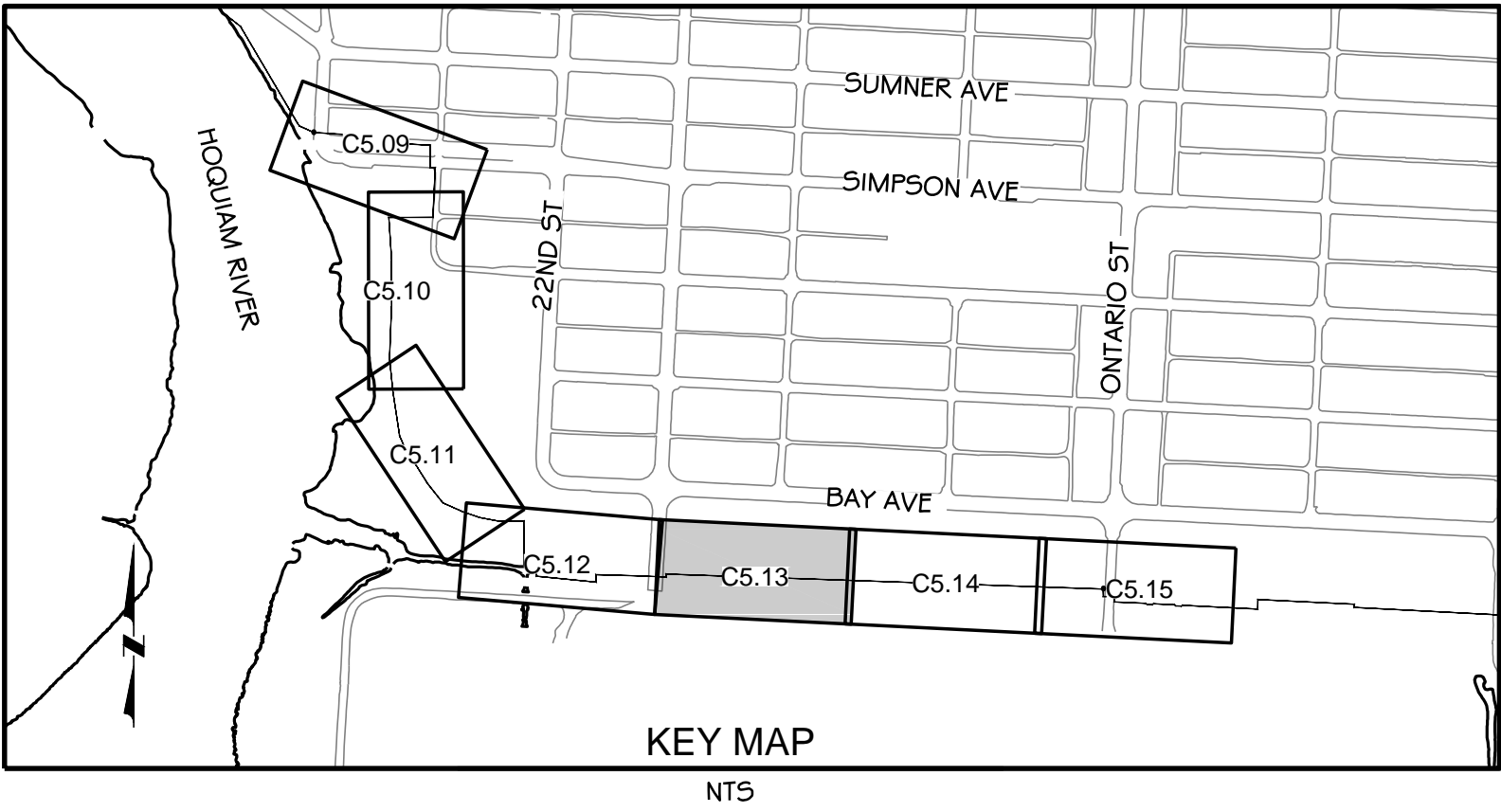
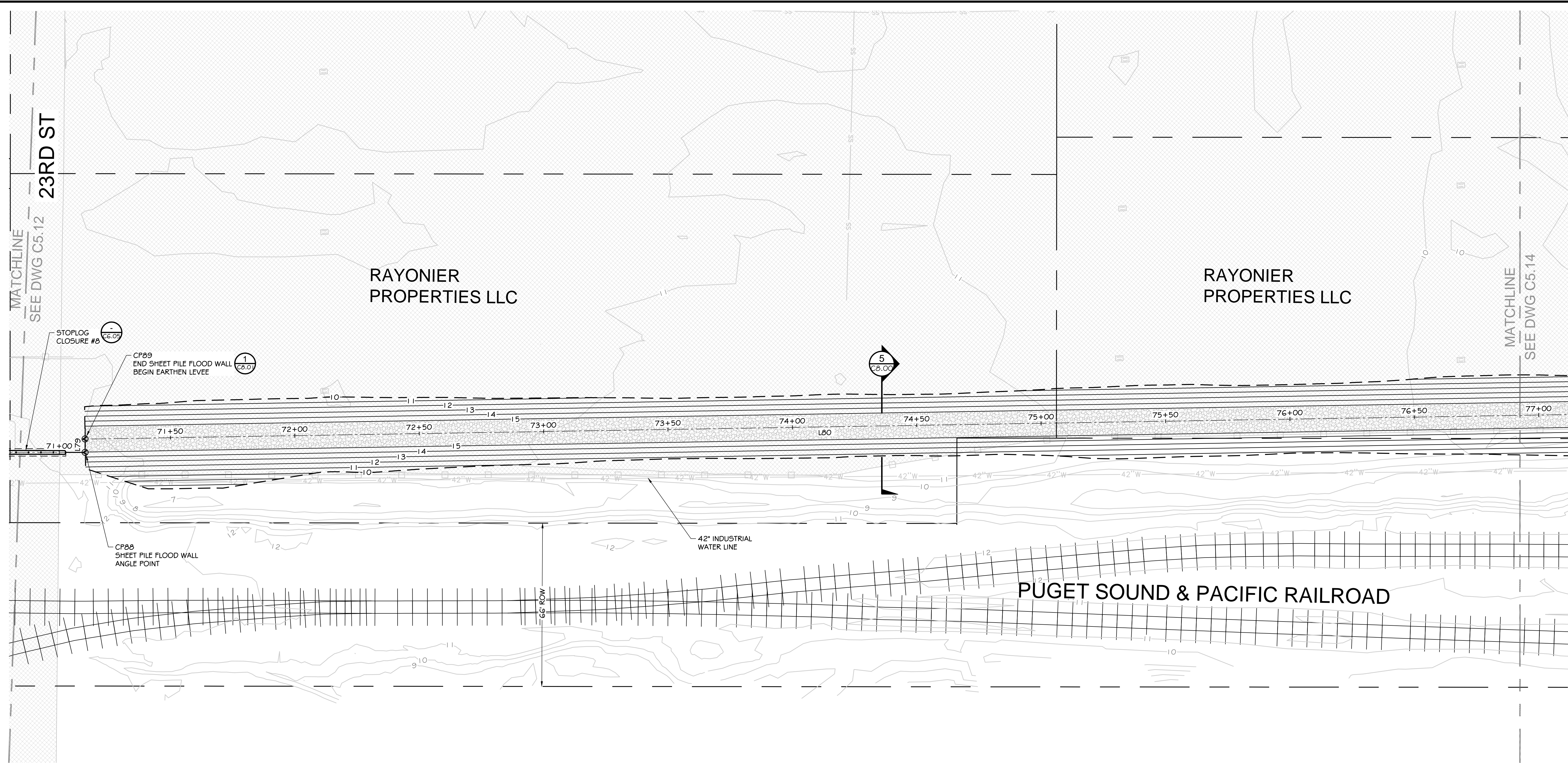
DRAWN BY	DESIGNED BY	DATE	JOB NO:
JAD	BAJ/BNT	07-10-2017	41600177
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LEVEE PLAN

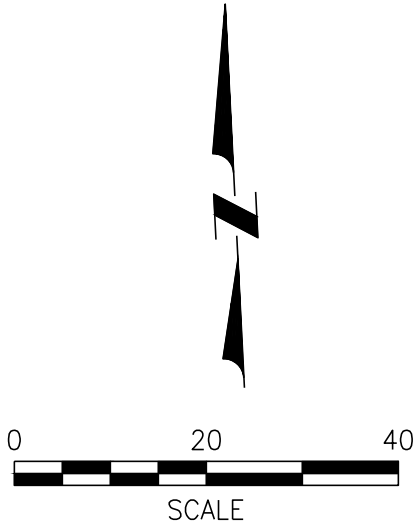
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HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L79	5.35'	N03° 02' 28"E	3	C10.03	CP88	615,465.64	799,095.15
L80	663.17'	S88° 07' 21"E	3	C10.03	CP89	615,470.98	799,095.44

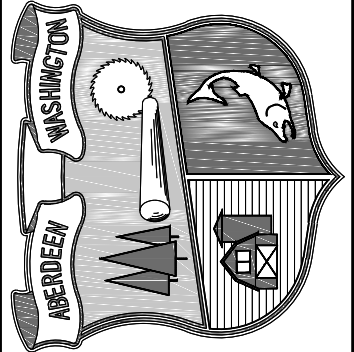
- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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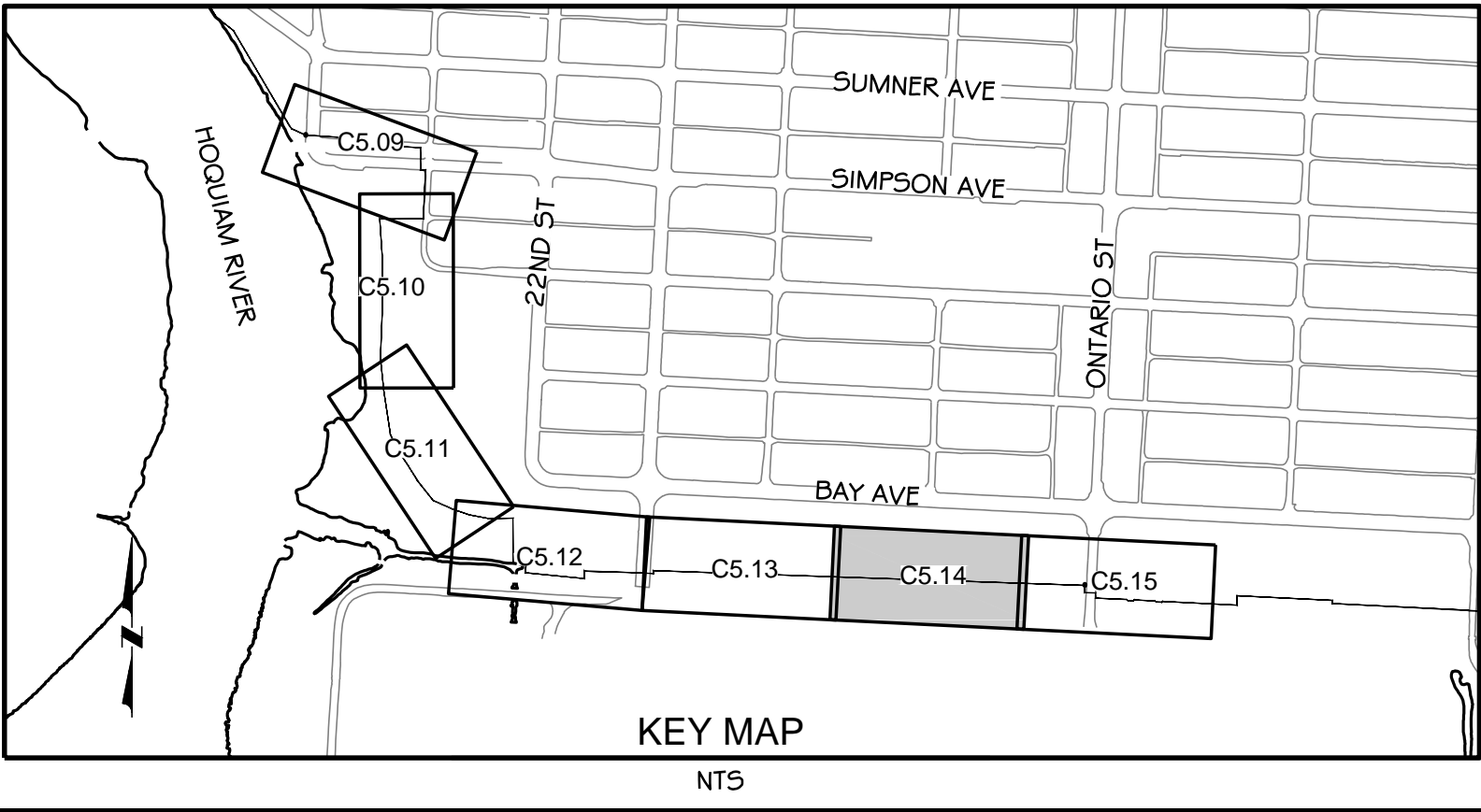
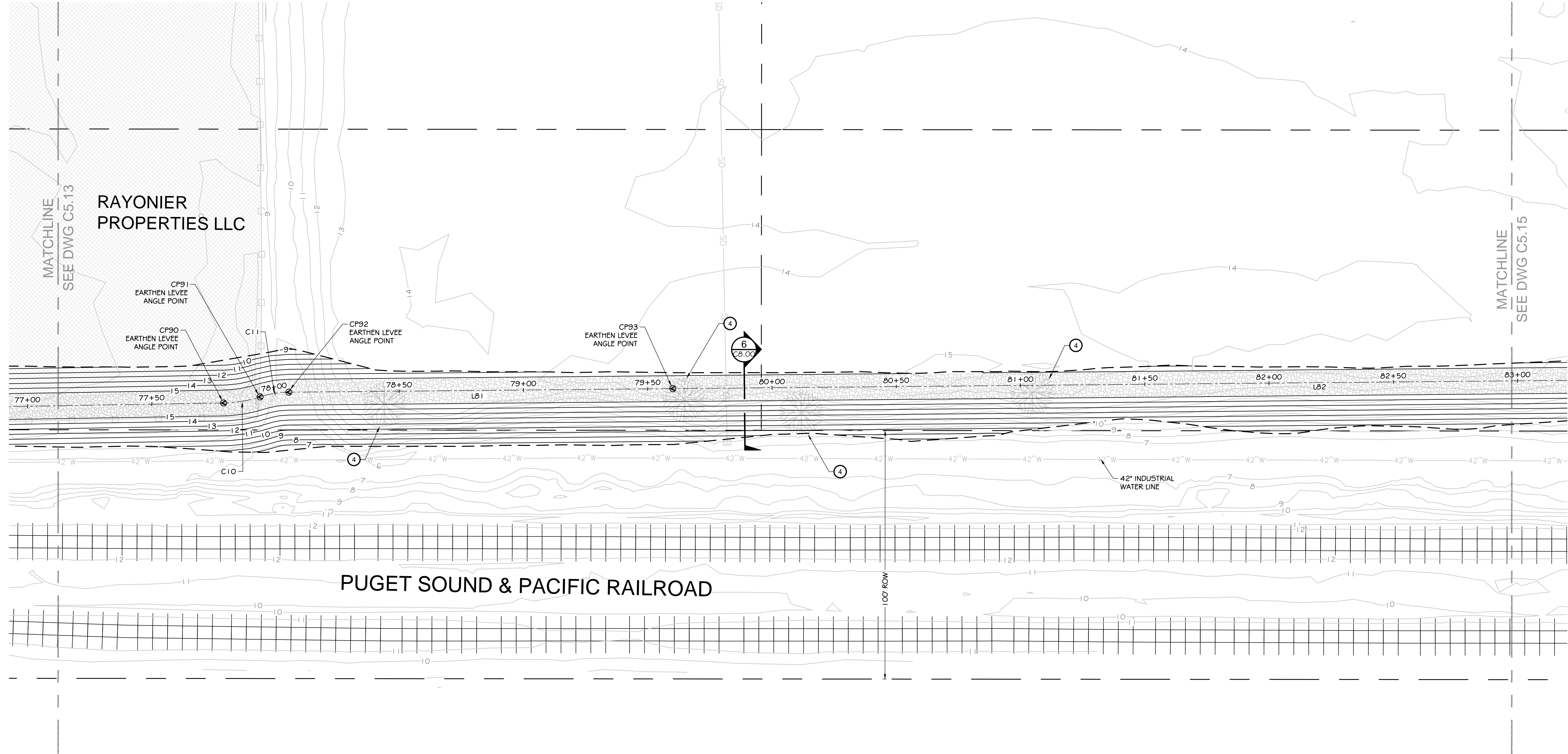
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SHEET 19 OF 79	



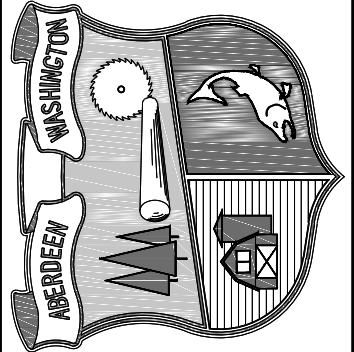
HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L81	154.53'	S87° 42' 10"E	4	C10.04	C10	N83° 20' 14"E	14.93'	50.10'	4	C10.04	CP90	615,449.25	799,758.25
L82	519.71'	S87° 42' 10"E	4	C10.04	C11	N83° 32' 50"E	111.75'	38.46'	4	C10.04	CP91	615,450.98	799,773.03
											CP92	615,452.29	799,784.65
											CP93	615,446.10	799,939.06

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)

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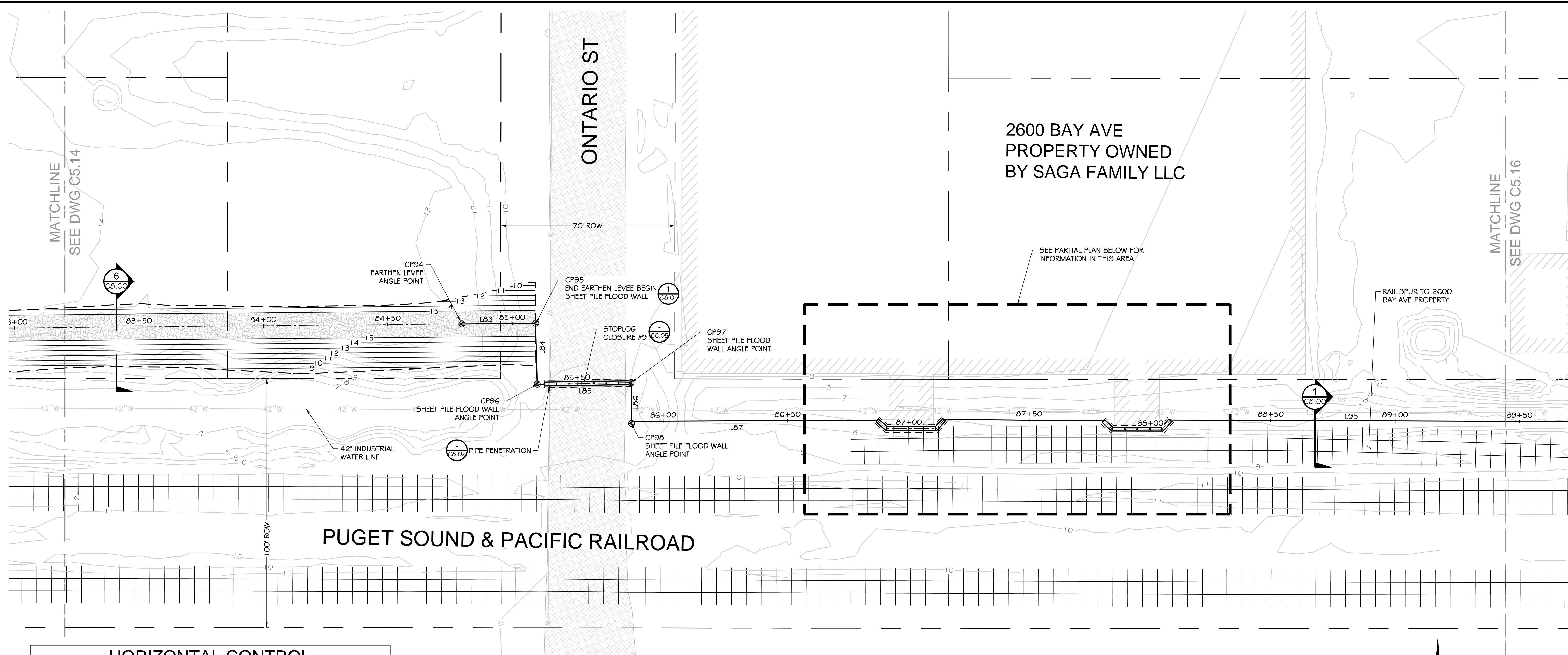
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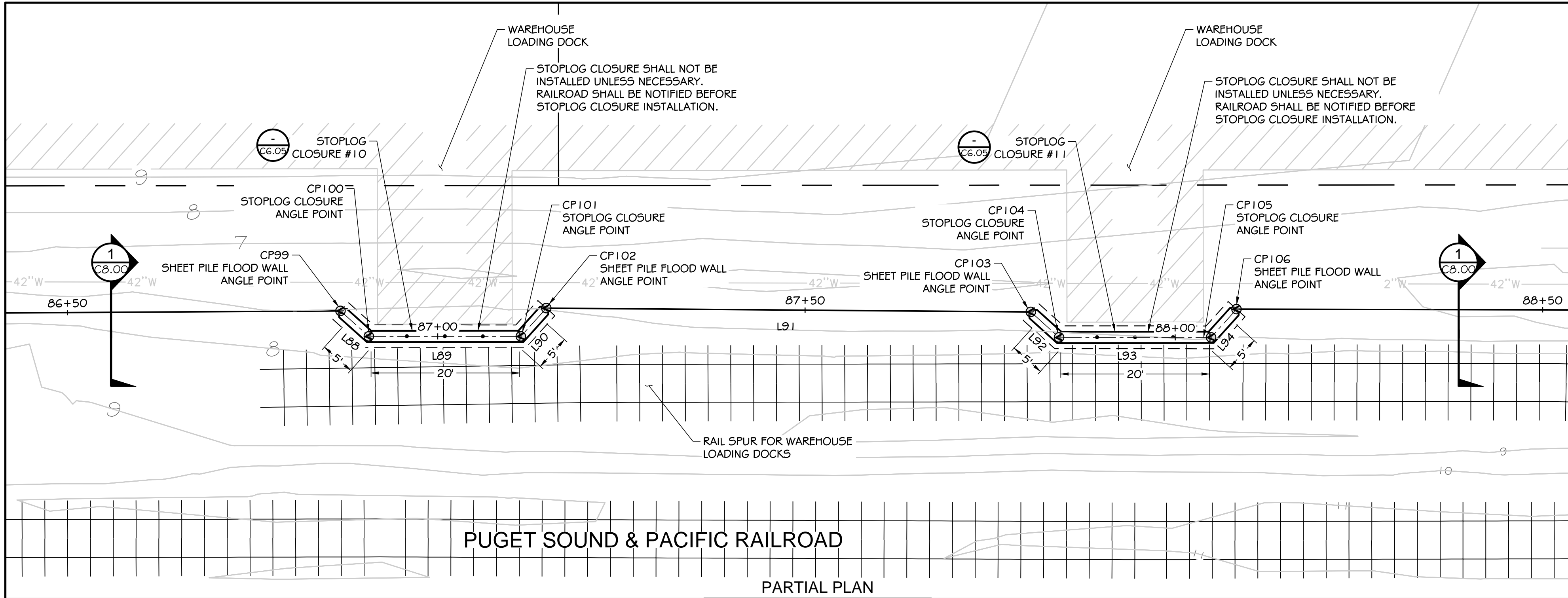
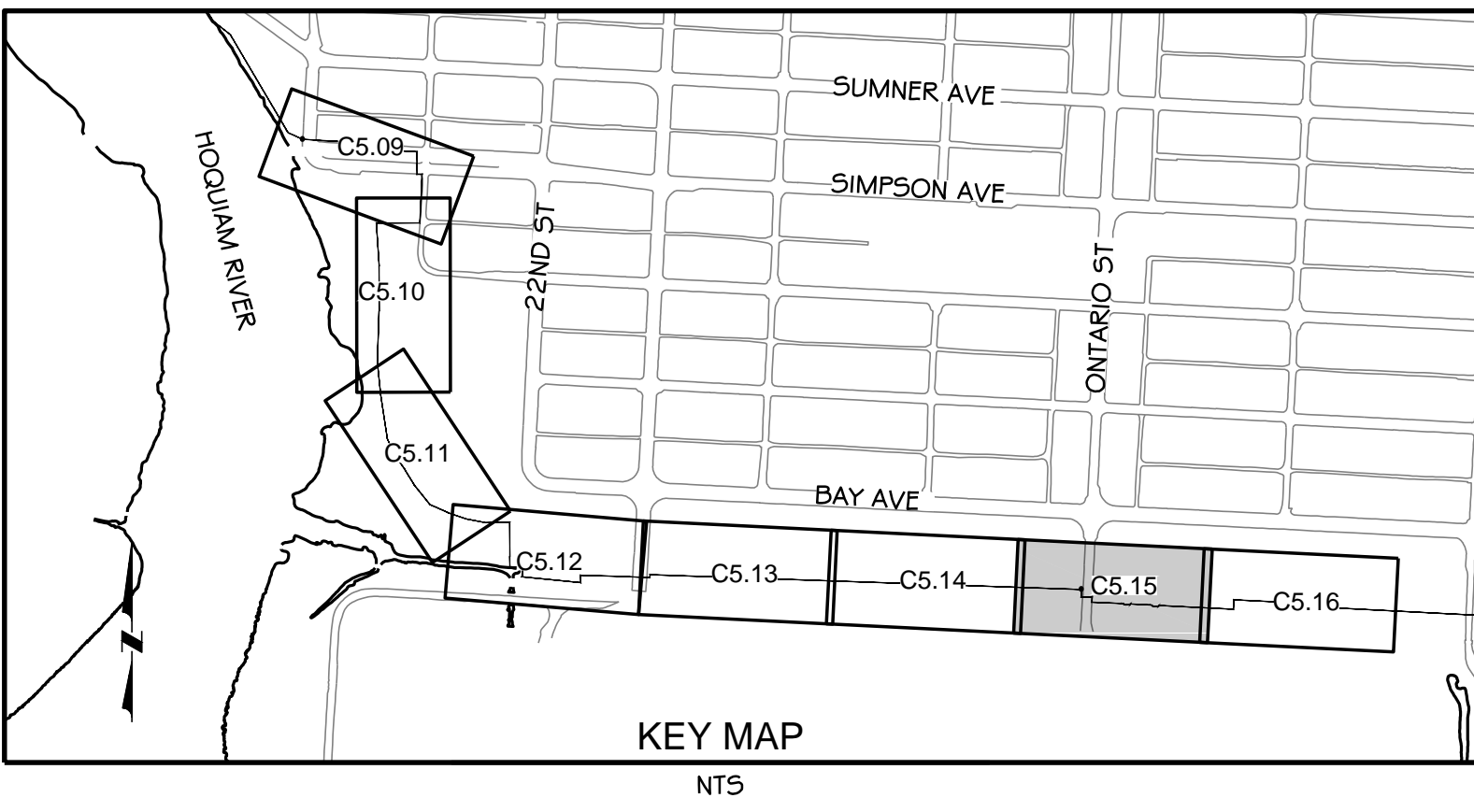
SHEET 20 OF 79



HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L83	29.60'	S87° 41' 49"E	4	C10.04	CP94	615,425.27	800,458.34
L84	24.47'	S01° 23' 36"W	4	C10.04	CP95	615,424.08	800,487.92
L86	15.51'	S02° 34' 17"W	4	C10.04	CP96	615,399.61	800,487.32
L87	98.74'	S87° 25' 43"E	4	C10.04	CP97	615,398.37	800,525.11
L88	5.01'	S45° 04' 30"E	4	C10.04	CP98	615,382.87	800,524.41
L89	20.00'	S87° 07' 09"E	4	C10.04	CP99	615,378.44	800,623.05
L90	5.00'	N44° 59' 55"E	4	C10.04	CP100	615,374.90	800,626.60
L91	63.76'	S86° 38' 05"E	4	C10.04	CP101	615,373.90	800,646.58
L92	5.01'	S45° 02' 57"E	4	C10.04	CP102	615,377.43	800,650.11
L93	20.00'	S87° 07' 09"E	4	C10.04	CP103	615,373.69	800,713.76
L94	5.00'	N44° 59' 55"E	4	C10.04	CP104	615,370.15	800,717.31
L95	238.60'	S86° 57' 38"E	4	C10.04	CP105	615,369.14	800,737.29
					CP106	615,372.68	800,740.82

KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)



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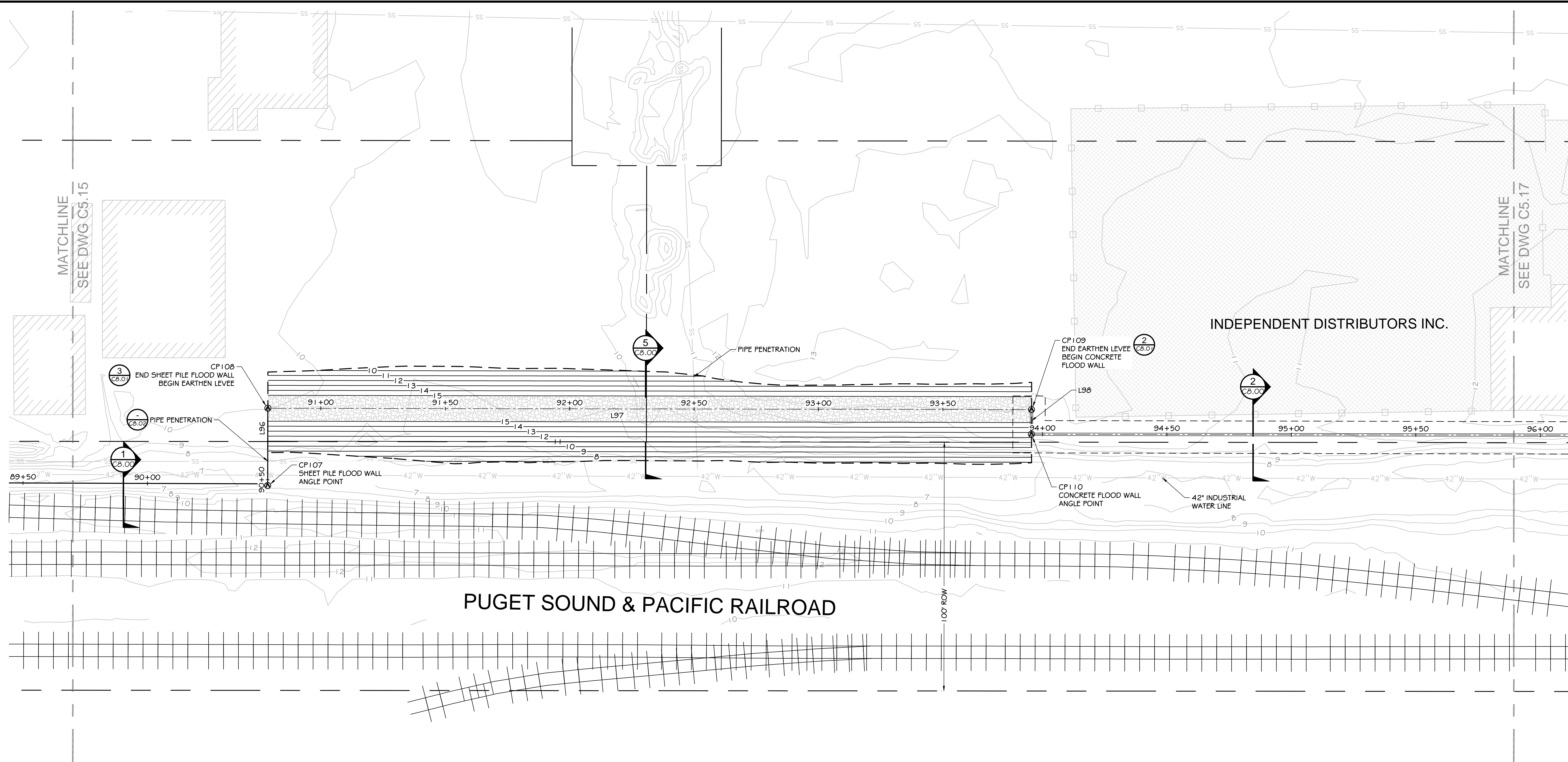
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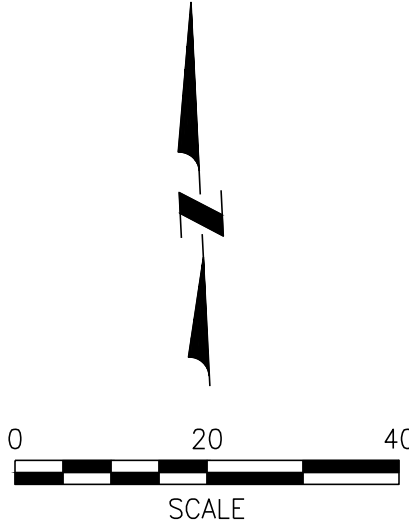
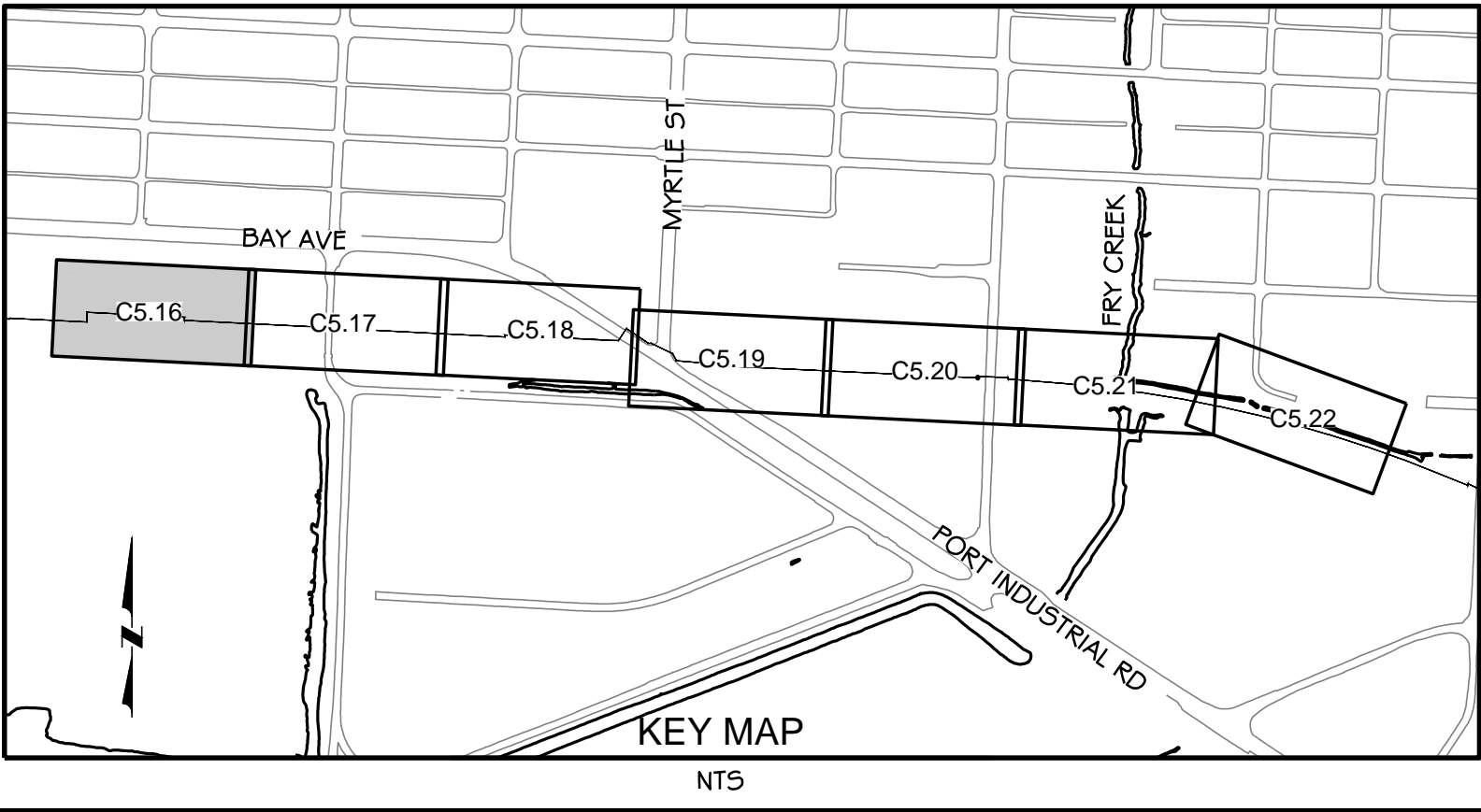


PUGET SOUND & PACIFIC RAILROAD

HORIZONTAL CONTROL

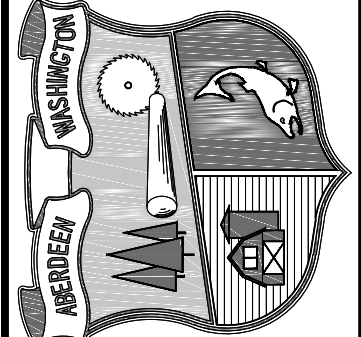
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L96	30.37'	N02° 56' 01" E	4	C10.04	CP107	615,360.03	800,979.09
L97	306.96'	S87° 04' 22" E	4	C10.04	CP108	615,390.36	800,980.64
L98	9.90'	S03° 11' 41" W	4	C10.04	CP109	615,374.68	801,287.20
					CP110	615,364.79	801,286.65

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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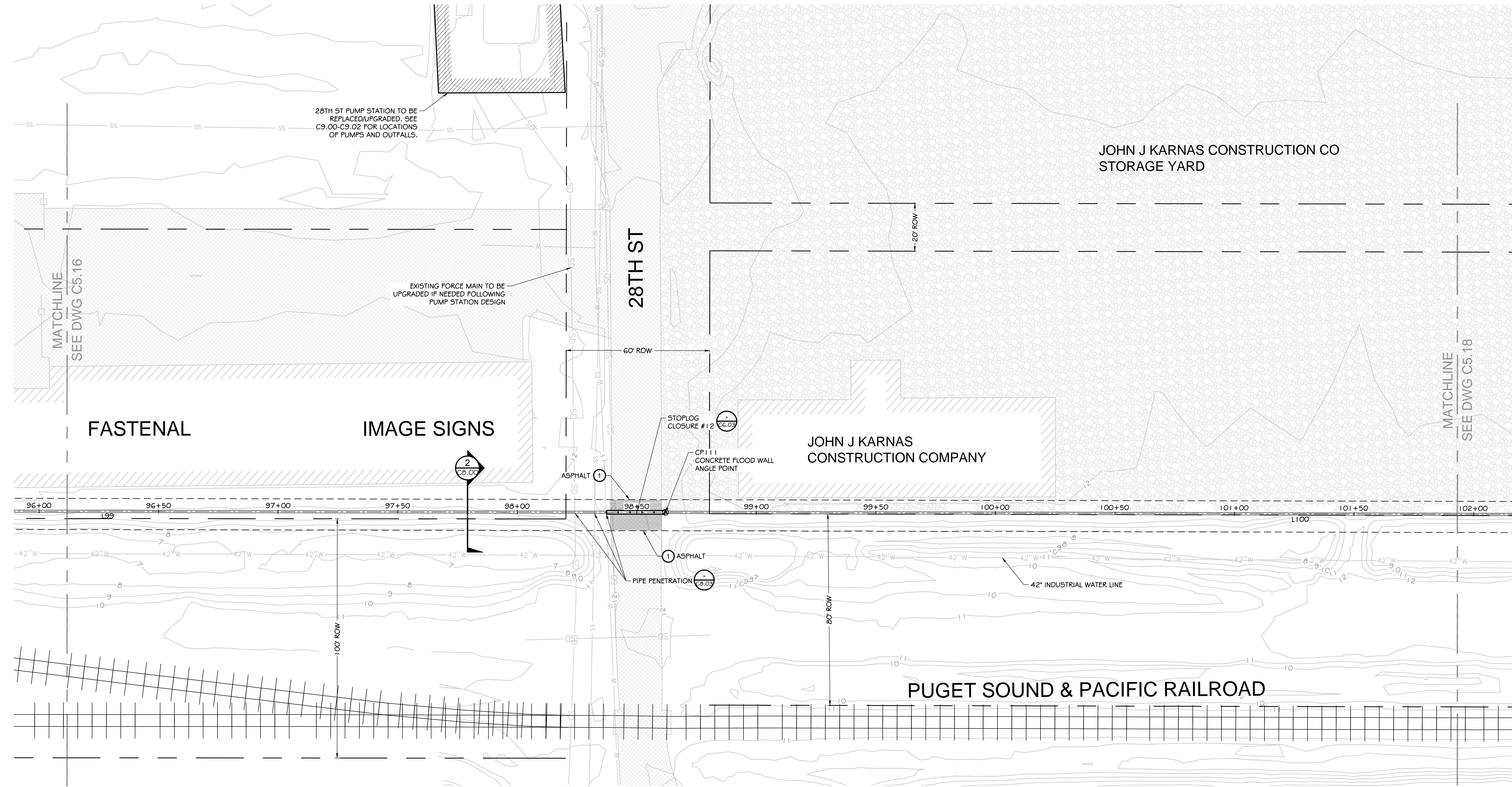
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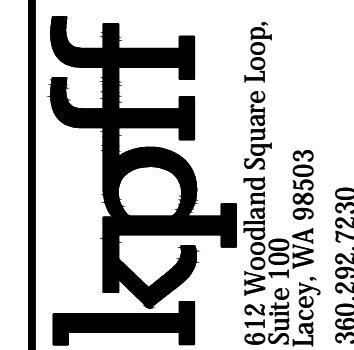
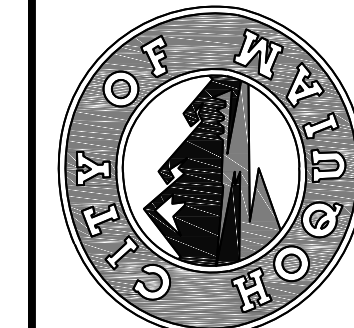
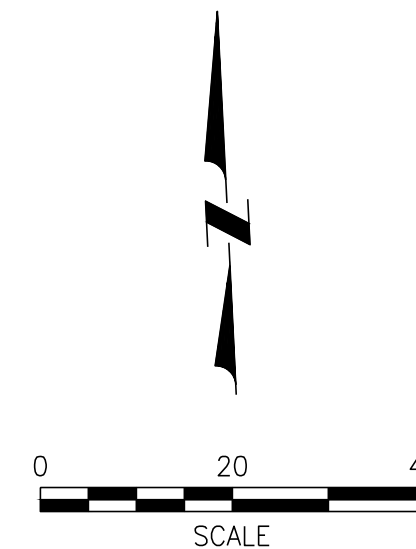
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SHEET 22 OF 79



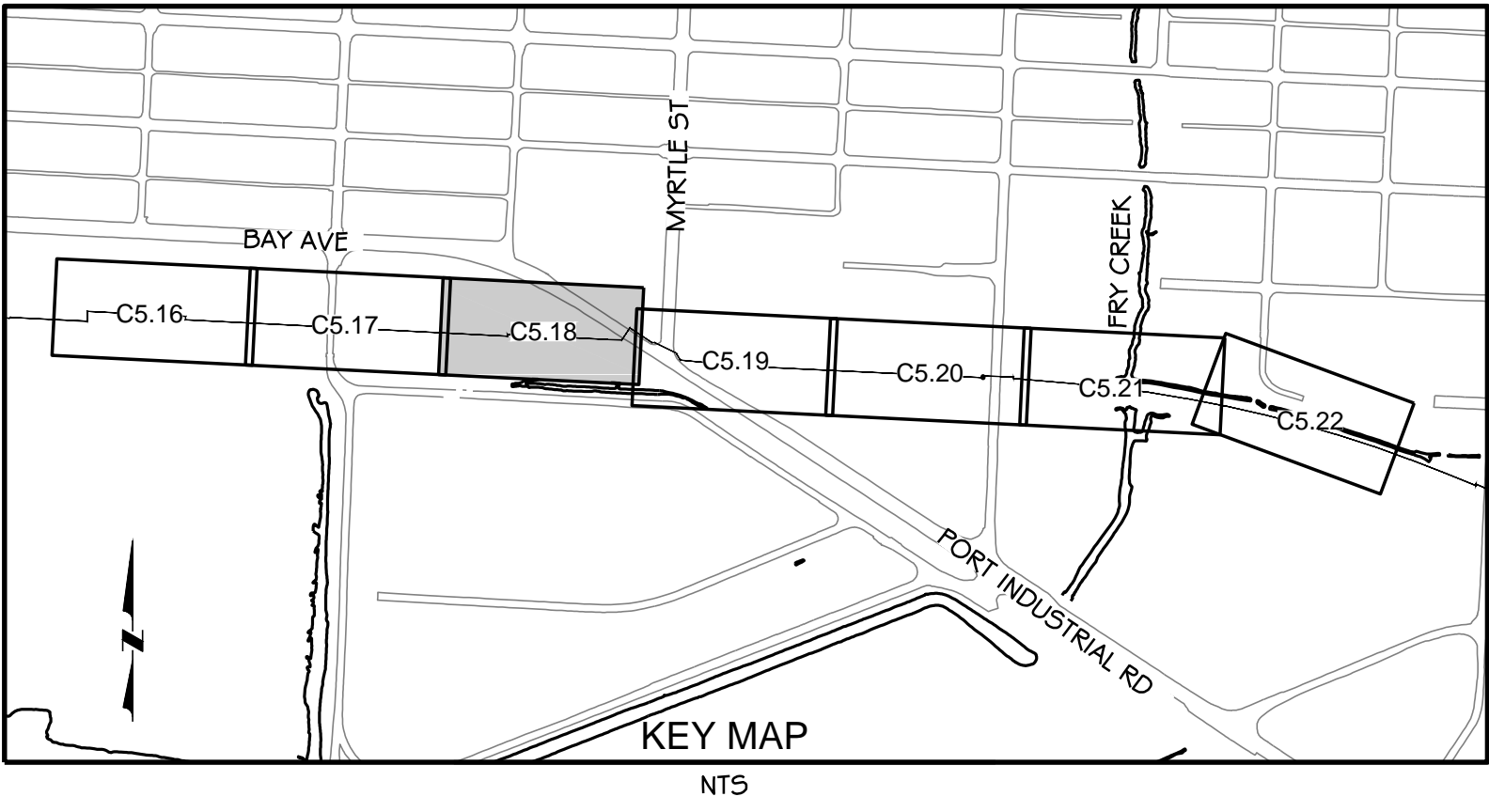
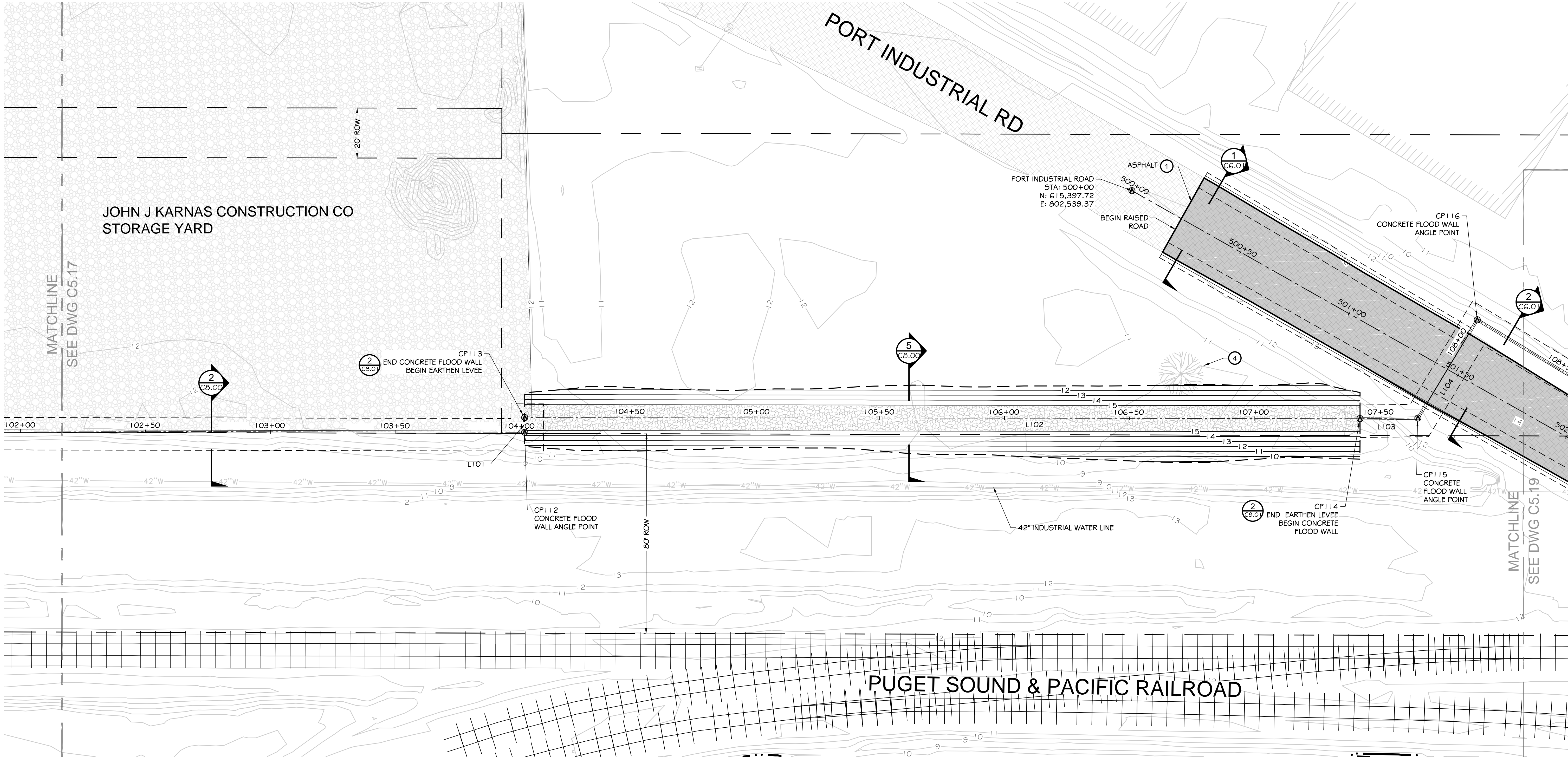
KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)



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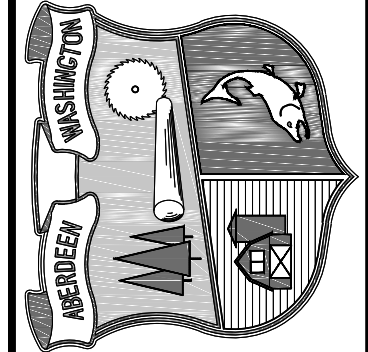
Horizontal Control						
Line Table					Point Table	
Line #	Length	Bearing	Profile	DWG	Point #	Easting
L101	5.90'	N02° 55' 29"E	5	C10.04	CP112	615,313.02
L102	334.59'	S87° 05' 50"E	5	C10.04	CP113	615,318.91
L103	23.21'	S87° 47' 59"E	5	C10.04	CP114	615,301.97
L104	45.97'	N33° 57' 00"E	5	C10.04	CP115	615,301.08
					CP116	615,339.22

KEY NOTES:

- MATCH EXISTING
- PROPOSED CATCH BASIN
- CONNECT TO EXISTING UTILITY
- REMOVE TREE(S)

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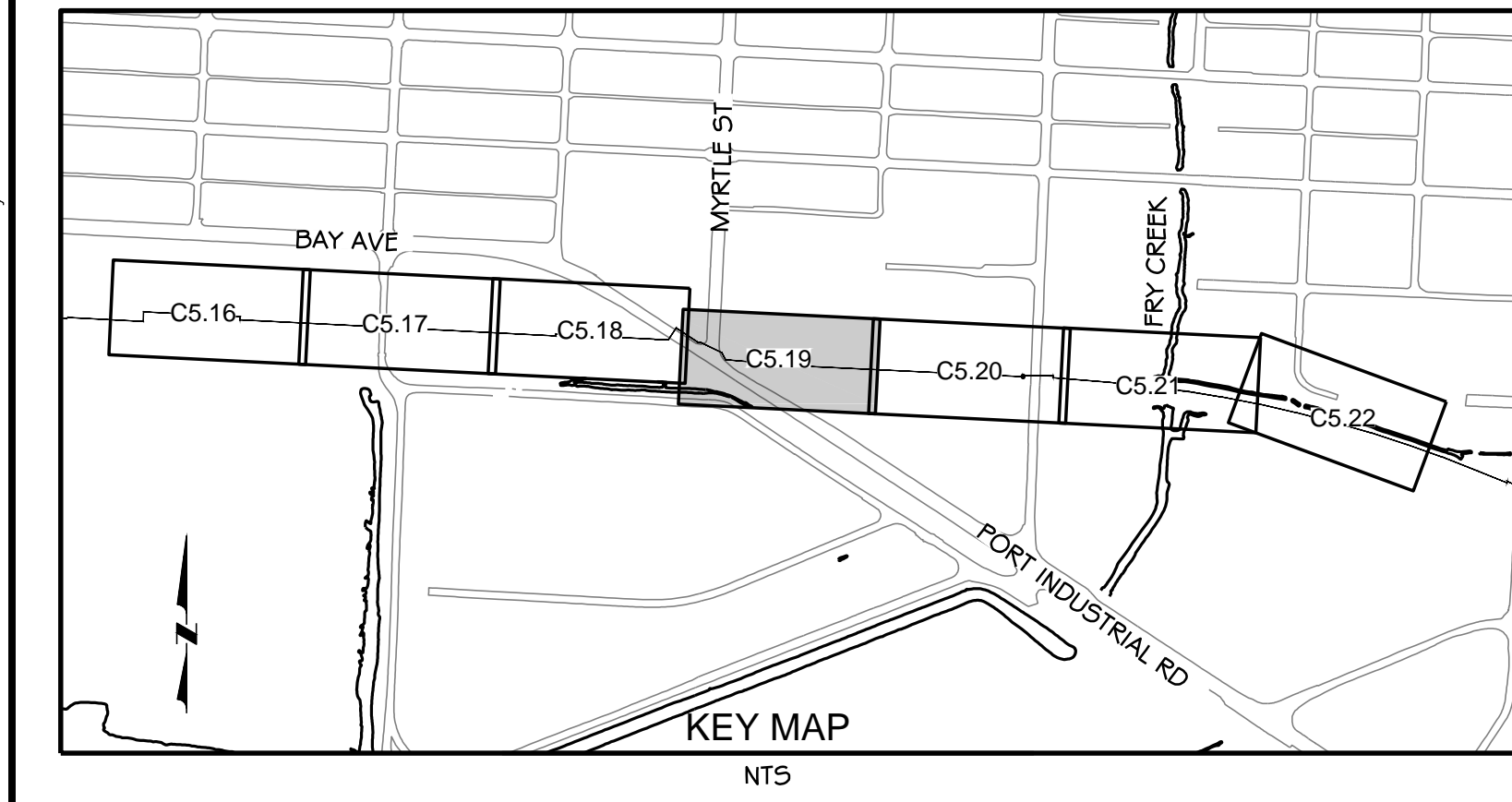
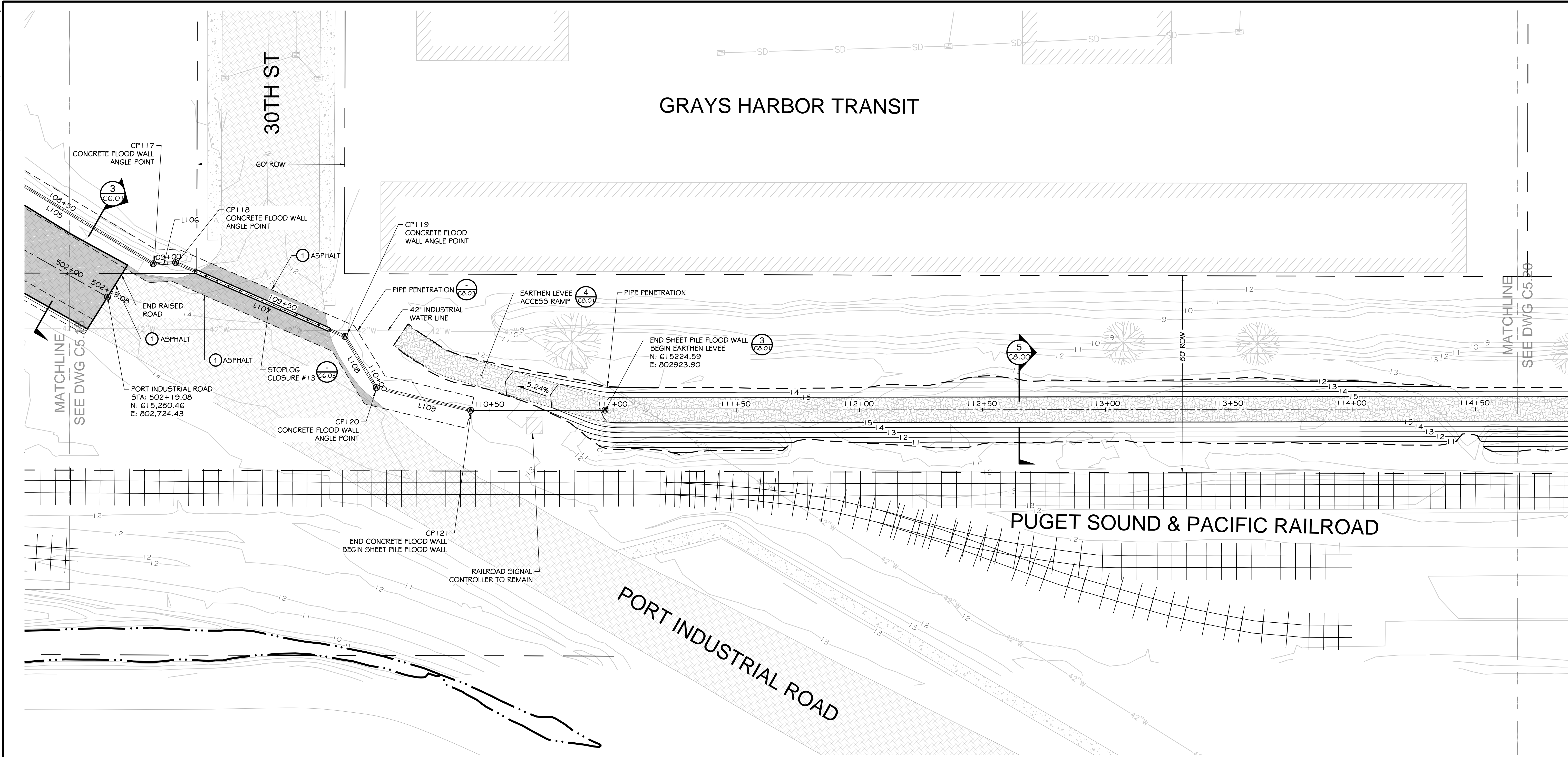
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JAD	BAJ/BNT	07-10-2017	1600177
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MRS	MRS		

NORTH SHORE LEVEE
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PLOTTED: Jul 06, 2017 - 1058a7p7 PLOTTED BY: Joked

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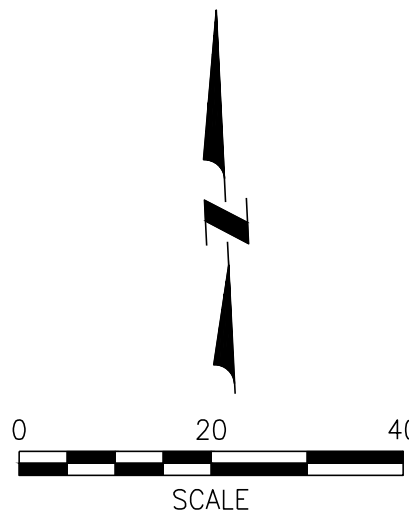


HORIZONTAL CONTROL

LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L105	82.74'	S56° 03' 00"E	5	C10.04	CP117	615,293.00	802,743.61
L106	9.10'	N90° 00' 00"E	5	C10.04	CP118	615,293.00	802,752.71
L107	75.00'	S63° 37' 47"E	5	C10.04	CP119	615,259.69	802,819.90
L108	24.39'	S28° 37' 08"E	5	C10.04	CP120	615,238.28	802,831.59
L109	39.39'	S73° 40' 09"E	5	C10.04	CP121	615,227.21	802,869.39

KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)



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JAD	BAJ/BNT	07-10-2017	41600177
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MR5	MR5		

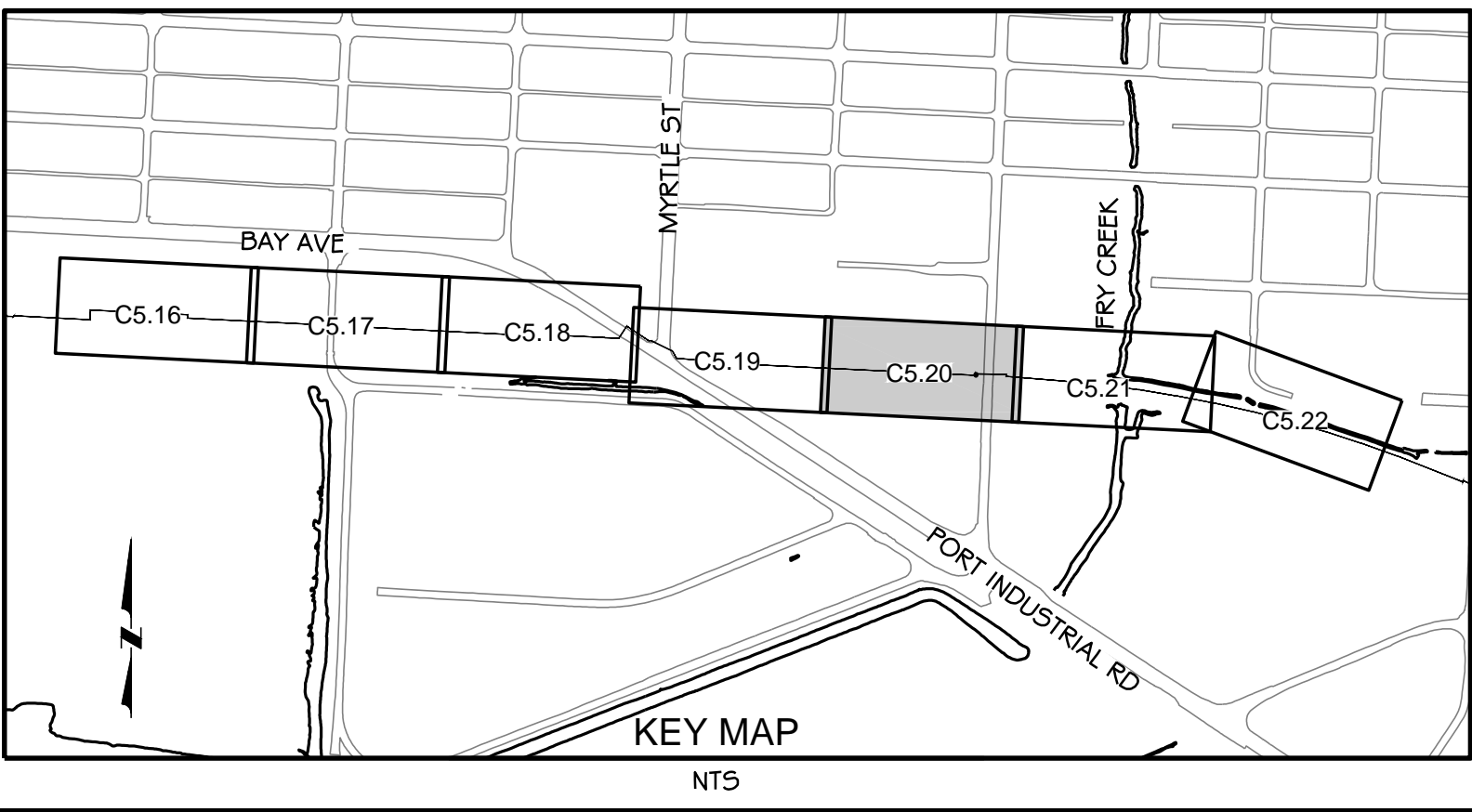
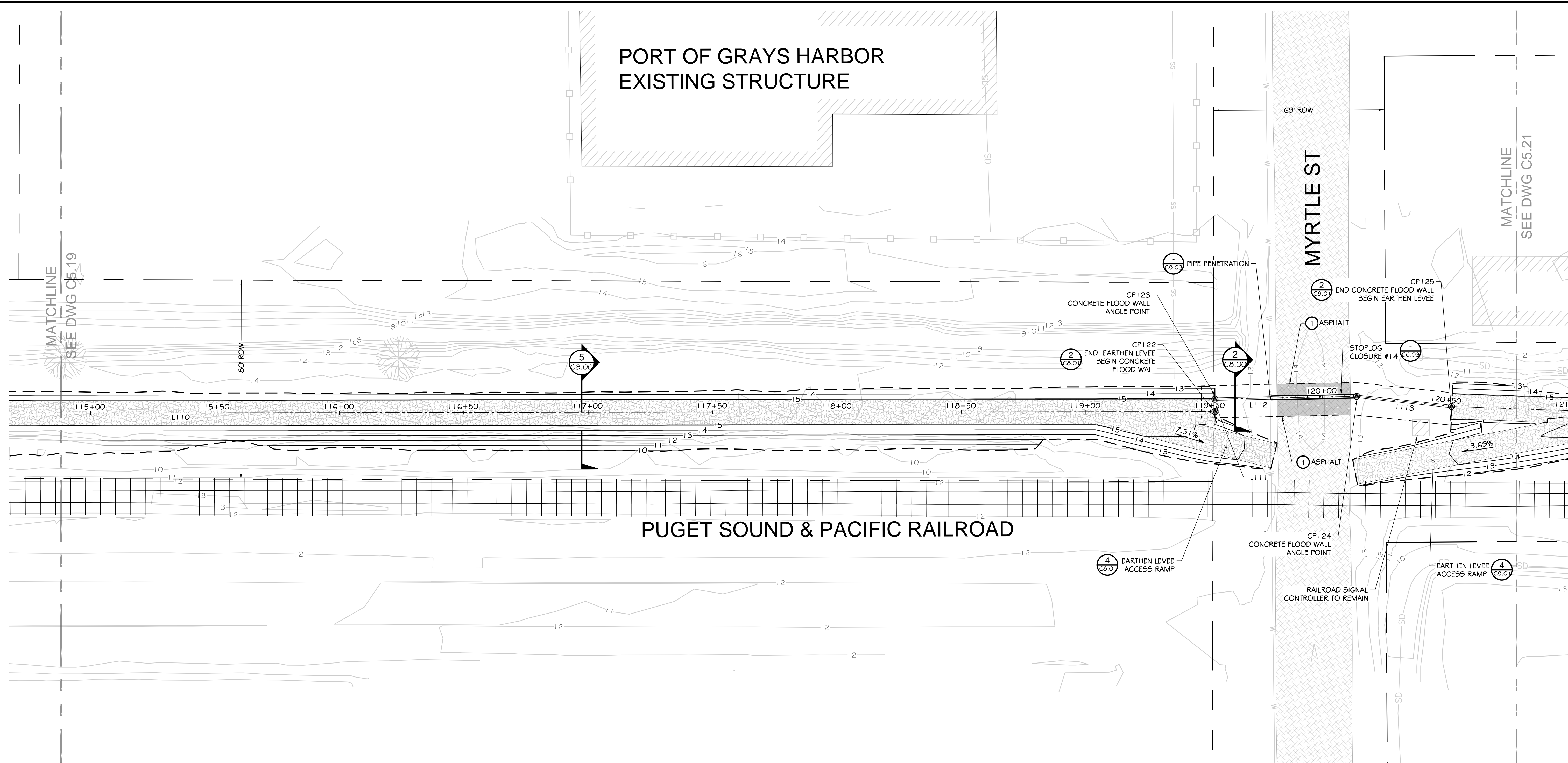
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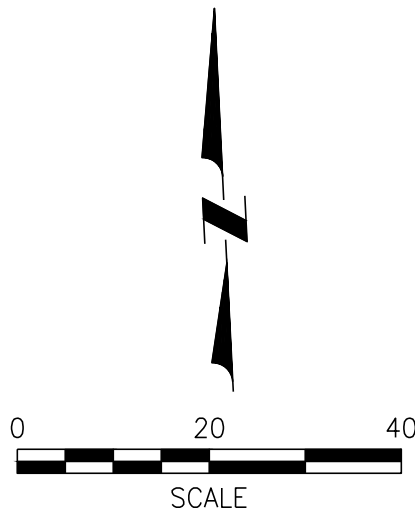
C5.19

SHEET 25 OF 79



HORIZONTAL CONTROL						
LINE TABLE				POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	EASTING
L110	909.69'	S87° 14' 55"E	5	C10.04	CP122	615,183.54
L111	5.00'	N02° 48' 12"E	5	C10.04	CP123	615,188.53
L112	56.99'	S88° 18' 34"E	5	C10.04	CP124	615,186.85
L113	38.40'	S81° 05' 03"E	5	C10.04	CP125	615,180.90

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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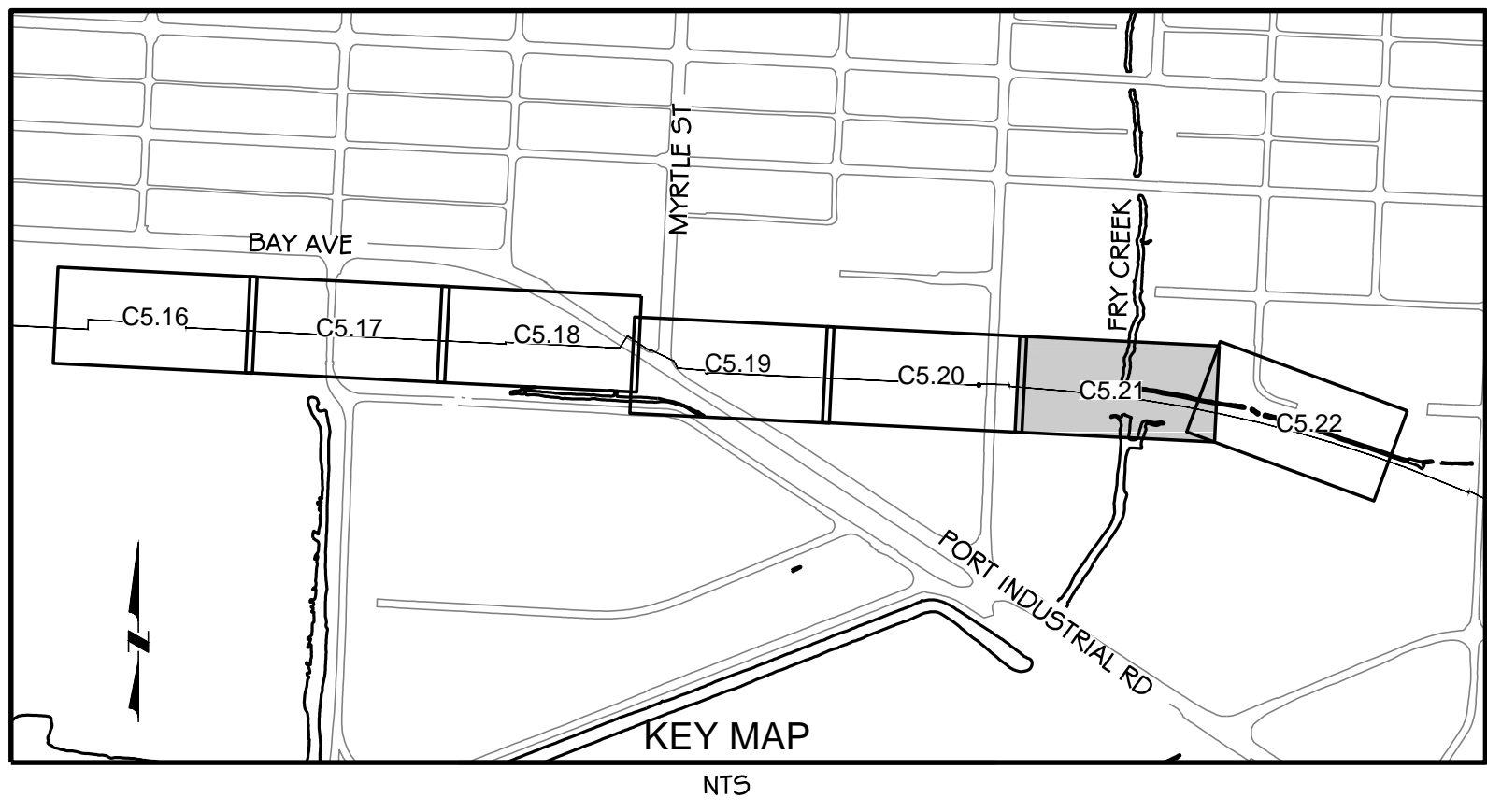
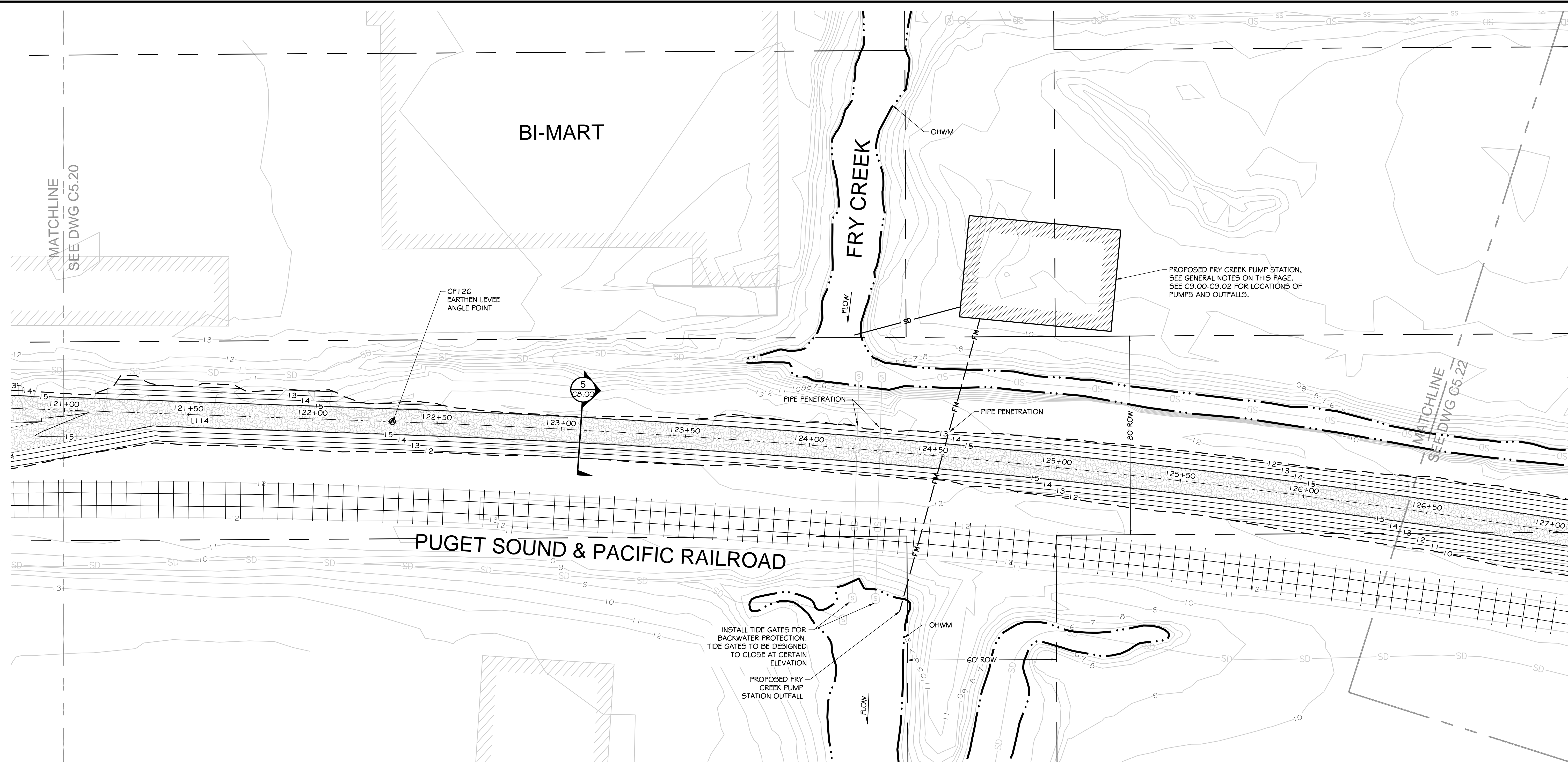
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SHEET 26 OF 79



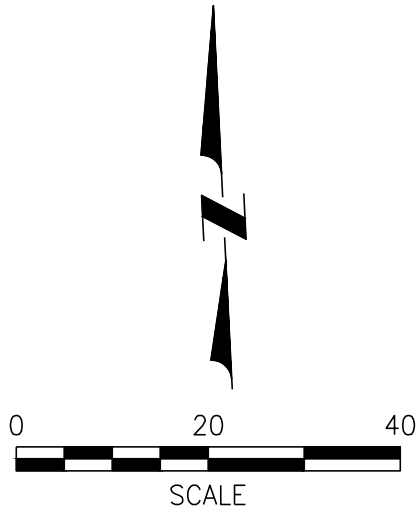
HORIZONTAL CONTROL						
LINE TABLE				POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING EASTING
L114	179.74'	S85° 09' 18"E	5	C10.04	CP126	615,165.71 804,052.27

KEY NOTES:

1. MATCH EXISTING
2. PROPOSED CATCH BASIN
3. CONNECT TO EXISTING UTILITY
4. REMOVE TREE(S)

GENERAL NOTES:

1. TIDAL FLOWS IN FRY CREEK ARE CURRENTLY REGULATED VIA TIDE GATES. # A STORM PUMPING SYSTEM 700' +/- SOUTH OF THE PROPOSED PUMP LOCATION.
2. THE FRY CREEK RESTORATION AND FLOOD REDUCTION PROJECT IS IN THE CONCEPT DEVELOPMENT PHASE WITH THE OBJECTIVE TO ENHANCE CHANNEL CAPACITY AND INSTREAM HABITAT ELEMENTS. A PROPOSED TIDE GATE, PUMP AND FISH SCREEN WILL BE DESIGNED AT OR ADJACENT TO THE LEVEE ALIGNMENT ACROSS FRY CREEK AND INTEGRATED WITH THE LEVEE DESIGN. SEE DRAINAGE BASIN EXHIBITS IN SUBMITTAL PACKAGE FOR FURTHER INFORMATION.



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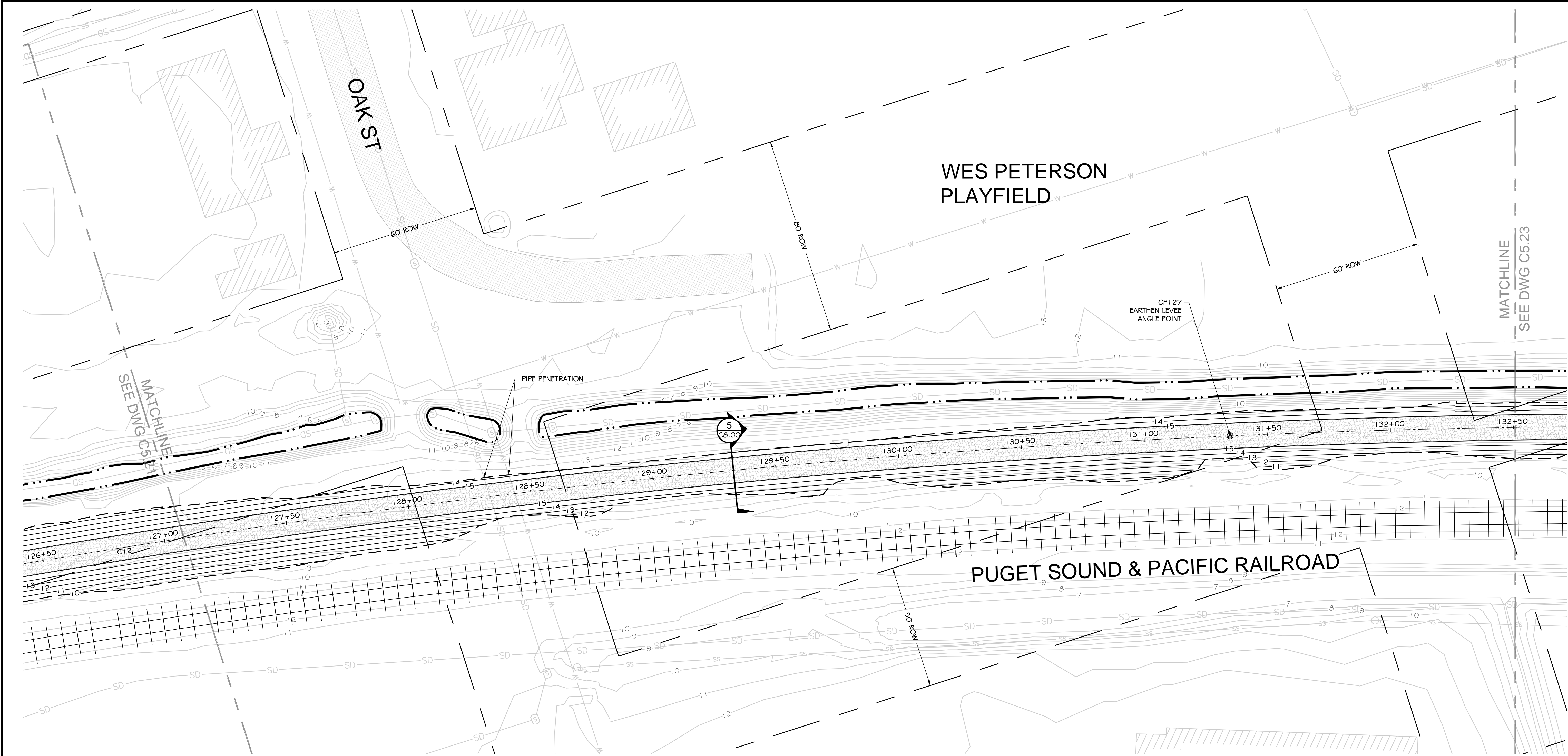
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SHEET 27 OF 79

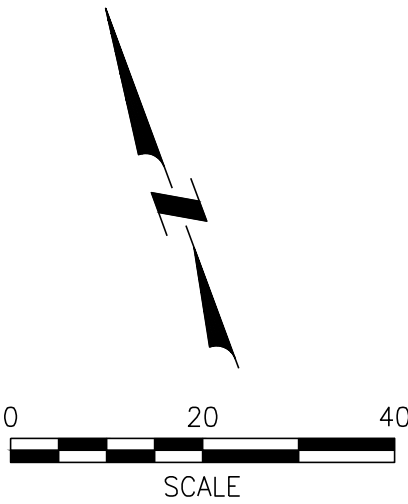
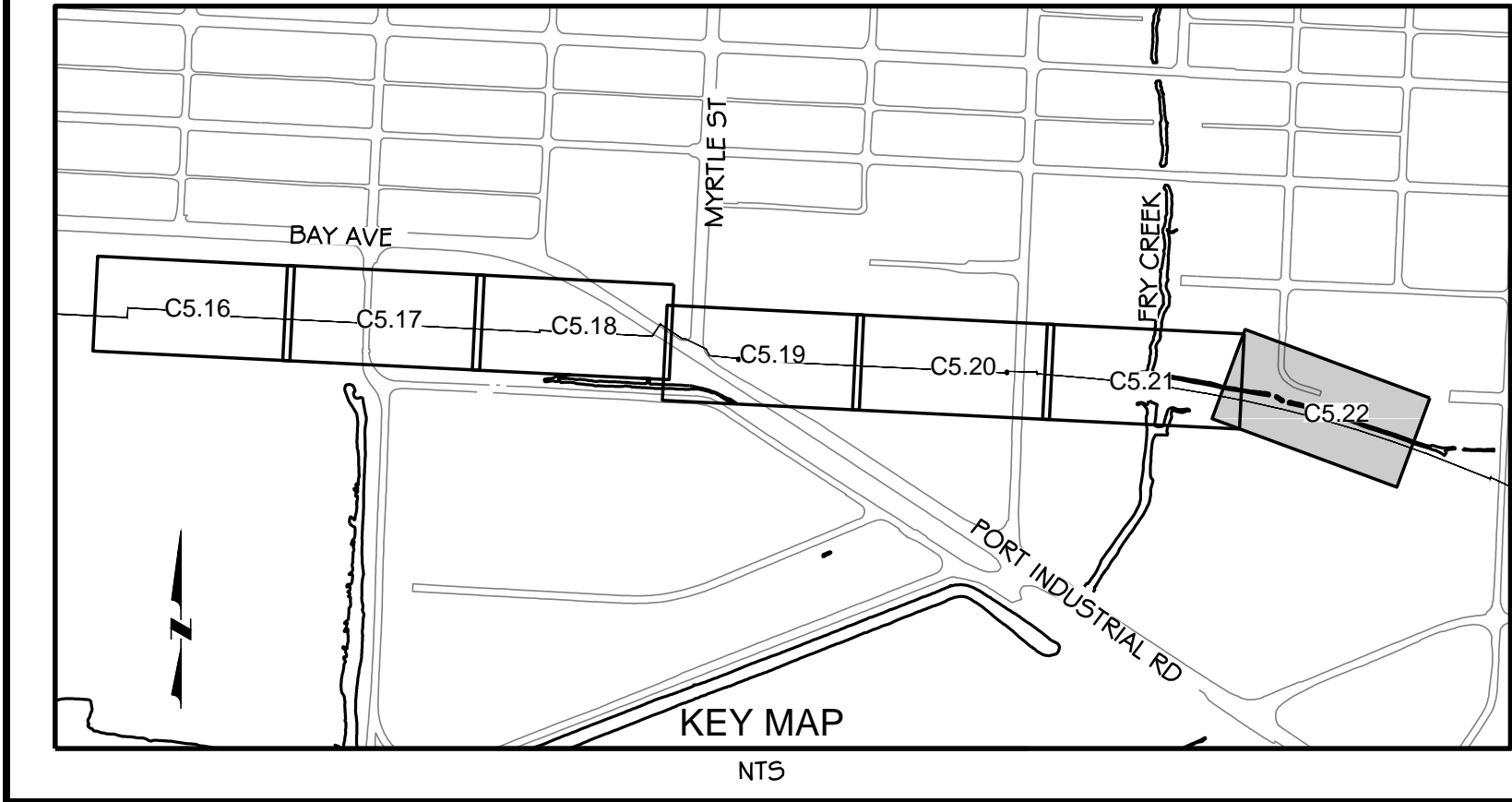
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PLOTTED: Jul 06, 2017 - 10:59a7p7 PLOTTED BY: Joked

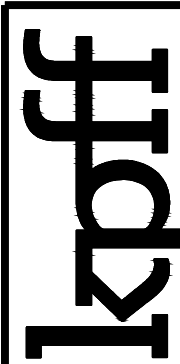


HORIZONTAL CONTROL								
CURVE TABLE						POINT TABLE		
CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
C12	578° 41' 17"E	902.95'	4,000.00'	6	C10.04	CP127	614,988.97	804,935.80

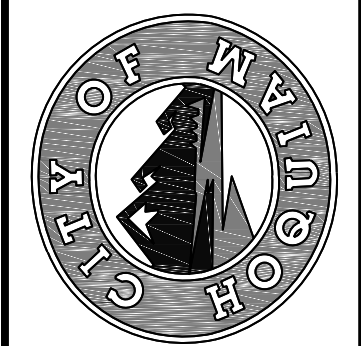
- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)



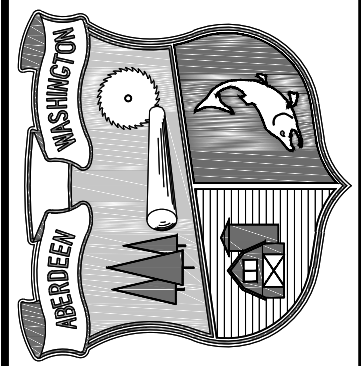
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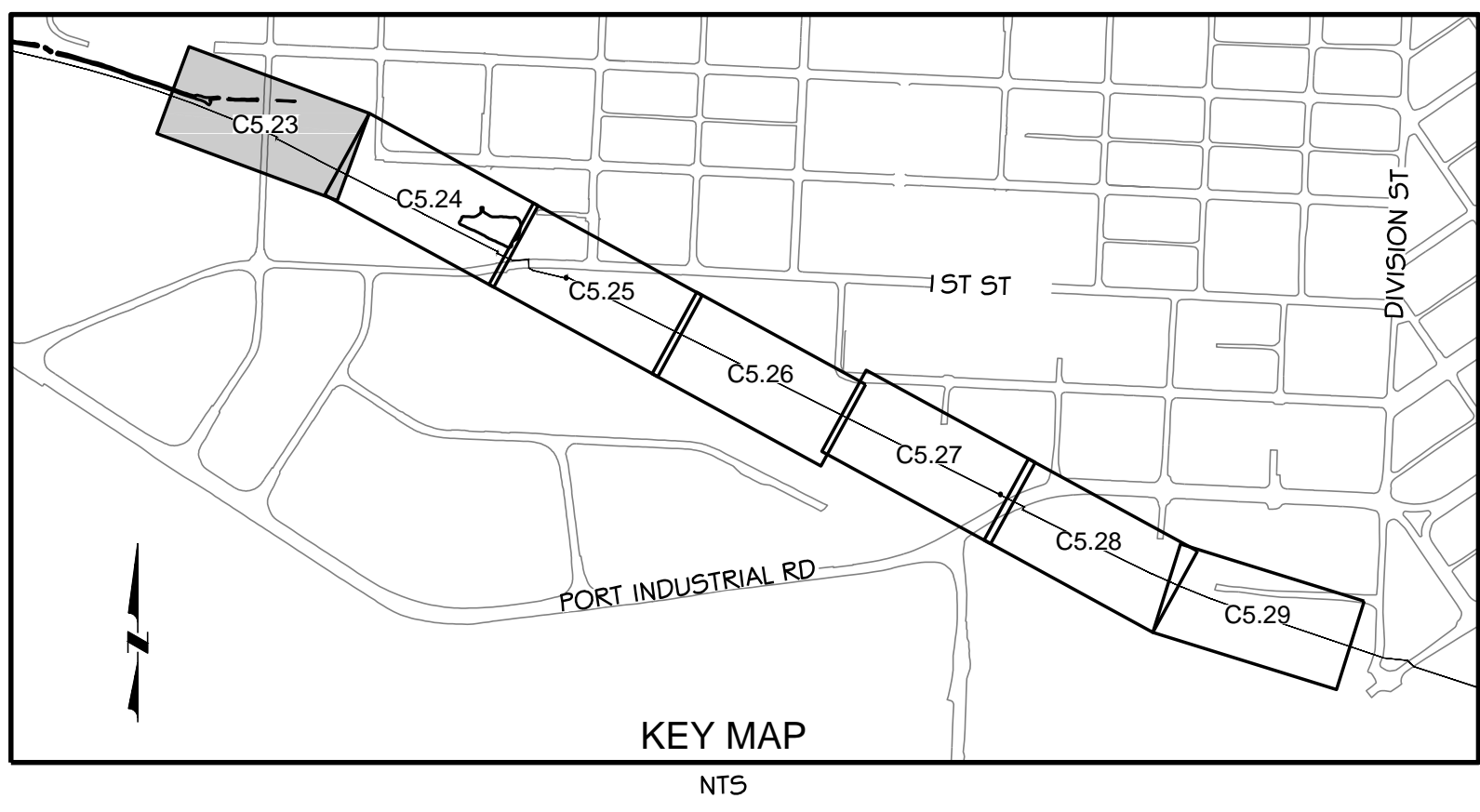
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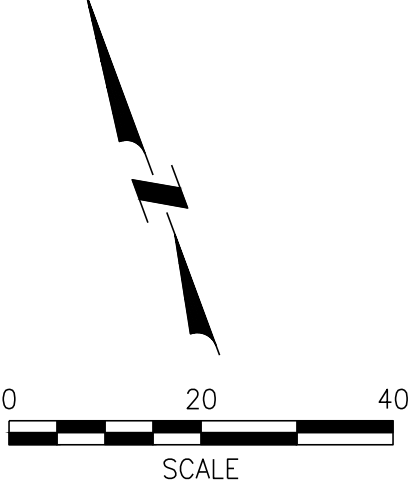
SHEET 28 OF 79


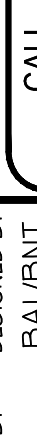
LEVEE PLAN

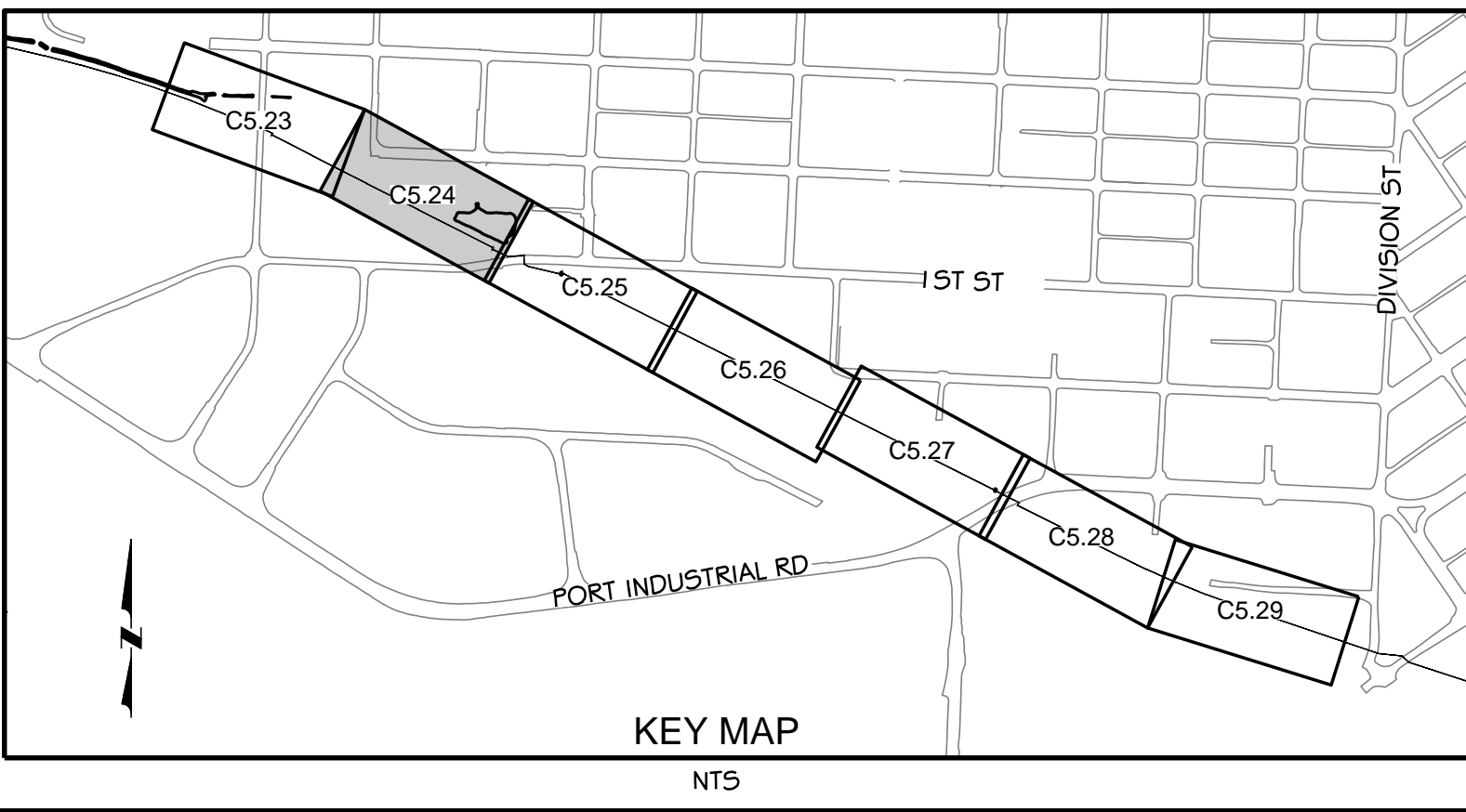
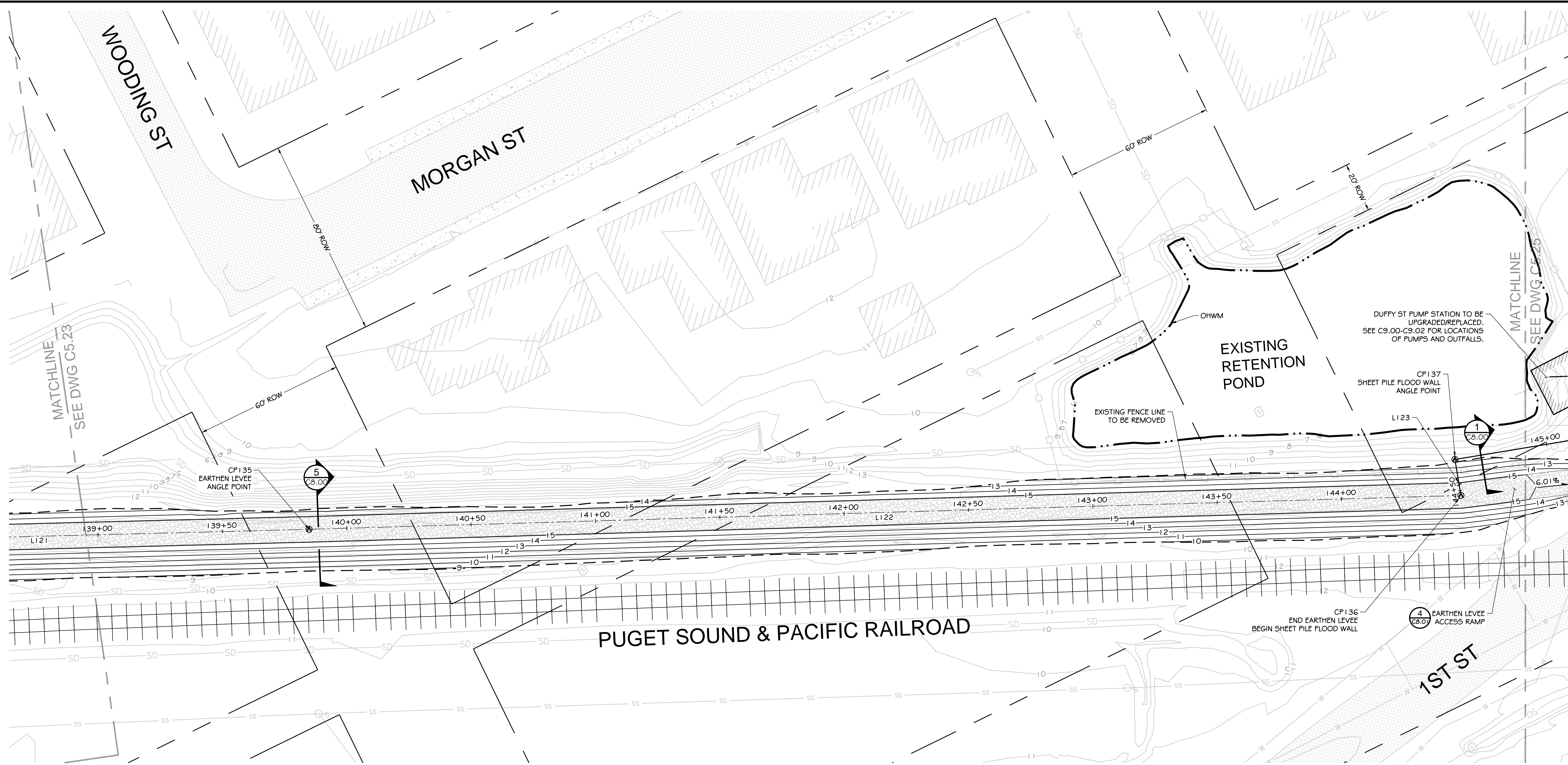


HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L115	99.30'	567° 49' 14"E	6	C10.04	C13	570° 01' 15"E	307.22'	4,000.00'	6	C10.04	CP128	614,884.03	805,224.46
L116	13.33'	545° 00' 00"E	6	C10.04							CP129	614,846.54	805,316.42
L117	40.55'	586° 53' 35"E	6	C10.04							CP130	614,837.12	805,325.84
L118	3.00'	502° 13' 58"W	6	C10.04							CP131	614,834.92	805,366.33
L119	159.86'	563° 25' 31"E	6	C10.04							CP132	614,831.92	805,366.21
L120	9.24'	526° 34' 29"W	6	C10.04							CP133	614,760.41	805,509.19
											CP134	614,752.15	805,505.05

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)



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HORIZONTAL CONTROL							
LINE TABLE				POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L121	217.40'	S62° 48' 22"E	6	C10.04	CP135	614,652.79	805,698.43
L122	463.14'	S63° 01' 29"E	6	C10.04	CP136	614,442.71	806,111.18
L123	14.66'	N19° 15' 35"E	6	C10.04	CP137	614,456.55	806,116.01

- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)

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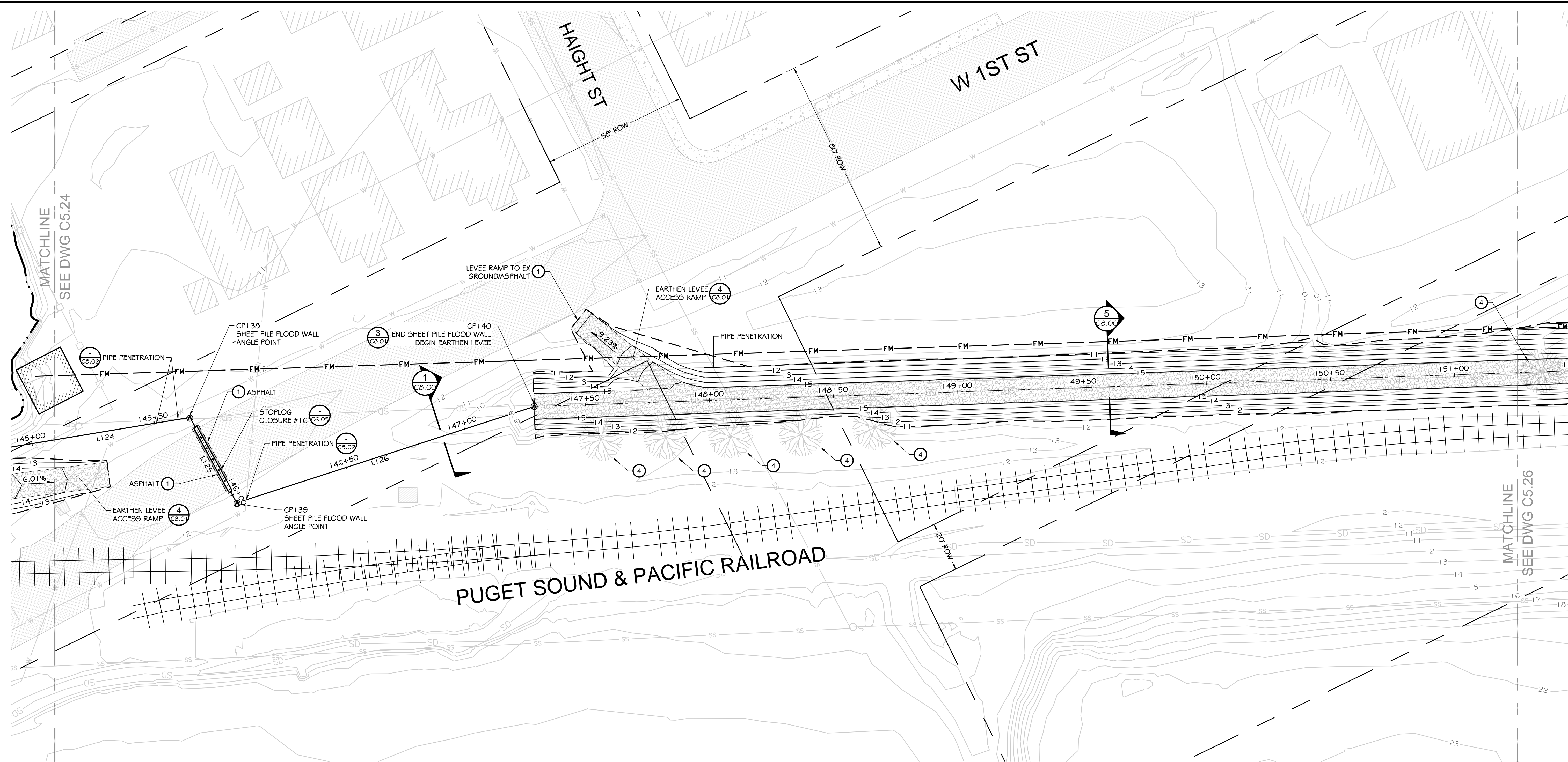
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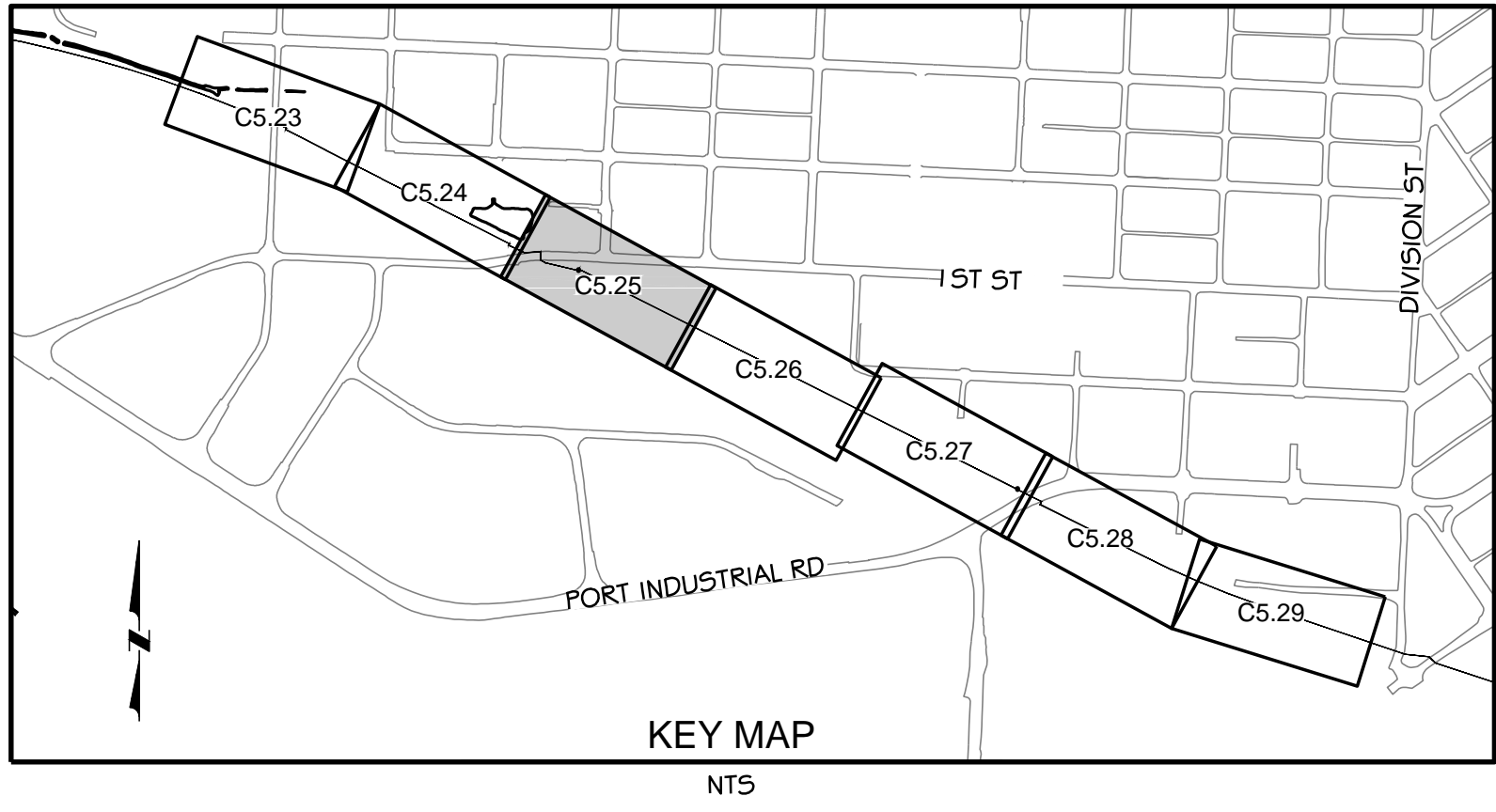
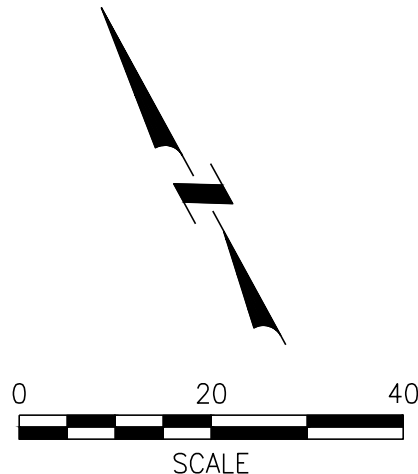
SHEET 30 OF 79

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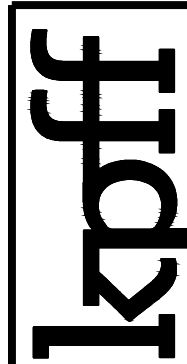


HORIZONTAL CONTROL							
LINE TABLE				POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L124	101.81'	S70° 44' 25"E	6	C10.04	CP138	614,422.97	806,212.12
L125	39.18'	S00° 00' 00"W	6	C10.04	CP139	614,383.79	806,212.12
L126	125.83'	S79° 17' 43"E	6	C10.04	CP140	614,360.41	806,335.76

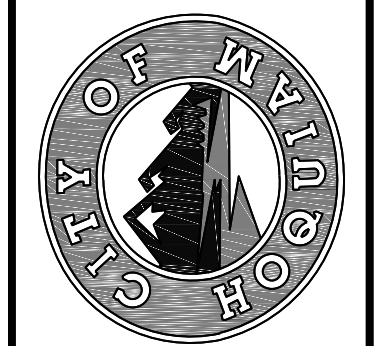
- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
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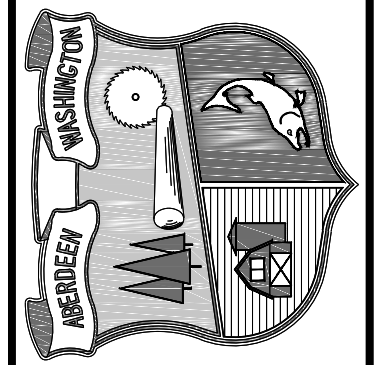
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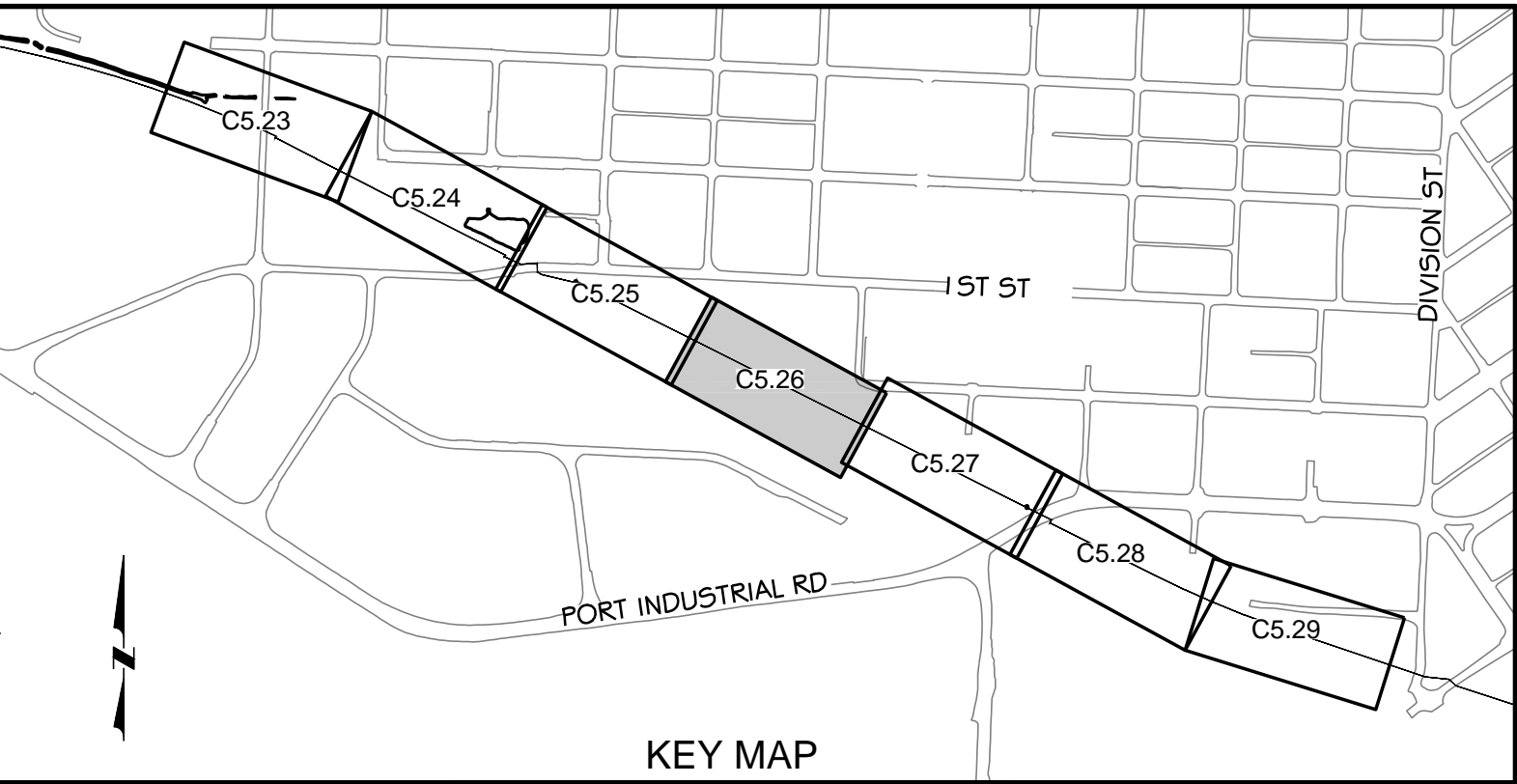
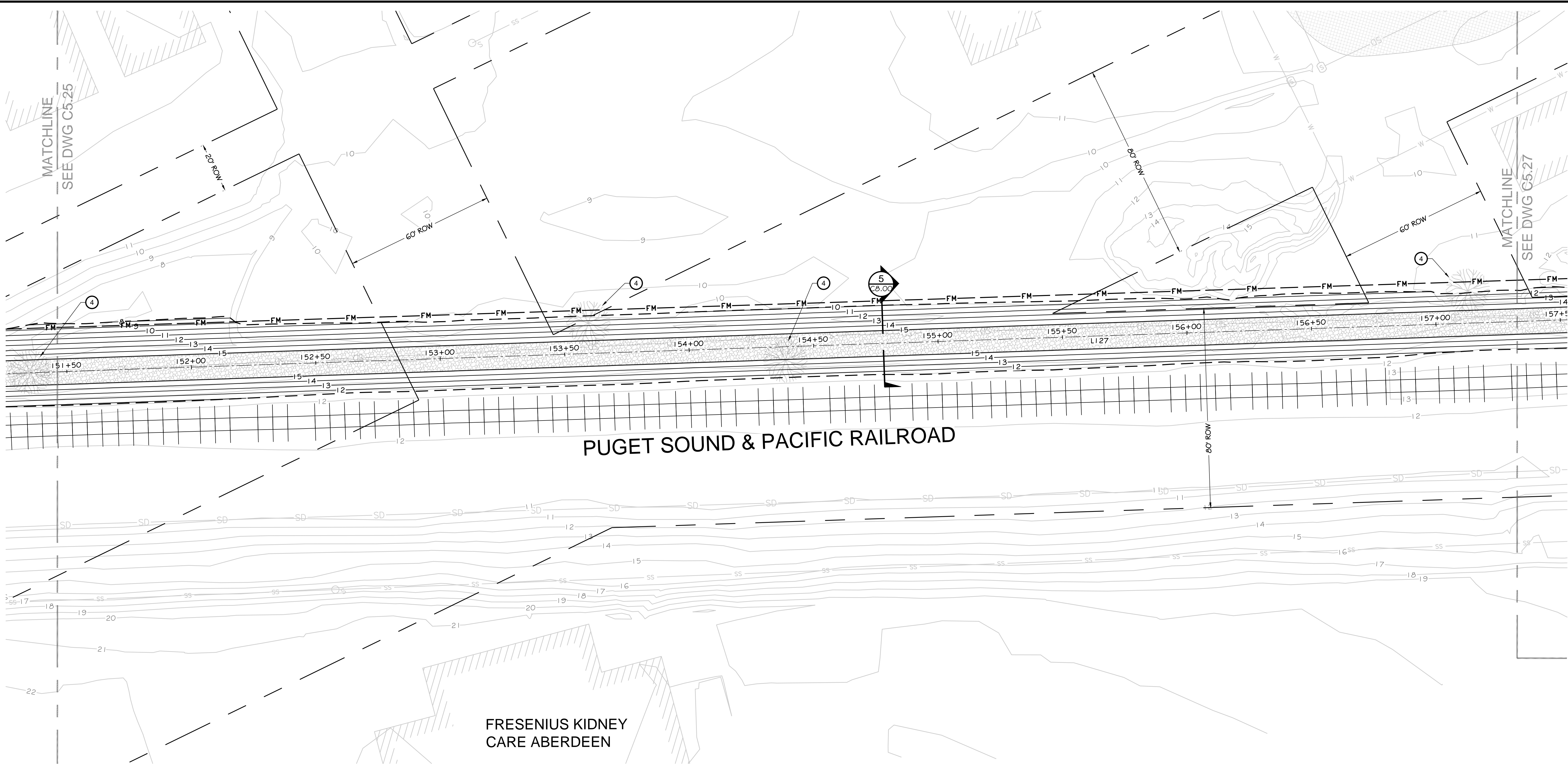
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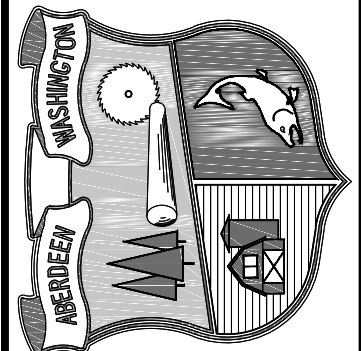


HORIZONTAL CONTROL				
LINE TABLE				
LINE #	LENGTH	BEARING	PROFILE	DWG
L127	1,668.66'	S63° 18' 44"E	G	C10.04

- KEY NOTES:**
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)

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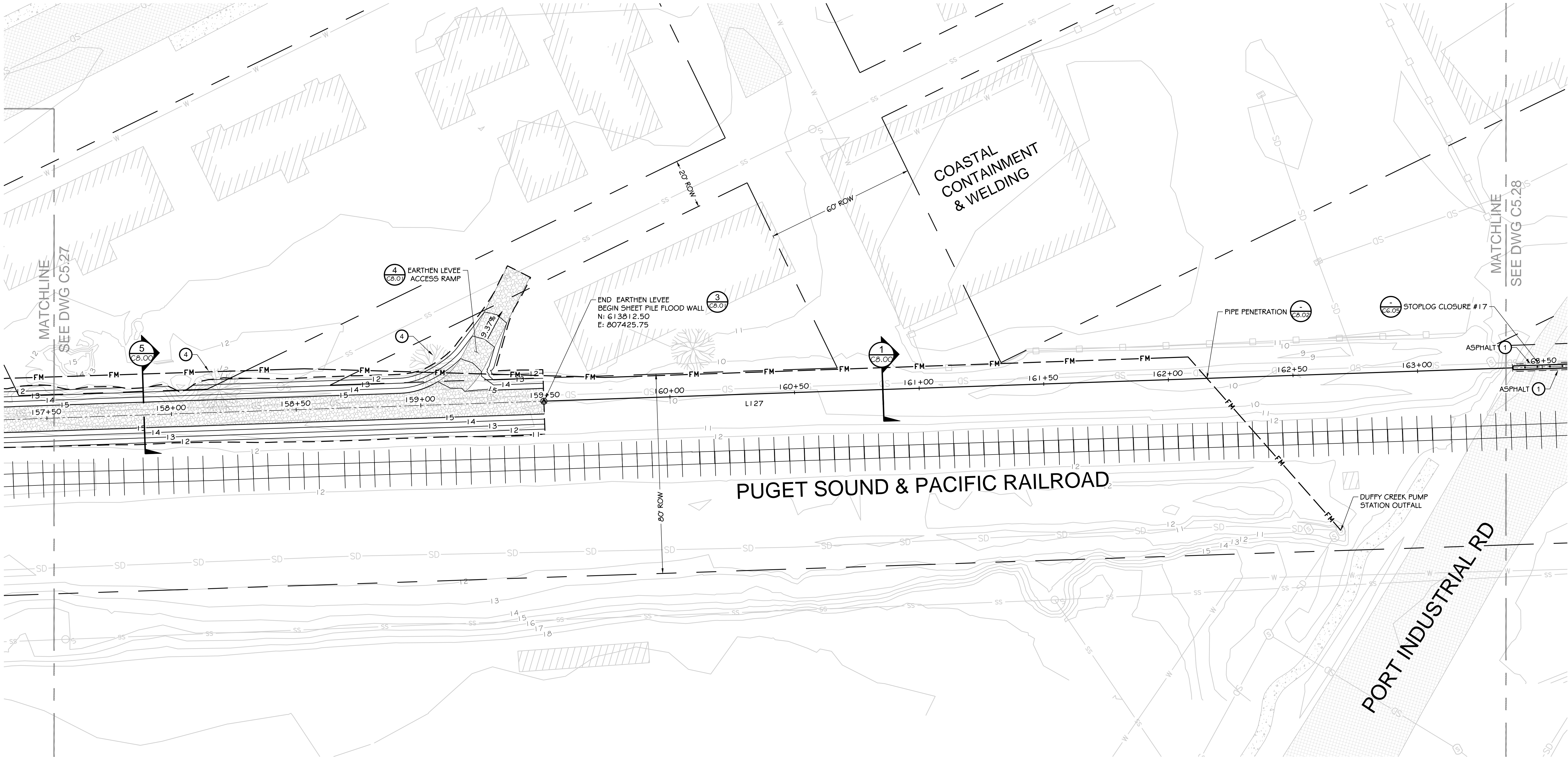
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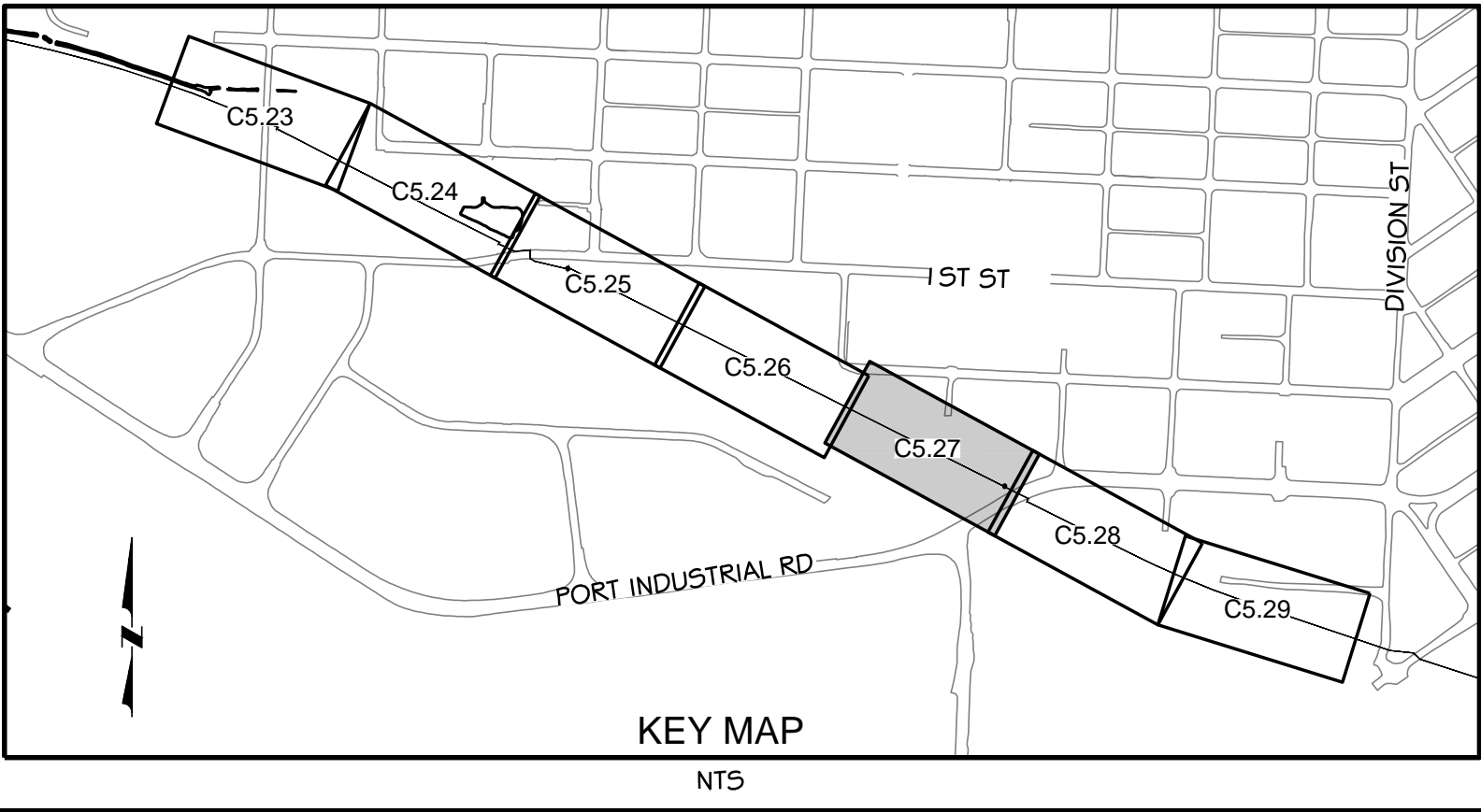
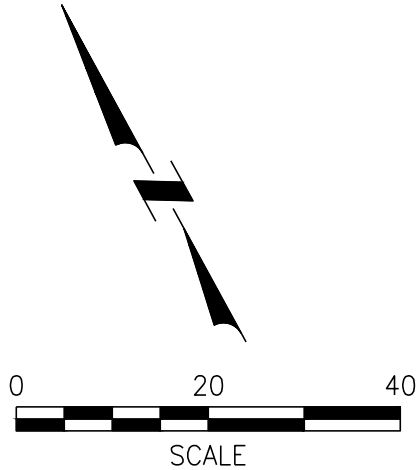
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SHEET 32 OF 79		



HORIZONTAL CONTROL				
LINE TABLE				
LINE #	LENGTH	BEARING	PROFILE	DWG
L127	1,668.66'	563° 18' 44"E	6	C10.04

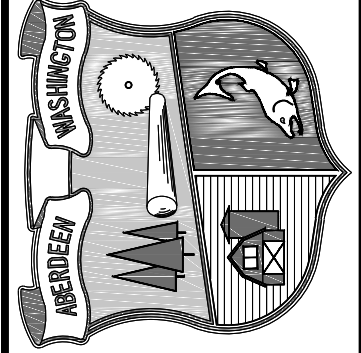
- KEY NOTES:
- ① MATCH EXISTING
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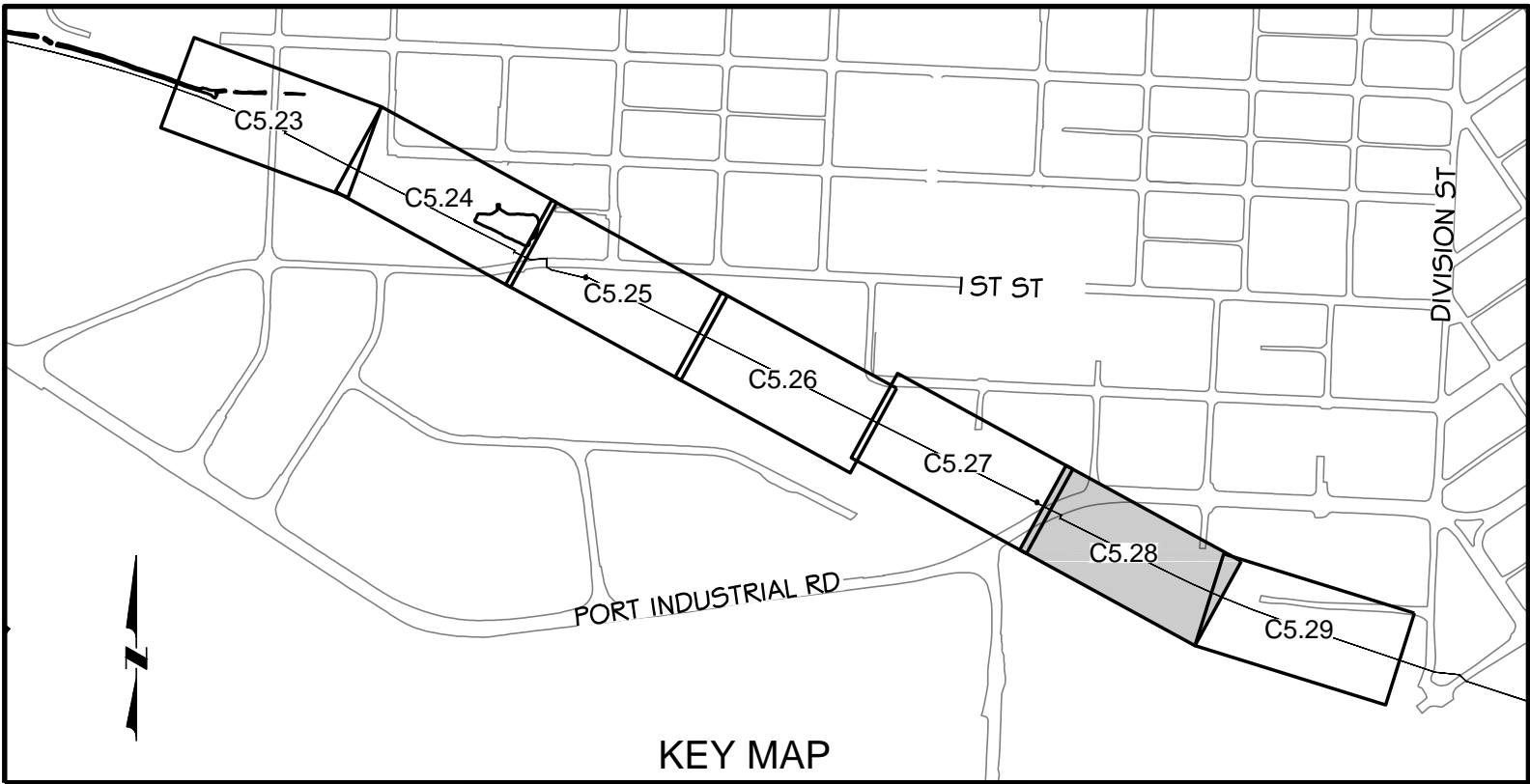
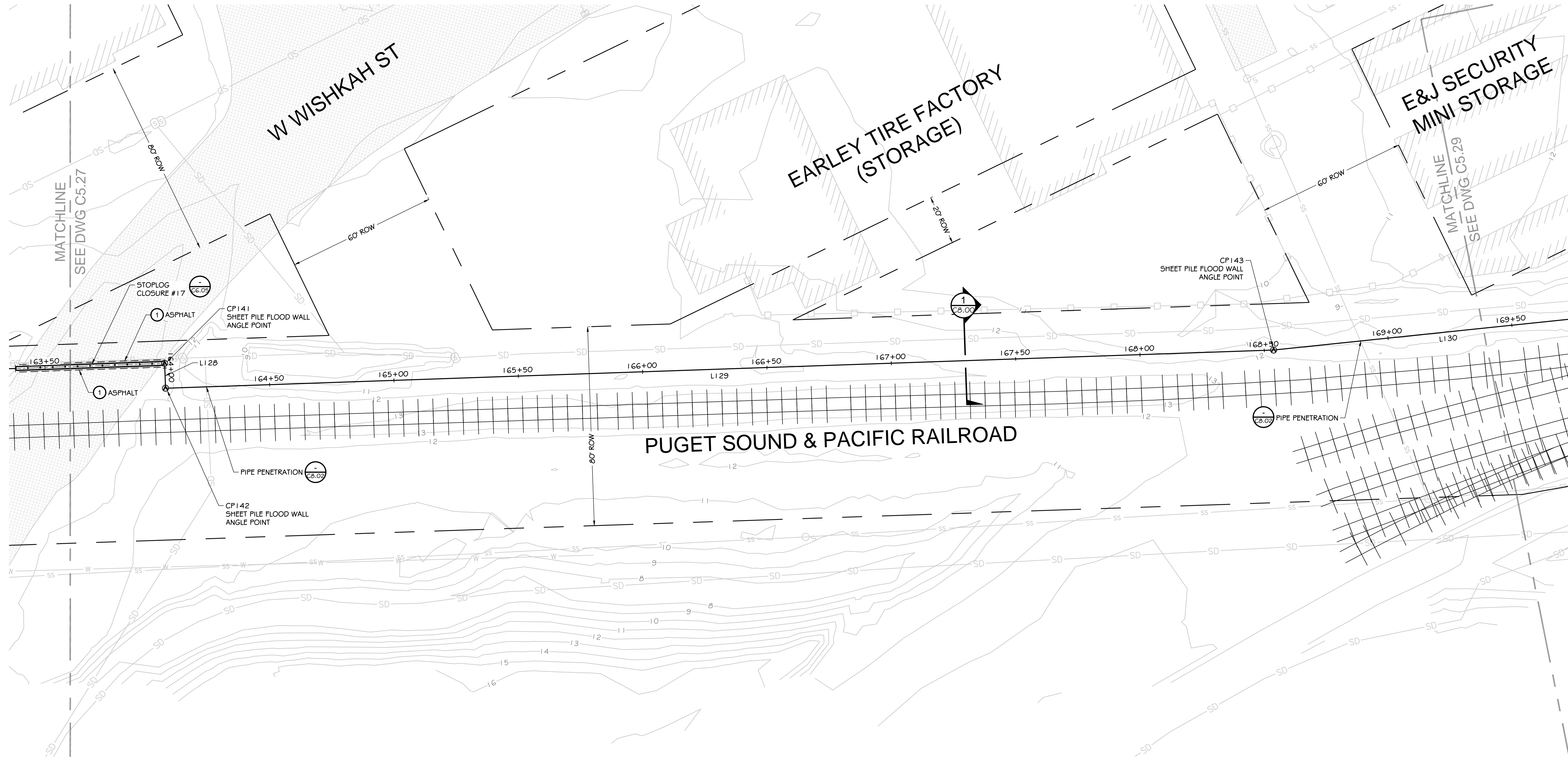
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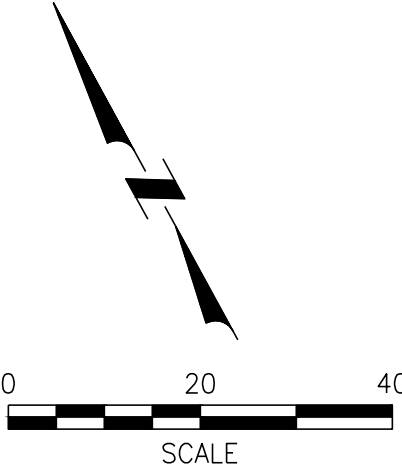
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HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L128	10.00'	S26° 41' 16"W	7	C10.05	CP141	613,610.97	807,826.65
L129	445.64'	S63° 18' 44"E	7	C10.05	CP142	613,602.03	807,822.16
L130	208.33'	S67° 17' 39"E	7	C10.05	CP143	613,401.88	808,220.32

KEY NOTES:

- ① MATCH EXISTING
- ② PROPOSED CATCH BASIN
- ③ CONNECT TO EXISTING UTILITY
- ④ REMOVE TREE(S)



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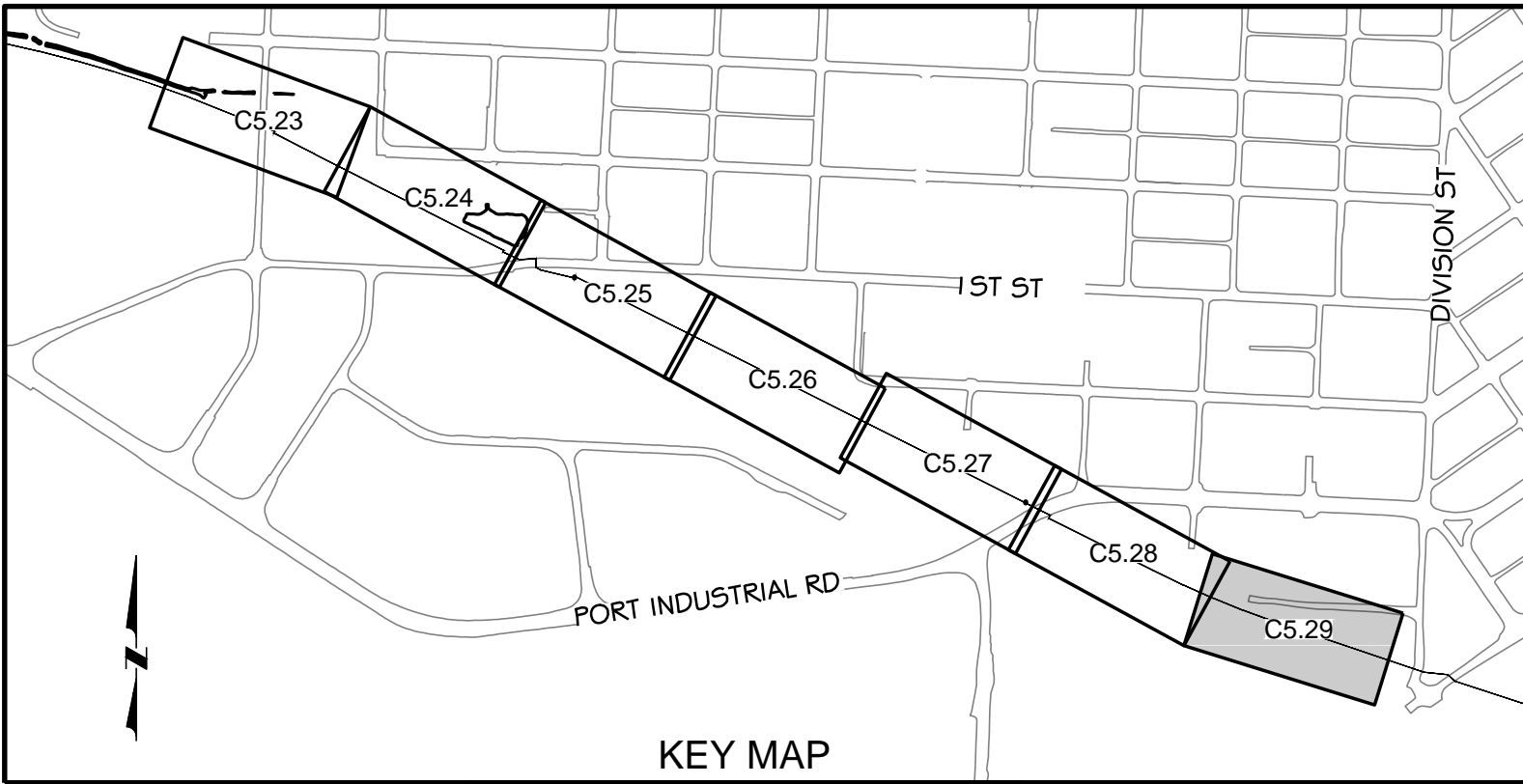
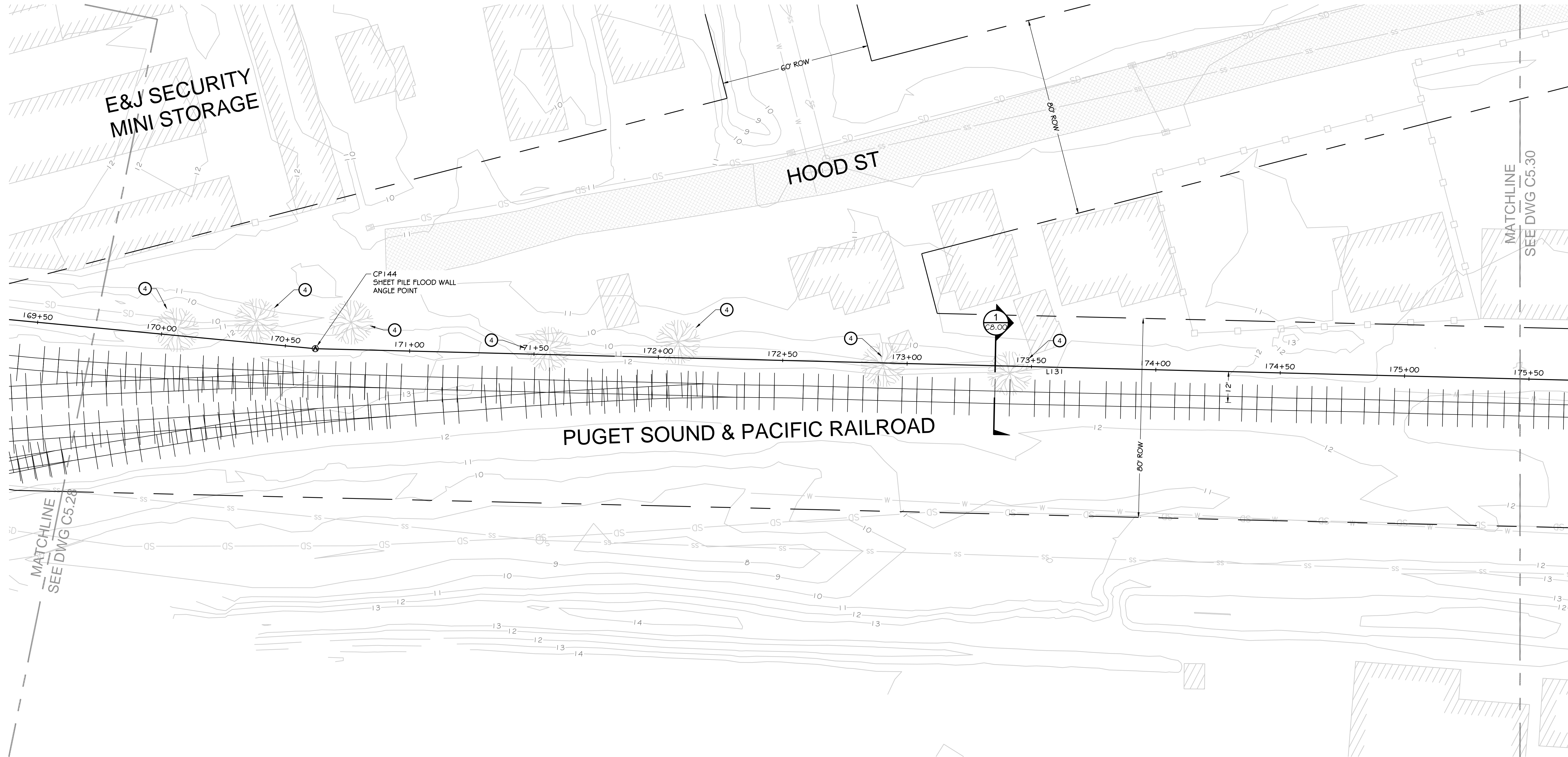
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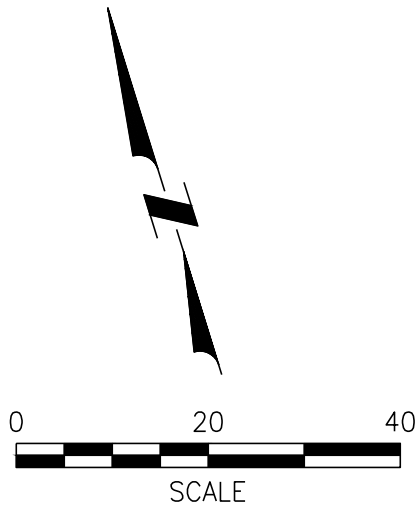
SHEET 34 OF 79

LEVEE PLAN



HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L131	583.14'	571° 16' 34"E	7	C10.05	CP144	613,321.47	808,412.50

- KEY NOTES:**
- ① MATCH EXISTING
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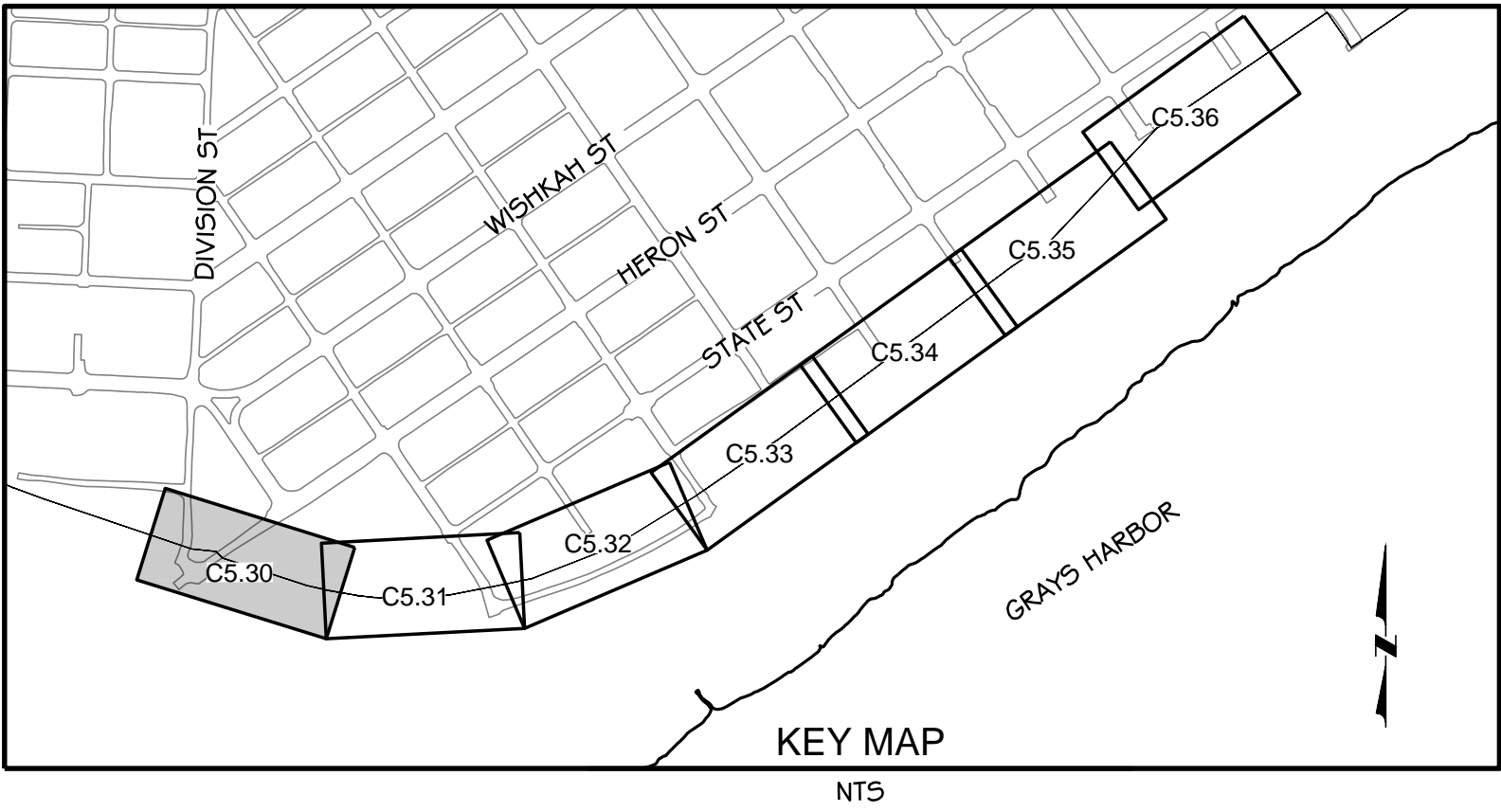
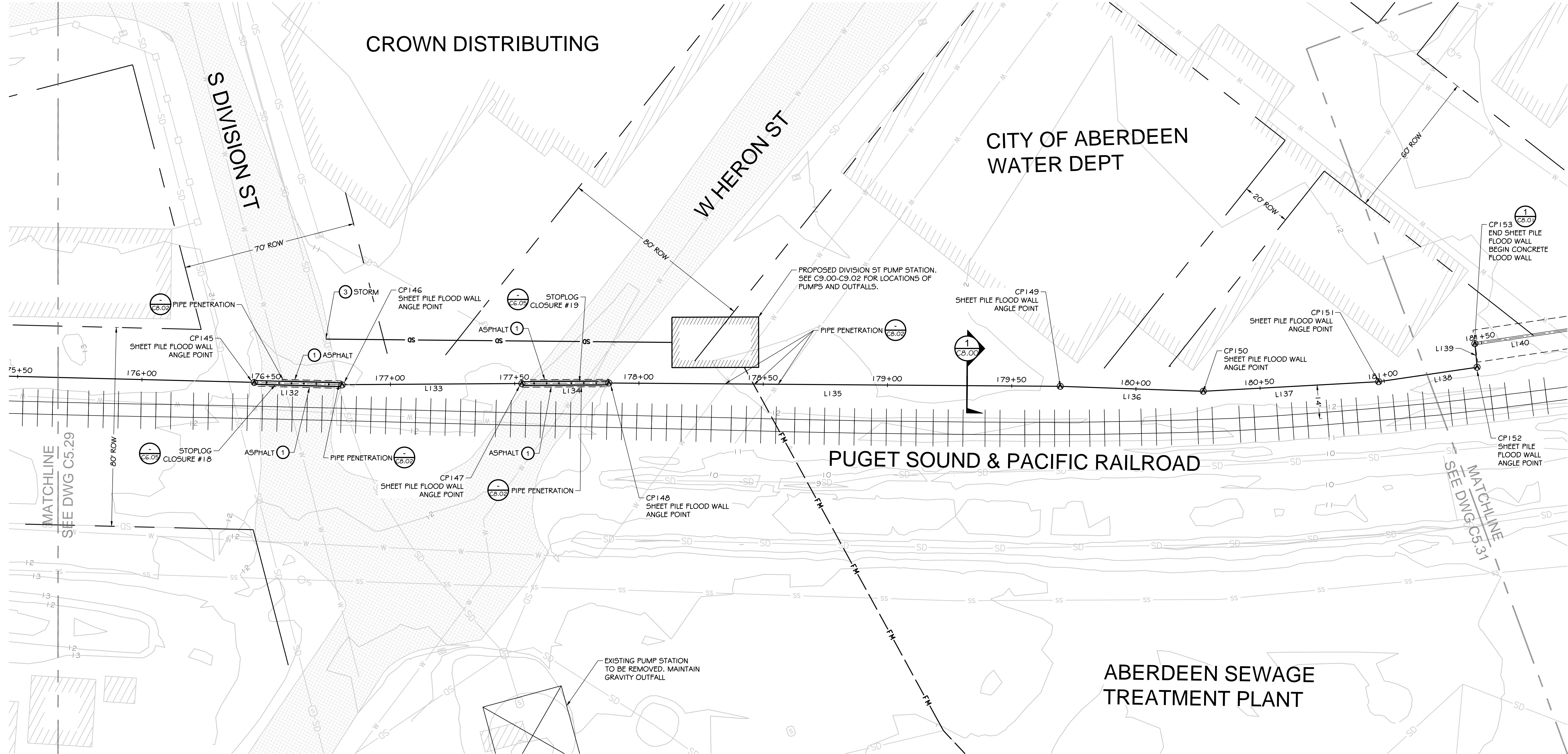
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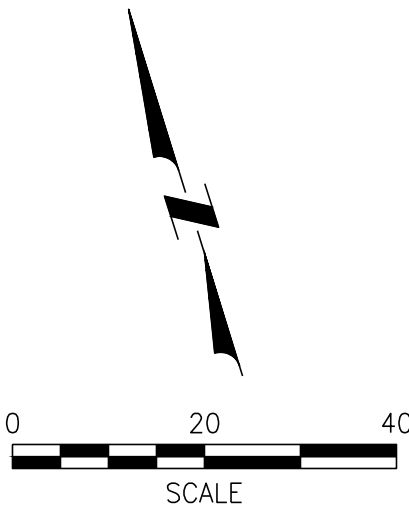
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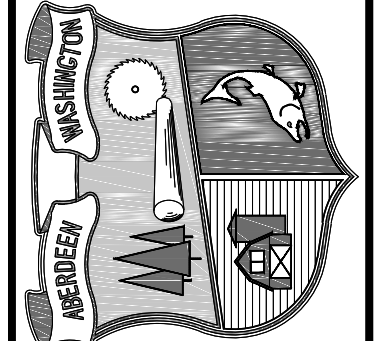
HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L132	35.00'	S71° 12' 01"E	8	C10.05	CP145	613,134.28	808,964.78
L133	72.62'	S73° 04' 54"E	8	C10.05	CP146	613,123.00	808,997.91
L134	35.00'	S73° 04' 08"E	8	C10.05	CP147	613,101.87	809,067.39
L135	181.68'	S72° 17' 09"E	8	C10.05	CP148	613,091.67	809,100.87
L136	57.61'	S70° 44' 01"E	8	C10.05	CP149	613,036.39	809,273.94
L137	70.66'	S75° 49' 47"E	8	C10.05	CP150	613,017.38	809,328.32
L138	40.02'	S81° 03' 09"E	8	C10.05	CP151	613,000.08	809,396.84
					CP152	612,993.86	809,436.37
					CP153	613,003.19	809,438.35

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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JOB NO:	41600177

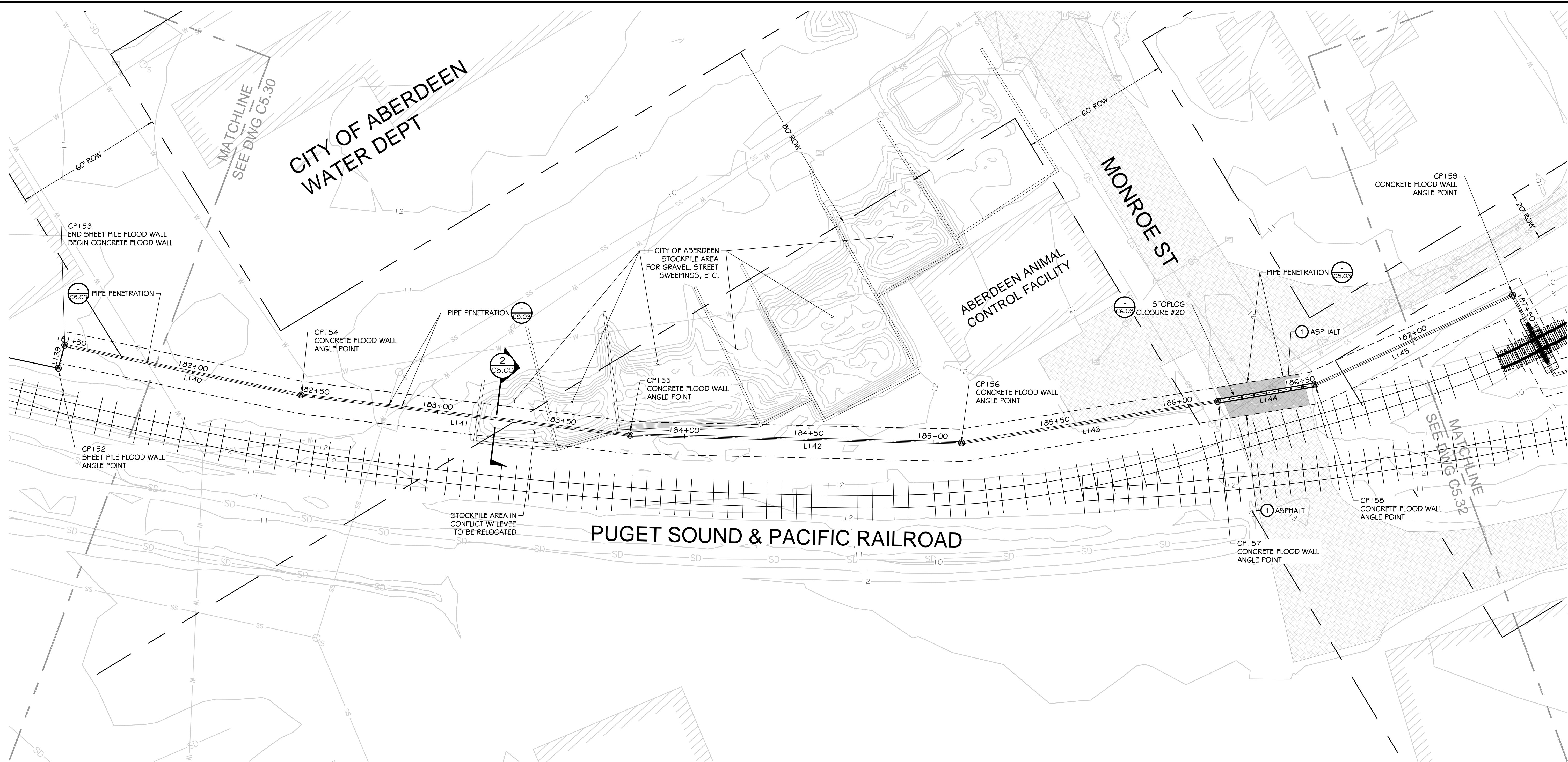
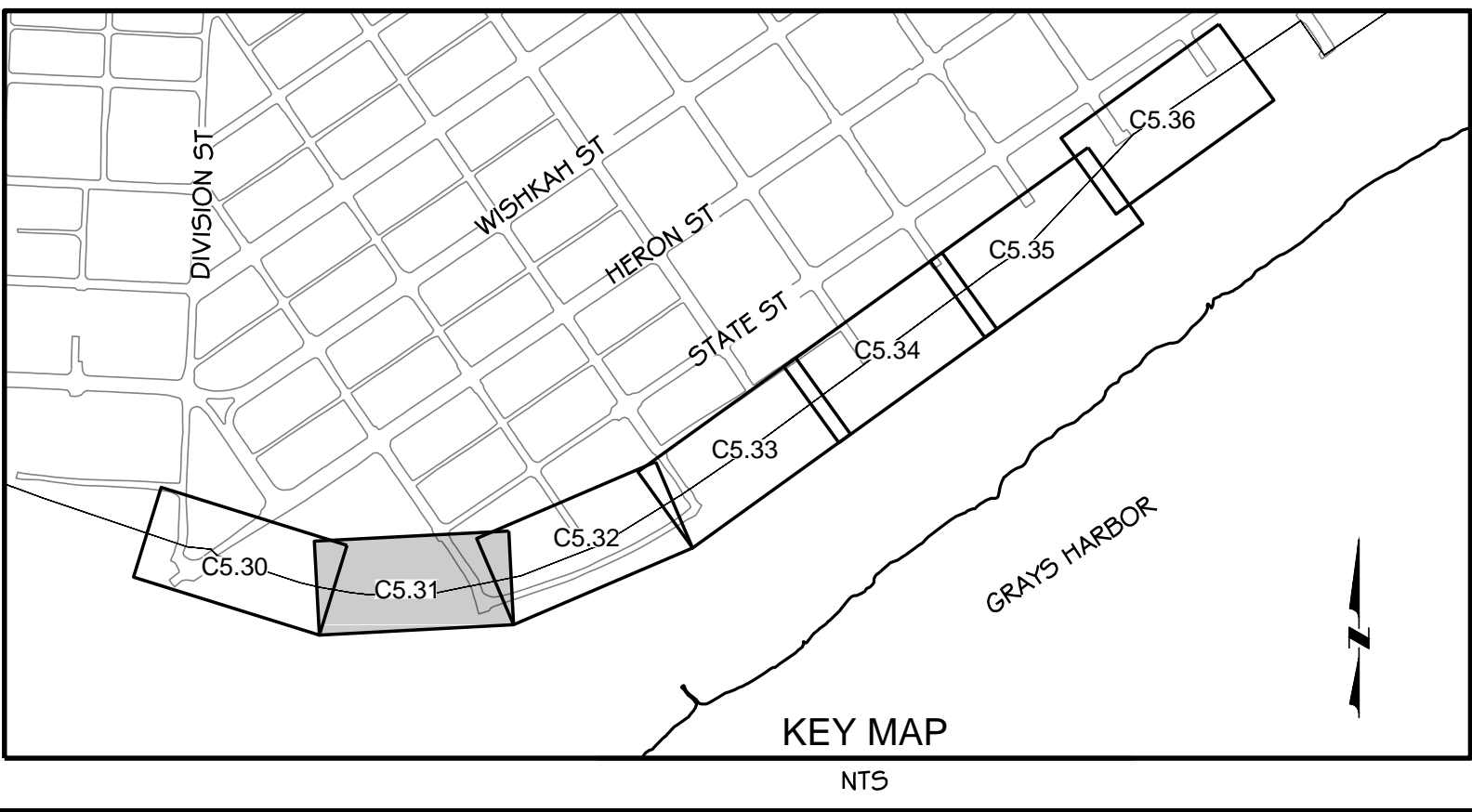
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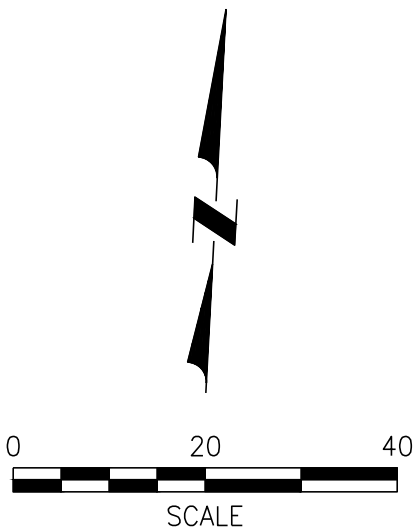
C5.30

SHEET 36 OF 79



HORIZONTAL CONTROL						
LINE TABLE					POINT TABLE	
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING
L139	9.54'	N11° 59' 58"E	Ø	C10.05	CP152	612,993.66
L140	97.26'	S81° 09' 47"E	Ø	C10.05	CP153	613,003.19
L141	133.37'	S86° 04' 25"E	Ø	C10.05	CP154	612,988.25
L142	133.37'	N88° 18' 03"E	Ø	C10.05	CP155	612,979.12
L143	104.32'	N77° 44' 02"E	Ø	C10.05	CP156	612,963.07
L144	39.88'	N77° 24' 10"E	Ø	C10.05	CP157	613,005.24
L145	87.30'	N62° 34' 18"E	Ø	C10.05	CP158	613,013.93
					CP159	613,054.15
						809,436.37
						809,438.35
						809,534.46
						809,667.51
						809,800.82
						809,902.76
						809,941.68
						810,019.17

- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)



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JOB NO:	41600177	

NORTH SHORE LEVEE

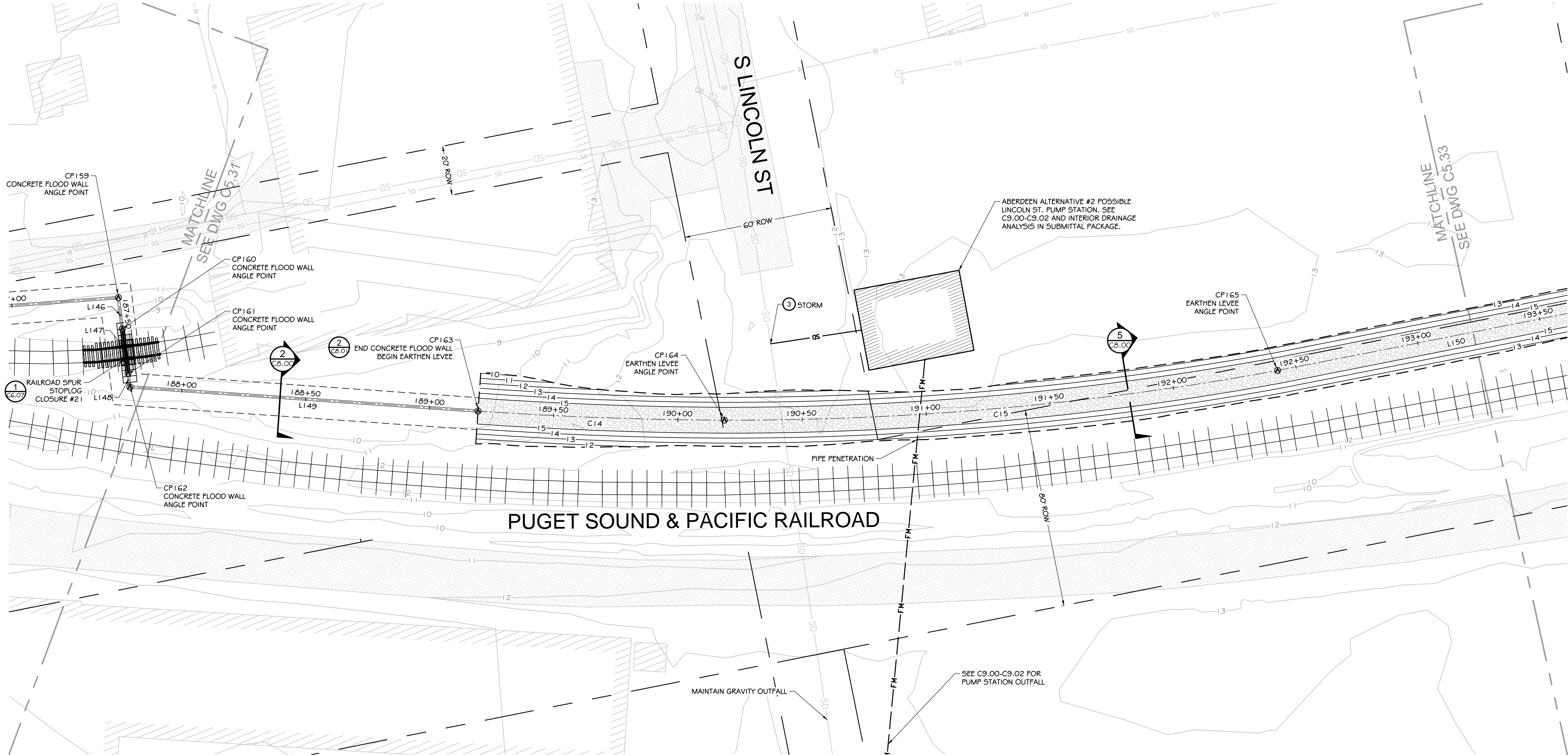
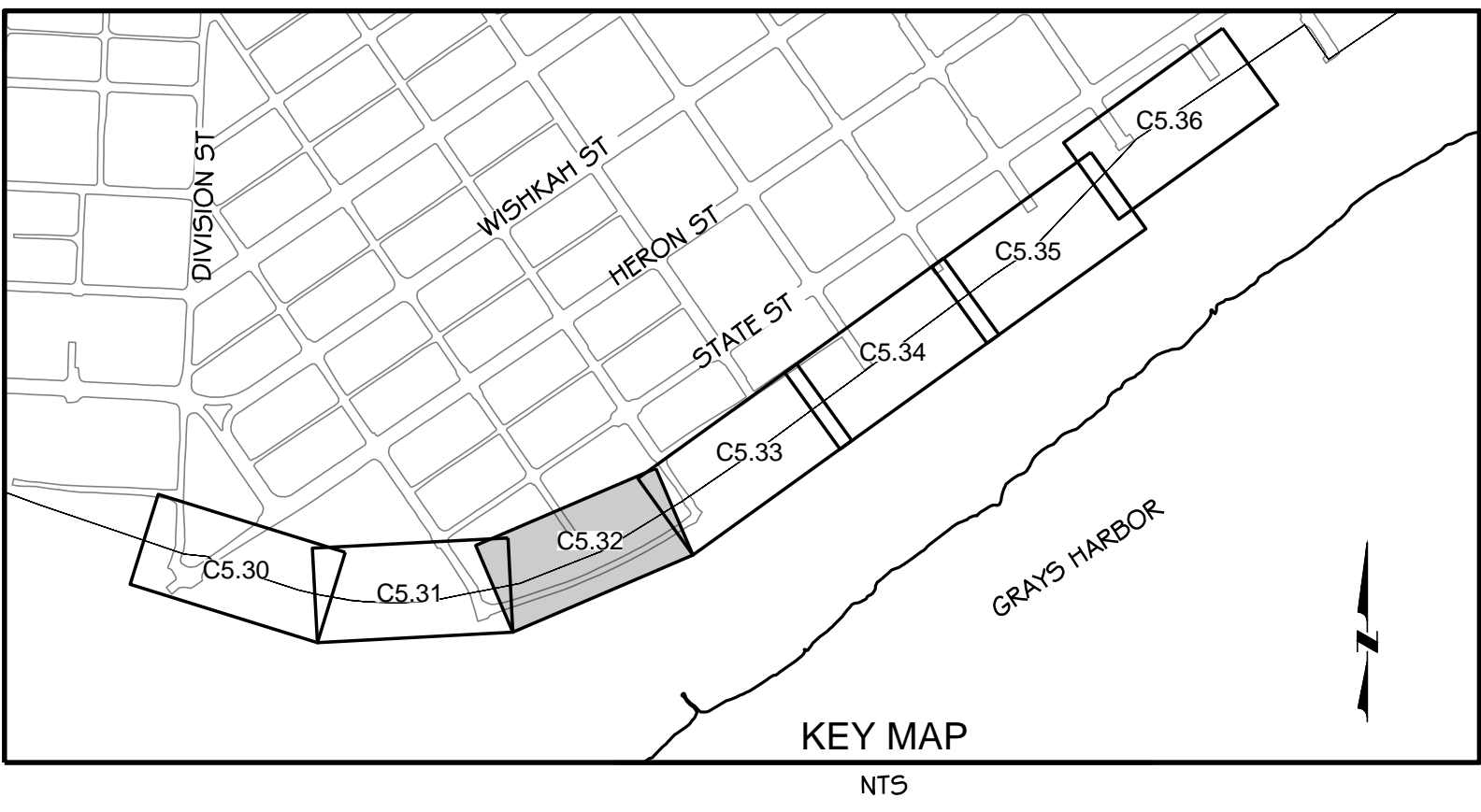
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SHEET 37 OF 79



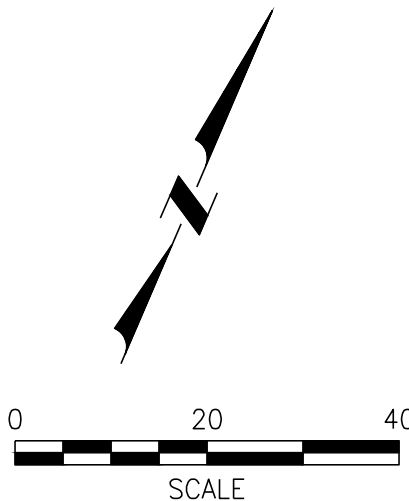
HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L146	13.19'	S30° 23' 09"E	Ø	C10.05	C14	N68° 56' 25"E	99.17'	1,541.11'	Ø	C10.05	CP159	613,054.15	810,019.17
L147	18.00'	S30° 32' 01"E	Ø	C10.05	C15	N61° 40' 49"E	223.82'	1,223.61'	Ø	C10.05	CP160	613,042.77	810,025.84
L148	5.04'	S30° 55' 13"E	Ø	C10.05							CP161	613,027.27	810,034.99
L149	140.45'	N70° 46' 18"E	Ø	C10.05							CP162	613,022.94	810,037.58
L150	152.76'	N55° 40' 50"E	Ø	C10.05							CP163	613,069.20	810,170.19
											CP164	613,104.83	810,262.73
											CP165	613,210.86	810,459.48

GENERAL NOTES:

1. EXISTING LINCOLN ST. PUMP STATION ±250 FEET FROM PROPOSED STATION TO BE REMOVED.

KEY NOTES:

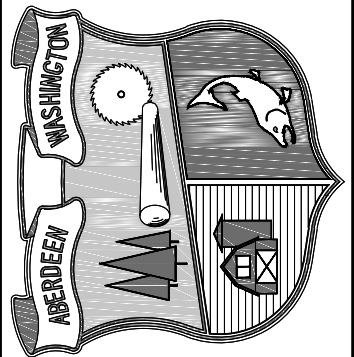
- 1 MATCH EXISTING
2 PROPOSED CATCH BASIN
3 CONNECT TO EXISTING UTILITY
4 REMOVE TREE(S)



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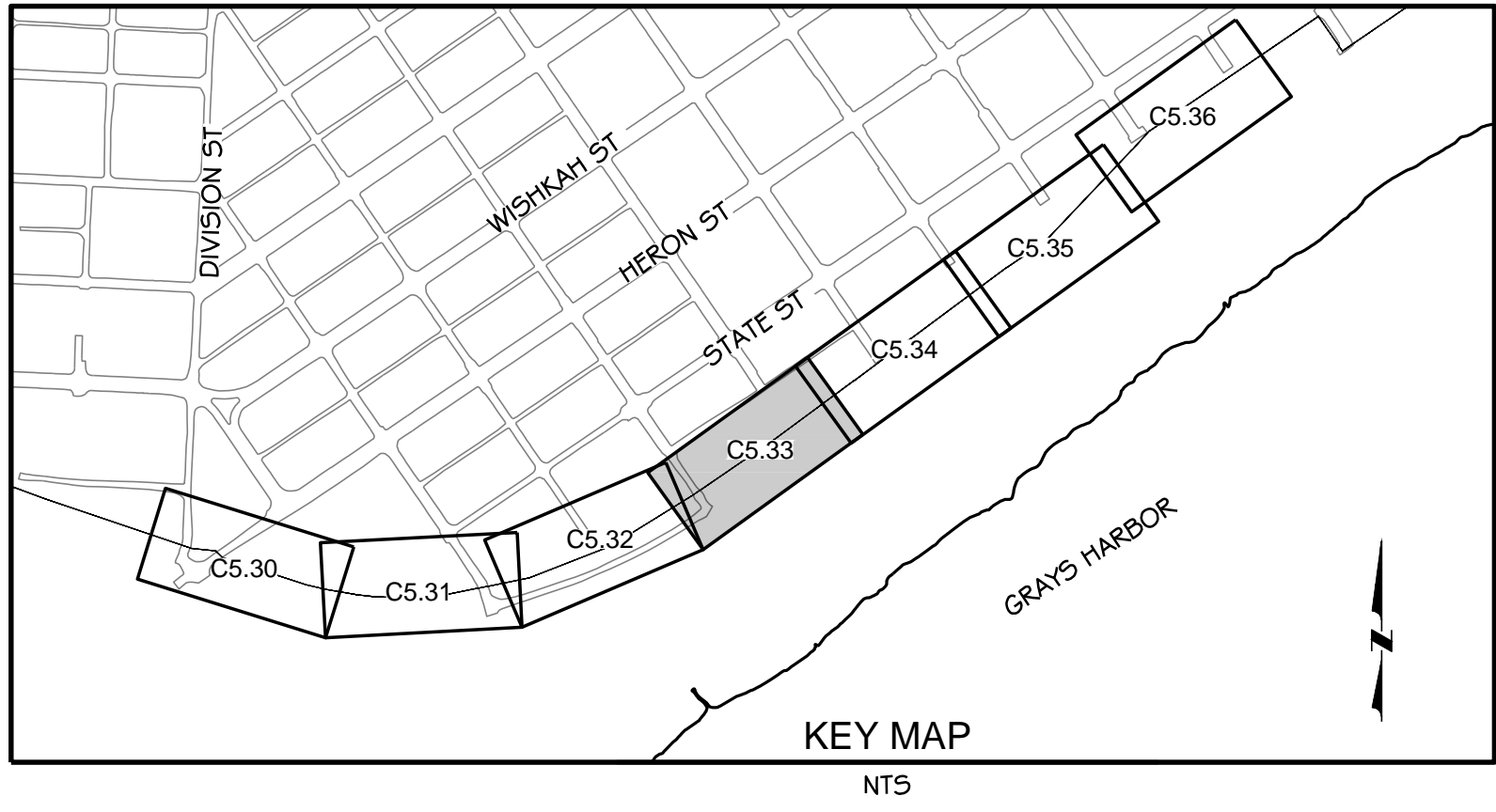
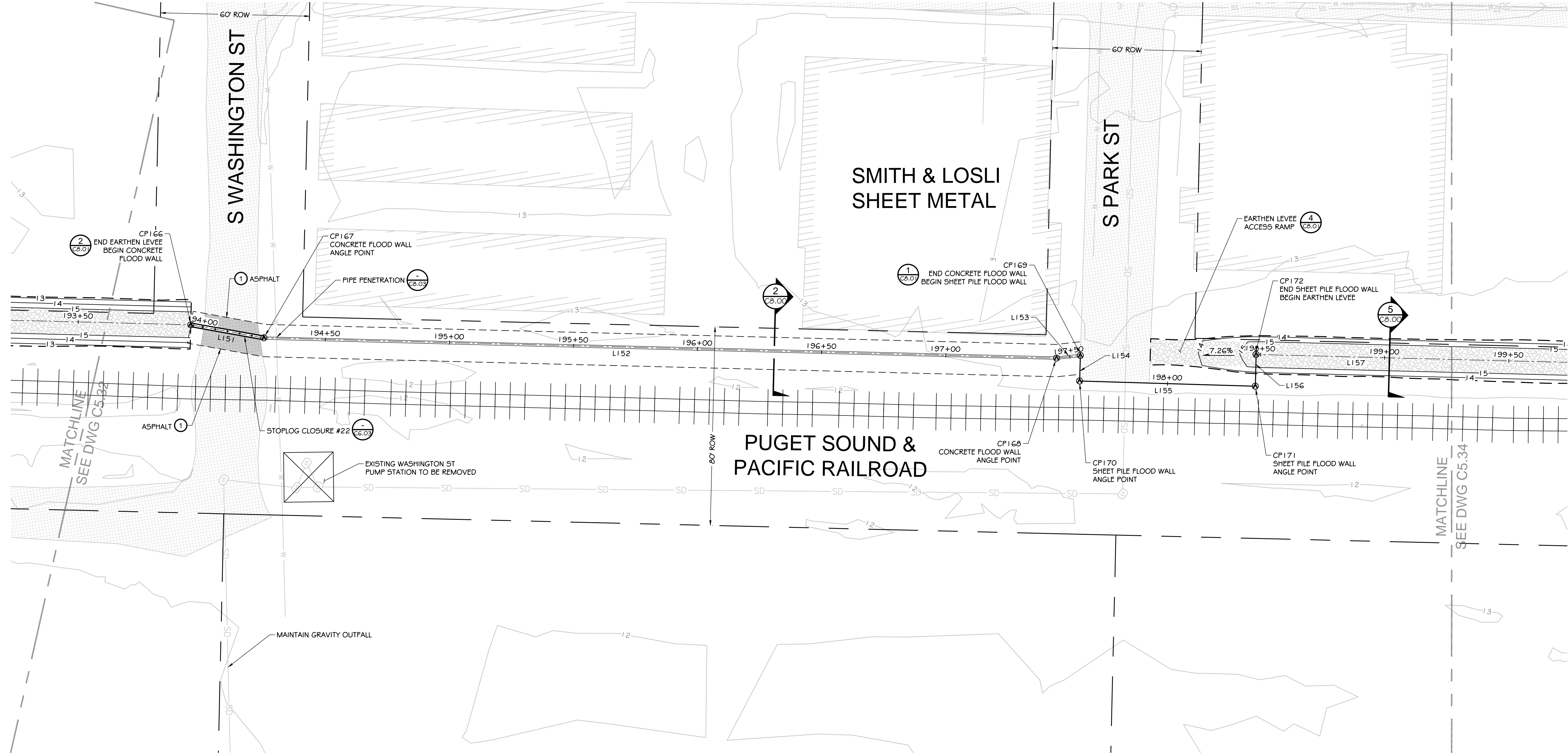
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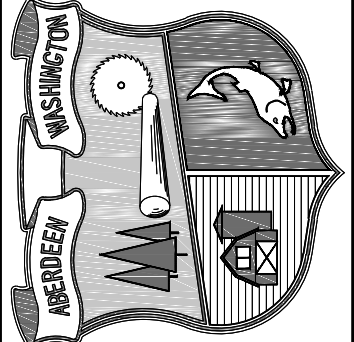
HORIZONTAL CONTROL								
LINE TABLE					POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING	
L151	29.83'	N64° 23' 38"E	Ø	C10.05	CP166	613,296.98	810,585.65	
L152	319.50'	N55° 41' 41"E	Ø	C10.05	CP167	613,309.88	810,612.55	
L153	9.65'	N47° 53' 08"E	Ø	C10.05	CP168	613,489.95	810,876.47	
L154	10.29'	S34° 03' 22"E	Ø	C10.05	CP169	613,496.42	810,883.63	
L155	70.82'	N55° 56' 38"E	Ø	C10.05	CP170	613,487.89	810,889.39	
L156	12.81'	N34° 19' 10"W	Ø	C10.05	CP171	613,527.55	810,948.07	
					CP172	613,538.13	810,940.85	

KEY NOTES:

- MATCH EXISTING
- PROPOSED CATCH BASIN
- CONNECT TO EXISTING UTILITY
- REMOVE TREE(S)

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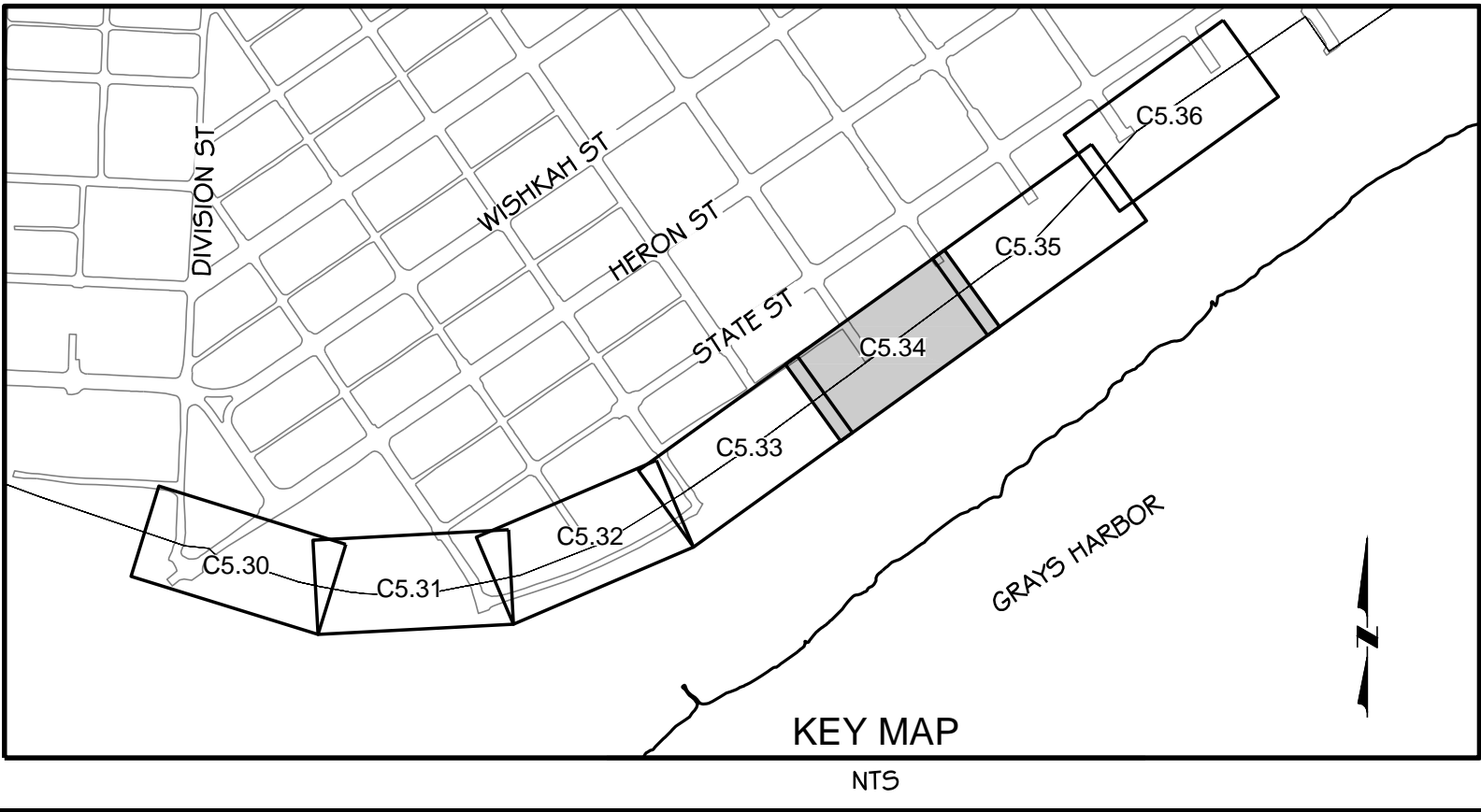
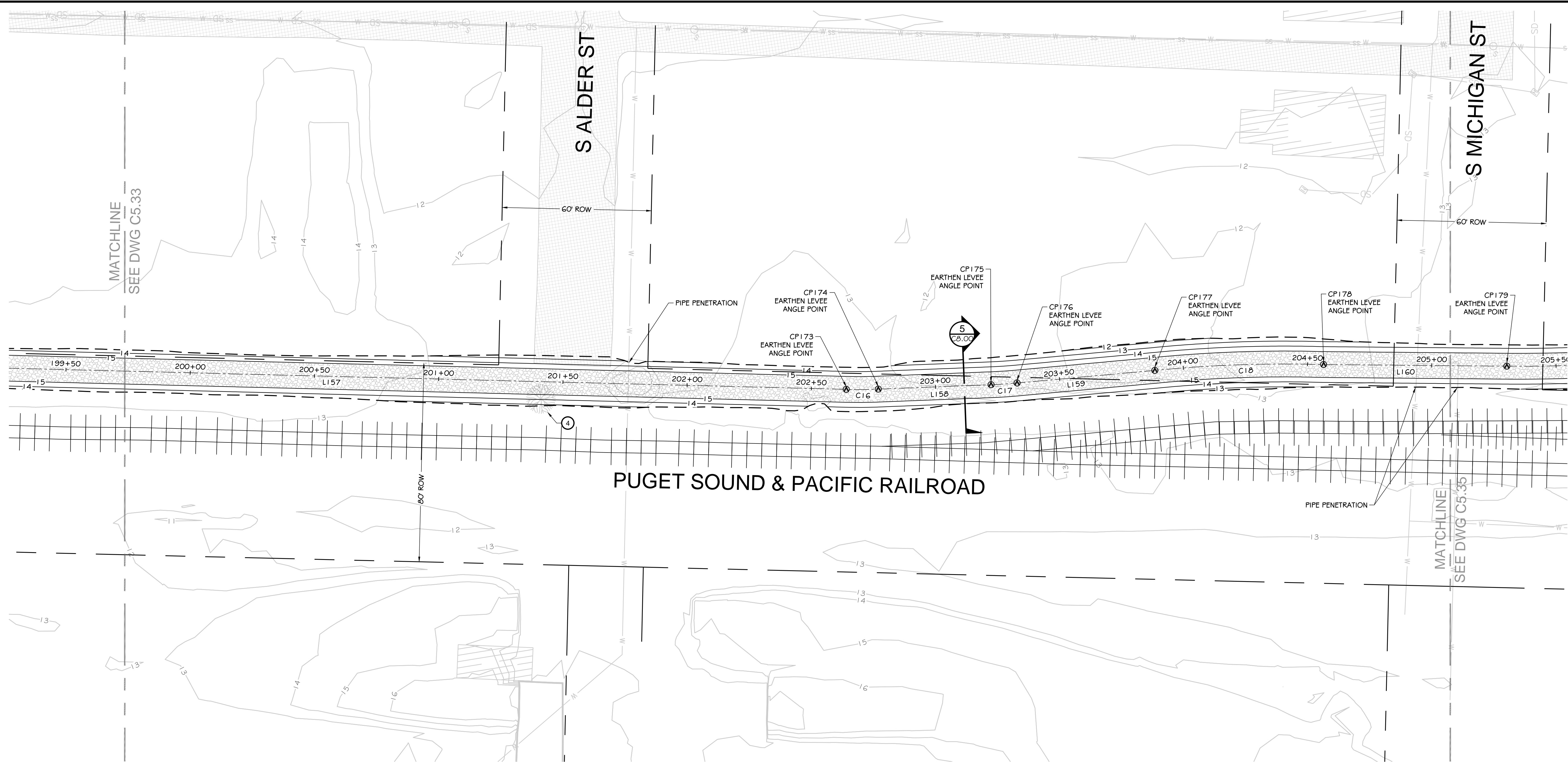


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MRS	MRS		

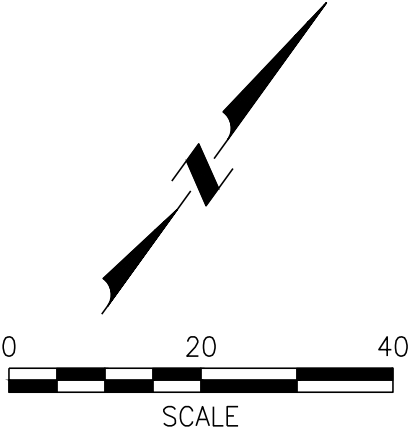
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Horizontal Control											
Line Table					Curve Table					Point Table	
Line #	Length	Bearing	Profile	DWG	Curve #	Delta	Length	Radius	Profile	DWG	Point #
L157	415.87'	N55° 40' 50"E	8	C10.05	C16	N53° 50' 08"E	12.88'	200.00'	9	C10.05	CP173
L158	45.40'	N51° 59' 26"E	9	C10.05	C17	N50° 29' 20"E	10.48'	200.00'	9	C10.05	CP174
L159	55.69'	N48° 59' 15"E	9	C10.05	C18	N52° 14' 47"E	67.98'	536.72'	9	C10.05	CP175
L160	73.73'	N54° 45' 31"E	9	C10.05							CP176
											CP177
											CP178
											CP179

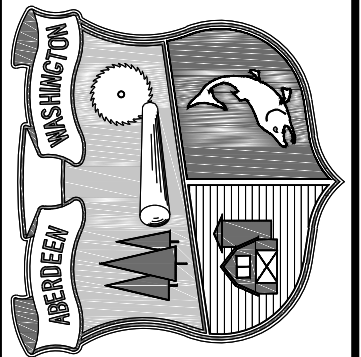
- KEY NOTES:
- 1 MATCH EXISTING
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DATE	
07-10-2017	
JOB NO:41600177	

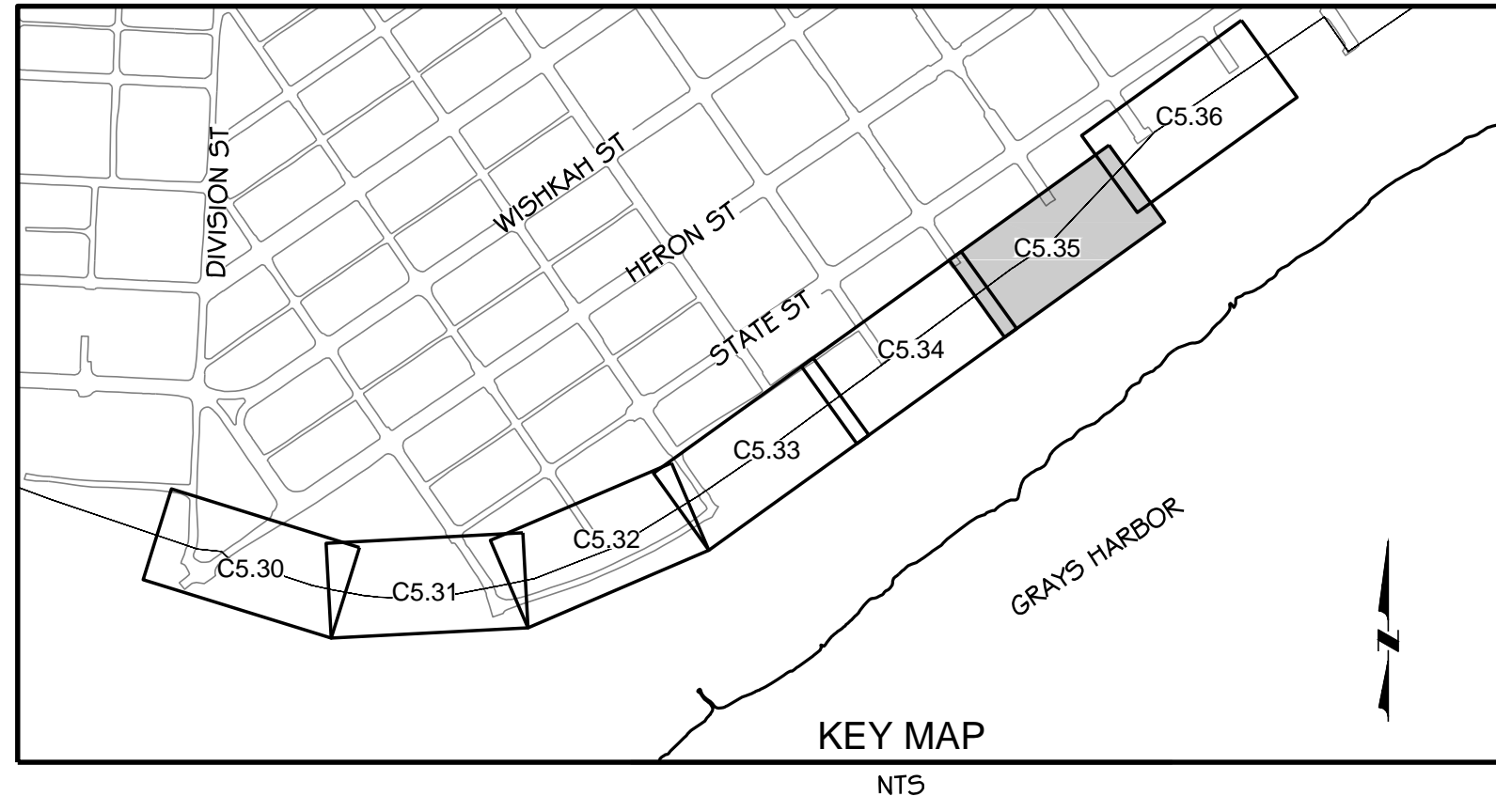
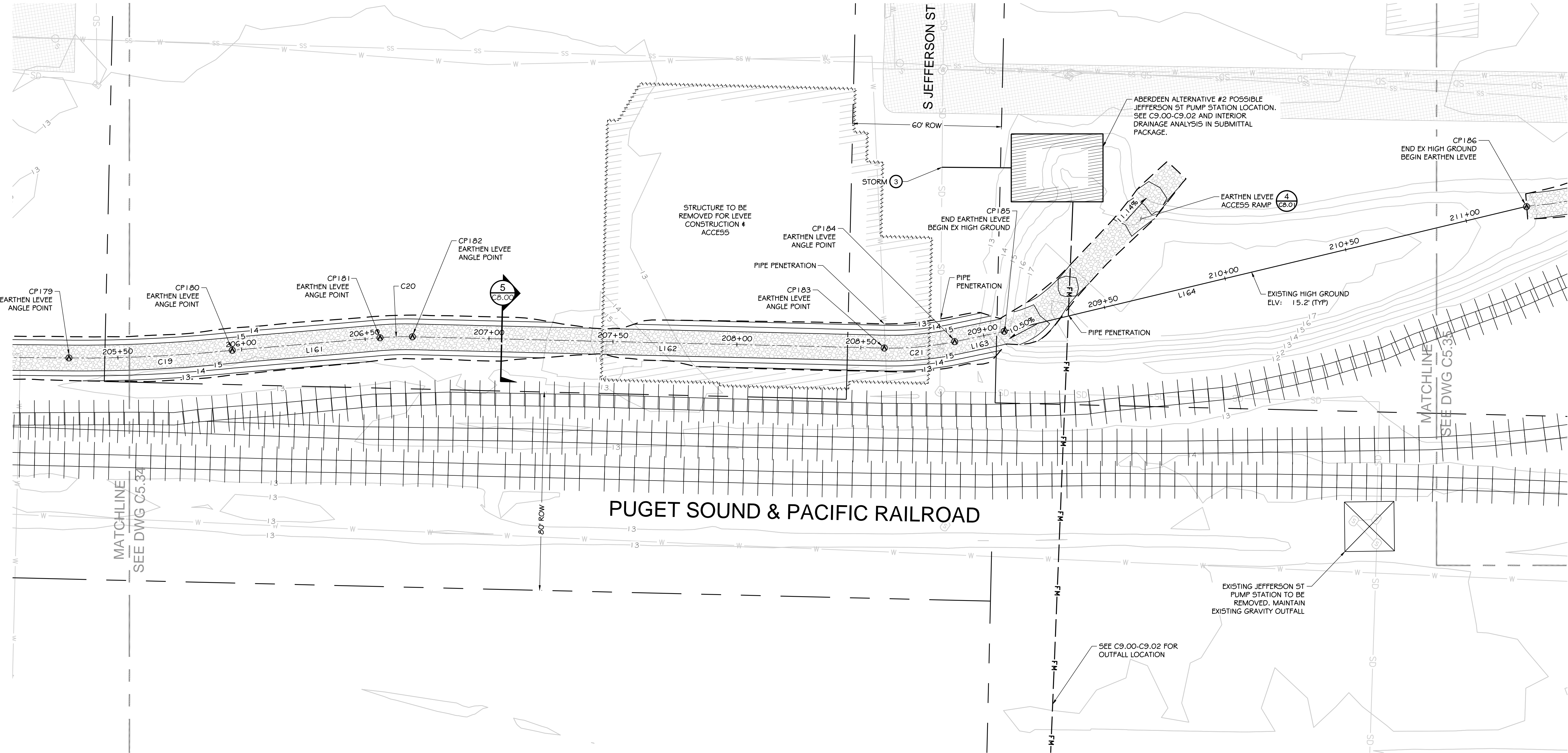
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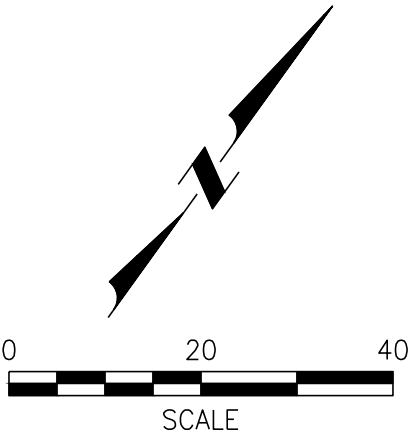
C5.34

SHEET 40 OF 79



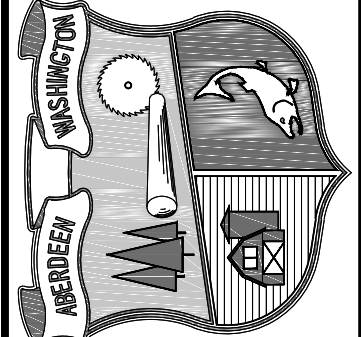
HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L161	59.82'	N49° 24' 41"E	9	C10.05	C19	N51° 31' 04"E	65.99'	583.33'	9	C10.05	CP179	613,935.51	811,494.52
L162	190.35'	N55° 35' 59"E	9	C10.05	C20	N52° 30' 20"E	13.07'	121.00'	9	C10.05	CP180	613,976.55	811,546.15
L163	20.40'	N42° 27' 58"E	9	C10.05	C21	N49° 03' 03"E	28.57'	124.99'	9	C10.05	CP181	614,015.47	811,591.58
L164	216.64'	N40° 46' 04"E	9	C10.05							CP182	614,023.42	811,601.95
											CP183	614,130.96	811,759.00
											CP184	614,149.65	811,780.54
											CP185	614,164.70	811,794.31
											CP186	614,328.77	811,935.78

- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)



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NORTH SHORE LEVEE

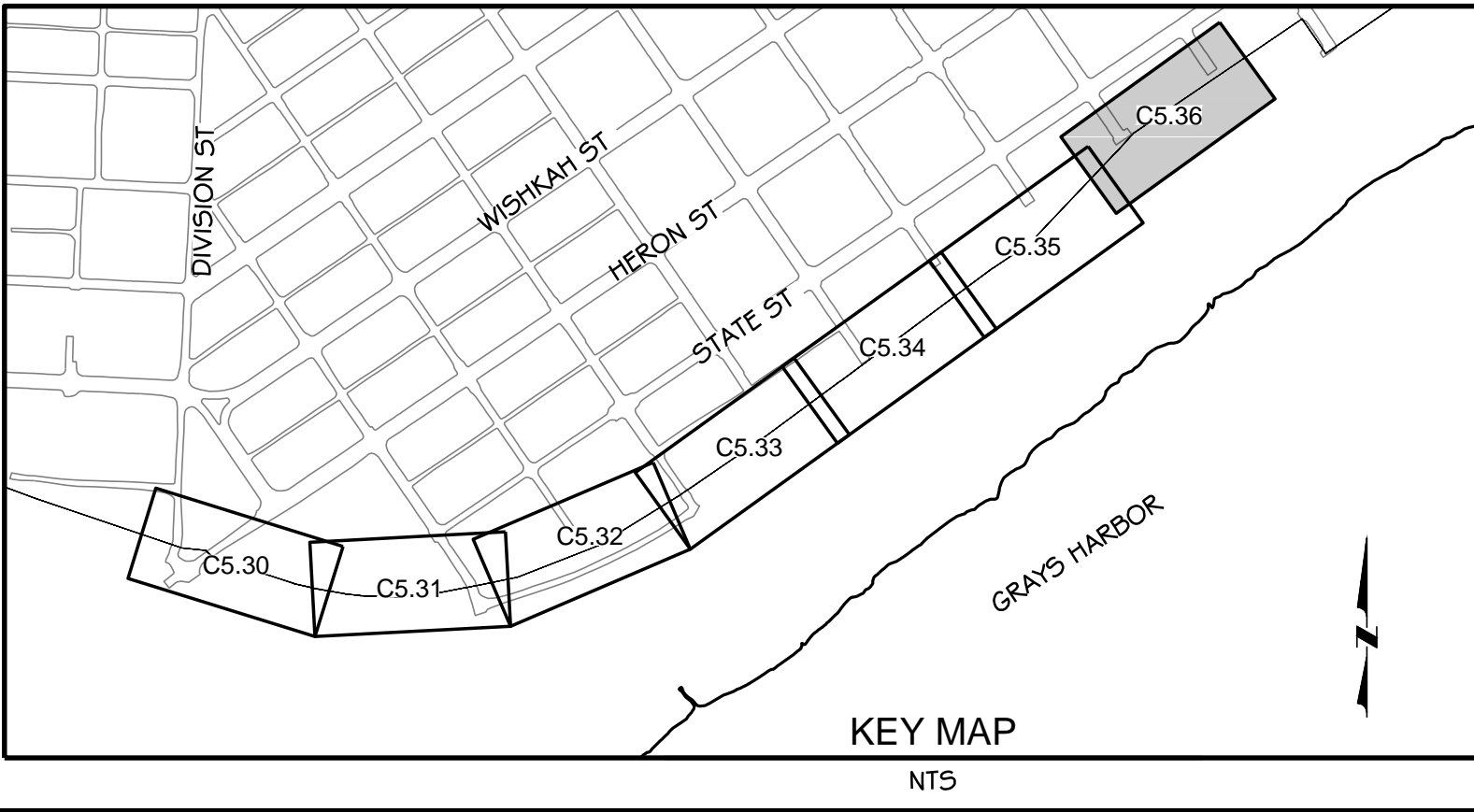
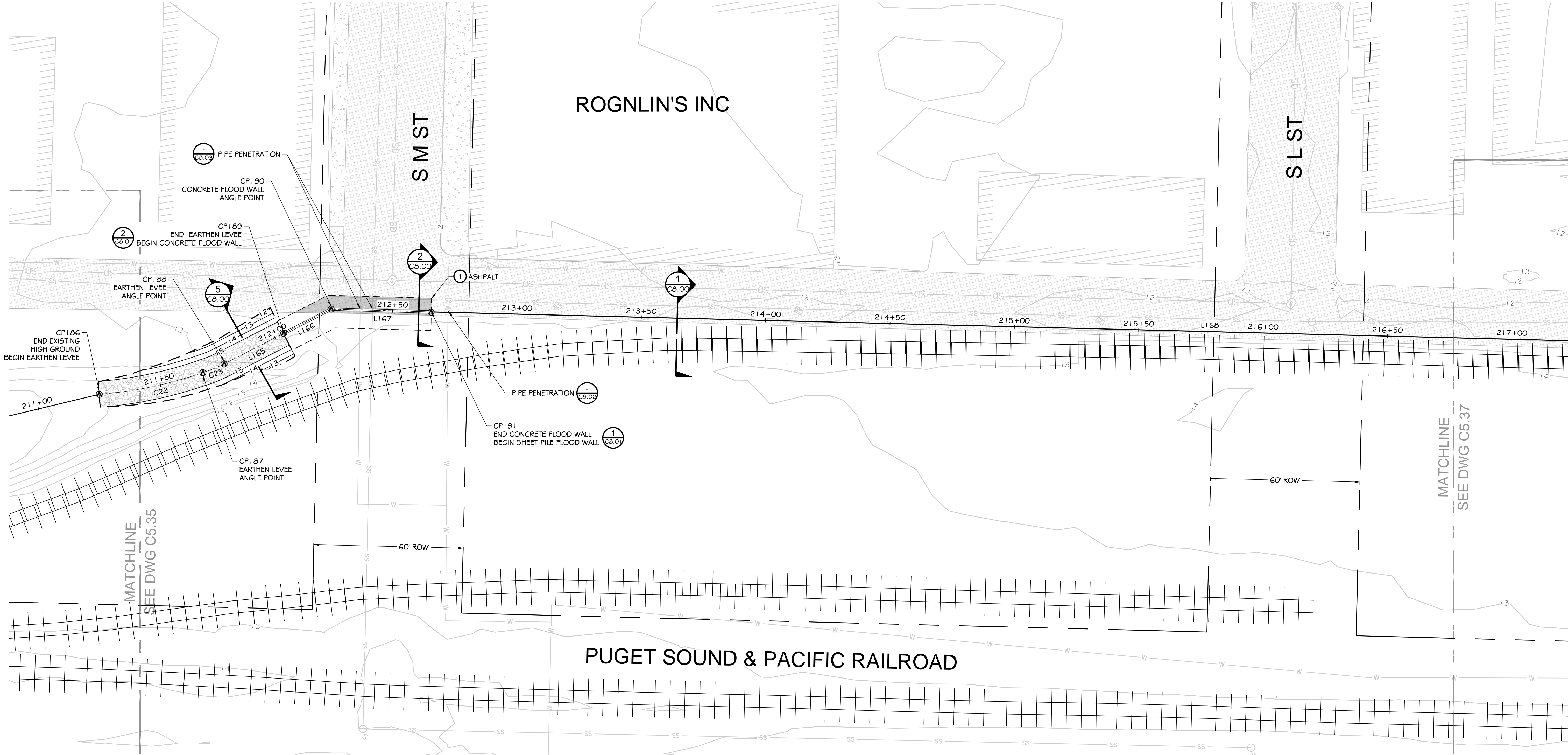
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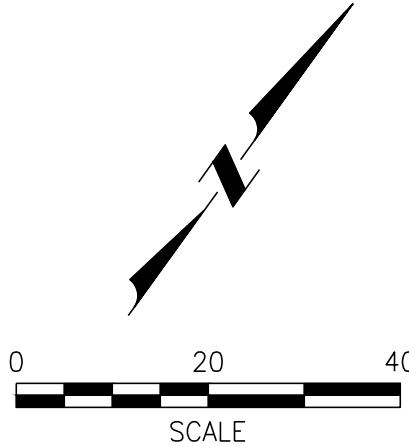
C5.35

SHEET 41 OF 79



HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L165	26.82'	N27° 07' 33"E	9	C10.05	C22	N42° 25' 25"E	42.70'	166.62'	9	C10.05	CP186	614,328.77	811,935.78
L166	21.52'	N27° 07' 33"E	9	C10.05	C23	N31° 55' 28"E	9.21'	54.64'	9	C10.05	CP187	614,360.21	811,964.50
L167	40.26'	N55° 50' 00"E	9	C10.05							CP188	614,368.02	811,969.37
L168	657.37'	N55° 40' 57"E	9	C10.05							CP189	614,391.89	811,981.59
											CP190	614,411.04	811,991.41
											CP191	614,433.66	812,024.72

- KEY NOTES:
- 1 MATCH EXISTING
 - 2 PROPOSED CATCH BASIN
 - 3 CONNECT TO EXISTING UTILITY
 - 4 REMOVE TREE(S)



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DESIGNED BY: BAL/BNT
APPROVED BY: MRS
DATE: 07-10-2017
JOB NO: 41600177

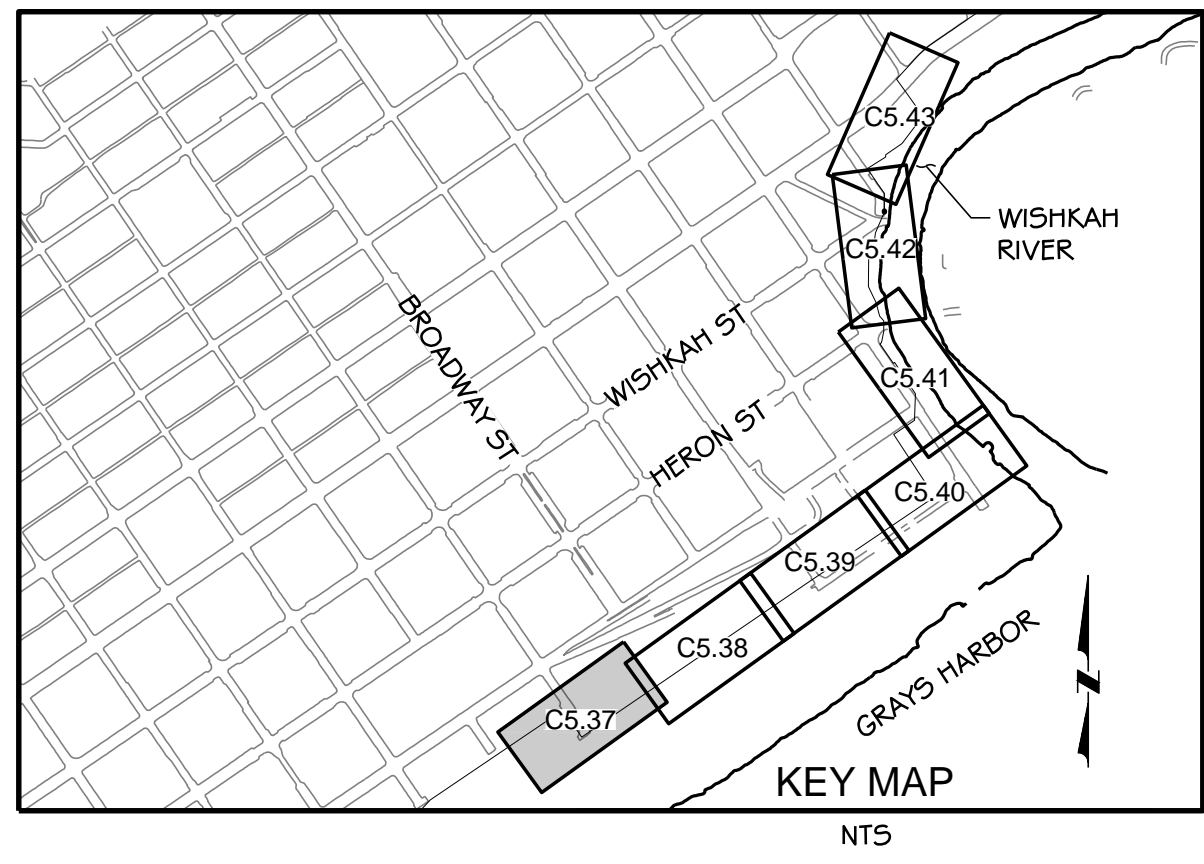
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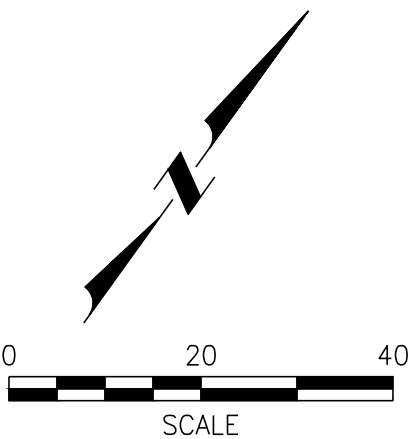
SHEET 42 OF 79

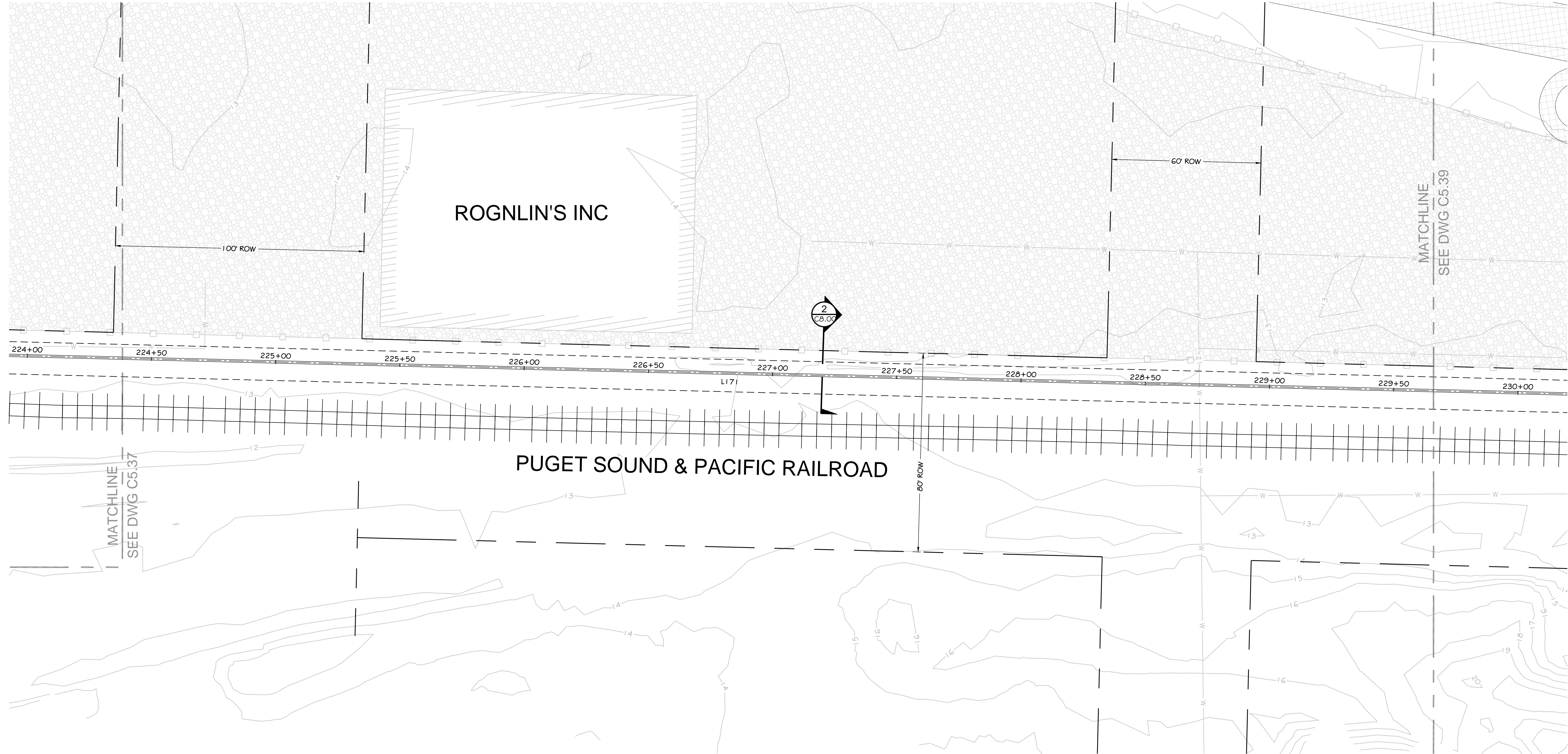


HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L169	131'.16'	S34° 21' 47"E	9	C10.05	CP192	614,804.26	812,567.66
L170	74.77'	N55° 41' 00"E	9	C10.05	CP193	614,696.00	812,641.69
					CP194	614,738.15	812,703.45

KEY NOTES:

- ① MATCH EXISTING
- ② PROPOSED CATCH BASIN
- ③ CONNECT TO EXISTING UTILITY
- ④ REMOVE TREE(S)

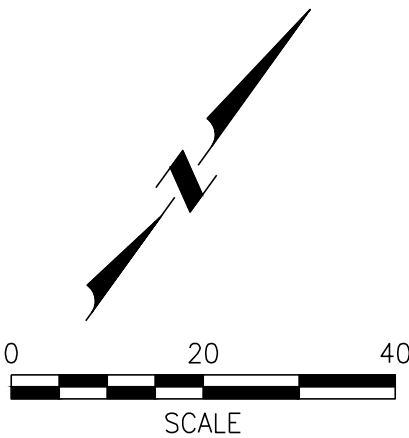
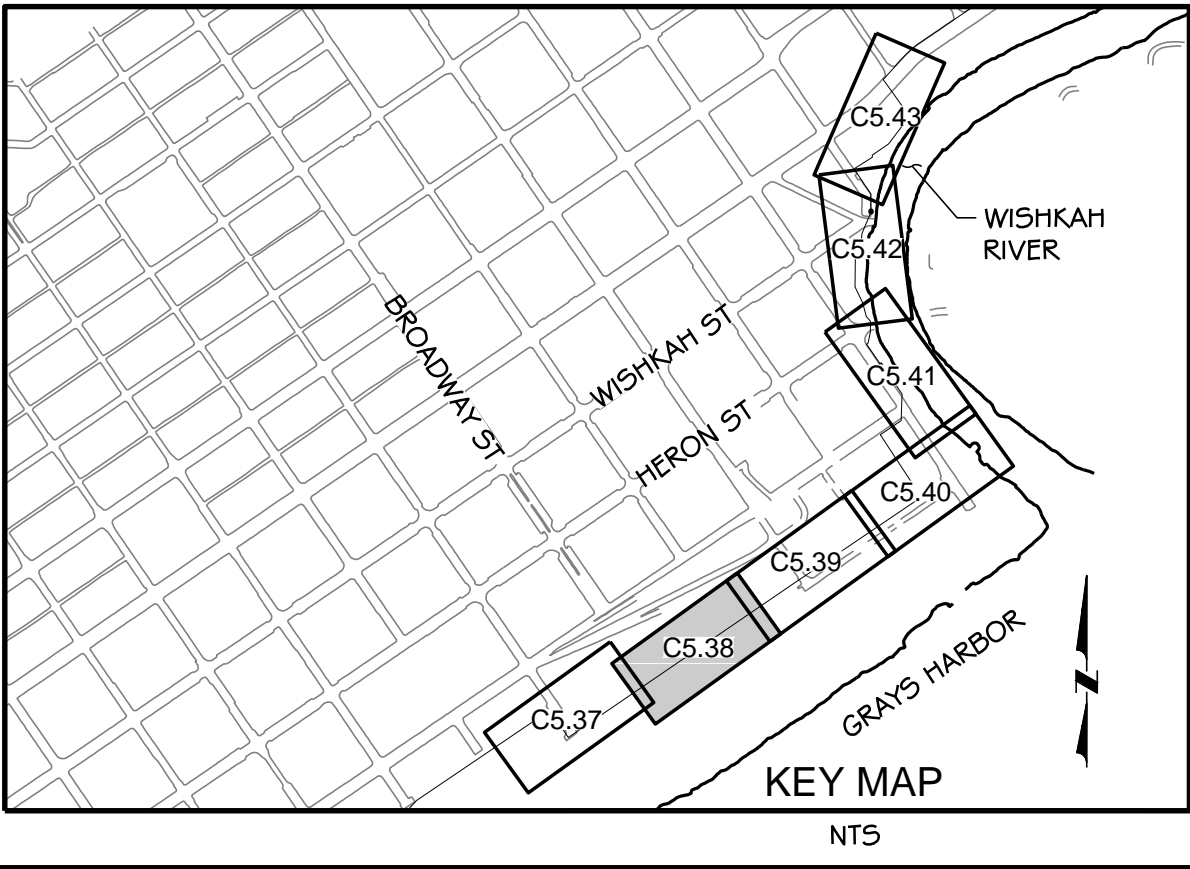




HORIZONTAL CONTROL				
LINE TABLE				
LINE #	LENGTH	BEARING	PROFILE	DWG
L171	1,075.93'	N55° 39' 05"E	9	C10.05

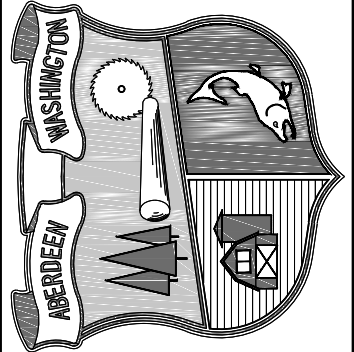
KEY NOTES:

- MATCH EXISTING
- PROPOSED CATCH BASIN
- CONNECT TO EXISTING UTILITY
- REMOVE TREE(S)



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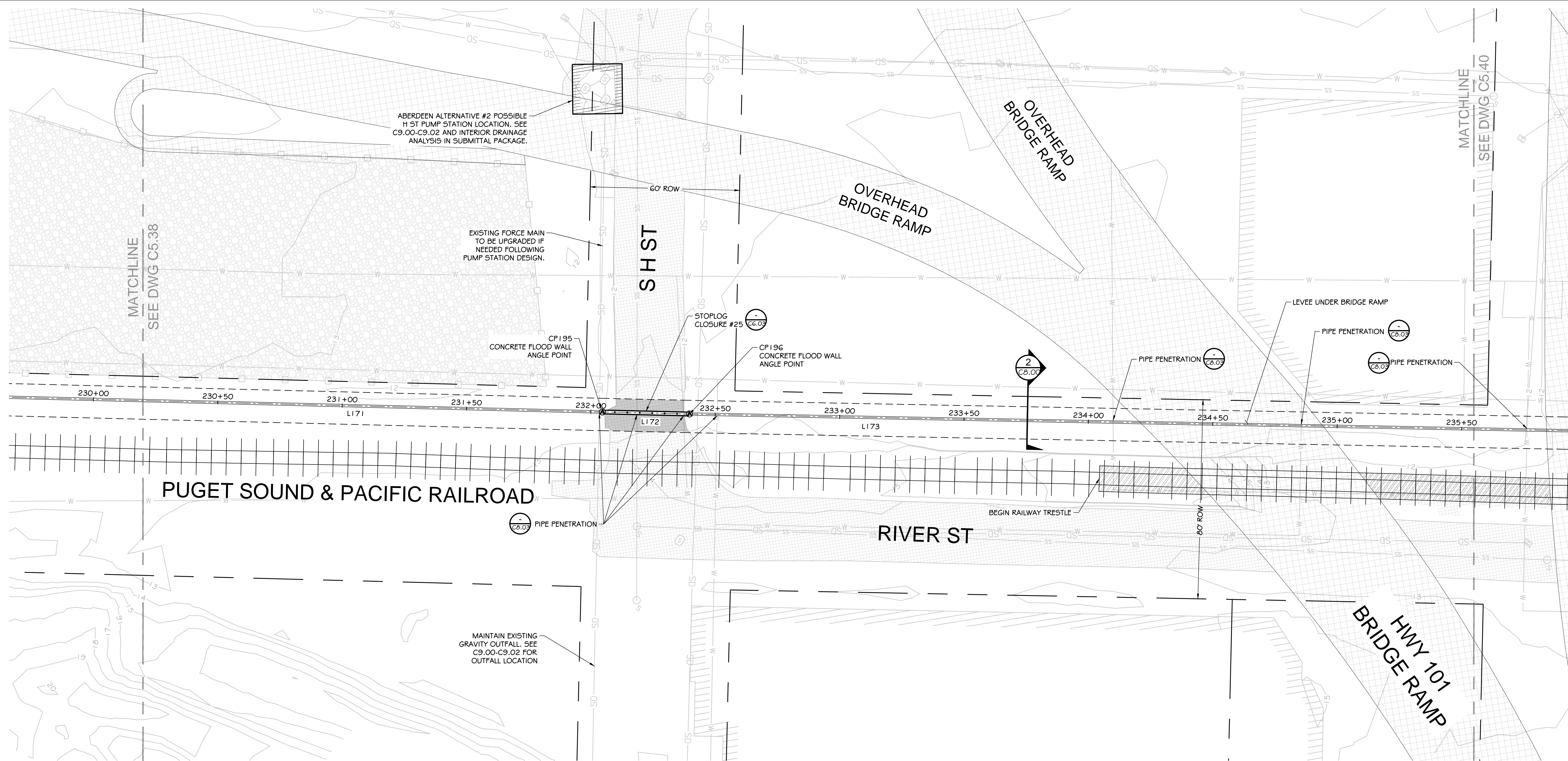
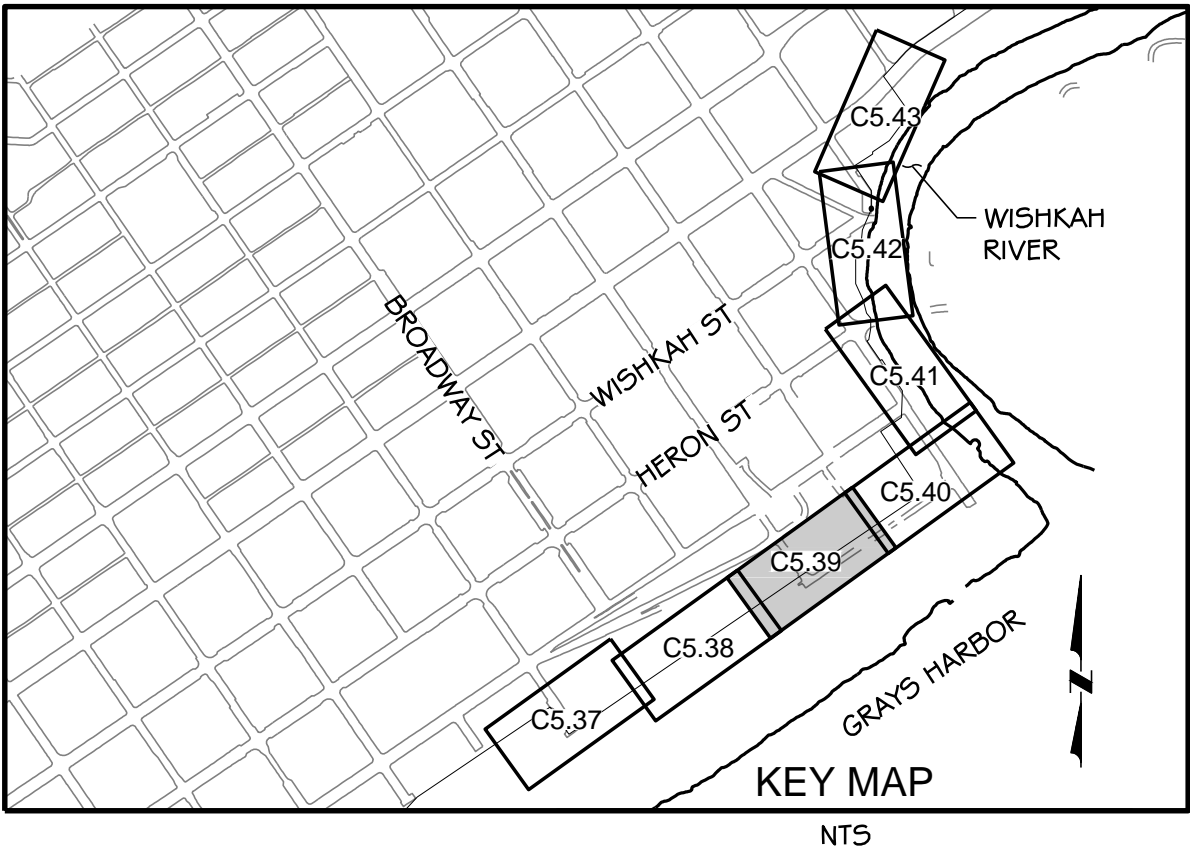
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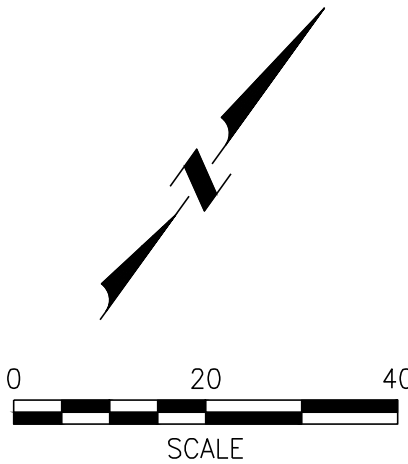
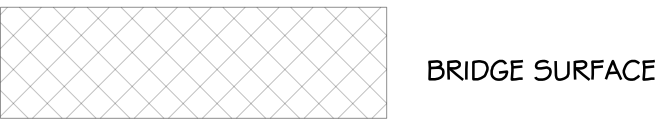


HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L171	1,075.93'	N55° 39' 05"E	10	C10.06	CP195	615,345.22	813,591.76
L172	34.67'	N55° 34' 06"E	10	C10.06	CP196	615,364.82	813,620.35
L173	680.92'	N55° 19' 10"E	10	C10.06			

KEY NOTES:

- MATCH EXISTING
- PROPOSED CATCH BASIN
- CONNECT TO EXISTING UTILITY
- REMOVE TREE(S)

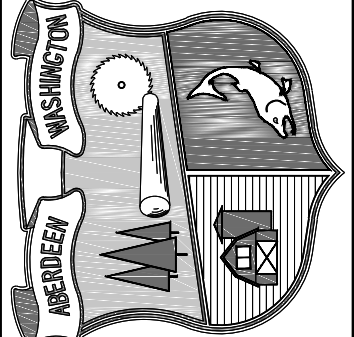
LEGEND:



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MRS	MRS		

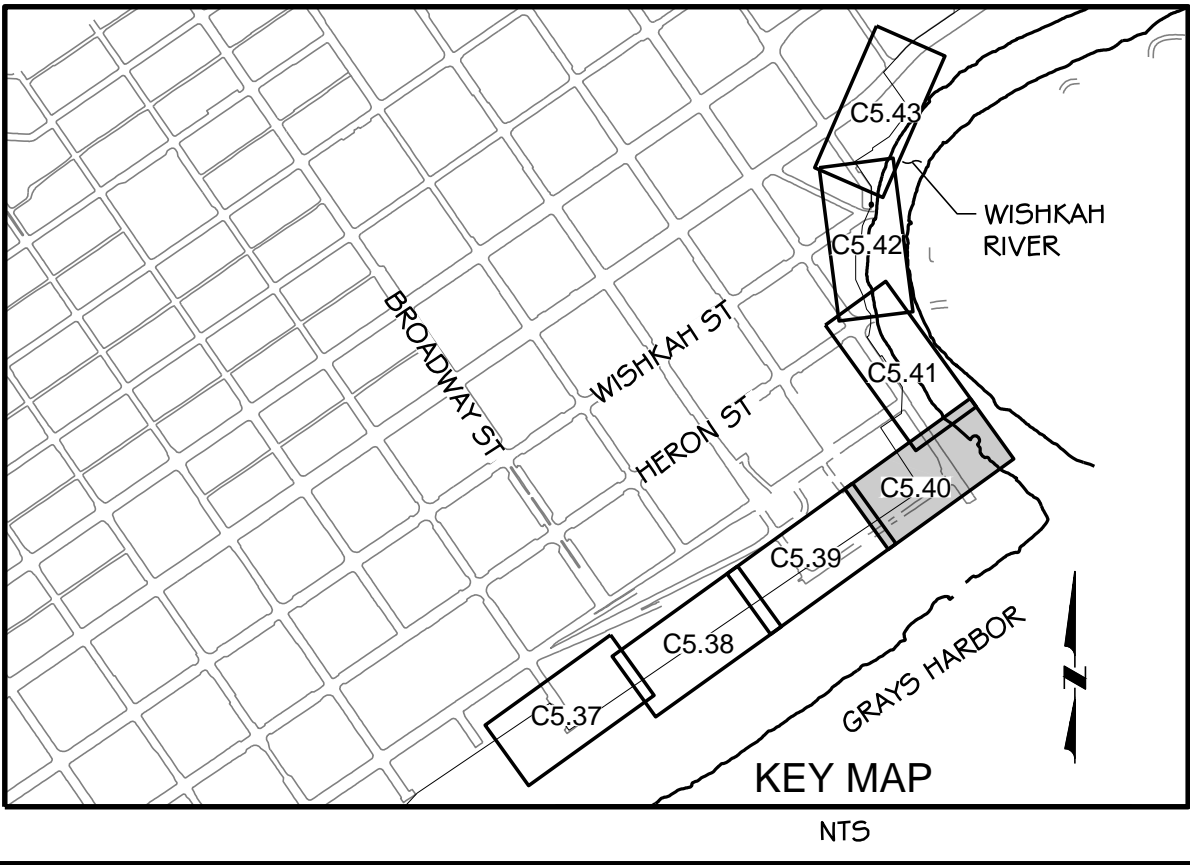
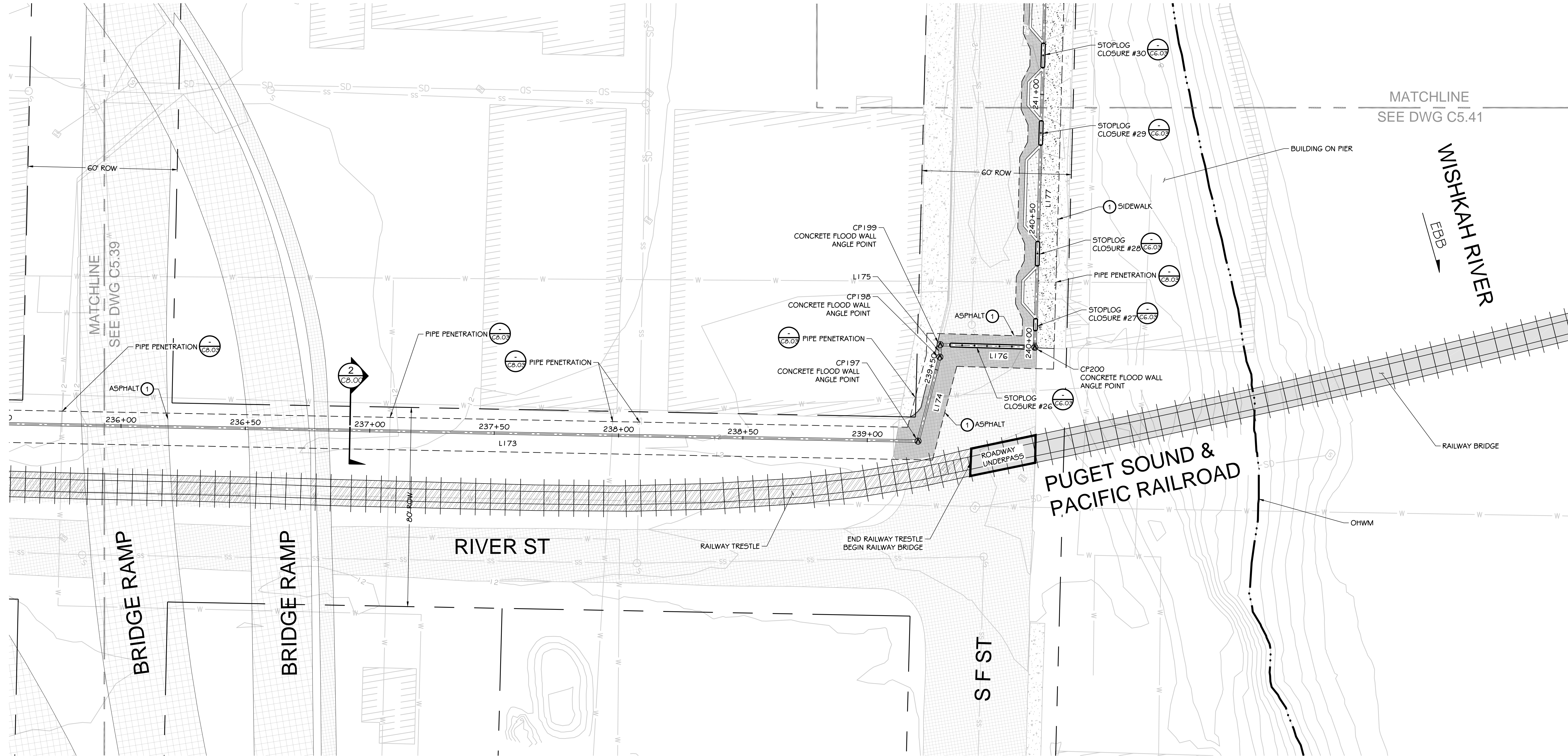
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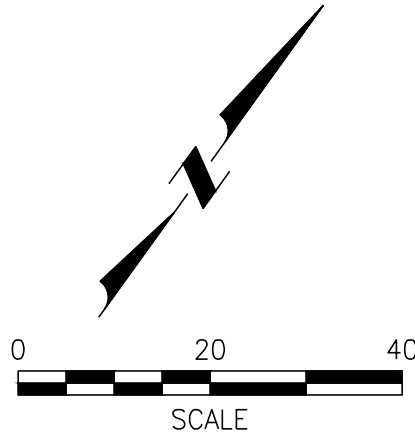
HORIZONTAL CONTROL							
LINE TABLE				POINT TABLE			
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L173	680.92'	N55° 19' 10"E	10	C10.06	CP197	615,752.27	814,180.30
L174	34.88'	N21° 12' 10"W	10	C10.06	CP198	615,784.79	814,167.68
L175	4.97'	N34° 09' 49"W	10	C10.06	CP199	615,788.90	814,164.89
L176	38.04'	N55° 50' 54"E	10	C10.06	CP200	615,810.25	814,196.37
L177	251.10'	N34° 08' 23"W	10	C10.06			

NOTE:
1. LEVEE ALIGNMENT IS PRELIMINARY AND IS BEING COORDINATED WITH THE CITY OF ABERDEEN AND NEARBY PROPERTY OWNERS.

KEY NOTES:

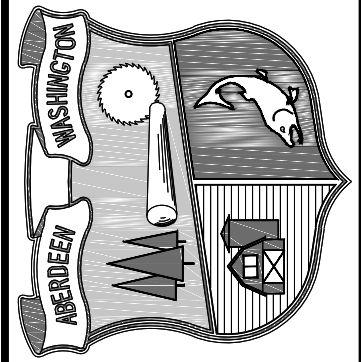
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- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)

LEGEND:



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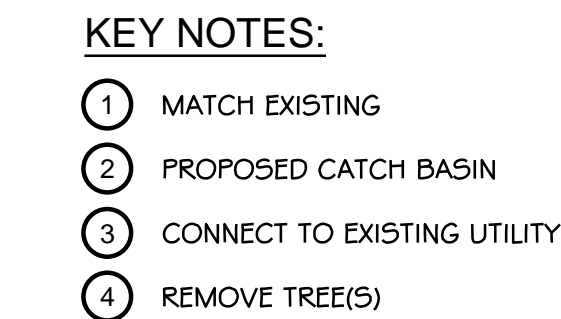
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CHECKED BY	APPROVED BY		
MRS	MRS		

NORTH SHORE LEVEE ABERDEEN & HOQUIAM, WASHINGTON	
LEVEE PLAN	
DRAWING	
C5.40	
SHEET 46 OF 79	

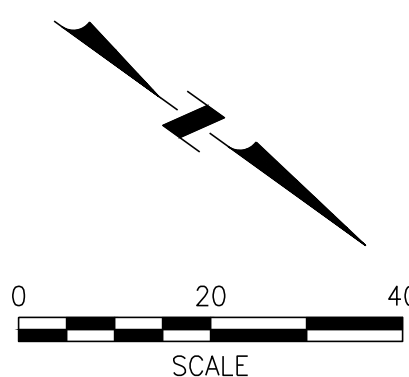


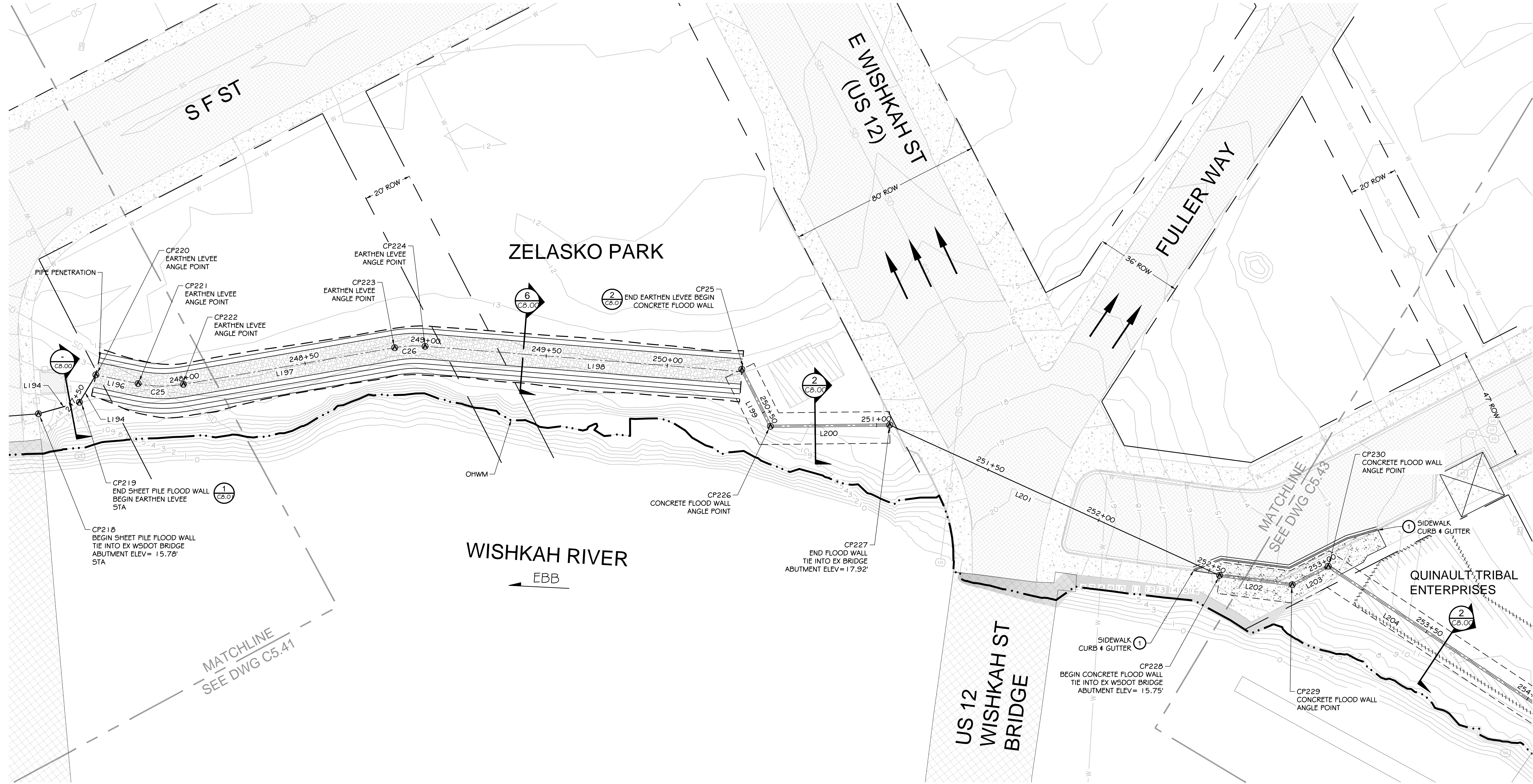
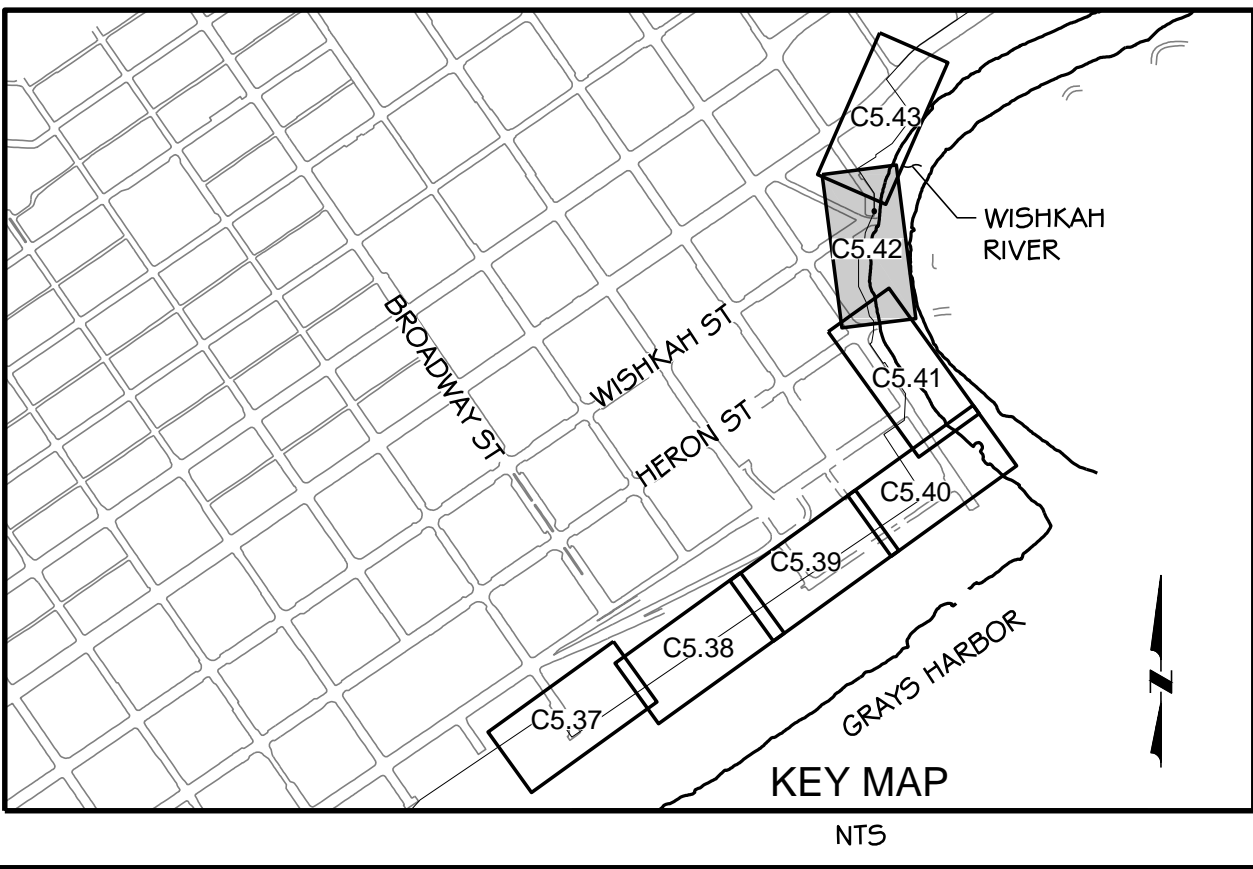
LINE TABLE					LINE TABLE					CURVE TABLE						POINT TABLE			POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING
L177	251.10'	N34° 08' 23"W	10	C10.06	L188	2.00'	N55° 38' 17"E	10	C10.06	C24	N08° 05' 11"W	16.55'	69.68'	10	C10.06	CP201	616,018.08	814,055.45	CP212	616,251.42	813,893.03
L178	21.42'	N25° 35' 24"W	10	C10.06	L189	45.88'	N34° 22' 27"W	10	C10.06	C25	N06° 22' 13"W	18.74'	50.00'	10	C10.06	CP202	616,037.40	814,046.20	CP213	616,289.28	813,867.13
L179	33.18'	N34° 20' 53"W	10	C10.06	L190	28.54'	N55° 38' 17"E	10	C10.06							CP203	616,064.79	814,027.48	CP214	616,305.63	813,864.81
L180	9.00'	N55° 39' 07"E	10	C10.06	L191	21.91'	N33° 00' 05"W	10	C10.06							CP204	616,069.87	814,034.91	CP215	616,321.74	813,888.37
L181	183.82'	N34° 20' 53"W	10	C10.06	L192	19.75'	N55° 55' 53"E	10	C10.06							CP205	616,221.64	813,931.19	CP216	616,340.12	813,876.43
L182	8.45'	S55° 37' 50"W	10	C10.06	L193	40.23'	N11° 45' 13"W	10	C10.06							CP206	616,216.87	813,924.22	CP217	616,351.19	813,892.80
L183	11.09'	N79° 22' 10"W	10	C10.06	L194	17.54'	N22° 54' 14"W	10	C10.06							CP207	616,218.88	813,913.48	CP218	616,390.57	813,884.60
L184	2.98'	N01° 51' 35"W	10	C10.06	L195	13.16'	N66° 24' 38"W	10	C10.06							CP208	616,221.89	813,913.22	CP219	616,406.73	813,877.77
L185	25.11'	N34° 21' 43"W	10	C10.06	L196	17.77'	N04° 22' 02"E	10	C10.06							CP209	616,242.61	813,899.05	CP220	616,412.00	813,865.72
L186	2.00'	S55° 38' 17"W	10	C10.06	L197	88.26'	N17° 06' 27"W	10	C10.06							CP210	616,241.48	813,897.40	CP221	616,429.71	813,867.07
L187	10.67'	N34° 21' 43"W	10	C10.06												CP211	616,250.29	813,891.38	CP222	616,448.23	813,865.00

1. LEVEE ALIGNMENT IS PRELIMINARY AND IS BEING COORDINATED WITH THE CITY OF ABERDEEN AND NEARBY PROPERTY OWNERS.



BRIDGE SURFACE



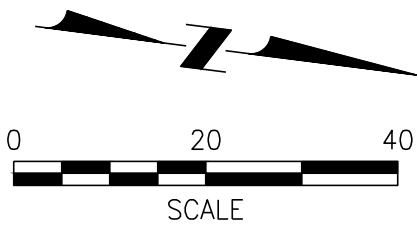
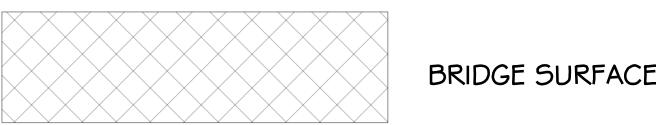


HORIZONTAL CONTROL												
LINE TABLE					CURVE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING
L194	17.54'	N22° 54' 14"W	10	C10.06	C25	N06° 22' 13"W	18.74'	50.00'	10	C10.06	CP218	616,390.57
L195	13.16'	N66° 24' 38"W	10	C10.06	C26	N09° 54' 42"W	12.56'	50.00'	10	C10.06	CP219	616,406.73
L196	17.77'	N04° 22' 02"E	10	C10.06							CP220	616,412.00
L197	88.26'	N17° 06' 27"W	10	C10.06							CP221	616,429.71
L198	131.26'	N02° 42' 56"W	11	C10.06							CP222	616,448.23
L199	25.14'	N56° 03' 20"E	11	C10.06							CP223	616,532.58
L200	49.11'	N07° 54' 32"W	11	C10.06							CP224	616,544.92
L201	149.20'	N17° 14' 57"E	11	C10.06							CP225	616,676.04
L202	30.20'	N00° 00' 00"E	11	C10.06							CP226	616,690.07
L203	16.63'	N34° 23' 03"W	11	C10.06							CP227	616,738.71
L204	142.11'	N26° 21' 17"E	11	C10.06							CP228	616,881.20
											CP229	616,911.41
											CP230	616,925.13
												613,879.61

KEY NOTES:

- MATCH EXISTING
- PROPOSED CATCH BASIN
- CONNECT TO EXISTING UTILITY
- REMOVE TREE(S)

LEGEND:



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DESIGNED BY: EAL/BNT

CHECKED BY: MRS

DATE: 07-10-2017

JOB NO: 41600177

NORTH SHORE LEVEE

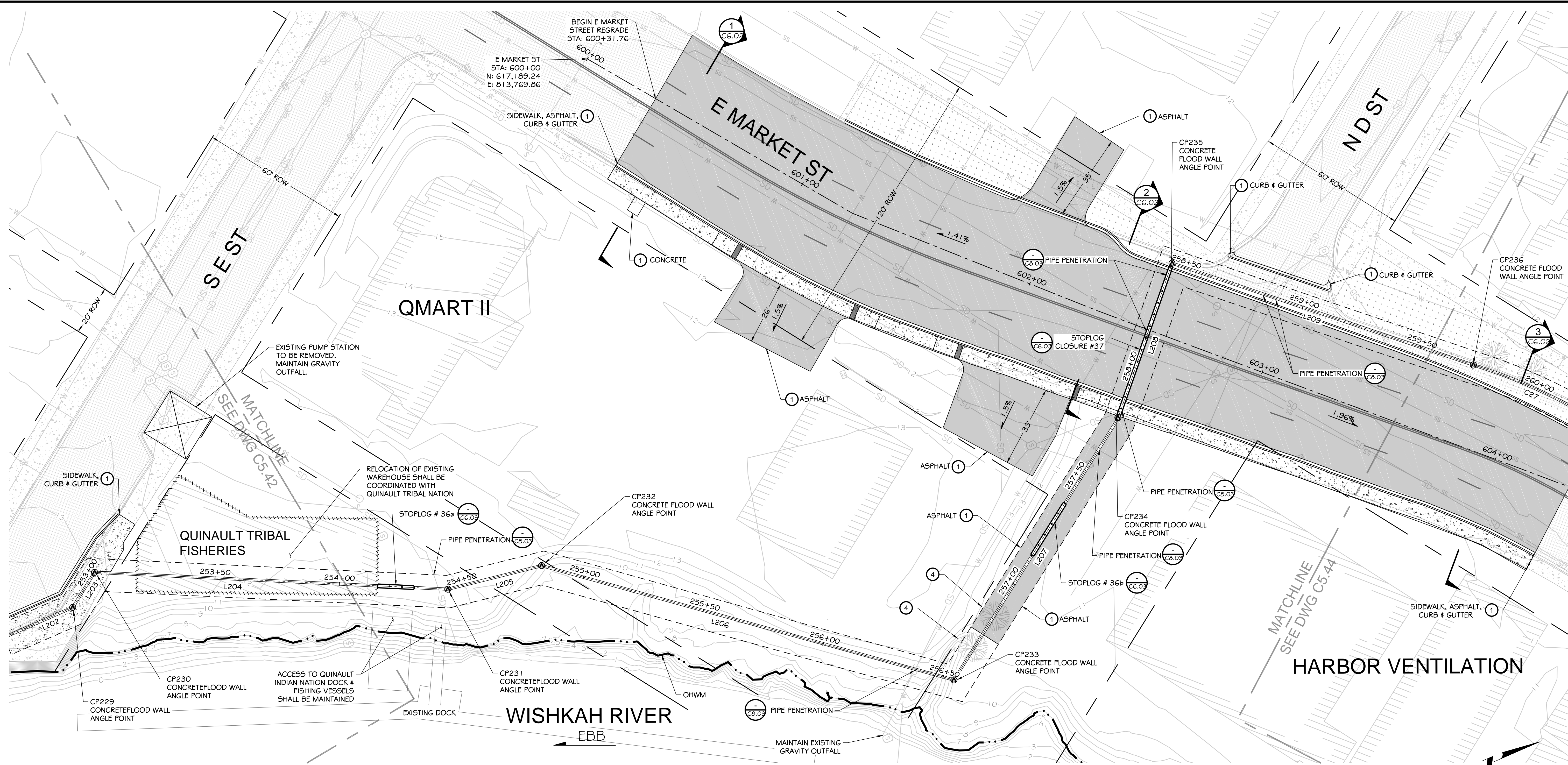
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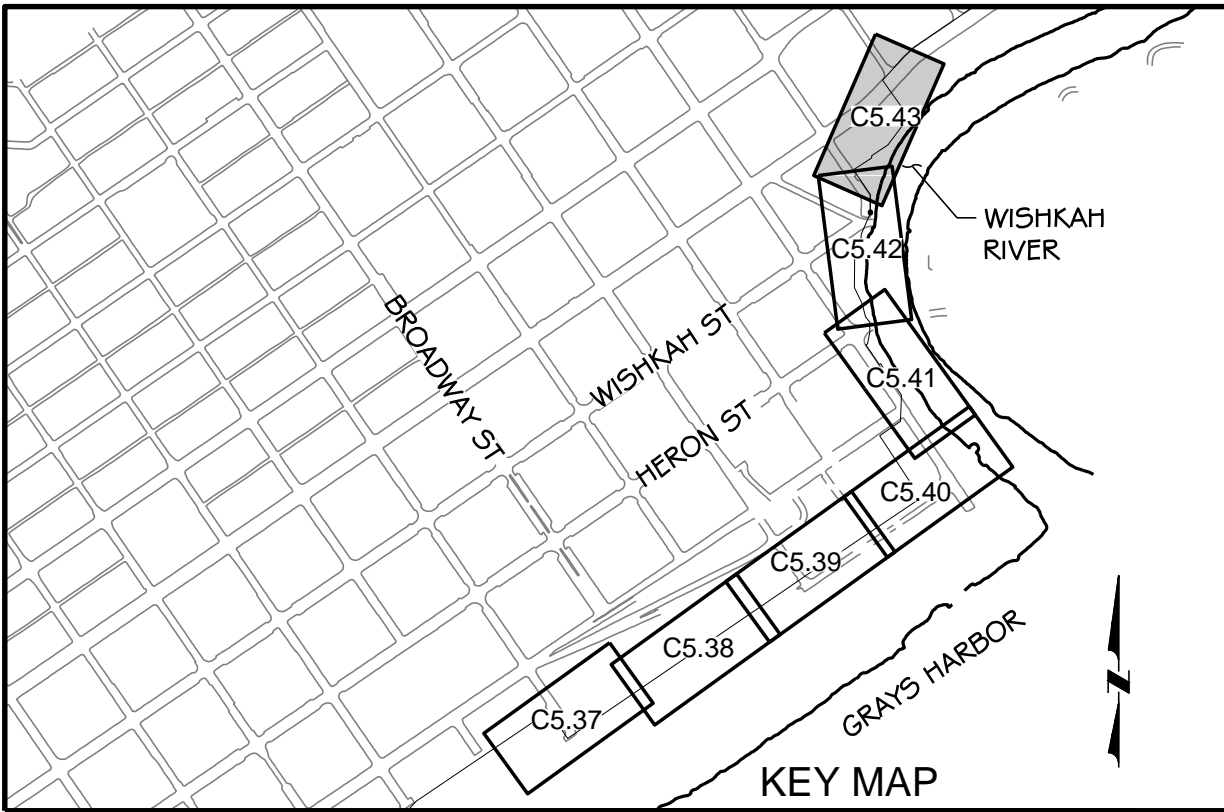
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SHEET 48 OF 79



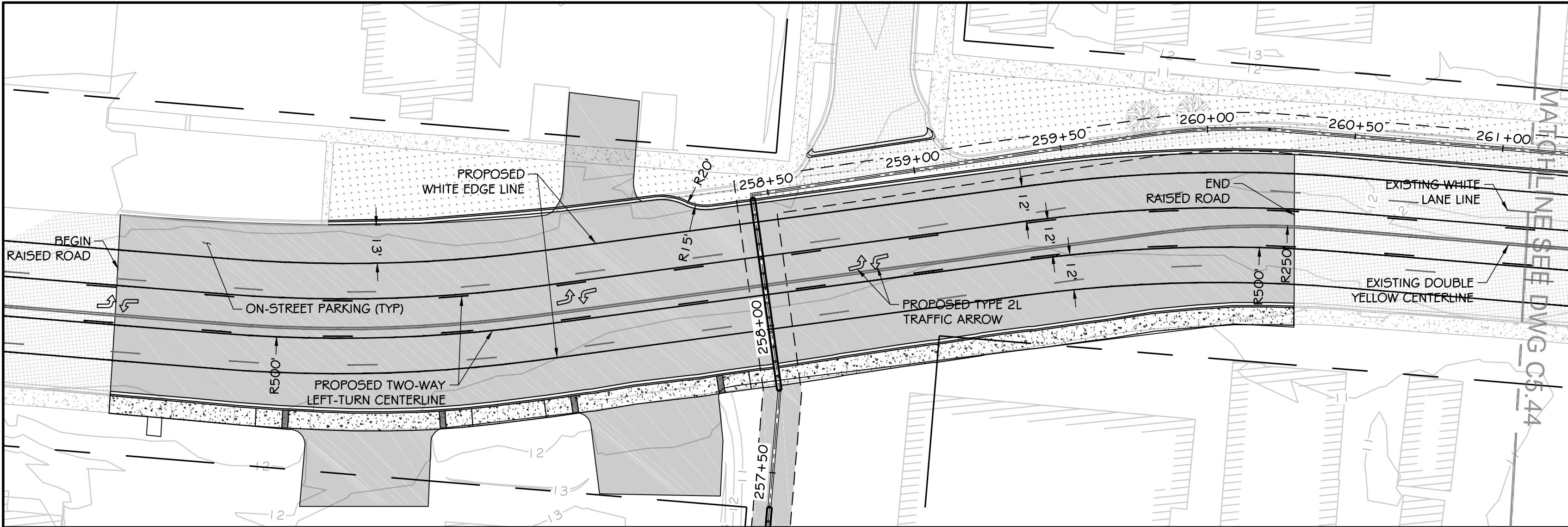
HORIZONTAL CONTROL

CURVE TABLE						LINE TABLE					POINT TABLE		
CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
C27	N47° 20' 40"E	48.49'	218.52'	11	C10.06	L202	30.20'	N00° 00' 00"E	11	C10.06	CP229	616,911.41	813,889.00
						L203	16.63'	N34° 23' 03"W	11	C10.06	CP230	616,925.13	813,879.61
						L204	142.11'	N26° 21' 17"E	11	C10.06	CP231	617,052.47	813,942.70
						L205	38.89'	N09° 31' 59"E	11	C10.06	CP232	617,090.82	813,949.14
						L206	171.95'	N39° 07' 11"E	11	C10.06	CP233	617,224.23	814,057.63
						L207	123.63'	N34° 15' 34"W	11	C10.06	CP234	617,326.46	813,988.00
						L208	66.47'	N47° 08' 29"W	11	C10.06	CP235	617,371.67	813,939.28
						L209	127.85'	N42° 17' 02"E	11	C10.06	CP236	617,466.25	814,025.30



- KEY NOTES:
- MATCH EXISTING
 - PROPOSED CATCH BASIN
 - CONNECT TO EXISTING UTILITY
 - REMOVE TREE(S)

NOTE:
1. LEVEE ALIGNMENT IS PRELIMINARY AND IS BEING COORDINATED WITH THE CITY OF ABERDEEN, QUINAUT INDIAN NATION, AND NEARBY PROPERTY OWNERS.



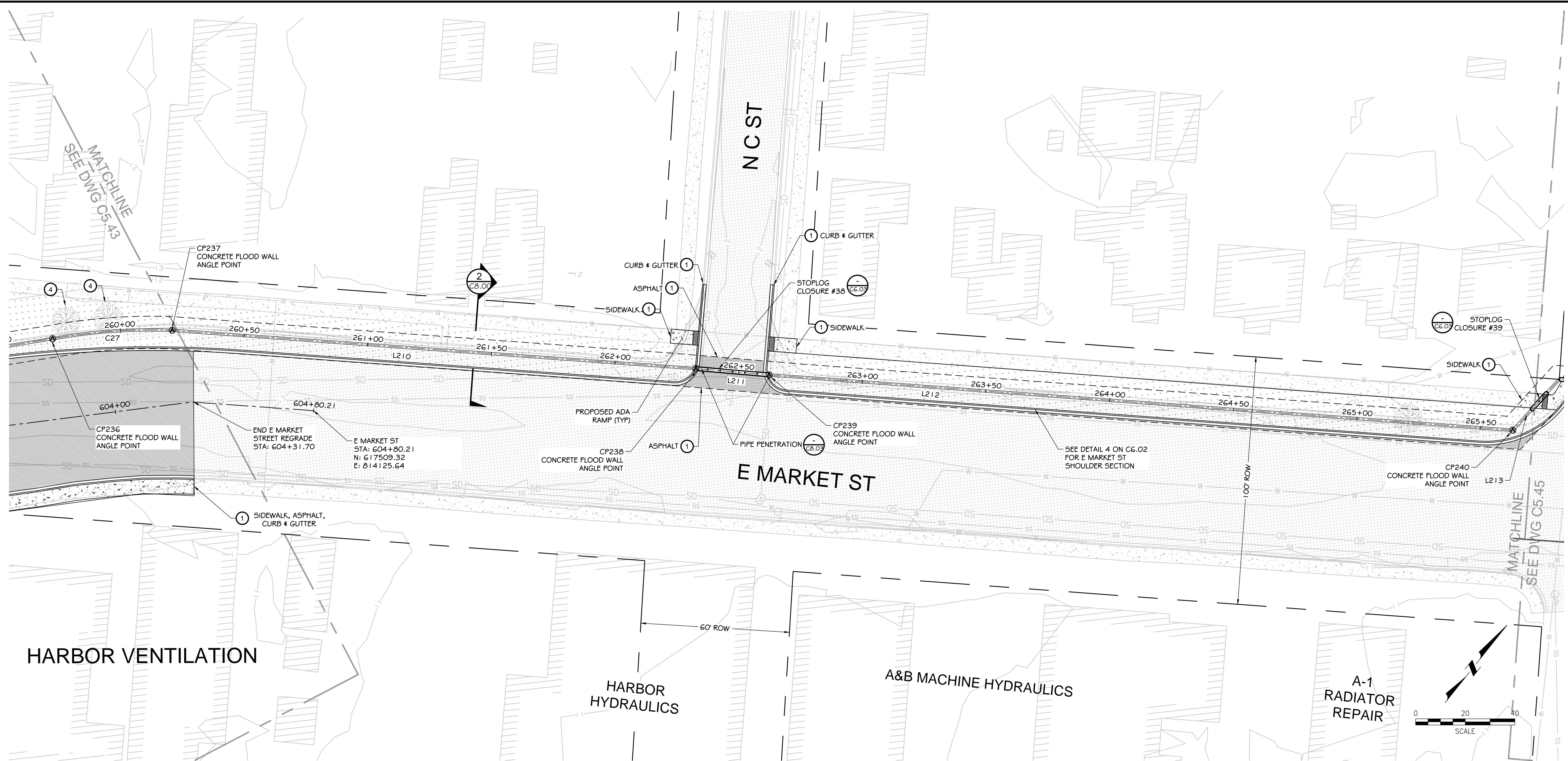
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MRS	MRS		

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 ABERDEEN & HOQUIAM, WASHINGTON
 LEVEE PLAN



HORIZONTAL CONTROL

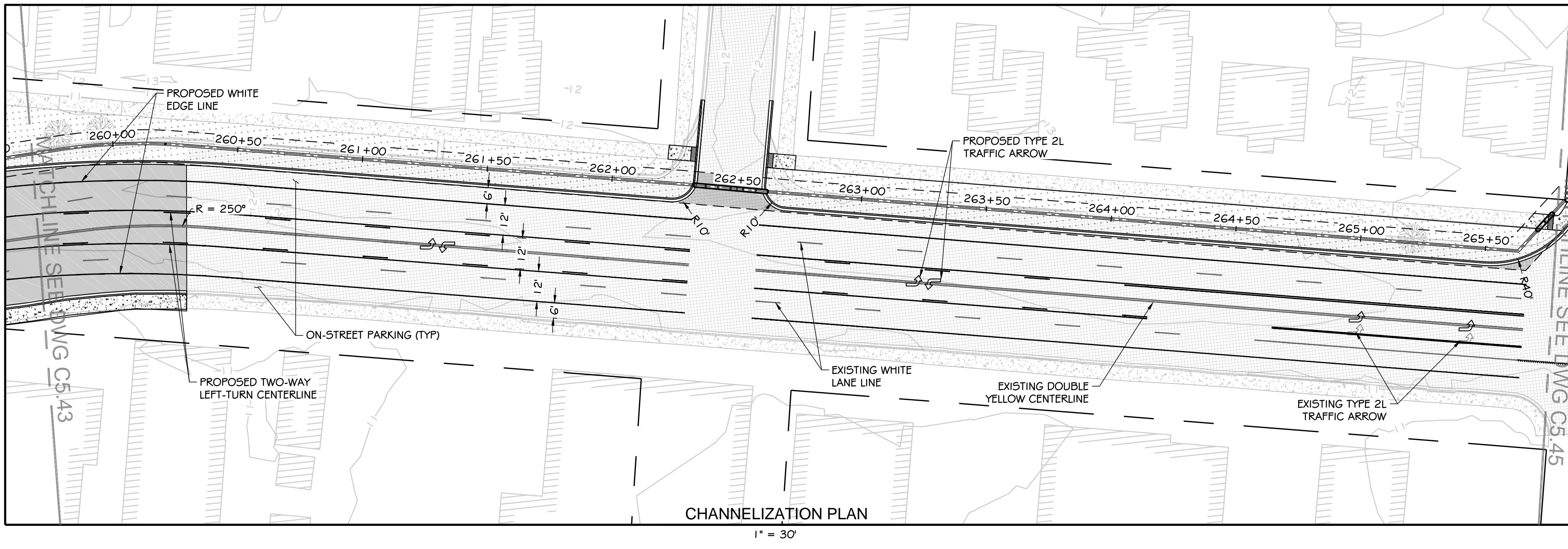
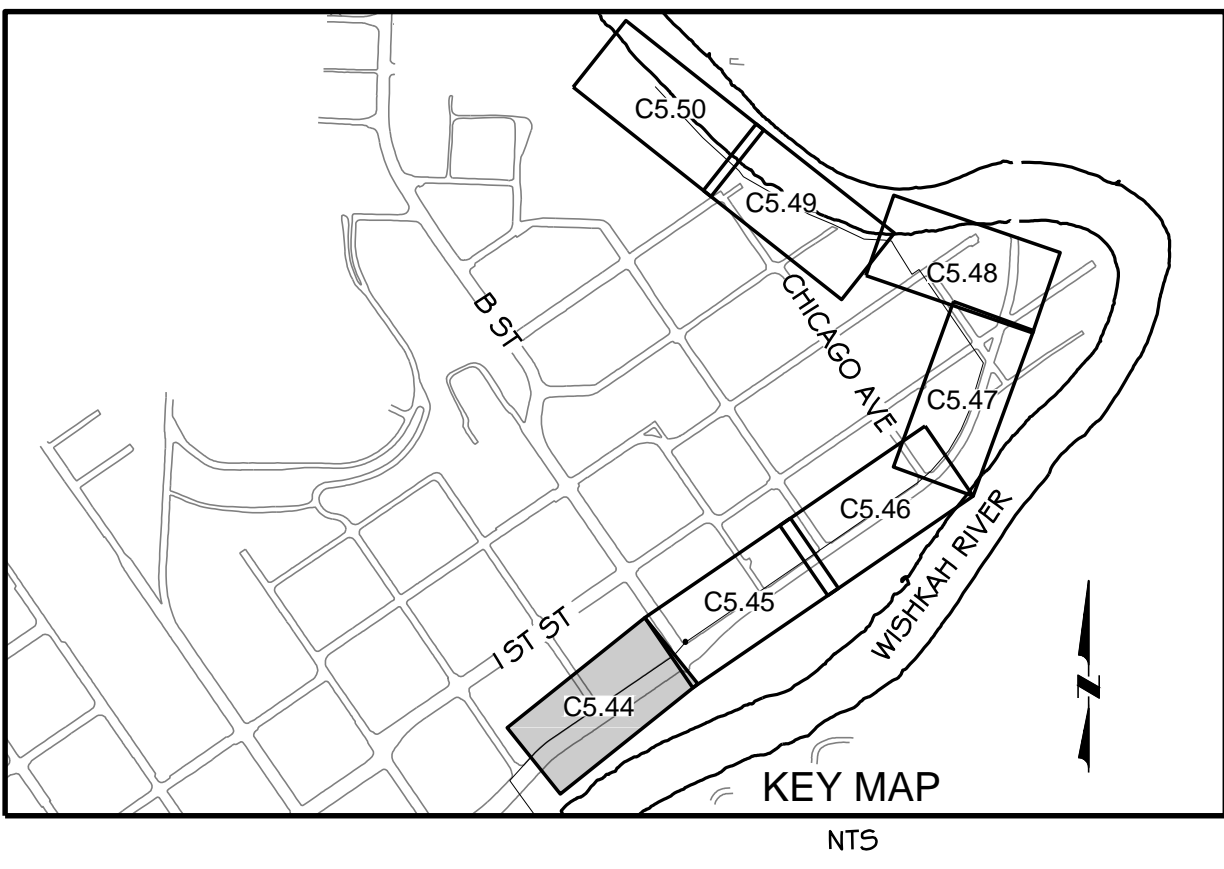
CURVE TABLE						LINE TABLE				
CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	LINE #	LENGTH	BEARING	PROFILE	DWG
C27	N47° 20' 40"E	48.49'	218.52'	11	C10.06	L210	211.71'	N55° 32' 54"E	11	C10.06
						L211	29.67'	N56° 19' 20"E	11	C10.06
						L212	300.69'	N55° 37' 40"E	11	C10.06
						L213	27.77'	N03° 41' 51"E	11	C10.06

POINT TABLE

POINT #	NORTHING	EASTING
CP236	617,466.25	814,025.30
CP237	617,499.04	814,060.89
CP238	617,618.81	814,235.46
CP239	617,635.26	814,260.15
CP240	617,805.02	814,508.33

KEY NOTES:

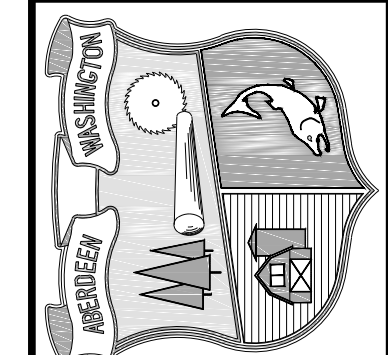
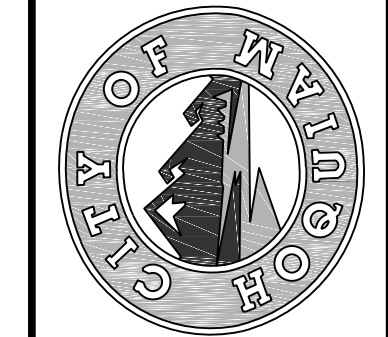
- MATCH EXISTING
- PROPOSED CATCH BASIN
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- REMOVE TREE(S)



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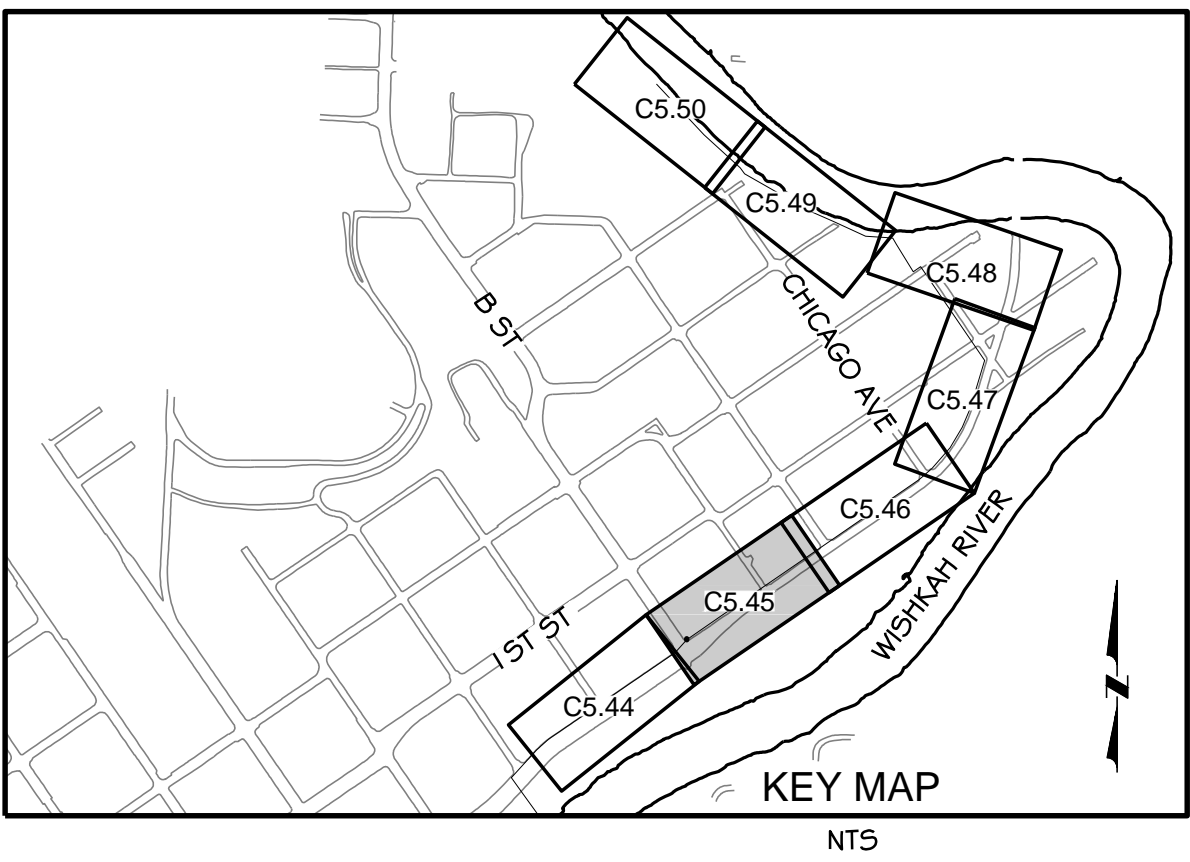
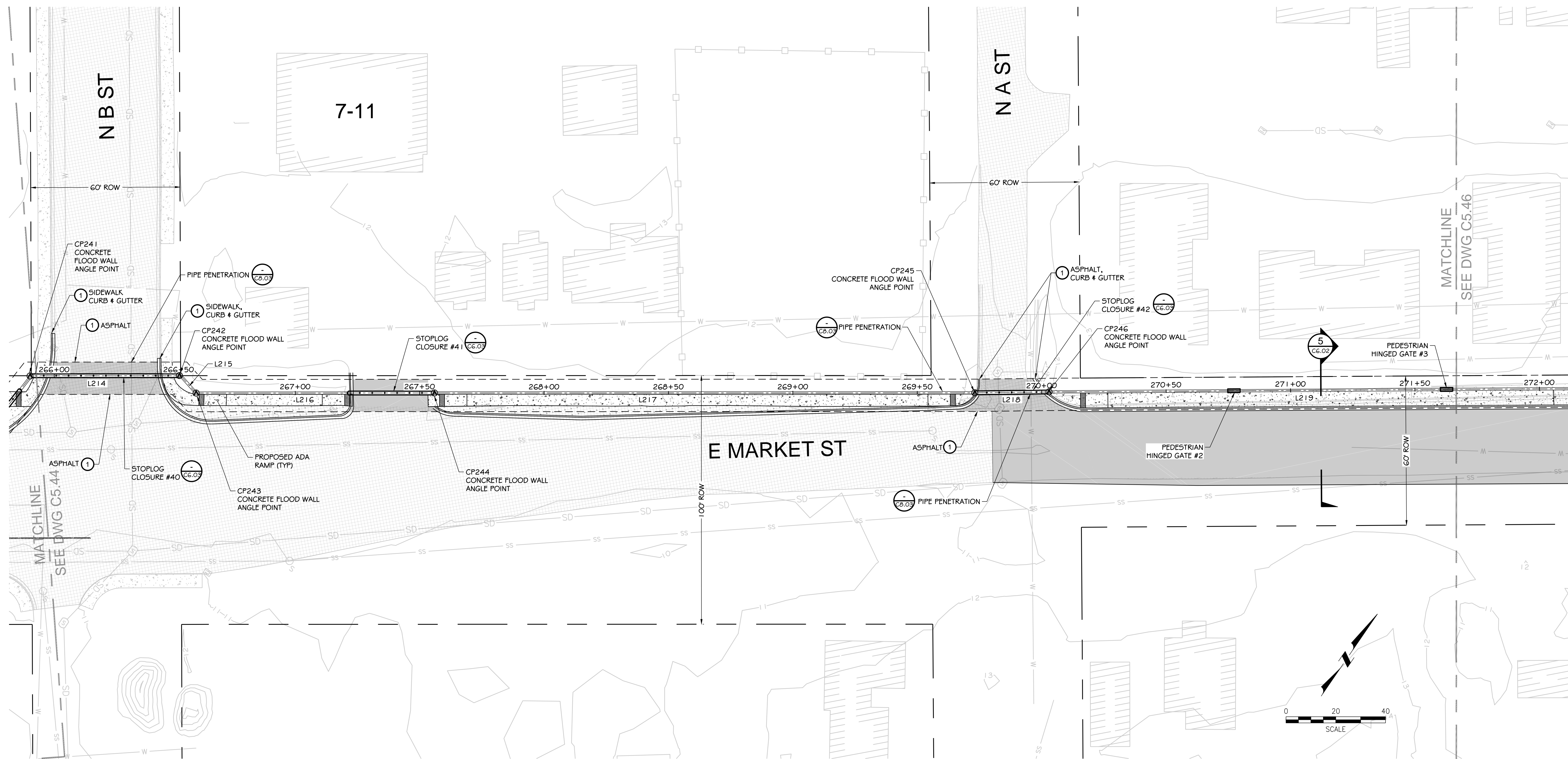
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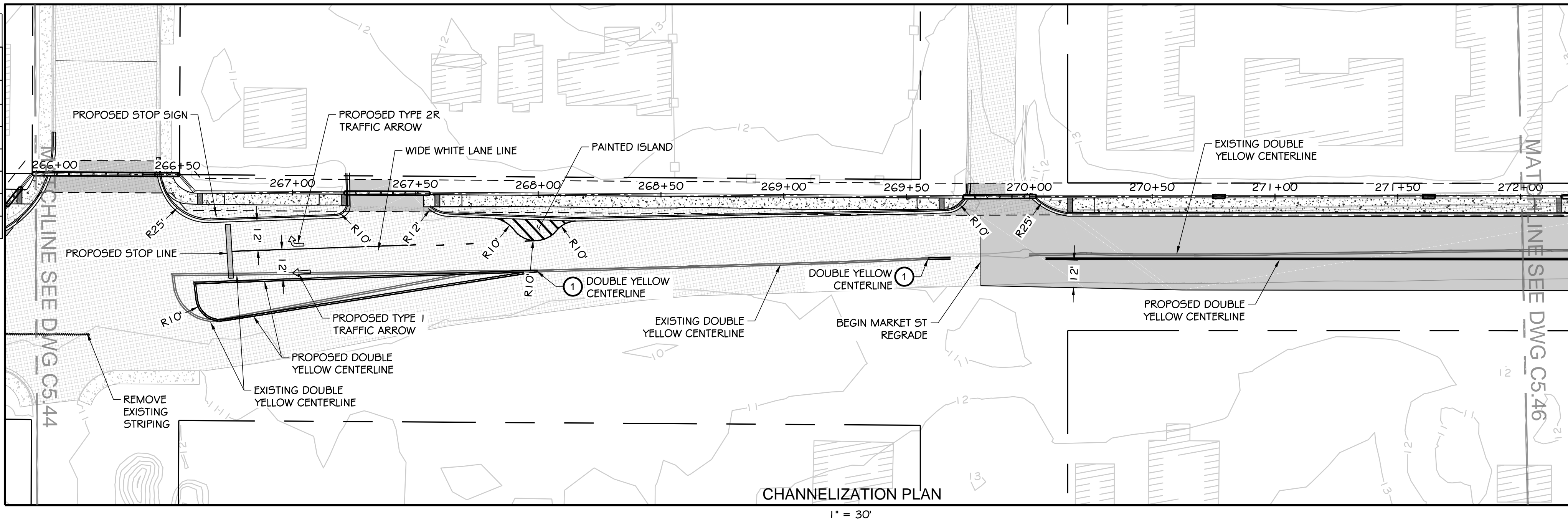
KEY NOTES:

- 1 MATCH EXISTING
- 2 PROPOSED CATCH BASIN
- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)

HORIZONTAL CONTROL

LINE TABLE				
LINE #	LENGTH	BEARING	PROFILE	DWG
L214	60.00'	N55° 35' 53"E	11	C10.06
L215	9.35'	S76° 00' 52"E	11	C10.06
L216	95.81'	N55° 35' 53"E	11	C10.06
L217	217.15'	N55° 35' 53"E	11	C10.06
L218	29.67'	N54° 55' 09"E	11	C10.06
L219	213.93'	N55° 15' 37"E	11	C10.06

POINT TABLE		
POINT #	NORTHING	EASTING
CP241	617,832.73	814,510.12
CP242	617,866.63	814,559.63
CP243	617,864.37	814,568.70
CP244	617,918.50	814,647.75
CP245	618,041.19	814,826.92
CP246	618,058.24	814,851.20



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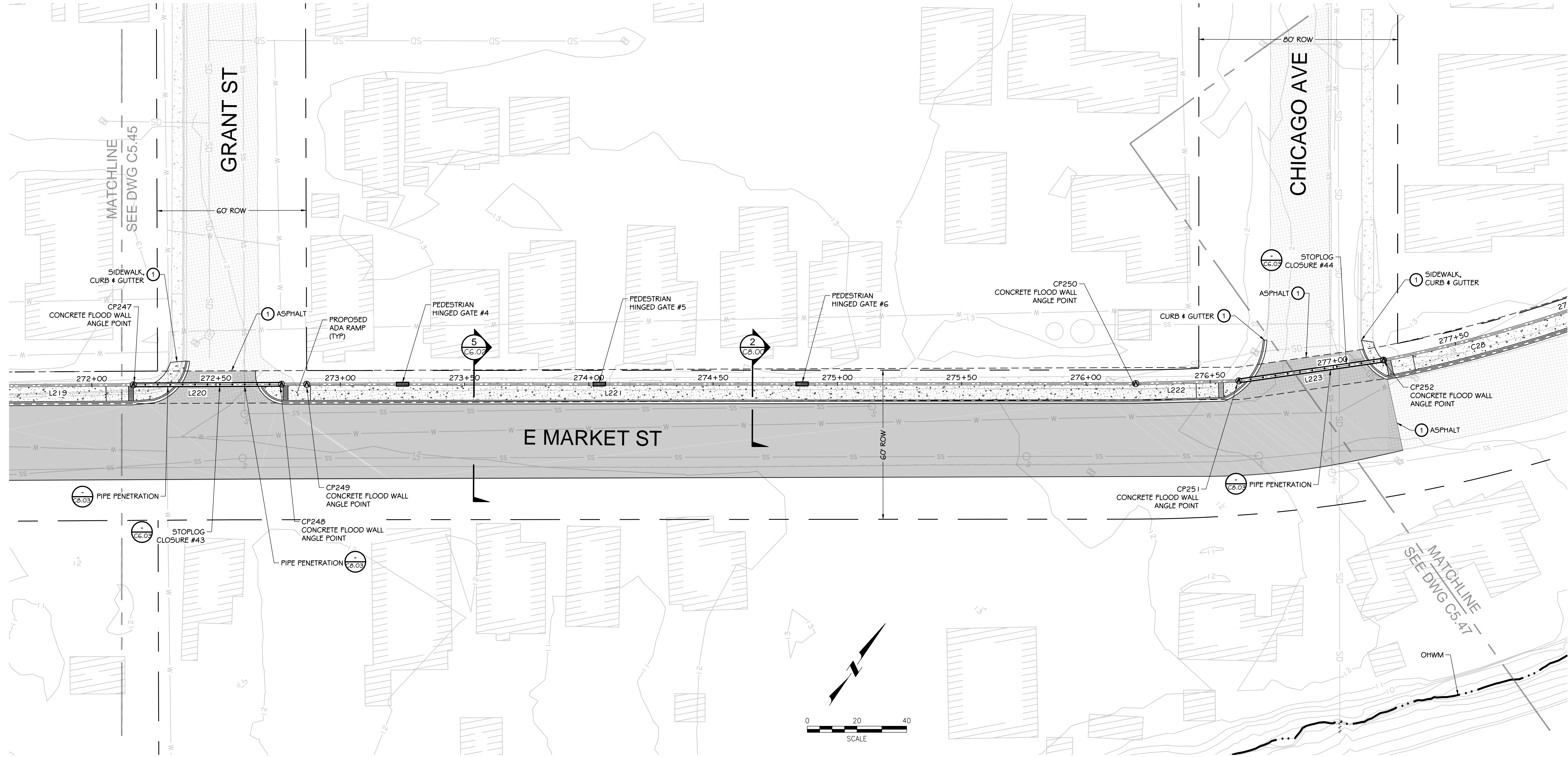
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SHEET 51 OF 79



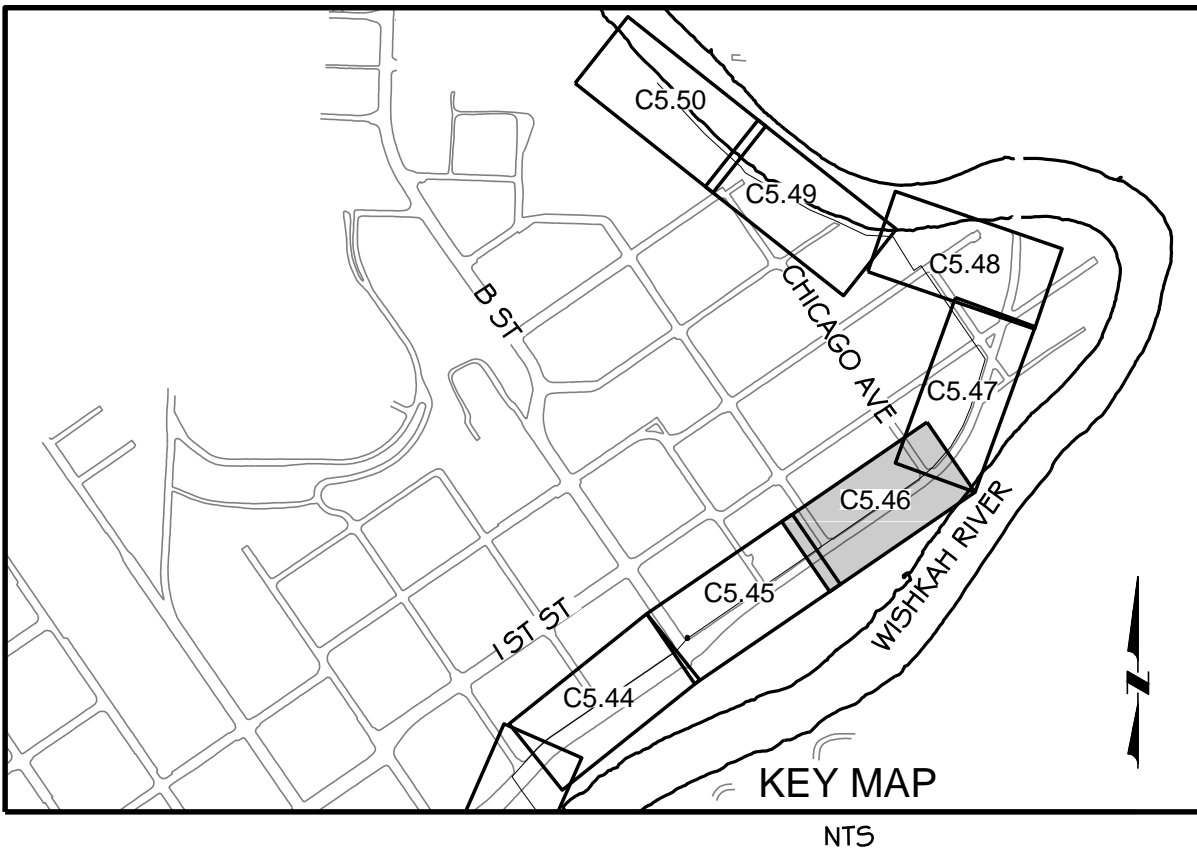
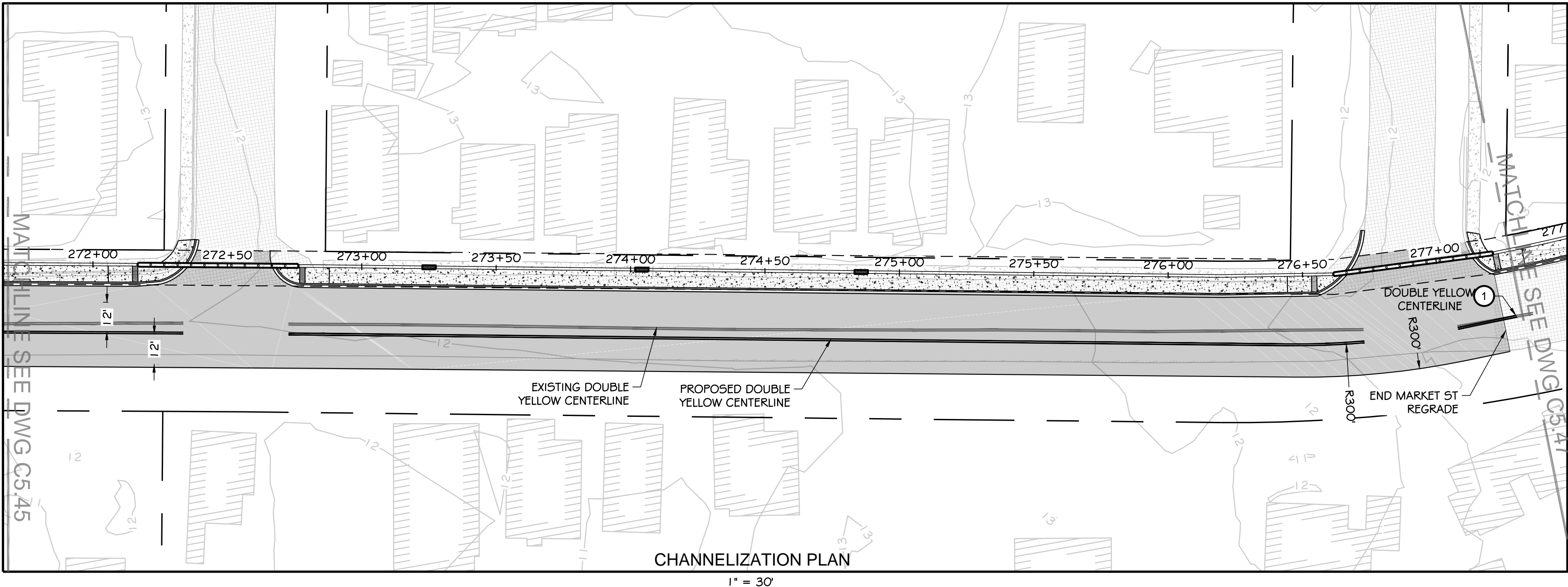
KEY NOTES:

- 1 MATCH EXISTING
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- 3 CONNECT TO EXISTING UTILITY
- 4 REMOVE TREE(S)

HORIZONTAL CONTROL

LINE TABLE					
LINE #	LENGTH	BEARING	PROFILE	DWG	
L219	213.93'	N55° 15' 37"E	11	C10.06	
L220	59.67'	N55° 23' 34"E	11	C10.06	
L221	343.68'	N55° 34' 20"E	11	C10.06	
L222	41.49'	N54° 05' 31"E	12	C10.06	
L223	59.67'	N47° 26' 05"E	12	C10.06	

POINT TABLE		
POINT #	NORTHING	EASTING
CP247	618,180.15	815,026.99
CP248	618,214.04	815,076.10
CP249	618,219.76	815,084.40
CP250	618,408.34	815,359.59
CP251	618,432.68	815,393.19
CP252	618,473.04	815,437.13



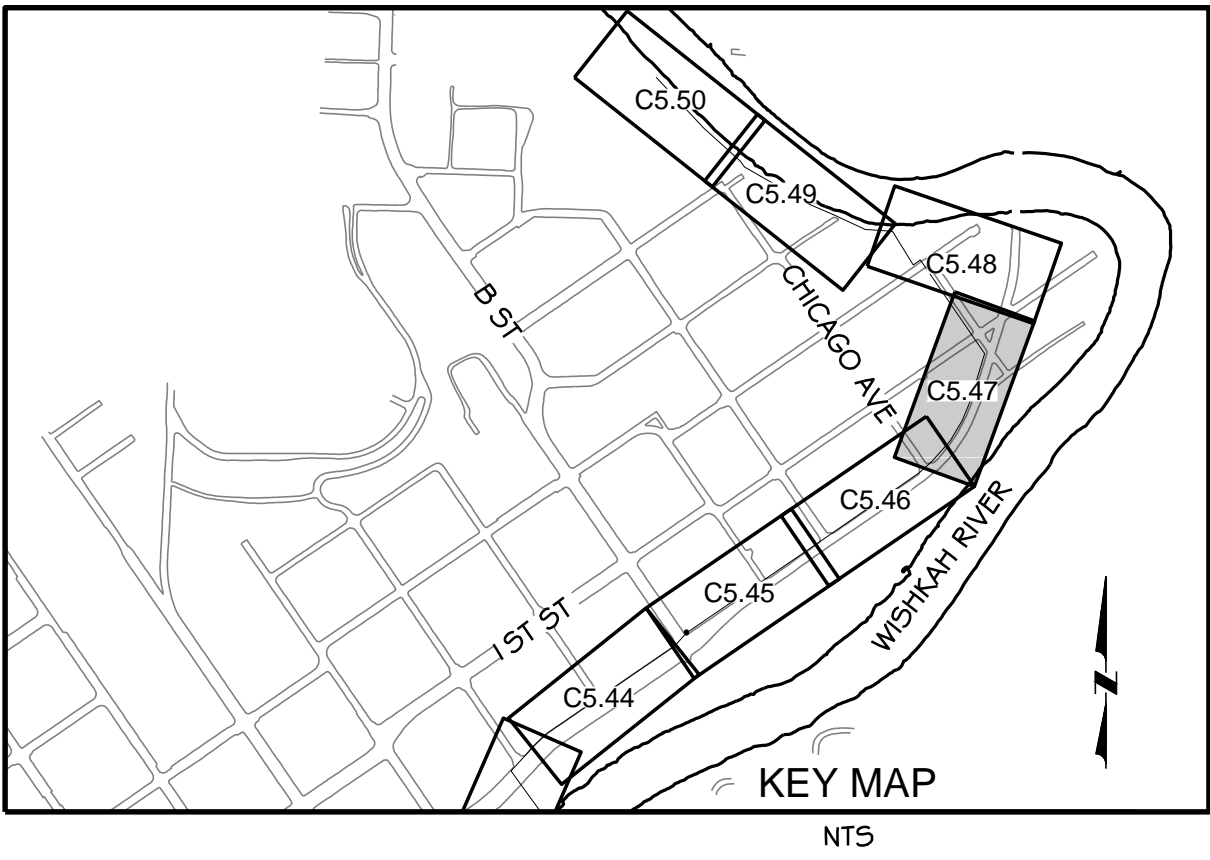
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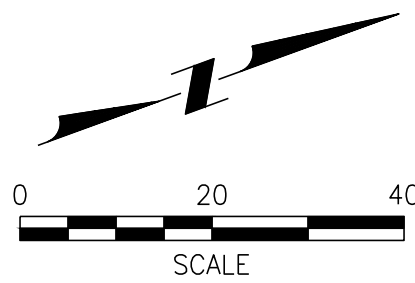
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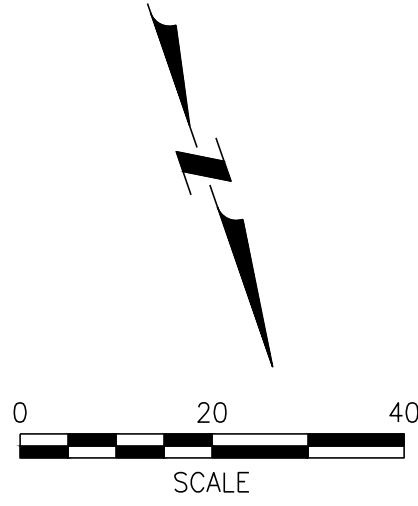
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C5.46		
SHEET 52 OF 79		



HORIZONTAL CONTROL													
LINE TABLE					CURVE TABLE						POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	CURVE #	DELTA	LENGTH	RADIUS	PROFILE	DWG	POINT #	NORTHING	EASTING
L223	59.67	N47° 26' 05"E	12	C10.06	C28	N32° 51' 22"E	244.86'	627.04'	12	C10.06	CP252	618,473.04	815,437.13
L224	186.27	N16° 54' 01"E	12	C10.06							CP253	618,677.43	815,569.14
L225	29.50	N34° 37' 11"W	12	C10.06							CP254	618,855.65	815,623.29
L226	40.34	N55° 36' 48"E	12	C10.06							CP255	618,879.92	815,606.53
L227	43.32	N17° 19' 16"E	12	C10.06							CP256	618,902.70	815,639.82
L228	44.67	N17° 48' 55"E	12	C10.06							CP257	618,944.06	815,652.72
L229	9.64	N14° 42' 29"E	12	C10.06							CP258	618,986.59	815,666.38
L230	4.67	N17° 44' 34"E	12	C10.06							CP259	618,995.91	815,668.83
L231	39.50	N17° 06' 36"E	12	C10.06							CP260	619,000.36	815,670.25

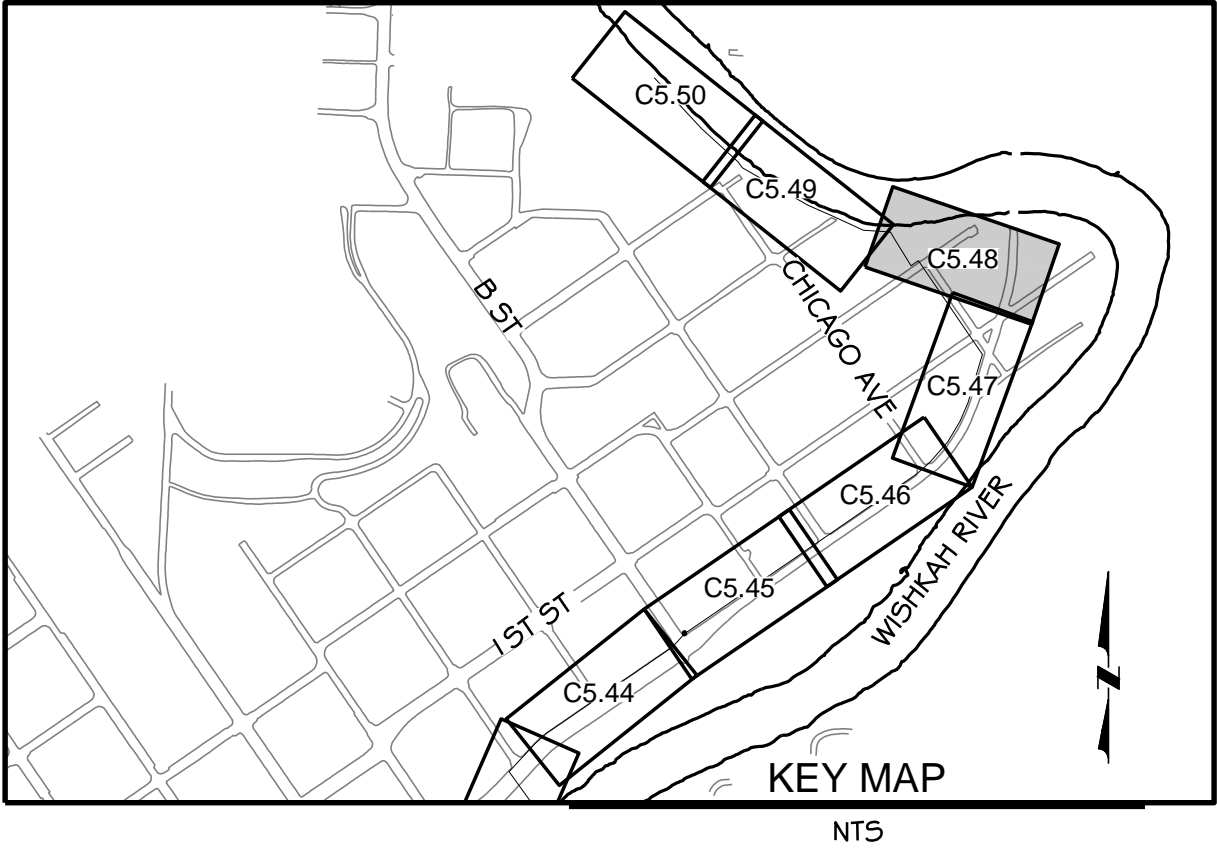
- KEY NOTES:**
- ① MATCH EXISTING
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 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)

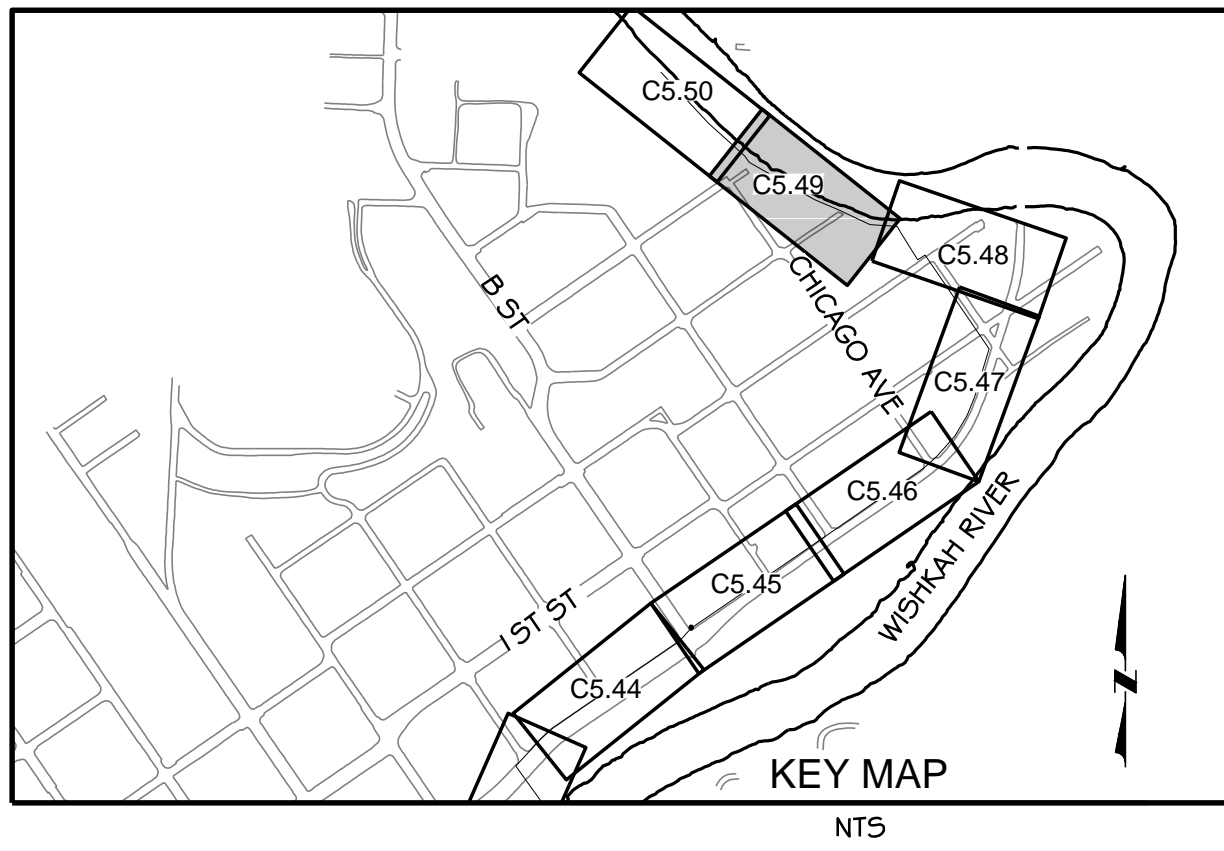
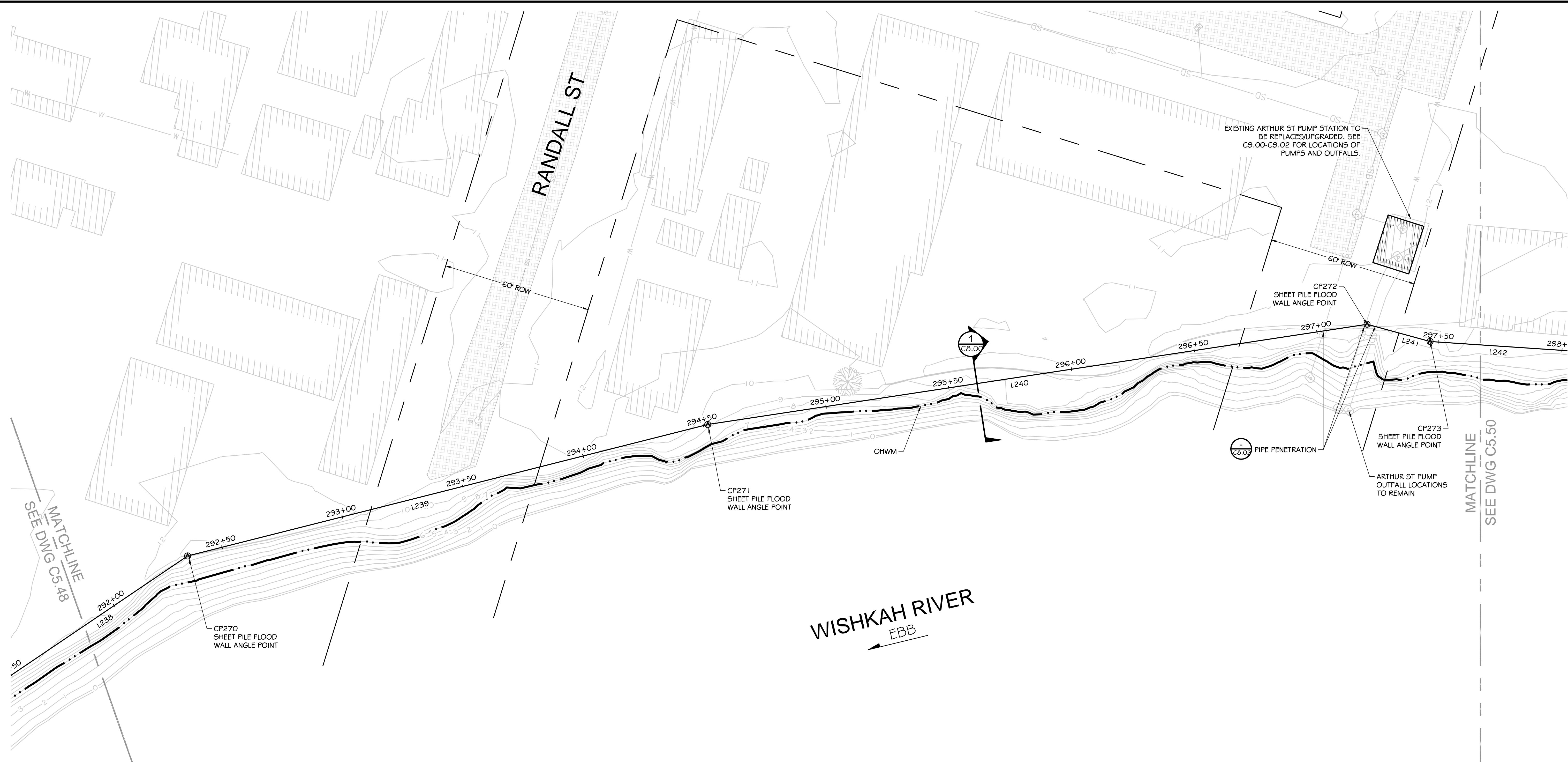




KEY NOTES:

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- ③ CONNECT TO EXISTING UTILITY
- ④ REMOVE TREE(S)





HORIZONTAL CONTROL						
LINE TABLE					POINT TABLE	
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING
L238	97.57'	N85° 38' 37"W	12	C10.06	CP270	619,298.43
L239	216.13'	N65° 46' 10"W	12	C10.06	CP271	619,387.13
L240	268.63'	N60° 14' 25"W	12	C10.06	CP272	619,520.47
L241	26.34'	N36° 19' 38"W	12	C10.06	CP273	619,541.70
L242	174.24'	N47° 45' 02"W	12	C10.06		815,199.36
						815,002.27
						814,769.06
						814,753.46

- KEY NOTES:
- ① MATCH EXISTING
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 - ④ REMOVE TREE(S)

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07-10-2017	
JOB NO:41600177	

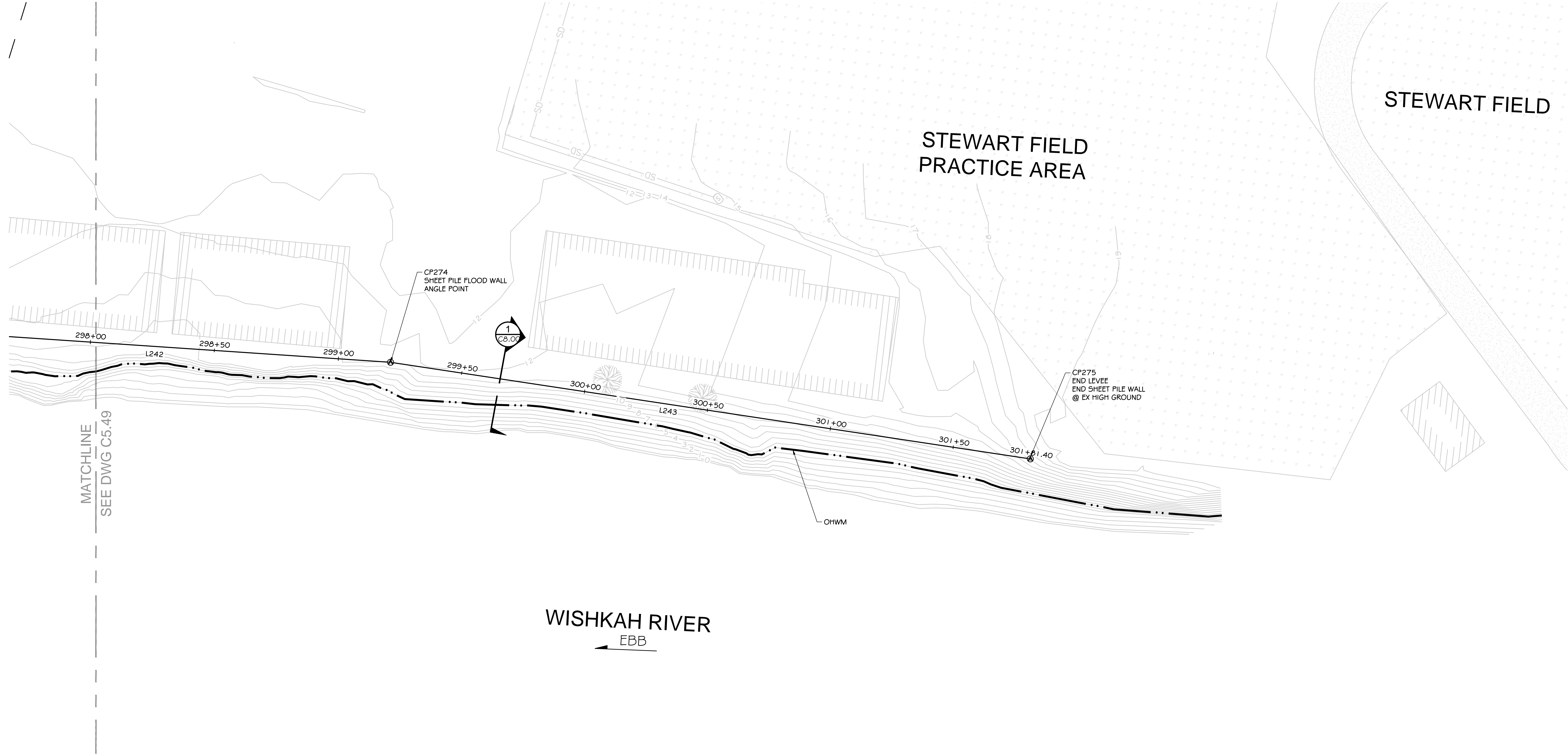
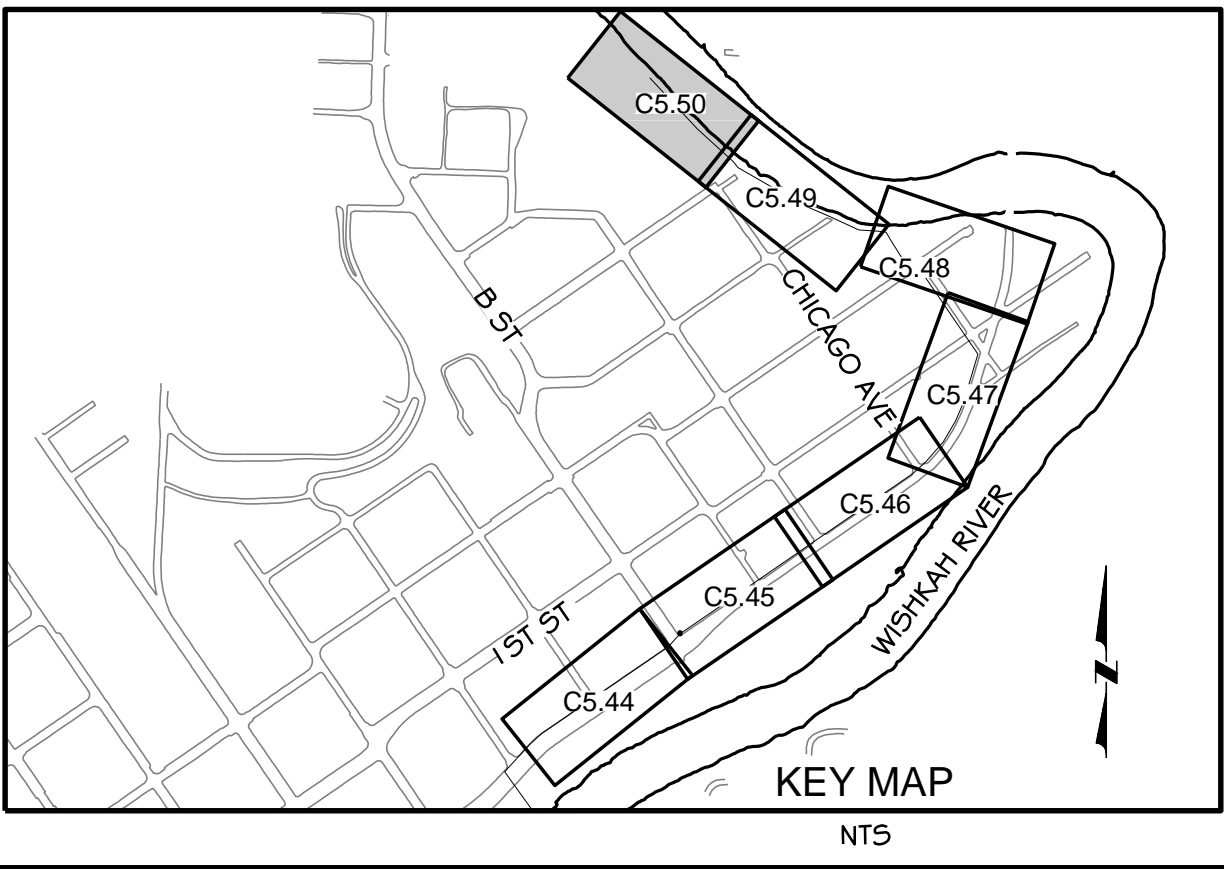
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LEVEE PLAN

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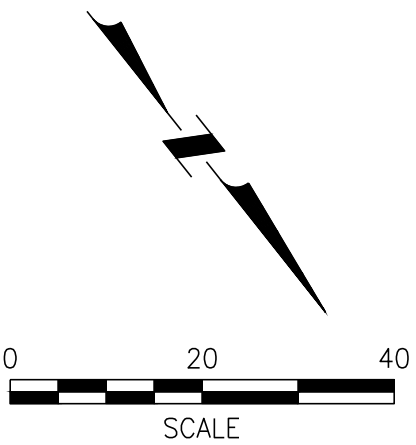
C5.49

SHEET 55 OF 79



HORIZONTAL CONTROL							
LINE TABLE					POINT TABLE		
LINE #	LENGTH	BEARING	PROFILE	DWG	POINT #	NORTHING	EASTING
L242	174.24'	N47° 45' 02"W	12	C10.06	CP274	619,658.85	814,624.48
L243	260.36'	N43° 00' 49"W	12	C10.06	CP275	619,849.22	814,446.87

- KEY NOTES:
- ① MATCH EXISTING
 - ② PROPOSED CATCH BASIN
 - ③ CONNECT TO EXISTING UTILITY
 - ④ REMOVE TREE(S)



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CLOMR SUBMITTAL				CLOMR SUBMITTAL			
NO	DATE	BY	CHD	APPR	REVISION		

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CITY OF HOQUIAM

ABERDEEN WASHINGTON

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WORKING DAYS
BEFORE YOU
DIG
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DRAWN BY	DESIGNED BY	DATE	JOB NO:
JAD	EAJ/BNT	07-10-2017	41600177
CHECKED BY	APPROVED BY		
MRS	MRS		

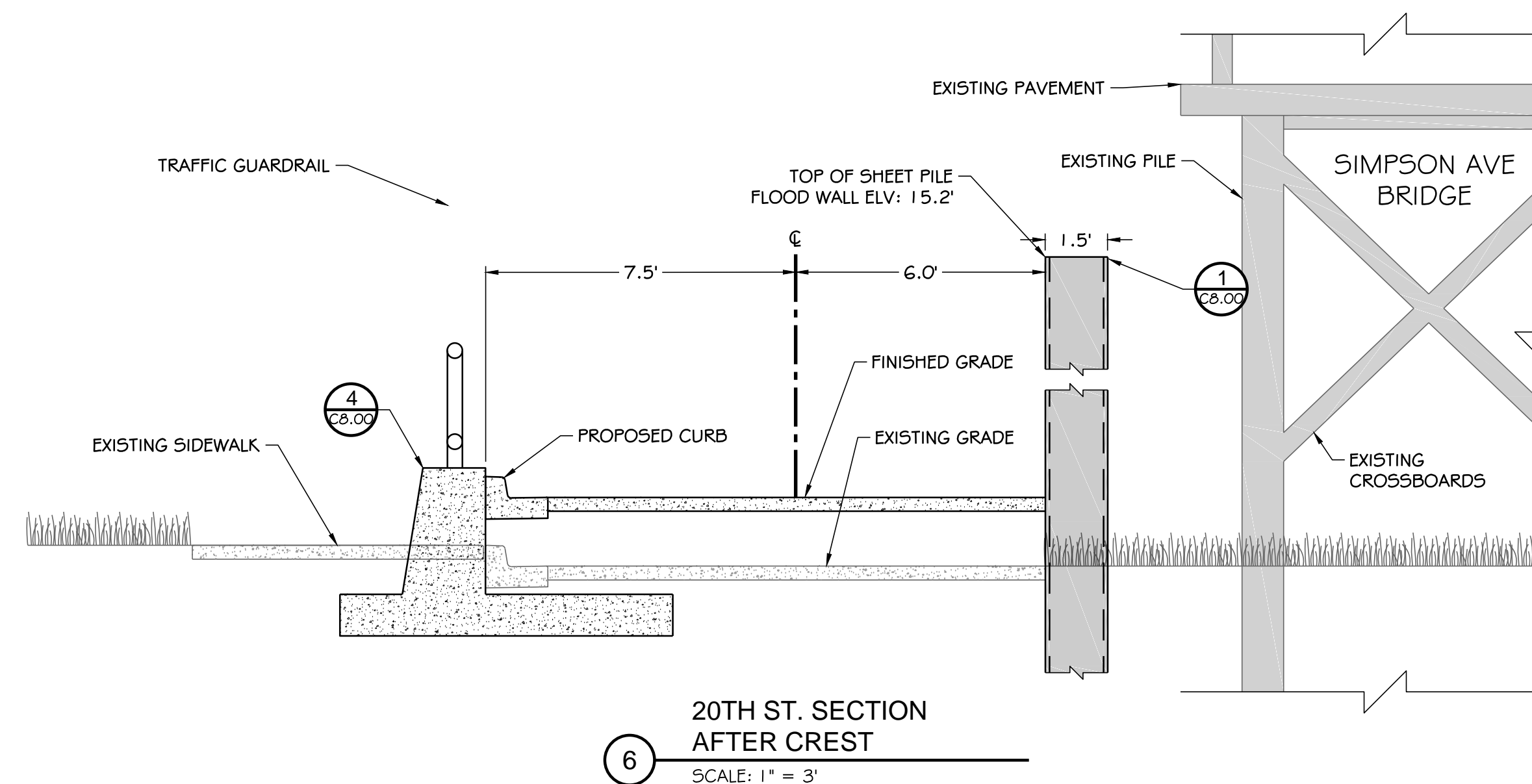
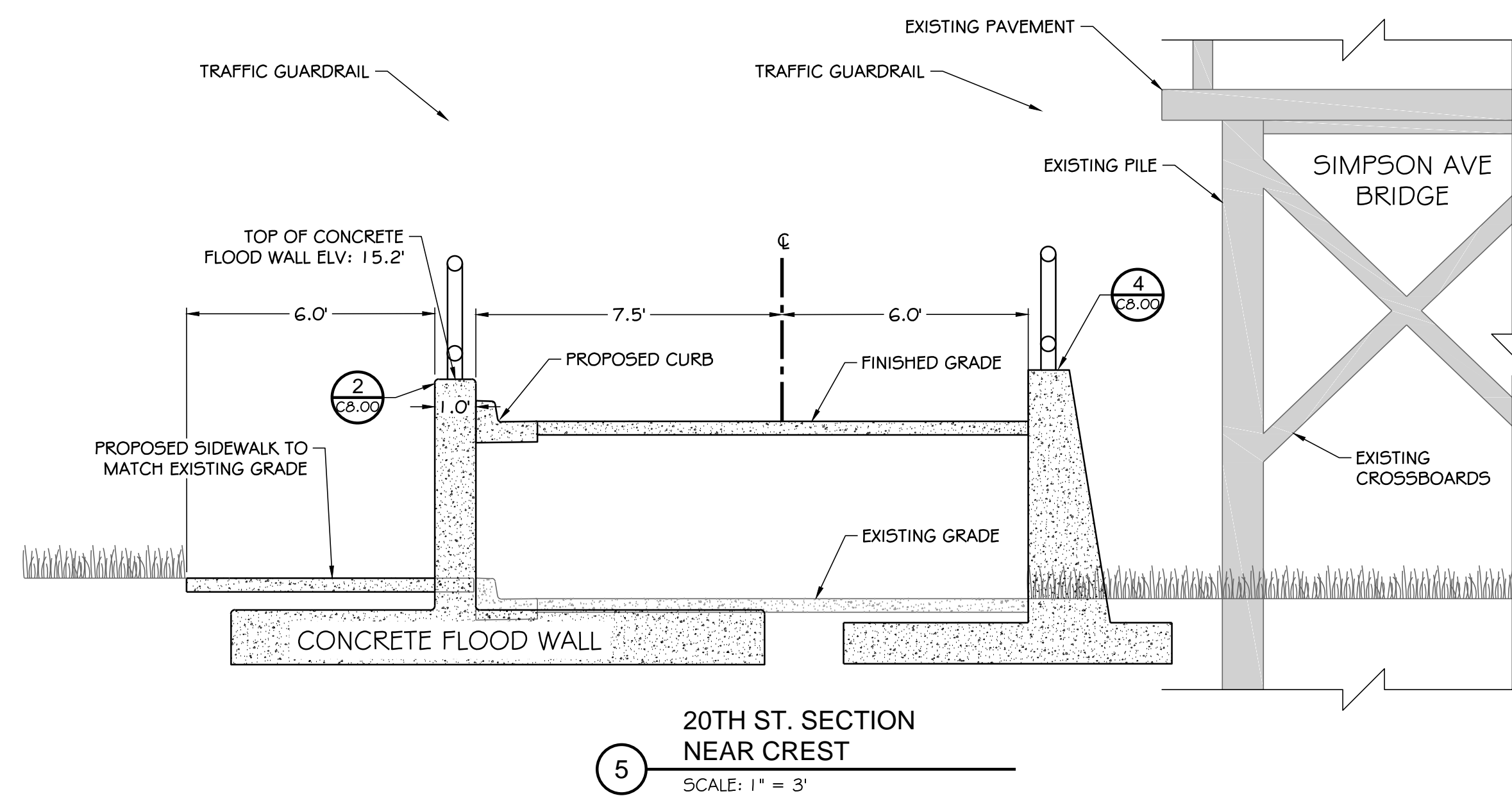
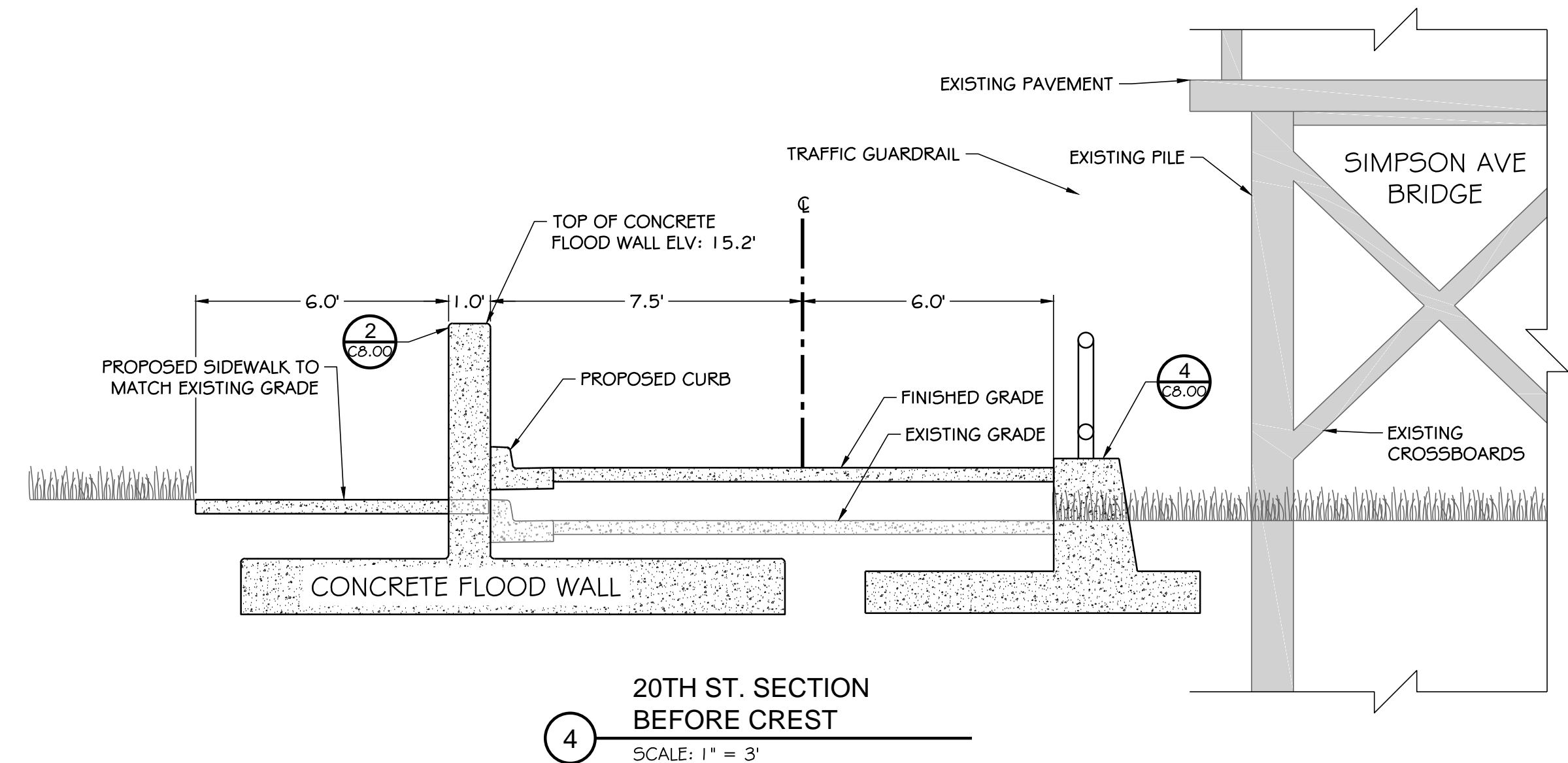
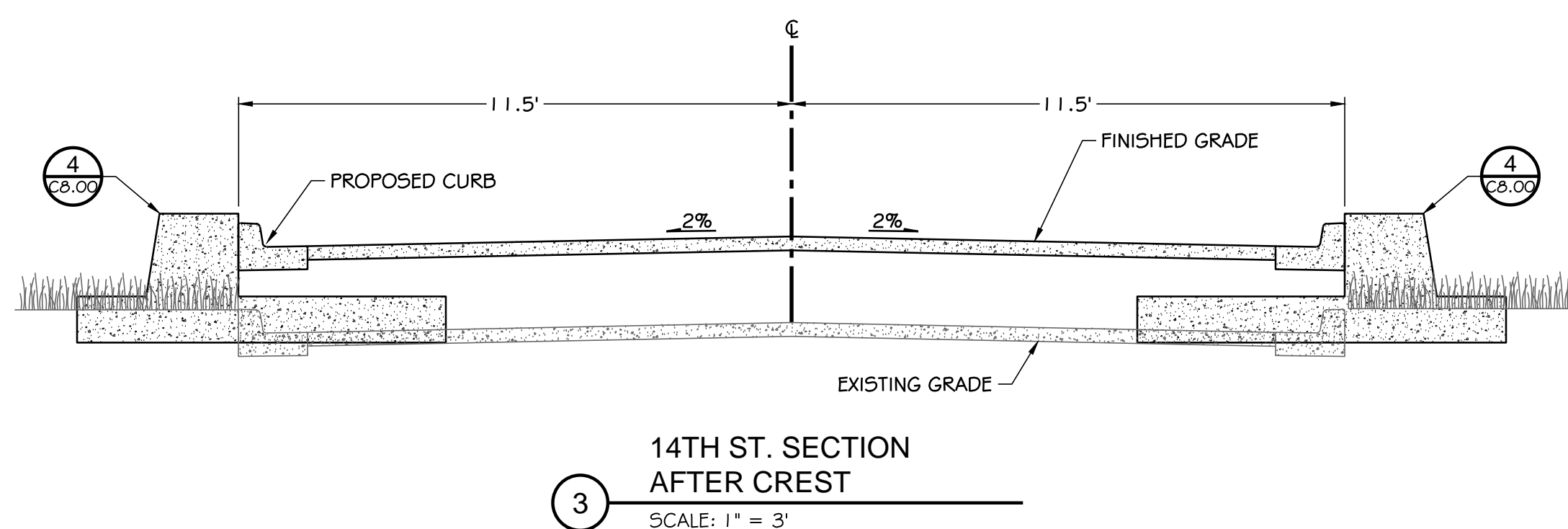
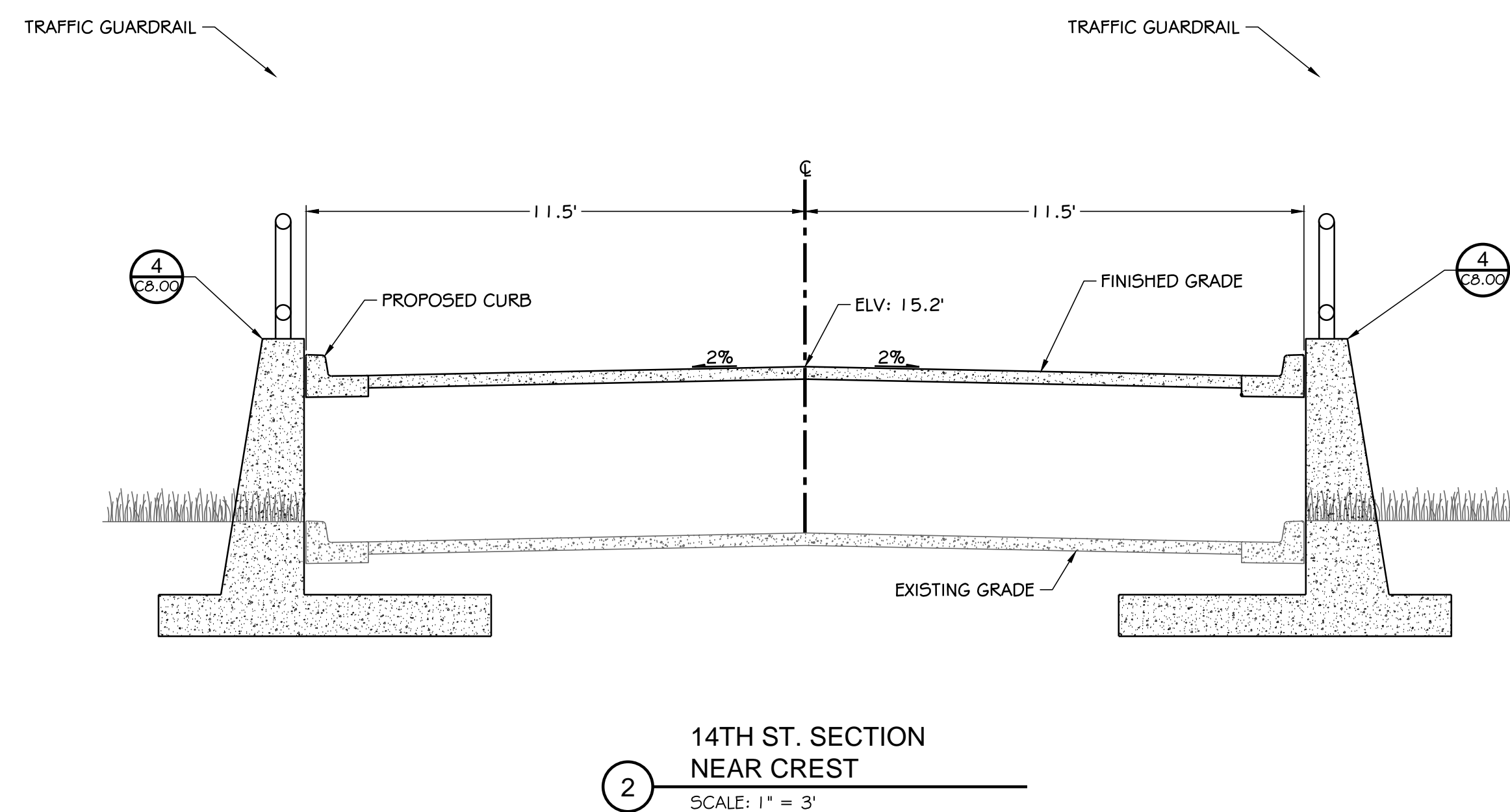
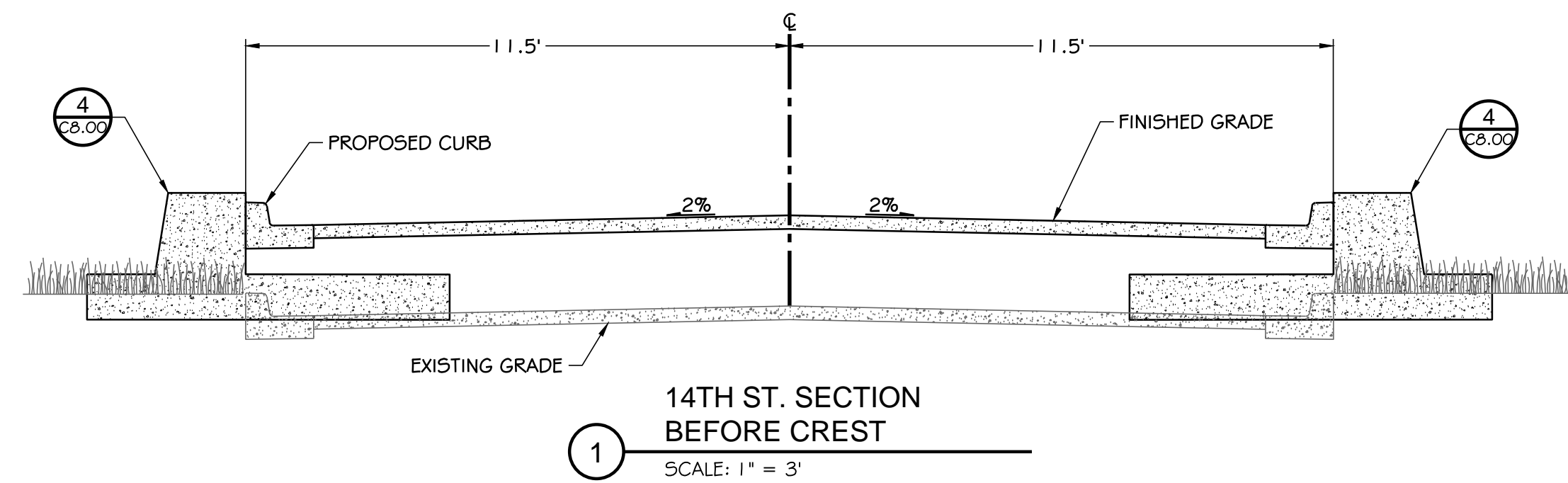
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON

LEVEE PLAN

DRAWING

C5.50

SHEET 56 OF 79

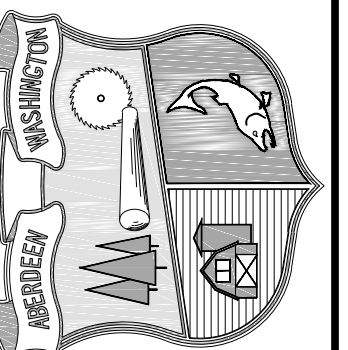


GENERAL NOTES:

1. SEE DETAIL 1 ON SHEET C7.00 FOR 14TH ST. VERTICAL PROFILE
2. SEE DETAIL 2 ON SHEET C7.00 FOR 20TH ST. VERTICAL PROFILE

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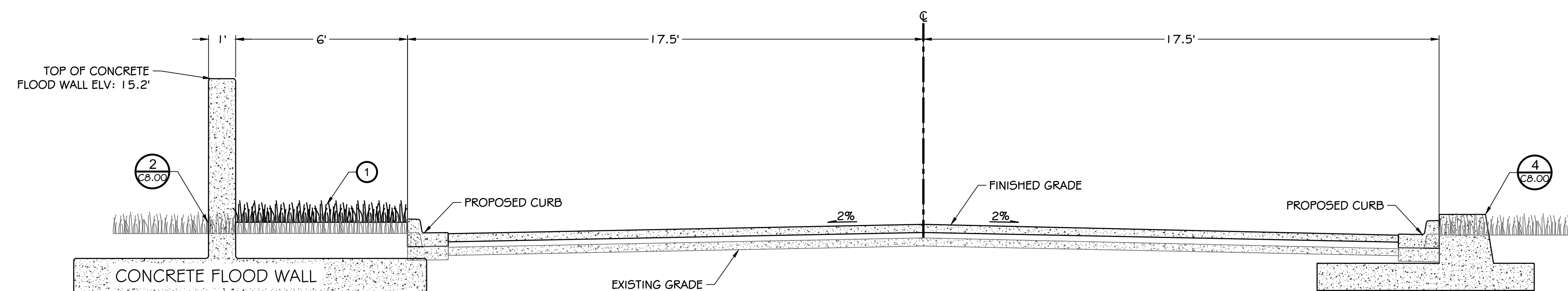
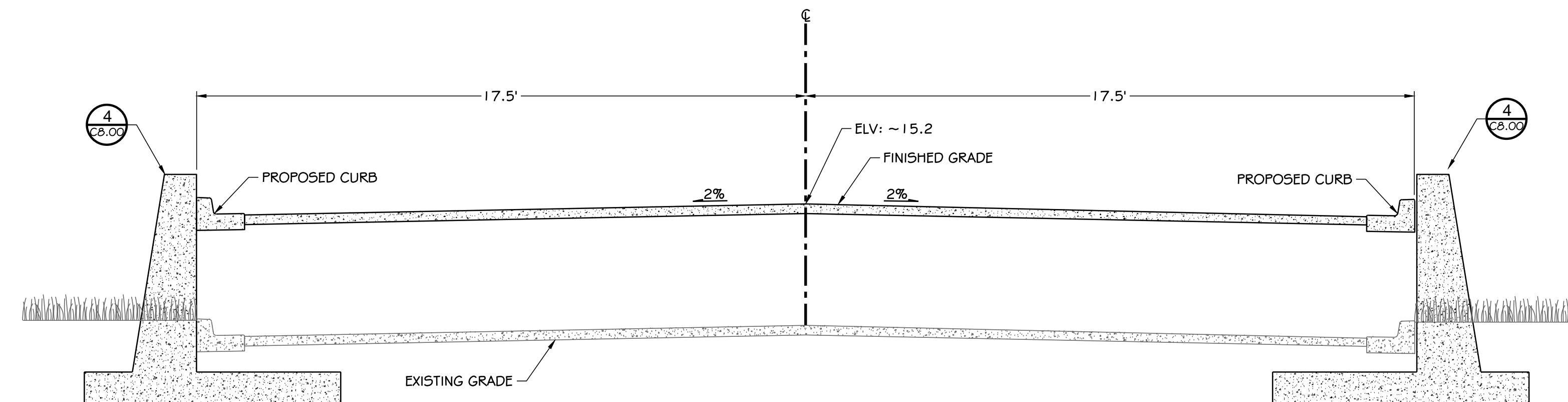
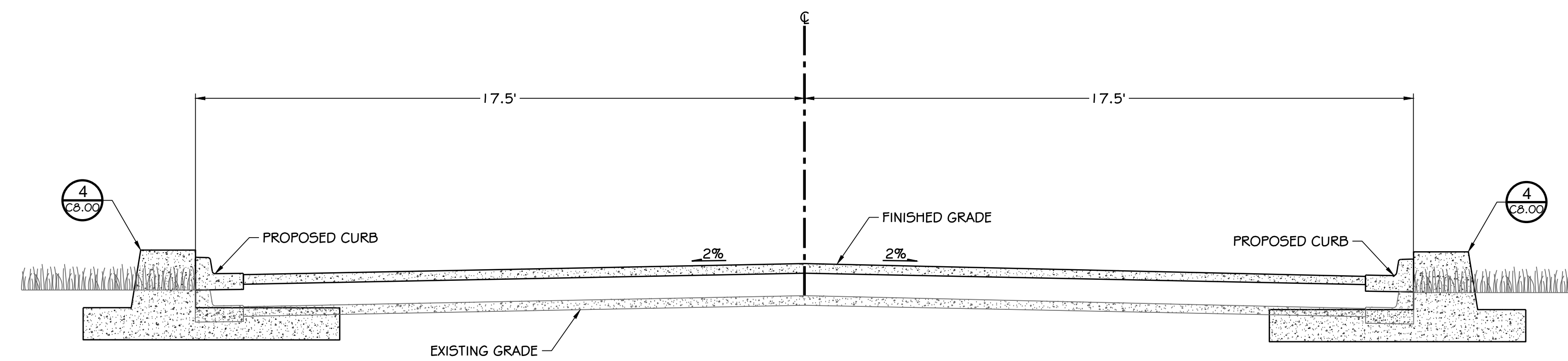
DESIGNED BY
BAL/BNT
CHECKED BY
MRS
DATE
07-10-2017
JOB NO: 41600177

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
ROADWAY SECTIONS
(20TH ST. & F ST.)

DRAWING

C6.00

SHEET 57 OF 79



LEGEND:

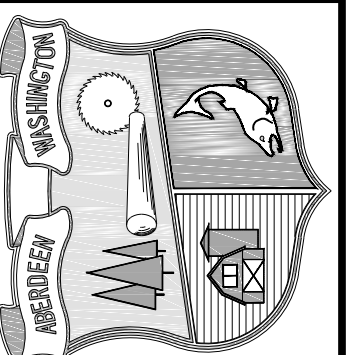
① PLANTAR BOX/LANDSCAPE AREA

GENERAL NOTES:

1. SEE DETAIL 3 ON SHEET C7.00 FOR
PORT INDUSTRIAL RD VERTICAL PROFILE

[illegible]

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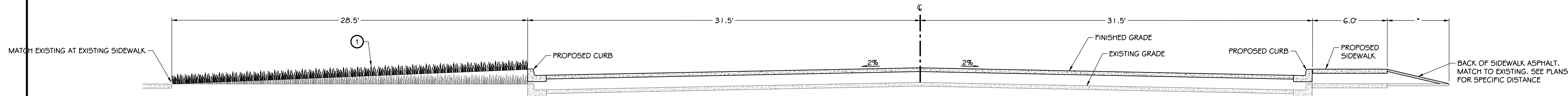
CALL
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WORKING DAYS
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JAD	BAU/BNT
CHECKED BY MRS	APPROVED BY MRS
DATE 07-10-2017	
JOB NO:41600177	

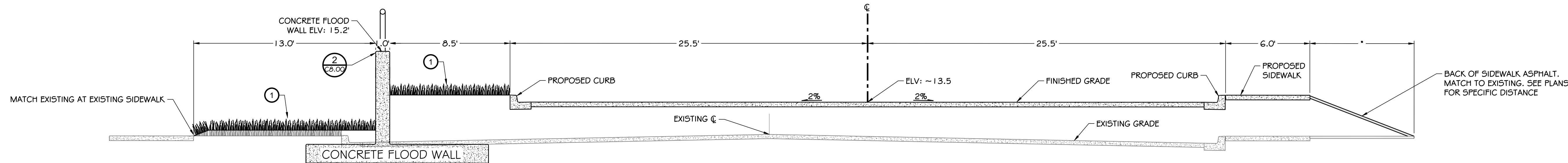
<p>NORTH SHORE LEVEE ABERDEEN & HOQUIAM, WASHINGTON</p>	<p>ROADWAY SECTIONS (STATE ST.)</p>
--	--

DRAWING

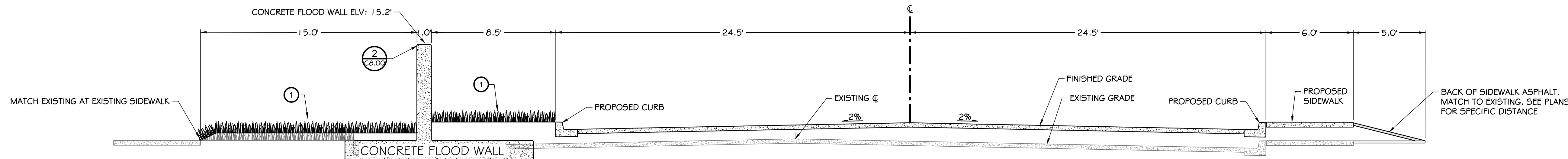
C6.01



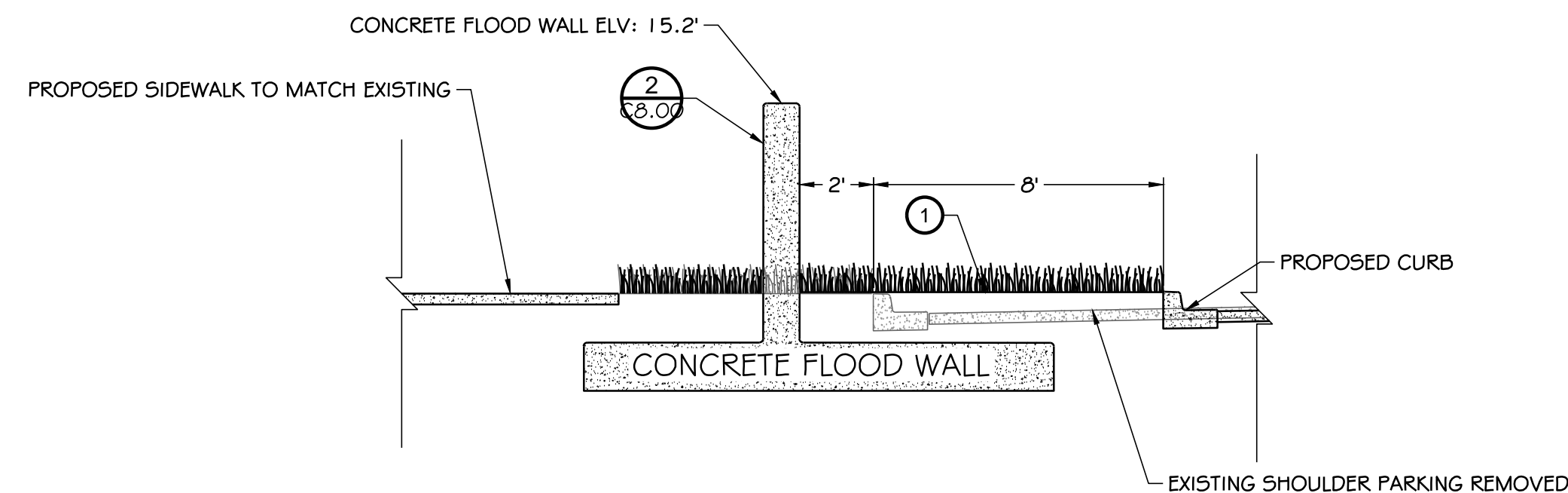
1 E MARKET ST. SECTION
BEFORE CREST
SCALE: 1" = 4'



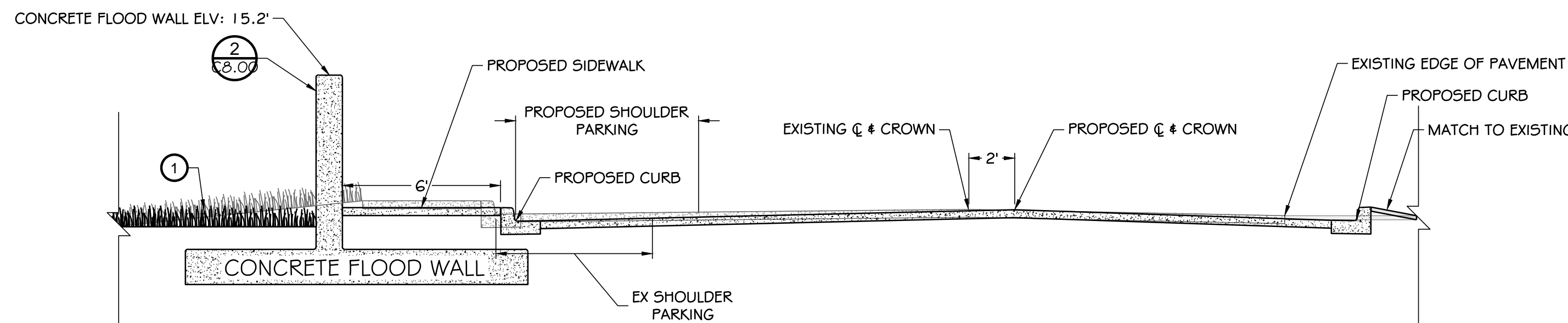
2 E MARKET ST. SECTION
NEAR CREST
SCALE: 1" = 4'



3 E MARKET ST. SECTION
AFTER CREST
SCALE: 1" = 4'



4 E MARKET ST.
SHOULDER SECTION
SCALE: 1" = 4'



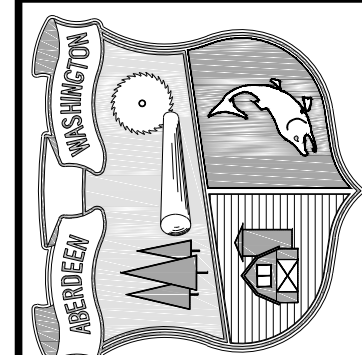
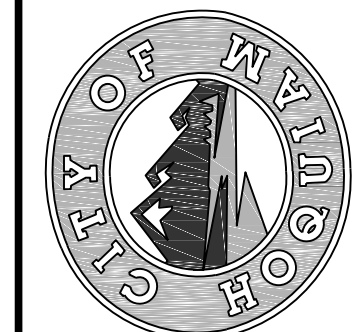
5 E MARKET ST.
REALIGNMENT
SCALE: 1" = 4'

LEGEND:
1 PLANTER BOX/LANDSCAPE AREA

GENERAL NOTES:
1. SEE DETAIL 4 ON SHEET C7.00 FOR E MARKET ST. VERTICAL PROFILE

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APR			

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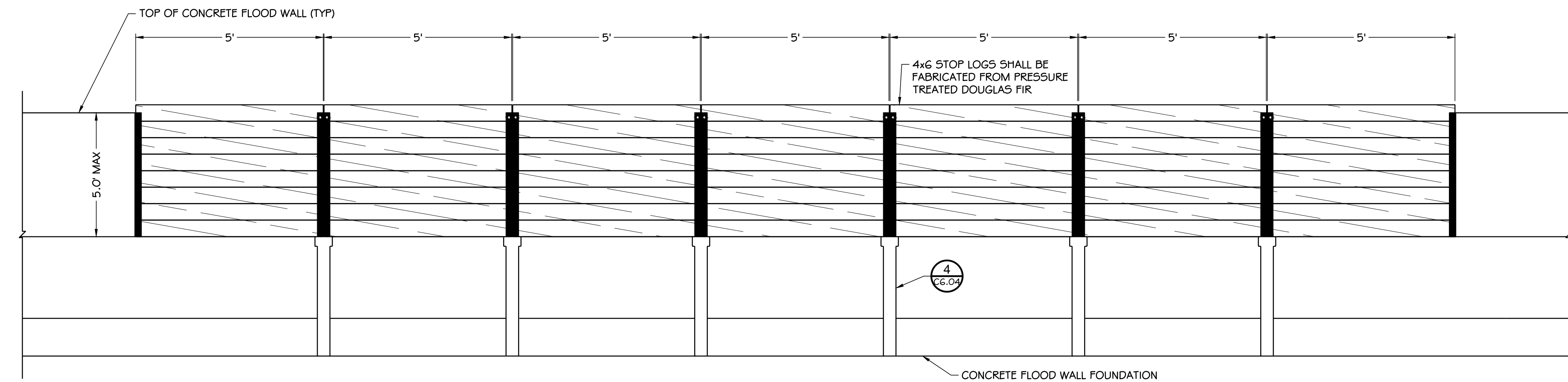
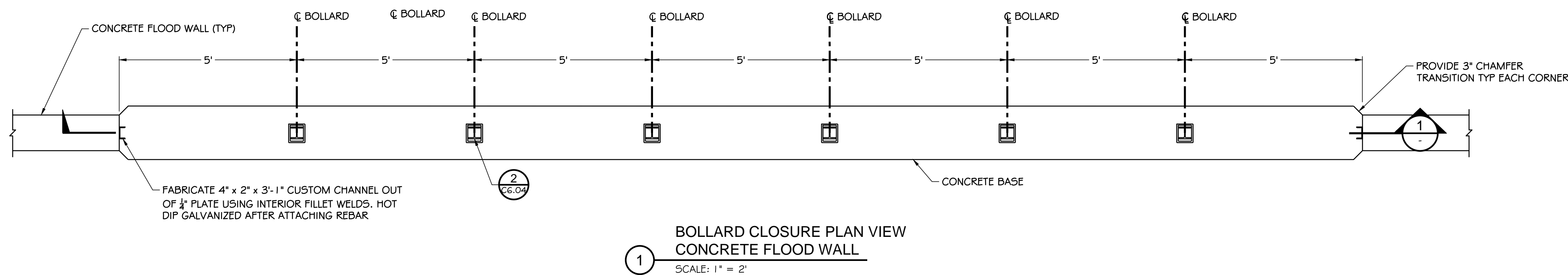
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DESIGNED BY	BAJ/BNT	DATE	07-10-2017	JOB NO: 41600177
DRAWN BY	JAD	CHECKED BY	MRS	

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
ROADWAY SECTIONS
(MARKET ST.)

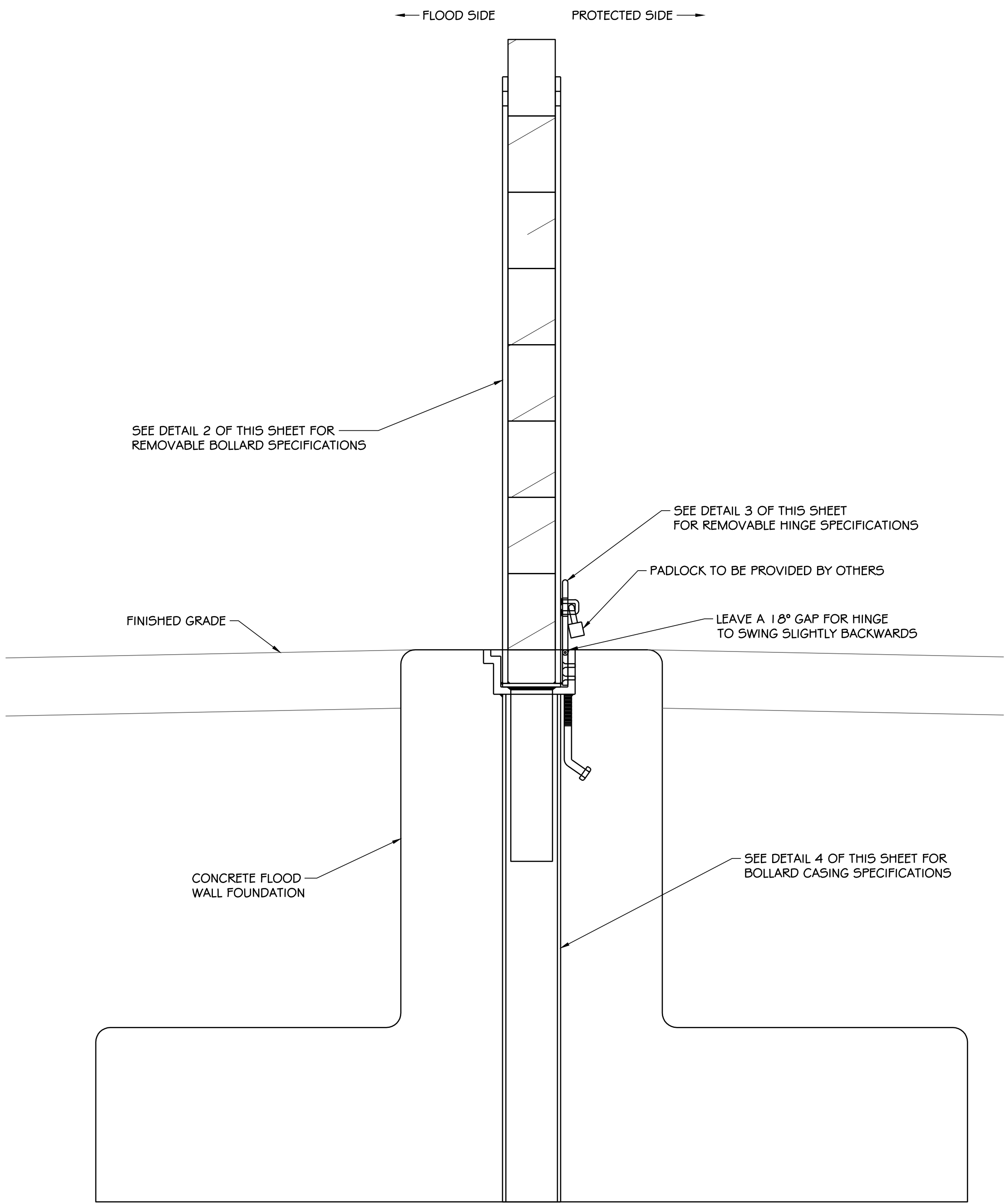
DRAWING

C6.02

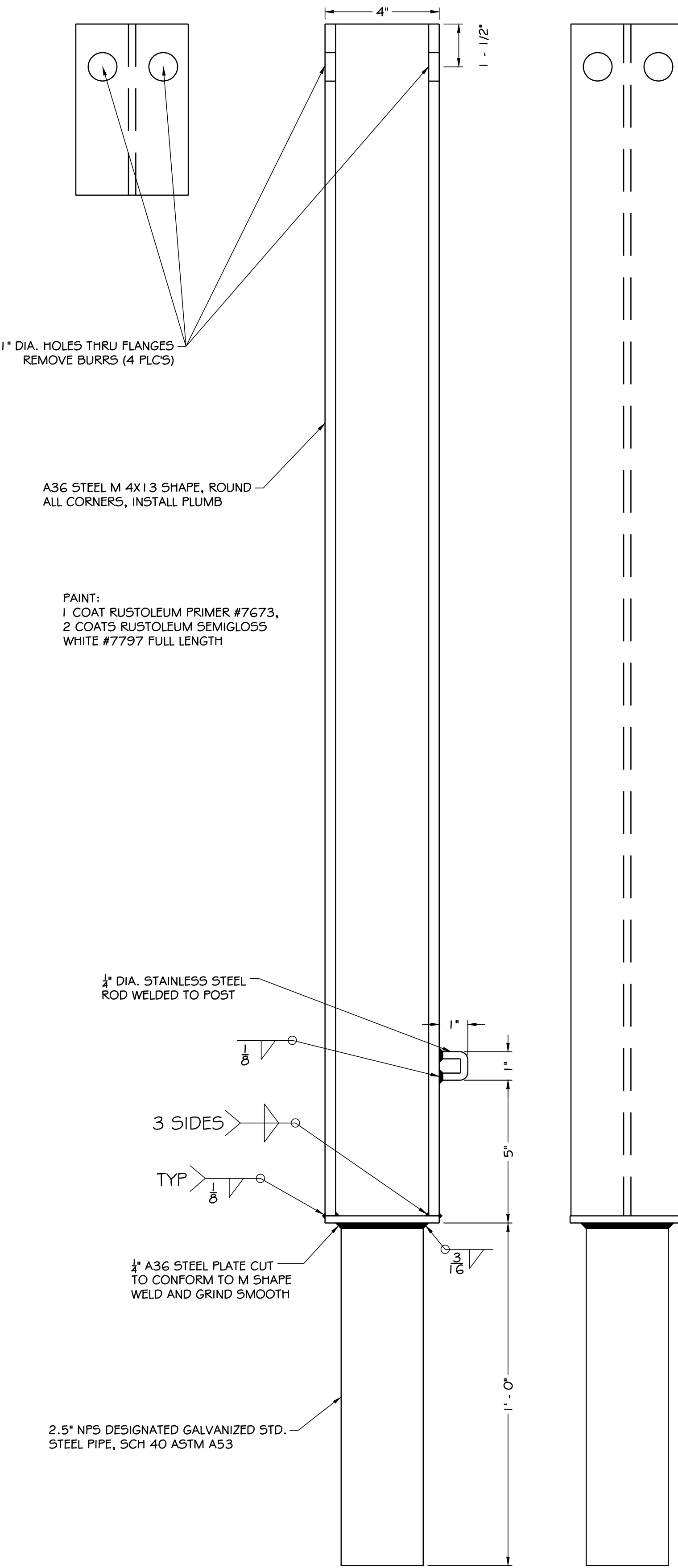


STOPLOG CLOSURES					
CLOSURE NO.	WIDTH	QTY. BOLLARDS	SPACING	BEGIN STA.	END STA.
1	15'	2	5'	12+ 54.32	2+ 69.32
2	5'	0	5'	15+ 08.87	15+ 13.87
3	45'	8	5'	15+ 59.06	16+ 04.06
5	110'	21	5'	23+ 61.09	24+ 71.09
6	55'	10	5'	44+ 72.78	45+ 27.78
7	45'	8	5'	49+ 16.26	49+ 61.26
12	25'	4	5'	98+ 37.21	98+ 62.21
13	60'	11	5'	109+ 11.87	109+ 71.87
14	35'	6	5'	119+ 79.11	120+ 14.11
15	25'	4	5'	135+ 70.35	135+ 95.35
20	40'	7	5'	186+ 15.68	186+ 55.68
22	30'	5	5'	193+ 95.30	194+ 25.30
25	35'	6	5'	232+ 04.66	232+ 39.66
26	35'	6	5'	239+ 64.05	29+ 99.05
27	5'	6	5'	240+ 04.93	240+ 09.93
28	10'	0	5'	240+ 30.97	240+ 40.97
29	10'	1	5'	240+ 79.47	240+ 89.47
30	10'	1	5'	241+ 10.64	241+ 20.64
31	5'	0	5'	242+ 44.56	242+ 49.56
32	5'	0	5'	243+ 04.33	243+ 09.33
33	10'	1	5'	245+ 06.36	245+ 16.36
34	10'	1	5'	245+ 46.77	245+ 56.77
35	10'	1	5'	246+ 21.64	246+ 31.64
36a	15'	2	5'	254+ 15.25	254+ 30.25
36b	25'	5	5'	257+ 13.48	257+ 38.48
37	65'	12	5'	257+ 77.76	258+ 42.76
38	30'	5	5'	262+ 32.53	262+ 62.53
39	10'	1	5'	265+ 73.88	265+ 83.88
40	60'	11	5'	25+ 90.82	266+ 50.82
41	35'	6	5'	267+ 20.98	267+ 55.98
42	30'	5	5	269+ 72.96	270+ 02.96
43	60'	11	5'	272+ 16.56	272+ 76.56
44	60'	11	5'	276+ 61.40	277+ 21.40
45	5'	0	5'	281+ 82.36	281+ 87.36
46	30'	5	5'	281+ 92.23	282+ 22.23
47	45'	8	5'	282+ 65.35	283+ 10.35
48	5'	0	5'	283+ 19.66	283+ 24.66
50	20'	3	5'	287+ 63.98	287+ 83.98
51	5'	0	5'	288+ 63.87	288+ 68.79
52	15'	2	5'	288+ 89.69	289+ 04.69
53	15'	2	5'	289+ 15.35	289+ 30.35
54	5'	0	5'	289+ 99.72	290+ 04.72

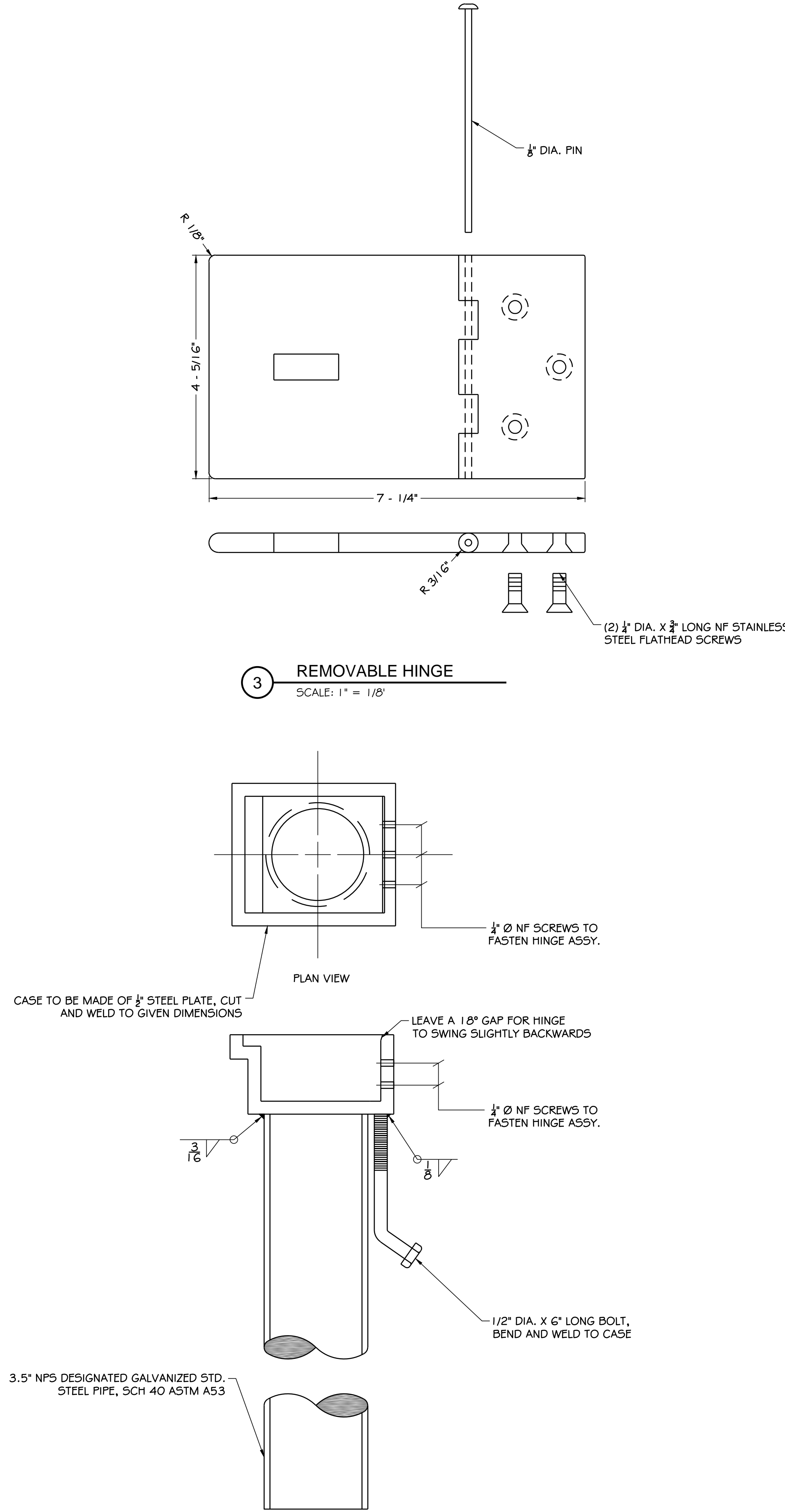
- NOTES:
- 1. DIMENSIONS GIVEN ARE APPROXIMATE, FABRICATOR TO ADJUST AS NEEDED TO ENSURE PROPER FIT.
 - 2. SILL PLATE BETWEEN BOLLARDS VARIES IN DISTANCE.
 - 3. HINGE TO BE FABRICATED FROM 3/8" STEEL PLATE TO GIVEN DIMENSIONS.



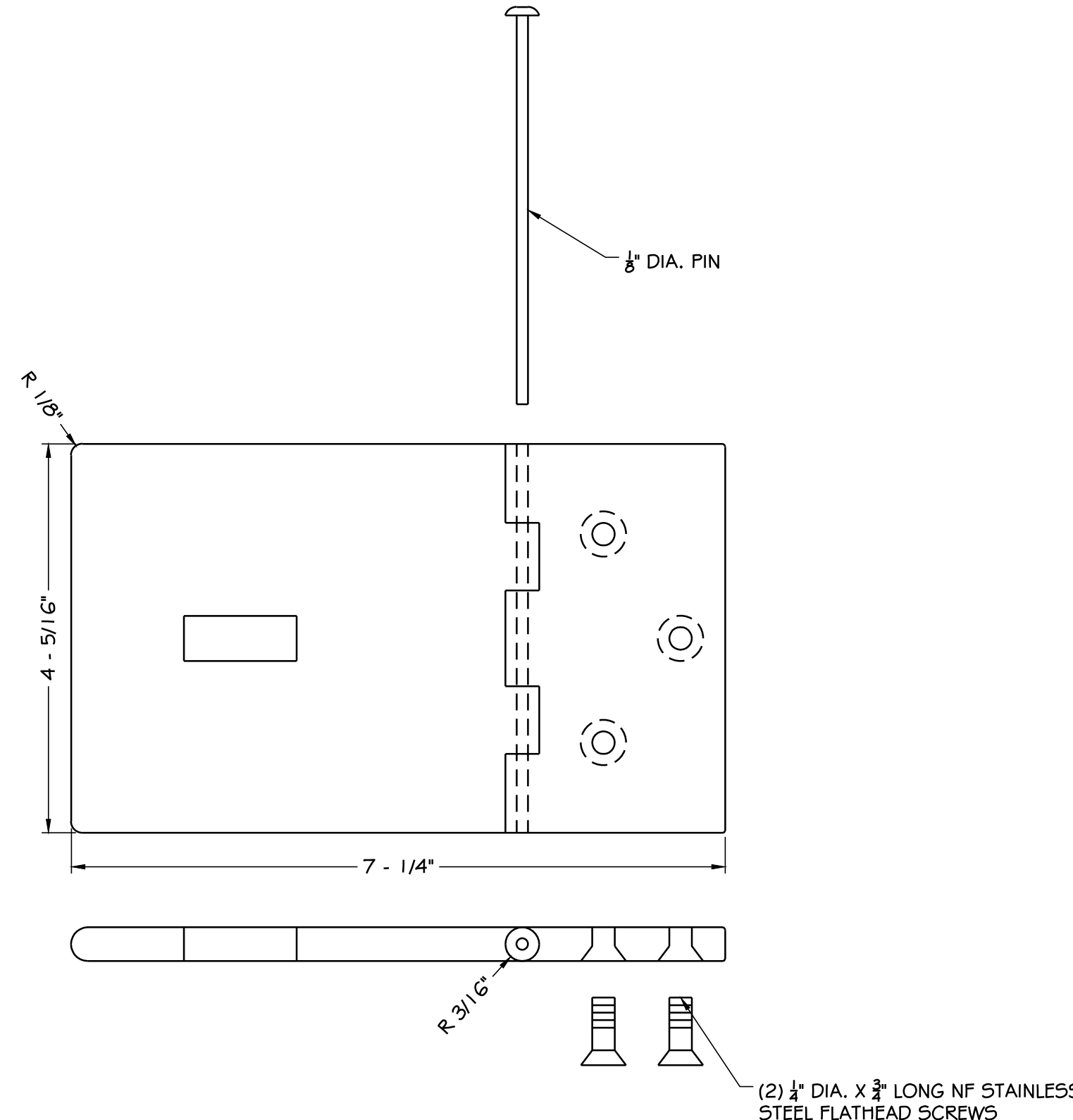
1 BOLLARD CASING ELEVATION VIEW
CONCRETE FLOOD WALL
SCALE: 1" = 1/2'



2 REMOVABLE BOLLARD
SCALE: 1" = 1/4"



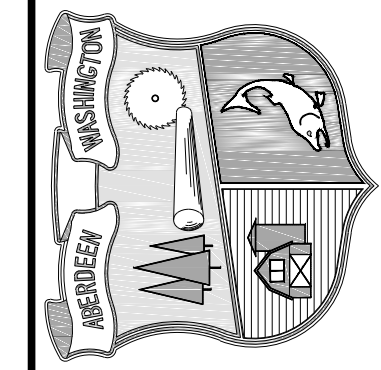
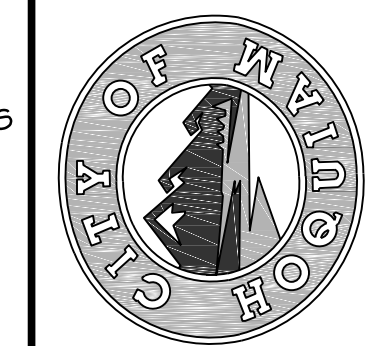
4 BOLLARD CASING
SCALE: 1" = 1/4"



3 REMOVABLE HINGE
SCALE: 1" = 1/8"

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BEFORE YOU
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DESIGNED BY	BAJ/BNT	APPROVED BY		DATE	07-10-2017	JOB NO: 41600177
DRAWN BY	JAD	CHECKED BY	MRS			

NORTH SHORE LEVEE
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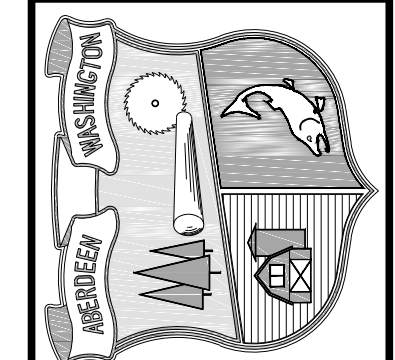
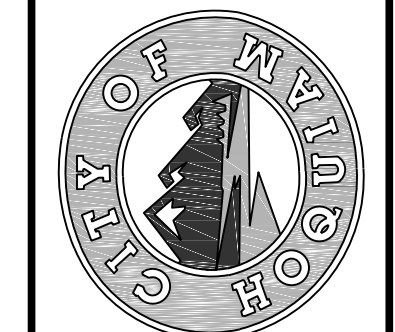
STOPLOG CLOSURE DETAILS

DRAWING

C6.04



STOPLOG CLOSURES



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CHECKED BY MRS	APPROVED BY MRS
DATE 07-10-2017	
JOB NO:41600177	

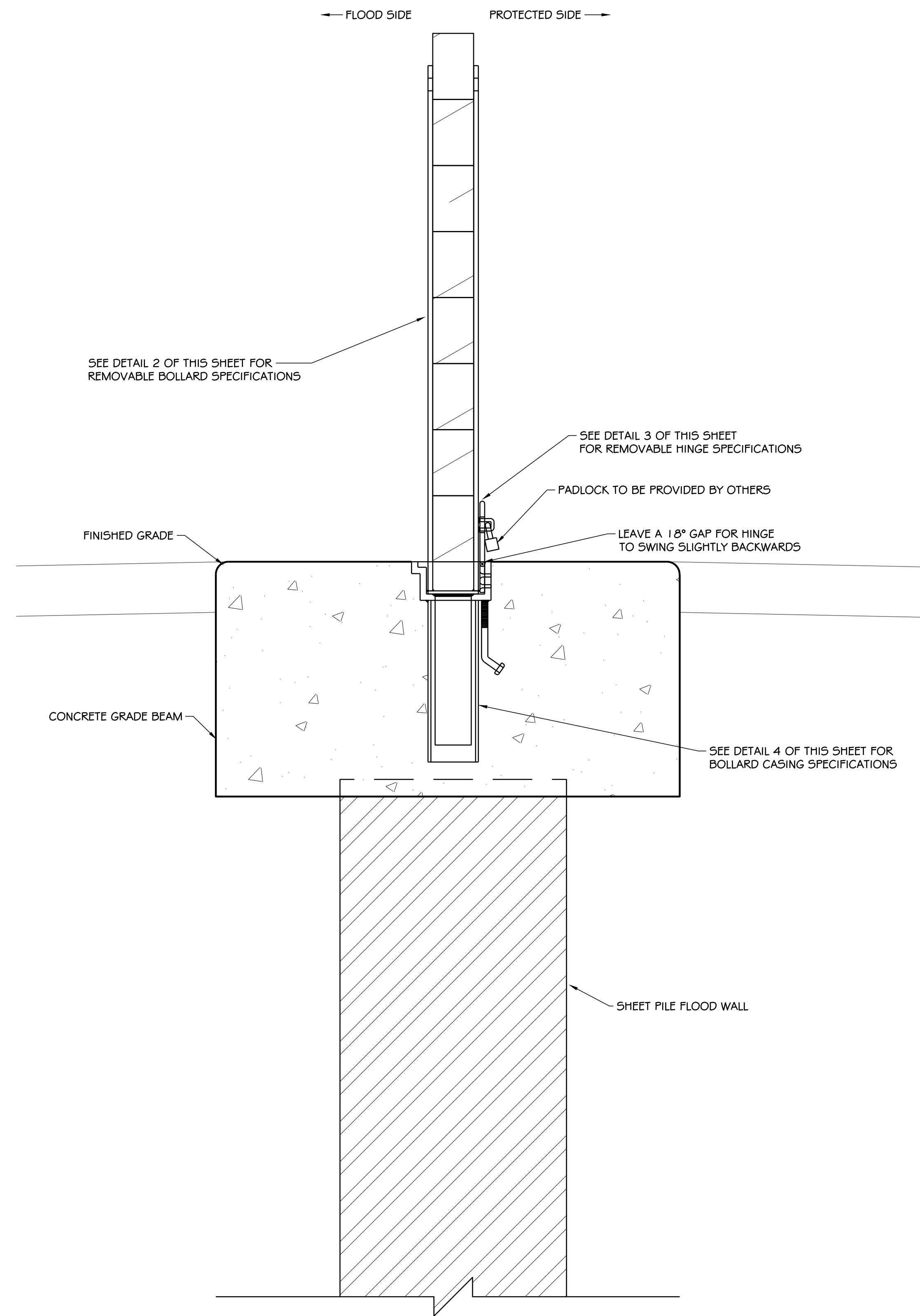
NORTH SHORE LEVEE ABERDEEN & HOQUIAM, WASHINGTON STOPLOG CLOSURE DETAILS

DRAWING

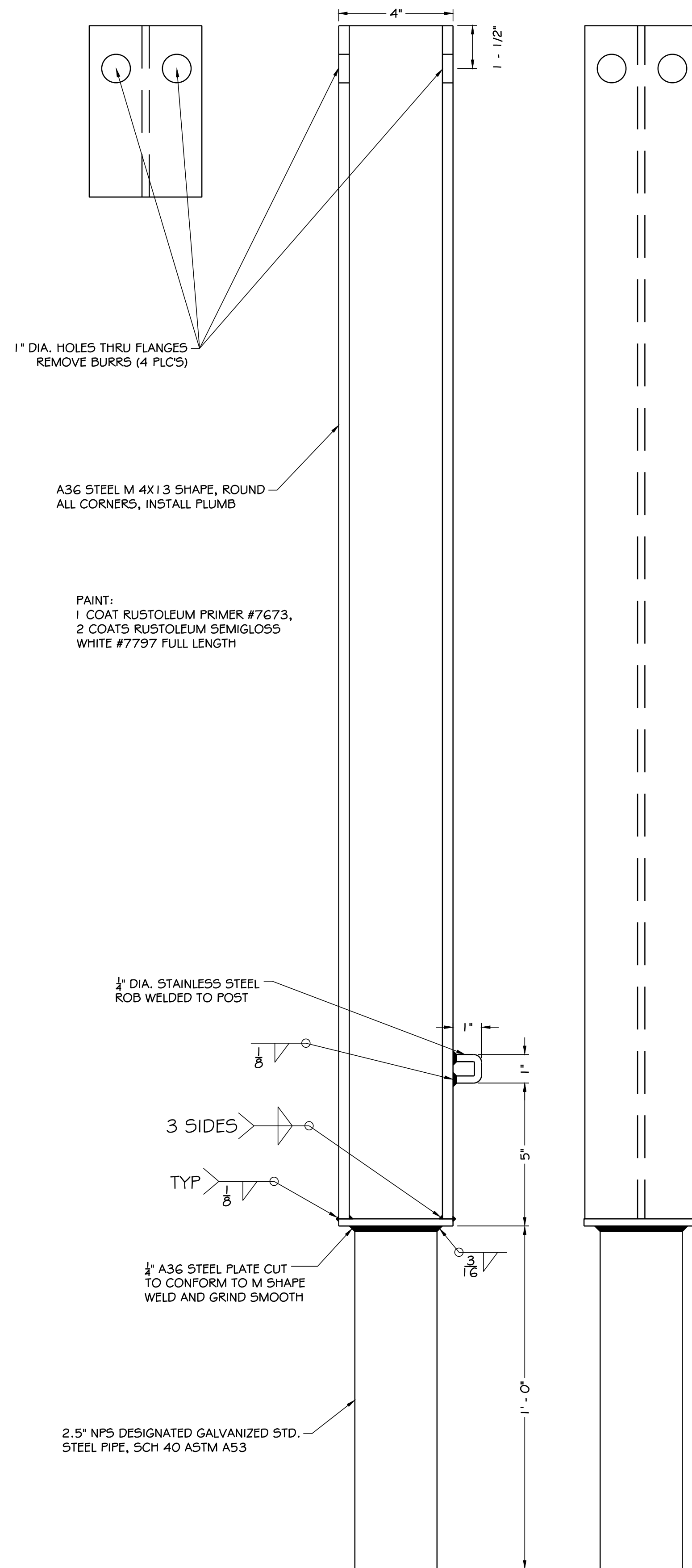
C6.05

NOTES:

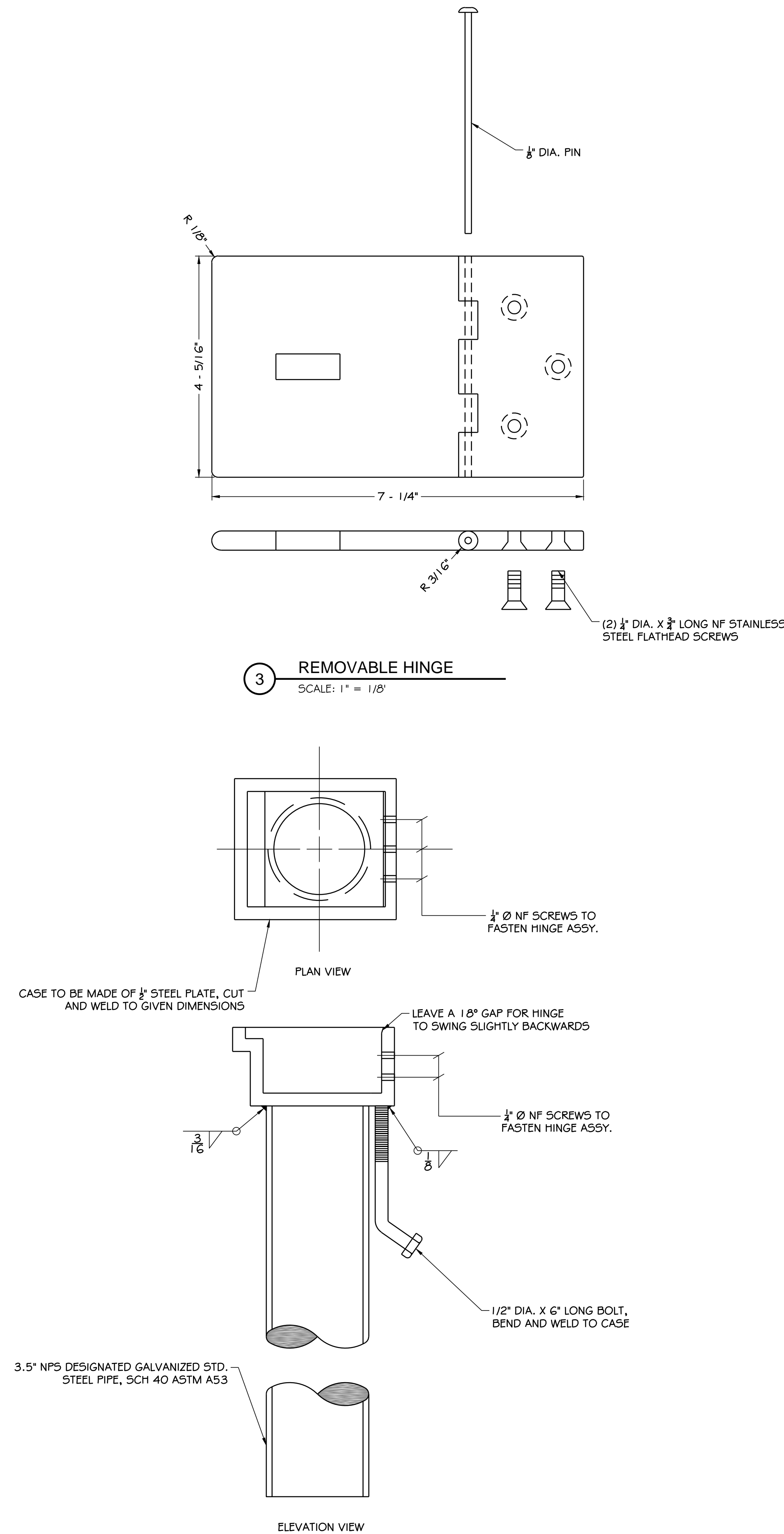
- DIMENSIONS GIVEN ARE APPROXIMATE, FABRICATOR TO ADJUST AS NEEDED TO ENSURE PROPER FIT.
- SILL PLATE BETWEEN BOLLARDS VARIES IN DISTANCE.
- HINGE TO BE FABRICATED FROM 3/8" STEEL PLATE TO GIVEN DIMENSIONS.



1 BOLLARD CASING ELEVATION VIEW
SHEET PILE FLOOD WALL
SCALE: 1" = 1/2"



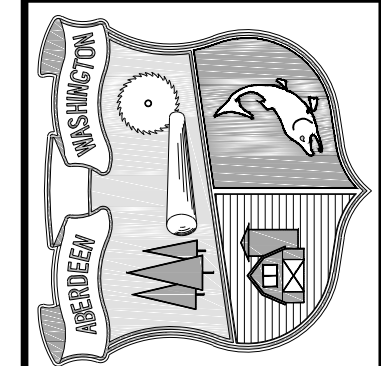
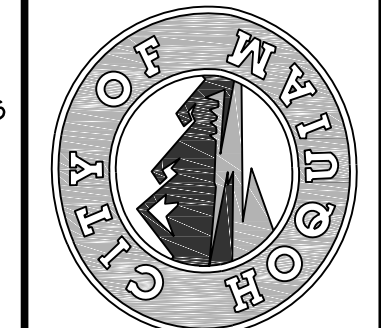
2 REMOVABLE BOLLARD
SCALE: 1" = 1/4"



4 BOLLARD CASING
SCALE: 1" = 1/4"

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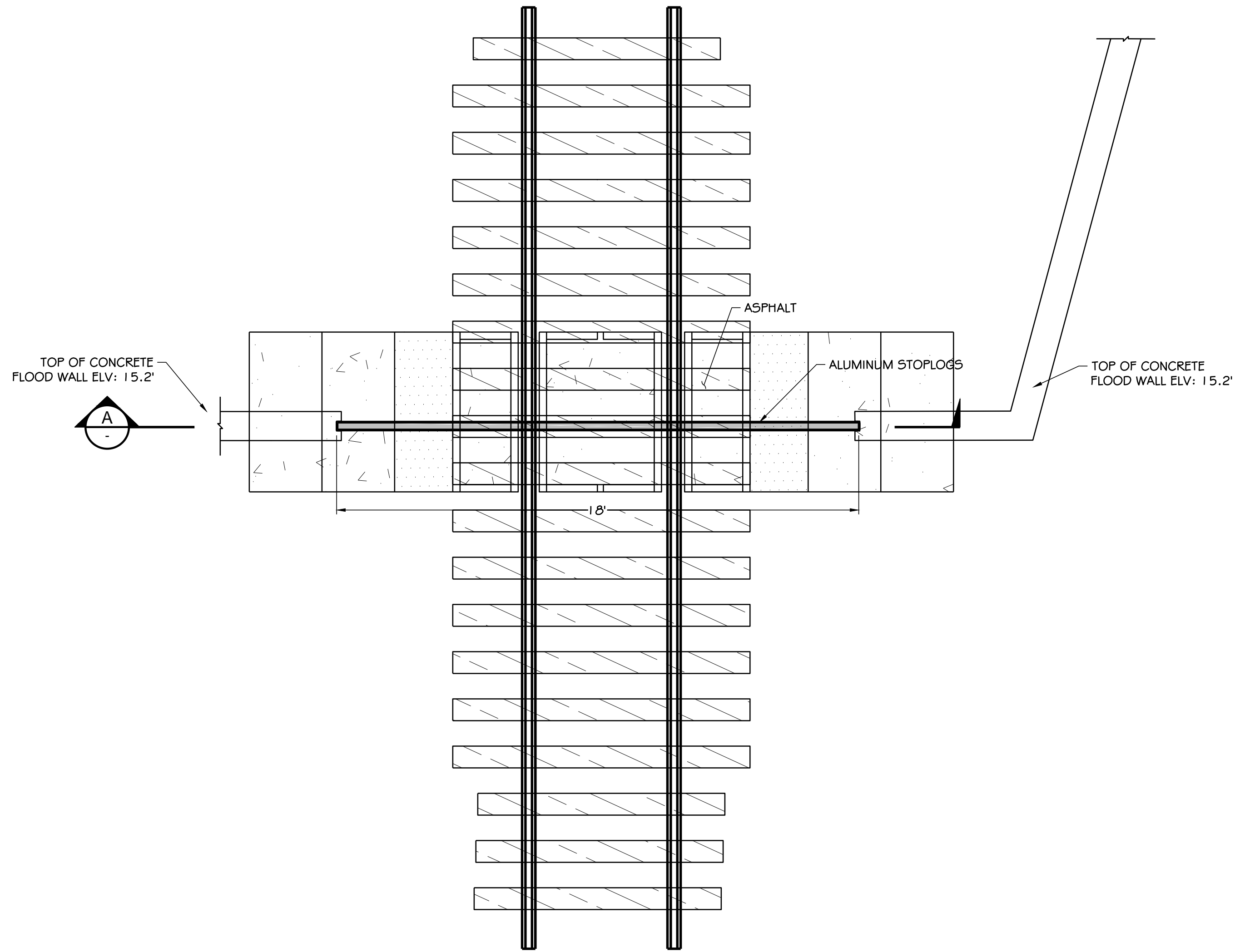
DESIGNED BY	BAJ/BNT
DRAWN BY	JAD
CHECKED BY	MRS
DATE	07-10-2017
JOB NO:	41600177

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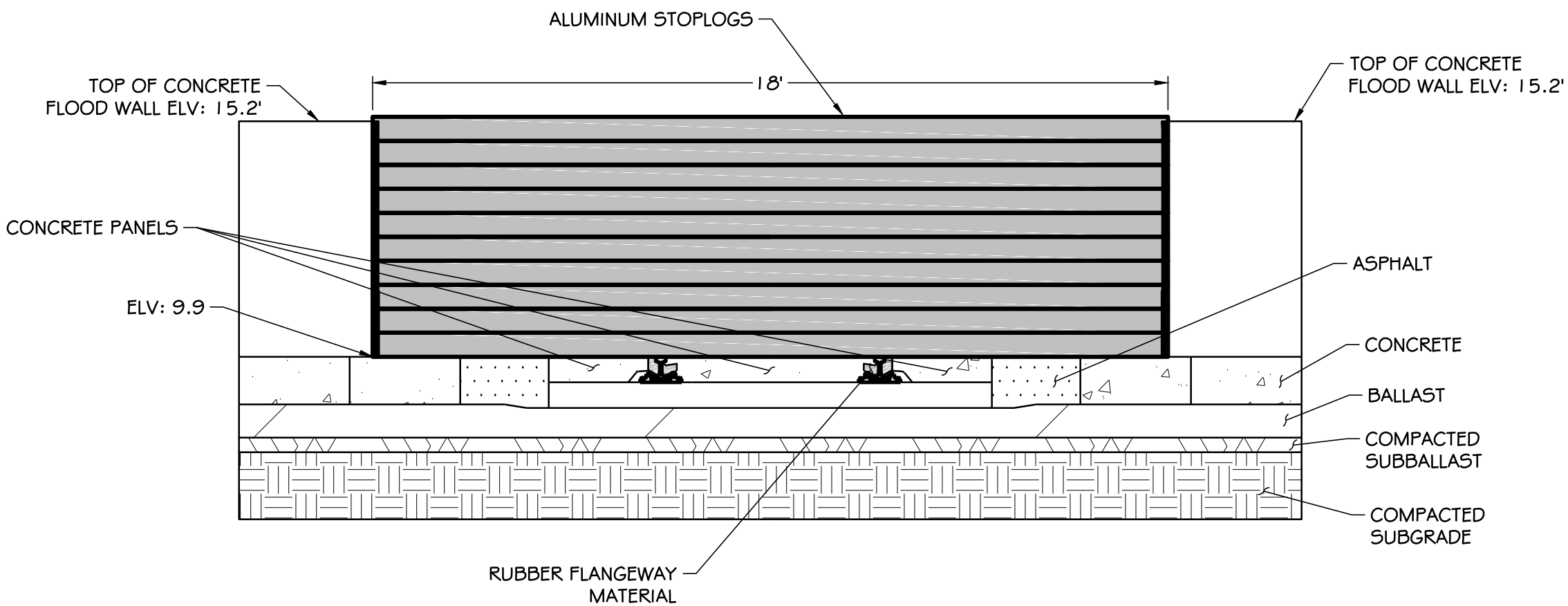
STOPLOG CLOSURE DETAILS

DRAWING

C6.06



RAIL SPUR STOPLOG CLOSURE					
CLOSURE NO.	WIDTH	QTY. BOLLARDS	SPACING	BEGIN STA.	END STA.
21	18'	3	4' - 7 1/8"	187+56.05	187+74.05



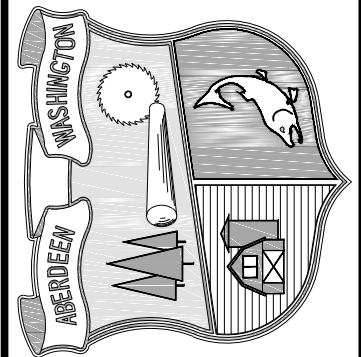
A CLOSED CONDITION
SCALE: 1" = 3'

NOTES:

- THESE NOTES WERE OBTAINED FROM GENESEE & WYOMING INDUSTRIAL TRACK CONSTRUCTION SPECIFICATIONS.
- TRACK TIES TO BE INSTALLED UNDER ROAD CROSSINGS WHERE ASPHALT SURFACE, CONCRETE OR RUBBER PLANKS ARE SPECIFIED, TIES WILL BE OF DIMENSIONS AND SPACING AS DIRECTED BY THE RAILROAD ENGINEERING MANAGER, ROADMASTER OR AS RECOMMENDED BY THE CROSSING SYSTEM MANUFACTURER/SUPPLIER.
- LAY RAILS WITH STAGGERED JOINTS, THE STAGGER BETWEEN JOINTS IN OPPOSITE RAILS BEING NOT LESS THAN 12 FEET EXCEPT AS OTHERWISE AUTHORIZED BY THE RAILWAY, 50 FEET EITHER SIDE AND THRU CROSSING.
- GAUGE OF TRACK AFTER LAYING MUST BE UNIFORM AND SET AT 4' 8-1/2".
- USE RAIL SAWS AND RAIL DRILLS ONLY FOR CUTTING AND DRILLING RAIL RESPECTIVELY.
- DO NOT USE WELDING EQUIPMENT TO CUT RAIL OR DRILL HOLES IN RAIL, UNDER ANY CIRCUMSTANCES.
- INSTALL CROSSINGS ONLY AT THE LOCATIONS SHOWN ON THE DRAWINGS. CROSSING SURFACE TO BE AS SPECIFIED BY THE RAILROAD.
- ONLY CONCRETE SOLID PLANKING WILL BE ACCEPTED. PLANKS TO BE THE FULL DEPTH OF THE CROSSING TO MATCH THE HEIGHT OF THE RAIL, TO A MAXIMUM OF SEVEN INCHES. RUBBER FLANGEWAY MATERIAL IS PREFERRED FOR ASPHALT AND CONCRETE SURFACES.

1 STOPLOG CLOSURE
OVER RAILROAD SPUR
SCALE: 1" = 3'

60% DESIGN	NOT FOR CONSTRUCTION	CLOMR SUBMITTAL	NO	DATE	BY	CHD	APPR	REVISION
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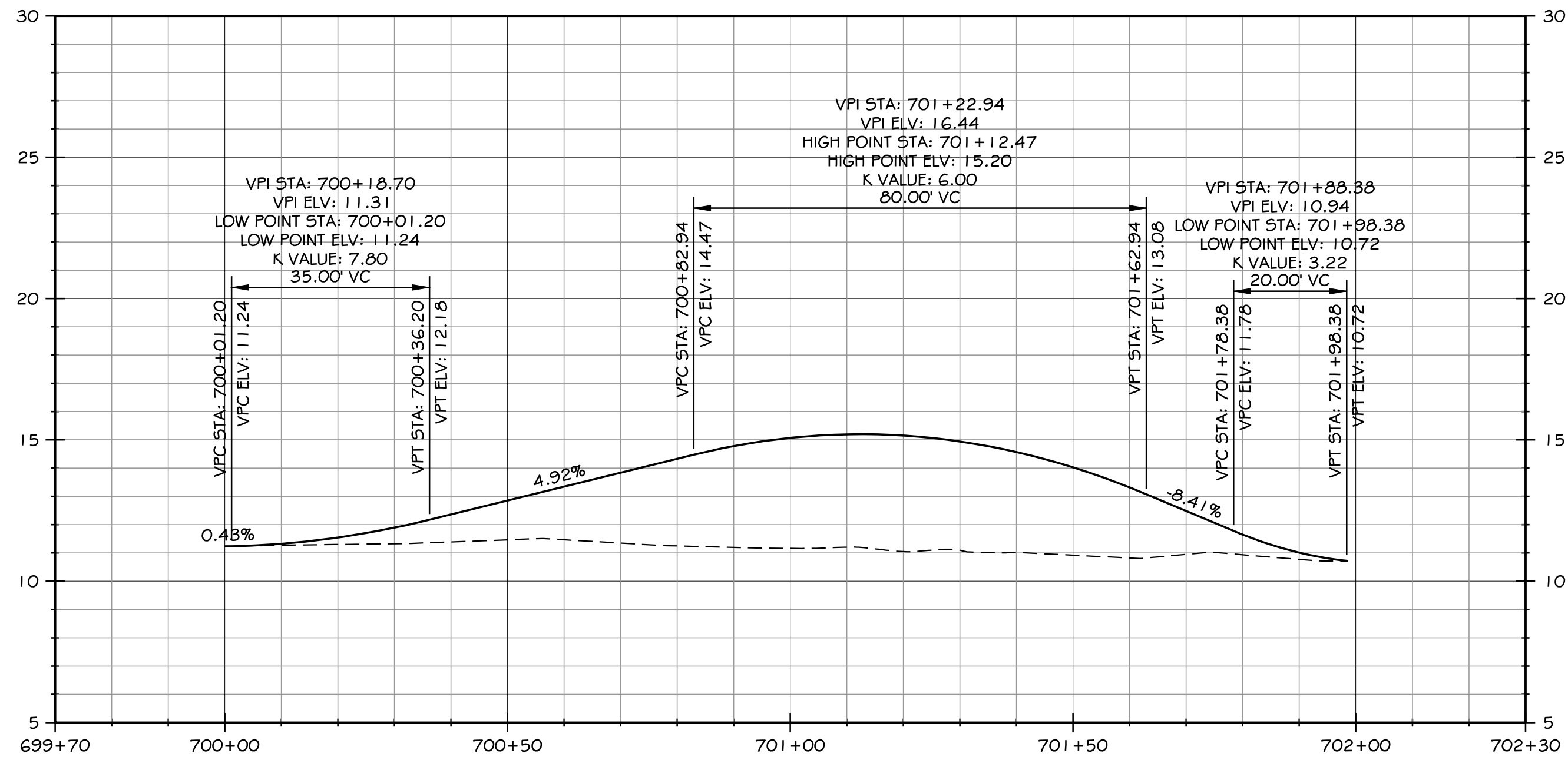
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DESIGNED BY BAL/BNT	DATE 07-10-2017	JOB NO: 41600177
CHECKED BY MRS	APPROVED BY MRS	
DRAWN BY JAD		

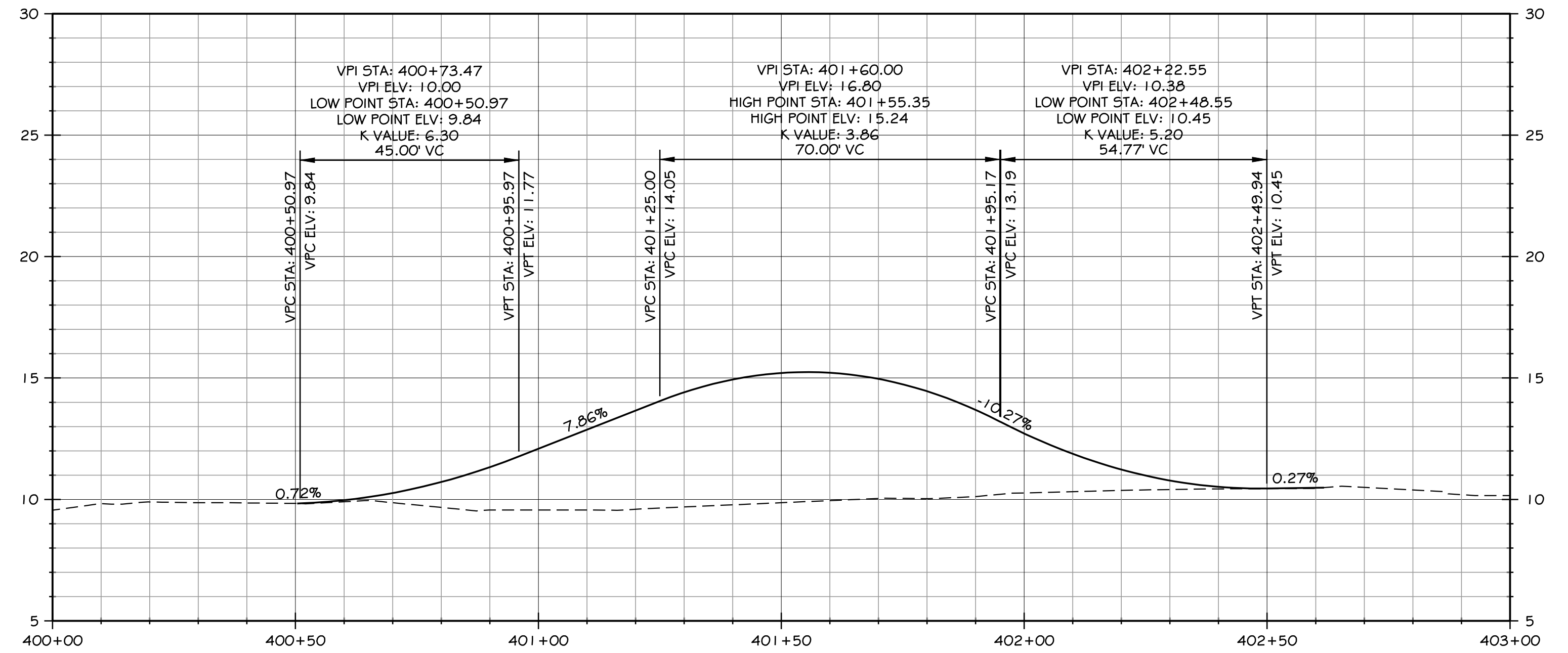
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
RAILROAD SPUR
CLOSURE DETAILS

DRAWING

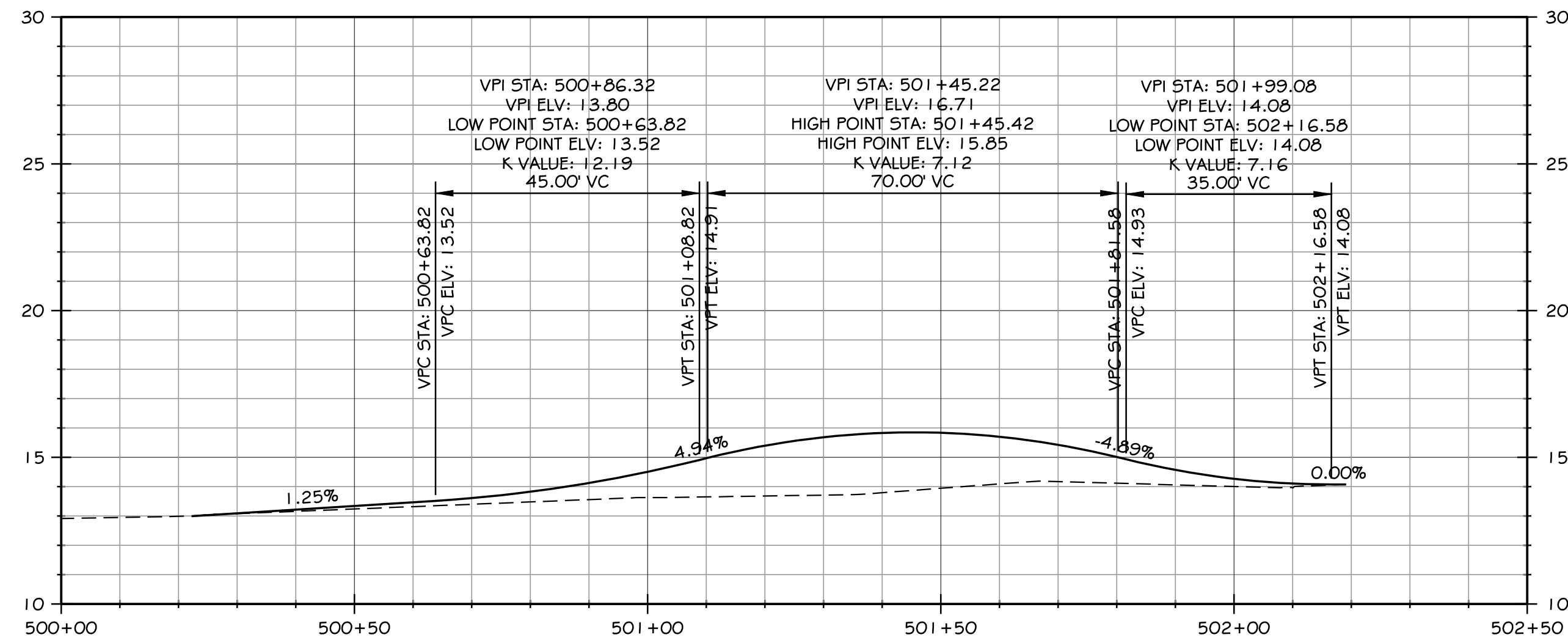
C6.07



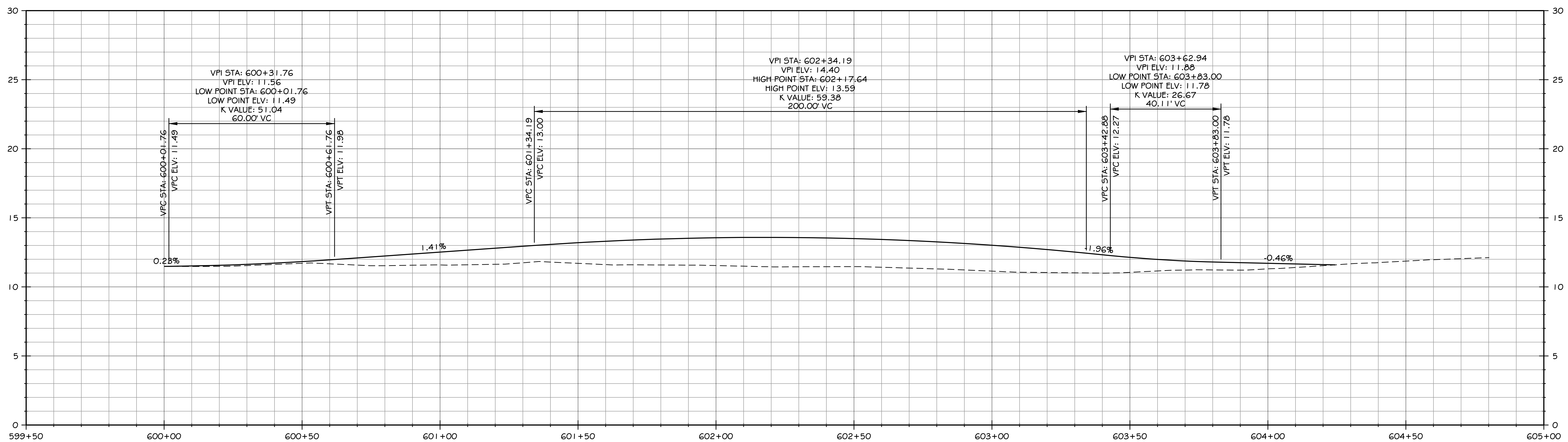
1 14TH ST. PROFILE
SCALE: 1" = 20'



2 20TH ST. PROFILE
SCALE: 1" = 20'



3 PORT INDUSTRIAL RD PROFILE
SCALE: 1" = 20'

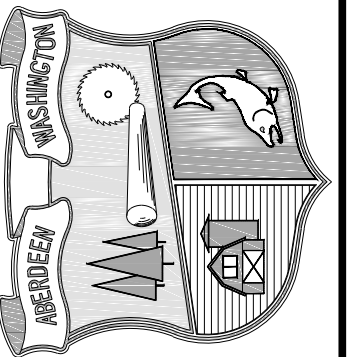


4 MARKET ST. PROFILE
SCALE: 1" = 20'

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DRAWN BY JAD	DESIGNED BY BAL/BNT	DATE 07-10-2017	JOB NO: 41600177
CHECKED BY MRS	APPROVED BY MRS		

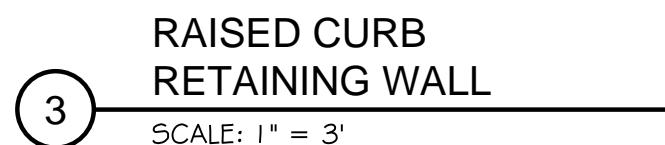
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON

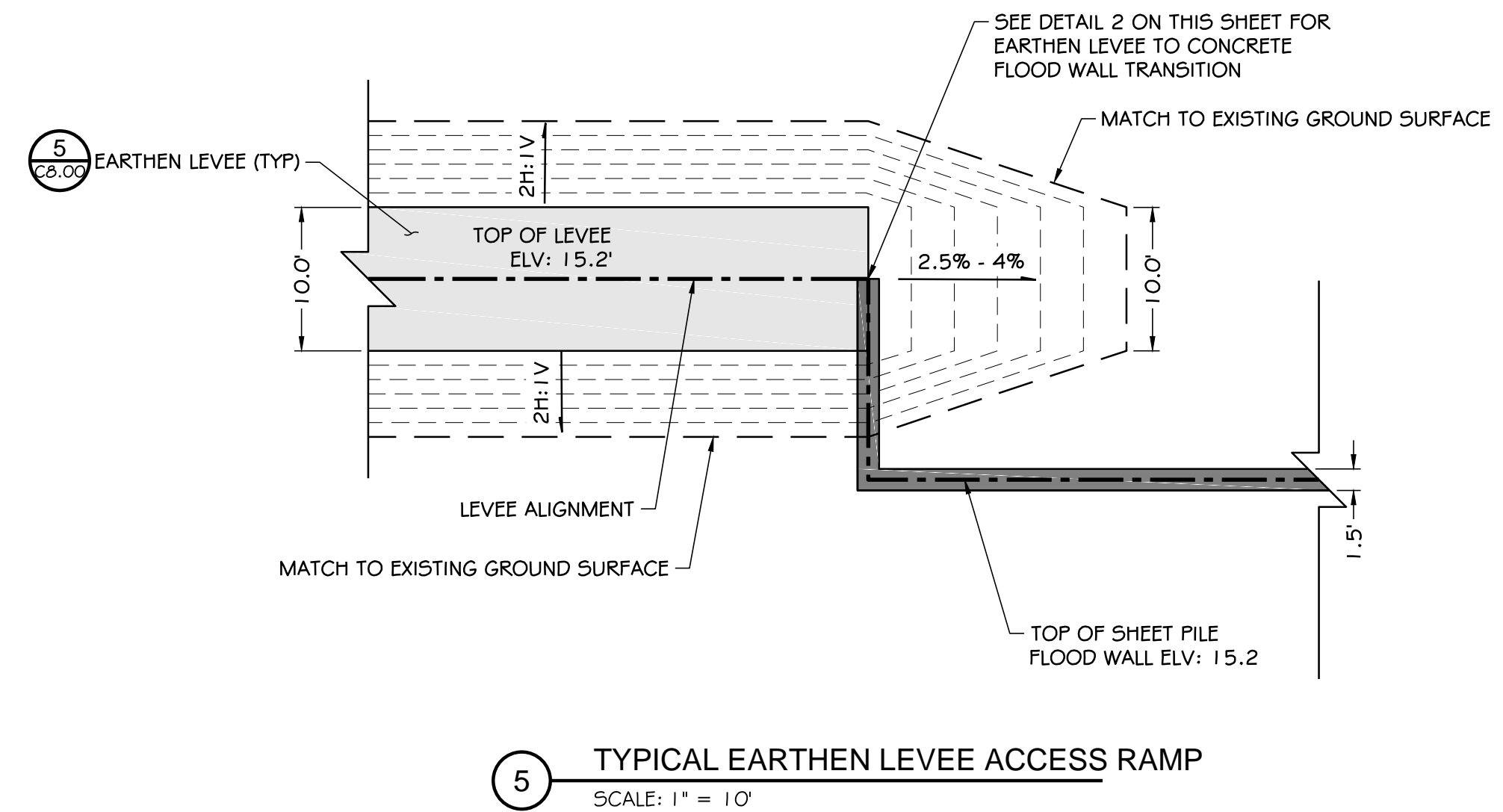
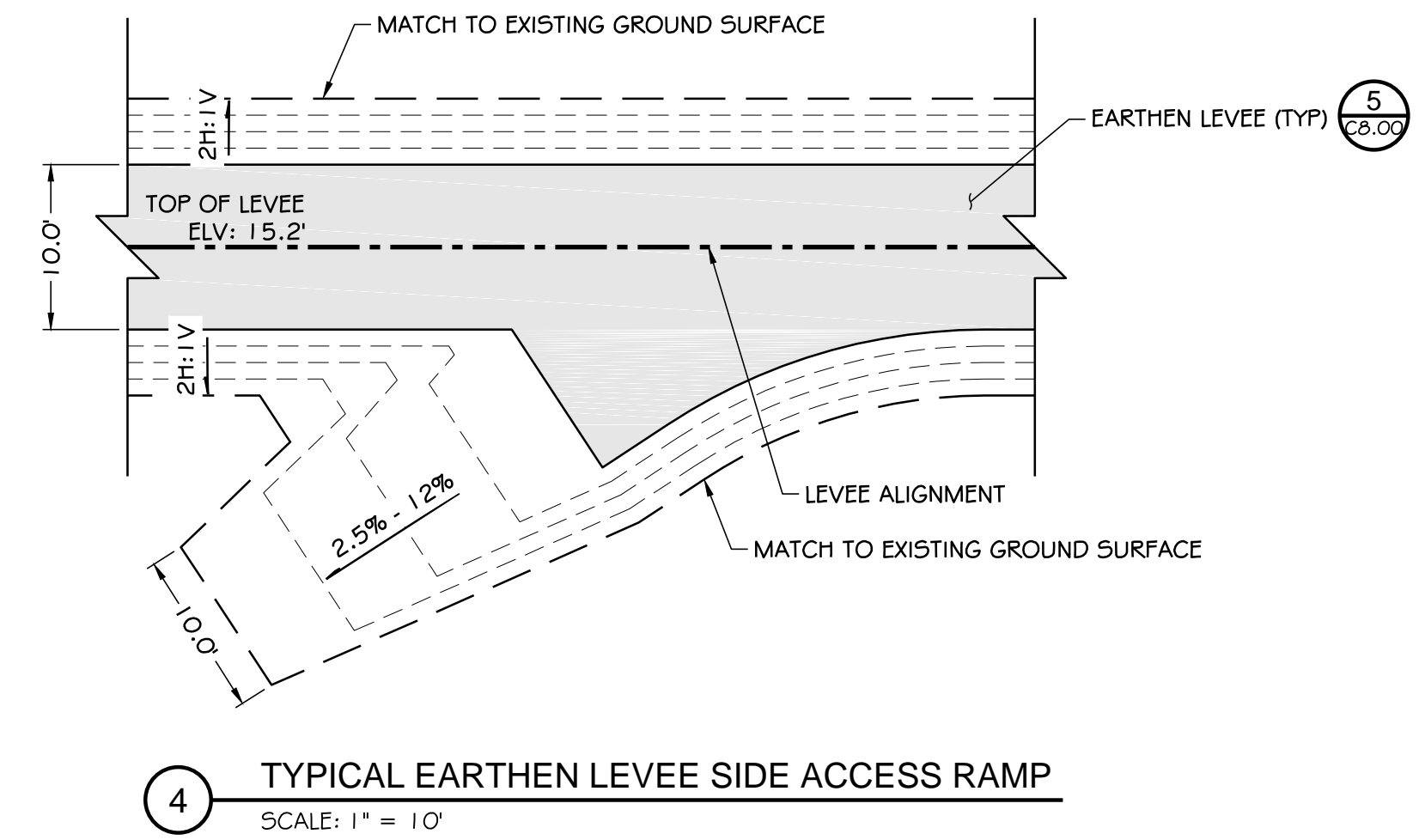
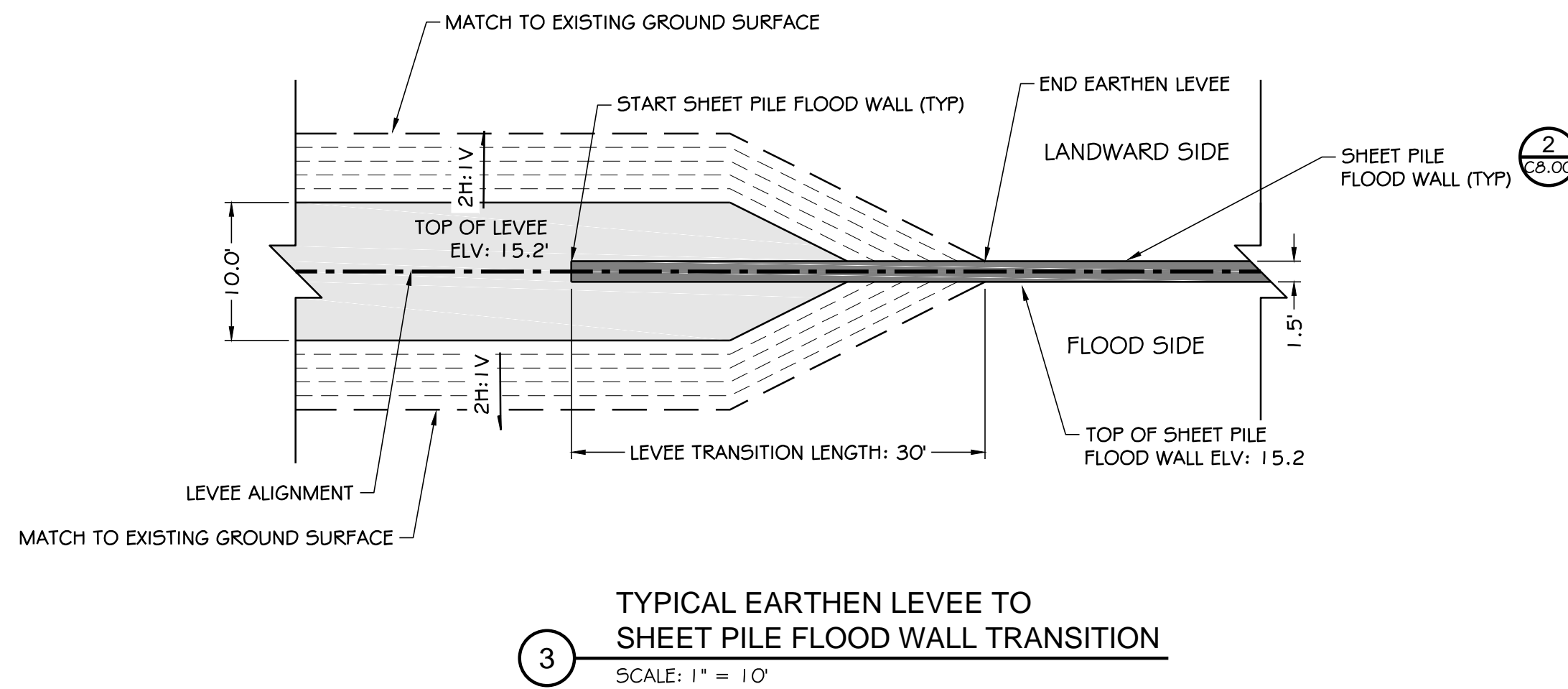
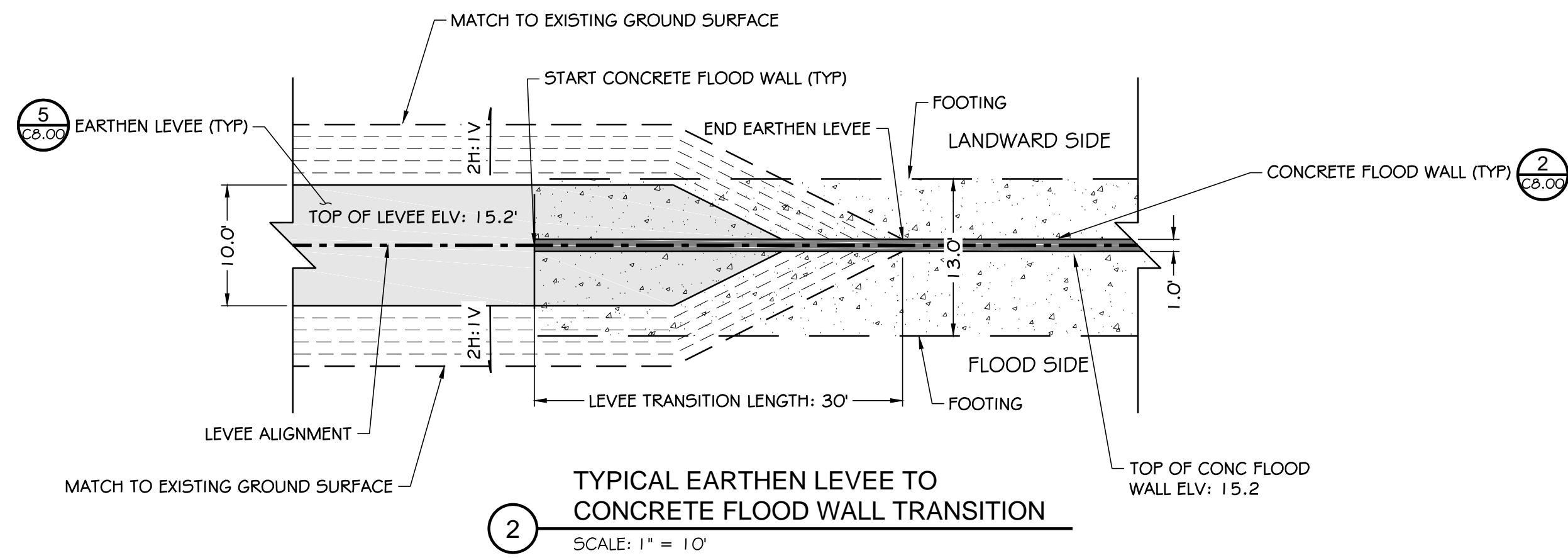
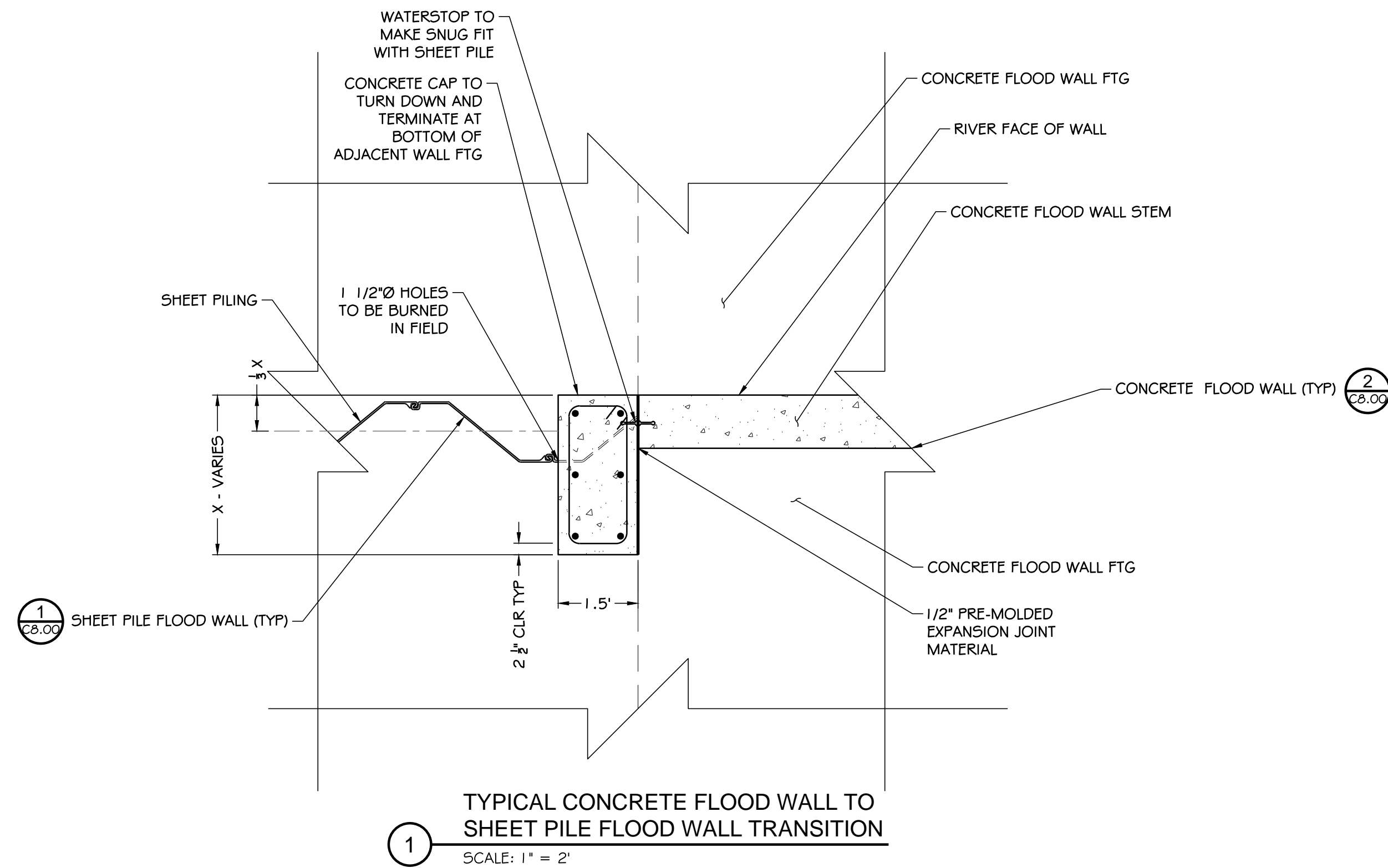
ROADWAY PROFILES

DRAWING

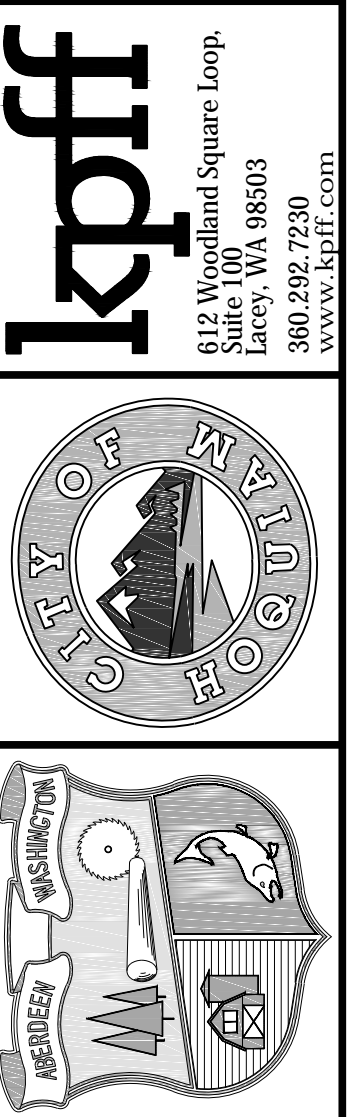
C7.00

SHEET 65 OF 79





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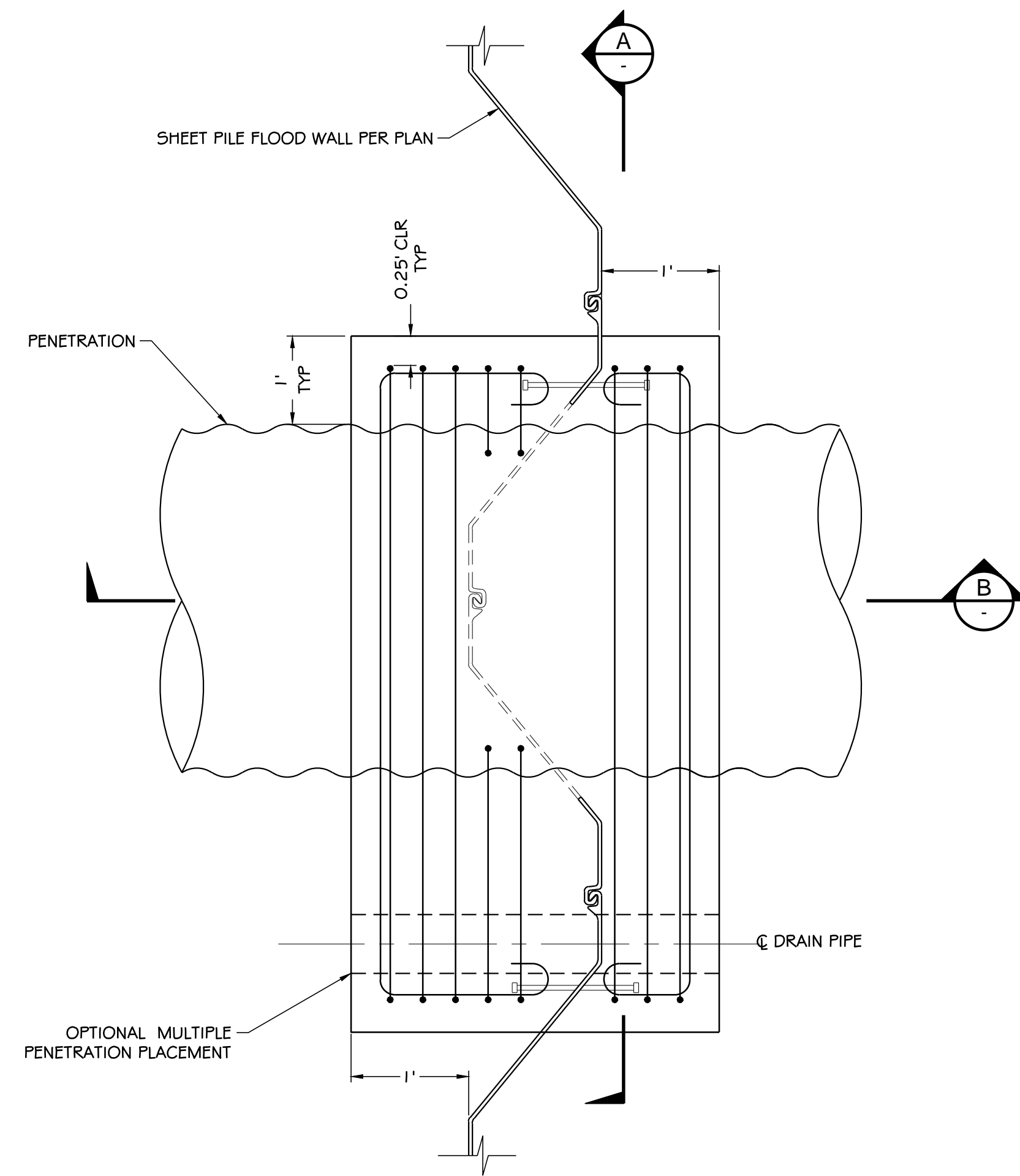
CALL UNDERGROUND LOCATE TWO (2) WORKING DAYS BEFORE YOU DIG 811

DESIGNED BY	BAJ/BNT	DATE	07-10-2017	JOB NO: 41600177
CHECKED BY	MRS			

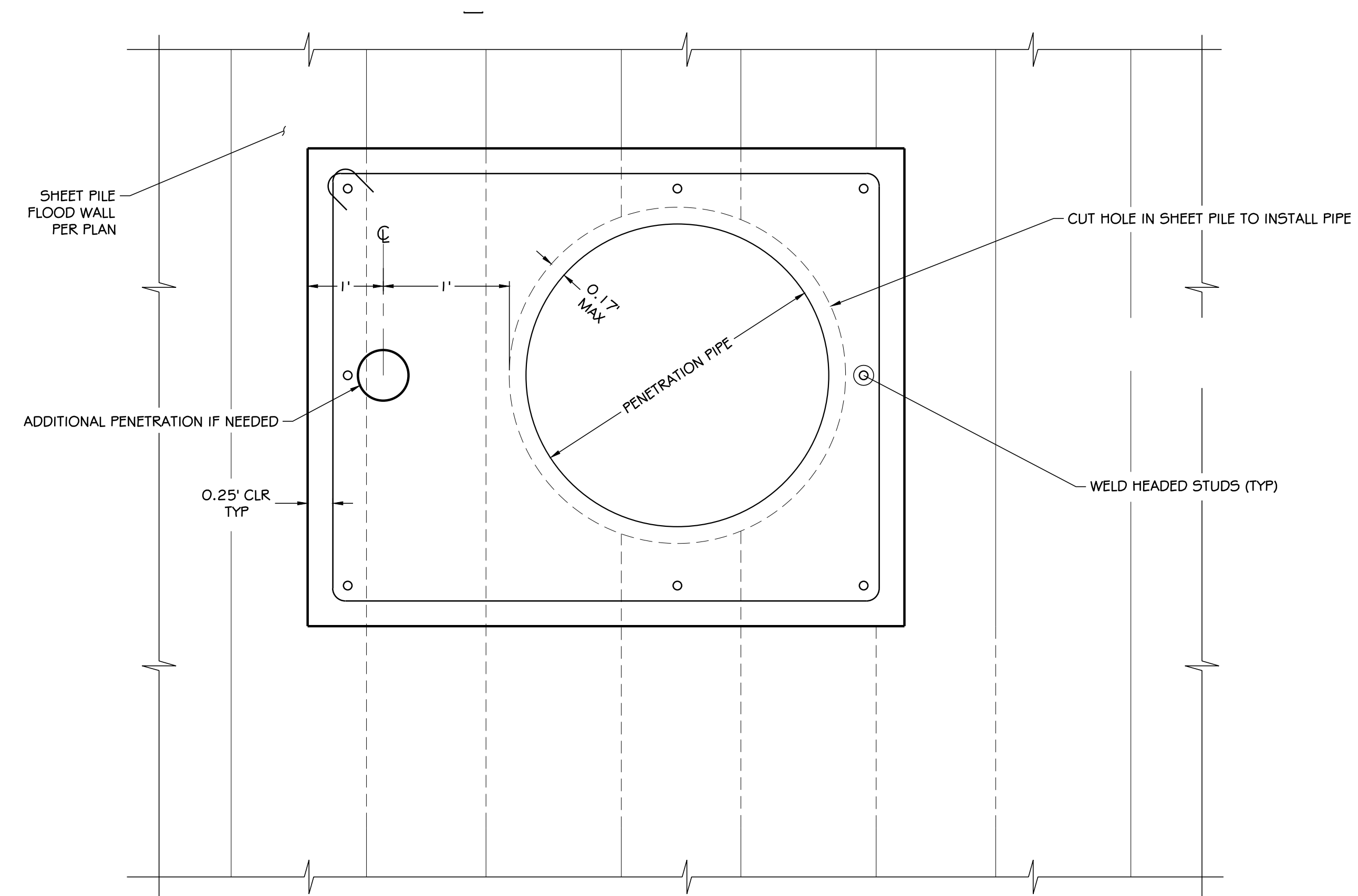
NORTH SHORE LEVEE	LEVEE TRANSITION DETAILS
ABERDEEN & HOQUIAM, WASHINGTON	

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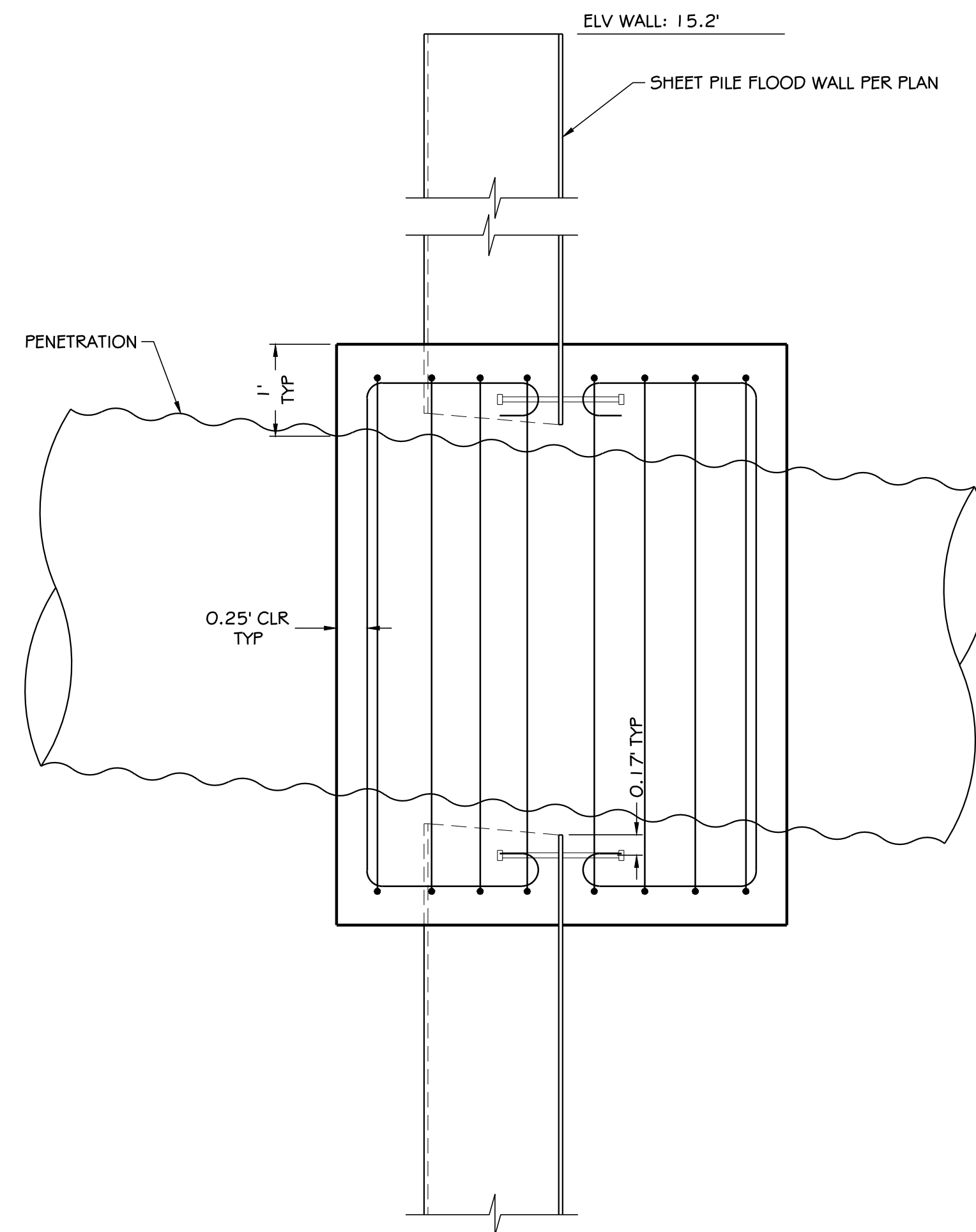
C8.01



1 TYPICAL SHEET PILE FLOOD WALL PENETRATION PLAN
SCALE: N.T.S.



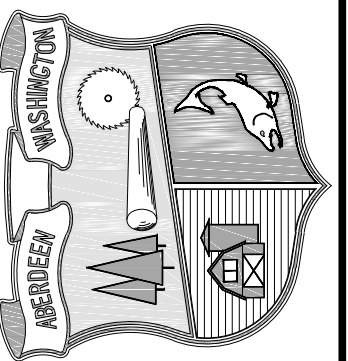
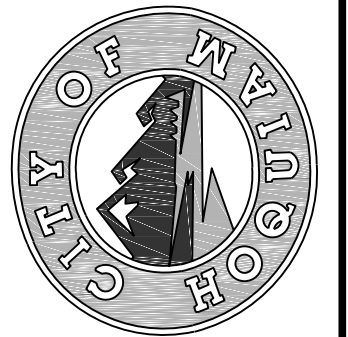
A SHEET PILE FLOOD WALL PENETRATION SECTION
SCALE: N.T.S.



B SHEET PILE FLOOD WALL PENETRATION SECTION
SCALE: N.T.S.

NOT FOR CONSTRUCTION CLOMR SUBMITTAL				REVISION
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DRAWN BY JAD	DESIGNED BY BAL/BNT	DATE 07-10-2017	JOB NO: 41600177
CHECKED BY MRS	APPROVED BY MRS		

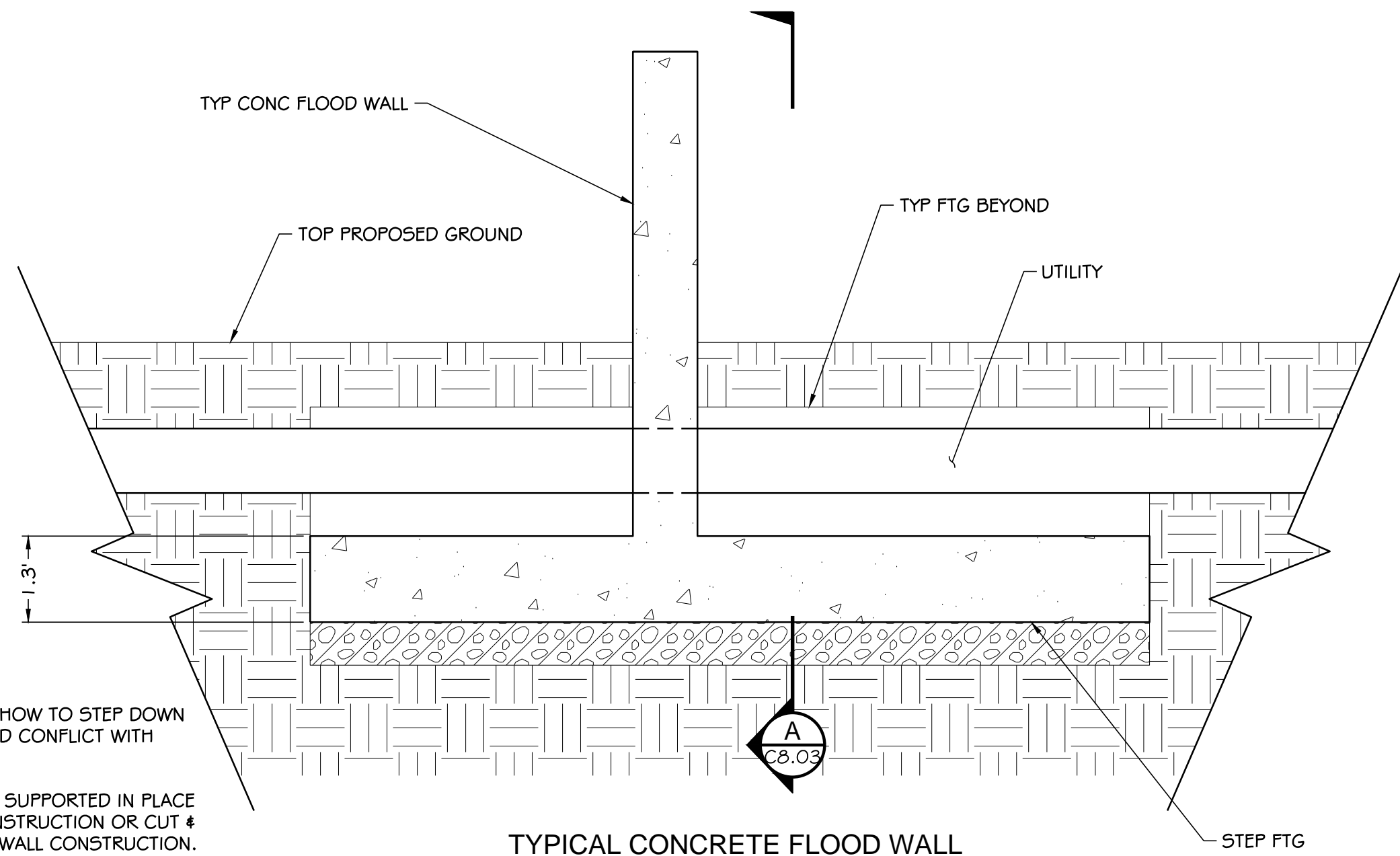
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
SHEET PILE WALL
PENETRATION

DRAWING

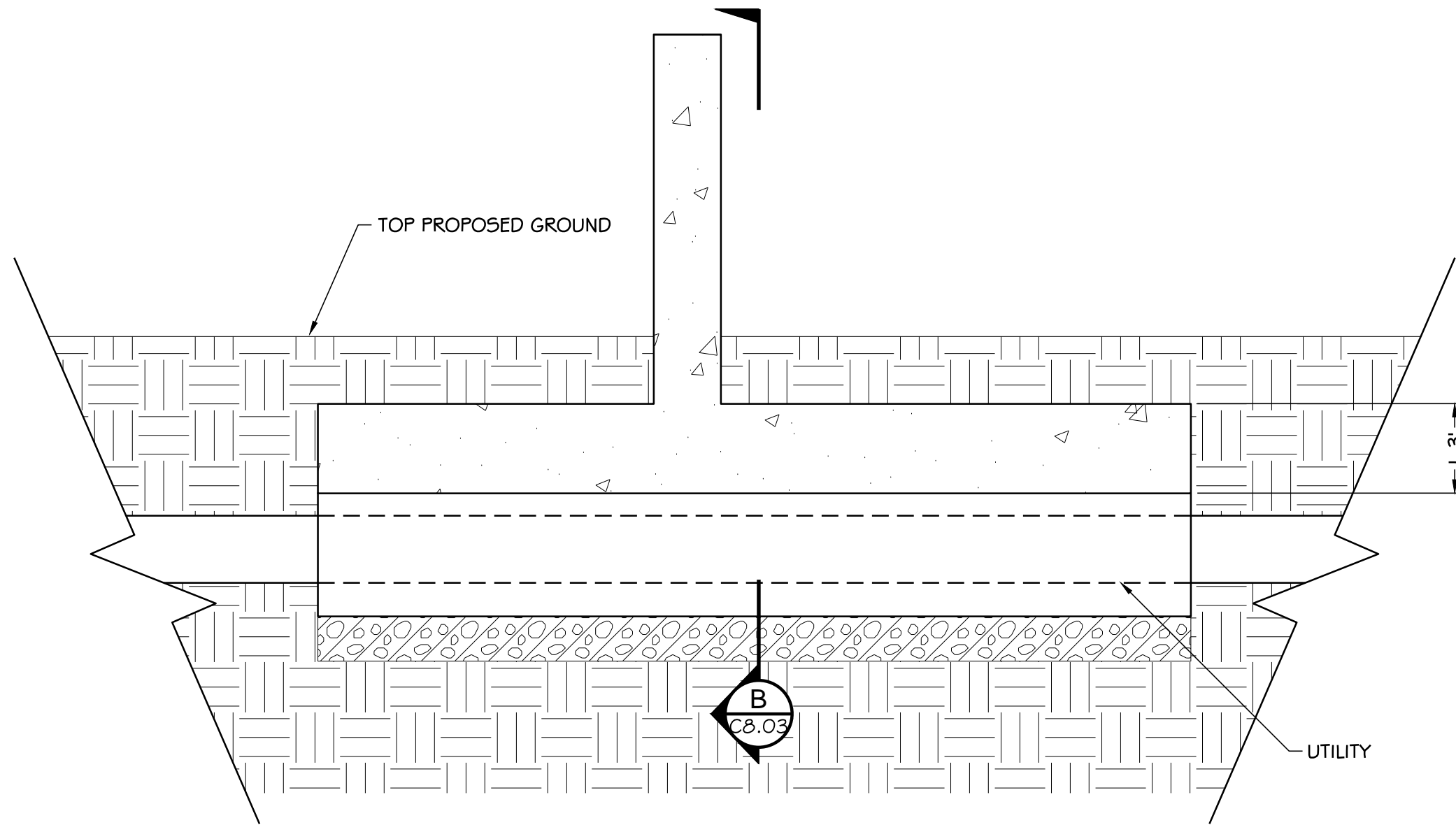
C8.02

NOTES:

1. DETAIL SHOWS HOW TO STEP DOWN FOOTING TO AVOID CONFLICT WITH SHALLOW UTILITY.
2. UTILITY MAY BE SUPPORTED IN PLACE DURING WALL CONSTRUCTION OR CUT & RESTORED AFTER WALL CONSTRUCTION.
3. NO UTILITIES SHALL PASS THRU FOOTING.



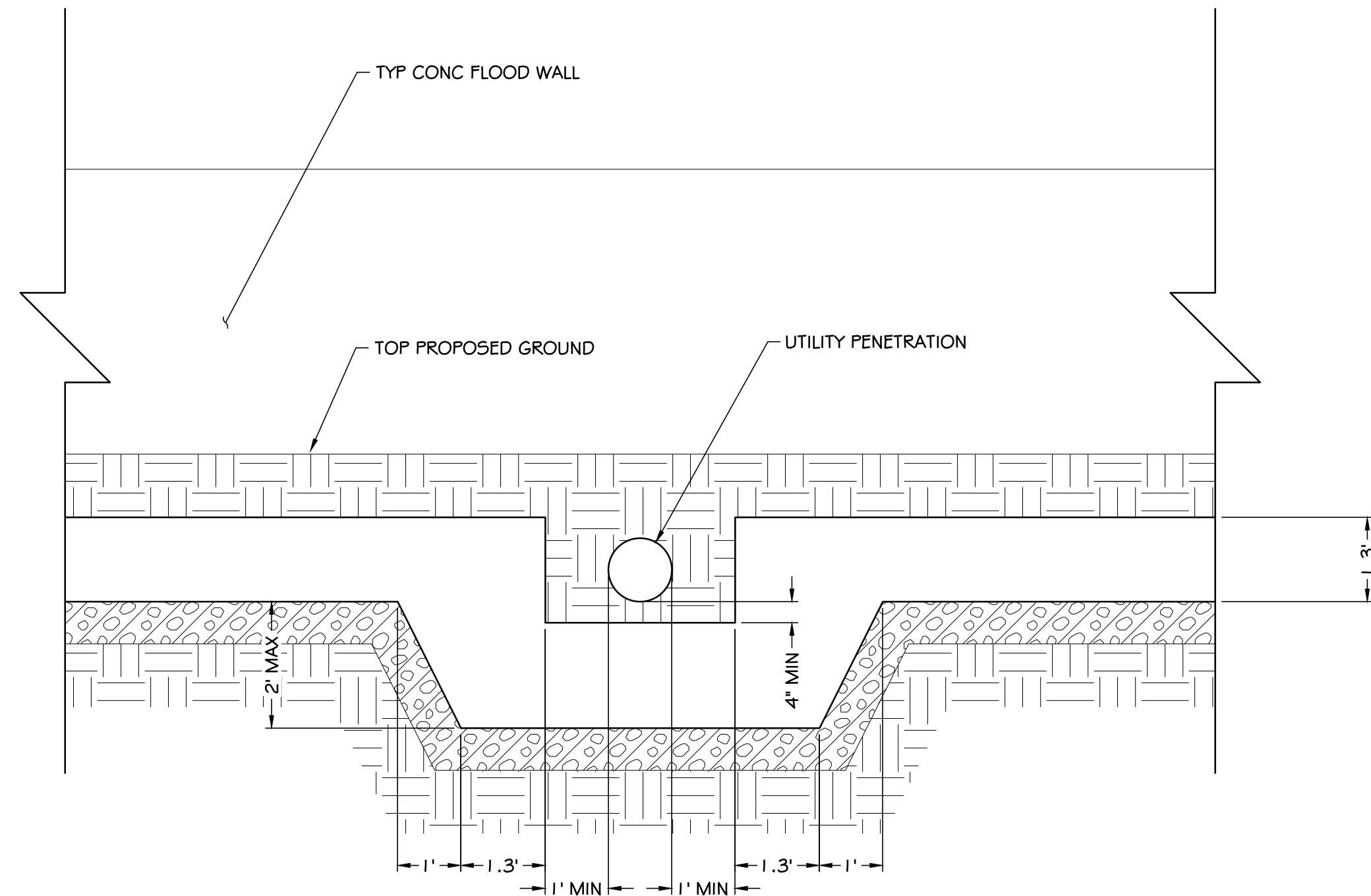
1 TYPICAL CONCRETE FLOOD WALL
SHALLOW UTILITY PENETRATION
SCALE: N.T.S.



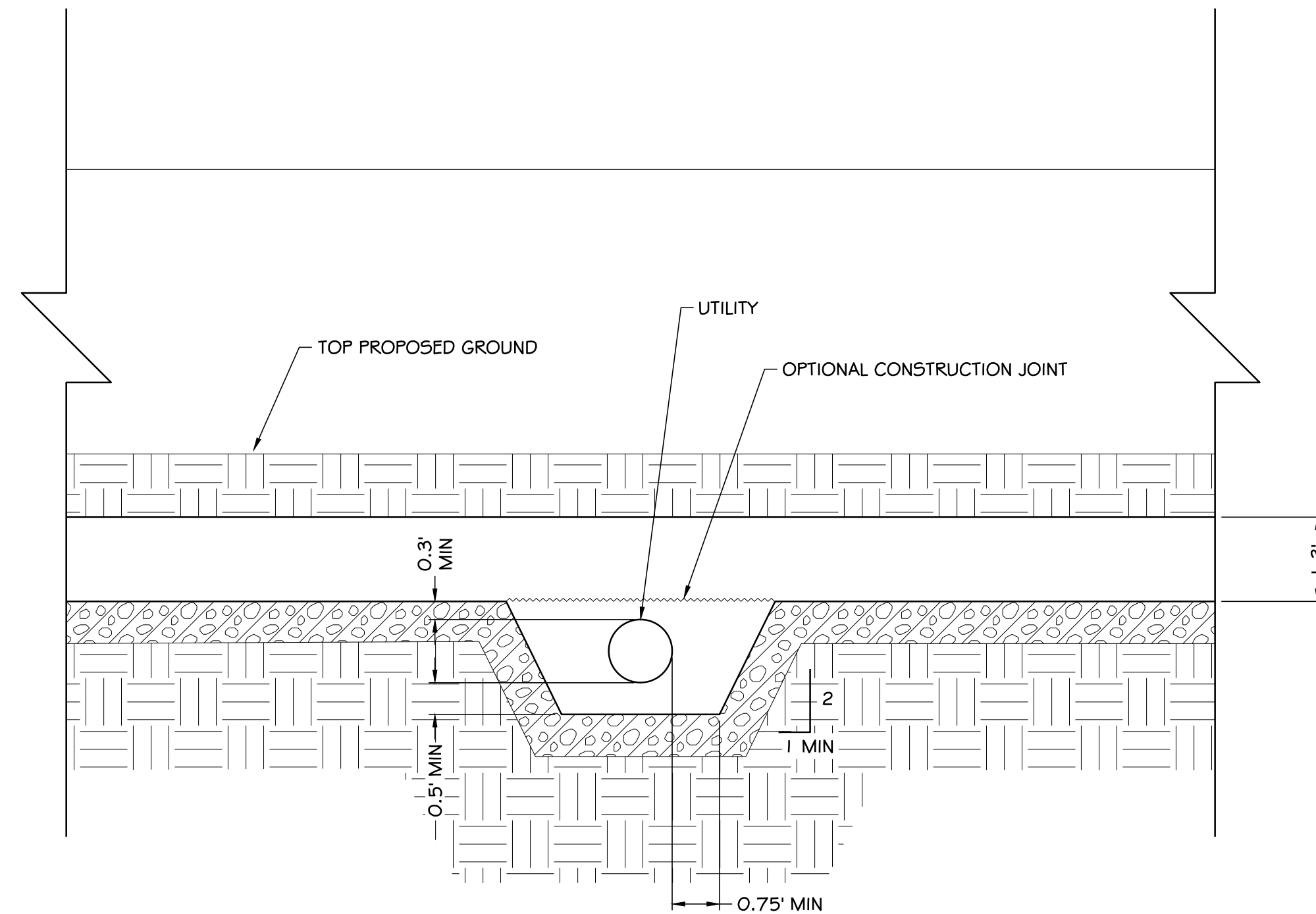
2 TYPICAL CONCRETE FLOOD WALL
UTILITY PENETRATION BELOW
SCALE: N.T.S.

NOTES:

1. TYPE OF CONCRETE WALL PENETRATION (EITHER DETAIL 1 OR DETAIL 2) WILL BE CHOSEN DURING DETAILED DESIGN FOLLOWING A SURVEY OF ALL UTILITY CROSSINGS
2. DETAIL SHOWS HOW TO DEEPEN FOOTING WHERE UTILITIES PASS BELOW.
3. UTILITIES LOCATED 5'-0" MIN BELOW FOOTING (MEASURED TO TOP OF UTILITY) DO NOT REQUIRE DEEPENED FOOTING.
4. NO UTILITIES SHALL PASS THRU FOOTING.



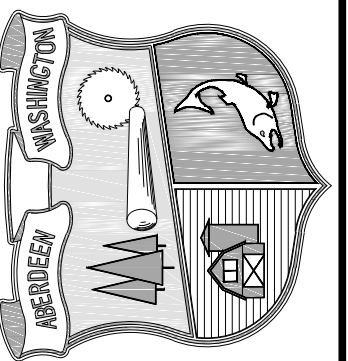
A TYPICAL CONCRETE FLOOD WALL
SHALLOW UTILITY PENETRATION SECTION
SCALE: N.T.S.



B TYPICAL CONCRETE FLOOD WALL
UTILITY PENETRATION BELOW SECTION
SCALE: N.T.S.

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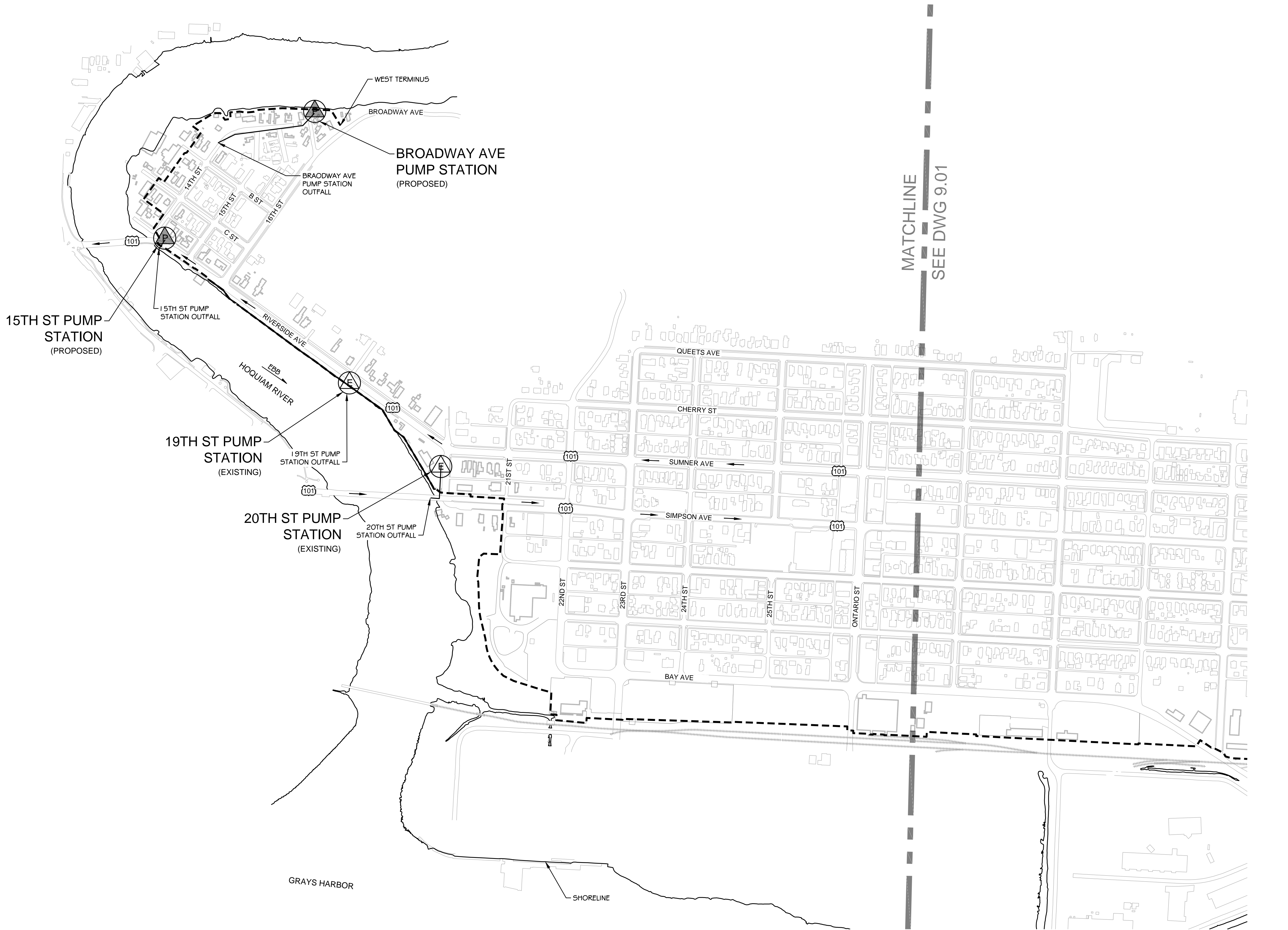
DRAWN BY	DESIGNED BY	DATE	JOB NO:41600177
JAD	BAJ/BNT	07-10-2017	
CHECKED BY	APPROVED BY		
MRS	MRS		

NORTH SHORE LEVEE ABERDEEN & HOQUIAM, WASHINGTON	FLOOD WALL PENETRATION
---	---------------------------

DRAWING


C8.03


FILE: I:\2016\1600177 - North Shore Levee-City of Aberdeen\CADD\DWG\C9.00-902 PUMP STATION PLANS PLOTTED: Jul 06, 2017 - 1109a7p7 PLOTTED BY: jolene





LEGEND

--- LEVEE CREST (MIN ELEV: 15.2' NAVD83)

 PROPOSED PUMP STATION

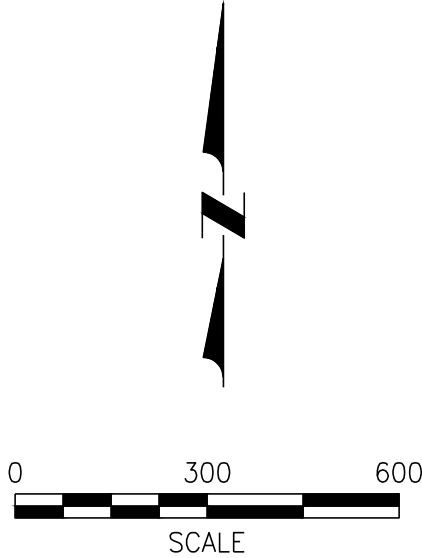
 RELOCATED PUMP STATION

 REMOVE EXISTING PUMP STATION

 EXISTING PUMP STATION TO BE MODIFIED

- NOTES:**
- PUMP STATION DESIGN SHOWN IS SCHEMATIC. DETAILED PUMP STATION DESIGN WILL BE INCLUDED WITH FUTURE SUBMITTALS.
 - PRELIMINARY PUMP STATION SIZING IS BASED ON THE NORTH SHORE LEVEE INTERIOR DRAINAGE ANALYSIS BY KPFF CONSULTING ENGINEERS DATED JULY 2017.
 - PUMP STATION LOCATIONS CORRELATE APPROXIMATELY WITH THE LOCATIONS OF EXISTING STORM DRAINAGE OUTFALLS PASSING THROUGH THE LEVEE.

PUMP STATIONS			
OUTFALL	EXISTING CAPACITY (GPM)	PRELIMINARY PROPOSED CAPACITY (GPM)	OUTFALL CONDITION
BROADWAY AVE	0	700	PROPOSED
15TH ST	0	8,000	PROPOSED
19TH ST	2,600 MAX	5,000	REPLACED
20TH ST	2,600 MAX	4,500	REPLACED



60% DESIGN												
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CLOMR SUBMITTAL												
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CITY OF HOQUIAM

WASHINGTON

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DRAWN BY	DESIGNED BY	DATE	JOB NO:
JAD	BAJ/BNT	07-10-2017	41600177
CHECKED BY	APPROVED BY		
MRS	MRS		

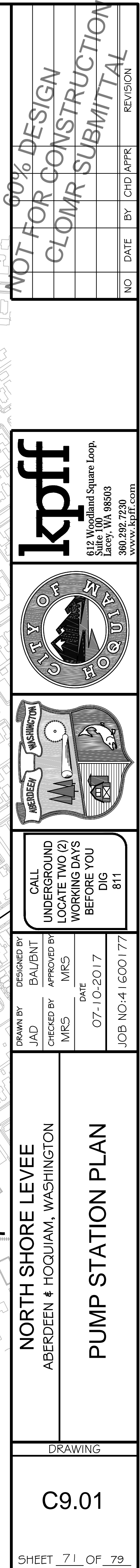
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON

PUMP STATION PLAN

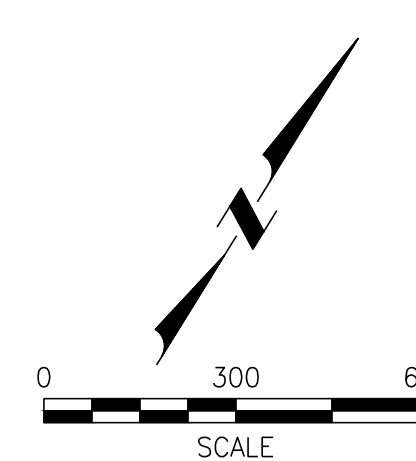
DRAWING

C9.00

SHEET 70 OF 79

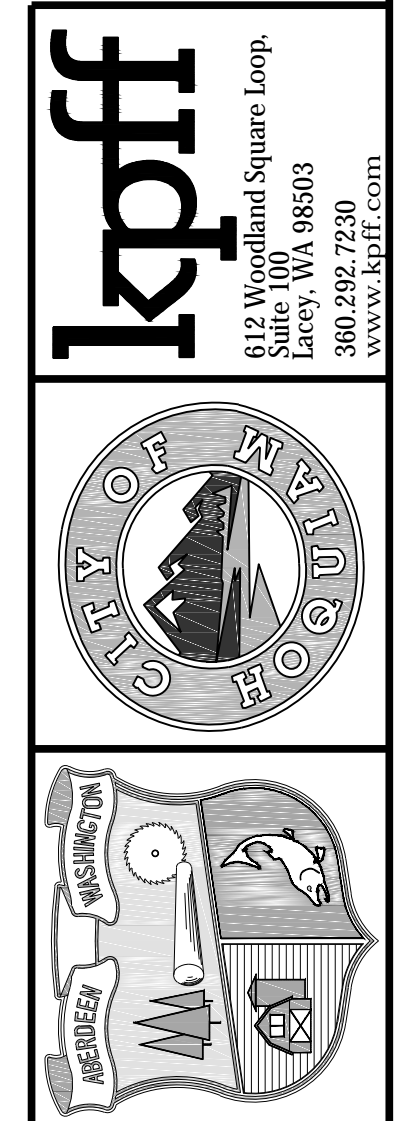


PUMP STATIONS			
OUTFALL	EXISTING CAPACITY (GPM)	PRELIMINARY PROPOSED CAPACITY (GPM)	OUTFALL CONDITION
28TH ST	16,500 MAX	130,000	REPLACE
FRY CREEK	32,000 MAX	60,000	PROPOSED
DUFFY ST	1,175 MAX	38,000	PROPOSED



PUMP STATIONS			
OUTFALL	EXISTING CAPACITY (GPM)	PRELIMINARY PROPOSED CAPACITY (GPM)	OUTFALL CONDITION
DIVISION ST	30,000 MAX	103,000	REPLACE
CHERRY ST	1,100 MAX	9,000	EXISTING
STATE ST INTERCEPTOR (ALTERNATIVE #1)	-	TDB*	PROPOSED
LINCOLN ST (ALTERNATIVE #2)	12,000 MAX	62,000	REPLACE
MARKET ST INTERCEPTOR (ALTERNATIVE #1 & #2)	-	TBD*	PROPOSED
JEFFERSON ST (ALTERNATIVE #2)	5,000 MAX	56,100	REPLACE
K ST (ALTERNATIVE #2)	5,000 MAX	28,000	REPLACE
H ST (ALTERNATIVE #2)	5,000 MAX	33,000	REPLACE
ARTHUR ST (ALTERNATIVE #1 & #2)	8,9000	TBD*	REPLACE

- FLOWS TO BE DETERMINED DURING DETAILED DESIGN

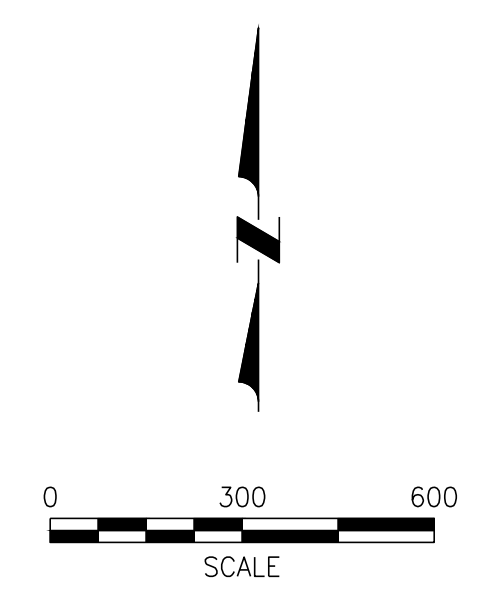
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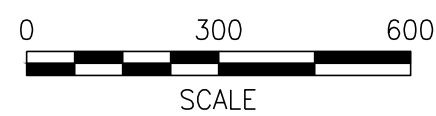
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CHECKED BY MRS	APPROVED BY MRS
DATE 07-10-2017	
JOB NO:41600177	

NORTH SHORE LEVEE BERDEEN & HOQUIAM, WASHINGTON	PUMP STATION PLAN
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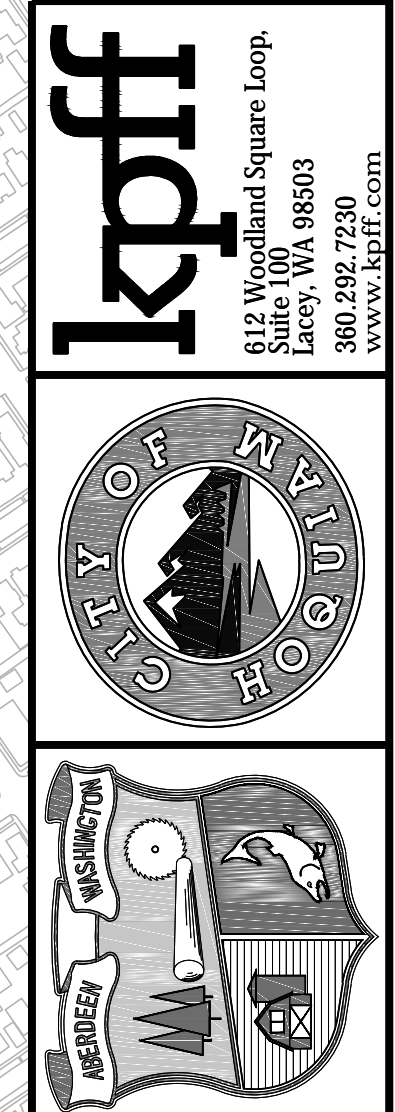
DRAWING	
C9.02	
SHEET 72 OF 79	





GRAYS HARBOR
EBB

NO.	DATE	BY	CHKD	APPR	REVISION
60% DESIGN					
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CLOMR SUBMITTAL					



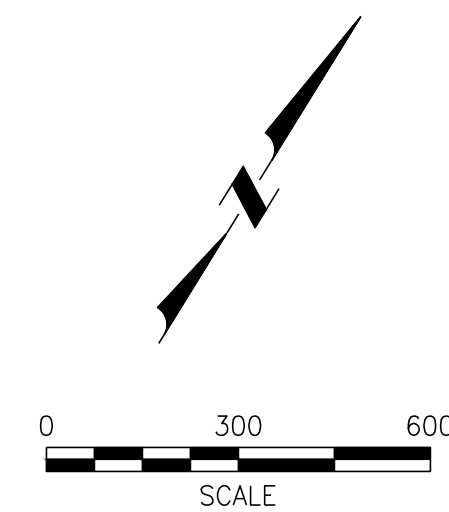
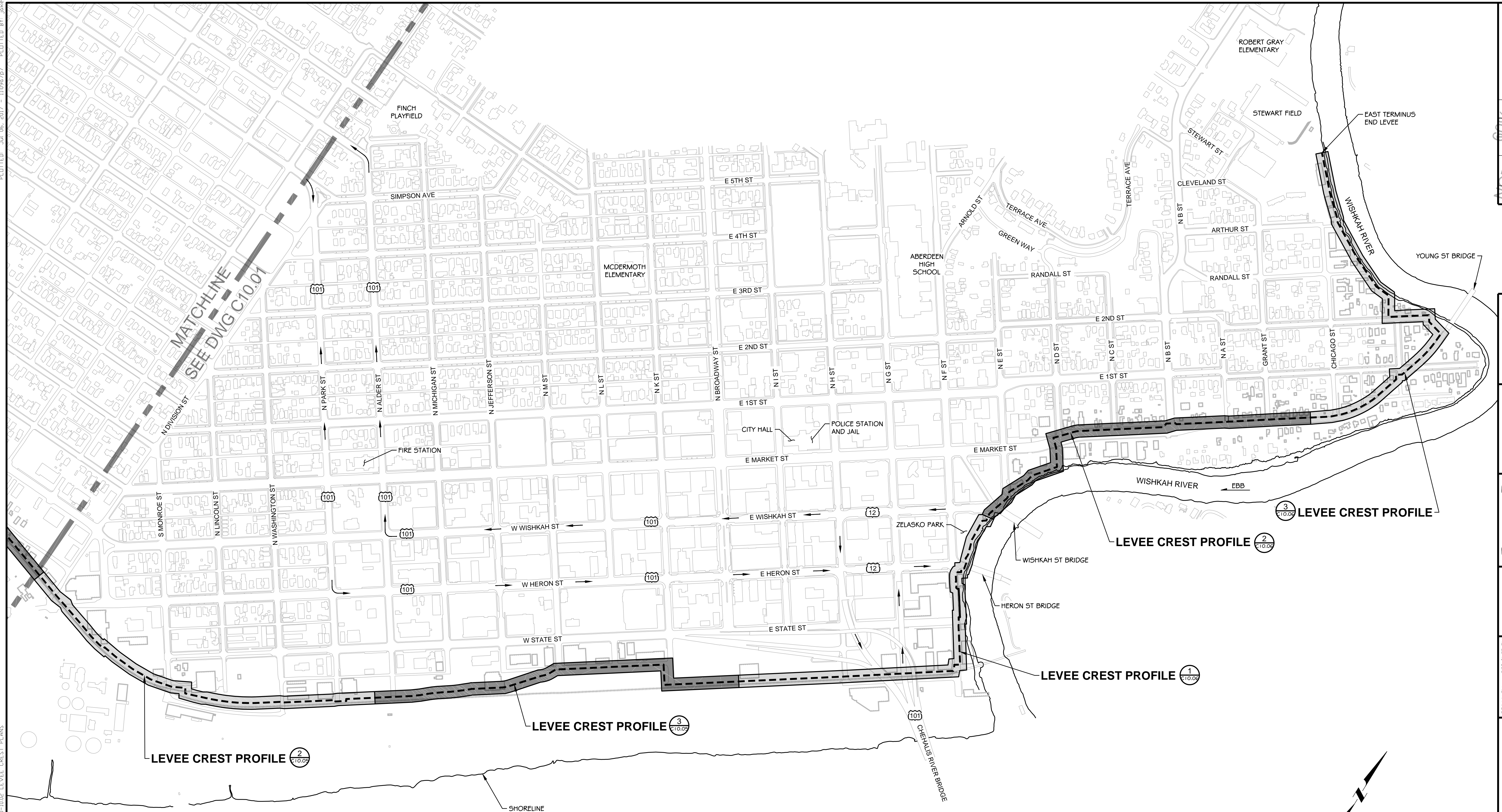
CALL
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DRAWN BY JAD	DESIGNED BY BA/BNT
CHECKED BY MRS	APPROVED BY MRS
DATE 07-10-2017	
JOB NO:41600177	

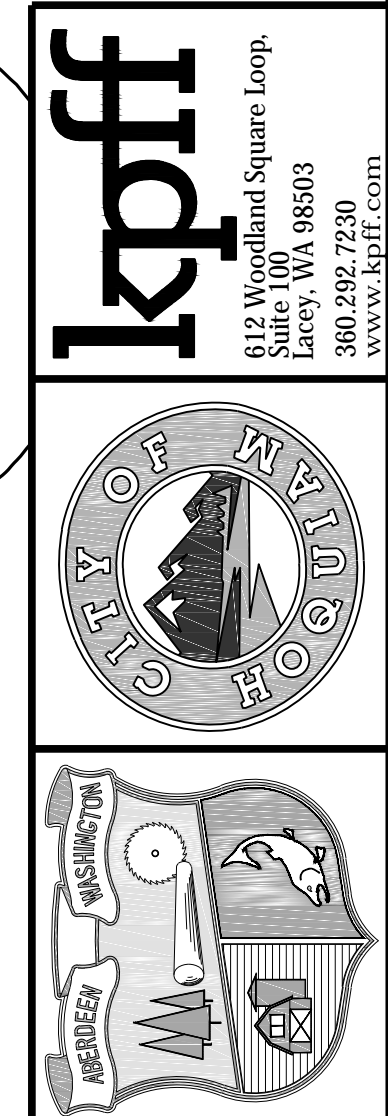
NORTH SHORE LEVEE ERDEEN & HOQUIAM, WASHINGTON LEVEE CREST PLAN

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C10.01



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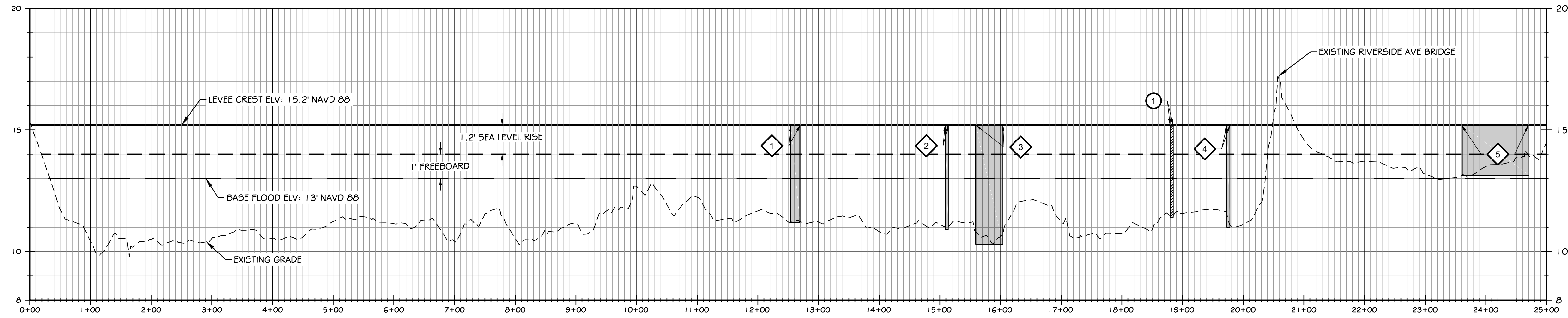
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CHECKED BY MRS	APPROVED BY MRS
DATE 07-10-2017	
JOB NO:41600177	

NORTH SHORE LEVEE ABERDEEN # HOQUIAM, WASHINGTON
LEVEE CREST PLAN

DRAWING

C10.02

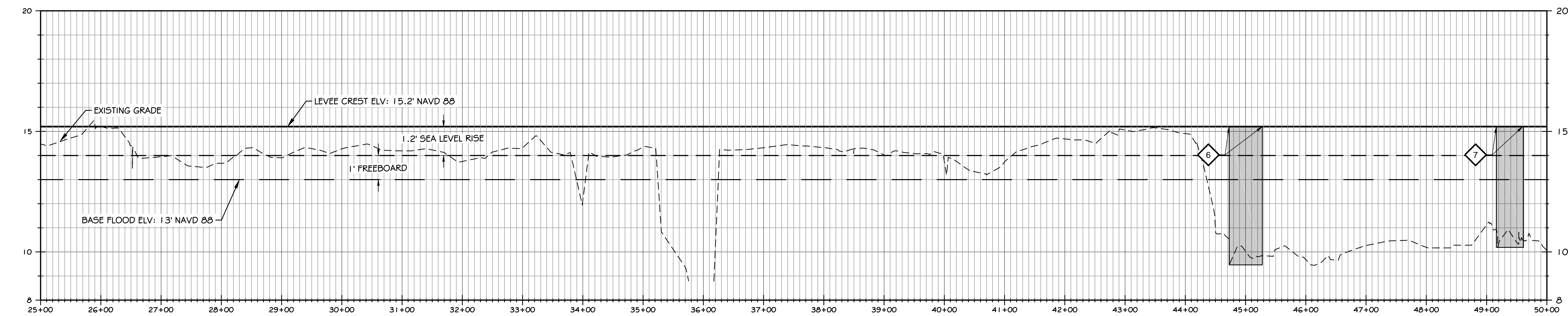
SHEET 75 OF 79



1 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

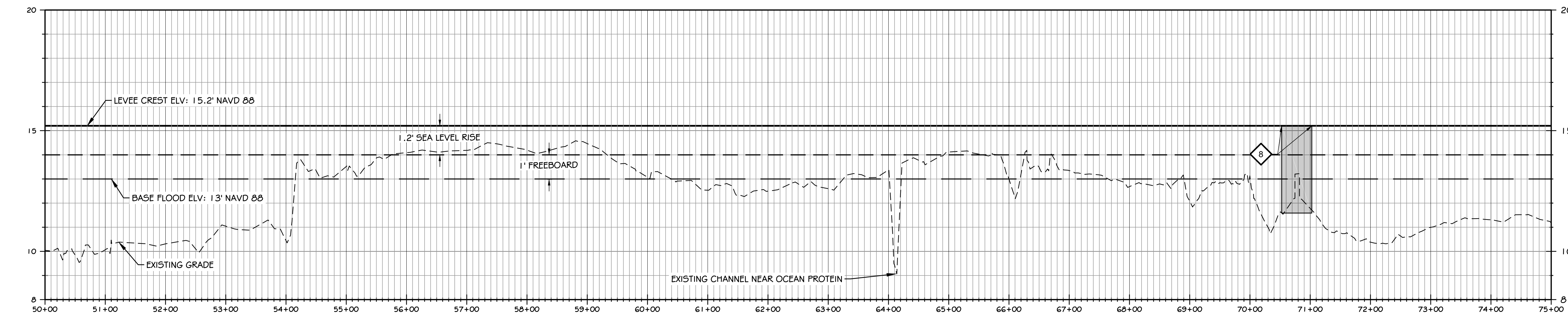
STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
1	BEGIN	12+54.32
1	END	12+69.32
2	BEGIN	15+08.87
2	END	15+13.87
3	BEGIN	15+59.06
3	END	16+04.06
4	BEGIN	19+73.24
4	END	19+78.24
5	BEGIN	24+61.09
5	END	24+71.09

PEDESTRIAN HINGED LOCATIONS		
CLOSURE #	STATION	
1	BEGIN	18+79.59
1	END	18+84.59



2 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
6	BEGIN	44+72.78
6	END	45+27.78
7	BEGIN	49+16.26
7	END	49+61.26

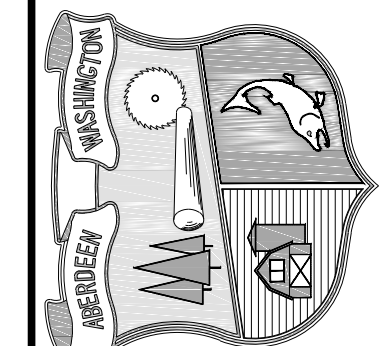
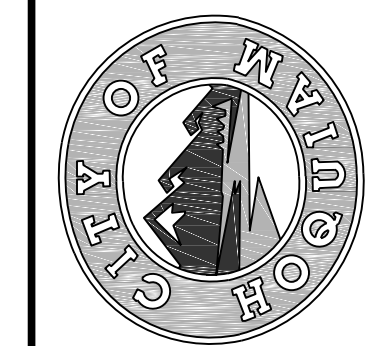


3 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
8	BEGIN	70+52.66
8	END	71+02.66

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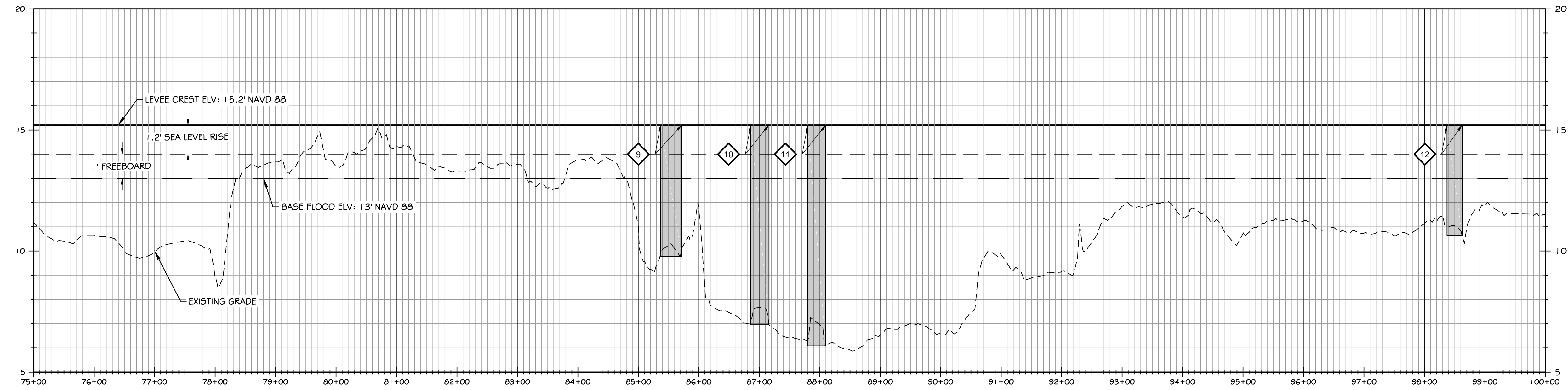
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CHECKED BY: MRS
DATE: 07-10-2017
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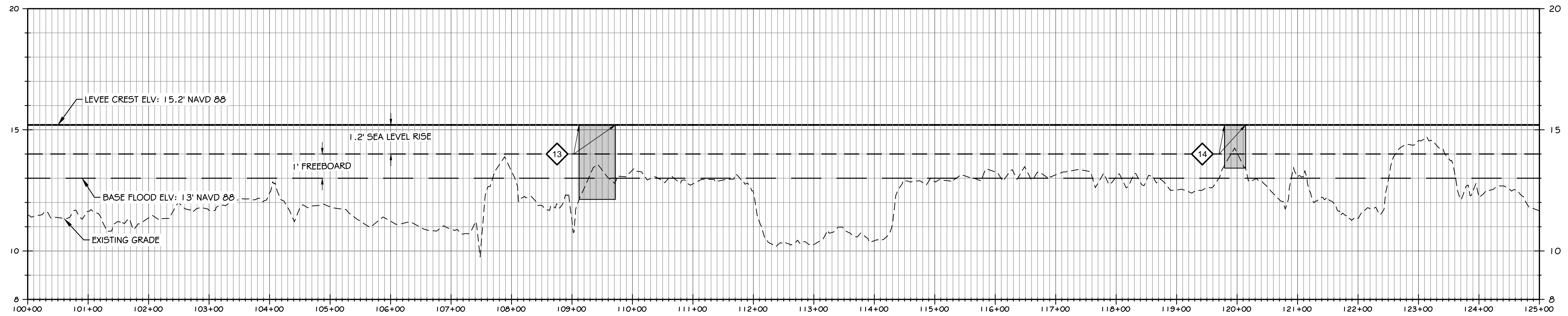
NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
LEVEE CREST PROFILES

DRAWING

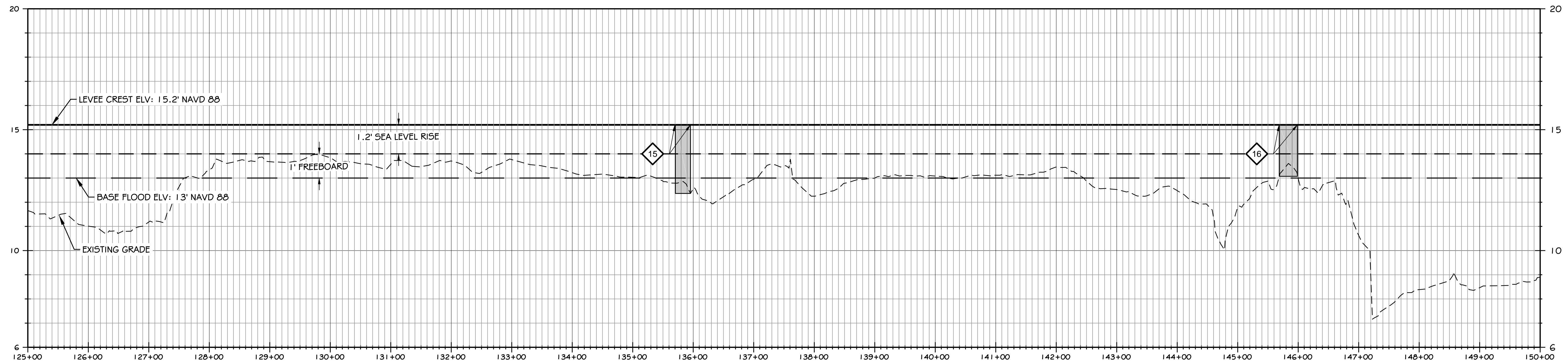
C10.03



4 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'



5 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'



6 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

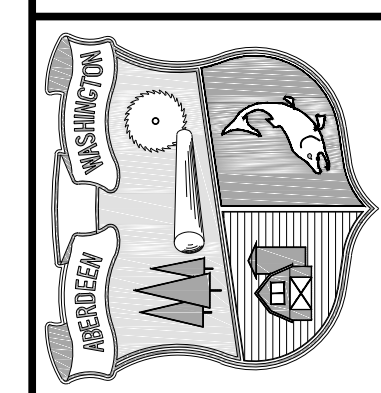
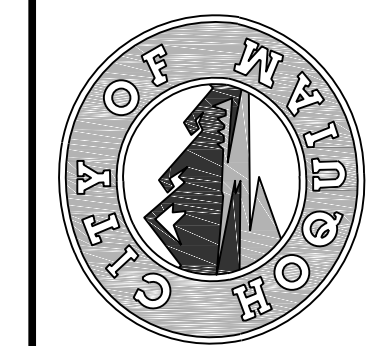
STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
9	BEGIN	85+36.70
9	END	85+71.70
10	BEGIN	86+85.94
10	END	87+15.94
11	BEGIN	87+79.73
11	END	88+09.83
12	BEGIN	98+37.21
12	END	98+62.21

STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
13	BEGIN	109+11.87
13	END	109+71.87
14	BEGIN	119+79.11
14	END	120+14.11

STOPLOG CLOSURE LOCATIONS		
CLOSURE #	STATION	
15	BEGIN	135+70.35
15	END	135+95.35
16	BEGIN	145+68.64
16	END	145+98.64

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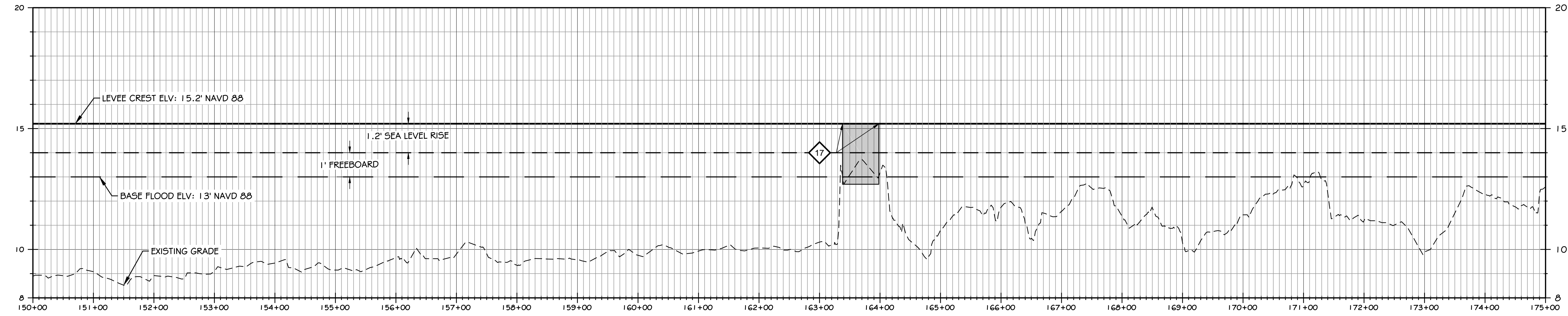
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LEVEE CREST PROFILES

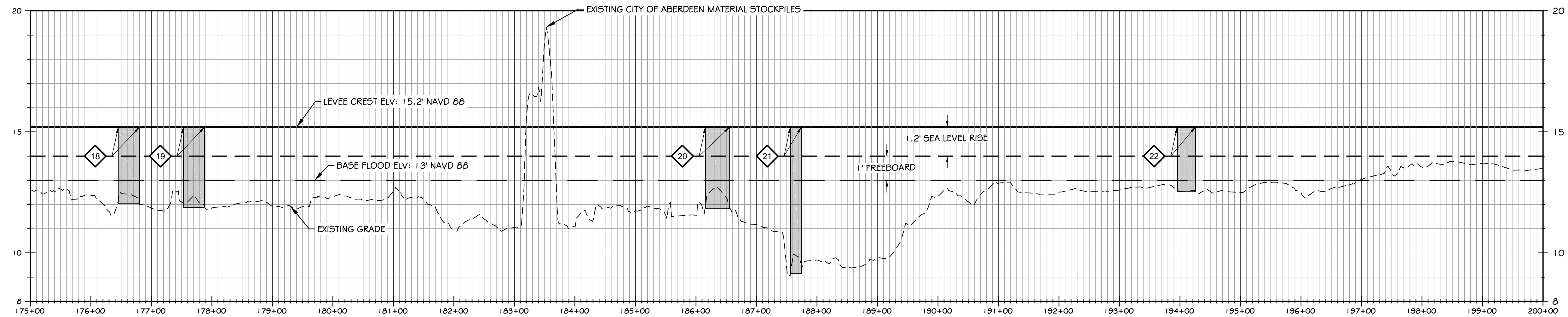
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C10.04

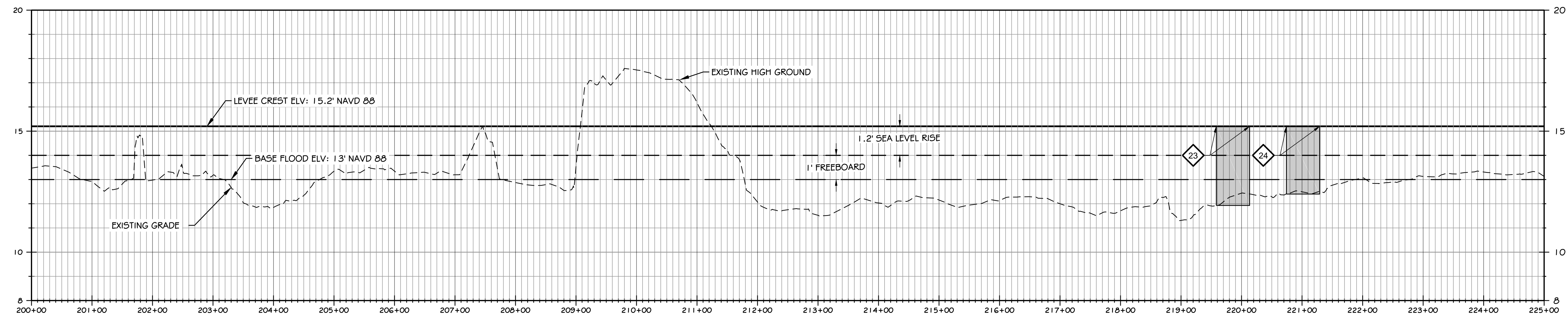
SHEET 77 OF 79



7 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'



8 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'



9 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

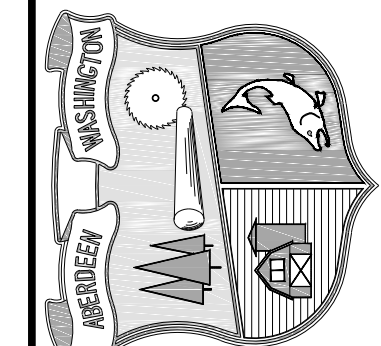
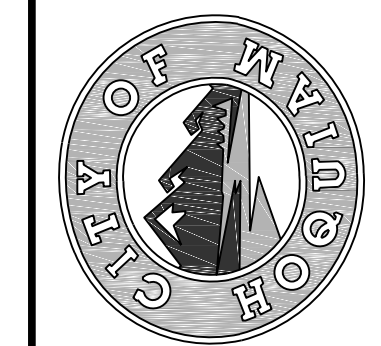
STOPLOG CLOSURE LOCATIONS	
CLOSURE #	STATION
17 BEGIN	163+38.12
17 END	163+98.12

STOPLOG CLOSURE LOCATIONS	
CLOSURE #	STATION
18 BEGIN	176+45.22
18 END	176+80.22
19 BEGIN	177+52.85
19 END	177+87.85
20 BEGIN	186+15.68
20 END	186+55.68
21 BEGIN	187+56.05
21 END	187+74.05
22 BEGIN	193+95.30
22 END	194+25.30

STOPLOG CLOSURE LOCATIONS	
CLOSURE #	STATION
23 BEGIN	219+58.23
23 END	220+13.23
24 BEGIN	220+74.12
24 END	221+29.12

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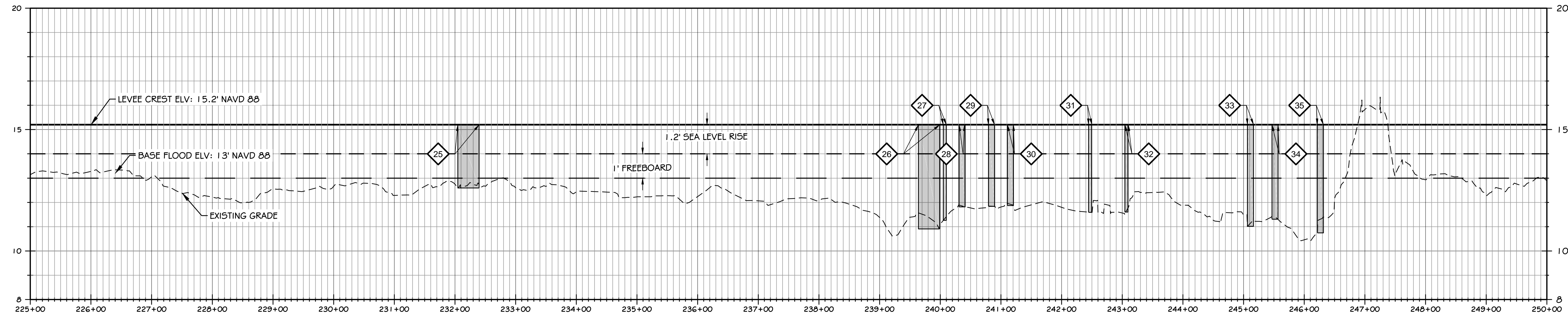
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NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
LEVEE CREST PROFILES

DRAWING

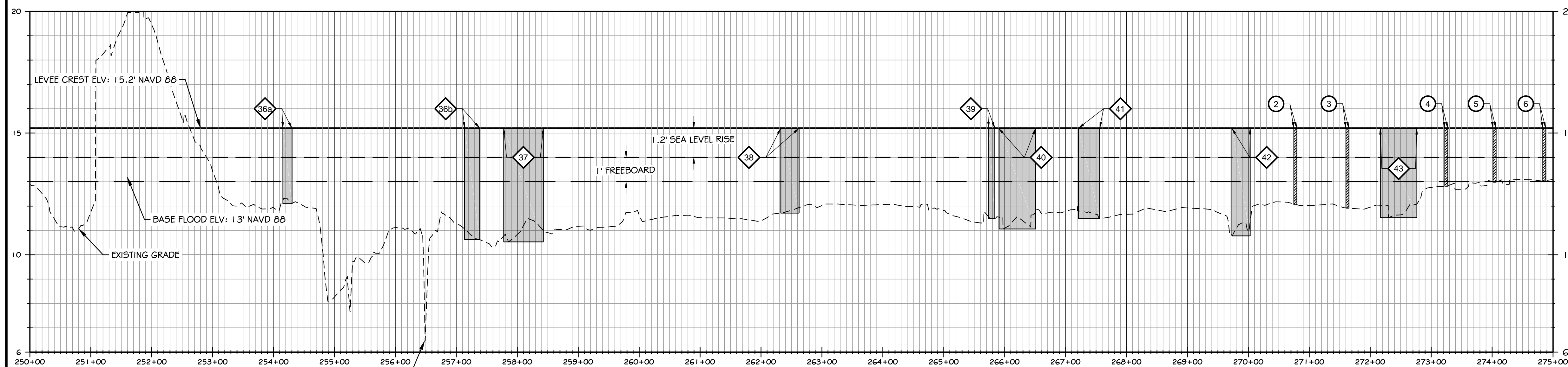
C10.05

SHEET 78 OF 79



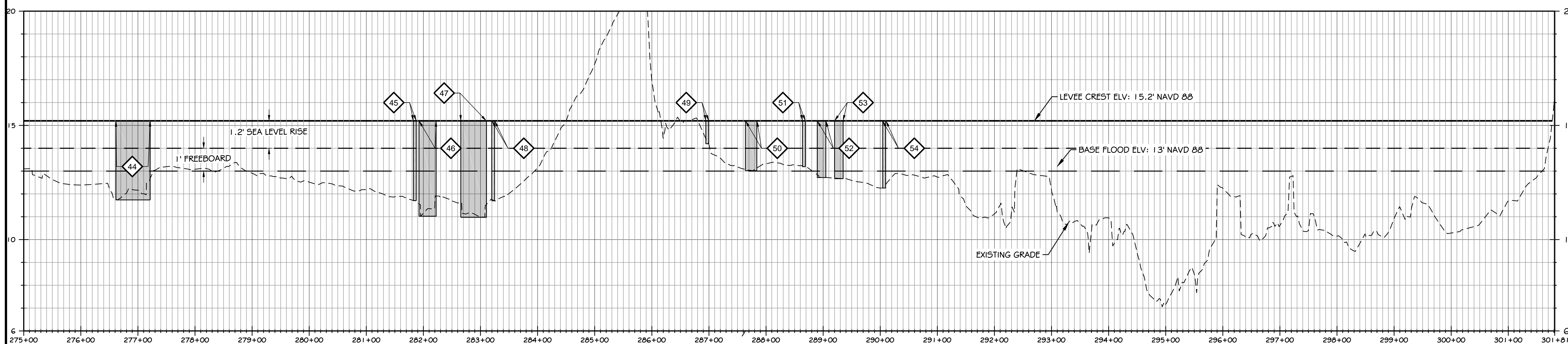
10 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

STOPLOG CLOSURE LOCATIONS		STOPLOG CLOSURE LOCATIONS	
CLOSURE #	STATION	CLOSURE #	STATION
25 BEGIN	232+04.66	31 BEGIN	242+44.56
25 END	232+39.66	31 END	242+49.56
26 BEGIN	239+64.05	32 BEGIN	243+04.33
26 END	239+99.05	32 END	243+09.33
27 BEGIN	240+04.93	33 BEGIN	245+06.36
27 END	240+09.93	33 END	245+16.36
28 BEGIN	240+30.97	34 BEGIN	245+46.77
28 END	240+40.97	34 END	245+56.77
29 BEGIN	240+79.47	35 BEGIN	246+21.64
29 END	240+89.47	35 END	246+31.64
30 BEGIN	241+10.64		
30 END	241+20.64		



11 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

STOPLOG CLOSURE LOCATIONS		STOPLOG CLOSURE LOCATIONS		PEDESTRIAN HINGED GATE LOCATIONS	
CLOSURE #	STATION	CLOSURE #	STATION	CLOSURE #	STATION
36a BEGIN	254+15.25	40 BEGIN	25+90.82	2 BEGIN	270+74.64
36a END	254+30.25	40 END	266+50.82	2 END	270+79.64
36b BEGIN	257+13.48	41 BEGIN	267+20.98	3 BEGIN	271+60.08
36b END	257+38.48	41 END	267+55.98	3 END	271+65.08
37 BEGIN	257+77.76	42 BEGIN	269+72.96	4 BEGIN	273+22.44
37 END	258+42.76	42 END	270+02.96	4 END	273+27.44
38 BEGIN	262+32.53	43 BEGIN	272+15.56	5 BEGIN	274+01.58
38 END	262+62.53	43 END	272+76.56	5 END	274+06.58
39 BEGIN	265+73.88			6 BEGIN	274+83.17
39 END	265+83.88			6 END	274+88.17

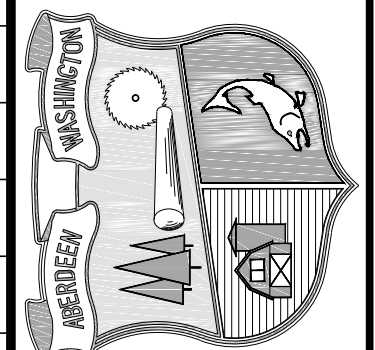


12 LEVEE CREST PROFILE
HORZ SCALE: 1" = 100' - VERT SCALE: 1" = 1'

STOPLOG CLOSURE LOCATIONS		STOPLOG CLOSURE LOCATIONS	
CLOSURE #	STATION	CLOSURE #	STATION
44 BEGIN	267+61.40	50 BEGIN	287+63.98
44 END	277+21.40	50 END	287+83.98
45 BEGIN	281+82.36	51 BEGIN	288+63.87
45 END	281+87.36	51 END	288+68.79
46 BEGIN	281+92.23	52 BEGIN	288+89.69
46 END	282+22.23	52 END	289+04.69
47 BEGIN	282+65.35	53 BEGIN	289+15.35
47 END	283+10.35	53 END	289+30.35
48 BEGIN	283+19.66	54 BEGIN	289+99.72
48 END	283+24.66	54 END	290+04.72
49 BEGIN	286+94.65		
49 END	286+99.65		

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