

Mill Creek Fish Passage Division to Roosevelt St

PROJECT NUMBER 19-1613

STA 95+03 to 116+22 (2119 Feet)

DRAWING INDEX:

1. Cover Sheet

2. Legend And Notes

3. Construction Access Plan

4. Dewatering Plan

5. Existing Conditions/Concrete Demolition
STA 95+03 to 100+00

6. Existing Conditions/Concrete Demolition
STA 100+00 to 106+00

7. Existing Conditions/Concrete Demolition
STA 106+00 to 112+00

8. Existing Conditions/Concrete Demolition
STA 112+00 to 116+22

9. Overall Profile and Typical Sections

10. Overall Layout STA 95+03 to 116+22
11. Layout STA 95+03 to 100+00

12. Layout STA 100+00 to 106+00

13. Layout STA 106+00 to 112+00

14. Layout STA 112+00 to 116+22

15. Roosevelt Bridge Plan and Sections

16. Ford Plan

17. Ford Sections

18. Ford Details

19. STA 97+00 to 108+00 Enlarged View

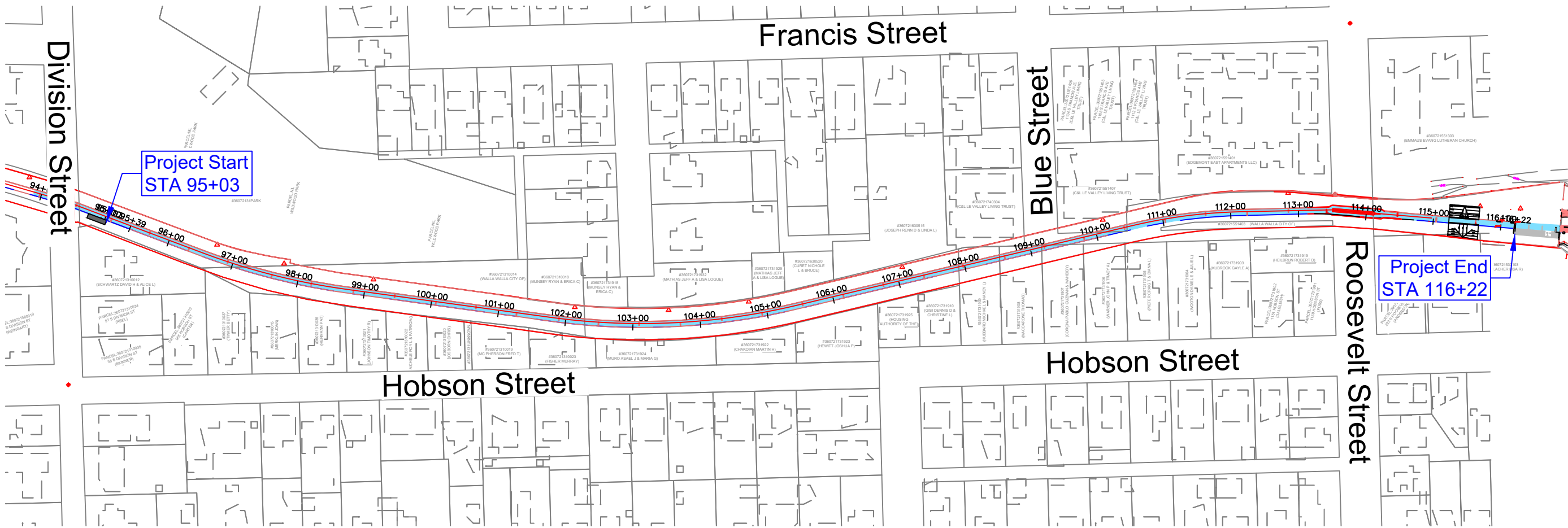
20. Resting Pool Details

21. Roughness Panel Connection/Baffle Details

22. Roughness Panel Details

23. Roughness Panel Details

24. Details



Mill Creek Flood Control Channel

OVERALL MAP

1" = 80'
Flow Direction



Mill Creek Fish Passage
Division to Roosevelt Street



REVISIONS					DESCRIPTION
REV	DATE	BY	APPD		
SCALE VERIFICATION					IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.					
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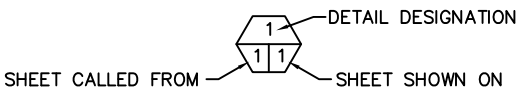
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CHINOOK ENGINEERING
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1/12/2022

Cover Sheet

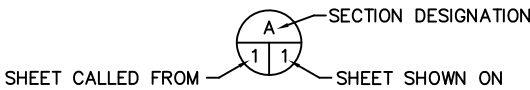
ABBREVIATIONS

"	-	INCHES	MISC.	-	MISCELLANEOUS
,	-	FEET	MPH	-	MILES PER HOUR
APPROX.	-	APPROXIMATELY	O.C.	-	ON CENTER
B&B	-	BALLED AND BURLAPPED	O.D.	-	OUTSIDE DIAMETER
BM	-	BENCH MARK	OHW	-	ORDINARY HIGH WATER
Ⓢ	-	CENTERLINE	PK	-	PARKER-KALON
CAL.	-	CALIPER	R.O.W.	-	RIGHT OF WAY
CFS	-	CUBIC FEET PER SECOND	REQ'D	-	REQUIRED
CLR.	-	CLEARANCE	SEC.	-	SECTION
CMP	-	CORRUGATED METAL PIPE	S.F.	-	SQUARE FEET
CONC.	-	CONCRETE	SHT.	-	SHEET
DIA.	-	DIAMETER	SPEC'S.	-	PROJECT SPECIFICATIONS
ELEV.	-	ELEVATION	STA.	-	STATION
EQ.	-	EQUAL	SS	-	STAINLESS STEEL
Ex	-	EXISTING	TEMP.	-	TEMPORARY
FTG.	-	FOOTING	TYP.	-	TYPICAL
HDPE	-	HIGH DENSITY POLYETHYLENE	W.S.	-	WATER SURFACE
HT.	-	HEIGHT	WSDOT	-	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
GAL.	-	GALLON	WSEL	-	WATER SURFACE ELEVATION
I.D.	-	INSIDE DIAMETER			
I.E.	-	INVERT ELEVATION			
LBS.	-	POUNDS			
LWD	-	LARGE WOODY DEBRIS			
MAX.	-	MAXIMUM			
MFG.	-	MANUFACTURER'S			
MHW	-	MEAN HIGH WATER			
MHHW	-	MEAN HIGHER HIGH WATER			
MIN.	-	MINIMUM			
MISC.	-	MISCELLANEOUS			

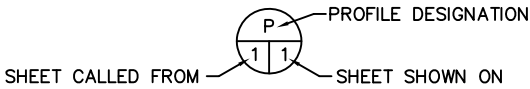
SHEET SYMBOLS



DETAIL CALLOUT



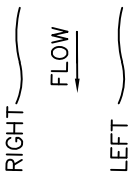
SECTION CALLOUT



PROFILE CALLOUT

References to Right and Left as viewed downstream

Survey Notes:



TEXT EXISTING CALLOUT
TEXT NEW CALLOUT

1 NOTE CALLOUT
2+00 STATION CALLOUT

LEGEND

	SURVEY POINT		SURVEY MONUMENT AS NOTED
	EXISTING TREES TO REMAIN		PROJECT CONTROL POINT
	PROJECT BENCH MARK		POWER POLE
	BORING LOCATIONS		MANHOLE
	PARCEL BOUNDARY		UTILITY CABINET
	BUILDING BOUNDARY		LIGHT POST
	CHANNEL BULKHEAD (SINGLE OR DOUBLE LINE)		TREE
	CHANNEL CENTERLINE		WATER VALVE
	OVERHEAD POWER		Existing Concrete
	OVERHEAD SERVICE LINE		Proposed Concrete
	INDEX CONTOUR LINE		ELEVATION MARKER
	TREE TO BE REMOVED		TREE TO REMAIN
	NOTE CALLOUT		PHOTO CALLOUT
	STATION CALLOUT		

BASIS OF BEARINGS AND ELEVATIONS:

A BEARING OF N 01°12'06" W BETWEEN FOUND MONUMENTS ON ROOSEVELT STREET AT THE INTERSECTIONS WITH HOBSON STREET & FRANCIS AVENUE WAS ESTABLISHED BASED ON THE CITY OF WALLA WALLA G.I.S. AS ESTABLISHED BY SURVEY RECORDED IN BOOK 6 OF SURVEYS AT PAGE 263 UNDER AUDITORS FILE NUMBER 9604535, WHICH IS IN TURN BASED ON THE WASHINGTON STATE SOUTH ZONE GRID COORDINATE SYSTEM, NAD 83-91, AND UPON THE NAVD 1988 VERTICAL DATUM.

*BUILDING & PARCEL BOUNDARY NOTE

BUILDING & PARCEL BOUNDARIES SHOWN ON THIS MAP ARE APPROXIMATE PER CITY OF WALLA WALLA GIS LAYERS AND SHOULD NOT BE USED AS NOR DOES IT CONSTITUTE A BOUNDARY SURVEY. DATA LAYERS WERE PROVIDED BY CITY STAFF ON MARCH 10, 2016 WITH THE FOLLOWING DISCLAIMER:

"THE CITY OF WALLA WALLA DOES NOT WARRANT, GUARANTEE OR ACCEPT ANY LIABILITY FOR THE ACCURACY, PRECISION OR COMPLETENESS OF ANY INFORMATION SHOWN HEREON OR ANY INFERENCES MADE THEREFROM. THIS REPRESENTATION OF THE CITY UTILITY DATA IS THE BEST AVAILABLE INFORMATION TO DATE. THE CITY RECOGNIZES THAT FURTHER FIELD VERIFICATION MAY REVEAL INFORMATION THAT IS CONTRARY TO THIS MAP."

Control Points

Pt#	North	East	Elevation	Description
59	276014.76	2195838.69	1034.94	Nail
60	276037.73	2195495.73	1031.24	Nail
61	275998.11	2195222.23	1026.74	Nail
62	275928.34	2194926.25	1023.23	Nail
63	275877.24	2194699.71	1020.58	Nail
64	275864.79	2194581.44	1018.91	Nail
65	275869.09	2194443.00	1017.23	Nail
66	275909.90	2194145.83	1013.73	Nail
67	275933.27	2194013.93	1012.13	Nail
68	275961.29	2193914.95	1010.65	Nail



Mill Creek Fish Passage
Division to Roosevelt Street



12/31/21



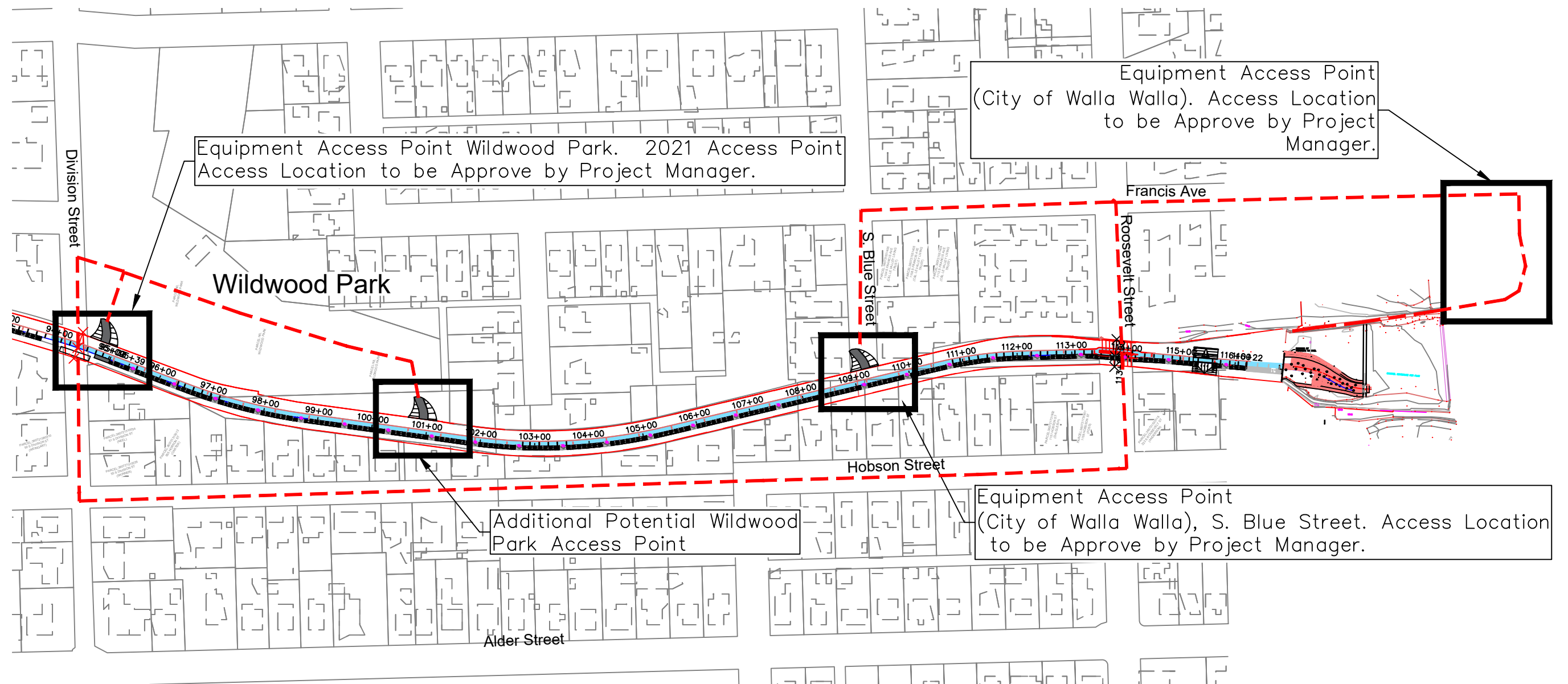
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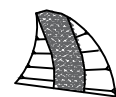
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Legend and Notes



--- Traffic Path (Typical)



Denotes Construction Access by Cutting Concrete Wall (see Sheet 26).



Potential Construction Access Locations

Traffic, Access and Staging Plan

1" = 100'

Flow Direction ←



Mill Creek Fish Passage Division to Roosevelt Street



12/31/21



12/31/21

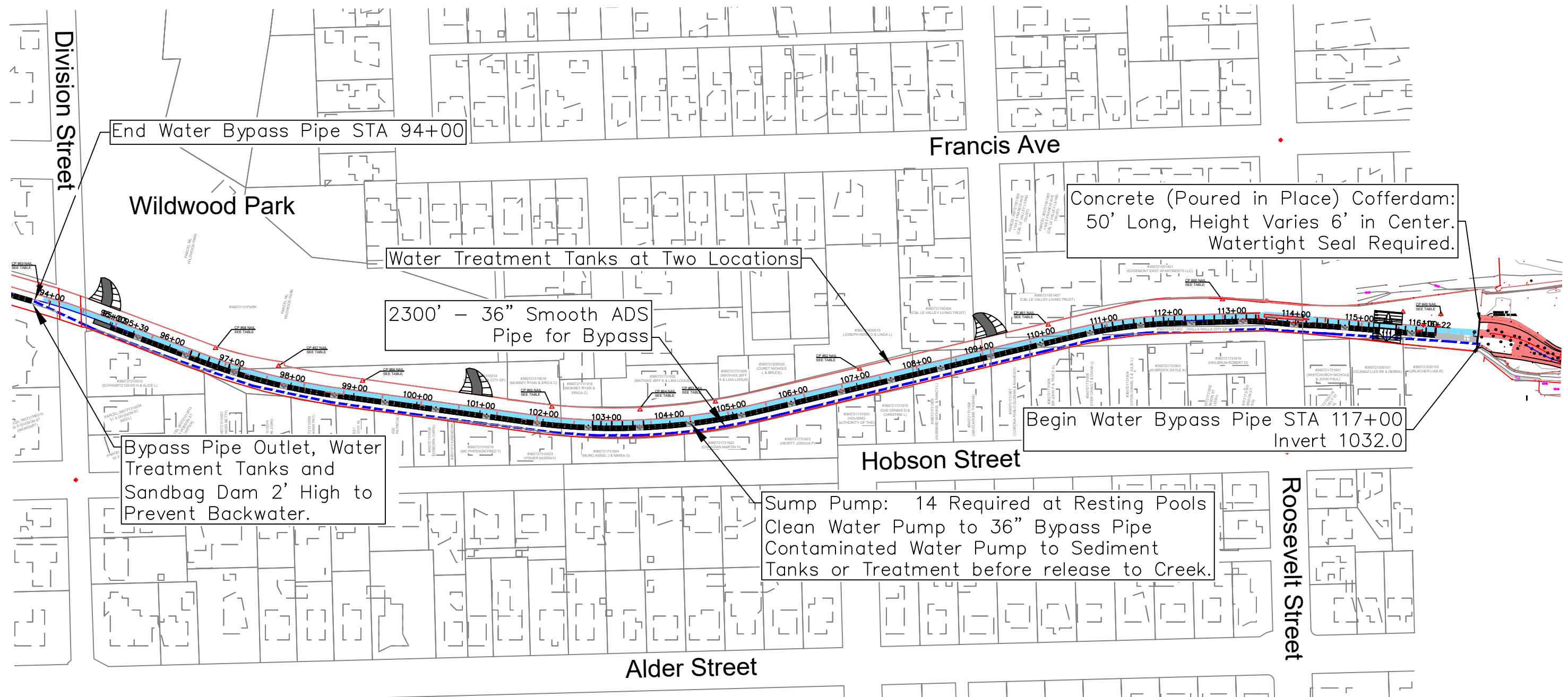
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Site Plan - Construction Access

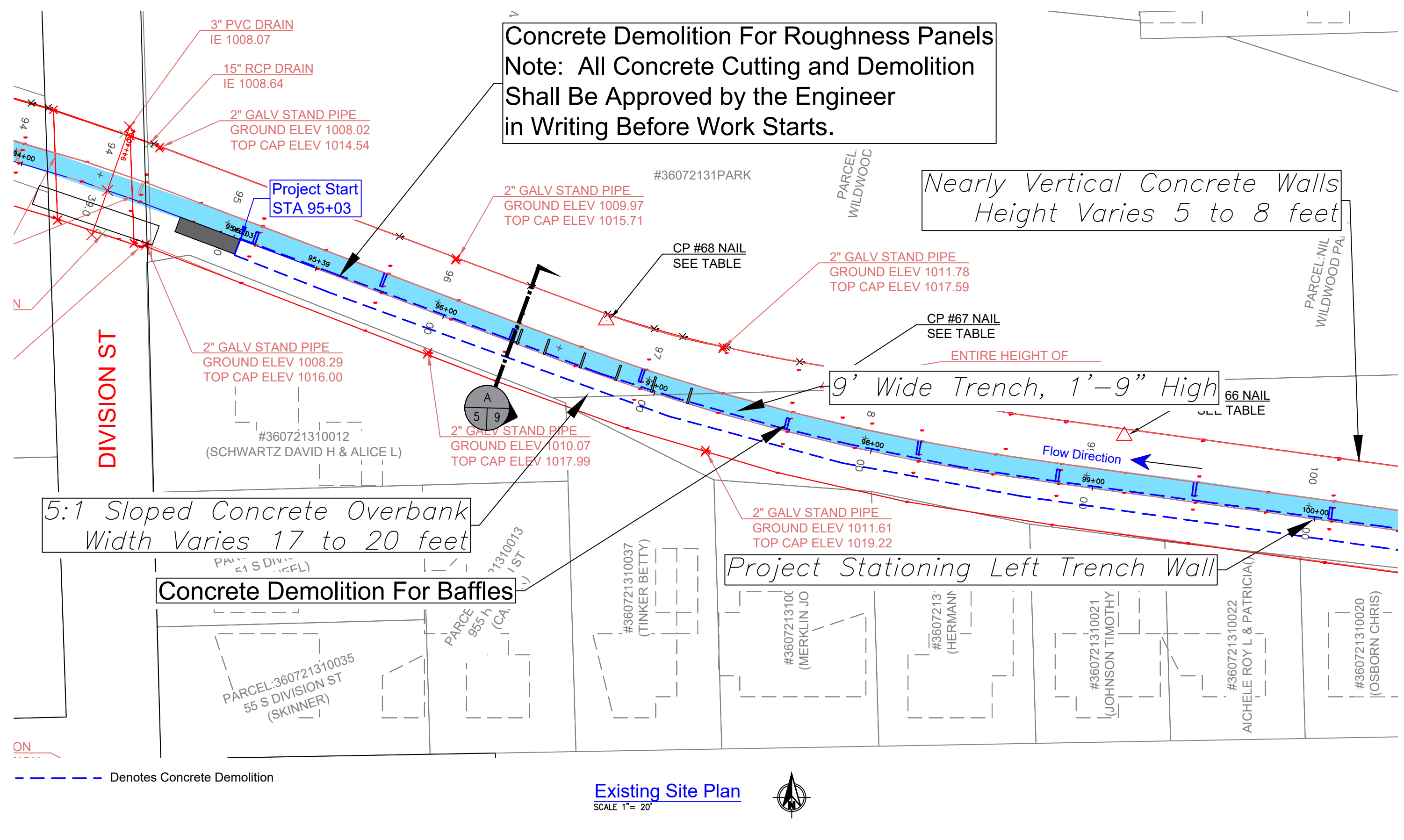
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SHEET OF

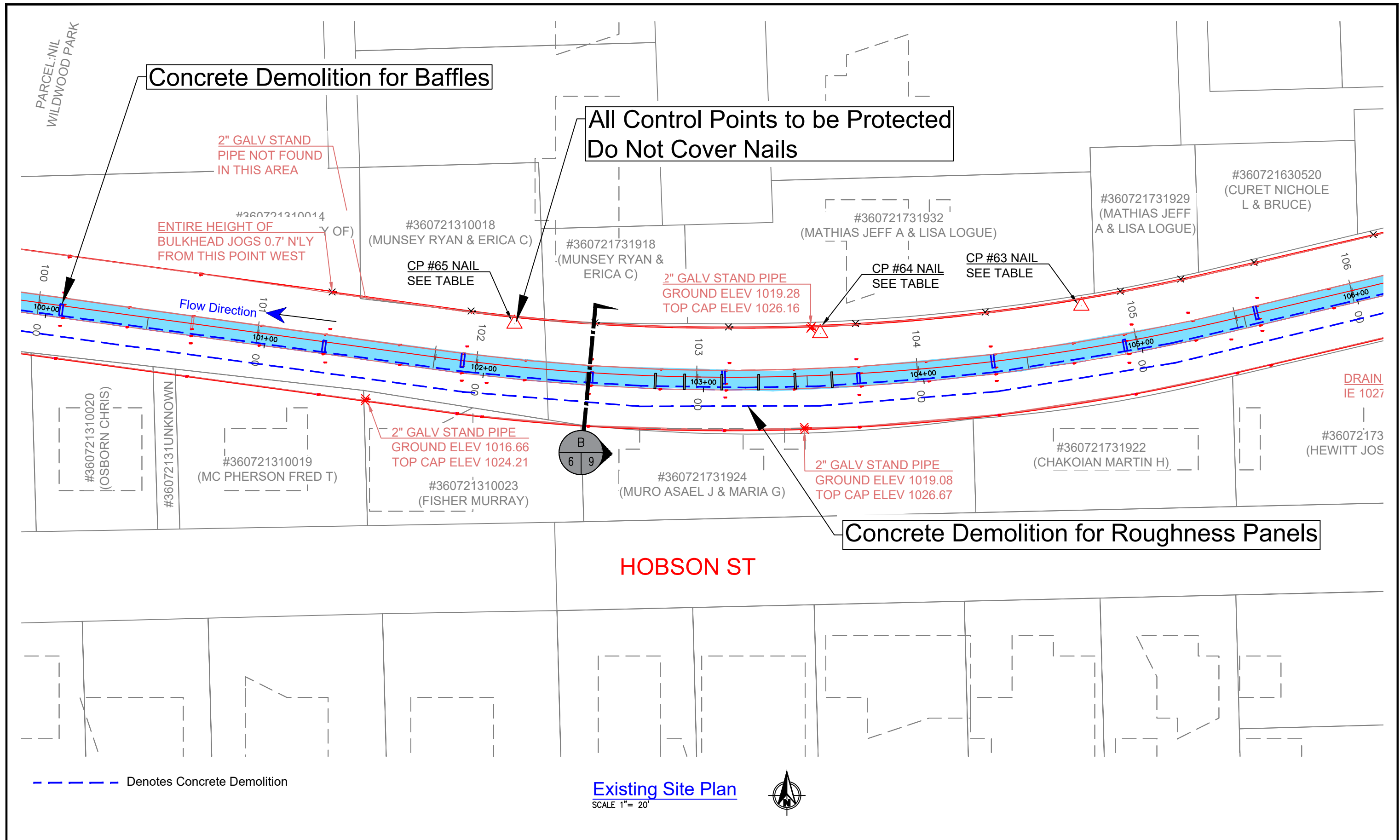


Construction Notes:

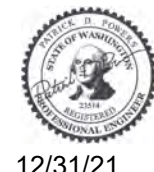
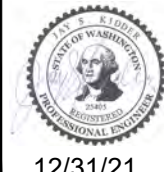
- 1. Dewatering plan shown is approved. Other Options may be proposed by contractor if reviewed and approve by Engineers.
Minimum Requirements 1) Work Area Isolated from flowing water, 2) Sump Pump water discharged into bypass pipe, 3) water contaminated with concrete pumped into Water Quality Tanks.
- 2. If baffles are not removed, bypass pipe shown will require supports one foot high between existing baffles. Spacing to Approved by Engineer.
- 3. Two Water Treatment Tanks Required.

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Mill Creek Fish Passage Division to Roosevelt Street



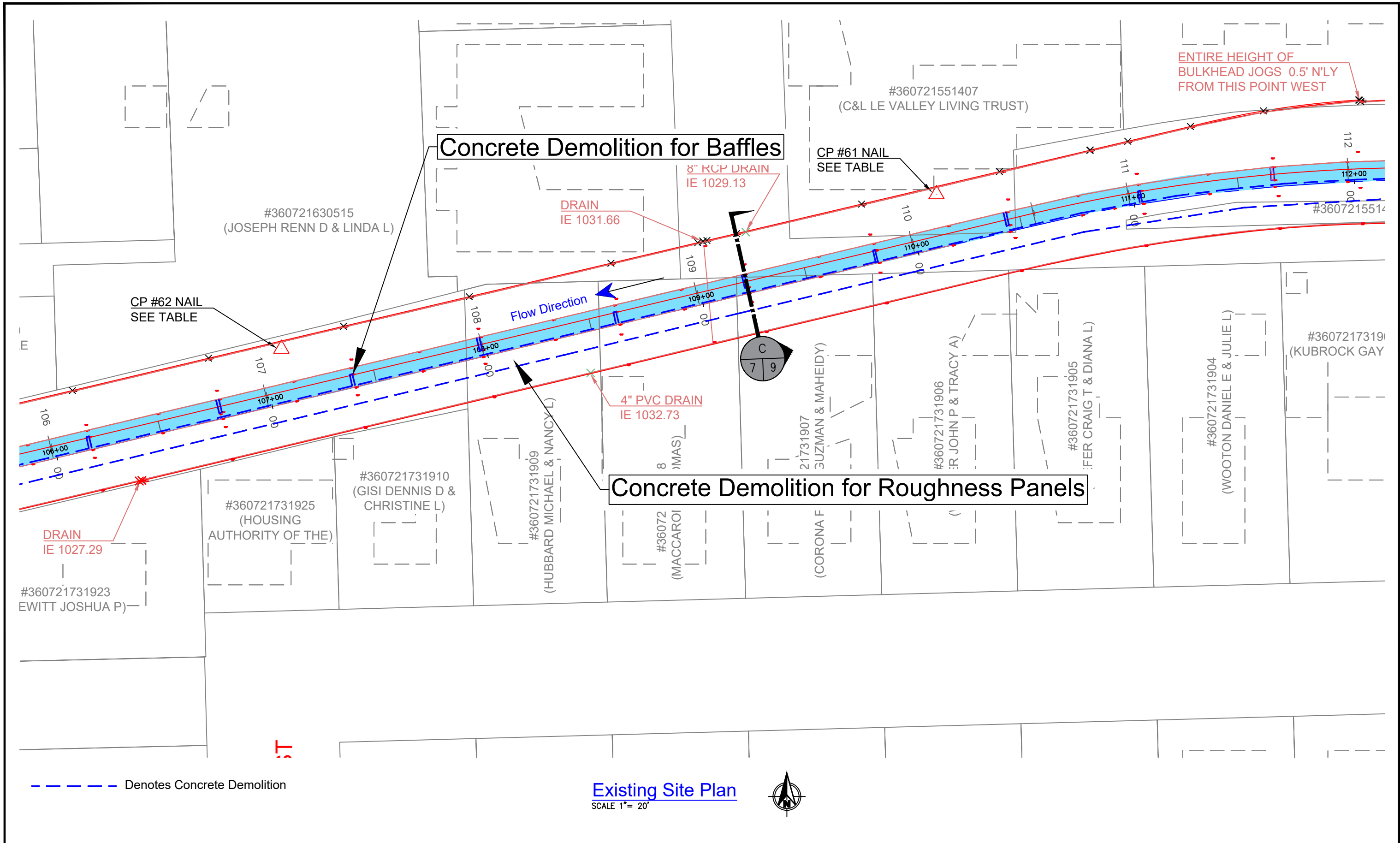
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Existing Conditions
STA 100+00 to 106+00

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Mill Creek Fish Passage Division to Roosevelt Street



12/30/2021



12/30/2021

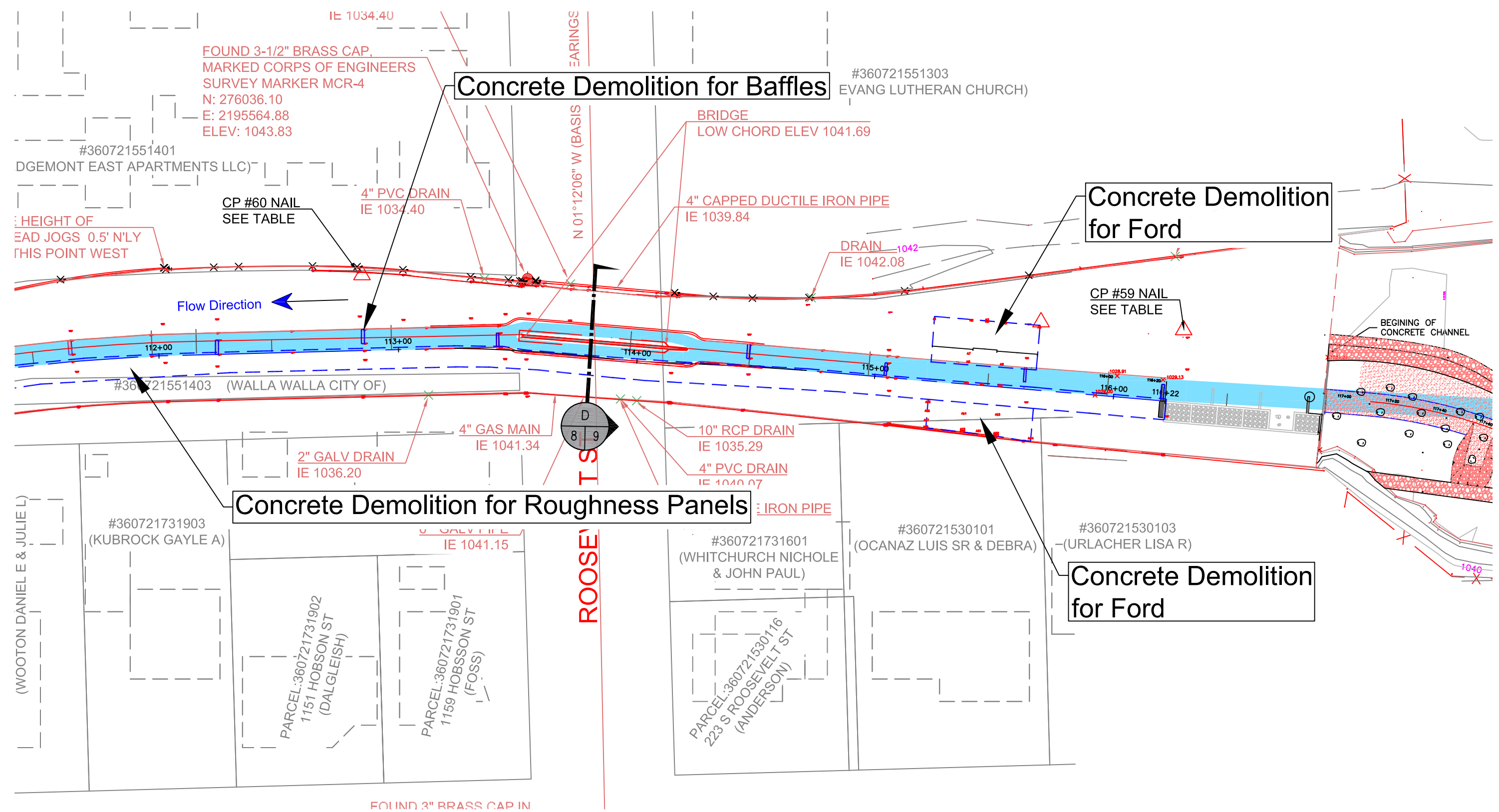
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Existing Conditions
STA 106+00 to 112+00

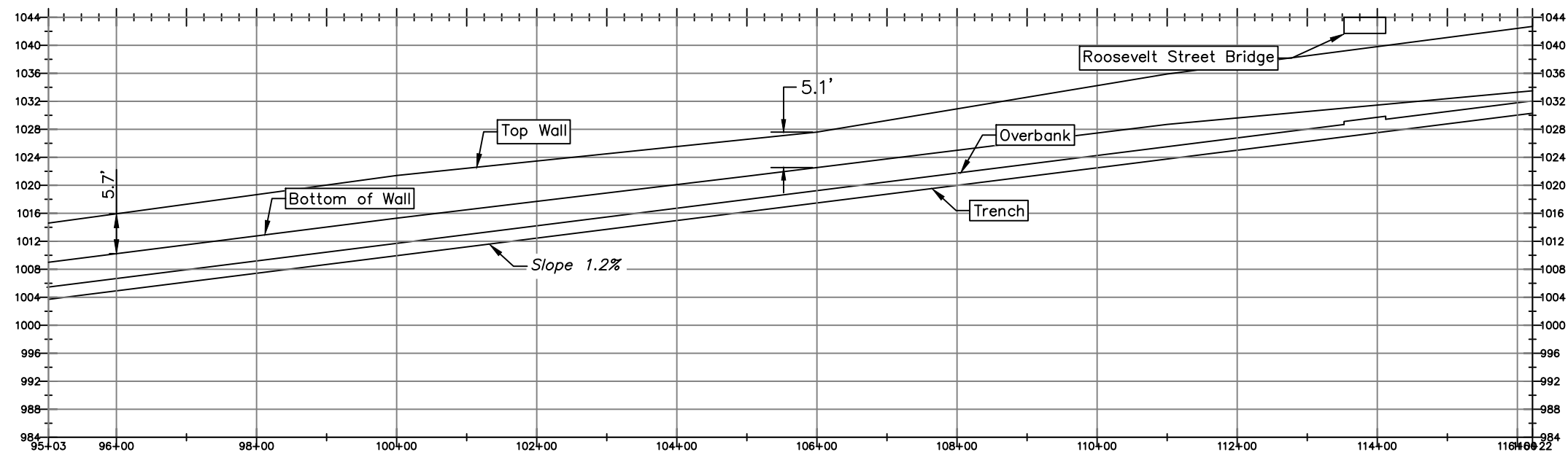


--- Denotes Concrete Demolition

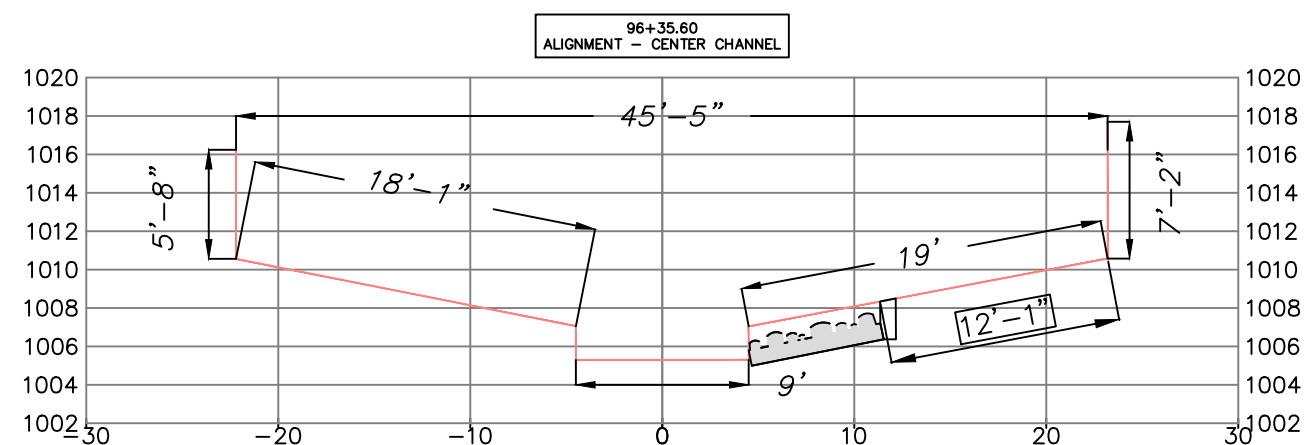
Existing Site Plan

SCALE 1" = 20'

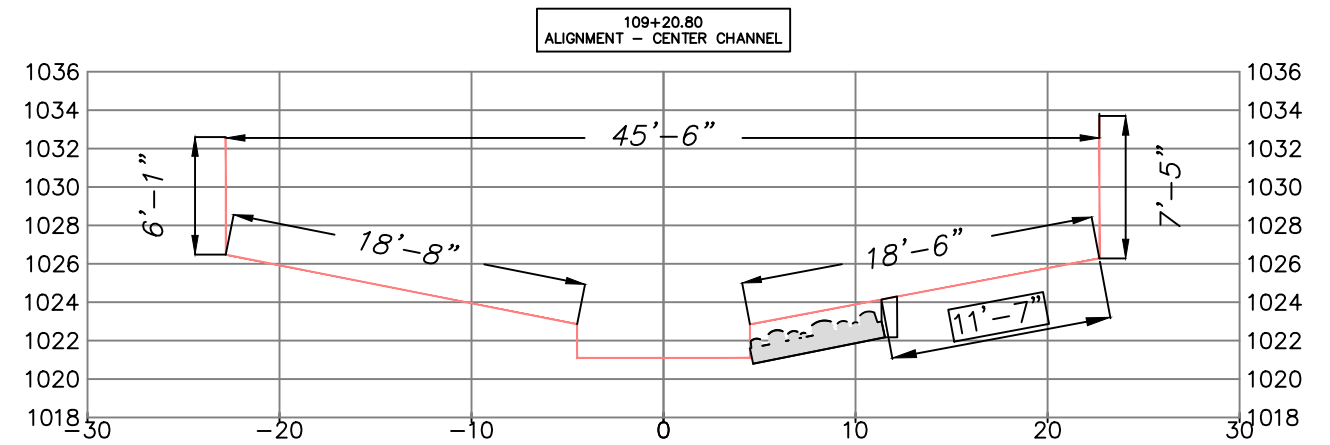




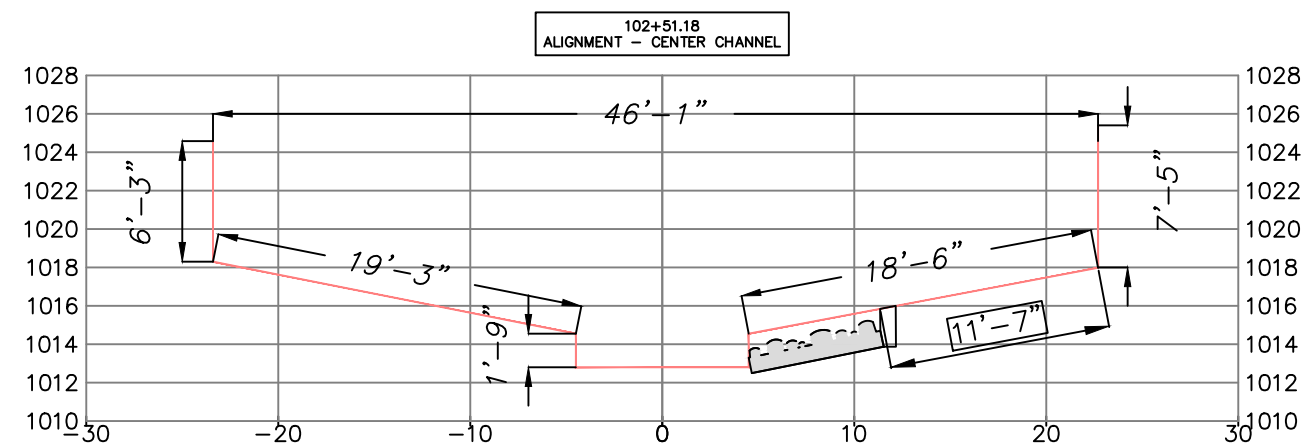
Profile - Left Trench
Scale Horizontal 1" = 100', Vertical 1" = 10'



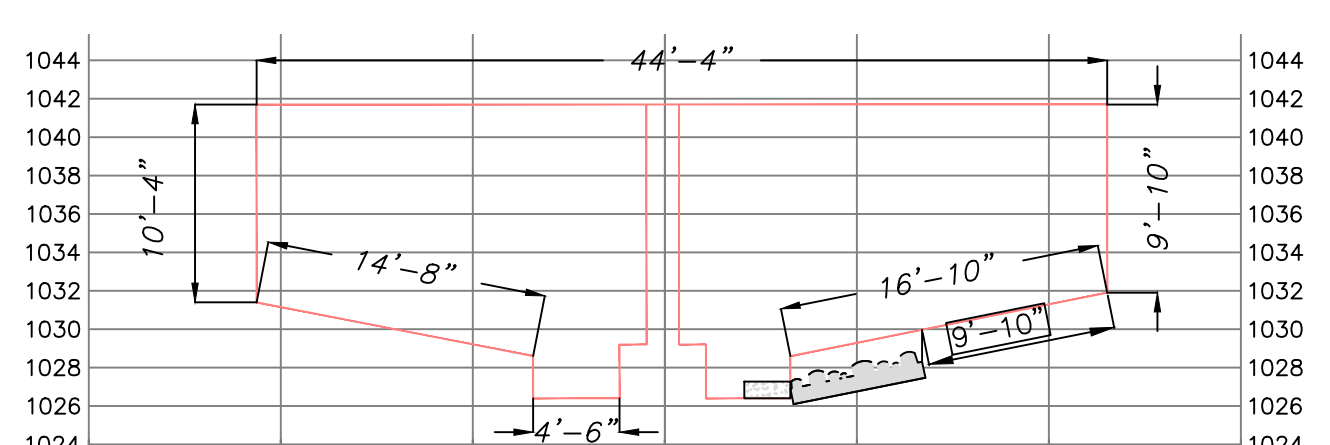
Looking Upstream
Typical Channel Section Sta 96+35
Scale: 1" = 5'



Looking Upstream
Typical Channel Section STA 109+21
Scale: 1" = 5'



Looking Upstream
Typical Channel Section STA 102+51
Scale: 1" = 5'



Looking Upstream
Typical Channel Section STA 113+80
Scale: 1" = 5'



Mill Creek Fish Passage Division to Roosevelt Street



12/30/2020

12/30/2020

REVISIONS				
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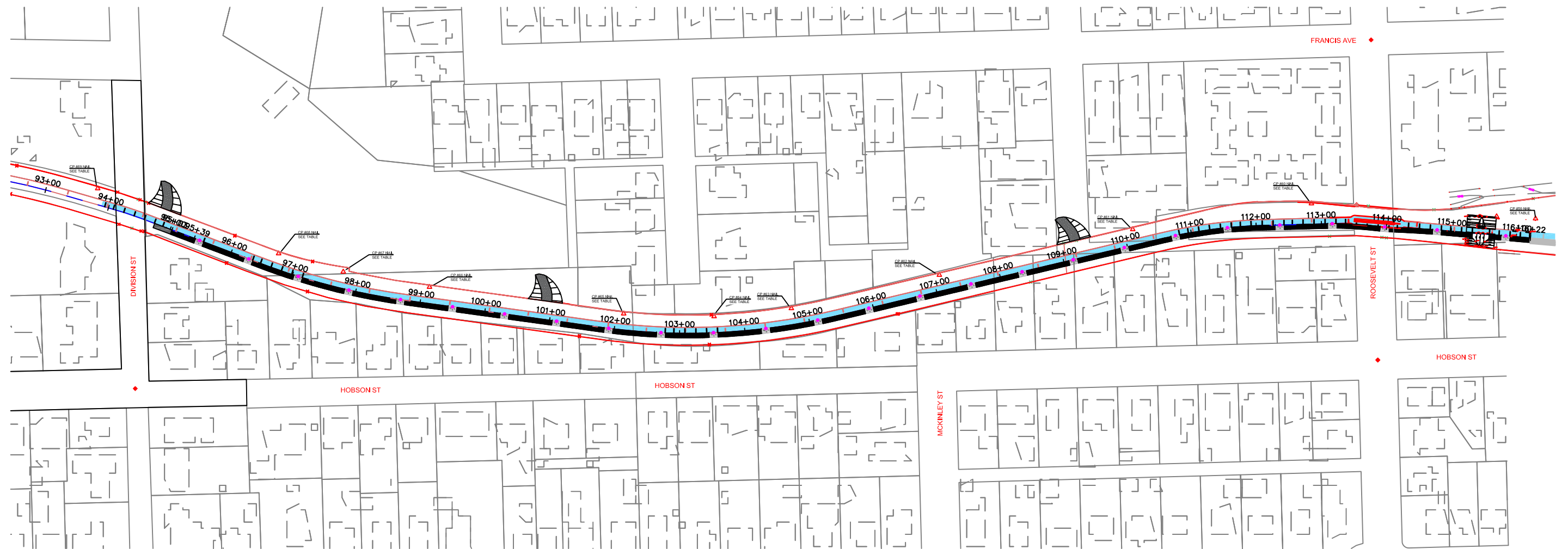
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Overall Profile and Typ Sections

9 24
SHEET OF



Site Plan - Left Bank Trench Wall for Layout

Scale 1" = 80'

Flow Direction ←



Project Layout Information: Total All Schedules

Length: 2119'

Resting Pools: 26 (Spacing 80.37')

Roughness Panels: 182 (Plus 1 Cut Short 2.6' Long)

Baffles: 135 Total

Roughness Panel Spacing: Typical 5" (0.42') but may vary 3 to 7".



Mill Creek Fish Passage Division to Roosevelt Street



12/20/2021



12/20/2021

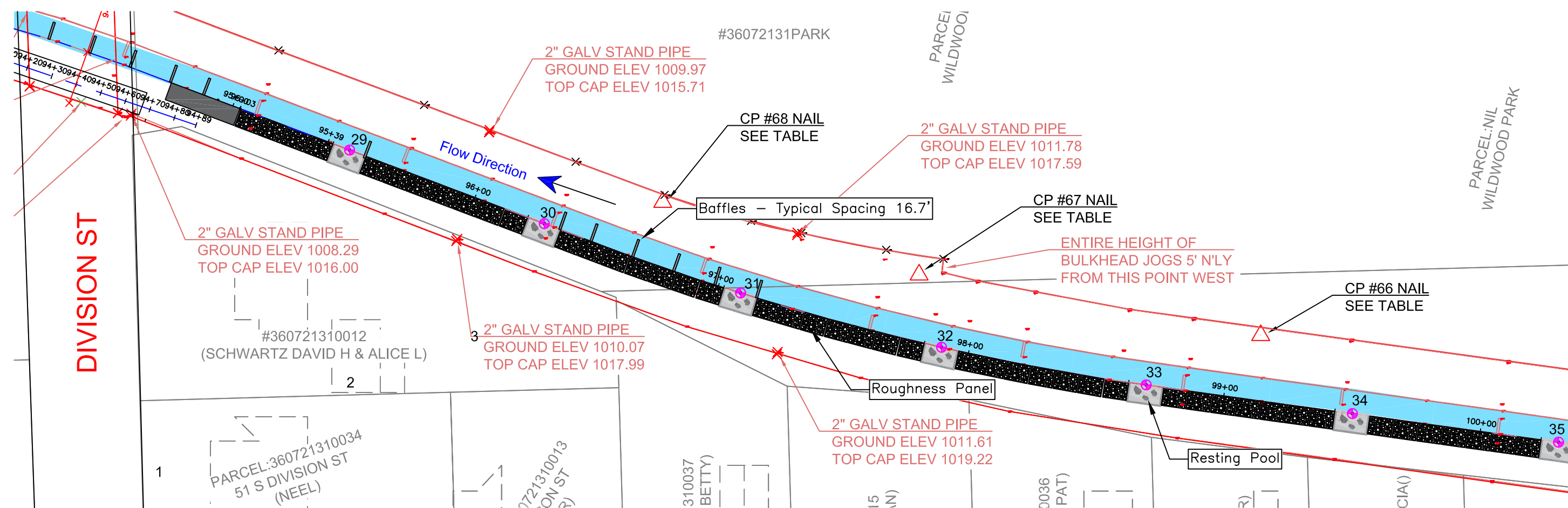
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Overall Layout

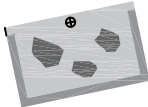
10 24
SHEET OF



Site Plan - STA 95+03 to STA 100+00
Scale 1" = 20'

Point Elevations on Trench				
Pt#	North	East	Elevation	Description
29	275981.38	2193794.02	1004.30	Trench TOC
30	275953.00	2193869.21	1005.30	Trench TOC
31	275926.26	2193945.00	1006.30	Trench TOC
32	275905.28	2194022.59	1007.30	Trench TOC
33	275890.74	2194101.63	1008.30	Trench TOC
34	275879.69	2194181.24	1009.10	Trench TOC
35	275868.66	2194260.84	1009.90	Trench TOC

 Roughness Panel

 Resting Pool

 New Baffle (All Not Shown)

 Existing Baffle (to be removed)



Mill Creek Fish Passage
Division to Roosevelt Street

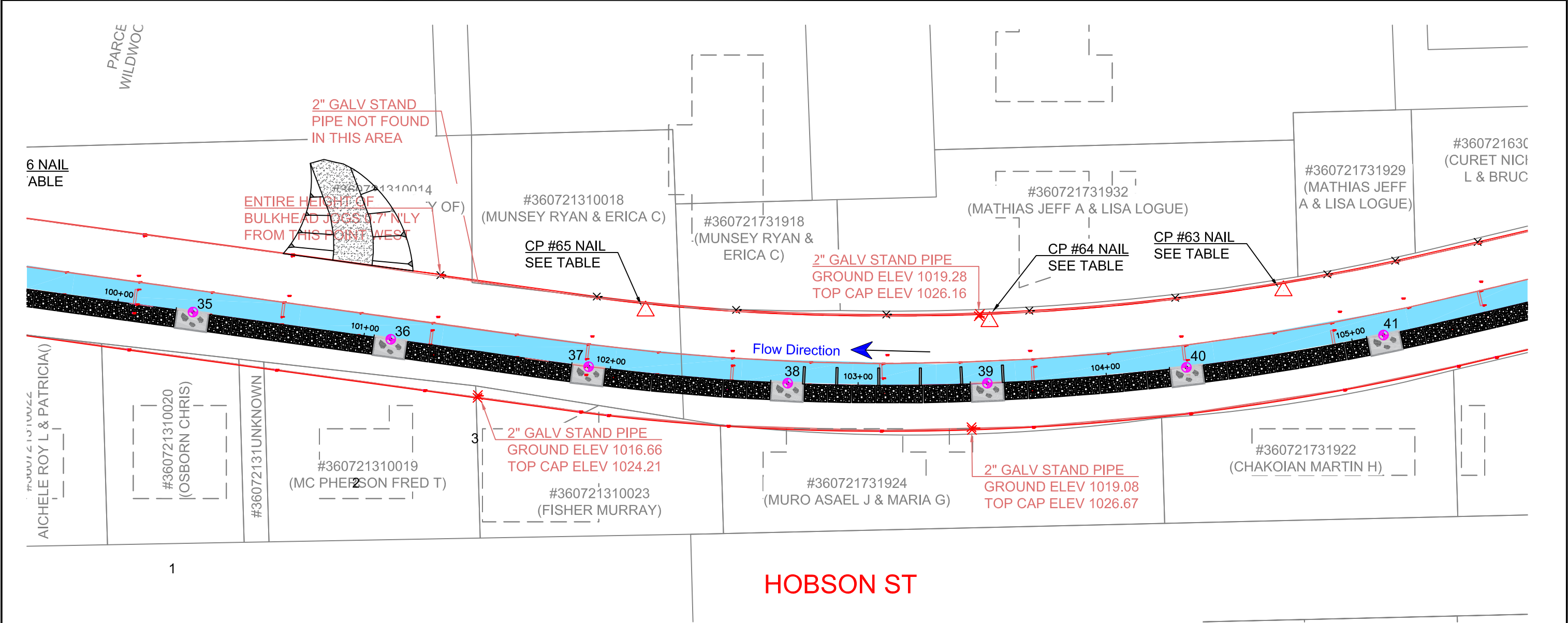


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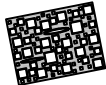
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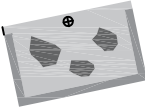
Site Plan
STA 95+03 to 100+00



Site Plan - STA 100+00 to 105+00
Scale 1" = 20'

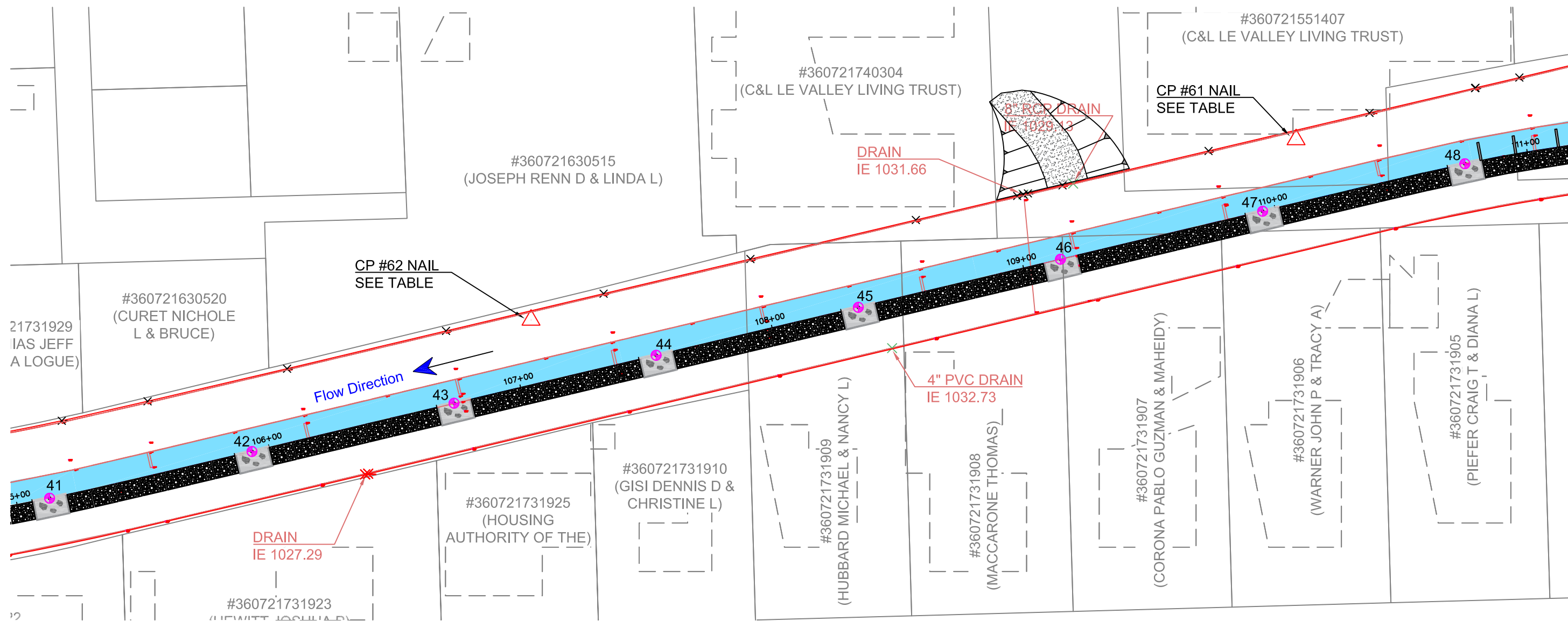
Point Elevations on Trench				
Pt#	North	East	Elevation	Description
36	275857.72	2194340.47	1011.10	Trench TOC
37	275846.69	2194420.08	1012.10	Trench TOC
38	275840.03	2194500.17	1013.00	Trench TOC
39	275840.03	2194580.54	1014.00	Trench TOC
40	275846.39	2194660.66	1015.10	Trench TOC
41	275859.41	2194739.97	1016.10	Trench TOC

 Roughness Panel

 Resting Pool

 New Baffle (All Not Shown)

 Existing Baffle (to be removed)

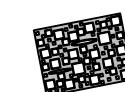


Site Plan - STA 105+00 to 111+00

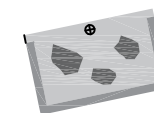
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Point Elevations on Trench

Pt#	North	East	Elevation	Description
42	275877.47	2194818.29	1017.00	Trench TOC
43	275896.13	2194896.46	1018.00	Trench TOC
44	275914.68	2194974.66	1019.00	Trench TOC
45	275933.24	2195052.88	1020.00	Trench TOC
46	275951.82	2195131.08	1021.00	Trench TOC
47	275970.39	2195209.30	1021.80	Trench TOC
48	275988.76	2195287.54	1022.70	Trench TOC



Roughness Panel



Resting Pool



New Baffle (All Not Shown)



Existing Baffle (to be removed)



Mill Creek Fish Passage Division to Roosevelt Street



12/31/21



12/31/21

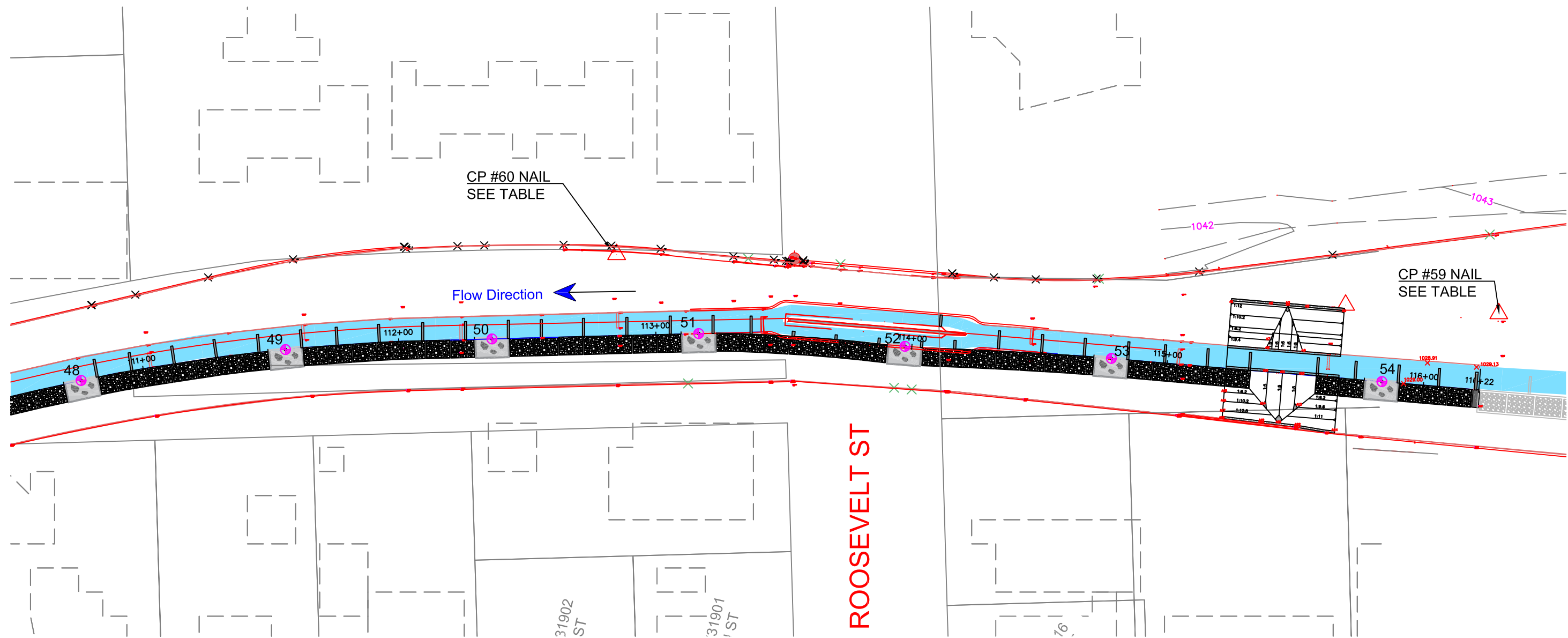
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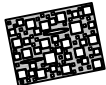
Site Plan
STA 105+00 to 111+00

13 **24**
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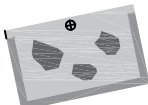


Site Plan - STA 111+00 to 116+22
Scale 1" = 20'

Point Elevations on Trench				
Pt#	North	East	Elevation	Description
49	276000.76	2195367.01	1023.70	Trench TOC
50	276004.89	2195447.27	1024.60	Trench TOC
51	276006.98	2195527.62	1025.50	Trench TOC
52	276002.02	2195607.83	1026.60	Trench TOC
53	275997.32	2195688.07	1027.60	Trench TOC
54	275988.32	2195793.23	1028.60	Trench TOC



Roughness Panel



Resting Pool



New 7' Long Baffle (All Not Shown)



Short Baffle (Length Varies)



Existing Baffle (to be removed)



Mill Creek Fish Passage
Division to Roosevelt Street



12/31/21



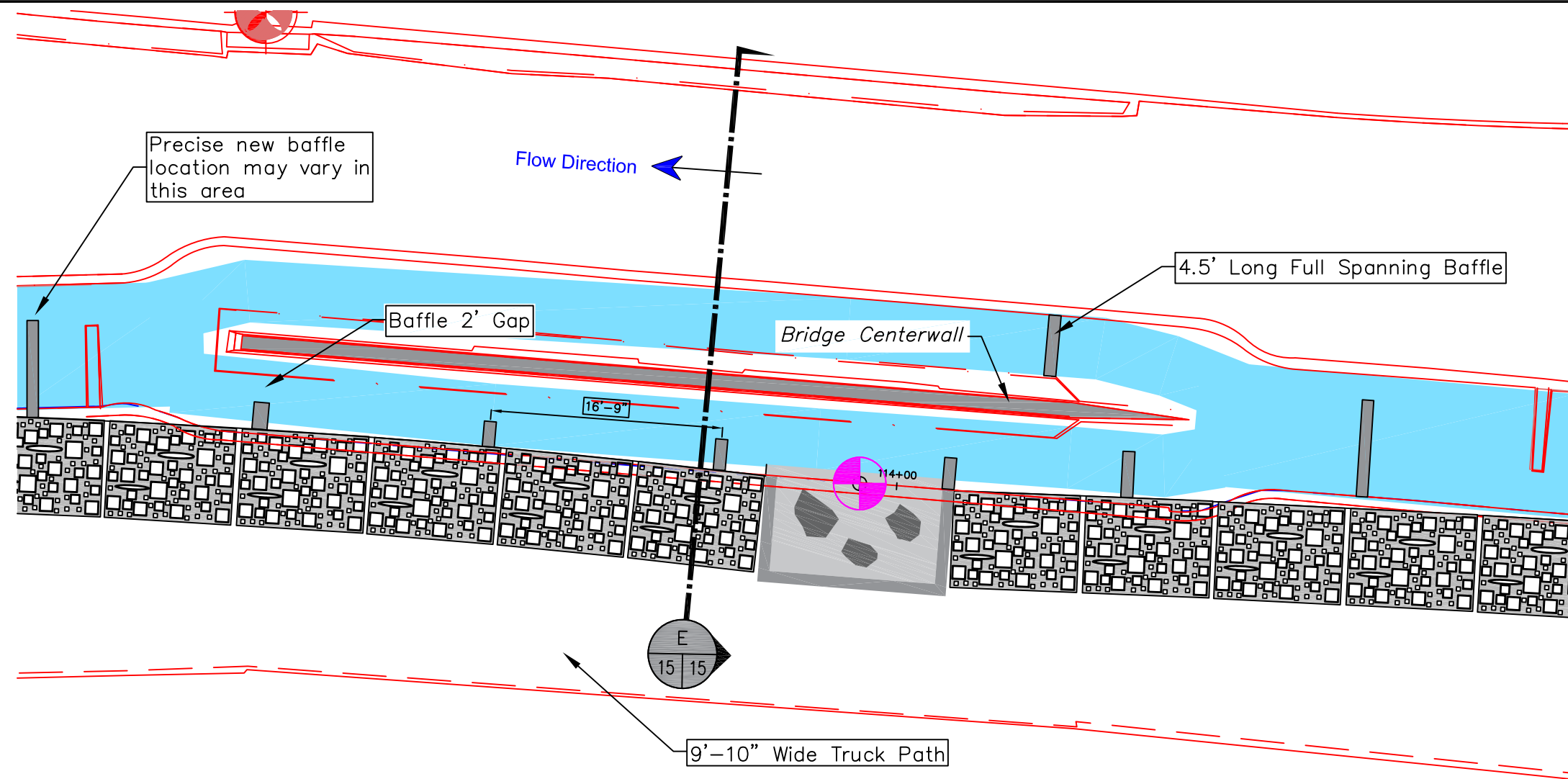
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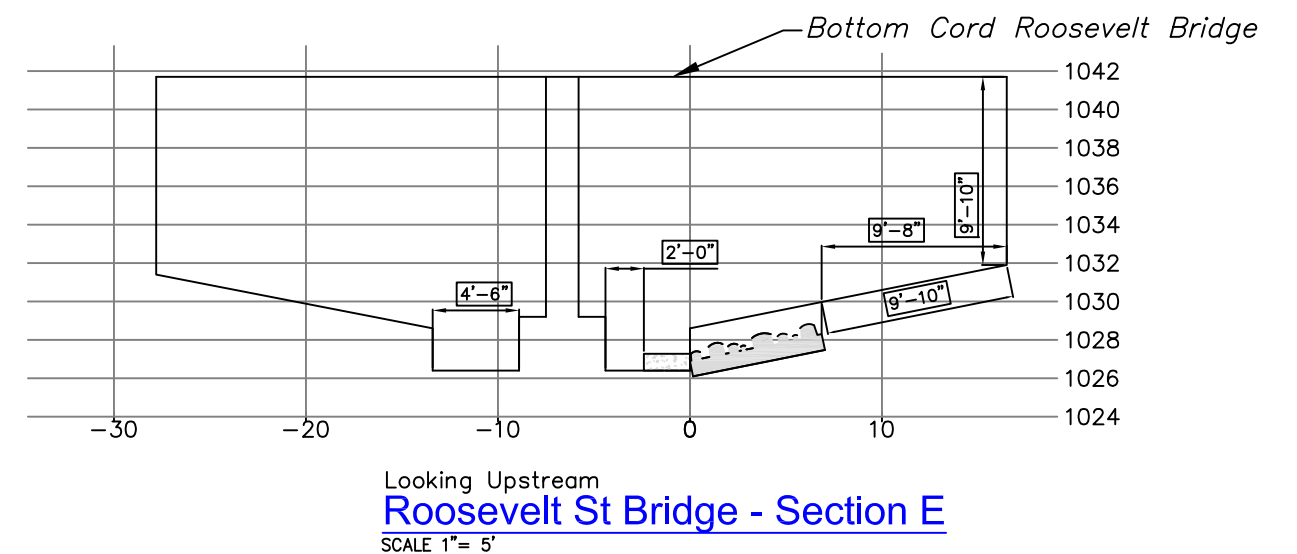
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Site Plan
STA 111+00 to 116+22



Roosevelt St Bridge
SCALE 1"=10'



Note:
1. All Final Dimensions and Locations to be Staked in Field by Engineer.
2. See Sheet 21 for Rebar Placement Detail



Mill Creek Fish Passage Division to Roosevelt Street



12/30/21



12/30/21

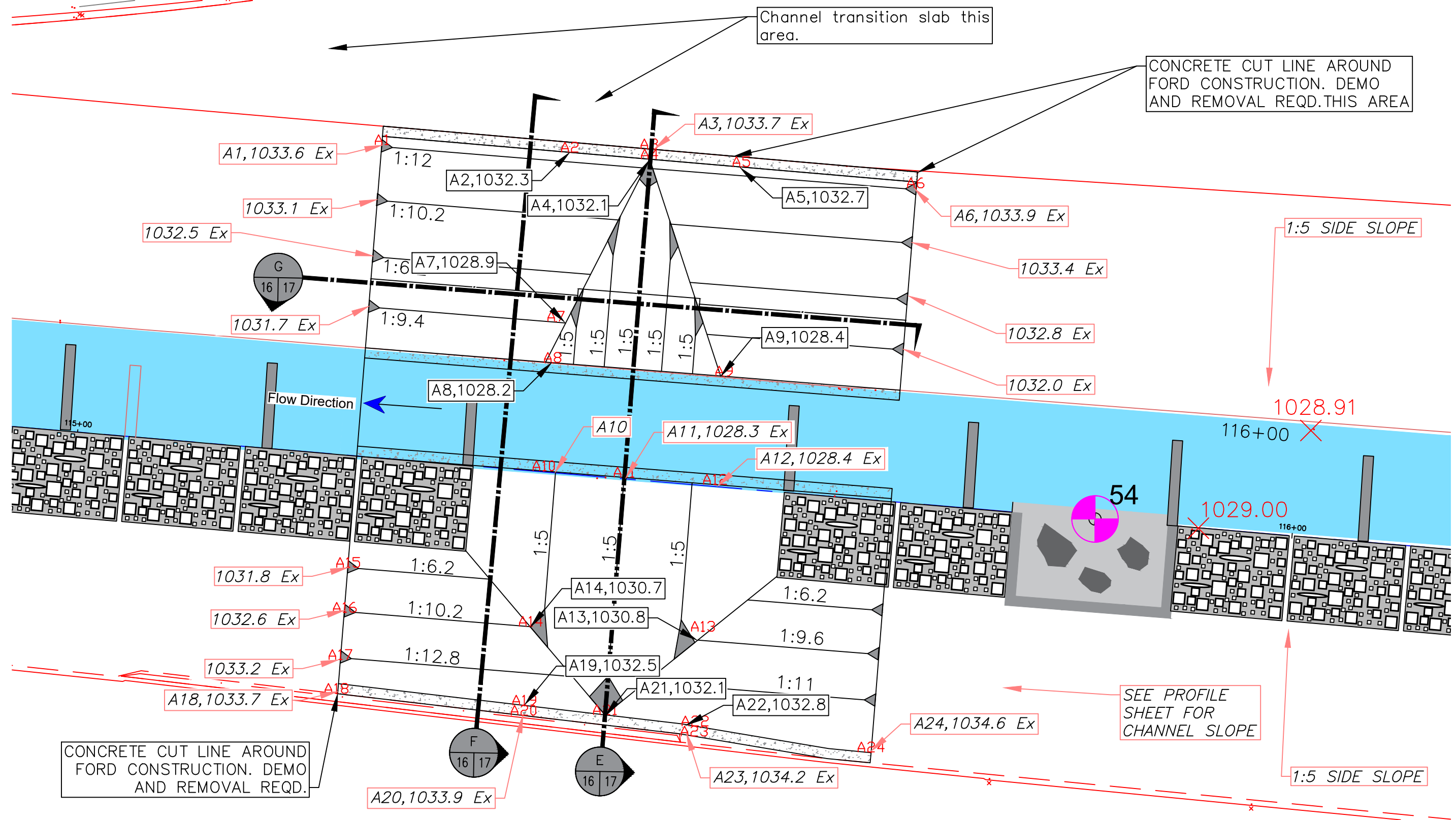
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Plan and Sections Roosevelt St Bridge

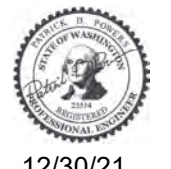
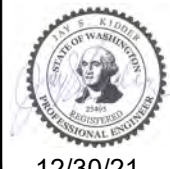
15 **24**
SHEET OF



Ford - Plan View
Scale 1" = 4'



Mill Creek Fish Passage Division to Roosevelt Street



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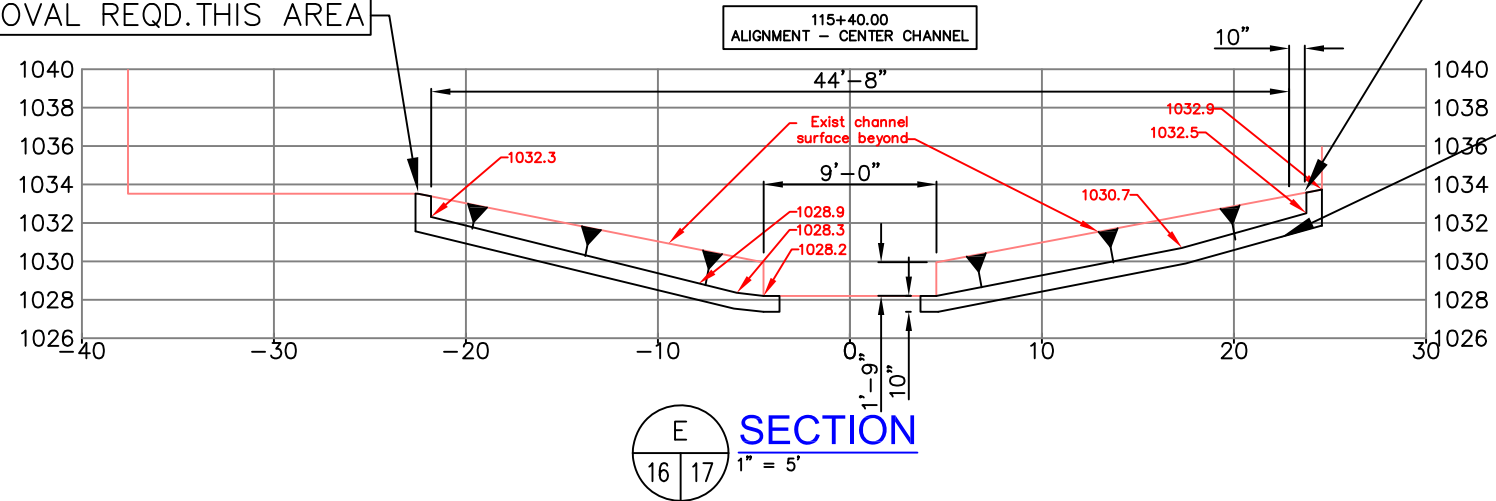
DATE:
1/12/2022

Ford Plan

CONCRETE CUT LINE AROUND FORD CONSTRUCTION. DEMO AND REMOVAL REQD. THIS AREA

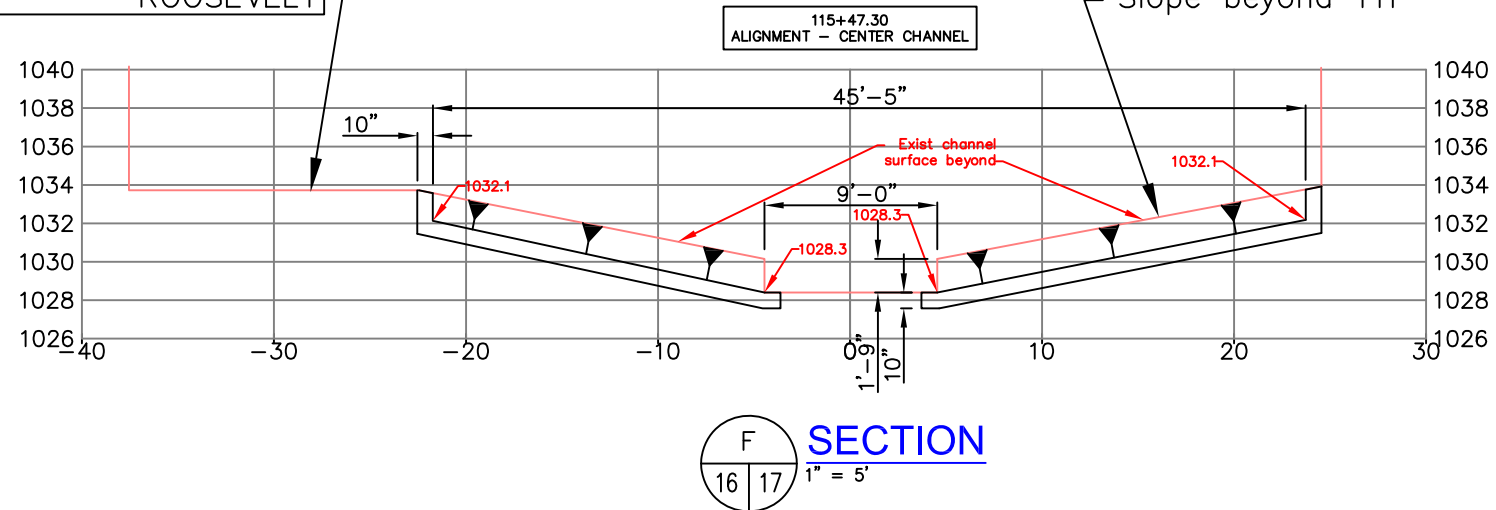
CONCRETE CUT LINE

REINFORCING NOT SHOWN FOR CLARITY

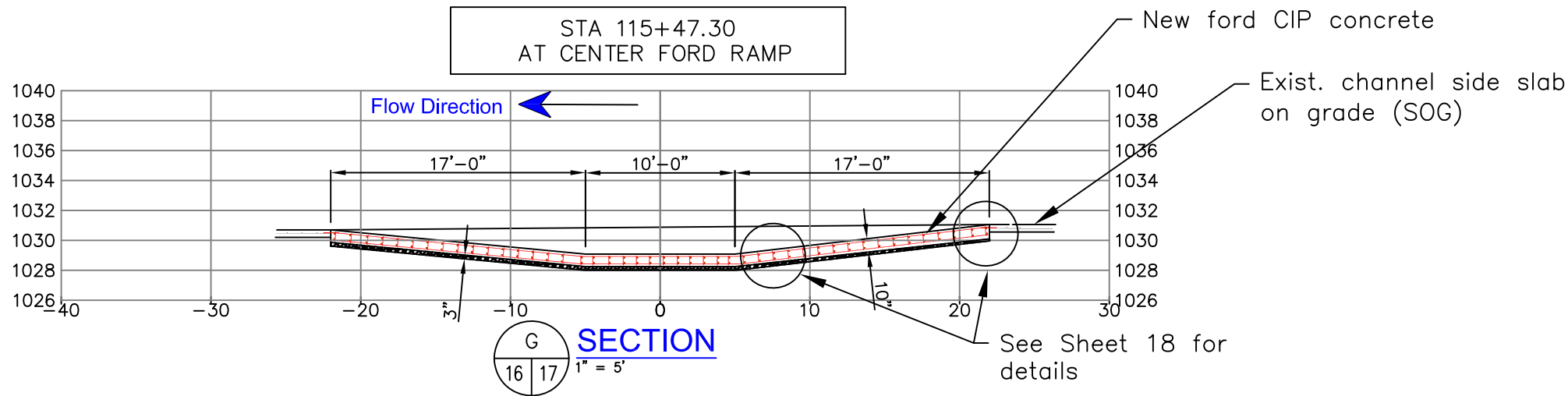


TRANSITION SECTION NEAR ROOSEVELT

Slope beyond TYP



Point Elevations on Surface of Ford, see ford plan sheet				
Pt#	North	East	Elevation	Description
A1	276019.01	2195734.71	1033.60	ford toc
A2	276018.40	2195750.14	1032.30	ford toc
A3	276018.67	2195756.66	1033.70	ford toc
A4	276017.84	2195756.68	1032.10	ford toc
A5	276017.22	2195764.21	1032.70	ford toc
A6	276015.47	2195778.52	1033.90	ford toc
A7	276004.52	2195749.01	1028.90	ford toc
A8	276001.14	2195748.73	1028.20	ford toc
A9	276000.03	2195762.79	1028.40	ford toc
A10	275992.25	2195748.00	1028.20	ford toc
A11	275991.73	2195754.59	1028.30	ford toc
A12	275991.14	2195762.06	1028.40	ford toc
A13	275979.08	2195761.06	1030.80	ford toc
A14	275979.49	2195746.94	1030.70	ford toc
A15	275984.32	2195731.96	1031.80	ford toc
A16	275980.64	2195731.68	1032.60	ford toc
A17	275976.76	2195731.33	1033.20	ford toc
A18	275973.99	2195731.00	1033.70	ford toc
A19	275973.02	2195746.41	1032.50	ford toc
A20	275972.19	2195746.34	1033.90	ford toc
A21	275972.24	2195753.02	1032.10	ford toc
A22	275971.31	2195760.42	1032.80	ford toc
A23	275970.48	2195760.35	1034.20	ford toc
A24	275969.18	2195774.86	1034.60	ford toc



Mill Creek Fish Passage Division to Roosevelt Street



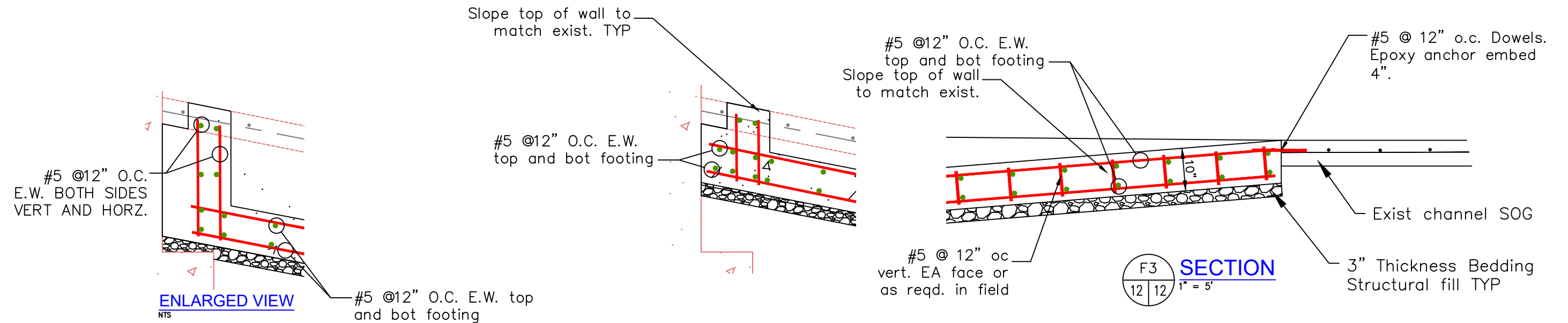
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SCALE VERIFICATION				
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CHINOOK ENGINEERING
DRAWN BY:

DATE:
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Sections and Details Ford

17 24
SHEET OF



Note:

1. All gravel backfill and new construction backfill shall be compacted as structural fill as per WSDOT 2-03.3(14)C Method C.
2. All embankment compactions are called out as structural fill.
3. See specifications for details of material and WSDOT M41-10
4. Concrete Cover as Follows: Ground Contact 3" Walls and Curbs 2"



Mill Creek Fish Passage Division to Roosevelt Street



12/30/21



12/30/21

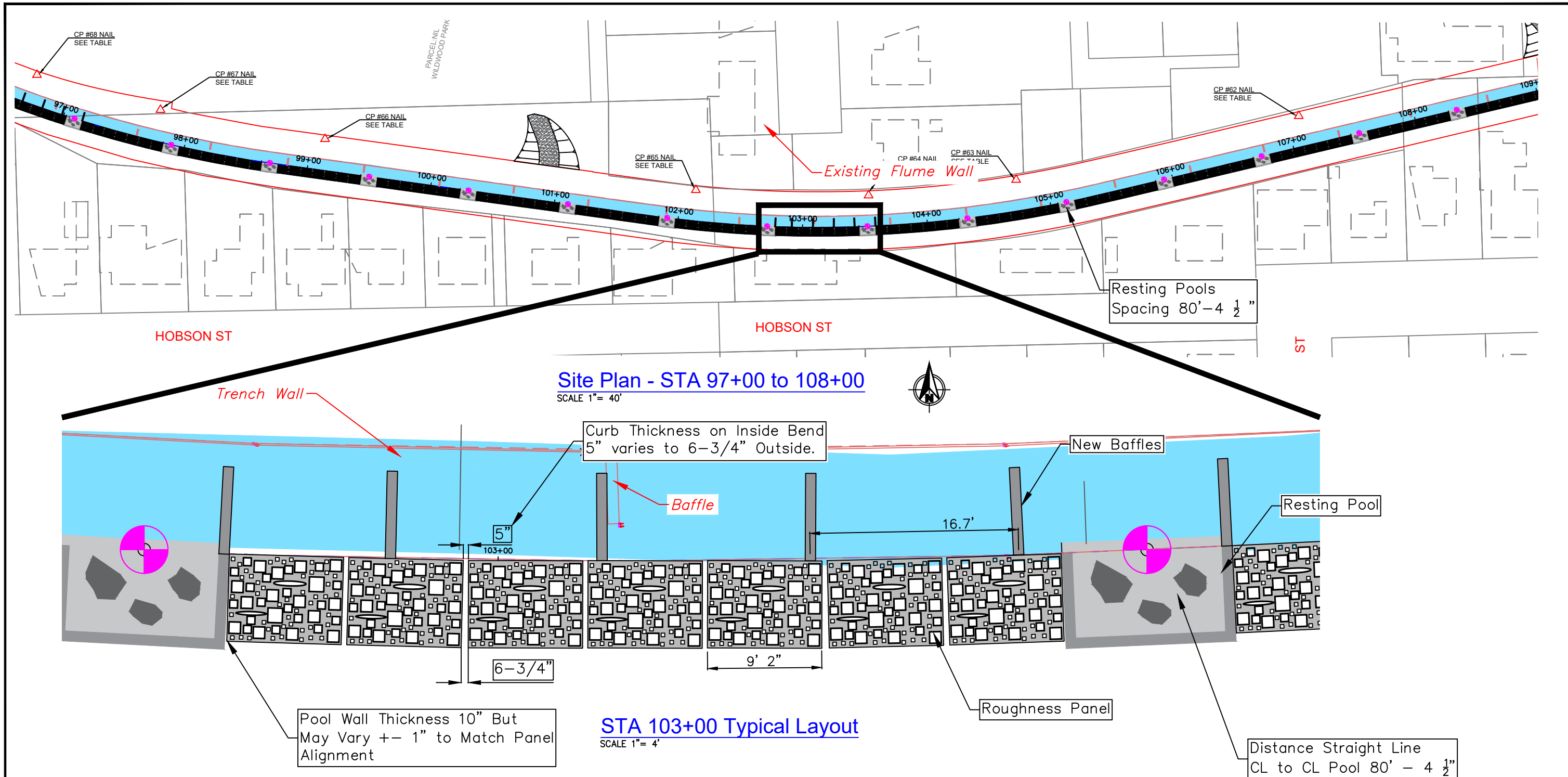
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Ford Details

18 24
SHEET OF



Construction Layout Note:

1. Locate Resting Pools Based on Point Coordinates (Staked by Engineer)
2. Layout Roughness Panel to Provide 10" Curb at Pool/Roughness Panel Transition, 9' From Trench Wall.
3. Adjust 5" Panel to Panel Curb Thickness Along Left Trench as Needed.



Mill Creek Fish Passage Division to Roosevelt Street



12/30/2021



12/30/2021

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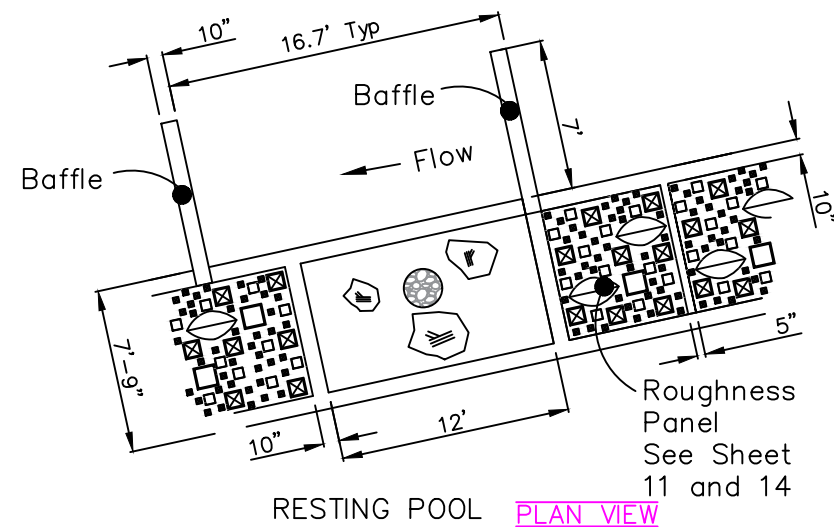
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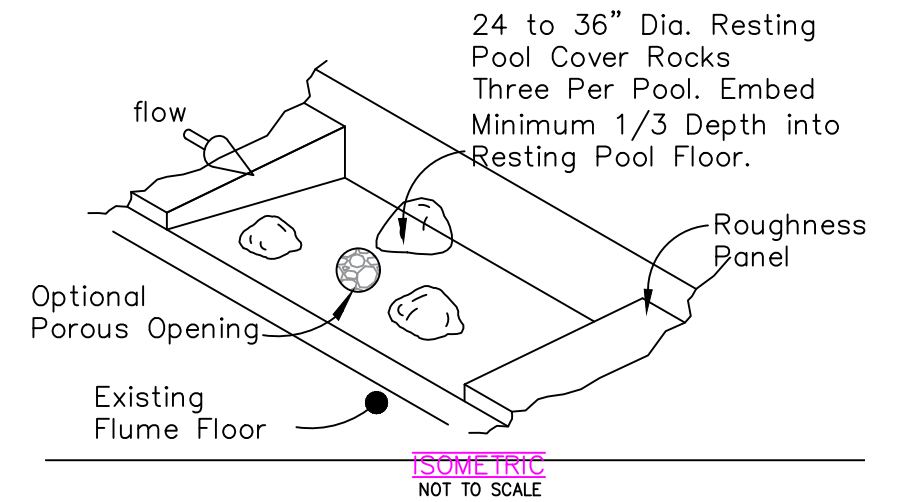
DATE:
1/12/2022

STA 97+00 to 108+00
Enlarged View

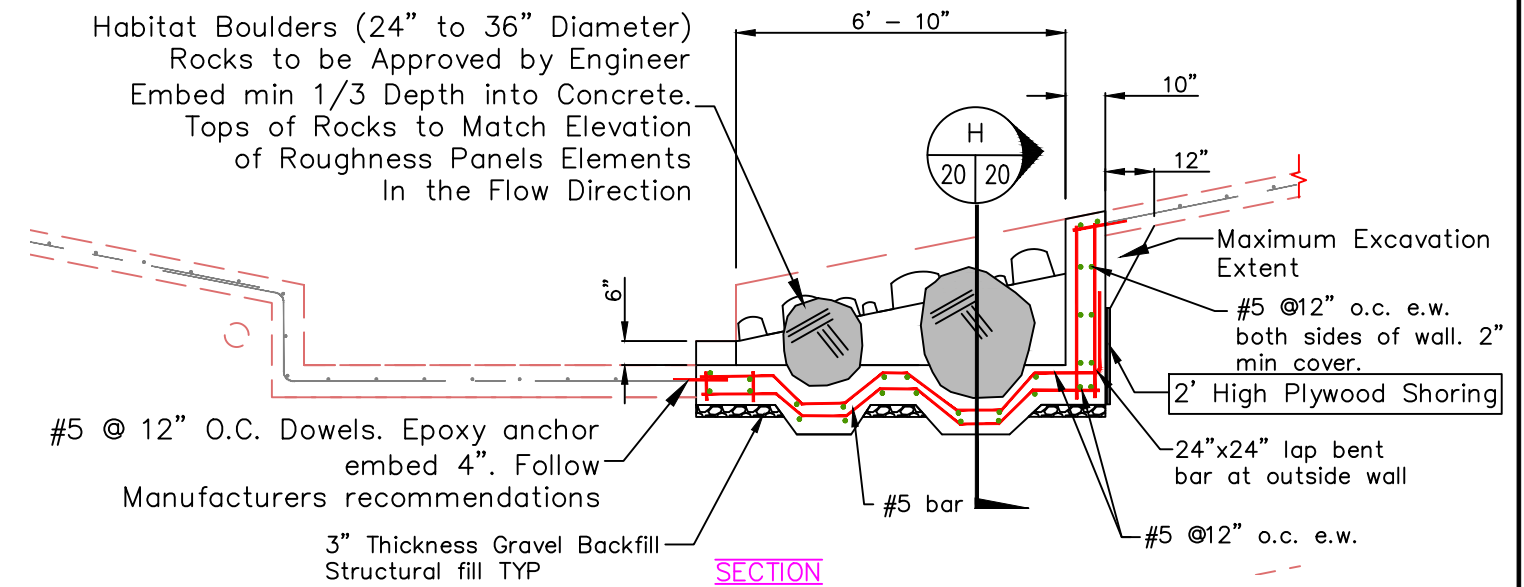
19 **24**
SHEET OF



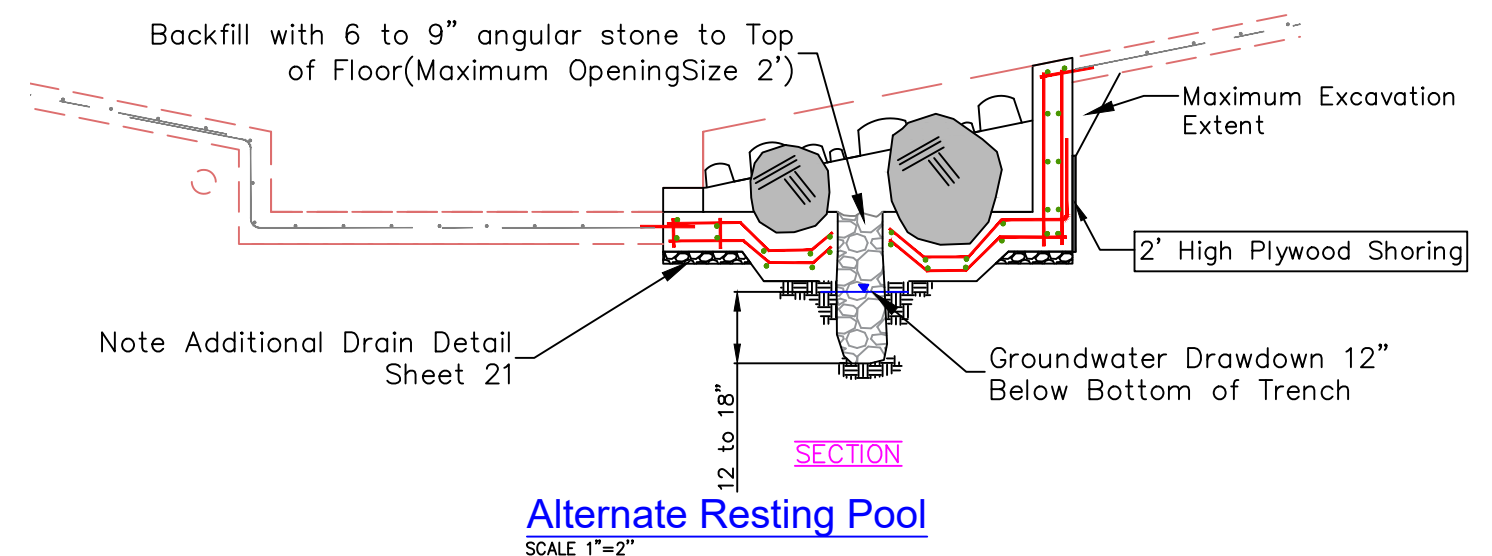
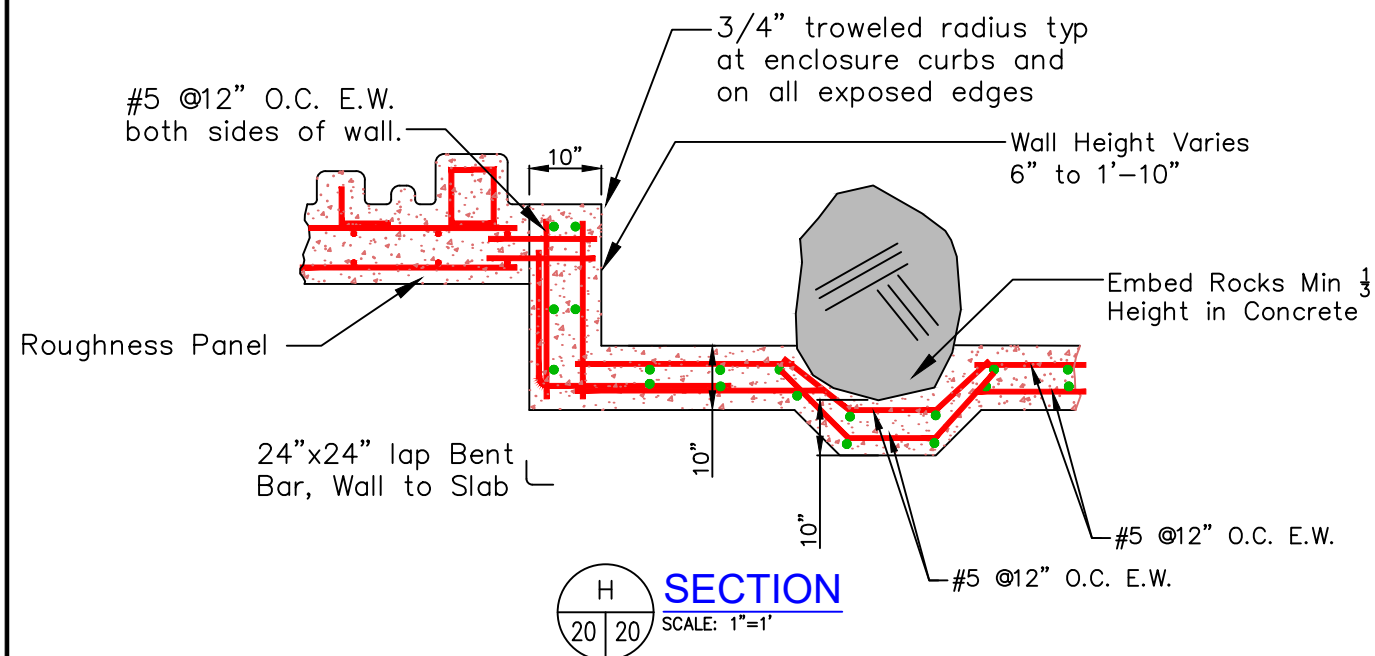
Top of Resting Pool Rocks to Match Average Height of Roughness Elements on Panels. Actual Rock Shape and Placement Shall be Approved by Engineer Prior to Delivery and Placement.



- Note:
1. All saw cut concrete with exposed rebar shall be chipped back to expose 3" length of steel.
 2. Steel rebar shall be cut off and the concrete cone shaped hole patched with Hilti Hit HY200A or Simpson SET 3G or Equal at any location. Minimize hole diameter to cut steel rebar.
 3. Final epoxy cover over steel shall be 1 1/2" minimum
 4. All saw cut concrete edges to new concrete placement contacts shall be provided with concrete bonding agent prior to placement of new concrete



Typical Resting Pool
SCALE 1"=2"



Alternate Resting Pool
SCALE 1"=2"



Mill Creek Fish Passage Division to Roosevelt Street



12/31/21



12/31/21

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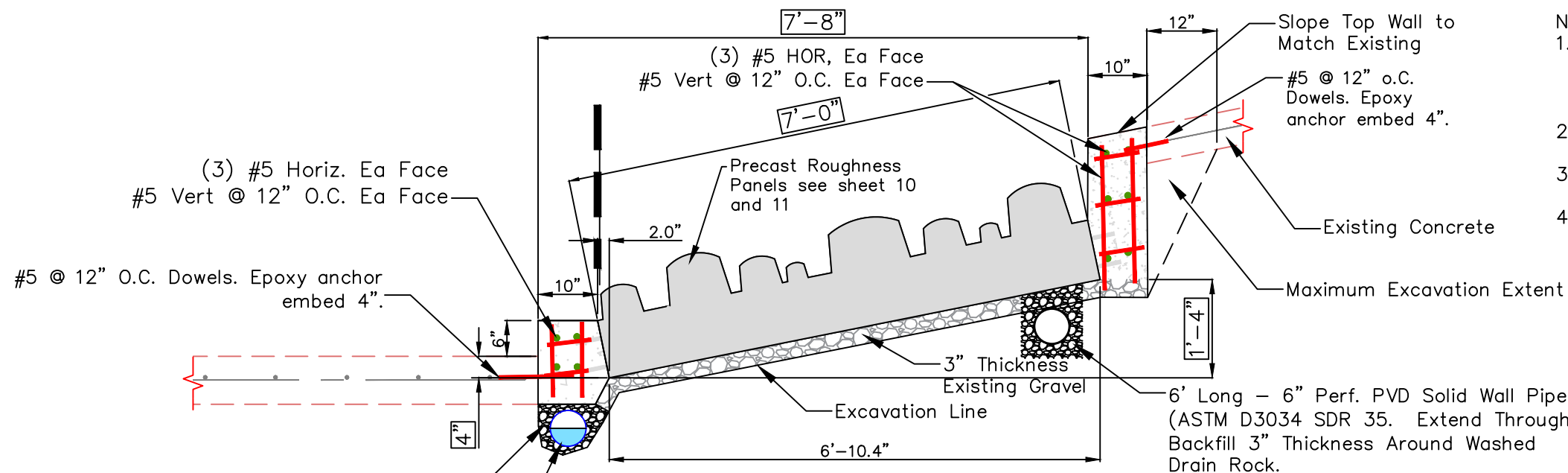
0 1"

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Resting Pool Details

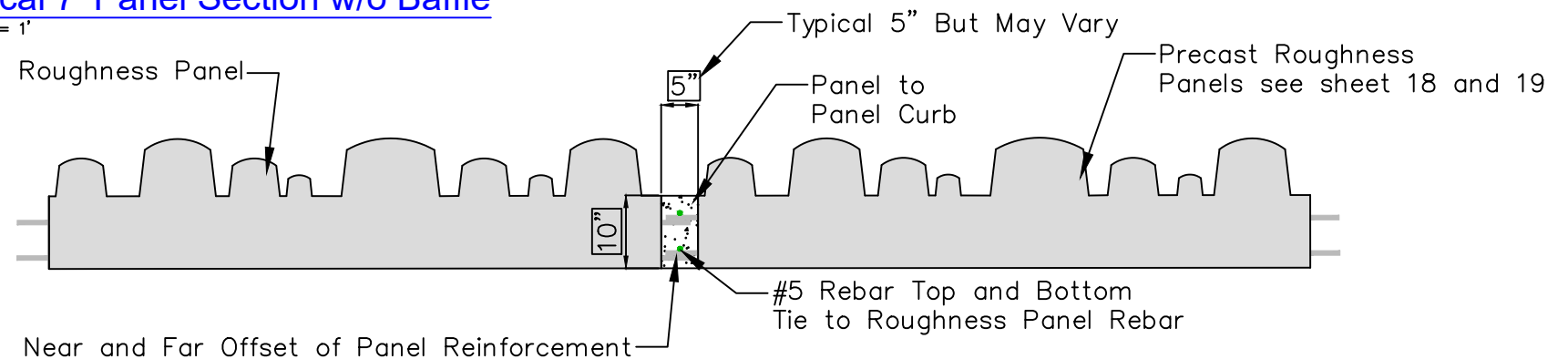
20 **24**
SHEET OF



Typical 7' Panel Section w/o Baffle

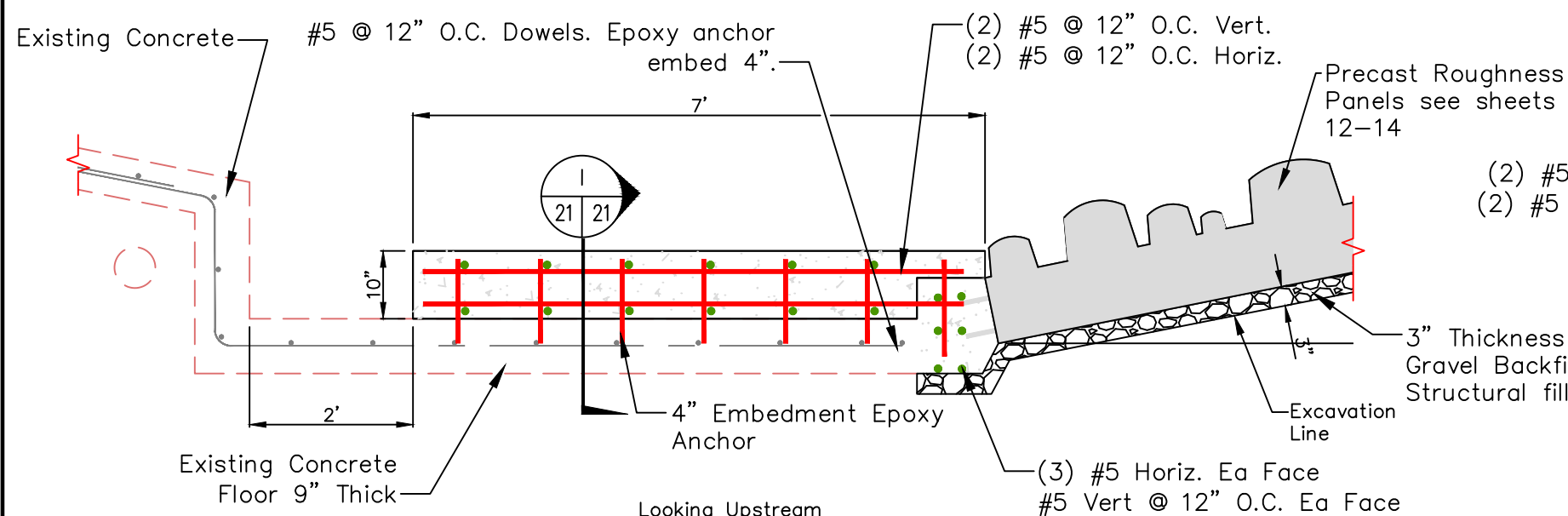
SCALE 1"= 1'

Optional: 6" Perforated PVC Solid Wall Pipe ASTM D3034 SDR 35 to Collect Seepage Water. Extend Through Resting Pool Areas as Needed. Backfill with Concrete After Use.



Panel to Panel Section

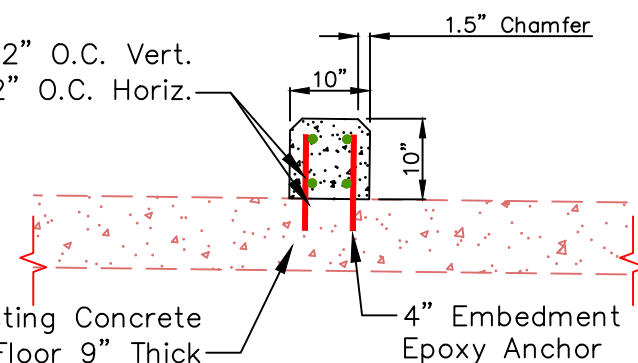
SCALE: 1"=1'



Typical Section with Baffle

SCALE 1"= 1'

(2) #5 @ 12" O.C. Vert.
(2) #5 @ 12" O.C. Horiz.



Baffle Section

SCALE: 1"=1'

Baffle Spacing:
16.7 feet Typ

Note:

1. All gravel backfill and new construction backfill shall be compacted as structural fill as per WSDOT 2-03.3(14)C Method C.
2. All embankment compactions are called out as structural fill.
3. See specifications for details of material and WSDOT M41-10
4. Concrete Cover as Follows:
Ground Contact 3"
Walls and Curbs 2"



Mill Creek Fish Passage Division to Roosevelt Street

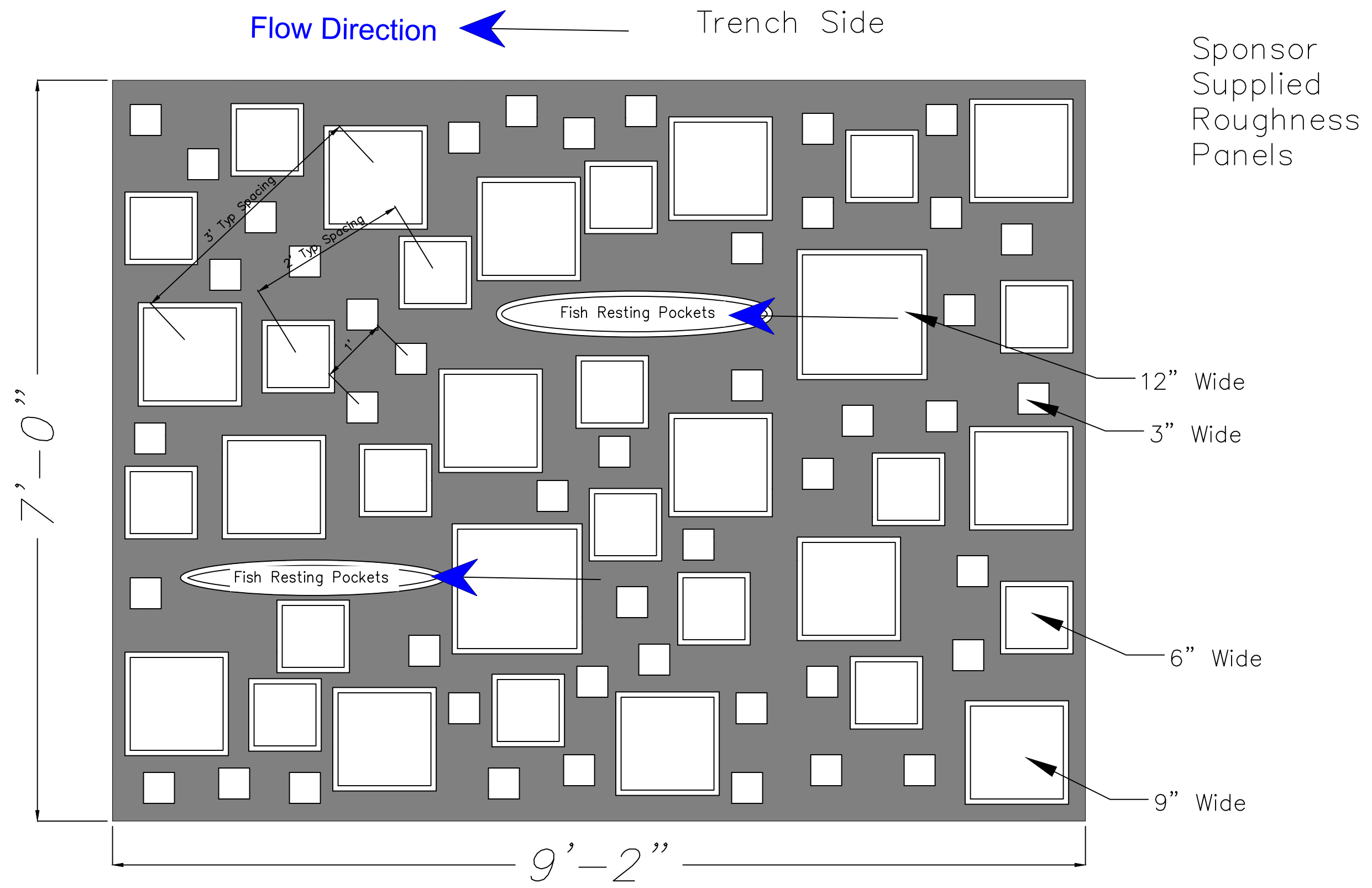


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Roughness Panel Connection Baffle Details

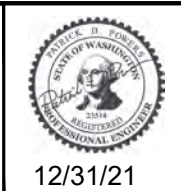
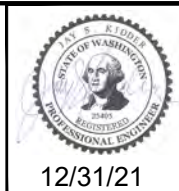
21 OF 24
SHEET



Roughness Panel Layout - Panel Weight 9500 lbs.
Not to Scale



Mill Creek Fish Passage
Division to Roosevelt Street



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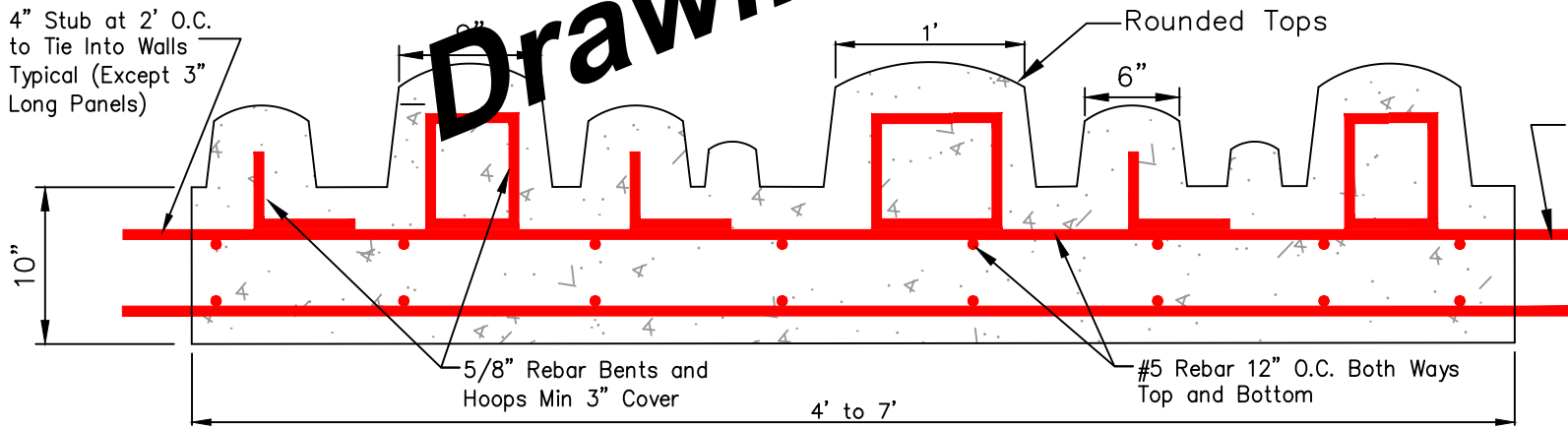
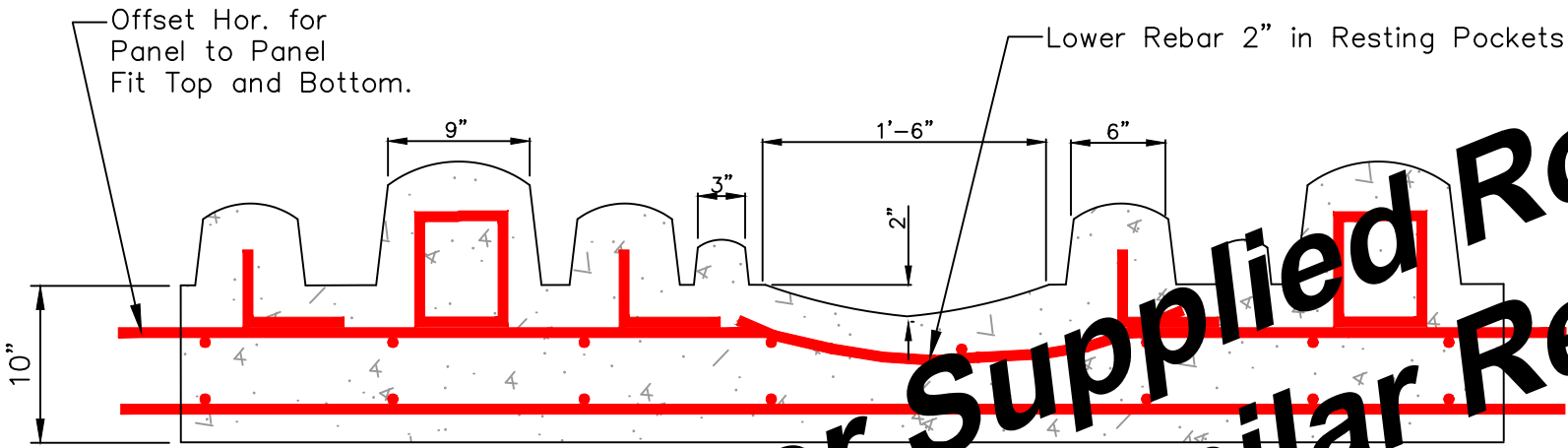
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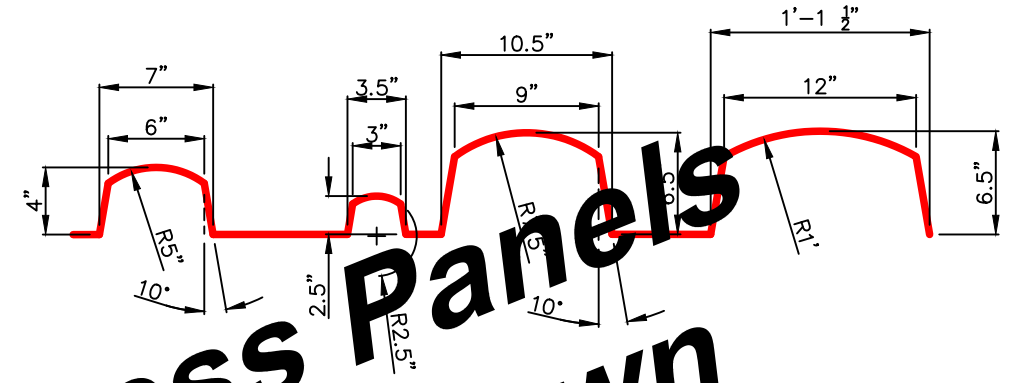
Roughness Panel Details

Construction Notes:

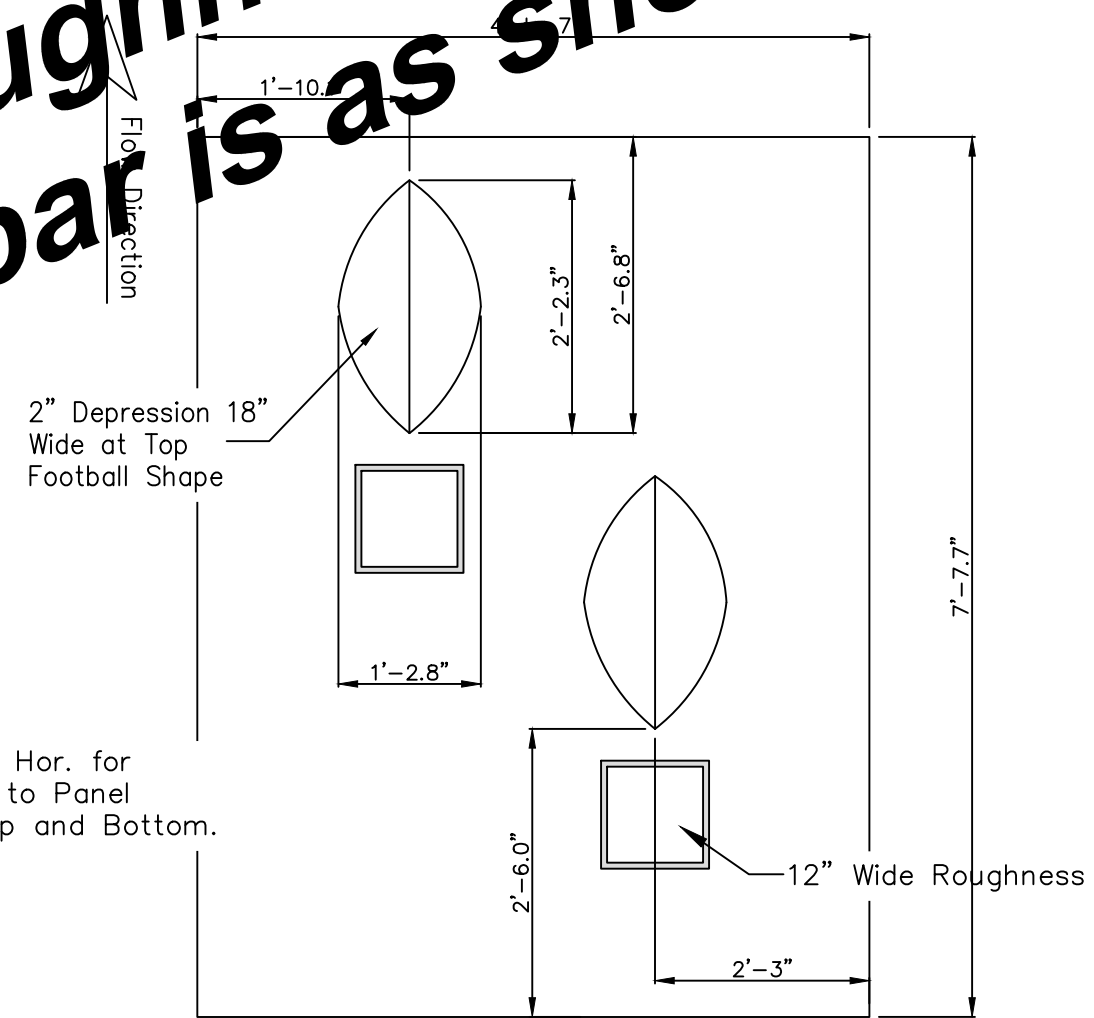
- 1. Layout of roughness elements shall be similar to plan view sketch. Start with location of 12" largest elements and depressions and then proceed with 9", 6" etc on down at spacing shown. Final layout to be approved by Engineer.
- 2. The Roughness panels shall be precast concrete panels.
- 3. Concrete Panels may be Removed From Forms After concrete strength has reach 4500 psi or greater.
- 4. Precast panels shall be drawn, and described in formal shop drawings approved in writing by the engineer prior to casting.
- 5. All precast panel shop drawings shall clearly show the weight and dimensions of each panel. lifting systems shall also be called out and specified by the precast plant.
- 6. Panel maximum length shall not exceed 10' and shorter panels are acceptable. Shop drawings shall identify a configuration in plan view and for each panel length.



Typical Section
Not To Scale



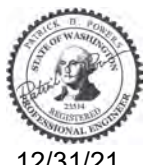
Roughness Detail
Not To Scale



Roughness Panel Plan - Layout For 12" Roughness
Not to Scale



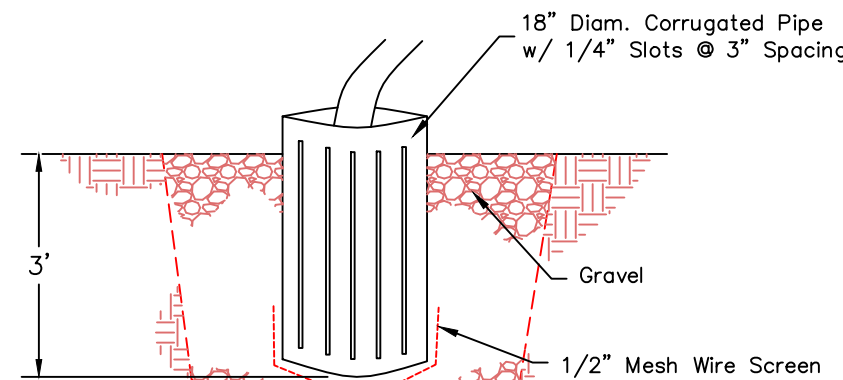
Mill Creek Fish Passage
Division to Roosevelt Street



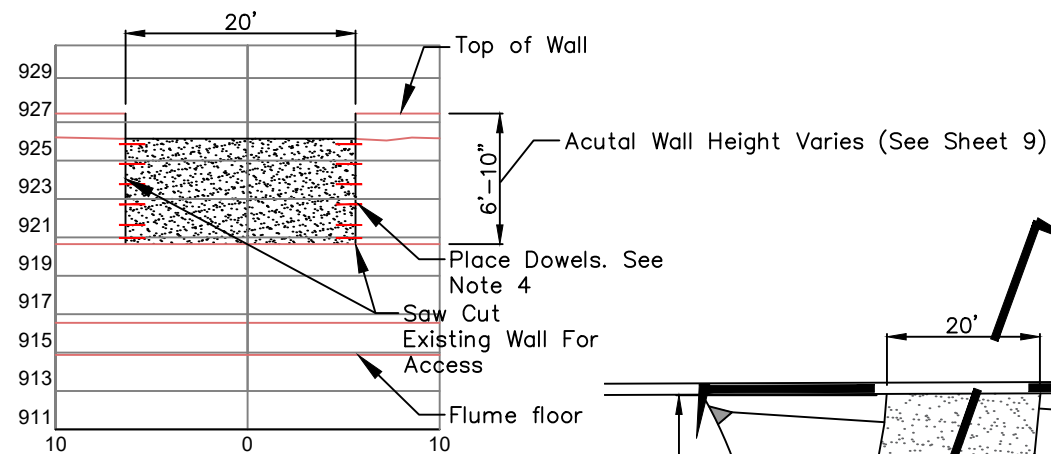
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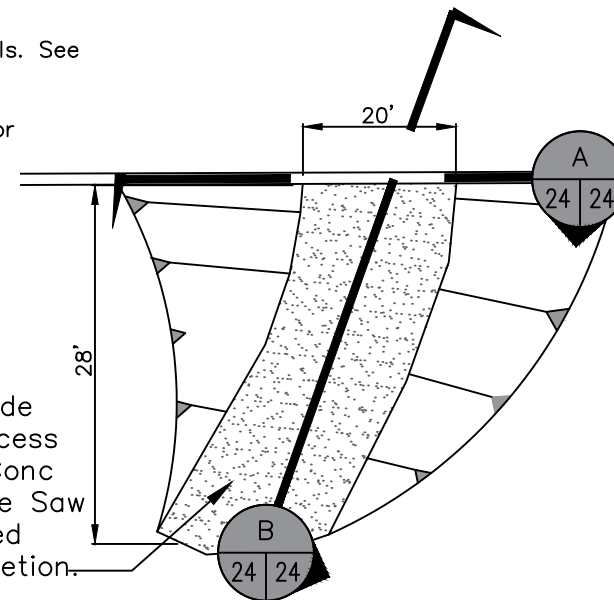
Roughness Panel Details



Sump Pump Detail
NOT TO SCALE

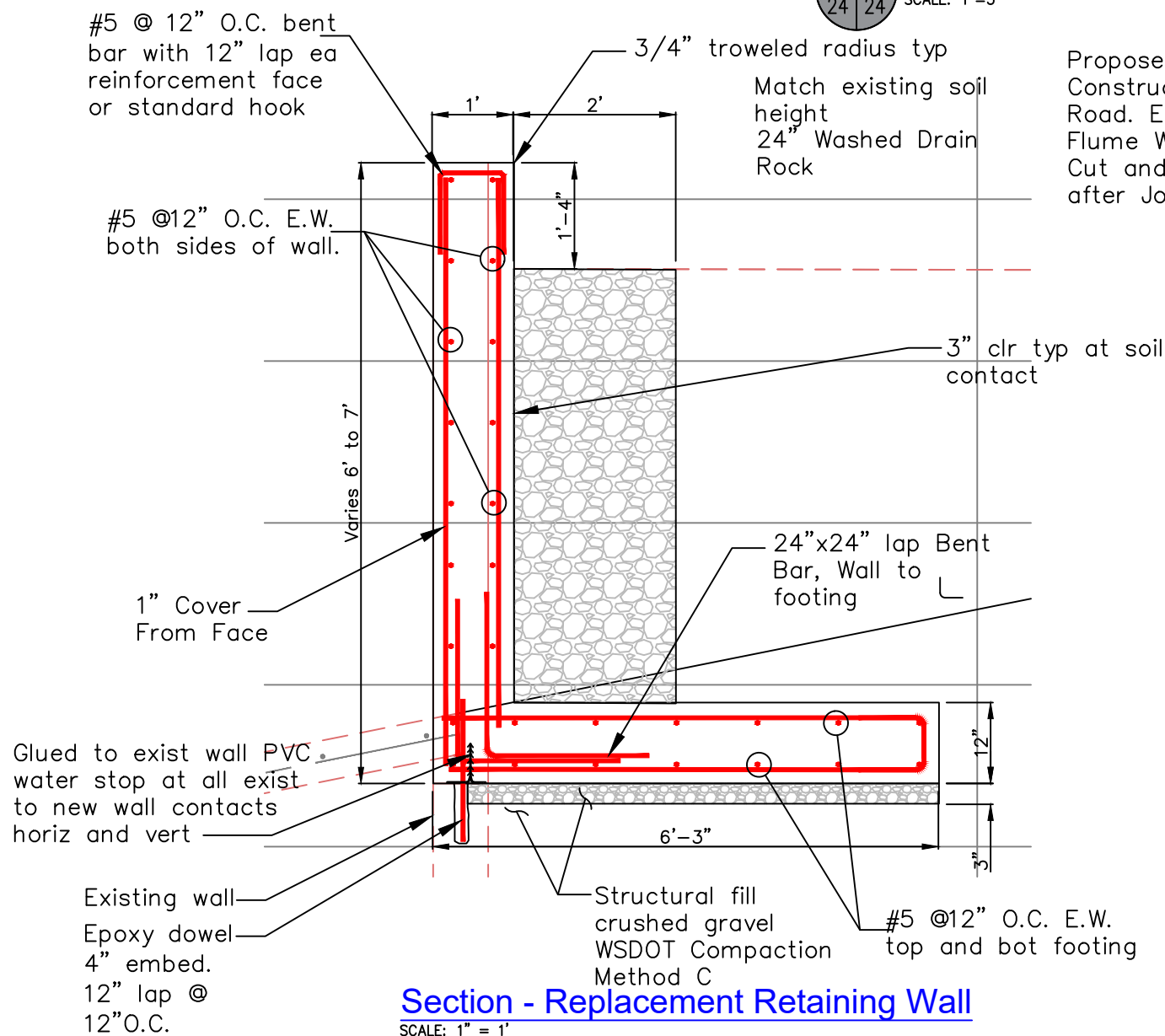


Access Section
SCALE: 1"=5'



Plan View Access
SCALE: 1"=5'

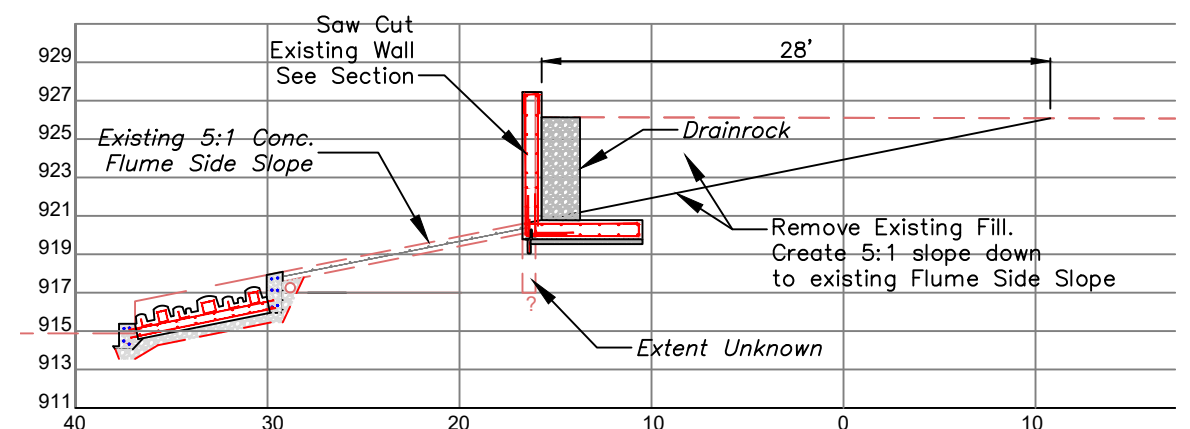
Typical - Actual layout and location will vary.



Section - Replacement Retaining Wall
SCALE: 1" = 1'

Concrete Wall and Dowels Replacement Notes:

1. Sawcut Existing Concrete wall. Remove fill from behind for access. When replacing if concrete is competent as determined by engineer, rotary drill and epoxy 4" min embedment #5 rebar to tie into new wall at new rebar locations.
2. No drilling shall be allowed until approved by the engineer.
3. All saw cut concrete edges to new concrete placement contacts shall be coated with concrete bonding agent prior to placement of new concrete.
4. All dowels shall be epoxy anchored rebar with a minimum embedment of 4" into existing concrete wall.
5. All rebar shall be #5 bars.
6. Epoxy Shall be Hilti HIT HY 200 or Simpson SET 3G NO EQUAL.
7. Final design of replacement retaining wall will be determined upon inspection of existing wall steel and concrete condition but should follow this detail unless field inspection determines different arrangement.
8. Provide 2' thick layer of free draining 3/4" drain rock on backfilled side full height of retaining wall.
9. All vertical edges shall receive 3/4" chamfer strip and top edges may be hand troweled 3/4" radius.
10. Provide PVC or Expansive Hydrophilic water stop at all exist to new wall contacts.



Construction Access Section
SCALE: 1"=5'



**Mill Creek Fish Passage
Division to Roosevelt Street**



12/31/21

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0 1"

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Details

24 24
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