

Construction Documents

# Mill Creek Fish Passage 6th Street to 3rd Avenue Extension

PROJECT NUMBER 18-2090

STA 19+50 to 31+06 (1,156 Feet)

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## OVERALL MAP

1" = 60'



←  
Mill Creek Flood  
Control Channel



Mill Creek Fish Passage  
6th Street to 3rd Avenue



REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

0 1"

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CHINOOK ENGINEERING

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Chinook Engineering

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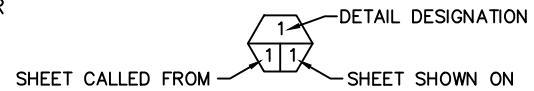
Cover Sheet

1 SHEET OF 17

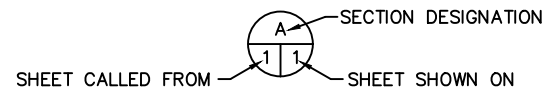
# ABBREVIATIONS

- |         |   |                           |         |   |   |
|---------|---|---------------------------|---------|---|---|
| "       | - | INCHES                    | MISC.   | - | MISCELLANEOUS                                 |
| '       | - | FEET                      | MPH     | - | MILES PER HOUR                                |
| APPROX. | - | APPROXIMATELY             | NIC     | - | Not in Contract                               |
| B&B     | - | BALLED AND BURLAPPED      | O.C.    | - | ON CENTER                                     |
| BM      | - | BENCH MARK                | O.D.    | - | OUTSIDE DIAMETER                              |
| CL      | - | CENTERLINE                | OHW     | - | ORDINARY HIGH WATER                           |
| CAL.    | - | CALIPER                   | PK      | - | PARKER-KALON                                  |
| CFS     | - | CUBIC FEET PER SECOND     | R.O.W.  | - | RIGHT OF WAY                                  |
| CLR.    | - | CLEARANCE                 | REQ'D   | - | REQUIRED                                      |
| CMP     | - | CORRUGATED METAL PIPE     | SEC.    | - | SECTION                                       |
| CONC.   | - | CONCRETE                  | S.F.    | - | SQUARE FEET                                   |
| DIA.    | - | DIAMETER                  | SHT.    | - | SHEET   |
| ELEV.   | - | ELEVATION                 | SPEC'S. | - | PROJECT SPECIFICATIONS                        |
| EOR     | - | Engineer of Record        | STA.    | - | STATION                                       |
| EQ.     | - | EQUAL                     | SS      | - | STAINLESS STEEL                               |
| FTG.    | - | FOOTING                   | TEMP.   | - | TEMPORARY                                     |
| HDPE    | - | HIGH DENSITY POLYETHYLENE | TYP.    | - | TYPICAL                                       |
| HT.     | - | HEIGHT                    | W.S.    | - | WATER SURFACE                                 |
| GAL.    | - | GALLON                    | WSDOT   | - | WASHINGTON STATE DEPARTMENT OF TRANSPORTATION |
| I.D.    | - | INSIDE DIAMETER           | WSEL    | - | WATER SURFACE ELEVATION                       |
| 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             |         |   |   |

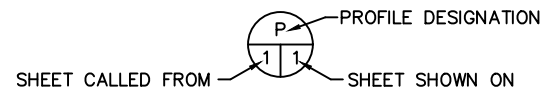
# SHEET SYMBOLS



DETAIL CALLOUT



SECTION CALLOUT



PROFILE CALLOUT

References to Right and Left as viewed downstream

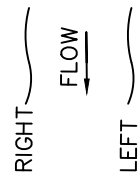
### Survey Notes:

**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."



# LEGEND

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

Contol Point (CP) Table				
Point	Northing	Easting	Elevation	Description
7	274670.580	2187205.170	939.44	CP/XC AKA PT51
8	274673.350	2187286.320	928.67	CP/XC AKA PT52
9	274684.730	2187360.990	929.00	CP/XC AKA PT53
10	274681.829	2187361.521	929.38	CP/MAG
11GPS	274673.112	2187286.606	928.66	CP/MAG
12GPS	274876.170	2187691.225	932.10	CP/MAG
13A	275081.597	2187959.417	937.18	CP/MAG-N-TAG
13GPS	275081.593	2187959.407	937.18	CP/MAG-N-TAG
14	274779.153	2187563.314	942.12	CP/MAG
15GPS	275026.618	2188151.241	953.09	CP/SE-BOLT-S.END-RAIL
18	275046.577	2188125.522	938.59	CP/MAG



# Mill Creek Fish Passage 6th Street to 3rd Avenue

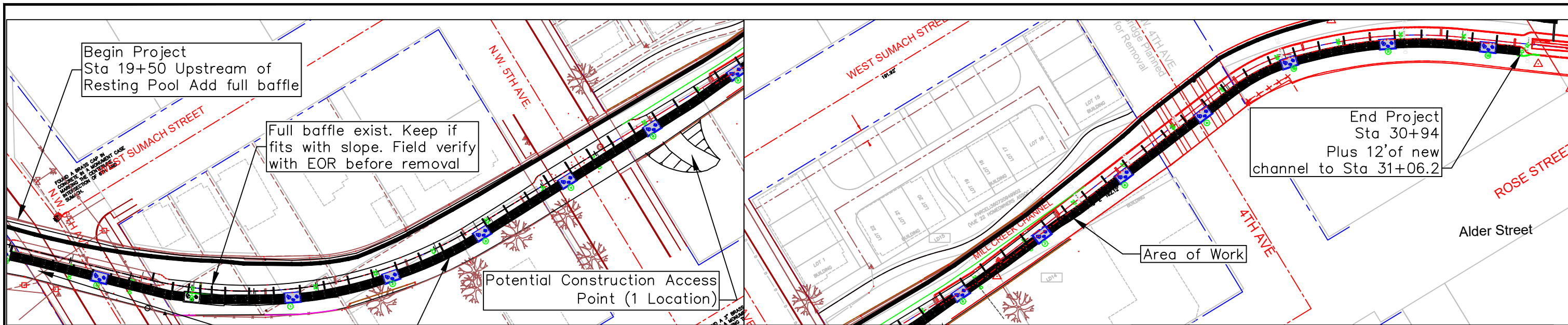


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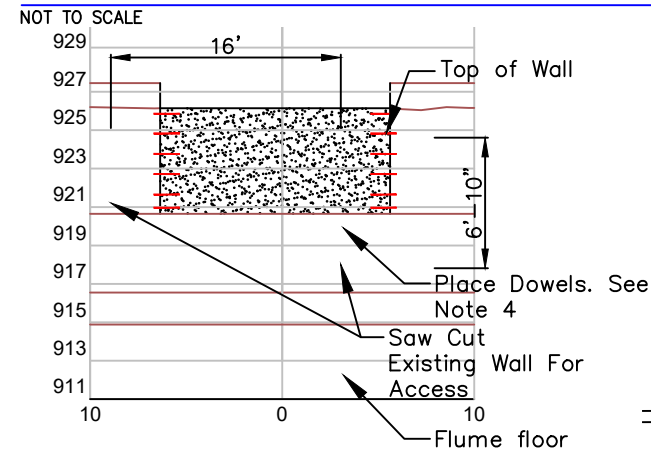
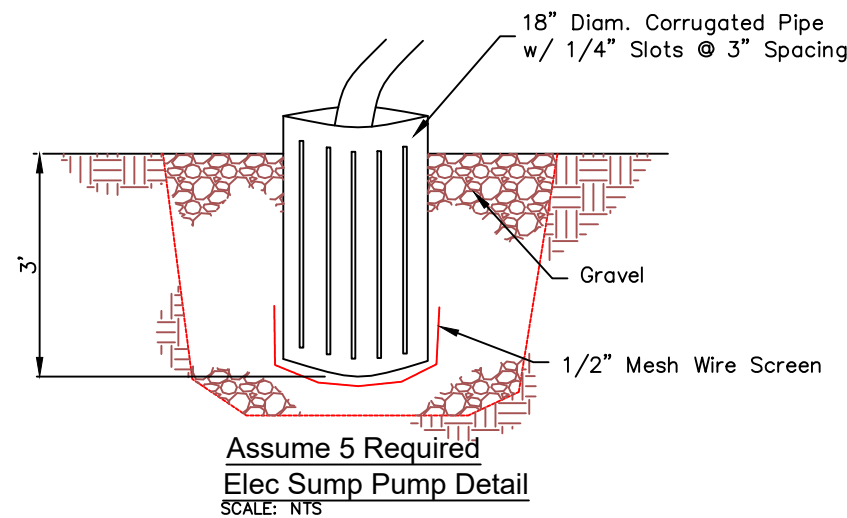
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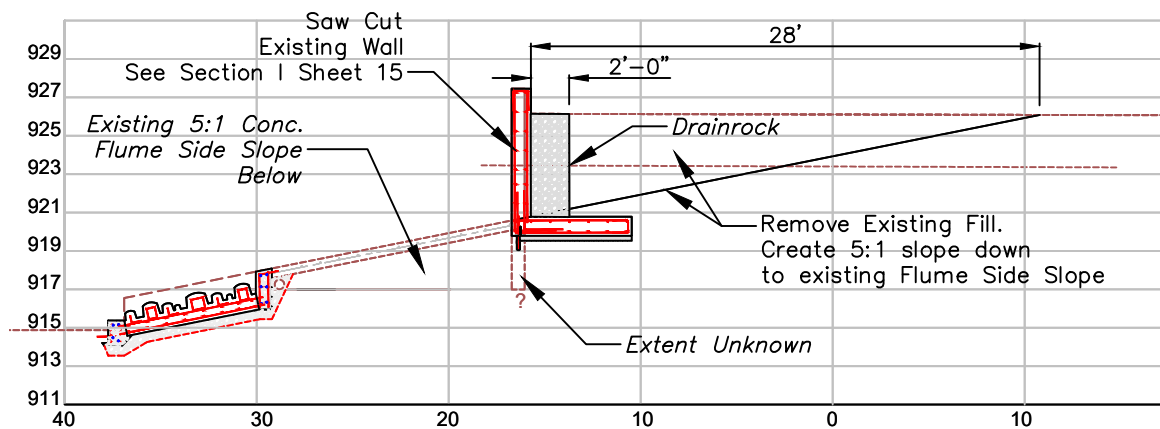
# Legend and Notes



**SITE PLAN - OVERALL STA 21+15 to 30+94**

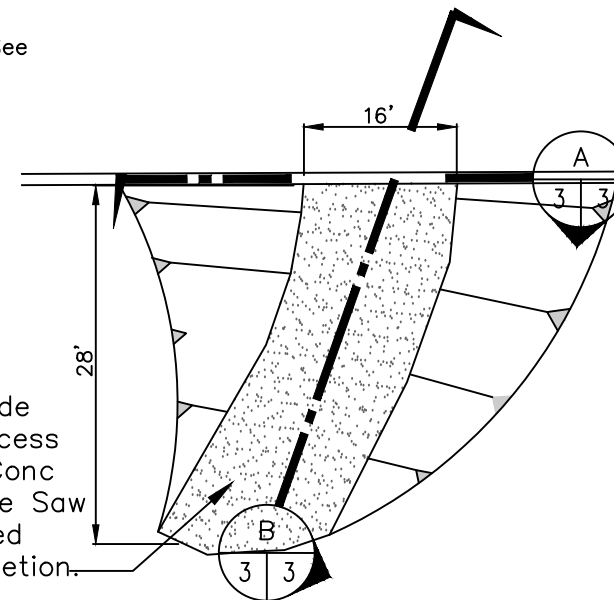


**Wall Elev Detail**  
SCALE: 1" = 5'



**Wall Detail - See Sheet 15**  
SCALE: 1" = 5'

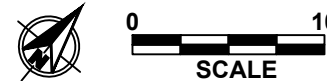
Proposed 16' Wide Construction Access Road. Existing Conc Flume Wall to be Saw Cut and Replaced after Job Completion.



Typical - Actual layout and location will vary.

**CONSTRUCTION ACCESS PLAN**

SCALE: 1" = 20'



**Concrete Wall 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 XP or 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 water stop at all exist to new wall contacts



**Mill Creek Fish Passage  
6th Street to 3rd Avenue**

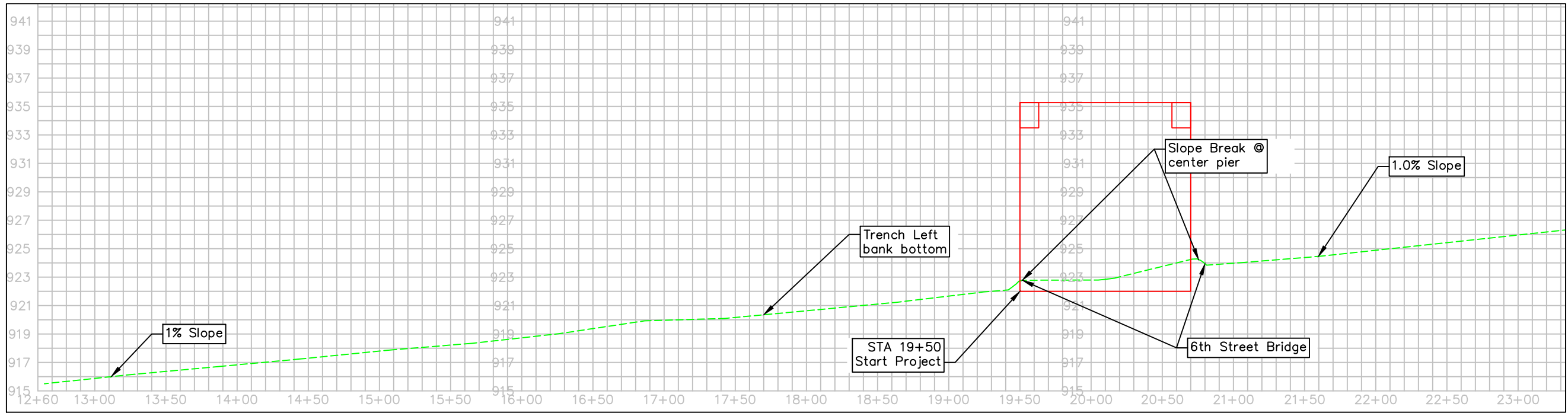


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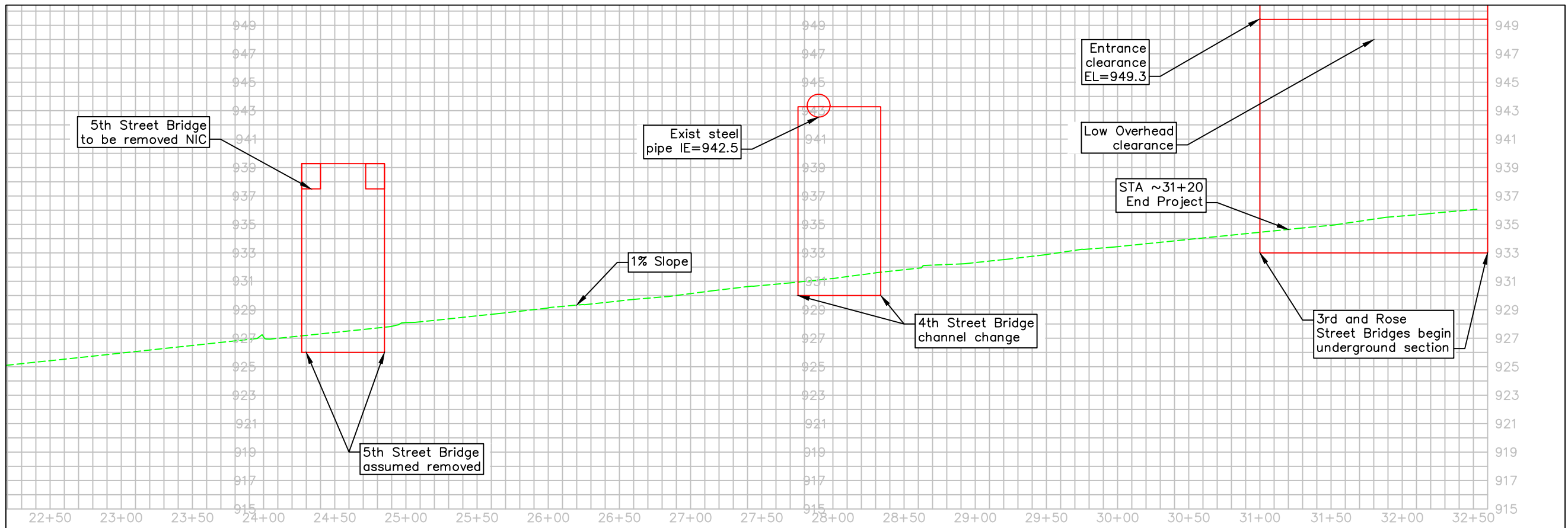
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**Site Plan - Construction Access**



**Profile - Trench Left Bank Bottom**

Scale Horizontal 1" = 40', Vertical 1" = 4'



**Profile - Trench Left Bank Bottom**

Scale Horizontal 1" = 40', Vertical 1" = 4'



**Mill Creek Fish Passage  
6th Street to 3rd Avenue**



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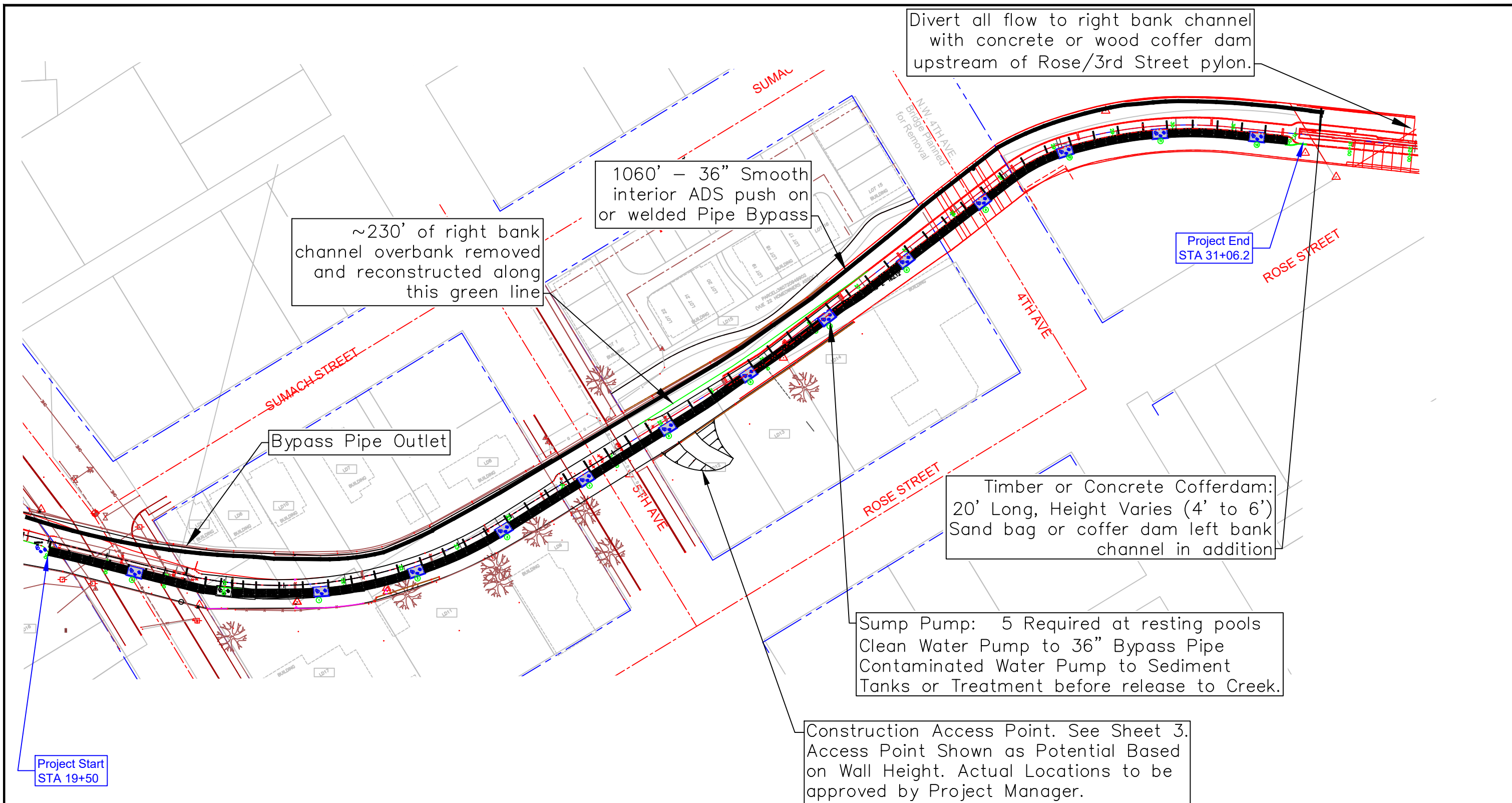
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**Overall Profile**



Divert all flow to right bank channel with concrete or wood coffer dam upstream of Rose/3rd Street pylon.

1060' - 36" Smooth interior ADS push on or welded Pipe Bypass

~230' of right bank channel overbank removed and reconstructed along this green line

Bypass Pipe Outlet

Timber or Concrete Cofferdam: 20' Long, Height Varies (4' to 6') Sand bag or coffer dam left bank channel in addition

Sump Pump: 5 Required at resting pools Clean Water Pump to 36" Bypass Pipe Contaminated Water Pump to Sediment Tanks or Treatment before release to Creek.

Construction Access Point. See Sheet 3. Access Point Shown as Potential Based on Wall Height. Actual Locations to be approved by Project Manager.

Project Start STA 19+50

Project End STA 31+06.2

**SITE PLAN STA 20+50 to 32+00**  
SCALE 1" = 40'



**Mill Creek Fish Passage  
6th Street to 3rd Avenue**

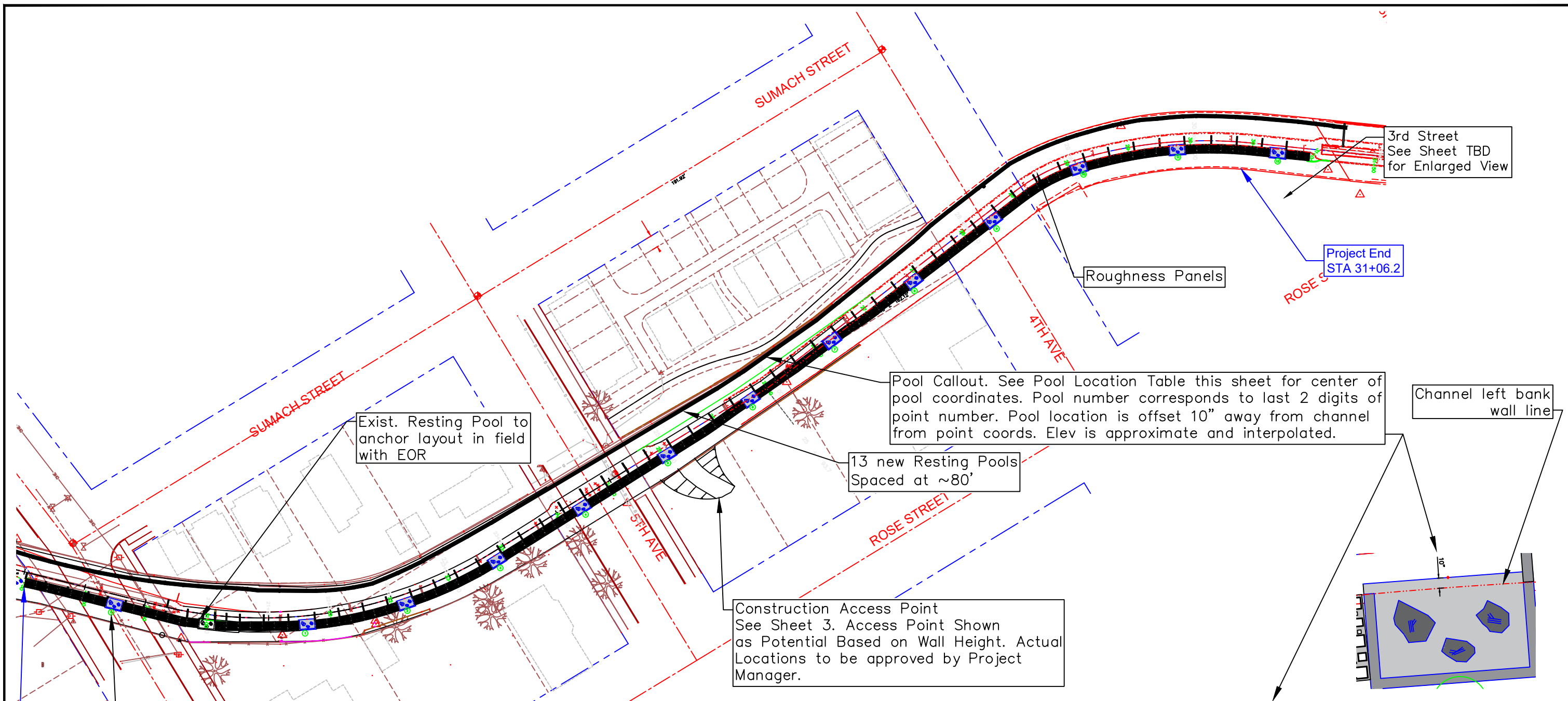


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**Dewatering Plan  
21+50 to 32+00**



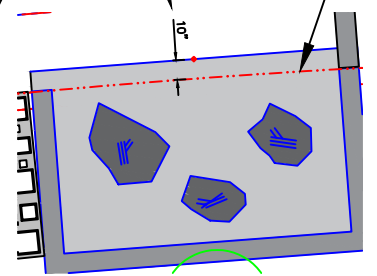
Exist. Resting Pool to anchor layout in field with EOR

Pool Callout. See Pool Location Table this sheet for center of pool coordinates. Pool number corresponds to last 2 digits of point number. Pool location is offset 10" away from channel from point coords. Elev is approximate and interpolated.

13 new Resting Pools Spaced at ~80'

Construction Access Point See Sheet 3. Access Point Shown as Potential Based on Wall Height. Actual Locations to be approved by Project Manager.

Channel left bank wall line



Project Start STA 19+50

Resting Pool 0 located by EOR in field

**Site Plan - STA 19+50 to 31+50**  
SCALE 1" = 40'

Drain Pipes to be Replaced as discovered. Additional drains daylight to resting pools. See Sheet 11



Resting Pool 0 located by EOR in field. Position TBD

Point	Northing	Easting	Elevation	Description
12001	274685.806	2187306.093	924.80	added pool 1 cntr @ chan
12002	274702.391	2187384.198	927.10	added pool 2 cntr @ chan
12003	274736.572	2187456.342	926.50	added pool 3 cntr @ chan
12004	274779.026	2187524.558	927.20	added pool 4 cntr @ chan
12005	274821.313	2187592.811	928.00	added pool 5 cntr @ chan
12006	274865.736	2187659.747	928.90	added pool 6 cntr @ chan
12007	274912.611	2187725.005	929.50	added pool 7 cntr @ chan
12008	274960.372	2187790.364	930.60	added pool 8 cntr @ chan
12009	275009.293	2187854.068	931.40	added pool 9 cntr @ chan
12010	275051.679	2187924.336	932.30	added pool 10 cntr @ chan
12011	275066.609	2188004.120	933.30	added pool 11 cntr @ chan
12012	275063.937	2188085.640	934.05	added pool 12 cntr @ chan



**Mill Creek Fish Passage  
6th Street to 3rd Avenue**

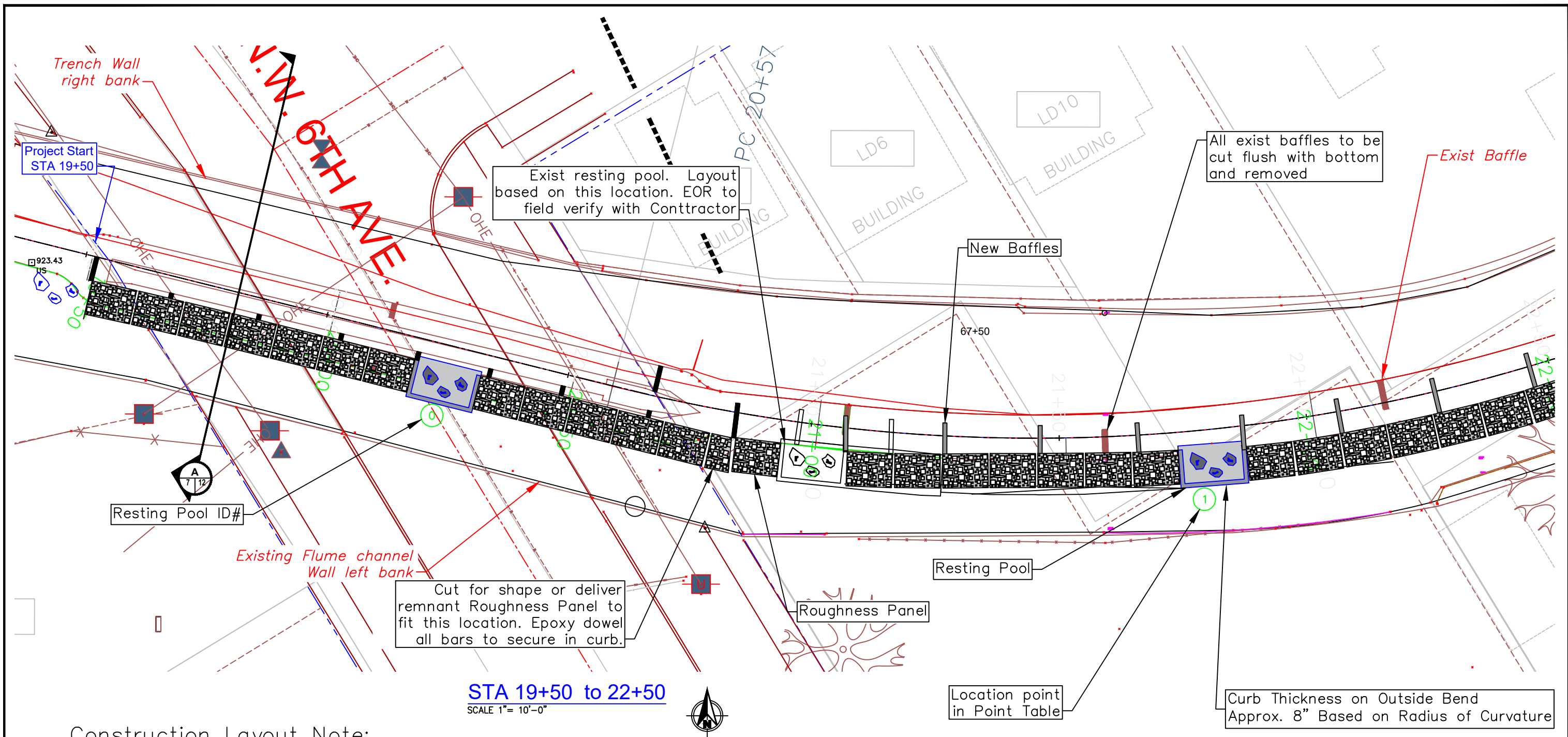


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**Site Plan - Enlarged View**



Construction Layout Note:

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



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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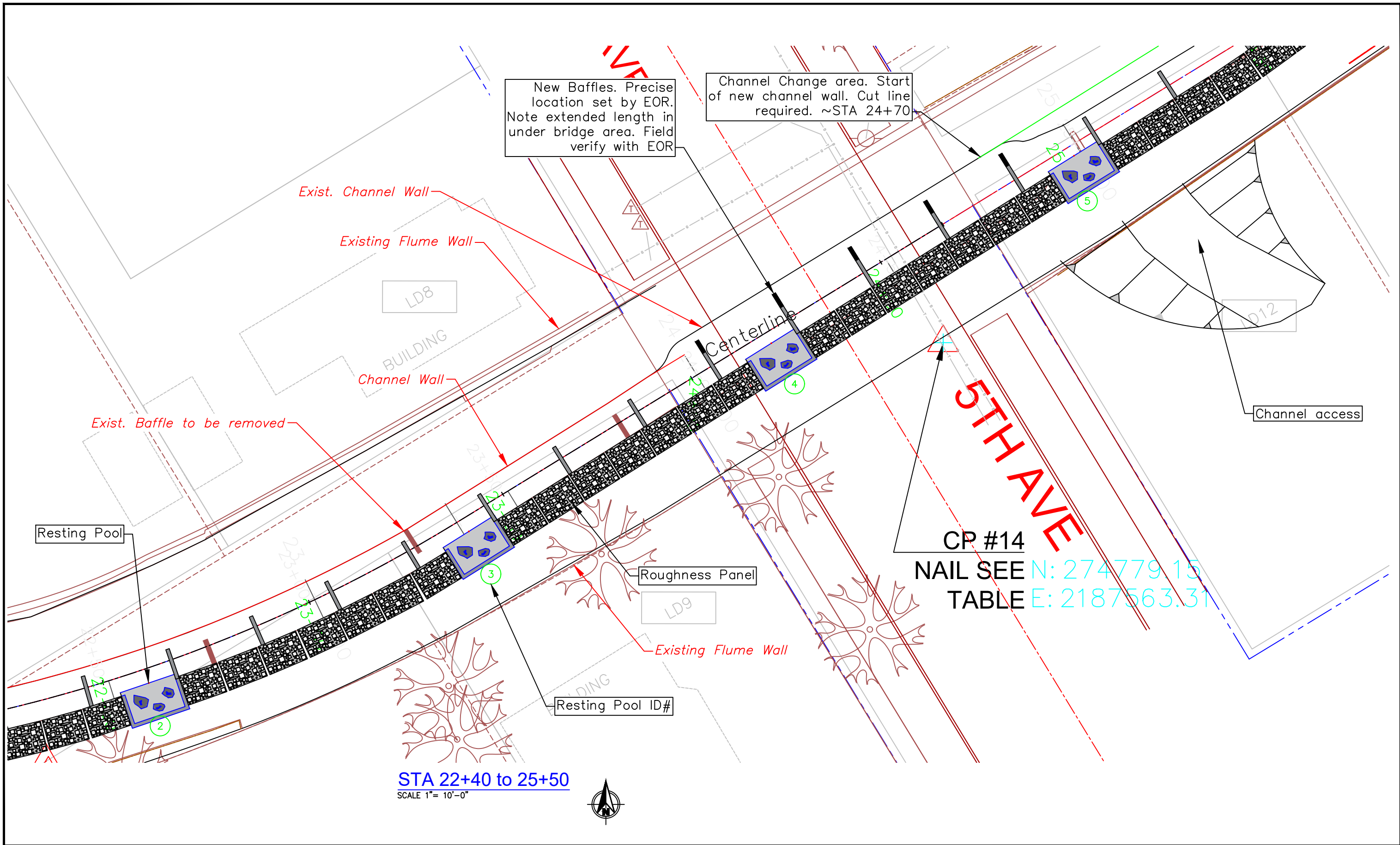
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Enlarged Plan  
STA 19+50 to 22+50



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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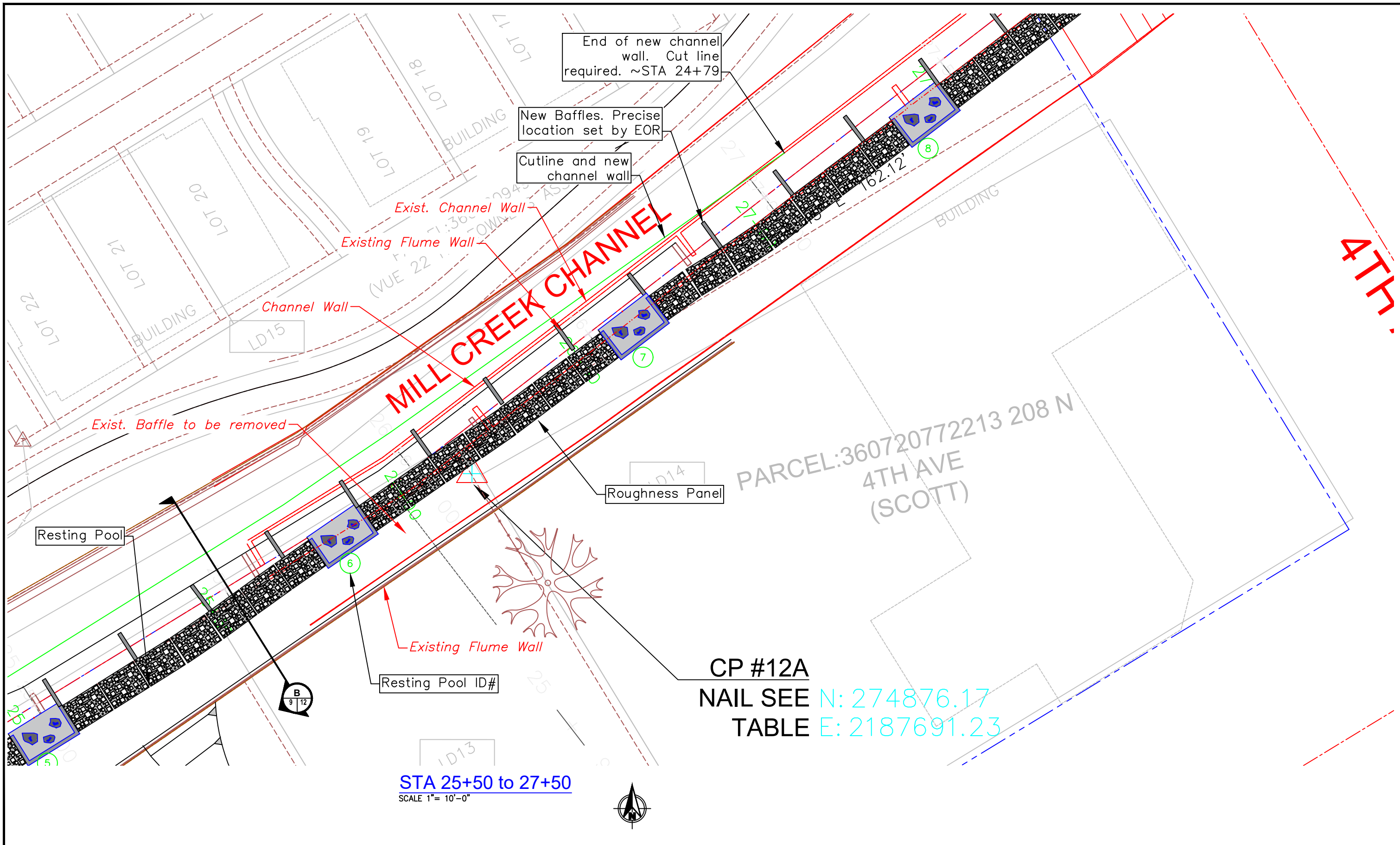
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Enlarged Plan  
STA 22+50 to 23+50





STA 25+50 to 27+50  
SCALE 1" = 10'-0"

CP #12A  
NAIL SEE N: 274876.17  
TABLE E: 2187691.23



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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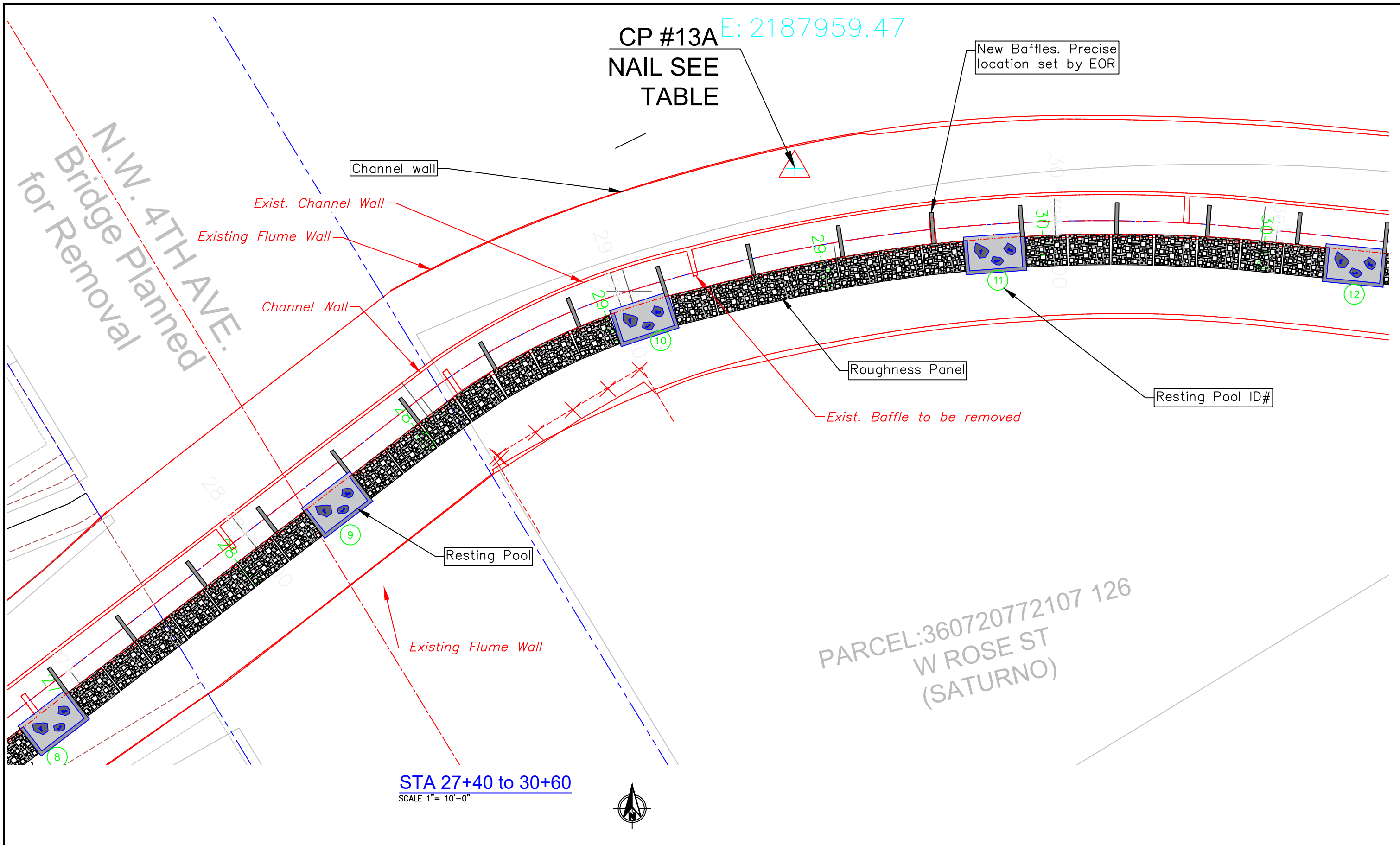
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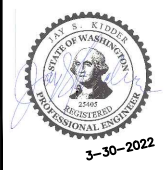
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Enlarged Plan  
STA 25+50 to 27+50



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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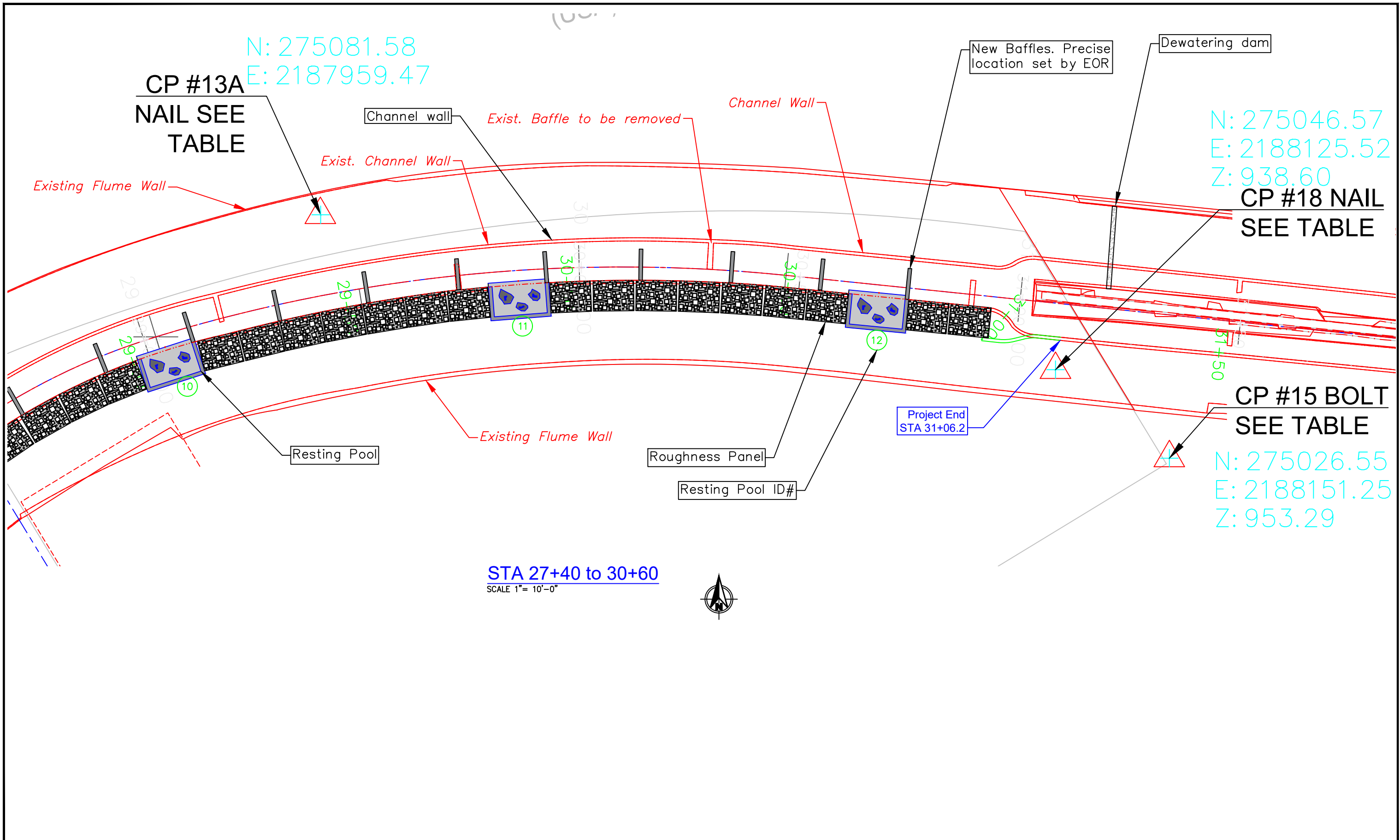
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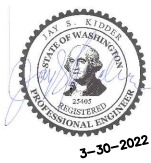
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**Enlarged Plan**  
**STA 27+40 to 30+60**



**Mill Creek Fish Passage**  
**6th Street to 3rd Avenue**

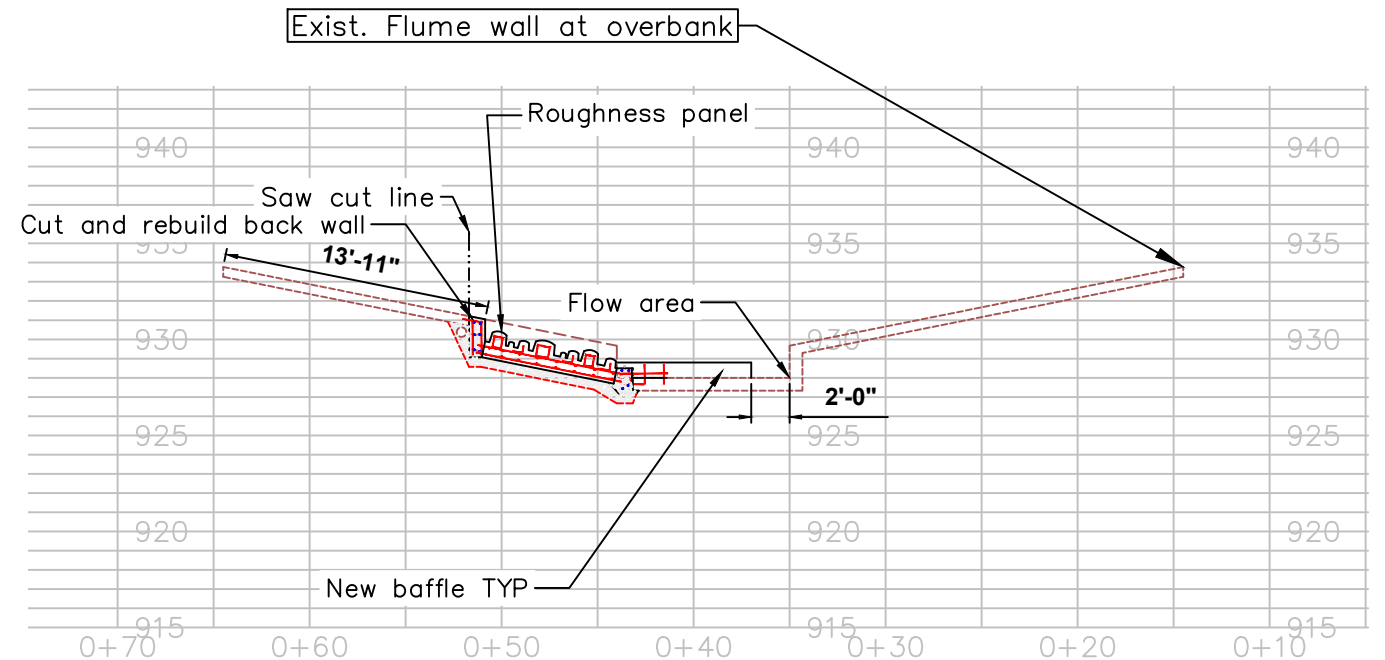
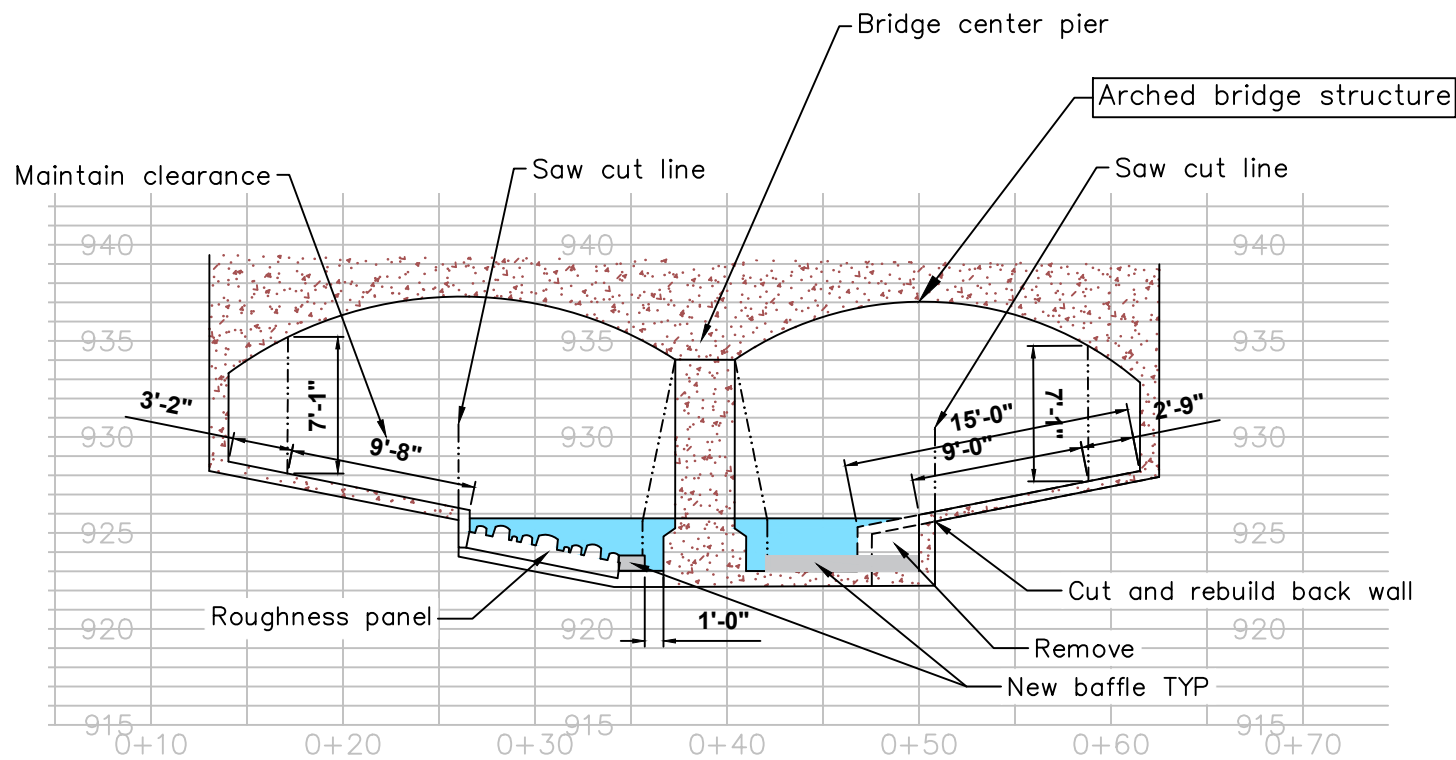


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**Enlarged Plan**  
**STA 27+40 to 30+60**

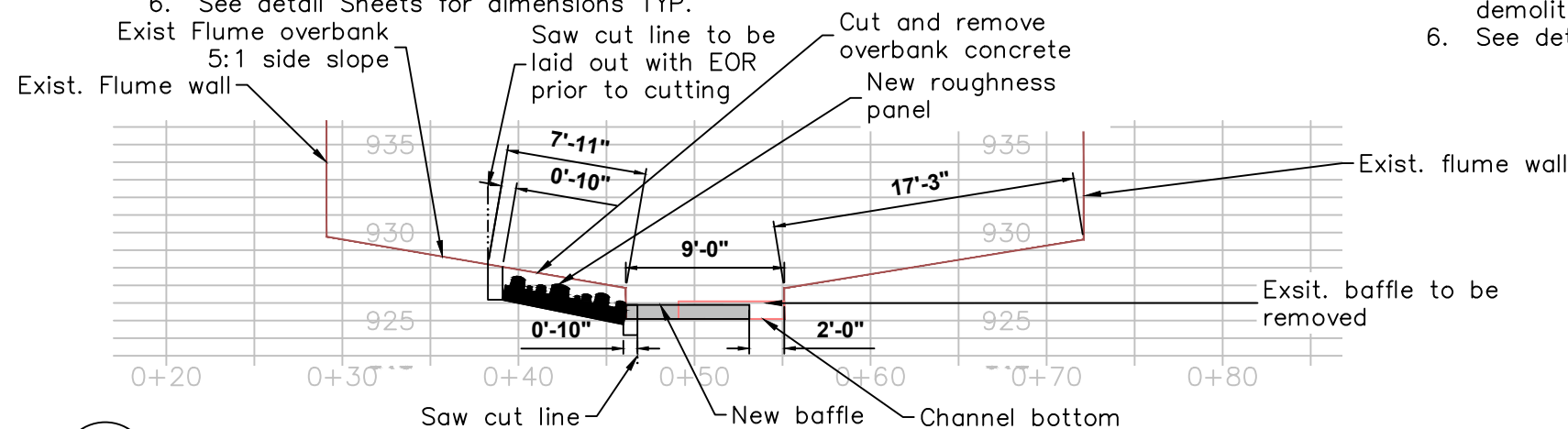


**A** Looking Downstream  
**Channel Section - 6th Street Bridge In-Place - Sta 19+30**  
 Scale: 1" = 5'

1. It is the long term goal to remove the 6th Street Bridge and pier from the Mill Creek Channel.
2. Designs are completed for the bridge left in place and removed from the channel.
3. This section shows the scenario where the 6th Street Bridge and pier have not been removed.
4. Section AA shows the Scenario in which the bridge and pier have been removed.
5. Concrete cut lines and removal and rebuild quantities differ between scenarios.
6. See detail Sheets for dimensions TYP.

**AA** Looking Downstream  
**Channel Section - 6th Street Bridge and Pier Removed - Sta 19+30**  
 Scale: 1" = 5'

1. This section shows the scenario where the 6th Street Bridge and pier have been removed.
2. New dimensions of bridge crossing if valid are not shown.
3. Roughness panel and Baffle are shown in TYP arrangement.
4. Concrete cut lines and removal and rebuild quantities differ between scenarios.
5. All concrete cut line shall be laid out with EOR and approved in writing prior to any saw cutting. Saw cutting in bid form is based on removal of neat line dimensions of existing concrete and any additional saw cuts for handling or demolition shall be incidental to the saw cut quantity.
6. See detail Sheets for dimensions, TYP.



**B** Looking Downstream  
**Channel Section - Typical - Sta 25+50**  
 Scale: 1" = 5'



# Mill Creek Fish Passage 6th Street to 3rd Avenue

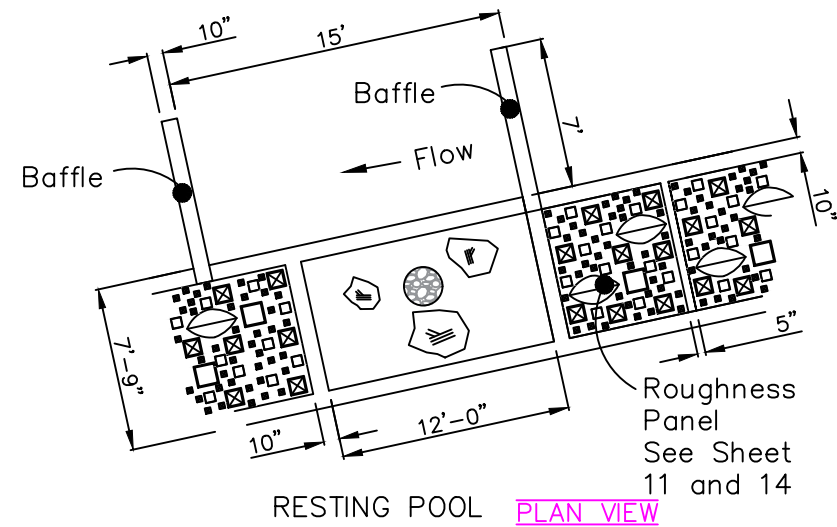


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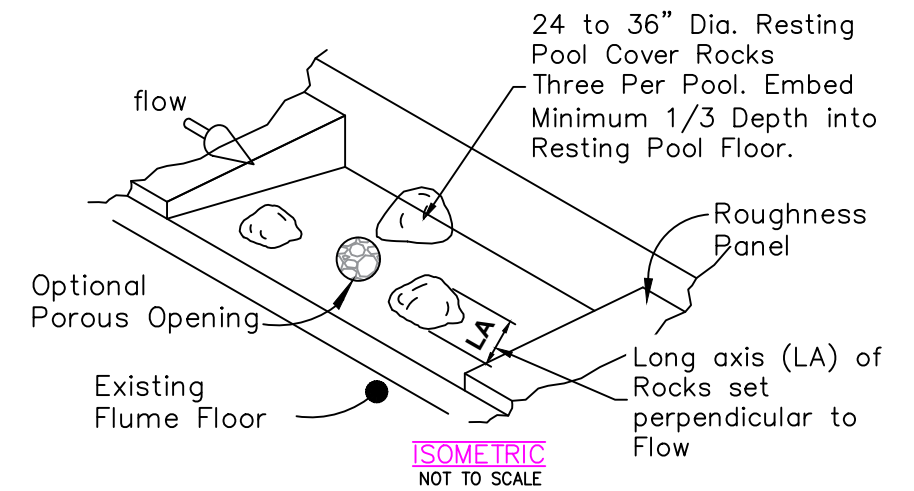
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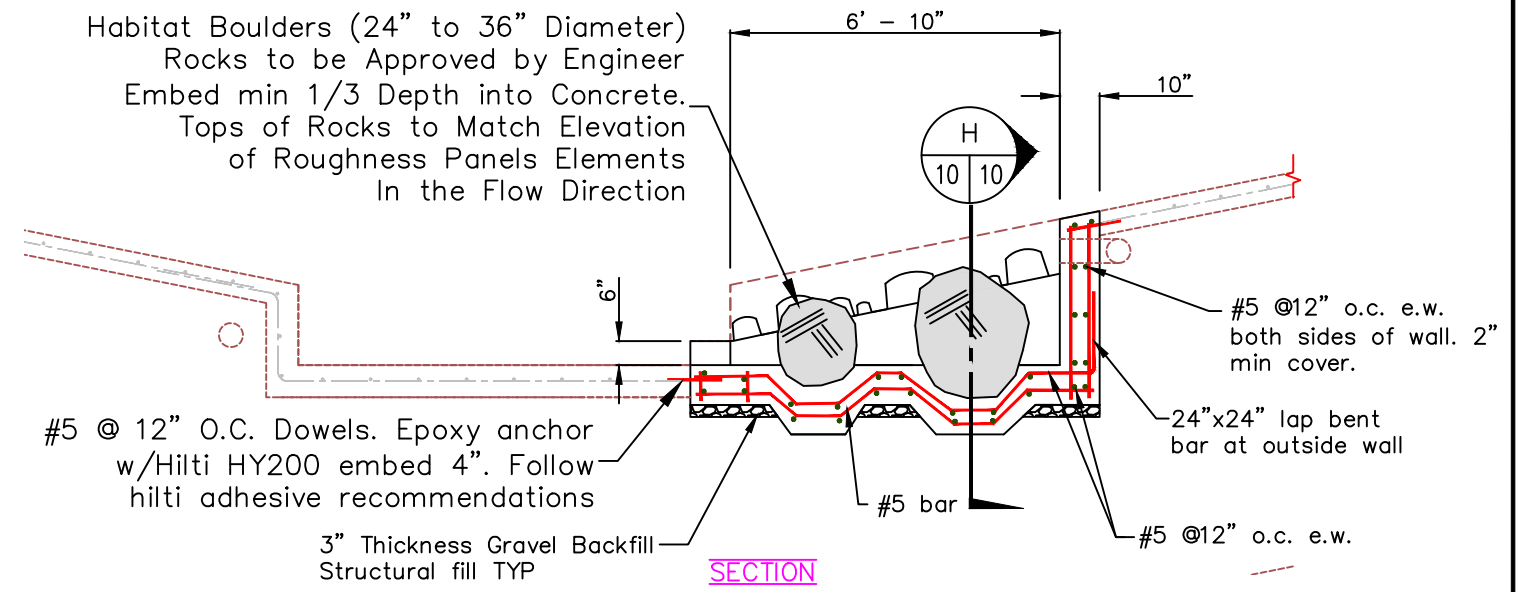
## Sections 6th Avenue Bridge



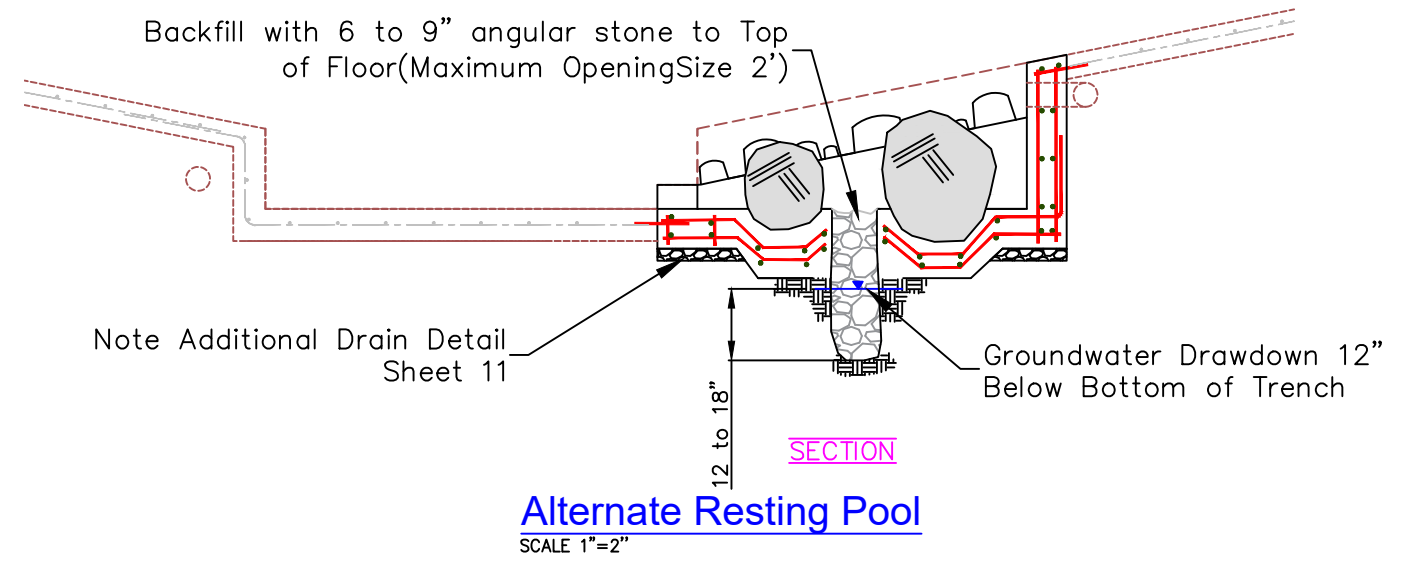
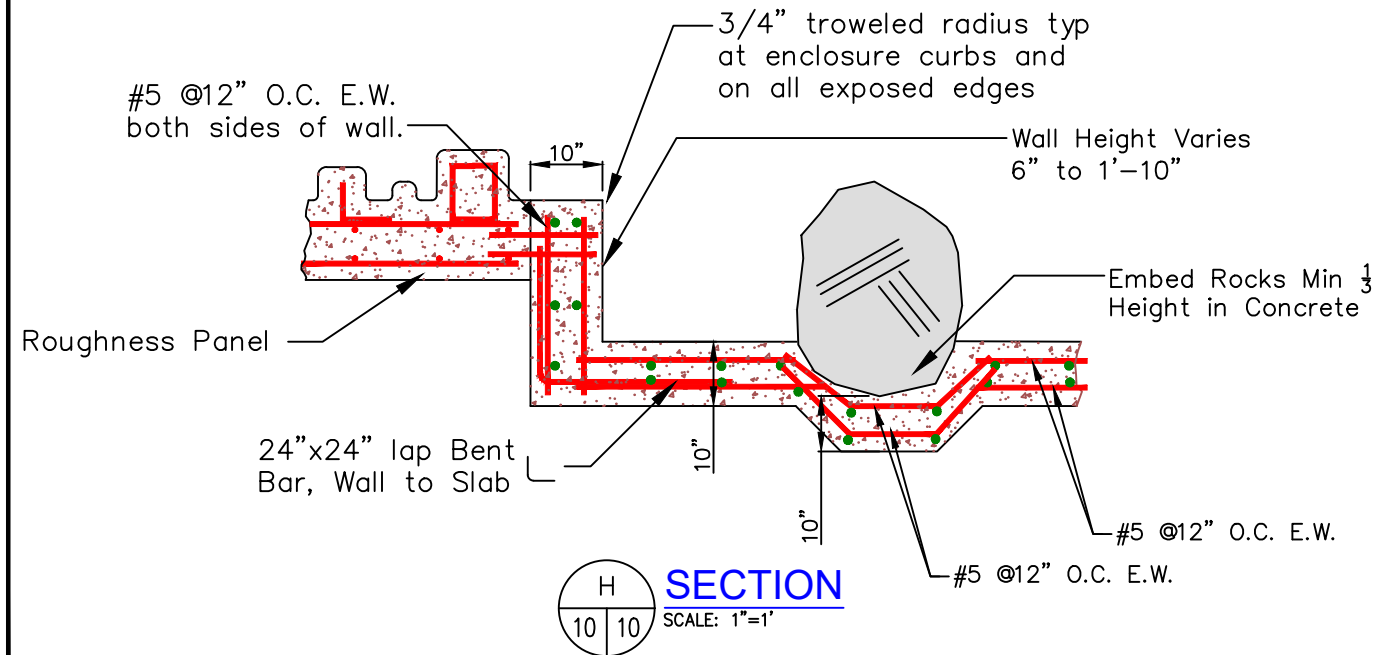
Top of Resting Pool Rocks to Match Average Height of Roughness Elements on Panels. Actual Rock Shape and Placement Shall be Approved by Engineer Prior to Delivery and Placement.



- 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 HY200 epoxy or Simpson SET-3G. 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  
6th Street to 3rd Avenue

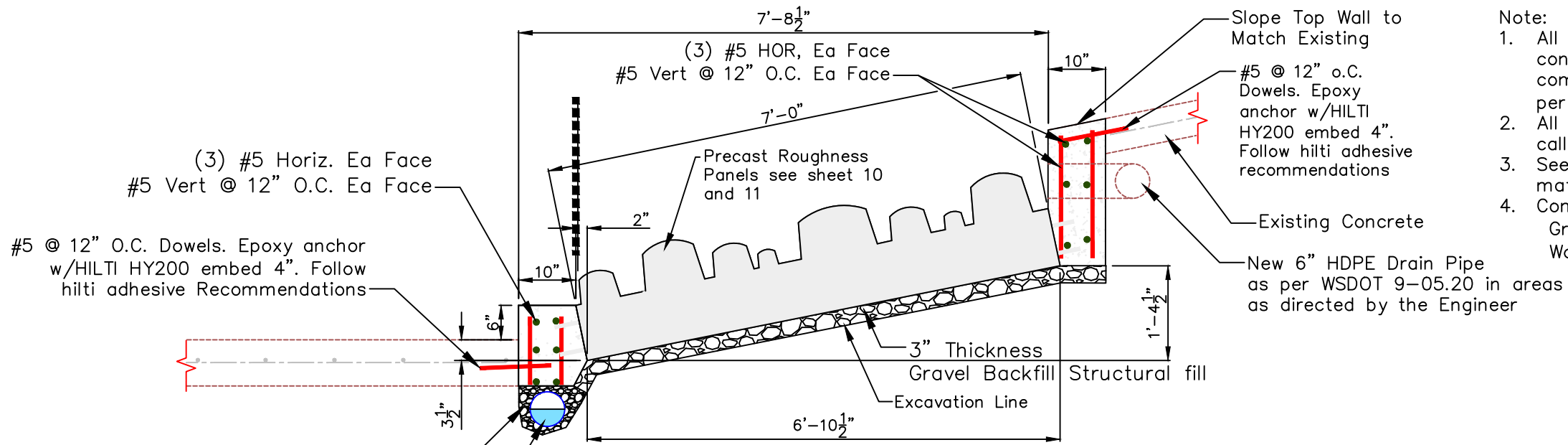


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**WATERFALL ENGINEERING**  
CHINOOK ENGINEERING  
DRAWN BY:  
Chinook Engineering  
DATE:  
3-30-2022

Resting Pool Details



**Typical 7' Panel Section w/o Baffle**

SCALE 1"= 1'

(3) #5 Horiz. Ea Face  
#5 Vert @ 12" O.C. Ea Face

#5 @ 12" O.C. Dowels. Epoxy anchor  
w/HILTI HY200 embed 4". Follow  
hilti adhesive Recommendations



1" Washed Drain Rock

6" PVC Drain Pipe in Ditch to Collect  
Seepage Water. Extend Through  
Resting Pool Areas as Needed.  
Backfill with Concrete After Use.

Slope Top Wall to  
Match Existing

#5 @ 12" o.c.  
Dowels. Epoxy  
anchor w/HILTI  
HY200 embed 4".  
Follow hilti adhesive  
recommendations

Existing Concrete

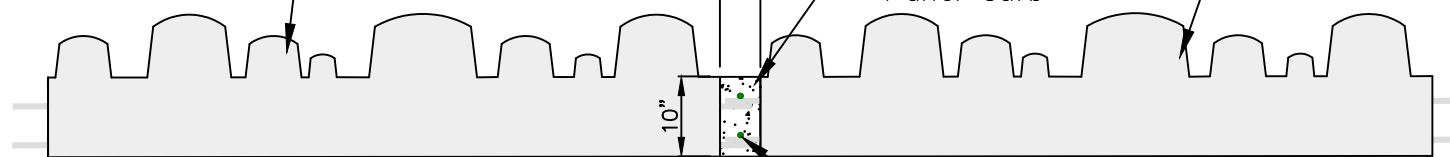
New 6" HDPE Drain Pipe  
as per WSDOT 9-05.20 in areas  
as directed by the Engineer

3" Thickness  
Gravel Backfill

Structural fill

Excavation Line

Roughness Panel

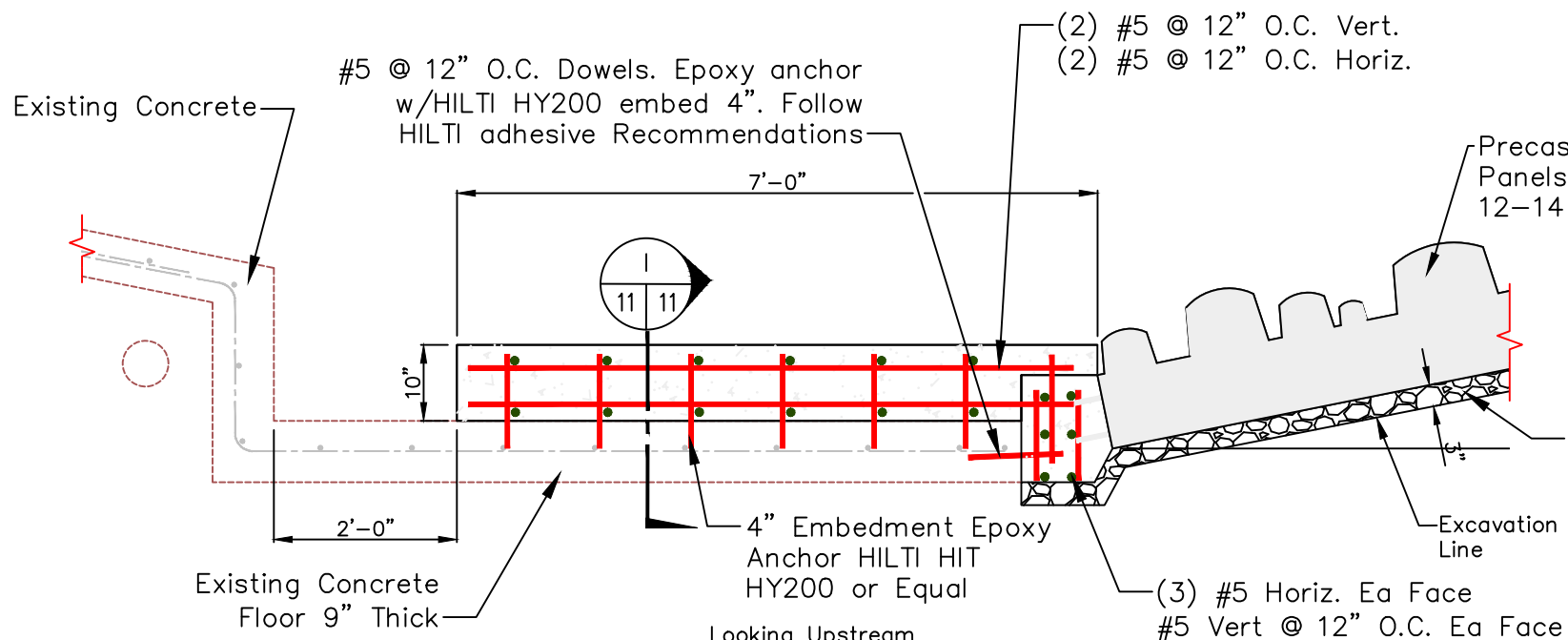


**Panel to Panel Section**

SCALE: 1"=1'

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"



**Typical Section with Baffle**

SCALE 1"= 1'

#5 @ 12" O.C. Dowels. Epoxy anchor  
w/HILTI HY200 embed 4". Follow  
HILTI adhesive Recommendations

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

Precast Roughness  
Panels see sheets  
12-14

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

3" Thickness  
Gravel Backfill  
Structural fill

Excavation  
Line

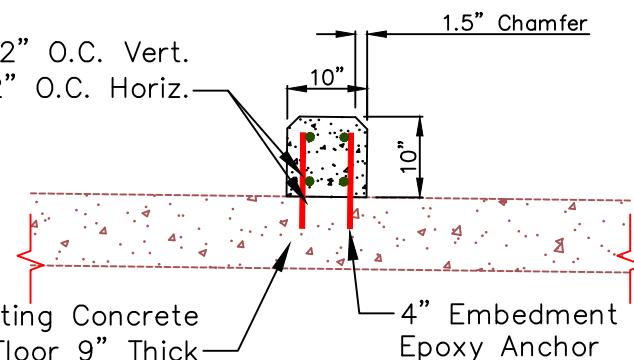
(3) #5 Horiz. Ea Face  
#5 Vert @ 12" O.C. Ea Face

Existing Concrete  
Floor 9" Thick

Looking Upstream

**Typical Section with Baffle**

SCALE 1"= 1'



**Baffle Section**

SCALE: 1"=1'

Baffle Spacing:  
D/S STA 71+50  
= 20'  
U/S STA 71+50  
= 15'



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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0 1"

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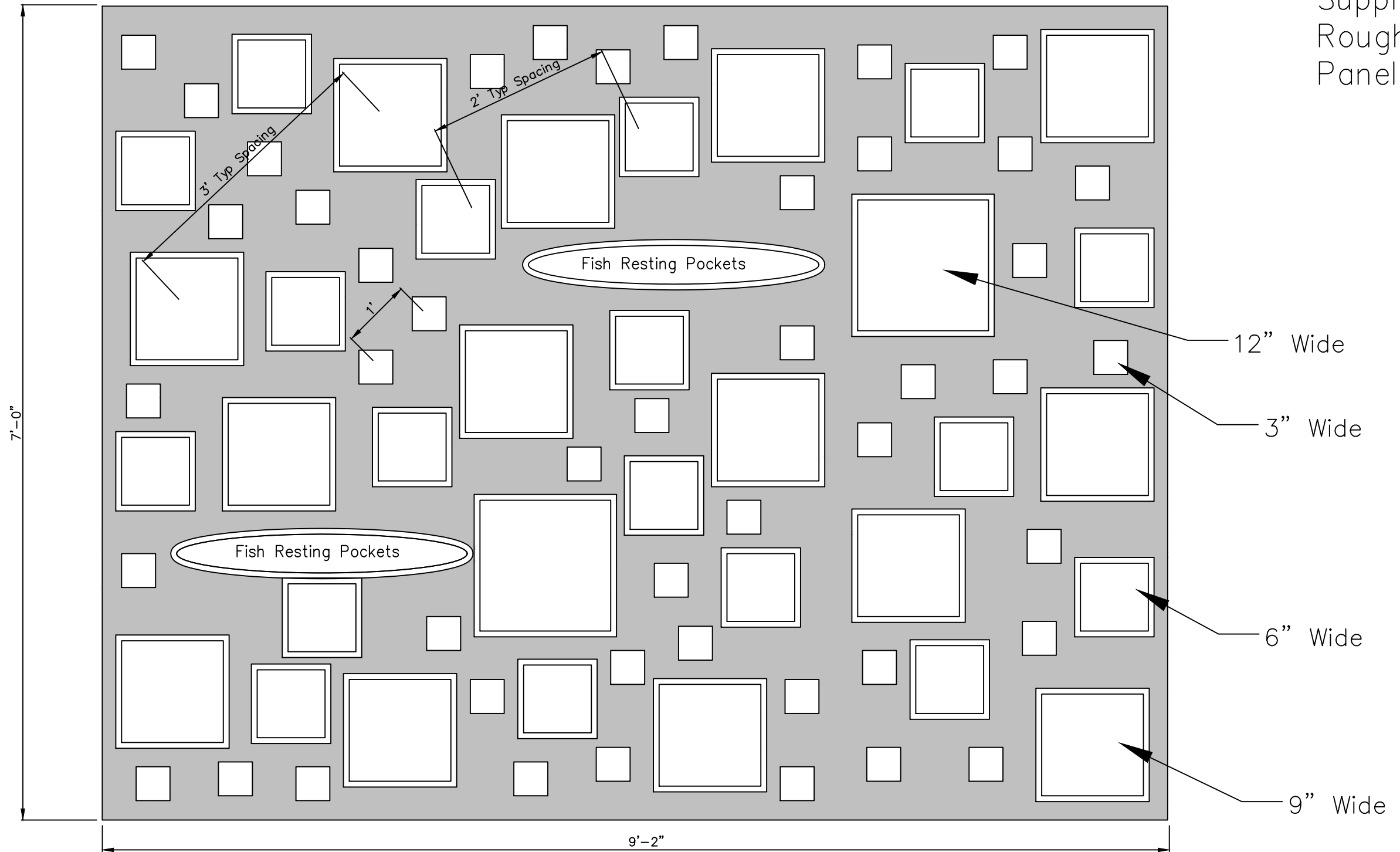
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**Roughness Panel /  
Baffle Details**

← Flow Direction

Trench Side

Sponsor  
Supplied  
Roughness  
Panels



**Roughness Panel Layout**

Not to Scale



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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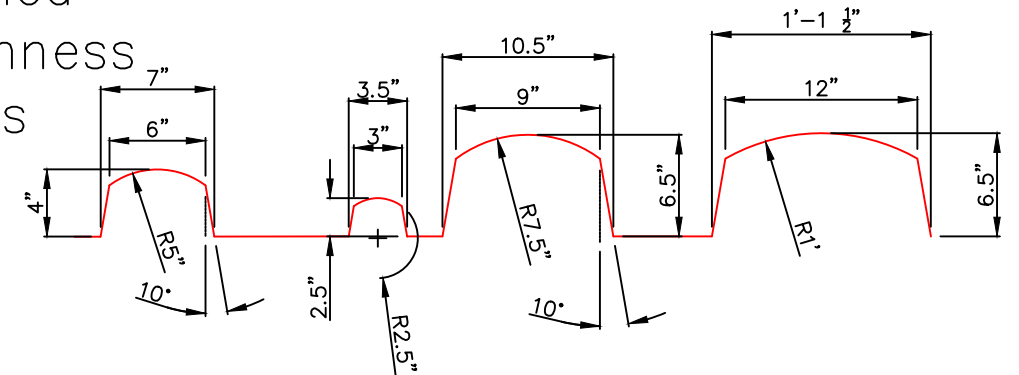
**Roughness Panel Detail**

**15** **17**  
SHEET OF

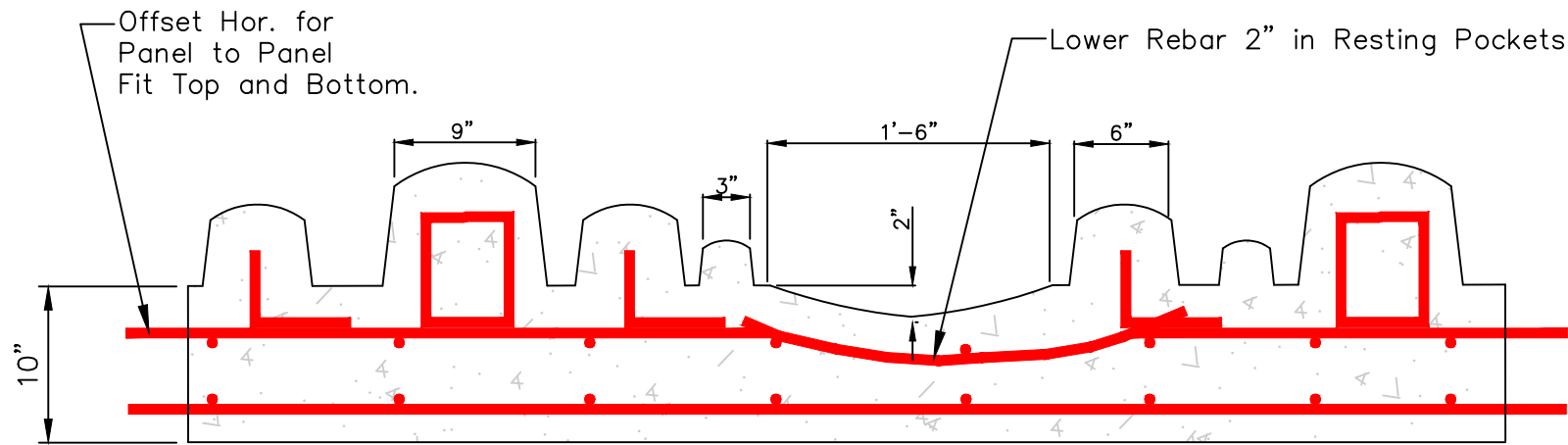
**Construction Notes:**

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.

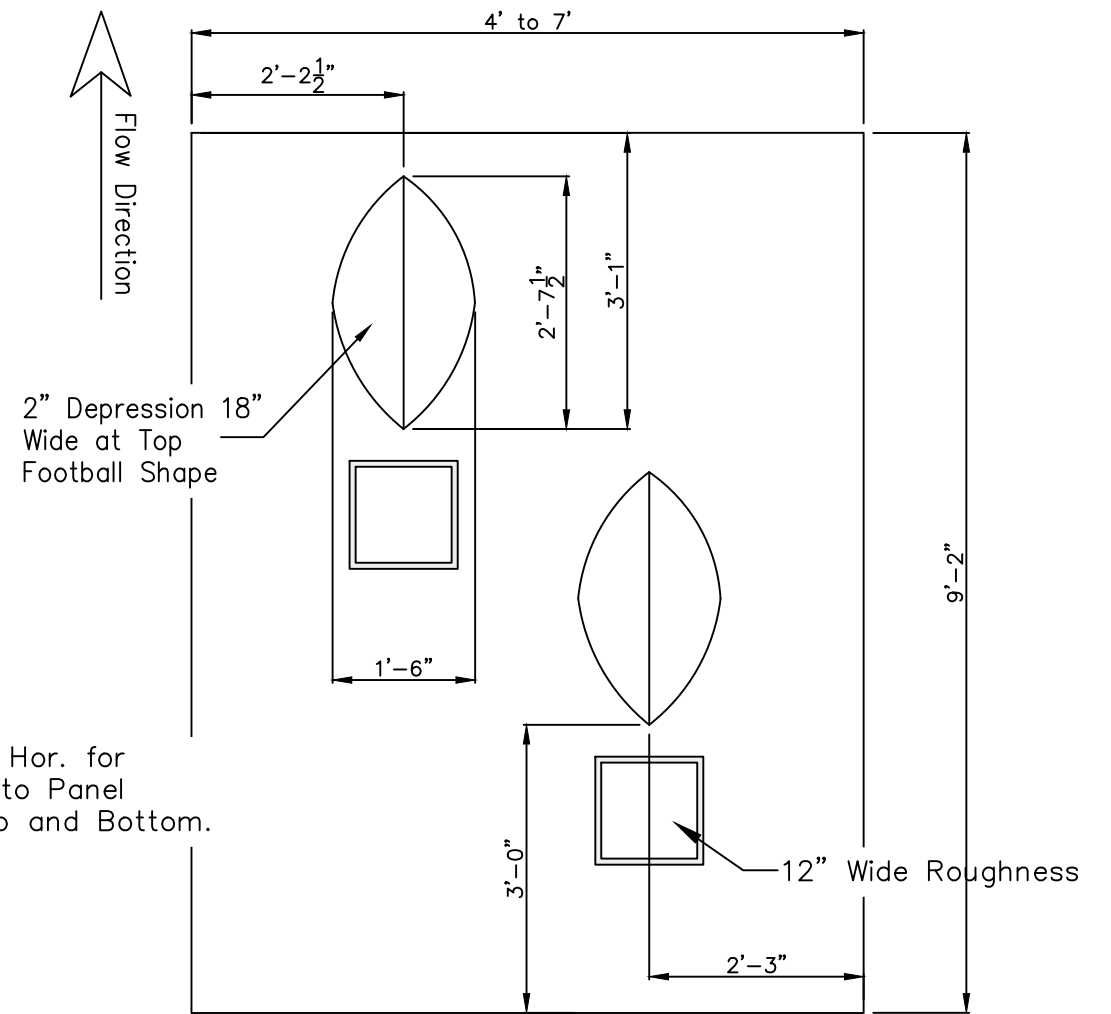
Sponsor  
Supplied  
Roughness  
Panels



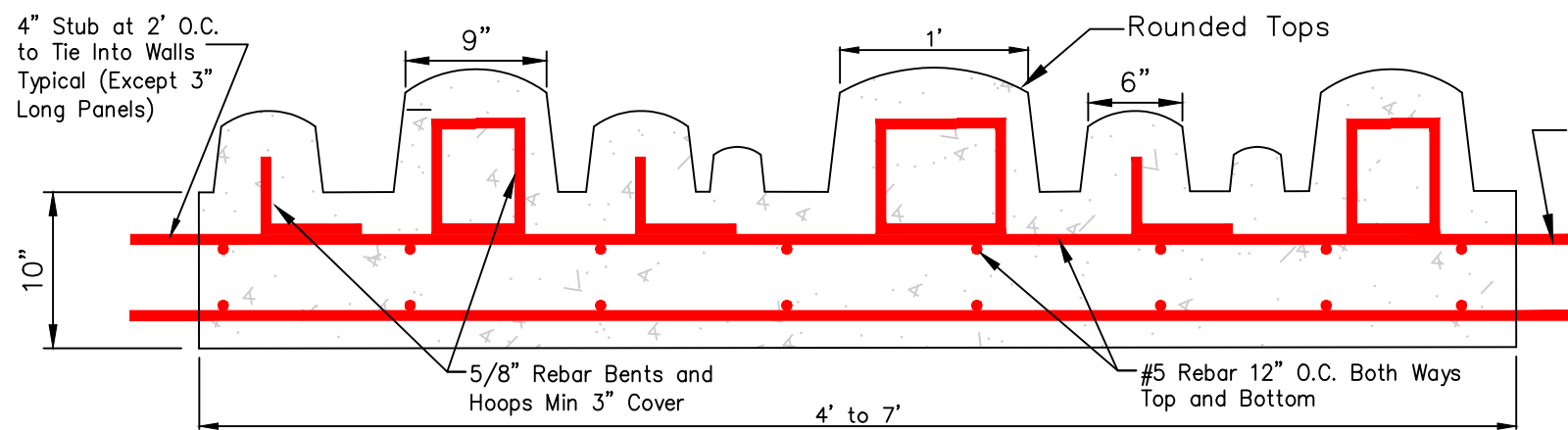
**Roughness Detail**  
Not To Scale



**Typical Section Showing 2" Depression**  
Not To Scale



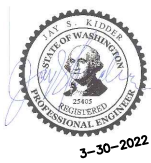
**Roughness Panel Plan - Layout For 12" Roughness**  
Not To Scale



**Typical Section**  
Not To Scale



Mill Creek Fish Passage  
6th Street to 3rd Avenue



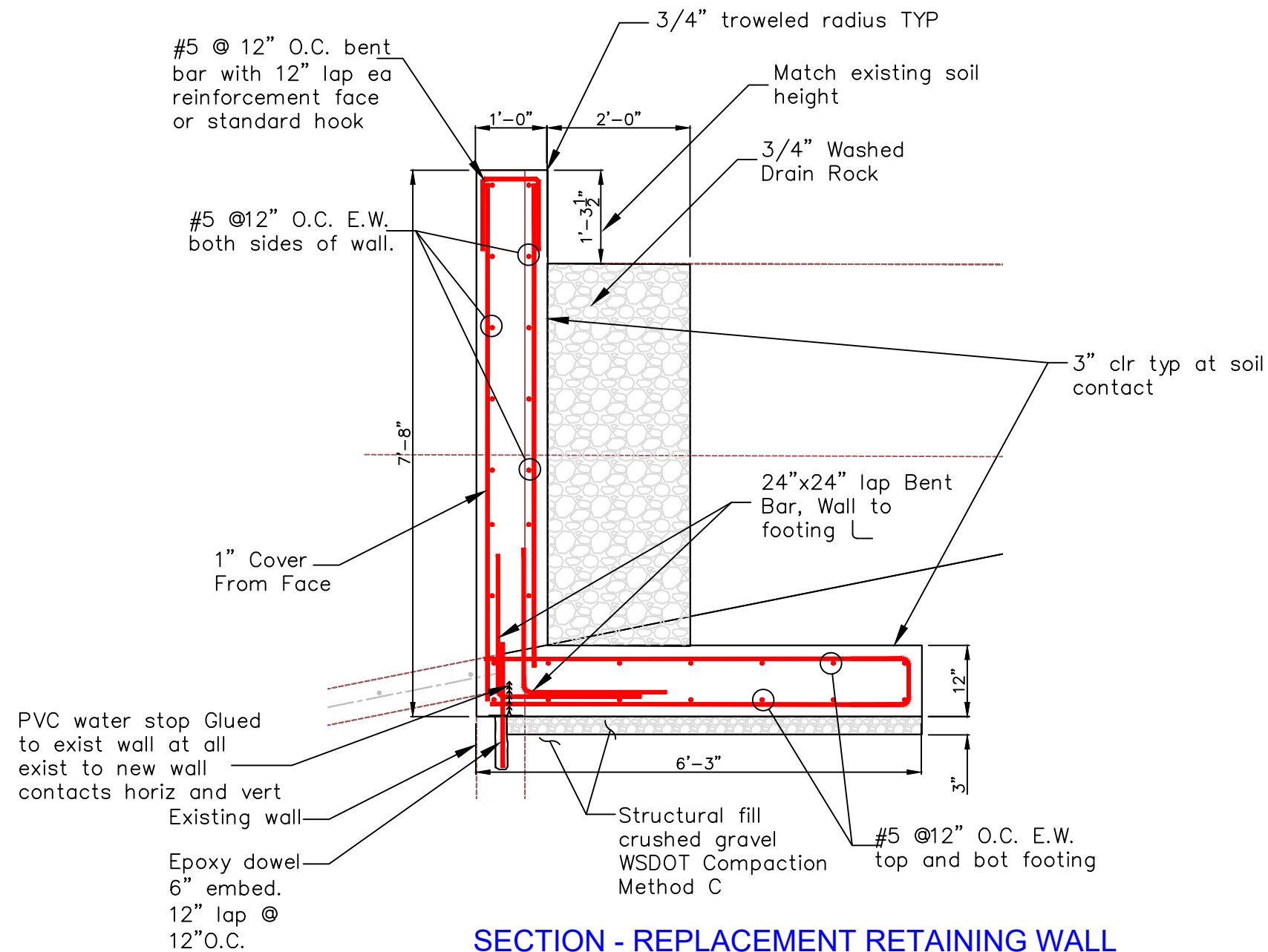
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**Concrete Panel Details**





**SECTION - REPLACEMENT RETAINING WALL**

SCALE: 1"=1'



Mill Creek Fish Passage  
6th Street to 3rd Avenue



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Misc.Details