

CONSTRUCTION DOCUMENT FOR:

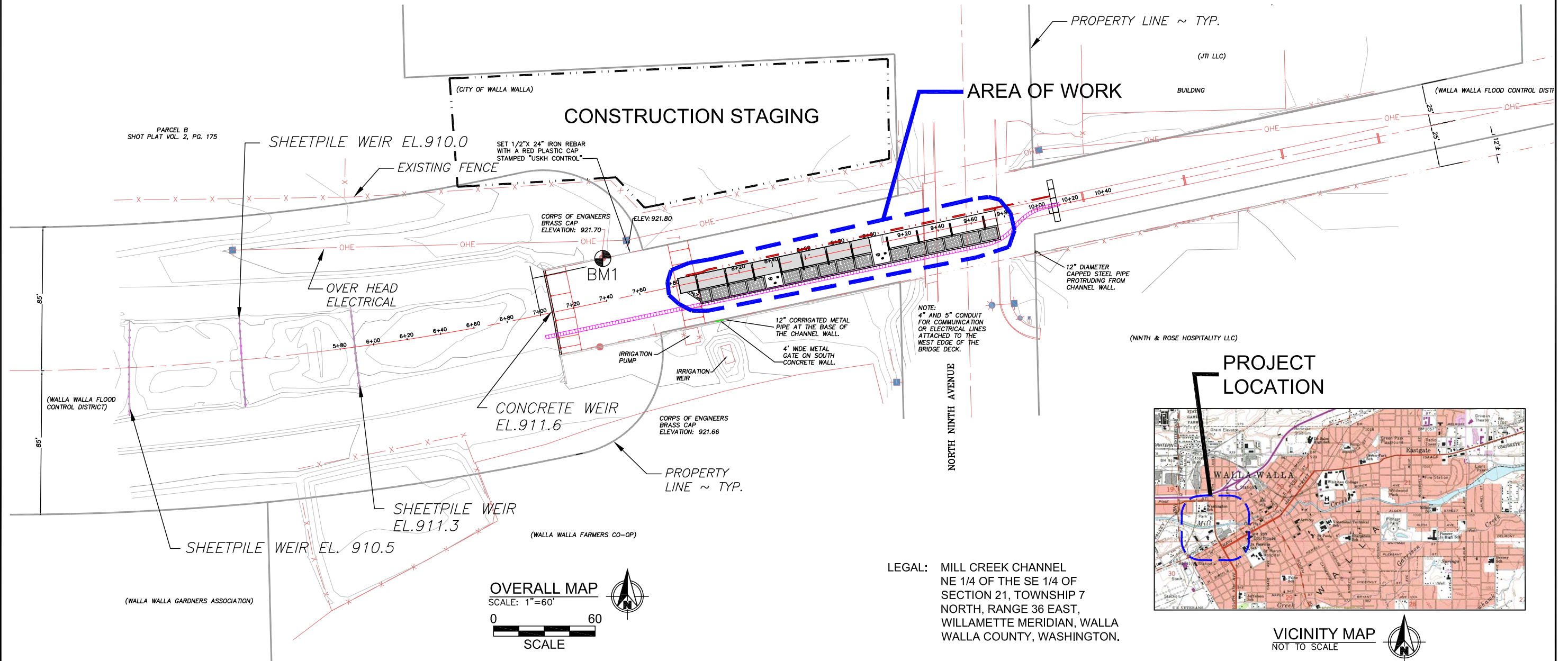
MILL CREEK

N 9th Ave Fish Passage

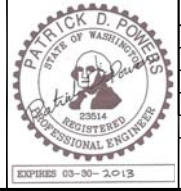
PROJECT NUMBER 09-1587

DRAWING INDEX:

1. COVER SHEET
2. LEGEND AND NOTES
3. SITE PLAN
4. PROFILE AND SECTION
5. SECTIONS
6. ENLARGED SITE PLAN
7. ROUGHNESS DETAILS
8. RESTING POOL DETAILS



N 9th Ave Fish Passage



REVISIONS				
REV	DATE	BY	APPD	DESCRIPTION

BAR IS ONE INCH ON ORIGINAL DRAWING. SCALE VERIFICATION 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DESIGNED BY:
WATERFALL ENGINEERING, LLC
CHINOOK ENGINEERING

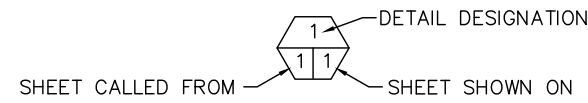
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6/24/11

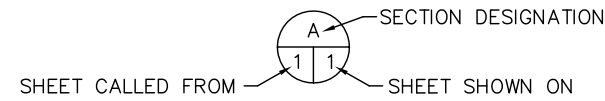
COVER SHEET

1 8
SHEET OF

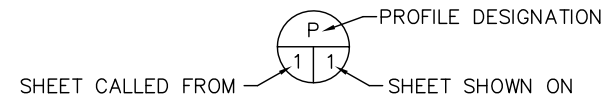
SHEET SYMBOLS



DETAIL CALLOUT



SECTION CALLOUT



PROFILE CALLOUT

LINETYPES

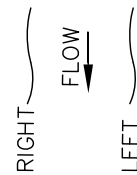
WATER MAIN	
FENCE	
GAS LINE	
STORM DRAIN	
SAN SEWER	
OVERHEAD POWER	
OVERHEAD TELEPHONE	
ORDINARY HIGH WATER	
UNDERGROUND TELEPHONE	
UNDERGROUND POWER	
TRACKS	
EXISTING THALWEG	

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
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		

NOTES

References to Right and Left as viewed downstream



Survey Notes:

BEARINGS ARE BASED ON THE WASHINGTON COORDINATE SYSTEM SOUTH ZONE. THE CONVERGENCE ANGLE IS 01°33'40".

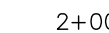
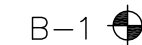
THE COMBINED GROUND TO GRID SCALE FACTOR IS 0.999914555. DISTANCES SHOWN ARE GROUND DISTANCES

THE VERTICAL DATUM IS NAVD 88 ORTHOMETRIC HEIGHTS DETERMINED BY GPS OBSERVATIONS WHILE CONNECTED TO THE WASHINGTON STATE REFERENCE NETWORK SOUTHEAST WASHINGTON.

CHANNEL PROFILE STATIONING BASED ON END OF CONCRETE FLUME WALLS 7+04.7

BENCH MARK COORDINATES			
POINT #	EASTING	NORTHING	ELEV
BM1	2185892.37	274549.67	921.71

BM1: Brass Cap Top Concrete Wall Right Bank



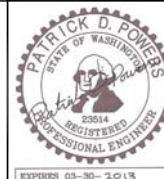
LEGEND

EXISTING CALLOUT

NEW CALLOUT		CONCRETE
SURVEY POINT		FILL
EXISTING TREES TO REMAIN		ROCK/GRAVEL
PROJECT BENCH MARK		UNDISTURBED GRADE
BORING LOCATIONS		WETLAND DELINEATION
SANDBAGS		DEMO
NOTE CALLOUT		ELEVATION MARKER
STATION CALLOUT		TREE TO BE REMOVED
PHOTO CALLOUT		TREE TO REMAIN



9th Ave Fish Passage



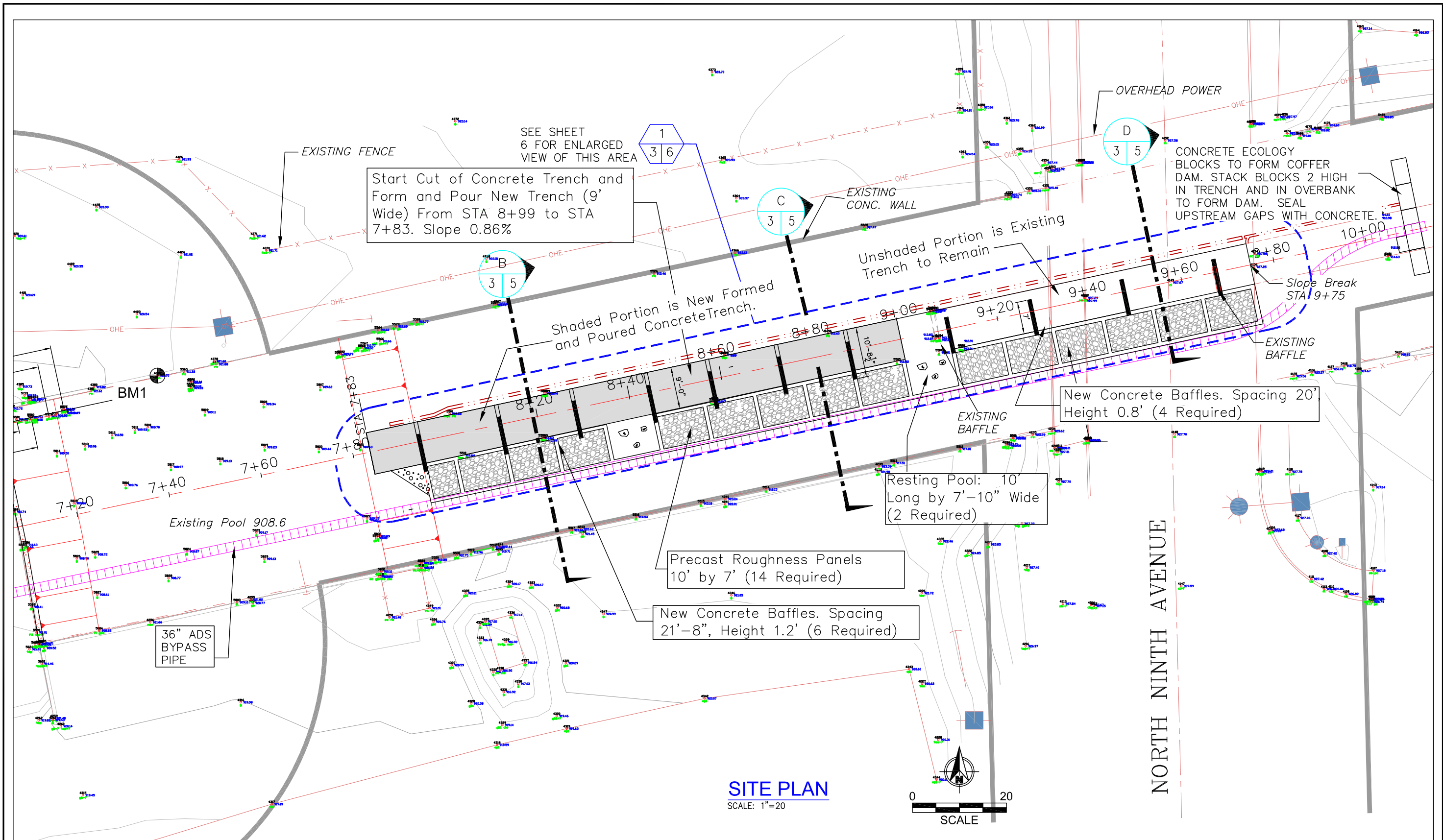
REV	DATE	BY	APP'D	DESCRIPTION

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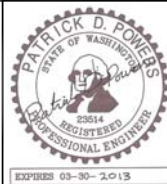
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LEGEND AND NOTES



9th Ave Fish Passage



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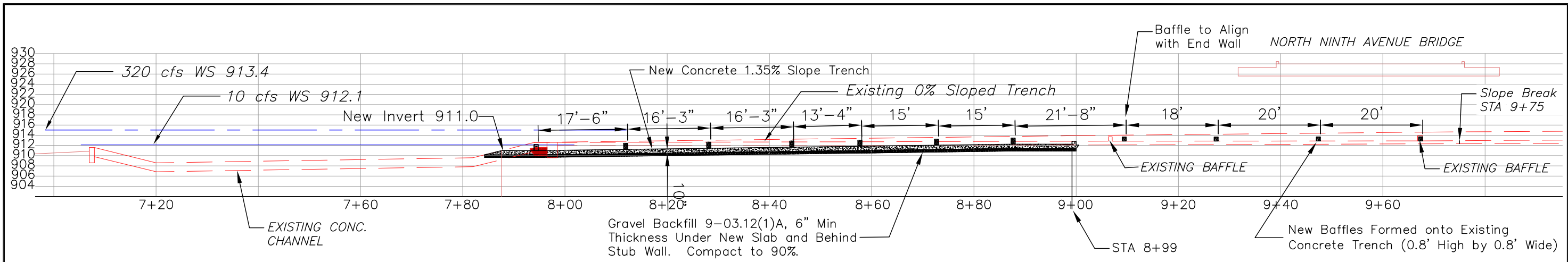
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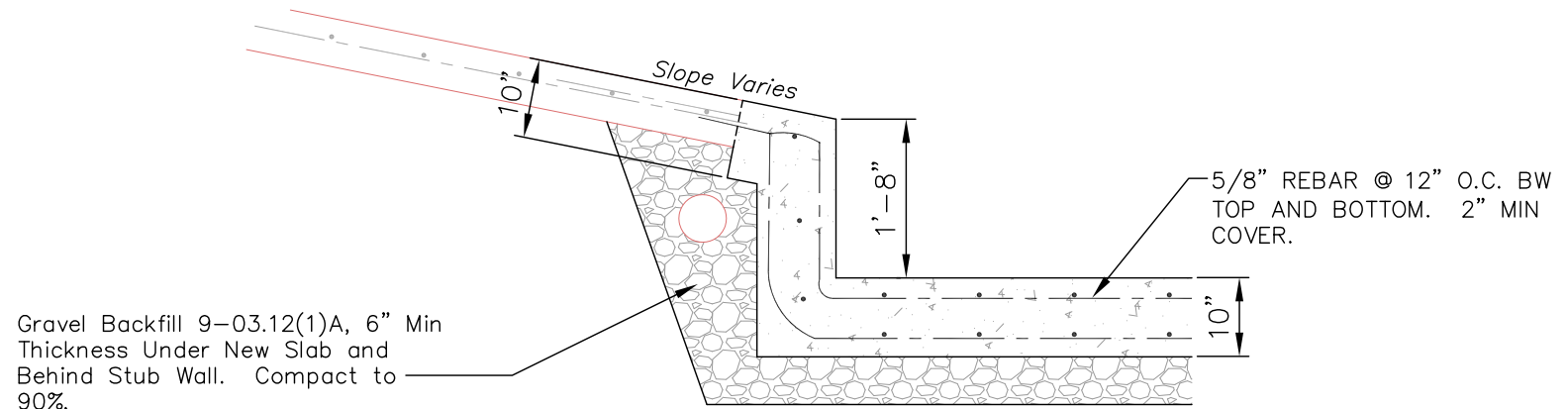
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SITE PLAN

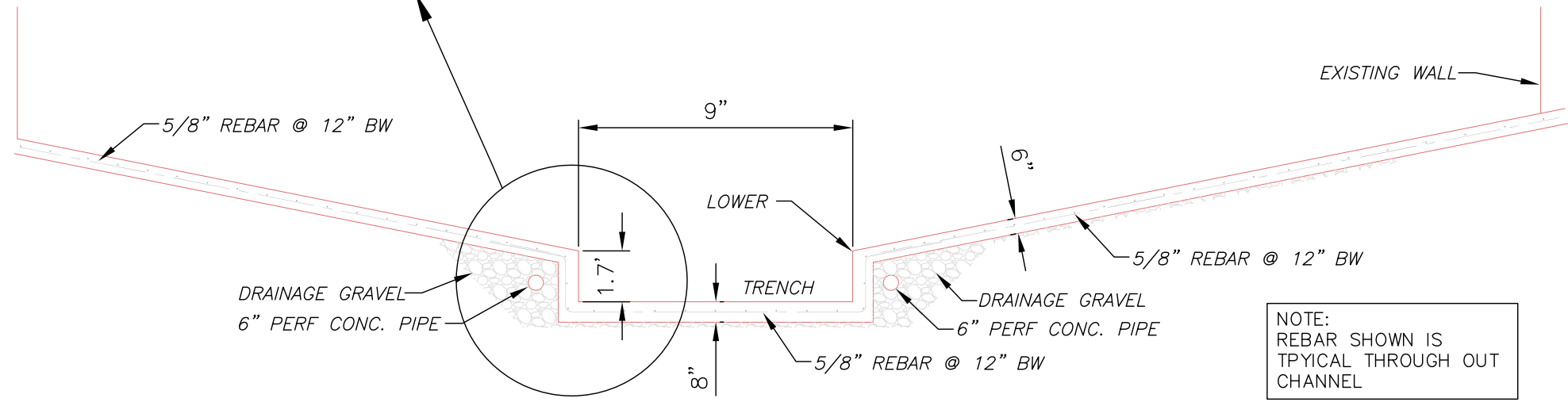
3 8
SHEET OF



PROPOSED CHANNEL PROFILE
SCALE: 1"=20'



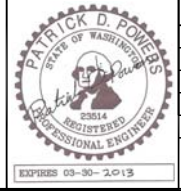
TYPICAL CONCRETE DETAILS - NEW TRENCH
SCALE 6"=1'



TYPICAL SECTION LOOKING UPSTREAM
TYPICAL EXISTING CONC. FLUME SECTION
SCALE 1"=5'



9th Ave Fish Passage



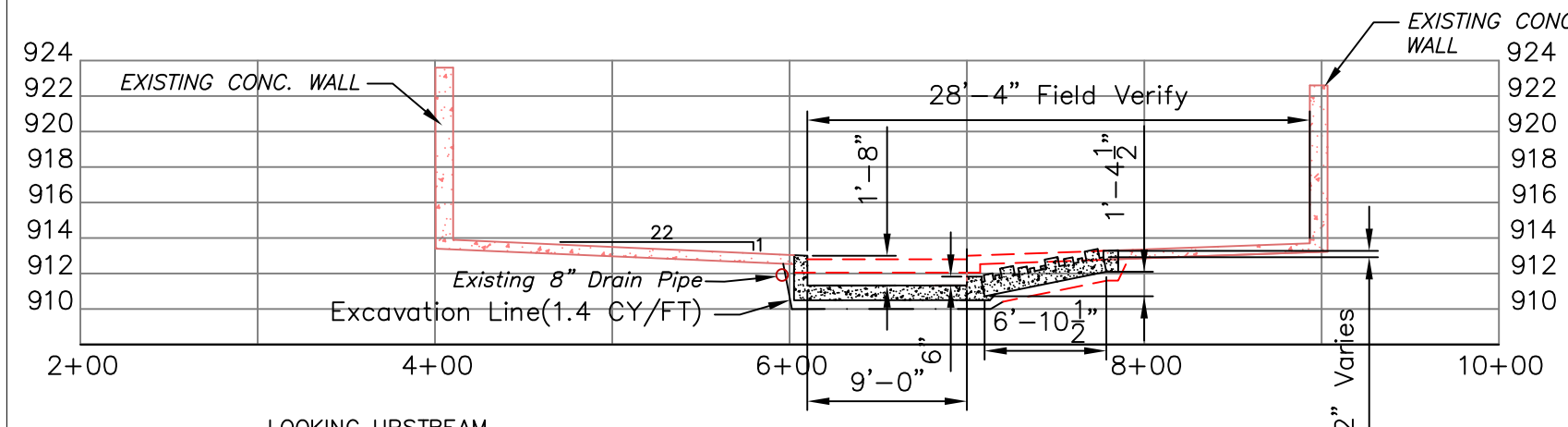
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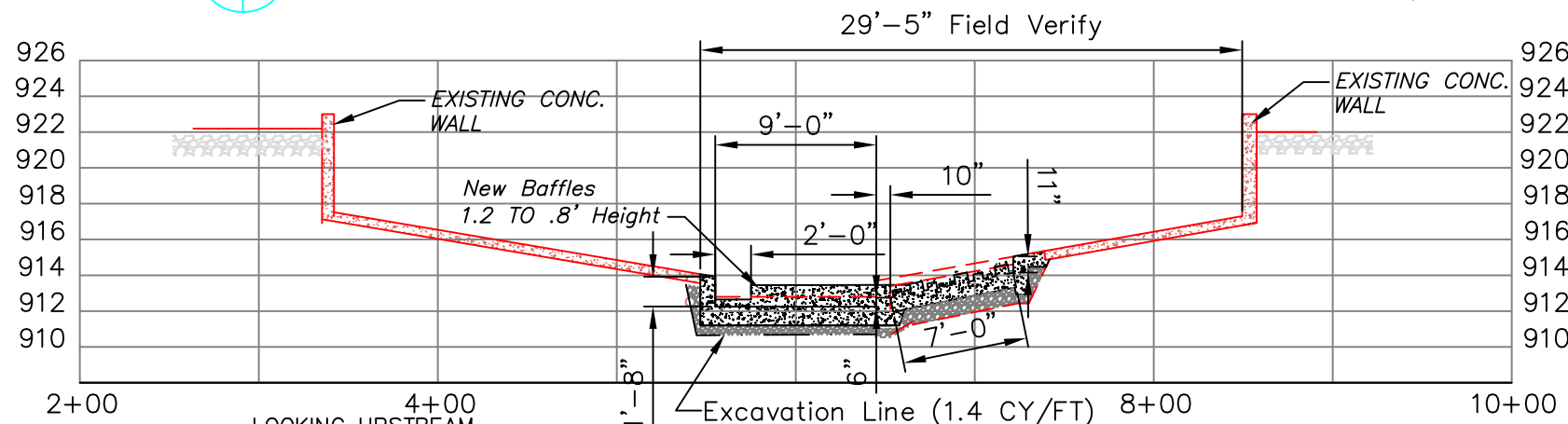
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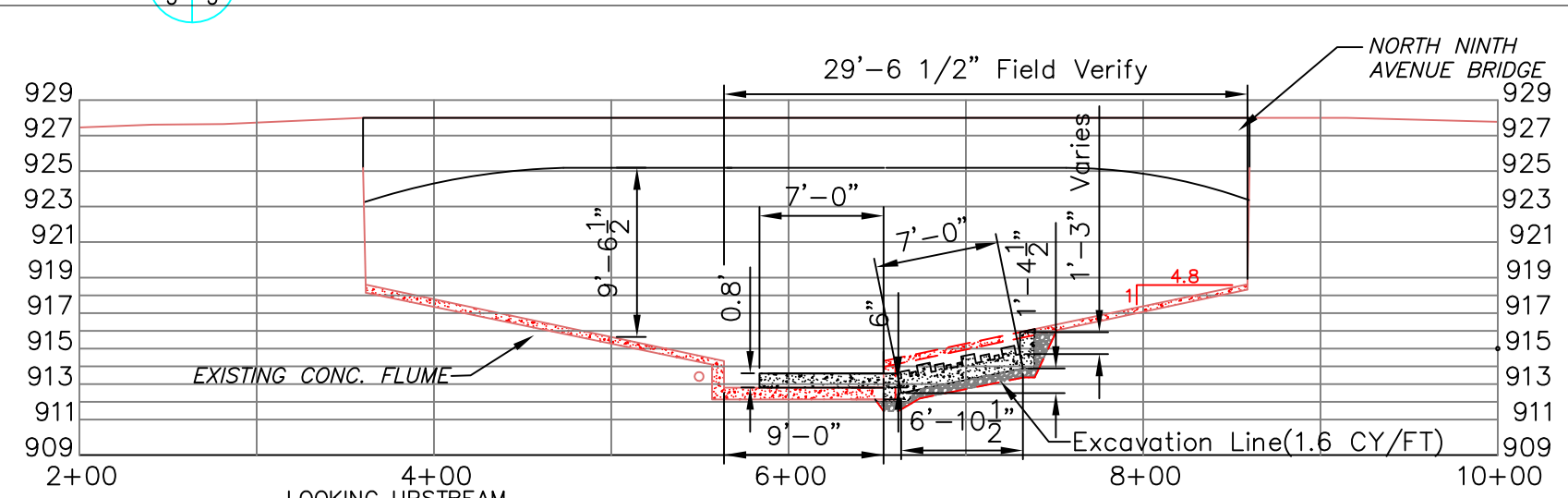
PROFILE AND SECTION



LOOKING UPSTREAM
B
 3 5
 SCALE: 1"=10'
CONC. FLUME SECTION - STA 8+20 - EXISTING SECTION



LOOKING UPSTREAM
C
 3 5
 SCALE: 1"=10'
CONC. FLUME SECTION STA 8+80 - EXISTING SECTION



LOOKING UPSTREAM
D
 3 5
 SCALE: 1"=10'
CONC. FLUME SECTION STA 9+55 UNDER 9TH AVENUE BRIDGE

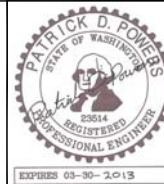
Trench Elevations		
STA	Existing	Proposed
975	912.7	
970	912.7	
965	912.7	
960	912.7	
955	912.7	
950	912.7	
948	912.7	
945	912.7	
940	912.7	
935	912.7	
930	912.7	
925	912.7	
920	912.7	
915	912.7	
910	912.7	
905	912.7	
900	912.7	
899	912.7	912.2
897	912.7	912.2
895	912.7	912.2
890	912.7	912.2
885	912.7	912.2
880	912.7	912.1
875	912.7	912.1
870	912.7	912.0
865	912.7	911.9
860	912.7	911.9
855	912.7	911.8
850	912.7	911.8
845	912.7	911.7
840	912.7	911.6
835	912.7	911.6
830	912.7	911.5
825	912.7	911.4
820	912.7	911.4
815	912.7	911.3
810	912.7	911.3
805	912.7	911.2
800	912.7	911.1
795	912.7	911.1
790	911.6	911.0

NOTE:
 EXISTING REBAR NOT SHOWN
 FOR CLARITY. SEE
 SHEET 4 FOR TYPICAL
 EXISTING REBAR

No Change



9th Ave Fish Passage

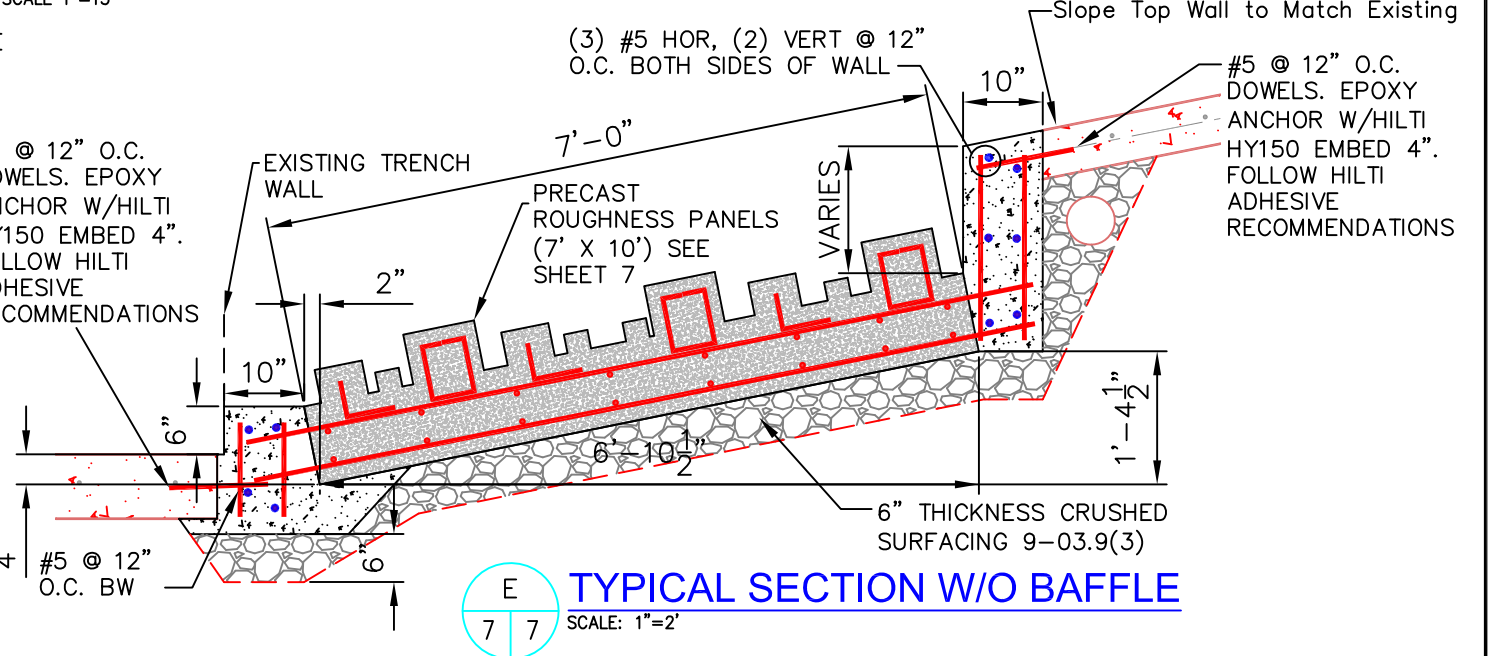
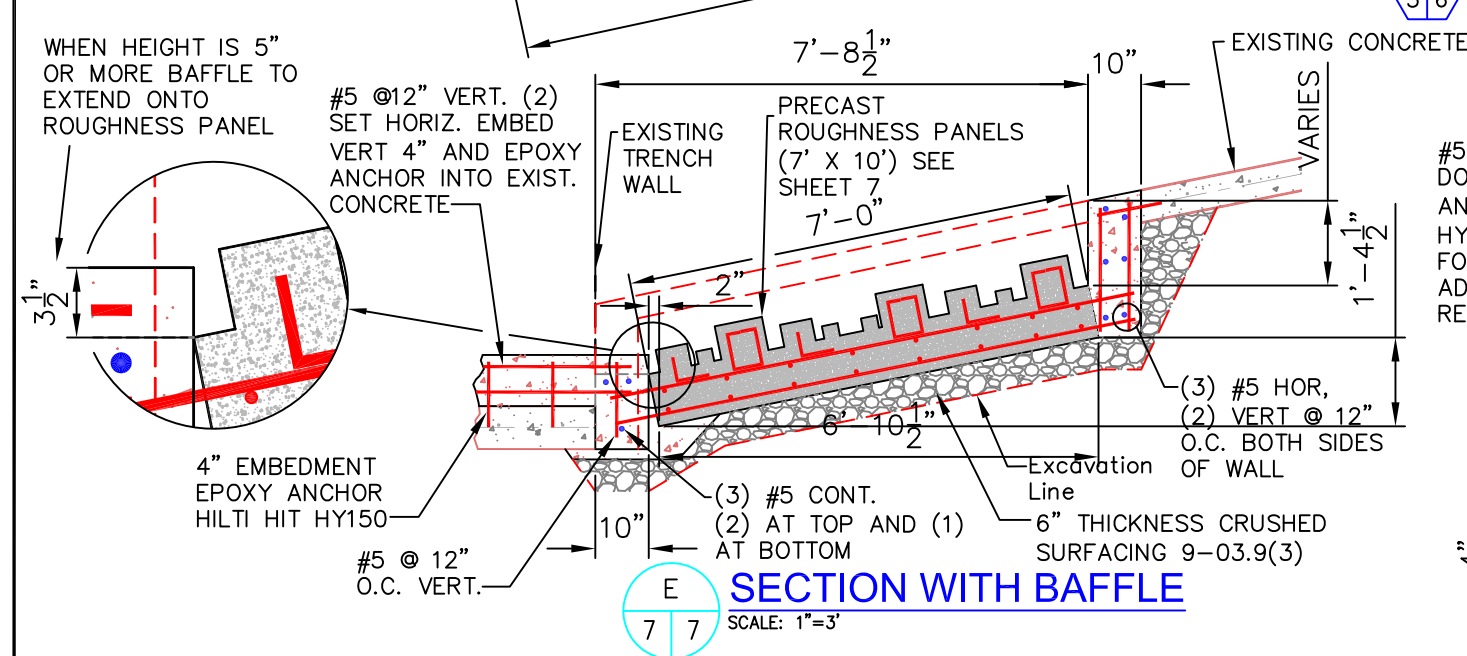
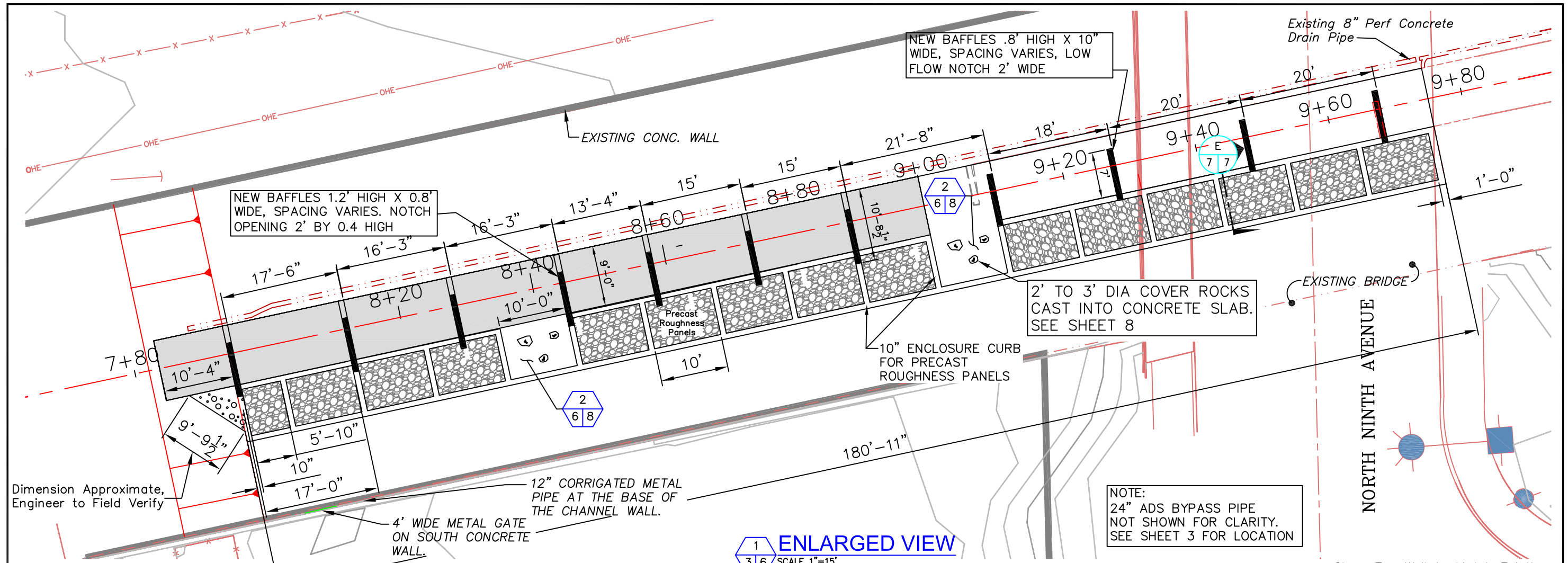


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PROPOSED SECTIONS



9th Ave Fish Passage



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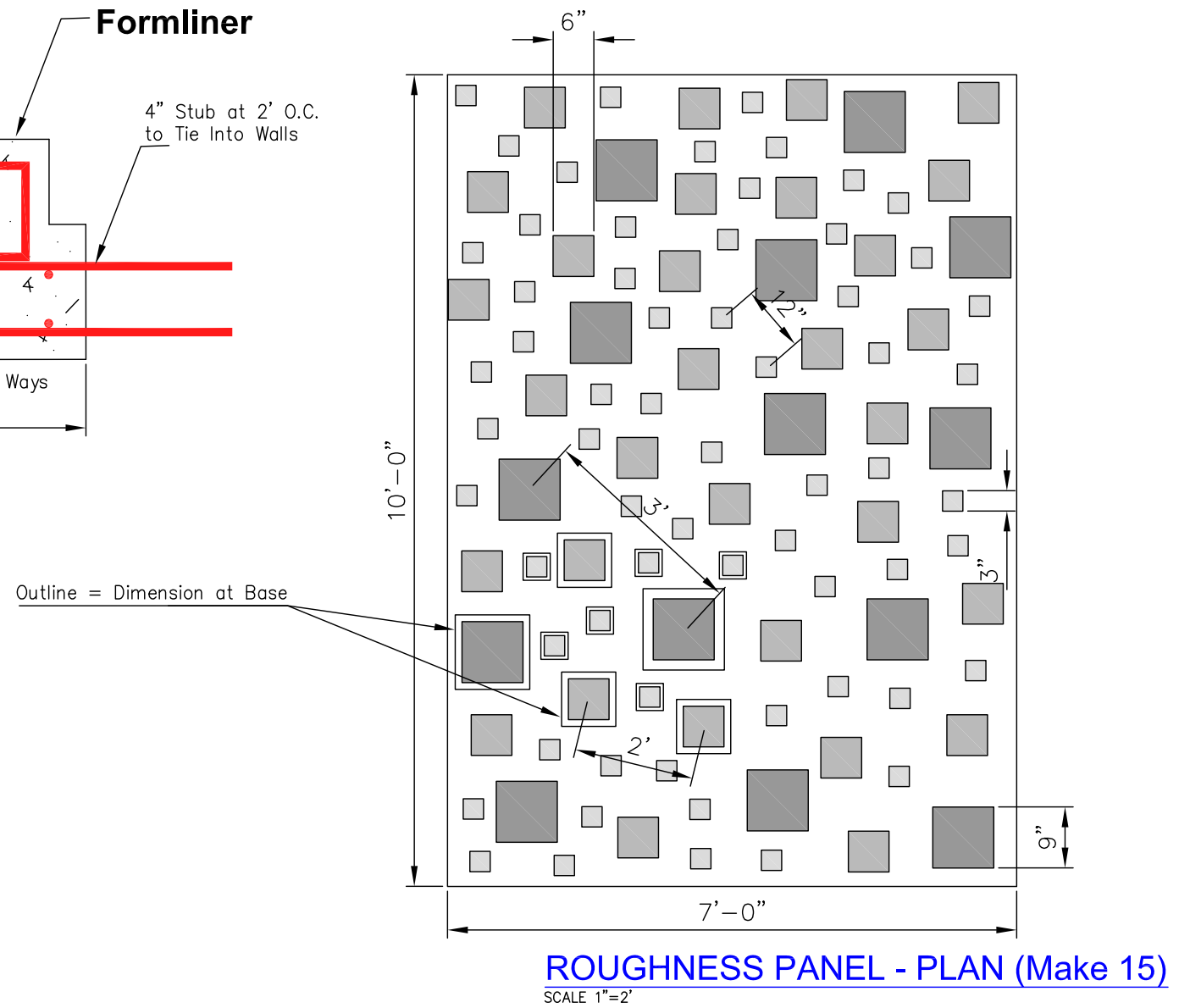
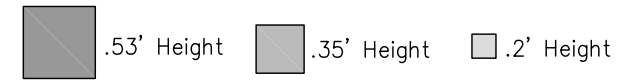
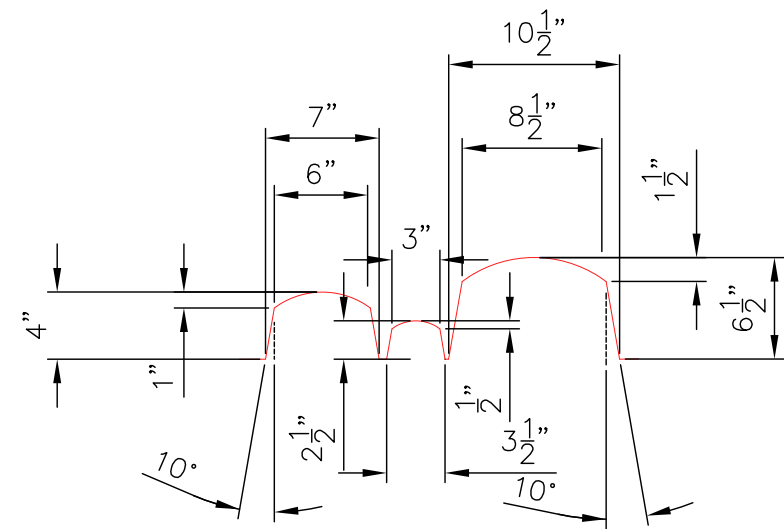
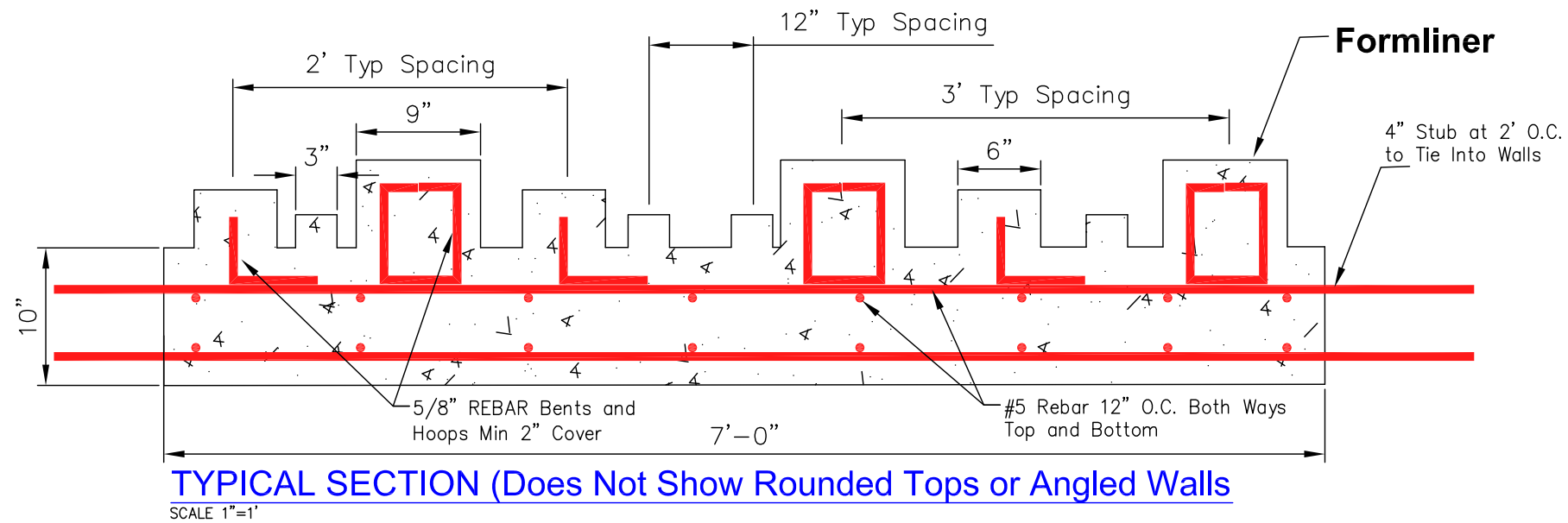
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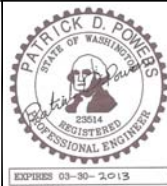
ENLARGED SITE PLAN

CONSTRUCTION NOTES:

1. THE ROUGHNESS PANELS SHALL BE PRECAST CONCRETE PANELS.
2. AFTER CONCRETE STRENGTH HAS REACH 2500 PSI THE PANELS MAY BE PLACED WITHIN THE PROJECT.
3. PRECAST PANELS SHALL BE DRAWN, AND DESCRIBED IN FORMAL SHOP DRAWINGS APPROVED IN WRITING BY THE ENGINEER PRIOR TO CASTING.
4. 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.
5. 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.



9th Ave Fish Passage



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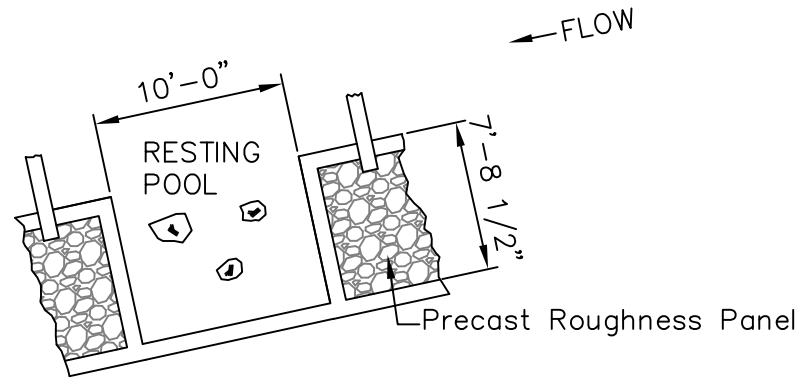
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ROUGHNESS PANEL DETAILS

7 8
SHEET OF

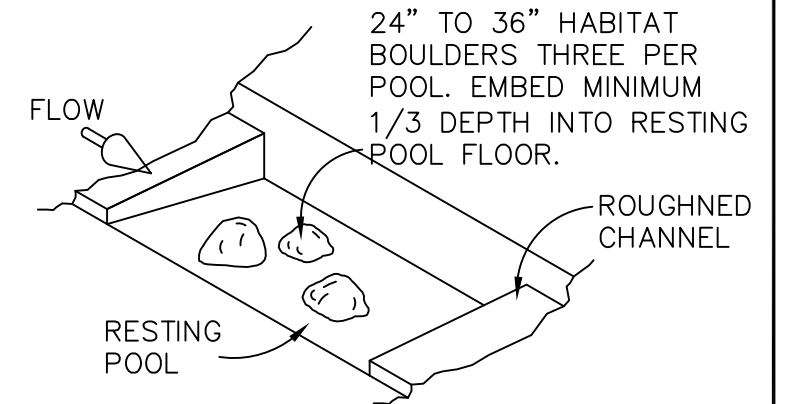


PLAN VIEW

NOTE:

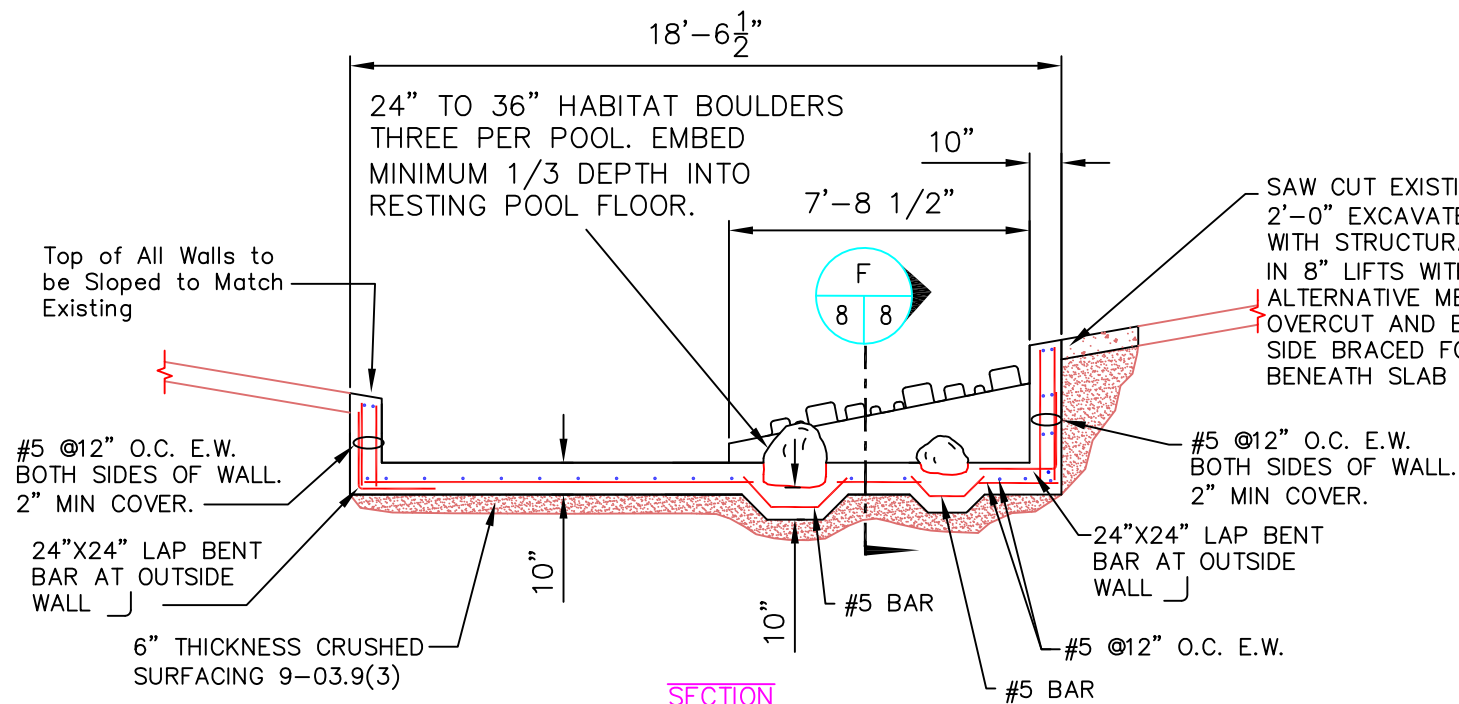
1. ALL CONCRETE TO BE SAW CUT. TIE INTO EXISTING CONCRETE BY DRILLING AND DOWELL #5 BARS AT 24" O.C. USING HILTI HY150 EPOXY.
2. FINAL COVER OVER STEEL SHALL BE 1 1/2" MINIMUM
3. ALL SAW CUT CONCRETE EDGES TO NEW CONCRETE PLACEMENT CONTACTS SHALL BE PROVIDED WITH CONCRETE BONDING AGENT PRIOR TO PLACEMENT OF NEW CONCRETE

NOTE:
RESTING POOLS MAY BE PRECAST.
DETAILS FOR PLACEMENT WITH
ENCLOSURE CURBS SHALL BE
CLEARLY SHOWN IN SHOP DRAWING
SUBMITTAL.



ISOMETRIC
NOT TO SCALE

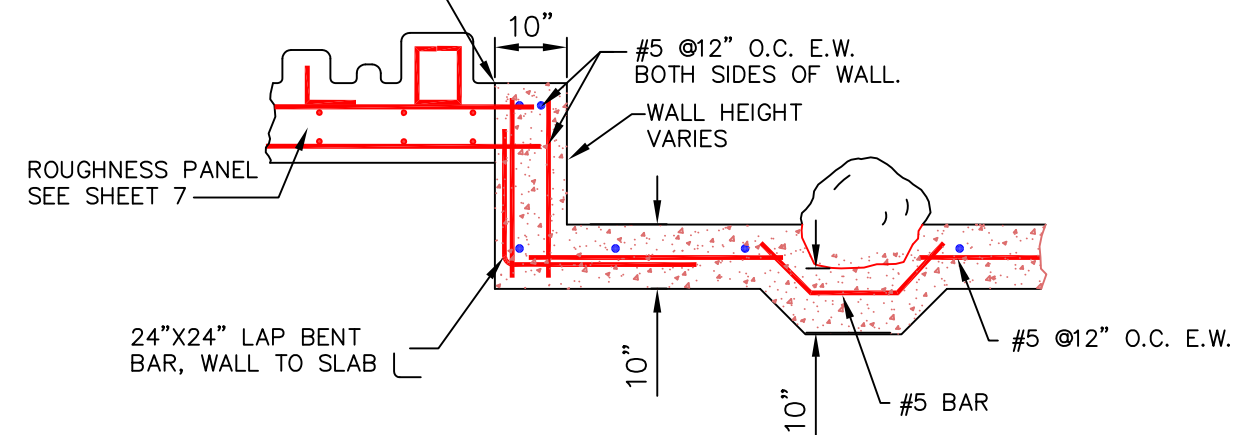
Note: Actual Selection of Boulders and Location to be Determined by Engineer



SECTION

SAW CUT EXISTING CONCRETE BACK 2'-0" EXCAVATE AND FORM. BACKFILL WITH STRUCTURAL FILL AND COMPACT IN 8" LIFTS WITH PLATE COMPACTOR. ALTERNATIVE METHOD IS TO MINIMIZE OVERCUT AND EXCAVATION, USE SINGLE SIDE BRACED FORM AND FILL VOID BENEATH SLAB WITH CONCRETE.

3/4" TROWELED RADIUS TYP AT ENCLOSURE CURBS AND ON ALL EXPOSED EDGES

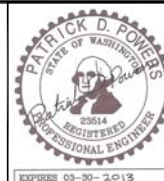


SECTION
SCALE: 1"=2'

2 RESTING POOL DETAILS
6 8 SCALE 1"=10'



9th Ave Fish Passage



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RESTING POOL DETAILS