

Saccarappa Falls Fish Passage Project
Preliminary Design
October 2015



Acheron Engineering Services
Engineering, Environmental & Geologic Consultants
www.AcheronEngineering.com

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ALDEN

Alden Research Laboratory, Inc.
30 Shrewsbury St., Holden, MA. 01520-1843
www.Aldenlab.com



- SYMBOLS LEGEND**
- PROPOSED CHANNEL
 - ROCK FILL
 - BEDROCK TO REMAIN
 - PROPOSED LOCATION FOR 4" TO 6" DIA. BOLLARDS

William B. Ball
 WILLIAM B. BALL
 3009
 PROFESSIONAL ENGINEER
 OCTOBER 29, 2015

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SCALE: 1" = 40'



Saccarappa Falls Fish Passage Project
 Western Channel Design
 Aerial
 Suppl / Warren Release Papers
 Saccarappa Falls
 Westbrook, Maine

Job Number:
 49293

Drawing No:
 C-2249

Sheet 1 of 13

ACHERON ENGINEERING SERVICES
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Drawn By: BEC
 Design By: BEG / JCB / JWB
 Check By: JCB
 Approved By: JWB
 Date: 10.19.15

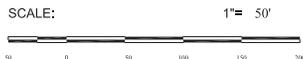
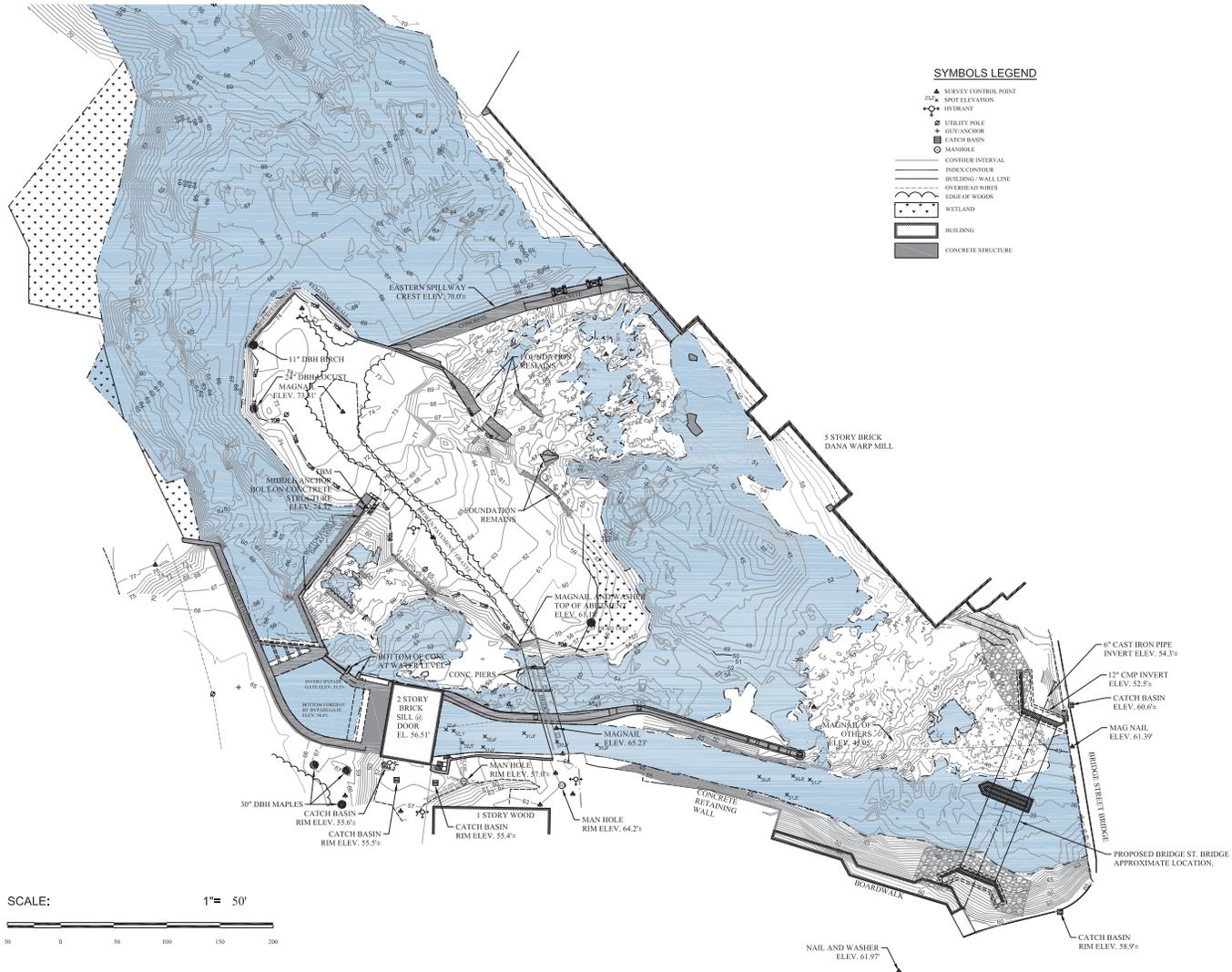
No.	Revision Description	Drawn	Checked	Date



NOTE:
This sheet depicts the Topography of the ground surface and the Bathymetry of the surface of the sediment, soil and/or bedrock below the water at the time and date of the survey.

- NOTES:
- (1) ELEVATIONS SHOWN ARE NAVD 83 BASED UPON NGS DSK R121 WITH PUBLISHED ELEVATION OF 54.54'.
 - (2) CONTOURS SHOWN ARE 1 FOOT INTERVALS.
 - (3) DATA BASED ON FIELD SURVEYS BY PUGSA & DAY LAND SURVEYORS 28 SEPTEMBER, 2011, 14 NOVEMBER, 2011, 10 DECEMBER, 2011, 10 MAY, 2013, 20 JUNE, 2013, AND 4 DECEMBER, 2013 USING A TRIMBLE SC6 ROBOTIC TOTAL STATION AND A TER RANGER DATA COLLECTOR AND BY HARRY R. FELDMAN, INC. 13 DECEMBER, 2011 USING A DIGITAL SCANNER.
 - (4) COORDINATES ARE ORIENTED TO STATE PLANE, MAINE WEST, ZONE 1802, WITH GROUND DISTANCES.

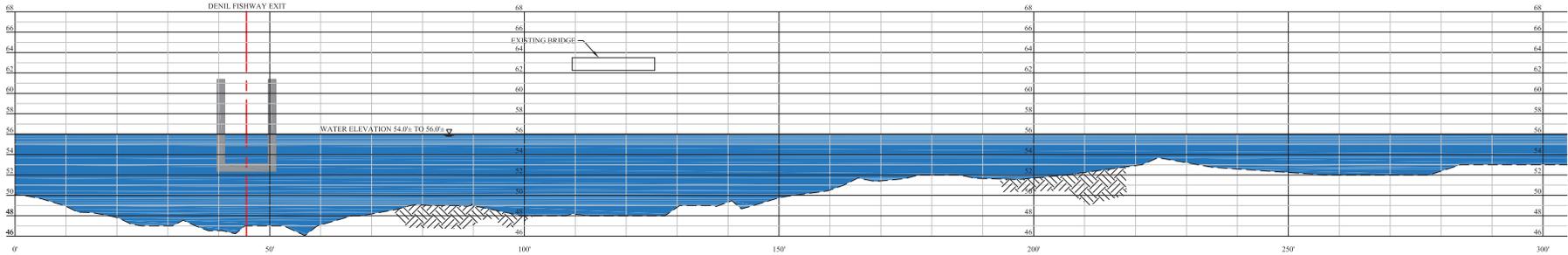
SYMBOLS LEGEND



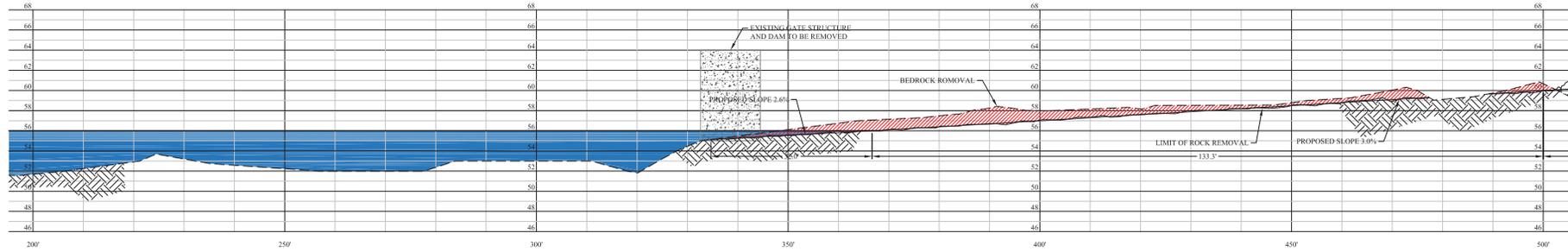
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Drawn By: BEG	Checked By: BEG / KJB / WBD	Approved By: WBD	Date: 10.19.15
Design By: BEG / KJB / WBD	Child By: KJB / WBD	Project No: 24466	Project Name: Saccarappa Falls Fish Passage Project
ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants www.acheronengineering.com 147 Main Street Newry, ME 04953 (207) 796-6216 (352) 796-6216			
Saccarappa Falls Fish Passage Project Western Channel Design Pre-Development Project Site Plan Suppl. / Western Release Papers Saccarappa Falls Westbrook, Maine			
Job Number:	49293	Drawing No:	C-2250
Sheet 2 of 13			

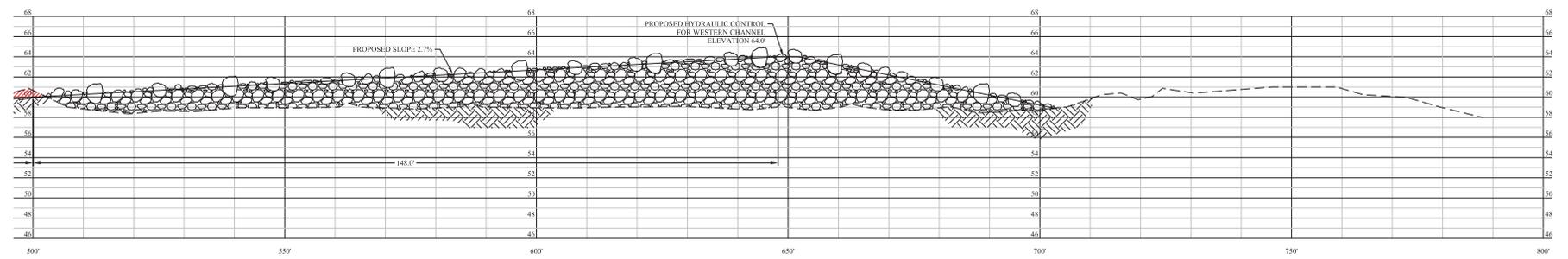


WESTERN CHANNEL PROFILE
 Scale: Hor: 1" = 10'
 Vert: 1" = 5'



WESTERN CHANNEL PROFILE
 Scale: Hor: 1" = 10'
 Vert: 1" = 5'

LOWER SECTION
 STA. 3+44 TO 3+66 = 32'
 ELEV. 56'-55.15" = 0.85' SLOPE: 0.85/32 = 2.6%
 STA. 3+66 TO 3+00 = 133.3'
 ELEV. 60.0'-56.0" = 4.0' SLOPE: 4.0/133.3 = 3.0%



WESTERN CHANNEL PROFILE
 Scale: Hor: 1" = 10'
 Vert: 1" = 5'

UPPER SECTION
 SILL AT ELEV. 64.0'
 STA. 5+00 TO 6+50 = 150'
 ELEV. 64.0'-60.0" = 4.0' SLOPE: 4.0/150 = 2.7%

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No.	Revision Description	Drawn	Check	Date

Drawn By: J.B.C.
 Done By: BFG / J.A.B. / W.B.B.
 Cld By: J.B.C. / W.B.B.
 App'd By: W.B.B.
 Date: 10-19-15

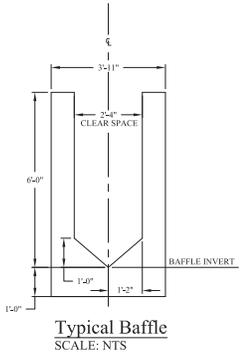
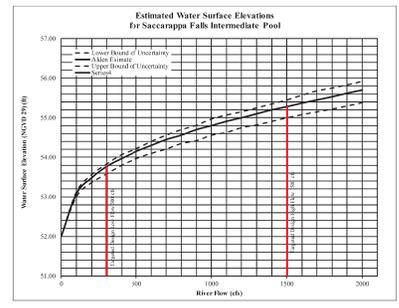
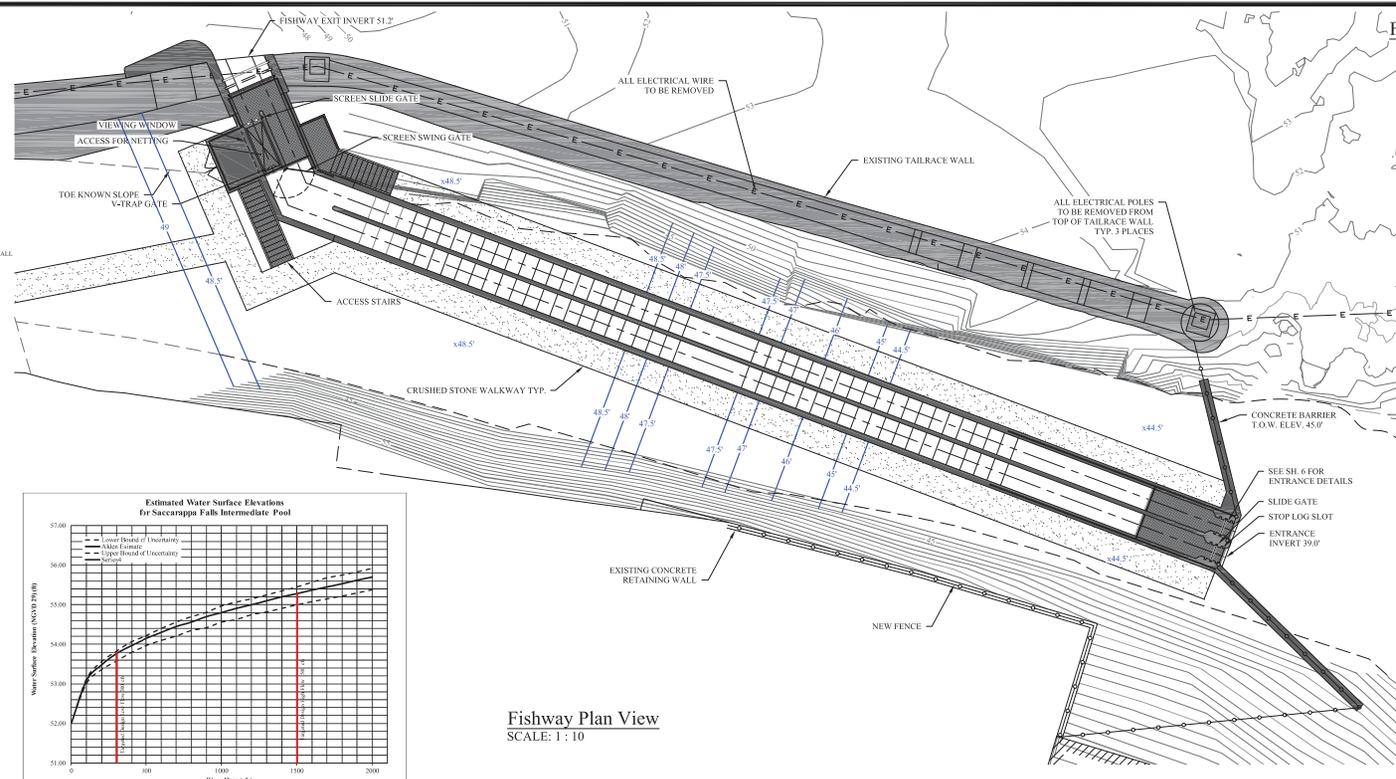
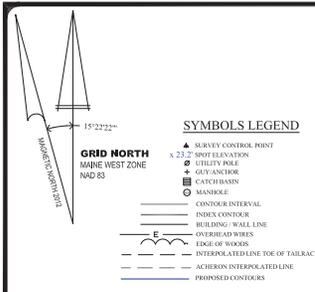
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Saccarappa Falls Fish Passage Project
 Western Channel Design
 Western Channel River Profile
 Suppl / Warren Release Papers
 Saccarappa Falls
 Westbrook, Maine

Job Number:
 49293

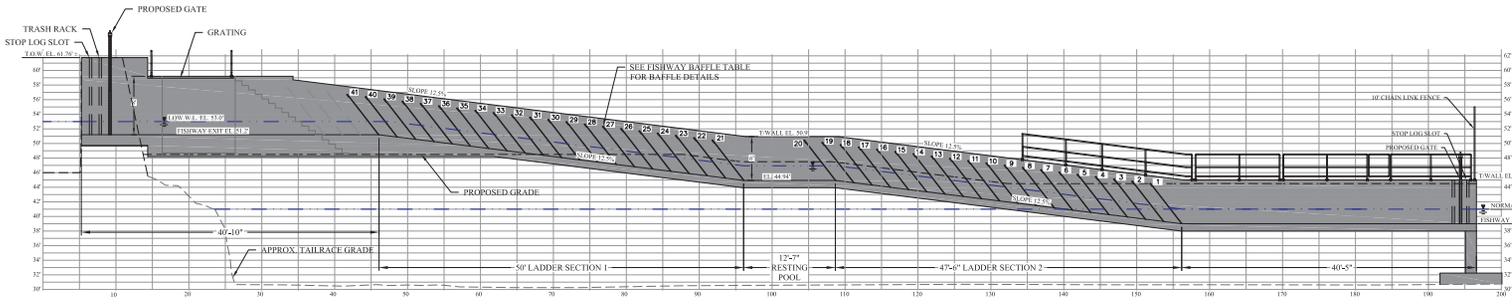
Drawing No:
 C-2253

Sheet 5 of 13



Fishway Baffle Table

BAFFLE NO.	BAFFLE E. INV.	FLOOR INV.
1	39.79	39.00
2	40.10	39.31
3	40.41	39.63
4	40.73	39.94
5	41.04	40.25
6	41.35	40.56
7	41.66	40.88
8	41.98	41.19
9	42.29	41.50
10	42.60	41.81
11	42.91	42.13
12	43.22	42.44
13	43.54	42.75
14	43.85	43.06
15	44.16	43.38
16	44.48	43.69
17	44.79	44.00
18	45.10	44.31
19	45.41	44.63
20	45.73	44.94
21	45.77	44.94
22	46.04	45.15
23	46.35	45.56
24	46.66	45.98
25	46.98	46.39
26	47.29	46.80
27	47.60	47.21
28	47.91	47.63
29	48.22	48.04
30	48.54	48.45
31	48.85	48.86
32	49.16	49.28
33	49.48	49.69
34	49.79	50.10
35	50.10	50.51
36	50.41	50.93
37	50.73	51.34
38	51.04	51.75
39	51.35	52.16
40	51.66	52.58
41	51.98	52.99
42	52.29	53.40



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October 20, 2015

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NOTE:
CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRAVE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRAVE CHANNEL.

Data based on field surveys by Pliska & Day Land Surveyors 26 September, 2011, 14 November, 2011, and 13 December, 2011 using a Trimble S6 robotic total station and a TDS Ranger data collector; and by Harry R. Feldman, Inc 13 December, 2012 using a digital scanner. Water surface as surveyed on December 13, 2012 under low flow conditions. Elevations shown are based on NGVD 29 Datum.

Saccarappa Falls Fish Passage Project
Western Channel Design
Double Denil Plan and Profile
Suppl / Western Release Papers
Saccarappa Falls
Westbrook, Maine

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Drawn By: BEC
Design By: BEG / JLB / JMB
Child By: JLB
Approved By: JMB
Date: 10.19.15

Job Number:
49293

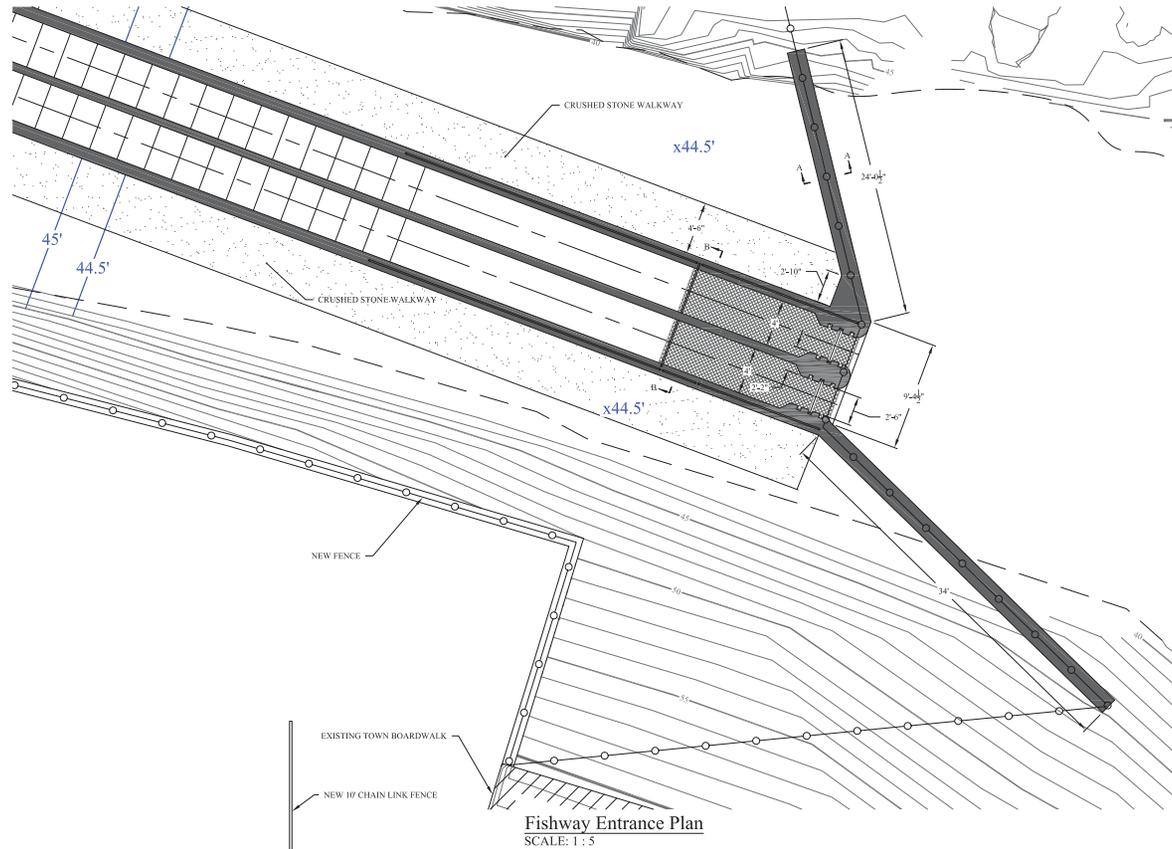
Drawing No:
C-2255

Sheet 7 of 13

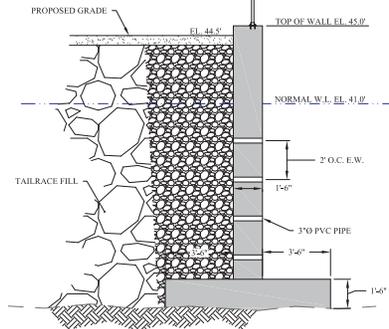


GRID NORTH
MAINE WEST ZONE
NAD 83

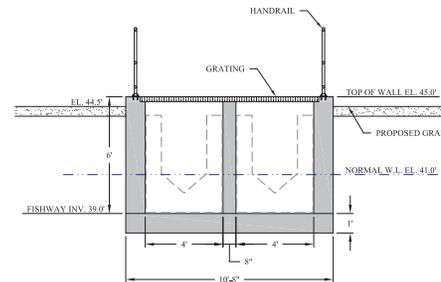
- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
 - x 12.5' SPOT ELEVATION
 - UTILITY POLE
 - ◆ SET ANCHOR
 - CATCH BASIN
 - MANHOLE
 - CONTOUR INTERVAL
 - INDEX CONTOUR
 - BUILDING WALL LINE
 - OVERSHED WIRES
 - EDGE OF WOODS
 - INTERPOLATED LINE TOP OF TAILRACE WALL
 - ACTUARY INTERPOLATED LINE
 - PROPOSED CONTOURS



Fishway Entrance Plan
SCALE: 1 : 5



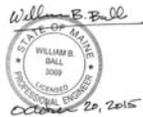
Section A-A
SCALE: 1 : 3



Section B-B
SCALE: 1 : 3

NOTE:
CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRACE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRACE CHANNEL.

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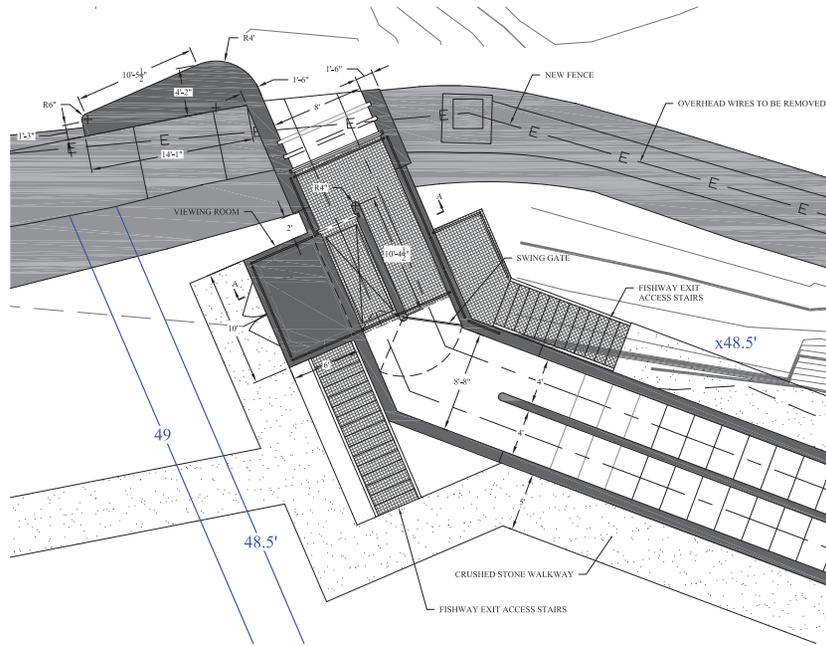
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<p>Drawn By: BEG Desig By: BEG, LKB, JHEB Check By: LKB Apprd By: JHEB Date: 10.19.15</p>	<p>No. _____ Revision Description _____ Drawn _____ Date _____</p>
<p>ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants</p> <p>www.acheronengineering.com 147 Main St. Newport, ME 04953 (207) 266-5700</p>	
<p>Saccarappa Falls Fish Passage Project Western Channel Design Fishway Entrance Plan and Details</p> <p>Sept / Warren Release Papers Saccarappa Falls Westbrook, Maine</p>	
<p>Job Number: 49293</p>	
<p>Drawing No: C-2256</p>	
<p>Sheet 8 of 13</p>	

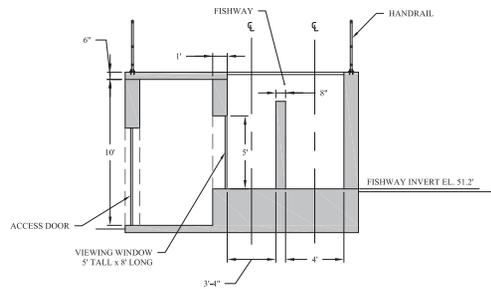


GRID NORTH
MAINE WEST ZONE
NAD 83

- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
 - x 23.2 SPOT ELEVATION
 - UTILITY POLE
 - ANCHOR
 - ▭ CATCH BASIN
 - MANHOLE
 - CONTOUR INTERVAL
 - INDEX CONTOUR
 - BUILDING WALL LINE
 - OVERHEAD WIRES
 - EDGE OF WOODS
 - INTERPOLATED LINE TOE OF TAILRACE WALL
 - ACHERON INTERPOLATED LINE
 - PROPOSED CONTOURS



Fishway Exit Plan View
SCALE: 1 : 5



Fishway Exit Section A-A
SCALE: 1 : 4

NOTE:
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WILLIAM B. BALL
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October 20, 2015

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No.	Revision Description	Drawn	Checked	Date

Drawn By: DECE
Design By: DECE / CCB / JDB
Checked By: KUB
Approved By: JDB
Date: 10.13.15

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Acheron Environmental Inc.

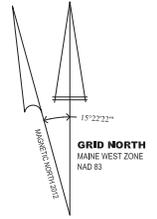
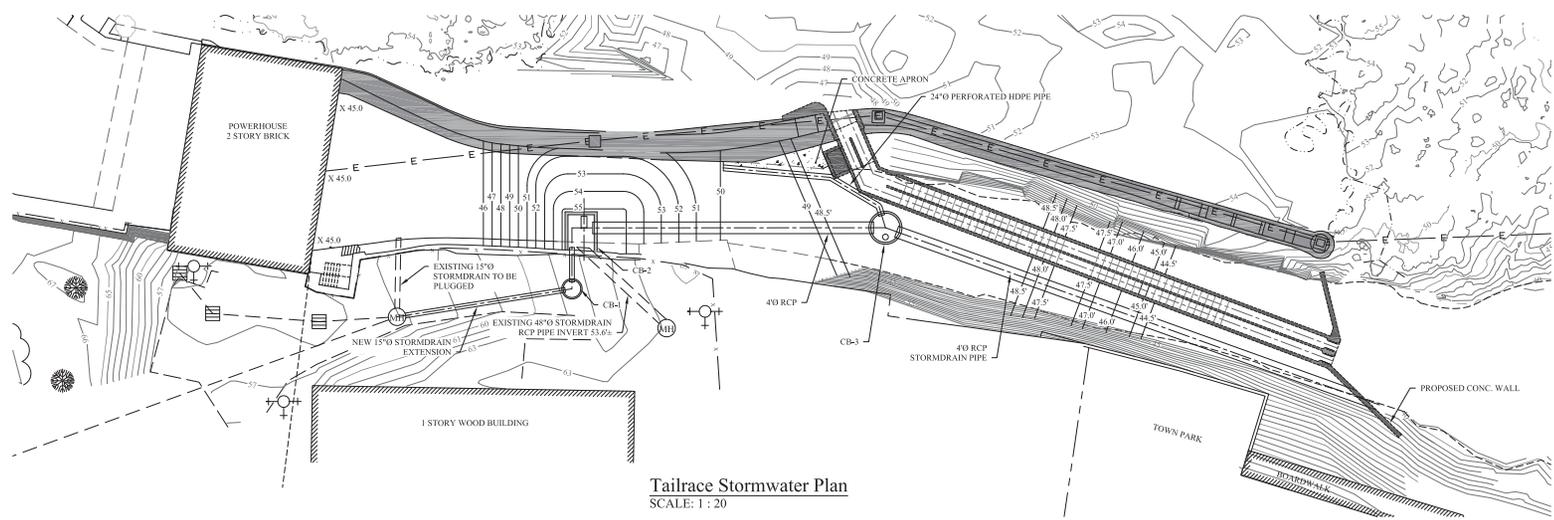
Saccarappa Falls Fish Passage Project
Western Channel Design
Fishway Exit Plan and Sections
Sappi / Warren Release Papers
Saccarappa Falls
Westbrook, Maine

Job Number:
49293

Drawing No:
C-2257

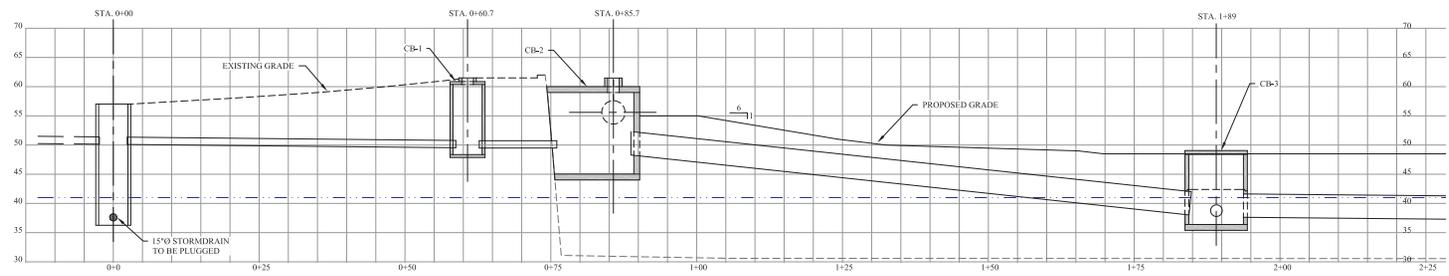
Sheet 9 of 13

NOTE:
 1. LOCATION OF EXISTING 4"Ø AND 15"Ø STORM DRAINS, BASED ON INFORMATION PROVIDED BY CITY OF WESTBROOK AND SAPP. CONFIRMATION OF LOCATION REQUIRED.
 2. CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRACE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRACE CHANNEL.

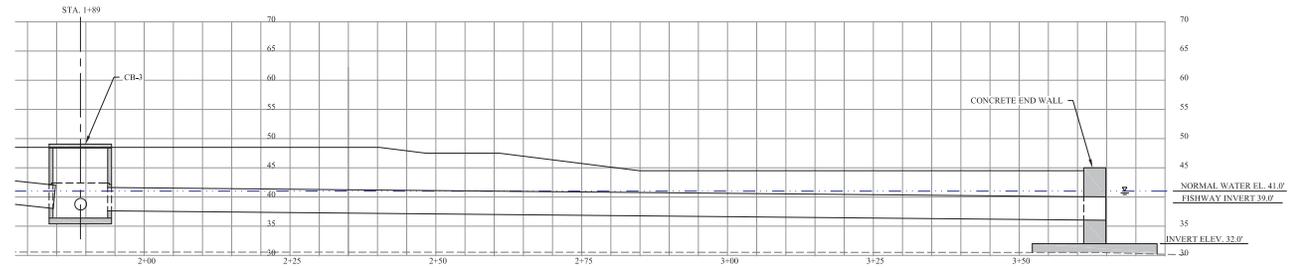


- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
 - SPOT ELEVATION
 - ◆ TIRIANT
 - ⊕ UTILITY POLE
 - ⊙ GUY ANCHOR
 - ⊞ CATCH BASIN
 - ⊙ MANHOLE
 - CONTOUR INTERVAL
 - INDEX CONTOUR
 - BUILDING WALL LINE
 - OVERHEAD WIRES
 - EDGE OF WOODS
 - PROPOSED CONTOUR
 - PROPOSED CONCRETE
 - INTERPOLATED LINE
 - PROPOSED STORMWATER

Tailrace Stormwater Plan
 SCALE: 1 : 20



Stormdrain Profile
 SCALE: Horz = 1 : 10
 Vert = 1 : 10



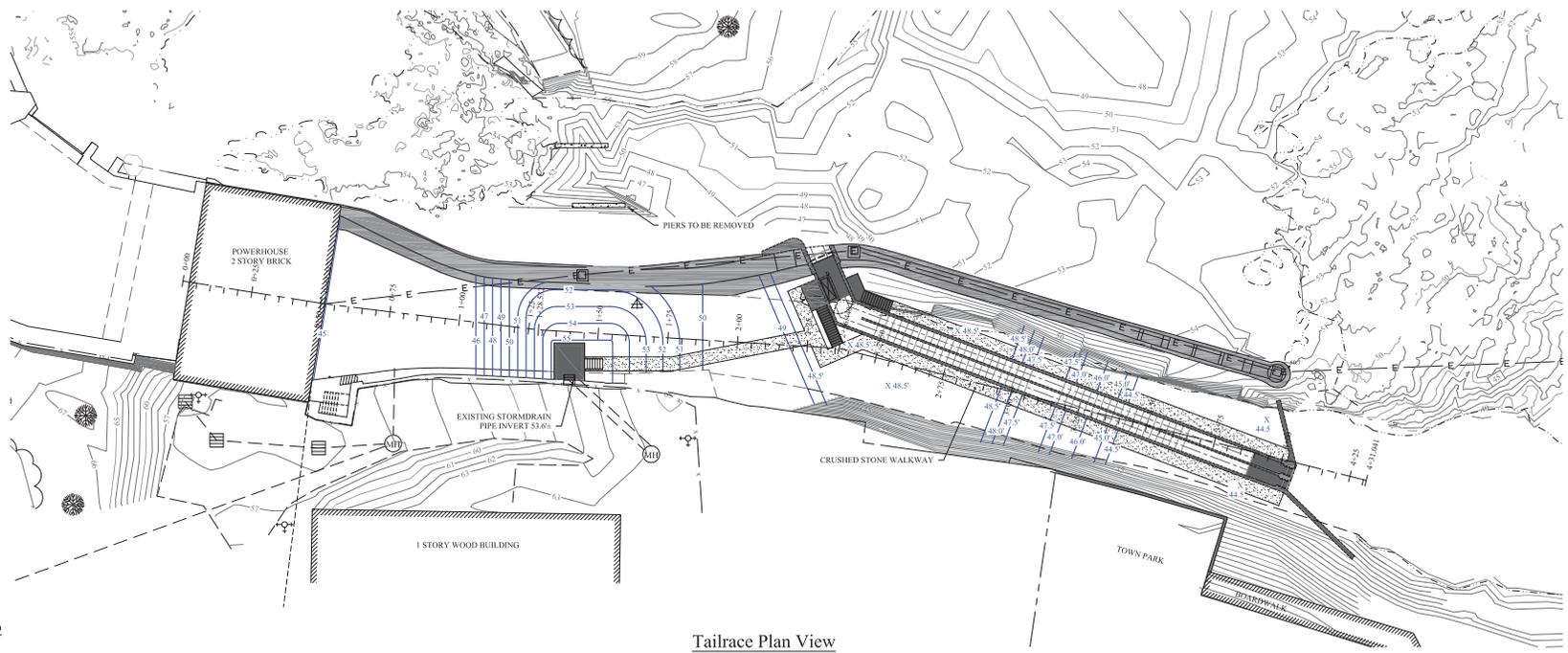
Stormdrain Profile
 SCALE: Horz = 1 : 10
 Vert = 1 : 10

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 OCTOBER 20, 2015

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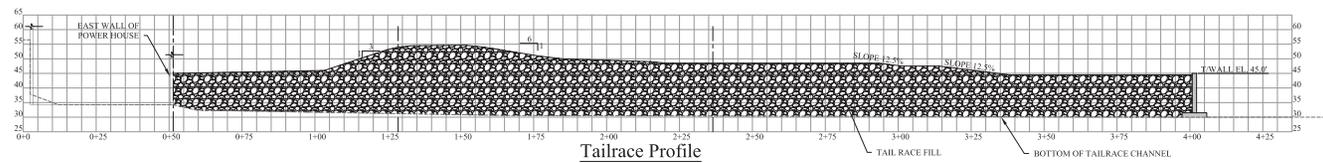
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Design By: ELG / JLB / WDB	Child By: CLB	Approved By: WDB	Date: 10.19.15
ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants www.acheronengineering.com 147 Main Street, Suite 102 Newry, ME 04953 (207) 568-5700			
Saccarappa Falls Fish Passage Project Western Channel Design Proposed Tailrace Stormdrain Plan and Profile Sapp / Western Release Papers Saccarappa Falls Westbrook, Maine			
Job Number:	49293		
Drawing No:	C-2258		
Sheet 10 of 13			



Tailrace Plan View
SCALE: 1 : 20

SYMBOLS LEGEND

- ▲ SURVEY CONTROL POINT
- X 23.2' SPOT ELEVATION
- HIGHWAY
- UTILITY POLE
- ◆ GUY ANCHOR
- CATCH BASIN
- MANHOLE
- CONTOUR INTERVAL
- - - INDEX CONTOUR
- ▭ BUILDING / WALL LINE
- OVERHEAD WIRES
- EDGE OF WORK
- FENCE
- - - CONTOURS DERIVED FROM OTHER SOURCES
- - - PROPOSED CONTOURS
- ▭ MAN MADE STRUCTURE REMAINS
- - - INTERPOLATED LINE



Tailrace Profile
SCALE: Horiz = 1 : 20
Vert = 1:20

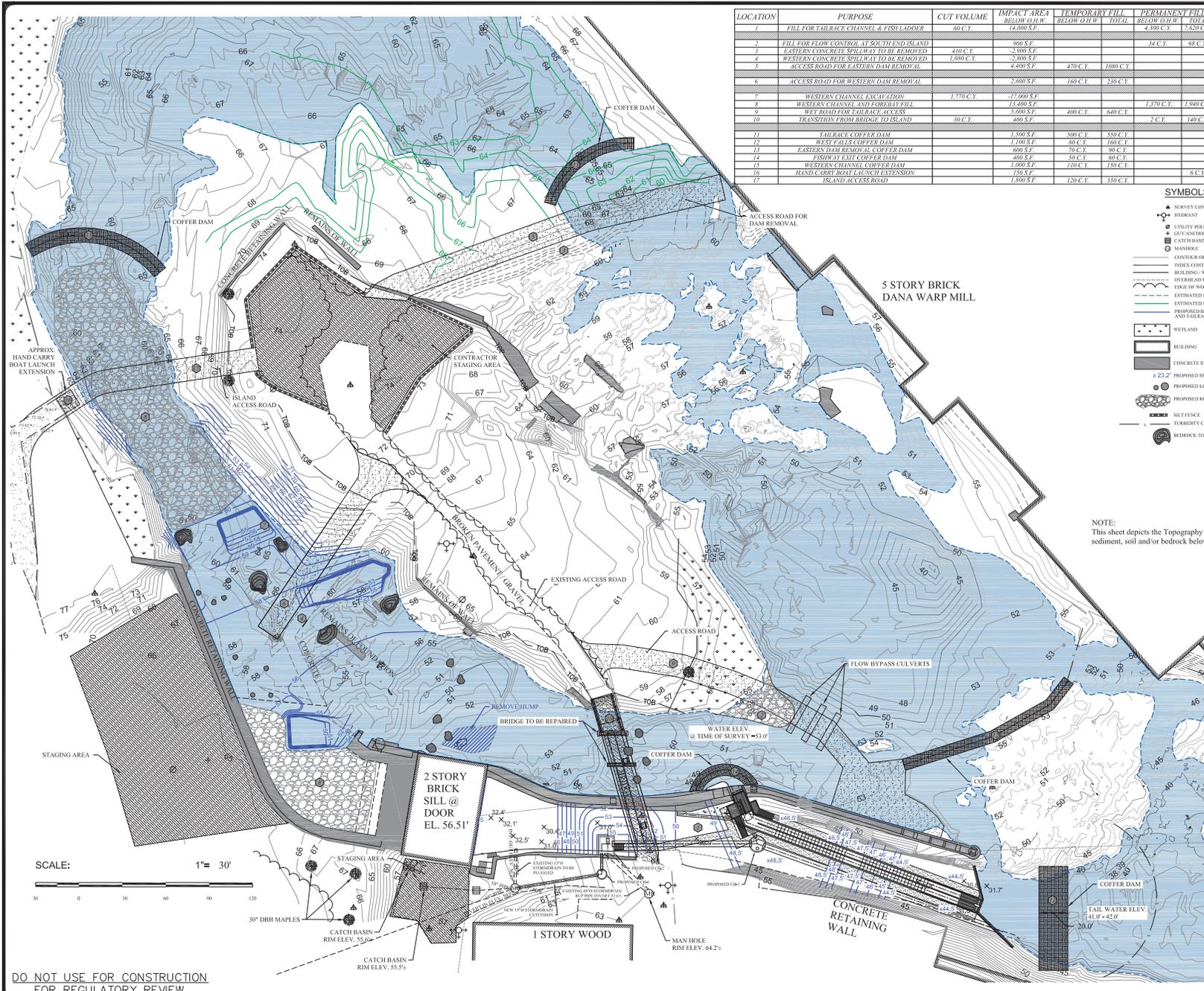
William B. Ball

 October 20, 2015

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<p>Saccarappa Falls Fish Passage Project Fishway Preliminary Design Proposed Tailrace Grading Plan and Profile</p> <p>Supply / Warren Release Papers Saccarappa Falls Westbrook, Maine</p>	<p>Job Number: 49293</p> <p>Drawing No: C-2259</p> <p>Sheet 11 of 13</p>										
<p>ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants</p> <p>www.acheronengineering.com 2466 Powell Rd. Newry, ME 04953 (352) 796-6336 (207) 568-5700</p>											
<p>Drawn By: BEC Desig. By: BEG / JCB / WBD Check By: LCB Apprd. By: JDD Date: 10.19.15</p>											
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No.	Revision Description	Drawn	Check	Date							



LOCATION	PURPOSE	CUT VOLUME	IMPACT AREA BELOW O.H.W.	TEMPORARY FILL		PERMANENT FILL		MATERIAL SPECIFICATION AND DESCRIPTION
				BELOW O.H.W.	TOTAL	BELOW O.H.W.	TOTAL	
1	FILL FOR LAIRACE CHANNEL & FISH LADDER	60 C.Y.	14,000 S.F.			4,300 C.Y.	7,620 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS AND REINFORCED CONCRETE
2	FILL FOR FLOW CONTROL AT SOUTH END ISLAND		900 S.F.			34 C.Y.	68 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT
3	EASTERN CONCRETE SPILLWAY TO BE REMOVED	400 C.Y.	2,900 S.F.					DEMO CONCRETE
4	WESTERN CONCRETE SPILLWAY TO BE REMOVED	1,800 C.Y.	2,900 S.F.					DEMO CONCRETE
5	ACCESS ROAD FOR EASTERN DAM REMOVAL		4,400 S.F.	470 C.Y.	1000 C.Y.			EXISTING GRAVEL WET ROAD. CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS
6	ACCESS ROAD FOR WESTERN DAM REMOVAL		3,600 S.F.	160 C.Y.	330 C.Y.			EXISTING GRAVEL WET ROAD. CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS
7	WESTERN CHANNEL EXCAVATION	1,730 C.Y.	17,400 S.F.					BEDROCK EXCAVATION WITH BLASTING
8	WESTERN CHANNEL AND FOREBAY FILL		13,400 S.F.			1,170 C.Y.	1,940 C.Y.	CLEAN WASHED STONE FILL EXCAVATED BEDROCK FILL
9	WET ROAD FOR LAIRACE ACCESS		3,600 S.F.	408 C.Y.	640 C.Y.			CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS
10	TRANSITION FROM BRIDGE TO ISLAND	30 C.Y.	400 S.F.			2 C.Y.	140 C.Y.	CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS OR SUITABLE DEMO DEBRIS W/ GRAVEL TOP
11	LAIRACE COFFER DAM		1,500 S.F.			500 C.Y.	550 C.Y.	CELLULAR STYLE COFFER DAM
12	WEST FALLS COFFER DAM		1,100 S.F.			400 C.Y.	160 C.Y.	SANDBAGS
13	EASTERN DAM REMOVAL COFFER DAM		600 S.F.			70 C.Y.	90 C.Y.	SANDBAGS
14	FISHWAY EXIT COFFER DAM		400 S.F.			50 C.Y.	60 C.Y.	SANDBAGS
15	WESTERN CHANNEL COFFER DAM		1,000 S.F.			150 C.Y.	150 C.Y.	SANDBAGS
16	HAND CARRY BOAT LAUNCH EXTENSION		130 S.F.				6 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS
17	ISLAND ACCESS ROAD		1,800 S.F.	120 C.Y.	350 C.Y.			CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS

SYMBOLS LEGEND

- ▲ SURVEY CONTROL POINT
- ◆ HYDRANT
- UTILITY POLE
- ⊕ GUY ANCHOR
- ⊖ CATCH BASIN
- ⊘ MANHOLE
- ▭ CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- ▭ INDEX CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- ▭ BUILDING WALL LINE
- ▭ OVERHEAD WIRES
- ▭ EDGE OF WOODS
- ▭ ESTIMATED FROM SURVEYED DATA
- ▭ ESTIMATED EXISTING BEDROCK BATHYMETRY
- ▭ PROPOSED BEDROCK BATHYMETRY IN WESTERN CHANNEL AND LAIRACE FILL
- ▭ WETLAND
- ▭ BUILDING
- ▭ CONCRETE STRUCTURE
- 23.2' PROPOSED SPOT ELEVATIONS
- PROPOSED LOCATION FOR 4" TO 6" DIA. BOLLARDS
- PROPOSED ROCK FILL
- SILTFENCE
- TURBIDITY CURBAIN
- BEDROCK TO REMAIN

NOTE:
This sheet depicts the Topography of the ground surface and the Bathymetry of the surface of the sediment, soil and/or bedrock below the water at the time and date of the survey.

NOTES:

- (1) ELEVATIONS SHOWN ARE NAVD 83 BASED UPON NGS DBM R121 WITH PUBLISHED ELEVATION OF 54.14.
- (2) CONTOURS SHOWN ARE 1 FOOT INTERVALS.
- (3) DATA BASED ON FIELD SURVEYS BY FLORIDA & DAY LAND SURVEYORS 20 SEPTEMBER, 2011, 14 NOVEMBER, 2011, 13 DECEMBER, 2011, 15 MARCH, 2012, 20 JUNE, 2012, AND 4 DECEMBER, 2013 USING A TRIMBLE 56 ROBOTIC TOTAL STATION AND A TOP RANGER DATA COLLECTOR AND BY HARRY R. FELDMAN, INC 13 DECEMBER, 2011 USING A DIGITAL SCANNER.
- (4) COORDINATES ARE ORIENTED TO STATE PLANE, MAINE WEST ZONE 160, WITH GRIDING 9874625.

William B. Ball
 WILLIAM B. BALL
 3009
 OCTOBER 20, 2015

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 Checked By: []
 No. Revision Description: []

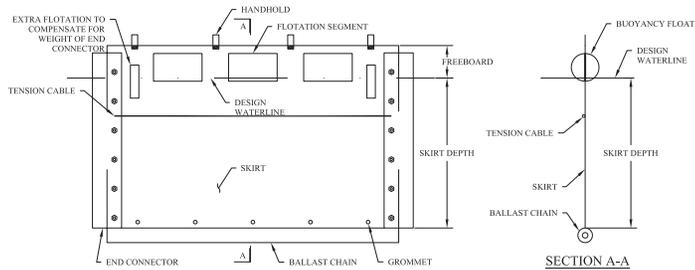
Drawn By: BEG
 Design By: BEG / CJB / JWB
 Child By: KJD / WBS
 Approved By: JDBL
 Date: 10.19.15

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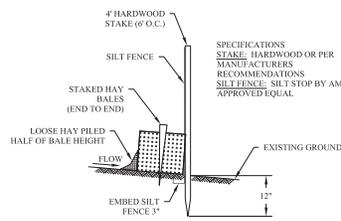
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Saccarappa Falls Fish Passage Project
 Western Channel Design
 Coffler Dam / Dewaterin Construction Plan
 Supply / Wetland Release Papers
 Saccarappa Falls
 Westbrook, Maine

Job Number: 49293
 Drawing No: C-2260
 Sheet 12 of 13



TYPE II SILT CURTAIN DETAIL
NOT TO SCALE



STANDARD SILT FENCE DETAIL
NOT TO SCALE

GENERAL NOTES:

1. LOCATE AND MARK ALL PROJECT BOUNDARIES PRIOR TO CONSTRUCTION.
2. LIMIT THE AMOUNT OF SOIL DISTURBANCE AT ANY ONE TIME.
3. INSTALL SEDIMENT BARRIERS PRIOR TO DISTURBING SOILS.
4. MARK SOIL DISTURBANCE LIMITS.
5. MULCH EXPOSED SOIL AS SOON AS POSSIBLE, AND REVEGETATE AS SOON AS FINAL GRADE IS ATTAINED.
6. INSPECT AND REPAIR EROSION CONTROL AND SEDIMENT TRAPPING MEASURES WEEKLY AND AFTER EVERY STORM EVENT.
7. REMOVE TEMPORARY EROSION CONTROLS WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.
8. STABILIZE DITCHES WITHIN 24 HOURS OF FINAL GRADE.
9. INSTALL SEDIMENT BARRIER DOWN SLOPE OF SOIL STOCK PILES.
10. DO NOT SITE SOIL STOCK PILES IN AREA OF CONCENTRATED FLOW OR POTENTIAL FLOODING.
11. MULCHING:
 - A. APPLY TEMPORARY MULCH ON DISTURBED AREAS WITHIN 14 DAYS OF INITIAL DISTURBANCE OR PRIOR TO ANY STORM.
 - B. DO NOT APPLY EROSION CONTROL MIX, OR HAY MULCH, IN AREAS OF CONCENTRATED WATER FLOWS.
 - C. DO NOT USE EROSION CONTROL MIX, OR HAY MULCH FOR SLOPES STEEPER THAN 2:1.
 - D. APPLY EROSION CONTROL MIX IN A LAYER AT LEAST 3\"/>
12. SEEDING:
 - A. COMPLETE SEEDING WITHIN 7 DAYS OF FINAL GRADING.
 - B. BROADCAST SEED OVER ENTIRE DITCH AND SURFACE AND RAKE INTO SOIL.
 - C. APPLY HAY MULCH TO ALL SEEDED AREAS.
 - D. SUMMER SEEDED DATES ARE FROM APRIL 1 TO SEPTEMBER 15.
 - E. PERMANENT SEEDING SHOULD BE DONE 45 DAYS BEFORE FIRST KILLING FROST.
13. STABILIZATION BEFORE WINTER:
 - SEPTEMBER 15:
 - ALL DISTURBED AREA MUST BE SEEDED AND MULCHED.
 - ALL SLOPES MUST BE SEEDED AND MULCHED.
 - ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
 - OCTOBER 1:
 - SLOPE STABILIZED WITH EROSION CONTROL BLANKET AND SEEDED.
 - NOVEMBER 15:
 - ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
14. PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS, SILT CURTAIN SHALL BE INSTALLED IN AREAS INDICATED ON DRAWINGS.
15. SILT CURTAIN, TYPE II MEDIUM DUTY WITH FILTER FABRIC SKIRT.
16. FOLLOW GUIDELINES SET FORTH IN EROD TN-DOER-21 PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS FOR SELECTION OF SILT CURTAIN.
17. MODIFY DEWATERING OPERATIONS AND EROSION CONTROL MEASURE AS NECESSARY SO THAT THE DISCHARGE TO THE RIVER DOES NOT EXCEED THE FOLLOWING LIMITS:
 1. TOTAL SUSPENDED SOLIDS - 30 MG/L
 2. TOTAL SETTLEABLE SOLIDS - 5 MG/L
 3. TURBIDITY - 50 NTU ABOVE RECEIVING WATER.
18. ACHERON HAS USED A REASONABLE STANDARD OF CARE TO TRY TO LOCATE UNDERGROUND FACILITIES IN THE VICINITY OF THIS PROJECT. THE LOCATIONS OF UNDERGROUND FACILITIES DEPICTED ON THIS DRAWING ARE APPROXIMATE. EXCAVATORS MUST COMPLY WITH ALL REQUIREMENTS OF TITLE 23 SECTION 3360, PROTECTION OF UNDERGROUND FACILITIES BEFORE COMMENCING OPERATIONS.
19. DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE U.S., INCLUDING WETLANDS, SHALL BE AVOIDED AND MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE THROUGH CONSIDERATION OF ALTERNATIVES.
20. TEMPORARY FILL PLACED INTO WATERS OF THE U.S. (INCLUDING WETLANDS) TOTALING GREATER THAN OR EQUAL TO 4,300 SF (15,000 SF IF A DEEP TIER ONE PERMIT IS ISSUED) IN TOTAL AREA (I.E., THE SUM OF PERMANENT AND TEMPORARY FILL AREAS) EXCEEDS THE CATEGORY I THRESHOLD AND MAY NOT BE DISCHARGED WITHOUT WRITTEN AUTHORIZATION FROM THE U.S. ARMY CORPS, WHEN TEMPORARY FILL IS USED (E.G., ACCESS ROADS, SWAMP MATS, COFFERDAMS), IT SHALL BE STABILIZED AND MAINTAINED DURING CONSTRUCTION IN SUCH A WAY AS TO PREVENT SOIL ERODING INTO PORTIONS OF WATERS OF THE U.S. WHERE IT IS NOT AUTHORIZED. SWAMP OR TIMBER MATS ARE CONSIDERED TEMPORARY FILL WHEN THEY ARE REMOVED IMMEDIATELY UPON WORK COMPLETION. THE AREA MUST BE RESTORED.
 - . UNCONFINED TEMPORARY FILL AUTHORIZED FOR DISCHARGE INTO FLOWING WATER (RIVERS AND STREAMS) SHALL CONSIST ONLY OF CLEAN WASHED STONE.
 - . TEMPORARY FILL AUTHORIZED FOR DISCHARGE INTO WETLANDS SHALL BE PLACED ON GEOTEXTILE FABRIC LAID ON THE PRE-CONSTRUCTION WETLAND GRADE. (SWAMP AND TIMBER MATS ARE EXCLUDED FROM THIS REQUIREMENT.)
 - . TEMPORARY FILL SHALL BE REMOVED AS SOON AS IT IS NO LONGER NEEDED, AND IT SHALL BE DISPOSED OF AT AN UPLAND SITE AND SUITABLY CONTAINED TO PREVENT SUBSEQUENT EROSION INTO WATERS OF THE U.S.
 - . WATERS OF THE U.S. WHERE TEMPORARY FILL WAS DISCHARGED SHALL BE RESTORED.
 - . NO TEMPORARY WORK SHALL DRAIN A WATER OF THE U.S. BY PROVIDING A CONDUIT FOR WATER ON OR BELOW THE SURFACE.
21. RESTORATION:
 - . UPON COMPLETION OF CONSTRUCTION, ALL DISTURBED WETLAND AREAS (THE DISTURBANCE OF THESE AREAS MUST BE AUTHORIZED) SHALL BE STABILIZED WITH A WETLAND SEED MIX CONTAINING ONLY PLANT SPECIES NATIVE TO NEW ENGLAND. THE INTRODUCTION OR SPREAD OF INVASIVE PLANT SPECIES IN DISTURBED AREAS SHALL BE CONTROLLED.
 - . IN AREAS OF AUTHORIZED TEMPORARY DISTURBANCE, IF TREES ARE CUT THEY SHALL BE CUT AT GROUND LEVEL AND NOT UPROOTED IN ORDER TO PREVENT DISRUPTION TO THE WETLAND SOIL STRUCTURE AND TO ALLOW STUMP SPROUTS TO REVEGETATE THE WORK AREA, UNLESS OTHERWISE AUTHORIZED.
 - . WETLAND AREAS WHERE PERMANENT DISTURBANCE IS NOT AUTHORIZED SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION, WHICH UNDER NO CIRCUMSTANCES SHALL BE HIGHER THAN THE PRE-CONSTRUCTION ELEVATION. ORIGINAL CONDITION MEANS CAREFUL PROTECTION AND/OR REMOVAL OF EXISTING SOIL AND VEGETATION, AND REPLACEMENT BACK TO THE ORIGINAL LOCATION SUCH THAT THE ORIGINAL SOIL LAYERING AND VEGETATION SCHEMES ARE APPROXIMATELY THE SAME, UNLESS OTHERWISE AUTHORIZED.
22. SEE SPECIFICATIONS FOR RIVER FLOW AND WATER LEVEL MANAGEMENT PLAN.
23. COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS. ALL WORK DONE SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY BEST MANAGEMENT PRACTICES OF MAINE AS PREPARED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE U.S. ARMY CORPS OF ENGINEERS.

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William E. Ball

 October 20, 2015

Job Number:
49293
 Drawing No:
C-2261
 Sheet 13 of 13

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Saccarappa Falls Fish Passage Project
 Western Channel Design
 Erosion Control General Notes
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 Saccarappa Falls
 Westbrook, Maine

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Design By: BEG / CJB / JWB	Child By: CJB / JWB	Revision Description:	Date:
Approved By: JWB	Date: 10.19.15	No.:	Drawn:



PROJECT LOCATION MAP

PROJECT OWNER: CITY OF WESTBROOK
 2 YORK ST.
 WESTBROOK, ME 04092

ENGINEER: GARY M. LACY, P.E.
 RECREATION ENGINEERING AND PLANNING
 485 ARAPAHOE AVE.
 BOULDER, CO 80302
 303-545-5883
 INFO@BOATERPARKS.COM



TABLE OF CONTENTS

1. PROJECT LOCATION MAP AND TABLE OF CONTENTS
2. PROJECT OVERVIEW PLAN
3. STRUCTURE SECTIONS
4. STRUCTURE LONGITUDINAL PROFILES

PROJECT LOCATION
 LATITUDE 43°40'41.16"N LONGITUDE 70°22'11.57"W



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WHITEWATER AND HABITAT IMPROVEMENTS

PRESUMPSCOT RIVER, WESTBROOK, MAINE

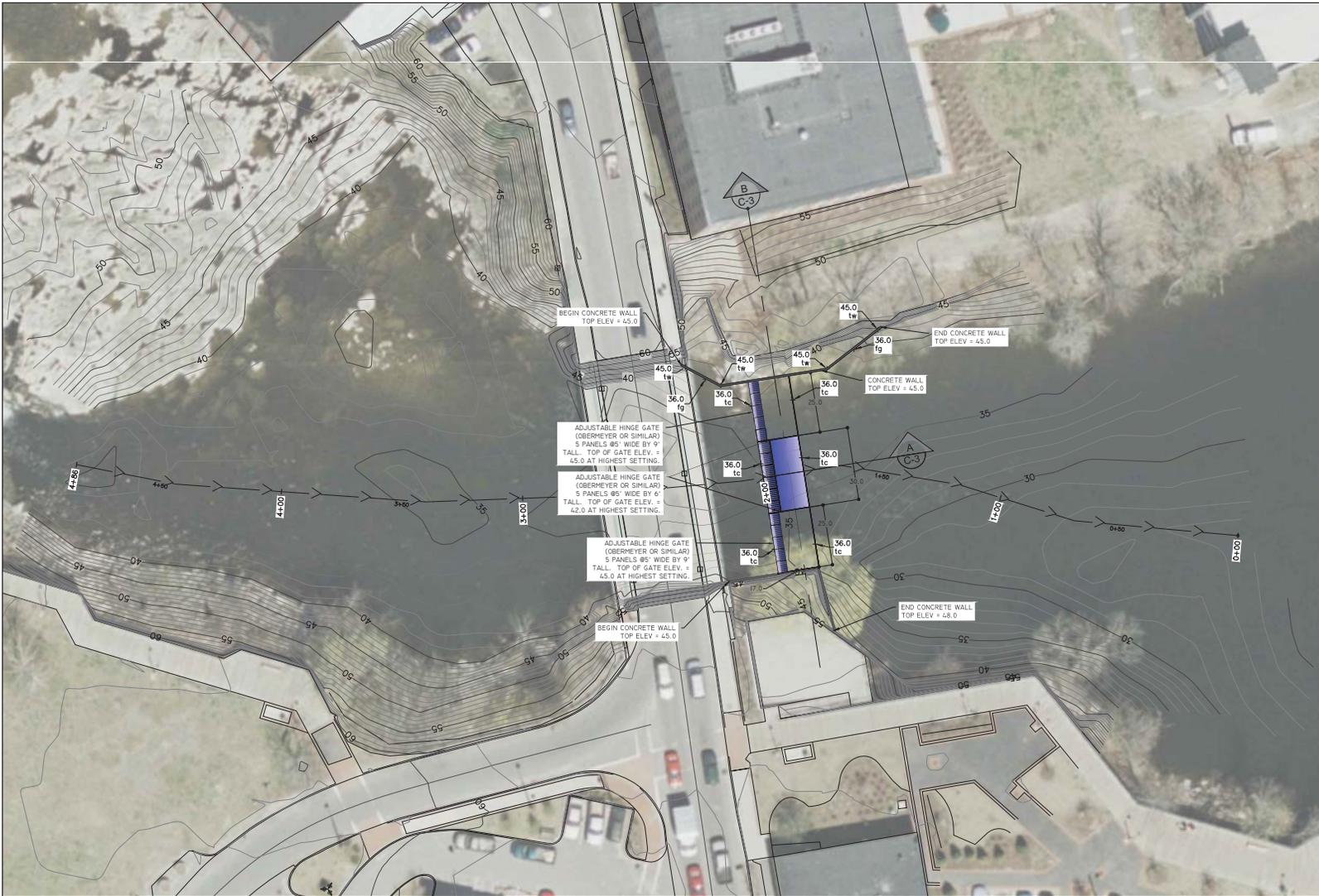
PROJECT LOCATION MAP AND TABLE OF CONTENTS
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CHECKED: GL
PLLOT DATE: AUG 5, 2015
REVISIONS:

PAGE NUMBER:

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 SHEET 1 OF 4



SCALE: 1" = 20'

- GENERAL NOTES:
1. ALL ELEVATIONS GIVEN IN FEET ABOVE SEA LEVEL.
 2. ROCK FILL/HATCH AND VEGETATIVE IMAGES SHOWN FOR ILLUSTRATIVE PURPOSES. NOT TO SCALE.
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 4. ALL STRUCTURE CREST AND EXIT ELEVATIONS ARE APPROXIMATE AND WILL BE CONFIRMED BY AN REP REPRESENTATIVE PRIOR TO CONSTRUCTION.

LEGEND

- INSTREAM STRUCTURE
- ADJUSTABLE HINGE GATES/PLATES
- THALWEG AND DIRECTION OF FLOW
- WATER SURFACE DAY OF SURVEY
- EXISTING CONTOUR LINES
- BANK STABILIZATION/RETAINING WALL



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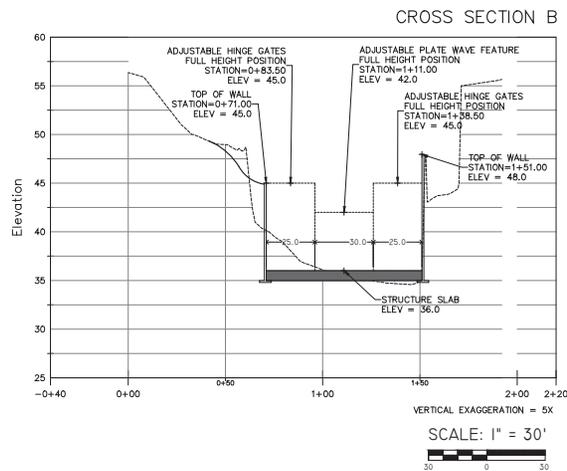
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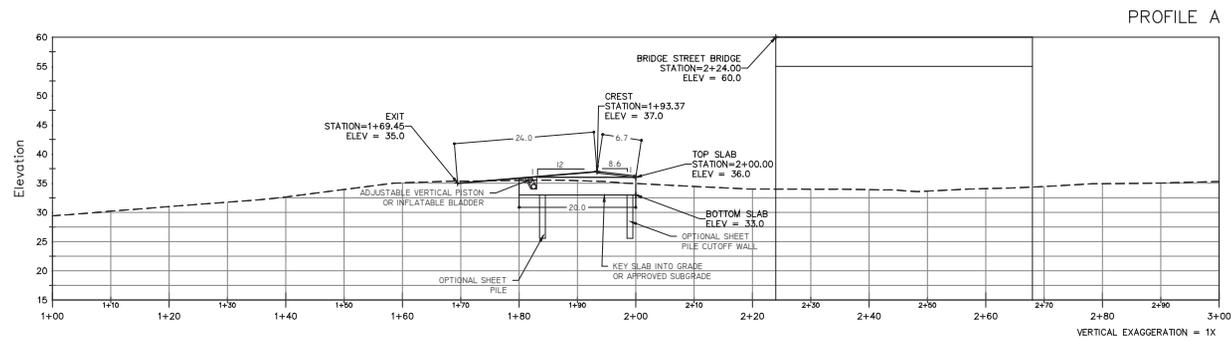
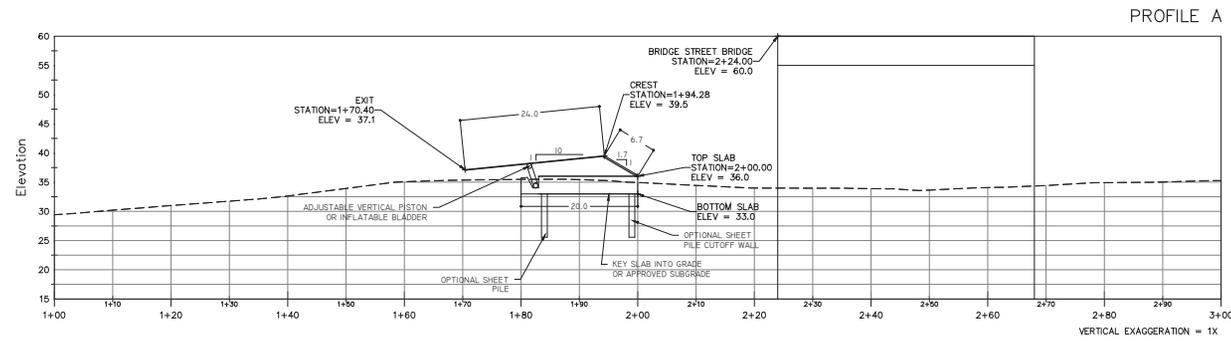
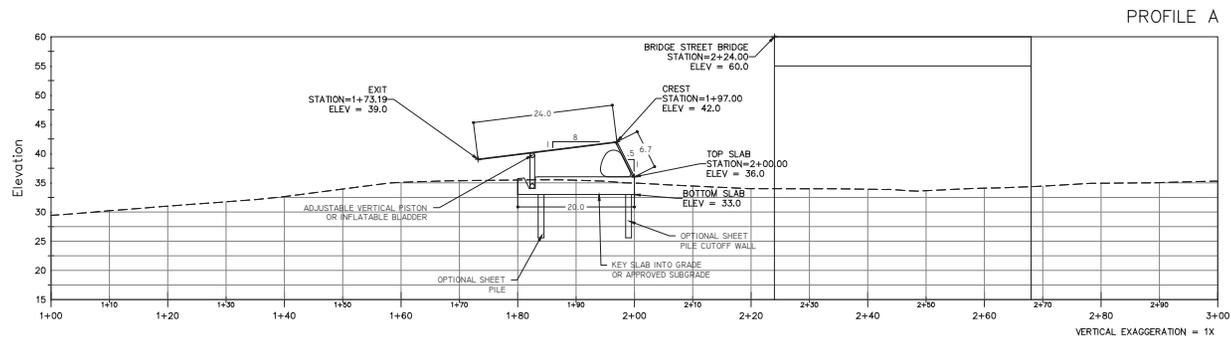
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