

INTERIM FINANCIAL AND PERFORMANCE REPORT

JAM BLACK BROOK CULVERT REPLACEMENT

Searsmont, ME-EBTJV-NFHAP

USFWS FONs Project Number 53371-2010-361

Report Period: 8/9/2012 to 9/30/201



Submitted by Jeff Reardon, Trout Unlimited

2/14/2013

GENERAL PROJECT INFORMATION

Project Name: Jam Black Brook Culvert Replacement

Cooperating Entity: Trout Unlimited

Report Submitted By: Jeff Reardon, Maine Brook Trout Project Director

Date Submitted: February 14, 2013

Permit Numbers: Maine DEP Permit by Rule; U.S. Army Corps of Engineers Programmatic General Permit 12-224, Permit Number NAE-2012-1467

A. CURRENT CONDITIONS

Jam Black Brook is a medium sized (3rd order) tributary of the St. George River in Searsmont, ME. Its watershed is largely wooded and undeveloped, and the brook supports a robust population of native brook trout and provides suitable habitat for Atlantic salmon. Blueback herring have been observed below the Magog Road. The Magog Road crosses Jam Black Brook approximately 2,000 feet upstream of its confluence with the St. George River. An undersized, perched and improperly installed pair of culverts obstructed fish passage between the St. George River and Jam Black Brook. Under most flow conditions, this represented a barrier to upstream fish passage and prevents access to higher quality habitat and thermal refuge in upstream sections of Jam Black Bk. The culverts also disrupted sediment and woody debris transport. There are 9.8 miles of mapped streams upstream of the crossing.

B. RESTORATION PLAN

Restoration Activities: The goals of the project were: (1) To remove an obstruction to upstream fish passage for brook trout, Atlantic salmon and other resident and migratory fish. (2) To restore access to 9.8 miles of stream habitat upstream of the obstruction. (3) To restore natural sediment and woody debris transport through the crossing site. (4) To improve flood capacity at the Magog Road crossing, reducing the risk of debris jams or overtopping the road. (5) To provide a demonstration site in mid-coast Maine for an appropriate stream crossing developed in cooperation with the municipality.

Target Species for Restoration: Brook trout, Atlantic salmon, blueback herring

Funding Partners other than EBTJV: Maine Natural Resource Conservation Program; USDA NRCS Wildlife Habitat Incentive Program; Maine Outdoor Heritage Fund; Davis Conservation Fund; Atlantic Salmon Federation; George's River Trout Unlimited; Trout Unlimited Embrace-a-Stream.

Non-funding Partners: Town of Searsmont; Georges River Land Trust; Maine Department of Inland Fisheries and Wildlife; Maine Department of Marine Resources

C. RESPONSIBLE PARTIES

- Jeff Reardon was project manager for Trout Unlimited. Dan Daly of the Georges River Chapter also provided on-site supervision.
 - jreardon@tu.org 207 615 9200
- Dan Baumert of USDA NRCS served as project engineer. Heidi Bunn of NRCS provided on-site construction oversight.
 - Dan.baumert@me.usda.gov 207 990 9100, X555
- Atlantic Mechanical was selected as contractor for the project. Larry Paul was the contractor's representative.
 - 207 837 2202
- The town of Searsmont will take ownership of the structure upon completion of construction.
 - Bruce Brierley, 1st Selectman
 - 207 323 5505
- Don Abbott and Dave Ridley, volunteers with the Georges River TU Chapter, provided additional on-site presence and took documentation photographs.
- Ben Naumann of NRCS coordinated fish removal/fish exclusion activities, with assistance from Jason Seiders, other MDIFW staff, and TU volunteers.

D. SUMMARY OF WORK COMPLETED DURING THE REPORTING PERIOD

Based on submission in a competitive RFP process, Atlantic Mechanical, Inc. (AMI) was selected as the construction contractor. A contract with Atlantic was signed on August 17, 2012, and work began on September 6. Work continued through the end of the reporting period, and was ultimately completed on October 31, 2012.

With the exception of several deviations approved by the project engineer and authorized by Trout Unlimited (see below), the work was completed consistent with the design drawings and work specifications provided by the Project Engineer.

- Because a significant amount of bedrock was discovered within the excavation zone, the location of the structure was shifted approximately 6 feet to the north. No other dimensions of the structure were changed. The presence of bedrock also required a minor adjustment to the project budget to cover costs of rock removal, and resulted in the need for two permit amendments to grant extensions of the in-water time of work window. Ultimately, the in-water work window was extended to October 17, and in-water work was completed on October 16.
- Because work was not completed until the end of October there was concern that seed placed on disturbed areas would not have sufficient time to sprout before freeze up. As a result, disturbed areas were mulched but not seeded, and the contractor will return to the site next spring to complete seeding according to NRCS specifications for the project. There may also be a need for some minor repairs to the road surface, primarily road grading. These will occur, if necessary, after the ground thaws in the spring.

AMI was responsible for off-site disposal of all excavated materials that could not be reused as clean fill on site. Both plastic culverts were salvaged and retained by AMI to be sold. Remaining materials consisted of soil, gravel, removed bedrock, concrete, and the metal portions of the culverts. AMI hauled the metal offsite. Soil, gravel, rock and concrete were disposed of at several locations, including on lands of two abutting property owners.

Construction photos are attached as Appendix 1.

E. CONSTRUCTION TIMELINE

- July 15: RFP for Construction Services issued.
- July 25: Mandatory Site Visit for Interested Contractors.
- August 1: Proposals received from 7 interested contractors.
- August 2: TU, Georges River TU, and USDA NRCS meet to select contractor. Atlantic Mechanical, Inc. (AMI) is selected with a proposed bid of \$199,300.
- August 16: Construction contract signed with AMI.
- August 21: Notice sent to abutters and Magog Road residents and property owners.
- September 6: AMI provides notice of mobilization; posts road closure.
- September 9: Excavation commences. Fish removal/monitoring event headed by Ben Naumann, NRCS.
- September 26: Time of work extension to October 12 requested from Maine DEP and US ACOE; Granted on September 28.
- October 12: Time of work again extended to October 17.
- October 16: In-water work completed.
- October 31: Construction completed. Heidi Bunn performed final site inspection and determined that work was completed as specified in plans.

F. CONSTRUCTION BUDGET

- Original contract price: \$199,300
 - Additions:
 - Sales tax for purchased materials¹: \$1315.02
 - Additional labor for rock removal²: \$2500
 - Subtractions
 - \$1200 not billed for rock riprap line item³
 - \$510 not billed for seed and mulch line item⁴
- Invoices received
 - 9/7/12 \$9750 (Paid)
 - 9/28/12 \$95,850 (Paid)
 - 10/23/12 \$82,120 (Paid)

¹ Original contract assumed town could provide a sales tax exemption certificate, but this was not possible.

² 10 hours @ \$250 per hour to remove unexpected bedrock ledge.

³ Line item contracted @\$12,000; \$10,800 invoiced

⁴ Seeding to be completed in spring, 2013 and billed at that time

- 11/6/12 \$13,685.02 (Paid)
- Total invoiced \$201,405.02
- Anticipated Future Construction Expenses in Spring 2012
 - Spring 2012, Seeding \$550
 - Road repair \$500
- Total Construction Costs: \$202, 455.02

G. FINANCIAL REPORTING

As noted above, TU has paid all invoice received to date, a total of \$201,405.02. TU did not draw down any funds from the EBTJV-NFHAP account during the reporting period. Financial reporting will be completed with our next report.

H. MONITORING

TU committed to the following monitoring of the project:

- Pre- and post-construction photopoints upstream and downstream of the project. Pre-construction photopoints were established at several locations upstream and downstream of the project site. Pre- and during-construction photos were collected at each photopoint. Post-construction photos will be collected after snowmelt and prior and leaf out this spring, and a final report will be provided when they are completed.
- Pre- and post-construction electrofishing surveys. Three pre-construction surveys were completed. The Maine Department of Marine Resources electrofished an adjacent reach of Jam Black Brook on 8/18/08 and 9/23/09. The Maine Department of Inland Fisheries and Wildlife electrofished the reach from approximately 300 feet above the culverts to approximately 200 feet below the culverts on 9/12/12 to remove fish prior to construction. Data sheets from each event are attached.
- Pre- and post-construction longitudinal profiles and channel cross sections. Pre- and Post-construction longitudinal profiles are attached, along with as-built drawings of the replacement structure. Pre-construction cross sections were collected, and post construction cross sections will be collected this spring after spring high water. TU will provide those when post-construction cross sections have been completed.
- Pre- and post-temperature dataloggers. Date loggers were deployed by Scott Craig of USFWS before construction began and are still deployed. They will be collected and the data downloaded this spring.
- Time lapse camera before/during/after construction. Two time-lapse cameras were deployed. Neither remained operational for the entire construction period. We are attempting to retrieve the photos that may be available, and will provide those in our next report.

Appendix 1: Construction Photos

Preconstruction:



From Downstream



sediment above culverts.)

From Upstream (Note accumulated

Mobilization



Signage Installed



Beginning of Excavation

Fish Removal



Trout collected during fish removal effort.



Fish Workup

Excavation



First pipe exposed.



First pipe removed.

Water Control



Sandbag Installation



Water Passed Around Second Pipe.

Footer Installation



Both Pipes Removed—Note footer

installation on left.



Both Footers Installed.

Arch Culvert Assembly



Placement of First Section



Assembly



Assembly



Assembly Complete

Headwall Installation



Downstream Headwall



Headwalls Complete—Fill Placement

Road Surface Preparation



Fill Placement

Post Construction Photos



From Downstream



From Upstream (Note lack of accumulated sediment above structure.)



Restored Road

Appendix 2: As Built Drawings

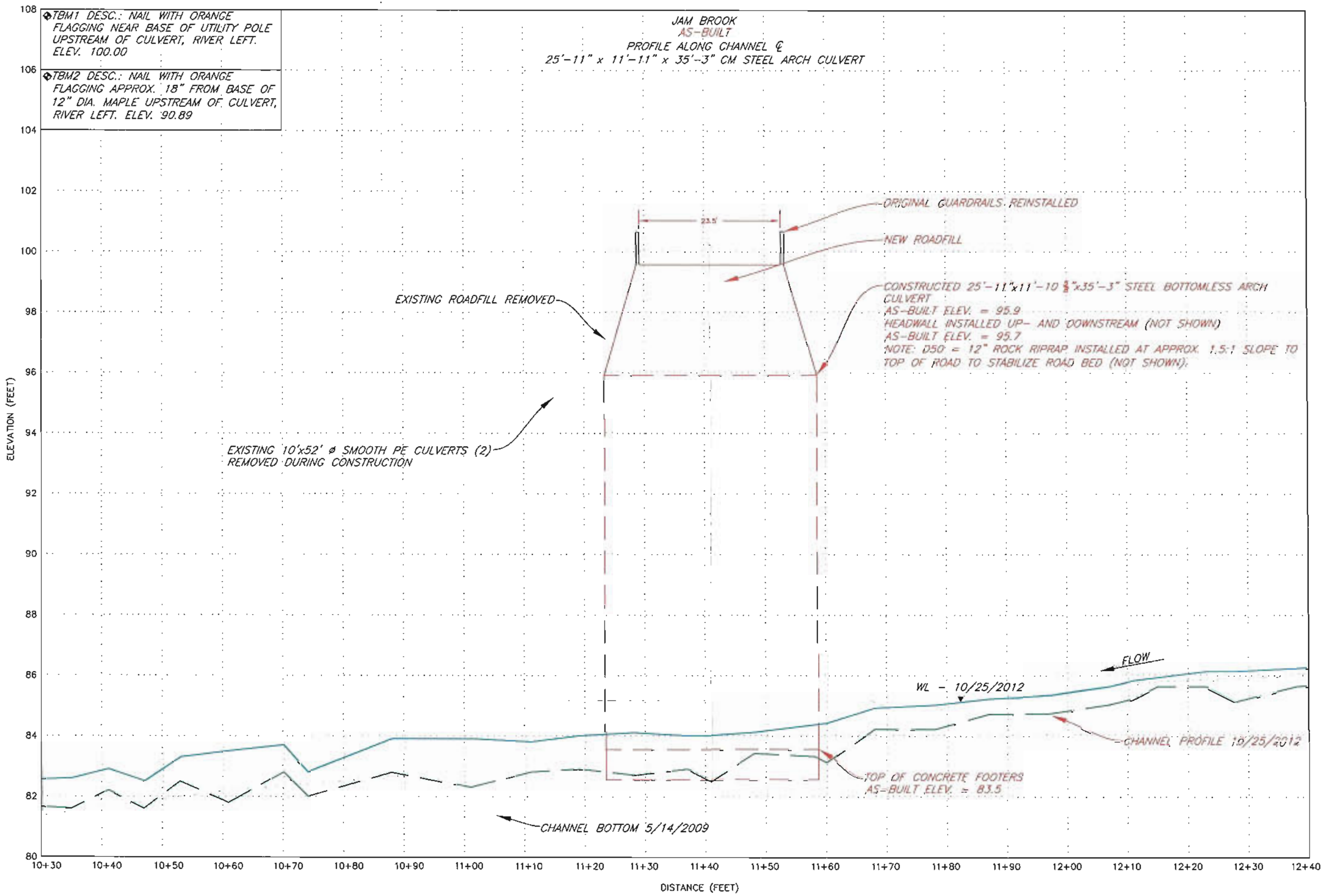
(3 pages, included as a separate PDF file)

Page 1: Pre- and Post-Construction Longitudinal Profile of stream reaches upstream and downstream of structure.

Page 2: As-built Cross Section showing removed round culverts and installed arch culvert.

Page 3: Pre- and Post-Construction monitoring cross sections





TBM1 DESC.: NAIL WITH ORANGE FLAGGING NEAR BASE OF UTILITY POLE UPSTREAM OF CULVERT, RIVER LEFT. ELEV. 100.00

TBM2 DESC.: NAIL WITH ORANGE FLAGGING APPROX. 18" FROM BASE OF 12" DIA. MAPLE UPSTREAM OF CULVERT, RIVER LEFT. ELEV. 90.89

Date 11/2012
 Designed H. BUNN
 Drawn H. BUNN
 Checked D.S. Bennett
 Approved (Signature) 11/28/12

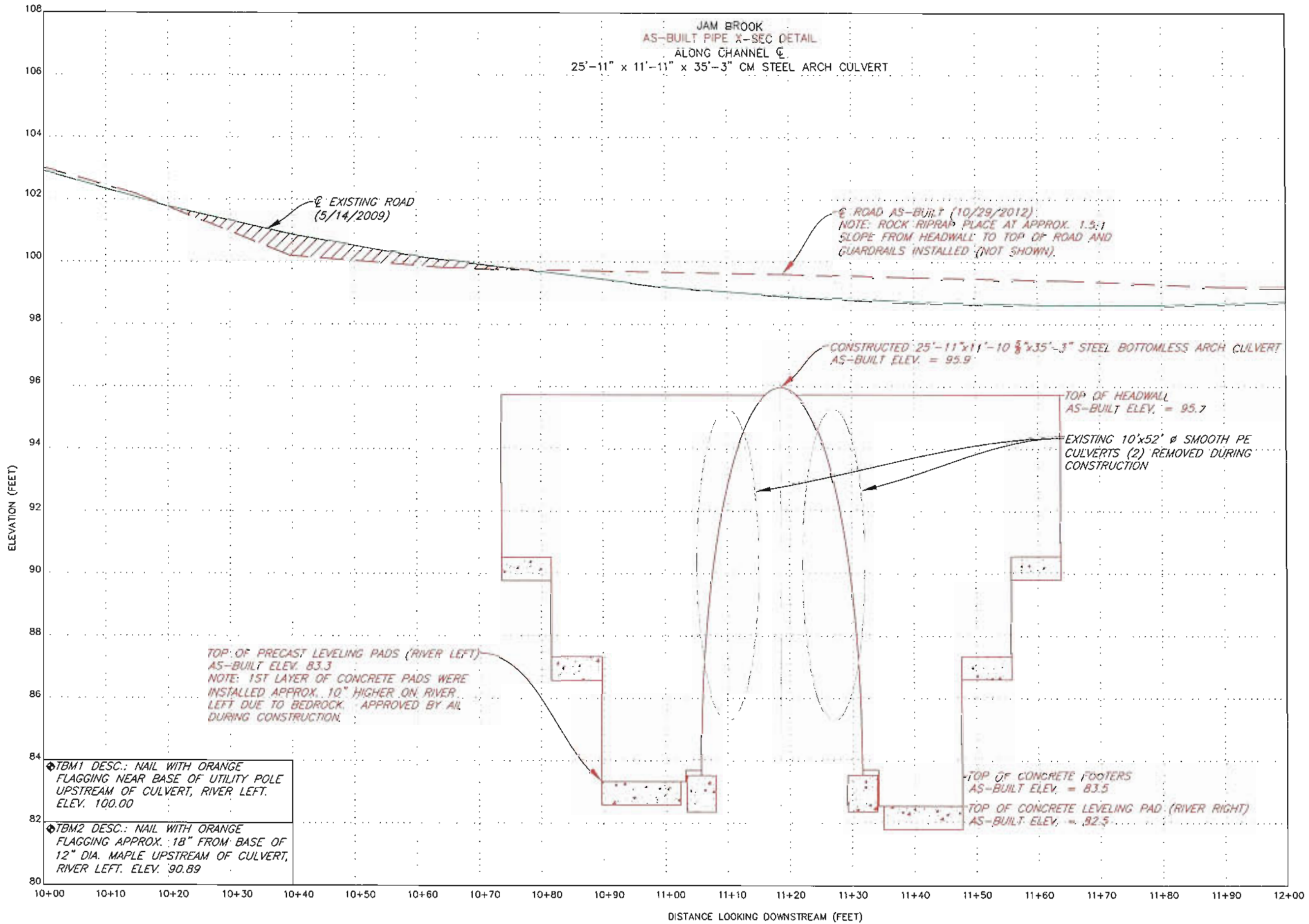
TROUT UNLIMITED - JAM BROOK
 AS-BUILT



File No.
 Drawing No.
 Sheet 1 of 3

SEARSMONT, MAINE

WALDO COUNTY



JAM BROOK
 AS-BUILT PIPE X-SEC DETAIL
 ALONG CHANNEL C.
 25'-11" x 11'-11" x 35'-3" CM STEEL ARCH CULVERT

EXISTING ROAD
 (5/14/2009)

ROAD AS-BUILT (10/29/2012)
 NOTE: ROCK RIPRAP PLACE AT APPROX. 1.5:1
 SLOPE FROM HEADWALL TO TOP OF ROAD AND
 GUARDRAILS INSTALLED (NOT SHOWN).

CONSTRUCTED 25'-11"x11'-11" x 35'-3" STEEL BOTTOMLESS ARCH CULVERT
 AS-BUILT ELEV. = 95.9

TOP OF HEADWALL
 AS-BUILT ELEV. = 95.7

EXISTING 10'x52' Ø SMOOTH PE
 CULVERTS (2) REMOVED DURING
 CONSTRUCTION

TOP OF PRECAST LEVELING PADS (RIVER LEFT)
 AS-BUILT ELEV. 83.3
 NOTE: 1ST LAYER OF CONCRETE PADS WERE
 INSTALLED APPROX. 10" HIGHER ON RIVER
 LEFT DUE TO BEDROCK. APPROVED BY AIL
 DURING CONSTRUCTION.

TBM1 DESC.: NAIL WITH ORANGE
 FLAGGING NEAR BASE OF UTILITY POLE
 UPSTREAM OF CULVERT, RIVER LEFT.
 ELEV. 100.00

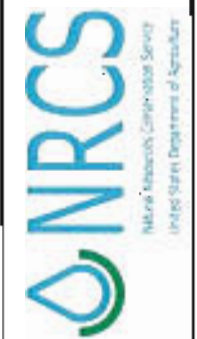
TBM2 DESC.: NAIL WITH ORANGE
 FLAGGING APPROX. 18" FROM BASE OF
 12" DIA. MAPLE UPSTREAM OF CULVERT,
 RIVER LEFT. ELEV. 90.89

TOP OF CONCRETE FOOTERS
 AS-BUILT ELEV. = 83.5

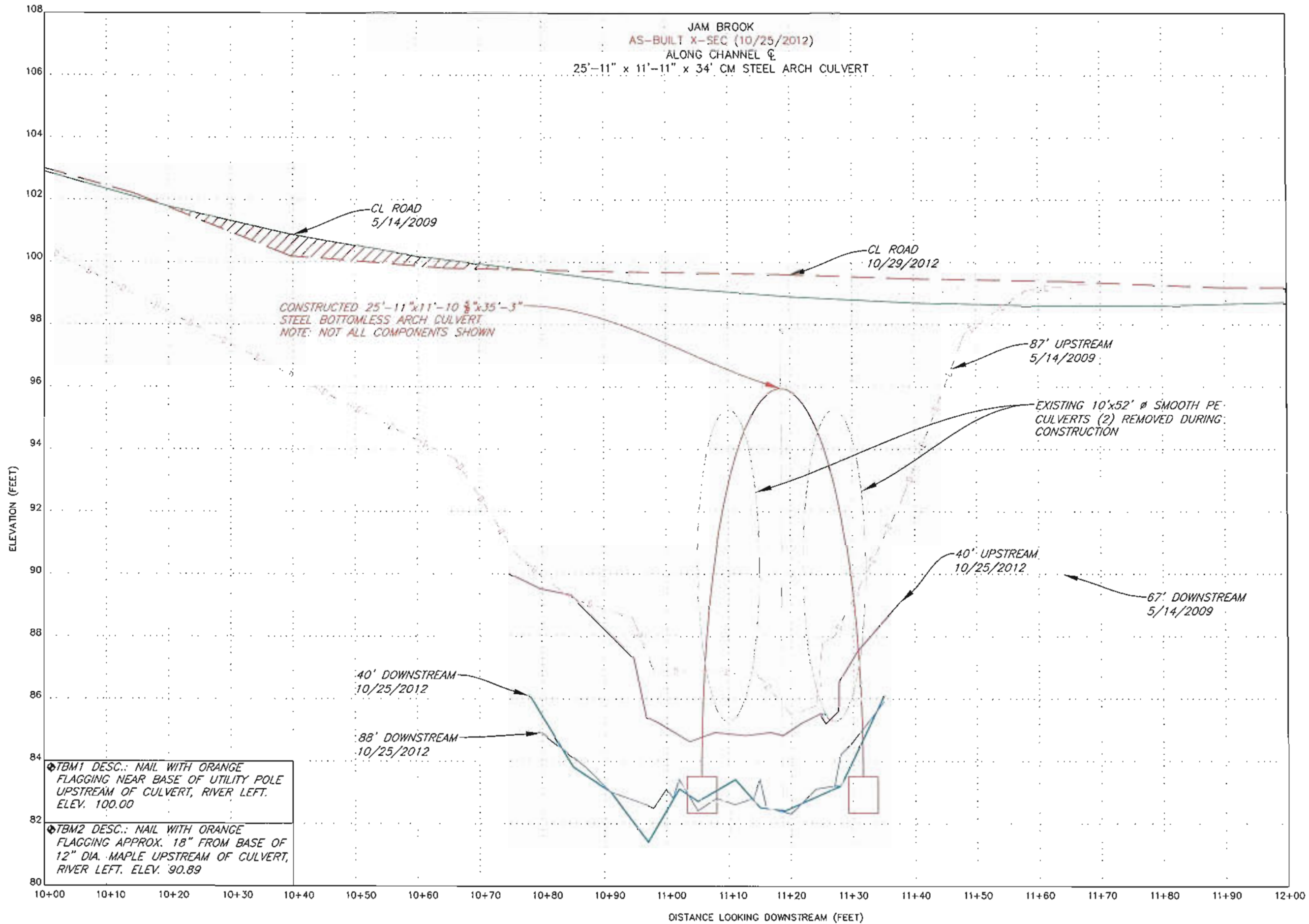
TOP OF CONCRETE LEVELING PAD (RIVER RIGHT)
 AS-BUILT ELEV. = 82.5

Designed	H. BUNN	Date	11/2012
Drawn	H. BUNN	Date	11/2012
Checked	D.J. Baymont	Date	11/12
Approved	[Signature]	Date	11/2012

TROUT UNLIMITED - JAM BROOK
 AS-BUILT



SEARSMONT, MAINE
 WALDO COUNTY



Designed	H. BUNN	Date	11/2012
Drawn	H. BUNN	Date	11/2012
Checked	J. Bauman	Date	1/12
Approved	Chief Bauman	Date	1/28/12

TROUT UNLIMITED - JAM BROOK
AS-BUILT



SEARSMONT, MAINE
 WALDO COUNTY

FISH COLLECTION FORM

DATE 9/12/12

WATER Jam Black Brook TOWN Searsport

COUNTY Waldo

COLLECTION METHOD E-fishing

SPECIES	LENGTH	WEIGHT	AGE	SPECIES	LENGTH	WEIGHT	AGE
BNT	217			BND	48		
BNT	120			↓	52		
BNT	210				52		
BNT	82				75		
					54		
CCB	110				53		
↓	59				53		
	74				50		
	62				50		
	70				52		
	54						
WHS	105						
BND	57						
↓	52						
	52						
	48						
	68						
	72						
	66						
	51						
	45						

often on back

1 eel about 12 inches

Due to the construction of a new bridge on Jam Black brook
two large culverts were removed on the Massey Rd in the town Searsmont.
to Searsmont where set one below side and one below side
Fish removed from both locations on other side method E Fish
Shed 1.000 2.000 Seconds

Maine Atlantic Salmon Commission Electrofishing Data

Date: 9-23-09 Drainage: St. George Site Name: Log Jam Riffle
 Date 2: _____ Stream: Jam Black UTM North: 4907586
 Crew: DM, JO, CL Site Code: 21 JAMBLA 0.13 UTM East: 19 484397

CPUE

Sample Obj: Pop. Est - Parrathon - Poke - Petersen
 BGEST: YES / NO Equipment: Backpack 2 Backpacks - Boat

Take UTM's in NAD 1983

Section Length: _____	Backpack type: <u>LR-24</u>	Conductivity (uS): <u>46</u>	# Runs: <u>1</u>
Top Width: _____	Voltage: <u>500</u>	Water Temperature °C: _____	# Gen.: <u>0</u>
Mid Width: _____	Cycles: <u>60</u>	Start: <u>15.0</u>	# Scales: <u>0</u>
Bottom Width: _____	Other Settings: _____	End: <u>15.0</u>	# BS: <u>0</u>

Catches	Other Species									
	Time	ATS YOY	ATS Parr	BND	FLF	WHS	BKT	EEL	CRA	SAL
Run 1	<u>300</u>	<u>0</u>	<u>0</u>	<u>118</u>	<u>7</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>1</u>
Run 2										
Run 3										
Run 4										
Run 5										
DOA										

ATS YOY Data

Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #
1						11						21					
2						12						22					
3						13						23					
4						14						24					
5						15						25					
6						16						26					
7						17						27					
8						18						28					
9						19						29					
10						20						30					
Batch WT: _____					Batch WT: _____					Batch WT: _____							

ATS Parr Data

Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #
1						11						21					
2						12						22					
3						13						23					
4						14						24					
5						15						25					
6						16						26					
7						17						27					
8						18						28					
9						19						29					
10						20						30					

Trip Comments (may continue on back):

2 mature BKT 10", 12"

Other species data on back

FILL OUT ALL FIELDS BEFORE LEAVING!!!!

Audit
12-1-09
JEO

Entered
9-24-09
JEO

Maine Atlantic Salmon Commission Electrofishing Data

Date: 8-18-08 Drainage: St. George Site Name: LOG Jam Riffle
 Date 2: _____ Stream: JAM Black UTM North: 4907576
 Crew: JO, CK Site Code: 21JAMP 0.13 UTM East: 19 484407

Sample Obj: Pop. Est - Parrathon - Poke - Petersen
 BGEST: YES / NO Equipment: Backpack - 2 Backpacks - Boat

Take UTM's in NAD 1983

Section Length: _____	Backpack type: <u>12-8</u>	Conductivity (uS): _____	# Runs: <input checked="" type="checkbox"/>
Top Width: _____	Voltage: <u>400</u>	Water Temperature °C: _____	# Gen.: <input type="checkbox"/>
Mid Width: _____	Cycles: <u>T-5</u>	Start: <u>19°C</u>	# Scales: <input type="checkbox"/>
Bottom Width: _____	Other Settings: _____	End: <u>19°C</u>	# BS: <input type="checkbox"/>

Catches	Other Species									
	Time	ATS YOY	ATS Parr							
Run 1										
Run 2										
Run 3										
Run 4										
Run 5										
DOA										

ATS YOY Data

Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #
1						11						21					
2						12						22					
3						13						23					
4						14						24					
5						15						25					
6						16						26					
7						17						27					
8						18						28					
9						19						29					
10						20						30					
Batch WT:					Batch WT:					Batch WT:							

ATS Parr Data

Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #	Fish #	Scales	DOA?	F. Length	Weight	Vial #
1						11						21					
2						12						22					
3						13						23					
4						14						24					
5						15						25					
6						16						26					
7						17						27					
8						18						28					
9						19						29					
10						20						30					

Trip Comments (may continue on back):

BND - 10

Other species data on back

FILL OUT ALL FIELDS BEFORE LEAVING!!!!

Handwritten notes:
 Data entered
 10/21/08
 JEO
 Audit
 12-31-08
 JEO