

PLAN OF ACTION
FOR
AYERS ROAD OVER COLD BROOK
BIN 2207390



TOWN OF HOMER

JUNE 2024

HUNT E|A|S

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**New York State Department of Transportation
Plan of Action for Scour Critical Bridges**

Background Information		
Region: Region 3 - Syracuse	County: Cortland	BIN: 2207390
Feature Carried: Ayers Road		Feature Crossed: Cold Brook
Plan of Action Date: 6/12/2024	Plan of Action updated every <u>24</u> Months	
Primary Owner: Town of Homer		Political Unit: Town of Homer
Year Built: 1987		AADT: 15 (2022)
Location: 100' West of Intersection with Cold Brook Road (CR 102)		Over Tidal Water? No
Abutment Foundation Type: Timber Piles cast in 3' thick concrete footer		Number of Spans: 1
Pier(s) Foundation Type: n/a	Continuous over Pier: n/a	Redundant? Yes
Streambed Material: Gravel		Critical Structure? No
NYS DOT HVA Score: 39 (Medium)	FHWA Code (Item 113): 3 – Bridge is Scour Critical	
Source of Item 113 Code: Hydraulic Vulnerability Assessment		

Type(s) of Inspection/Monitoring to be Performed		
Biennial Inspection? Yes, by NYS DOT		Post Flood Inspection? Yes, by Town of Homer
Special (SILO) Inspection? No		Interim Inspection? Yes, annually by Town of Homer
Diving Inspection? No	Fathometer Survey? No	Debris Prone Inspection? No
Flood Event Monitoring: No		Scour Monitor Type: n/a
Criteria for Monitoring?		
<p>Bridge shall be monitored annually by the Town of Homer to check for accumulation of debris and evidence of scour progress.</p> <p>Post Flood Inspections should be completed by the Town of Homer within 2 weeks of a Flood Event, after the flood waters have receded to a point that the substructures and streambed can be visibly inspected. These inspections shall be focused on the inspection of bridge foundations and scour protection to detect movement, loss of material or damage related to flooding. See Appendix B for Blank Post Flood Inspection Form.</p>		
Closure Instructions		
Criteria for Closure: The Bridge shall be immediately closed to traffic should the water surface reach the bottom of the beam, should the stability of the bridge abutments become in question, or should the person inspecting the Bridge feel it is becoming unsafe for any reason.		
Authorization for Closure: Any qualified personnel performing the inspection.		
Detour Route: There is no detour around the bridge. This bridge provides access to a dead-end road that serves 3 residences. Should it be necessary to close the bridge, impacted residences should be evacuated.		
Criteria for Re-Opening a Structure: Certified safe by a licensed Professional Engineer in New York State		

Countermeasures	
Countermeasures Considered 1: Stone Scour Protection	Cost 1: \$30,000
Countermeasures Considered 2: Bridge Replacement	Cost 2: \$1,390,000
Countermeasures Recommended: It is recommended that heavy stone fill be placed along the east abutment where there is scouring to restore the streambed to the original elevation as shown on the record plans.	
Bridge Scheduled for Replacement? No	Estimated Letting Date: n/a

Bridges/Culverts on Detour Route

Detour Route: n/a

BIN/CIN	Feature Carried	Feature Crossed	Load Posted?

Authorization

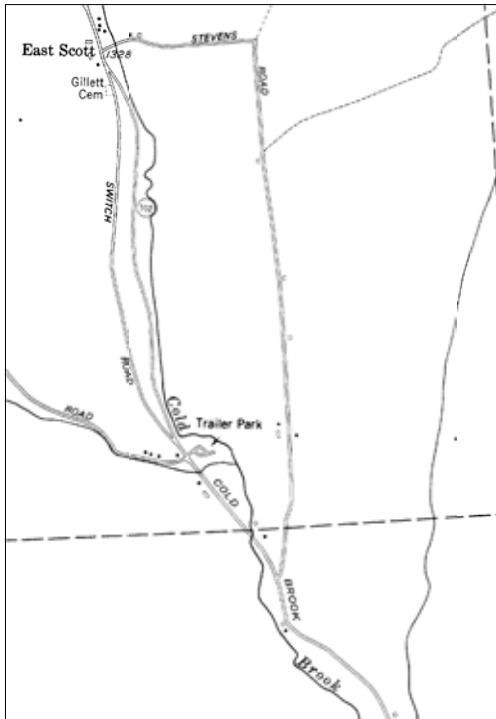
Author(s) of POA: Cristina Donahue, PE Hunt Engineers

Date Signed: 6/12/2024

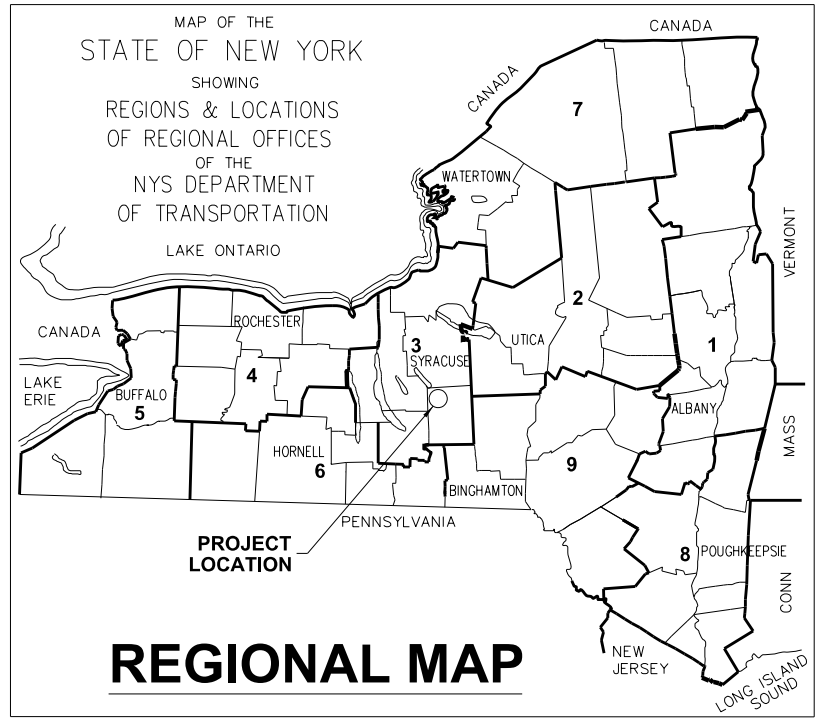
Approved By: _____

Date Approved: _____

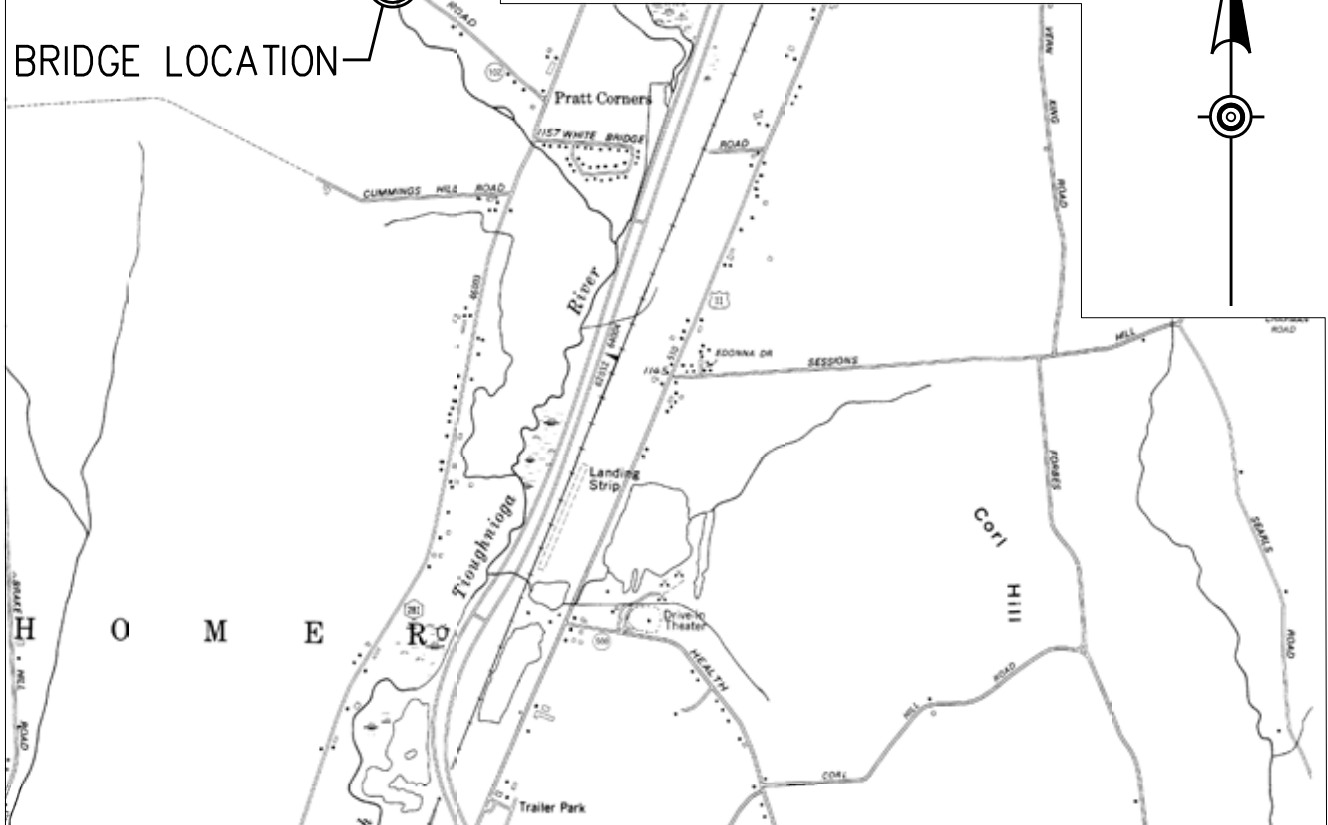
Town of Homer



BRIDGE LOCATION



REGIONAL MAP



PROJECT LOCATION MAP

QUADRANGLE MAP: HOMER, NY

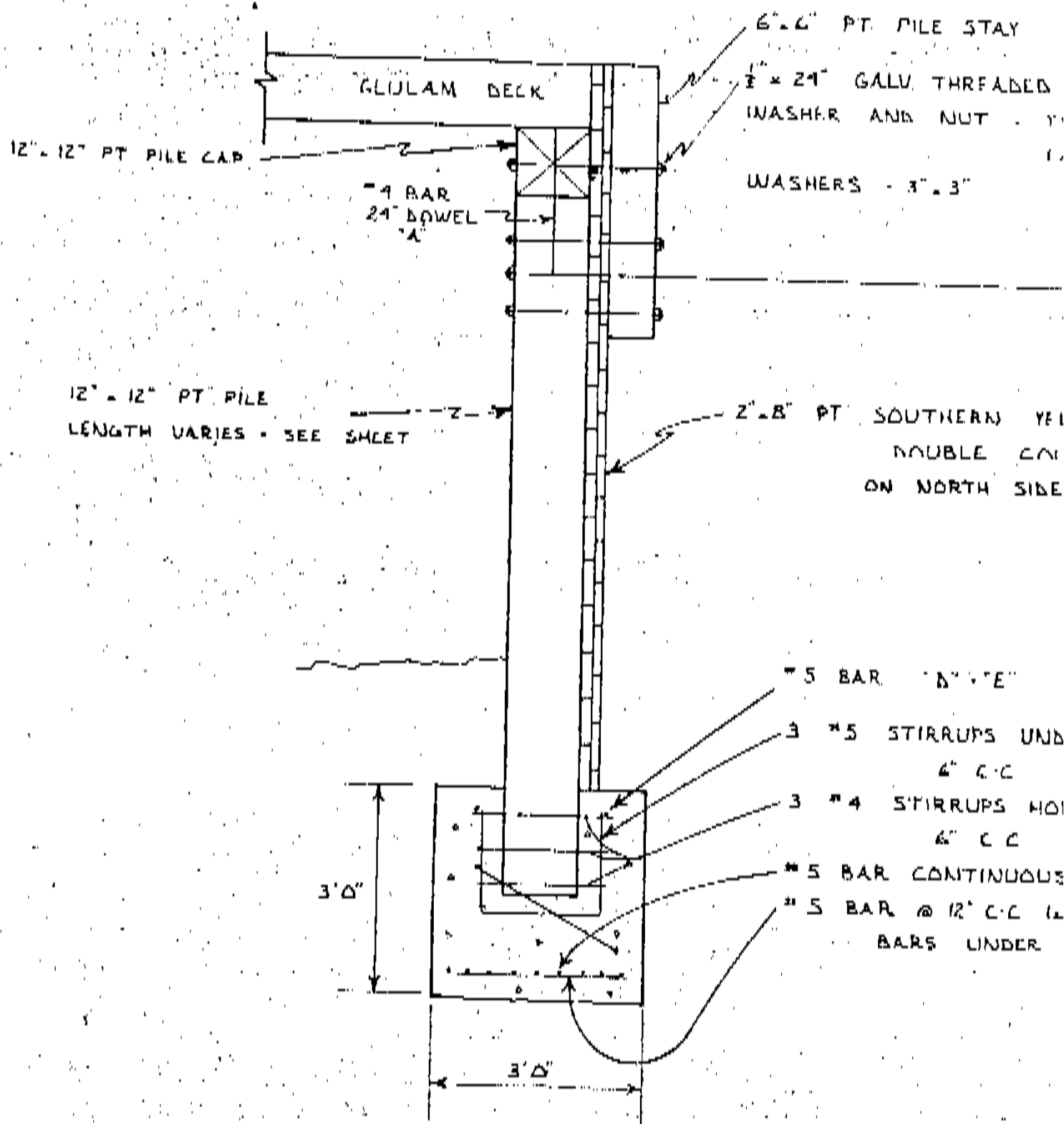
DATE : June 2024
PROJECT NO : 3424-002

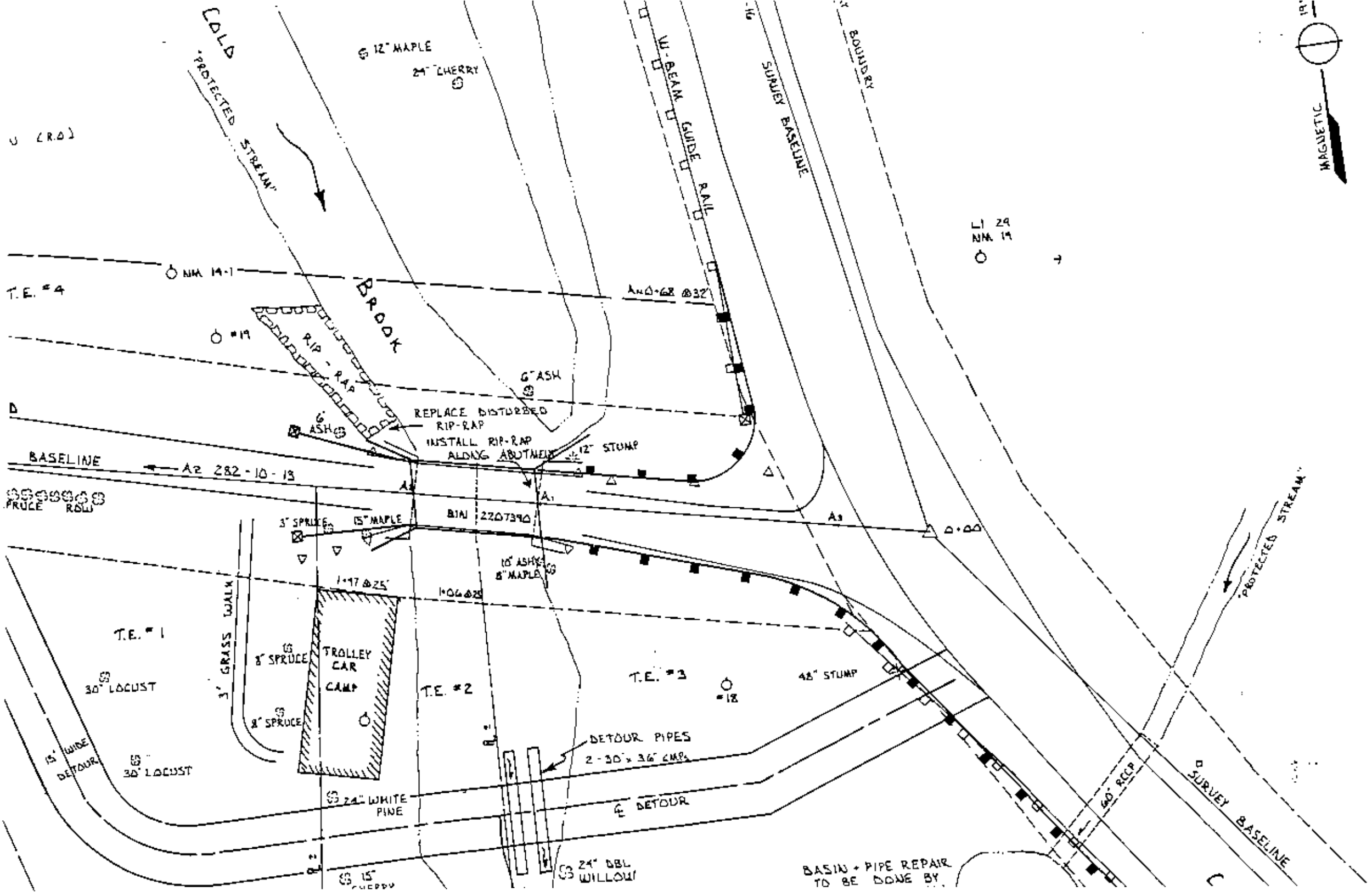
HUNT ENGINEERS | ARCHITECTS | SURVEYORS
HORSEHEADS, NY 607-358-1000 ROCHESTER, NY 585-327-7950
TOWANDA, PA 570-265-4868
NY CERTIFICATE NO. 0018220 PA CERTIFICATE NO. TSC2203131464-1

LOCATION MAP

BIN 2207390
AYERS ROAD OVER COLD BROOK
TOWN OF HOMER, CORTLAND COUNTY, NEW YORK

**Appendix A –
Record Plans**





U (R.O.)

L 24
NM 14

T.E. #4

NM 14-1

A40-68 @32'

BROOK

RIP-RAP

REPLACE DISTURBED
RIP-RAP
INSTALL RIP-RAP
ALONG ABUTMENT

6" ASH

12" STUMP

BASELINE

A2 282-10-13

PRUCE ROW

BJN 2207390

A3

3" SPRUCE

15" MAPLE

10" ASH

8" MAPLE

1-17 @25'

1-06 @25'

T.E. #1

30" LOCUST

3' GRASS WALK

8" SPRUCE

8" SPRUCE

TROLLEY CAR CAMP

T.E. #2

T.E. #3

#18

48" STUMP

15' WIDE
DETOUR

30" LOCUST

DETOUR PIPES
2-30" x 36" CMP

E DETOUR

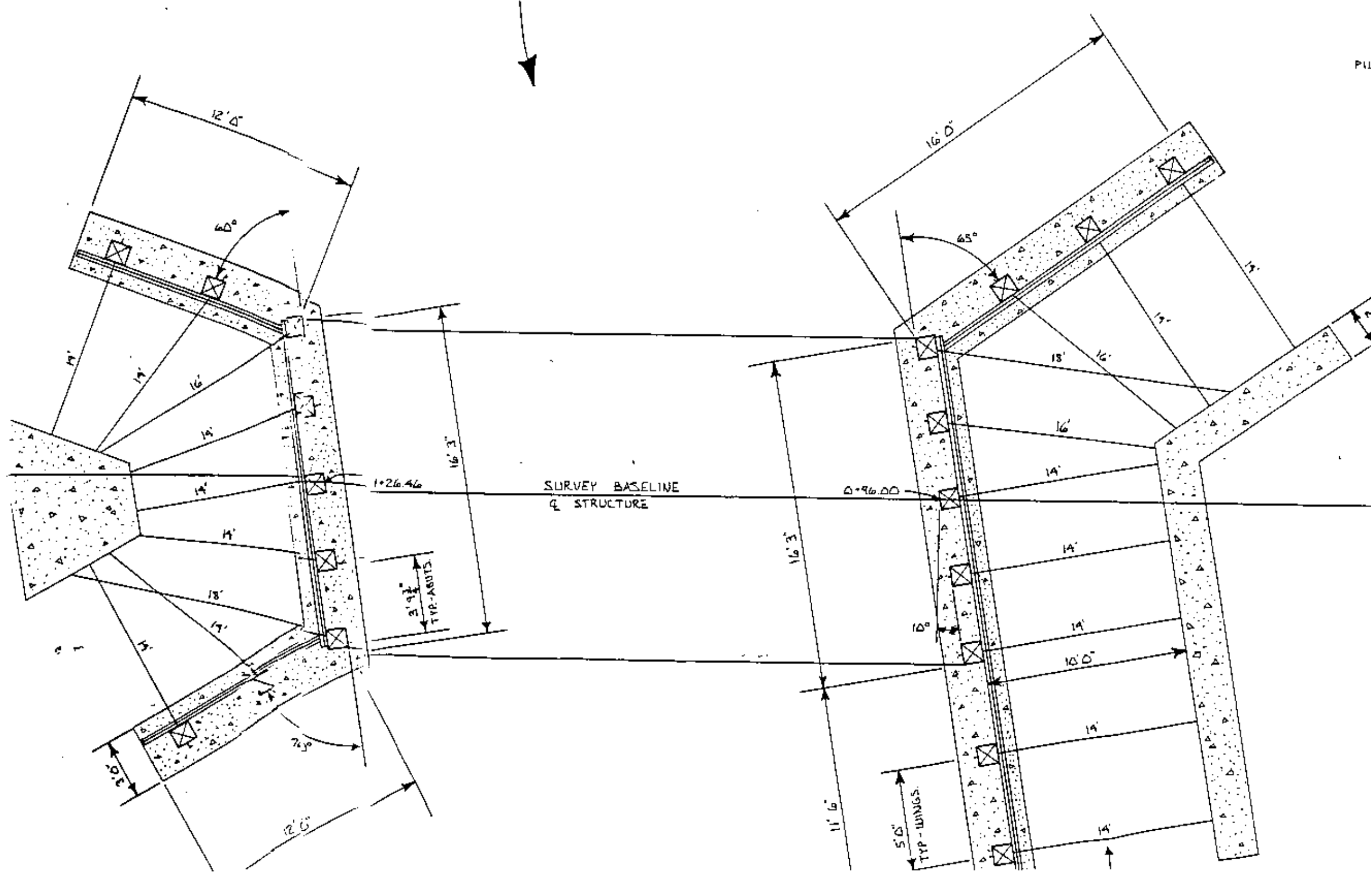
24" WHITE PINE

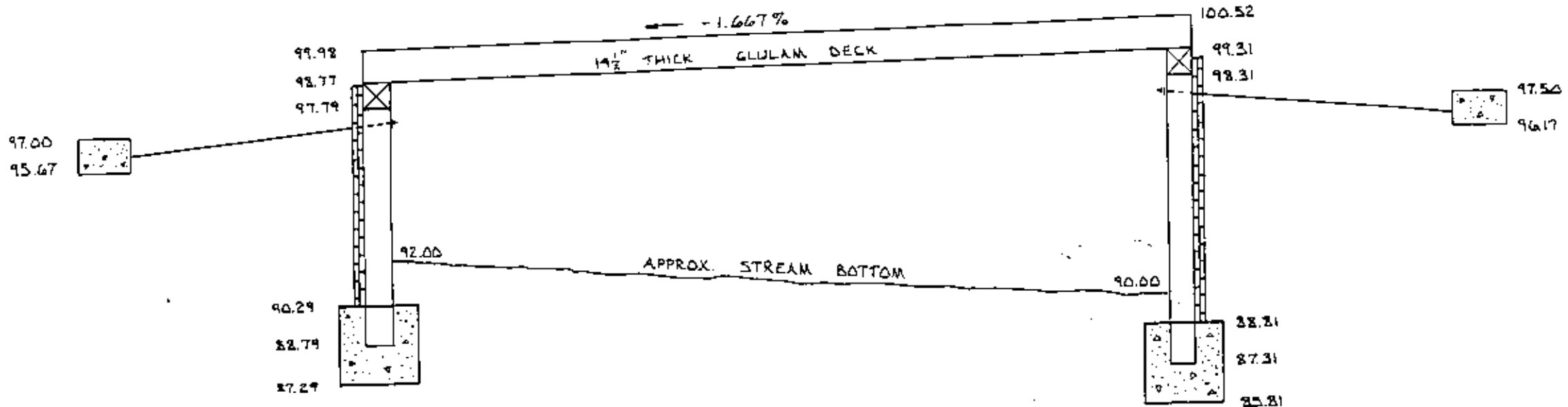
24" DBL
WILLOW

BASIN + PIPE REPAIR
TO BE DONE BY

"PROTECTED STREAM"

SURVEY BASELINE

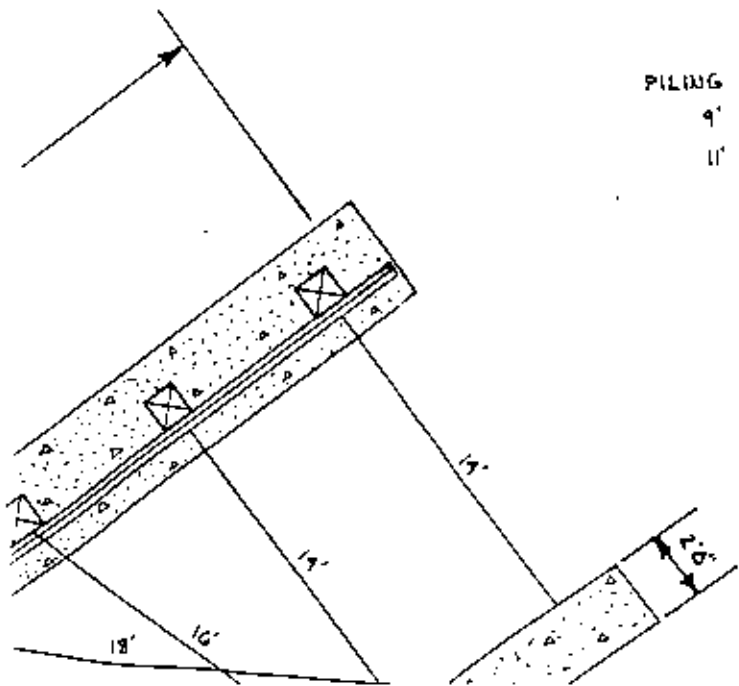




Handwritten notes:
 100.52
 100.52
 100.52

PILING LENGTH
 9' ABUTMENTS
 11' WINGWALLS

PILING LENGTH
 11' ABUTMENTS
 15' WINGWALLS



PILE STAY

U. THREADED ROD

W. NUT - TYP 3 PLACES
EACH STAY

3'-3"

SOUTHERN YELLOW PINE
DOUBLE COURSE
NORTH SIDE ONLY

6" x 6"

TIRRUPS UNDER EACH PILE

6" C-C 18" LEGS

STIRRUPS HORIZONTALLY

6" C-C 18" LEGS

CONTINUOUS 4" C-C

@ 12" C-C WITH 2 ADDITIONAL

BARS UNDER EACH PILE

ALL REBAR TO HAVE
MINIMUM 3" COVER

ALL CONCRETE SHALL BE CLASS 'A'

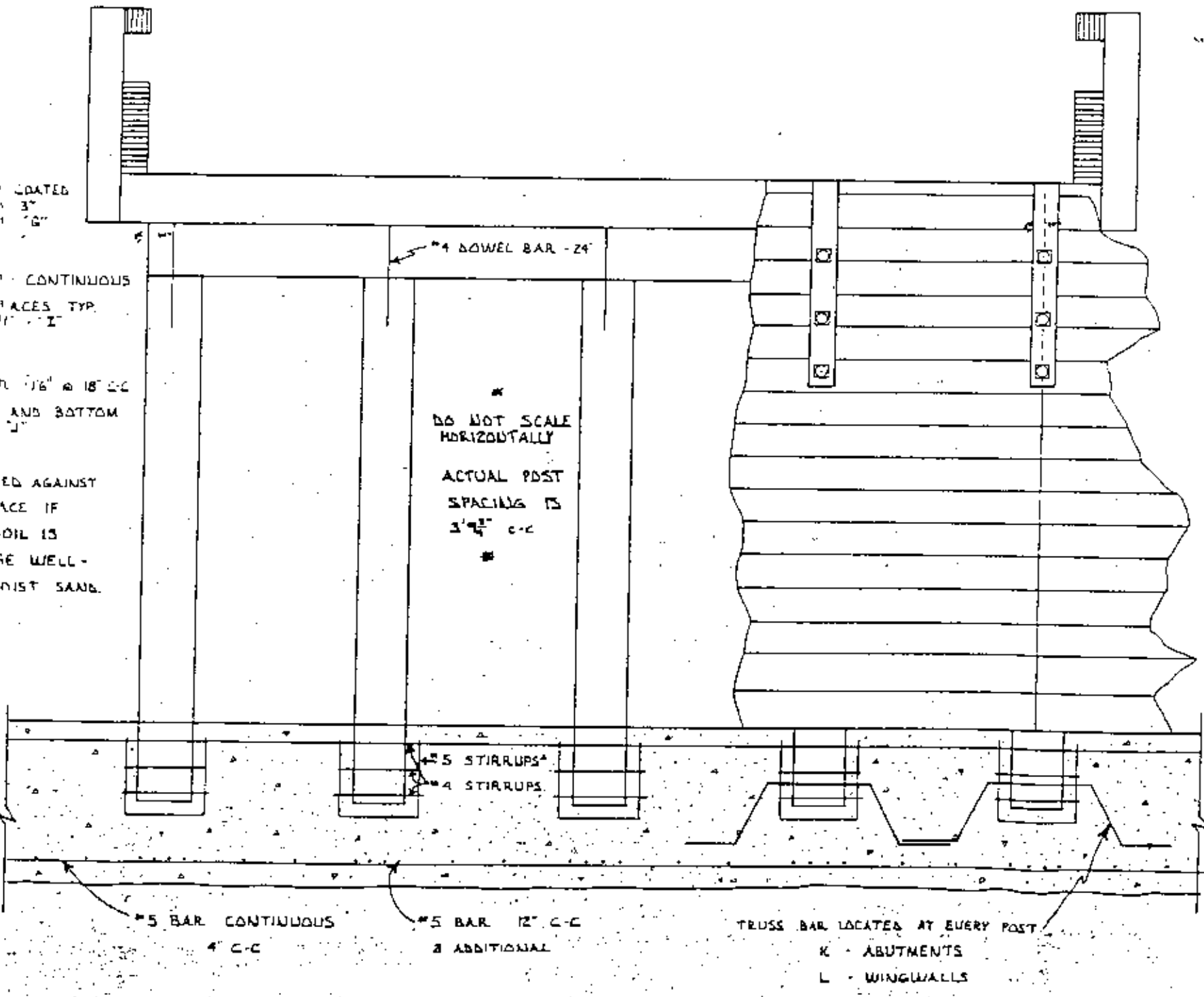
#4 BAR ENDS COATED
w/ J HOOK AND 3"
THREADED ENDS

#5 BAR CONTINUOUS
5 PLACES TYP.

#4 BAR 18" @ 18" C-C
TOP AND BOTTOM

SHALL BE POLISHED AGAINST
UNDISTURBED FACE IF
POSSIBLE. IF SOIL IS
DISTURBED, USE WELL-
COMPACTED MOIST SAND.

DO NOT SCALE
HORIZONTALLY
ACTUAL POST
SPACING IS
3'-7" C-C



#5 BAR CONTINUOUS
4" C-C

#5 BAR 12" C-C
2 ADDITIONAL

TRUSS BAR LOCATED AT EVERY POST
K - ABUTMENTS
L - WINGWALLS

**Appendix B –
Cross Sections from NYSDOT Inspection Reports**

Sketch Number: 2

Sketch Filename: 2023 Channel X-Section Plan.jpg

RD227

NYS DEPT. OF TRANSPORTATION

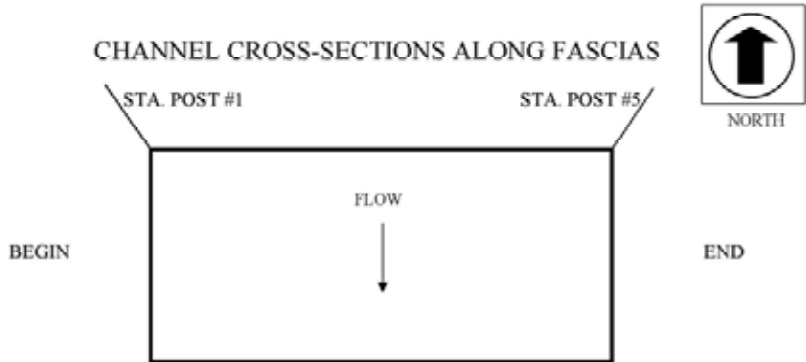
BIN: 3/2 - 2207390

DATE: 3/28/23

FEATURE CARRIED: Ayers Road

FEATURE CROSSED: Cold Brook

CHANNEL CROSS-SECTIONS ALONG FASCIAS



REFERENCE	YEAR	NOTES	
<p>DATUM: TOP OF PARAPET</p>	2013	Locations proceed from beginning to end as indicated in the columns below. Readings changed to each post referencing the top of timber parapet. Rail ht to top of deck = 3.04'. No drop readings taken in 2011 inspection.	
	2015	No significant changes	
	2017	Stream bed readings are changing, see BD226 for readings. Height of railing post 2.6'	
	2019	Minor fluctuations see BD226	
	2021	Increased degradation of the stream channel up to 1.6' at Post #2 on left and 1' at Post #4 on the right.	
	2023	Additional erosion along left and end right, new wall begin right	

Sketch Description: 2023 Channel X-Section Plan.jpg

Sketch Number: 3

Sketch Filename: 2023 Channel X-Section Readings.jpg

BD226

NYS DEPT OF TRANSPORTATION

BIN 3/2- 2207390

DATE: 3/28/23

FEATURE CARRIED Avers Road
 FEATURE CROSSED Cold Brook

CHANNEL CROSS-SECTION READINGS (in feet)

STA.	LEFT SIDE READINGS				STA.	RIGHT SIDE READINGS			
	2015	2017	2019	2021		2015	2017	2019	2021
POST 1	9.8	11.0	11.0	11.0	POST 1	8.8	9.1	10.1	10.1
POST 2	10.3	10.9	11.5	13.1*	POST 2	9.5	10.0	10.9	11.6*
POST 3	10.5	11.2	11.8	12.8	POST 3	10.3	11.1	11.5	12.3
POST 4	11.8	12.2	12.0	13.0	POST 4	11.9	12.1	12.1	13.1
POST 5	12.0	13.2	13.0	13.2*	POST 5	13.8	14.5	14.2	14.2*
WL@ #4	10.4	11.1	11.3	12.0	WL@ #4	10.6	11.1	11.4	12.0
STA.	LEFT SIDE READINGS					RIGHT SIDE READINGS			
	2023					2023			
POST 1	12.6				POST 1	7.8			
POST 2	13.9				POST 2	12.4			
POST 3	13.1				POST 3	12.9			
POST 4	13.3				POST 4	13.9			
POST 5	14.1				POST 5	15.9			
WL@ #4	12.1				WL@ #4	12.0			

Sketch Description: 2023 Channel X-Section Readings.jpg

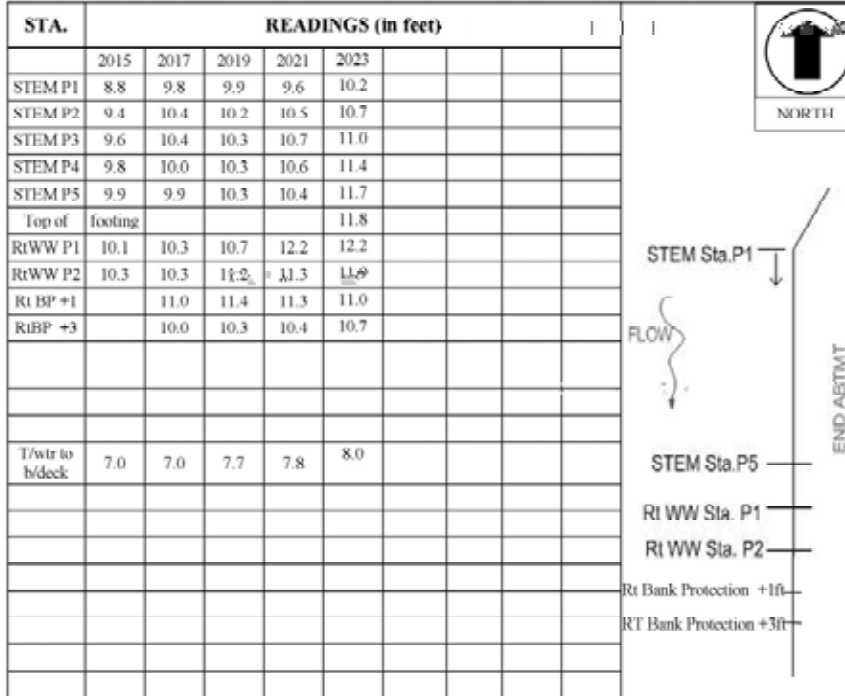
Sketch Number: 4

Sketch Filename: 2023 End Abutment Profile Readings.jpg

BD230b

CHANNEL PROFILE ALONG END ABUTMENT

BIN: 3/2 - 2207390 DATE: 3/28/23
 Feature Carried: Ayers Road
 Feature Crossed: Cold Brook



REFERENCE	YEAR	NOTES
		Datum: Bottom of deck to streambed
	2015	New readings, no undermining detected
	2019	Additional erosion, bank protection sloughing
	2021	Increased streambed erosion along end right wingwall up to 1.5' at Rt. WW Sta. P2.
	2023	Additional erosion no scour, top of concrete footer at 11.8ft deep at end right

Sketch Description: 2023 End Abutment Profile Readings.jpg

Sketch Number: 5

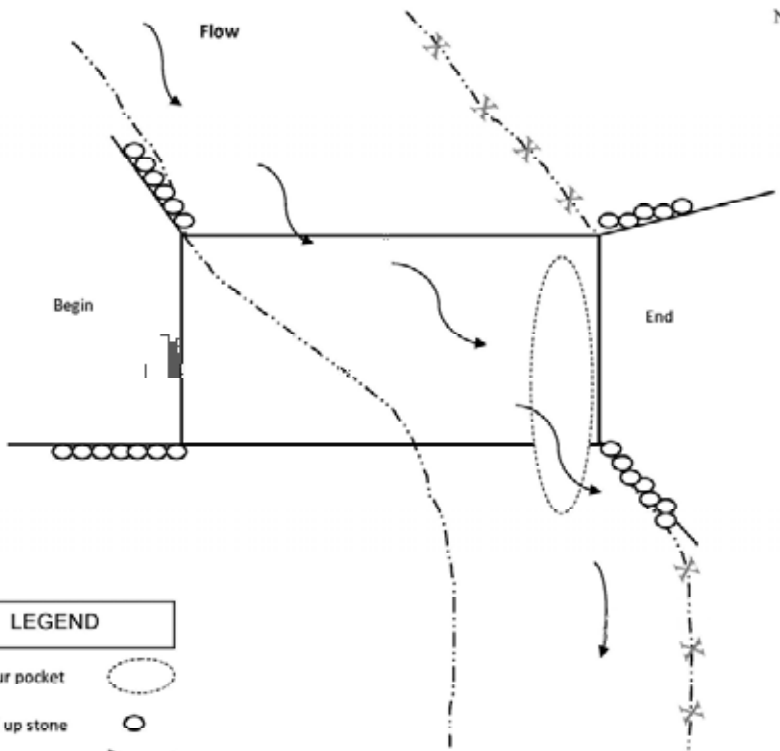
Sketch Filename: 23_Stream Sketch.jpg

STREAM SKETCH

NYS DOT BRIDGE INSPECTION REPORT

SHEET 1 OF 1

BIN:	3/2 - 2207390	Insp. Date:	3/28/23
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LEGEND

- Scour pocket
- Laid up stone
- Stream bank
- Bank Erosion

Sketch Description: Stream Sketch

**Appendix C –
Blank Inspection Forms**

Form 7.1 Post-Flood Inspection

NYS DOT POST FLOOD INSPECTION REPORT

BIN: _____	DATE: _____
COUNTY: _____	TIME: _____
OVER: _____	INSPECTOR: _____
UNDER: _____	SIGNATURE: _____

PICTURES? YES NO

SUPERSTRUCTURE:	YES	NO
Bridge rail Alignment normal	___	___
Curb alignment normal	___	___
Joint seals normal & show no distress	___	___
Deck & approach pavements show no new cracks	___	___
Comments:		

SUBSTRUCTURE:	YES	NO
Footings exposed	___	___
Scour holes present (depth?)	___	___
Stone fill/ scour protection stable	___	___
Comments:		

WATERWAY:	YES	NO	MAYBE		
Adequate opening					
Debris in opening				HEAVY	MODERATE
High water mark – as freeboard =					LIGHT
Siltation in opening					NONE
Bank cutting				HEAVY	MODERATE
Alignment with structure					LIGHT
Ice Jam near structure					NONE
Piers – Debris				UPSTREAM	DOWNSTREAM
Comments:					SEVERE
					MODERATE
					MINOR
				GOOD	FAIR
					POOR
				MAJOR	MINOR
					NONE
				MAJOR	MINOR
					NONE

Dropline/Scour Documentation attached: YES NO
 (Required ONLY if a visual inspection is not possible)

Diving Required? YES NO (if so, where?)

Follow-up inspection by Hydraulics Unit? YES NO
 Describe Condition:

Follow-up repairs recommended? YES NO
 Describe recommended repairs:

Bridge flagged? RED YELLOW SAFETY NONE
 Describe flagged condition:

**Appendix D –
Completed Inspection Report Forms**