

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
GRANT APPLICATION

Union	Hartley Township	District Use Only	
Project Location: County	Project Location: Municipality	Application Type: <input checked="" type="checkbox"/> DGR <input checked="" type="checkbox"/> LVR	
Earl Bingman	Supervisor	Funded Site ID: _____	
ESM Certified Person	Position	Date Received: _____	
Hartley Township	040318		
Official Name of Applying Agency			
1845 State Route 235 PO Box 128 Laurelton PA 17835			
Mailing Address			
Rudy Lyons	5709221920	5709221928	prhartleytwp@gmail.com
Contact Person	Phone	Fax	E-Mail

Aikey Road / T366	HQ Trib 19082 to Buffalo Creek
Road Name / ID Number	Affected Stream or Tributary
1 June 2020	1 June 2021
Proposed Project Start Date	Proposed Project Completion Date
Existing Road Surface Type: <input type="checkbox"/> Unpaved <input checked="" type="checkbox"/> Paved	
Is project considered an emergency? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

- The applicant is required to identify and obtain all necessary permits before starting the project.
- Identify the proposed work elements: Ditches Improved Ditch Outlets Added Off Right-of-Way Improvements
 Road Banks Improved Road Base Improved Road Surface Stabilized
 Stream Crossings Improved Storm Water Improvements Vegetative Management Other _____ Stream Crossing Replacement
- The applicant is required to obtain the DSA Specification and Certification form prior to DSA placement.
- Complete Attachment B "Project Work Plan" including a sketch of proposed project. Attach a locational map with the project highlighted.
- Project cost estimate: (summarize costs here and attach detailed documentation if needed)

Grant Requested Funds				In-Kind Contributions			
Materials	Equipment	Labor	Engineering*	Materials	Equipment	Labor	Engineering
\$113,161.31	\$17,881.95	\$10,147.00	\$2,000.00	Ø	Ø	Ø	\$2000.00

See Attachment A1

See Attachment A2

Grant Requested.....	\$ 153,190.06
In-Kind Contributions.....	\$ 2000.00
Total Project Value.....	\$ 155,190.06

*For Grant Requested Funds, Engineering costs cannot exceed 10% of the total grant amount requested.

Applicant Signature

5/8/2020

Date

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE
DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
PROJECT WORK PLAN

Hartley Township

Applicant

Aikey Road / T366

Road Name / ID Num

5/8/2020

Date

See Attachment

Instructions:

- Draw a sketch of the proposed project that includes:
 - All Proposed Work (i.e., Cross Pipes, Stream Crossings, Other ESM Practices)
 - Project Road Length in Feet or Miles
 - Nearest Intersection and/or Reference Landmarks
 - Known Utilities
 - North Arrow
- Attach a copy of a locational map with the project highlighted
- Attach additional project details as necessary



Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Project Length = 2489 feet / miles (circle one)

North Arrow

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE
DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
DETAILED ESTIMATED PROJECT EXPENDITURES
GRANT REQUESTED FUNDS

Use best estimates and complete as much info as possible.

Materials*				Equipment				Labor ^o			
Type	Unit Cost	Qty	Cost \$	Type	Hours	FEMA* Rate/Hr	Cost \$	Type	Rate/Hr	Hours	Cost \$
8" DSA	\$26/ton	1500	\$39,000.00	Excavator	60	43.16	2589.60	Excavating	16.00	60	960.00
18" Crosspipe	\$1000	1	\$1000.00	Skid Steer	80	38.72	3097.60	Skid	16.00	80	1280.00
28" x 20' relief pipe	\$1,600	3	\$4,800.00	Roller	20	26.90	538.00	Roller	16.00	20	320.00
11' x 5' x 60'	\$40,000	1	\$40,000.00	Paver	35	96.52	3378.20	Paver	25.00	35	875.00
Endwall	\$200	4	\$800.00	Dump Truck	24	72.05	1729.20	Truck drivers	16.00	72	1152.00
2A Mod Stone	\$16/ton	310	\$4960.00	Dump Truck	24	72.05	1729.20	Pipe Assembly/veg mgt	16.00	320	5160.00
Seed/Mulch	500	1	\$500.00	Dump Truck	24	72.05	1729.20	Grader	16.00	25	400.00
R4/R5	\$13/ton	40	\$520.00	6" pump hoses	4 weeks	NA	1000.00	Total Labor \$			10,147.00
Jersey Barriers	200.00	8	\$1600.00	wacker for pipe	2 weeks	NA	400	*Prevailing wage may apply to projects over \$25,000 when a contractor is involved. †For Grant Requested Funds, Engineering costs cannot exceed 10% of the total grant amount requested.			
Contingency	N/A	15%	\$19,981.31	Grader	25	63.63	1590.75				
Total Materials \$			113,161.31	Total Equipment \$			17,881.75	Engineering [†]			
								Total Engineering \$	12,000.00		

* FEMA rates are only applicable where municipality-owned equipment is used otherwise use contracted rates.

Total Grant Requested: \$ **153,190.06**

(materials + equipment + labor + engineering)

Hartley Twp

Union

Aikey Road / T366

5/8/2020

Applicant

County

Road Name / ID Number

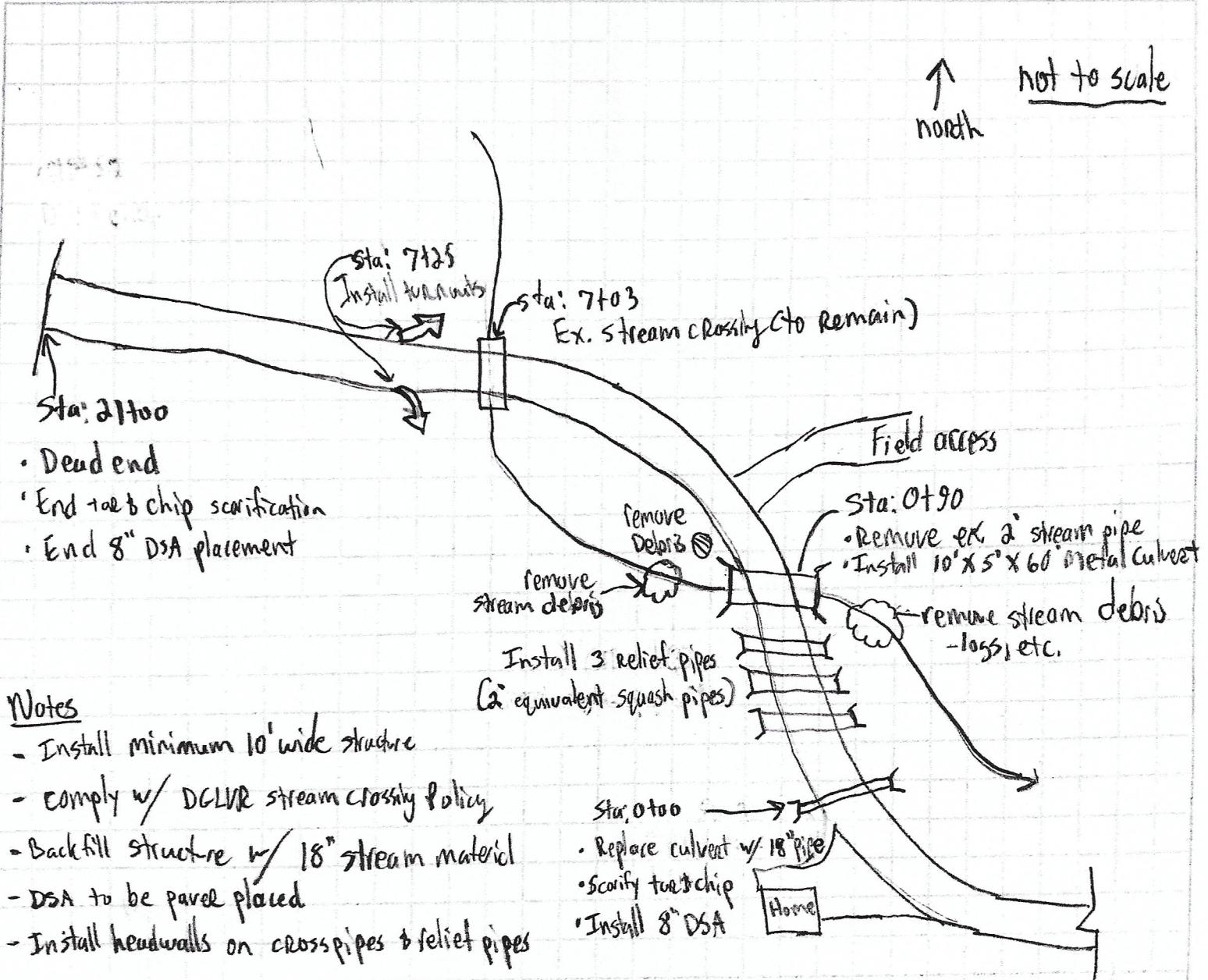
Date

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE
DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
PROJECT WORK PLAN

Hartley Township
Applicant

Aikey Road
Road Name / ID Num

5/7/2020
Date



Notes

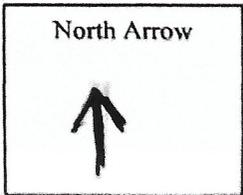
- Install minimum 10' wide structure
- comply w/ DGLVR stream crossing policy
- Backfill structure w/ 18" stream material
- DSA to be parcel placed
- Install headwalls on cross pipes & relief pipes

Instructions:

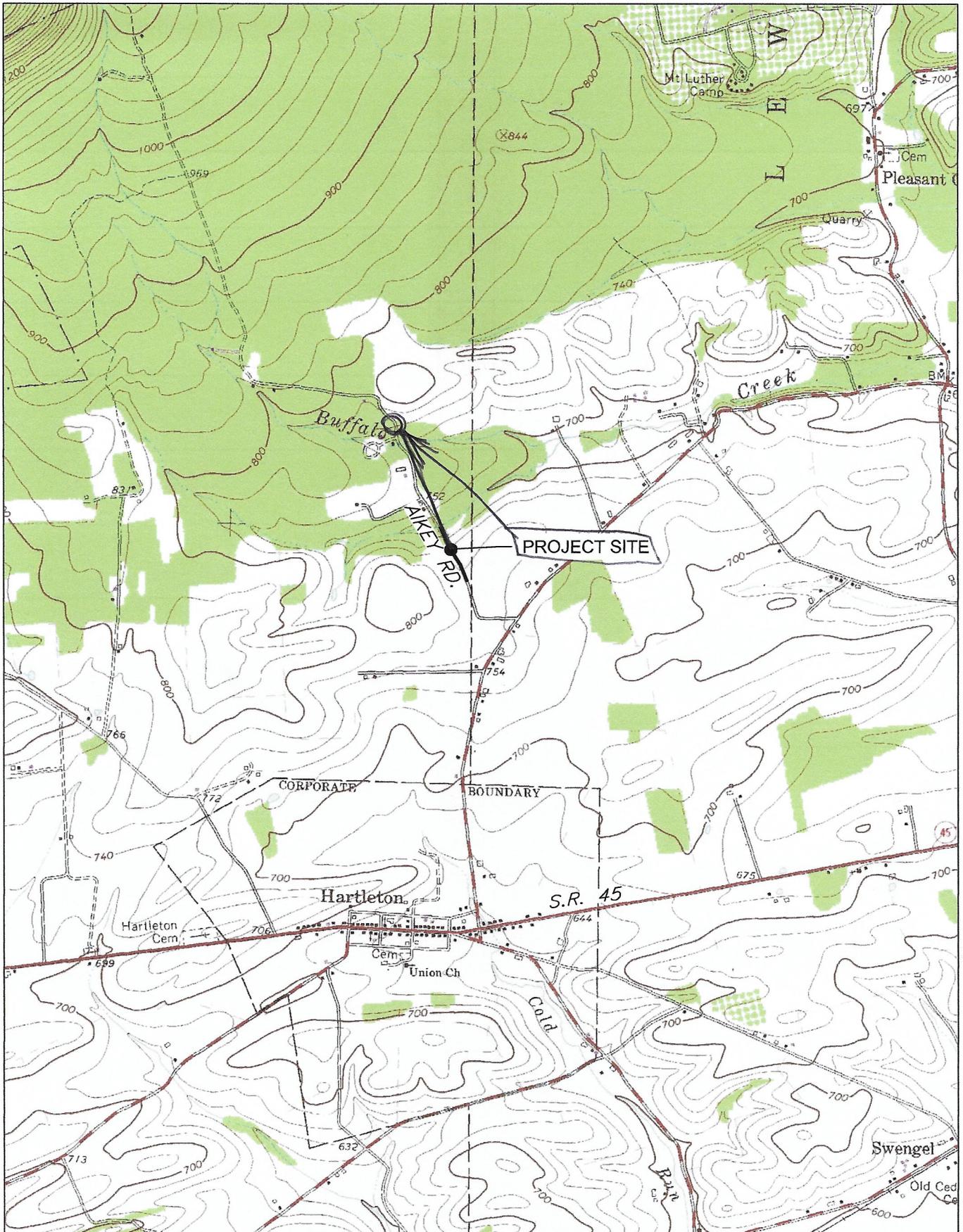
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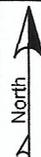
Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.



Project Length = 2489 (feet) miles (circle one)



AIKEY ROAD
HARTLEY TOWNSHIP
UNION COUNTY, PA



USGS MAP
HARTLETON
QUADRANGLE

SCALE: 1" = 2,000'

TECHNICAL ASSISTANCE SUMMARY

Prepared by: Trout Unlimited For: PennState Center for Dirt and Gravel Road Studies



Date of Assistance: 5-3-18 County: Union Township: Hartley

Road Name: Aikey Road GPS Coordinates (dd): 40.920694, -77.157675

Assistance Type: Planning Chesapeake Bay Watershed: yes no

Stream Name: Buffalo Creek Designation: HQ-CWF Fishery Information: Brook Trout

TU Staff: Thomas RKM Focal Area: yes no

Participants: Shanon Stamm, Tim Ziegler

Brief Visit Summary: Site visit to discuss potential stream crossing replacement and measure bankfull.

Overview (general project description, objectives, and/or needs)

Site visit to measure bankfull. Potential culvert replacement project with other ESM practices up and down grade of crossing.

Project Scope (existing/proposed structure dimensions, channel geometry, instream features or structures needed, etc.)

Existing metal pipe is 2' wide. Severe inlet drop cause by large rocks greatly reducing the pipe's capacity. Evidence of recent water over-topping pipe and running down ditch to cross pipe. Watershed has recovered from AMD and is now supporting brook trout. Average bankfull was measured at 9'6" feet. The culvert is eligible for DG funding. Debris jam upstream about 50 feet seems to be contributing to the high water flowing down the ditch. No NAACC survey was done but the pipe is at least a moderate barrier maybe significant.

Recommendations

Recommended a plate arch due to road fill available. If the rise on the pipe is about 3 feet you should not have to raise the road. Closer measurements/survey should be done to confirm. Streambed constructed back through the pipe should be at similar grade to the upstream section. A riffle should be constructed through pipe to keep stream functionally proper. Large material, in the R-5 range, should be placed inside pipe to help establish grade. Large dead tree stump at inlet should be removed (if possible) to open channel at inlet.

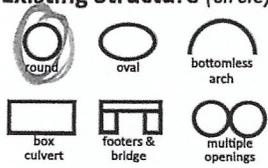
Additional Comments

Since watershed is recovered from AMD further investigation should be done in watershed to look at other potential barriers to ensure brook trout can utilize the whole watershed.

Attachments (photographs, site plans, etc.)

PA Dirt Gravel and Low Volume Road Program—Stream Crossing Evaluation Form

Reviewer Information: Site Information

Date: 5/7/2020 County Union Township Hartley
 Reviewer: WB Road Owning Entity Hartley Township
 Entity: CDGCS Structure Owning Entity Hartley Township
 Existing Structure (circle):

 Road Name Aikey Road
 Stream Name ^{"UNT" for unnamed tributary to} UNT
 Latitude 40.9206 N Longitude 77.1576 W
 Site notes: TU measured bankfull on 5/3/18

Existing Conditions: quantitative assessment

required

Measuring Bankfull Channel Width: Since stream conditions vary, these guidelines are flexible, and the goal is to determine bankfull width of an unaltered "reference reach" of the stream. Look upstream if possible, trying to find an undisturbed "reference reach" of stream free from influences that may impact cross section (such as debris jams, floodplain obstructions, bedrock outcrops, etc.). In order to get out of the "area of influence" from the structure, roughly estimate the bankfull channel width, then go at least 5 times that distance away from the structure to begin taking bankfull measurements. Additional bankfull widths should be measured so that at least three (with 5 preferred) are collected. Subsequent bankfull width measurement should be collected at least 1/2 bankfull width away from the first measurement, taking care to avoid channel obstructions and bends. Additional bankfull determination guidance on reverse.

Bankfull width measurements: 1) 9 1/2 ft 2) 9 1/2 ft 3) 9 1/2 ft 4) _____ ft 5) _____ ft

A. Avg. Reference bankfull width 9 1/2 ft If it is impossible to obtain reference bankfull widths upstream of the structure, downstream widths can be used if they are taken out of the structure influence area.

B. Existing structure width 2 ft Width of structure at narrowest point.

C. Structure / Bankfull ratio 22 % Structure width divided by average bankfull width. (Line B divided by line A)

Existing Conditions: qualitative assessment

D. Stream Bank Erosion	upstream	none	<u>slight</u>	moderate	high	severe
	downstream	none	slight	<u>moderate</u>	high	severe
E. Stream Bed Erosion	upstream	none	<u>slight</u>	moderate	high	severe
	downstream	none	slight	<u>moderate</u>	high	severe
F. Stream Bed Deposition	upstream	none	<u>slight</u>	moderate	high	severe
	downstream	none	slight	<u>moderate</u>	high	severe
G. Bank Armoring		unknown	<u>none</u>	intact	failing	

Eligibility for Crossing Structural Replacement with Program Funds

Is the existing structure opening **equal to or less than 13 square feet** (equivalent to a 48" diameter round pipe): **NO**-see below **YES-Eligible**
 Note that multiple-pipes are automatically eligible for replacement, but must be replaced with a single bankfull-width structure.
 For larger structures, **all three** criteria below must be met in order to be eligible for replacement with Program funds:
 Existing structure to bankfull width ratio of **75% or less**. What is the existing structure to bankfull ratio (line C above): _____ %
 Show signs of streambank erosion. Is stream bank erosion present (line D above): **YES** **NO**
 Show signs of streambed erosion/aggradation. Is streambed erosion/aggradation present (line H&J above): **YES** **NO**
Is this stream crossing eligible for replacement with Program funds? YES NO
 Note that ALL new structures paid for with Program funds are required to span the bankfull channel with a single opening.