

Ohio Bridge Conference

August 2017

Jim Wiechart, P.E., P.S.

Mercer County Engineer

jim.wiechart@mercercountyohio.org

419-586-7759

Credit Bridge Projects via Force Account

- Structures built through force account

Bridge related employees:

“The Do-ers”

Richard Gray	Bridge Worker II
Anthony (Tony) Knapke	Bridge Worker II
TJ Smalley	Bridge Supervisor

“The Planners”

Mark Linn	Eng Tech II/Survey Tech
Aaron Moeller	Survey Design Tech/ Drainage Deputy
Jim Wiechart	Mercer Co. Engineer

How/Why are bridge large culvert projects selected for replacement/rehab?

- Non-political/mostly engineering/non-precise logical process related to some (not all of below criteria) - As much science as art
 - General appraisal from annual inspection
 - Sufficiency Rating
 - Width of structure
 - Type of facility use of road
 - Funding opportunities

We keep & maintain a 5 year plan for large culverts/bridge replacements/rehabilitations so we at least have a script for our operations employees to know what they are likely to be working on in the next several years.

	YEAR 2015	ROAD	SURVEY
TOWNSHIP	BRIDGE/CULV.	NAME	DESIGN
WAS	C31A-0.85B	WABASH	NO
WAS	C31A-3.32B	WABASH	NO
FRA	C163-1.34B	CHICKASAW	NO
HOP	C156-3.35C	MILLER	NO
WAS	C80-5.36C	SIEGRIST JUTTE	NO

	YEAR 2016	ROAD	SURVEY
TOWNSHIP	BRIDGE/CULV.	NAME	DESIGN
WAS	T21C-1.21B	RAUH	YES
GIB	C61-2.12B	TOWNSHIP LINE	YES
BUT	C61-6.75B	TOWNSHIP LINE	YES
BUT	C70-5.75B	PHILOTHEA	NO
MAR	T125-0.77B	STELZER	YES/LIMITED
CEN	T171C-1.03B	KUCK	NO
CEN	C200C-1.40B	DENNY	NO
		FEDERAL-AID	
LIB	T190-1.99B	SCHAADT	YES

	YEAR 2017	ROAD	SURVEY
TOWNSHIP	BRIDGE/CULV.	NAME	DESIGN
GIB	C10-1.36B	WATKINS	NO
JEF	T71A-4.01B	GAUSE	NO
CEN	T145D-0.47B	HAYES	NO
BLA	C250-0.82B	WINKLER	YES
BLA	C250-5.10B	WINKLER	NO
GIB	C10-4.20C	WATKINS	NO
REC	C21B-1.13C	WABASH	NO
REC	C21B-1.23C	WABASH	NO
REC	T56-01.02	ST. JOE	NO
BUT	C110-8.06C	ST. ANTHONY	NO
HOP	C170A-2.57C	MORROW	NO
DUB	T260-4.51C	MERCER VW CO LINE	NO
		FEDERAL-AID	
REC	C21B-3.50B	WABASH	YES

	YEAR 2018	ROAD	SURVEY
TOWNSHIP	BRIDGE/CULV.	NAME	DESIGN
MAR	C00-16.97B	MER-DARKE CO LINE	YES

Hydrology

Quantification of watershed &
estimates of
theoretical flow values
(Cu.Ft./Sec.) for theoretical
design years (10, 25, 50, 100)

Hydraulics

From 10 year theoretical storm event, utilize ODOT nomographs to size for 0.5' head buildup on structure (similar to ODOT's sizing process)

Scoping/designing/planning bridge

1 page field scope form filled out on site

- decision made at that time whether or not survey needed or if it can just be a field stake project with limited plan.
- (In the case of a culvert as a possible replacement type) At the time of the construction, it is field staked and extend ends, no headwalls simplifies

Generally, if sizing process dictates less than 12'-14' span, we will use a reinforced concrete culvert type structure.

Generally, for structures per end area, the cost per end area is least for round culvert, more for elliptical, highest for 4-sided boxes.

So if possible, we try to utilize more round structures unless head room limitations force us into elliptical/box structures.

If the hydraulics dictate larger than 12'-14' span box, then usually a simple spill thru stub capped pile abutment design with either reinforced concrete beams (we cast up to including 40') or if necessary, a prestressed reinforced concrete non-composite box beam deck is selected. The span and skew are selected more to fit the channel.

Simplicity, reproducibility, simple construction processes

- No back wall
- No approach slabs
- Simple closure pours on wings
- Standard 3' wide abutment design

Why do we go through the process of getting the credit?

We are already going to build the bridge to our standards and most of our standards fit the requirements of the credit bridge program.

Thus, the process of getting the credit does not in any significant way impact our crew's work in the field. Getting the credit is largely an administrative task completed by office staff. Our folks' work in the field is not impacted. Our Administrative Assistant does well in completing the paperwork tasks required. I oversee the programming and completion of the process.

Below are some slides of the final paperwork package we submit to ODOT for credit validation.

Credit Bridge Final Inspection Request Letter



MERCER COUNTY ENGINEER

James (Jim) A. Wiedhart, P.E., P.S. Engineer

jaw_wiedhart@mercercountyohio.org

OFFICE: 4854 Mud Pike, Celina, OH 45822
Ph: 419.586.7750 Fax: 419.586.9887
engineer@mercercountyohio.org

OPERATIONS: Highway Department 419.586.4292

Mercer County: Rich in History and a Leader in Agriculture

Credit Br - File copy

Operations Manager
BRAD LAFFIN
Highway Superintendent
MARK LEININGER

Engineer Tech. I Surveyor
MARK LYN

Survey Design
Tech/Drainage Deputy
AARON MCCELLER

Administrative Assistant
KAREN HEINRICH

July 18, 2017

ODOT District 7
Scott Boyer
1001 St. Marys Ave.
Sidney, OH 45365-0969

Re: Credit Bridge Final Inspection Request
SFN 5454306, (MER) MAR 11 25-00.77

Dear Mr. Boyer:

Pursuant to ODOT Procedure No. 310-007(SP), Mercer County Engineer has replaced the above referenced structure and requests that you arrange for a final inspection review as part of the Credit Bridge Program.

Required documentation:

- a. Final Inspection Affidavit-see attached
- b. Change Orders-*n/a*
- c. Plans-see attached
- d. Contract bid document- *n/a*
- e. Itemized statement of costs-see attached

Please schedule the final inspection.

Respectfully,

James A. Wiedhart, P.E., P.S.
Mercer County Engineer

Enclosure

Final Inspection Affidavit

Final Inspection Affidavit

PROJECT: SFN 5454506, (MER) MAR 1125-00.77

I, James A. Wiechart, P.E., P.S., affiant herein, state that I am the Mercer County Engineer and that the completed work on the above referenced bridge was noncontroversial meaning that it had minimal environmental impacts, no impacts to sites on or eligible for the National Register of Historic Places, and no significant local opposition.

The bridge is no longer "deficient" nor expected to become "deficient" within the next ten (10) years.

The bridge was designed and constructed according to local written design standards or AASHTO's Low Volume Road Manual and the appropriate AASHTO publication, however, the minimum bridge loading is in compliance with AASHTO HL-93.

I swear or affirm that the aforesaid statement is complete and true to the best of my knowledge and belief.

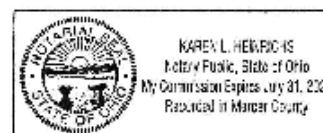
James A. Wiechart
(Signature of Affiant)

Subscribed and duly sworn before me according to law by the above named person,

James A. Wiechart, this 18th day of July, 2017 at
(Name of Affiant)
Celina, County of Mercer, and State of Ohio.
(City)

Karen L. Hennrichs
(Signature of Notary Public)

My Commission Expires 7-31-21



Project & Cost Certification

CREDIT BRIDGE PROGRAM PROJECT AND COST CERTIFICATION

Project Source:	Mercer County Engineer	City/County:	Ohio Department of Transportation
Address:	4584 Mid Pike Celina OH 45822	Address:	1300 W. Broad Street, 2nd Floor Columbus, Ohio 43260
Date:			

Construction Dates	Description	Local Total	Credit Amount Requested
01-29-18 07-03-17	MRR TL25-00.77 Stelzer Road Branch over Montezuma Creek SPN 5454506 Reinforced Concrete Pipe 13'1"	\$44,877.15	\$35,901.72

LOCAL FISCAL AGENT CERTIFICATION	LOCAL ENGINEER CERTIFICATION
I hereby certify:	I hereby certify:
(1) that the attached supporting documentation was for this project;	(1) that the attached supporting documentation was for this project;
(2) that costs claimed for reimbursement are true costs incurred in executing the Credit Bridge Program in compliance with the rules and regulations governing participation as set forth by ODOT in the Credit Bridge Program;	(2) that costs claimed for reimbursement are true costs incurred in executing the Credit Bridge Program in compliance with the rules and regulations governing participation as set forth by ODOT in the Credit Bridge Program;
(3) that these costs are eligible, allowable, allocable, reasonable, necessary, consistent and conform to all laws, regulations and sponsored agreements;	(3) that these costs are eligible, allowable, allocable, reasonable, necessary, consistent and conform to all laws, regulations and sponsored agreements;
(4) that these costs have not been nor will be requested for reimbursement from any other Federal source;	(4) that these costs have not been nor will be requested for reimbursement from any other Federal source;
(5) that these costs are not related to preliminary engineering, right of way, project administration, or any other unallowable activity;	(5) that these costs are not related to preliminary engineering, right of way, project administration, or any other unallowable activity;
	(6) that the project was designed and constructed in accordance with current standards;
	(7) the project was non-purchased and is no longer "structurally deficient" or "functionally obsolete".
<i>Karen A. Helmrich</i> Signature	<i>James A. Whelan</i> Signature
Adm. Asst.	Mercer County Engineer
Title	Title
07-18-17	07-18-17
Certification Date	Certification Date

STATE OF OHIO CERTIFICATION
I hereby certify:
(1) that the cost certification has been reviewed for compliance with the Credit Bridge Program;
(2) that the appropriate supporting documentation has been reviewed to support costs claimed for credit;
Signature
Title
Certification Date

Final Inspection Report



OHIO DEPARTMENT OF TRANSPORTATION
CREDIT BRIDGE PROGRAM
FINAL INSPECTION REPORT

SFN 5454506	County/Route/Section MER T125-00.77
Work Started 01-29-16	Work Completed 07-03-17

Location and Description of Project Inspected

MER T125-00.77 Stelzer Road, Marion Township, Marion County, OH
Branch over Montezuma Creek

13'1" Reinforced Concrete Pipe

Remarks/Exceptions

Final Inspection was made on . We find the above Project was completed in general conformity with the approved plans and scope of the project, and certify that it was carried out in accordance with all applicable standards.

Physical Work Accepted on _____ by _____

FINAL INSPECTOR

cc: District LPA Manager - Office of Local Programs

Within House Rate

07/17/17

Date Of Work 01/29/16 to 07/03/17

Page 1

Date	Work Code	Eqp.	Hrs./Miles	Rate	Equipment Amount	Emp.	Reg	Rate	O.T.	Rate	Employee Amount	Material	Qty.	Cost	Material Amount	
T125-0.77B																
01/29/16	12.170					561	3.00	40.3785	0.00	37.6200	121.14			0.000	0.00	0.00
STELZER ROAD (0.000...						LINN,MARK L										
02/12/16	12.180					081	6.00	40.3785	0.00	37.6200	242.27			0.000	0.00	0.00
STELZER ROAD (0.000...						LINN,MARK L										
10/03/16	12.330					327R	4.00	35.4844	0.00	33.0500	141.94			0.000	0.00	0.00
STELZER ROAD (0.000...						FREEMAN,THOMAS E										
10/03/16	12.330					081	4.00	40.3785	0.00	37.6200	161.52			0.000	0.00	0.00
STELZER ROAD (0.000...						LINN,MARK L										
10/20/16	10.311	25	30.00	2.3000	60.00	250B	2.00	39.5738	0.00	36.5700	75.15			0.000	0.00	0.00
STELZER ROAD (0.000...		MACK DUAL AXLE TRUCK				SMALLEY,THOMAS J										
10/20/16	10.311	29T	30.00	1.7500	52.50	601B	2.00	35.2107	0.00	32.8050	70.42			0.000	0.00	0.00
STELZER ROAD (0.000...		TRAIL KING TRAILER				MENCHHOFFER,ALBERT J										
10/20/16	10.311	39	20.00	0.8000	18.00	255H	2.00	33.2733	3.00	33.7850	72.55			0.000	0.00	0.00
STELZER ROAD (0.000...		2002 CHEVROLET BRIDGE VAN				GRAY, RICHARD J										
10/20/16	10.311	2P	20.00	0.8000	15.00		0.00	0.0000	0.00	0.0000	0.00			0.000	0.00	0.00
STELZER ROAD (0.000...		FORD														
10/20/16	10.311	28T	20.00	1.0000	20.00		0.00	0.0000	0.00	0.0000	0.00			0.000	0.00	0.00
STELZER ROAD (0.000...		2011 GOLDEN FLAT TRAILER														
10/21/16	10.310	2P	20.00	0.8000	20.00	250B	2.00	36.5738	0.00	36.5700	75.15			0.000	0.00	0.00
STELZER ROAD (0.000...		FORD				SMALLEY,THOMAS J										
10/21/16	10.310	39	25.00	0.8000	20.00	601B	4.00	35.2107	0.00	32.8050	140.84			0.000	0.00	0.00
STELZER ROAD (0.000...		2002 CHEVROLET BRIDGE VAN				MENCHHOFFER,ALBERT J										
10/21/16	10.310	17C	1.00	30.0000	30.00		0.00	0.0000	0.00	0.0000	0.00			3.000	3.00	0.00
STELZER ROAD (0.000...		CATERPILLAR														
10/24/16	10.310	39	20.00	0.8000	16.00	601B	4.00	35.2107	0.00	32.8050	140.84			0.000	0.00	0.00
STELZER ROAD (0.000...		2002 CHEVROLET BRIDGE VAN				MENCHHOFFER,ALBERT J										
10/24/16	10.312	26	100.00	1.2000	120.00	601B	2.00	35.2107	0.00	32.8050	70.42			0.000	0.00	0.00
STELZER ROAD (0.000...		INTERNATIONAL DUMP TRUCK				MENCHHOFFER,ALBERT J										
10/24/16	10.315	48	40.00	1.2000	48.00	255H	6.00	36.2733	0.00	33.7850	217.84	3000.000105TH	5.500	85.00	487.00	
STELZER ROAD (0.000...		FORD SINGLE AXLE DUMP TRK				GRAY, RICHARD J						CONCRETE-FTERS-CLS F-BRMCCF-300X151				
10/24/16	10.315	17C	5.00	30.0000	150.00	677H	2.00	36.2600	0.00	37.4800	72.52			0.000	0.00	0.00
STELZER ROAD (0.000...		CATERPILLAR														

Invoices as Supporting Documentation For project costs



CO-PIPE PRODUCTS, INC.
20501 GODDARD ROAD
TAYLOR, MI 48180
Phone 734-257-1003
Fax 734-287-8132

INVOICE

Invoice Number: 49652
Date: 11/4/2016
Order No: 160011
Page No: 1

T100-077

Sold To
MERCER COUNTY ENGINEER 4884 MUD PIKE CELINA OH 45822

Sold To
STELZER RD CULVERT STELZER RD (SEE MAP) (MOTEZUMA RD & FT ROCKFORD MISTER RD) MERCER COUNTY OH

CUSTOMER ID		CUSTOMER PO		PAYMENT TERMS		FOB		FREIGHT TERMS	
9054		STELZER RD-PC#10-0001140		Net 30				Freight: Billed	
SALES REP ID		SHIPPING METHOD		SHIPPER NUMBER		SHIP DATE		INVOICE DUE DATE	
				34265		Oct 27, 2016		Dec 4, 2016	
QUANTITY SHIPPED								UNIT	EXTENDED
FEET	PIECES	KT	PART ID	DESCRIPTION				PRICE	PRICE
16.00	2.00	00503		90' RCP CL3				\$1,773.97	\$3,547.94
	2.00	G0030		90" RUBBER GASKET - N/C				\$0.00	\$0.00

ORDER SPECIFICATIONS

SUB TOTAL: \$3,547.94
TOTAL AMOUNT DUE: \$3,547.94

OK per
TS
KH

This invoice is subject to Co-Pipe Products, Inc.'s standard terms and conditions of sale. All overdue invoices are subject to interest at the rate of 2% per month. All items returned are subject to a re-stocking fee of 25% of the purchase price. If you have questions on how this invoice was calculated, or questions about any of our other products, please contact our sales office.

Please reference this invoice number on your check and remit to:

Co-Pipe Products, Inc.
20501 Goddard Road
Taylor, MI 48180

Certificate of Costs Documenting Approved Labor Rate

LPA Cost Recovery Certification

CERTIFICATE OF COSTS

This is to certify that I have reviewed the indirect cost rate proposal submitted herewith and to the best of my knowledge and belief:

(1) All costs included in this proposal ARE to establish a fringe and/or indirect costs rate(s). These costs are allowable in accordance with the requirements of the Federal award(s) in which they apply and the provisions of 2 CFR Part 200. Unallowable costs have been adjusted for in allocating costs as indicated in the indirect cost proposal.

(2) All costs included in this proposal are properly allocable to Federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently. ODOT will be notified of any accounting changes that would affect the future cost rates.

I declare that the foregoing is true and correct.

Governmental Unit: Morror County Engineer

Rate Submitted: 61%

Signature: James A. Wicheart

Name of Official: James A. Wicheart, P.E., P.S.

Title: Morror County Engineer

Date of Execution: 02-23-16

Approved Rate: 61%.

ODOT Approval: J. W. Agnew, CPA

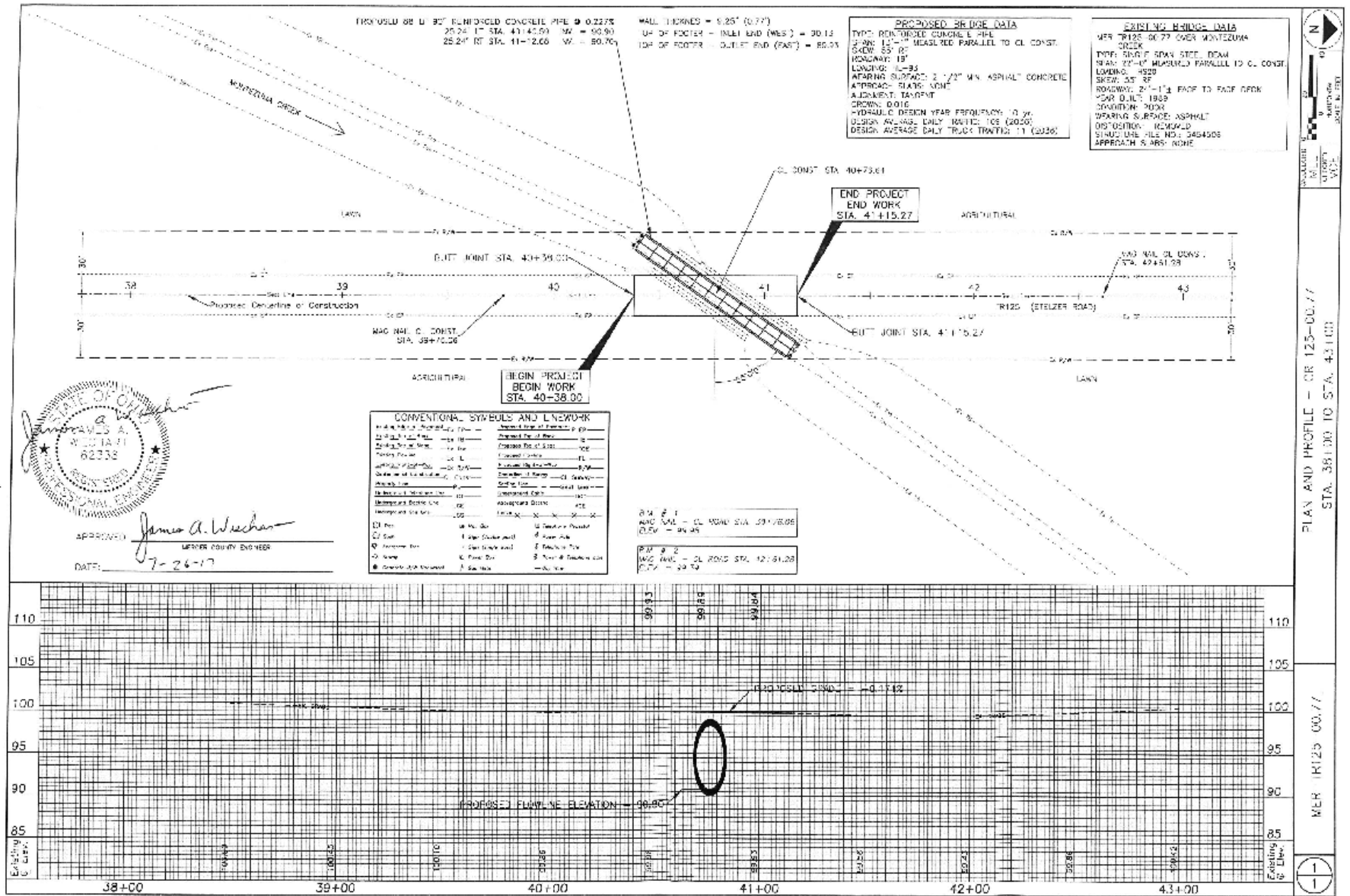
Date of Approval: 3/17/16

Date for Application: 3/17/16 - 3/17/17 *

Rate is applied only to labor worked during this time.

** For future Rates - Lpa will need to provide the required detail transaction Reporting.*

Plan Drawing



Several hiccups in the process:

1. Federal time tracking/cost recovery has been a major challenge in past, but we believe we have this resolved.

Note: even if we could not get labor covered in credit, we would still apply for material and equipment as the credit.

2. If bridge has not been retired and re-inventoried in SMS, having an initial completed inspection for new bridge; FHWA will not process.

3. If bridge is replaced by less than a state defined bridge, FHWA will still process, but takes some extra coordination.

“THANK YOU” FOR THE BRIDGES YOU BUILD!

