

ARKANSAS STATE HIGHWAY  
AND  
TRANSPORTATION DEPARTMENT

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May 3, 2017

Ms. M. Elaine Edwards  
Chief, Regulatory Division  
Little Rock District Corps of Engineers  
P.O. Box 867  
Little Rock, AR 72203-0867

RE: AHTD Job Number 061557  
Biene Creek Culvert  
Replacement (S)  
Prairie County

Dear Ms. Edwards:

Enclosed are the Categorical Exclusion and supporting illustrations and proposed construction plans for the referenced project. The proposed AHTD project will construct a new 8' X 9' X 135' concrete box culvert at Biene Creek on Hwy. 323. The previous culvert has failed, the highway is closed and district maintenance crews have excavated the failed structure. Total impacts to waters of the United States for the construction of this culvert are estimated at less than 0.1 acre. Placement of 6,200 cubic yards of material below the plane of ordinary high water (OHW) (El. 180.0 ft msl) for the construction of the excavated embankment.

The proposed project will not impact State lands of any kind, National or State wild or scenic rivers, or Extraordinary Resource water bodies. AHTD design standards must comply with FEMA-approved local floodplain ordinances.

AHTD Job Number 061557  
Nationwide 3 Permit Packet  
Page 2 of 2

Please review this project for concurrence that construction can proceed under the terms of a Nationwide 3 for Maintenance Activities. If additional information is required, please contact Mickey Matthews or Josh Seagraves of my staff at (501) 569-2522.

Sincerely,

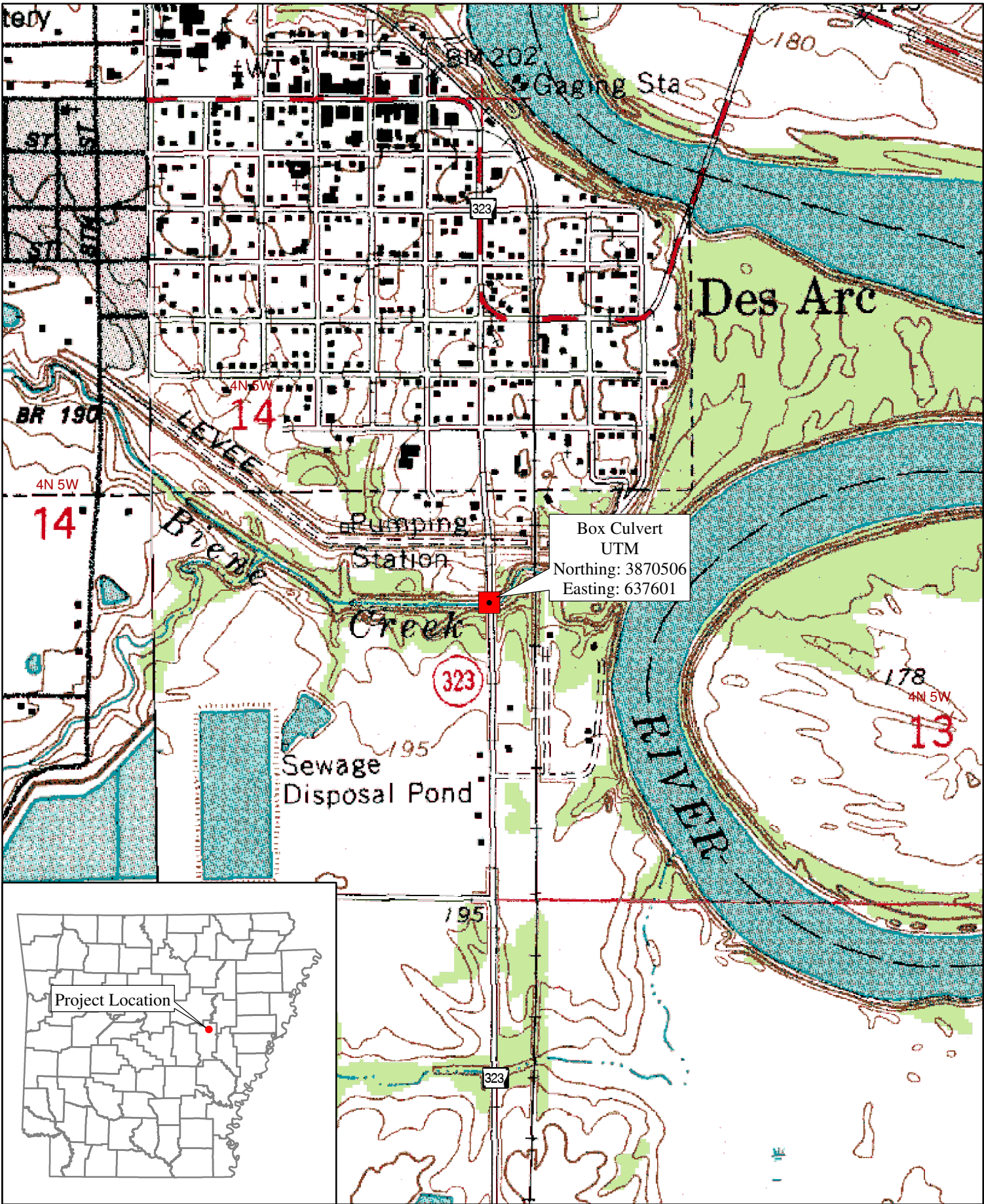


John Fleming  
Division Head  
Environmental Division

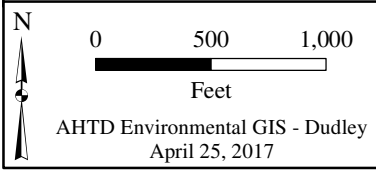
Enclosures

Categorical Exclusion  
Supporting Illustrations  
Proposed Construction Plans


JF:JS:MM:ym



Box Culvert  
 UTM  
 Northing: 3870506  
 Easting: 637601



Job 061557  
 Biené Creek Str. & Apprs.  
 Hwy. 323, Section 1  
 Prairie County

 Box Culvert  
 USGS Topographic Map:  
 Des Arc East 1968

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

**INTER OFFICE MEMORANDUM**

**May 2, 2017**

**TO:** Master Files

**FROM:** John Fleming, Division Head, Environmental Division 

**SUBJECT:** AHTD Job Number 061557  
Biene Creek Culvert Replacement (S)  
Prairie County  
Environmental Documentation for State Funded Projects

The purpose of this project is to replace a culvert that failed on Highway 323 south of Des Arc in Prairie County. The attached figure illustrates the project location.

Existing Highway 323 consists of two paved 10-foot wide travel lanes with 4-foot wide shoulders. Existing right of way width is 210 feet.

Proposed improvements include a double 8' x 9' x 135' reinforced box culvert with two 10-foot wide paved travel lanes and 4-foot wide shoulders. No additional right of way will be required for this project.

After appropriate environmental review it has been determined that the subject job will not affect any wetlands or cultural resources. Field inspections found no evidence of existing underground storage tanks or hazardous waste deposits. This project is excluded from Section 106 review under the Memorandum of Agreement between the AHTD, FHWA, and SHPO executed June 21, 1999.

The USFWS IPAC website lists three birds, four mussels, and Pondberry (*Lindera melissifolia*) as a potentially affected species for projects at this location. Due to the limited scope of the project, lack of habitat present within the project area, and distance to known populations, a determination was made that the project will not affect the three bird species, Pondberry, and Scaleshell mussel (*Leptodea leptodon*). Due to the

Environmental Documentation

AHTD Job Number 061557

Page 2 of 2

proximity to the White River and known populations of the remaining mussel species a determination was made that the project, may affect but not likely to adversely affect the species. The US Fish and Wildlife Service concurrence is attached.

Construction should be allowed under the terms of a Nationwide 14 Section 404 Clean Water Act Permit for Linear Transportation Projects as defined in the Federal Register 82(4):1860-2008.

JF:JB:fc

Attachments:

Location Map

Section 106 Clearance

Section 7 Coordination

Environmental Study Checklist

Design Sheet

c: Program Management

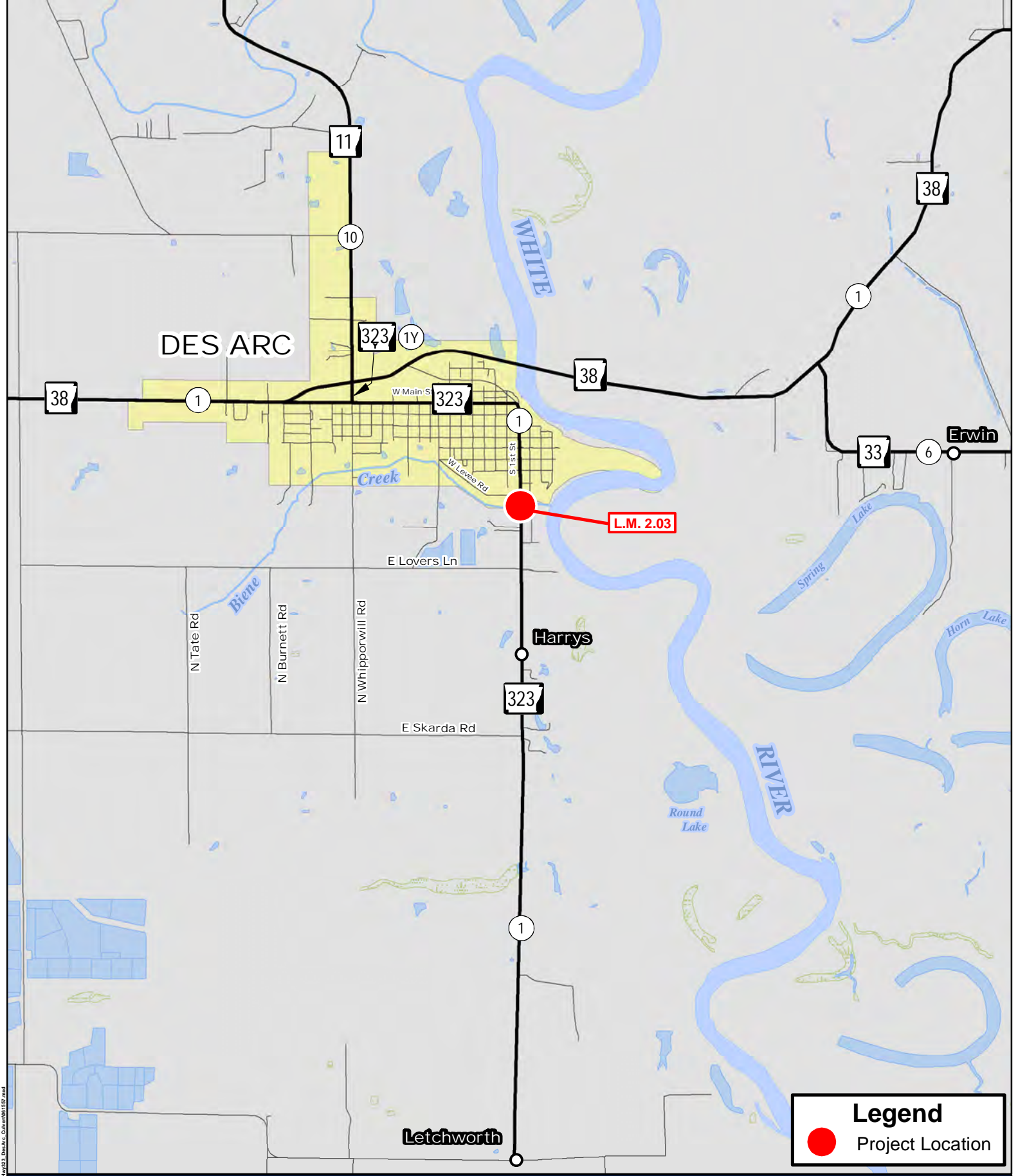
Right of Way

Roadway Design

District 6

Master File





**Legend**

- Project Location

**Job 061557**  
 Biene Creek Culvert Replacement (S)  
 Hwy. 323, Sec. 1  
 Prairie County

PM: PS: cld014: 4/13/2017

0 0.5 1  
 Miles





Document Path: \\S:\GIS\Programs\Contract\Sketchup\061557.mxd

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

**INTEROFFICE MEMORANDUM**

**April 27, 2017**

**TO:** Job File

**FROM:** Richard Jenkins, Cultural Resources 

**SUBJECT:** Archeological Clearance  
AHTD Job Number 061557  
Biene Creek Culvert Replacement (S)  
Prairie County

The Arkansas Highway and Transportation Department proposes to rehabilitate a portion of Highway 323 in Prairie County. No new right-of-way will be acquired.

An examination of the Arkansas Archeological Survey's (AAS) records was conducted for previously recorded archeological sites and identified one recorded site near this project. Site 3PR209 is a historic scatter located approximately 450 meters southeast of the project area. A records evaluation at the Department of Arkansas Heritage (AHPP) for historic properties or National Register listed structures did not identify any historic properties near the project. The Des Arc East topographic quadrangle map was examined for cemeteries, likely historic structures, and landforms conducive to hold archeological sites and no cultural features were found along the project's route. The 1844 General Land Office map showed no cultural features near the project. The 1936 Prairie County Highway map does not show any structures near this project.

The proposed road improvements will occur in previously disturbed areas inside the current AHTD right-of-way. No cultural resources are expected to be impacted. This project is subject to the 1999 MOA and fall under the exempted Work Category "Reconstruction." The project is not considered an undertaking and requires no further work or Section 106 review.

**From:** [Lewis, Lindsey](#)  
**To:** [Matthews, Mickey W.](#)  
**Subject:** Re: 061557 Biene Creek Culvert Replacement  
**Date:** Tuesday, April 25, 2017 8:19:16 AM

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Mickey,

The Service does not have any information indicating that there are any federally listed species in the directly affected area of this action due to the limited nature of the action, habitat type, disturbed environment, and distance to any known species locations. Therefore, the Service concurs with AHTD's assessment and determination.

Thanks,

Lindsey Lewis  
Biologist

US Fish & Wildlife Service  
Arkansas Field Office  
110 South Amity Rd., Suite 300  
Conway, Arkansas 72032

(501) 513-4489 - voice  
(501) 513-4480 - fax  
[Lindsey\\_Lewis@fws.gov](mailto:Lindsey_Lewis@fws.gov)  
<http://www.fws.gov/arkansas-es/>

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

On Mon, Apr 24, 2017 at 2:00 PM, Matthews, Mickey W. <[Mickey.Matthews@ahtd.ar.gov](mailto:Mickey.Matthews@ahtd.ar.gov)> wrote:

Lindsey,

The culvert for Biene Creek (Des Arc, AR) under Hwy 323 has failed and will be replaced on existing alignment. The culvert will be excavated and replaced with an 8'X9'X135' concrete culvert.

Threatened and Endangered Species possibly occurring in the Action Area (the project area and a small distance downstream in the White River:

Fat pocketbook mussel *Potamilus capax* Endangered-Suitable habitat for the fat pocketbook in the lower White River in the immediate area of the project is unlikely.

Rabbitsfoot *Quadrula cylindrica cylindrica* Threatened Rabbitsfoot critical habitat is approximately 40 miles downstream and are not known from the project area.



Pink mucket pearly mussel *Lampsilis abrupta* Endangered Pick muckets are known from upstream within the White River and downstream ~20miles near De Vallis Bluff.

Due to the limited nature of the project and distance to known T&E mussel populations in the White River, the AHTD is requesting concurrence with the determination that the culvert replacement on Biene Creek may affect, but not likely to adversely affect these species.

Mickey Matthews

## AHTD ENVIRONMENTAL IMPACTS ASSESSMENT FORM

AHTD Job Number 061557 FAP Number N/A  
 Job Title Biene Creek Culvert Replacement (S)

Environmental Impacts	None	Minor	Significant	Comments
Air Quality	X			
Construction Impacts		X		Temporary
Cultural Resources	X			
Economic	X			
Endangered Species	X			
Energy Resources	X			
Environmental Justice/Title VI	X			
Fish and Wildlife		X		Temporary during construction
Floodplains	X			
Forest Service Property	X			
Hazardous Materials/Landfills	X			
Land Use Impacts	X			
Migratory Birds	X			
Navigation/Coast Guard	X			
Noise Levels	X			
Prime Farmland	X			
Protected Waters	X			
Public Recreation Lands	X			
Public Water Supply/WHPA	X			
Relocates	X			
Section 4(f)/6(f)	X			
Social	X			
Underground Storage Tanks	X			
Visual Impacts	X			
Stream Impacts		X		Nationwide 14 Permit
Water Quality		X		Temporary during construction
Wetlands	X			
Wildlife Refuges	X			

Section 401 Water Quality Certification Required? No  
 Short-term Activity Authorization Required? Yes  
 Section 404 Permit Required? Yes Type Nationwide 14

Remarks: \_\_\_\_\_

Signature of Evaluator  Date 5/2/17

**ROADWAY DESIGN REQUEST**Job Number 061557 FAP No. 9990 County PrairieJob Name Biene Creek Culvert Replacement (S)Design Engineer Stephen Sichmeller Environmental Staff \_\_\_\_\_Brief Project Description Replace R.C. Box Culvert

## A. Existing Conditions:

Roadway Width: 28' Shoulder Type/Width: 4' PavedNumber of Lanes and Width: 2@10' Existing Right-of-Way: 210'Sidewalks? No Location: \_\_\_\_\_ Width: \_\_\_\_\_Bike Lanes? No Location: \_\_\_\_\_ Width: \_\_\_\_\_

## B. Proposed Conditions:

Roadway Width: 28' Shoulder Type/Width: 4' PavedNumber of Lanes and Width: 2@10' Proposed Right-of-Way: N/ASidewalks? No Location: \_\_\_\_\_ Width: \_\_\_\_\_Bike Lanes? No Location: \_\_\_\_\_ Width: \_\_\_\_\_

## C. Construction Information:

If detour: Where: N/A Length: \_\_\_\_\_

## D. Design Traffic Data:

\_\_\_\_\_ ADT: \_\_\_\_\_ ADT: \_\_\_\_\_ % Trucks: \_\_\_\_\_

Design Speed: \_\_\_\_\_ m.p.h.

E. Approximate total length of project: \_\_\_\_\_ mile(s)

F. Justification for proposed improvements: \_\_\_\_\_

G. Total Relocates: N/A Residences: N/A Businesses: N/A

H. Have you coordinated with any outside agencies (e.g., FHWA, City, County, etc.)? \_\_\_\_\_

Agency/Official	Person Contacted	Date



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061557		1	11

2 BIENE CREEK CULVERT REPLACEMENT (S)

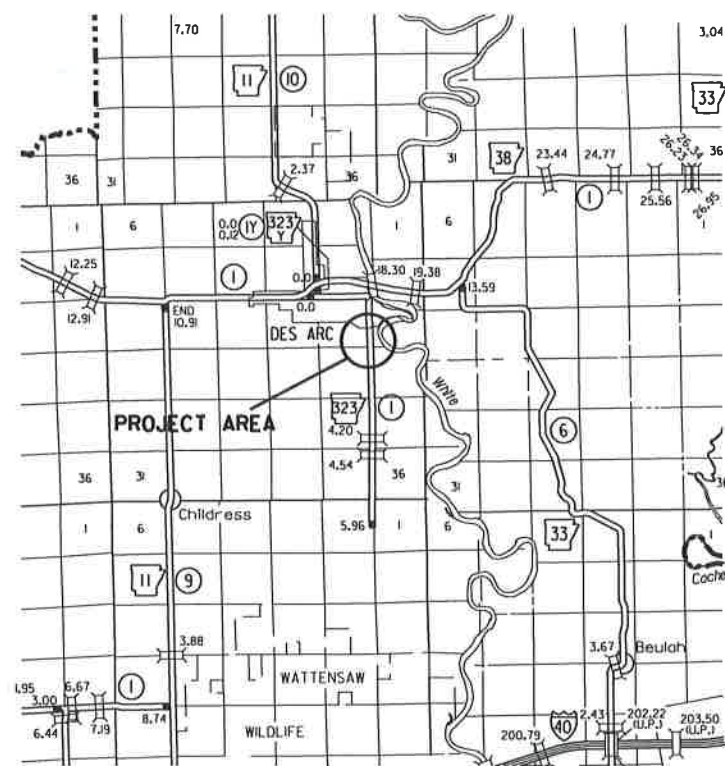
# BIENE CREEK CULVERT REPLACEMENT (S)

PRAIRIE COUNTY  
ROUTE 323 SECTION I  
FEDERAL AID PROJ. 9990  
JOB 061557

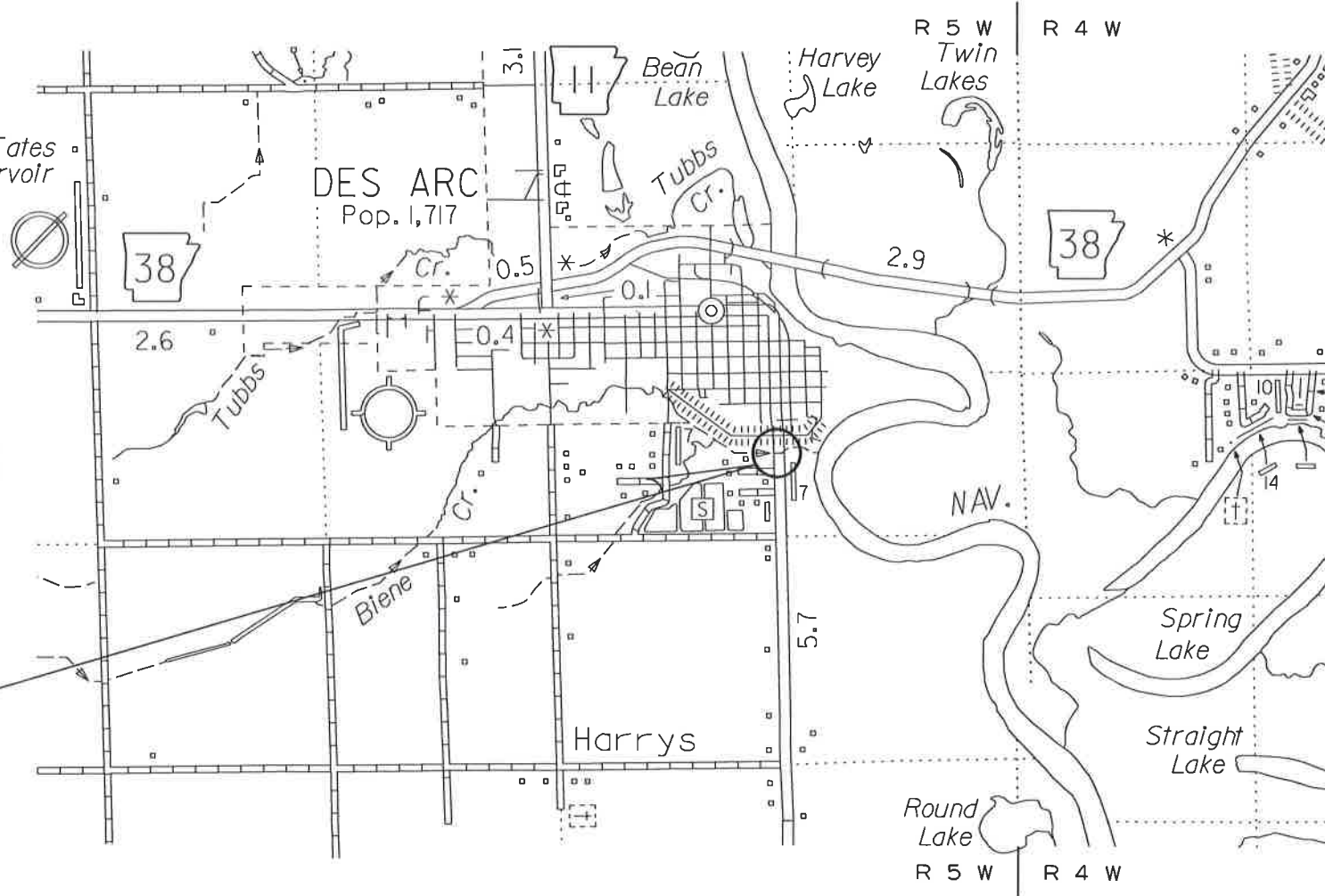
NOT TO SCALE



ARK. HWY. DIST. NO. 6



VICINITY MAP



JOB 061557  
LOG MILE 2.03

MID-POINT OF PROJECT	
LATITUDE	N 34° 58' 04"
LONGITUDE	W 91° 29' 34"



APPROVED



DEPUTY DIRECTOR  
AND CHIEF ENGINEER

4/21/2017

RO61557.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						061557	2	11

② INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECS., AND GENERAL NOTES



**GOVERNING SPECIFICATIONS**

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

**INDEX OF SHEETS**

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES
3	TYPICAL SECTIONS OF IMPROVEMENT
4	SPECIAL DETAILS
5	MAINTENANCE OF TRAFFIC DETAILS
6	PERMANENT PAVEMENT MARKING DETAILS
7	QUANTITIES
9	SUMMARY OF QUANTITIES AND REVISIONS
10	PLAN AND PROFILE SHEET - FOR INFORMATION ONLY
11	CROSS SECTIONS - FOR INFORMATION ONLY

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
100-3	CONTRACTOR'S LICENSE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER
JOB 061557	BIDDING REQUIREMENTS AND CONDITIONS
JOB 061557	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061557	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061557	CARGO PREFERENCE ACT REQUIREMENTS
JOB 061557	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 061557	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 061557	INSTALLATION OF PRECAST REINFORCED CONCRETE BOX CULVERTS
JOB 061557	MANDATORY ELECTRONIC CONTRACT
JOB 061557	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 061557	PRECAST REINFORCED CONCRETE BOX CULVERTS
JOB 061557	SHORING FOR CULVERTS
JOB 061557	SOIL STABILIZATION
JOB 061557	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061557	WARM MIX ASPHALT

**ROADWAY STANDARD DRAWINGS**

DRWG.NO.	TITLE	DATE
PBC-1	PRECAST CONCRETE BOX CULVERTS	1-28-15
PM-1	PAVEMENT MARKING DETAILS	5-12-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	7-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	4-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	9-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	9-02-15
TEC-1	TEMPORARY EROSION CONTROL DEVICES	12-15-11
TEC-2	TEMPORARY EROSION CONTROL DEVICES	6-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
W-X004-2	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	1-3-63

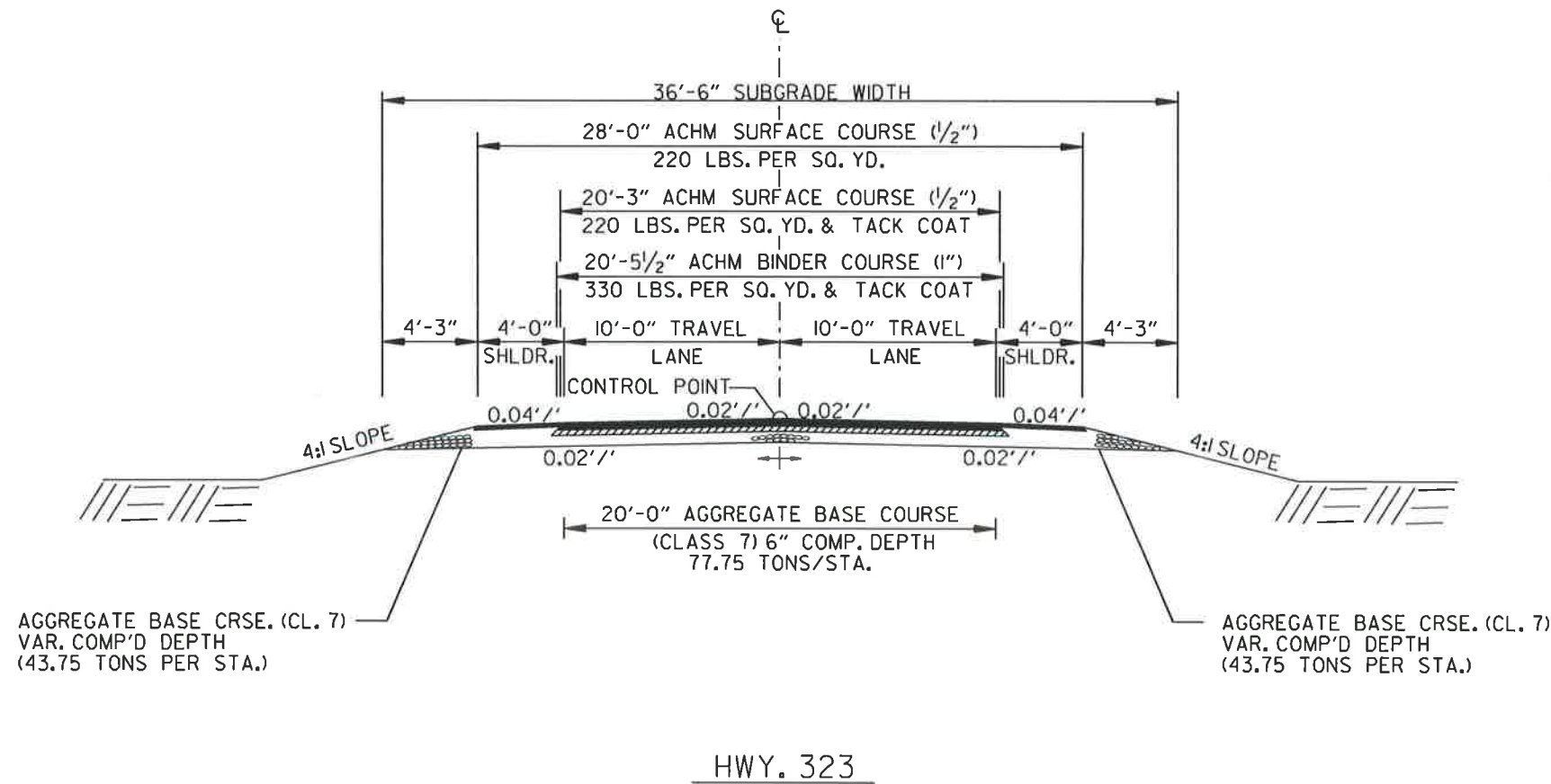
**GENERAL NOTES**

- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061557							3	11

2 TYPICAL SECTIONS OF IMPROVEMENT



NOTES:

REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

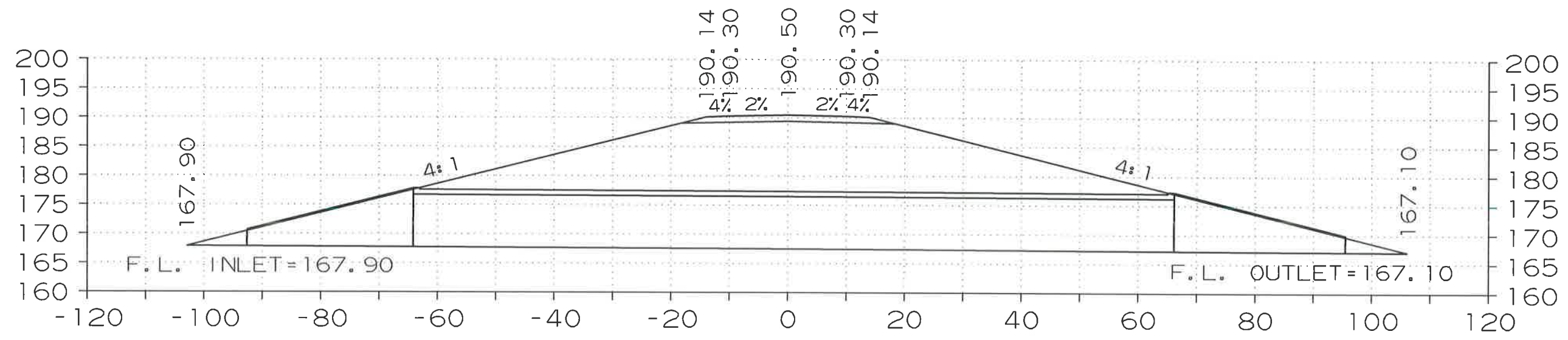
WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

4/21/2017

R061557.DGN

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				6	ARK.			
				JOB NO.		061557	4	11

② SPECIAL DETAILS



CONSTRUCT  
 DBL. 8' X 9' X 135' R.C. BOX CULVERT  
 WITH 4:1 WINGS  
 Q100 = 1430 CFS, D.A. = 4.95 SQ. MI.

4/21/2017  
R061557.DGN

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				6	ARK.			
						JOB NO. 061557	5	11

② MAINTENANCE OF TRAFFIC DETAILS



- ① (I) RII-3a (60" X 30")  
ROAD CLOSED  
0.14 MILES AHEAD  
LOCAL TRAFFIC ONLY
- 8' BARR. TYP. III RT.  
8' BARR. TYP. III LT.
- ② (I) RII-3a (60" X 30")  
ROAD CLOSED  
0.38 MILES AHEAD  
LOCAL TRAFFIC ONLY
- 8' BARR. TYP. III RT.  
8' BARR. TYP. III LT.



- ROAD CLOSED (I) RII-2 (48" X 30")
- 16' BARR. TYP. III RT.  
16' BARR. TYP. III LT.

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R061557.DGN

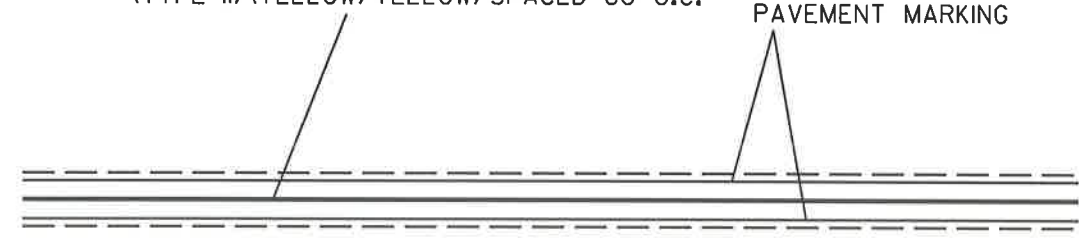
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061557	6	11

2 PERMANENT PAVEMENT MARKING DETAILS



6" DBL. YELLOW REFLECTORIZED PAINT  
PAVEMENT MARKING  
W/ RAISED PAVEMENT MARKERS  
(TYPE II) (YELLOW/YELLOW) SPACED 80' O.C.

6" WHITE REFLECTORIZED PAINT  
PAVEMENT MARKING



TYPICAL STRIPING DETAIL

HWY. 323

4/21/2017

R061557.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	061557
								7
								11

2 QUANTITIES



**ADVANCE WARNING SIGNS AND DEVICES**

SIGN NUMBER	DESCRIPTION	SIGN SIZE	HWY. 323	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		BARRICADES (TYPE III)	
			LIN. FT. - EACH		NO.	SQ. FT.	RIGHT	LEFT
R11-2	ROAD CLOSED	48"x30"	2	2	2	20.0		
R11-3a	ROAD CLOSED LOCAL TRAFFIC ONLY	60"x30"	2	2	2	25.0		
	TYPE III BARRICADE-RT. (8')		2	2			16	
	TYPE III BARRICADE-RT. (16')		1	1			16	
	TYPE III BARRICADE-LT. (16')		1	1				16
<b>TOTALS:</b>						<b>45.0</b>	<b>32</b>	<b>16</b>

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

**PERMANENT PAVEMENT MARKINGS**

DESCRIPTION	END OF JOB LIN. FT. - EACH	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
		TYPE II (YEL/YEL)	6"	
		(YEL/YEL) EACH	WHITE	YELLOW
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)	2	2		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	600		600	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	600			600
<b>TOTALS:</b>		<b>2</b>	<b>600</b>	<b>600</b>

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

**PRECAST R.C. BOX CULVERT**

DESCRIPTION	SPAN	HEIGHT	LENGTH	SOLID SODDING	WATER	STD. DWG. NOS.
				LIN. FT.	SQ. YD.	
DBL. 8' X 9' X 135' R.C. BOX CULVERT	8	9	270	11	0.14	PBC-1, RCB-1, RCB-2, W-X004-2
<b>TOTALS:</b>			<b>270</b>	<b>11</b>	<b>0.14</b>	

BASIS OF ESTIMATE:  
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

NOTE: REFER TO INSTALLATION OF PRECAST REINFORCED CONCRETE BOX CULVERT SPECIAL PROVISION.

**REMOVAL AND DISPOSAL OF CULVERTS**

DESCRIPTION	BOX CULVERTS
	EACH
DBL. 8'X9' R.C. BOX CULVERT	1
<b>TOTAL:</b>	
	<b>1</b>

NOTE: QUANTITY SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

**EARTHWORK**

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.	CU. YD.	TON
ENTIRE	PROJECT	HWY. 323	4100	6800	10
<b>TOTALS:</b>			<b>4100</b>	<b>6800</b>	<b>10</b>

\* QUANTITIES ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.

**BENCH MARKS**

LOCATION	BENCH MARKS
	EACH
R.C. BOX CULVERT HEADWALL ON RT.	1
<b>TOTAL:</b>	
	<b>1</b>

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

4/21/2017

R061557.DGN

QUANTITIES



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	061557	8

2 QUANTITIES



**EROSION CONTROL**

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.50	1.00	0.50	51.1	0.50	0.50	0.50	10.2	110	15	200	133	133	150
<b>TOTALS:</b>			<b>0.50</b>	<b>1.00</b>	<b>0.50</b>	<b>51.1</b>	<b>0.50</b>	<b>0.50</b>	<b>10.2</b>	<b>110</b>	<b>15</b>	<b>200</b>	<b>133</b>	<b>133</b>	<b>150</b>	

BASIS OF ESTIMATE:  
 LIME .....2 TONS / ACRE OF SEEDING  
 WATER.....102.0 M.G. / ACRE OF SEEDING  
 WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING  
 WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING  
 SAND BAG DITCH CHECKS.....22 BAGS / LOCATION  
 ROCK DITCH CHECKS.....3 CU.YD./LOCATION

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

\*QUANTITIES ESTIMATED.  
 SEE SECTION 104.03 OF THE STD. SPECS.

**BASE AND SURFACING**

LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT			ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")									
		TON / STATION	TON	AVG. WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON
		<b>MAIN LANES</b>																		
HWY. 323	300.00	165.25	495.75	40.71	1357.00	0.05	67.85	20.46	682.00	330.00	112.53	20.25	675.00	220.00	74.25	28.00	933.33	220.00	102.67	176.92
<b>TOTALS:</b>			<b>495.75</b>		<b>1357.00</b>		<b>67.85</b>		<b>682.00</b>		<b>112.53</b>		<b>675.00</b>		<b>74.25</b>		<b>933.33</b>		<b>102.67</b>	<b>176.92</b>

BASIS OF ESTIMATE:  
 ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER  
 ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER  
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22  
 TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

4/21/2017  
R061557.DGN

QUANTITIES



FOR INFORMATION ONLY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061557	10	11

2 PLAN AND PROFILE SHEET



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60026	10	11

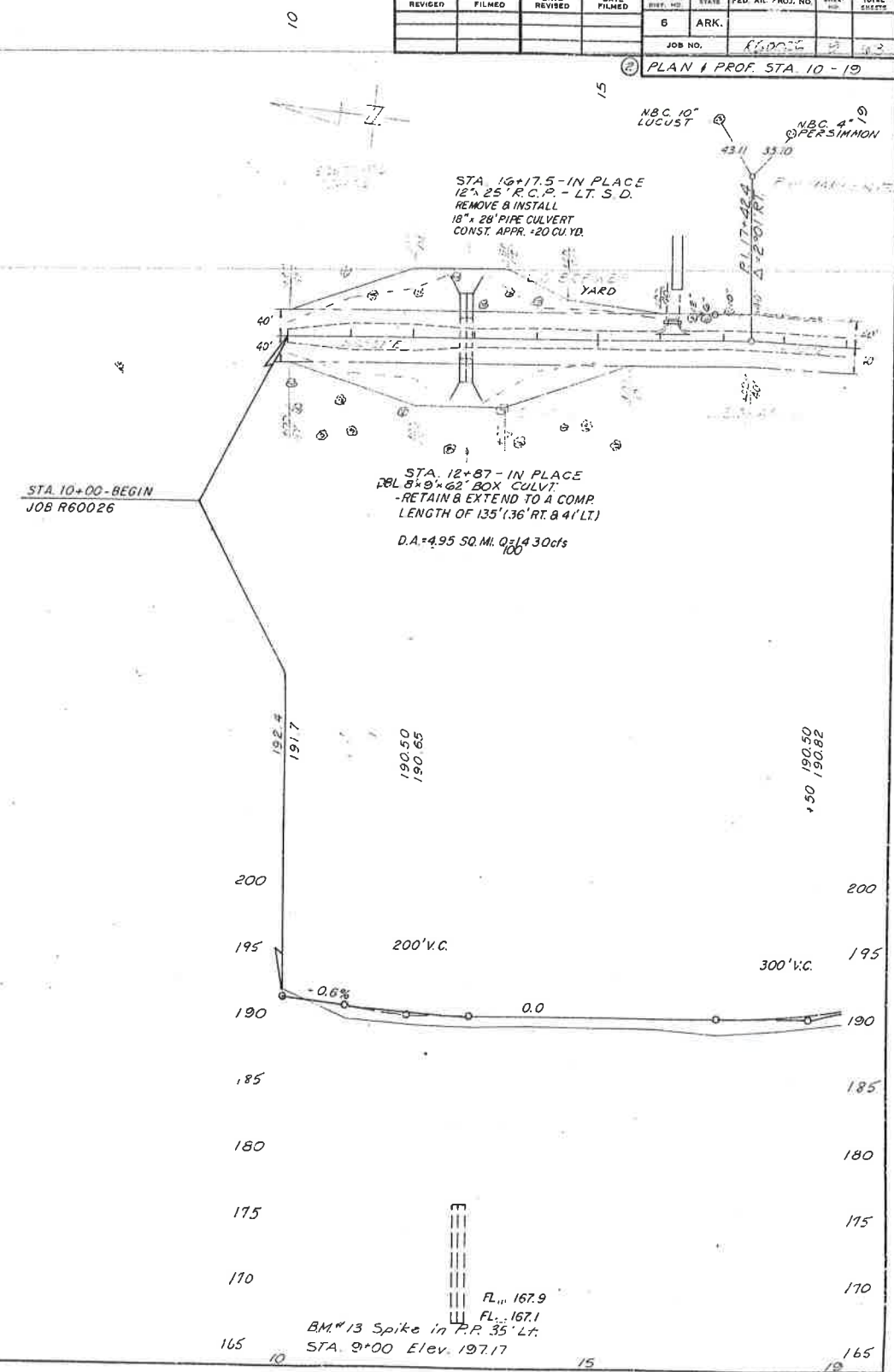
PLAN & PROF. STA 10 - 19

DATE	BY	REVISION

PLAN  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 NO. \_\_\_\_\_

DATE	BY	REVISION

PROFILE  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 NO. \_\_\_\_\_



4/21/2017

R061557.DGN

PLAN AND PROFILE SHEET



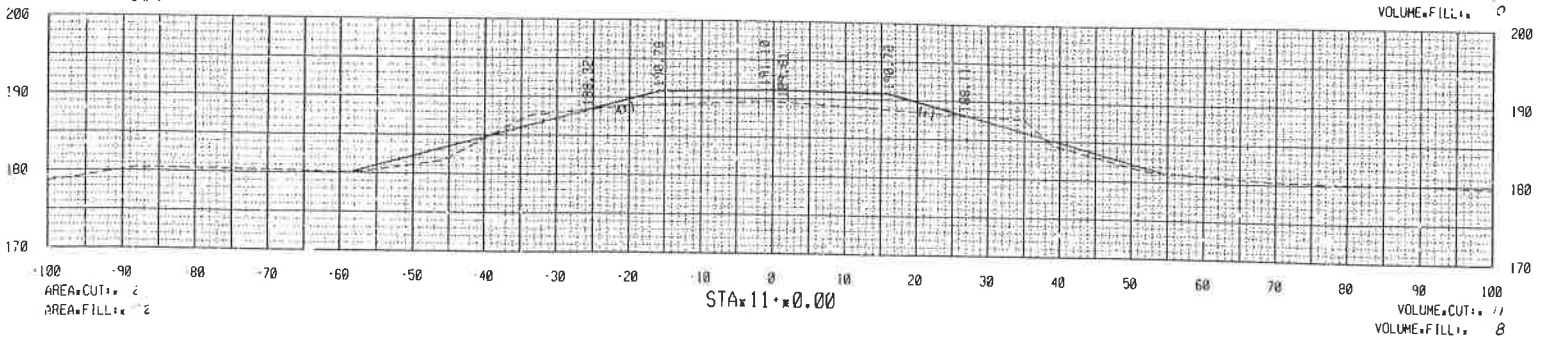
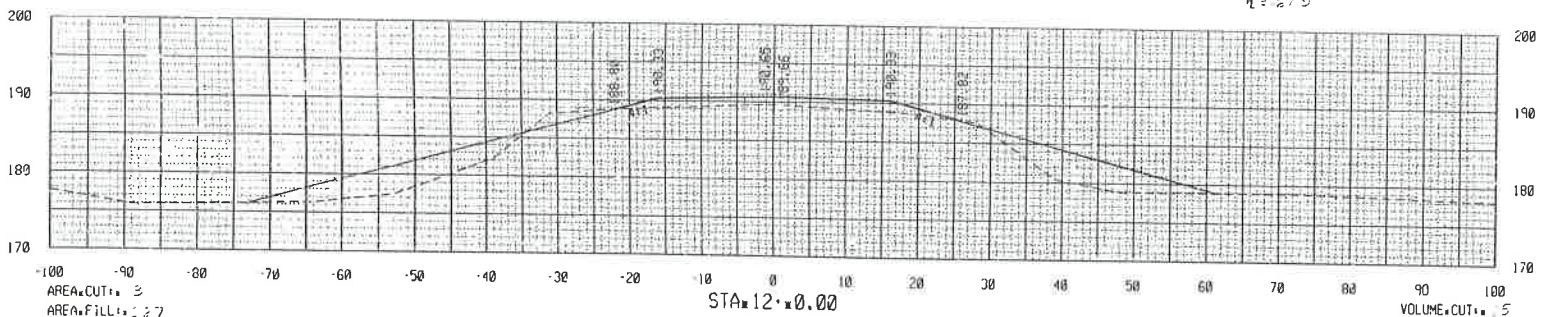
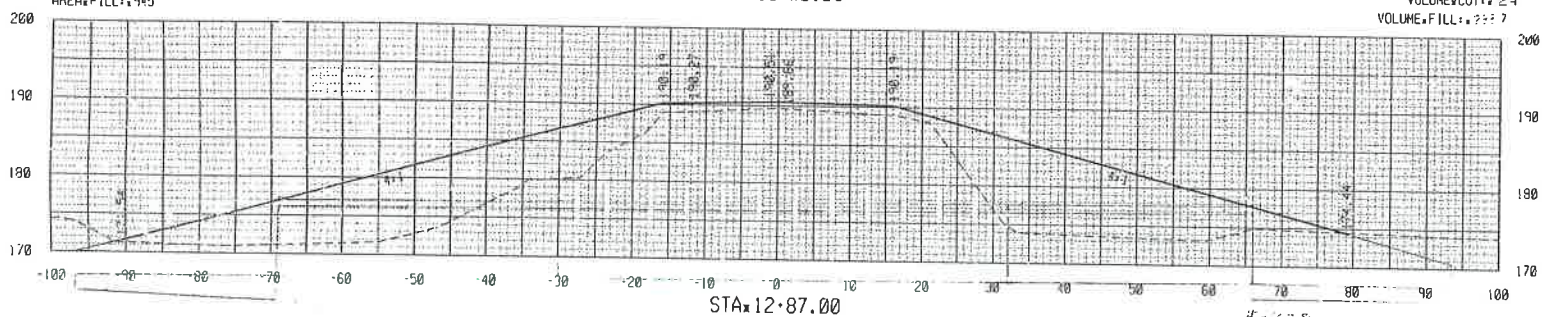
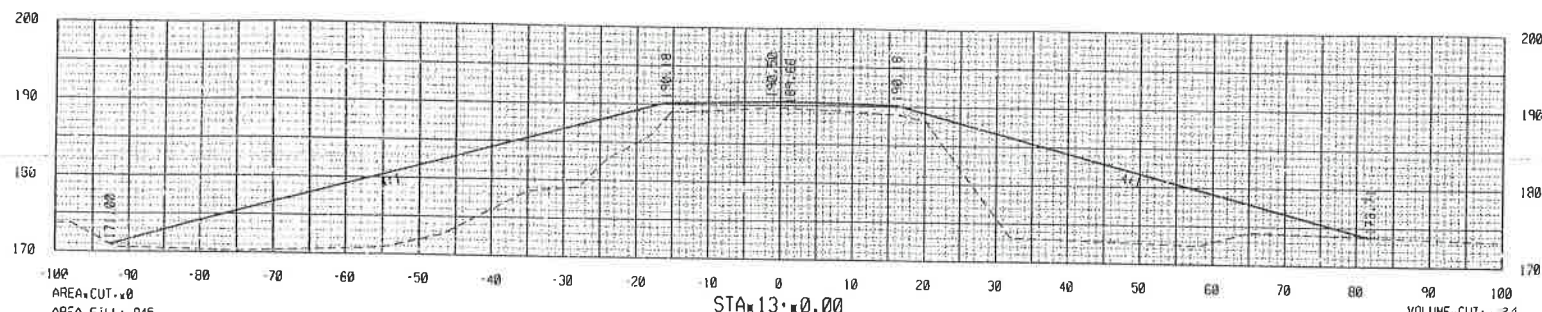
FOR INFORMATION ONLY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061557	11	11

2 CROSS SECTIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		60026	12	12

2 STA. 10+0.00 - STA. 13+0.00



STA 12+87 - IN PLACE  
 12+87.00 TO 12+90.00  
 WIDTH 5 FEET TO 12+90.00  
 LEASTEN TO 12+90.00 TO 12+95.00  
 12+95.00 TO 12+97.00 TO 12+97.00

3  
 STA. 10+0.00 TO  
 STA. 13+0.00  
 SCALE: 1" = 10'

R60026.TEST

CROSS SECTIONS

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R061557.DGN