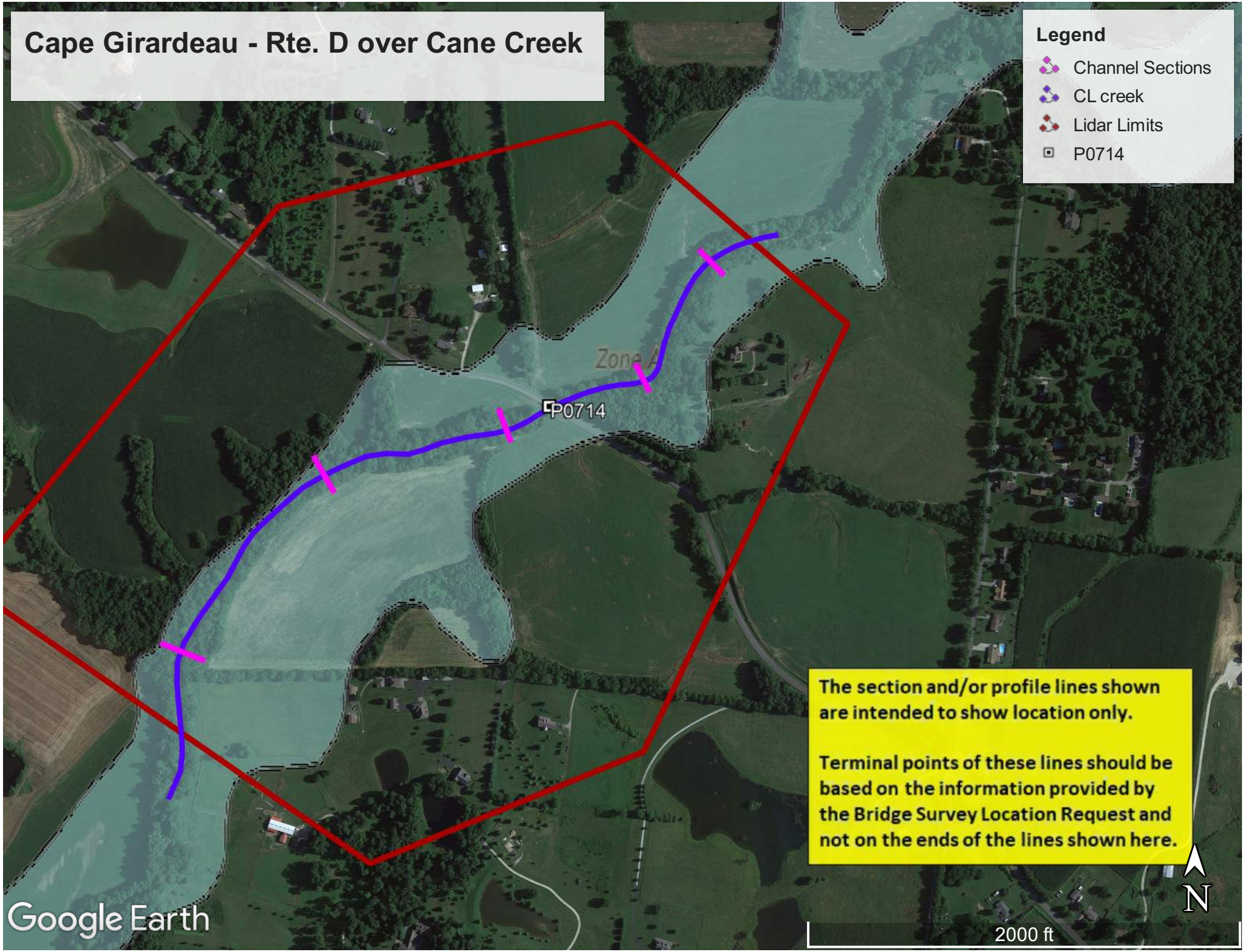

Cape Girardeau - Rte. D over Cane Creek
Legend
Channel Sections
CL creek
Lidar Limits
P0714
P0714
The section and/or profile lines shown are intended to show location only.
Terminal points of these lines should be based on the information provided by the Bridge Survey Location Request and not on the ends of the lines shown here.
N
2000 ft
Google Earth

Cape 12/19

Job No. J9S3773

Replaces Bridge No. P0714

Missouri Department of Transportation

Bridge Survey Location Request

Page 1 to be completed by District staff.

Bridge over: Cane Creek Route: D

County: Cape Girardeau Section: Survey 229 Township: 32 North Range: 12 East

Latitude: 37°24'45.85"N Longitude: 89°42'5.43"W

District Contact: Garrett Galyean (573-472-5221) Date: 5/3/2023

HIGH WATER ELEVATIONS AT PROPOSED BRIDGE SITE

Recorded high water elevations or elevation of high water marks

Extreme High Water (EHW) (Give date(s) of occurrence)		
Elevations and date(s) of same	Location	Source of information
8.2" Below (October 1991)	Below West End of Bridge Floor	HW Book 8180

Existing Bridge Overtopped ☐ Yes ☐No ☒Unknown	Existing Roadway Overtopped ☐ Yes ☐No ☒Unknown
	Approx. Overtopping Location(s):

LOCATION OF NEW BRIDGE

Replace in Existing Location	☒	Provide details of any proposed changes to profile grade below or as an attachment.
Relocation (near existing Structure)	☐	Provide details of proposed location and grade of the roadway across the floodplain, any proposed/potential channel changes or modifications, etc. below or as an attachment.
New Route	☐	
Other:	☐	

Additional Information:

Page 2 & subsequent pages to be completed by Bridge Division

Note: Proposed elevations, distances, etc. are based on the best available data at the time the form was completed. Actual field conditions or recently acquired data may require deviation from the proposed values. Please contact the Bridge Division with concerns regarding the proposed values or if large deviations from these values are required.

Note: The information below supplements the survey requirements noted in the EPG, please consult EPG 238 for additional surveying requirements.

Bridge Contact: Kenneth Shamet, 573-522-2560

Survey Type: **2D Survey**

Stream Crossing Survey Location Details (2D)

Item	Requirement	Standard Guidance		Specific Guidance	
LIDAR Data (EPG 238.3.36.3.5.1)	Elevation	5' min. Above Extreme High Water [on Overbanks Perpendicular (more or less) to Stream Flow]		Minimum Elevation =	555' (min) or as shown in image and kmz file
	Upstream & Downstream Distance	Contraction and Expansion Limits of Existing/Proposed Crossing		Use Upstream and Downstream Limits shown in Image and kmz files	
Streambed Profiles** (EPG 238.3.36.3.6)	Length	To limits of LIDAR data		Use Standard Guidance	
	Elevation Intervals	Within 500' of Crossing	Natural Stream 25'	Use Standard Guidance	
		Beyond 500' from Crossing	At Vertical and Horizontal Break Points (200' max.)	Use Standard Guidance (see EPG 238.3.36.3.6 if a significant slope change is encountered)	
Bathymetric Channel Sections	Location	At or near the locations shown in the image and kmz files.		Use Standard Guidance Location of sections may be moved to nearby locations that are transition points in width or slope of the channel. Additional sections may be added if more sections are needed to capture these transitions adequately.	
	Orientation	Perpendicular to channel		Use Standard Guidance	
	Terminal Point	Water Surface Elevation or Ordinary High Water Elevation Mark for dry or shallow streams (EPG 127.4.1.1) **Note: OHW Mark may be different at each section**.		See Bathymetric Channel Section Details Below	

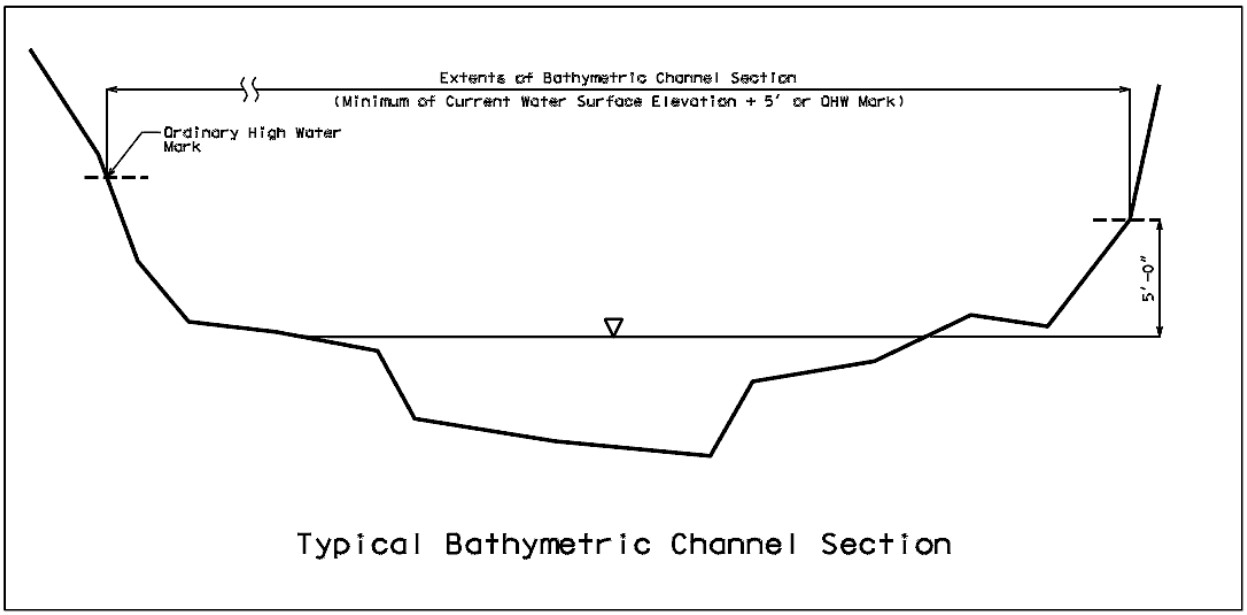
Item	Requirement	Standard Guidance		Specific Guidance
Water Surface Profile (EPG 238.3.36.3.7)	**Water Surface Profile Data Needed?** ☐ Yes ☒ No			
	Locations with flowing water	Drainage Ditch	100' and 200' each side of Crossing	Use Water Surface Profile Standard Guidance

Item	Requirement	Standard Guidance	Specific Guidance
Existing Bridge Data	**Existing Bridge Data Needed?** ☐ Yes ☒ No		
	Description	Provide General Description	N/A

Item	Requirement	Standard Guidance	Specific Guidance
Other Bridges (EPG 238.3.36.3.10)	**Other Bridge Data Needed?** ☐ Yes ☒ No		
	Description	Provide General Description	N/A

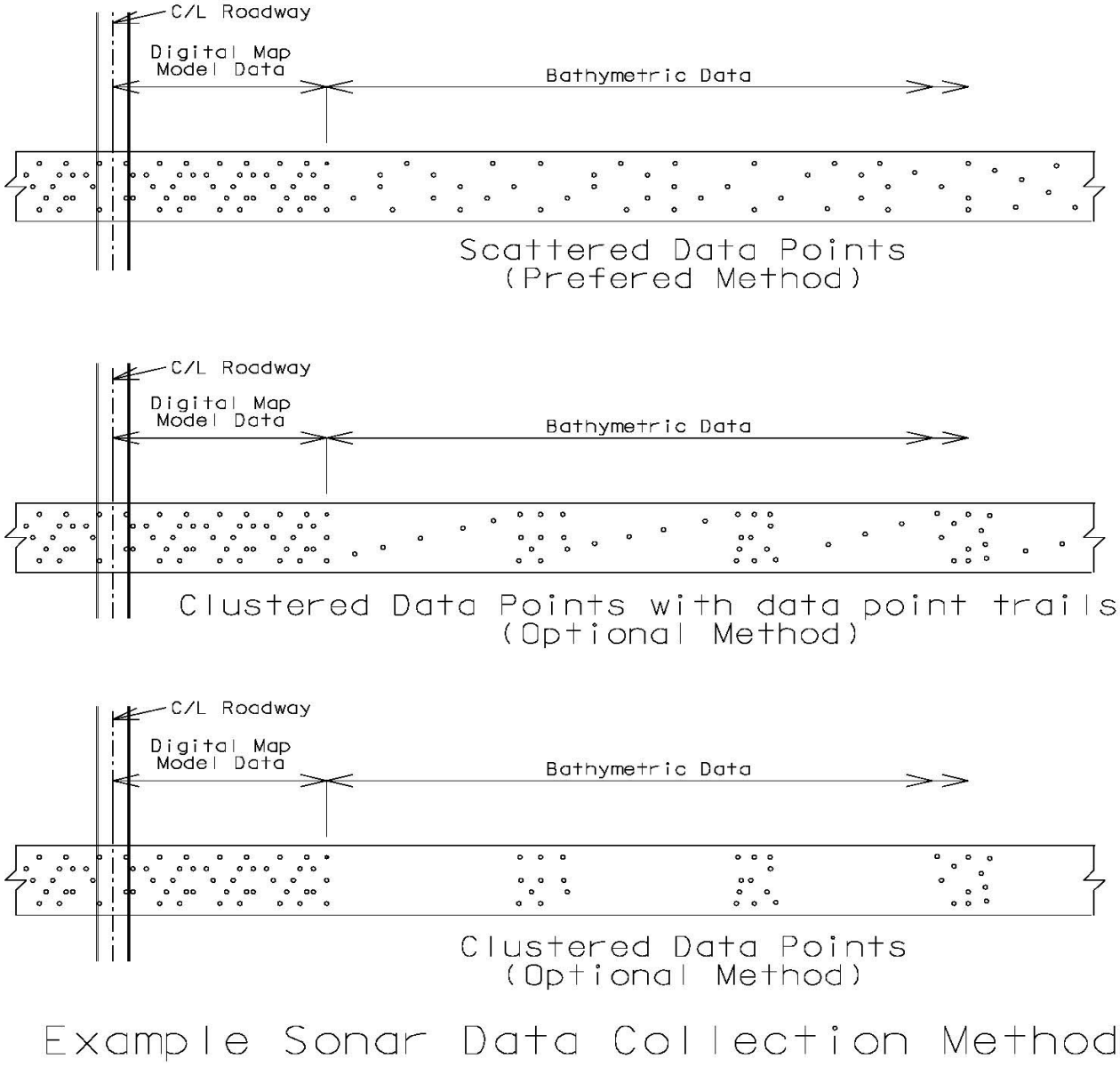
Bathymetric Channel Section Details:

- **Dry or Shallow Streams** - Sections should extend to an elevation equal to:
  - Minimum of the current water surface plus 5',
  - or the Ordinary High Water mark (EPG 127.4.1.1.)
  - May be single row of field shots or cluster of shots near the section location.



Typical Bathymetric Channel Section

- **Floatable Streams:**
  - Conventional Survey:
    - Sections should extend to an elevation equal to the current water surface elevation.
    - May be single row of field shots or cluster of shots near the section location.
  - Sonar Survey:
    - Data should extend as near to the current water surface elevation as feasible.
    - Example data collection methods are shown below:
      - Scattered data points for the full extent of the survey are preferred.
      - Data points concentrated at survey cross section locations are an acceptable alternative.



Example Sonar Data Collection Methods

Additional Information:

The streambed profile data and bathymetric channel section data should **not** be included in the terrain file. 3rd party LIDAR, MoDOT survey data (conventional or LIDAR) should be provided as separate terrain files.

Additional Documents Provided:

Image & kmz file showing LIDAR Data Limits and special channel section locations.

<table>
<tr><th colspan="5">Details for Completion of Stream Crossing Bridge Survey</th></tr>
<tr><th>Item</th><th>Requirement</th><th colspan="2">Standard Guidance</th><th>Specific Guidance</th></tr>
<tr><td rowspan="7">Centerline and Offset (3 Line) Profiles
(EPG 238.3.36.1.3 & EPG 747.2.3.4.1)</td><td colspan="4">Centerline and Offset (3-Line) Profiles Needed? ☒ Yes ☐ No</td></tr>
<tr><td>C/L Profile</td><td>Terminal Point</td><td>Sufficiently Past End of Bridge</td><td>Use Standard 3-Line Profile Guidance</td></tr>
<tr><td rowspan="2">Upstream Offset Profile</td><td>Terminal Point</td><td>Sufficiently Past End of Bridge</td><td>Use Standard 3-Line Profile Guidance</td></tr>
<tr><td>Offset Distance</td><td>On Natural Ground</td><td>Estimated Distance = 40’</td></tr>
<tr><td rowspan="2">Downstream Offset Profile</td><td>Terminal Point</td><td>Sufficiently Past End of Bridge</td><td>Use Standard 3-Line Profile Guidance</td></tr>
<tr><td>Offset Distance</td><td>On Natural Ground</td><td>Estimated Distance = 40’</td></tr>
<tr><td>Special</td><td colspan="3"></td></tr>
<tr><td rowspan="2">Contracted Profile
(EPG 747.2.3.4.2)</td><td>C/L Profile</td><td colspan="2">Terminal Point of Grade Change</td><td>Use Standard Contracted Profile Guidance</td></tr>
<tr><td colspan="4">Note:
Only the centerline profile is needed.
The full centerline profile may be included with 3-Line profile when practical, and the Contracted Profile Sheet eliminated.</td></tr>
</table>

Roadway Design Notes for Bridge Survey:

The Bridge Survey should include all the pertinent items listed in EPG 747 and the Bridge Survey Checklist except for the following:

- Valley Section sheets
- Channel Section sheets
- Water Surface Profile
- Other structures

A geo file will be needed for use in developing the bathymetric terrain in the hydraulic model.

Geo file requirements:

- The geo file should contain:
  - the streambed profile,
  - offset profiles
  - and Bathymetric Channel Section survey data
- In the GEO/HEC Converter spreadsheet the Bathymetric Channel Sections can be placed in either the Valley Section or Channel Section fields.
- If the stream bed profile is not provided, or does not extend to all the sections, use the coordinates and elevation of the low point of channel section as the coordinates and elevations to create a profile or extend the surveyed profile.

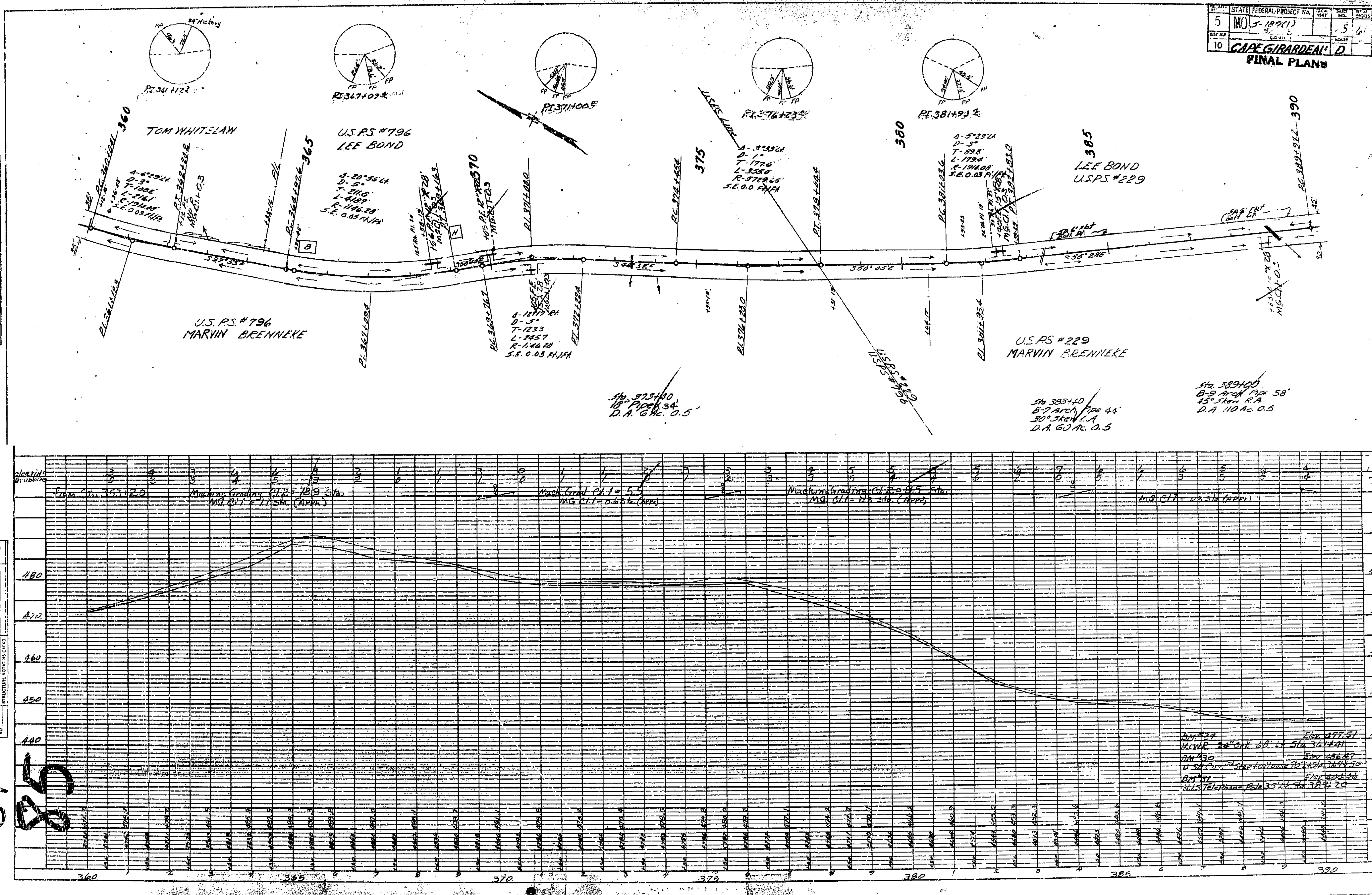
Bridge Design Notes:

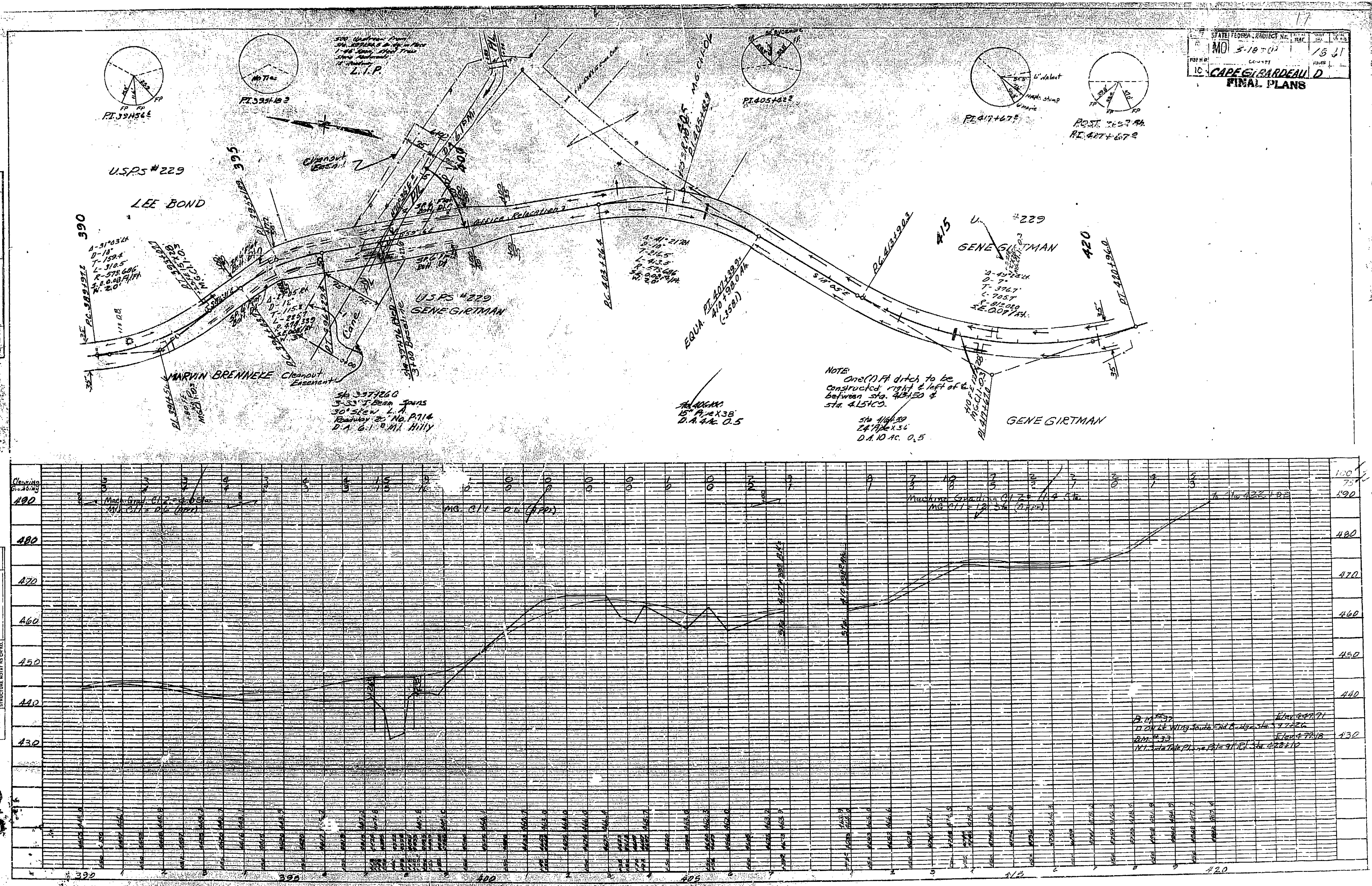
TMS Flood Report shows road closures near bridge; FEMA Zone A

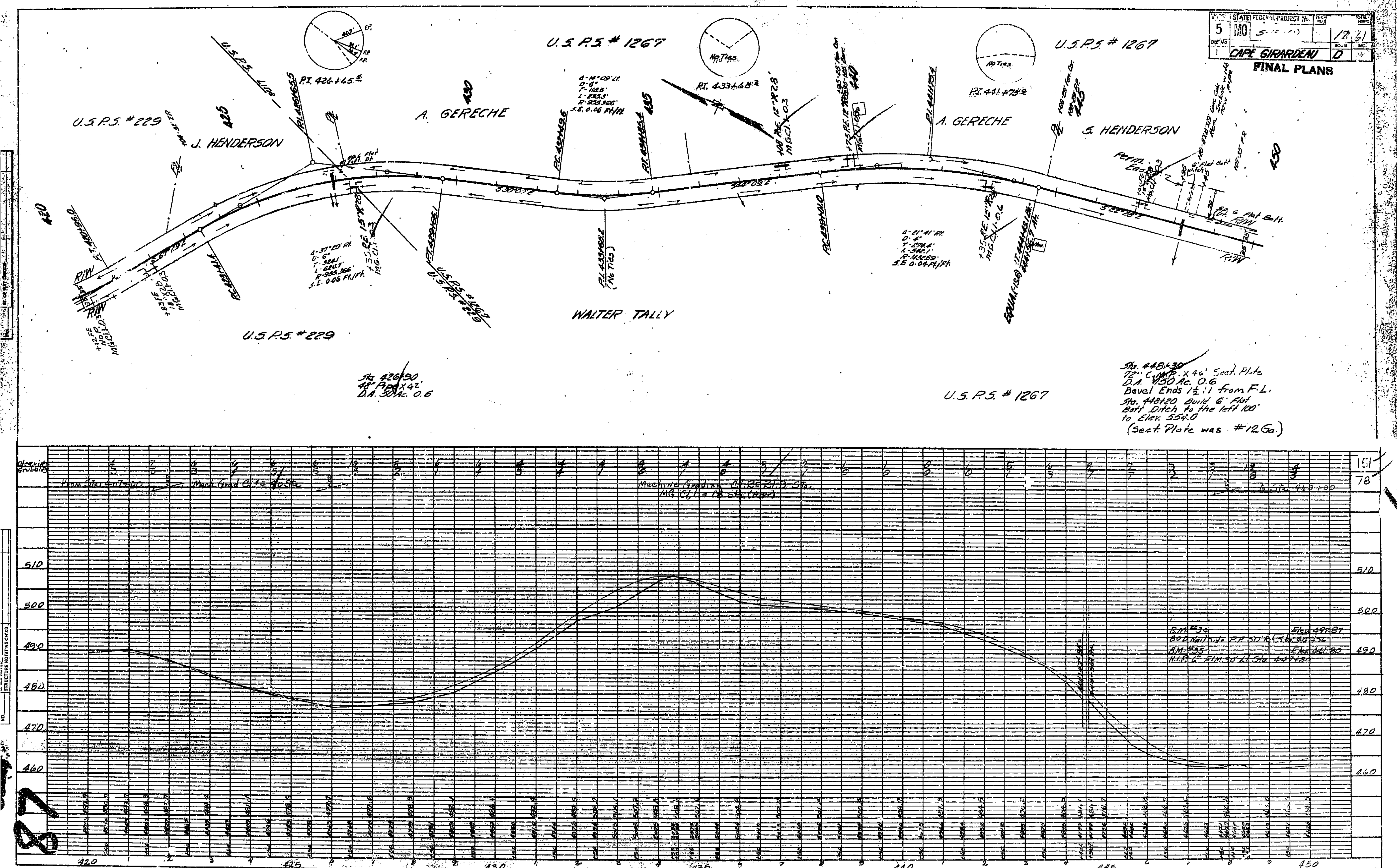
STATE	FEDERAL PROJECT No.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MO	S-187(1)		5	61

DIST. NO.	COUNTY	ROUTE
10	CAPE GIRARDEAU	D

FINAL PLANS



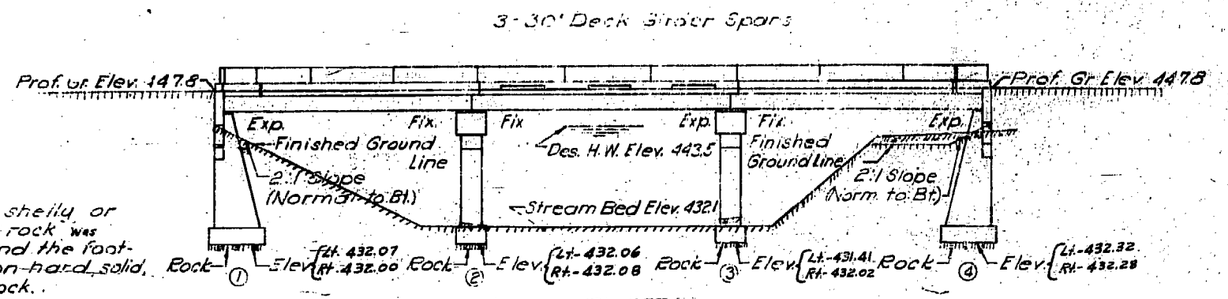

STATE MO
FEDERAL PROJECT NO. S-18 (1)
CAPE GIRARDEAU
FINAL PLANS
U.S.P.S. #229
LEE BOND
USPS #229
GENE GIRTMAN
MARVIN BRENNEKE
Cleanout Easement
Office Relocation
EQUA. P.T. 407+39.9 = 410+98.0 Ah. (-358.1)
GENE GIRTMAN
NOTE: One (1) Ft. ditch to be constructed right & left of ℄ between sta. 413+50 & sta. 415+00.
Sta. 397+26.6
3-33' I-Beam Spans
30° Skew L.A.
Roadway 20' No. P.714
D.A. 6.1 Sq. Mi. Hilly
15" Pipe X 38'
D.A. 4 Ac. 0.5
24" Pipe X 36'
D.A. 10 Ac. 0.5
Clearing
Grubbing
Mach. Grad. Cl. 2
MG Cl. 1
Machine Grading Cl. 2
B.M. #32
Elev. 447.91
B.M. #33
Elev. 479.18
390
395
400
405
410
415
420
490
480
470
460
450
440
430



5
MO
CAPE GIRARDEAU
D
FINAL PLANS
U.S.P.S. # 1267
U.S.P.S. #229
J. HENDERSON
A. GERECHE
S. HENDERSON
WALTER TALLY
P.I. 426+65.6
P.I. 433+68.2
P.I. 441+75.2
No Ties
R/W
Sta. 426+90
48" Pipe X 42'
D.A. 50 Ac. 0.6
Sta. 448+30
72" C.M.P. X 46' Sect. Plate
D.A. 150 Ac. 0.6
Bevel Ends 1½:1 from F.L.
Sta. 448+20 Build 6' Flat
Bott. Ditch to the left 100'
to Elev. 554.0
(Sect. Plate was #12 Ga.)
Machine Grading Cl. 25 = 21.0 Sta.
M.G. Cl. 1 = 1.8 Sta. (Appr.)
510
500
490
480
470
460
420
425
430
435
440
445
450
PLATE 1 - PLAN-PROFILE

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-187(1)B	19	49	61



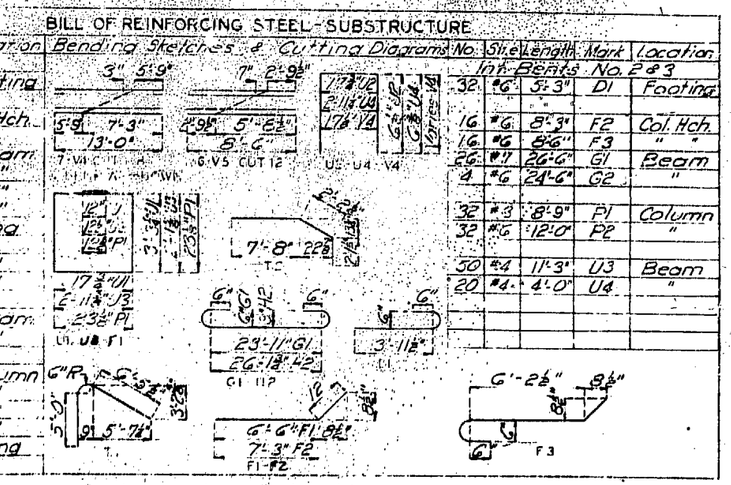
Note: All loose, shelly or disintegrated rock was removed and the footings placed on hard, solid, undisturbed rock.

GENERAL ELEVATION

Note: Excavation of all existing materials under bridge was made to not less than 4'-0" below bottom of girders and not less than 4'-0" outside of curb lines. Payment for this excavation outside the limits of excavation for substructure was made at unit contract price for Roadway Excavation.

BILL OF REINFORCING STEEL - SUBSTRUCTURE

No.	Size	Length	Mark	Location
End Bents No. 1 & 4				
28	#6	5'-3"	D1	Footing
16	#6	7'-6"	F1	Col. Hch.
10	#6	27'-0"	H1	Beam
10	#11	29'-6"	H2	"
4	#5	27'-0"	H3	"
4	#4	27'-0"	H4	"
20	#5	13'-9"	H5	Wing
3	#6	12'-6"	T1	"
12	#6	12'-0"	T2	"
54	#4	10'-6"	U1	Beam
10	#4	2'-6"	U2	"
16	#6	12'-0"	V1	Column
12	#6	12'-6"	V2	"
16	#4	10'-0"	V3	"
28	#3	13'-0"	V4	"
12	#4	8'-6"	V5	Wing
Int. Bents No. 2 & 3				
32	#6	5'-3"	D1	Footing
16	#6	8'-3"	F2	Col. Hch.
16	#6	8'-6"	F3	" "
66	#7	26'-6"	G1	Beam
4	#6	24'-6"	G2	"
32	#3	8'-9"	P1	Column
32	#6	12'-0"	P2	"
50	#4	11'-3"	U3	Beam
20	#4	4'-0"	U4	"



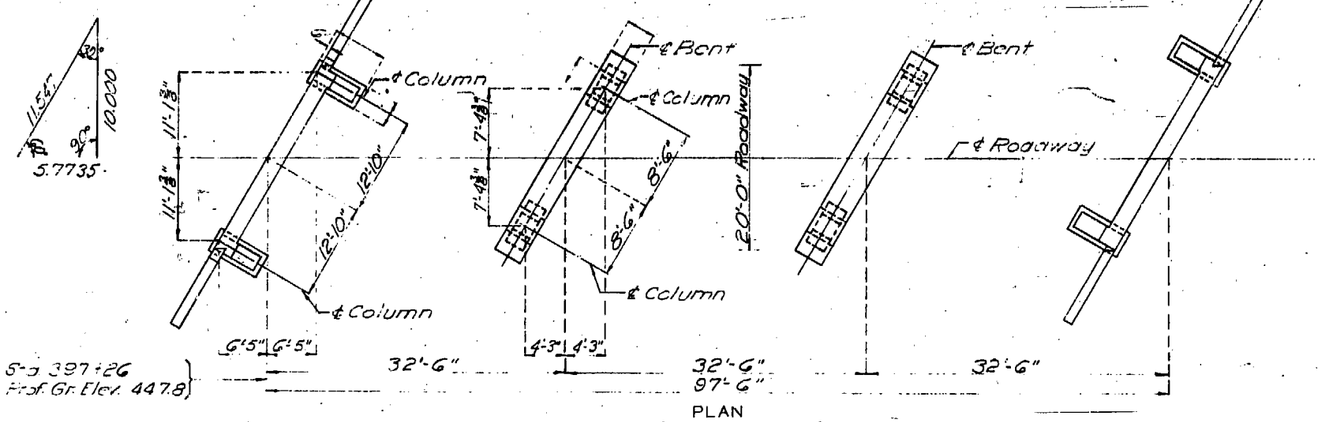
Note: See Sheet No. 51 for Bill of Reinforcing Steel for Superstructure.

QUANTITIES

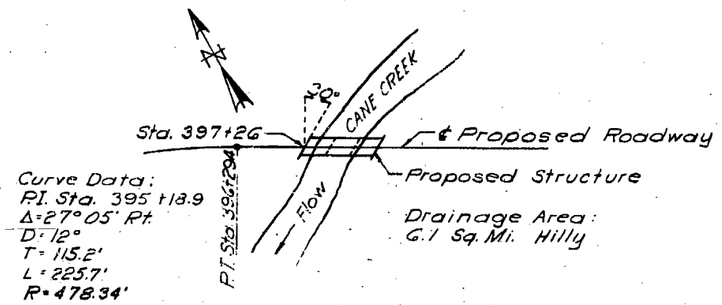
Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu.Yds.	66.5		66.5
Class 2 Excavation for Structures	Cu.Yds.	25.5		25.5
Class "B" Concrete (Handrail)	Cu.Yds.		8.1	8.1
Class "B" Concrete (Except Handrail)	Cu.Yds.	56.4	83.2	139.6
Reinforcing Steel	Lbs.	7750	23,210	30,960
Structural Steel Bearing Plates	Lbs.		1240	1240
Test Holes	L.F.	36		36

Note: Excavation for bridge made above Elev. 434.0 was paid for as Class 1 Excavation for Structures.
Excavation for bridge made below Elev. 434.0 was paid for as Class 2 Excavation for Structures.

GENERAL NOTES:
Design Specifications: A.A.S.H.O. 1953.
Loading: H10-44.
Reinforcing Steel Stress: 18,000 #/□"
Class "B" Concrete Stress: 1000 #/□"
All concrete shall be Class "B".
Where joint filler is specified on the plans it shall conform with the requirements for Premoulded Material for Filler as given in Section 38-15A(1)h of the Standard Specifications.



PLAN



LOCATION SKETCH

BM #32 Elev. 447.71 □ on Lt. Wing So. End of Bridge Sta. 397+26

BRIDGE OVER CANE CREEK

STATE ROAD FROM RTE. SE AT OAK RIDGE S. TO JACKSON
ABOUT 3.6 MILES N.W. OF JACKSON
PROJECT NO. S-187(1) SEC. B (SD) **STA.** 397+26

CAPE GIRARDEAU **COUNTY**

SUBMITTED BY J. A. Lyon DATE 11/2/1954
APPROVED BY Rex Whittaker DATE 11/2/1954

STD.C-6509
STD.C-110R3

P-714

Drawn Oct. 1954 by JDM.
Checked Oct 1954 by ATK

Note: This drawing is not to scale. Follow dimensions.

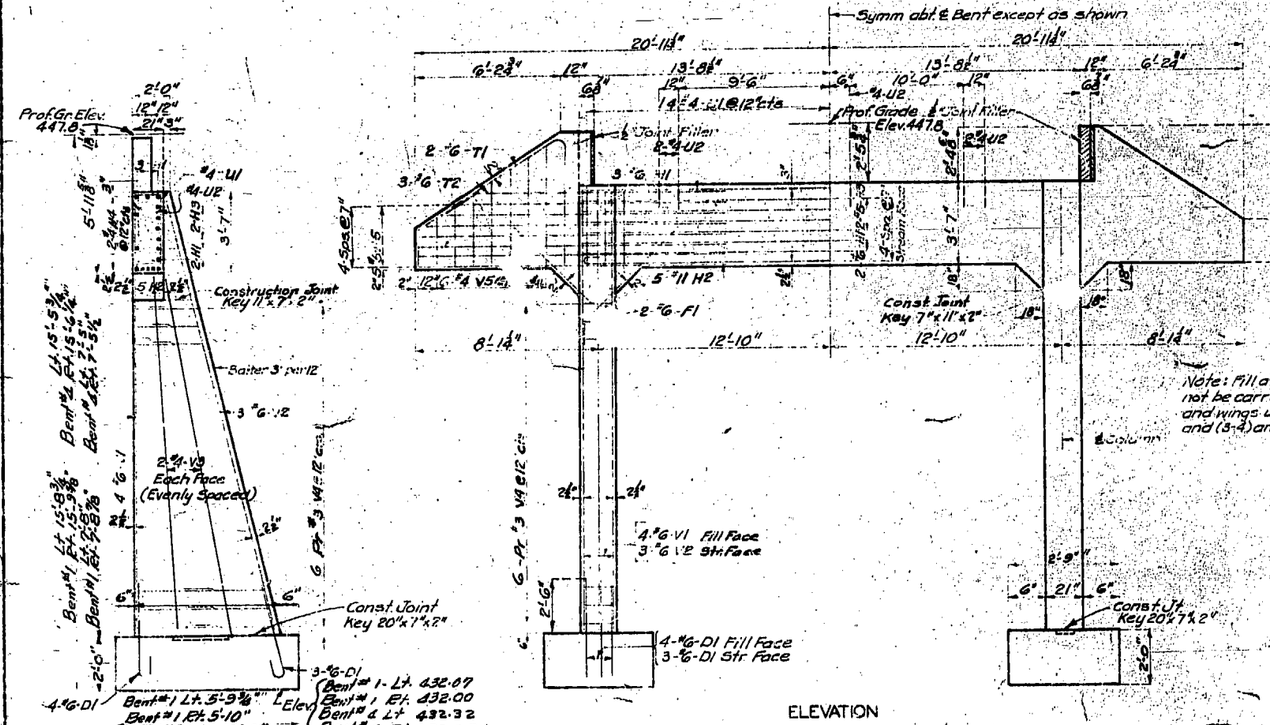
Sheet No. 1A of 2

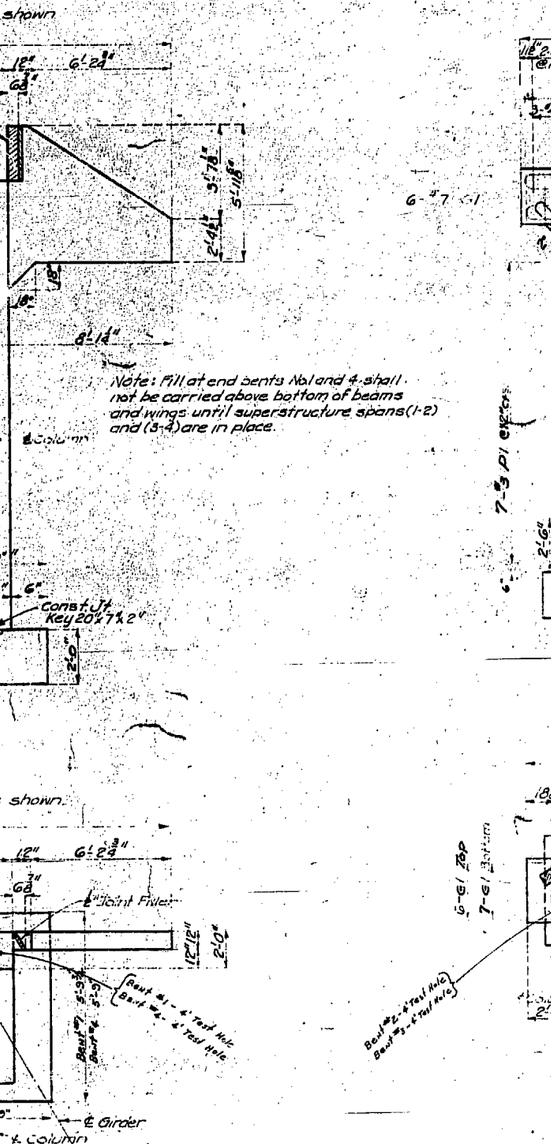
FINAL PLANS

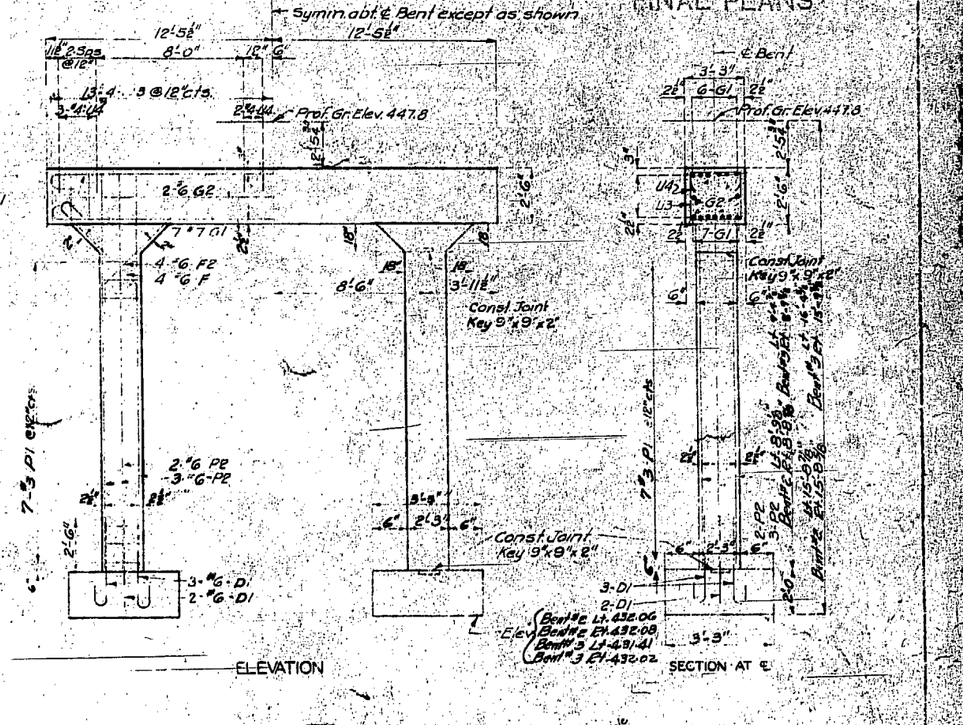
MISSOURI STATE HIGHWAY DEPARTMENT

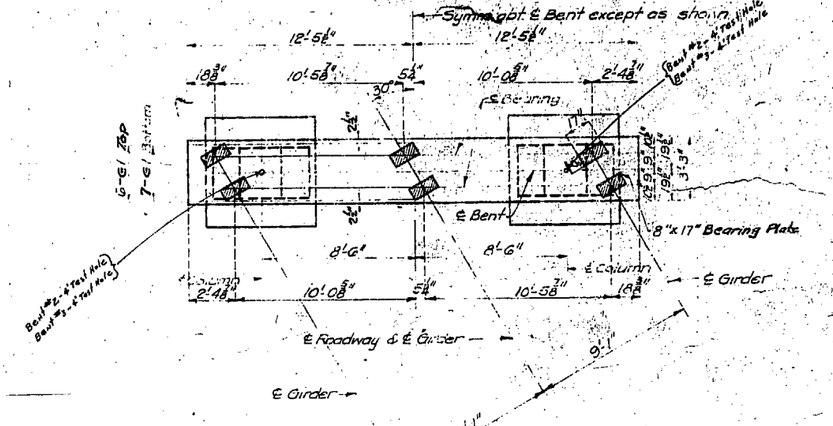
FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
S-187(12) SEC.B(SD) | 50 | 61

FINAL PLANS









BRIDGE OVER CANE CREEK

STATE ROAD FROM RTE. S.E. AT OAK RIDGE SOUTH TO JACKSON

ABOUT 3.6 MILES N.W. OF JACKSON

PROJECT NO S-187(1) SEC. B (SD) STA. 397+28

CAPE GIRARDEAU COUNTY

P-714

102

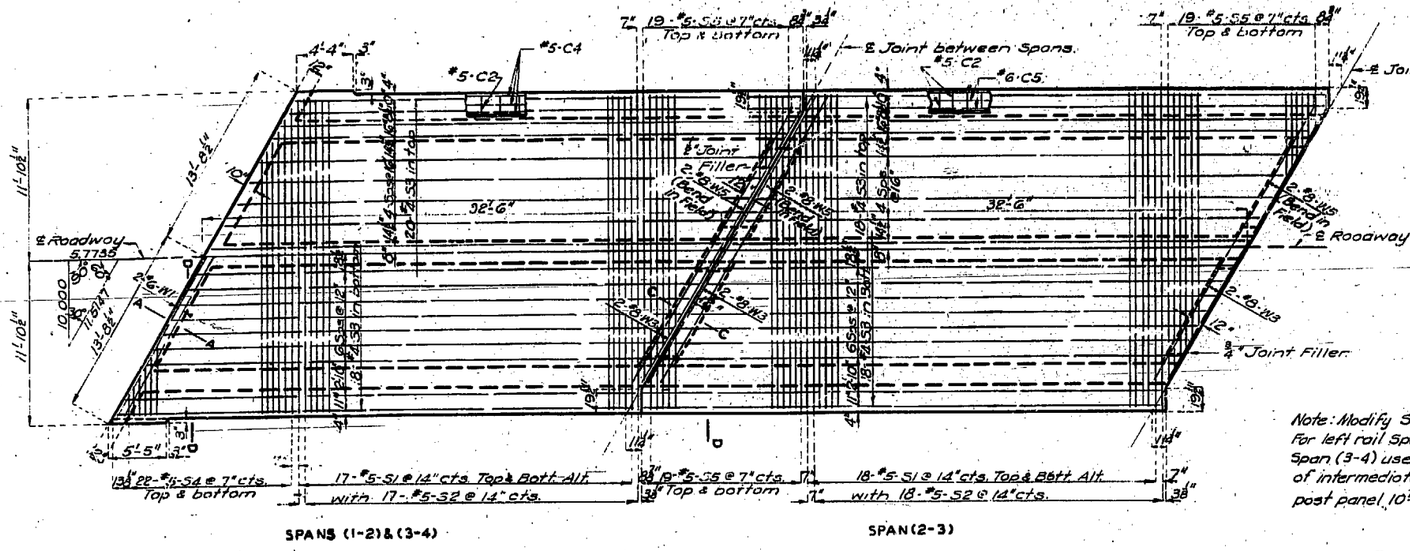
Sept 1954 by J.D.M & B.R.G.
Oct. 1954 by I.T.K.

This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 2

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-187(1) Sec. B(SD)	19		

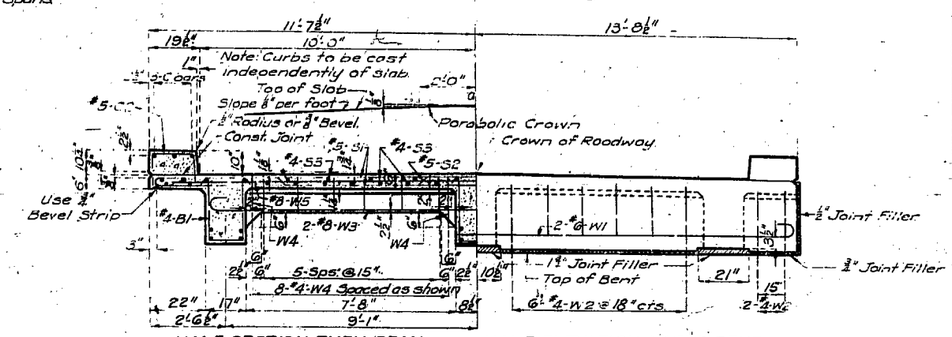


SPANS (1-2) & (3-4)

SPAN (2-3)

PLAN OF SLAB SHOWING REINFORCEMENT

Note: See Std. C-6508 for handrail, curb and details of bevel for filled joints. Modify handrail and curb on end spans as noted.

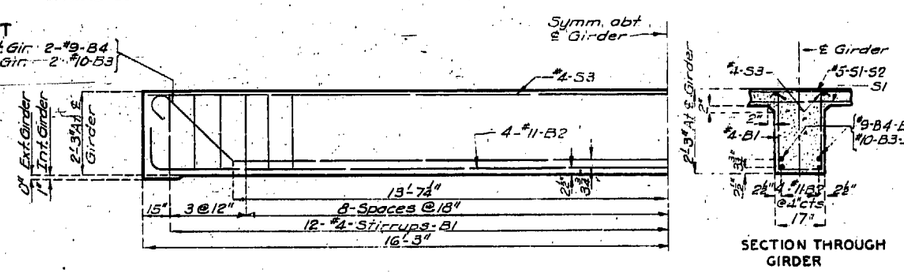


HALF SECTION THRU SPAN (NEAR INTERMEDIATE BENT)

HALF ELEVATION AT END BENT

Note: #4-Stirrups W2 & W4 to be placed parallel to ℄ Roadway.

Note: Modify Std. C-6509 as follows: For left rail Span (1-2) and right rail Span (3-4) use 30"A" making lengths of intermediate panels 18'-5¢" and end post panel 10'-3¢".



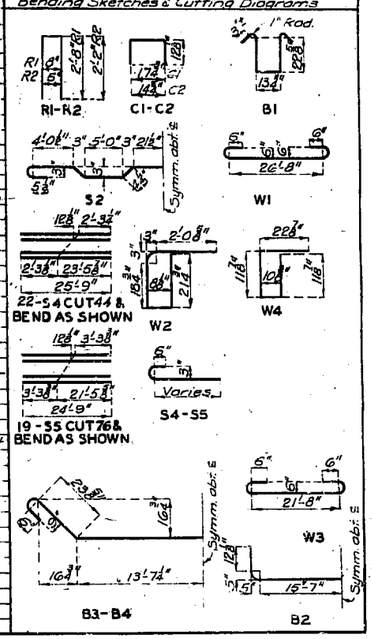
GIRDER REINFORCEMENT

SECTION THROUGH GIRDER

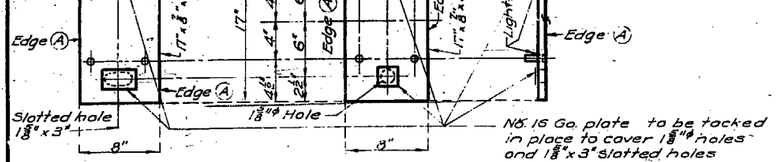
BILL OF REINFORCING STEEL - SPAN

No.	Size	Length	Mark	Location
20	#5	3'-6"	C1	Curb
148	#5	3'-3"	C2	"
4	#5	4'-0"	C3	"
12	#5	31'-3"	C4	"
6	#6	32'-3"	C5	"
104	#5	23'-0"	S1	Slab
52	#5	24'-9"	S2	"
114	#4	32'-3"	S3	"
44	#5	25'-9"	S4	"
76	#5	24'-9"	S5	"
4	#6	29'-3"	W1	End Web
32	#4	6'-6"	W2	" "
8	#8	24'-3"	W3	" "
64	#4	4'-9"	W4	" "
8	#8	26'-6"	W5	" "
207	#4	5'-9"	B1	Girder
36	#11	34'-6"	B2	"
6	#10	34'-6"	B3	Int. "
12	#9	34'-6"	B4	Ext. "
20	#5	6'-0"	R1	End Post
178	#4	4'-9"	R2	Rail
8	#4	3'-9"	R3	"
8	#4	10'-0"	R4	"
8	#4	8'-6"	R5	"
32	#4	10'-3"	R6	Rail
24	#4	10'-6"	R7	"

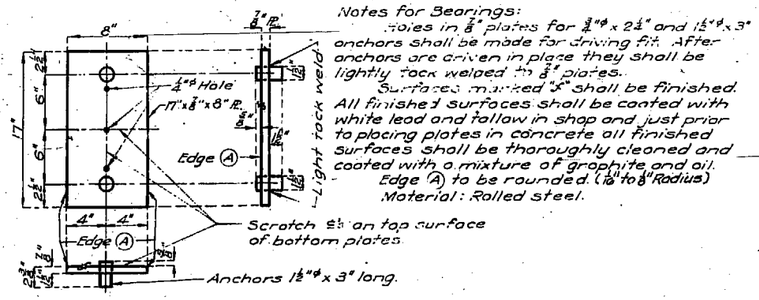
Bending Sketches & Cutting Diagrams



Note: Bars in the above units to billed and tagged separately.



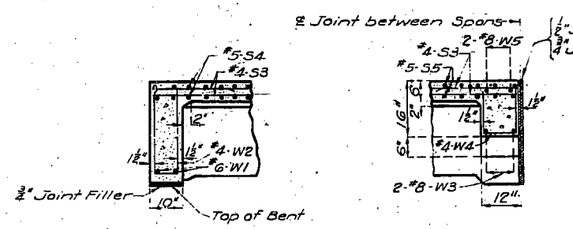
TOP PLATE-EXP. TOP PLATE-FIX.



BOTTOM PLATES

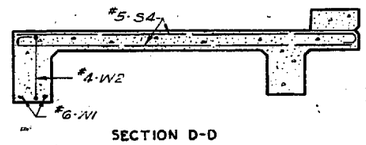
Notes for Bearings:
Holes in 8" plates for ¾"ø x 2½" and 1½"ø x 3" anchors shall be made for driving fit. After anchors are driven in place they shall be lightly tack welded to 8" plates.
Surfaces marked "S" shall be finished. All finished surfaces shall be coated with white lead and tallow in shop and just prior to placing plates in concrete all finished surfaces shall be thoroughly cleaned and coated with a mixture of graphite and oil.
Edge (A) to be rounded. (⅛" to ¾" Radius)
Material: Rolled steel.

DETAILS OF BEARINGS



SECTION A-A

SECTION C-C



SECTION D-D

BRIDGE OVER CANE CREEK

STATE ROAD FROM RTE. S.E. AT OAK RIDGE SOUTH TO JACKSON
ABOUT 3.6 MILES N.W. OF JACKSON
PROJECT NO. S-187(1) SEC. B (SD) STA. 397+26

CAPE GIRARDEAU COUNTY

P-714

Assembled Sept 1954 by J.D.M. & B.R.G.
Checked Oct 1954 by O.T.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 3

25' Thru 40' D. G. Grs. - Skew L.A. - 20' Rdwy. - H10
Revised Dec. 1954