12/19

Job No. J9S3810

Replaces Bridge No. G0027

Missouri Department of Transportation

Bridge Survey Location Request

Page 1 to be completed by District staff.

Bridge over: Erlide Creek Route: 61

County: Cape Girardeau Section: 10 Township: 33 North Range: 12 East

Latitude: 37°33'52.59"N Longitude: 89°42'4.68"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
7.1" Below (1977)	Below Centerline Profile	HW Book 7963-A

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:

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: Landon Bodenschatz, 573-639-1480, Landon.Bodenschatz@modot.mo.gov

Survey Type: **1D Survey**

Stream Crossing Survey Location Details (1D)

Item		Requirement	Standard Guidance		Specific Guidance	
Profiles* (EPG 238.3.36.1.3)	C/L Profile	Terminal Point	Limit of Longest offset Profile		Use Standard Guidance	
	Upstream Offset Profile	Terminal Point	Same as Valley Sections		Elevation =	435
		Offset Distance	On Natural Ground		Estimated Distance =	30
	Downstream Offset Profile	Terminal Point	Same as Valley Sections		Elevation =	435
		Offset Distance	On Natural Ground		Estimated Distance =	40
	Special	N/A				
Streambed Profiles** (EPG 238.3.36.3.6)		Length	Natural Stream	Section limits (Min. of 1000' each side of crossing.)	Use Natural Stream Guidance	
			Drainage Ditch	500' Each Side of Crossing		
		Elevation Intervals	Within 1000' of Crossing	Nat. Stream 25'	Use Natural Stream Guidance (see EPG 238.3.36.3.6 if a significant slope change is encountered)	
				Drain. Ditch 50'		
			Beyond 1000' from Crossing	At Vertical and Horizontal Break Points (200' max.)		
Valley Sections (EPG 238.3.36.3.8), (EPG 750.3.1.1)		Terminal Point	Natural Stream	5' above EHW	Elevation =	435
			Drainage Ditch	25' Beyond Bankside Toe of Levee	Distance =	N/A

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
Typical Channel Sections (EPG 238.3.36.3.9)	**Typical Channel Section Data Needed?** ☐ Yes ☒ No		
	Within 300' each side of Centerline	Provide when Needed (i.e., Culvert on Perennial and	

		Intermittent Stream)	

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	
	Profile Location	C/L Structure	N/A	
	Profile Terminal Point	5’ above EHW	Elevation =	N/A

* additional profiles may be needed for relocated routes

** at confluent streams provide proposed data for both streams as appropriate.

Additional Information:

Additional Documents Provided:

Image & kmz files showing Valley Section Locations.

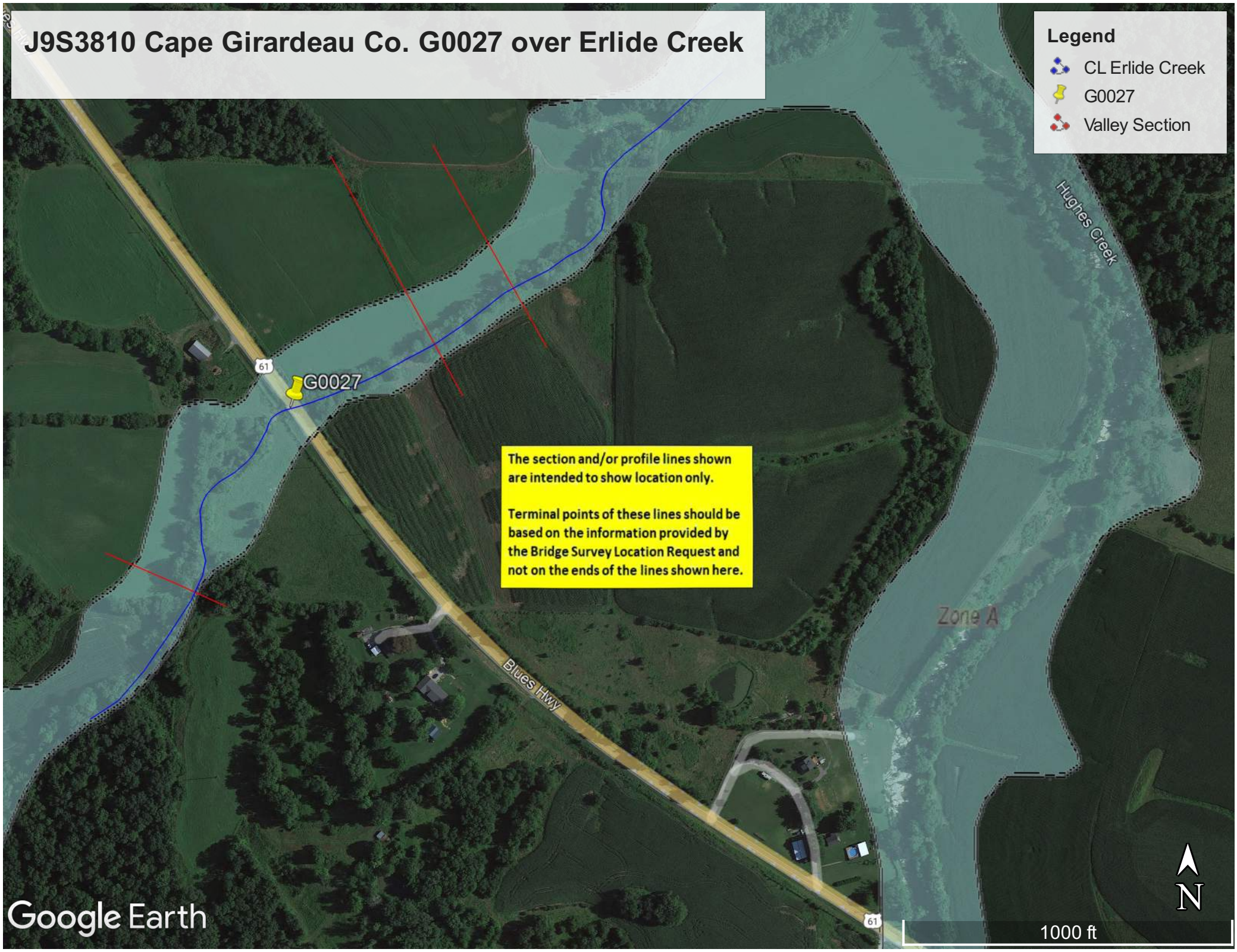
Roadway Design Notes for Bridge Survey:

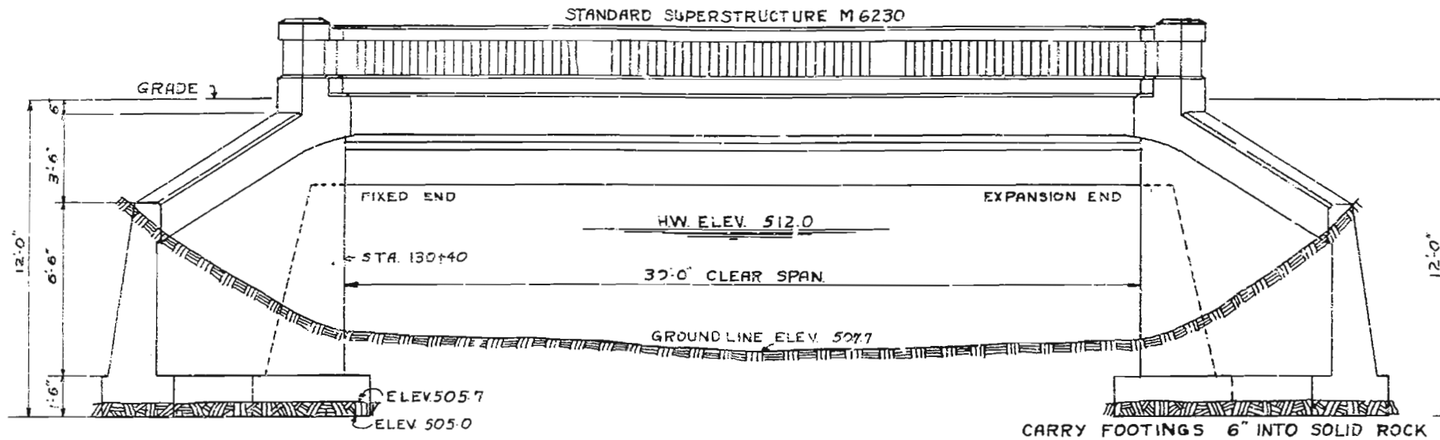
The Bridge Survey should include all the pertinent items listed in EPG 747 and the Bridge Survey Checklist.

Bridge Design Notes:

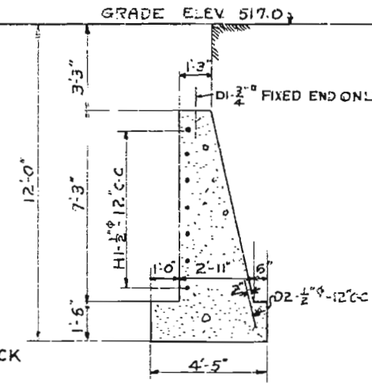
According to the TMS flood report, Bridge G0027 has not been overtopped in the last 20 years.

FEMA Zone A

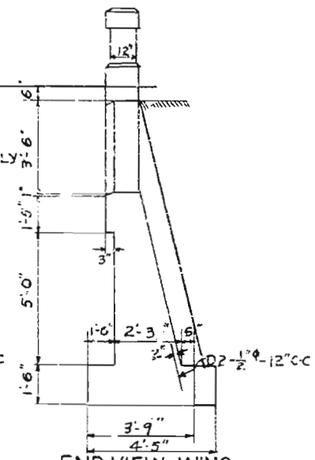

J9S3810 Cape Girardeau Co. G0027 over Erlide Creek
Legend
CL Erlide Creek
G0027
Valley Section
Hughes Creek
61
G0027
The section and/or profile lines shown are intended to show location only.
Terminal points of these lines should be based on the information provided by the Bridge Survey Location Request and not on the ends of the lines shown here.
Zone A
Blues Hwy
61
Google Earth
N
1000 ft



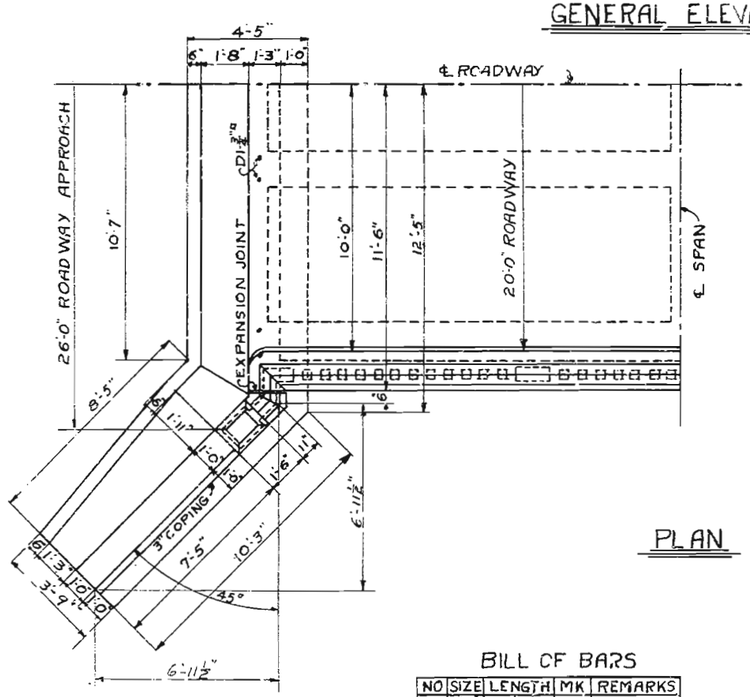
GENERAL ELEVATION



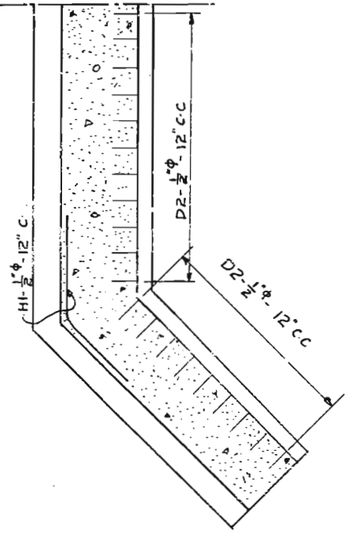
SECTION-ABUTMENT



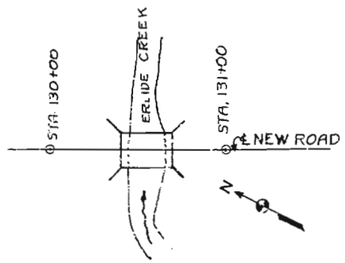
END VIEW-WING



PLAN



FLOW



SITUATION PLAN

GENERAL NOTES

ALL GENERAL NOTES WHICH APPLY TO M 8230 WILL ALSO APPLY TO THIS STRUCTURE

CONCRETE IN ABUTMENTS 1:3:6 MIX.

BILL OF BARS

NO	SIZE	LENGTH	MK	REMARKS
28	½"	8'-0"	H1	BEND IN PLACE
80	½"	2'-0"	D2	STRAIGHT

TABLE OF QUANTITIES

LOCATION	HANDRAIL	SLAB & CURB	ABUTMENT	TOTAL
CONCRETE 1:2:3	3.5			3.5
" 1:2:4		37.3		37.3
" 1:3:5			68.3	68.3
REINF. STEEL	490	9620	260	10370
EXCAVATION	680 CU YDS			

MISSOURI STATE HIGHWAY DEPARTMENT

BRIDGE OVER ERLIDE CREEK

STATE ROAD FROM PERRY COUNTY LINE TO JACKSON

ABOUT 8 MILES FROM ALTENBERG

PROJECT NO. R 25 5:9 STA. 130+40

CAPE GIRARDEAU COUNTY

SUBMITTED BY [signature] BRIDGE ENGINEER

APPROVED BY [signature] STATE HIGHWAY ENGINEER

M6230

G27

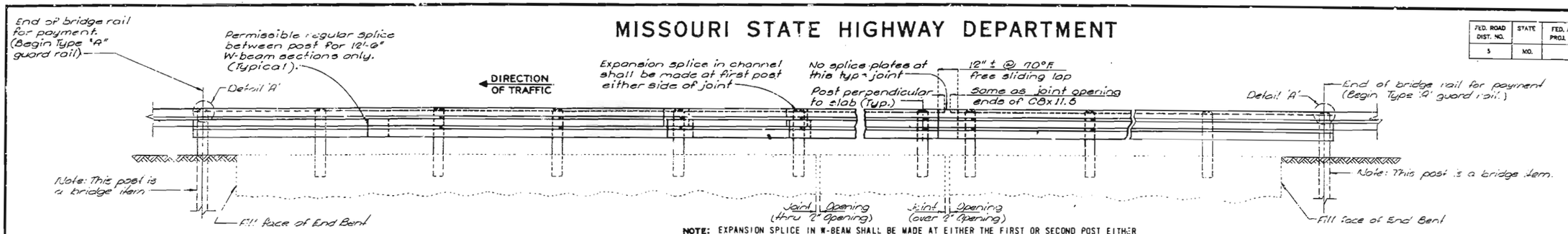
DRAWN 9-16, 1922 BY RHS

CH'K'D OCT. 1922 BY CJAW

453

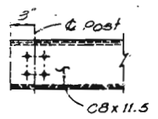
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	10	-



PART SECTION SHOWING RAIL

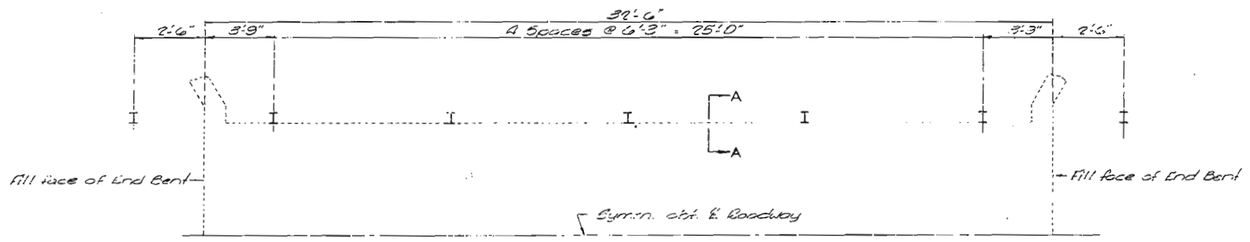
NOTE: EXPANSION SPLICE IN W-BEAM SHALL BE MADE AT EITHER THE FIRST OR SECOND POST EITHER SIDE OF JOINT. WHEN SPLICE IS MADE AT SECOND POST, AN EXPANSION SLOT SHALL BE PROVIDED IN W-BEAM FOR CONNECTION TO FIRST POST TO ALLOW FOR MOVEMENT. (TYPICAL UPPER AND LOWER W-BEAM SHOWN; HOWEVER UPPER AND LOWER W-BEAM ARE NOT TO BE SPLICED AT THE SAME LOCATION).



DETAIL 'A'

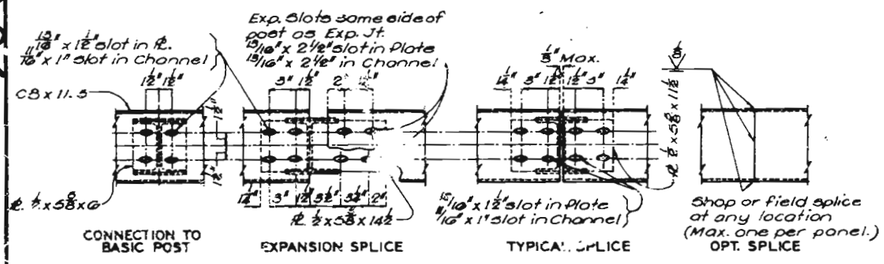
AT EXPANSION JOINTS

NOTE: IN ADDITION TO EXPANSION PROVISIONS AT THESE EXPANSION JOINTS, EXPANSION SPLICES IN CHANNEL MEMBER ONLY SHALL BE PROVIDED AT OTHER LOCATIONS SO THAT THE MAXIMUM LENGTH OF CHANNEL WITHOUT EXPANSION PROVISIONS DOES NOT EXCEED 200 FT.



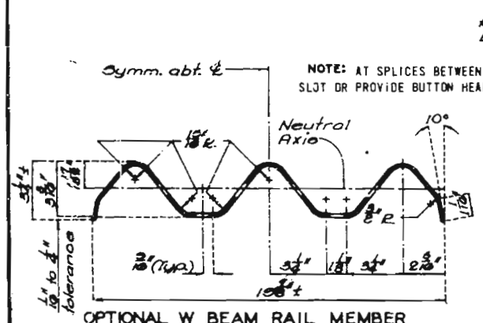
HALF PLAN SHOWING RAIL POST SPACING

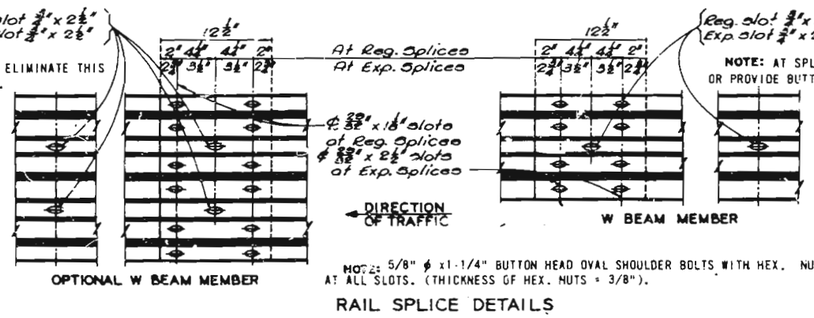
Note: for details of Section A-A see sheet No. 2.



CHANNEL MEMBER DETAILS

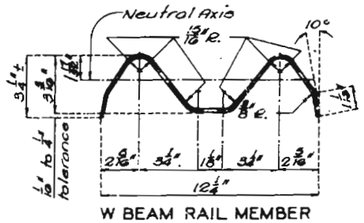
NOTE: SHIM PLATES 6"x6"x1/16" MAY BE USED BETWEEN TOP OF POST AND CHANNEL MEMBER AS REQUIRED FOR VERTICAL ALIGNMENT.





NOTE: 5/8" ϕ x1-1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX. NUTS AT ALL SLOTS. (THICKNESS OF HEX. NUTS = 3/8").

RAIL SPLICE DETAILS



NOTE: SPECIAL DRILLING OF W-BEAM MAY BE REQUIRED AT SPLICES. (ALL DRILLING DETAILS ARE TO BE SHOWN ON SHOP DRAWINGS).

GENERAL NOTES:

DESIGN AASHTO 1973 SPECIFICATIONS.

PANEL LENGTHS OF CHANNEL MEMBERS SHALL BE ATTACHED CONTINUOUSLY TO A MINIMUM OF FOUR POSTS AND A MAXIMUM OF SIX (EXCEPT AT END BENTS).

ALL BOLTS, NUTS, WASHERS, PLATES AND ELASTOMERIC MATERIALS ARE CONSIDERED AS PARTS OF THE RAIL FOR PAYMENT.

ALL STEEL CONNECTING BOLTS AND FASTENERS FOR RAILING AND ALL ANCHOR BOLTS, NUTS, WASHERS AND PLATES SHALL BE GALVANIZED AFTER FABRICATION. FOR PROTECTIVE COATING AND MATERIAL REQUIREMENT OF STEEL RAILING SEE SECTION 1040 OF THE STANDARD SPECIFICATIONS.

RAIL POSTS SHALL BE SET PERPENDICULAR TO ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

AT EXPANSION SLOTS IN W-BEAM RAILS AND CHANNELS, TIGHTEN BOLTS, BACK OFF ONE-HALF TURN AND BURR THREADS.

MINIMUM LENGTH OF W-BEAM SECTIONS IS EQUAL TO ONE POST SPACE.

W-BEAM GUARD RAIL TO BE MADE OF STEEL AND SHALL BE 12 GAGE, AND ERECTED IN ACCORDANCE WITH STANDARD PLAN 606.00.

POST, SHIM PLATES, CHANNELS AND CHANNEL SPLICE PLATES TO BE FABRICATED FROM A-36 STEEL.

WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN BOLT HEAD AND BEAM). THEY SHALL BE RECTANGULAR IN SHAPE (3" X 1-3/4" X 3/16" MIN.) AND FLAT, OR WHEN NECESSARY OF SUCH DESIGN TO FIT THE CONTOUR OF THE BEAM. WASHER SHALL HAVE 11/16" X 1" HOLE.

FABRICATION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE STANDARD SPECIFICATIONS.

LIGHT DOTTED LINES INDICATE OLD WORK, HEAVY LINES INDICATE NEW WORK.

HIGH STRENGTH BOLTS IN CONCRETE ANCHORS TO BE SNUG TIGHT.

HIGH STRENGTH BOLTS SHALL BE A-325.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING MATERIALS.

The Contractor shall maintain one lane of traffic on the bridge during construction.

ESTIMATED QUANTITIES

ITEM		TOTAL
Bridge Guard Rail (W-Beam)	Lin Ft.	75
Special Work	Lump Sum	1

DESIGNED Feb. 1979
DETAILED Feb. 1979
CHECKED Feb. 1979

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

Sheet No. 1 of 2.

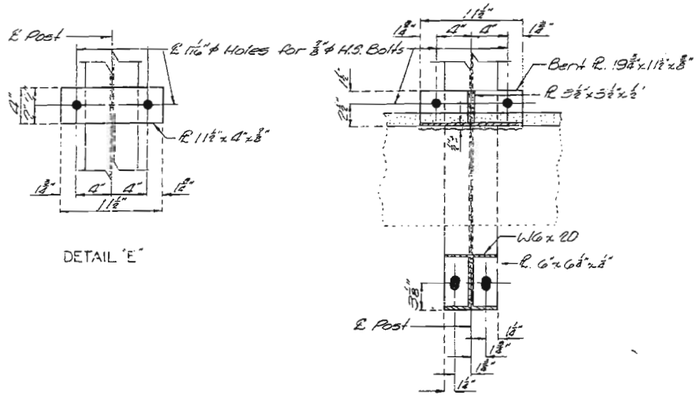
B.M.

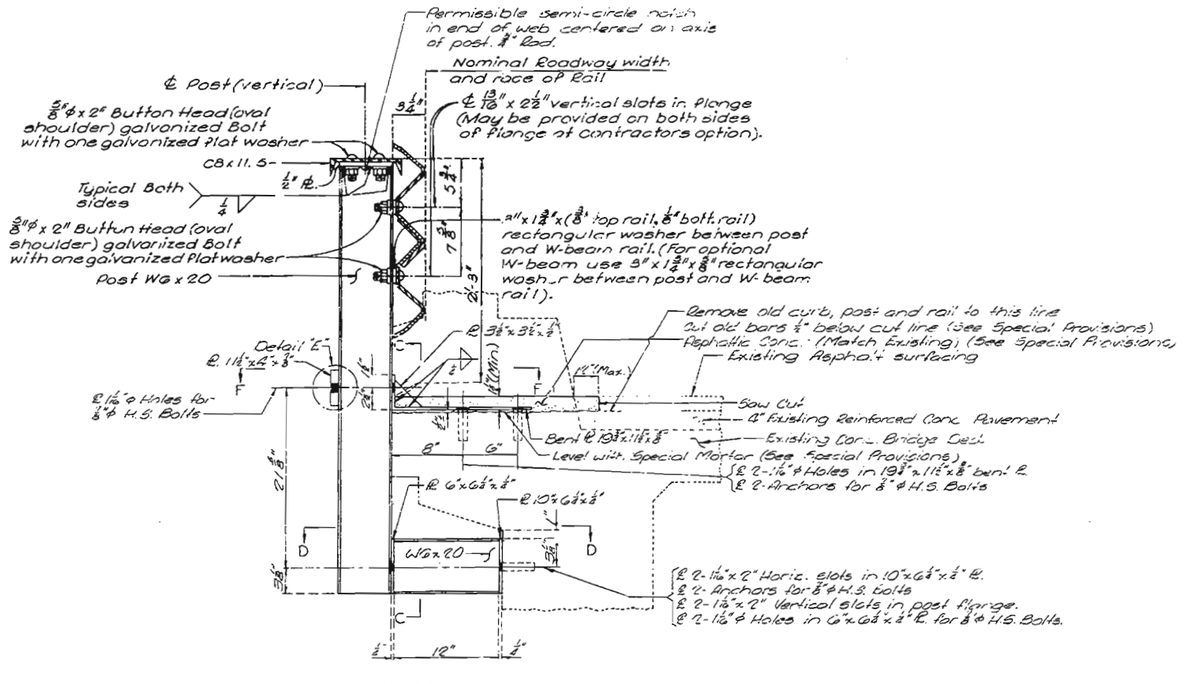
REPLACNG BRIDGE HANDRAIL
BRIDGE OVER ERLIDE CREEK
STATE ROAD FROM UNIONTOWN TO JACKSON
ABOUT 3 MILES SOUTH OF UNIONTOWN
PROJECT NO. HES-817(1) **STA.** 129+02.90
JOB NO. 0-X061-100 **RTE** 61
CAPE GIRARDEAU **COUNTY**
DATE 2-1-79

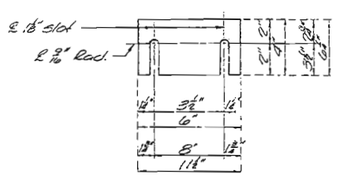
STD. 617.00
STD. 606.00
G-27 R

MISSOURI STATE HIGHWAY DEPARTMENT

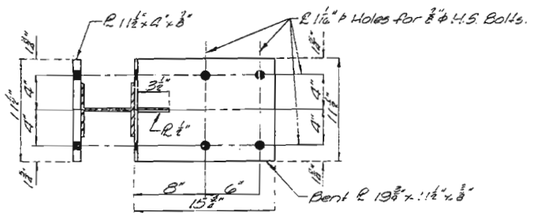
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	11	

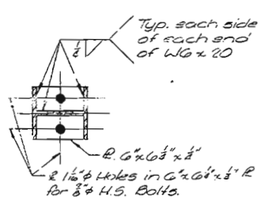


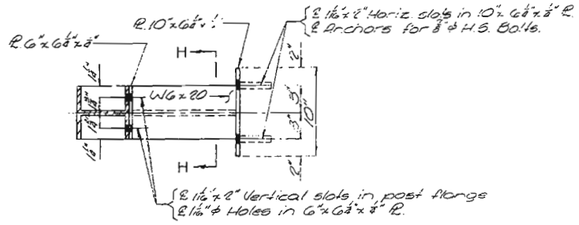




Note: Shim plates 6"x6⅜"x1/16" may be used between post W6 x 20 and 6"x6⅜"x⅜" plate and shim 11⅛"x4"x1/16" may be used between post W6x20 and 19⅜"x11⅛"x⅜" bent plate as required for horizontal alignment.







Note: Concrete Anchors shall be the core expansion type for hot-dip galvanized bolts. Concrete Anchors shall have a certified concrete pull-out strength, Ultimate (load) of at least 15,500 pounds in 3000 psi concrete.

DETAILED Feb. 1979
CHECKED Feb. 1979

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

Sheet No. 2 of 2.

CAPE GIRARDEAU **COUNTY**

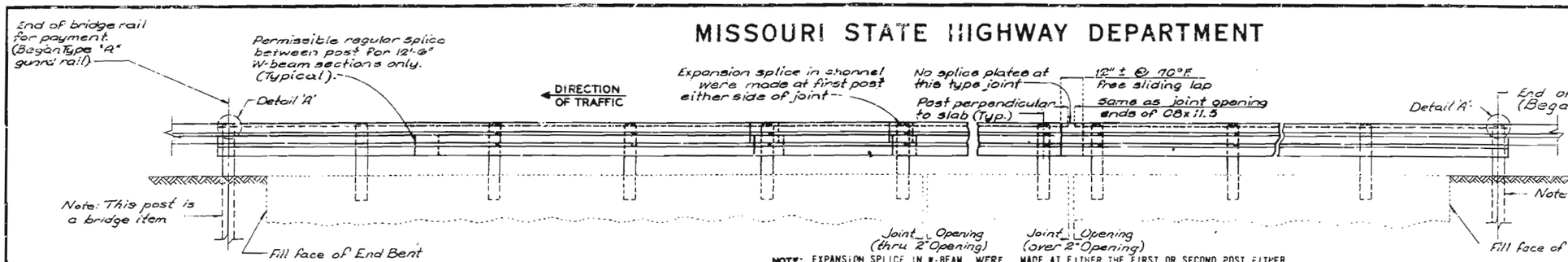
G-27 R

MISSOURI STATE HIGHWAY DEPARTMENT

L. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	

FINAL PLANS

1882

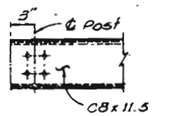


PART SECTION SHOWING RAIL

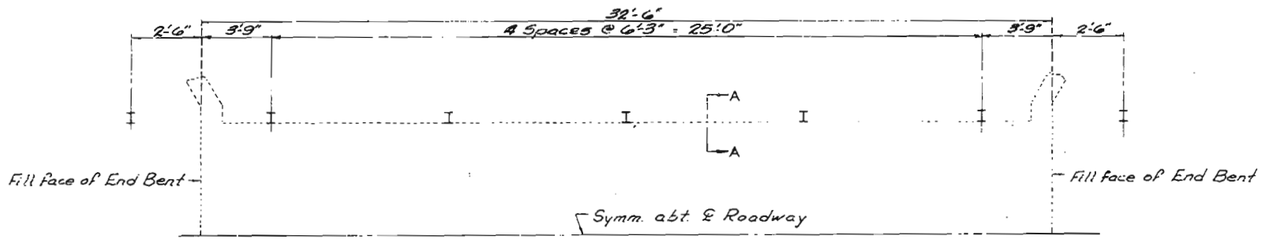
NOTE: EXPANSION SPLICE IN W-BEAM WERE MADE AT EITHER THE FIRST OR SECOND POST EITHER SIDE OF JOINT. WHEN SPLICE WAS MADE AT SECOND POST, AN EXPANSION SLOT WAS PROVIDED IN W-BEAM FOR CONNECTION TO FIRST POST TO ALLOW FOR MOVEMENT. (TYPICAL UPPER AND LOWER W-BEAM SHOWN; HOWEVER UPPER AND LOWER W-BEAM WERE NOT SPLICED AT THE SAME LOCATION).

AT EXPANSION TOINTS

NOTE: IN ADDITION TO EXPANSION PROVISIONS AT THESE EXPANSION JOINTS, EXPANSION SPLICES IN CHANNEL MEMBER ONLY WERE PROVIDED AT OTHER LOCATIONS SO THAT THE MAXIMUM LENGTH OF CHANNEL WITHOUT EXPANSION PROVISIONS DID NOT EXCEED 200 FT.



DETAIL 'A'



HALF PLAN SHOWING RAIL POST SPACING

Note: For details of Section A-A see sheet No. 2

GENERAL NOTES:

DESIGN AASHTO 1973 SPECIFICATIONS.

PANEL LENGTHS OF CHANNEL MEMBERS ARE ATTACHED CONTINUOUSLY TO A MINIMUM OF FOUR POSTS AND A MAXIMUM OF SIX (EXCEPT AT END BENTS).

ALL BOLTS, NUTS, WASHERS, PLATES AND ELASTOMERIC MATERIALS WERE CONSIDERED AS PARTS OF THE RAIL FOR PAYMENT.

ALL STEEL CONNECTING BOLTS AND FASTENERS FOR RAILING AND ALL ANCHOR BOLTS, NUTS, WASHERS AND PLATES WERE GALVANIZED AFTER FABRICATION. FOR PROTECTIVE COATING AND MATERIAL REQUIREMENT OF STEEL RAILING SEE SECTION 1040 OF THE STANDARD SPECIFICATIONS.

RAIL POSTS WERE SET PERPENDICULAR TO ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

AT EXPANSION SLOTS IN W-BEAM RAILS AND CHANNELS, TIGHTEN BOLTS, BACK OFF ONE-HALF TURN AND BURR THREADS.

MINIMUM LENGTH OF W-BEAM SECTIONS IS EQUAL TO ONE POST SPACE.

W-BEAM GUARD RAIL WERE MADE OF STEEL AND ARE 12 GAGE, AND ERECTED IN ACCORDANCE WITH STANDARD PLAN 606.00.

POST, SHIM PLATES, CHANNELS AND CHANNEL SPLICE PLATES WERE FABRICATED FROM A-38 STEEL.

WASHERS WERE USED AT ALL POST BOLTS (BETWEEN BOLT HEAD AND BEAM), THEY ARE RECTANGULAR IN SHAPE (3" X 1-3/4" X 3/16" MIN.) AND FLAT, OR WHEN NECESSARY OF SUCH DESIGN TO FIT THE CONTOUR OF THE BEAM. WASHER HAVE 11/16" X 1" HOLE.

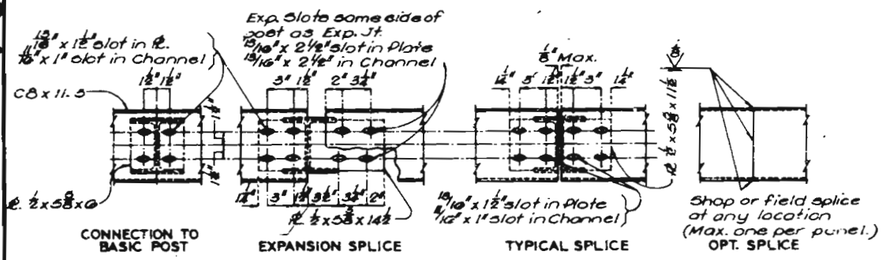
FABRICATION OF STRUCTURAL STEEL IS IN ACCORDANCE WITH SECTION 712 OF THE STANDARD SPECIFICATIONS.

LIGHT DOTTED LINES INDICATE OLD WORK. HEAVY LINES INDICATE NEW WORK.

HIGH STRENGTH BOLTS IN CONCRETE ANCHORS TO BE SNUG TIGHT.

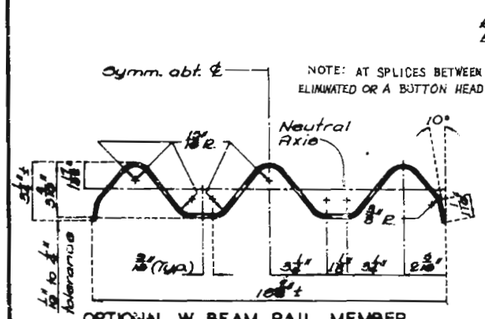
HIGH STRENGTH BOLTS ARE A-325.

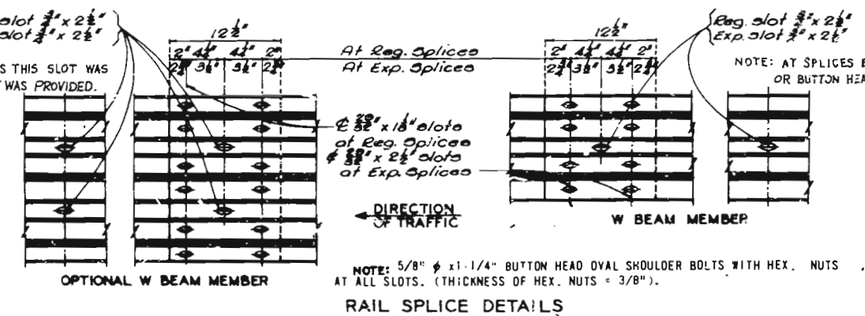
CONTRACTOR VERIFIED ALL DIMENSIONS IN FIELD BEFORE ORDERING MATERIALS.



CHANNEL MEMBER DETAILS

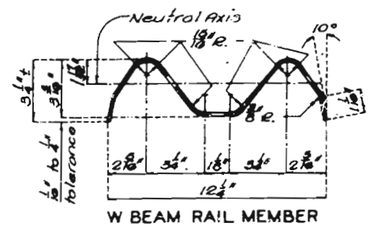
FINAL QUANTITIES		
ITEM		TOTAL
Bridge Guard Rail (W-Beam)	Lin Ft.	75
Special Work	Lump Sum	1





NOTE: 5/8" ϕ x1-1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX. NUTS AT ALL SLOTS. (THICKNESS OF HEX. NUTS = 3/8").

RAIL SPLICE DETAILS



W BEAM RAIL MEMBER

B.M.

REPLACNG BRIDGE HANDRAIL

BRIDGE OVER ERLIDE CREEK

STATE ROAD FROM UNIONTOWN TO JACKSON

ABOUT 3 MILES SOUTH OF UNIONTOWN

PROJECT NO. HES-817(1) **STA.** 129+02.90

JOB NO. 0-X061-100 **RTE** 61

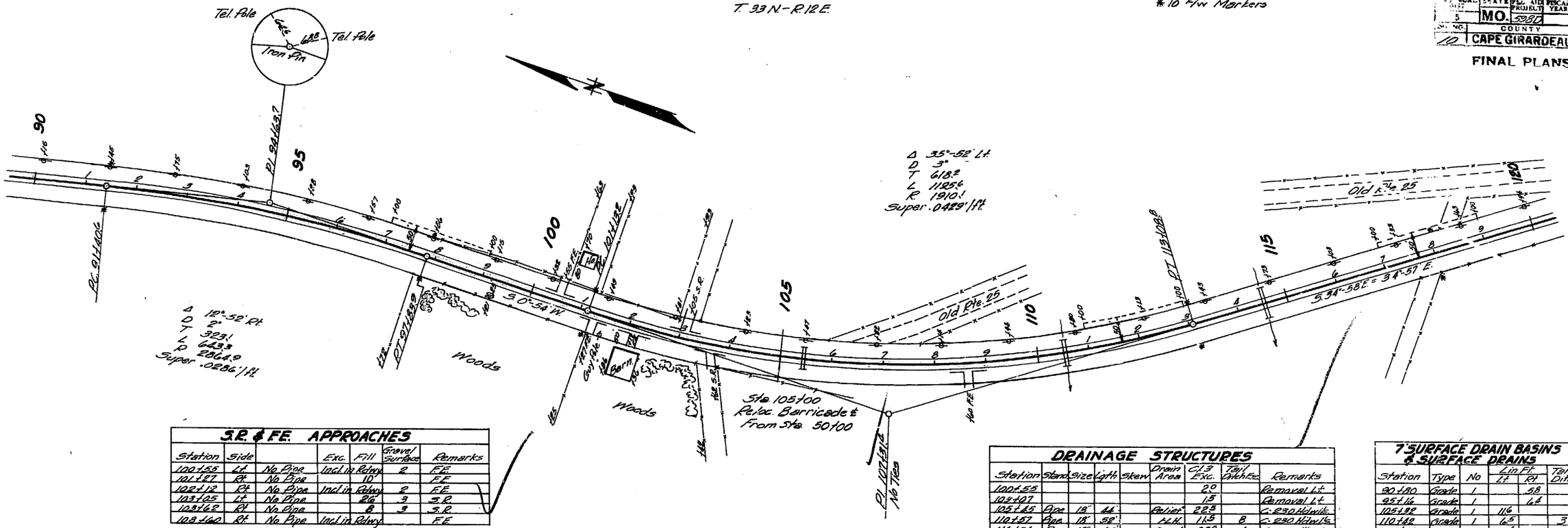
CAPE GIRARDEAU **COUNTY**

DATE 4-17-79

STD. 617.00
STD. 606.00
G-27 R

DESIGNED Feb. 1979
DETAILED Feb. 1979
CHECKED Feb. 1979

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



FED. ROAD DIST.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO.	398D		6	135

JOB NO.	COUNTY	ROUTE	SEC. NO.
10	CAPE GIRARDEAU	25	

FA

FINAL PLANS

S.R. & F.E. APPROACHES

Station	Side		Exc.	Fill	Gravel Surface	Remarks
100+55	Lt.	No Pipe	Incl. in Rdwy.		2	F.E.
101+27	Rt.	No Pipe		10		F.E.
102+12	Rt.	No Pipe	Incl. in Rdwy.		2	F.E.
103+05	Lt.	No Pipe		26	3	S.R.
103+62	Rt.	No Pipe		8	3	S.R.
108+60	Rt.	No Pipe	Incl. in Rdwy.			F.E.

DRAINAGE STRUCTURES

Station	Stand	Size	Lgth	Skew	Drain Area	Cl. 3 Exc.	Tail Ditch Exc.	Remarks
100+55						2.0		Removal Lt.
103+07						1.5		Removal Lt.
105+45	Pipe	18"	44'		Relief	22.5		C-230 Hdwls.
110+57	Pipe	18"	52'		1-L.H.	11.5	8	C-230 Hdwls.
114+56	Pipe	18"	60'		2-L.H.	25.0	4	C-230 Hdwls.

7' SURFACE DRAIN BASINS & SURFACE DRAINS

Station	Type	No	Lin. Ft. Lt.	Lin. Ft. Rt.	Tail Ditch
90+80	Grade	1		5.8	
95+16	Grade	1		6.4	
105+92	Grade	1	11.6		
110+82	Grade	1	6.5		3
114+56	Grade	1	13.6		

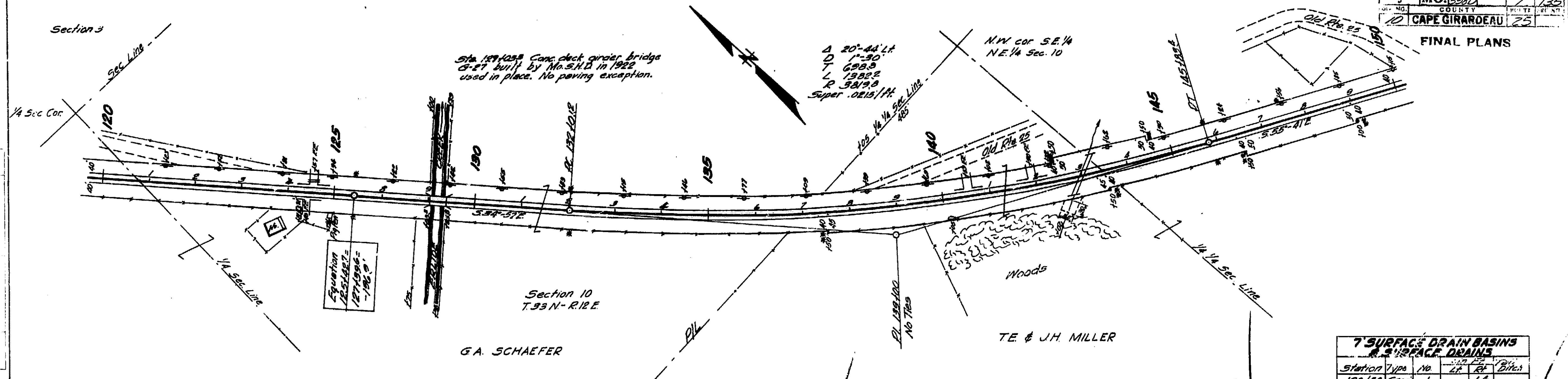
PLATE 1—PLAN—PROFILE

FED. ROAD DIV.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	5980		7	135

DIV. NO.	COUNTY	ROUTE	
10	CAPE GIRARDEAU	25	

FA

FINAL PLANS

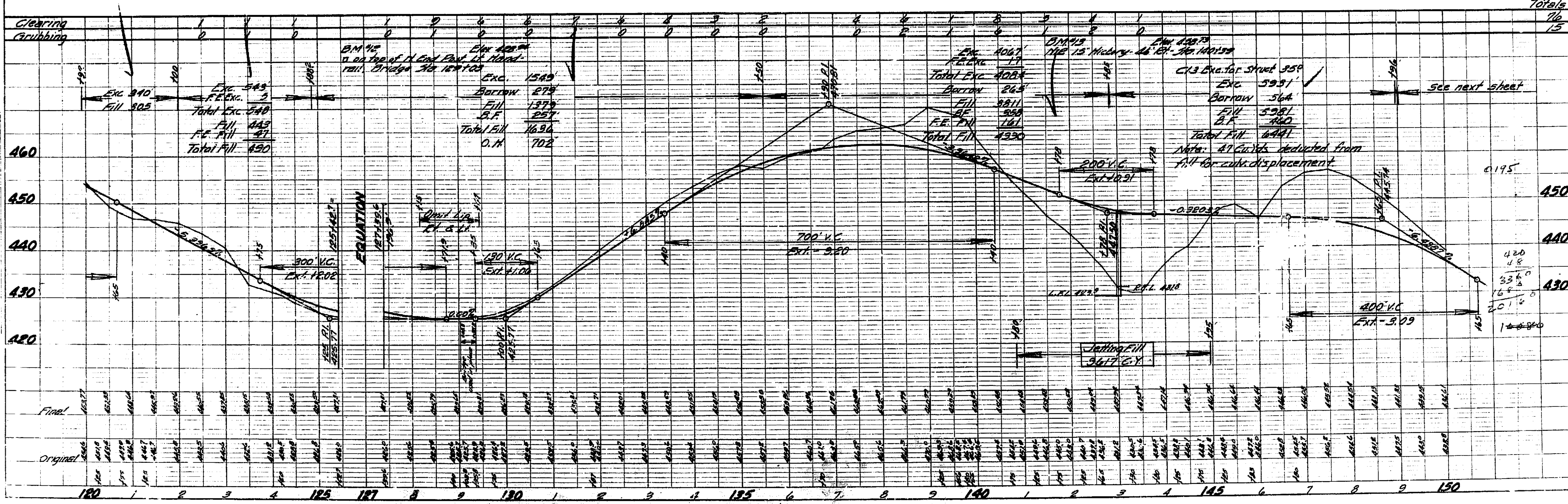


*10 W Markers
Section 3
Sec. Line
1/4 Sec Cor.
Sta. 129+03 Conc. deck girder bridge G-27 built by Mo.S.H.D. in 1922 used in place. No paving exception.
Δ 20°-44' Lt.
D 1°-30'
T 698.9
L 1382.2
R 3819.8
Super .0215/ft.
N.W. cor. S.E.1/4 NE.1/4 Sec. 10
Old Rte. 25
S.55°-41'E.
S.34°-57'E.
PI 132+10.12
PT 145+13.4
1/4 1/4 Sec. Line
Equation 125+42.7= 127+39.6= -196.9'
1/4 Sec. Line
Section 10
T.33 N-R.12 E.
Woods
PI 138+00 No Ties
G.A. SCHAEFER
T.E. & J.H. MILLER

DRAINAGE STRUCTURES								
Station	Stand	Size	Length	Skew	Drain Area	Cl.3 Exc.	Tail Ditch Exc.	Remarks
143+00	C-243	3x3	96'	35°	12 H	35.0		Spec. Height

S.R. & F.E. APPROACHES								
Station	Side		24" C.M.P.	Exc.	Fill	Cl.3 Exc.	Gravel Surface	Remarks
124+40	Rt.	No Pipe			16		2	F.E.
124+57	Lt.		26'	5	31	0		F.E.
140+55	Lt.	No Pipe		17	5		3.5	F.E.
141+90	Lt.	No Pipe			156			F.E.

7' SURFACE DRAIN BASINS & SURFACE DRAINS					
Station	Type	No.	[illegible] Lt.	[illegible] Rt.	[illegible] Ditch
120+30	Grade	1		6.4	
122+30	Grade	1	7.6		
128+00	Grade	2	9.2	10.8	
129+55	Grade	2	13.5	10.9	
131+50	Grade	1	7.2		
131+71	Grade	1	7.4		
145+85	Grade	1	10.9		



Clearing
Grubbing
Totals
116
15
Exc. 340
Fill 305
Exc. 543
F.E. Exc. 5
Total Exc. 548
Fill 443
F.E. Fill 47
Total Fill 490
B.M. 12 on top of N. End Post Lt. Hand-rail. Bridge Sta. 129+03
Elev. 428.88
Exc. 1549
Borrow 279
Fill 1379
B.F. 257
Total Fill 1636
O.H. 702
Exc. 4067
F.E. Exc. 17
Total Exc. 4084
Borrow 265
Fill 3811
B.F. 358
F.E. Fill 161
Total Fill 4330
B.M. 13
Elev. 458.73
Cl.3 Exc. for Struct. 35.0
Exc. 5931
Borrow 564
Fill 5981
B.F. 460
Total Fill 6441
Note: 47 Cu.Yds. deducted from fill for culv. displacement
See next sheet
300' V.C.
Ext. 12.02
EQUATION
190' V.C.
Ext. 1.06
700' V.C.
Ext. - 3.20
200' V.C.
Ext. 0.91
400' V.C.
Ext. - 3.09
Jetting Fill 3617 C.Y.
-0.380%
Fine!
Original
460
450
440
430
420
120
125
127
130
135
140
145
150

PLATE 1 - PLAN-PROFILE
KEUFFEL & ESSER CO. NEW YORK