

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

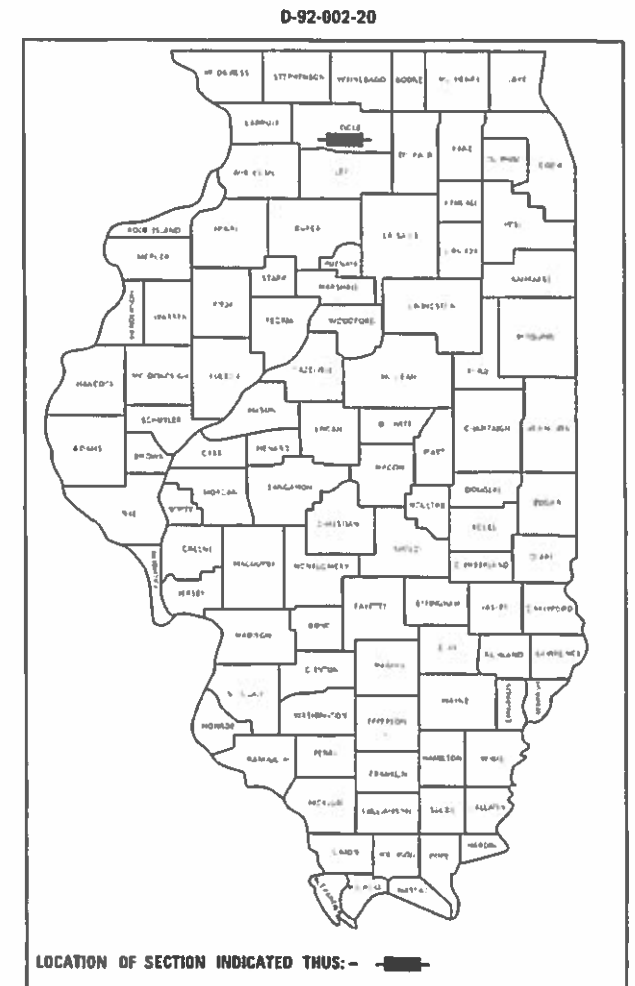
F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	1
		ILLINOIS	CONTRACT NO. 64N99	

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR STATE STANDARDS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

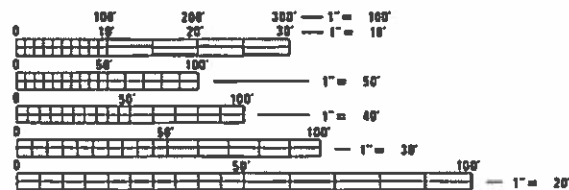
FAI ROUTE 39 (I-39)  
SECTION: D2 BP 2020-1  
PROJECT: NHPP RY8D(947)  
TYPE of IMPROVEMENT: BRIDGE PAINTING  
OGLE COUNTY

C-92-002-20



OGLE COUNTY  
LOCATION 1 - MONROE TOWNSHIP - SECTIONS 29 & 32  
LOCATION 2 - LYNNVILLE TOWNSHIP - SECTIONS 32 & 33

FOR LOCATION MAPS,  
SEE SHEET NO. 3



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: DAVID DOSS (815) 284-5416  
PROJECT MANAGER: MAHMOUD ETEMADI (815) 284-5393

CONTRACT NO. 64N99

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED March 04, 2020

[Signature]  
REGIONAL ENGINEER

MAY 8 20 20

[Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT

MAY 8 20 20

[Signature]  
DIRECTOR OF HIGHWAY PROJECT IMPLEMENTATION

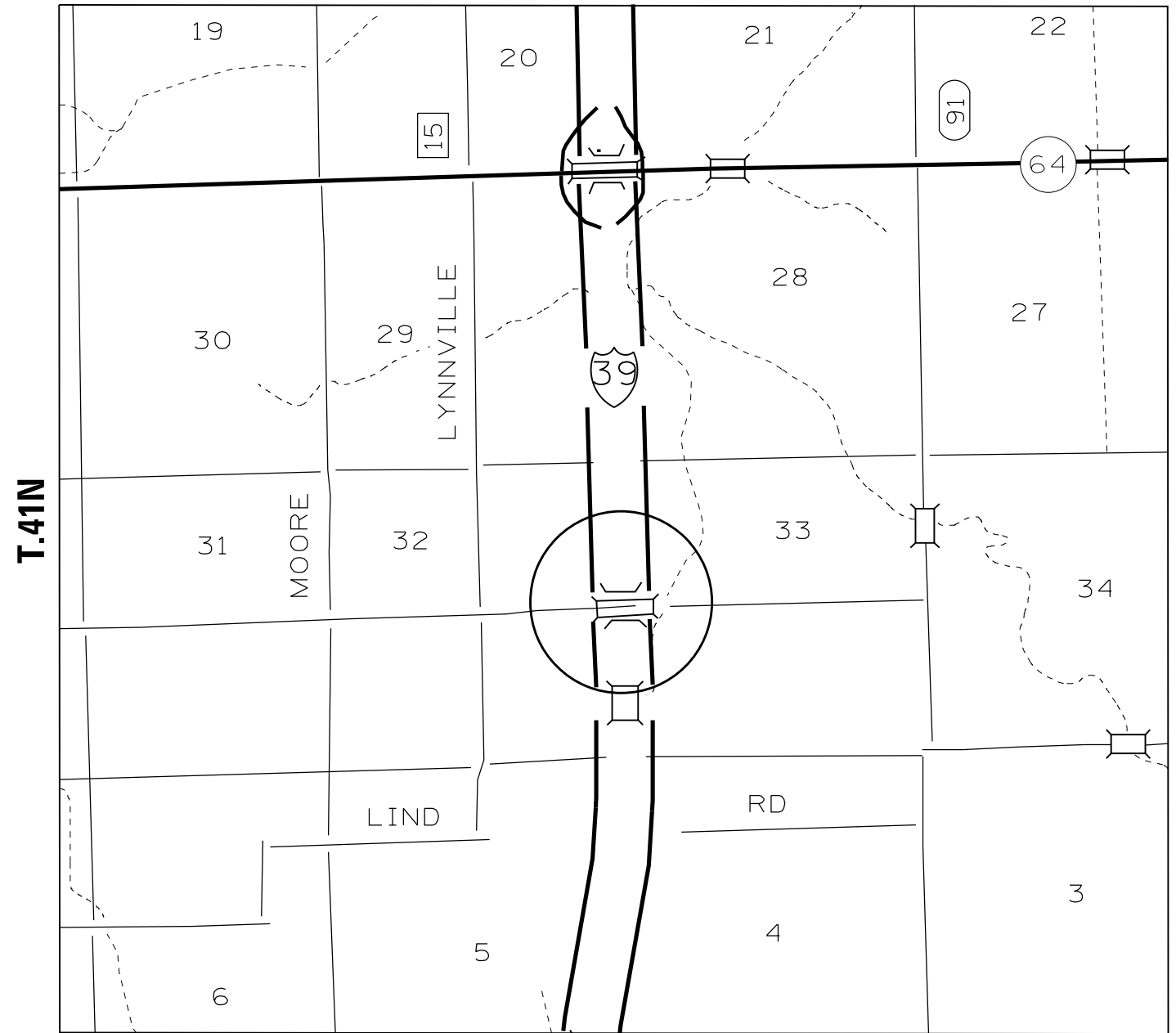
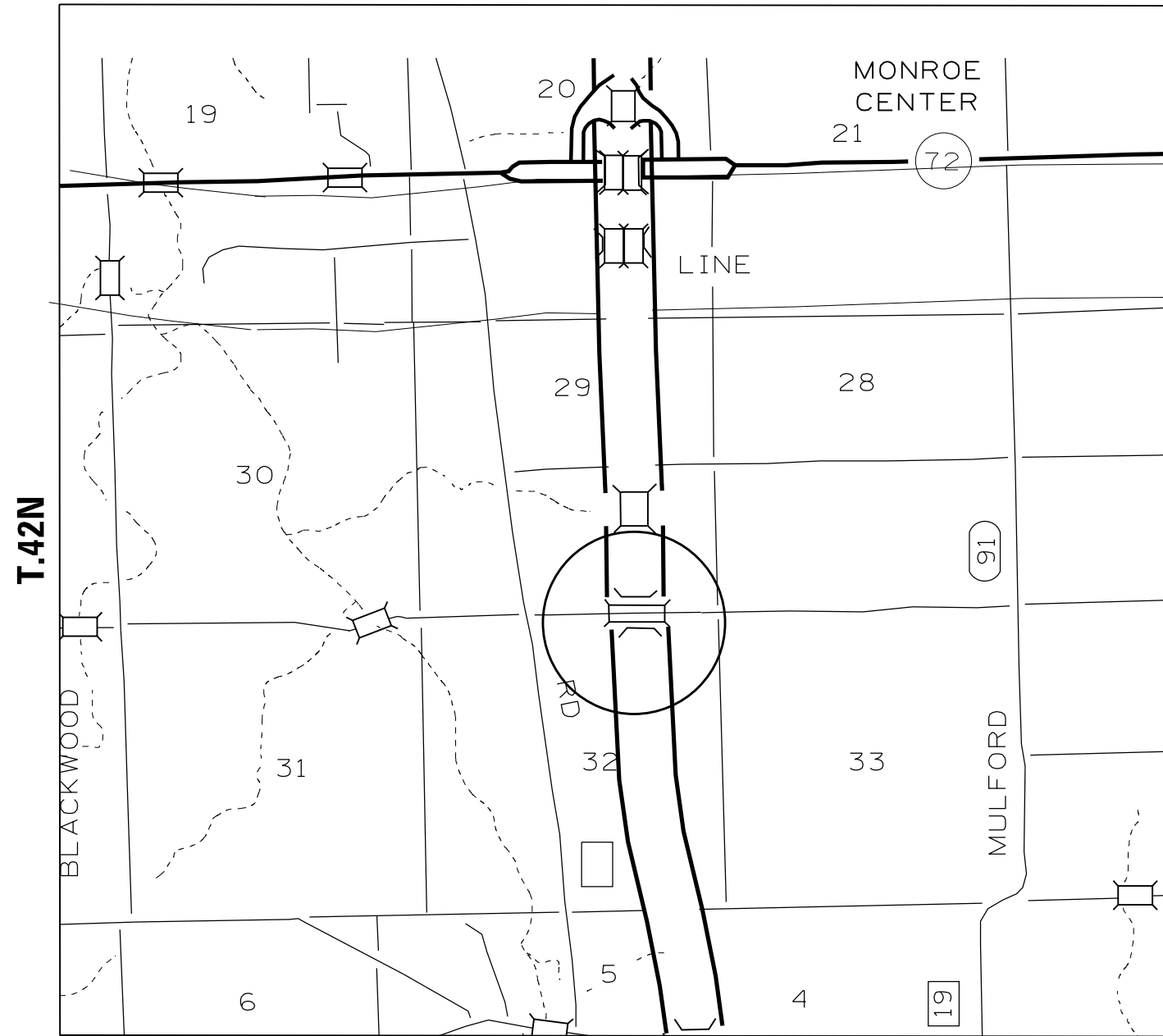
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OF THE STATE OF ILLINOIS





**LOCATION 1**  
**SN 071-0050 R.2E.**

**LOCATION 2**  
**SN 071-0056 R.2E.**



MODEL: Default  
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**T.42N**

**T.41N**

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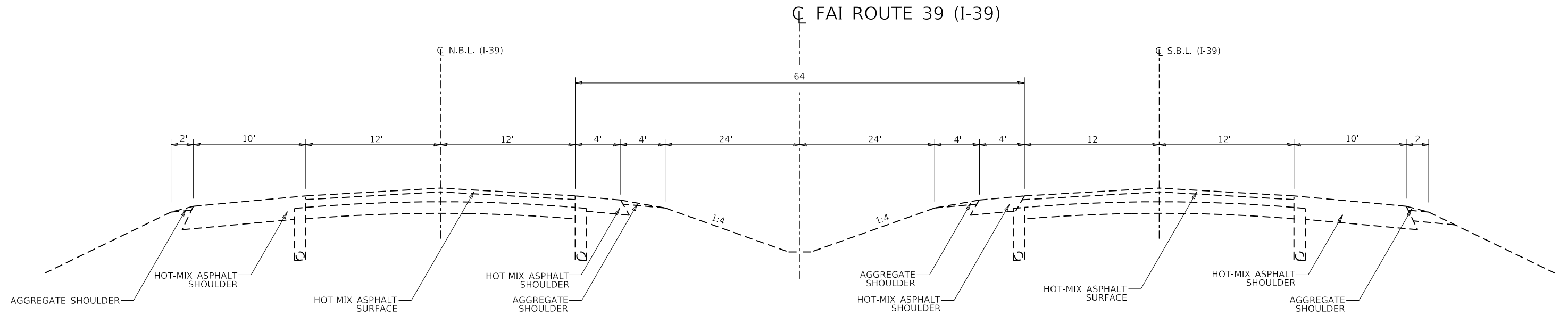
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

LOCATION MAPS	
SCALE: _____	SHEET ____ OF ____ SHEETS STA. _____ TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	3
CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				



# EXISTING ROADWAY TYPICAL



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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

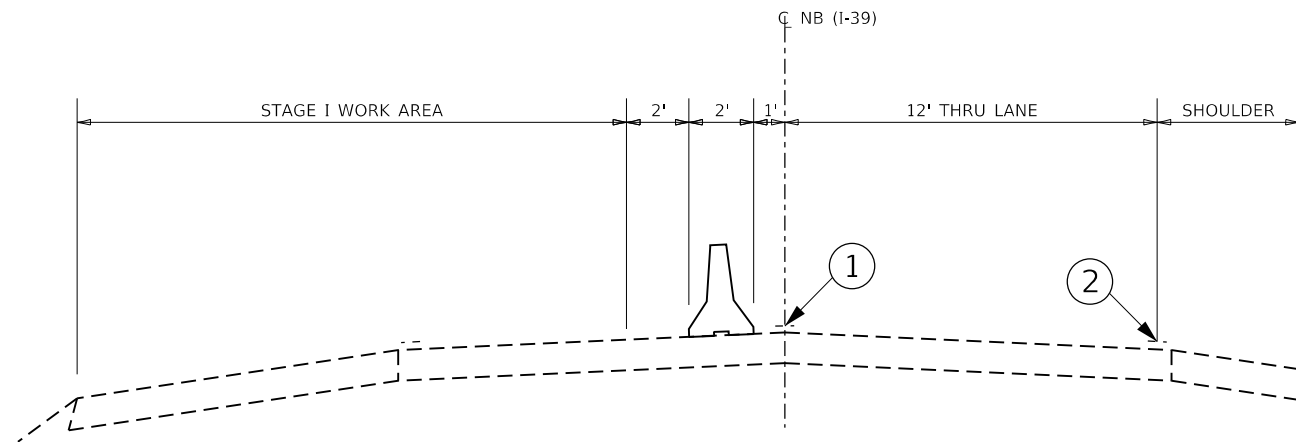
**EXISTING ROADWAY TYPICAL**

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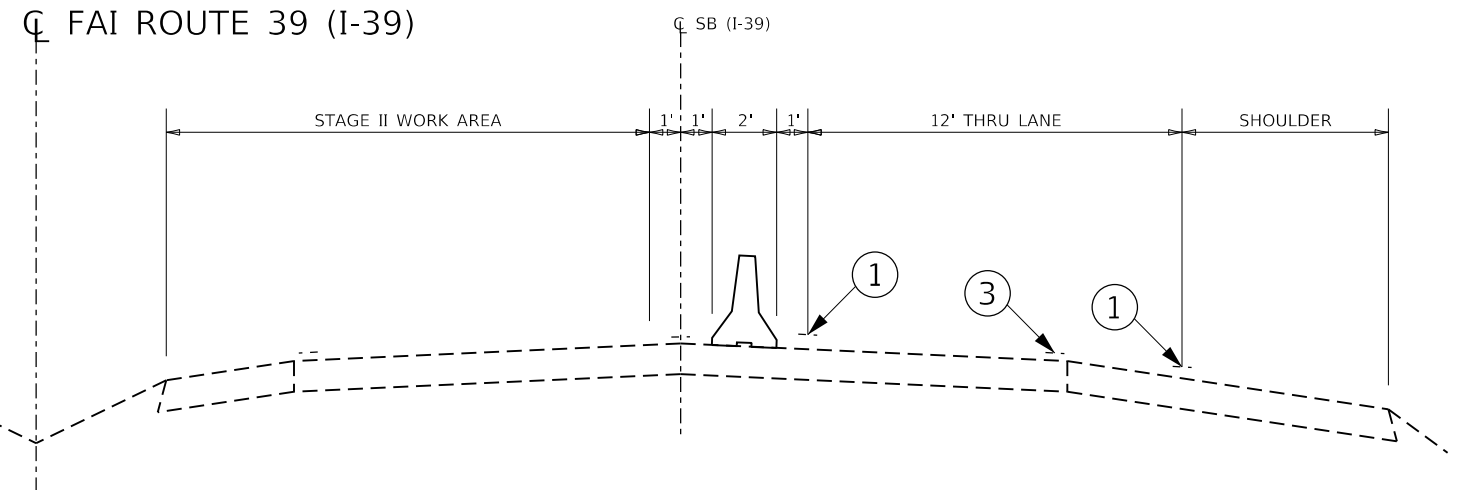
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	5
CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				

# STAGING TYPICALS

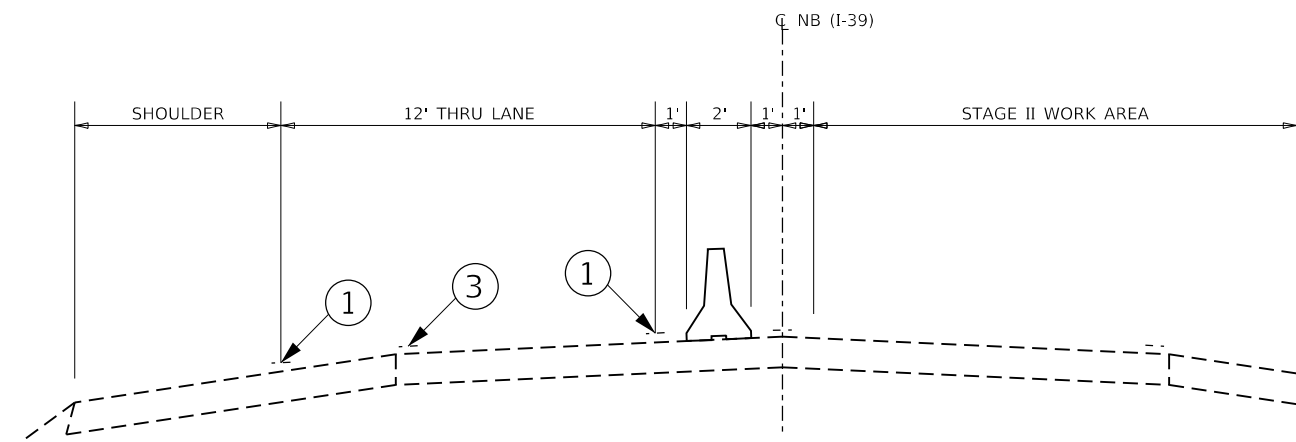
## STAGE I



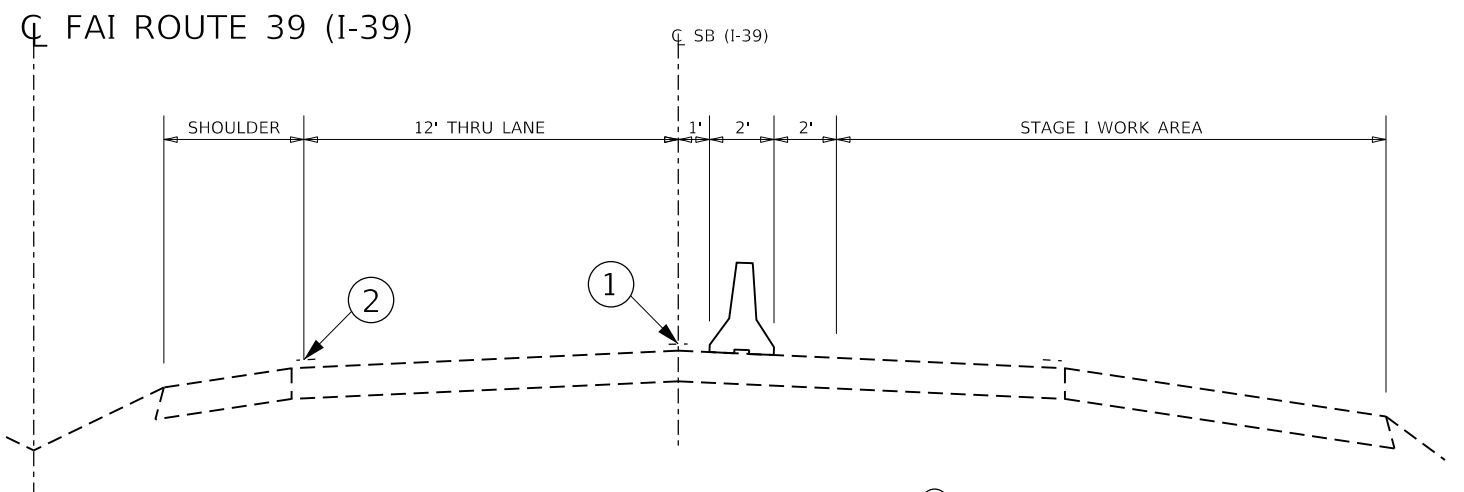
## STAGE II



## STAGE II



## STAGE I



- ① TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONG-SIDE THE WORK AREA. THE RIGHT EDGE LINE SHALL BE WHITE AND THE LEFT EDGE LINE SHALL BE YELLOW.
- ② EXISTING PAVEMENT MARKING LINE
- ③ BLACKOUT TAPE TO COVER CONFLICTING EXISTING PAVEMENT MARKING LINES

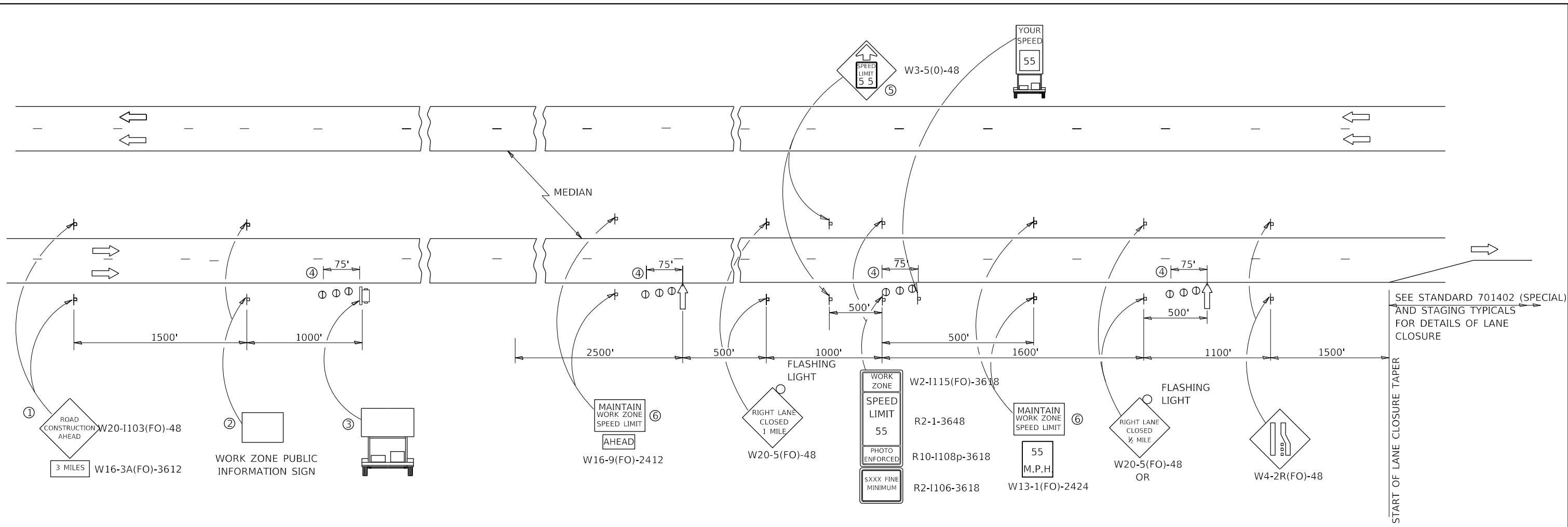
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGING TYPICALS

SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	6
ILLINOIS FED. AID PROJECT			CONTRACT NO. 64N99	



ROAD CONSTRUCTION AHEAD SIGNS SHALL BE PLACED ON THE RAMP FROM IL 72 TO I-39 SB

- ① THE ROAD CONSTRUCTION AHEAD SIGN SHALL BE LOCATED 3 MILES IN ADVANCE OF THE PROJECT LIMITS.
- ② THE MESSAGE AND SIZE OF THE WORK ZONE PUBLIC INFORMATION SIGN SHALL BE AS SPECIFIED BY THE DEPARTMENT.
- ③ TO BE PLACED IN THE MEDIAN WHEN FEASIBLE. THE MESSAGE BOARD SHALL BE USED TO DISPLAY STATUS OF LANES WITHIN THE PROJECT. THE PRIMARY MESSAGES SHALL BE:  
 "RIGHT LANE CLOSED" / " x MILES AHEAD"  
 "LEFT LANE CLOSED" / " x MILES AHEAD"  
 "ALL LANES OPEN"
- ④ THREE, TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 25' CENTERS.
- ⑤ THIS SIGN SHALL ONLY BE USED IF THE EXISTING SPEED LIMIT IS GREATER THAN 65 MPH.
- ⑥ 48"x36" FLUORESCENT ORANGE SIGN WITH BLACK LETTERS.

48"  
 MAINTAIN 8"  
 36" WORK ZONE 6"  
 SPEED LIMIT 6"

- ↑ ARROW BOARD
- ☐ PORTABLE CHANGEABLE MESSAGE SIGN
- ⊢ SIGN
- ⊙ TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH MONODIRECTIONAL FLASHING LIGHT
- 🚛 TRAILER MOUNTED SPEED DISPLAY SIGN

**GENERAL NOTE:**

THIS STANDARD IS USED WHERE AT ANY TIME A LANE IS CLOSED ON A FREEWAY/EXPRESSWAY.

WHEN THE LEFT LANE IS CLOSED, LEFT LANE CLOSED SIGNS SHALL BE SUBSTITUTED FOR THE RIGHT LANE CLOSED SIGNS.

THE FIRST TWO SIGNS AND THE MESSAGE BOARD ARE STATIONARY. THE OTHER SIGNS AND ARROWBOARDS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED DISTANCE FROM THE START OF THE LANE CLOSURE TAPER(S).

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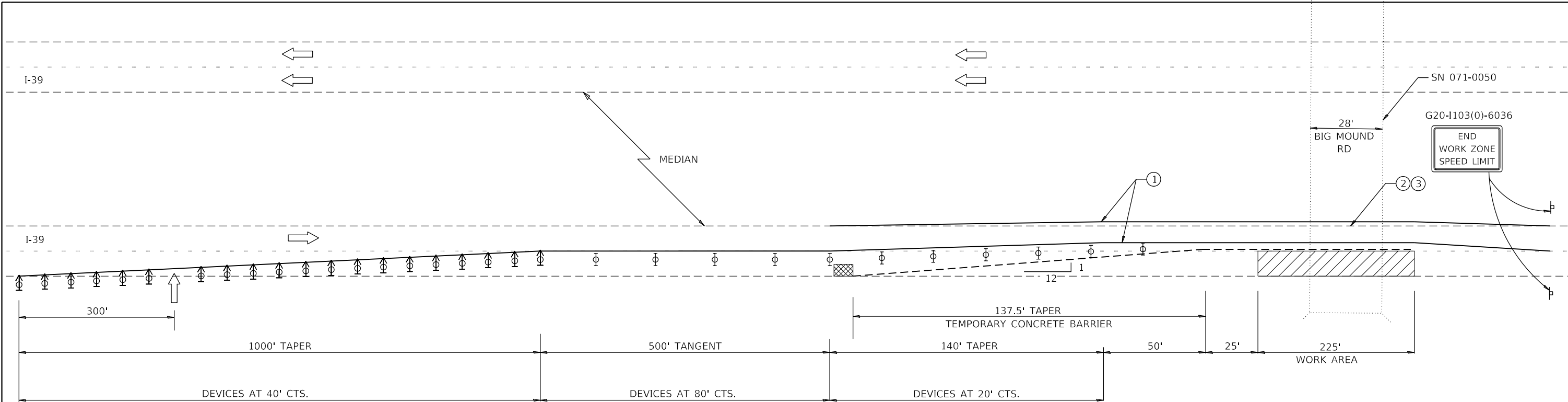
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL & PROTECTION, STANDARD 701400 (SPECIAL)  
 FOR SN 071-0050 (BIG MOUND RD OVER I-39)

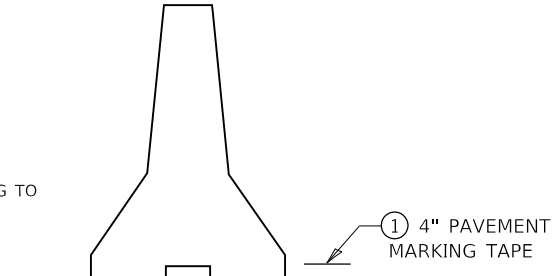
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CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				

SCALE: \_\_\_\_\_ SHEET \_\_\_\_ OF \_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_



SEE STANDARD 701400 (SPECIAL) FOR APPROACH START OF LANE CLOSURE TAPER

\*NO EQUIPMENT OR MATERIALS SHALL ENCR OACH WITHIN A DISTANCE OF 2'-0" AS MEASURED FROM THE BASE OF THE TEMPORARY CONCRETE BARRIER TO THE CL OF ROADWAY



**TEMPORARY CONCRETE BARRIER**

**SYMBOLS**

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TRAFFIC CONTROL DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

- ① TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONG-SIDE THE WORK AREA. THE RIGHT EDGE LINE SHALL BE WHITE AND THE LEFT EDGE LINE SHALL BE YELLOW.
- ② EXISTING PAVEMENT MARKING LINE
- ③ BLACKOUT TAPE TO COVER CONFLICTING EXISTING PAVEMENT MARKING LINES

**PAVEMENT MARKINGS**

ALL TEMPORARY PAVEMENT MARKING SHALL BE, PAVEMENT MARKING TAPE, TYPE IV 4" AND THE MATERIALS SHALL BE ACCORDING TO ARTICLE 1095.06 OF THE STANDARD AND SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE ALL TEMPORARY PAVEMENT MARKING TAPE. THIS WORK SHALL NOT BE PAID SEPERATELY AND SHALL BE INCLUDED IN THE COST OF THE "TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)".

ALL CONFLICTING PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PROTECTED PRIOR TO COVERING WITH PAVEMENT MARKING BLACKOUT TAPE, 4". PAVEMENT MARKING BLACKOUT TAPE, 4" SHALL EXTEND A MINIMUM OF 2 INCHES BEYOND THE EXISTING MARKINGS OR REFLECTORS IN ALL DIRECTIONS. THIS WORK SHALL INCLUDE PROTECTING EXISTING PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS, INSTALLING, MAINTAINING AND REMOVING BLACKOUT TAPE. THIS WORK SHALL NOT BE PAID SEPERATELY AND SHALL BE INCLUDED IN THE COST OF THE "TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)".

**GENERAL NOTES**

THIS STANDARD IS USED WHERE AT ANY TIME ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES WILL ENCR OACH ON THE PAVEMENT OR ON THE SHOULDER WITHIN 24 (600) OF THE EDGE OF PAVEMENT FOR DAYLIGHT OPERATION EXCEEDING ONE DAY AND WHERE TEMPORARY CONCRETE BARRIER IS UTILIZED.

THIS STANDARD MUST ALWAYS BE USED IN COMBINATION WITH STANDARD 701400.

TEMPORARY CONCRETE BARRIER SHALL BE ACCORDING TO STANDARD 704001.

MODEL: Default  
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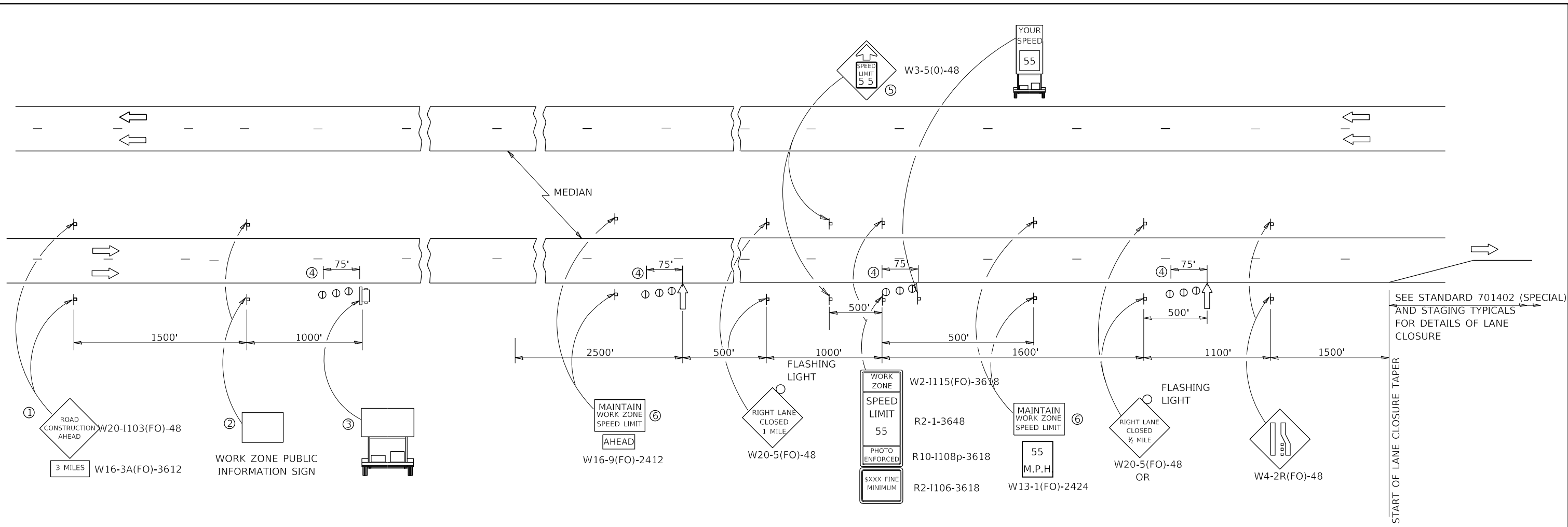
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL & PROTECTION, STANDARD 701402 (SPECIAL)  
FOR SN 071-0050 (BIG MOUND RD OVER I-39)**

SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

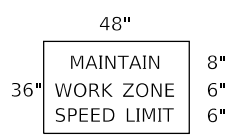
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	8
CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				





ROAD CONSTRUCTION AHEAD SIGNS SHALL BE PLACED ON THE RAMP FROM IL 64 TO I-39 SB

- ① THE ROAD CONSTRUCTION AHEAD SIGN SHALL BE LOCATED 3 MILES IN ADVANCE OF THE PROJECT LIMITS.
- ② THE MESSAGE AND SIZE OF THE WORK ZONE PUBLIC INFORMATION SIGN SHALL BE AS SPECIFIED BY THE DEPARTMENT.
- ③ TO BE PLACED IN THE MEDIAN WHEN FEASIBLE. THE MESSAGE BOARD SHALL BE USED TO DISPLAY STATUS OF LANES WITHIN THE PROJECT. THE PRIMARY MESSAGES SHALL BE:  
 "RIGHT LANE CLOSED" / " x MILES AHEAD"  
 "LEFT LANE CLOSED" / " x MILES AHEAD"  
 "ALL LANES OPEN"
- ④ THREE, TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 25' CENTERS.
- ⑤ THIS SIGN SHALL ONLY BE USED IF THE EXISTING SPEED LIMIT IS GREATER THAN 65 MPH.
- ⑥ 48"x36" FLUORESCENT ORANGE SIGN WITH BLACK LETTERS.



- ↑ ARROW BOARD
- ☐ PORTABLE CHANGEABLE MESSAGE SIGN
- ⊢ SIGN
- ⊙ TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH MONODIRECTIONAL FLASHING LIGHT
- 🚛 TRAILER MOUNTED SPEED DISPLAY SIGN

**GENERAL NOTE:**

THIS STANDARD IS USED WHERE AT ANY TIME A LANE IS CLOSED ON A FREEWAY/EXPRESSWAY.

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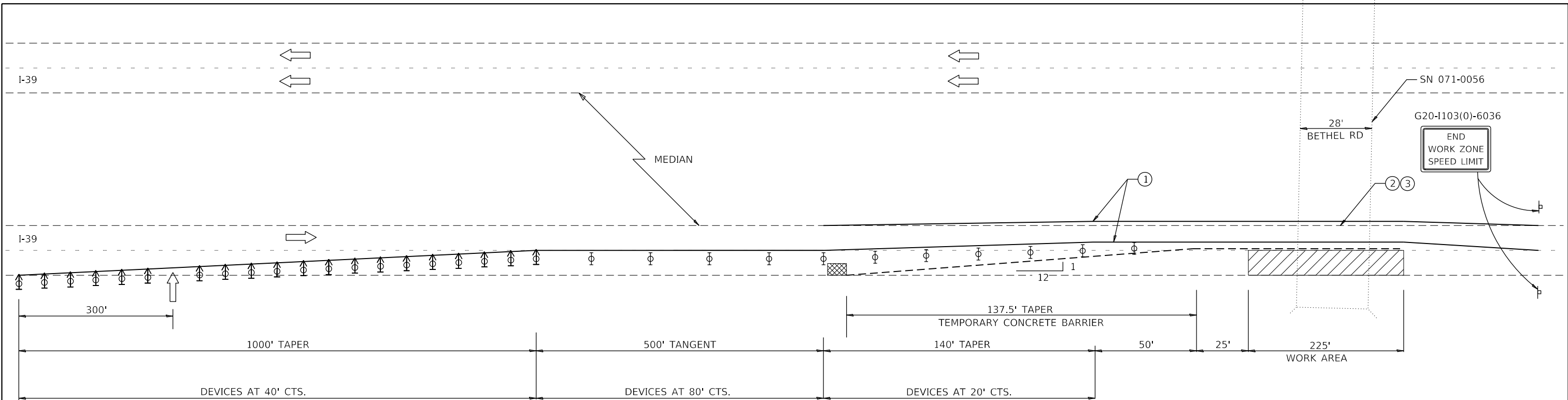
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL & PROTECTION, STANDARD 701400 (SPECIAL)  
FOR SN 071-0056 (BETHEL RD OVER I-39)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BP 2020-1	OGLE	18	9
CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				

SCALE: \_\_\_\_\_ SHEET \_\_\_\_ OF \_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_



**PAVEMENT MARKINGS**

ALL TEMPORARY PAVEMENT MARKING SHALL BE, PAVEMENT MARKING TAPE, TYPE IV 4" AND THE MATERIALS SHALL BE ACCORDING TO ARTICLE 1095.06 OF THE STANDARD AND SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE ALL TEMPORARY PAVEMENT MARKING TAPE. THIS WORK SHALL NOT BE PAID SEPERATELY AND SHALL BE INCLUDED IN THE COST OF THE "TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)".

ALL CONFLICTING PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PROTECTED PRIOR TO COVERING WITH PAVEMENT MARKING BLACKOUT TAPE, 4". PAVEMENT MARKING BLACKOUT TAPE, 4" SHALL EXTEND A MINIMUM OF 2 INCHES BEYOND THE EXISTING MARKINGS OR REFLECTORS IN ALL DIRECTIONS. THIS WORK SHALL INCLUDE PROTECTING EXISTING PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS, INSTALLING, MAINTAINING AND REMOVING BLACKOUT TAPE. THIS WORK SHALL NOT BE PAID SEPERATELY AND SHALL BE INCLUDED IN THE COST OF THE "TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)".

\*NO EQUIPMENT OR MATERIALS SHALL ENCR OACH WITHIN A DISTANCE OF 2'-0" AS MEASURED FROM THE BASE OF THE TEMPORARY CONCRETE BARRIER TO THE CL OF ROADWAY

**GENERAL NOTES**

THIS STANDARD IS USED WHERE AT ANY TIME ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES WILL ENCR OACH ON THE PAVEMENT OR ON THE SHOULDER WITHIN 24 (600) OF THE EDGE OF PAVEMENT FOR DAYLIGHT OPERATION EXCEEDING ONE DAY AND WHERE TEMPORARY CONCRETE BARRIER IS UTILIZED.

THIS STANDARD MUST ALWAYS BE USED IN COMBINATION WITH STANDARD 701400.

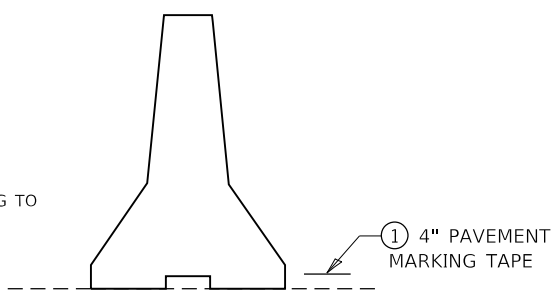
TEMPORARY CONCRETE BARRIER SHALL BE ACCORDING TO STANDARD 704001.

**SYMBOLS**

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TRAFFIC CONTROL DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

- ① TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONG-SIDE THE WORK AREA. THE RIGHT EDGE LINE SHALL BE WHITE AND THE LEFT EDGE LINE SHALL BE YELLOW.
- ② EXISTING PAVEMENT MARKING LINE
- ③ BLACKOUT TAPE TO COVER CONFLICTING EXISTING PAVEMENT MARKING LINES

**TEMPORARY CONCRETE BARRIER**



ANCHORED ACCORDING TO ARTICLE 704.04

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL & PROTECTION, STANDARD 701402 (SPECIAL)  
FOR SN 071-0056 (BETHEL RD OVER I-39)**

SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

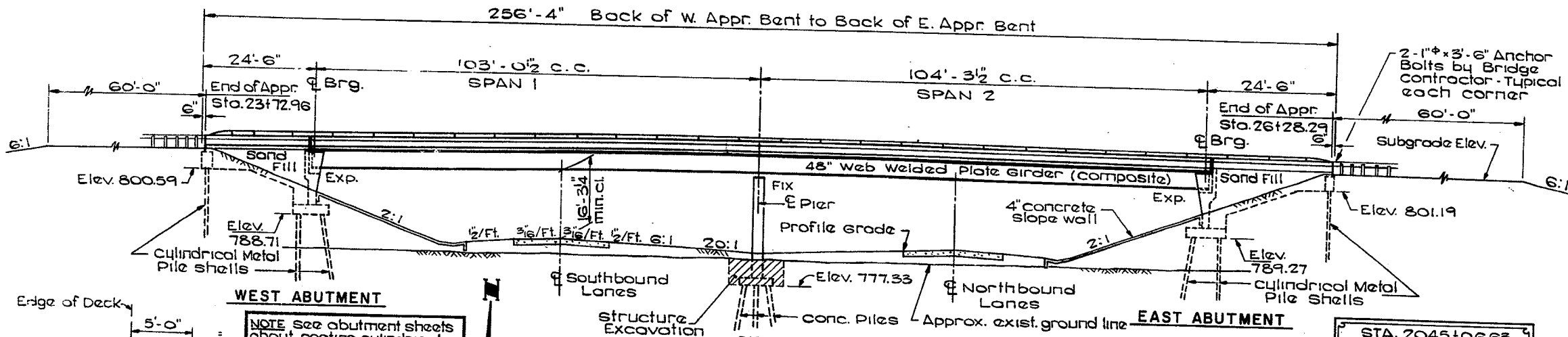
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39	D2 BP 2020-1	OGLE	18	10
CONTRACT NO. 64N99				
ILLINOIS FED. AID PROJECT				

071-0050

**BENCH MARK:**  
 P.K. & washer in root of 32" tree  
 North side of Big Mound Rd. 183.5' Rt.  
 Sta. 2045+35 (FA. 412) Elev. 784.82

FED. ROAD DIST. NO. 7	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA. 412	141-2HB-5	OGLE	288	180

Deck slab reinforcement bars shall conform to AASHTO M31 or M53 Grade 60.



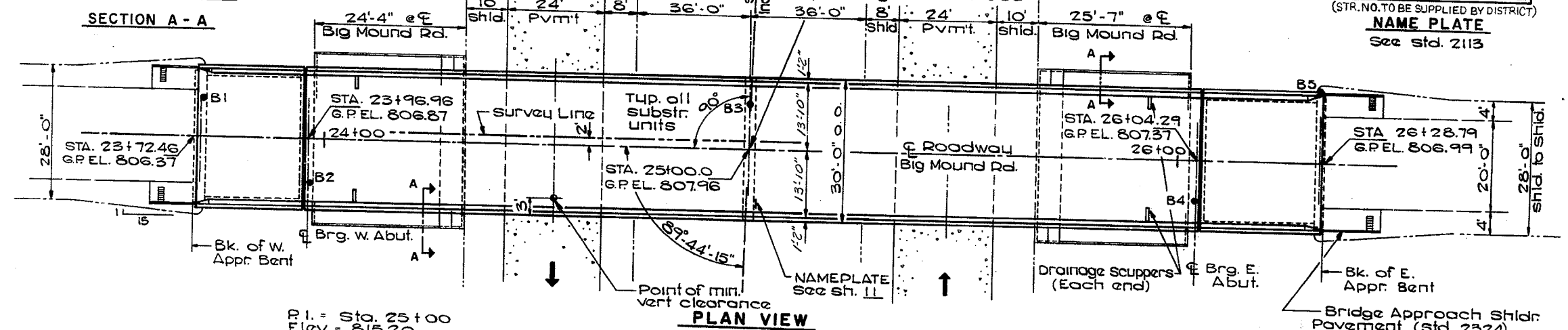
**GENERAL NOTES:**

- All reinforcement bars shall be lapped 24 dia. unless otherwise shown.
- Fasteners shall be high strength bolts. Bolts 7/8"; open holes 1 1/8". Unless otherwise noted.
- \* Calculated weight of Structural Steel = 216,600 lbs.
- The basic lead silico chromate paint system shall be used for shop and field painting of structural steel.
- Field welding of construction accessories will not be permitted to the bottom flange of the girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
- Anchor bolts shall be set before bolting diaphragms over supports.
- Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, #4 x #4 wire-weighting 55 lbs. per 100 sq. ft.
- The Contractor shall drive one concrete test pile in a permanent location at the pier and each abutment as directed by the Engineer before ordering the remainder of piles.
- The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abuts.
- The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of class X concrete, except the aggregate shall conform to the requirements of Normal Concrete.
- Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. The adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
- The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, as designated on the girder Elevation along with the webs and splice plates of the steel girders.
- For boring data see Special Provisions.

**NOTE** See abutment sheets about coating cylindrical Metal Pile Shells at each abutment and approach bents. 4 mm. thickness min.

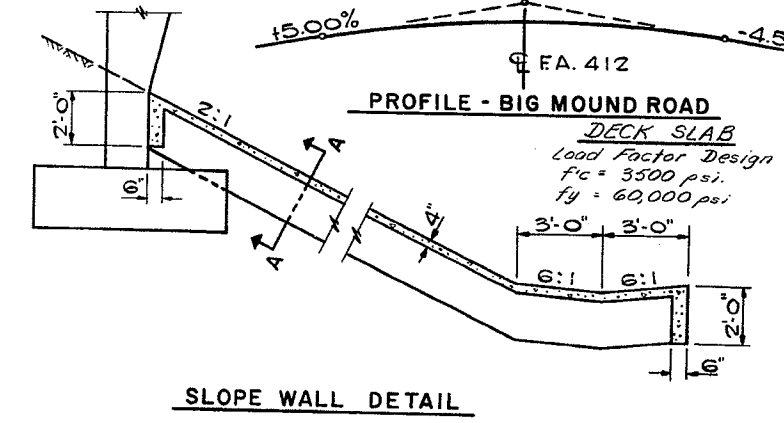
**NOTE:** Proposed centerline of Big Mound Road is 2.0' South of survey line.

STA. 2045+06.63  
 BUILT 197 BY  
 STATE OF ILLINOIS -  
 FA RT 412 SEC. 141-2HB-5  
 F.A. PROJECT FFD-412-5(10)  
 LOADING HS 20  
 STR. NO.  
 (STR. NO. TO BE SUPPLIED BY DISTRICT)



P.I. = Sta. 25+00  
 Elev. = 815.20  
 V.C. = 610' X = 7.24'

P.I. Sta. 2054+69  
 Elev. 783.01  
 V.C. 1400'



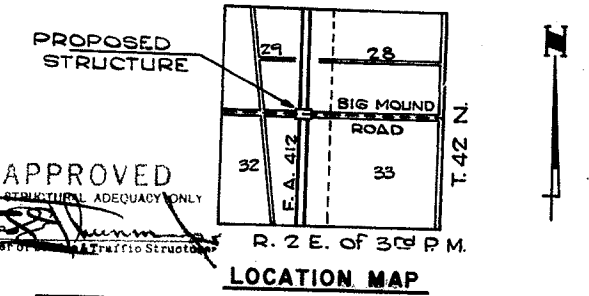
**DESIGN LOADING**  
 HS 20-44 Allowance for 25 p.s.f. future wearing surface

**DESIGN STRESSES**  
 fc = 1400 psi Except as follows  
 fc = 1000 psi conc. in contact with earth  
 fs = 20,000 psi AASHTO M 183 Struct steel  
 fs = 20,000 psi Reinforcement  
 V = 75 psi allowable shear in footings  
 V = 90 psi allowable shear in pier cap  
 n = 10

Structure designed in accordance with AASHTO specifications dated 1973.  
 Allowable Live Load Deflection L/1200 (Composite)

**BILL OF MATERIAL BRIDGE**

Item	Unit	Sub.	Super.	Total
Structure Excavation	Cu.Yds.	57		57
Bituminous conc. Surf. course, Mixture D, Cl. I	Tons		62	62
Protective Coat	Sq.Yds.		191	191
Class X Concrete	Cu.Yds.	189.9	280.2	470.1
Structural Steel	L.SUM		.12	.12
Aluminum Railing	Lin. Ft.		506	506
Concrete Piles	Lin. Ft.	574		574
Test Piles - concrete	Ea.	1		1
Metal Pile Shells	Lin. Ft.	1219		1219
Test Piles - Metal Shells	Ea.	2		2
Reinforcement Bars	Lbs.	27940	64840	92780
Preformed Joint Sealer 4"	Lin. Ft.		60	60
Name Plates	Ea.	1		1
Slope Wall 4"	Sq.Yds.	292		292
Stud Shear Connectors	Ea.		1324	1324
Sand Backfill	Cu.Yds.	187		187
Drainage Scuppers	Ea.		4	4
Waterproofing Membrane System	Sq.Yds.		750	750



APPROVED FOR STRUCTURAL ADEQUACY ONLY

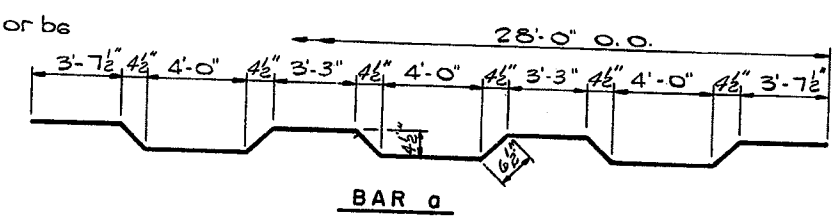
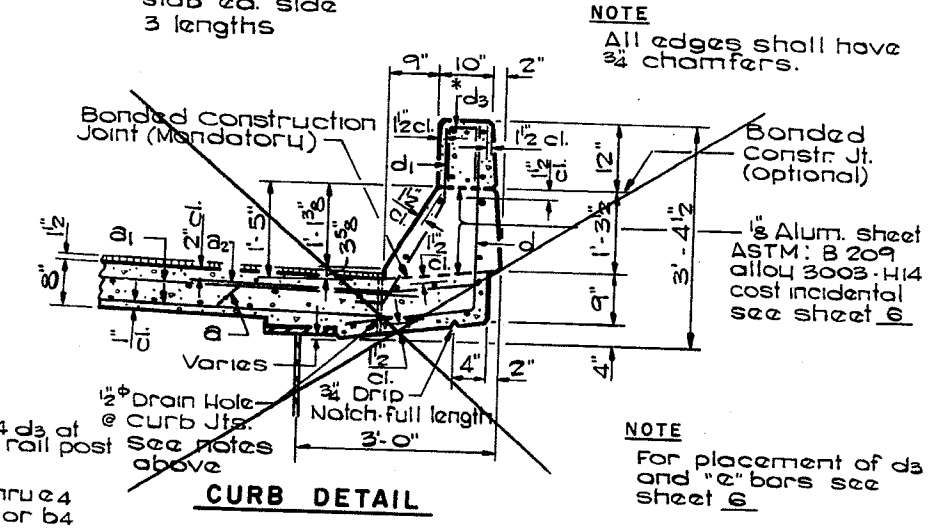
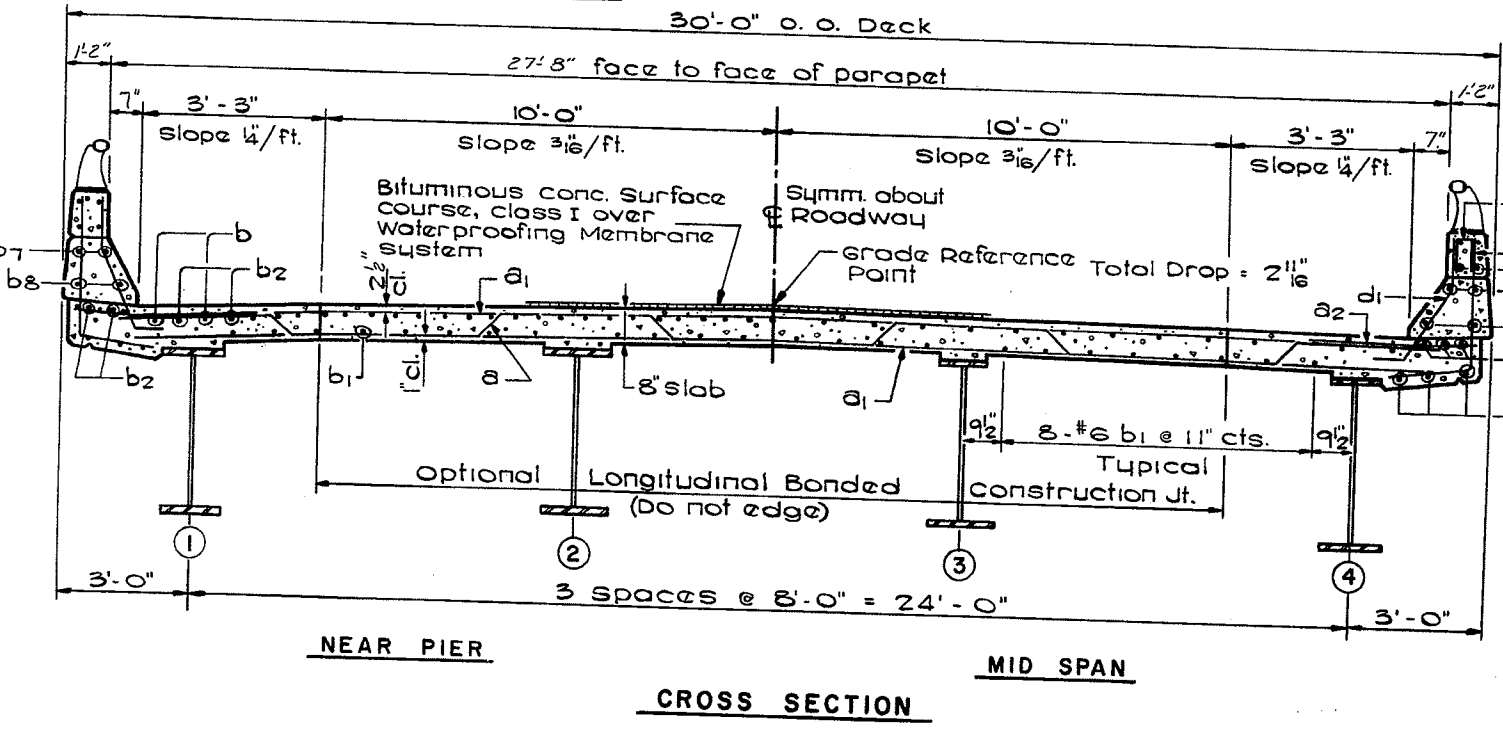
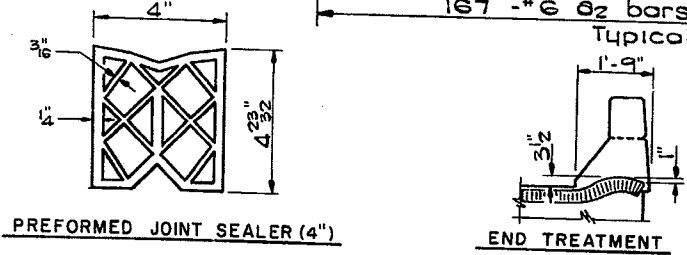
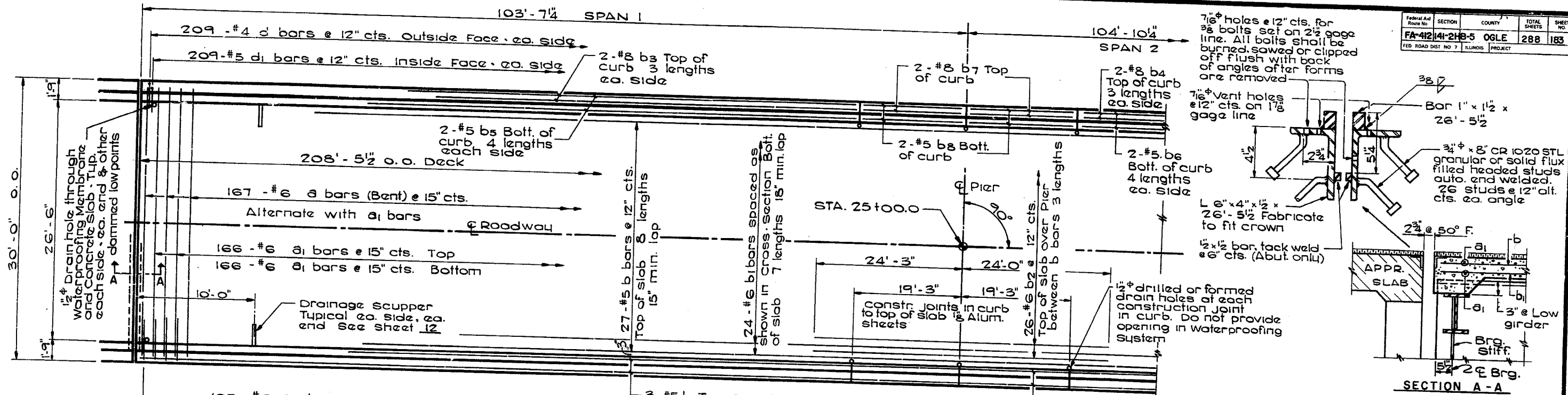
**GENERAL PLAN & ELEVATION**  
 FA RTE. 412 SECTION 141-2HB-5  
 BIG MOUND ROAD  
 OVER FA RTE 412  
 OGLE COUNTY  
 STATION 2045+06.63

DESIGNED BY  
 B. THOMPSON  
 DATE: JULY 1975  
 CHECKED BY  
 D.E. HUFFMAN  
 DATE: SEPT. 1975

PREPARED BY  
**MISSMAN, STANLEY & ASSOCIATES**  
 CONSULTING ENGINEERS  
 ROCK ISLAND, ILLINOIS



Federal Aid Route No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412-141-2HB-5	06LE	OGLE	288	183
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



**BILL OF MATERIAL**

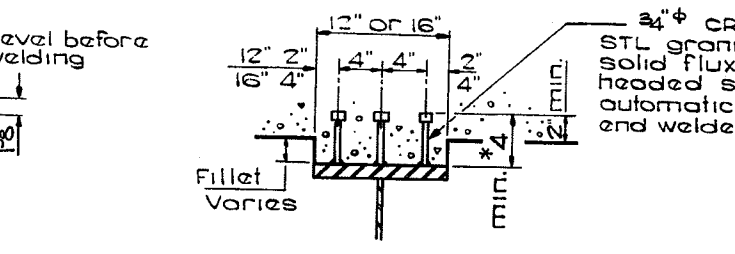
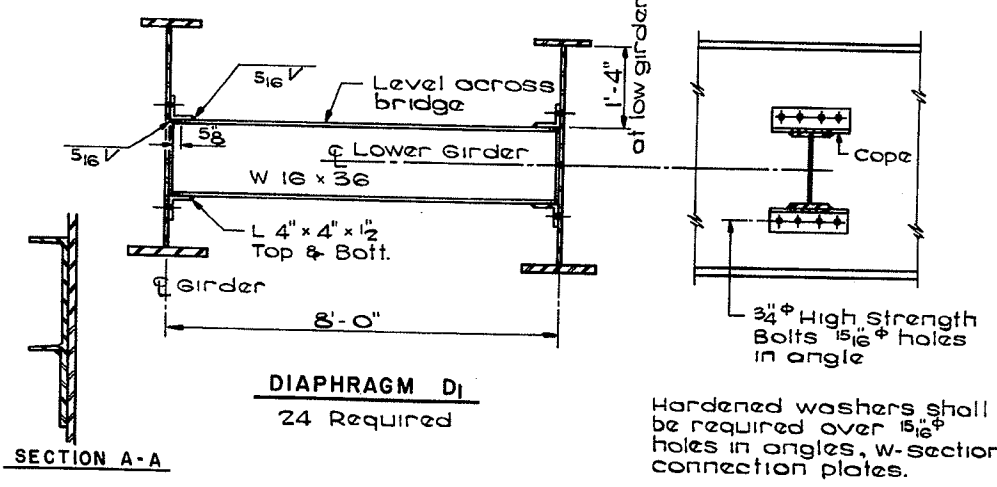
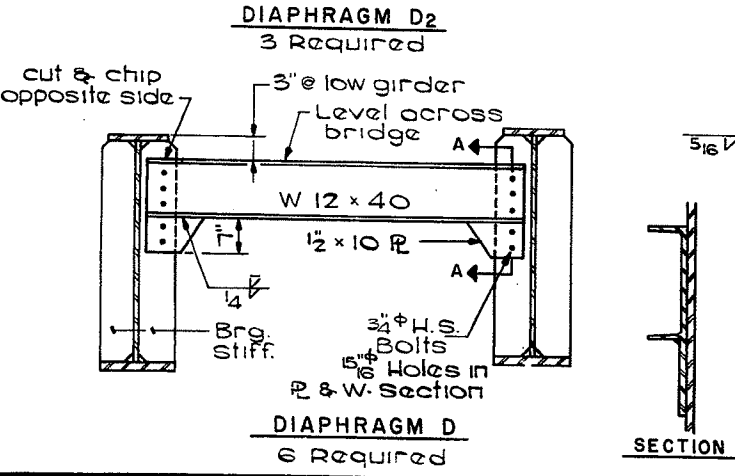
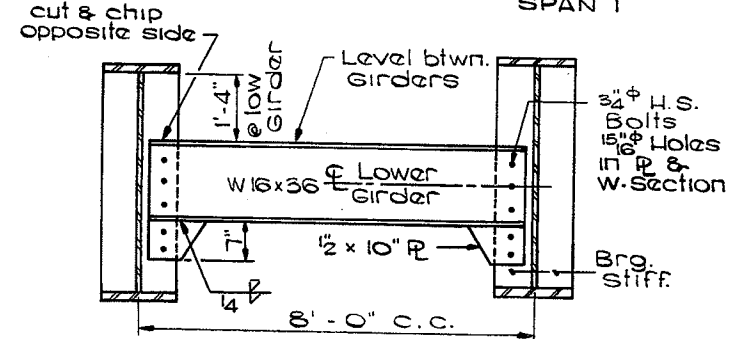
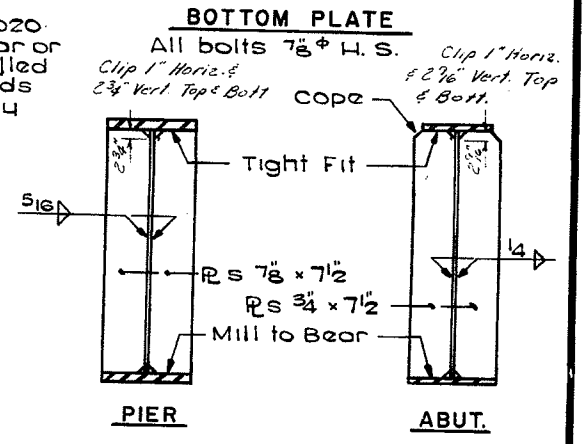
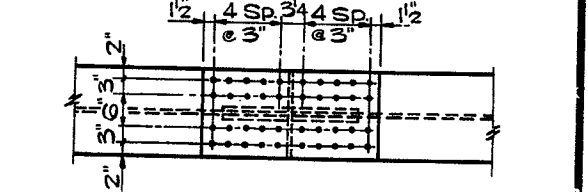
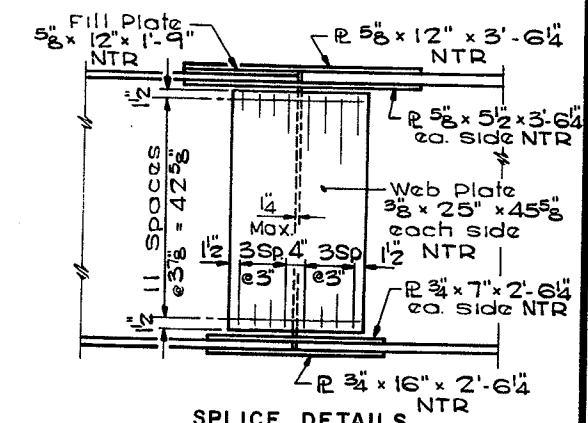
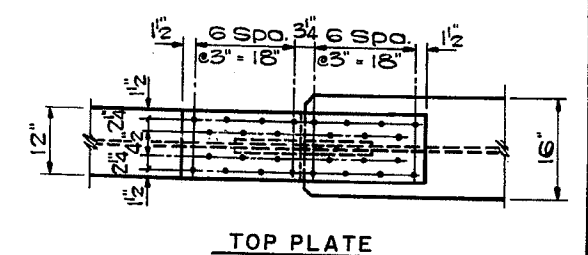
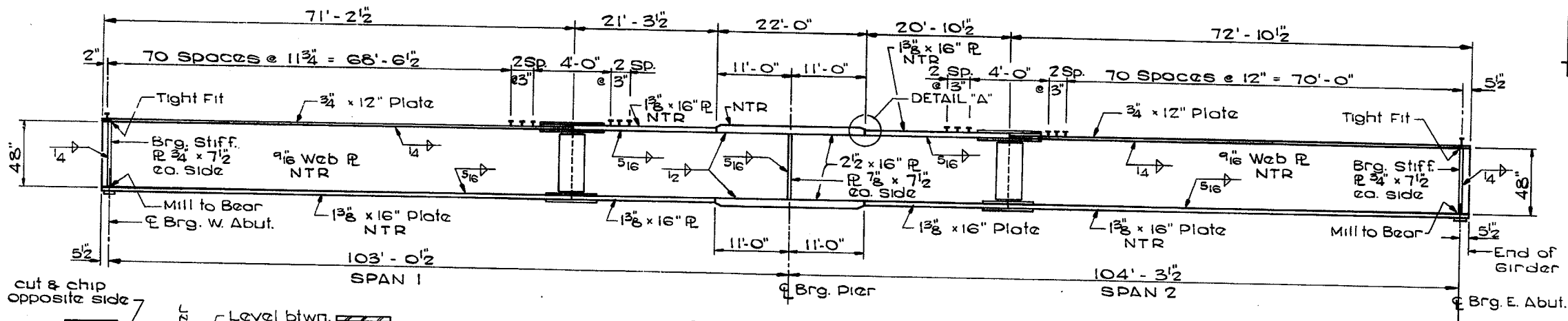
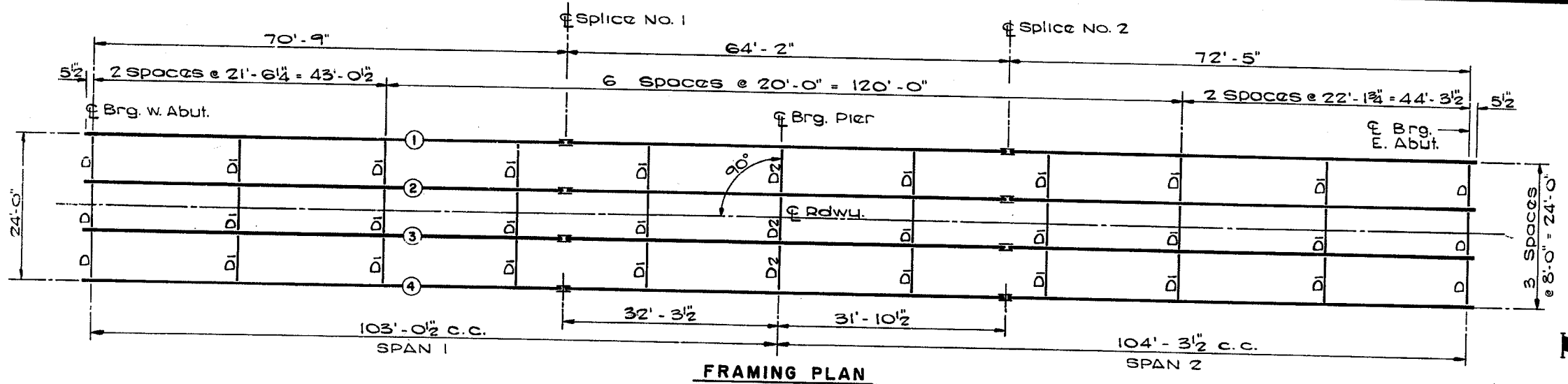
BAR NO.	SIZE	LENGTH	SHAPE
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a1	#6	28'-0"	~
a2	#6	4'-0"	~
b	#5	27'-3"	~
b1	#6	31'-3"	~
b2	#6	17'-1"	~
b3	#8	29'-6"	~
b4	#8	29'-10"	~
b5	#5	22'-0"	~
b6	#5	22'-4"	~
b7	#8	19'-0"	~
b8	#5	19'-0"	~
d	#4	4'-7"	~
d1	#5	3'-7"	~

Class X Concrete cu. Yds. 194.7  
Reinforcement Bars Lbs. 48350

**SUPERSTRUCTURE DETAILS**  
FA RTE. 412 SECTION 141-2HB-5  
BIG MOUND ROAD  
OVER FA RTE. 412  
OGLE COUNTY  
STATION 2045+06.63

\* Parapet reinforcement and class X concrete are billed on sheet 6

Federal Aid Route No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412 141-2HB-5	OGLE		288	183
FED. ROAD DIST. NO. 7	ELMOS	PROJECT		



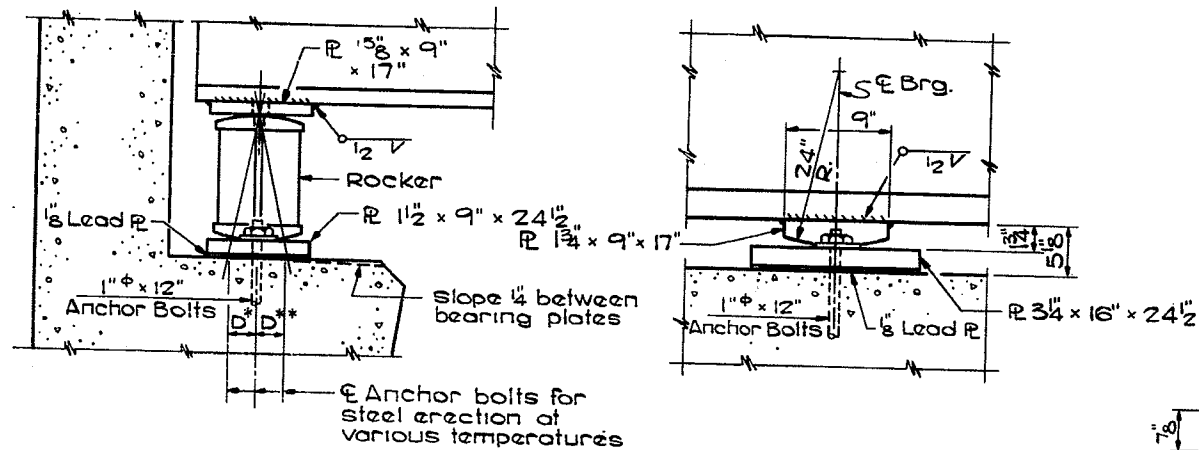
**TOP OF WEB ELEVATIONS (For Fabricators Use Only)**

Location	Bm. 1	Bm. 2	Bm. 3	Bm. 4
☉ Brg. W. Abut.	805.634	805.770	805.770	805.634
☉ Splice 1	806.634	806.770	806.770	806.634
☉ Pier	806.703	806.839	806.839	806.703
☉ Splice 2	806.771	806.907	806.907	806.771
☉ Brg. E. Abut.	806.132	806.268	806.268	806.132

Hardened washers shall be required over 1 5/8" holes in angles, w-sections & connection plates.

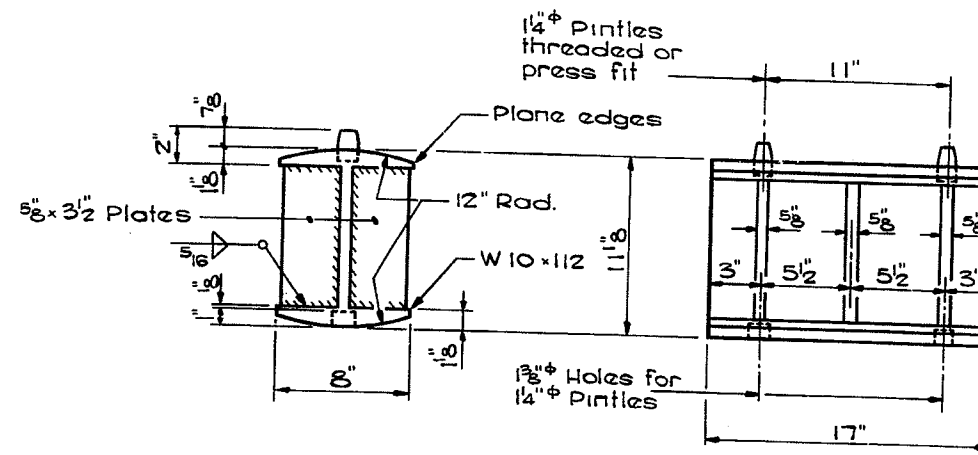
**GIRDER DETAILS**  
FA RTE. 412 SECTION 141-2HB-5  
BIG MOUND ROAD  
OVER FA RTE. 412  
OGLE COUNTY  
STATION 2045+06.63

Federal Aid Route No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	141-2HB-5	OGLE	238	187.
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

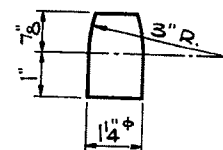


**ELEVATION**

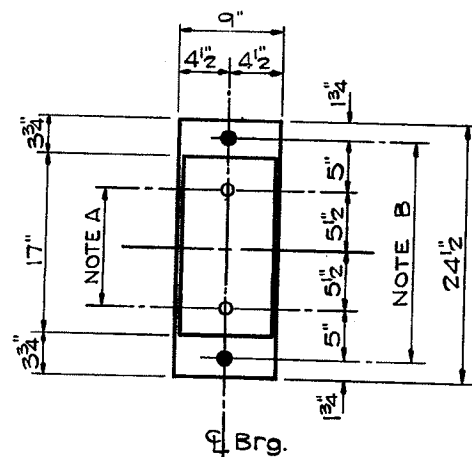
**ELEVATION**



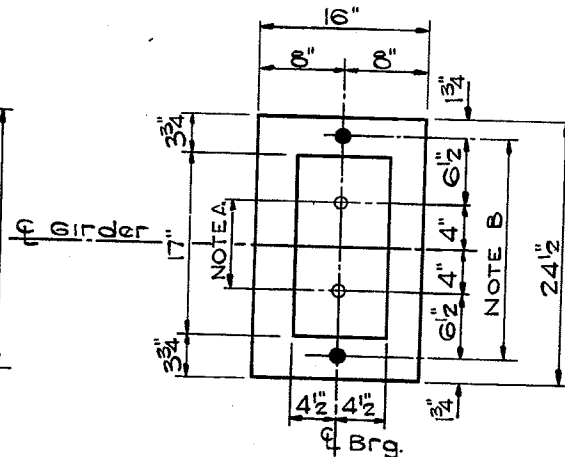
**ROCKER**



**PINDLE**



**PLAN - ABUTMENTS**



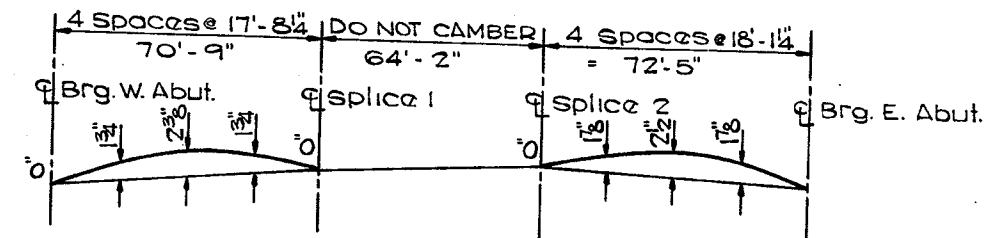
**PLAN - PIER**

**NOTE A**

1 3/8" Holes - 1" deep in top flange for 1/4" Pintles. Thread or press fit Pintles in bottom flange.

**NOTE B**

1 1/2" Holes for 1" Anchor Bolts - 2 1/2" x 2 1/2" x 5/16" R washers under nut.



**CAMBER DIAGRAM**

Includes allowance for Total Dead Load Deflection and Vertical curvature of the roadway

**NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS**

a) D\* (Side of brg. away from fixed brg.)  
D\* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.

D\*\* (Side of brg. toward fixed brg.)  
D\*\* = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.

b) After beams have been erected and dimensions D\* & D\*\* determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

	0.4 Sp. 1	Pier
Is (in.4)	22137	56189
Ic (in.4)	66764	
Ss (in.3)	1118.0	2120.3
Sc (in.3)	1642.8	
D (K/I)	1.077	1.077
M R (K)	690.8	-1787.1
fs R (ksi)	7.41	10.11
s R (K/I)	.556	.556
Ms R (K)	450.4	-688.0
M I (K)	960.7	-814.8
M Imp (K)	210.4	-178.5
Total s R + Imp (K)	1621.5	-1681.3
fs I + s R (ksi)	11.84	9.52
fs Total (ksi)	19.25	19.63
VR (K)	56.7	

	Abut.	Pier
R R (K)	60.1	217.1
R I (K)	46.5	78.0
Imp. (K)	10.2	17.1
R Total (K)	116.8	312.2

Is and Ss are the moment of inertia and section modulus of the steel section. Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs. VR is the maximum I + Impact range in span.

**BEARING DETAILS**  
FA RTE. 412 SECTION 141-2HB-5  
BIG MOUND ROAD  
OVER FA RTE. 412  
OGLE COUNTY  
STATION 2045+06.63

071-0056

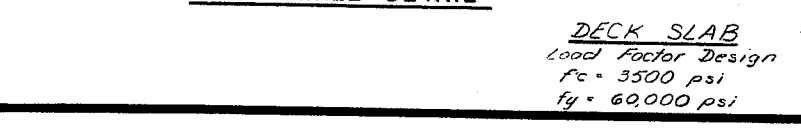
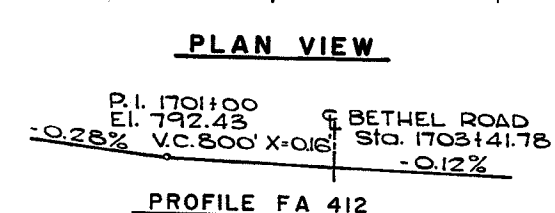
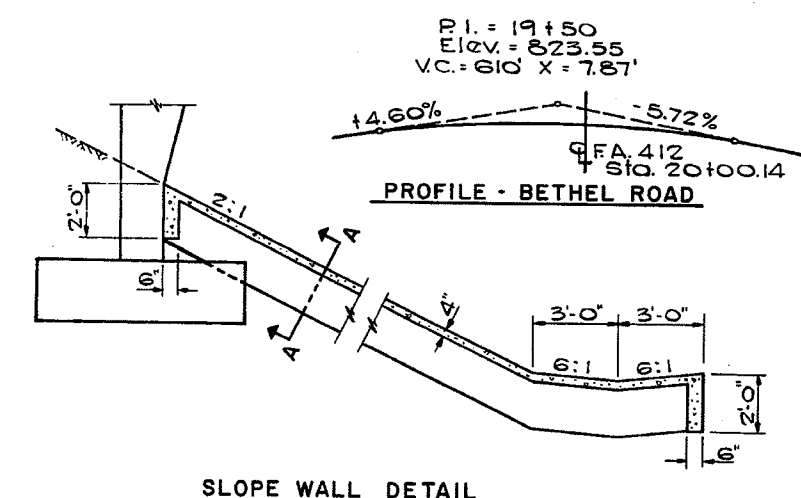
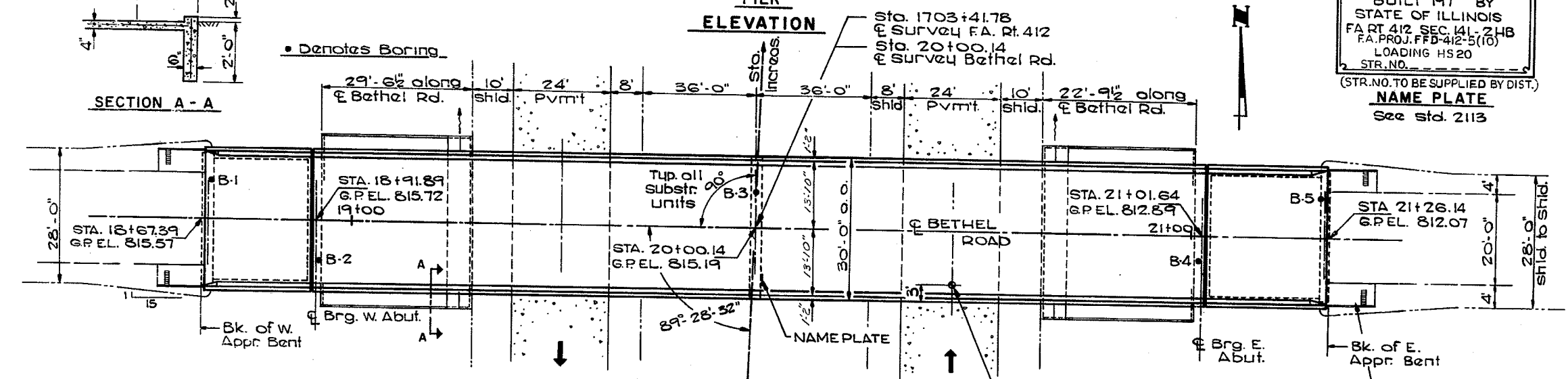
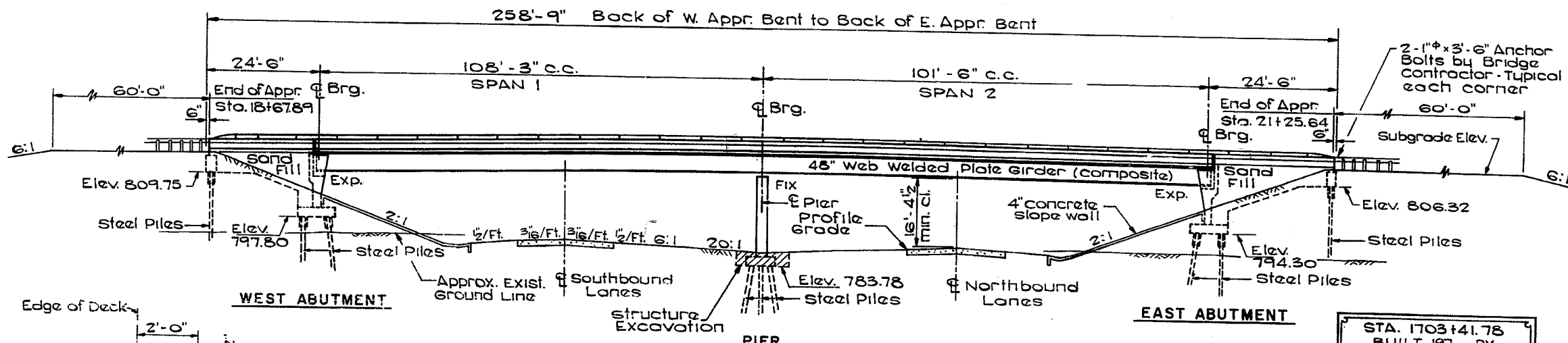
**BENCH MARK:**  
West 3" x 6" I Beam in N.W. Guard Rail  
for bridge on Bethel Road 12.4' Rt.  
Sta. 26+87 Elev. 792.02

Federal Aid Dist. No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	141-2HB	OGLE	288	113
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT				

Superstructure reinforcement bars shall conform to AASHTO M31 or M53 Grade 60.

**GENERAL NOTES:**

- All reinforcement bars shall be lapped 24 dia. unless otherwise shown.
- Fasteners shall be high strength bolts. Bolts 7/8"; open holes 1 1/16". Unless otherwise noted.
- \* Calculated weight of Structural Steel = 225,170 lbs.
- The basic lead silico chromate paint system shall be used for shop and field painting of structural steel.
- Field welding of construction accessories will not be permitted to the bottom flange of the girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
- Anchor bolts shall be set before bolting diaphragms over supports.
- Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, #4 x4 wire weighing 55 lbs. per 100 sq. ft.
- The contractor shall drive one steel test pile in a permanent location at the pier and each abutment as directed by the Engineer before ordering the remainder of piles.
- The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abuts.
- The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of class X concrete, except the aggregates shall conform to the requirements of Handrail Concrete
- Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
- The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the Flanges, as designated on the girder Elevation along with the webs and splice plates of the steel girders.
- For boring data, see Special Provisions



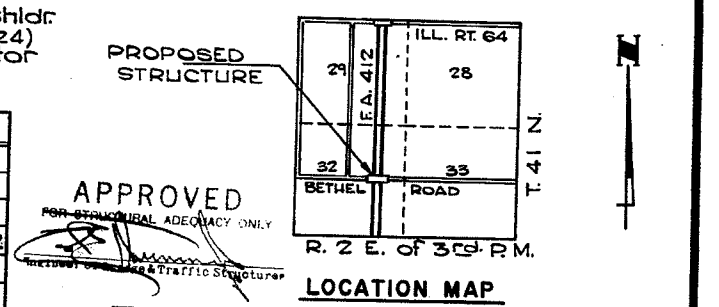
**DECK SLAB**  
Load Factor Design  
fc = 3500 psi  
fy = 60,000 psi

**DESIGN LOADING**  
HS 20-44 Allowance for 25 p.s.f. future wearing surface

**DESIGN STRESSES**  
fc = 1400 psi Except as follows  
fc = 1000 psi Conc. in contact with earth  
fs = 20,000 psi AASHTO M 183 struct steel  
fs = 20,000 psi Reinforcement  
v = 75 psi allowable shear in footings  
v = 90 psi allowable shear in pier cap  
n = 10  
Allowable Live Load Deflection L/1200 (Composite)  
Structure designed in accordance with AASHTO specifications dated 1973.

**BILL OF MATERIAL BRIDGE**

Item	Unit	Sub.	Super.	Total
Structure Excavation	Cu.Yds.	51		51
Bituminous conc. Surf. course, Mixture D, cl. I	Tons		63	63
Protective coat	Sq.Yds.		193	193
Class X Concrete	Cu.Yds.	192.1	284.1	476.2
Structural Steel	L. Sum		.13	.13
Aluminum Railing	Lin. Ft.		511	511
Steel Piles - HP 8 x 36	Lin. Ft.	1406		1406
Test Piles - Steel	Ea.	3		3
Reinforcement Bars	Lbs.	28,570	65,310	93,880
Waterproofing Membrane System	Sq.Yds.		758	758
Preformed Joint sealer 4"	Lin. Ft.		60	60
Name Plates	Ea.	1		1
Slope wall 4"	Sq.Yds.	262		262
Stud Shear connectors	Ea.		1860	1860
Sand Backfill	Cu.Yds.	190		190



**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

**GENERAL PLAN & ELEVATION**  
FA RTE. 412 SECTION 141-2HB  
BETHEL ROAD  
OVER FA RTE 412  
OGLE COUNTY  
STATION 1703+41.78

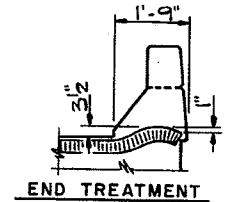
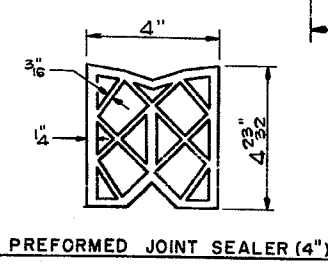
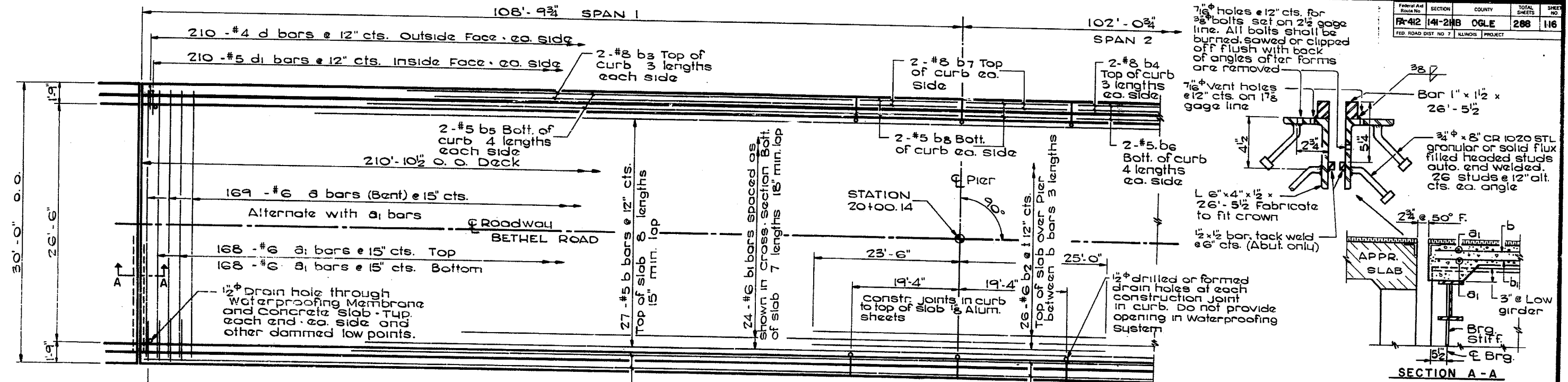
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DRAWN BY: THOMPSON DATE: JULY, 1975  
CHECKED BY: THOMPSON DATE: JULY, 1975  
APPROVED BY: THOMPSON DATE: JULY, 1975

REVISOR: THOMPSON DATE: JULY, 1975

PREPARED BY:  
**MISSMAN, STANLEY & ASSOCIATES**  
CONSULTING ENGINEERS  
ROCK ISLAND, ILLINOIS

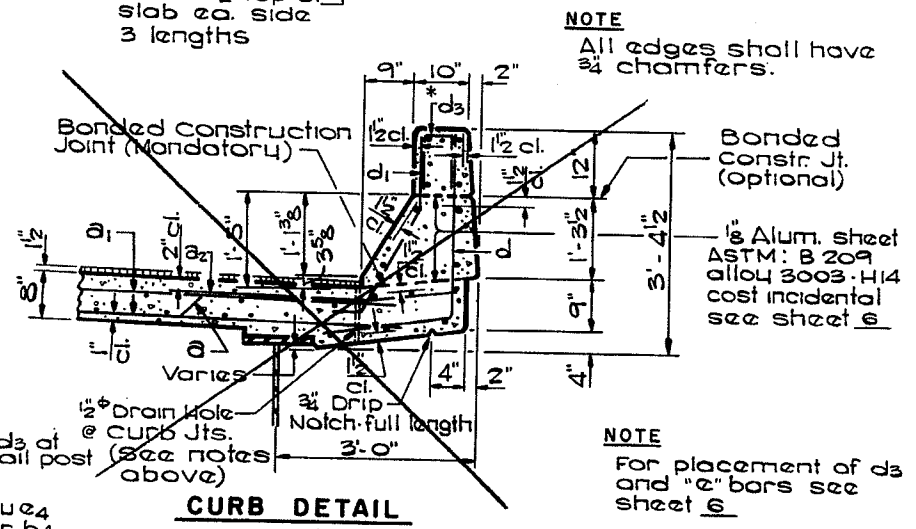
REVISIONS:  
DATE: MAY 3, 1976

Federal Aid Route No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	141-2HB	OGLE	288	116
FED. ROAD DIST. NO. 7	ALMOND	PROJECT		



HALF PLAN

Note: See Sheet 4A for Revised Curbs.

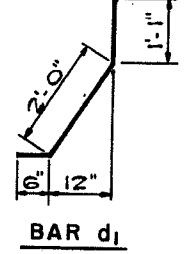
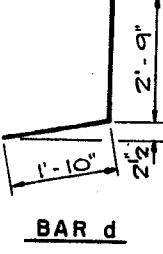
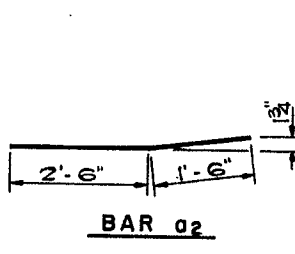
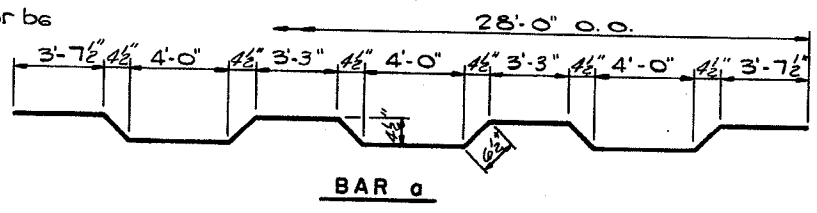
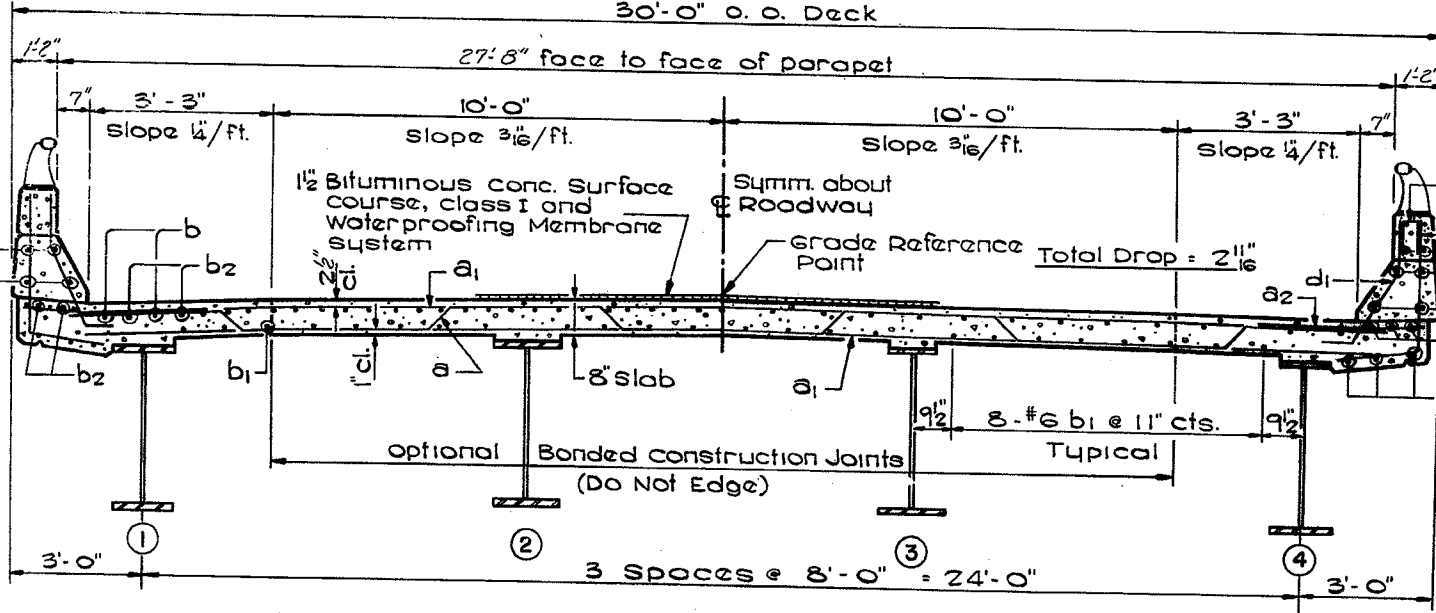


BILL OF MATERIAL

BAR NO.	SIZE	LENGTH	SHAPE
a	#6	29'-0"	W
a1	#6	28'-0"	—
a2	#6	4'-0"	—
b	#5	27'-5"	—
b1	#6	31'-5"	—
b2	#6	17'-2"	—
b3	#8	31'-1"	—
b4	#8	28'-9"	—
b5	#5	23'-3"	—
b6	#5	21'-7"	—
b7	#8	19'-0"	—
b8	#5	19'-0"	—
d	#4	4'-7"	J
d1	#5	3'-7"	J

Class X concrete cu. Yds. 198.3

Reinforcement Bars Lbs. 48780



DECK DETAILS

FA RTE. 412 SECTION 141-2HB

BETHEL ROAD

OVER FA RTE. 412

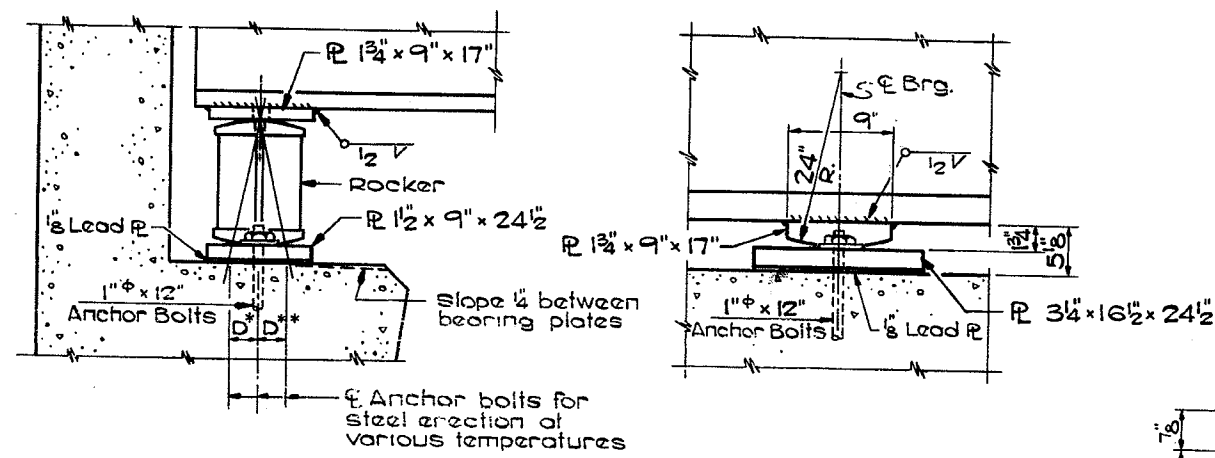
OGLE COUNTY

STATION 1703+41.78



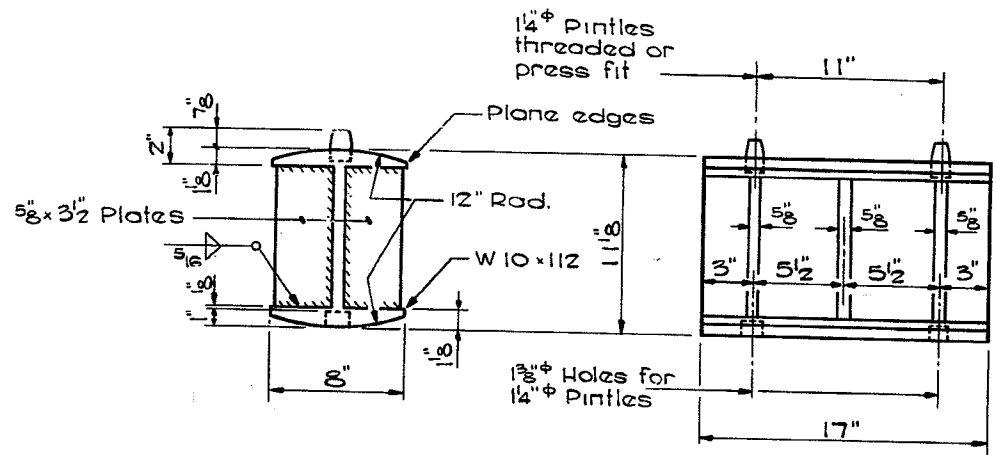


Federal Aid Route No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	141-2HB	OGLE	288	120
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

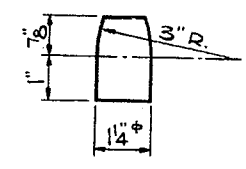


**ELEVATION**

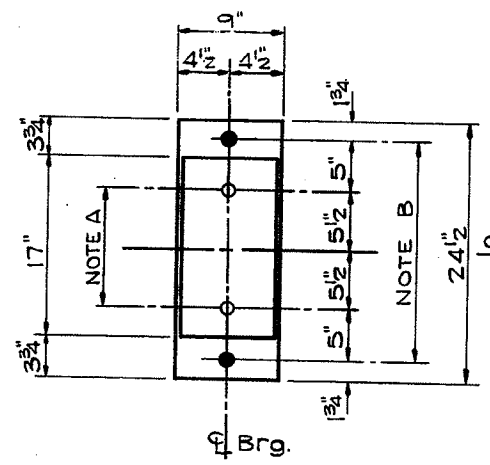
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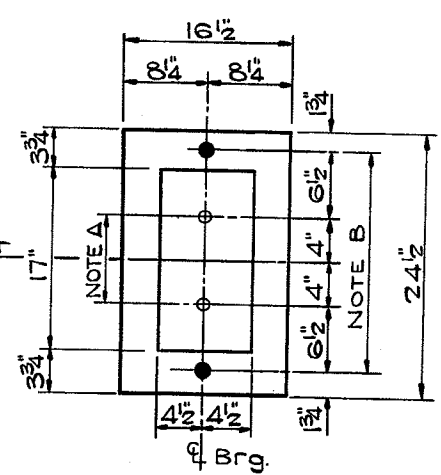
**ROCKER**



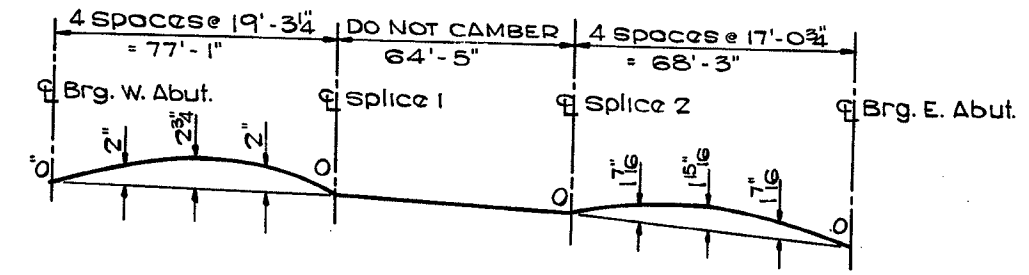
**PINTLE**



**PLAN - ABUTMENTS**



**PLAN - PIER**



**CAMBER DIAGRAM**

Includes allowance for Total Dead Load Deflection and Vertical Curvature of the roadway.

**NOTE A**  
 1 1/2" Holes - 1" deep in top P for 1 1/4" Pintles. Thread or press fit Pintles in bottom P.

**NOTE B**  
 1 1/2" Holes for 1" Anchor Bolts - 2 1/2 x 2 1/2 x 5/16 P washers under nut.

**NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS**

- a) D\* (Side of brg. away from fixed brg.)  
 D\* = 1/8 per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
- D\*\* (Side of brg. toward fixed brg.)  
 D\*\* = 1/8 per each 100' of expansion for every 15° rise above the normal temp. of 50° F.
- b) After beams have been erected and dimensions D\* & D\*\* determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

	0.4 Sp. 1	Pier
Is (in.4)	23616	56189
Ic (in.4)	69397	
Ss (in.3)	1258.8	2120.3
Sc (in.3)	1784.9	
Q (K/1)	1.077	1.077
M <sub>P</sub> (K)	789.5	1812.3
f <sub>s</sub> Q (ksi)	7.53	10.26
S Q (K/1)	.556	.556
M <sub>s</sub> Q (K)	507.3	686.2
M <sub>t</sub> (K)	1012.5	808.7
M <sub>imp</sub> (K)	223.8	178.7
Total S <sub>P</sub> & Imp (K)	1743.6	1673.6
f <sub>s</sub> & S Q (ksi)	11.72	9.47
f <sub>s</sub> Total (ksi)	19.25	19.73
VR (K)	57.3	

	Abut.	Pier
R <sub>P</sub> (K)	65.2	218.9
R <sub>t</sub> (K)	46.8	78.5
Imp. (K)	10.4	17.3
R Total (K)	122.4	314.7

Is and Ss are the moment of inertia and section modulus of the steel section. Ic and Sc are the moment of inertia and section modulus of the composite section used in computing f<sub>s</sub>. VR is the maximum V + Impact range in span.

**BEARING DETAILS**  
 FA RTE. 412 SECTION 141-2HB  
 BETHEL ROAD  
 OVER FA RTE. 412  
 OGLE COUNTY  
 STATION 1703+41.78