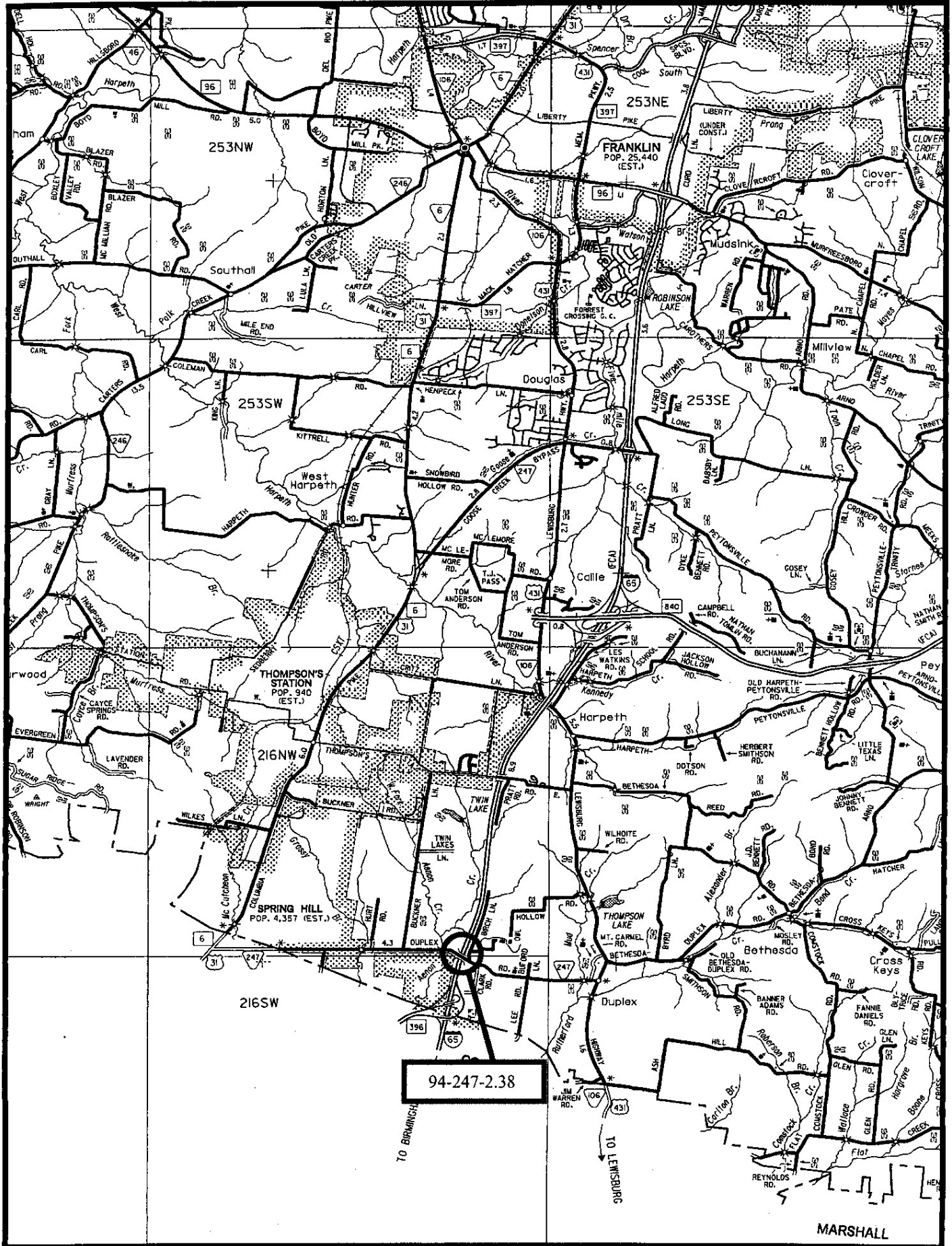


Williamson

Date: 10/22/2013



BRIDGE MAINTENANCE RECOMMENDATIONS



Tennessee Department
of Transportation

COUNTY: WILLIAMSON

LOCATION: 94-SR247-02.38-

CO. SEQ.: 1 SPEC. CASE: 0

CROSSING: SR 247 / I65

FED. BRIDGE NO.: 94I00650001

MAINT. DIST.: 94

REPAIR LIST NO.: N

DATE ADDED: 10/22/2003

REVISED:

FACILITY CARRIED:	FAS 247	NUMBER OF MAIN SPANS:	4
HIGHWAY SYSTEM:	05-STP RURAL, STATE	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	23 FT 11 IN	BRIDGE LENGTH (FT):	243
BRIDGE WIDTH (OUT TO OUT):	28 FT 6 IN	MAXIMUM SPAN LENGTH (FT):	68
APPROACH ROADWAY (W/SHOULDERS):	25 FT 11 IN	SKEW ANGLE (DEGREES):	75
MAINTAINED BY:	STATE HIGHWAY AGENCY		
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE		
MAIN SPAN DESIGN TYPE:	STRINGER/MULTI-BEAM OR GIRDER		
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE		
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE		
INSPECTION DATE:	10/22/2003	GENERAL CONDITION:	FAIR
EVALUATION DATE:	04/05/2002	STRUCTURALLY DEFICIENT:	NO
PROPOSED REPLACEMENT:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	78.5

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	BRIDGERAILS ARE SUBSTANDARD		
2.	APPROACH GUARDRAIL ARE NON-EXISTENT		
3.	CLEAN AND SEAL JOINTS		

COMMENTS:

Page 1 of 1

Co.	Route	Log Mile
-----	-------	----------

Comments: -0-

Facility Carried By: FAS 247

Maintenance Completed
By / Date

187	BRIDGE RAILS ARE SUBSTANDARD
004	APPROACH GUARDRAIL ARE NON-EXISTENT
040	CLEAN AND SEAL JOINTS

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 94 - SR247 - 2.38 N

Co. Route Log Mile

Crossing: SR 247 / I65

Bridge Rating: FAIR

Inspection Cycle: 14

Inspection Date: 10/25/99

Comments: -0-

Bridge Number: 94I00650001

County: Williamson

Region: 03

District: 31

Maint.Resp.: 02

Spec.Case: 0

Co.Seq: 01

Level of Service: 1

Owner: 02

Appr Rdwy (xxx ft): 030

Skew: 75

Type of Service: 11

Main Structure Type: 502

Appr Structure Type: 000

Number Main Spans: - 004

Number Appr Spans: 0000

Bridge Length (xxxxxxx ft) 000243

Curb-to-Curb (xxx.x ft): 0240

Out-to-Out (xxx.x ft): 0285

Item 500: 05

Facility Carried By: FAS 247

Maintenance Recommendations:

Maintenance Completed
By / Date

187 BRIDGE RAILS ARE SUBSTANDARD

004 APPROACH GUARDRAIL ARE NON-EXISTENT

040 CLEAN AND SEAL JOINTS

From: [TDOT BridgeEval](#)
To: [Jatin Bajaj](#)
Subject: FW: Bridge Fed.ID. # 94I00650001 (94 - SR247 - 2.38)
Date: Wednesday, December 29, 2021 1:39:51 PM
Attachments: [image001.png](#)
[image006.png](#)



Bryan Liner, P.E. | Trans Proj Spec Spv 2
Structures Division / Bridge Inspection Office
James K. Polk Building, Suite 1200
505 Deaderick Street
Nashville, TN 37243-0338
p. (615) 741-8411
bryan.liner@tn.gov

From: Mason Pitt <Mason.Pitt@tn.gov>
Sent: Wednesday, December 29, 2021 1:00 PM
To: TDOT BridgeEval <TDOT.BridgeEval@tn.gov>
Cc: Brandon Wheeley <Brandon.Wheeley@tn.gov>; Blake Howell <Blake.Howell@tn.gov>
Subject: FW: Bridge Fed.ID. # 94I00650001 (94 - SR247 - 2.38)

The subject bridge was posted December 22, 2021.

See photos below.



Mason Pitt | Regional Bridge Engineer
Region 3 Bridge Inspection and Repair
Region 3 Headquarters 3rd Floor
6601 Centennial Blvd, Nashville, TN 37209
p. 615-350-4496 c. 615-445-9040
mason.pitt@tn.gov







**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

**STRUCTURES DIVISION
BRIDGE INSPECTION AND REPAIR OFFICE**
SUITE 1200, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-1403
(615) 741-0776

CLAY BRIGHT
COMMISSIONER

BILL LEE
GOVERNOR

November 4, 2021

To: Mason Pitt
Tennessee Department Of Transportation
Regional Bridge Engineer

Subject: New Weight Limit Posting Requirement
Bridge Federal ID No. 94I00650001
Bridge Location No. 94 - SR247 - 2.38
Duplex Rd. over Sr 247 / I65
Williamson County

We have completed the most recent evaluation of the subject bridge and have determined that the bridge is now required to be posted for a gross weight limit of 40 tons for all vehicles.

The new weight limit posting signs shall be installed by November 18, 2021. Compliance with the weight limit posting requirements can be confirmed by taking photographs of all the bridge weight posting signs and emailing these photographs to TDOT.BridgeEval@tn.gov. Each photograph must show the face of the sign clearly so that the weight limit values can be confirmed.

Posting signs shall meet the minimum requirements of the MUTCD (Manual of Uniform Traffic Control Devices). See the attached "Tennessee Standard Weight Posting Signs" for additional details.

If structural repairs are completed, the TDOT Regional Bridge Engineer should be notified so a follow-up inspection can be completed. Please email any construction plans or as-built drawings to TDOT.BridgeEval@tn.gov so that we can better evaluate the work performed.

Should you have any questions, please advise.

Sincerely,

Ted Kniazewycz, PE
Director of Structures

Bridge No.: 94 — 247 — 2.38
Crossing:: Sr247 / 94-165-0.85
Federal No.: 94100650001

Date: October 22, 2003

PIC1



Br. No. Abutment No. 1

Bridge No.: 94 — 247 — 2.38
Crossing:: Sr247 / 94-I65-0.85
Federal No 94I00650001

Date: October 22, 2003

PIC2



Looking Ahead on Route (94-I65-0.85)

PIC3



Looking Back on Route (94-I65-0.85)

Bridge No.: 94 — 247 — 2.38
Crossing:: Sr247 / 94-I65-0.85
Federal No.: 94I00650001

Date:

October 22, 2003

PIC4



Across Top of Deck

Bridge No.: 00094 — SR247 — 2.38
Crossing:: SR247/ 94-165-0.85 UP.
Federal No.: 94I00650001

Date: September 18, 2001

PIC 1



BR. NO. @ ABUT. NO.1

Bridge No.: 94 —SR247 — 2.38
Crossing:: SR247/ 94-I65-0.85 UP.
Federal No 94I00650001

Date:

September 18, 2001

PIC2



ELEV. VIEW, RT. SIDE

PIC 3



LOOKING AHEAD ON ROUTE (94-I65-0.85 UP.)

Bridge No.: 94 — SR247 — 2.38
Crossing:: SR247/ 94-I65-0.85 UP.
Federal No.: 94I00650001

Date:

September 18, 2001

PIC4



LOOKING BACK ON ROUTE (94-I65-0.85 UP.)

PIC5



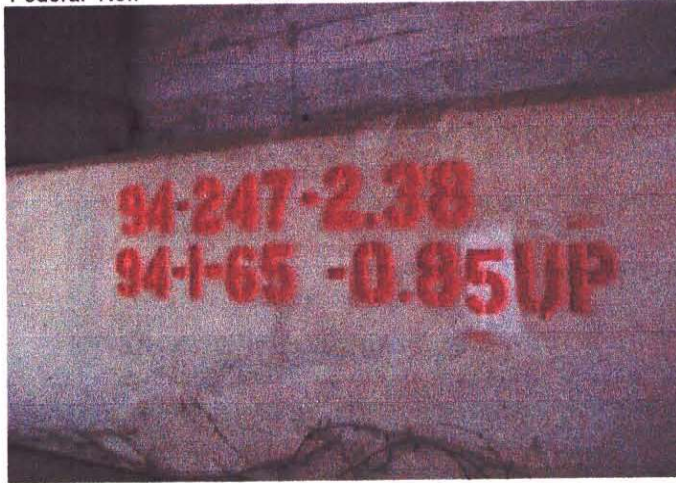
ACROSS TOP OF DECK

Bridge No.: 94 — SR247 — 0238
Crossing:: SR 247 / I65
Federal No.: 94I00650001

Date:

October 25, 1999

PIC1



BRIDGE NO. AT ABUTMENT # 1

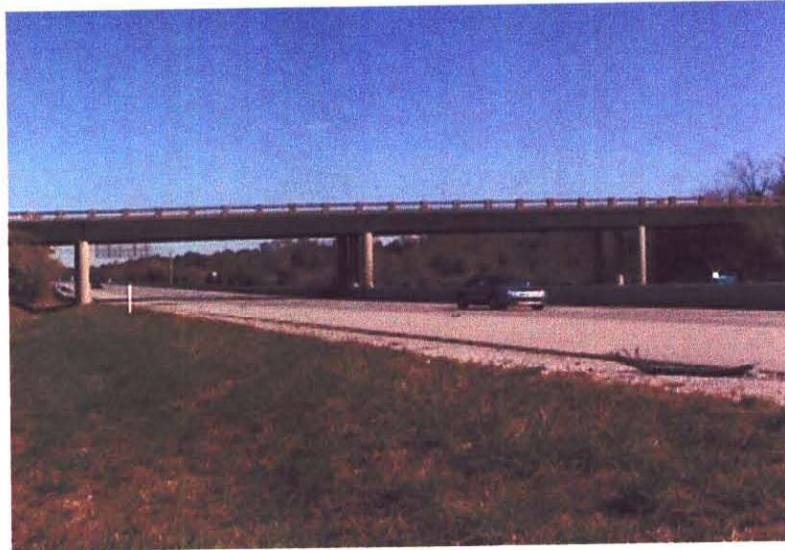
Bridge No.:
Crossing:: SR 247 / I65
Federal No 94I00650001

94 —SR247 — 0238

Date:

October 25, 1999

PIC2



ELEVATION VIEW, RT. SIDE

PIC3



ACROSS TOP OF DECK

Bridge No.: 94 — SR247 — 0238
Crossing:: SR 247 / I65
Federal No.: 94I00650001

Date:

October 25, 1999

PIC4



LOOKING AHEAD ON ROUTE-LEFT & RIGHT LANES (94-I65-0.85)

PIC5



LOOKING BACK ON ROUTE-LEFT & RIGHT LANES (94-I65-0.85)

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 16 Date 10/22/2003
Previous Report No. 15 Date 9/18/2001
Plans: YES

Bridge No. 94100650001
Eleven Digit No.

Bridge Location No. 94 - SR247 - 2.38 NSTATE ROUTE NO. 247 over 165

Co. Route Log Mile

Indepth Insp. Req'd: NO

Road Name

Crossing

(If yes itemize limits under comment)

Structure Type P.P.C.I.B.FRACTURE CRITICAL: NO**FEATURE CHANGES:** YesWearing Surface YES Type ASPHALT Depth +4 (in.)Bridge Rail NO Describe changes: Guardrail added @ Rt. side, Approach #1 onlyApproach Rail YES**CLEARANCE CHANGES:** YES (If yes make changes below)**INSPECTORS**

Vertical Clearance over deck _____ (ft.-in.)

HOWELLGEERYVertical Under Clearance 16'-5" (ft.-in.)CHOATEHorizontal Under Clearance 61'-9" (*. * ft.)FINCHDeck Width Curb/Curb 24 (*. * ft.)WILLIAMS

Deck Width Rail/Rail _____ (*. * ft.)

Sidewalk Width Rt. _____ Lt. _____

Condition: FAIR (If change describe in comments)**Comments**

Approaches

Deck Condition (Item 58)

Superstructure (Item 59)

a. Beams

b. Bearings

c. Diaphragms

Substructure (Item 60)

a. Caps/Bridge Seats

b. Columns/Piles

c. Footings

d. Wing W./Breast W.

Scour/Erosion

Channel (Item 61)

GOOD	NEW ASPHALT
F	LIGHT CRACKS, SCALING, REBAR POP-OUTS AND MODERATE SPALL.
FAIR	REBAR POP-OUTS AND POP-UPS
GOOD	
GOOD	
GOOD	
GOOD	
FAIR	LIGHT CRACKS AND LIGHT SCALE.
N/V	
GOOD	
N/A	
	OVER I-65

UNDERWATER INSPECTIONTo Be Performed By: N/A

Date Underwater Insp. _____

BRIDGE is: OPEN**COMMENTS:**Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector: _____

BRIDGE RATING: FAIR

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. 16 Date 10/22/2003
Previous Report No. 15 Date 9/18/2001

Bridge No. 94100650001
Eleven Digit No.

Underpass Location No. 94 - 10065 - 0.85 LT
Co. Route Log Mile

_____ or 94 - SR247 - 0238 N
 Railroad/Walkway Co. Route Log Mile

over	94	-	10065	-	0.85	LT
	Co.		Route		Log Mile	

County WILLIAMSON

Structure Name (If Named) _____

Year Constructed	1961	ACTUAL
------------------	------	--------

Year Widened Year Rehabilitated

GEOMETRIC FEATURES UNDER BRIDGE (*, * ft. unless otherwise noted)

Divided Highway LEFT LANE Type of Wearing Surface ASPHALT

Width of Approach Traveled Roadway 36'6" ft. (Does Not Include Shoulders)

Width of Median if Divided Highway _____ ft.

Approach Shoulder Width 11'-4" ft. Right 8'-3" ft. Left

*Horizontal Clearance Under Bridge 61'-9" ft.

*Distance Between Pier Protection
Guardrail and Substructure — ft. Right — ft. Left

*Width of Sidewalk Under Bridge ft. Right ft. Left

*Minimum Vertical Clearance: 16 ft. 5 in. (ft.-in.)

***Show on Sketch**

TRAFFIC SAFETY FEATURES

Pier Protection Railing or Parapet

Approach Guardrail Terminals

Approach Guardrail

Approach Guardrail Terminal

Rating	Standard/ SubStandard Non Exist
GOOD	STANDARD
GOOD	STANDARD
GOOD	STANDARD
GOOD	STANDARD

SIGNING

Yes/ No/ Needed

Paddleboards

NO

Vertical Clearance (<14'-6")

NO

Narrow Passage

NO

One Lane Passage

NO

Other Underpass Signs Needed NO

INSPECTORS

- | | |
|----|----------|
| 1. | CHOATE |
| 2. | FINCH |
| 3. | WILLIAMS |
| 4. | Howell |
| 5. | Goody |
| 6. | |

Other Signs or Plaques: NONEComments Regarding any
Problems with Signing: NONE**BRIDGE FEATURES** (*.* ft.)

Bridge Skew <u>75° RT</u>	Number of Lanes/Tracks on Bridge <u>2</u>
Structure Type (Main Span) <u>P.P.C.I.B.</u>	No. Main Spans <u>4</u>
Structure Type (Appr. Spans) <u>N/A</u>	No. Appr. Spans <u>0</u>
Maximum Span Length <u>68</u> (ft.)	Total Length <u>243</u> (ft.)
Width of Bridge Out-to-Out <u>28.3</u> (ft.)	Right Angle to Centerline of Bridge)
Width of Bridge Along Skew <u>—</u> (ft.)	(If Unable to Measure at Right Angle to Centerline of Bridge)

BRIDGE CONDITION: FAIR

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? YES

Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? NO

Comment on any Conditions of Bridge that would Effect Roadway Beneath:
SPALL IN OVERHANG OF SPAN NO. 2 MAY LET MATERIAL FALL ON SOUTH BOUND LANE.

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

Field Report No. 116 Date 10/22/2005
Previous Report No. 15 Date 9/18/2001

Underpass Location No.	94	-	10065	-	0.85	RT
	Co.		Route		Log Mile	

Structure Name (If Named)

Year Widened _____ Year Rehabilitated _____

Divided Highway RIGHT LANE Type of Wearing Surface ASPHALT

*Show on Sketch

INSPECTORS

- | | |
|----|----------|
| 1. | CHOATE |
| 2. | FINCH |
| 3. | WILLIAMS |
| 4. | Hart |
| 5. | Gosby |
| 6. | |

Yes/ No/ Needed

Other Underpass Signs Needed

	✓	
	✓	
	✓	
	✓	

None

Form BIR 3.0A (Continued)

Date 10/22/2003

(Rev. 9-22-98)

DT-1443

Underpass Location No. 94 - I0065 - 0.85 LT
Co. Route Log MileOther Signs or Plaques: NONEComments Regarding any
Problems with Signing: NONE**BRIDGE FEATURES** (*.* ft.)

Bridge Skew	<u>75° RT</u>	Number of Lanes/Tracks on Bridge	<u>2</u>
Structure Type (Main Span)	<u>P.P.C.I.B.</u>	No. Main Spans	<u>4</u>
Structure Type (Appr.Spans)	<u>N/A</u>	No. Appr. Spans	<u>0</u>
Maximum Span Length	<u>68</u> (ft.)	Total Length	<u>243</u> (ft.)
Width of Bridge Out-to-Out	<u>28.3</u> (ft.)	Right Angle to Centerline of Bridge)	
Width of Bridge Along Skew	<u> </u> (ft.)	(If Unable to Measure at Right Angle to Centerline of Bridge)	

BRIDGE CONDITION: FAIR

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? NO

Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? NO

Comment on any Conditions of Bridge that would Effect Roadway Beneath:
NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-247-2.38
SR-247 OVER INTERSTATE 65

OCTOBER 22, 2003

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 75° skew to the right. The bridge has a cross-section of 5 box beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 24' and a total length of 243'-3".

The approach alignment is rated fair. Approach pavement is good with new asphalt. Approach embankment is good. Approach guardrail is in place at the right side of approach No. 1 only. The bridge railing is substandard. Zebra striped paddleboard signs are in place.

The curbs are rated from good to fair with some light scaling and chips. The bridge railing is fair with rebar popouts, cracks and light scaling. The expansion joints are poor, overlaid with asphalt. There is spalling in the left overhang of span No. 2 that may let debris fall onto I-65.

There is embankment settlement under the wing of Abutment No.1. The bent columns are fair with light cracks, scaling, and rock popouts.

No channel items exist; this bridge is over Interstate 65.

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 15 Date 09/18/2001
Previous Report No. 14 Date 10/25/1999
Plans: YES

Bridge No. 94I00650001
Eleven Digit No.

Bridge Location No. 94 - SR247 - 2.38 N

STATE ROUTE NO. 247 over I65

Co. Route Log Mile
In depth Insp. Req'd: NO

Road Name

Crossing

(If yes itemize limits under comment)

Structure Type P.P.C.I.B.

FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface NO Type ASPHALT Depth +4 (in.)
Bridge Rail NO Describe changes:
Approach Rail NO

CLEARANCE CHANGES: YES (If yes make changes below)

Vertical Clearance over deck _____ (ft.-in.)
Vertical Under Clearance 16'-5" (ft.-in.)
Horizontal Under Clearance _____ (*.* ft.)
Deck Width Curb/Curb 24 (*.* ft.)
Deck Width Rail/Rail _____ (*.* ft.)
Sidewalk Width Rt. _____ Lt. _____

INSPECTORS

CHOATE

FINCH

WILLIAMS

Condition: FAIR (If change describe in comments)

Comments

Approaches

Deck Condition (Item 58)

Superstructure (Item 59)

a. Beams

b. Bearings

c. Diaphragms

Substructure (Item 60)

a. Caps/Bridge Seats

b. Columns/Piles

c. Footings

d. Wing W./Breast W.

Scour/Erosion

Channel (Item 61)

FAIR	CRACKS, PATCHES AND SETTLEMENT @ BRIDGE ENDS.
F	LIGHT CRACKS, SCALING, REBAR POP-OUTS AND MODERATE SPALL.
FAIR	REBAR POP-OUTS AND POP-UPS
GOOD	
GOOD	
GOOD	
FAIR	LIGHT CRACKS AND LIGHT SCALE.
N/V	
GOOD	
N/A	
	OVER I-65

UNDERWATER INSPECTION

To Be Performed By: _____

Date Underwater Insp. _____

BRIDGE is: OPEN

Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

COMMENTS:

LEFT LANE OF I-65 HAS NEW ASPHALT OVERLAY SINCE LAST INSPECTION.

Supervising Bridge Inspector: _____

BRIDGE RATING: FAIR

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. 15 Date 09/18/2001
Previous Report No. 14 Date 10/25/1999

Bridge No. 94I00650001
Eleven Digit No.

Underpass Location No. 94 - 10065 - 0.85 LT.

<u> </u>	or	<u>94 - SR247 - 0238 N</u>	over	<u>94 - 10065 - 0.85 LT.</u>
Railroad/Walkway		Co. Route Log Mile		Co. Route Log Mile

County WILLIAMSON

Structure Name (If Named) _____

Year Constructed	1961	ACTUAL
------------------	------	--------

Year Widened Year Rehabilitated

GEOMETRIC FEATURES UNDER BRIDGE (*. * ft. unless otherwise noted)

Divided Highway LEFT LANE Type of Wearing Surface ASPHALT

Width of Approach Traveled Roadway 36'6" ft. (Does Not Include Shoulders)

Width of Median if Divided Highway ————— ft.

Approach Shoulder Width 11'-4" ft. Right 8'-3" ft. Left

*Horizontal Clearance Under Bridge 61'-9" ft.

*Distance Between Pier Protection
Guardrail and Substructure _____ ft. Right _____ ft. Left

*Width of Sidewalk Under Bridge — ft. Right — ft. Left

*Minimum Vertical Clearance: 16 ft. 5 in. (ft.-in.)

*Show on Sketch

TRAFFIC SAFETY FEATURES

Pier Protection Railing or Parapet

Approach Guardrail Terminals

Approach Guardrail

Approach Guardrail Terminal

Rating	Standard/ SubStandard	Non Exist
--------	-----------------------	-----------

GOOD	STANDARD
GOOD	STANDARD
GOOD	STANDARD
GOOD	STANDARD

SIGNING

Yes/ No/ Needed

Paddleboards	NO
Vertical Clearance (<14'-6")	NO
Narrow Passage	NO
One Lane Passage	NO

Other Underpass Signs Needed NO

INSPECTORS

- | | |
|----|----------|
| 1. | CHOATE |
| 2. | FINCH |
| 3. | WILLIAMS |
| 4. | |
| 5. | |
| 6. | |

Form BIR 3.0A (Continued)

Date 09/18/2001

(Rev. 9-22-98)

DT-1443

Underpass Location No. 94 - I0065 - 0.85 LT.
Co. Route Log MileOther Signs or Plaques: NONEComments Regarding any
Problems with Signing: NONE**BRIDGE FEATURES** (* * ft.)

Bridge Skew	<u>75° RT</u>	Number of Lanes/Tracks on Bridge	<u>2</u>
Structure Type (Main Span)	<u>P.P.C.I.B.</u>	No. Main Spans	<u>4</u>
Structure Type (Appr. Spans)	<u>N/A</u>	No. Appr. Spans	<u>0</u>
Maximum Span Length	<u>68</u> (ft.)	Total Length	<u>243</u> (ft.)
Width of Bridge Out-to-Out	<u>28.3</u> (ft.)	Right Angle to Centerline of Bridge	
Width of Bridge Along Skew	<u>—</u> (ft.)	(If Unable to Measure at Right Angle to Centerline of Bridge)	

BRIDGE CONDITION: FAIR

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath?	<u>YES</u>
Does Potential Exist Because of Deteriorated Condition or Failure of Major Members?	<u>NO</u>

Comment on any Conditions of Bridge that would Effect Roadway Beneath:
SPALL IN OVERHANG OF SPAN NO. 2 MAY LET MATERIAL FALL ON SOUTH BOUND LANE.

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

Field Report No. 15 Date 9-18-01
Previous Report No. 14 Date 10-25-99

Underpass Location No. 94 - I65 - 0.85 Rt.

over 94 - I65 - 0.85 Rt.
Co. Route Log Mile

Structure Name (If Named)

Year Widened Year Rehabilitated

Divided Highway Right Lane Type of Wearing Surface Asphalt

Width of Median if Divided Highway ————— ft.

*Horizontal Clearance Under Bridge 59'-11" ft.

*Width of Sidewalk Under Bridge — ft. Right — ft. Left

*Show on Sketch

Rating	Standard/ SubStandard
	Non Exist

Approach Guardrail Terminal

Good	Standard
"	"
"	"
"	"

Yes/ No/ Needed

One Lane Passage

	✓	
	✓	
	✓	
	✓	

Other Underpass Signs Needed *NONE*

INSPECTORS

1. Choate
2. Finch
3. Williams
4. _____
5. _____
6. _____

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Date 9-18-01

Underpass Location No. 94-165-0.85 Rt.
Co. Route Log Mile

Other Signs or Plaques: NONE

Comments Regarding any
Problems with Signing: NONE

BRIDGE FEATURES (*. ft.)

Bridge Skew 75° Rt. Number of Lanes/Tracks on Bridge 2
Structure Type (Main Span) P.P.C.I.B. No. Main Spans 4
Structure Type (Appr. Spans) N.A. No. Appr. Spans 0
Maximum Span Length 68 (ft.) Total Length 243 (ft.)
Width of Bridge Out-to-Out 28.3 (ft.) Right Angle to Centerline of Bridge
Width of Bridge Along Skew — (ft.) (If Unable to Measure at Right
Angle to Centerline of Bridge)

BRIDGE CONDITION: Fair

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? No
Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? No

Comment on any Conditions of Bridge that would Effect Roadway Beneath: NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-247-2.38
SR-247 OVER INTERSTATE 65

SEPTEMBER 18, 2001

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 75° skew to the right. The bridge has a cross-section of 5 box beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 24' and a total length of 243'-3".

The approach alignment is rated fair. Approach pavement is fair with cracks and patches in approach No.2. Approach embankment is good. Approach guardrailing is non-existent. The bridge railing is substandard. Zebra striped paddleboard signs are in place.

The curbs are rated from good to fair with some light scaling and chips. The bridge railing is fair with rebar popouts, cracks and light scaling. The expansion joints are poor, overlaid with asphalt. There is spalling in the left overhang of span No. 2 that may let debris fall onto I-65.

There is embankment settlement under the wing of Abutment No.1. The bent columns are fair with light cracks, scaling, and rock popouts.

No channel items exist; this bridge is over Interstate 65.

BRIDGE INSPECTION REPORT

FORM BIR 3.0
REV. 6-9-92
DT-0069

FIELD REPORT NO.: 14 DATE: 10/25/99
PREVIOUS REPORT NO.: 13 DATE: 11/04/97
PLANS----- YES ☒ NO ☐

BRIDGE NO.: 94I00650001
ELEVEN DIGIT NO.

BRIDGE LOC. NO.: 94 - 247 - -2.38 -
CO. RTE. L.M.

94 - 247 -2.38 OVER I-65
CO. RTE. L.M.

STRUCTURE NAME (IF NAMED)

YEAR CONSTRUCTED 1961 COUNTY WILLIAMSON MAINTENANCE DISTRICT NO. 31
(ESTIMATED OR ACTUAL)

☐ ☒

YEAR WIDENED

ESTIMATED OR ACTUAL
☐ ☐

YEAR REHABILITATED

ESTIMATED OR ACTUAL
☐ ☐

FEATURES

WEARING SURFACE---CONCRETE ☐ TIMBER ☐ ASPHALT ☒ (DEPTH= ± 4")
FLARED WIDTH-----YES ☐ NO ☒
NAVIGATIONAL CONTROL---YES ☐ NO ☒
MEDIAN TYPE-----OPEN ☐ NONE ☒ CLOSED ☐

BRIDGE SKEW 75 RT

STRUCTURE TYPE PPCIB
MAIN SPAN

NO. SPANS 4
MAIN SPAN

INSPECTORS
1. Howell

2. Choate

3. French

4. Smith

5. _____

6. _____

7. _____

8. _____

9. _____

STRUCTURE TYPE N.A.
APPROACH SPANS

NO. SPANS 0
APPROACH SPANS

MAXIMUM SPAN LENGTH 68. TOTAL LENGTH 243.

WIDTHS

DECK OUT-TO-OUT 28.3
ROADWAY CURB-TO-CURB 24.
SIDEWALK — RT — LT
*APPROACH ROADWAY 24'
APPR. SHOULDER 3' RT 3' LT

CLEARANCES

MIN. VERT. OVER DECK —
MIN. VERT. UNDER CL. 16'-6"
MIN. LAT. UNDER CL. 16'-8" RT
6'-7" LT

*DOES NOT INCLUDE SHOULDERS

(< 25FT.)

NBIS BRIDGE

LENGTH 25'

(FT.) (INCHES)

FRACTURE CRITICAL

DETAILS: YES ☐ NO ☒
IF YES, INCLUDE BIR. 3.9

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:

DOT FIELD TEAM ☐ DATE _____
CONTRACT DIVERS ☒ DATE _____
NONE REQUIRED ☒

CHANGE IN STRUCTURAL CONDITION YES ☐ NO ☒
MAJOR REPAIRS MADE YES ☐ NO ☒

COMMENTS:

BRIDGE RATING ☐ ☒ ☐ ☐
GOOD FAIR POOR CRIT.

SUPERVISING BRIDGE INSPECTOR

PERFORMANCE EVALUATION

Time of day inspected 11:30

Weather conditions

(CLEAR & WARM (65°))

Vehicles observed

All Types of Cars, Trucks, & Heavy Trucks

LIVE LOAD BEHAVIOR**YES****NO****COMMENTS**

Substructure

Horiz. & Vert. Defl. - - - []

[✓]

Vibration - - - - - []

[✓]

Superstructure

Horiz. & Vert. Defl. - - - []

[✓]

Vibration - - - - - []

[✓]

APPROACH

Alignment

G (F) P C

Intersection w/ App. No. 1

Slab

G F P C

Joints

G F P C

Pavement

G (F) P C

Cracks & patches in App. #2

Embankment

(G) F P C

Drains

(G) F P C

TRAFFIC SAFETY FEATURES

STANDARD

SUB-STANDARD

Bridgerailing

G F P C

[]

[✓]

Transitions

G F P C

[]

[]

None

Guardrail

G F P C

[]

[]

"

Guardrail Terminal

G F P C

[]

[]

"

SIGNING

YES

NO

NEEDED

Paddleboard - - - - - [✓]

[]

[]

WEIGHT LIMIT POSTED
YES [] NO [✓]

Vertical Clearance (< 14'-6") - - - []

[✓]

[]

GROSS-- TONS

Narrow [] One Lane Bridge [] - []

[✓]

[]

2 AXLE - TONS

3 OR MORE AXLES- TONS

Other Signs or Plaques

Comments Regarding Any Problems With Signing

RECOMMENDATIONS

Bridgerail Is Substandard [✓]

Install Post Load Limit Signs []

Approach Rail Is Substandard [✓]

Level Approach []

Install Paddleboard Signs []

Other Recommendations

FORM BIR 3.2

Rev. 3-1-97

BRIDGE LOC. NO. 94 - 247- 2.38

DATE: 10/25/99

DT-0081

CO. ROUTE L.M.

DECKCOMMENTSWEARING SURFACE G F P C

light cracks in Asphalt

DECK - STRUCTURAL G F P C

light scaling, rebar Pop-Outs, Mod. Spall & light cracks

CONDITION

CURBS G F P C

light scaling

MEDIAN G F P C

SIDEWALKS G F P C

PARAPET G F P C

RAILING G F P C

light cracks, scaling & rebars exposed

PAINT G F P C

DRAINS G F P C

LIGHTING STD'S G F P C

UTILITIES G F P C

JOINT LEAKAGE G F P C

leaking on substructure

EXPANSION JOINTS G F P C

All overlaid

SUPERSTRUCTURECOMMENTSBEARING DEVICES G F P C

Neoprene

GIRDERS OR BEAMS G F P C

Rebar Pop-Ups & Pop-Outs

FLOOR BEAMS G F P C

STRINGERS G F P C

DIAPHRAGMS G F P C

BRACING G F P C

TRUSSES - GENERAL G F P C

- PORTALS G F P C

- BRACING G F P C

PAINT G F P C

ALIGNMENT OF G F P C

MEMBERS

TEXTURE COAT

CONDITION RATING G F P C

FADING

G F P C

OVERALL APPEARANCE G F P C

NEEDS SPOT PAINTING? YES [] NO []

STAINING G F P C

NEEDS REPAINTING? YES [] NO []

COMMENTS: _____

SCALING G F P C

RECOMMENDATIONS _____

CLEAN & SEAL JOINTS [✓]

CLEAN DRAINS []

FORM BIR 3.3
Rev. 3-1-97
DT-0082

BRIDGE LOC. NO. 94- 247 - 2.38
CO. ROUTE L.M.

DATE: 10/25/19

SUBSTRUCTURE

ABUTMENTS

CAPS
BREASTWALL
WINGS
BACKWALL
PLUMB
FOOTING
PILES
EMBANKMENT
BEARINGS
SLOPE PAVING

G F P C
G F P C
G F P C
G F P C
G F P C
G F P C
G F P C
G F P C
G F P C
G F P C

COMMENTS

N/V

Neoprene

PILES TO BE REPLACED

PILE(S)	BENT
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PIERS

CAPS
COLUMNS
PLUMB
FOOTINGS
PILES
BEARINGS

G F P C
G F P C
G F P C
G F P C
G F P C
G F P C

N/V

PILE(S)	BENT
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

BENTS

CAPS
COLUMNS
PLUMB
FOOTINGS
PILES
BEARINGS

G F P C
G F P C
G F P C
G F P C
G F P C
G F P C

light cracks & light scale

N/V

PILE(S)	BENT
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PILES NEED REPLACEMENT NO ☒ YES ☐

CUT VEGETATION NO ☒ YES ☐

CLEAR DRIFT NO ☒ YES ☐

RECOMMENDATIONS: _____

NOTE:

FORM BIR 3.0A
Rev. 3-1-97
DT-1443

CURRENT FIELD REPORT NO. 14 DATE 10/25/99
PREVIOUS FIELD REPORT NO. 13 DATE 11/04/99

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 94100650001 UNDERPASS LOC. NO. 94 - 165 - 0.85 ^{Lt. Ln.}
ELEVEN DIGIT NO. 94 - 247 - 2.38 ^{S.R.} CO. ROUTE L.M. 94 - 165 - 0.85 ^{Lt. Ln.}
CO. RTE. L.M. 94 - 247 - 2.38 OVER 94 - 165 - 0.85 CO. RTE. L.M. 94 - 165 - 0.85
COUNTY Williamson STRUCTURE NAME _____
YEAR CONSTRUCTED 1961 YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED [] ACTUAL [✓]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [✓] RIGHT RDWY [] N.A. []
TYPE OF WEARING SURFACE - - - - CONCRETE [] ASPHALT [✓] GRAVEL []
WIDTH OF APPROACH TRAVELED ROADWAY 30'-6" ft (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY — ft
APPROACH SHOULDER WIDTH 11.3 ft (RT.) 8'-3" ft (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 61 ft 9 in.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND
SUBSTRUCTURE — ft (RT.) — ft (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE — ft (RT.) — ft (LT.)
*MINIMUM VERTICAL CLEARANCE 16 ft 6 in

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE STANDARD SUB-STANDARD

PIER PROTECTION RAILING	<u>G</u>	F	P	C	[✓]	[]	NON EXIST	[]
OR PARAPET								
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[]	NON EXIST	[]
TRANSITIONS	<u>G</u>	F	P	C	[✓]	[]	NON EXIST	[]
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[]	NON EXIST	[]
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[]	NON EXIST	[]
TERMINAL								

SIGNING FOR UNDERPASS ROUTE

PADDLEBOARD	YES []	NO [✓]	NEEDED []
VERTICAL CLEARANCE			
(<u>< 14'-6"</u>)	YES []	NO [✓]	NEEDED []
NARROW PASSAGE	YES []	NO [✓]	NEEDED []
ONE LANE PASSAGE	YES []	NO [✓]	NEEDED []

INSPECTORS

1. Howell
2. Chesla
3. Finkel
4. Smith
5. _____
6. _____

NOTE:

FORM BIR 3.0A (CONTINUED)

Rev. 3-1-97

DT-1443

UNDERPASS LOC. NO. 94 - 765 - 0.85
CO. ROUTE L.M.OTHER SIGNS OR PLAQUES NONECOMMENTS REGARDING ANY PROBLEM WITH SIGNING NONE**BRIDGE FEATURES**BRIDGE SKEW 75° Rt.STRUCTURE TYPE P.P.C.I.B.

MAIN SPAN

NO. SPANS 4

MAIN TYPE

STRUCTURE TYPE N.A.

APPROACH SPAN

NO. SPANS 0

APPROACH TYPE

MAXIMUM SPAN LENGTH 68 ftTOTAL LENGTH 243 ftWIDTH OF BRIDGE OUT-TO-OUT 28.3 ft

(RIGHT ANGLE TO CENTERLINE OF BRIDGE)

WIDTH OF BRIDGE ALONG SKEW — ft(IF UNABLE TO MEASURE AT RIGHT ANGLE
TO CENTERLINE OF BRIDGE)NUMBER OF LANES/TRACKS ON BRIDGE 2**BRIDGE CONDITION**

G

F

P

C

DOES POTENTIAL EXIST FOR ELEMENTS FROM BRIDGE FALLING ON ROADWAY
BENEATH? YES [] NO [☒]DOES POTENTIAL EXIST BECAUSE OF DETERIORATED CONDITION OR FAILURE
OF MAJOR MEMBERS? YES [] NO [☒]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH

NONENOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) OF
THESE FORMS, ONE FOR EACH ROADWAY.**MINIMUM PICTURES REQUIRED**

1. ELEVATION VIEW OF BRIDGE ON BOTH SIDES SHOWING UNDERPASS
2. VIEW SHOWING BOTH APPROACHES TO BRIDGE
3. VIEW SHOWING SAFETY FEATURES
4. VIEW SHOWING ANY PROBLEMS

FORM BIR 3.0A
Rev. 3-1-97
DT-1443

CURRENT FIELD REPORT NO. 14 DATE 10/25/99
PREVIOUS FIELD REPORT NO. 13 DATE 11/04/97

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 94I00650001 UNDERPASS LOC. NO. 94 - I65 - 0.85
ELEVEN DIGIT NO. SR, 94 - 247 - 2.38 OVER Rt. Ln. 94 - I65 - 0.85
CO. RTE. L.M. CO. RTE. L.M. CO. ROUTE L.M.
COUNTY Williamson
YEAR CONSTRUCTED 1961 YEAR WIDENED — YEAR REHABILITATED —
ESTIMATED [] ACTUAL [✓]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [] RIGHT RDWY [✓] N.A. []
TYPE OF WEARING SURFACE - - - - CONCRETE [] ASPHALT [✓] GRAVEL []
WIDTH OF APPROACH TRAVELED ROADWAY 36.7 ft (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY — ft
APPROACH SHOULDER WIDTH 10.7 ft (RT.) 6.6 ft (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 59 ft 11 in.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND
SUBSTRUCTURE — ft (RT.) — ft (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE — ft (RT.) — ft (LT.)
*MINIMUM VERTICAL CLEARANCE 17 ft 9 in

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE STANDARD SUB-STANDARD

PIER PROTECTION RAILING						
OR PARAPET	<u>G</u>	F	P	C	[✓]	[] NON EXIST []
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[] NON EXIST []
TRANSITIONS	<u>G</u>	F	P	C	[✓]	[] NON EXIST []
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[] NON EXIST []
APPROACH GUARDRAIL	<u>G</u>	F	P	C	[✓]	[] NON EXIST []
TERMINAL	<u>G</u>	F	P	C	[✓]	[] NON EXIST []

SIGNING FOR UNDERPASS ROUTE

PADDLEBOARD	YES []	NO [✓]	NEEDED []
VERTICAL CLEARANCE			
(< 14'-6")	YES []	NO [✓]	NEEDED []
NARROW PASSAGE	YES []	NO [✓]	NEEDED []
ONE LANE PASSAGE	YES []	NO [✓]	NEEDED []

INSPECTORS

1. Howell
2. Choate
3. Finch
4. Smith
5. _____
6. _____

NOTE:

FORM BIR 3.0A (CONTINUED)
Rev. 3-1-97
DT-1443

UNDERPASS LOC. NO. 94 - 165 - 0.85
CO. ROUTE L.M.

OTHER SIGNS OR PLAQUES NONE

COMMENTS REGARDING ANY PROBLEM WITH SIGNING NONE

BRIDGE FEATURES

BRIDGE SKEW 75° Rt.
STRUCTURE TYPE

P.P.C.I.B.
MAIN SPAN

NO. SPANS 4
MAIN TYPE

STRUCTURE TYPE

N.A.

NO. SPANS 0
APPROACH TYPE

APPROACH SPAN

MAXIMUM SPAN LENGTH 68 ft TOTAL LENGTH 243 ft

WIDTH OF BRIDGE OUT-TO-OUT 28.3 ft (RIGHT ANGLE TO CENTERLINE OF BRIDGE)

WIDTH OF BRIDGE ALONG SKEW — ft (IF UNABLE TO MEASURE AT RIGHT ANGLE TO CENTERLINE OF BRIDGE)

NUMBER OF LANES/TRACKS ON BRIDGE 2

BRIDGE CONDITION

G F P C

DOES POTENTIAL EXIST FOR ELEMENTS FROM BRIDGE FALLING ON ROADWAY BENEATH? YES [] NO [X]

DOES POTENTIAL EXIST BECAUSE OF DETERIORATED CONDITION OR FAILURE OF MAJOR MEMBERS? YES [] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH NONE

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) OF THESE FORMS, ONE FOR EACH ROADWAY.

MINIMUM PICTURES REQUIRED

1. ELEVATION VIEW OF BRIDGE ON BOTH SIDES SHOWING UNDERPASS
2. VIEW SHOWING BOTH APPROACHES TO BRIDGE
3. VIEW SHOWING SAFETY FEATURES
4. VIEW SHOWING ANY PROBLEMS

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-247-2.38
SR-247 OVER INTERSTATE 65

OCTOBER 25, 1999

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 75° skew to the right. The bridge has a cross-section of 5 box beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 24' and a total length of 243'-4".

The approach alignment is rated fair. Approach pavement is fair with cracks and patches in approach No. 2. Approach embankment is good. Approach guardrail is non-existent. The bridge railing is substandard. Zebra striped paddle board signs are in place.

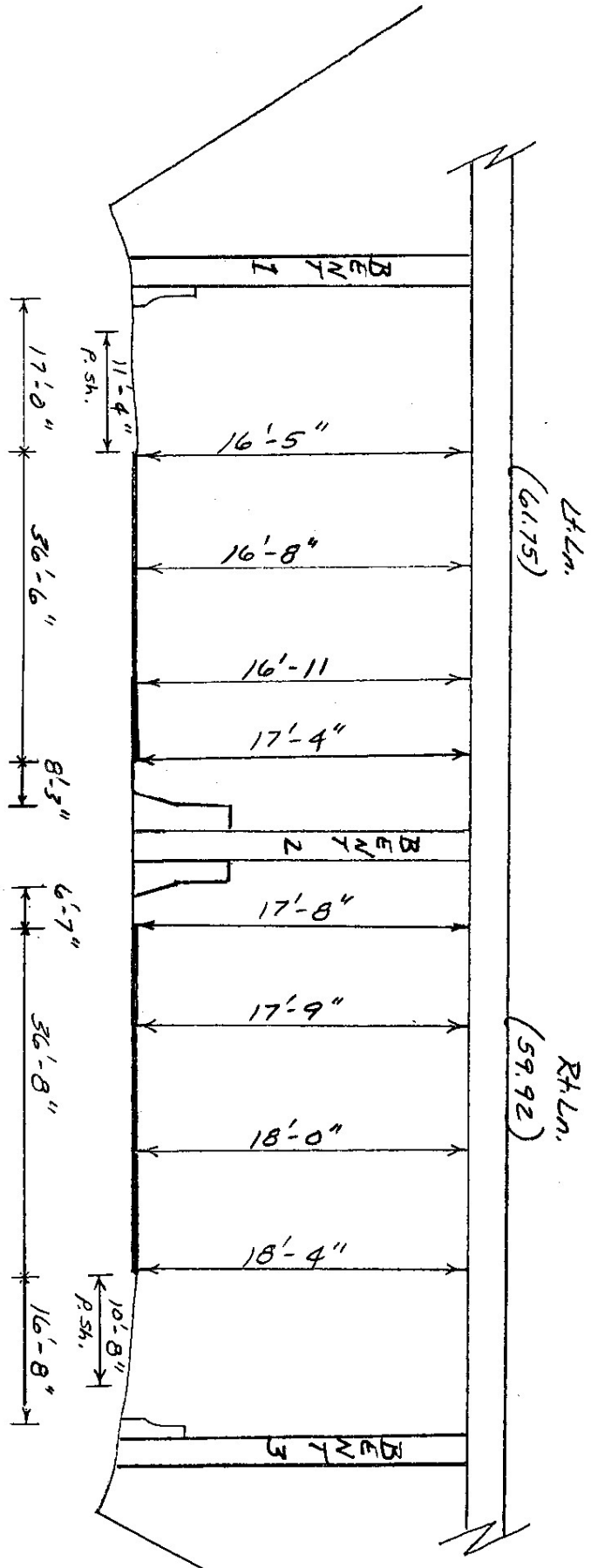
The curbs are rated fair with some light scaling and chips. The bridge railing is fair with rebar popouts, cracks and light scaling. The expansion joints are poor, overlaid with asphalt.

There is embankment settlement under the left wing of Abutment No. 1. The bent columns are fair with light cracks, scaling, and rock popouts.

No channel items exist, this bridge is over Interstate 65.

Br. No. 94-247-2.38
Underpass Clearance

DATE: 10/22/03

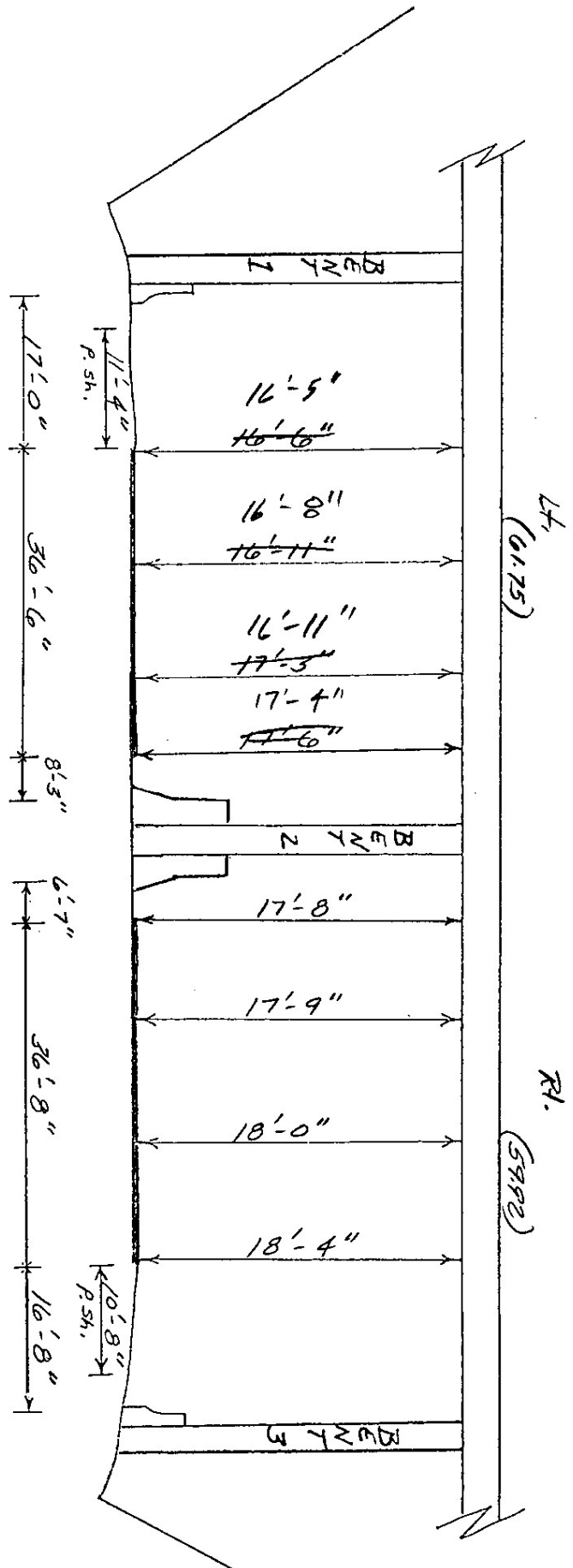


ELEVATION VIEW, RT. SIDE
Looking North
94-165-0.85 U.P.

Br. No. 94-247-2.38

DATE: 9-18-01

Underpass Clearance



ELEVATION VIEW, RT. SIDE

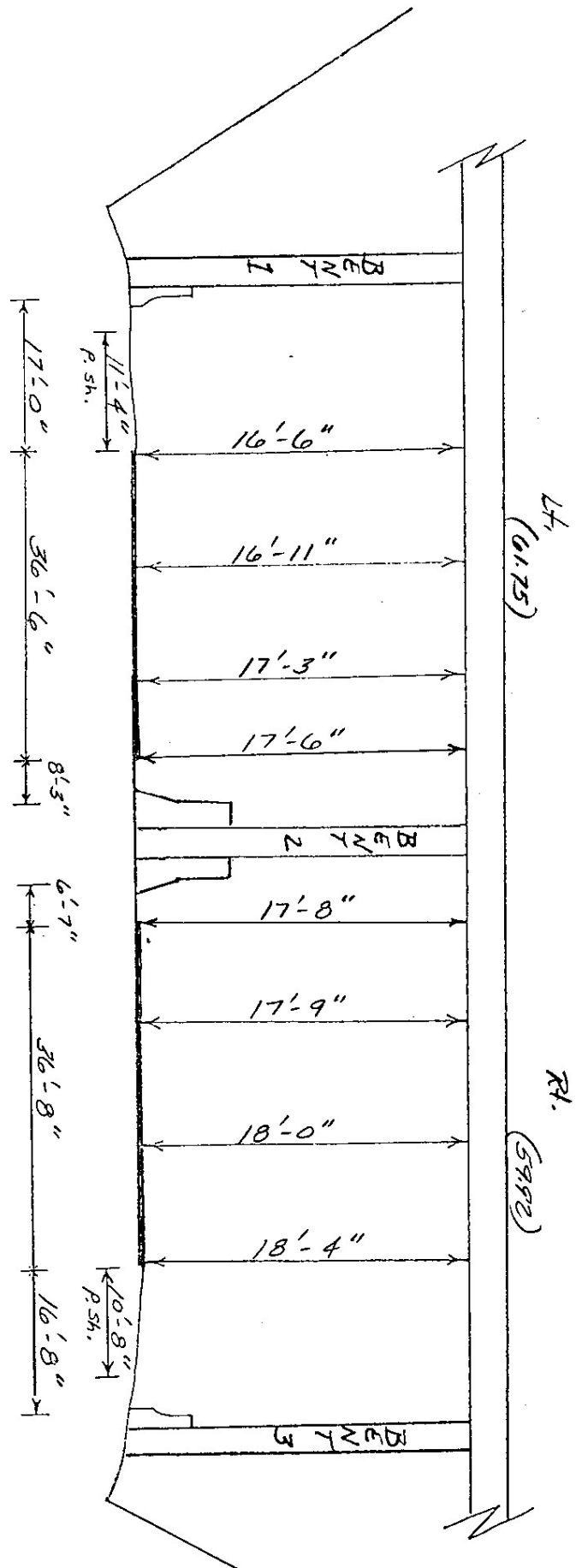
Looking North

U.P. No. 94-145-0.85

NOTE: Lt. Ln. only of I-65 has new asphalt overlay since last inspection report.

Underpass Clearance:

DATE: 10/25/99



ELEVATION VIEW, RT. SIDE

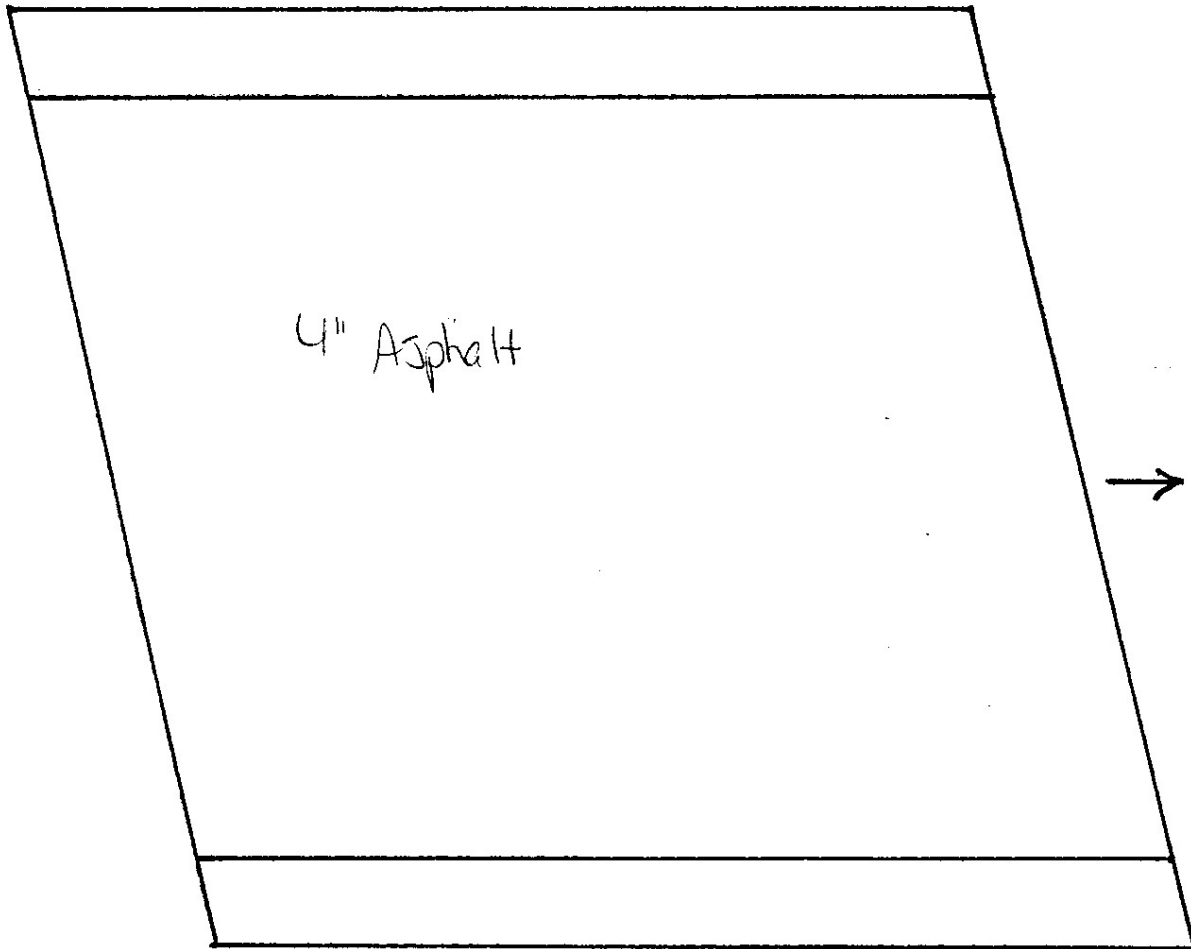
Looking North

U.F. No. 94-165-0.85

SR.
BR # 94-247-232

TOP SPAN # 1

DATE: 10-25-99

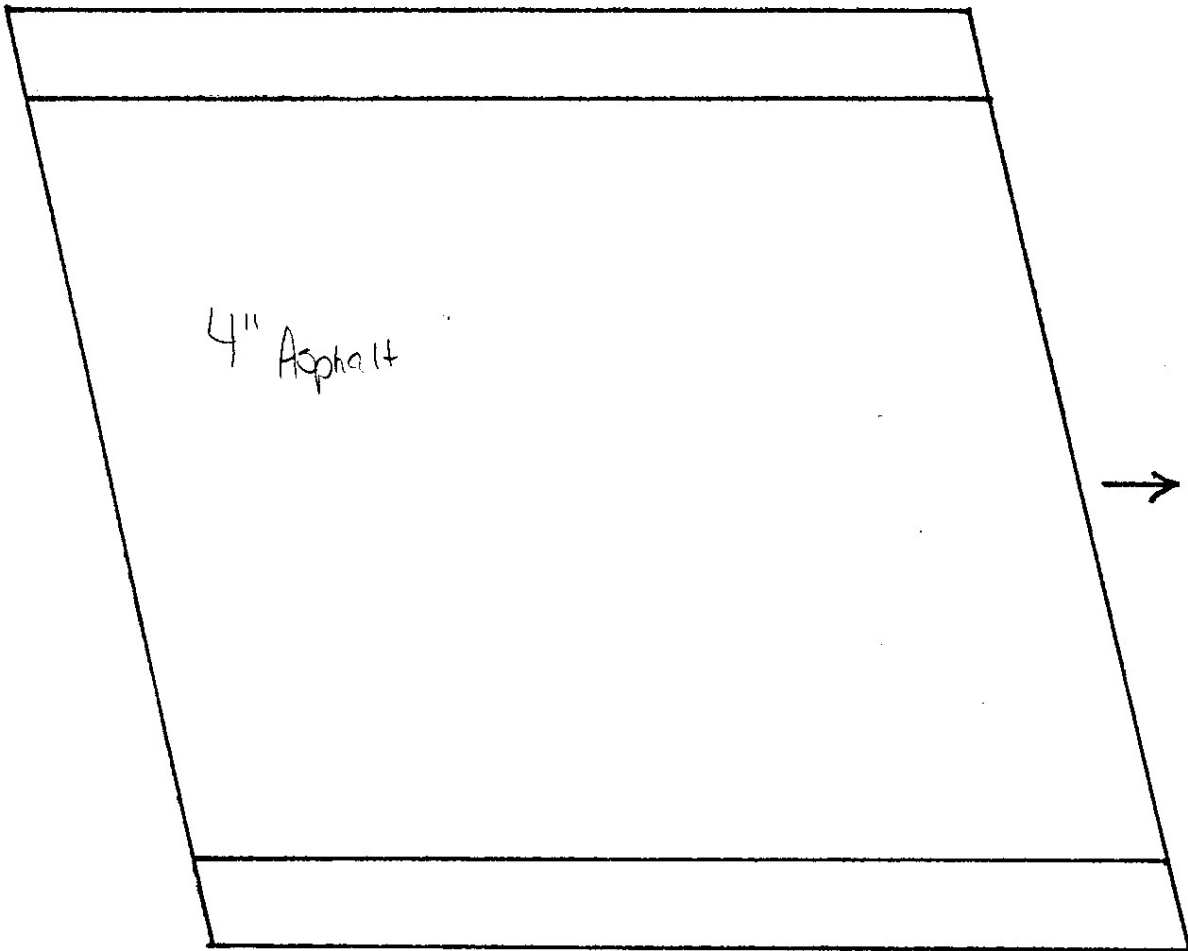


DECK	Fair	Light cracks
JOINTS	Poor	Overlaid Asphalt
HANDRAIL	Fair	Light scaling
CURBS	Fair	Light scaling
DRAINS		

SR.
BR#94-247-238

TOP SPAN # 2

DATE: 10-25-99

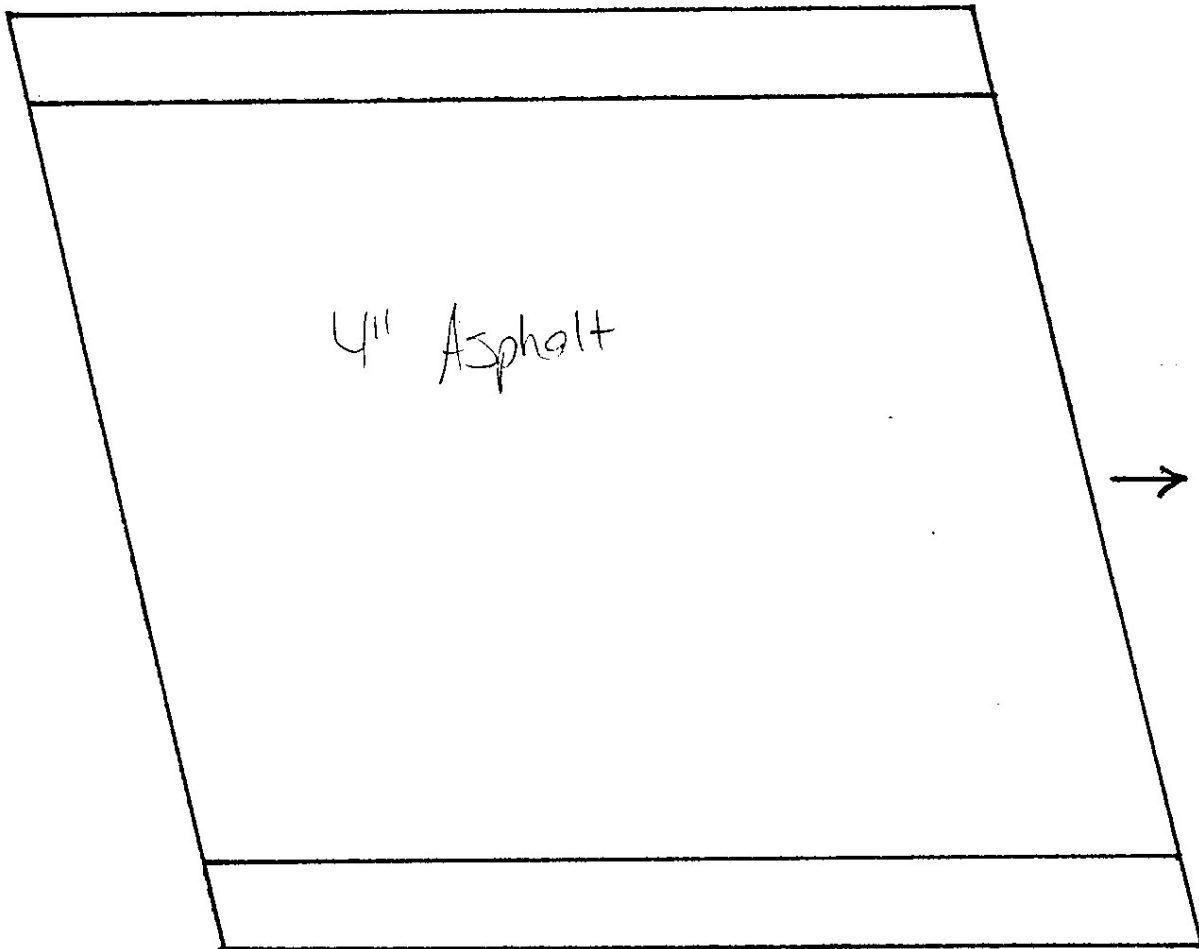


DECK	FAIR	Light cracks
JOINTS	POOR	Asphalt overlaid
HANDRAIL	FAIR	Light scaling w/ exposed rebar
CURBS	FAIR	Light scaling
DRAINS		

BR#94-247-^{SR.}238 :

TOP SPAN # 3

DATE: 10-25-99



DECK	Good	
JOINTS	POOR	Overlaid w/ Asphalt
HANDRAIL	FAIR	Light cracks, and sealing
CURBS	FAIR	Light sealing
DRAINS		

SR.
BR#94-247-2.38

TOP SPAN # 4

DATE: 10-25-99

4" Asphalt

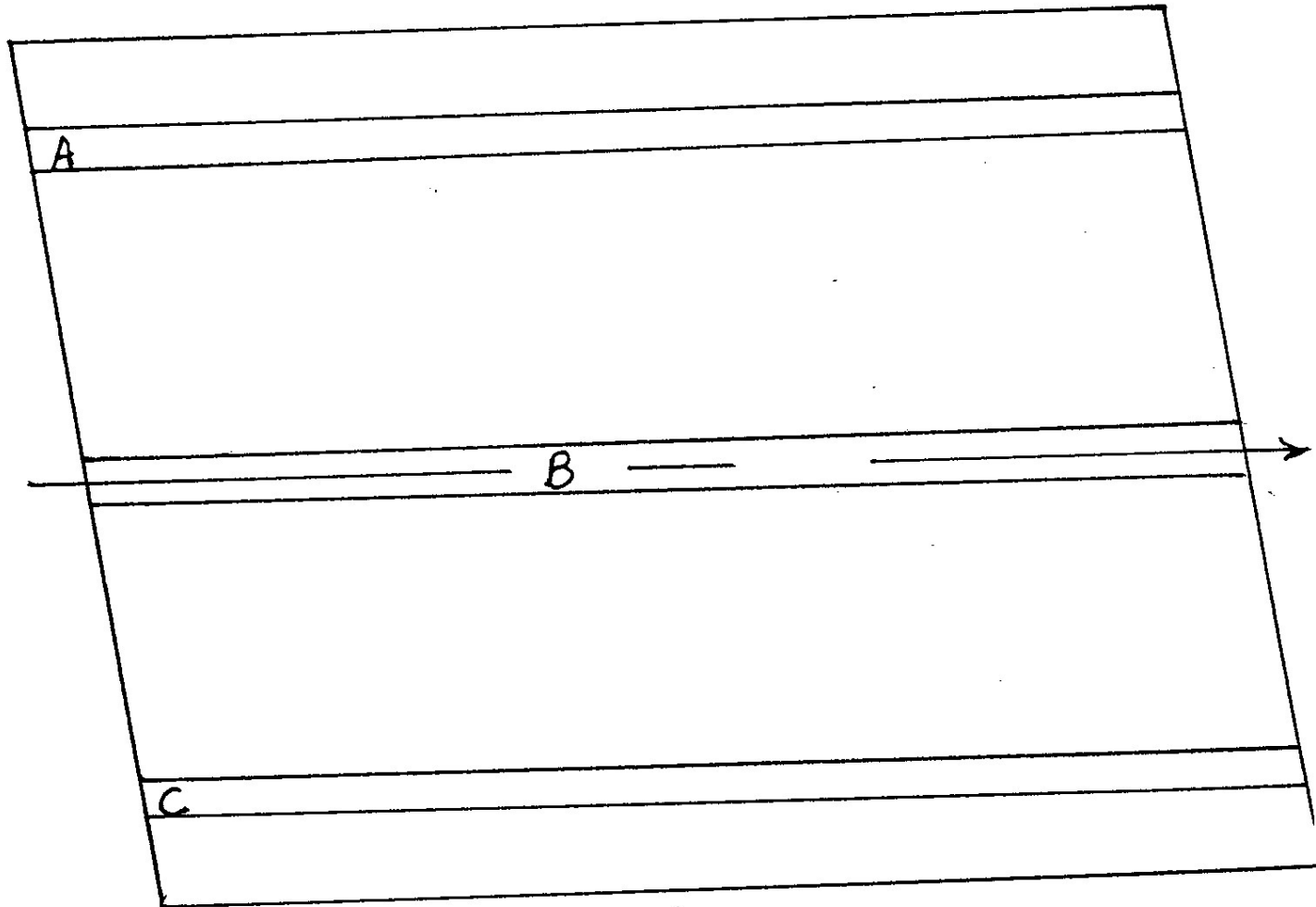


DECK	Good	
JOINTS		
HANDRAIL	Fair	Minor repairs
CURBS	Fair	Light Sealing
DRAINS		

S.R.
BR. NO. 94-247-238

Bottom Span No. 1

Date: 10/25/99



DECK *Good*

BEAM A "

" B "

" C "

~~DRAINS~~

~~OVERHANG~~

DIAPHRAGMS

BACK *Good*

INT. "

AHEAD "

S.R.
BR. NO. 94-247-2.38 :

Bottom Span No. 2

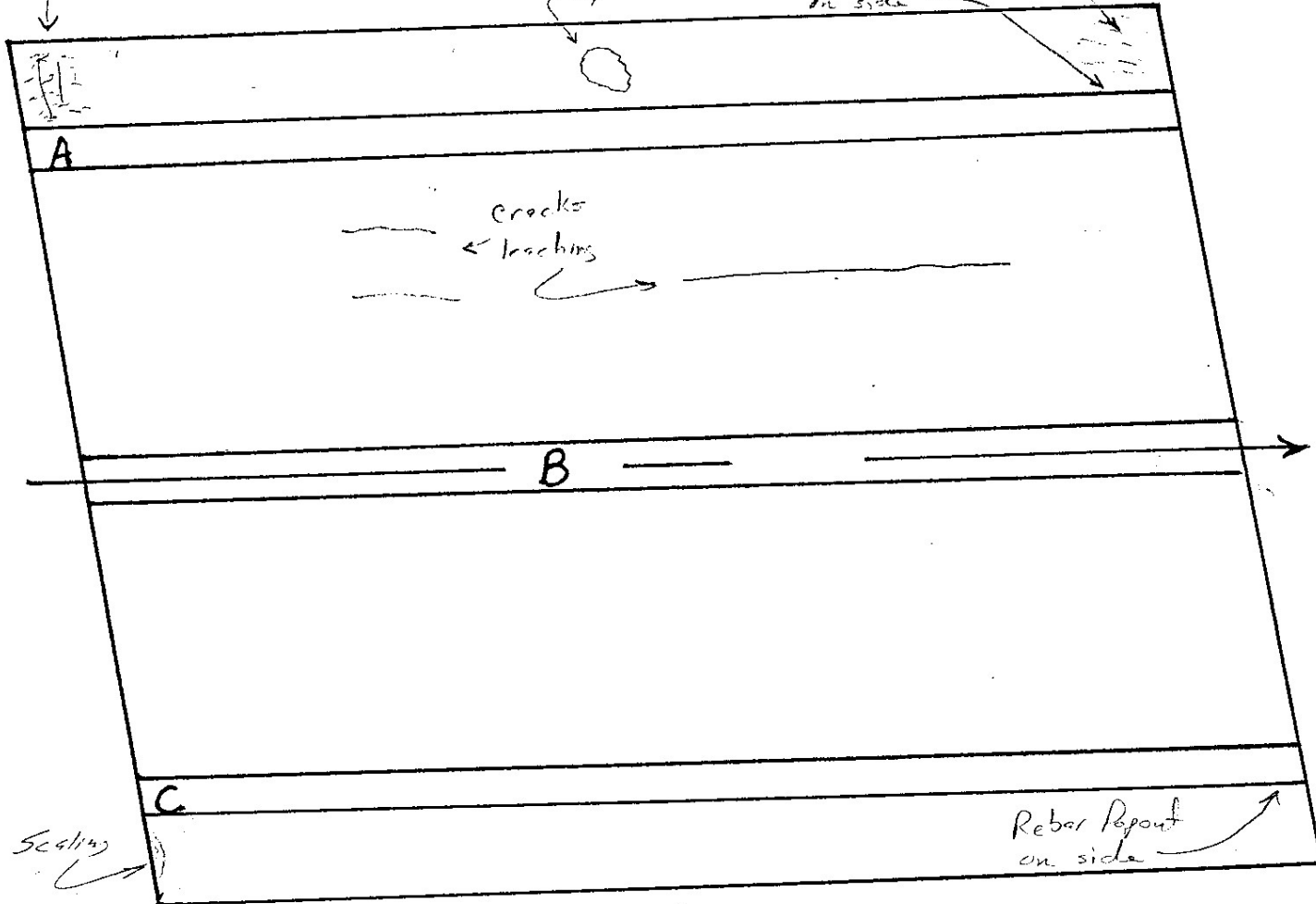
Date: 10/25/99

Cracks & Sealing

Mod.
Spill

Rebar-Pop-Up
on side

16' Sealing



DECK Fair Cracks leaching, Sealing & Mod. Spill

BEAM A " Rebar Pop-Up on Lt. side

" B Good

" C Fair Rebar Popout on Rt. Side

DRAINS

OVERHANG

DIAPHRAGMS

BACK

Good

INT.

"

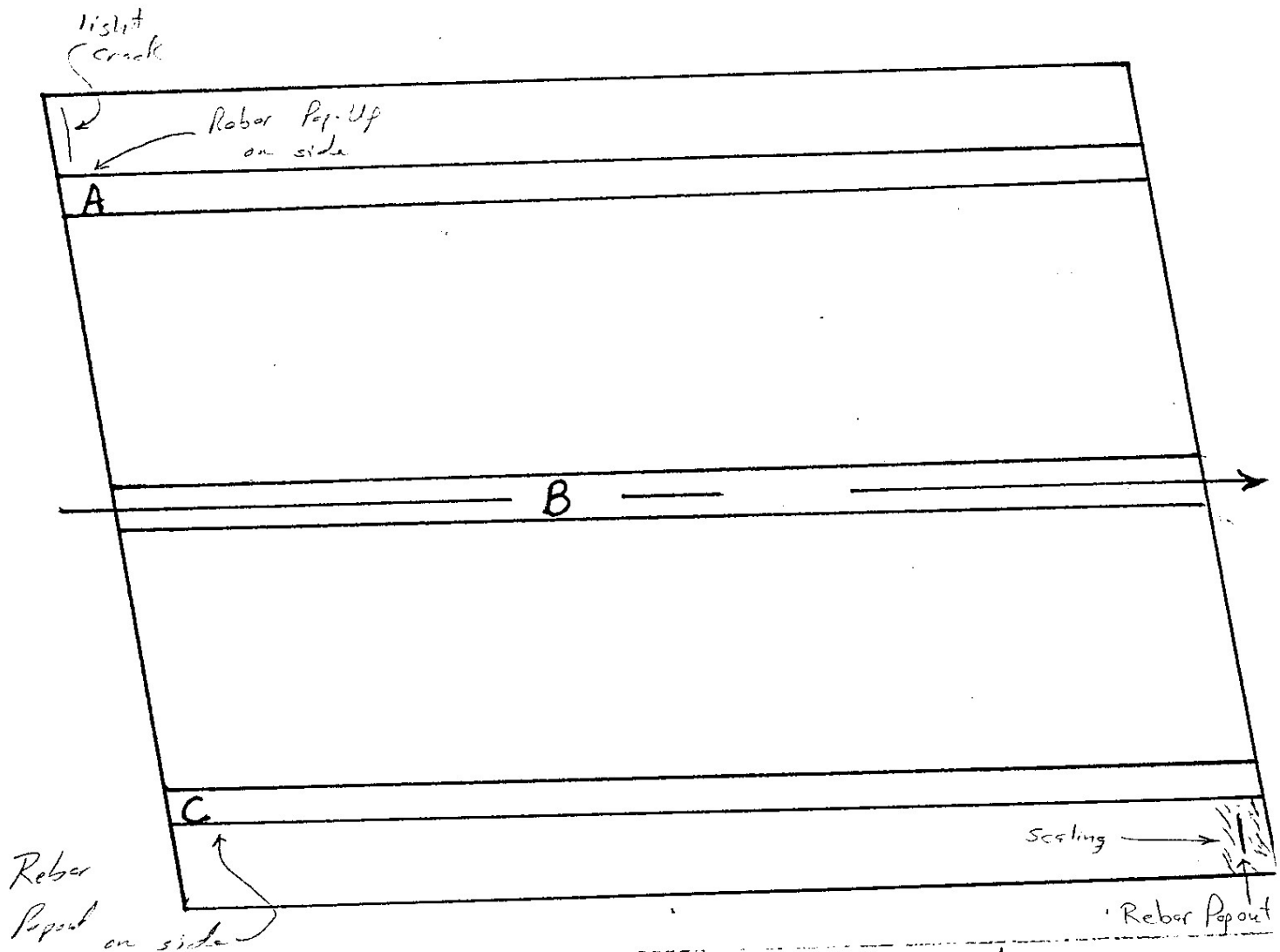
AHEAD

"

S.R.
BR. NO. 94-247-2.38

Bottom Span No. 3

Date: 10/25/99

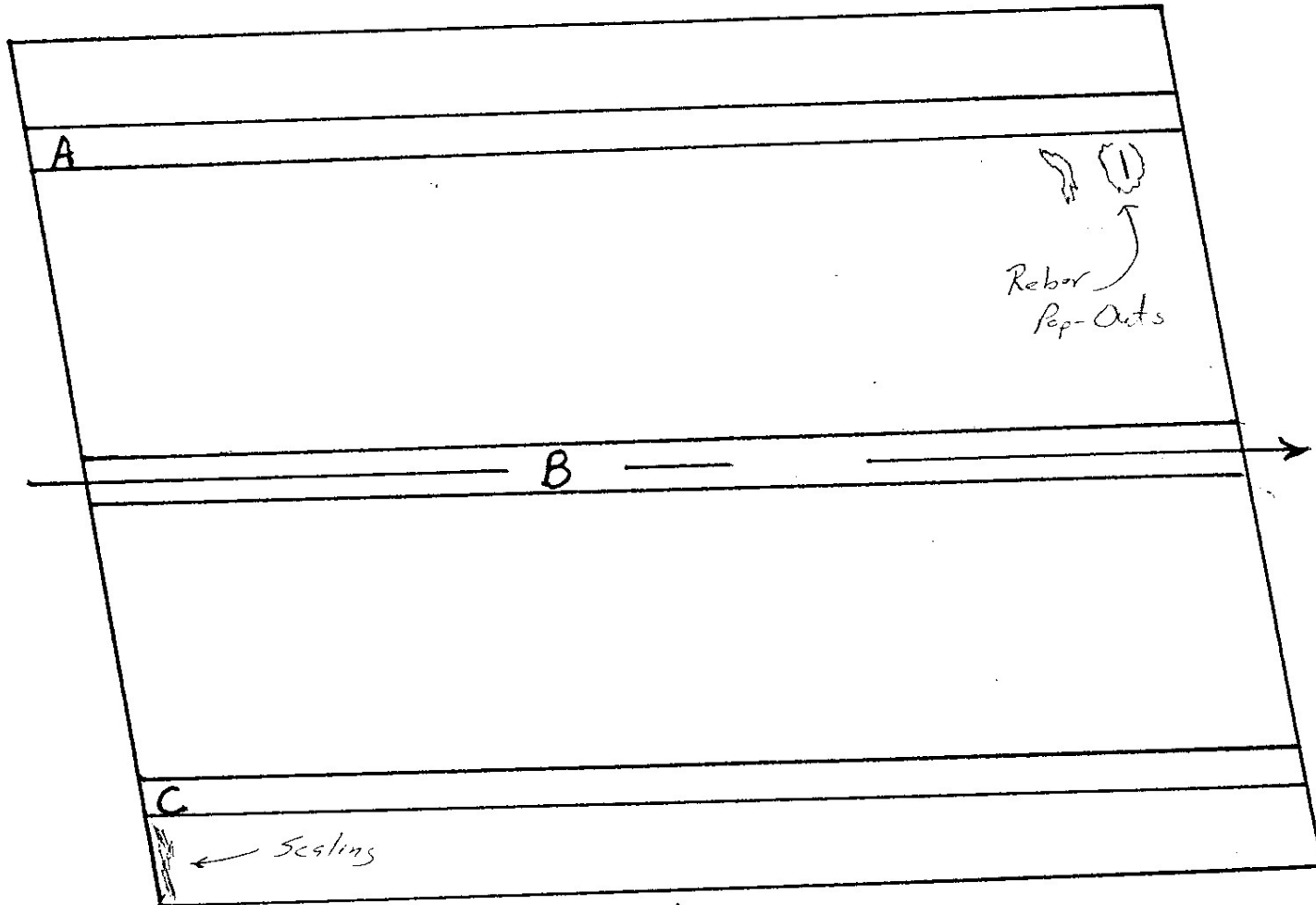


DECK	Fair	light crack, sealing & Rebar Pop-Out
BEAM A	"	Rebar Pop-Up on Lt. side
" B	Good	
" C	Fair	Rebar Popout on Rt. side
DRAINS		
OVERHANG		
DIAPHRAGMS		
BACK	Good	
INT.	"	
AHEAD	"	

S.R.
BR. NO. 94-247-2.38

Bottom Span No. 4

Date: 10/25/99



DECK	Fair	Rebar Pop-Outs & light Sealing
------	------	--------------------------------

BEAM A	Good
--------	------

" B	"
-----	---

" C	"
-----	---

DRAINS

OVERHANG

DIAPHRAGMS

BACK	Good
------	------

INT.	"
------	---

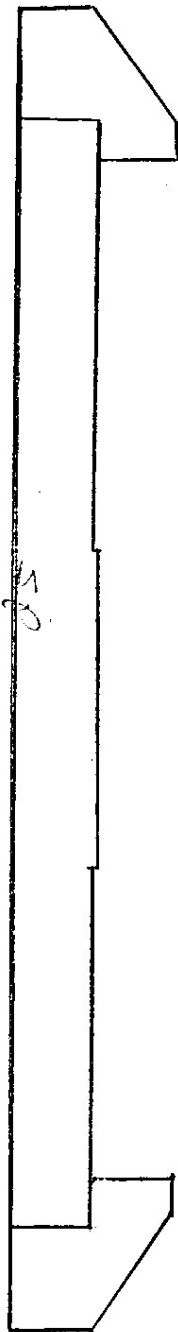
AHEAD	"
-------	---

BR. No. 94-247-2.38^{S.R.}

Date: 10/25/99

RT.

LT.



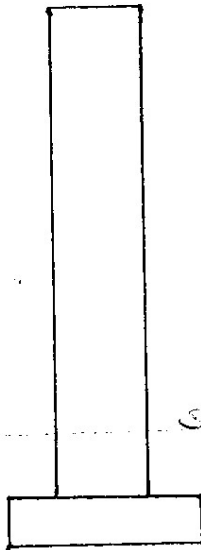
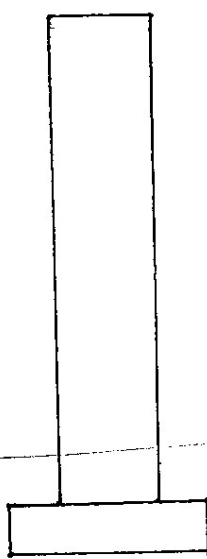
ABUTMENT No. 1

BEARING	Group	Neoprene
BRIDGE SEAT		
BACKWALL		
CAP	Group	
LEFT WING	"	
RIGHT WING	"	
SLOPE PAVING	"	

Br. No. 94-SR247-238

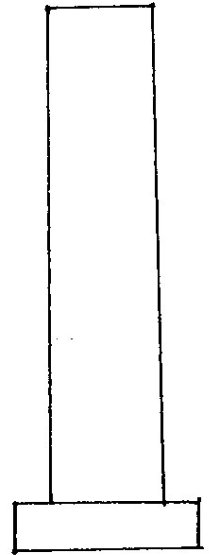
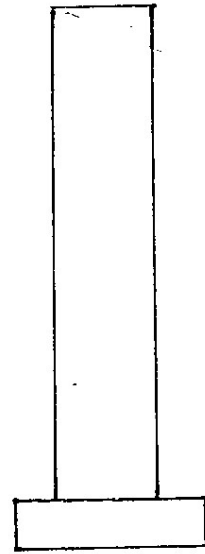
Bent No. 1

Date: 10/25/99

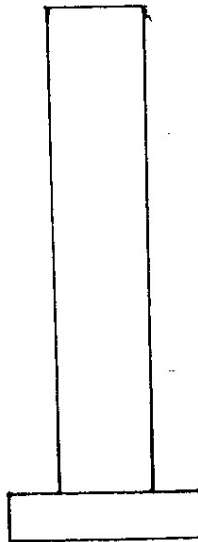
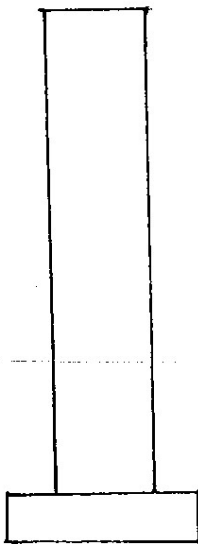


SP

Front

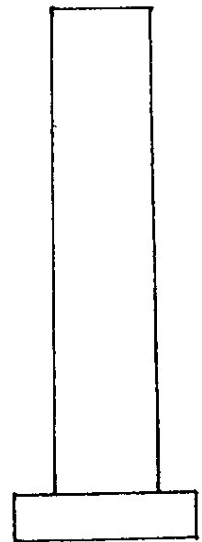
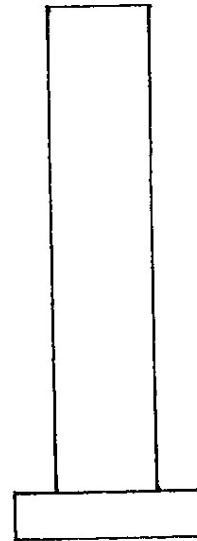


Rt. End



Crack
wall

Back



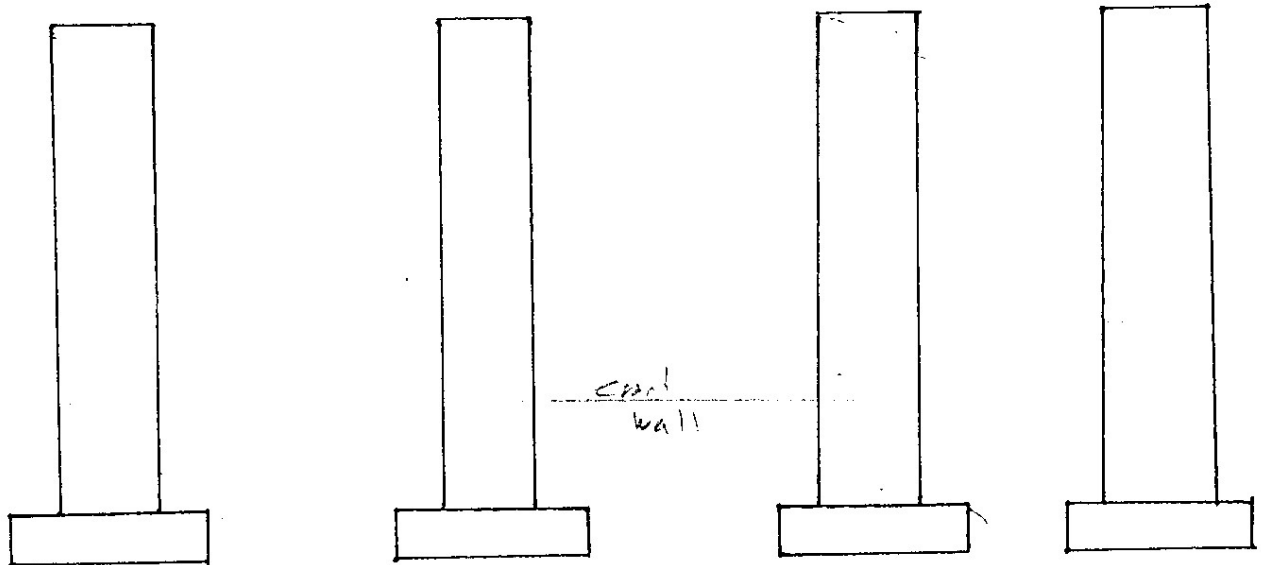
Lt. End

Bearing	Good	
Column "A"	FAIR	Light crack
" "B"	Good	
" "C"	'	

Pr. No. 94-SR247-238

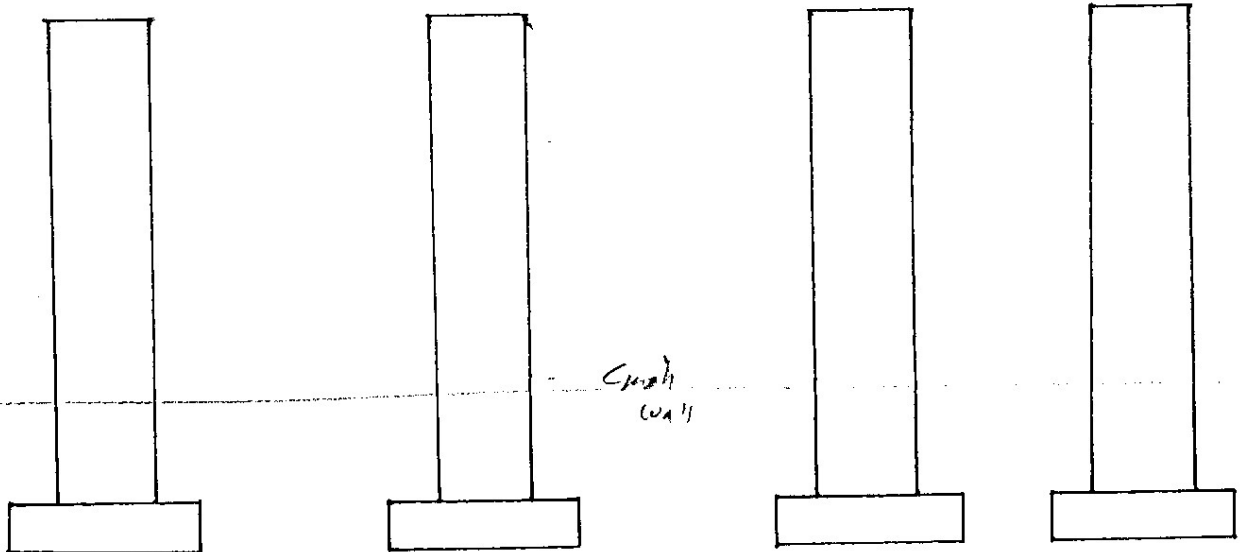
Bent No. 2

Date: 10/25/99



Front

Rt. End



Back

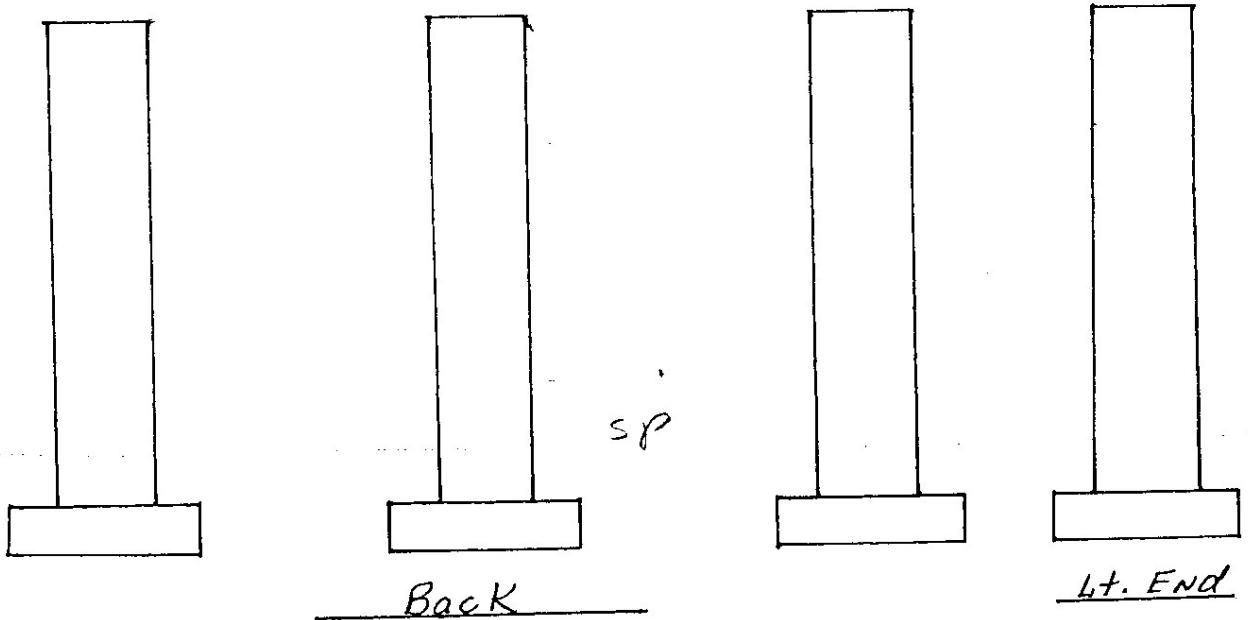
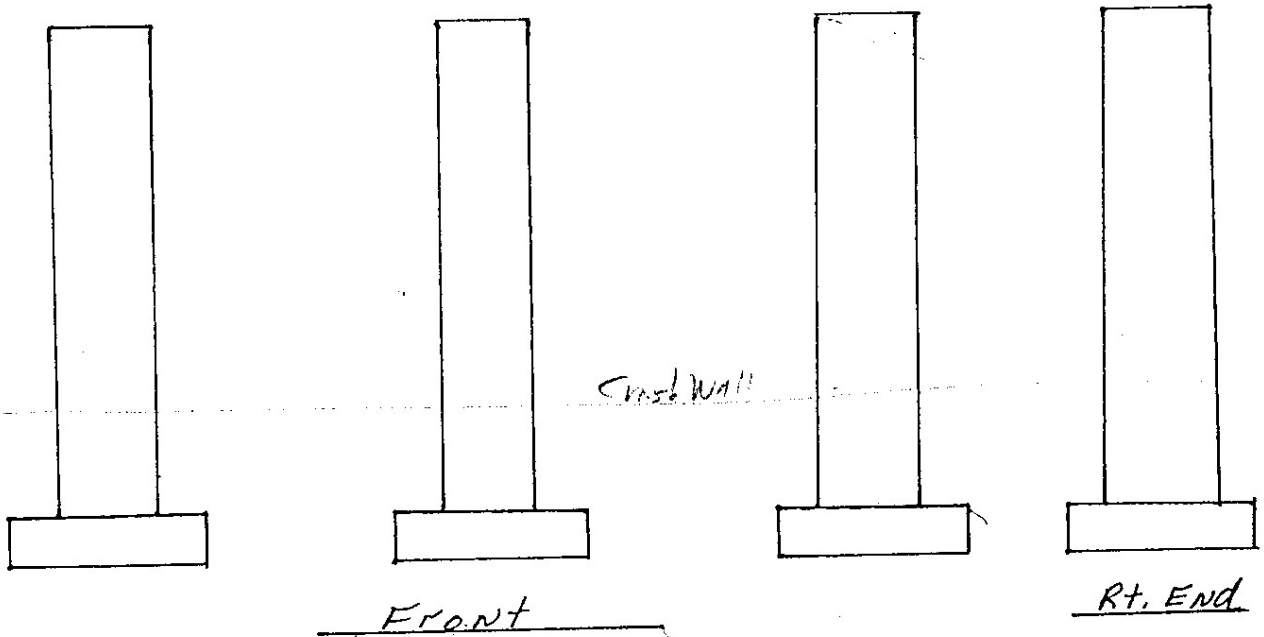
Lt. End

Bearing	Crack	
Column "A"	FAIR	Light crack, light scale
" " "B"	"	Light crack
" " "C"	"	Light crack, light scale

Br. No. 94-SR247-238

Bent No. 3

Date: 10/25/99



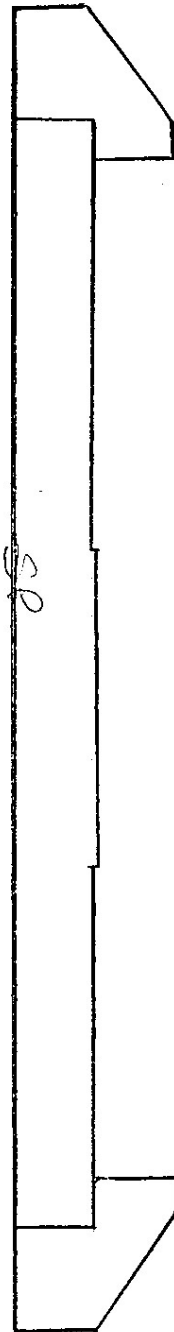
Bearing	Good	
Column "A"	FAIR	Light cracks, light scale
" "B"	"	Light cracks
" "C"	"	Light cracks, light scale

BR. No. 94-247-2.38^{S.K.}

Date: 10/25/99

L.T.

R.T.



ABUTMENT No. 2

BEARING	Good	
BRIDGE SEAT		
BACKWHEEL		
CAP	Good	
LEFT WING	"	
RIGHT WING	"	
SLOPE PAVING	"	

BRIDGE PROJECTS LET TO CONTRACT

(March 30, 1990)

REGION 3

Maury County (Contract No. 8079) Bridge No. 60-Relocated SR-6

Project No.: MAF-6(20), 60092-3224-14

The grading and drainage on S.R. 6 (U.S. 43) including the construction of a partial mineral aggregate base, the construction of two (2) interchanges on S.R. 6 with S.R. 50 and with Industrial Park Road, the construction of six (6) bridges: two (2) dual prestressed concrete I-beam bridges on S.R. 6 over Williamsport Pike and over Little Bigby Creek, one (1) prestressed concrete Bulb-Tee beam bridge on S.R. 6 over S.R. 50 and three (3) prestressed concrete I-beam bridges, one on Ramp "C" over Little Bigby Creek, one on Industrial Park Road over S.R. 6, and one on S.R. 6 over the Tennessee Southern Railroad, construction of one (1) concrete box bridge (2 @ 8' x 4'), installation of fence, paving with bituminous materials (plant mix) on the cross roads, the installation of guardrail, underdrains, signs, and pavement marking beginning approx. 0.15 mile west of S.R. 50 and extending to Greenview Drive.

Working days - 325

Contractor - Jones Brothers, Inc. (Mt. Juliet, TN)

Williamson County (Contract No. 8091) Bridge No. [REDACTED]

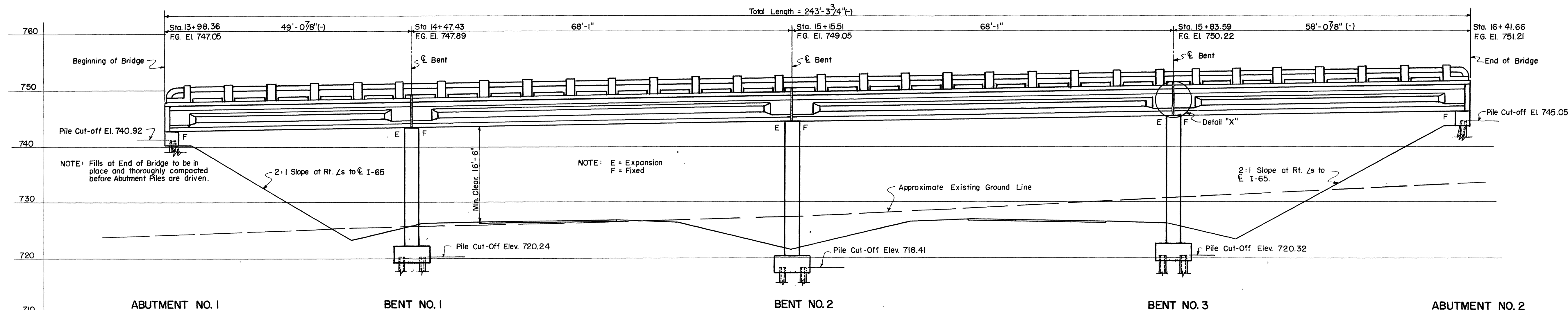
Project No.: S.P. 94031-4307-04

The resurfacing on S.R. 247 (Duplex Road) with bituminous materials (plant mix), bridge deck repair, sealant and pavement marking beginning at the new pavement at the Maury County Line (L.M. 0.00) and extending to the intersection of S.R. 106 (L.M. 4.31).

Working days - 40

Contractor - Hurst Construction Company, Inc. (Murfreesboro, TN)

I-65-2(8)52



ELEVATION AT RT. Ls TO $\angle$ DUPLEX & SPRINGHILL PIKE

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specification of the Tennessee Department of Highways and Public Works.

LOADING: H15-44

CONCRETE: (Cast in Place) - To be Class "A".

REINFORCING STEEL: To be Intermediate or Hard Grade. See Specification. Standard Hook Detail as recommended by CRSI shall apply.

PILES: To be 10" BP 42" for Abutments and Bents.

NEOPRENE MASONRY PADS: See Special Provisions.

PRESTRESSED BEAMS: See Special Provisions.

JOINT FILLER: See Special Provisions.

SPECIAL NOTE

Foundation for Bents shall be excavated to the Pile Cut-off elevations shown; Rod Soundings shall then be made as directed by the Engineer. From the results obtained, the Bridge Engineer will decide if Piles will be used, or the Footing carried to rock. Piles shall be driven to rock or minimum bearing of 36 tons for Bents and Abutments. No Reinforcing Steel for Columns shall be ordered until final Footing Elevations are established. Cost of Rod Soundings shall be included in the cost of items bid on.

HANDRAIL NOTE

Build Handrail according to Drawing No. H-5-110, X=3", L=6'-4 1/4" (-), Q=242'-9 3/4" (-).

LIST OF DRAWINGS

DWG. NO.

HANDRAIL: See Note this sheet	H-5-110
PRESTRESSED BEAM DETAIL:	K-4-146
SUPERSTRUCTURE:	K-4-147
ABUTMENTS NO. 1 & 2:	K-4-148
BENTS NO. 1, 2 & 3:	K-4-149
BILL OF STEEL:	K-4-150
PILE SPLICE DETAILS:	G-10-42

EST. ADT. 1975 = 310

PIER PROTECTION ADDED 6-26-75
SEE SHEET K-4-145A

ALTERNATE "P"

24'-0" ROADWAY WITH 1'-0" CURBS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS

NASHVILLE
LAYOUT OF BRIDGE
DUPLEX & SPRINGHILL PIKE
OVER INTERSTATE-65
STATION 39+15.00
WILLIAMSON COUNTY
1960

ESTIMATED QUANTITIES

ITEM	EXCAVATION		CONCRETE CLASS "A" Cu. Yds.	STEEL Lbs.	PRESTRESSED BEAMS AASHTO TYPE III			CONCRETE HANDRAIL Lin. Ft.	10" BP @ 42" STEEL PILES Lin. Ft.
	DRY	ROCK			48'-3"	57'-3"	68'-0"		
Superstructure			180.4	38397	3	3	6		
Abutment No. 1			12.1	1490					
Bent No. 1	55	5	21.4	3587					
Bent No. 2	42	5	23.3	3922					
Bent No. 3	55	5	22.8	3831					
Abutment No. 2			12.0	1490					
Total	152	15	272.0	52,717	3	3	6	486	580

NOTE: Cost of all Joint Material to be included in the Unit Price Bid for Class "A" Concrete.

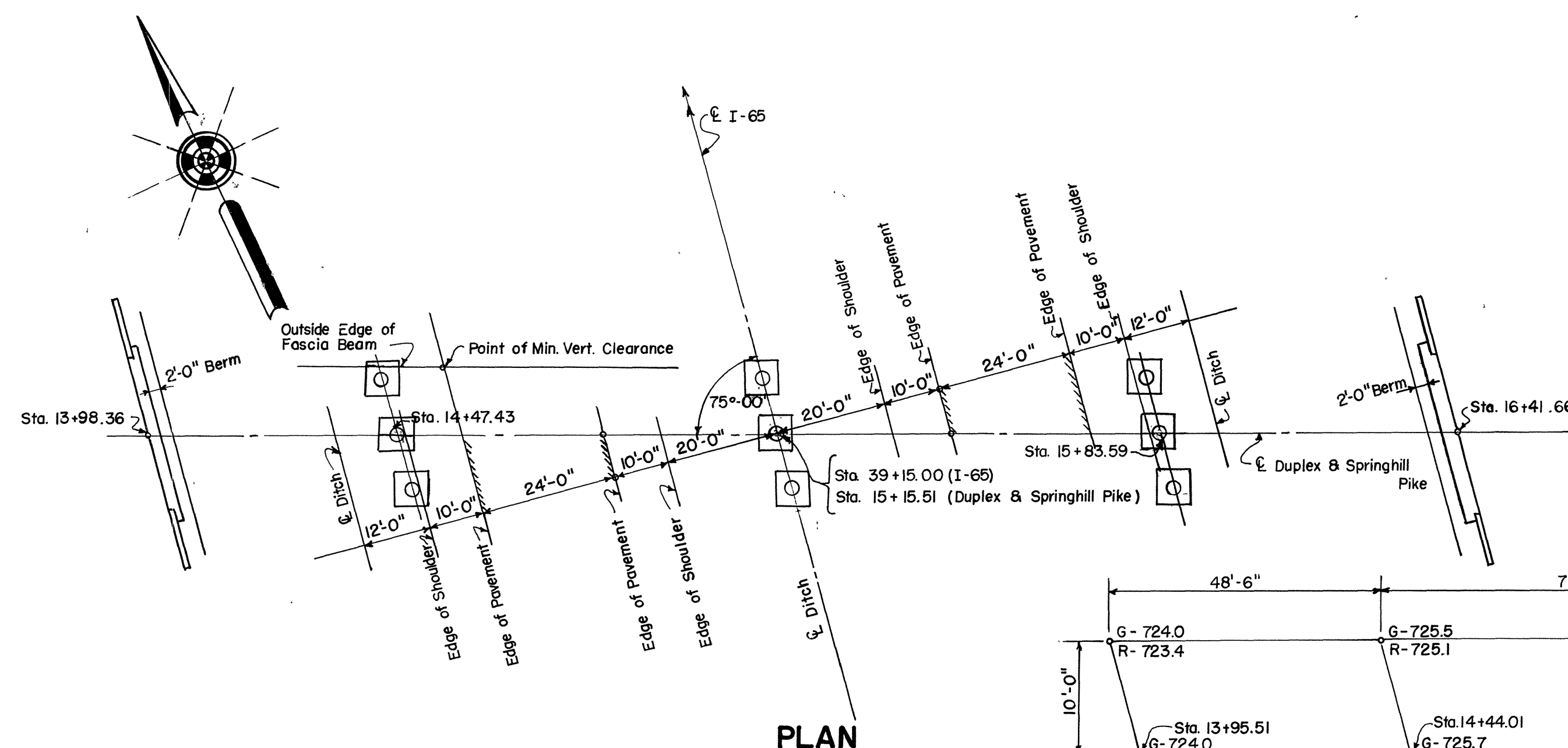
CORRECT

Frederic Gure
BRIDGE ENGINEER

APPROVED

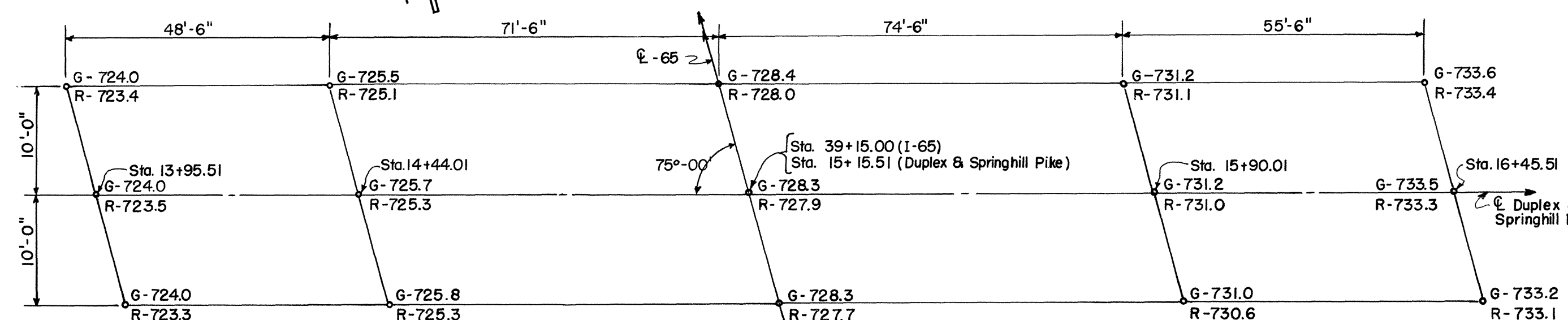
STATE HIGHWAY ENGINEER

K-4-145



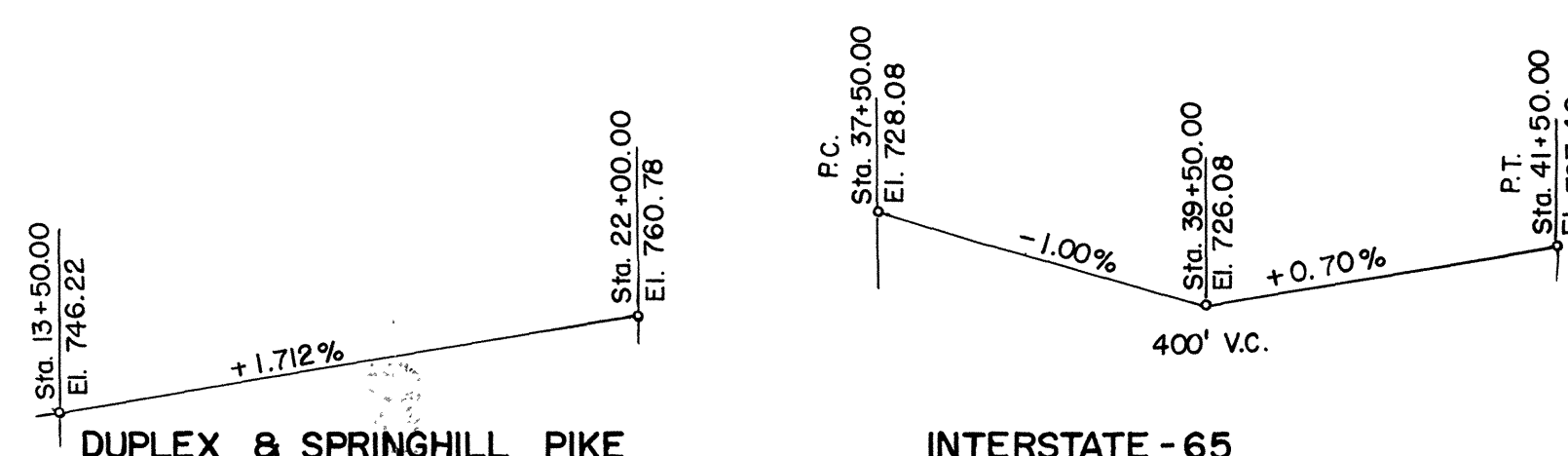
PLAN

DETAIL "X"
NOTE: Typical



SOUNDING SKETCH

G = Ground Elevation
R = Rock Elevation



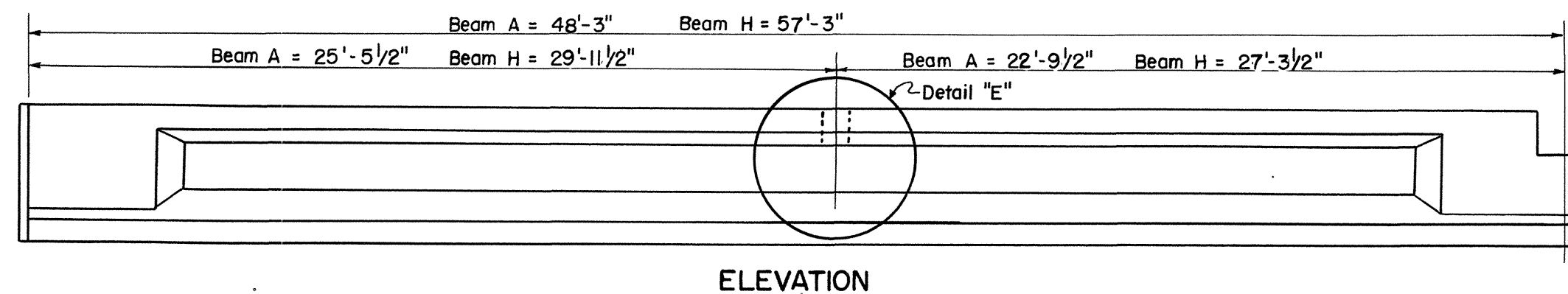
SKETCH SHOWING GRADES

Elevations shown are based on Finished Grade

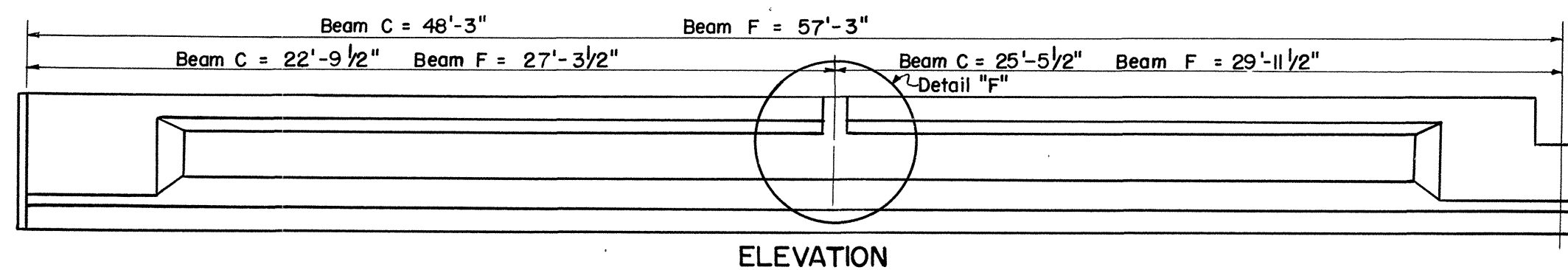
DESIGNED BY J. Wilson
DRAWN BY D. Brewer
TRACED BY G. E. Hall
CHECKED BY D.E. Strong & R.B. Omohundro

DATE 12-15-60
DATE 1-3-61
DATE 12-22-61

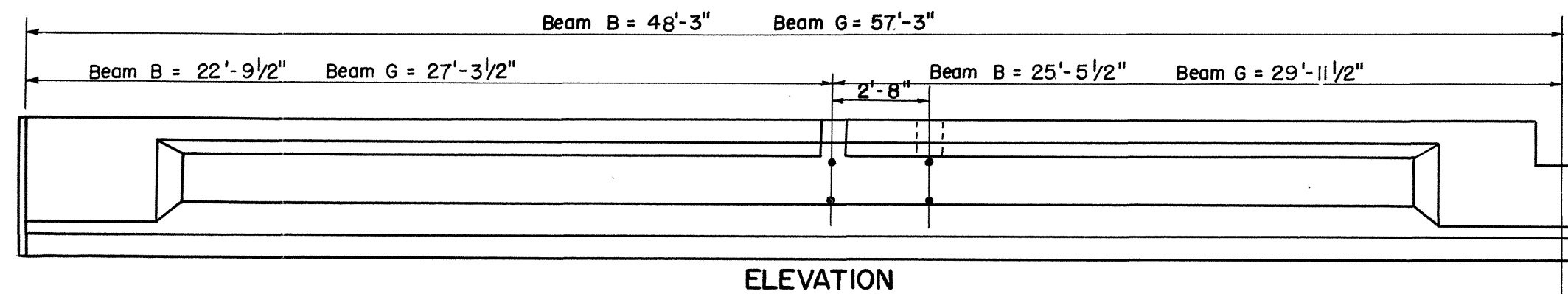
I-65-2(8)50



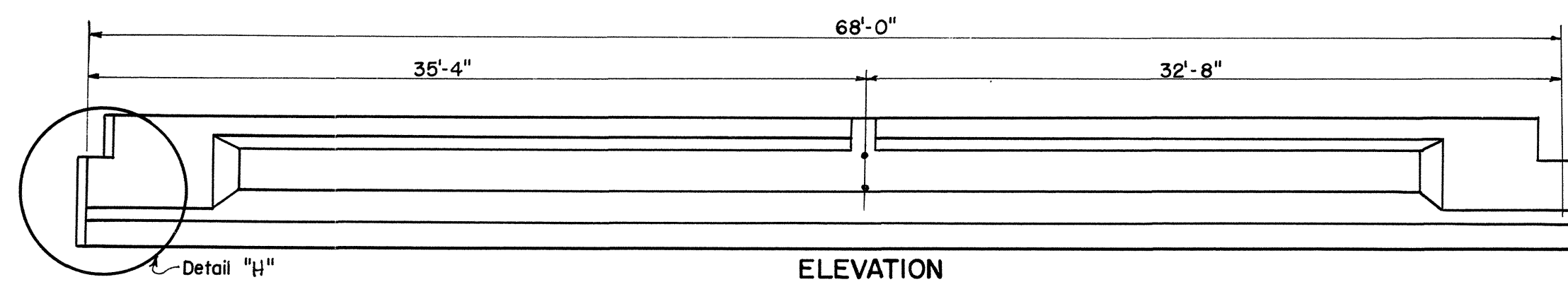
PLAN
BEAMS A & H



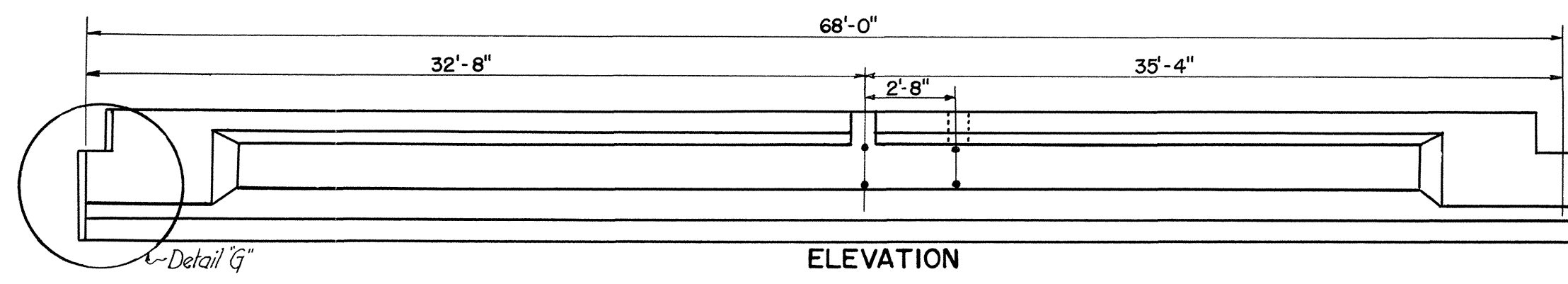
PLAN
BEAMS C & F



PLAN
BEAMS B & G



PLAN
BEAMS D

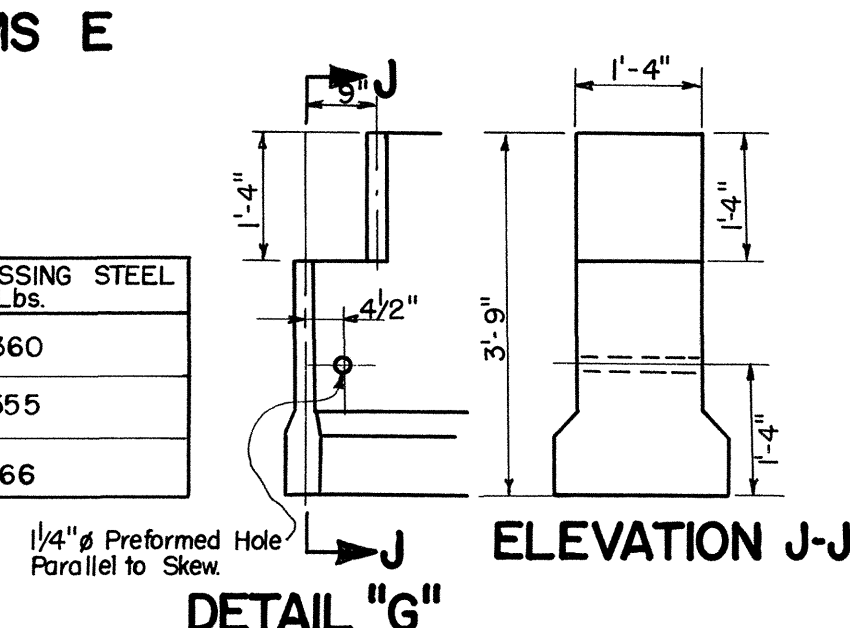


PLAN
BEAMS E

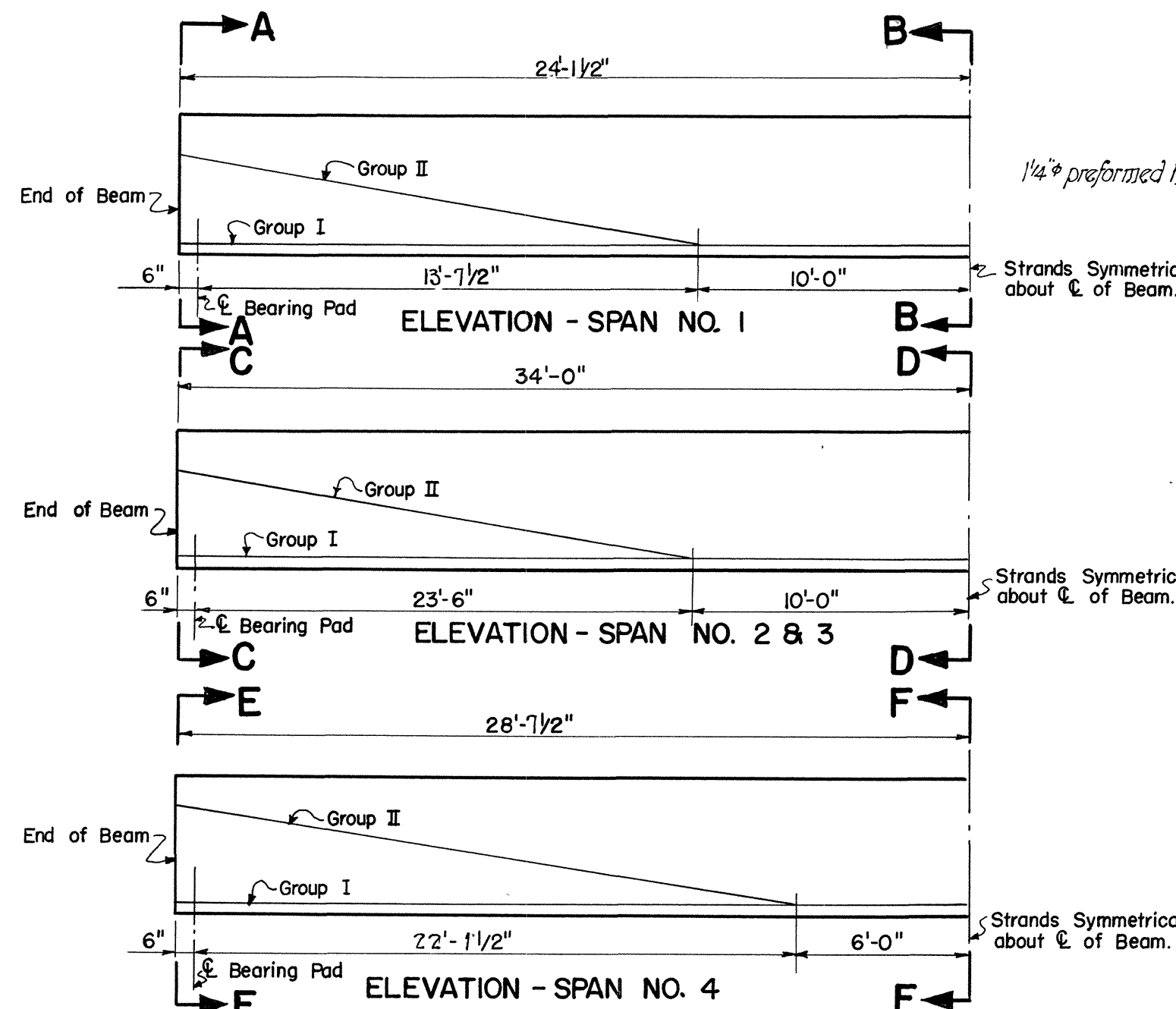
ESTIMATED QUANTITIES PER BEAM

ITEM	*CONCRETE Cu. Yds.	REINFORCING STEEL Lbs.	*PRESTRESSING STEEL Lbs.
Beam A, B & C	7.3	623	360
Beam F, G & H	8.6	676	555
Beam D & E	10.2	736	1066

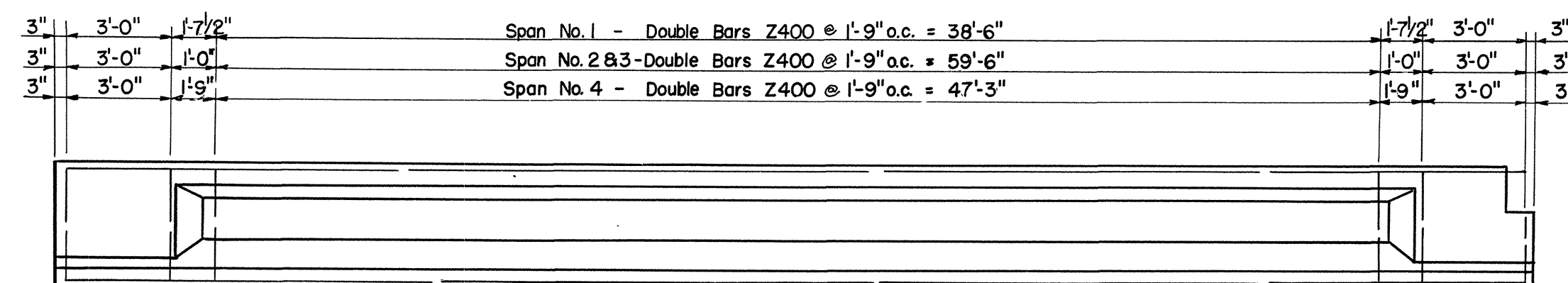
* NOTE: See Special Provisions.



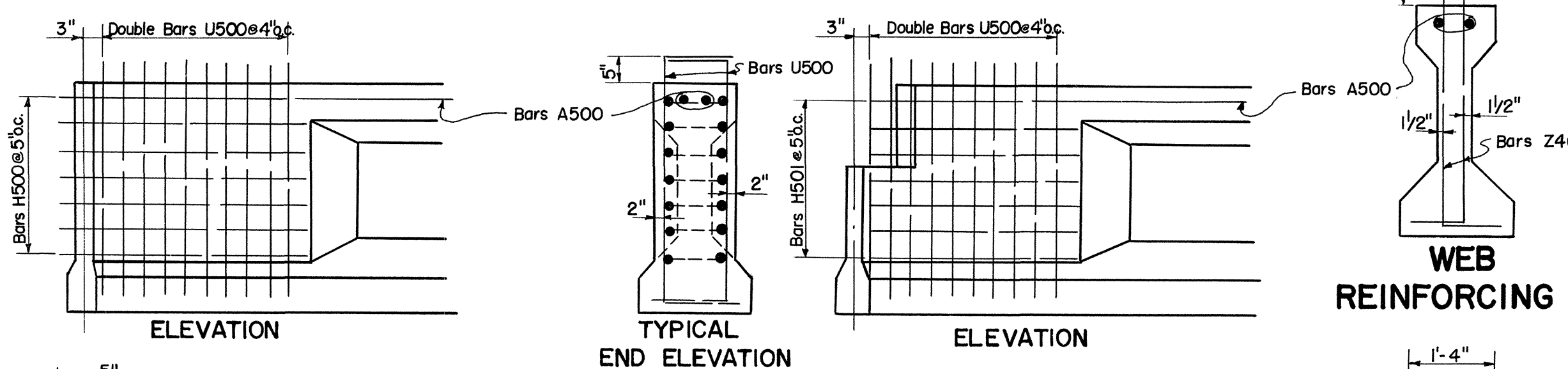
Typical Interior Beams of Intermediate Supports.



DETAILS SHOWING STRAND DEFLECTION PATTERN



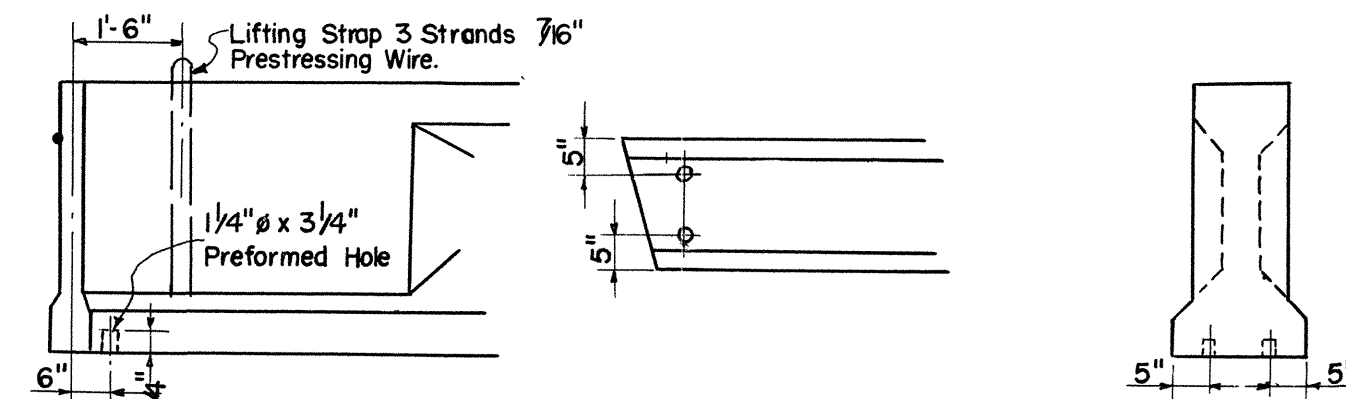
TYPICAL ELEVATION OF BEAMS SHOWING REINFORCEMENT



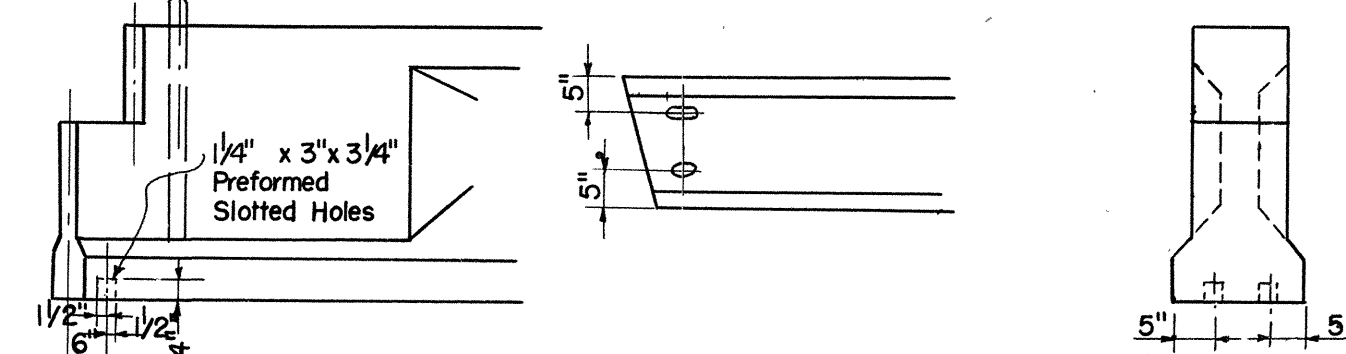
PLAN
END BLOCK REINFORCING AT ABUTMENTS

PLAN
END BLOCK REINFORCING AT BENTS

WEB
REINFORCING



TYPICAL DETAILS AT FIXED END OF BEAMS



TYPICAL DETAILS AT EXPANSION END OF BEAMS

GENERAL NOTES

- All Prestressing Strands to be 7/16" 7 wire uncoated stress relieved Strands.
- A Force of 18,900 lbs. shall be applied to each strand in all Beams.
- All Beams are AASHTO-PCI Standard Type III.
- Top of Beam to be Rough Floated. At approximately the time of initial set, the top of the Beam shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a rough surface.

ALTERNATE "P"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS

NASHVILLE

PRESTRESSED BEAM DETAILS
DUPLEX & SPRINGHILL PIKE
OVER INTERSTATE-65
STATION 39+15.00
WILLIAMSON COUNTY
1960

CORRECT
FRED GREENE
BRIDGE ENGINEER

APPROVED
STATE HIGHWAY ENGINEER

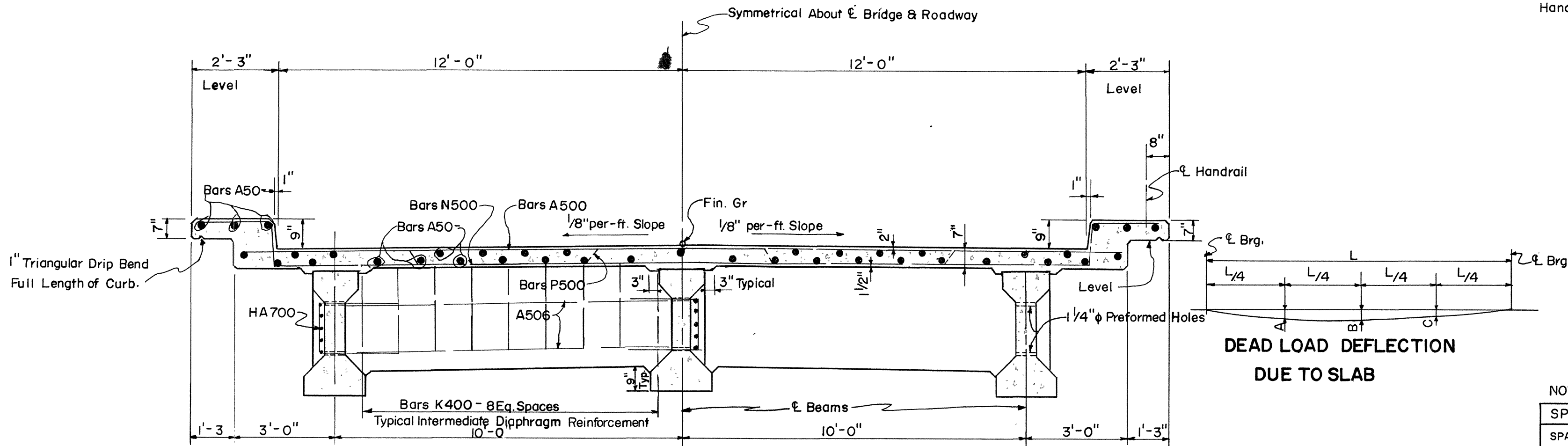
K-4-146

DESIGNED BY: J. Wilson
DRAWN BY: D. Brewer
TRACED BY: A. Kelley & E. Hall
CHECKED BY: D.E. Strong & R.B. Omohundro
DATE: 12-21-60
DATE: 1-5-61
DATE: 12-29-60

BILL OF STEEL - EACH BEAM											
BEAMS A, B & C				BEAMS D & E				BEAMS F, G & H			
BARS	NO.	SIZE	LENGTH	BARS	NO.	SIZE	LENGTH	BARS	NO.	SIZE	LENGTH
A500	2	5	47'-9"	A501	2	5	67'-6"	A502	2	5	56'-9"
H500	7	5	6'-3"	H501	14	5	6'-11"	H500	7	5	8'-3"
H501	7	5	6'-11"	U500	40	5	6'-2"	H507	7	5	6'-11"
U500	40	5	6'-2"	Z400	70	4	5'-1"	U500	40	5	6'-2"
Z400	46	4	5'-1"					Z400	56	4	5'-1"

I-65-2(8)52

NOTE: When pouring Curbs, Provisions shall be made for setting Reinforcing Steel for Concrete Handrail. See Dwg. H-5-110.



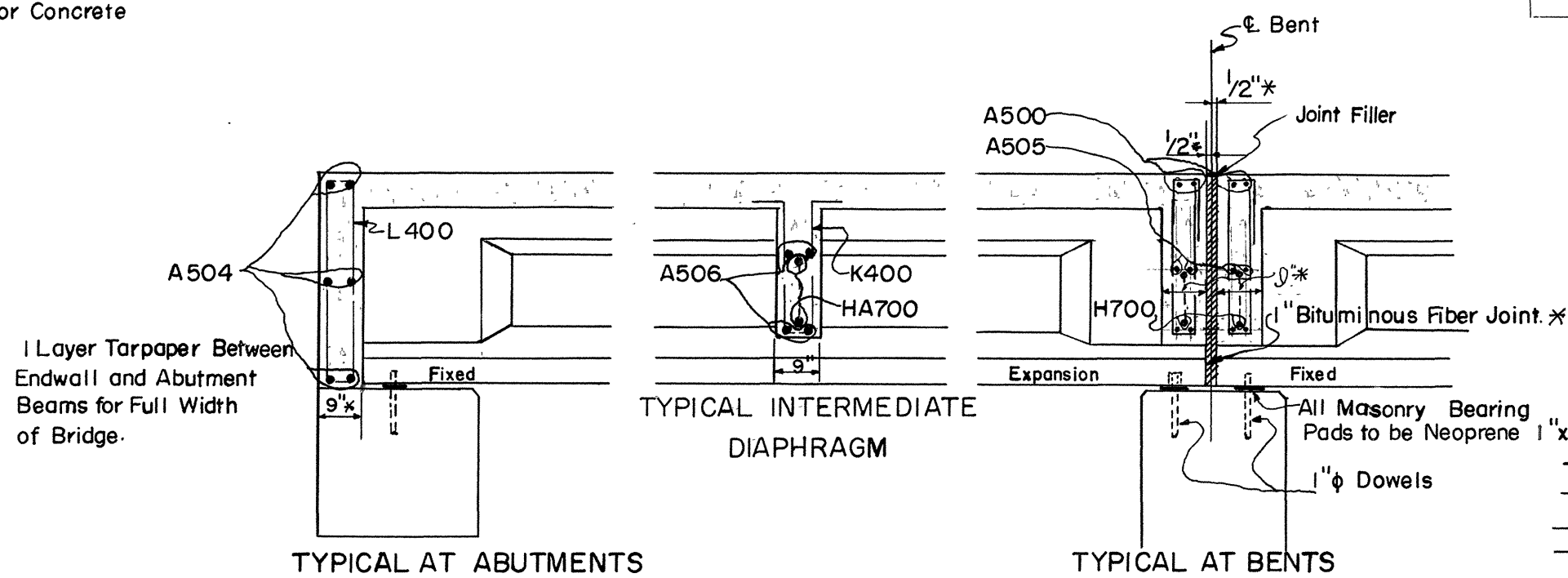
TYPICAL CROSS SECTION

NOTE: For Beam Details See Sheet No. K-4-146

DEAD LOAD DEFLECTION DUE TO SLAB

NOTE: Same for all Beams

SPAN	A	B	C	L
SPAN NO. 1		1/8"		42'-3"
SPANS NO. 2 & 3	5/8"	7/8"	9/8"	67'-0"
SPAN NO. 4		1/4"		51'-3"

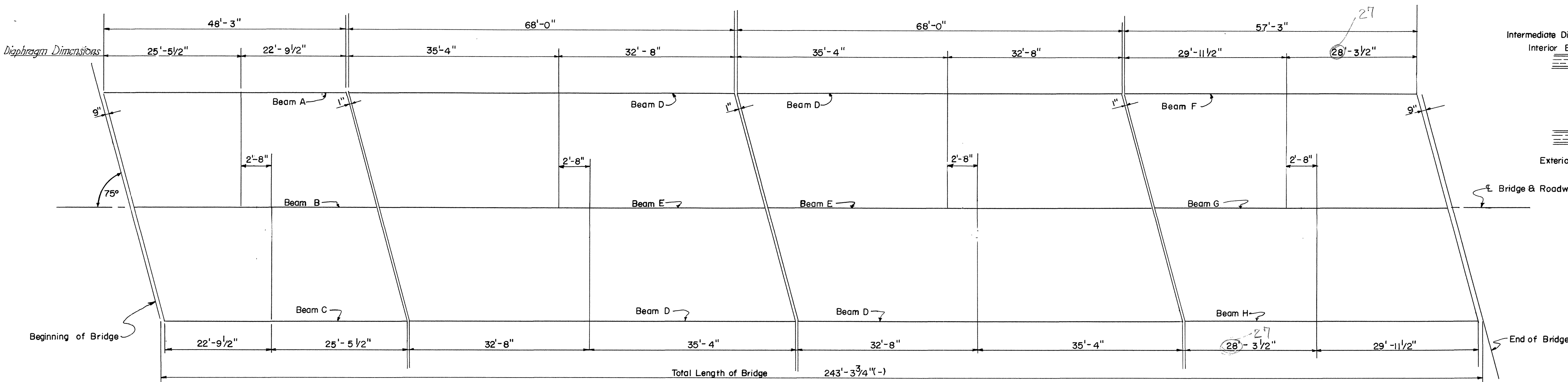


PARTIAL LONGITUDINAL SECTION

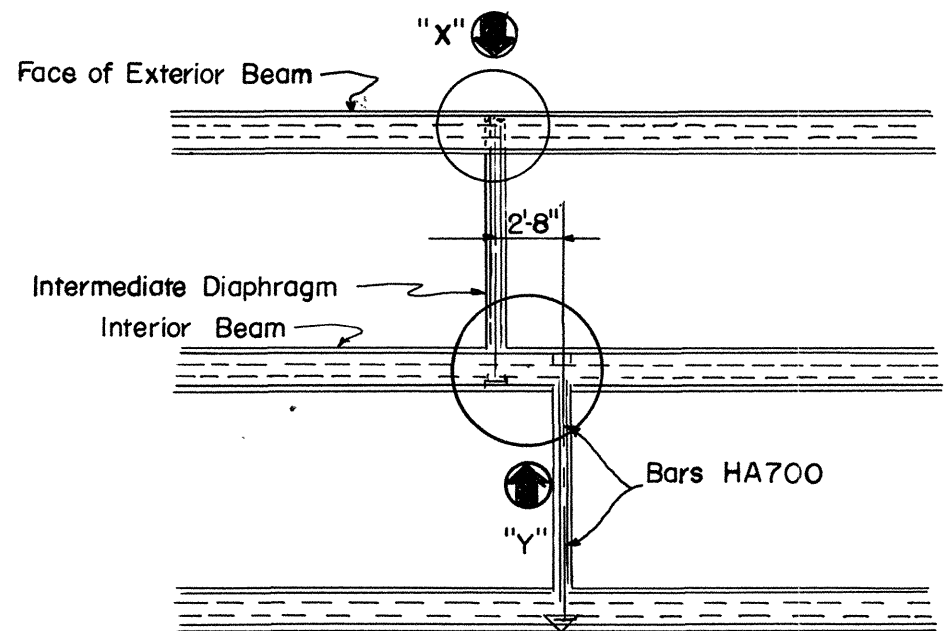
* Measured At Rt. Angles to E. Joint, Endwall or End Diaphragm

DETAIL "X"

For Outside Face of Exterior Beam Only

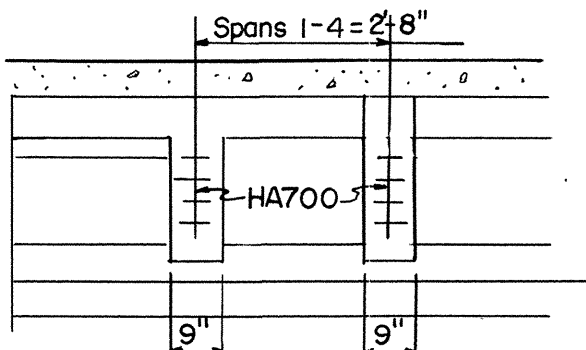


FRAMING PLAN



PLAN

Showing Location of Bars HA700 in Beams And Diaphragms



DETAIL "Y"

Showing Details And Relation Between Intermediate Diaphragms

ESTIMATED QUANTITIES

CONCRETE CLASS "A"	180.4	CU. YDS.
REINFORCING STEEL	38397	LBS.

ALTERNATE "P"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS

NASHVILLE
SUPERSTRUCTURE DETAILS
DUPLEX- SPRINGHILL PIKE
OVER INTERSTATE - 65
STATION 39+15.00
WILLIAMSON COUNTY
1960

CORRECT

BRIDGE ENGINEER

APPROVED

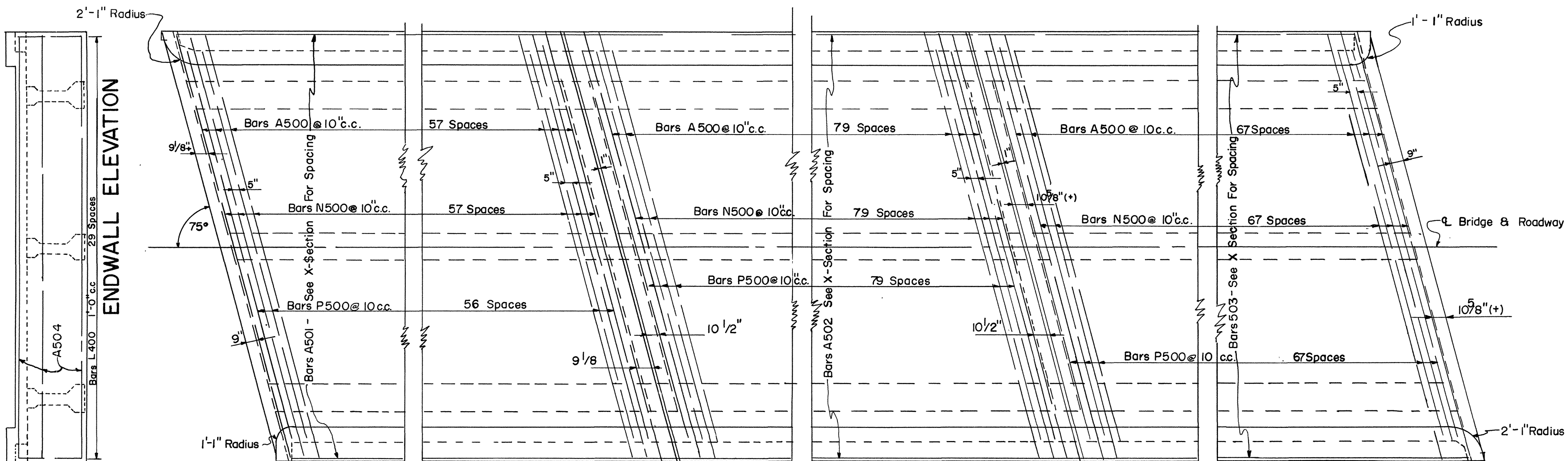
STATE HIGHWAY ENGINEER

K-4-147

DESIGNED BY John Wilson
DRAWN BY J. Crockett
TRACED BY E. Moore
CHECKED BY D. E. Strong & R.B. Omohundro

DATE 12-30-60
DATE 1-6-61
DATE 12-30-60

ENDWALL ELEVATION

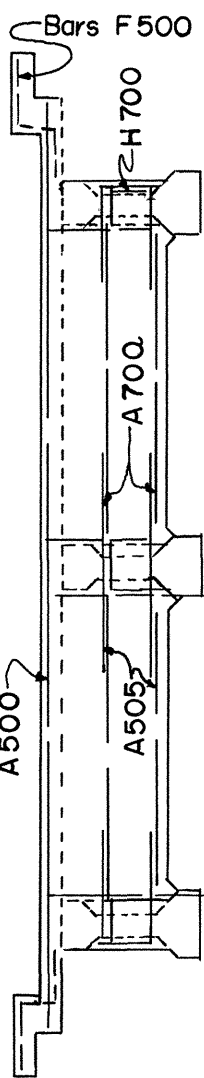


SLAB PLAN-SPAN NO. 1

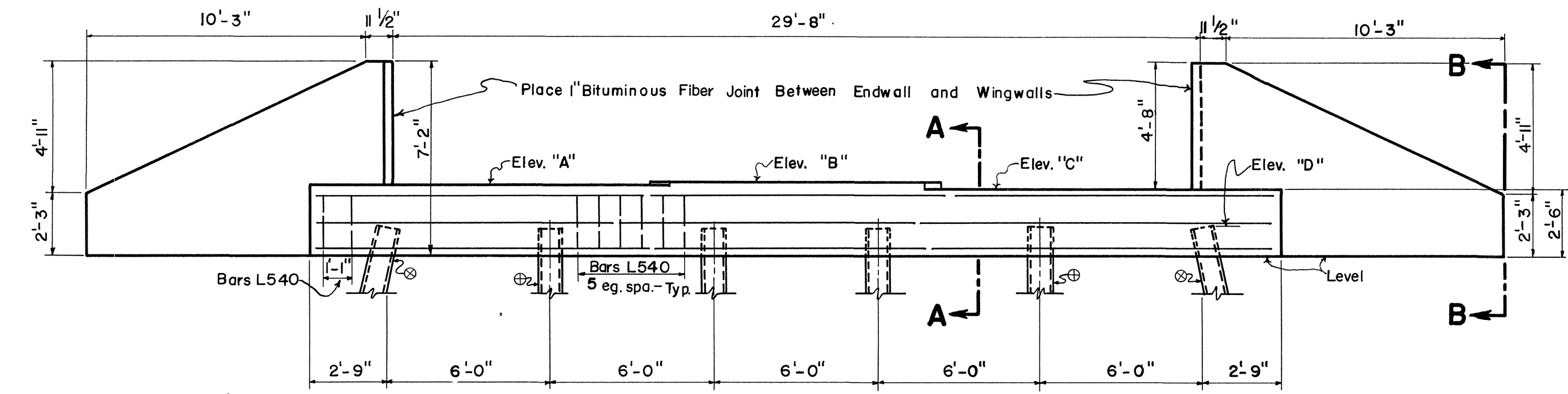
SLAB PLAN-SPANS NO. 2&3

SLAB PLAN-SPANS NO. 4

ELEVATION SHOWING DIAPHRAGM OVER SUPPORT

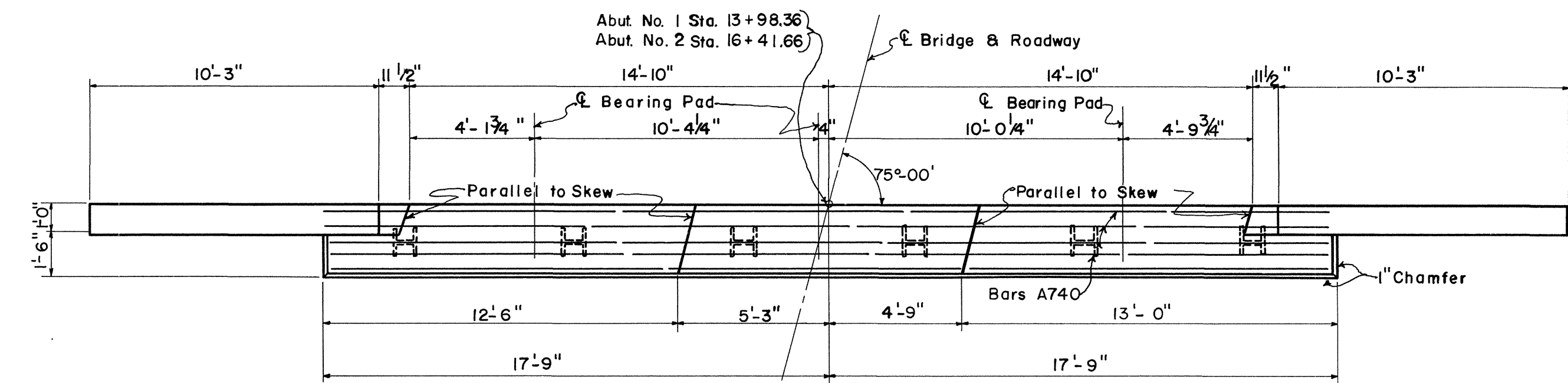


I-65-2(8)52

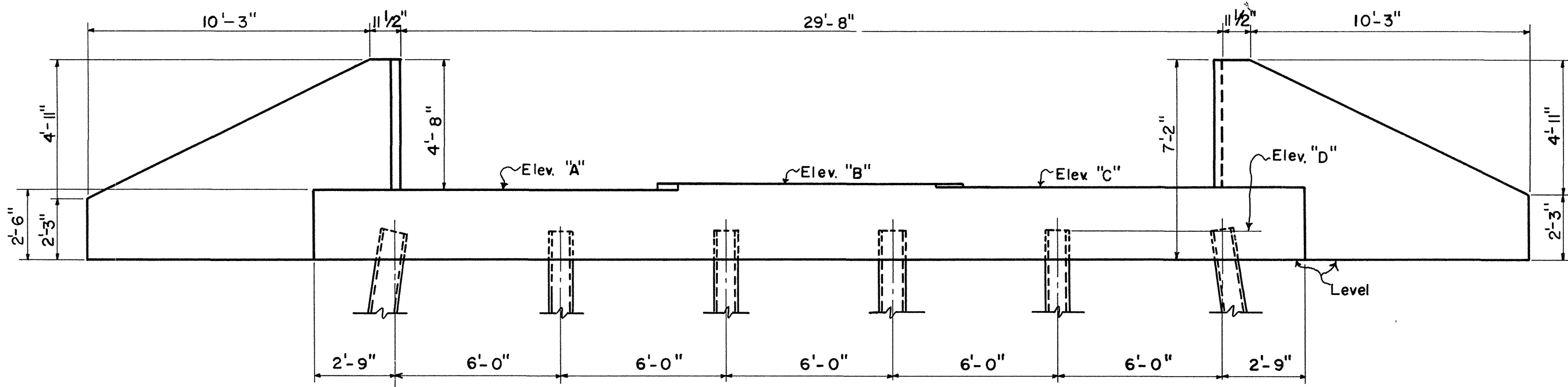


ELEVATION ABUTMENT NO. 1
LOOKING BACK ON SURVEY

⊕ Batter these Piles 2:12- See Station A-A
⊗ Batter these Piles 2:12, As shown.

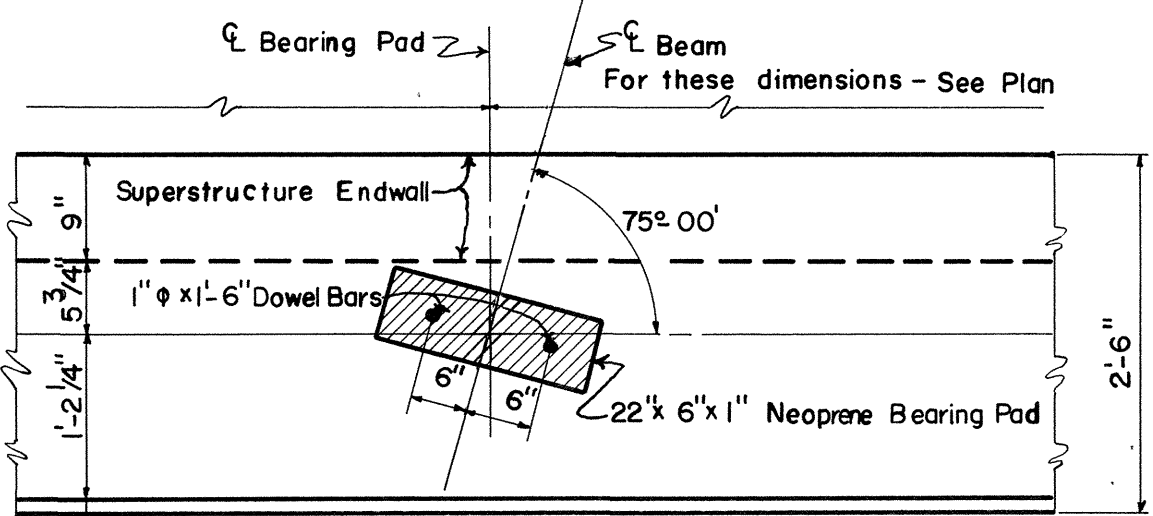


PLAN



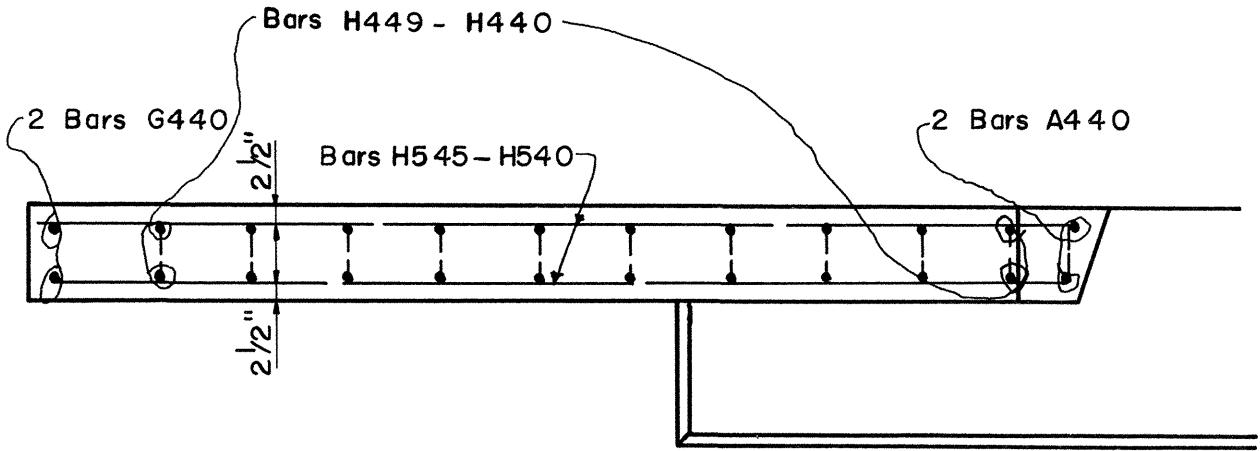
ELEVATION ABUTMENT NO. 2

LOOKING FORWARD ON SURVEY
NOTE: Dimensions and Details not shown same as for Abut. No. 1

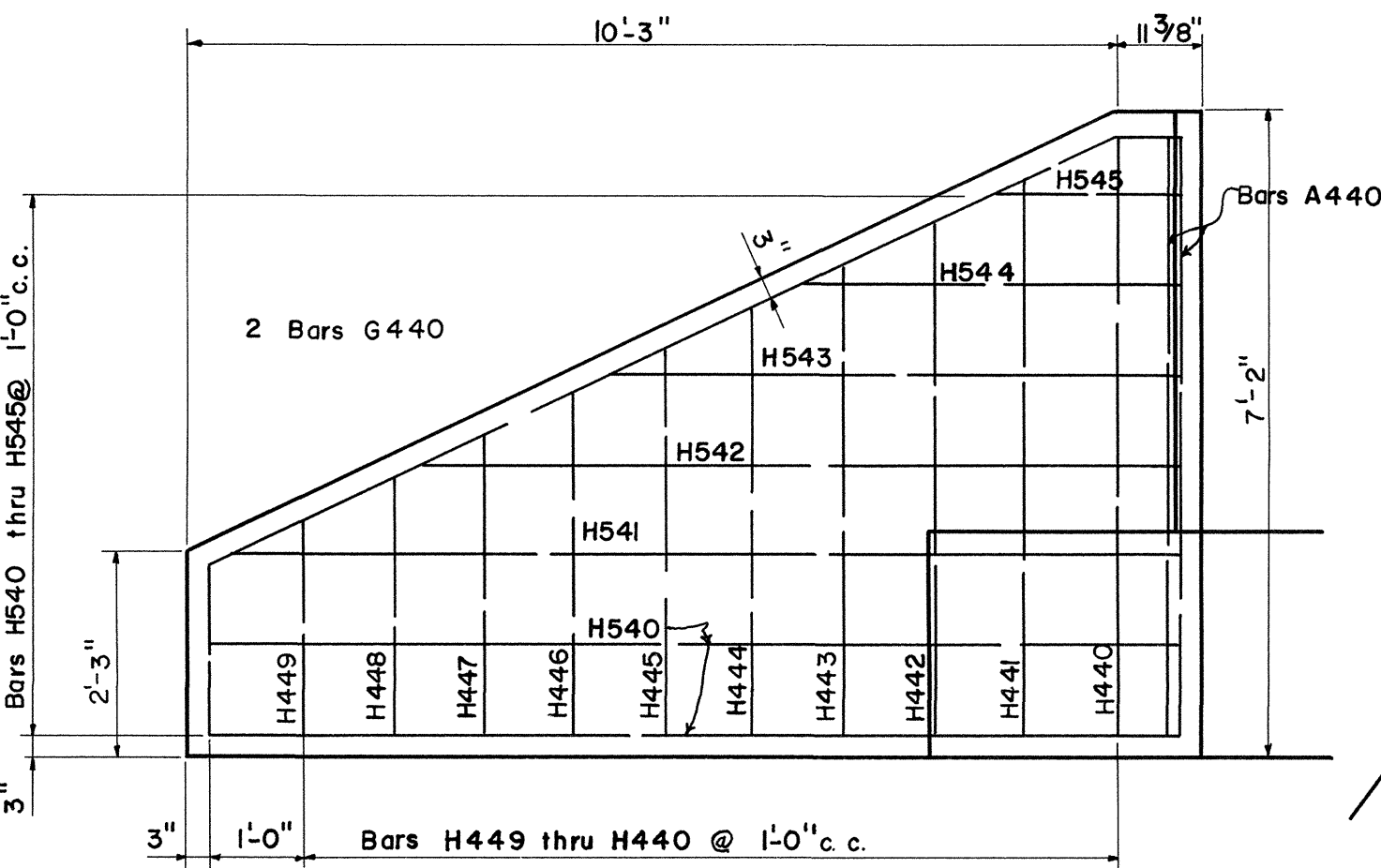


BEARING PAD LOCATION DETAIL

NOTE: When pouring Abutment No. 1, provision shall be made for setting Dowel Bars for Prestressed Beams. Dowel Bar projection 3 3/4". Dowel Bars for Abutment No. 2 shall be drilled and set after the actual location has been determined by measuring the distance between Dowel Holes in Beam.

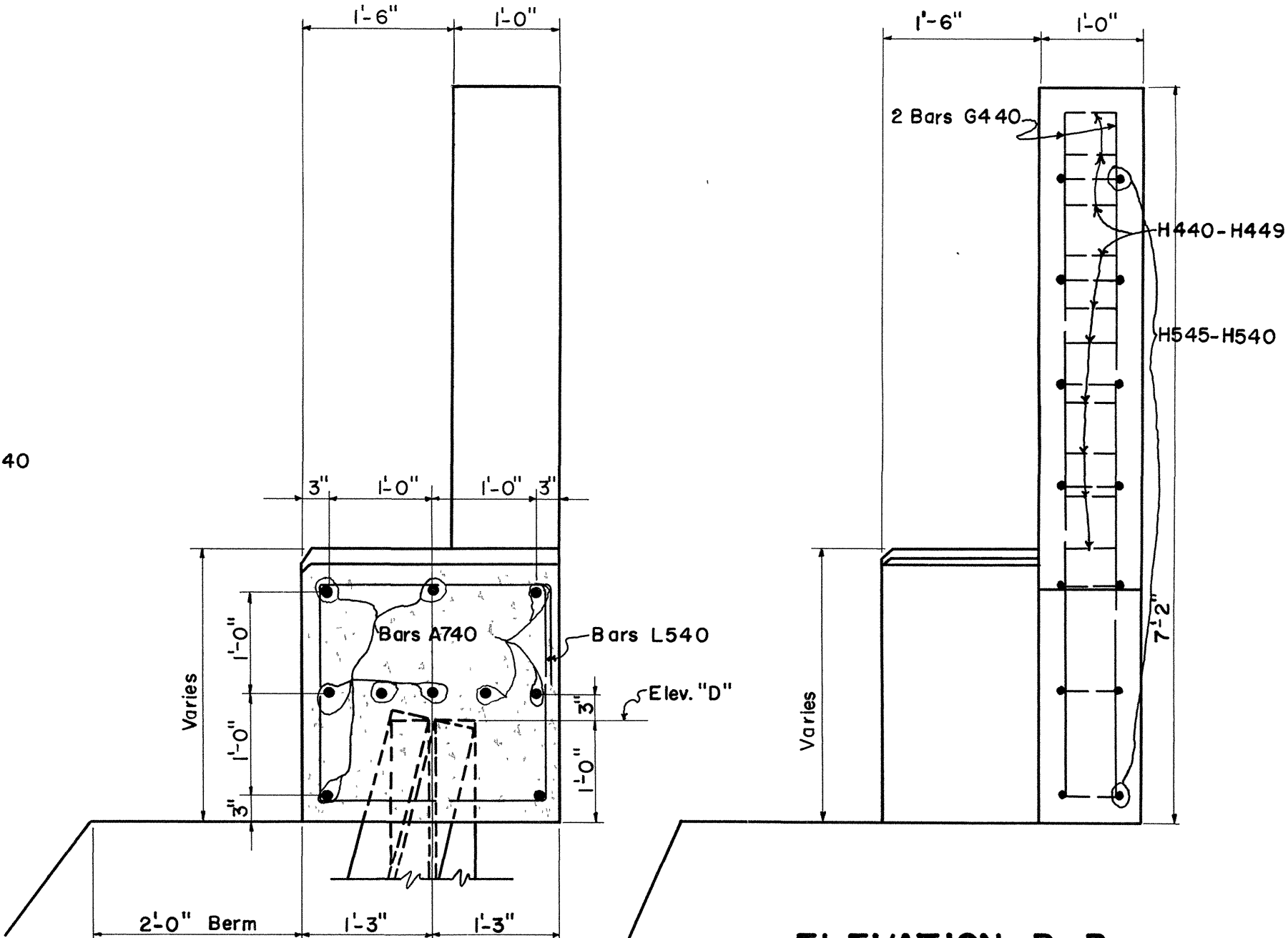


PLAN



ELEVATION
WINGWALL DETAIL SHOWING REINFORCEMENT

NOTE: Reinforcement same for all Wingwalls.



SECTION A-A

ELEVATION B-B

TABLE OF ELEVATIONS

ELEVATION	Abutment No. 1	Abutment No. 2
A	742.52	746.55
B	742.57	746.69
C	742.42	746.64
D	740.92	745.05

ALTERNATE "P"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS

NASHVILLE

ABUTMENTS NO. 182
DUPLEX AND SPRINGHILL PIKE
OVER INTERSTATE - 65
STATION 39+15.00
WILLIAMSON COUNTY
1960

CORRECT *Fred Grane*
BRIDGE ENGINEER

APPROVED *Ed E. Long*
STATE HIGHWAY ENGINEER

D-65-2(8)52

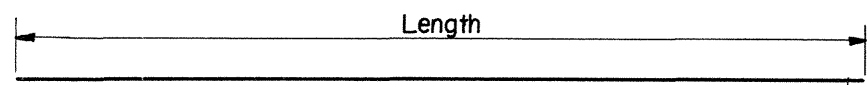
BILL OF STEEL

SUPERSTRUCTURE								ABUTMENTS NO. 1 & 2								BENTS NO. 1, 2 & 3										
BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS				LENGTH	BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS				LENGTH	BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS				LENGTH
				a	b	c	d						a	b	c	d						a	b	c	d	
A500	Slab	5	298					26'-6"	A440	Wingwalls	4	8					6'-9"	A950	Columns- Bent No. 1	9	24					20'-9"
A501	Slab	5	78					25'-0"	A740	Beam	7	20					35'-0"	A951	Columns- Bent No. 2	9	24					23'-9"
A502	Slab	5	156					34'-6"	G440	Wingwalls	4	8	8"	10'-0"	1'-10"	4'-10"	13'-7"	A952	Columns- Bent No. 3	9	24					23'-0"
A503	Slab	5	78					29'-6"	H440	Wingwalls	4	4	6"	6'-8"			13'-10"	C950	Columns & Footings	9	72	4'-11"				5'-6"
A504	Slab & Endwalls	5	12					29'-0"	H441	"	4	4	6"	6'-2"			12'-10"	D750	Footings	7	162	4'-6"				6'-2"
A505	Diaphragm @ Support	5	48					9'-6"	H442	"	4	4	6"	5'-9"			12'-0"	L450	Columns	4	426	1'-9"	0'-6"	1'-9"		7'-6"
A506	Inter. Diaphragms	5	32					9'-0"	H443	"	4	4	6"	5'-3"			11'-0"									
A700	Diaphragm @ Support	7	12					4'-9"	H444	"	4	4	6"	4'-9"			10'-0"									
F500	Curb & Slab	5	12	2'-0"	1/2"	1'-9"	1'-1"	4'-10"	H445	"	4	4	6"	4'-3"			9'-0"									
H700	Diaphragm @ Support	7	12	1'-4"	2'-6"			6'-4"	H446	"	4	4	6"	3'-9"			8'-0"									
HA700	Inter. Diaphragms	7	16	2'-6"	1'-4"			6'-4"	H447	"	4	4	6"	3'-4"			7'-2"									
		3	80			6"		0'-6"	H448	"	4	4	6"	2'-10"			6'-2"									
K400	Inter. Diaphragms	4	72	6"	5"	2'-9"		6'-11"	H449	Wingwalls	4	4	6"	2'-5"			5'-4"									
L400	Endwalls	4	60	5"	6"	4'-0"		9'-4"	H540	Wingwalls	5	8	7"	10'-9"			22'-1"									
L401	Diaphragm @ Support	4	120	5"	6"	3'-0"		7'-4"	H541	"	5	4	7"	10'-5"			21'-5"									
N500	Curb & Slab	5	286	20'-0"	1'-10"	25'-1"	1'-1"	30'-11"	H542	"	5	4	7"	8'-4"			17'-3"									
P500	Slab	5	285	26'-5"	5'-6"	4'-6"	4'-10/2"	26'-11"	H543	"	5	4	7"	6'-3"			13'-1"									
									H544	"	5	4	7"	4'-2"			8'-11"									
									H545	Wingwalls	5	4	7"	2'-0"			4'-9"									
									L540	Beams	5	68	2'-2"	1'-0"	2'-2"			9'-8"								

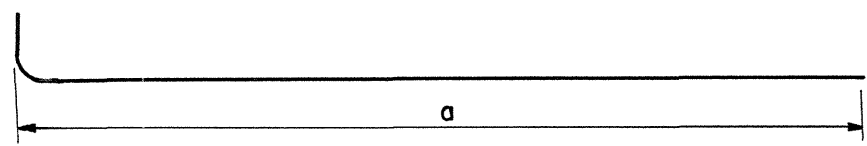
NOTE : 48-1"ø x 1'-6" Dowel Bars Required.

REINFORCING STEEL CODE

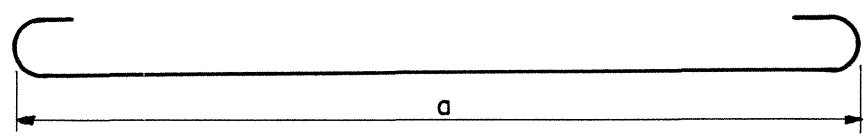
TYPE	SIZE	SERIES
A	5	O6



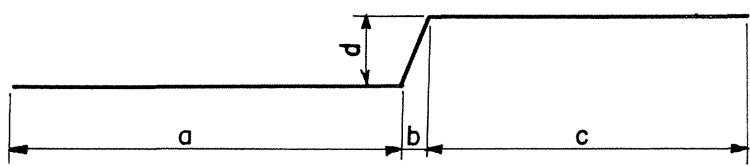
BARS A



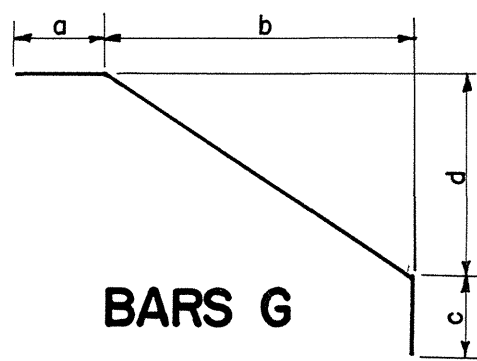
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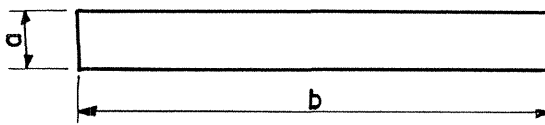
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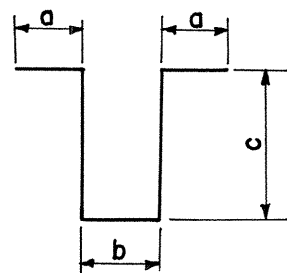
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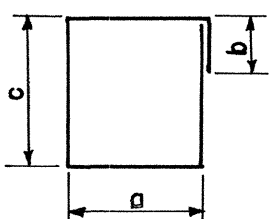
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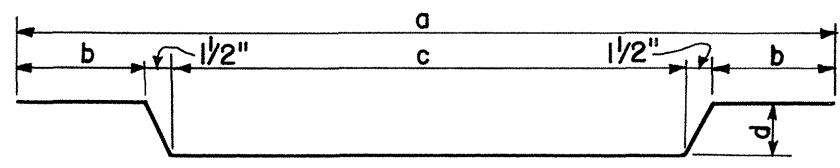
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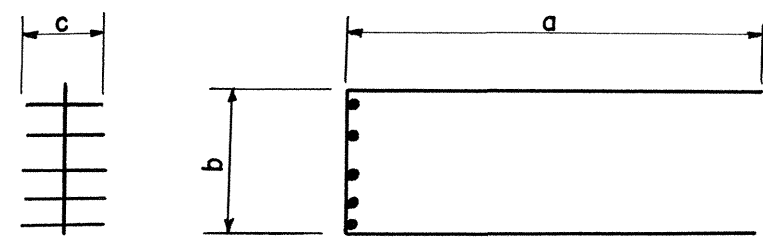
BARS K



BARS L

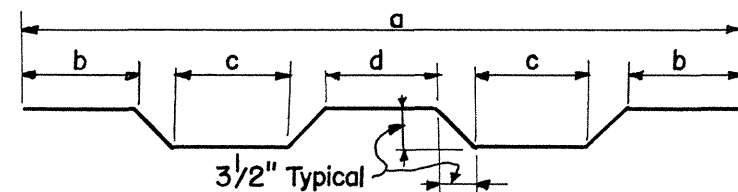


BARS N



BARS HA700

NOTE : Tack Weld No. 3 Bars to the "U" shaped Bars.



BARS P

ALTERNATE "P"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS

NASHVILLE
BILL OF STEEL
DUPLEX & SPRINGHILL PIKE
OVER INTERSTATE-65
STATION 39+15.00
WILLIAMSON COUNTY
1960

CORRECT.

Fred Green
BRIDGE ENGINEER

APPROVED

STATE HIGHWAY ENGINEER

K-4-150

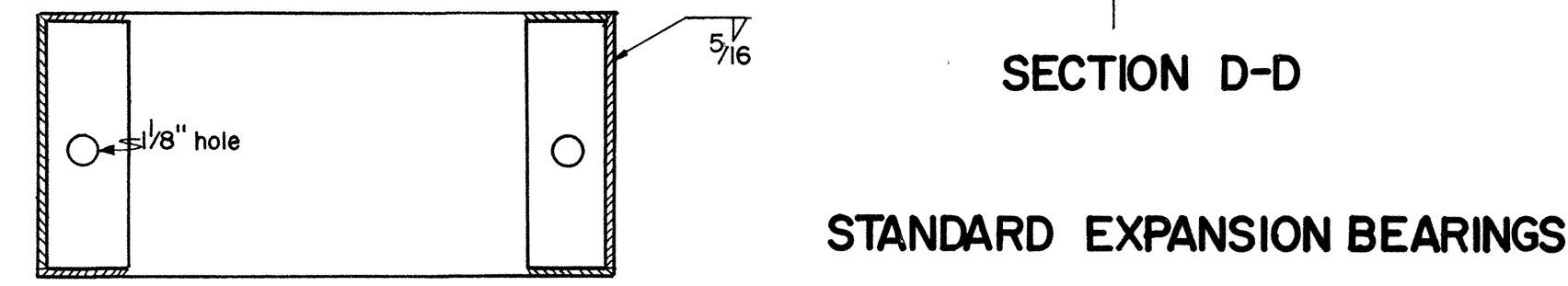
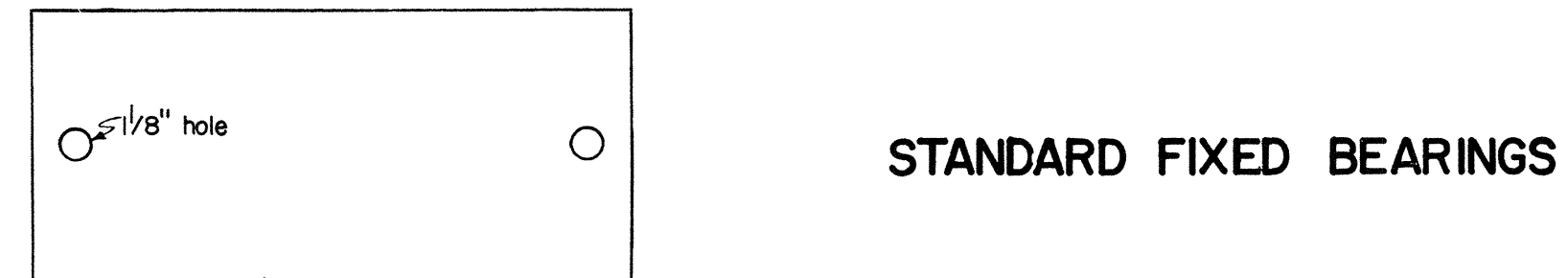
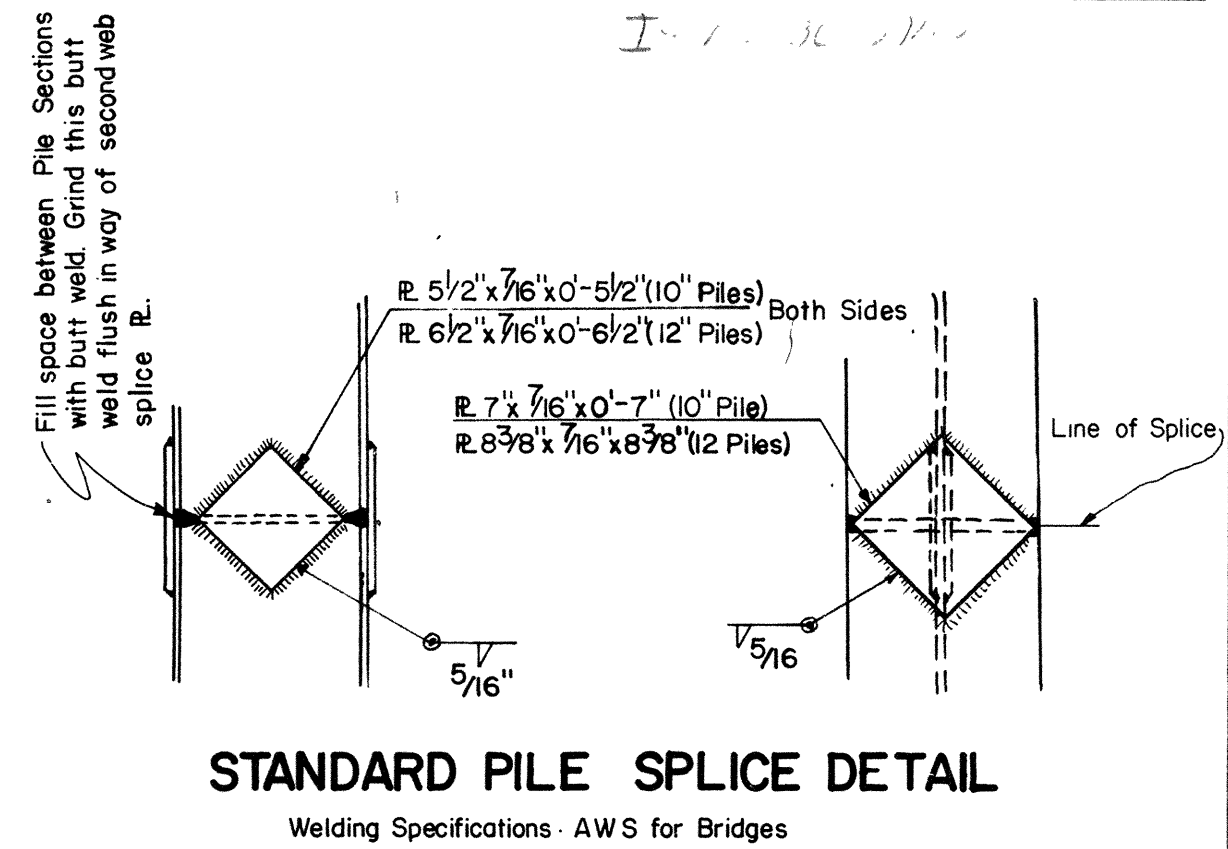
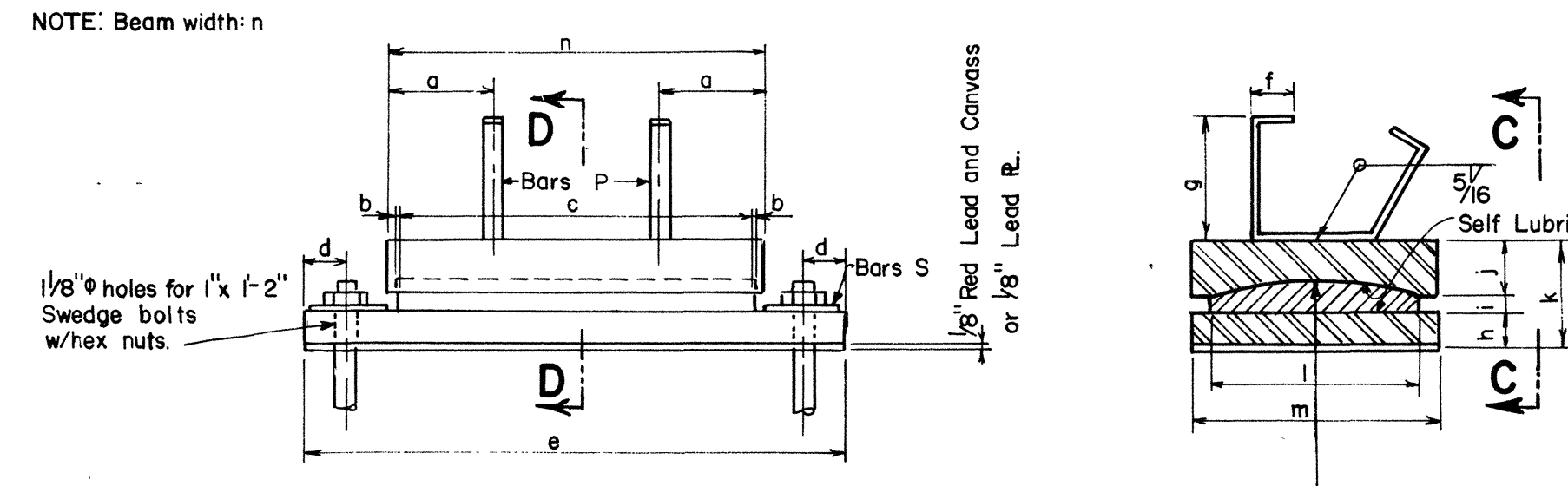
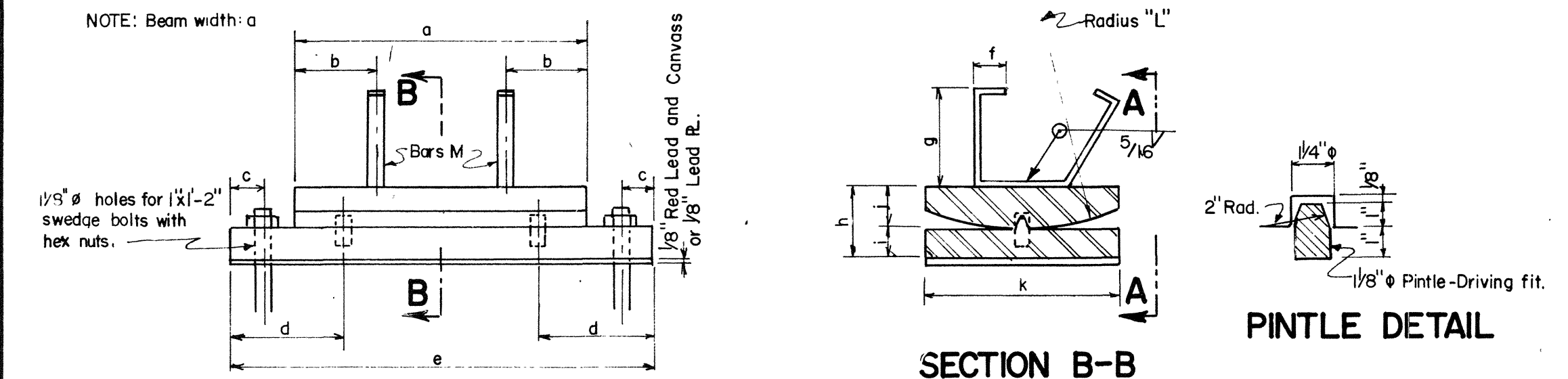
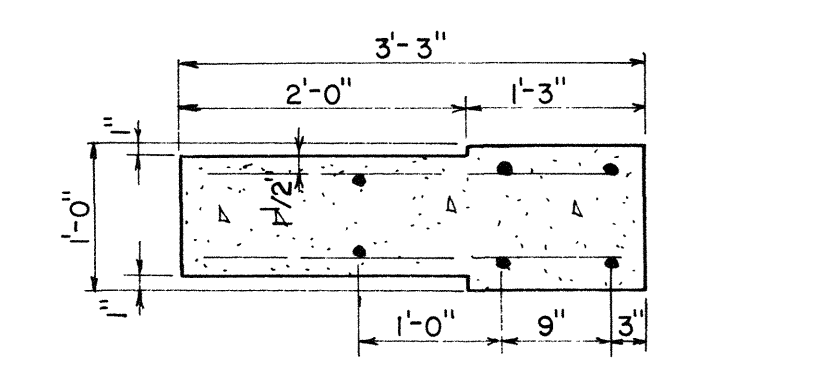
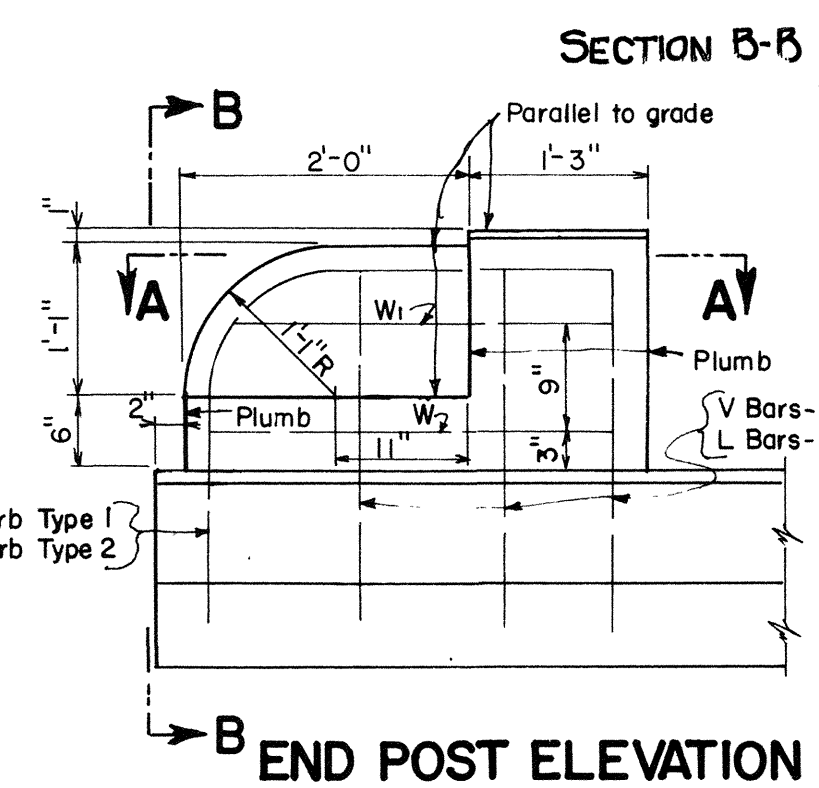
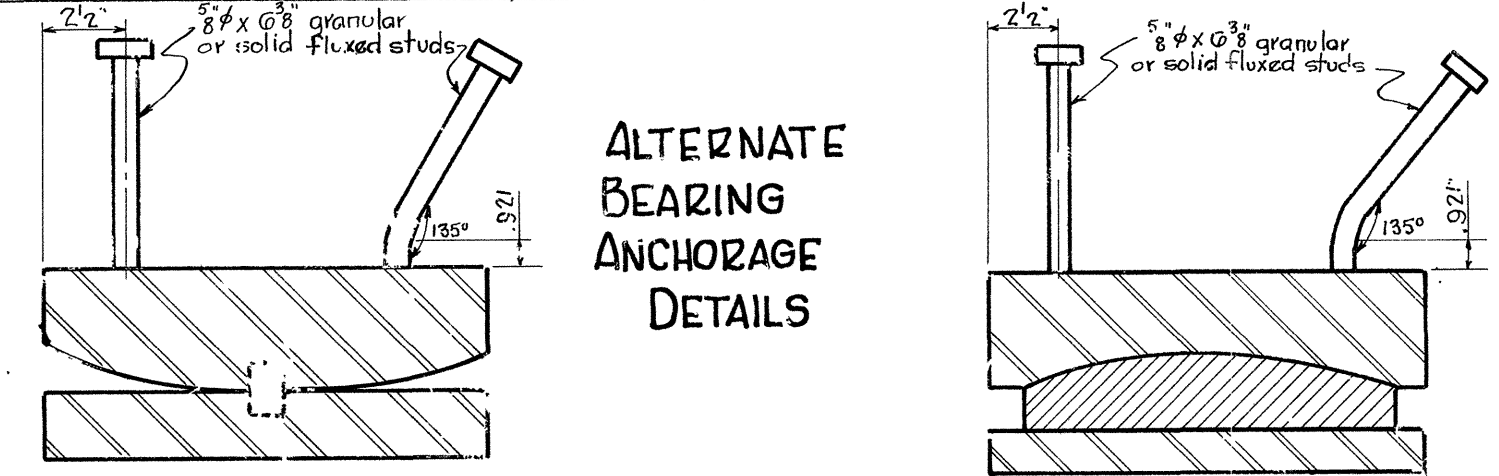


TABLE OF DIMENSIONS & ESTIMATED QUANTITIES

Type	Dimensions	Structural Steel
Type F1	a 1'-6" b 5" c 2" d 7" e 2'-2" f 2" g 6" h 4 1/2" i 2" j 2 1/2" k 1'-0" l 1'-6" m 1' x 3/8" x 2'-0"	Lbs. 322
Type F2	a 1'-2" b 4" c 2" d 7" e 1'-10" f 2" g 6" h 4 1/2" i 2" j 2 1/2" k 1'-0" l 1'-6" m 1' x 3/8" x 2'-0"	265
Type F3	a 1'-6" b 5" c 1 1/2" d 6" e 2'-0" f 2" g 6" h 4 1/2" i 2" j 2 1/2" k 1'-0" l 1'-6" m 1' x 3/8" x 2'-0"	308

TABLE OF DIMENSIONS & ESTIMATED QUANTITIES

Type	Dimensions	Structural Steel	Bronze
Type E1	a 5" b 1/16" c 17" d 2" e 2'-2" f 2" g 6" h 1 1/2" i 1" j 2 1/2" k 5" l 10" m 1'-0" n 1'-6" o 1'-6" p 1' x 3/8" x 2'-0" q 1/2' x 4' x 0'-11"	Lbs. 286	Lbs. 83
Type E2	a 4" b 1/16" c 13" d 2" e 1'-10" f 2" g 6" h 1 1/2" i 1" j 2 1/2" k 5" l 10" m 1'-0" n 1'-2" o 1'-6" p 1' x 3/8" x 2'-0" q 1/2' x 4' x 0'-11"	238	62
Type E3	a 5" b 1/16" c 23" d 2" e 2'-8" f 2" g 6" h 1 1/2" i 1" j 2 1/2" k 5" l 10" m 1'-2" n 2'-0" o 1'-6" p 1' x 3/8" x 2'-0" q 1/2' x 4' x 0'-11"	425	110

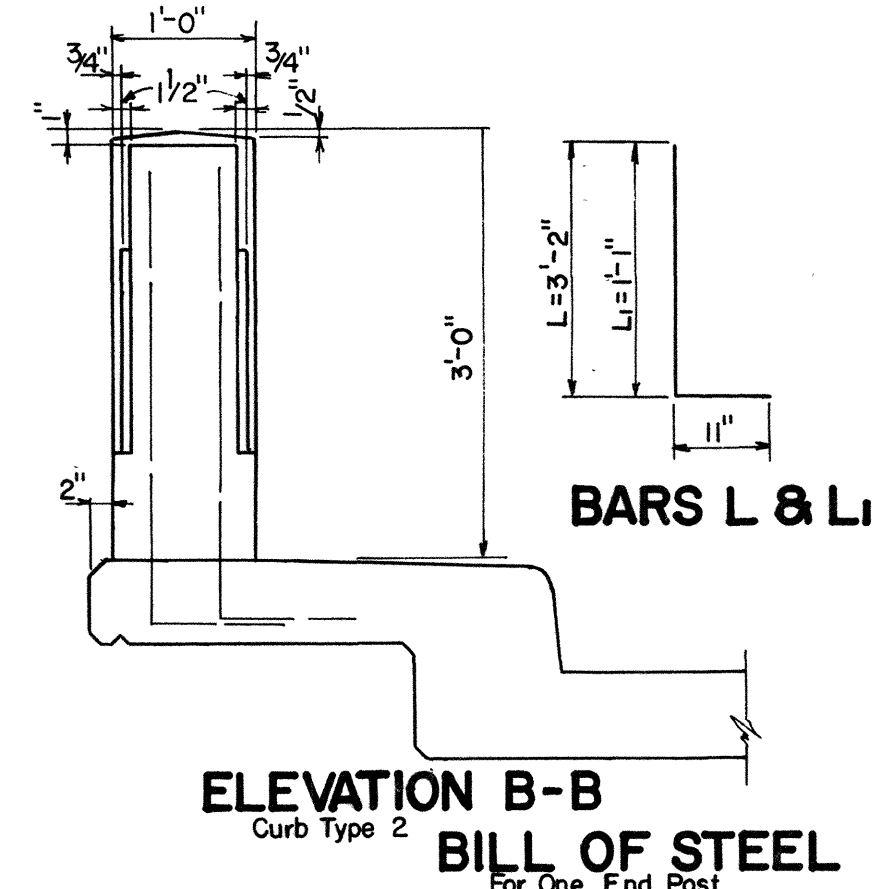
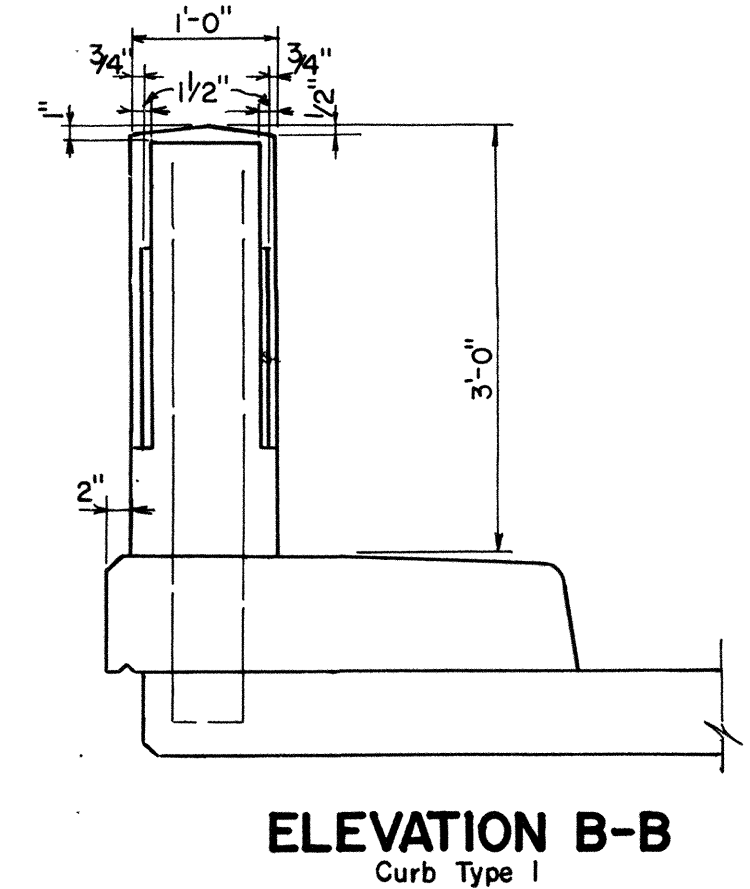
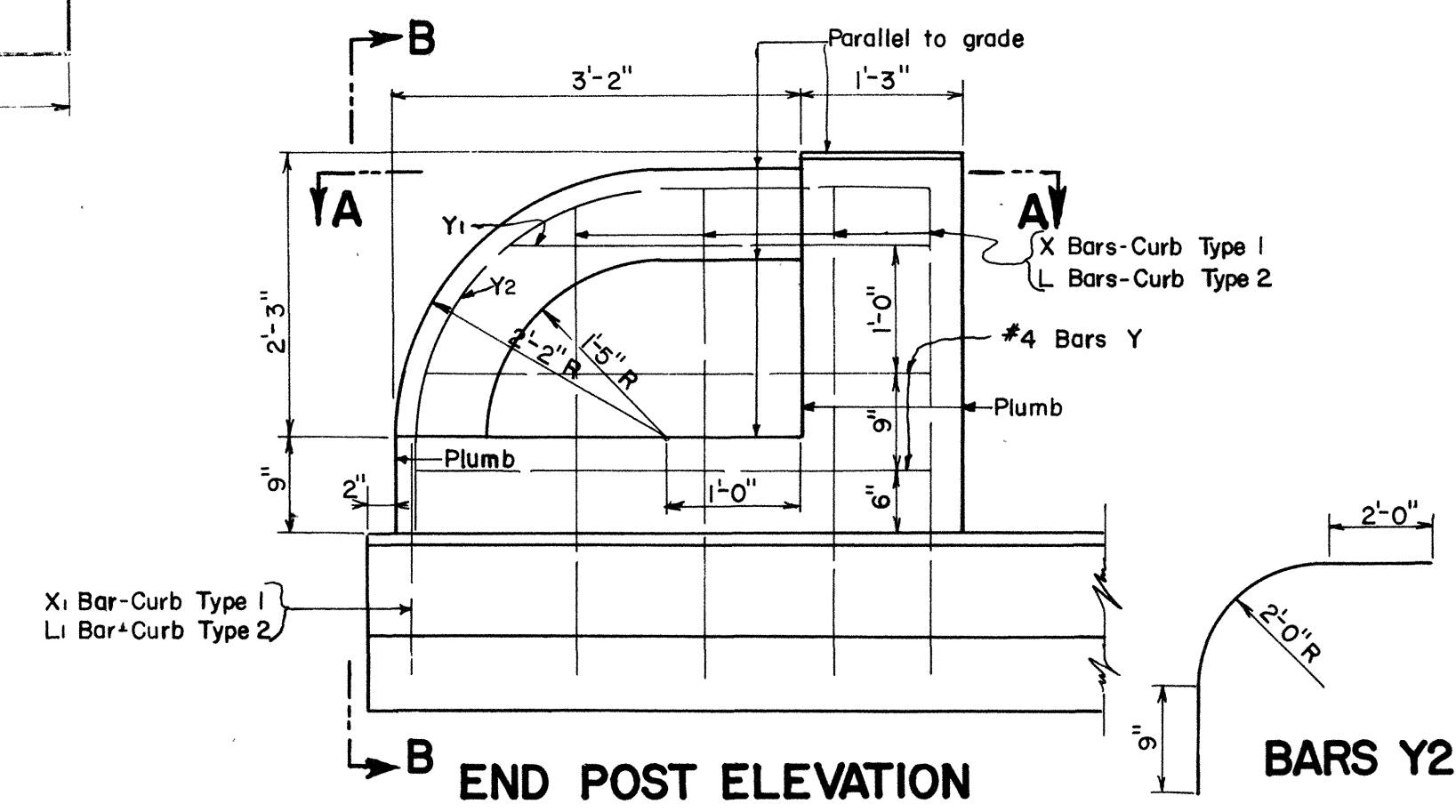


BILL OF STEEL

Bar	No.	Size	Length
V	3	#4	5'-6"
W	2	#4	2'-10"
W1	2	#4	2'-9"
X	2	#4	5'-0"

BILL OF STEEL

Bar	No.	Size	Length
L	6	#4	2'-9"
W	2	#4	2'-10"
W1	2	#4	2'-9"
U	2	#4	5'-0"



ESTIMATED QUANTITIES

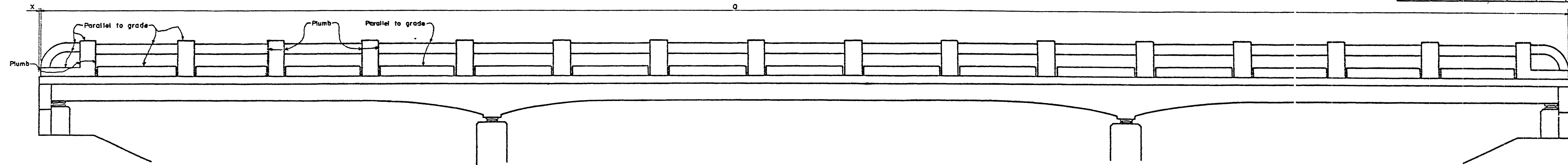
Concrete Class "A"	0.17	Cu. Yds.
Reinforcing Steel	25	Lbs.

ESTIMATED QUANTITIES

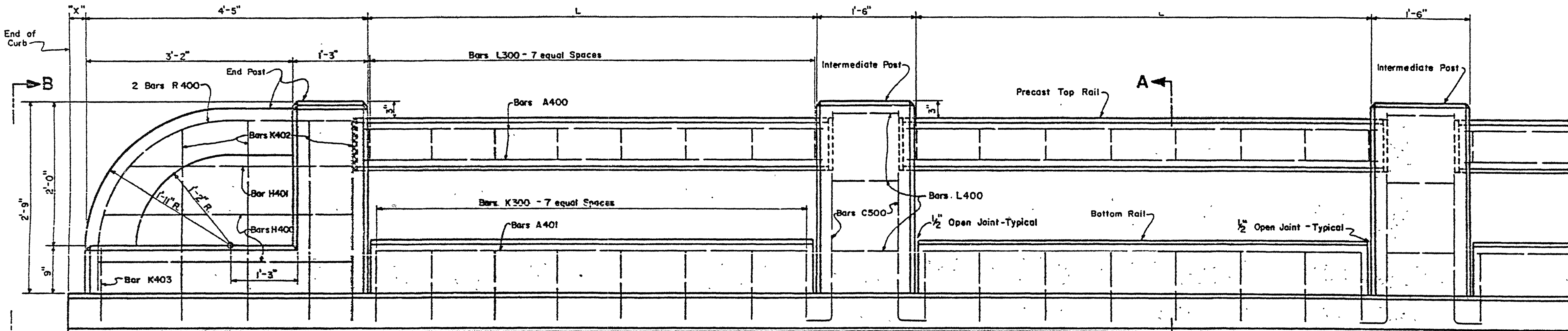
Concrete Class "A"	0.38	Cu. Yds.
Reinforcing Steel	48	Lbs.

DESIGNED BY: DATE: 12-16-58
DRAWN BY: G.P. Mulligan
RETRACED BY: J. Towery & J.D. Woosley
CHECKED BY: DATE: 2-1-62

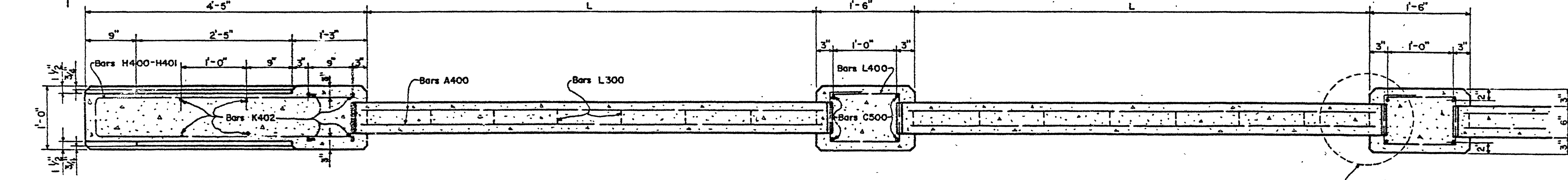
CORRECT: Fred Green
APPROVED: [Signature]
STATE HIGHWAY ENGINEER



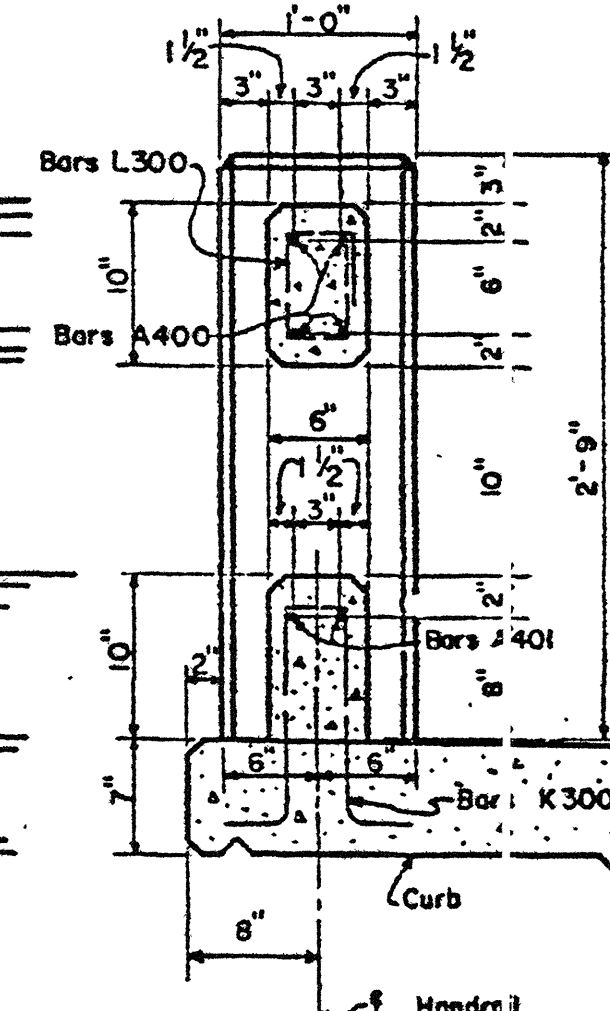
TYPICAL ELEVATION



LONGITUDINAL ELEVATION



LONGITUDINAL SECTION

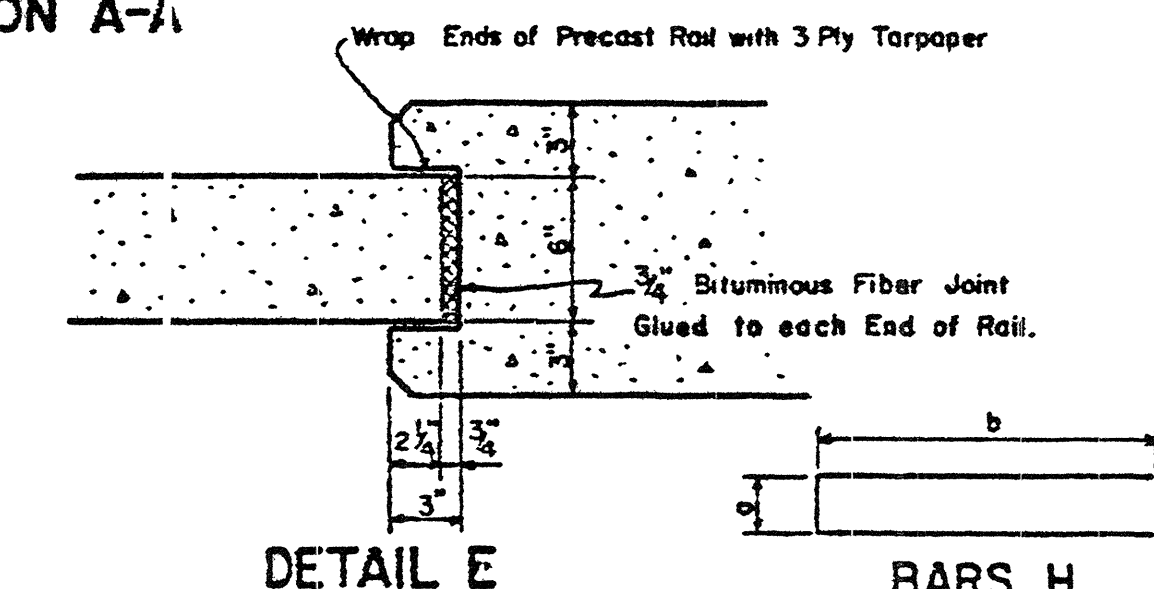


SECTION A-A

GENERAL NOTES

SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways.
 CONCRETE: To be Class "A".
 REINFORCING STEEL: See Specifications. To be intermediate or hard grade with Standard Hook Details as recommended by C.R.S.I.
 FORMS & FINISH: See Specifications.

NOTE: Chamfer all edges on Handrail Posts and Rails 1/2".
 NOTE: For Dimensions X, Q, & L See Bridge Layout Sheet.



DETAIL E

BARS H

BARS A

BARS K

BARS L

BARS R

BENDING DIAGRAMS

STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 NASHVILLE

STANDARD
 CONCRETE HANDRAIL
 1960

END POST-LIST OF MATERIALS-EACH

Bar	Size	No. Req'd	Bending Dimensions	Length	Quantities
			a b c d		Steel Lbs. Conc. Cu Yds.
H400	4	2	0'-6" 4'-0"	8'-6"	45.0 0.37
H401	4	1	0'-6" 3'-7"	7'-8"	
K402	4	4	0'-3" 0'-7" 2'-11"	6'-11"	
K403	4	1	0'-3" 0'-7" 1'-2"	3'-5"	
R400	4	2	1'-9" 4'-0" 2'-6"	5'-9"	

INTERMEDIATE POST
 LIST OF MATERIALS-EACH

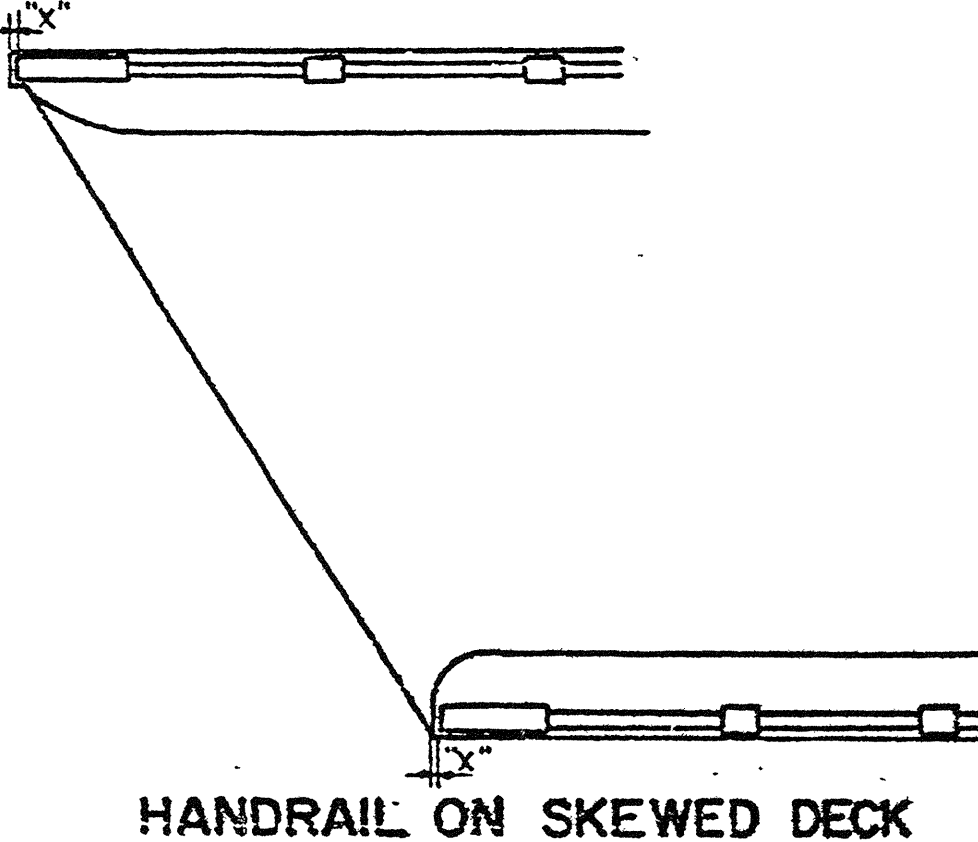
Bar	Size	No. Req'd	Bending Dimensions	Length	Quantities
			a b c d		Steel Lbs. Conc. Cu Yds.
C500	5	4	3'-0"	3'-4"	22.6 0.15
L400	4	3	0'-9" 0'-6" 1'-2"	4'-4"	

TOP RAIL-LIST OF MATERIALS-EACH

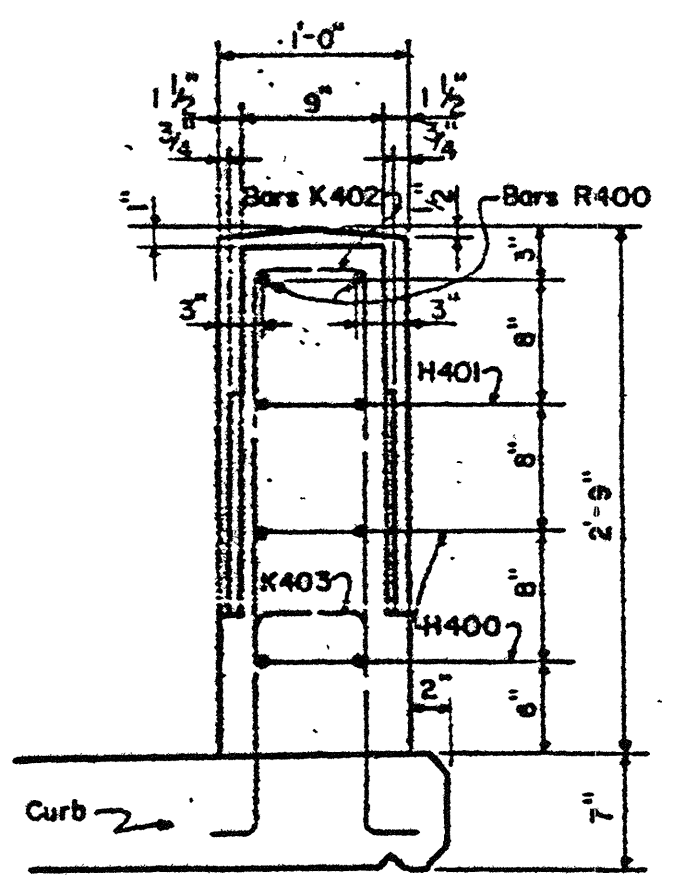
L	Bar	Size	No. Req'd	Bending Dimensions	Length	Quantities
				a b c d		Steel Lbs. Conc. Cu Yds.
6'-0"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-2"	23.6 0.10
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-3"	23.8 0.10
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-4"	24.1 0.10
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-5"	24.3 0.10
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-6"	24.5 0.10
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-7"	24.7 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-8"	25.0 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-9"	25.2 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-10"	25.4 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	6'-11"	25.6 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	7'-0"	25.9 0.11
6'-10"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	
6'-10"	A400	4	4	0'-4" 0'-6" 0'-7"	7'-1"	26.1 0.11
7'-0"	L300	3	8	0'-4" 0'-6" 0'-7"	2'-4"	

BOTTOM RAIL-LIST OF MATERIALS-EACH

L	Bar	Size	No. Req'd	Bending Dimensions	Length	Quantities
				a b c d		Steel Lbs. Conc. Cu Yds.
6'-0"	A401	4	2	0'-4" 0'-4" 1'-2"	5'-8"	17.7 0.09
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	5'-9"	17.8 0.09
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	5'-10"	17.9 0.09
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	5'-11"	18.1 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-0"	18.2 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-1"	18.3 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-2"	18.4 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-3"	18.5 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-4"	18.6 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-5"	18.7 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-6"	18.8 0.10
6'-10"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	
6'-10"	A401	4	2	0'-4" 0'-4" 1'-2"	6'-7"	19.0 0.11
7'-0"	K300	3	8	0'-4" 0'-4" 1'-2"	3'-4"	



HANDRAIL ON SKEWED DECK



ELEV. B-B

DESIGNED BY: J. J. Parker
 DRAWN BY: R. Reagon
 CHECKED BY: _____
 DATE: 4-4-63

CON. BY: Noel Greene
 APPROVED: Noel Greene
 STATE OF TENNESSEE
 H-5-110

Index Of Sheets
SHEET NO. DESCRIPTION

SEE SHEET 1A

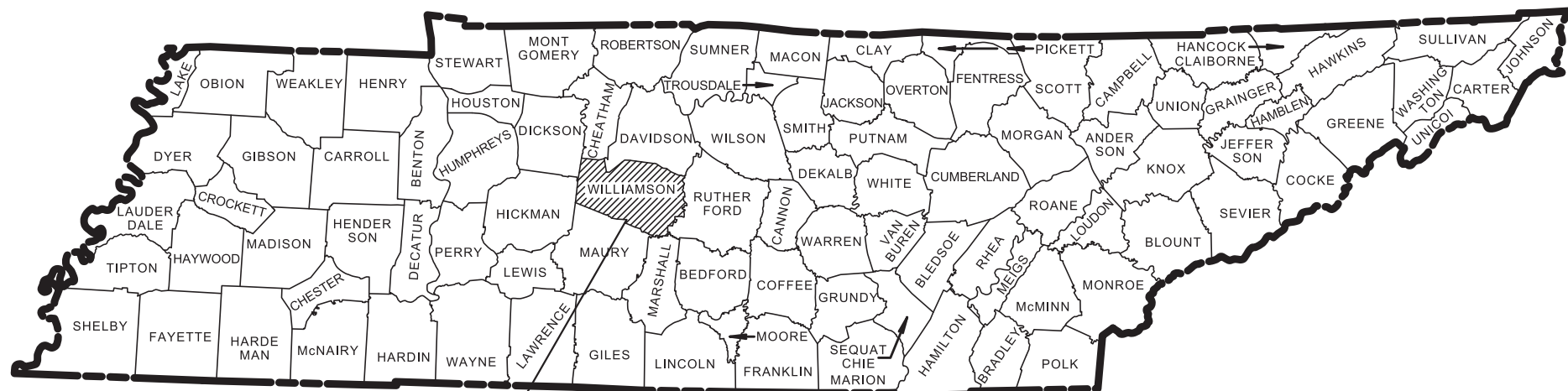
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

WILLIAMSON COUNTY

SR-247 OVER INTERSTATE 65

BRIDGE REPAIR

STATE HIGHWAY NO. 247

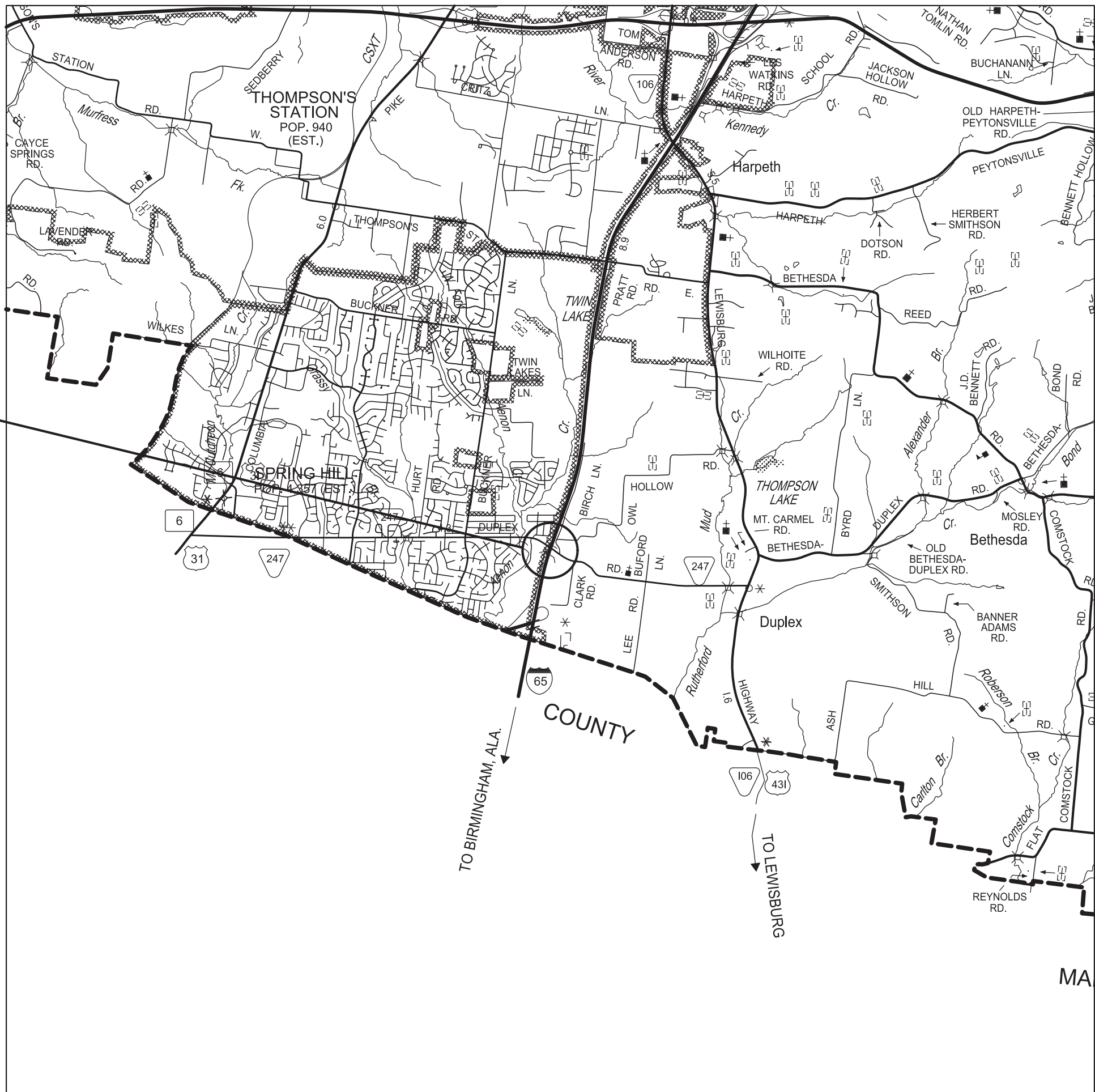


PROJECT LOCATION

BRIDGE ID. # 94I0065001

SR-247 OVER INTERSTATE 65

BRIDGE NO. 94I065001



SCALE: 1"= 1 MILE

ROADWAY LENGTH 0.000 MILES
BRIDGE LENGTH 0.046 MILES
PROJECT LENGTH 0.046 MILES

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT C.E. MANAGER 1 OR
TDOT TRANSPORTATION MANAGER 1 : MIKE LAWSON

DESIGNED BY : ALFRED BENESCH & COMPANY

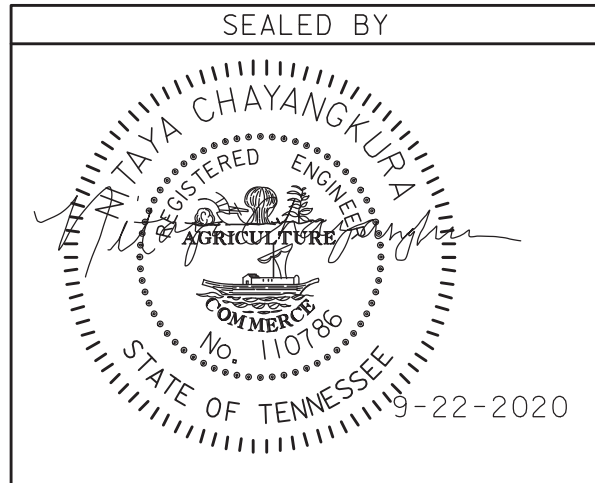
DESIGNER : DANIEL RIKLI, E.I. CHECKED BY : NITAYA CHAYANGKURA, P.E.

P.E. NO. 94031-4212-04

PIN NO. 129310.01

TENN.	YEAR	SHEET NO.
	2020	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	94031-4212-04	

REV. / / :



APPROVED: *Paul D. Degges*
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED: *Clay Bright*
CLAY BRIGHT, COMMISSIONER

LAND DISTURBANCE:
LESS THAN ONE ACRE

TRAFFIC DATA (I-65)
ADT (2019) 81,830
POSTED SPEED 70 MPH

TRAFFIC DATA (SR-247)
ADT (2019) 4,070
POSTED SPEED 35 MPH

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

ROADWAY INDEX

SHEET NAME	SHEET NO.
SIGNATURE SHEET	SIGN-1, 2, 3, 4
TITLE SHEET	1
INDEX AND STANDARD DRAWINGS.....	1A
PROJECT COMMITMENTS	1B
ESTIMATED BRIDGE QUANTITIES.....	2 (BR-130-775)
BRIDGE GENERAL NOTES.....	2A (BR-130-776)
ESTIMATED ROADWAY QUANTITIES	2B
ROADWAY GENERAL NOTES	2C, 2C1 – 2C2
TRAFFIC CONTROL PLANS	T1 – T12
BRIDGE PLANS	BR-130-774 –
.....	BR-130-789
NOTE: THE ALPHABETICAL LETTERS “I”, “O” & “Q” ARE NOT USED IN NUMBERING OF SHEETS.	

BRIDGE INDEX

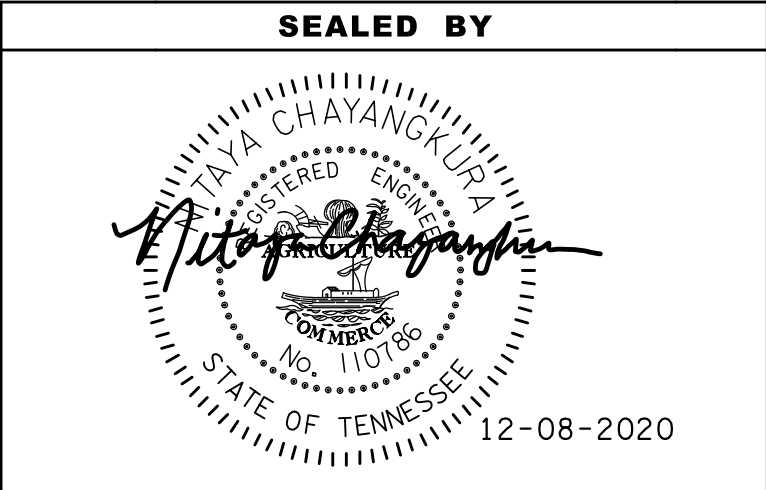
SHEET NAME	SHEET NO.
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-774
ESTIMATED BRIDGE QUANTITIES.....	BR-130-775
BRIDGE GENERAL NOTES.....	BR-130-776
PHASE CONSTRUCTION	BR-130-777
SUPERSTRUCTURE REPAIR DETAILS	BR-130-778
BENT 1 REPAIRS	BR-130-779
BENT 1 REPAIRS SIDE VIEW	BR-130-780
BENT 2 REPAIRS	BR-130-781
BENT 2 REPAIRS SIDE VIEW	BR-130-782
BENT 3 REPAIRS	BR-130-783
BENT 3 REPAIRS SIDE VIEW	BR-130-784
MISCELLANEOUS REPAIR DETAILS	BR-130-785
SHORING REQUIRED FOR BRIDGE REPAIRS	BR-130-786
SHORING WALL DETAILS	BR-130-787
GUARDRAIL LAYOUT	BR-130-788
GUARDRAIL DETAILS	BR-130-789

STANDARD ROADWAY DRAWINGS

DWG.	REV.	DESCRIPTION
ROADWAY DESIGN STANDARDS		
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
ROADWAY, PAVEMENT APPURTENANCES, AND FENCES		
W-SG-1		STANDARD GRAVITY-TYPE RETAINING WALLS
SAFETY DESIGN AND GUARDRAIL		
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-2	05-31-18	SAFETY PLAN AT SIDEROADS OR PRIVATE DRIVES
S-PL-3	06-28-19	SAFETY PLAN MINIMUM INSTALLATION AT BRIDGE ENDS
S-GR28-1M	06-28-19	W-BEAM & THRIE BEAM BARRIER RAIL AND RUB RAIL DETAILS
S-GR28-2M	06-28-19	GUARDRAIL HARDWARE DETAILS
S-GR28-3M	06-28-19	GUARDRAIL HEIGHT ADJUSTMENT
S-GR28-6M	06-28-19	GUARDRAIL ATTACHMENT TO CONCRETE DECKS
S-GR28-7M	06-28-19	GUARDRAIL ATTACHMENT TO BRIDGE END DETAILS
S-GR31-1	06-28-19	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C		GUARDRAIL GENERAL NOTES AND POST DETAILS
S-GRC-1M		GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL
S-GRC-4		GUARDRAIL CONNECTION TO BRIDGE RAILING CONCRETE PARAPET
S-GRS-4	06-28-19	SPECIAL CASE GUARDRAIL HEIGHT TRANSITION DETAIL
S-GRT-2	06-28-19	TYPE 38 GUARDRAIL END TERMINAL
S-GRT-2R	06-28-19	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL (RETROFIT)
S-GRA-4	06-28-19	IN-LINE GUARDRAIL ANCHOR
DESIGN - TRAFFIC CONTROL		
T-M-1	06-28-19	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	06-28-19	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-4	08-02-18	STANDARD INTERSECTION PAVEMENT MARKINGS
T-M-5	06-28-19	MARKING DETAIL FOR EXPRESSWAY AND FREEWAYS
T-M-8	06-28-19	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-11	03-05-17	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-16	06-28-19	LANE SHIFT FOR DIVIDED HIGHWAYS AND FREEWAYS
T-WZ-18	03-05-17	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-32	03-05-17	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-33	05-27-98	TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-34	09-01-05	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

DWG.	REV.	DESCRIPTION
T-WZ-35	04-02-12	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-FAB1		FLASHING YELLOW ARROW BOARD
T-WZ-PBR1		INTERCONNECTED PORTABLE BARRIER RAIL
T-WZ-PBR2		DETAILS FOR FLEXIBLE DELINEATORS
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-37	06-10-14	SEDIMENT TUBE

REV. 10-14-20: ADDED SIGN-2 TO INDEX.
REV. 11-11-20: ADDED SIGN-3 TO INDEX.
REV. 12-08-20: ADDED SIGN-4 TO INDEX.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INDEX
AND
STANDARD
DRAWINGS

LAND DISTURBANCE:
1,480 S.F.

9/22/2020 3:16:19 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	94031-4212-04	1B

PROJECT COMMITMENTS			
COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA. / LOCATION
EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	An Asbestos Containing Material (ACM) survey was completed on Bridge No. 94I00650001, SR-247 over I-65 LM 2.38 (94-I0065-02.38). No ACM was detected. Please see the report for further details and photographs. No special accommodations for demolition and waste disposal are anticipated for these structures and the material can be deposited in a C&D landfill. Prior to the demolition or rehabilitation of any structure (bridge or building), the contractor is required to submit the National Emission Standards for Hazardous Air Pollutants standard 10-day notice of demolition to the TDEC Division of Air Pollution Control (per TDOT Standard Specifications for Road and Bridge Construction (January 1, 2015) Sections 107.08 D and 202.03).	Interstate 65 L.M. 2.38

SEALED BY



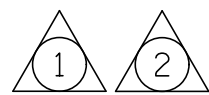
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT
COMMITMENTS

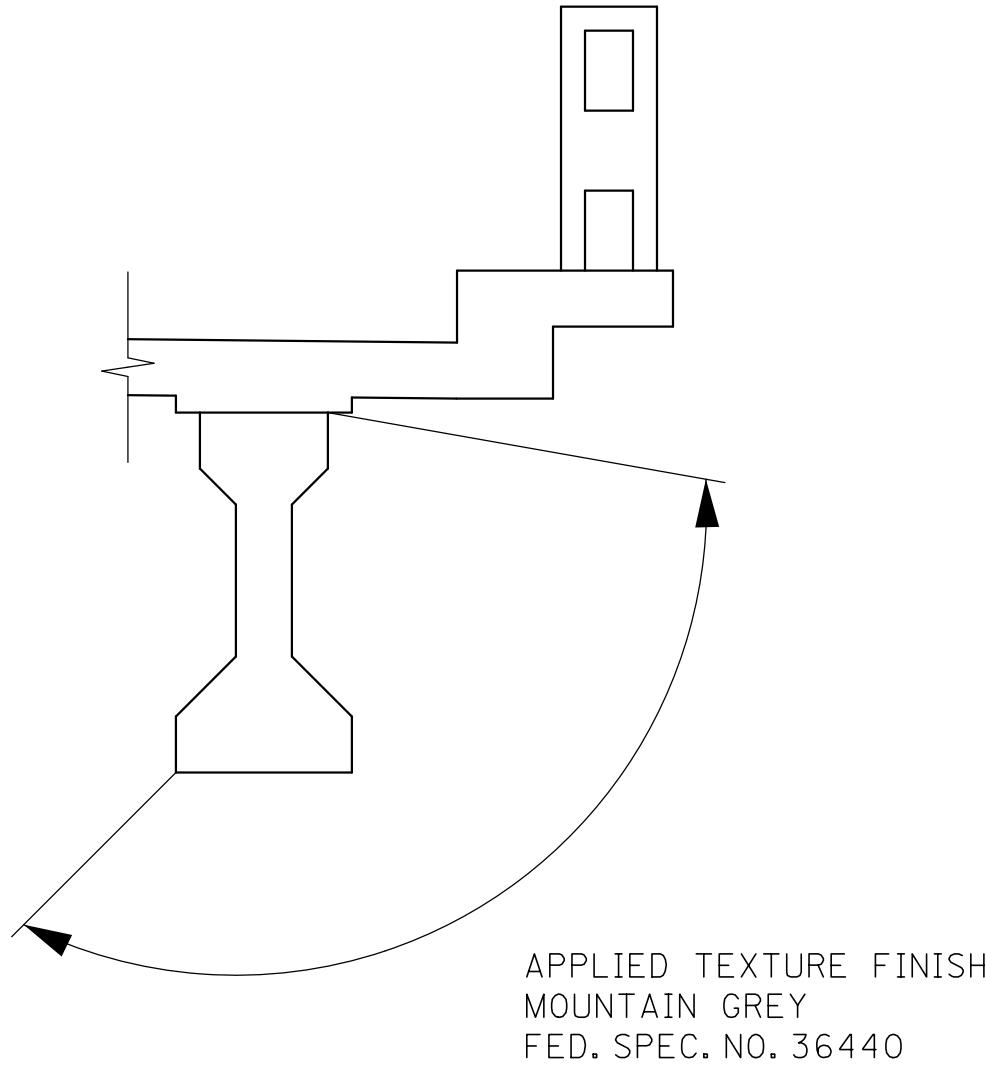
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CONST. NO.			
PROJECT NO.		YEAR	SHEET NO.
94031-4212-04		2020	2
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-14-20	NC	REMOVED EPOXY INJECTION ITEMS
			CHANGED ITEM NO. 621-05.02 TO
			604-10.26 AND REVISED FOOTNOTES
2	12-08-20	NC	REV. F'C IN FOOTNOTE 7 TO 3,000 PSI
			REV. QTY. FOR ITEMS 604-10.05
			604-10.54, & 606-24.10

ESTIMATED BRIDGE QUANTITIES



	ITEM NO.	DESCRIPTION	UNIT	TOTAL
(1)	201-01	CLEARING AND GRUBBING	LS	1
(2)	203-01.05	EXCAVATION	C.Y.	14
(3)	303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	27
(4)	604-03.07	CLASS "A" CONCRETE (GRAVITY WALL)	C.Y.	9
(5)	604-04.02	APPLIED TEXTURE FINISH (EX STRUCTURE)	S.Y.	315
(6) (7)	604-10.05	CONCRETE	S.F.	237
(8)	604-10.54	CONCRETE REPAIRS	S.F.	532
(9)	604-10.83	COMPOSITE FIBER ENCASEMENT	S.F.	1011
(10)	606-24.10	SHEET PILES	S.F.	925
(11)	604-10.26	BRACING	EACH	18



APPLIED TEXTURE FINISH DETAILS

TEXTURE FINISH SHALL BE APPLIED TO OUTSIDE AND BOTTOM OF EXTERIOR BEAMS.

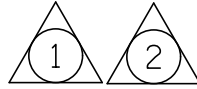
COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02.

THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER AND COST SHALL BE INCLUDED IN ITEMS BID ON.

THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL FLAKING TEXTURE COATING, RUST, DIRT, OIL, AND OTHER FOREIGN SUBSTANCES PRIOR TO THE APPLICATION OF THE TEXTURE FINISH. THE SURFACE SHALL BE CLEANED TO THE COMPLETE SATISFACTION OF THE ENGINEER USING A HIGH PRESSURE WATER WASH. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF WATER.

NOTES:



- (1) INCLUDES CLEARING AND GRUBBING OPERATIONS NECESSARY FOR THE INSTALLATION OF PERMANENT SHEET PILING AT LOCATIONS DESIGNATED ON SHEET BR-130-787.
- (2) EXCAVATION BASED ON EXISTING GROUND.
- (3) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR FILL MATERIAL TO BE PLACED FOR INSTALLATION OF NEW GUARDRAIL AT BRIDGE ENDS AS SHOWN ON SHEET BR-130-788.
- (4) INCLUDES ALL COSTS ASSOCIATED WITH MATERIALS AND INSTALLATION OF CONCRETE GRAVITY WALL AT BRIDGE ENDS. SEE SHEET BR-130-789 FOR DETAILS.
- (5) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE APPLICATION OF ALL TEXTURE COATING AS SHOWN IN THE APPLIED TEXTURE FINISH ON THIS DRAWING.
- (6) INCLUDES COST OF ALL LABOR AND MATERIALS TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR AREAS ON BEAMS AND SUBSTRUCTURES.
- (7) INCLUDES ALL COST FOR LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO PERFORM THE BEAM REPAIRS, INCLUDING REMOVAL OF EXISTING CONCRETE TO LIMITS SHOWN AND PLACING NEW CONCRETE TO OBTAIN A STRENGTH OF F'C = 3,000 PSI IN 18 HOURS, IN ACCORDANCE WITH THE PROCEDURES DETAILED ON SHEET BR-130-778.
- (8) INCLUDES COST OF ALL LABOR AND MATERIALS TO PLACE POLYMER MODIFIED CONTENTIOUS STRUCTURAL PATCHING MATERIAL FOR AREA OF BEAMS AND SUBSTRUCTURES DESIGNATED BY THE ENGINEER. SEE SHEETS BR-130-779 THROUGH BR-130-784 FOR DETAILS AND LOCATIONS.
- (9) INCLUDES COST OF ALL LABOR, MATERIALS, AND INCIDENTALS TO PLACE FIBER REINFORCED POLYMER WRAP AS SHOWN ON SHEETS BR-130-778 THROUGH BR-130-784. INCLUDES THE FURNISHING OF ALL SUBMITTALS, MATERIALS, TOOLS, EQUIPMENT, LABOR, SURFACE PREPARATION, TRANSPORTATION, STORAGE, AND SUPERVISION REQUIRED FOR THE APPLICATION OF THE FIBER REINFORCED POLYMER WRAP MATERIAL AS INDICATED IN TDOT SPECIAL PROVISION 604FRP.
- (10) INCLUDES COST OF ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO INSTALL PERMANENT SHEET PILING AT LOCATIONS SHOWN ON SHEET BR-130-787.
- (11) INCLUDES COST OF ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO PROVIDE TEMPORARY BRACING OF SUPERSTRUCTURE DURING THE DURATION OF REPAIRS AS DETAILED ON SHEET BR-130-786.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED QUANTITIES

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

DATE
DATE
DATE
DATE

BR-130-775

GENERAL NOTES

SPECIFICATIONS & LOADING

- (1)

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015 EDITION), AND THE 4TH EDITION (2017) AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS.
- (2)

DESIGN SPECIFICATIONS: 8TH EDITION (2018) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS, AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.
- (3)

LOADING:

A. HL-93 LIVE LOADING

B. SEISMIC CATEGORY "A" WITH A_S= 0.086, S_{D5}= 0.208, S_{D1}= 0.077 (1000 YEAR RETURN PERIOD).

C. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.
- (4)

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.
- (5)

HIGH EARLY STRENGTH CONCRETE: TO BE CLASS "X" (CAST IN PLACE), F'C = 5,000 P.S.I. IN 18 HOURS, FOR THE BEAM REPAIRS. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIRED AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 5,000 P.S.I MINIMUM IN EIGHTEEN HOURS AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF EIGHTEEN (18) HOURS.

TO BE CLASS "X" (CAST IN PLACE, HIGH EARLY STRENGTH CONCRETE), F'C = 3,500 P.S.I., FOR THE SUBSTRUCTURE CONCRETE SPALL REPAIRS. THE MIX IS TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "X". THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER-CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. DESIGN AIR CONTENT SHALL BE 6% WITH ±2% ACCEPTANCE RANGE IN THE FIELD. SLUMP SHALL BE 3±1 INCHES. IF USING A TYPE, A, F, OR G WATER REDUCER, THE SLUMP SHALL BE MAXIMUM OF 8 INCHES. NO FLY ASH REPLACEMENT WILL BE PERMITTED. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 PSI. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIRED AREAS UNTIL TEST SPECIMENS ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

- (6)

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.
- (7)

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE COATINGS SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE.
- (8)

SPECIAL NOTES TO CONTRACTOR: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIR AND CONSTRUCTION.

MISCELLANEOUS GENERAL NOTES

- (9)

SHOP DRAWINGS: REFER TO SECTION 105.02 OF THE STANDARD SPECIFICATIONS. SHOP DRAWINGS ARE TO BE SENT TO THE BRIDGE REPAIR OFFICE IN THE DIVISION OF STRUCTURES. EACH SHOP DRAWING SHALL CONTAIN IN THE TITLE BLOCK THE FOLLOWING: THE STATE PROJECT NUMBER, COUNTY, BRIDGE NAME, BRIDGE NUMBER (OR STRUCTURE TYPE AND NUMBER), STATION, AND CONTRACT NUMBER. SHOP DRAWINGS WITH TITLE BLOCKS NOT INCLUDING THE FOREGOING IDENTIFICATION WILL BE RETURNED FOR CORRECTION BEFORE ANY REVIEWS FOR APPROVAL ARE CONDUCTED.
- (10)

QUICK-SET PATCHING MATERIAL: QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13.009 POLY MOD CEMENT STRUCT PATCH VERT & OVER FOR ACCEPTABLE PATCHING MATERIALS.
- (11)

NOTE: CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

- (12)

GROUTED BARS IN DRILL HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AN THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.
- (13)

FALSEWORK OVER TRAFFIC: SEE SECTION 604.06 OF THE STANDARD SPECIFICATIONS.
- (14)

FORMS AND FALSEWORK: SEE SECTION 604.06 OF THE STANDARD SPECIFICATIONS. CONCRETE FORM WORK, FALSEWORK, AND TEMPORARY SUPPORTS SHALL BE REMOVED FROM THE JOB SITE AFTER WORK IS COMPLETED. COST OF FORMS, FALSEWORK, AND TEMPORARY SUPPORT SHALL BE INCLUDED IN ITEMS BID ON. THIS SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.
- (15)

APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL ALL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF STRUCTURES, BRIDGE INSPECTION AND REPAIR OFFICE.
- (16)

SPECIAL NOTE FOR UTILITIES: CARE SHALL BE TAKEN WHEN REMOVING AND REPAIRING BRIDGE COMPONENTS SO AS NOT TO DISTURB OR DAMAGE ANY UTILITIES.

THE LOCATION OF UTILITIES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE-CALL SYSTEM INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.

THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER OR AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE FOR OTHER ITEMS OF CONSTRUCTION.

- (17)

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. FOR CONCRETE REMOVAL ON BEAMS, THE MAXIMUM HAMMER SIZE IS 35 POUND CLASS. NO PRESTRESSING STRANDS SHALL BE DAMAGED DURING CONCRETE REMOVAL.

CONST. NO.			
PROJECT NO.	YEAR	SHEET NO.	
94031-4212-04	2020	2A	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

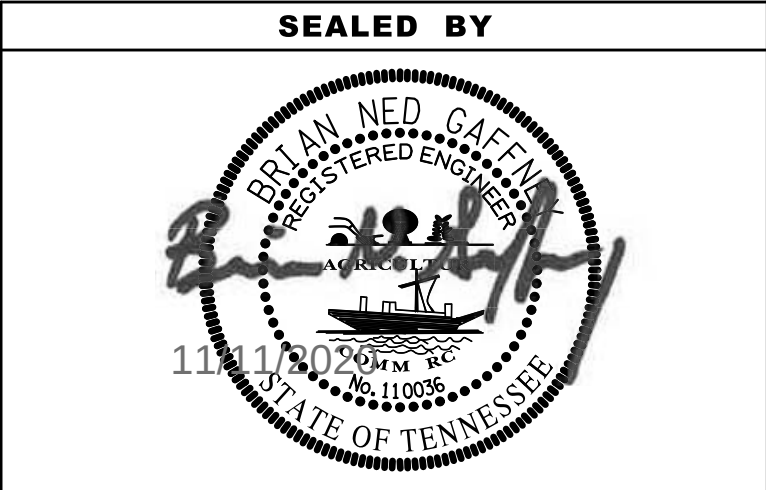
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ROADWAY ESTIMATED QUANTITIES				
	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)(11)	303-01	MINERAL AGGREGATE, TYP A BASE, GRADING D	TON	13
(2)(11)	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	5
(3)(11)	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	3
(4)(11)	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	1
(4)(11)	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	1
(4)(11)	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1
(5)(11)	411-01.10	ACS MIX (PG64-22) GRADING D	TON	2
(6)	705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	114
	705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	519
	705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	EA	1
	705-06.20	TANGENT ENERGY ABSORBING TERM MASH TL-3	EA	3
(7)	705-20.25	TEMPORARY CRASH CUSHION (MASH TL-3)	EA	6
	712-01	TRAFFIC CONTROL	L.S.	1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	2910
	712-04.01	FLEXIBLE DRUMS (CHANNELIZATION)	EA	188
	712-04.50	BARRIER RAIL DELINEATOR	EA	40
	712-05.01	WARNING LIGHTS (TYPE A)	EA	186
	712-06	SIGNS (CONSTRUCTION)	S.F.	1011
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	74
	712-08.03	ARROW BOARD (TYPE C)	EA	4
(8)	712-08.10	MOBILE MESSAGE SIGN UNIT W/ ATTENUATOR	HOURL	200
(8)	712-08.12	QUEUE PROTECTION TRUCK	DAY	25
(8)	712-09.02	REMOVABLE PVMT MRKG (8IN BARRIER LINE)	L.F.	16676
(8)	712-09.04	REMOVABLE STOP LINE	L.F.	18
(8)	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EA	5
	716-01.06	TEMPORARY RAISED PAVEMENT MARKER,WHITE	EA	24
	716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	2192
(9)	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	0.06
(9)	716-13.01	SPRAY THERMO PVMT MRKNG (60MIL) (4IN LINE)	L.M.	0.36
	717-01	MOBILIZATION	L.S.	1
(10)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EA	1
(11)(12)	740-11.03	TEMPORARY SEDIMENT TUBE 18IN	L.F.	400

FOOTNOTES	
(1)	FOR ROADWAY PAVEMENT REPAIR DUE TO GRAVITY WALL CONSTRUCTION. ASSUMED 8" THICKNESS.
(2)	FOR ROADWAY PAVEMENT REPAIR DUE TO GRAVITY WALL CONSTRUCTION. ASSUMED 3" THICKNESS.
(3)	FOR ROADWAY PAVEMENT REPAIR DUE TO GRAVITY WALL CONSTRUCTION. ASSUMED 2" THICKNESS.
(4)	FOR ROADWAY PAVEMENT REPAIR DUE TO GRAVITY WALL CONSTRUCTION.
(5)	FOR ROADWAY PAVEMENT REPAIR DUE TO GRAVITY WALL CONSTRUCTION. ASSUMED 1.25" THICKNESS.
(6)	SEE SHEET NO. BR-130-788 FOR ADDITIONAL DETAILS.
(7)	THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.
(8)	TO BE USED AS DIRECTED BY THE ENGINEER FOR TRAFFIC CONTROL.
(9)	TO BE USED AS DIRECTED BY THE ENGINEER TO RESTRIPE EXISTING STRIPING AS NEEDED.
(10)	INCLUDES ALL ITEMS, DESIGN AND LABOR NECESSARY TO IMPLEMENT A TEMPORARY TRAFFIC SIGNAL.
(11)	QUANTITY MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER
(12)	SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE AND REPLACEMENT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	94031-4212-04	2B

REV. 11-11-20: REVISED UNIT AND QUANTITY FOR ITEM NO. 712-08.10.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED
ROADWAY
QUANTITIES

GENERAL NOTES

GRADING

- (1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- (3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

- (1) ALL EXISTING ROADS WITHIN THE RIGHT-OF-WAY AND NOT IN THE GRADED AREA THAT ARE TO BE ABANDONED SHALL BE SCARIFIED, OBLITERATED, TOPSOILED AND SEEDED. SCARIFYING AND OBLITERATING THE PAVEMENT WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS. TOPSOIL, IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEMS 203-04 AND/OR 203-07. SEEDING, IN ACCORDANCE WITH SECTION 801 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM 801-01.
- (2) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.
- (3) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

GUARDRAIL

- (1) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.

MISCELLANEOUS

- (1) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES AND POSTS WHERE AND AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED IN PRICE BID FOR OTHER CONSTRUCTION ITEMS.
- (2) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

PAVEMENT MARKINGS

FINAL PAVEMENT MARKING

- (1) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6” ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.02, ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.
- (2) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4” SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR

UNDER ITEM NO. 716-13.01, SPRAY THERMO PVMT MRKNG (60 mil) (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

TRAFFIC CONTROL DIRECTIONAL SIGNING

- (1) ON ALL ACCESS CONTROLLED AND INTERSTATE RECONSTRUCTION AND NEW CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL UTILIZE ALL EXISTING DIRECTIONAL SIGNING FOR AS LONG AS POSSIBLE. THESE EXISTING SIGNS CAN BE MOVED USING TEMPORARY SUPPORTS AS NEEDED. AS SOON AS THESE EXISTING DIRECTIONAL SIGNS COME DOWN PERMANENTLY, THE CONTRACTOR SHALL HAVE UP AT LEAST ONE NEW TEMPORARY “ADVANCE GUIDE SIGN” AND ONE NEW TEMPORARY “EXIT DIRECTIONAL SIGN” AT ALL EXIT RAMPS. THESE SIGNS ARE TO BE MAINTAINED WITHIN CLEAR VIEW OF THE PUBLIC ON THE RIGHT SIDE OF THE HIGHWAY AND SHALL BE REPLACED IF DAMAGED, DURING ALL PHASES OF CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
- (2) THE SIZE OF THESE NEW TEMPORARY SIGNS WILL BE DETERMINED BY THE MESSAGE. THE MESSAGE SHALL BE THE SAME AS THE EXISTING SIGN THAT THESE NEW TEMPORARY SIGNS WILL BE REPLACING. THE LETTER SIZE SHALL BE A MINIMUM OF 8 INCH, “D” UPPER CASE LETTER. THE DIRECTIONAL ARROW WILL BE A “B” ARROW AT A 45 DEGREE ANGLE (SAME ANGLE AS THE EXISTING ARROW). THE MATERIAL SHALL BE 0.100 INCH SHEET ALUMINUM; THE COLOR SHALL BE A REFLECTIVE GREEN BACKGROUND WITH REFLECTIVE WHITE COPY.
- (3) ALL WORK AND MATERIAL TO MAKE THESE NEW TEMPORARY DIRECTIONAL SIGNS ALONG WITH ADEQUATE SUPPORTS AND TO MOVE THEM AS NEEDED DURING EACH PHASE OF CONSTRUCTION WILL BE PAID FOR UNDER ITEM NO. 712-01 AS DIRECTED BY THE ENGINEER.
- (4) SOME OF THESE DIRECTIONAL SIGNS WILL NEED AN INTERSTATE, U.S., OR A STATE HIGHWAY SHIELD, A CARDINAL DIRECTION, AND A DIRECTION ARROW TO ACCOMPANY THE DIRECTIONAL SIGN. THESE SIGNS SHALL BE MOUNTED BELOW THE DIRECTIONAL SIGN.
- (5) ALL EXISTING “EMERGENCY REFERENCE MARKERS” AND “HOSPITAL SIGNS” SHALL BE MAINTAINED WITHIN FULL VIEW OF THE MOTORING PUBLIC THROUGHOUT ALL PHASES OF CONSTRUCTION. ALL WORK IN MOVING AND TEMPORARY SUPPORTS SHALL BE PAID FOR UNDER ITEM NO. 712-01.
- (6) WHEN “LOGO” SIGNS ARE ON ACCESS CONTROLLED AND INTERSTATE RECONSTRUCTION AND NEW CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THESE SIGNS IN FULL VIEW TO THE MOTORING PUBLIC DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE TO THE DEPARTMENT FOR THE REIMBURSEMENT OF THE SIGN FACE IF IT IS DAMAGED. ALL WORK IN MOVING THESE “LOGO” SIGNS AND THE TEMPORARY SUPPORTS ARE TO BE PAID FOR UNDER ITEM NO. 712-01, AS DIRECTED BY THE ENGINEER. THE SUPPORTS FOR THE FINAL LOCATION OF THESE SIGNS WILL BE PAID FOR UNDER OTHER ITEMS OF CONSTRUCTION.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- (1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (5) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD

IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT’S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT’S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER’S APPROVAL TO USE THEM.

- (6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT’S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT’S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT’S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT’S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER’S APPROVAL TO USE THEM.
- (7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- (8) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED, AND FLEXIBLE DRUMS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.
- (9) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING CONSTRUCTION SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM NO. 712-06, SIGNS (CONSTRUCTION), S.F.

EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

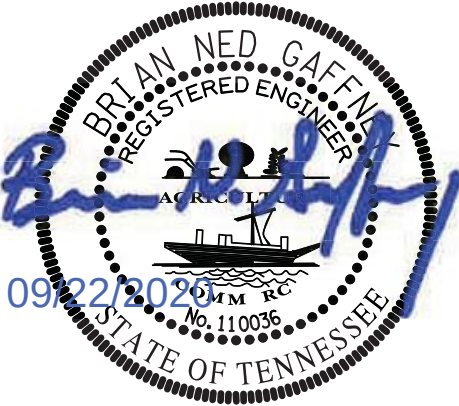
- (1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.
- (2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.
- (4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.
- (5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

SEDIMENT CONTROL

- (6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	94031-4212-04	2C

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GENERAL
NOTES

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GENERAL NOTES (CONT'D)

- (7)

TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.
- (8)

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
- (9)

OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (10)

THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

NATURAL RESOURCES

- (11)

SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (12)

NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.
- (13)

INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.
- (14)

THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.
- (15)

THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.
- (16)

STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE
- USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.
- (17)

HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.

(18)

WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.

(19)

THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.
- SPECIES
- (20)

NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

(21)

SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE REGIONAL ECOLOGY OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).

(22)

IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE TDOT SUPERVISOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, ECOLOGY SECTION IMMEDIATELY.
- INSPECTION, MAINTENANCE & REPAIR
- (23)

THE TDOT CONSTRUCTION SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

(24)

TDOT CONSULTANTS AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. TDOT STAFF AND SUPERVISORS RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDOT "FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL" CLASS AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.

(25)

EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC

INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT.

(26)

DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.

(27)

UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

(28)

INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

(29)

THE EPSC PLAN SHALL BE UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.

(30)

SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

EROSION PREVENTION

(31)

CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.

(32)

THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(33)

NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE TDOT RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.

(34)

TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.

(35)

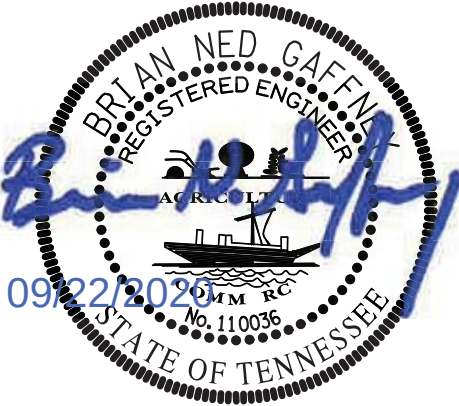
STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.

(36)

PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	94031-4212-04	2C1

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL
NOTES

GENERAL NOTES (CONT'D)

- (37)

TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.
- (38)

DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

PERMITS, PLANS & RECORDS

- (39)

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREA(S).
- (40)

ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.
- (41)

IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (42)

THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.
- (43)

ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.
- (44)

THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

- (45)

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.
- (46)

THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT

- REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.
- (47)

CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.
- (48)

WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.
- (49)

IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.
- (50)

ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
- (51)

WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.
- (52)

ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.
- (53)

ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.
- (54)

OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.
- (55)

DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.
- (56)

WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

SUPPORT ACTIVITIES

- (57)

MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

- (58)

IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL.
- (59)

MATERIALS AND STAGING AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN.
- (60)

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY EPSC PLANS FOR THE MATERIAL AND STAGING AREAS TO THE ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

- (61)

ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.
- (62)

FOR ALL HAZARDOUS MATERIALS STORED ONSITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP SHALL BE CLEARLY POSTED. SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.
- (63)

APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.
- (64)

ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- (65)

THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.
- (66)

IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.
- (67)

FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.
- (68)

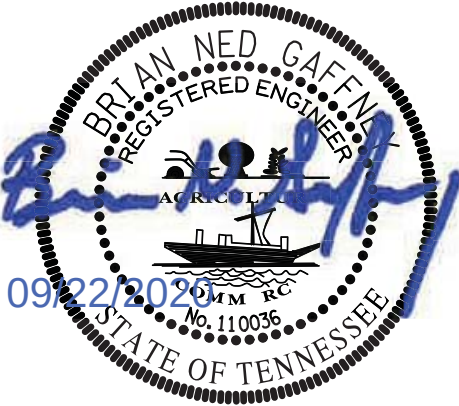
IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.
- (69)

WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.
- (70)

CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO STORING 1320 GALLONS ON SITE.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	94031-4212-04	2C2

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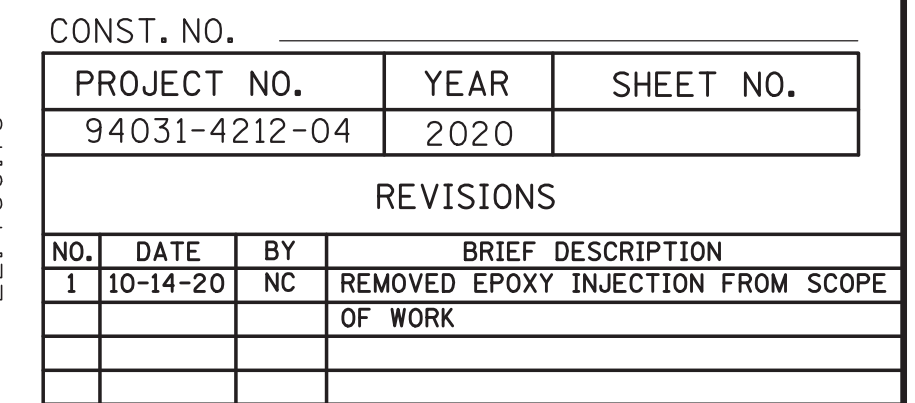


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STATE OF TENNESSEE

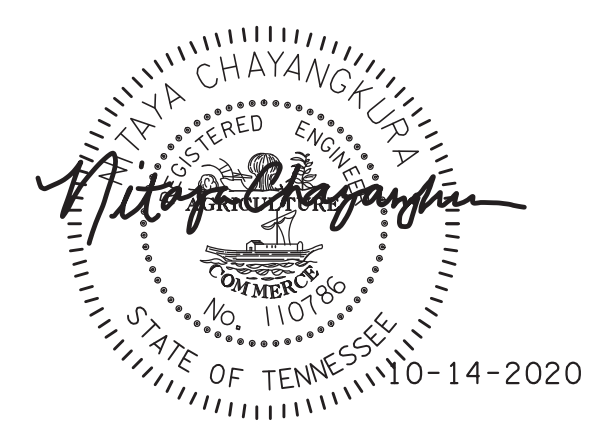
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES



NOTE: ALL DIMENSIONS AND VERTICAL ELEVATIONS ARE BASED ON EXISTING PLAN INFORMATION AND FIELD MEASUREMENTS. PRIOR TO CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.

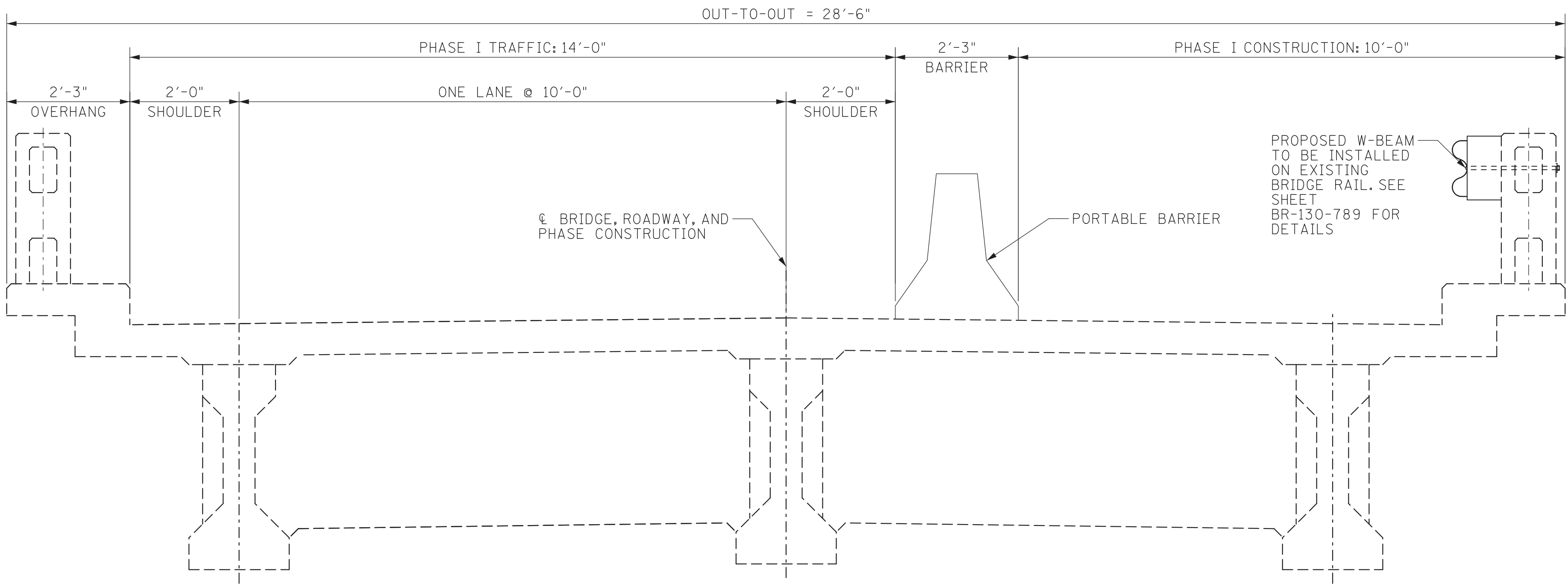
1. PROVIDE TRAFFIC CONTROL TO REQUIRE CLOSURE OF OUTSIDE SHOULDERS AND MAINTAIN THREE LANES OF TRAFFIC FOR REPAIRS AT BENTS 1 & 3 TO BE COMPLETED DURING WEEKDAYS. PROVIDE TRAFFIC CONTROL TO REQUIRE CLOSURE OF INSIDE LANE IN EACH DIRECTION OF I-65 FOR BENT 2 REPAIRS TO BE COMPLETED DURING WEEKENDS ONLY.
2. INSTALL TEMPORARY SHORING FOR SUPERSTRUCTURE PRIOR TO PERFORMING REPAIRS TO EXISTING BENT COLUMNS AND BEAMS. SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE REPAIRS AND FIBER WRAP INSTALLATION IS COMPLETE AND HAS ATTAINED THE REQUIRED STRENGTH AND CURE. SEE SHEET BR-130-778 FOR ADDITIONAL INFORMATION.
3. REPAIR SPALLED CONCRETE AND DELAMINATED AREAS OF BENT COLUMNS. REPAIRS SHALL BE COMPLETED WHILE THE SUPERSTRUCTURE IS SUPPORTED WITH TEMPORARY SHORING.
4. REPAIR SPALLED CONCRETE AND DELAMINATED AREAS OF BEAMS. REPAIRS SHALL BE COMPLETED WHILE THE SUPERSTRUCTURE IS SUPPORTED WITH TEMPORARY SHORING.
5. REPAIR SPALLED CONCRETE ON BENT PROTECTION BELOW BRIDGE.
6. INSTALL FIBER REINFORCED POLYMER WRAP ON SIDES AND UNDERSIDE OF OVERHANGS ON THE LEFT AND RIGHT OUTSIDE EDGES OF SUPERSTRUCTURE AT EACH BENT LOCATION WHILE THE SUPERSTRUCTURE IS SUPPORTED WITH TEMPORARY SHORING.
7. APPLY TEXTURE COATING AND CONCRETE SEALER TO SUBSTRUCTURES AND BEAMS.
8. PROVIDE TRAFFIC CONTROL AND PHASED CONSTRUCTION ON DUPLEX ROAD TO MAINTAIN ONE LANE OF TRAFFIC USING A TEMPORARY TRAFFIC SIGNAL SYSTEM.
9. INSTALL PERMANENT SHEET PILING AND FILL MATERIAL AT THREE CORNERS OF THE BRIDGE AS DESIGNATED IN THE PLANS TO ACCOMMODATE NEW APPROACH GUARDRAIL. SEE SHEET BR-130-787.
10. ADD NEW W-BEAM GUARDRAIL TO EXISTING CONCRETE BRIDGE RAIL AND APPROACH AT ALL BRIDGE CORNERS.



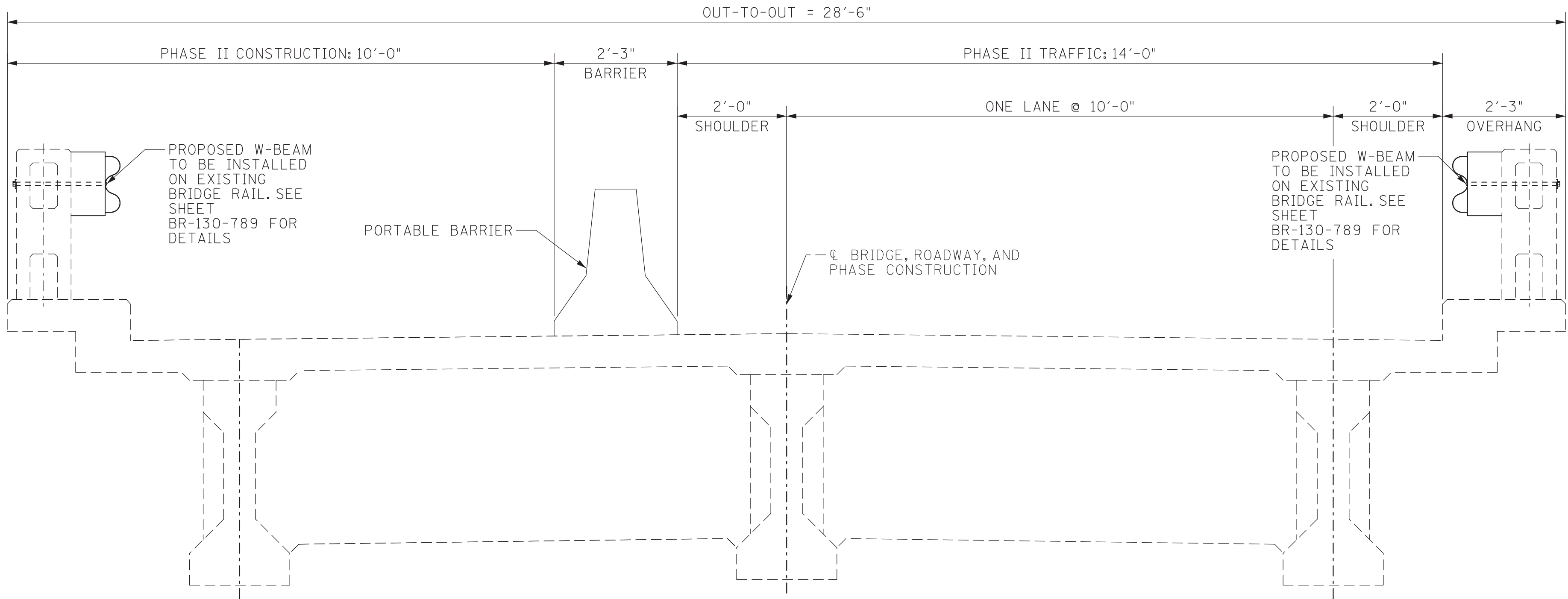
<u>LIST OF REFERENCE DRAWINGS</u>	
(TO BE PRINTED WITH PLANS)	
<u>DESCRIPTION</u>	<u>DWG. NO.</u>
LAYOUT OF BRIDGE	K-4-145
PRESTRESSED BEAM DETAILS	K-4-146
SUPERSTRUCTURE DETAILS	K-4-147
ABUTMENTS NO. 1 & 2	K-4-148
BENTS NO. 1, 2, & 3	K-4-149
BILL OF STEEL	K-4-150
CONCRETE HANDRAIL	H-5-110

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT OF BRIDGE
TO BE REPAIRED
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

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PHASE I CONSTRUCTION
SHOWING TYPICAL CROSS SECTION
LOOKING FORWARD



PHASE II CONSTRUCTION
SHOWING TYPICAL CROSS SECTION
LOOKING FORWARD

CONST. NO. _____			
PROJECT NO.	YEAR	SHEET NO.	
94031-4212-04	2020		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PHASE CONSTRUCTION

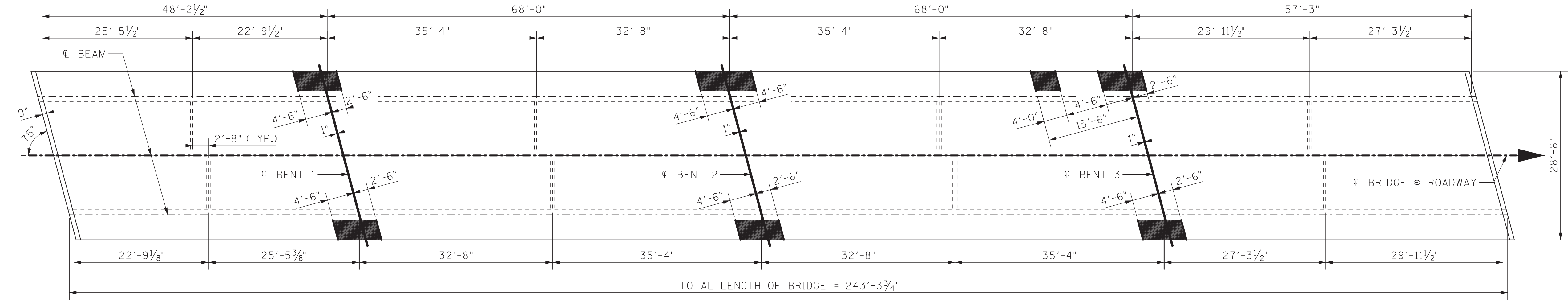
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

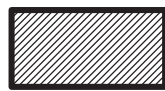
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

DATE _____
DATE _____
DATE _____
DATE _____

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 DENOTES: AREA OF FIBER REINFORCED POLYMER PLACEMENT ON OVERHANG

FRP REPAIR PLAN

SEE SHEETS BR-130-779 THROUGH
BR-130-784 FOR SPECIFIC LOCATIONS

GENERAL NOTES FOR REPAIRING DAMAGED PRESTRESSED BEAMS:

1. SAW CUT CONCRETE 1/2" TO OBTAIN SQUARE AREAS AND REMOVE PORTIONS OF THE PRESTRESSED BEAM AS SHOWN ON THESE PLANS TO ENSURE THAT SOUND CONCRETE ISREACHED IN ALL AREAS.EXACT AREAS OF BEAM REPAIR SHALL BE MARKED BY THE ENGINEER FROM THE OFFICE OF BRIDGE INSPECTION AND REPAIR.
2. PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 35 POUND CLASS SHALL NOT BE USED TO REMOVE EXISTING CONCRETE.CHIPPING HAMMERS OF 35 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM AROUND THE STRANDS AND REBAR IN THE BEAM.
3. SPECIAL CARE SHALL BE TAKEN SO AS TO NOT DAMAGE ANY STRANDS OR REBAR DURING CONCRETE REMOVAL.IF DAMAGE OCCURS,THE ENGINEER SHALL INSPECT THE DAMAGE AND,IF DEEMED NECESSARY, THE CONTRACTOR SHALL REPLACE OR REPAIR THE DAMAGED MEMBER AT NO ADDITIONAL COST.
4. ALL REINFORCING STEEL IN THE AREA OF THE REPAIR SHALL BE COMPLETELY CLEANED.
5. COST OF SAW CUTTING,REMOVING SPALLED CONCRETE,CLEANING EXISTING REINFORCING STEEL,HIGH EARLY STRENGTH CONCRETE,LABOR AND ANY MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE REPAIRS AS SHOWN IN THIS DETAIL SHALL BE INCLUDED IN THE ITEM NO.604-10.05, CONCRETE, S.F.

NOTES:

1. REFER TO TDOT SPECIAL PROVISION 604FRP FOR ALL FIBER-REINFORCED POLYMER MATERIAL REQUIREMENTS.
2. ALL CONCRETE SURFACES SHALL BE DRY AND FREE OF SURFACE MOISTURE PRIOR TO FRP APPLICATION.
3. ALL PATCHING MATERIALS MUST BE ALLOWED TO CURE FOR A MINIMUM OF TWO (2) DAYS AND REACH A MINIMUM OF 3000 PSI COMPRESSIVE STRENGTH PRIOR TO INSTALLATION OF THE FRP WRAPS.

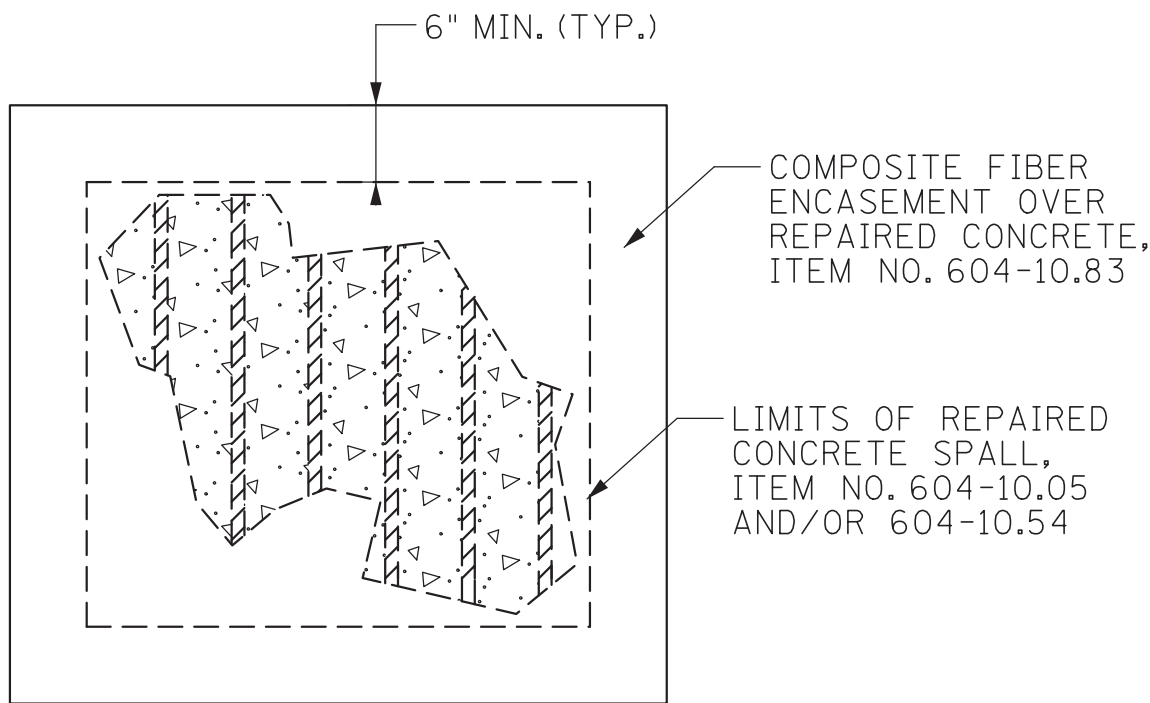
ESTIMATED QUANTITIES

ITEM NO.604-10.05 CONCRETE (S.F.)	ITEM NO.604-10.83 COMPOSITE FIBER ENCASEMENT (S.F.)
60	275

FRP CURED LAMINATE PROPERTIES

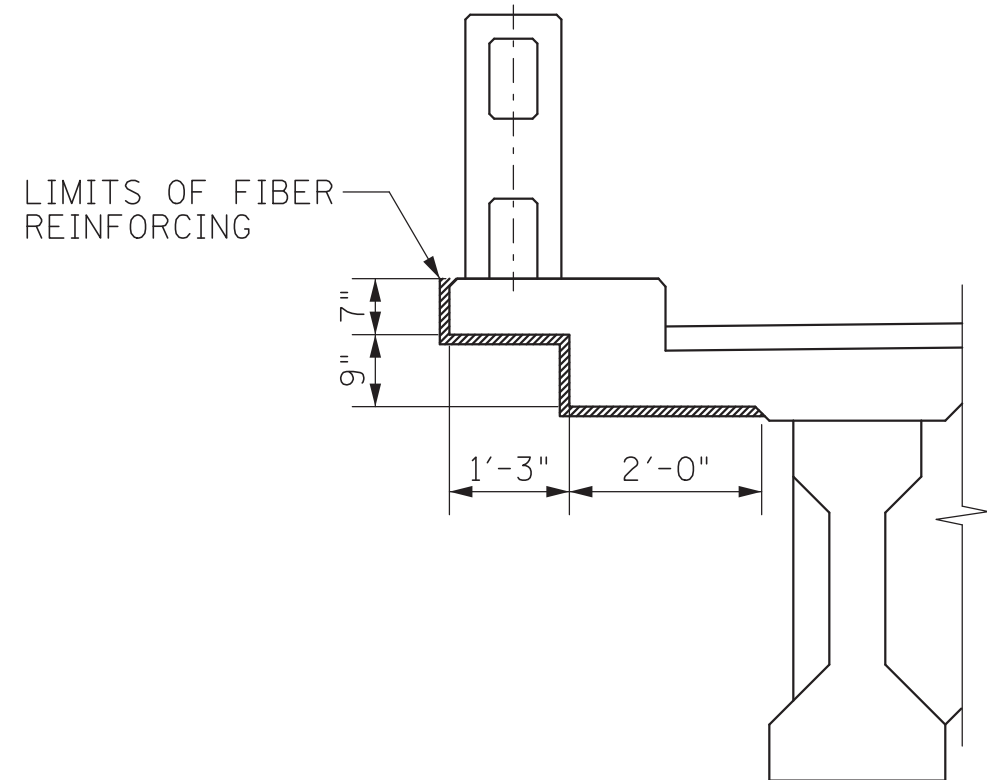
PROPERTY	CFRP	EGFRP
DESIGN UNIT TENSILE STRENGTH	2.2 K/IN/PLY	2.8 K/IN/PLY
UNIT TENSILE STIFFNESS	*220 K/IN/PLY	140 K/IN/PLY
DESIGN ELONGATION AT FAILURE	1.00%	2.00%
NOMINAL FABRIC WEIGHT	9 OZ/YD*	27 OZ/YD*

* CFRP WITH UNIT TENSILE STIFFNESS IN EXCESS OF 500K/IN/PLY IS UNACCEPTABLE



FIBER REINFORCED POLYMER WRAP REPAIR DETAIL

NOTE: LIMITS OF FRP WRAP SHALL EXTEND
A MINIMUM OF 6" BEYOND AREA OF
CONCRETE REPAIR.



OVERHANG REPAIR



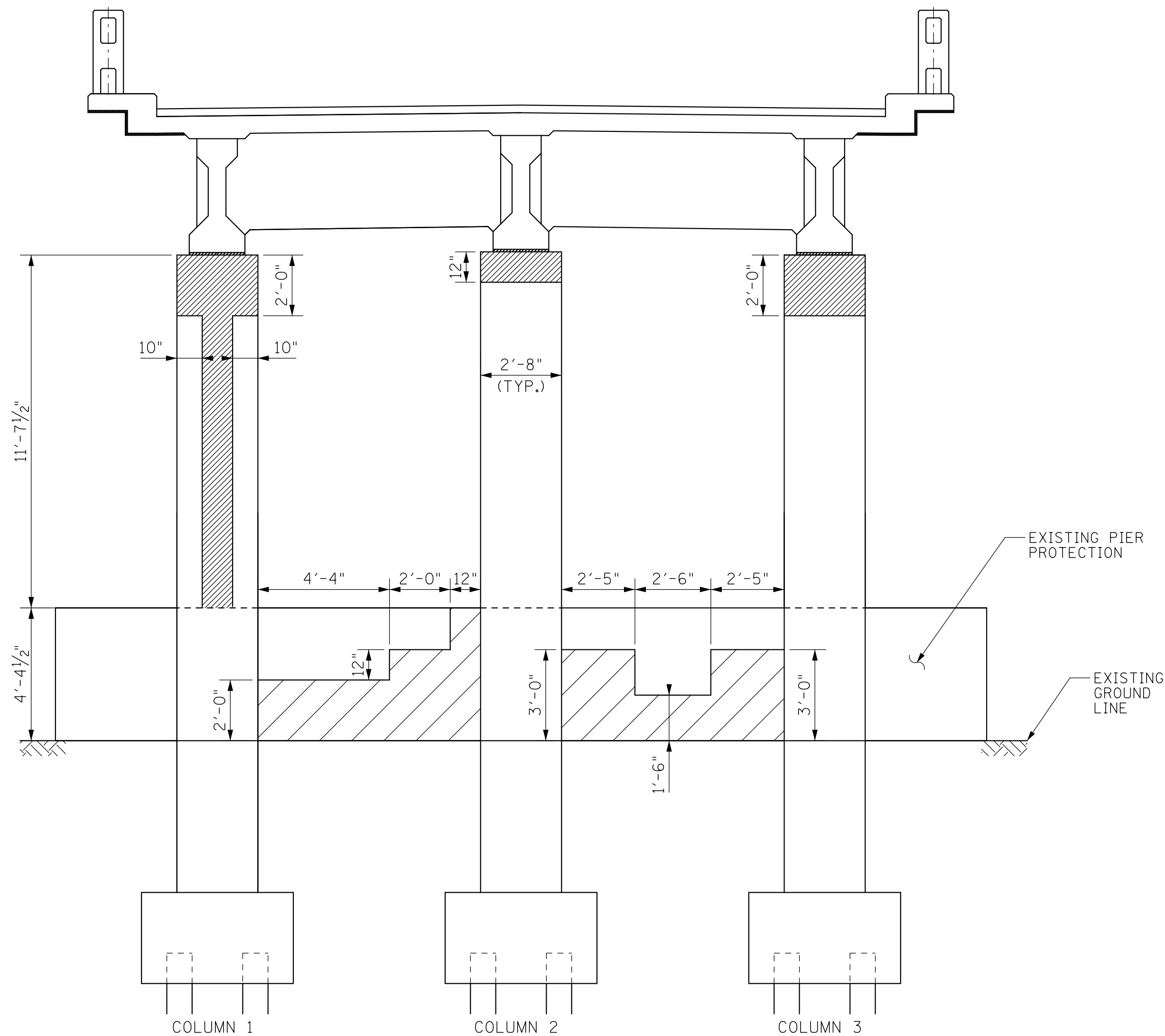
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
REPAIR DETAILS

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH DATE
DRAWN BY DANIEL RIKLI, E.I. DATE
SUPERVISED BY N. CHAYANGKURA, PE DATE
CHECKED BY JACOB WILLIAMS, P.E. DATE

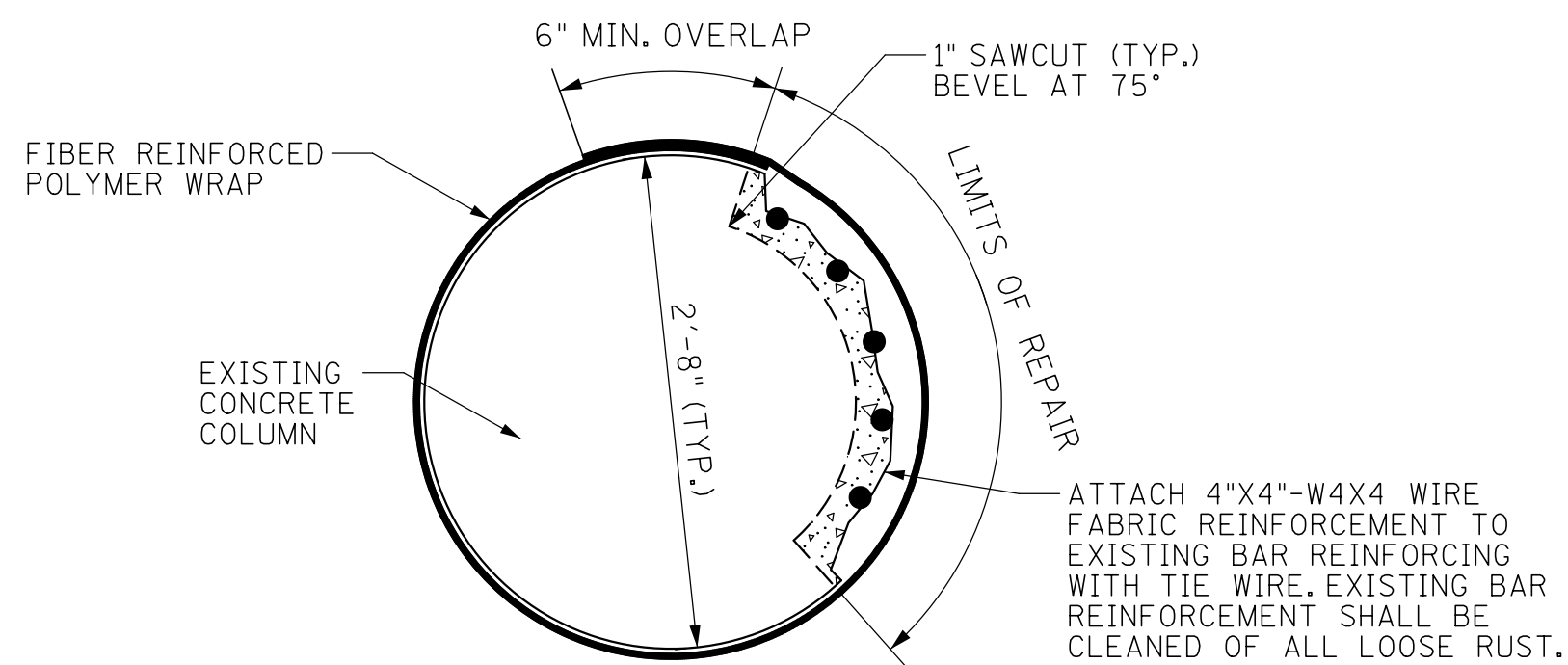
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ELEVATION
(LOOKING FORWARD)

AREA OF CONCRETE REPAIR AND
COMPOSITE FIBER ENCASEMENT (ITEMS
604-10.05, 604-10.54, AND 604-10.83)

AREA OF CONCRETE REPAIR ONLY
(ITEMS 604-10.05 AND/OR 604-10.54)

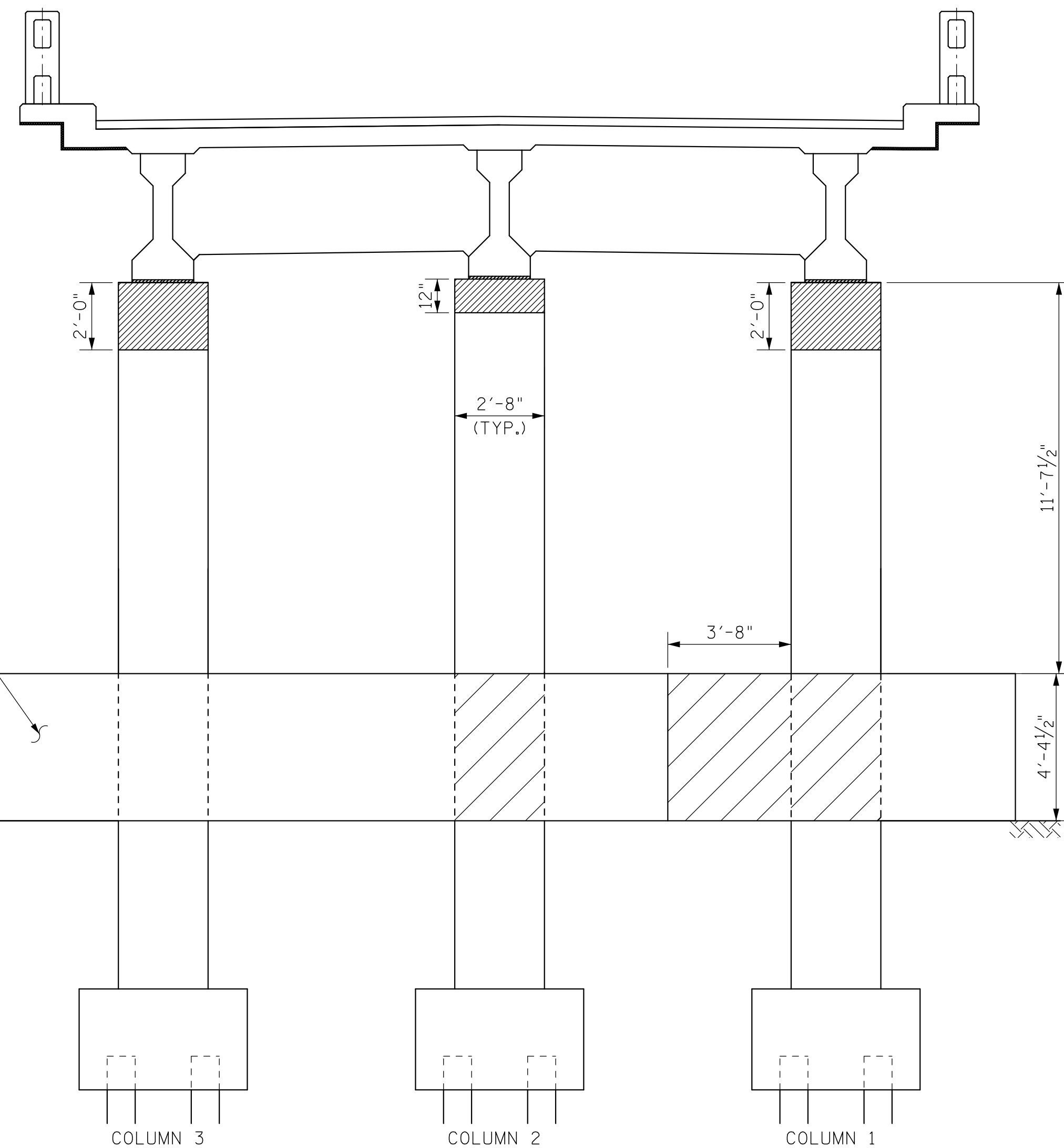


**TYPICAL COLUMN
REPAIR DETAIL**

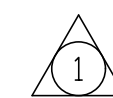
(PLAN VIEW)

SEE SHEET BR-130-778 FOR REPAIR NOTES
NOTE: FIBER REINFORCED POLYMER MATERIAL SHALL
WRAP AROUND THE ENTIRETY OF THE COLUMN
CIRCUMFERENCE WITH MINIMUM 6" OVERLAP.

DESIGNED BY BENESCH DATE _____
DRAWN BY DANIEL RIKLI, E.I. DATE _____
SUPERVISED BY N. CHAYANGKURA, PE DATE _____
CHECKED BY JACOB WILLIAMS, P.E. DATE _____



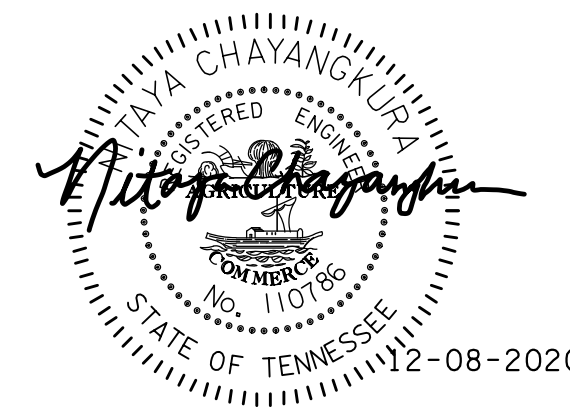
ELEVATION
(LOOKING BACK)



**ESTIMATED QUANTITIES
BENT 1**

ITEM NO. 604-10.05 CONCRETE (S.F.)	ITEM NO. 604-10.54 CONCRETE REPAIRS (S.F.)	ITEM NO. 604-10.83 COMPOSITE FIBER ENCASEMENT (S.F.)
55	106	220

CONST. NO. _____			
PROJECT NO.	YEAR	SHEET NO.	
94031-4212-04	2020		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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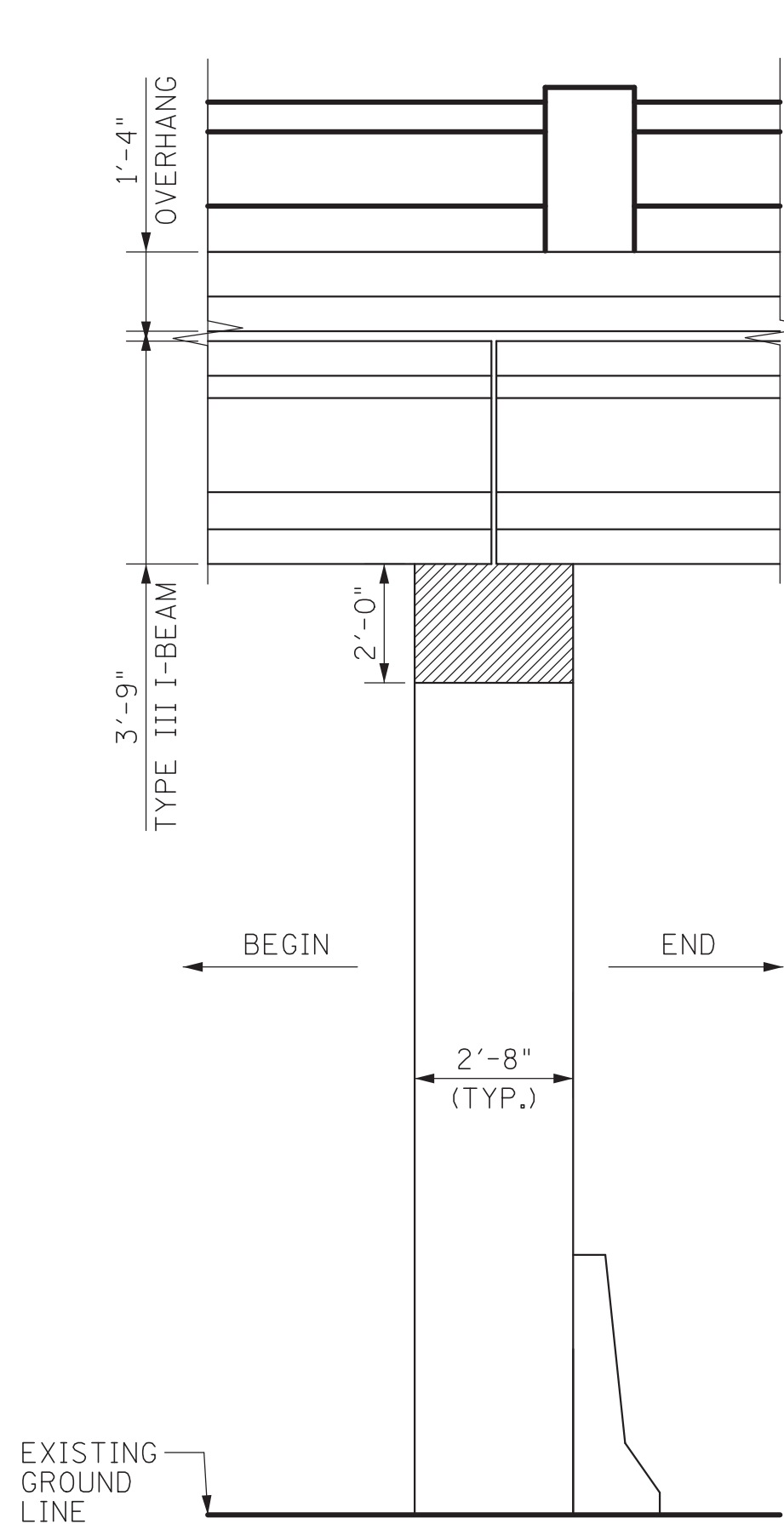


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BENT 1 REPAIRS

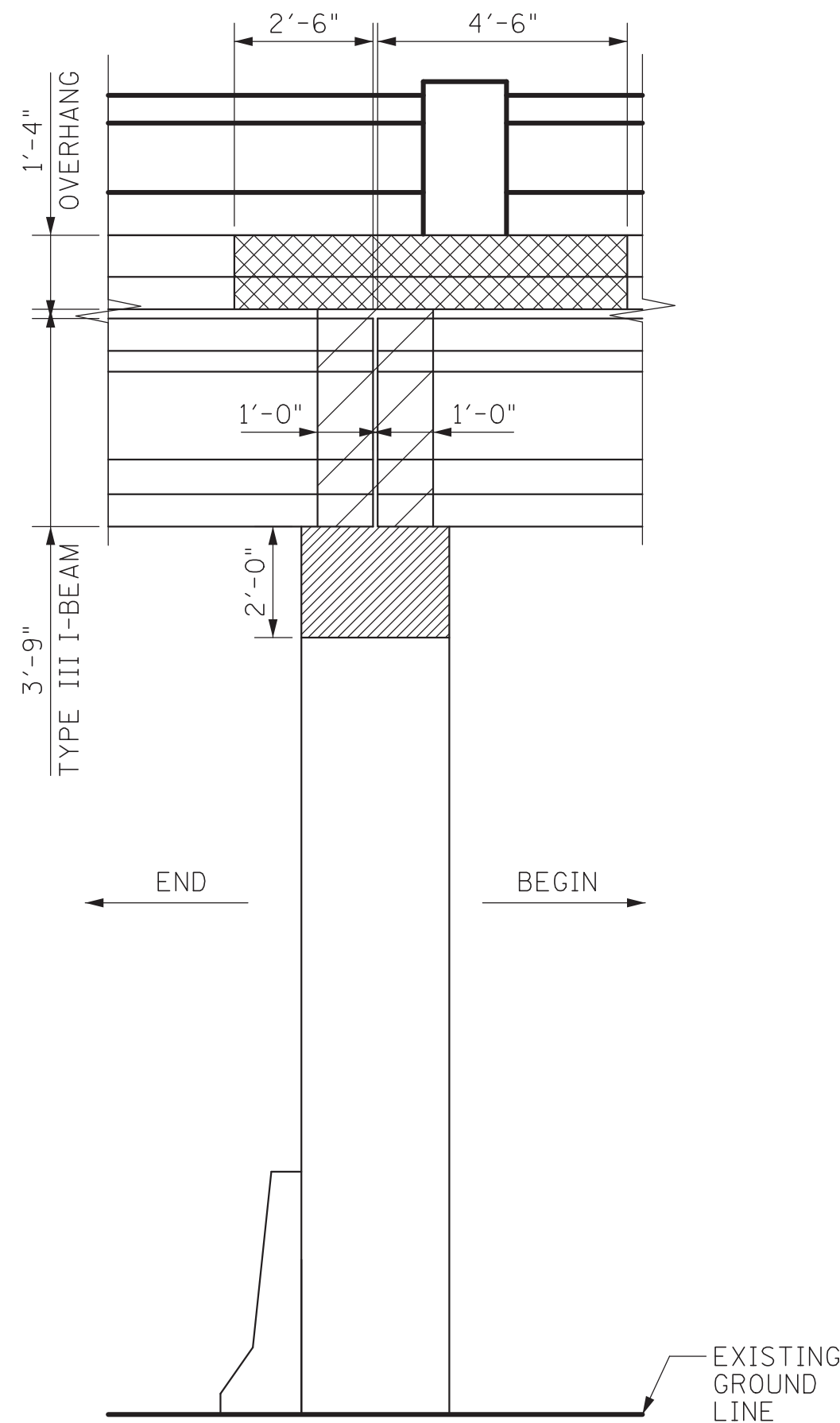
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

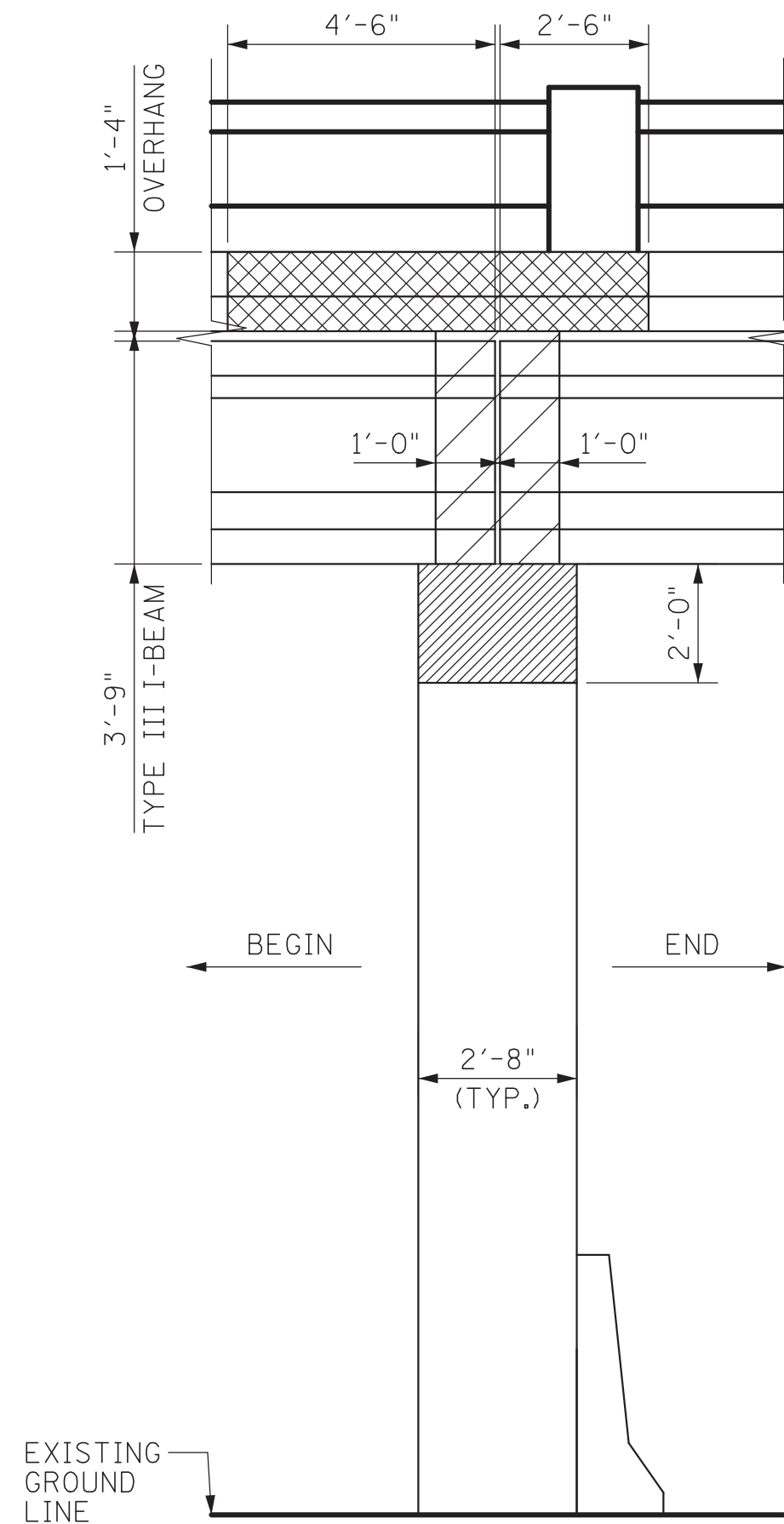
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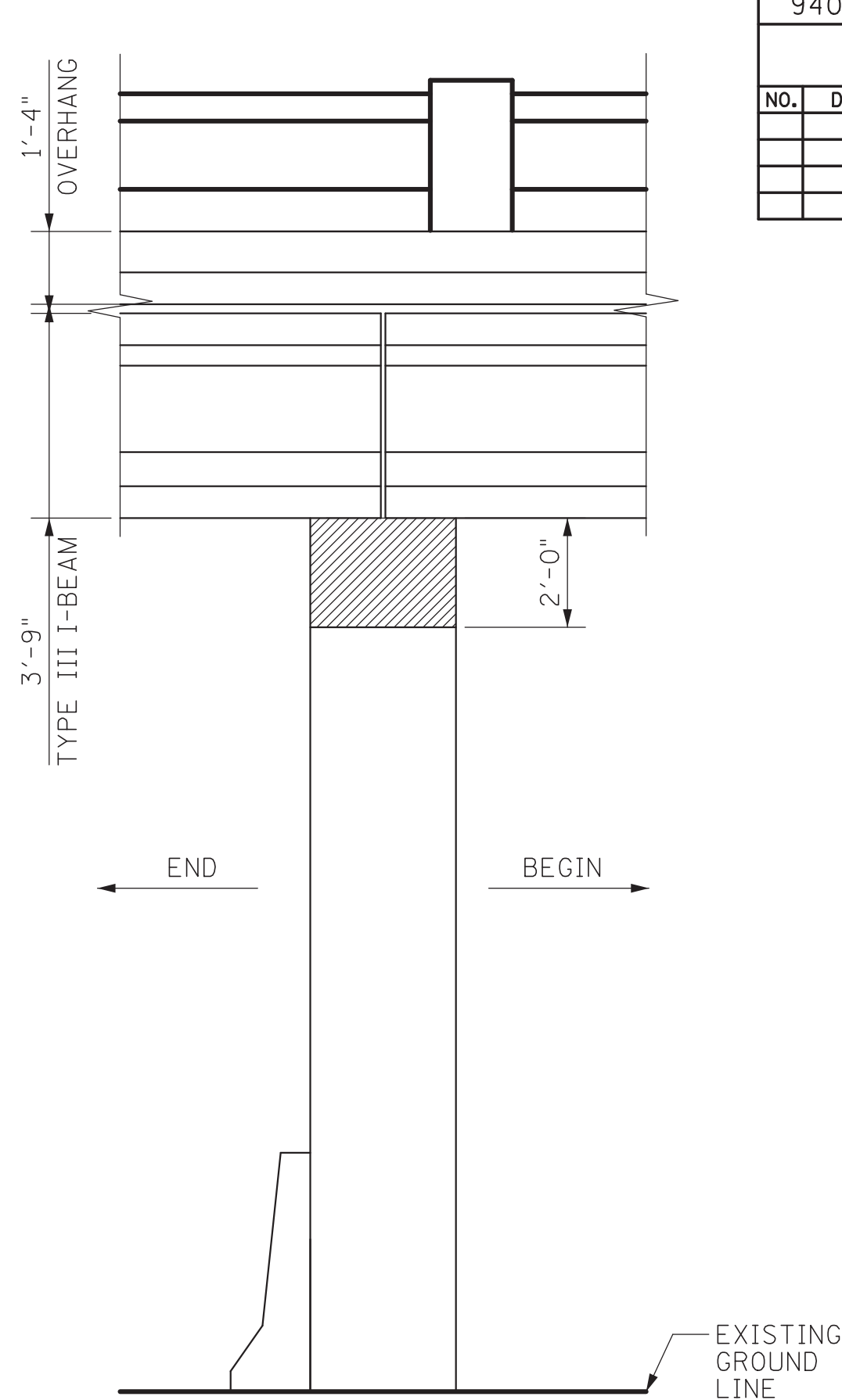
COLUMN 1
(LOOKING NORTH)



COLUMN 1
(LOOKING SOUTH)

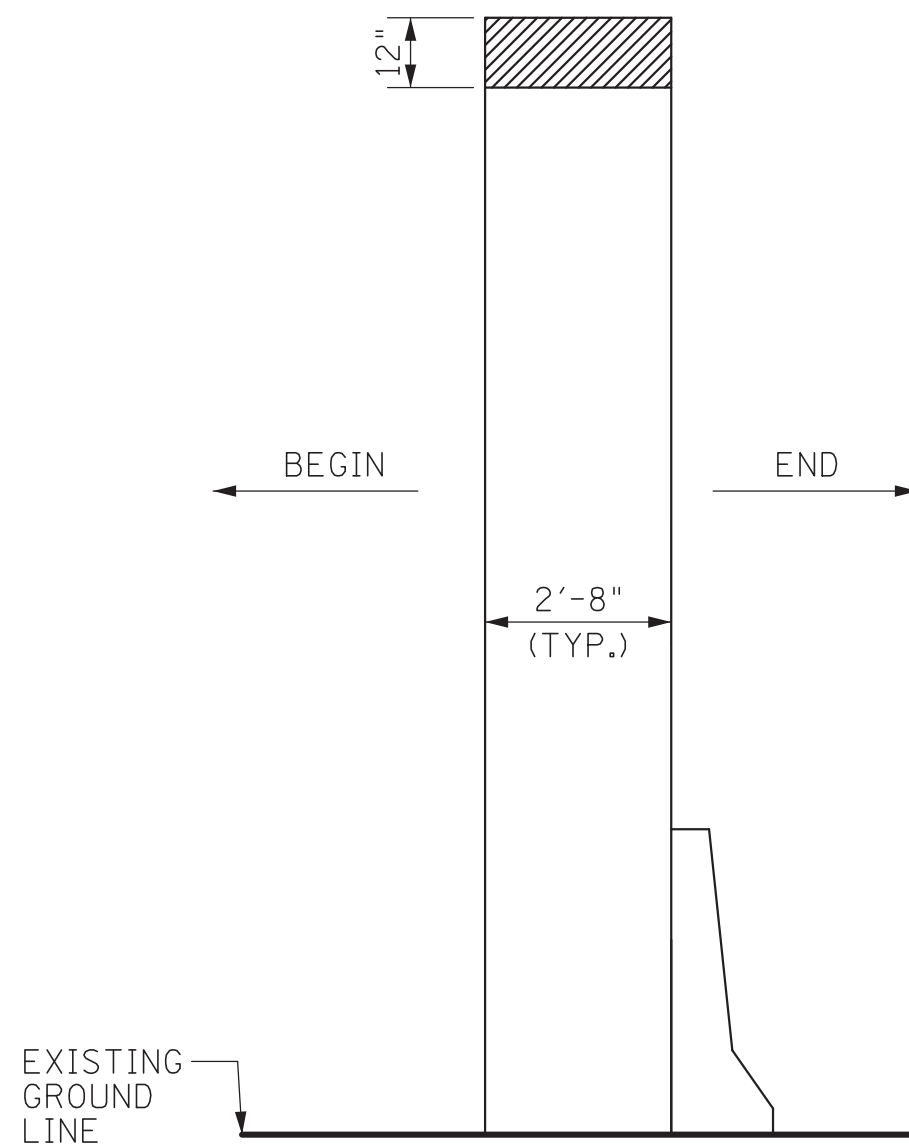


COLUMN 3
(LOOKING NORTH)

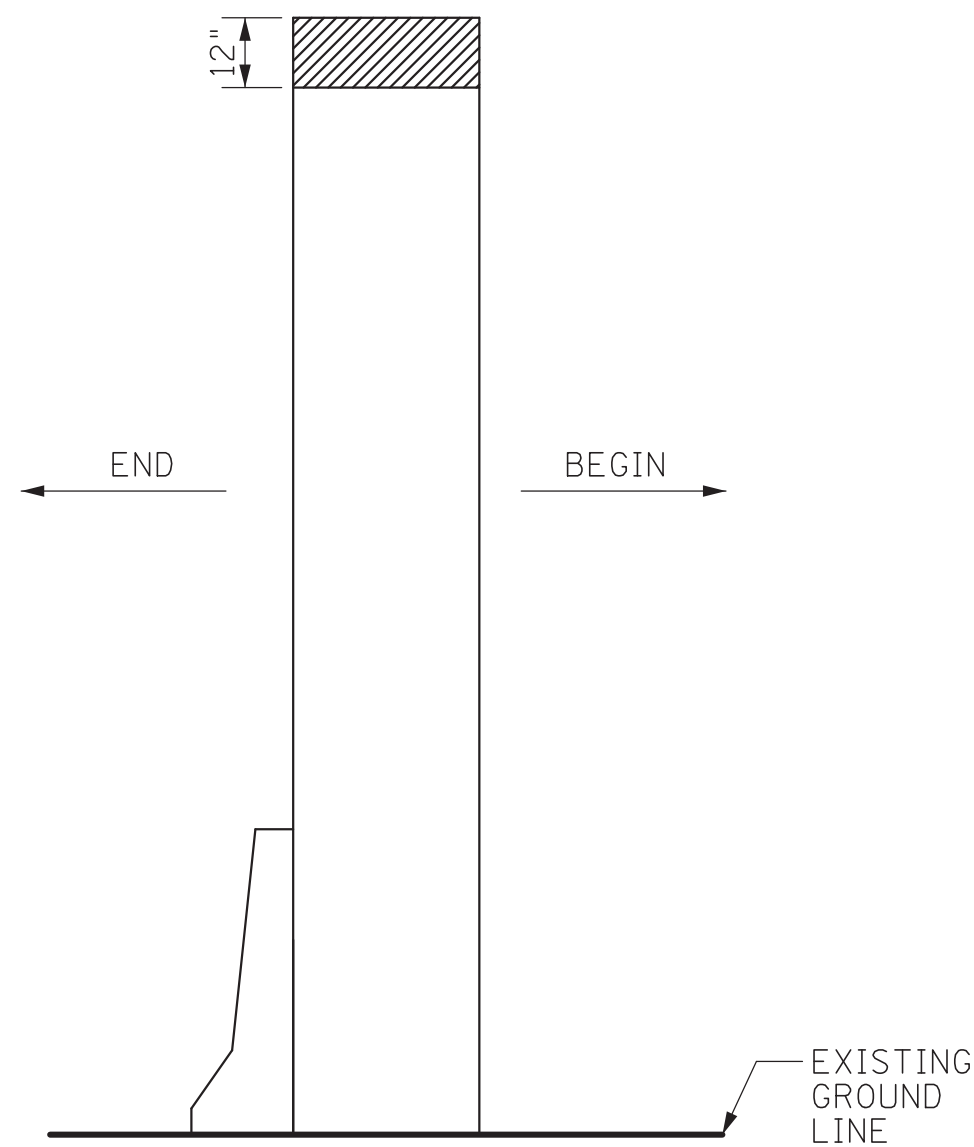


COLUMN 3
(LOOKING SOUTH)

- AREA OF CONCRETE REPAIR AND COMPOSITE FIBER ENCASEMENT (ITEMS 604-10.05, 604-10.54, AND 604-10.83)
- AREA OF CONCRETE REPAIR ONLY (ITEMS 604-10.05 AND/OR 604-10.54)
- AREA OF FIBER REINFORCEMENT INCLUDES UNDERSIDE OF OVERHANG (ITEM NO. 604-10.83) SEE "OVERHANG REPAIR" DETAIL ON SHEET BR-130-778

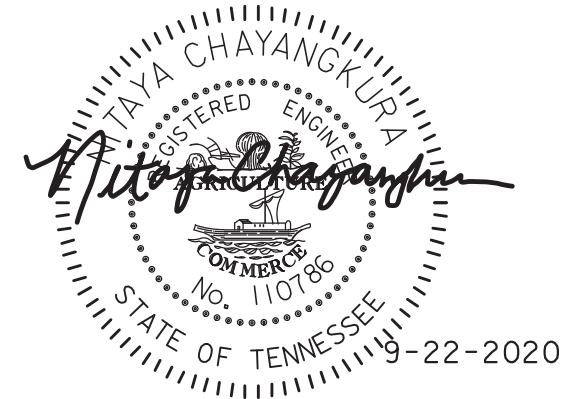


COLUMN 2
(LOOKING NORTH)



COLUMN 2
(LOOKING SOUTH)

CONST. NO. _____		
PROJECT NO.	YEAR	SHEET NO.
94031-4212-04	2020	
REVISIONS		
NO.	DATE	BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BENT 1 REPAIRS
SIDE VIEW

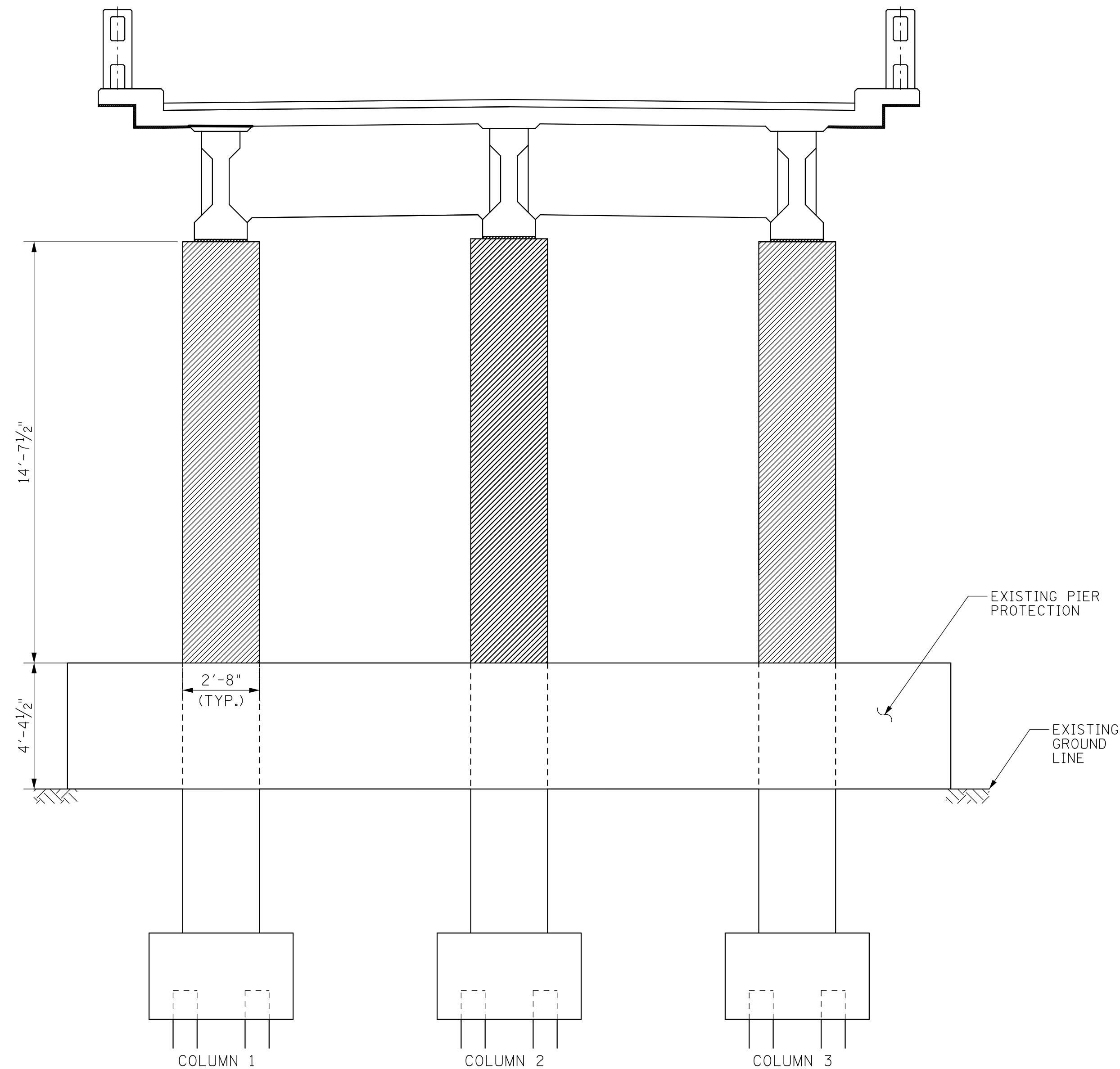
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

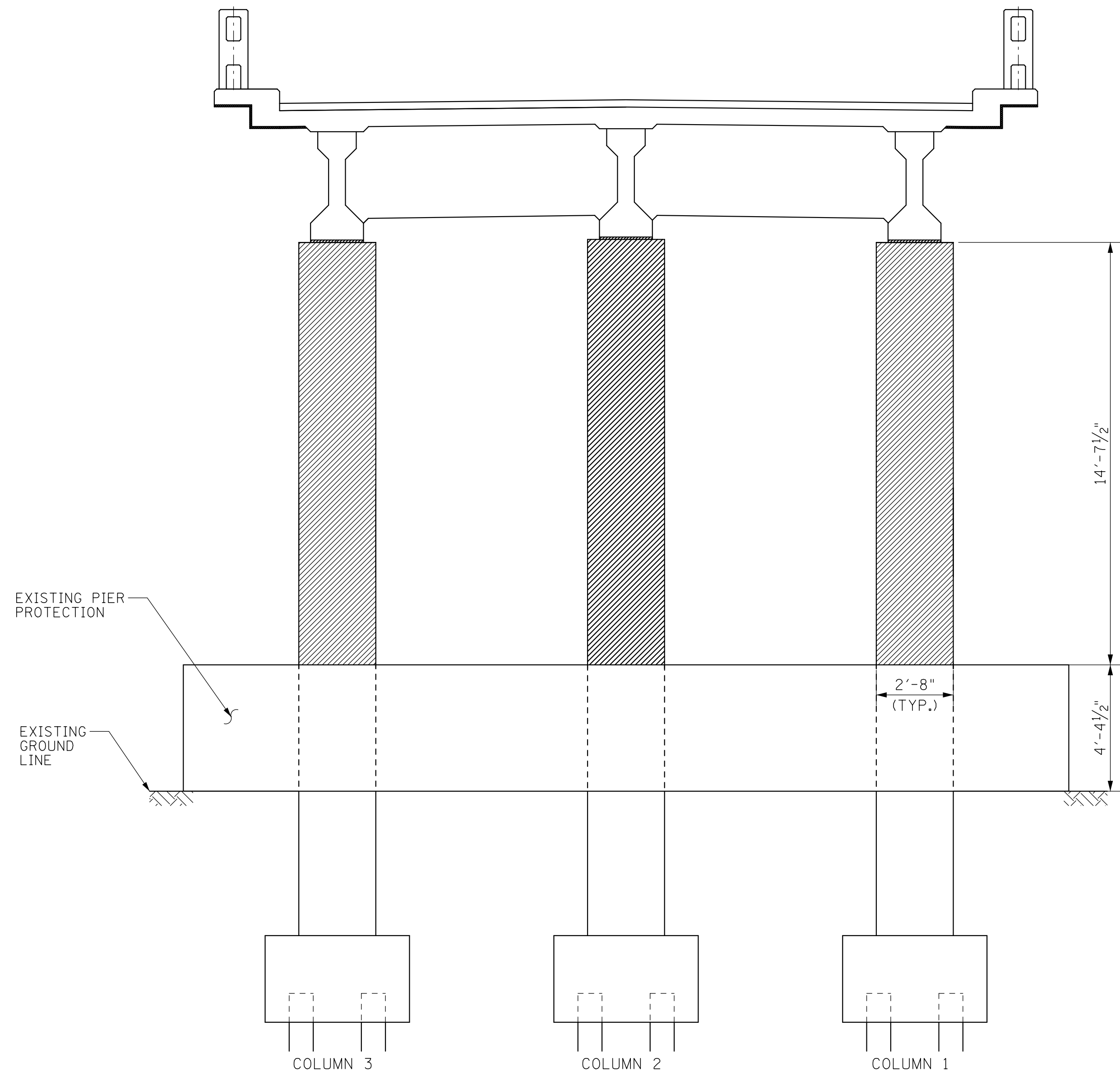
DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

DATE
DATE
DATE
DATE

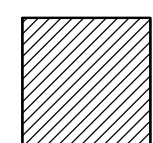
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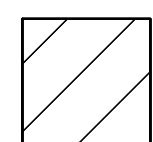


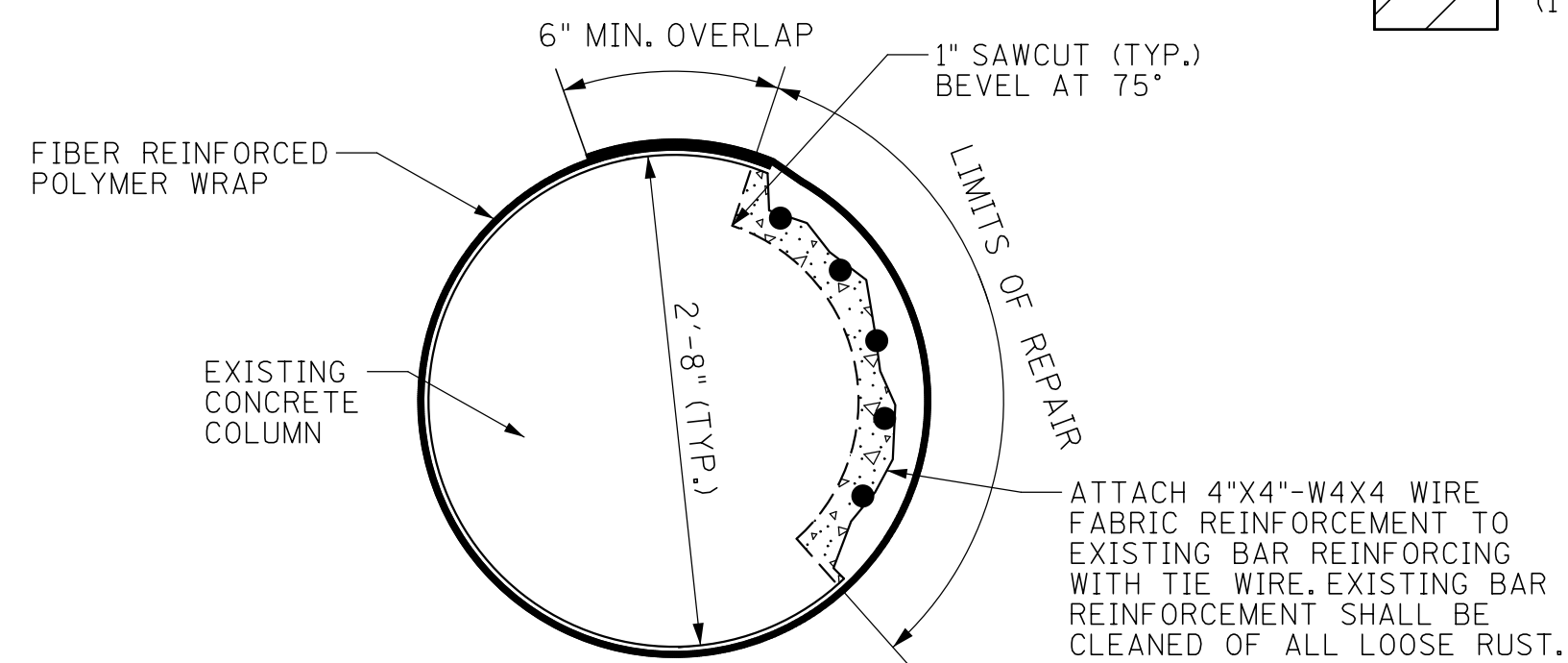
ELEVATION
(LOOKING FORWARD)



ELEVATION
(LOOKING BACK)

 AREA OF CONCRETE REPAIR AND COMPOSITE FIBER ENCASEMENT (ITEMS 604-10.05, 604-10.54, AND 604-10.83)

 AREA OF CONCRETE REPAIR ONLY (ITEMS 604-10.05 AND/OR 604-10.54)

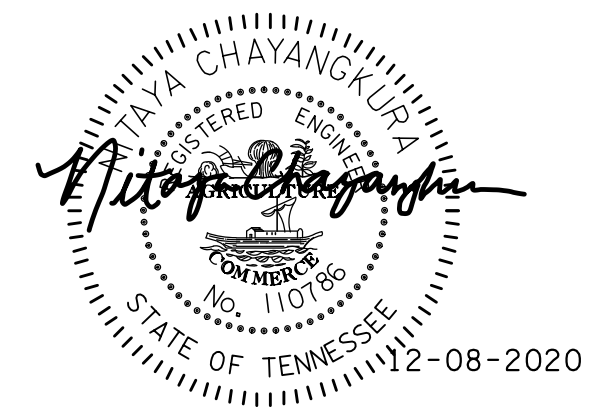


TYPICAL COLUMN REPAIR DETAIL
(PLAN VIEW)

SEE SHEET BR-130-778 FOR REPAIR NOTES
NOTE: FIBER REINFORCED POLYMER MATERIAL SHALL WRAP AROUND THE ENTIRETY OF THE COLUMN CIRCUMFERENCE WITH MINIMUM 6" OVERLAP.

DESIGNED BY BENESCH DATE
DRAWN BY DANIEL RIKLI, E.I. DATE
SUPERVISED BY N. CHAYANGKURA, PE DATE
CHECKED BY JACOB WILLIAMS, P.E. DATE

CONST. NO. _____			
PROJECT NO.	YEAR	SHEET NO.	
94031-4212-04	2020		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	12-08-20	NC	REV QTY FOR 604-10.05 & 604-10.54



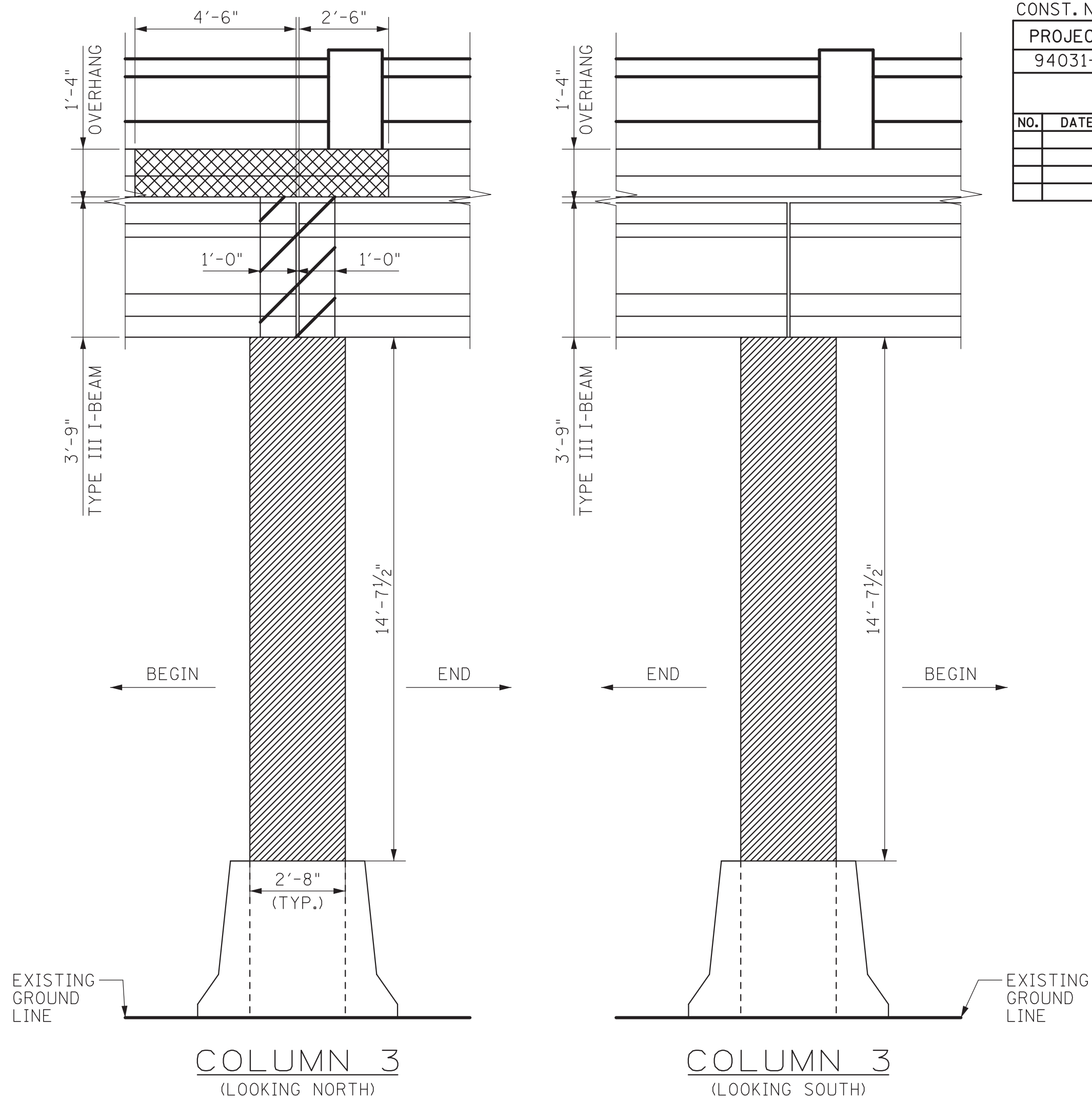
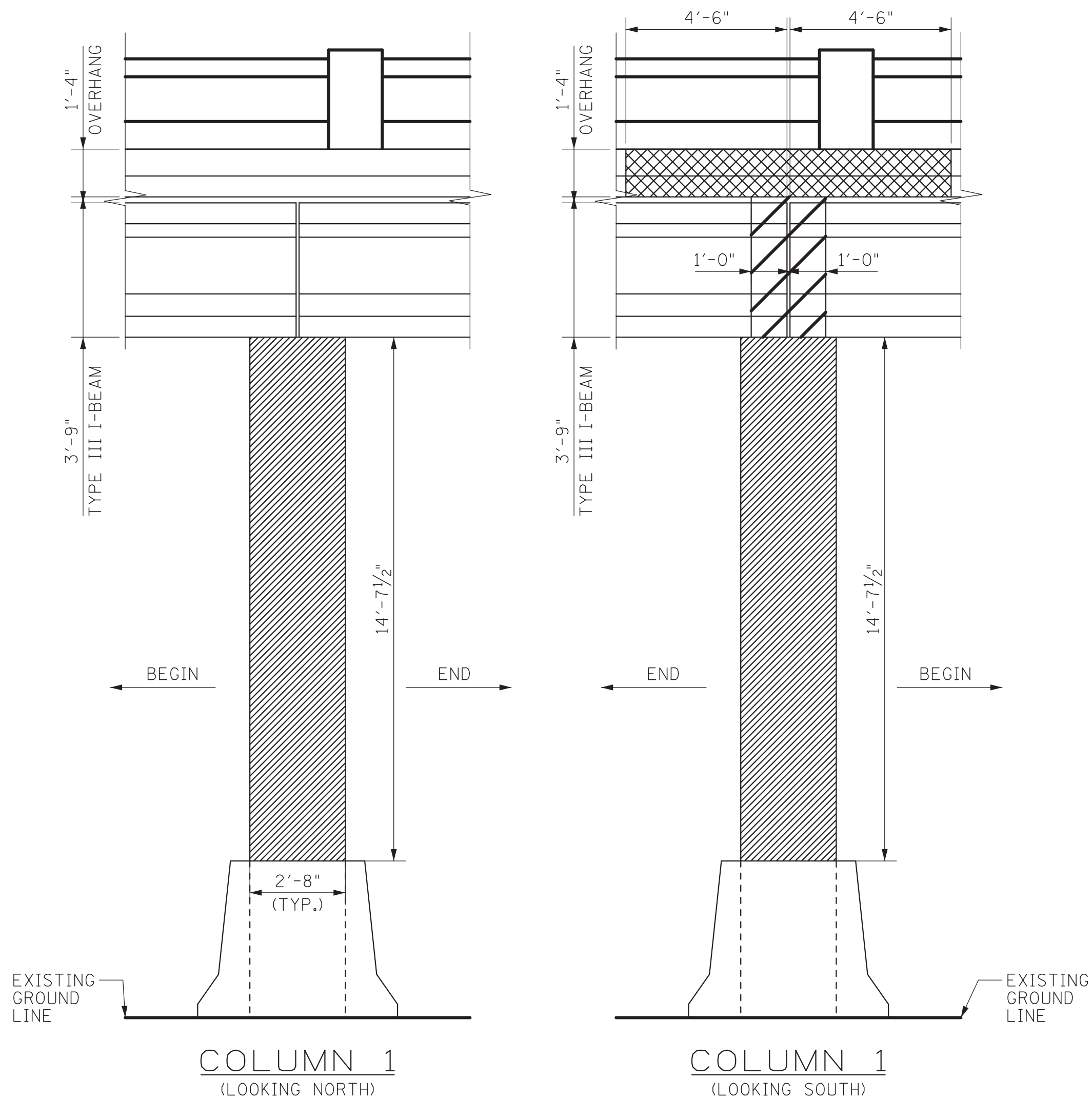
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BENT 2 REPAIRS

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

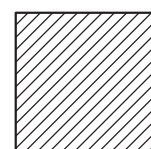
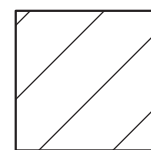
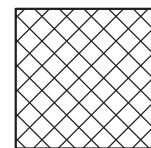
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

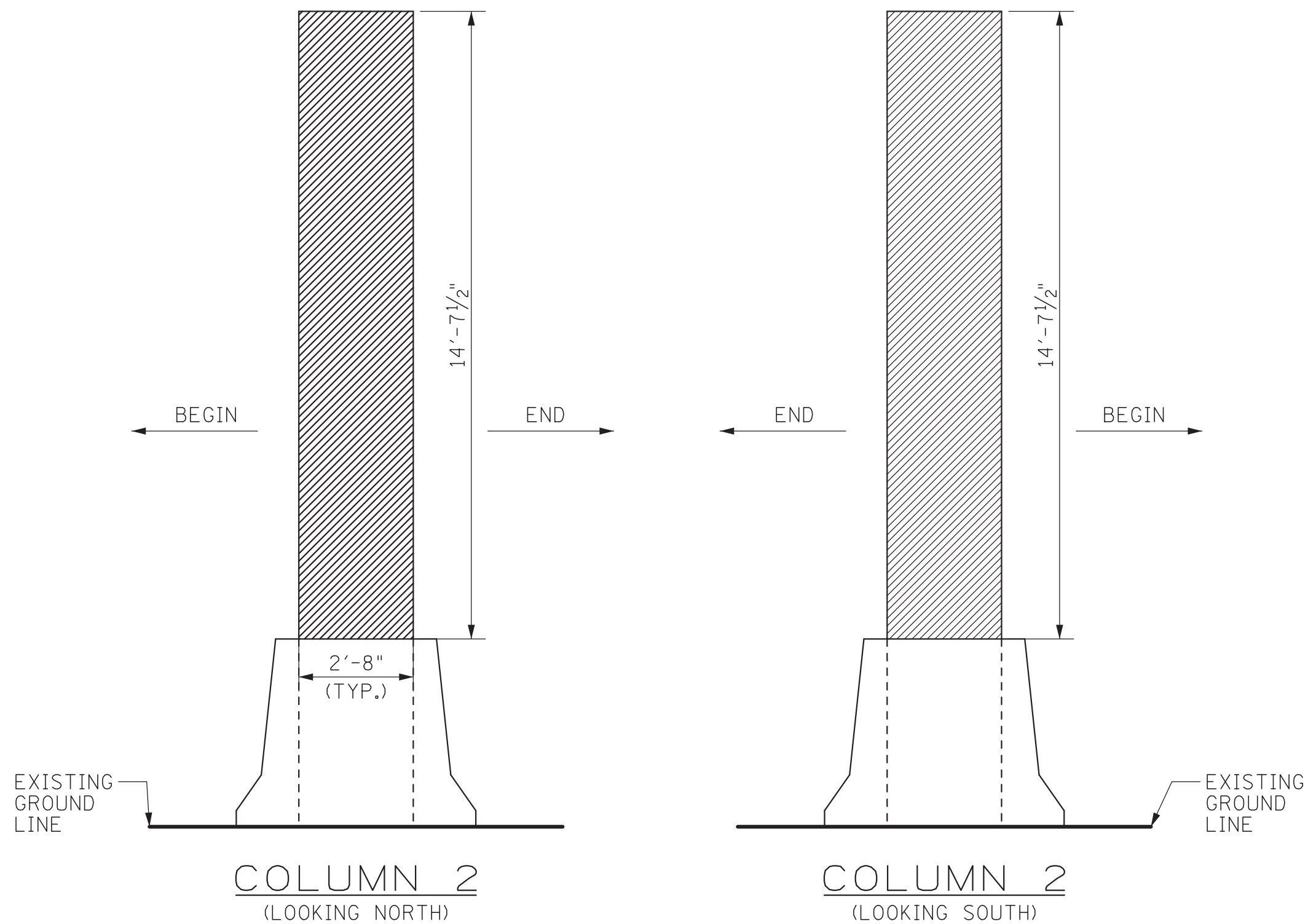
ESTIMATED QUANTITIES BENT 2		
ITEM NO. 604-10.05 CONCRETE (S.F.)	ITEM NO. 604-10.54 CONCRETE REPAIRS (S.F.)	ITEM NO. 604-10.83 COMPOSITE FIBER ENCASEMENT (S.F.)
112	277	481

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CONST. NO. _____			
PROJECT NO.		YEAR	SHEET NO.
94031-4212-04		2020	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

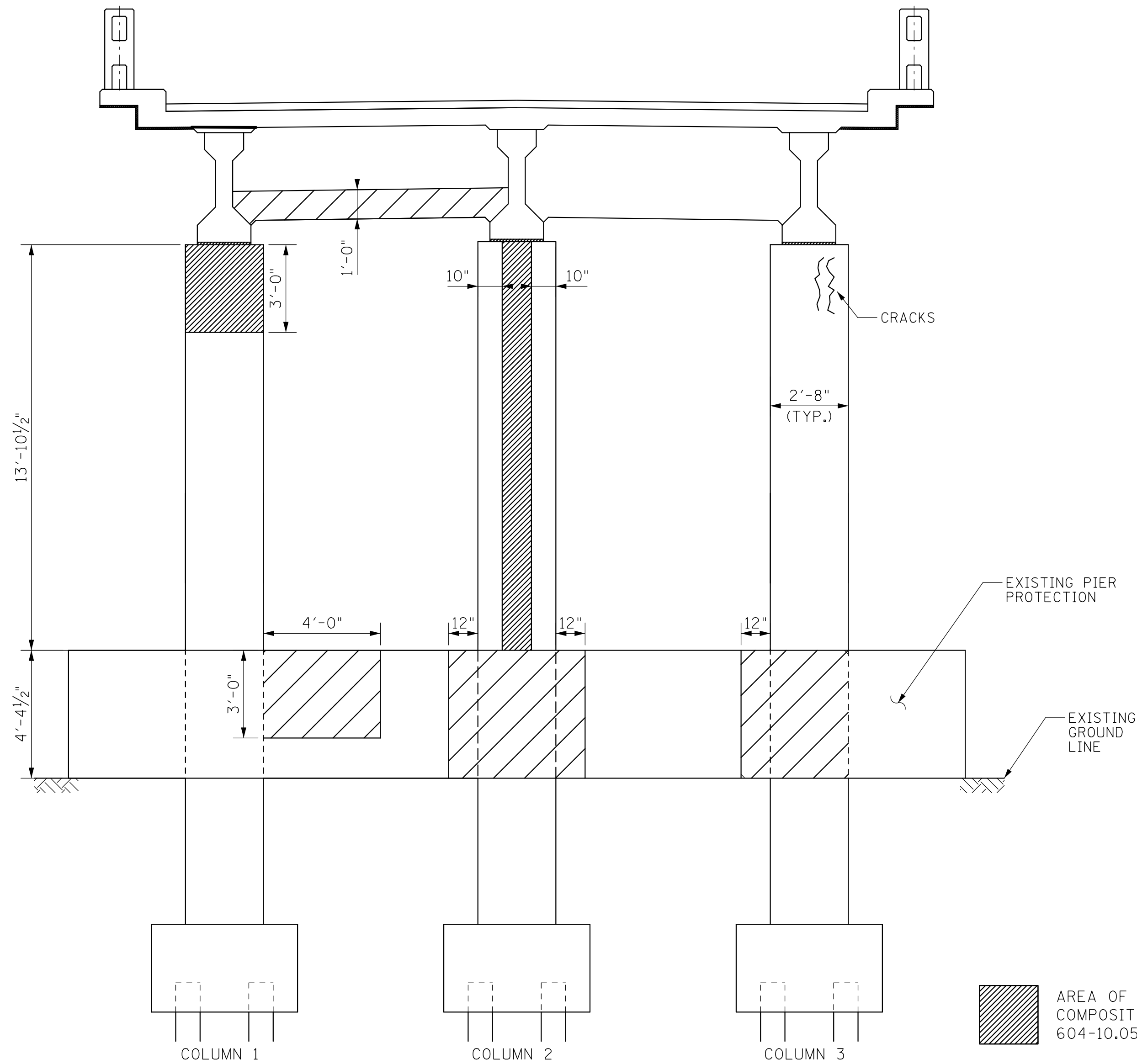
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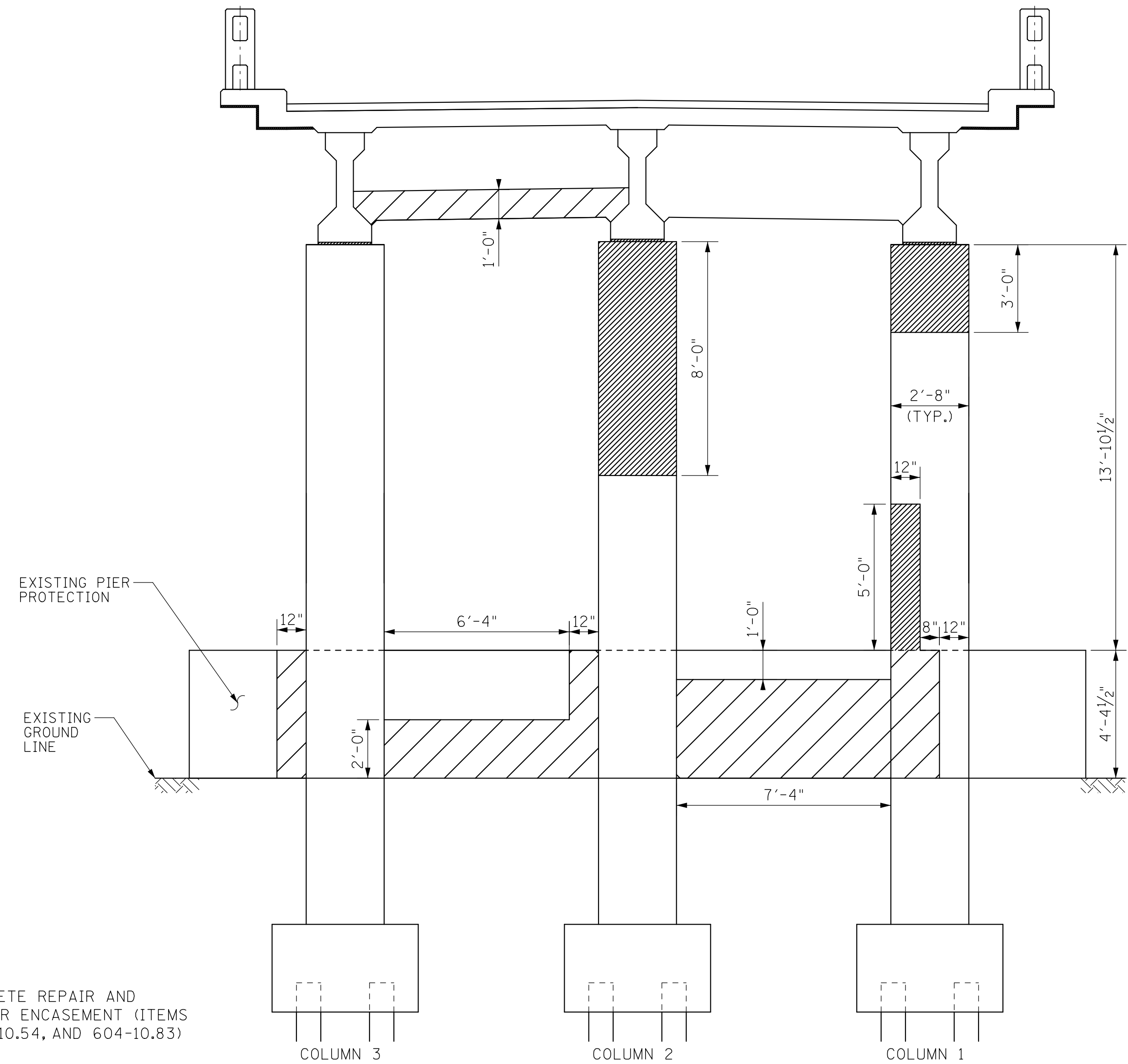
DESIGNED BY BENESCH DATE
DRAWN BY DANIEL RIKLI, E.I. DATE
SUPERVISED BY N. CHAYANGKURA, PE DATE
CHECKED BY JACOB WILLIAMS, P.E. DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BENT 2 REPAIRS
SIDE VIEW
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

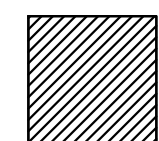
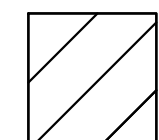
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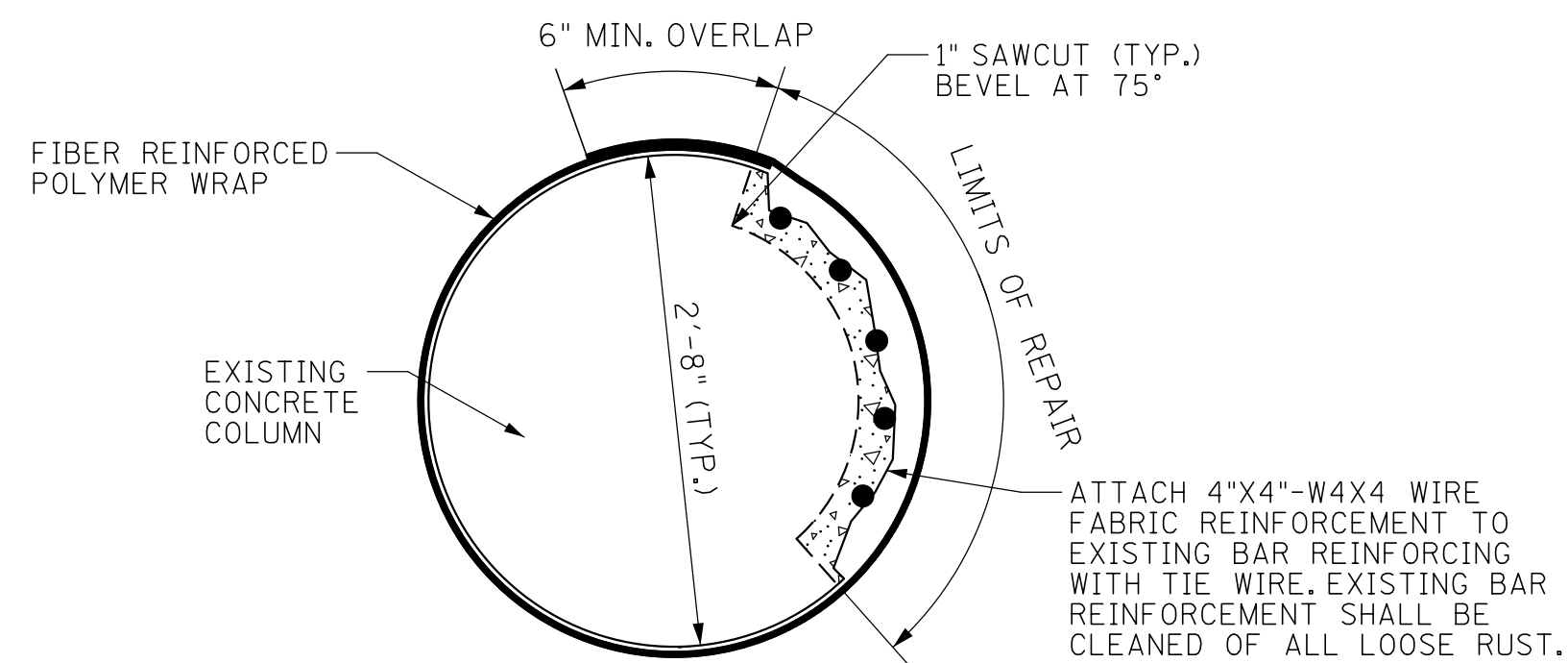


ELEVATION
(LOOKING FORWARD)



ELEVATION
(LOOKING BACK)

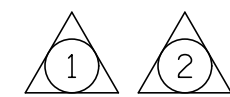
-  AREA OF CONCRETE REPAIR AND
COMPOSITE FIBER ENCASEMENT (ITEMS
604-10.05, 604-10.54, AND 604-10.83)
-  AREA OF CONCRETE REPAIR ONLY
(ITEMS 604-10.05 AND/OR 604-10.54)



TYPICAL COLUMN
REPAIR DETAIL

(PLAN VIEW)

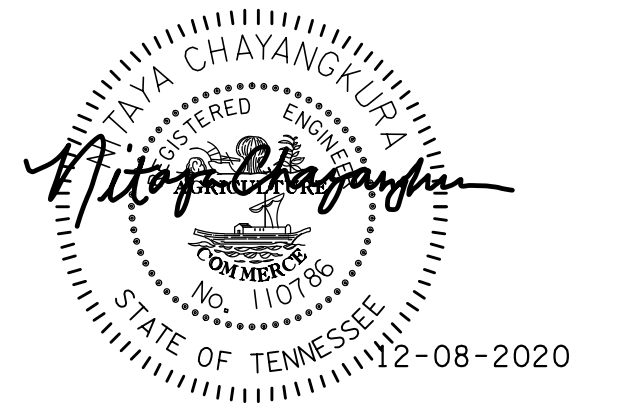
SEE SHEET BR-130-778 FOR REPAIR NOTES
NOTE: FIBER REINFORCED POLYMER MATERIAL SHALL
WRAP AROUND THE ENTIRETY OF THE COLUMN
CIRCUMFERENCE WITH MINIMUM 6" OVERLAP.



ESTIMATED QUANTITIES
BENT 3

ITEM NO. 604-10.05 CONCRETE (S.F.)	ITEM NO. 604-10.54 CONCRETE REPAIRS (S.F.)	ITEM NO. 604-10.83 COMPOSITE FIBER ENCASEMENT (S.F.)
70	149	310

CONST. NO. _____			
PROJECT NO.	YEAR	SHEET NO.	
94031-4212-04	2020		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-14-20	NC	REMOVED EPOXY INJECTION ITEMS
2	12-08-20	NC	REV QTY FOR 604-10.05 & 604-10.54

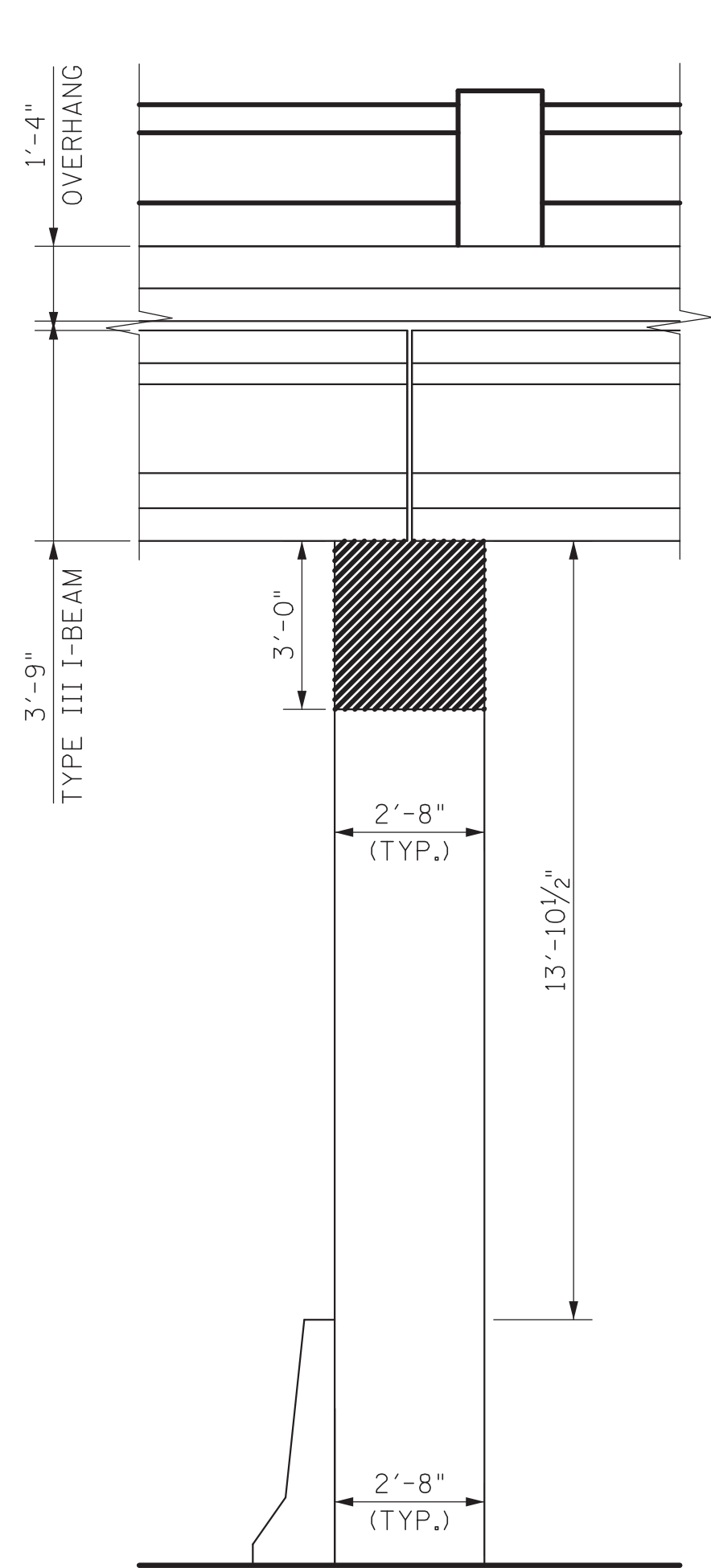


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BENT 3 REPAIRS

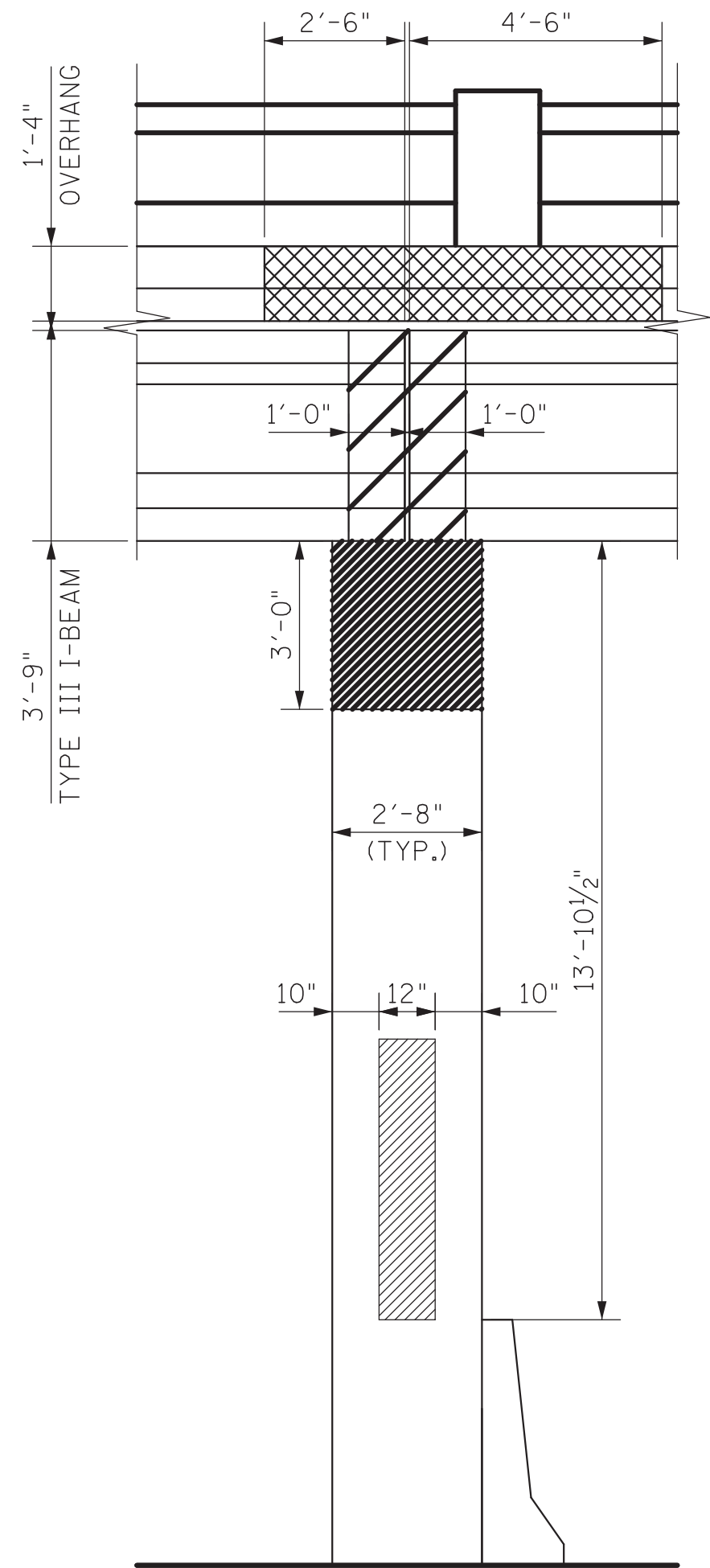
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

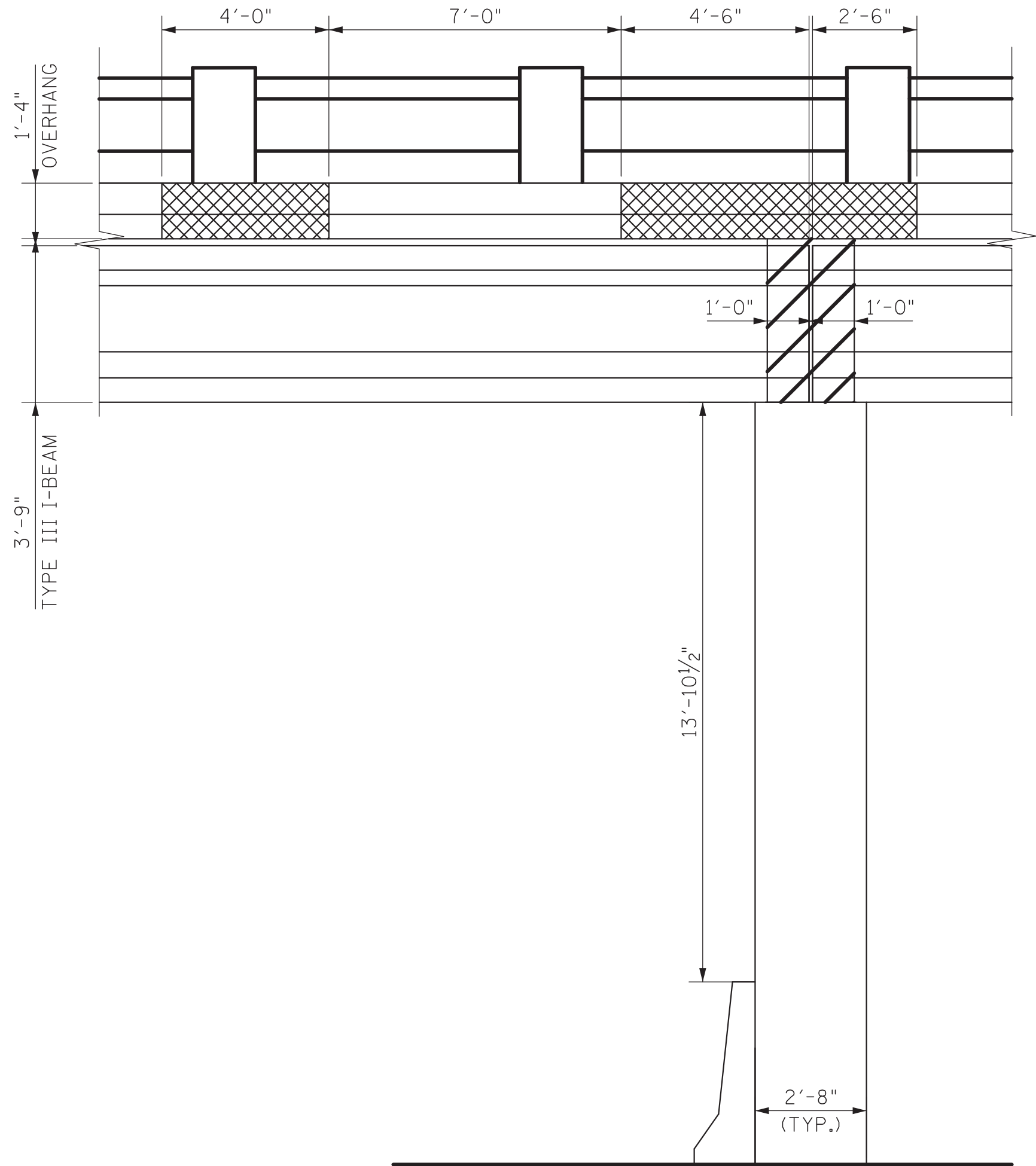
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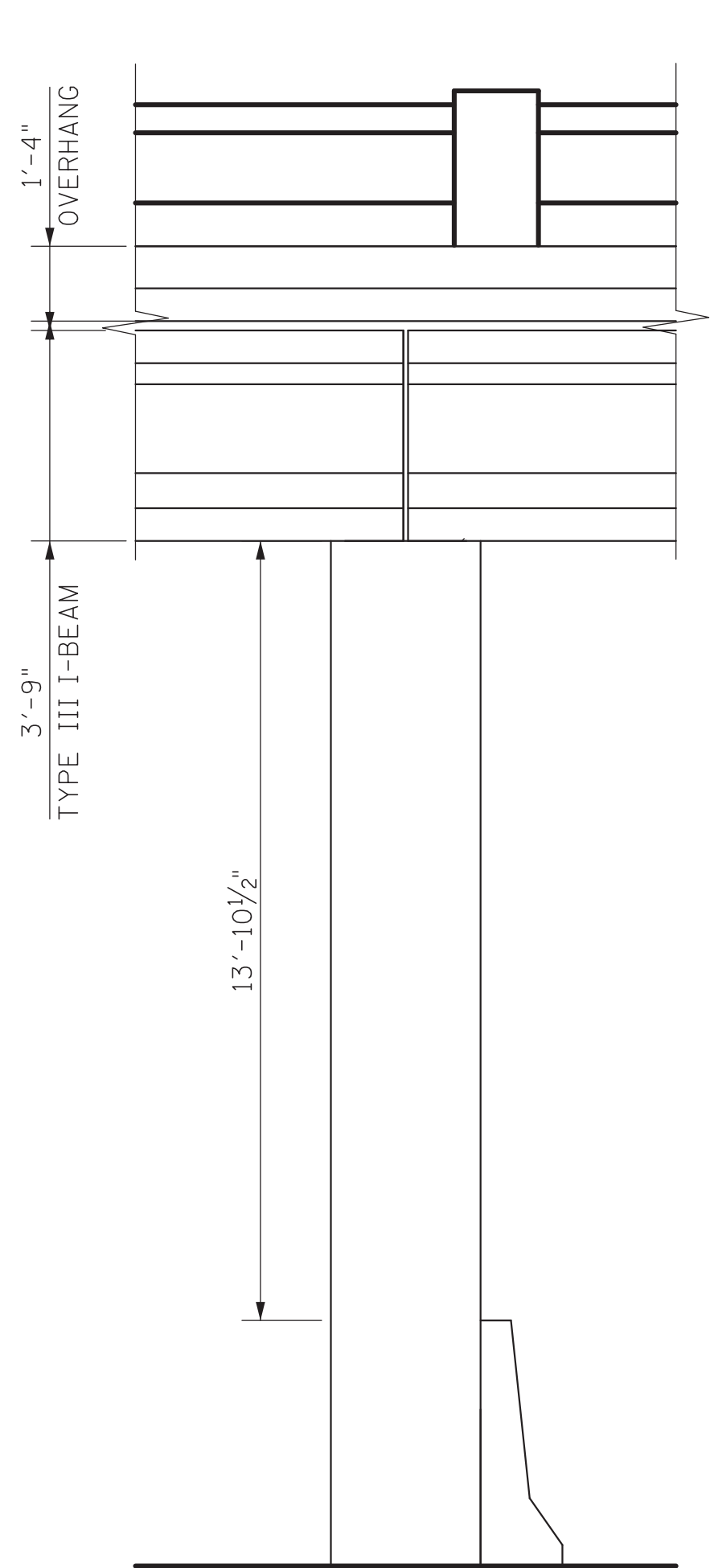
COLUMN 1
(LOOKING NORTH)



COLUMN 1
(LOOKING SOUTH)

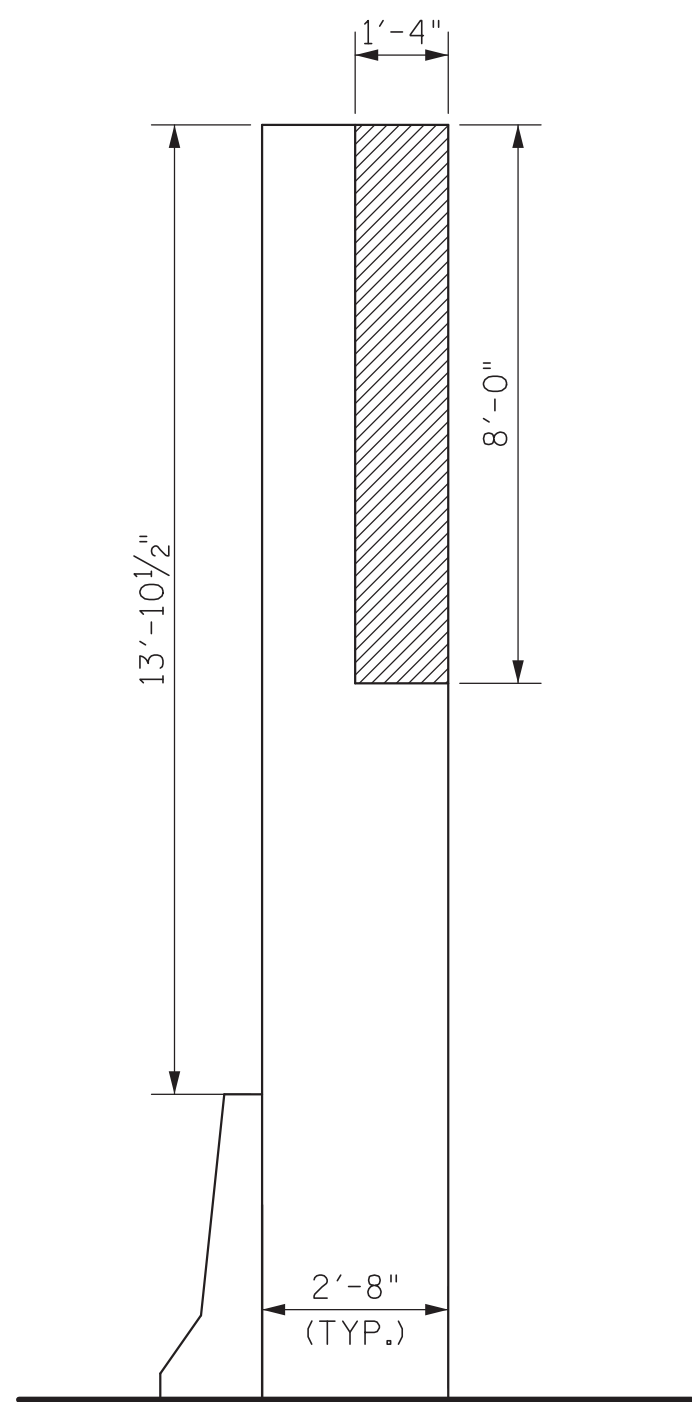


COLUMN 3
(LOOKING NORTH)

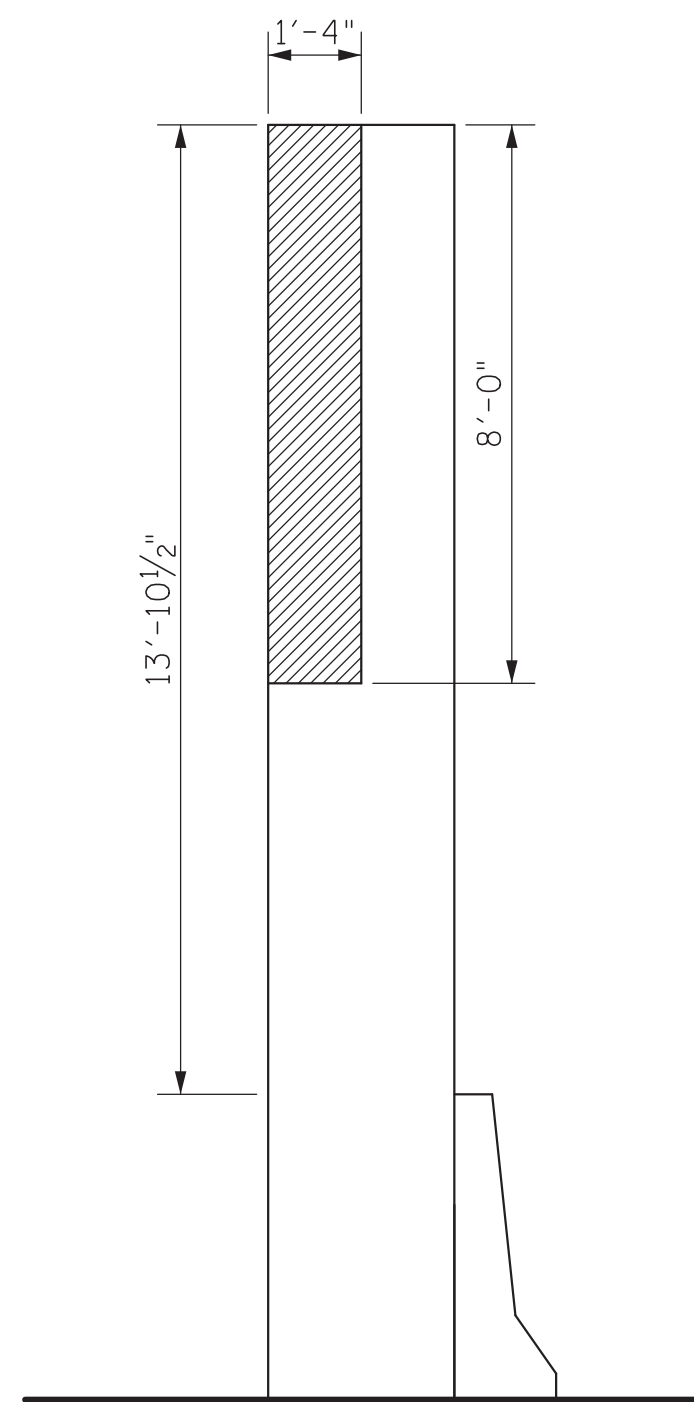


COLUMN 3
(LOOKING SOUTH)

- AREA OF CONCRETE REPAIR AND COMPOSITE FIBER ENCASEMENT (ITEMS 604-10.05, 604-10.54, AND 604-10.83)
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- AREA OF FIBER REINFORCEMENT INCLUDES UNDERSIDE OF OVERHANG (ITEM NO. 604-10.83) SEE "OVERHANG REPAIR" DETAIL ON SHEET BR-130-778

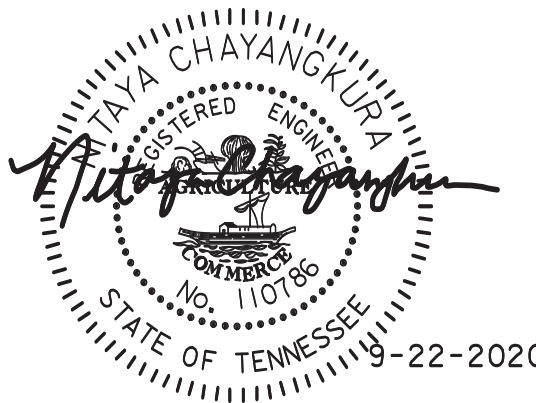


COLUMN 2
(LOOKING NORTH)



COLUMN 2
(LOOKING SOUTH)

CONST. NO.		
PROJECT NO.	YEAR	SHEET NO.
94031-4212-04	2020	
REVISIONS		
NO.	DATE	BY

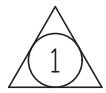


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BENT 3 REPAIRS
SIDE VIEW

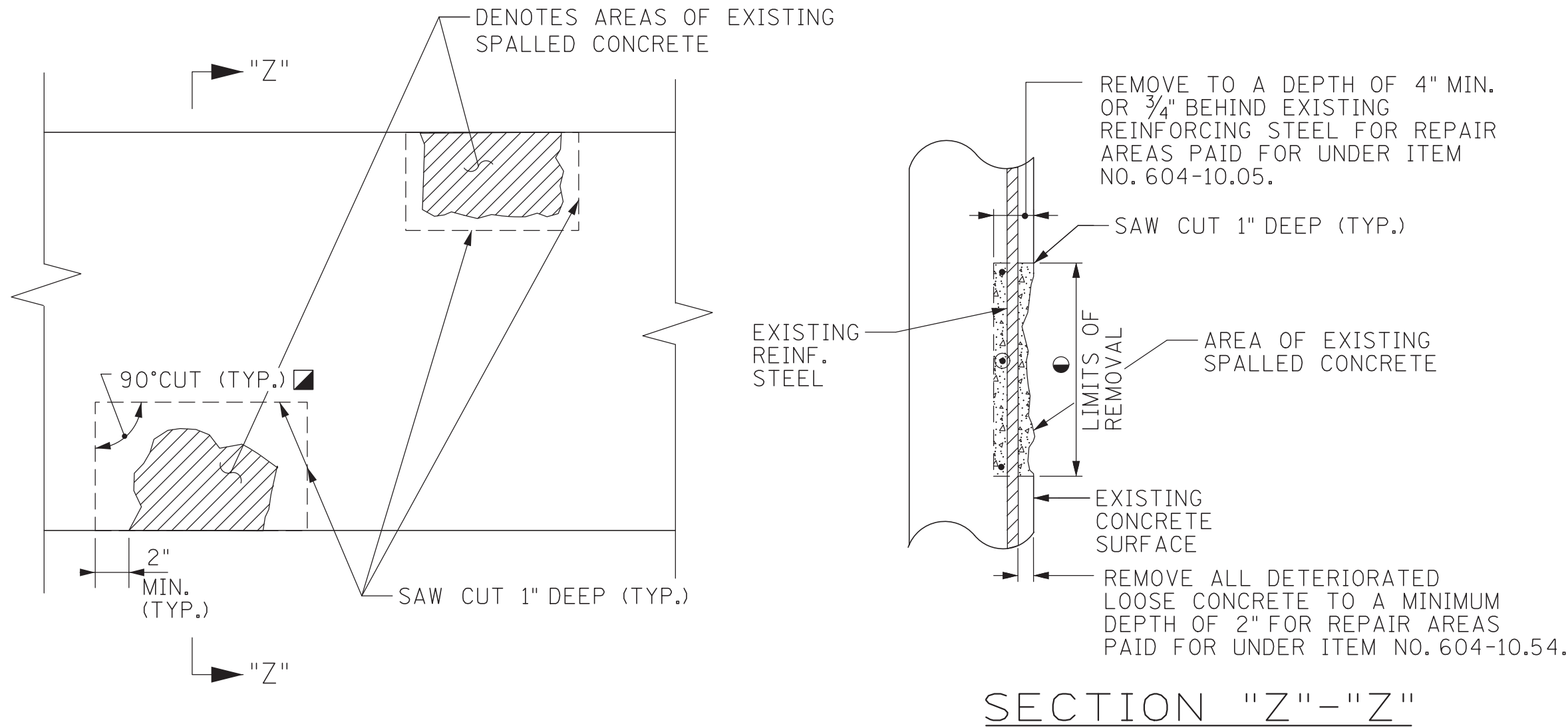
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH DATE
DRAWN BY DANIEL RIKLI, E.I. DATE
SUPERVISED BY N. CHAYANGKURA, PE DATE
CHECKED BY JACOB WILLIAMS, P.E. DATE



CONST. NO.			
PROJECT NO.		YEAR	SHEET NO.
94031-4212-04		2020	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-14-20	NC	REMOVED EPOXY INJECTION NOTES



DETAIL SHOWING AREAS OF EXISTING SPALLED
CONCRETE SURFACES TO BE REMOVED AND REPAIRED

● DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.

▣ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

NOTE: EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE AND INCORPORATED INTO THE NEW CONSTRUCTION. ALL WORK MUST MEET THE FULL APPROVAL OF THE ENGINEER.

NOTE: THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALL AREA TO BE REPAIRED UNDER ITEM 604-10.05 OR 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE T.D.O.T. QUALIFIED PRODUCTS LIST 13, SECTION B.6.

CONCRETE OR PATCHING MATERIALS SHALL NOT BE PLACED BY PNEUMATIC METHODS.

THE COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

THE ENGINEER SHALL DESIGNATE ALL SPALLED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 AND 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THEY MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

POWER AND HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS: PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS REPAIR DETAILS

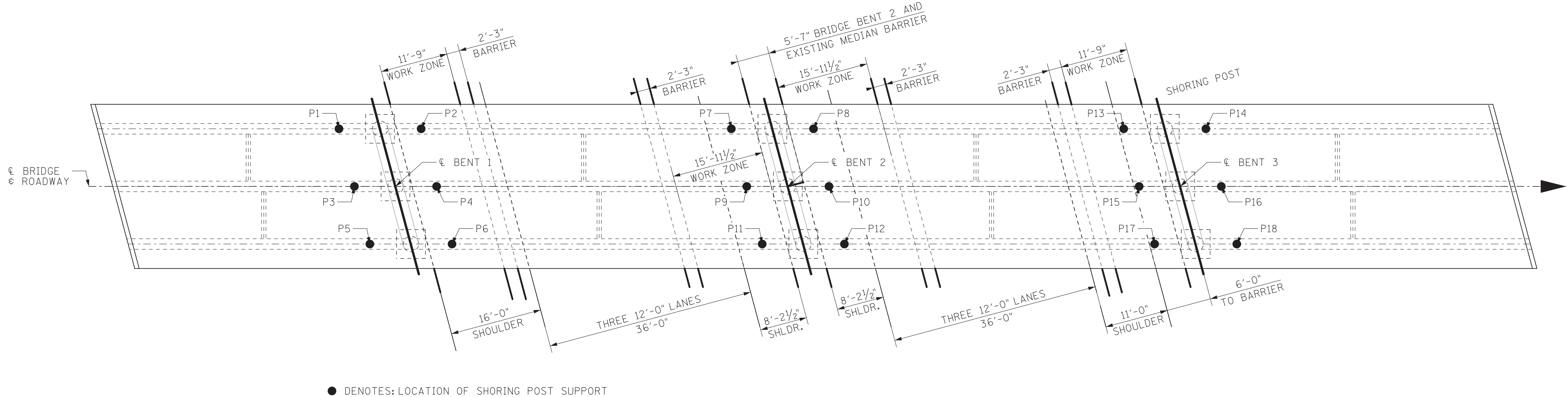
STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

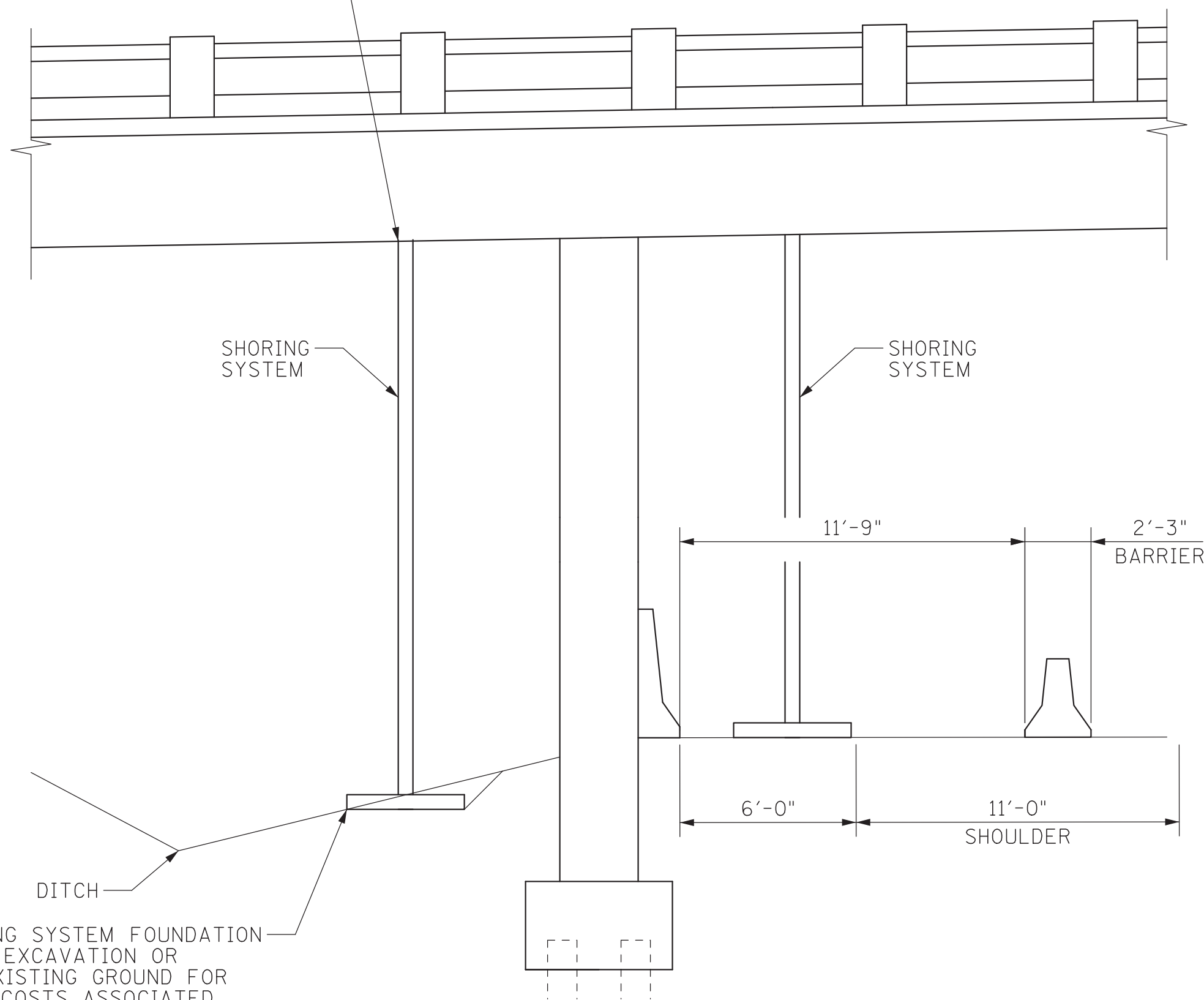
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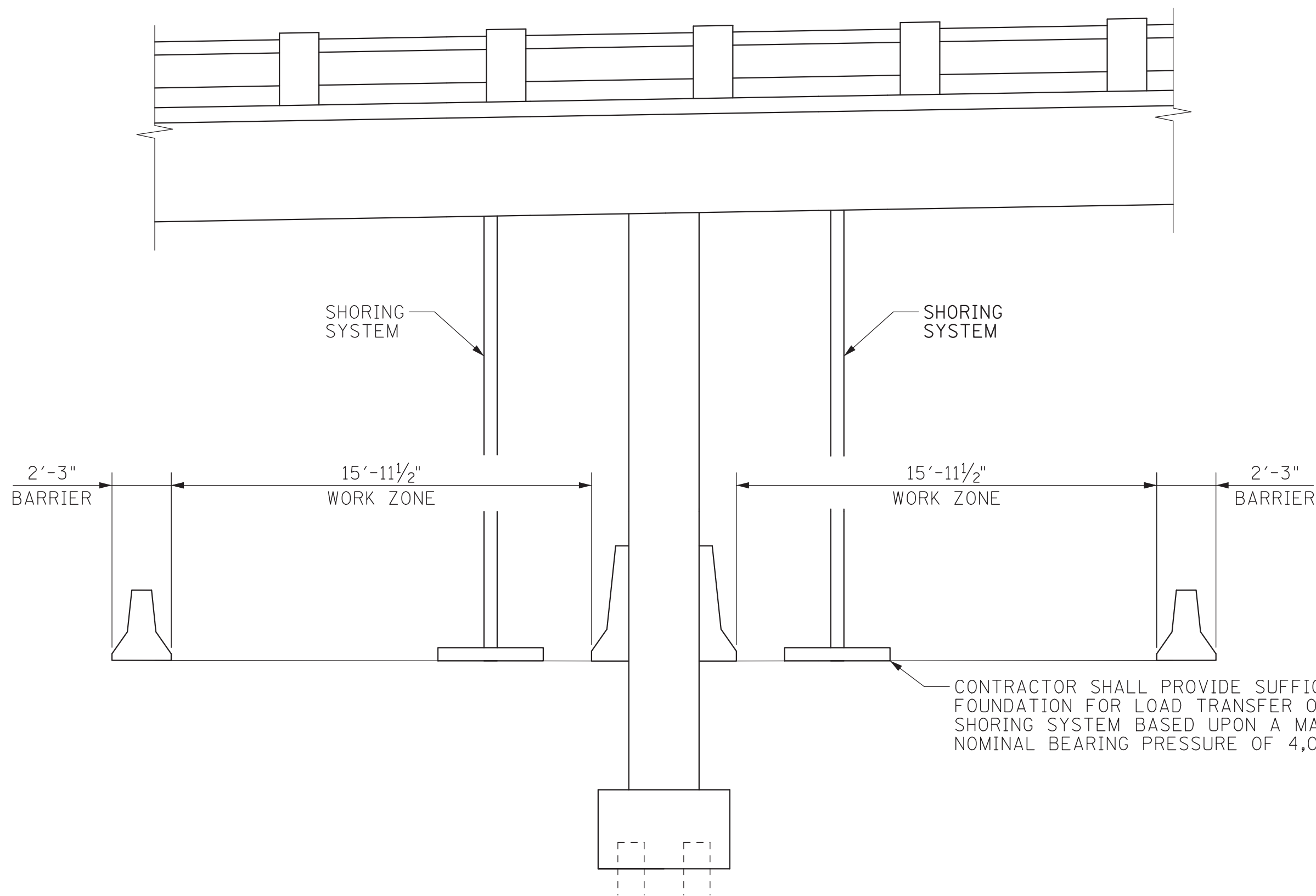


CONTRACTOR SHALL ENSURE SHORING SYSTEM PROVIDES SUFFICIENT BEARING AND LOAD TRANSFER AT SHORING POINT. CALCULATIONS DEMONSTRATING THIS SHALL BE DEVELOPED BY A TENNESSEE LICENSED ENGINEER AND SUBMITTED WITH CONTRACTORS SHORING PLAN.

PLAN
SHOWING ALL SHORING LOCATIONS. SHORING FOR ALL BENTS MAY OR MAY NOT OCCUR CONCURRENTLY. CONTRACTOR SHALL REFER TO TRAFFIC CONTROL PLANS AND NOTES FOR CONSTRUCTION



TYPICAL ELEVATION
BENT 1 OR 3



TYPICAL ELEVATION
BENT 2



- PROCEDURE:**
1. INSTALL SHORING POINTS. INSTALLATION OF SHORING POSTS IS TO BE FOR UNDER ITEM NO. 604-10.26, BRACING, EACH.
 2. PERFORM SPALL REPAIRS ON ENDS OF BEAMS, OVERHANGS, PIER PROTECTION, AND SUBSTRUCTURES.
 3. INSTALL FIBER POLYMER REINFORCING WRAP ON REPAIRED AREAS OF COLUMNS AND OVERHANGS.
 4. REMOVE SHORING WHEN WORK IS CURED AND REACHED STRENGTH.

NOTE: SHORING SYSTEM SHALL PROVIDE FULL SUPPORT FOR DEAD AND LIVE LOADS FOR THE SUPERSTRUCTURE DURING REPAIRS.
NOTE: CONTRACTOR SHALL PROVIDE ADDITIONAL BRACING AND SUPPORT AS REQUIRED TO ENSURE THE STABILITY OF THE STRUCTURE DURING REPAIRS. ALL COSTS ASSOCIATED WITH ANY BRACING REQUIRED SHALL BE INCLUDED WITH SHORING COSTS AND PAID UNDER ITEM NO. 604-10.26, BRACING, EACH.

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

DATE
DATE
DATE
DATE

CONST. NO. _____			
PROJECT NO.		YEAR	SHEET NO.
94031-4212-04		2020	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	10-14-20	NC	CHANGED ITEM NO. TO 604-10.26

SERVICE LOADS FOR SHORING SYSTEM

POINT	MAX. DESIGN SERVICE DEAD LOAD (KIPS)	MAX. DESIGN SERVICE LIVE LOAD (KIPS)
P1	60	77
P2	74	77
P3	62	77
P4	77	77
P5	60	77
P6	74	77
P7	76	79
P8	76	79
P9	78	79
P10	78	79
P11	76	79
P12	76	79
P13	76	79
P14	69	79
P15	79	79
P16	71	79
P17	76	79
P18	69	79

MAX. WEIGHT OF BEAM TO BE SUPPORTED = 40 KIP



CONTRACTOR SHALL SUBMIT SHORING TOWER PLAN TO ENGINEER FOR APPROVAL



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

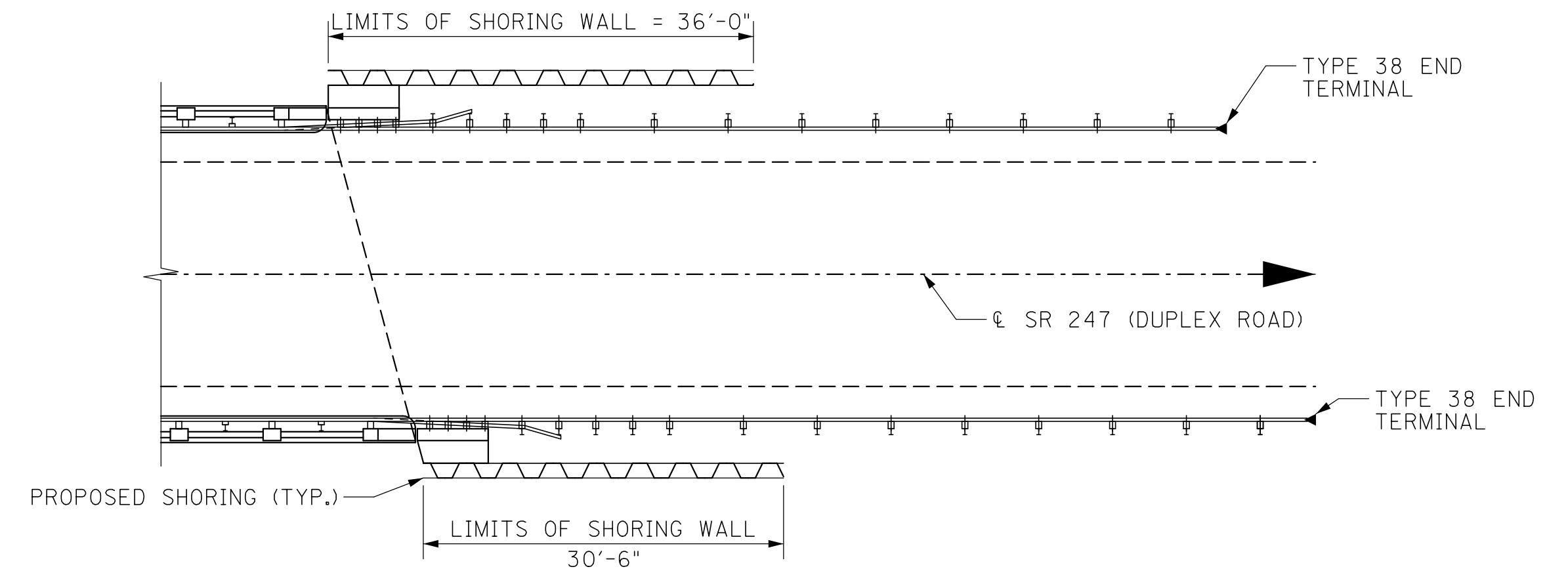
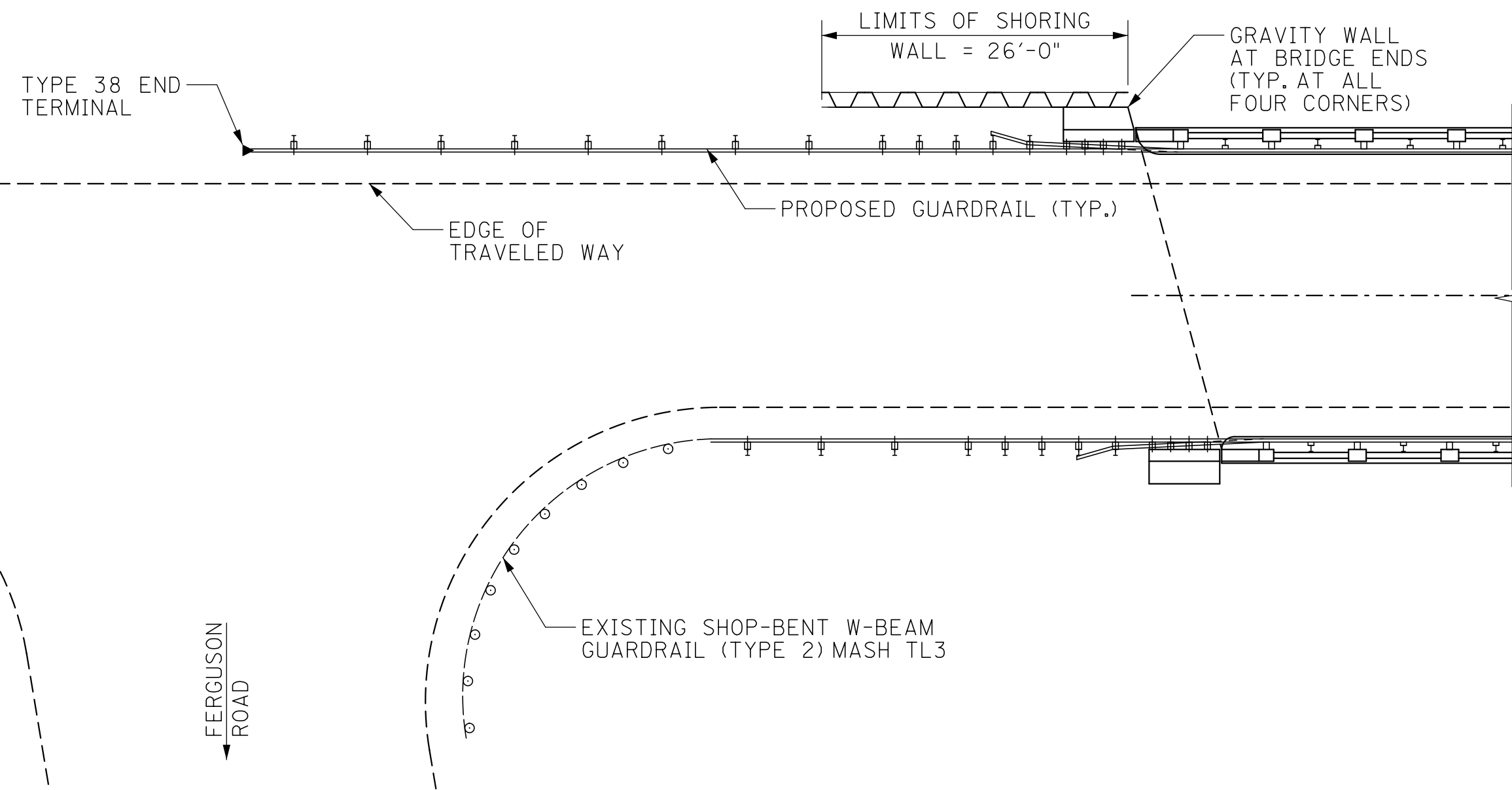
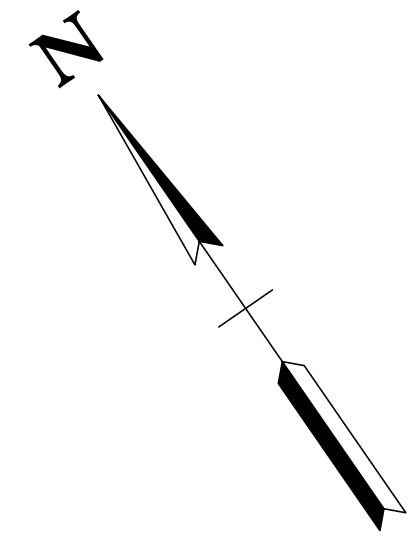
SHORING REQUIRED FOR
BRIDGE REPAIRS

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

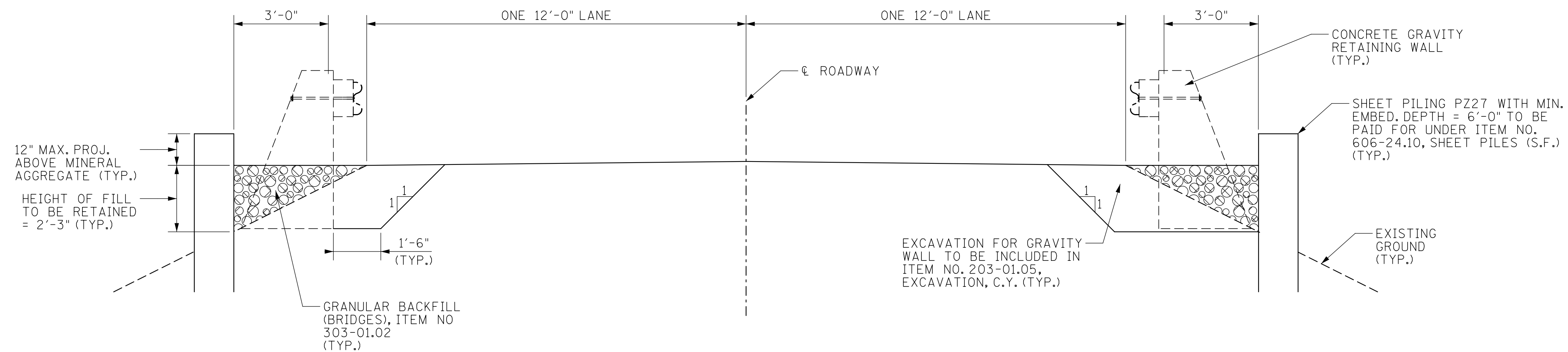
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

BR-130-786

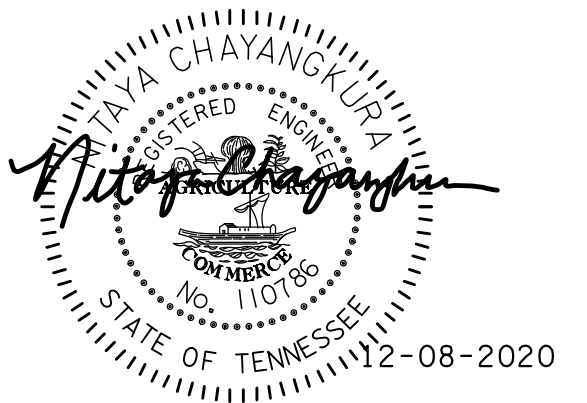
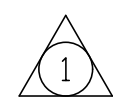
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PROPOSED SHEET PILING INSTALLATION LAYOUT



TYPICAL SECTION (LOOKING FORWARD)



STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION SHORING WALL DETAILS

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

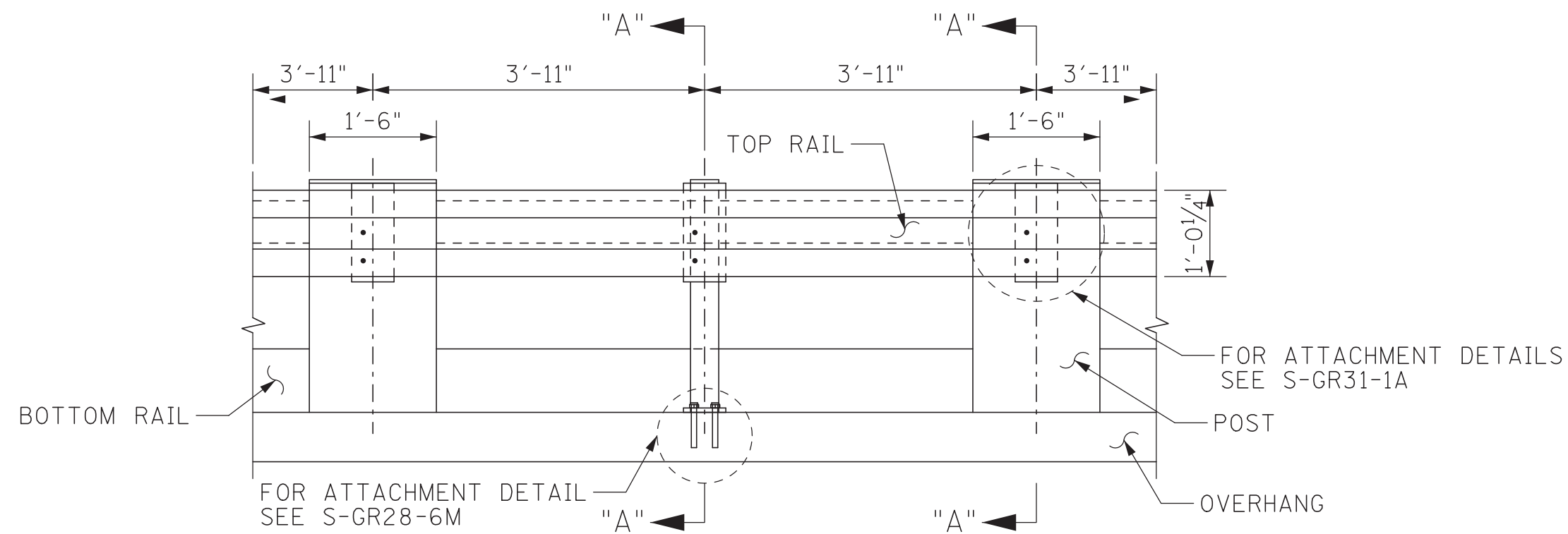
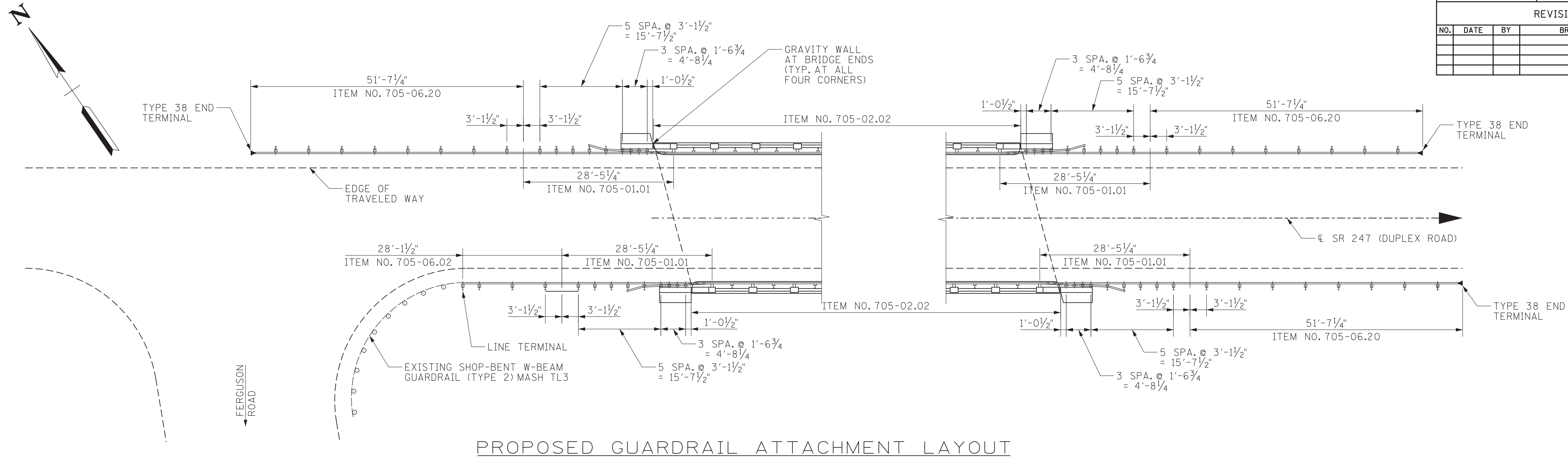
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
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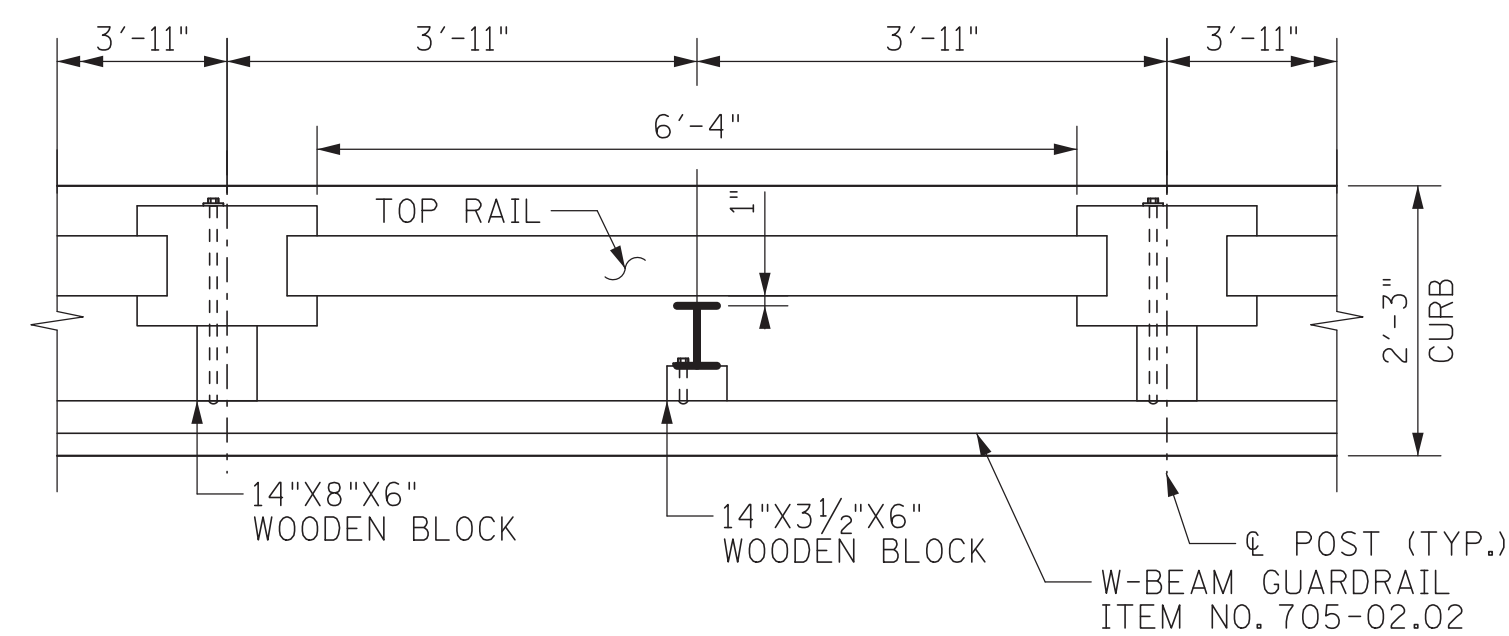
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BR-130-787

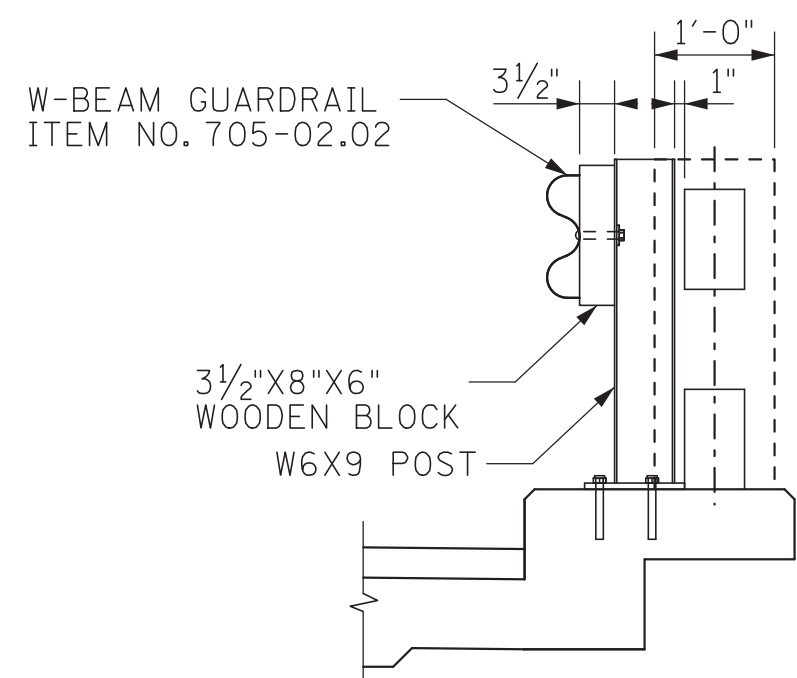
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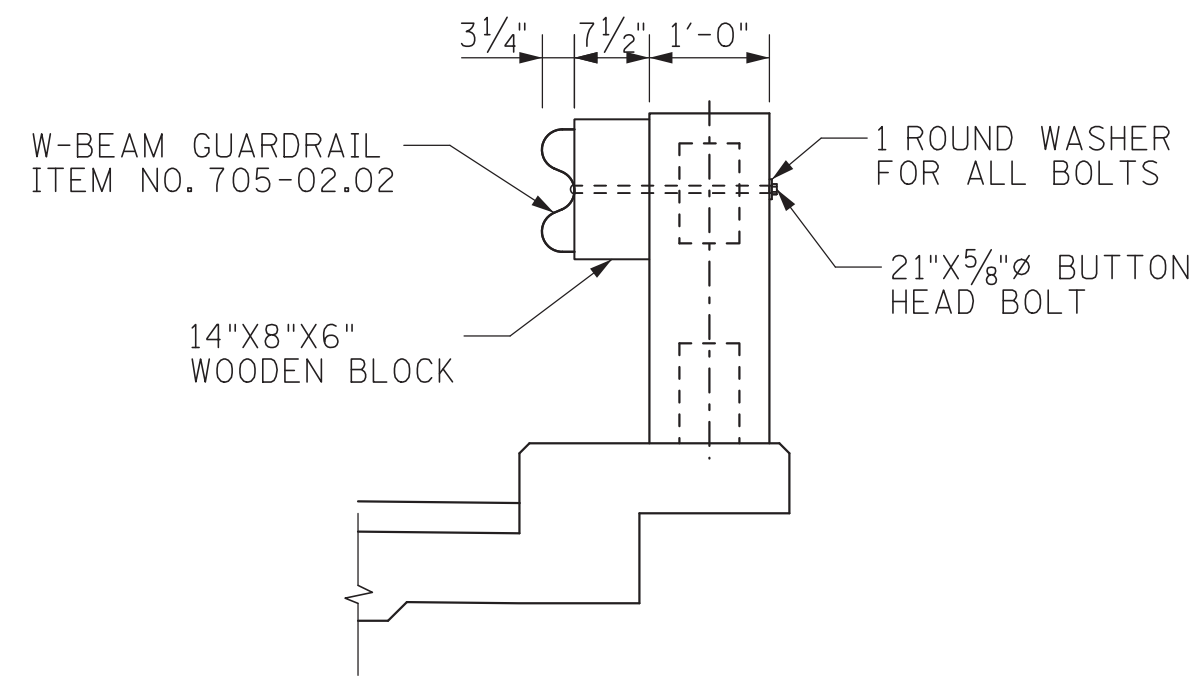
W-BEAM GUARDRAIL CONNECTION
ALONG EXISTING BRIDGE RAIL
ELEVATION VIEW



W-BEAM GUARDRAIL CONNECTION
ALONG EXISTING BRIDGE RAIL
PLAN VIEW

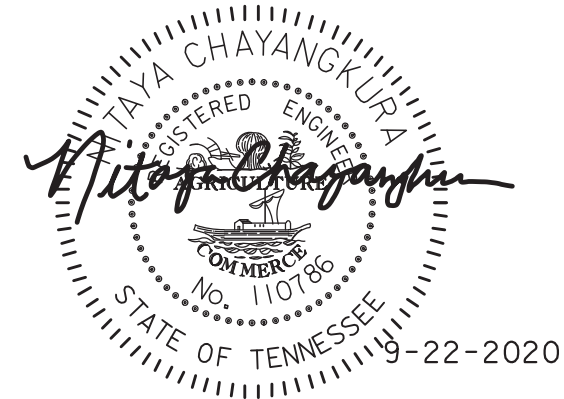


SECTION "A"-"A"
W-BEAM GUARDRAIL CONNECTION
ALONG EXISTING BRIDGE RAIL
SIDE VIEW AT INTERMEDIATE POST



SECTION "B"-"B"
W-BEAM GUARDRAIL CONNECTION
ALONG EXISTING BRIDGE RAIL
SIDE VIEW AT EXISTING RAIL POST

CONST. NO. _____			
PROJECT NO.		YEAR	SHEET NO.
94031-4212-04		2020	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



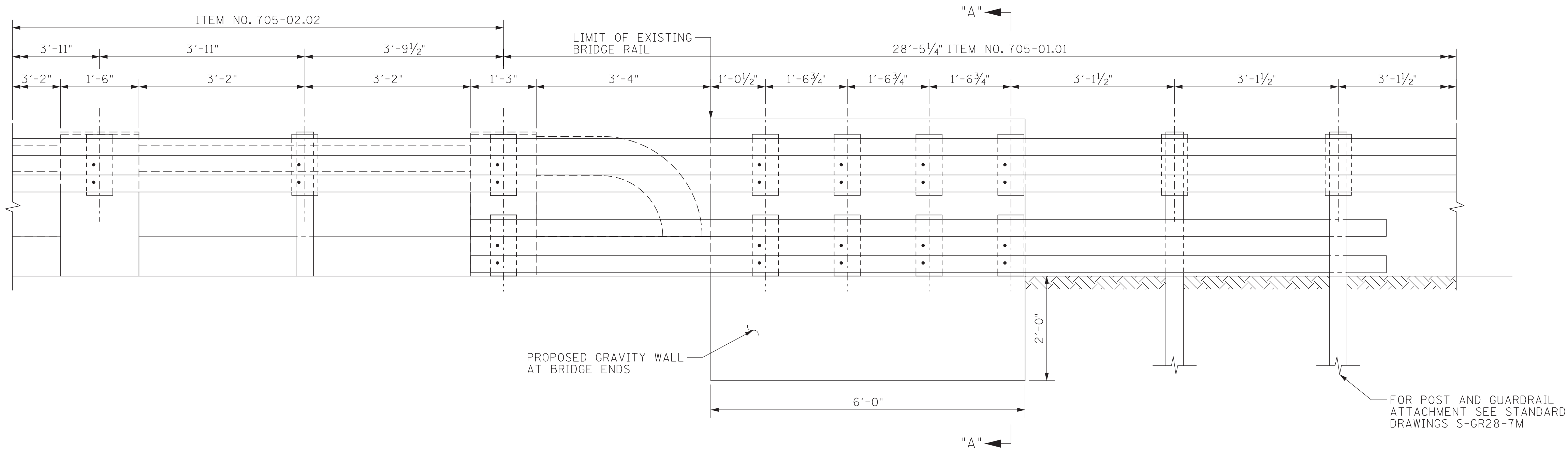
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GUARDRAIL LAYOUT

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

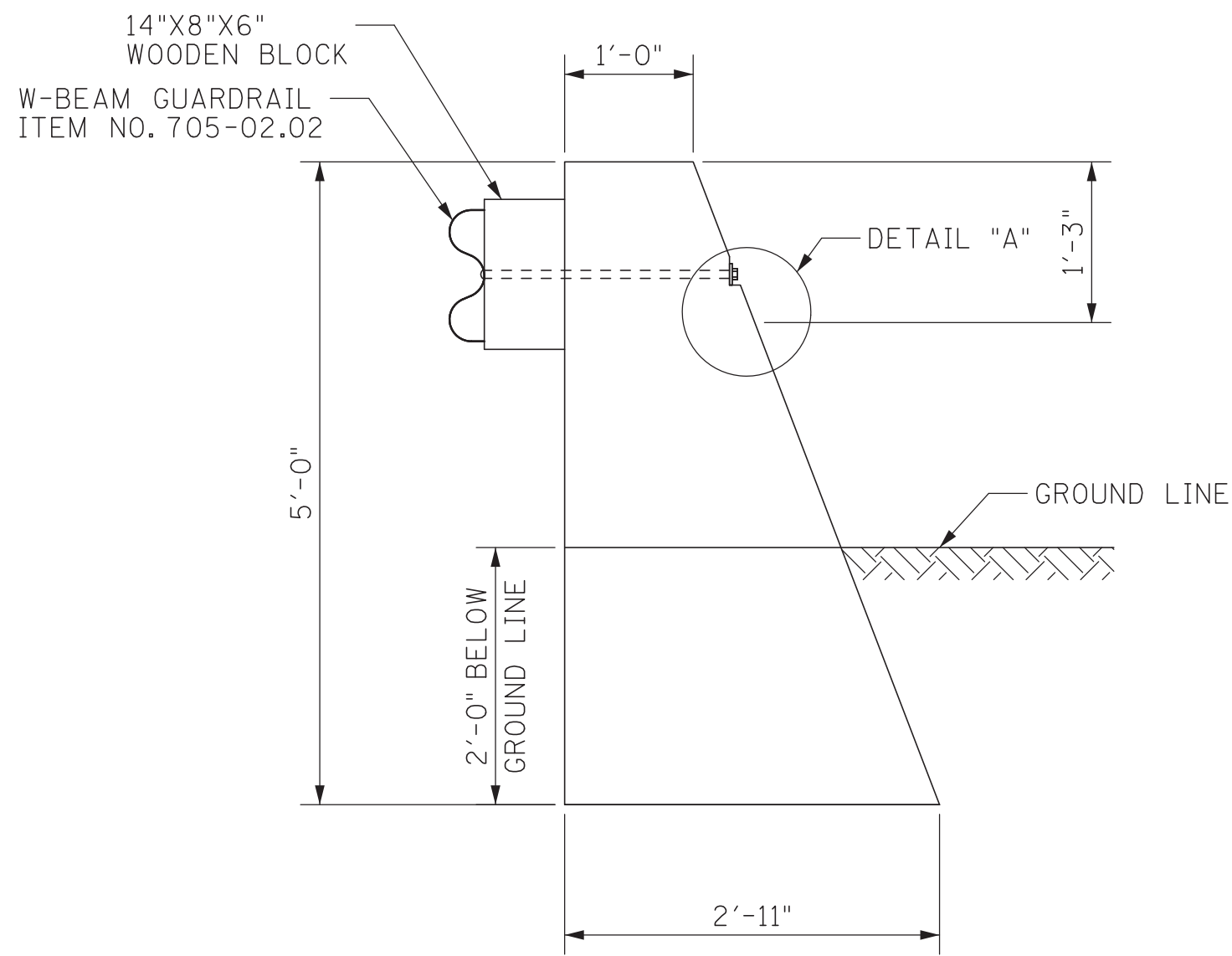
BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH
DRAWN BY DANIEL RIKLI, E.I.
SUPERVISED BY N. CHAYANGKURA, PE
CHECKED BY JACOB WILLIAMS, P.E.

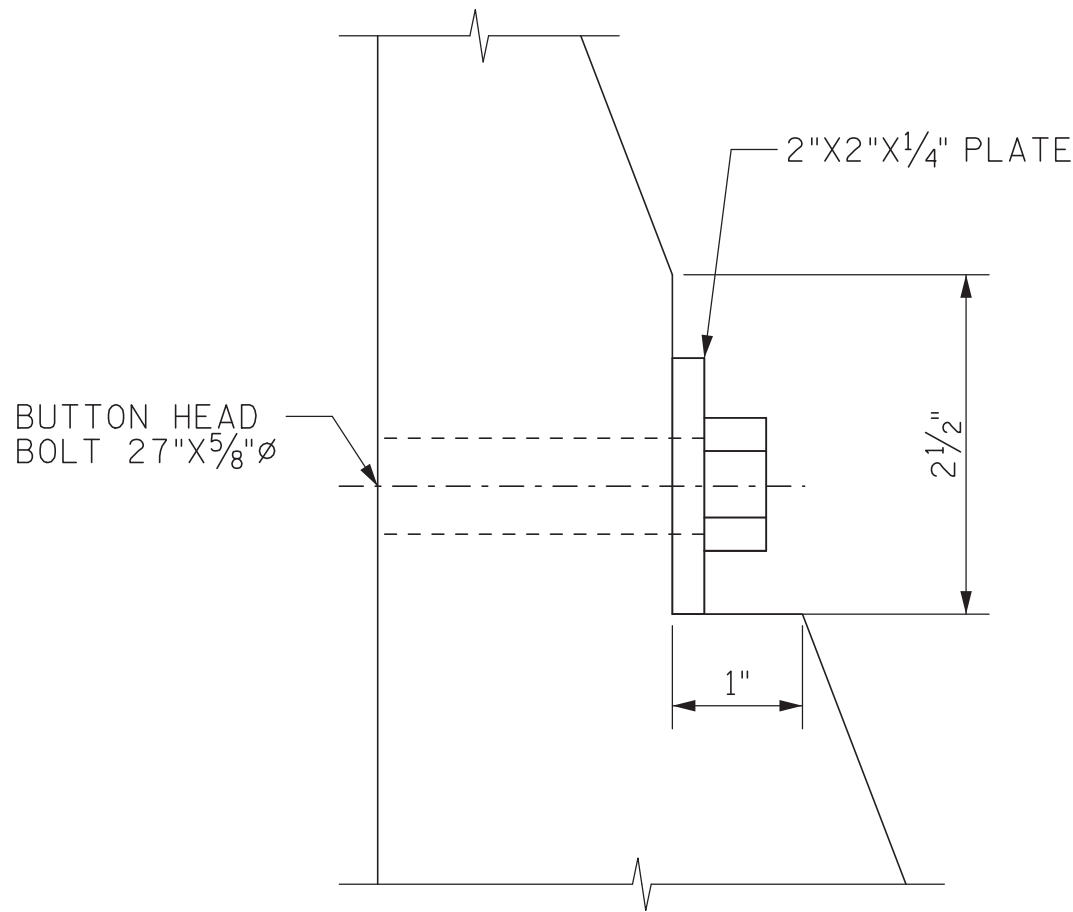
DATE _____
DATE _____
DATE _____
DATE _____



W-BEAM GUARDRAIL
AT BRIDGE ENDS
REFER TO TDOT STANDARD DRAWING
S-GR28-7M



SECTION "A"-"A"
GRAVITY WALL AT
BRIDGE END
(REFER TO TDOT STANDARD DRAWING W-SG-1)



DETAIL "A"

NOTES:

- EXCAVATION FOR GRAVITY WALL SHALL BE PAID FOR UNDER ITEM NO. 203-01.05, EXCAVATION (C.Y.)
- ALL LABOR AND MATERIALS NECESSARY FOR CONSTRUCTION OF GRAVITY WALLS SHALL BE PAID FOR UNDER ITEM NO. 604-03.07, CLASS "A" CONCRETE (GRAVITY WALL), C.Y.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GUARDRAIL DETAILS

STATE ROUTE 247 (DUPLEX ROAD)
OVER INTERSTATE 65

BRIDGE NO. 94-SR247-2.38
FED. ID. NO. 94I00650001
WILLIAMSON COUNTY
2020

DESIGNED BY BENESCH DATE
DRAWN BY DANIEL RIKLI, E.I. DATE
SUPERVISED BY N. CHAYANGKURA, PE DATE
CHECKED BY JACOB WILLIAMS, P.E. DATE