

GENERAL NOTES

Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts in painted areas. Bolts ¾ in. diameter, holes 1⅜ in. diameter, unless otherwise noted.

Calculated weight of Structural Steel = 5,040 lbs. (AASHTO M270 Grade 50)
5,360 lbs. (AASHTO M270 Grade 36)

All structural steel shall be AASHTO M270 Grade 50 except for MC and C shapes.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete(SSPC - SP3 standards). Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be paid for according to Article 109.04 of the Standard Specifications.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼ in. deep shall be identified and reported to the Bureau of Bridges & Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to the existing structure have been taken from existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Concrete Sealer shall be applied to the face of the concrete abutment diaphragms beneath the superstructure preformed joint strip seals.

All new Structural Steel and bearing assemblies shall be hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel".

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". Areas to be cleaned and painted shall include all beam ends, end diaphragms, and steel components of bearings at both abutments. Beam end painting (12 ends) shall extend 10 feet from the end of the beams longitudinally. Galvanized bearings and structural steel encountered at the abutments shall be protected from normal blast cleaning operations and shall have surfaces prepared per the applicable sections of the special provision for "Cleaning and Painting Existing Steel Structures". All other areas shall be cleaned per Near White Blast Cleaning - SSPC- SP10. All areas to be painted shall be painted according to the requirements of Organic Zinc-Rich Primer/Epoxy Intermediate Coat/Urethane Topcoat (OZ/E/U). The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. All other surfaces shall be gray, Munsell 5B 7/1. SSPC QP1 (and SSPC QP2) Certification is required for this contract.

INDEX OF SHEETS

- 1. General Plan & Elevation
- 2. General Data
- 3. Stage Construction - Approach Span
- 4. Stage Construction - Main Span
- 5. Temporary Concrete Barrier
- 6-9. Top of Slab Elevations
- 10. Top of South Approach Slab Elevations
- 11. Top of North Approach Slab Elevations
- 12. Superstructure Plan
- 13. Superstructure Cross Section
- 14. Superstructure Details
- 15. Diaphragm Details
- 16. Superstructure South Vault
- 17. Superstructure North Vault
- 18. South Bridge Approach Slab Details
- 19. North Bridge Approach Slab Details
- 20. Bridge Approach Slab Details
- 21. Preformed Joint Strip Seal
- 22. South Vaulted Span 36" PPC I-Beam
- 23. South Vaulted Span Framing Plan
- 24. North Vaulted Span 36" PPC I-Beam
- 25. North Vaulted Span Framing Plan
- 26. South Vaulted Approach Span Details
- 27. North Vaulted Approach Span Details
- 28. Concrete Removal Approach Bents
- 29. Concrete Removal Abutments
- 30. Existing Framing Plan
- 31. Structural Repair Details
- 32. Abutment Repair Details
- 33. Expansion Bearing Details
- 34. Steel Girder Fixed Bearing Details
- 35. PPC I-Beam Fixed Bearing Details
- 36. Concrete Parpet Slipforming Option
- 37. Slope Wall Repair Details
- 38. Bar Splicer Assembly and Mechanical Splicer Details

GENERAL NOTES (CONT.)

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

Salvage aluminum rail and deliver to bridge crew yard in Springfield.

SCOPE OF WORK

- 1. Remove existing cross frames in main span prior to Stage I concrete deck removal.
- 2. Remove existing concrete deck utilizing stage construction, while providing protective shield over traffic below.
- 3. Remove and replace existing PPC I beams in vaulted spans. Replace bearing pads and raise superstructure 1.5" to match profile grade.
- 4. Remove existing rocker expansion bearings and fixed bearings, at the abutments, replace with elastomeric bearings and fixed bearings. Raise superstructure 1.5" to match profile grade.
- 5. Perform concrete repairs on substructure units.
- 6. Repair damaged slope walls and fill voids under slope walls.
- 7. Replace diaphragms at abutments.
- 8. Clean and paint all steel girder ends.
- 9. Remove existing top of wingwall to allow construction of bridge approach slab.
- 10. Construct new concrete deck, parapets, and approach slabs. Complete diamond grinding and deck grooving.

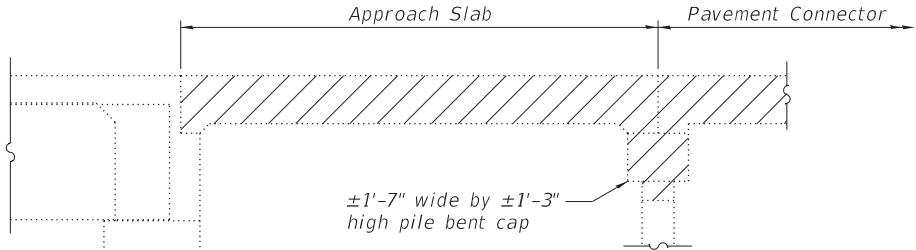
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	-	51.9	51.9
Removal of Existing Concrete Deck No. 1	Each	1	-	1
Protective Shield	Sq. Yd.	359	-	359
Structure Excavation	Cu. Yd.	-	98	98
Floor Drains	Each	6	-	6
Concrete Structures	Cu. Yd.	-	25.4	25.4
Concrete Superstructure	Cu. Yd.	317.4	-	317.4
Protective Coat	Sq. Yd.	1,035	-	1,035
Concrete Superstructure (Approach Slab)	Cu. Yd.	118.8	-	118.8
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 Inches	Foot	288	-	288
Cleaning and Painting Structural Steel, Location 1	L. Sum	1	-	1
Reinforcement Bars, Epoxy Coated	Pound	124,030	6,190	130,220
Bar Splicers	Each	953	-	953
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	110	-	110
Anchor Bolts, 1"	Each	48	-	48
Temporary Sheet Piling	Sq. Ft.	-	133	133
Granular Backfill for Structures	Cu. Yd.	-	75	75
Concrete Sealer	Sq. Ft.	329	-	329
Bar Terminators	Each	60	-	60
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	517	-	517
High Load Multi-Rotational Bearings, Disc, Guided Expansion - 200K	Each	6	-	6
High Load Multi-Rotational Bearings, Disc, Fixed - 200K	Each	6	-	6
Jack and Remove Existing Bearings	Each	12	-	12
Structural Steel Repair	Pound	9,310	-	9,310
Removal of Existing Concrete I-Beam	Each	8	-	8
Approach Slab Removal	Sq. Yd.	187	-	187
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1	-	1
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	-	150	150
Diamond Grinding (Bridge Section)	Sq. Yd.	1,015	-	1,015
Jacking Existing Superstructure	L. Sum	1	-	1
Slope Wall Repair	Sq. Yd.	-	15.3	15.3
Slope Wall Slurry Pumping	Cu. Yd.	-	3.4	3.4

STA. 16+55.58
RE-BUILT 202X BY
STATE OF ILLINOIS
F.A.I. RT. 155
SEC. (54-4B)D
LOADING HL-93
STR. NO. 054-0050

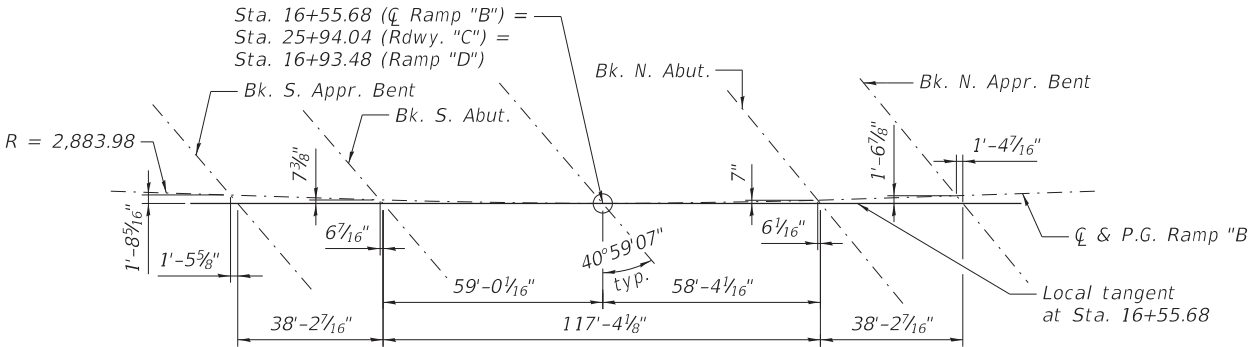
NAME PLATE
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



Existing approach slab and pavement connector to be removed. Buried pile bent cap to be completely removed. Piles shall be removed 2' below finished grade. Approach slab removal shall be paid for as Approach Slab Removal. Pile bent cap removal shall be paid for as Concrete Removal. Pile removal shall be included in the cost of Concrete Removal.

APPROACH SLAB REMOVAL

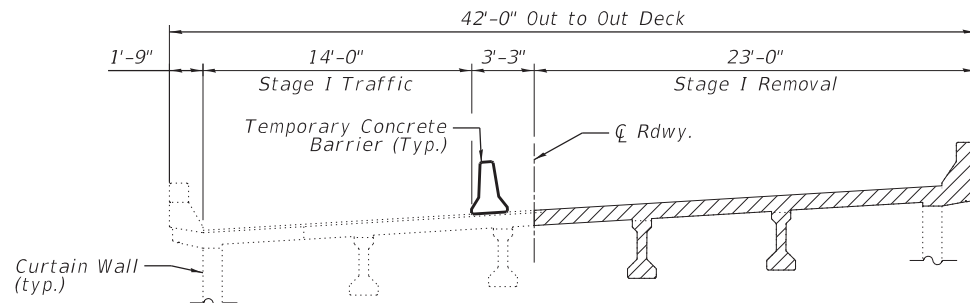


OFFSET SKETCH

REVISD SHEET 4-9-2025

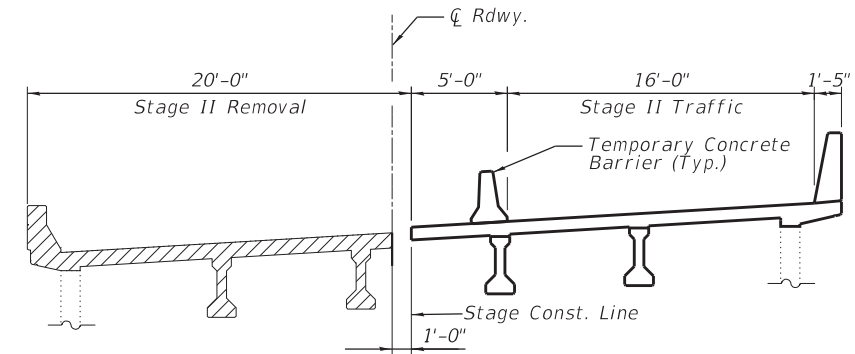
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	PLOT DATE = 3/24/2025	DATE = 3/2025	REVISED -		SCALE:		CONTRACT NO. 72220				
					SHEET 2 OF 38 SHEETS		ILLINOIS FED. AID PROJECT				



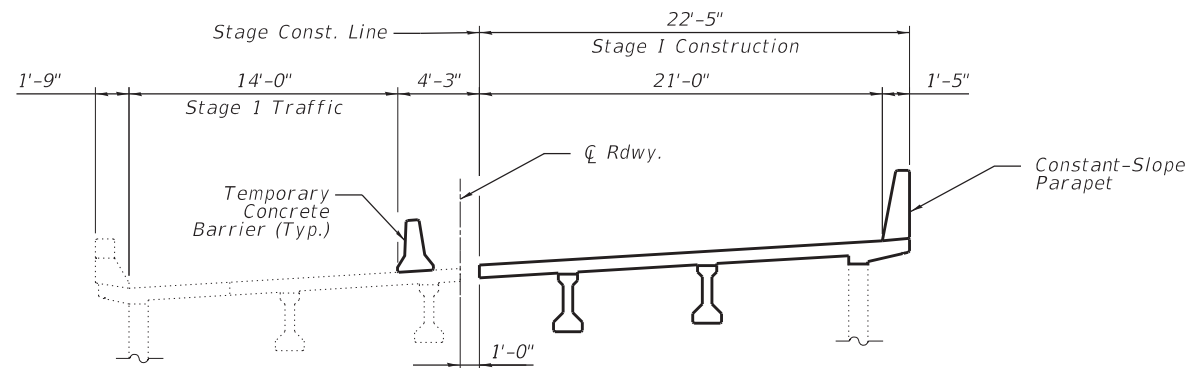
STAGE I REMOVAL

All dimensions are radial.



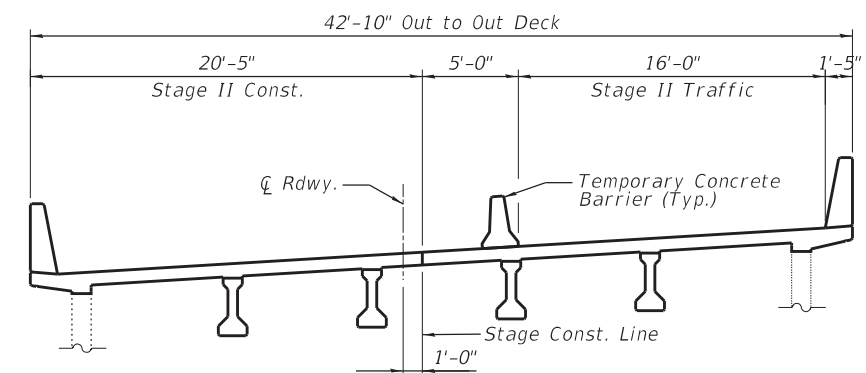
STAGE II REMOVAL

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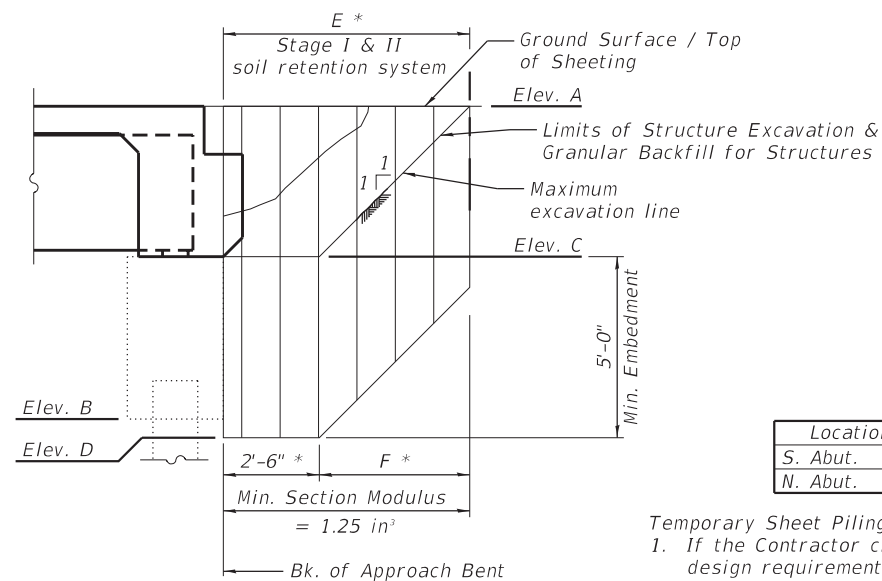
STAGE I CONSTRUCTION

All dimensions are radial.



STAGE II CONSTRUCTION

All dimensions are radial.



TEMPORARY SHEET PILING DETAILS

* Measured at right angle to the abutment.

Location	Elev. A	Elev. B	Elev. C	Elev. D	Dim. E	Dim. F
S. Abut.	588.53	581.21	584.04	579.04	7'-0"	4'-6"
N. Abut.	589.02	581.75	581.58	576.58	7'-0"	4'-6"

Temporary Sheet Piling Notes:

- If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
- Elevations and dimensions shown are approximate based on existing plan data. Exact elevations and dimensions are required shall be field verified by the Contractor.
- Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

△ REVISED SHEET 4-9-2025

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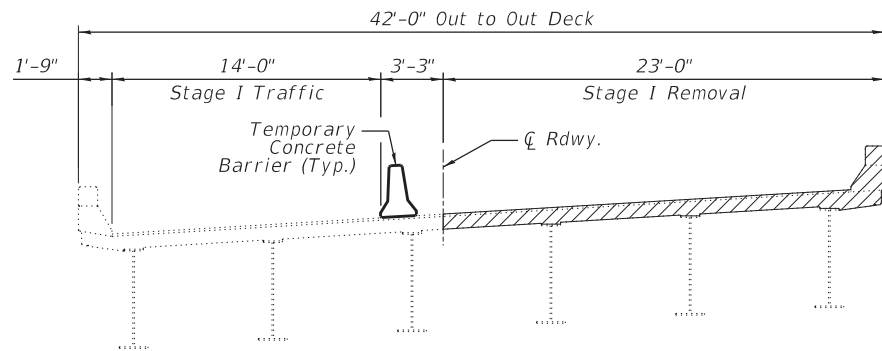
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

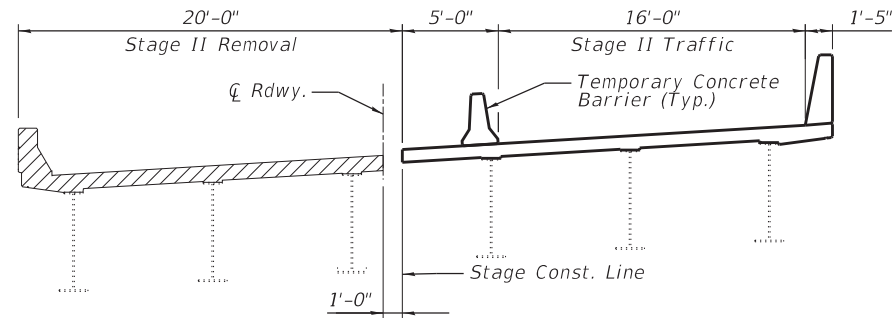
STAGED CONSTRUCTION - APPROACH SPAN
STRUCTURE NO. 054-0050

SCALE: SHEET 3 OF 38 SHEETS STA. TO STA.

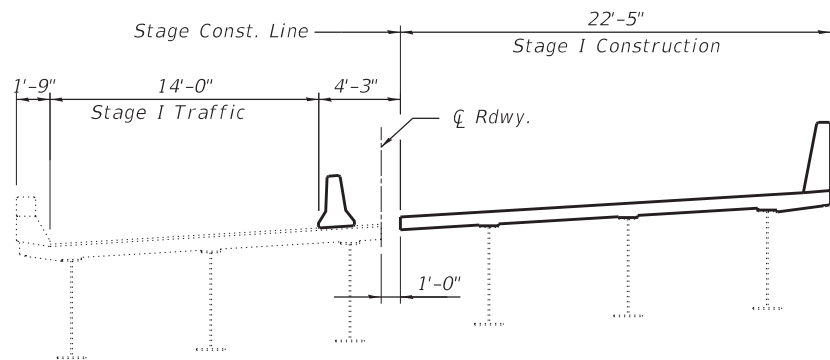
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CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



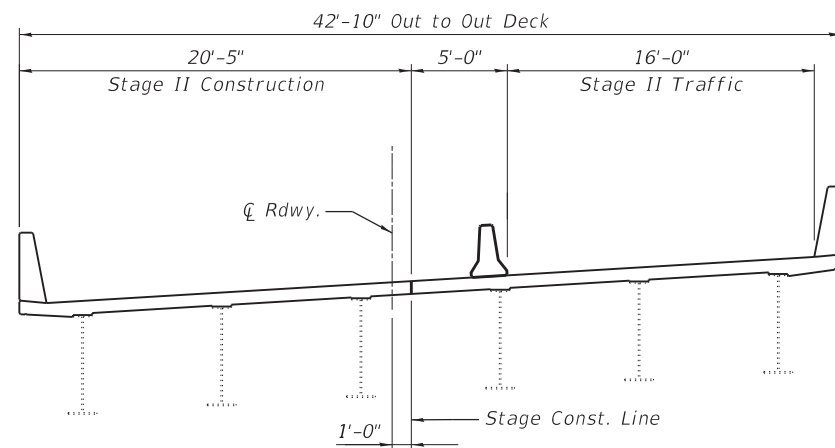
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

Note:
All dimensions are radial.

1 REVISED SHEET 4-9-2025

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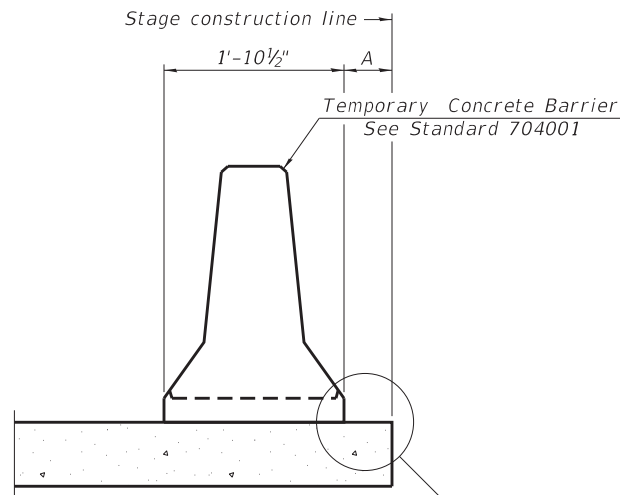
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STATE OF ILLINOIS
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STAGED CONSTRUCTION - MAIN SPAN
STRUCTURE NO. 054-0050

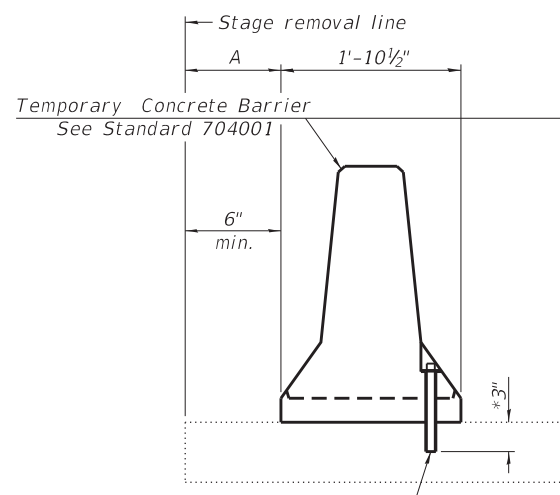
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



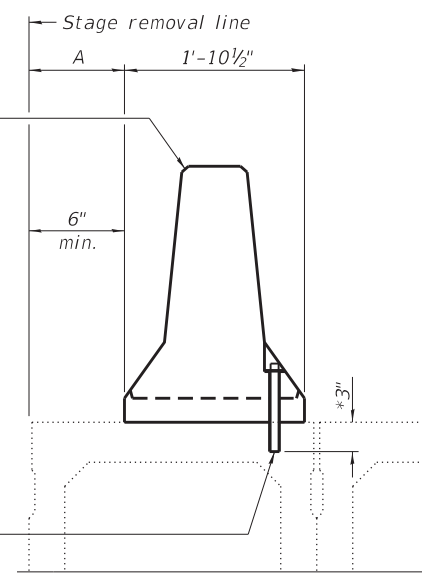
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



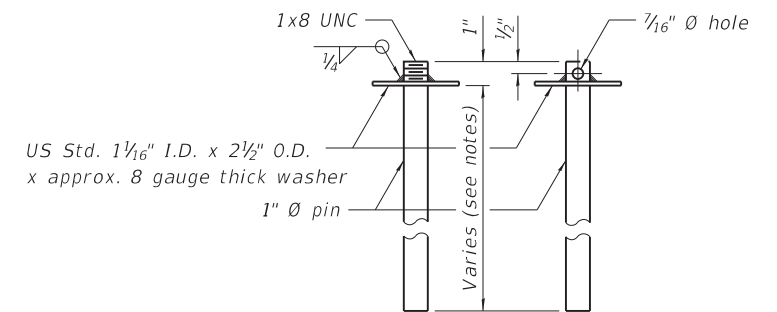
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

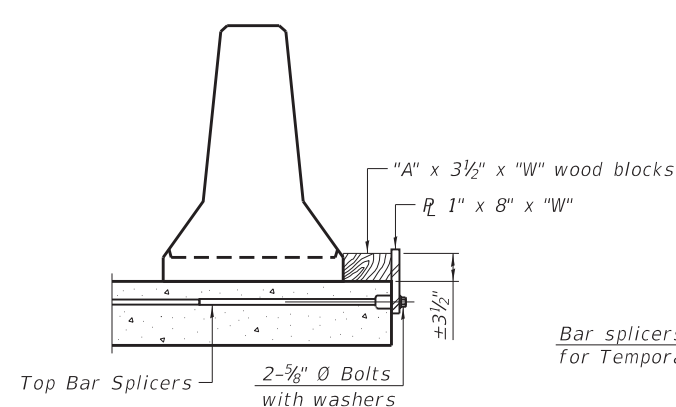


* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

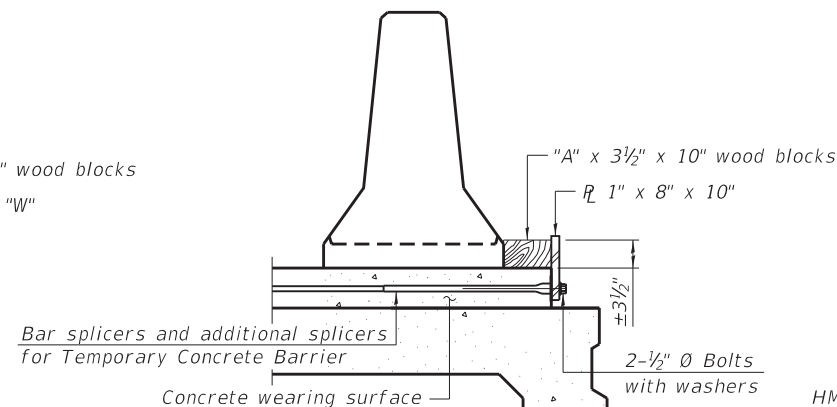
EXISTING DECK BEAM



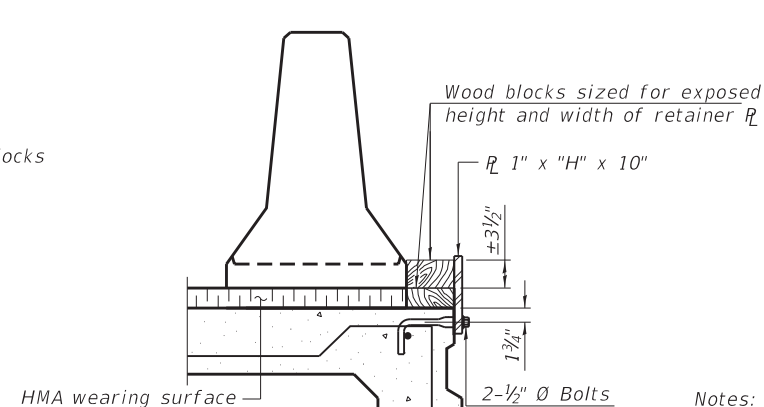
RESTRAINING PIN



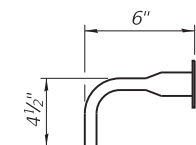
DETAIL I



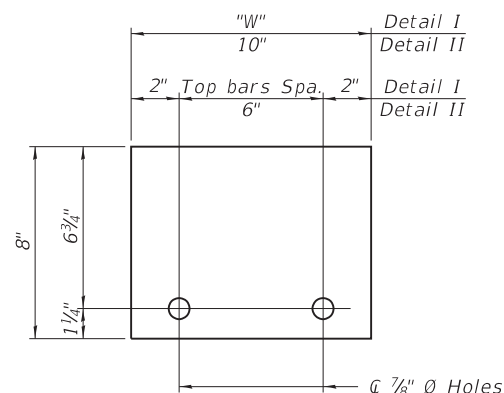
DETAIL II



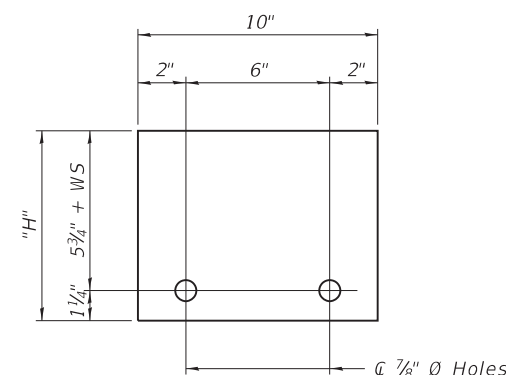
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
Cost of retainer assembly is included with Temporary Concrete Barrier.
A retainer assembly shall be located at the approximate $\bar{C}$ of each temporary concrete barrier.
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

REVISED SHEET 4-9-2025

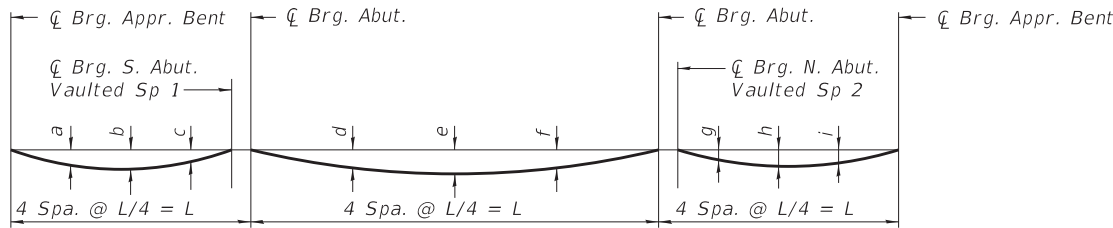
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 054-0050

SCALE: SHEET 5 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	39
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

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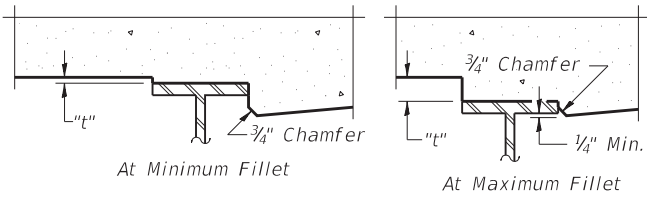


DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown below.
Dimensions L and AA are measured along the length of the girders.

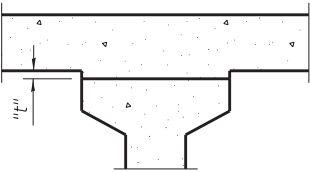
TABLE OF DIMENSIONS & DEFLECTIONS

Girder	L	a	b	c	d	e	f	g	h	i	AA
Girder 1S	35'-10"	1/8"	1/4"	1/8"	-	-	-	-	-	-	5'-10"
Girder 2S	35'-10"	1/8"	1/4"	1/8"	-	-	-	-	-	-	5'-10"
Girder 3S	35'-10"	1/8"	1/4"	1/8"	-	-	-	-	-	-	5'-10"
Girder 4S	35'-10"	1/8"	1/4"	1/8"	-	-	-	-	-	-	5'-10"
Girder 1	114'-9 3/8"	-	-	-	1 3/4"	2 3/8"	1 3/4"	-	-	-	14'-9 3/8"
Girder 2	114'-6 5/8"	-	-	-	1 5/8"	2 1/4"	1 5/8"	-	-	-	14'-6 5/8"
Girder 3	114'-4"	-	-	-	1 5/8"	2 1/4"	1 5/8"	-	-	-	14'-4"
Girder 4	114'-1 1/2"	-	-	-	1 5/8"	2 1/4"	1 5/8"	-	-	-	14'-1 1/2"
Girder 5	113'-10 1/8"	-	-	-	1 5/8"	2 1/4"	1 5/8"	-	-	-	13'-10 1/8"
Girder 6	113'-8 3/8"	-	-	-	1 5/8"	2"	1 5/8"	-	-	-	13'-8 3/8"
Girder 1N	34'-2"	-	-	-	-	-	-	1/8"	1/4"	1/8"	4'-2"
Girder 2N	34'-2"	-	-	-	-	-	-	1/8"	1/4"	1/8"	4'-2"
Girder 3N	34'-2"	-	-	-	-	-	-	1/8"	1/4"	1/8"	4'-2"
Girder 4N	34'-2"	-	-	-	-	-	-	1/8"	1/4"	1/8"	4'-2"



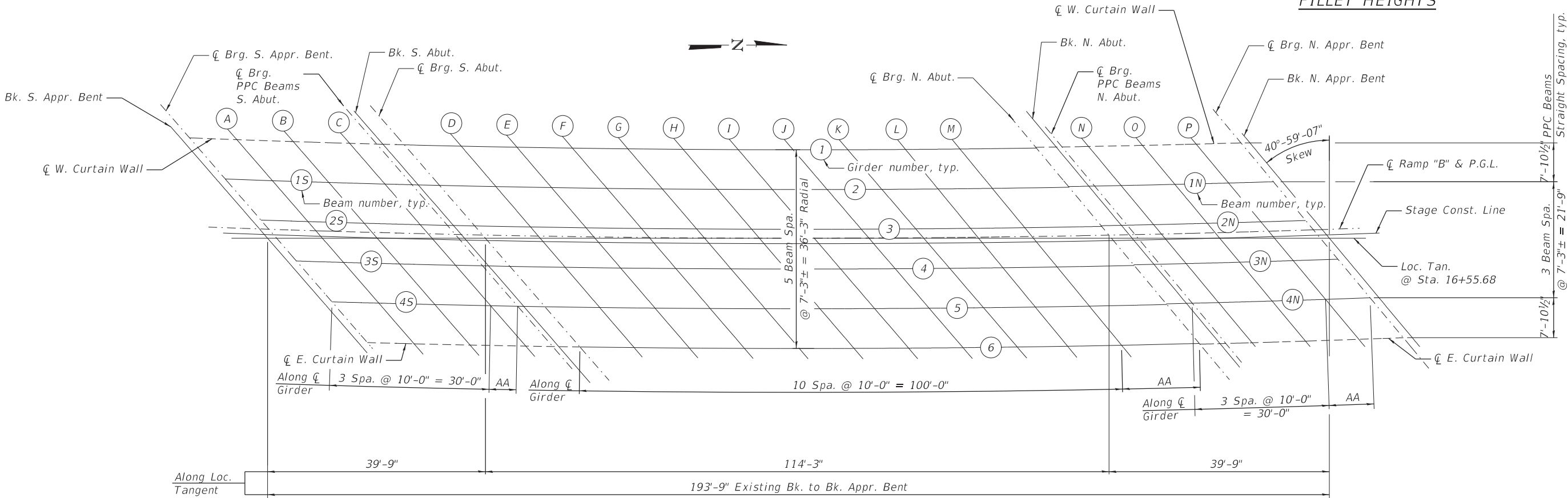
To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown below, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of beams.
The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



PLAN

REVISD SHEET 4-9-2025

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 054-0050

SCALE: SHEET 6 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	40
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

W. CURTAIN WALL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+41.40	-16.60	587.20	587.22
Brg. S. Appr. Bent	15+43.37	-16.62	587.21	587.23
A	15+53.43	-16.72	587.25	587.27
B	15+63.49	-16.79	587.30	587.32
C	15+73.54	-16.82	587.34	587.36
Brg. S. Abut.	15+79.57	-16.82	587.36	587.38
Bk. S. Abut.	15+80.77	-16.82	587.37	587.39

GIRDER 1S

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+48.75	-8.81	587.71	587.73
Brg. S. Appr. Bent	15+50.71	-8.82	587.71	587.73
A	15+60.74	-8.90	587.76	587.80
B	15+70.77	-8.94	587.80	587.85
C	15+80.81	-8.95	587.84	587.87
Brg. S. Abut.	15+86.81	-8.93	587.87	587.89
Bk. S. Abut.	15+88.01	-8.93	587.87	587.89

GIRDER 2S

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+55.48	-1.61	588.17	588.19
Brg. S. Appr. Bent	15+57.44	-1.63	588.18	588.20
A	15+67.44	-1.68	588.22	588.26
B	15+77.45	-1.70	588.26	588.31
C	15+87.45	-1.68	588.30	588.34
Brg. S. Abut.	15+93.45	-1.65	588.33	588.35
Bk. S. Abut.	15+94.64	-1.65	588.33	588.36

ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+56.98	0.00	588.27	588.29
Brg. S. Appr. Bent	15+58.95	0.00	588.28	588.30
A	15+68.95	0.00	588.33	588.37
B	15+78.95	0.00	588.37	588.42
C	15+88.95	0.00	588.41	588.44
Brg. S. Abut.	15+94.94	0.00	588.43	588.46
Bk. S. Abut.	15+96.14	0.00	588.44	588.46

STAGE CONST. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+57.91	1.00	588.34	588.36
Brg. S. Appr. Bent	15+59.88	1.00	588.35	588.37
A	15+69.88	1.00	588.39	588.43
B	15+79.87	1.00	588.43	588.48
C	15+89.87	1.00	588.47	588.51
Brg. S. Abut.	15+95.85	1.00	588.50	588.52
Bk. S. Abut.	15+97.04	1.00	588.50	588.52

GIRDER 3S

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+62.17	5.59	588.63	588.65
Brg. S. Appr. Bent	15+64.13	5.58	588.64	588.66
A	15+74.11	5.55	588.68	588.73
B	15+84.09	5.56	588.73	588.77
C	15+94.07	5.60	588.77	588.80
Brg. S. Abut.	16+00.05	5.64	588.79	588.81
Bk. S. Abut.	16+01.24	5.65	588.80	588.82

GIRDER 4S

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+68.84	12.82	589.10	589.12
Brg. S. Appr. Bent	15+70.79	12.81	589.10	589.13
A	15+80.74	12.80	589.15	589.19
B	15+90.70	12.83	589.19	589.24
C	16+00.65	12.90	589.23	589.26
Brg. S. Abut.	16+06.61	12.95	589.25	589.27
Bk. S. Abut.	16+07.81	12.96	589.26	589.28

E. CURTAIN WALL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Appr. Bent	15+76.04	20.68	589.60	589.62
Brg. S. Appr. Bent	15+77.98	20.68	589.61	589.63
A	15+87.91	20.70	589.65	589.67
B	15+97.84	20.75	589.69	589.71
C	16+07.76	20.84	589.73	589.75
Brg. S. Abut.	16+13.71	20.91	589.76	589.78
Bk. S. Abut.	16+14.90	20.92	589.76	589.78

REVIS

REVISED SHEET 4-9-2025

MODEL: Default
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MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE0U0V0\CAD\050\054\0050-72220-008-Top_Slab_Elev03.dgn

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	15+81.41	-16.13	587.41	587.43
⌒ Brg. S. Abut.	15+83.00	-16.13	587.42	587.44
D	15+93.06	-16.13	587.46	587.56
E	16+03.12	-16.13	587.50	587.66
F	16+13.17	-16.13	587.53	587.75
G	16+23.23	-16.13	587.56	587.82
H	16+33.29	-16.13	587.59	587.87
I	16+43.34	-16.13	587.62	587.90
J	16+53.40	-16.13	587.65	587.91
K	16+63.45	-16.13	587.67	587.90
L	16+73.51	-16.13	587.69	587.87
M	16+83.57	-16.13	587.71	587.83
⌒ Brg. N. Abut.	16+98.43	-16.13	587.73	587.75
Bk. N. Abut.	16+99.96	-16.13	587.73	587.75

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	15+88.06	-8.88	587.88	587.90
⌒ Brg. S. Abut.	15+89.64	-8.88	587.88	587.90
D	15+99.68	-8.88	587.92	588.01
E	16+09.71	-8.88	587.95	588.11
F	16+19.74	-8.88	587.99	588.20
G	16+29.77	-8.88	588.02	588.27
H	16+39.80	-8.88	588.05	588.32
I	16+49.83	-8.88	588.07	588.35
J	16+59.86	-8.88	588.10	588.36
K	16+69.89	-8.88	588.12	588.35
L	16+79.92	-8.88	588.13	588.32
M	16+89.95	-8.88	588.15	588.27
⌒ Brg. N. Abut.	17+04.55	-8.88	588.17	588.19
Bk. N. Abut.	17+06.08	-8.88	588.17	588.19

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	15+94.66	-1.63	588.34	588.36
⌒ Brg. S. Abut.	15+96.24	-1.63	588.34	588.36
D	16+06.24	-1.63	588.38	588.47
E	16+16.25	-1.63	588.41	588.57
F	16+26.26	-1.63	588.44	588.66
G	16+36.26	-1.63	588.47	588.73
H	16+46.27	-1.63	588.50	588.77
I	16+56.27	-1.63	588.52	588.80
J	16+66.28	-1.63	588.54	588.81
K	16+76.28	-1.63	588.56	588.79
L	16+86.29	-1.63	588.58	588.76
M	16+96.30	-1.63	588.59	588.71
⌒ Brg. N. Abut.	17+10.64	-1.63	588.61	588.63
Bk. N. Abut.	17+12.16	-1.63	588.61	588.63

⌒ ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	15+96.14	0.00	588.44	588.46
⌒ Brg. S. Abut.	15+97.71	0.00	588.44	588.47
D	16+07.71	0.00	588.48	588.57
E	16+17.71	0.00	588.51	588.67
F	16+27.71	0.00	588.54	588.76
G	16+37.71	0.00	588.57	588.82
H	16+47.71	0.00	588.60	588.87
I	16+57.71	0.00	588.62	588.90
J	16+67.71	0.00	588.64	588.91
K	16+77.71	0.00	588.66	588.89
L	16+87.71	0.00	588.68	588.86
M	16+97.71	0.00	588.69	588.81
⌒ Brg. N. Abut.	17+12.00	0.00	588.71	588.73
Bk. N. Abut.	17+13.52	0.00	588.71	588.73

STAGE CONST. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	15+97.04	1.00	588.50	588.52
⌒ Brg. S. Abut.	15+98.61	1.00	588.51	588.53
D	16+08.61	1.00	588.54	588.64
E	16+18.61	1.00	588.58	588.74
F	16+28.60	1.00	588.61	588.82
G	16+38.60	1.00	588.64	588.89
H	16+48.60	1.00	588.66	588.93
I	16+58.59	1.00	588.68	588.96
J	16+68.59	1.00	588.71	588.97
K	16+78.59	1.00	588.72	588.95
L	16+88.58	1.00	588.74	588.92
M	16+98.58	1.00	588.75	588.87
⌒ Brg. N. Abut.	17+12.83	1.00	588.77	588.79
Bk. N. Abut.	17+14.35	1.00	588.77	588.79

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	16+01.22	5.63	588.79	588.82
⌒ Brg. S. Abut.	16+02.79	5.63	588.80	588.82
D	16+12.77	5.63	588.84	588.93
E	16+22.75	5.63	588.87	589.03
F	16+32.73	5.63	588.90	589.11
G	16+42.71	5.63	588.92	589.18
H	16+52.69	5.63	588.95	589.22
I	16+62.67	5.63	588.97	589.25
J	16+72.65	5.63	588.99	589.25
K	16+82.63	5.63	589.01	589.24
L	16+92.61	5.63	589.02	589.20
M	17+02.59	5.63	589.04	589.16
⌒ Brg. N. Abut.	17+16.68	5.63	589.05	589.07
Bk. N. Abut.	17+18.20	5.63	589.05	589.07

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	16+07.72	12.88	589.25	589.27
⌒ Brg. S. Abut.	16+09.29	12.88	589.26	589.28
D	16+19.24	12.88	589.29	589.39
E	16+29.20	12.88	589.32	589.48
F	16+39.15	12.88	589.35	589.57
G	16+49.11	12.88	589.38	589.63
H	16+59.06	12.88	589.40	589.67
I	16+69.02	12.88	589.42	589.70
J	16+78.98	12.88	589.44	589.70
K	16+88.93	12.88	589.45	589.68
L	16+98.89	12.88	589.47	589.65
M	17+08.84	12.88	589.48	589.60
⌒ Brg. N. Abut.	17+22.68	12.88	589.49	589.51
Bk. N. Abut.	17+24.19	12.88	589.49	589.51

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	16+14.19	20.13	589.71	589.73
⌒ Brg. S. Abut.	16+15.74	20.13	589.71	589.74
D	16+25.67	20.13	589.75	589.84
E	16+35.60	20.13	589.77	589.94
F	16+45.53	20.13	589.80	590.02
G	16+55.46	20.13	589.83	590.08
H	16+65.40	20.13	589.85	590.13
I	16+75.33	20.13	589.87	590.15
J	16+85.26	20.13	589.88	590.15
K	16+95.19	20.13	589.90	590.13
L	17+05.12	20.13	589.91	590.09
M	17+15.05	20.13	589.92	590.04
⌒ Brg. N. Abut.	17+28.64	20.13	589.93	589.95
Bk. N. Abut.	17+30.15	20.13	589.93	589.95

1 REVISED SHEET 4-9-2025



USER NAME = \$USERS	DESIGNED - RT	REVISED -
DRAWN - DS	REVISED -	
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS – MAIN SPAN
STRUCTURE NO. 054–0050

SCALE:	SHEET 8 OF 38 SHEETS	STA.	TO STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	42
		CONTRACT NO. 72220		
		ILLINOIS	FED. AID PROJECT	

W. CURTAIN WALL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	16+99.53	-16.64	587.70	587.72
Brg. N. Abut.	17+00.81	-16.65	587.70	587.72
N	17+10.86	-16.74	587.70	587.72
O	17+20.92	-16.80	587.71	587.73
P	17+30.98	-16.82	587.71	587.73
Brg. N. Appr. Bent	17+35.25	-16.81	587.71	587.73
Bk. N. Appr. Bent	17+37.11	-16.81	587.71	587.74

GIRDER 1N

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+06.12	-8.83	588.17	588.19
Brg. N. Abut.	17+07.40	-8.84	588.17	588.19
N	17+17.43	-8.91	588.18	588.22
O	17+27.46	-8.94	588.18	588.23
P	17+36.49	-8.93	588.19	588.22
Brg. N. Appr. Bent	17+41.75	-8.92	588.19	588.21
Bk. N. Appr. Bent	17+43.60	-8.92	588.19	588.21

GIRDER 2N

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+12.16	-1.63	588.61	588.63
Brg. N. Abut.	17+13.43	-1.63	588.61	588.63
N	17+23.44	-1.68	588.62	588.66
O	17+33.44	-1.69	588.62	588.67
P	17+43.45	-1.67	588.62	588.66
Brg. N. Appr. Bent	17+47.70	-1.64	588.63	588.65
Bk. N. Appr. Bent	17+49.54	-1.63	588.63	588.65

ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+13.52	0.00	588.71	588.73
Brg. N. Abut.	17+14.79	0.00	588.71	588.73
N	17+24.79	0.00	588.72	588.76
O	17+34.79	0.00	588.72	588.77
P	17+44.79	0.00	588.72	588.75
Brg. N. Appr. Bent	17+49.04	0.00	588.72	588.75
Bk. N. Appr. Bent	17+50.87	0.00	588.72	588.75

STAGE CONST. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+14.35	1.00	588.77	588.79
Brg. N. Abut.	17+15.63	1.00	588.77	588.79
N	17+25.62	1.00	588.78	588.82
O	17+35.62	1.00	588.78	588.83
P	17+45.62	1.00	588.78	588.81
Brg. N. Appr. Bent	17+49.85	1.00	588.78	588.81
Bk. N. Appr. Bent	17+51.68	1.00	588.78	588.81

GIRDER 3N

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+18.17	5.59	589.05	589.07
Brg. N. Abut.	17+19.44	5.58	589.05	589.07
N	17+29.42	5.56	589.05	589.10
O	17+39.40	5.57	589.06	589.11
P	17+49.38	5.62	589.06	589.09
Brg. N. Appr. Bent	17+53.62	5.65	589.06	589.09
Bk. N. Appr. Bent	17+55.46	5.66	589.06	589.08

GIRDER 4N

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+24.15	12.82	589.49	589.51
Brg. N. Abut.	17+25.41	12.82	589.49	589.51
N	17+35.37	12.81	589.49	589.53
O	17+45.32	12.84	589.50	589.54
P	17+55.28	12.91	589.50	589.53
Brg. N. Appr. Bent	17+59.51	12.95	589.50	589.52
Bk. N. Appr. Bent	17+61.34	12.97	589.50	589.52

E. CURTAIN WALL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. N. Abut.	17+30.61	20.68	589.96	589.98
Brg. N. Abut.	17+31.87	20.68	589.96	589.98
N	17+41.80	20.70	589.97	589.99
O	17+51.72	20.76	589.97	589.99
P	17+61.85	20.84	589.97	589.99
Brg. N. Appr. Bent	17+65.87	20.89	589.97	590.00
Bk. N. Appr. Bent	17+67.70	20.91	589.98	590.00

1 REVISED SHEET 4-9-2025

MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_50\054-0050-72220-009-Top_Slab_Elev_04.dgn

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+09.30	-18.00	586.94	586.96
A1	15+19.36	-18.00	587.00	587.02
A2	15+29.43	-18.00	587.05	587.07
N. End S. Appr. Slab	15+40.76	-18.00	587.11	587.13

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+15.09	-12.00	587.33	587.36
A1	15+25.14	-12.00	587.39	587.41
A2	15+35.18	-12.00	587.44	587.47
N. End S. Appr. Slab	15+46.43	-12.00	587.50	587.52

CL ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+26.57	0.00	588.12	588.14
A1	15+36.57	0.00	588.17	588.19
A2	15+46.57	0.00	588.22	588.24
N. End S. Appr. Slab	15+57.66	0.00	588.28	588.30

STAGE CONST. LINE

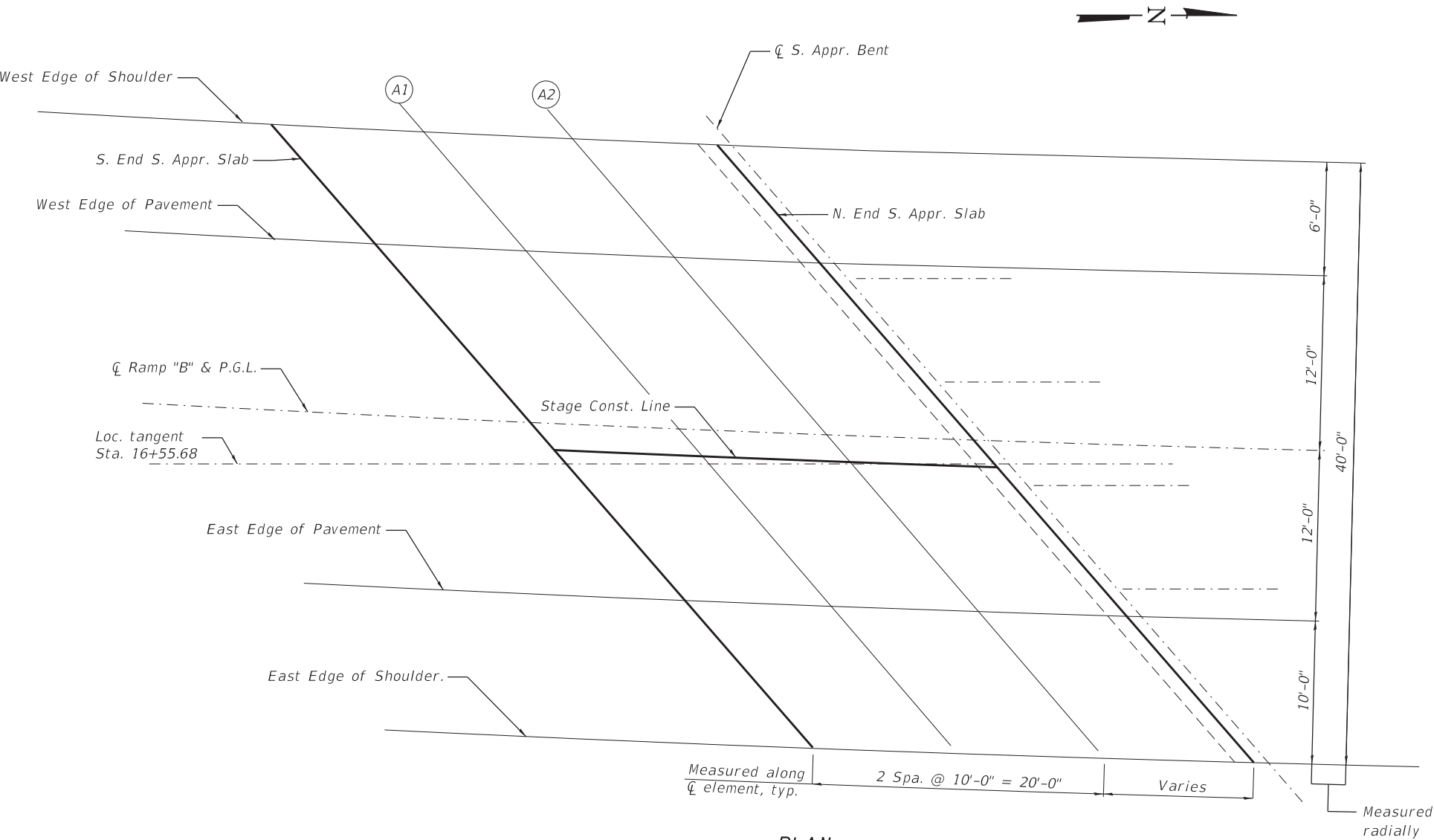
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+27.52	1.00	588.18	588.20
A1	15+37.52	1.00	588.24	588.26
A2	15+47.52	1.00	588.29	588.31
N. End S. Appr. Slab	15+58.59	1.00	588.34	588.36

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+37.92	12.00	588.90	588.92
A1	15+47.87	12.00	588.95	588.97
A2	15+57.83	12.00	589.00	589.02
N. End S. Appr. Slab	15+68.76	12.00	589.05	589.07

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Slab	15+47.26	22.00	589.55	589.57
A1	15+57.19	22.00	589.59	589.61
A2	15+67.11	22.00	589.64	589.66
N. End S. Appr. Slab	15+77.91	22.00	589.69	589.71



PLAN

Note:
Offsets to the left of CL I-155 are negative.
Offsets to the right of CL I-155 are positive.

1 REVISED SHEET 4-9-2025

WEST EDGE OF SHOULDER

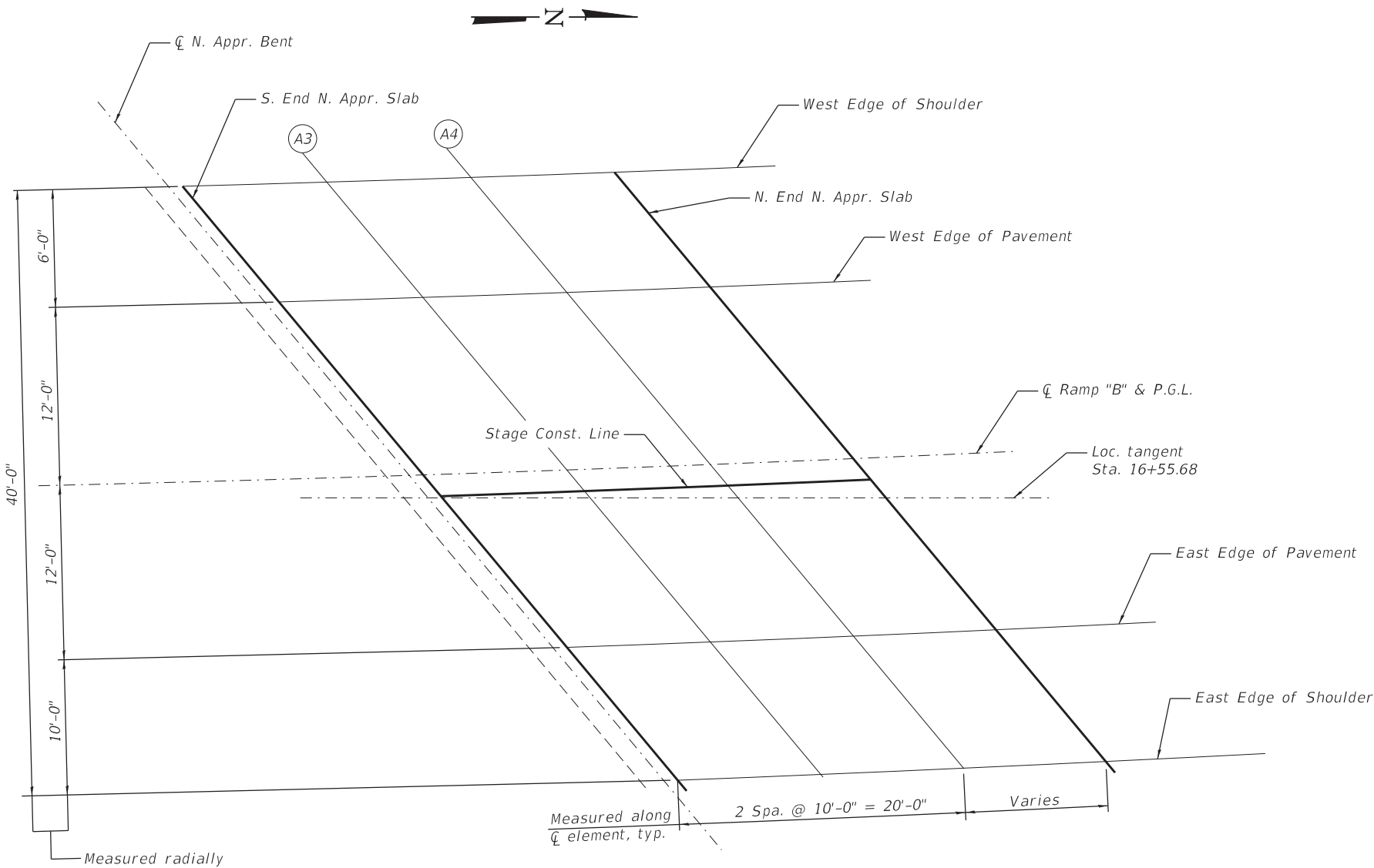
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+35.47	-18.00	587.64	587.66
A3	17+45.54	-18.00	587.64	587.67
A4	17+55.60	-18.00	587.64	587.66
N. End N. Appr. Slab	17+64.84	-18.00	587.64	587.66

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+40.42	-12.00	588.00	588.02
A3	17+50.46	-12.00	588.00	588.03
A4	17+60.50	-12.00	588.00	588.02
N. End N. Appr. Slab	17+69.68	-12.00	588.00	588.02

CL ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+50.23	0.00	588.72	588.75
A3	17+60.23	0.00	588.72	588.74
A4	17+70.23	0.00	588.72	588.74
N. End N. Appr. Slab	17+79.29	0.00	588.71	588.73



PLAN

Note:
Offsets to the left of CL I-155 are negative.
Offsets to the right of CL I-155 are positive.

STAGE CONST. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+51.04	1.00	588.78	588.81
A3	17+61.04	1.00	588.78	588.80
A4	17+71.03	1.00	588.78	588.80
N. End N. Appr. Slab	17+80.09	1.00	588.77	588.79

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+59.93	12.00	589.44	589.46
A3	17+69.88	12.00	589.44	589.46
A4	17+79.84	12.00	589.43	589.45
N. End N. Appr. Slab	17+88.79	12.00	589.43	589.45

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Appr. Slab	17+67.93	22.00	590.04	590.06
A3	17+77.85	22.00	590.03	590.06
A4	17+87.78	22.00	590.03	590.05
N. End N. Appr. Slab	17+96.63	22.00	590.02	590.04

1 REVISED SHEET 4-9-2025

MODEL Default
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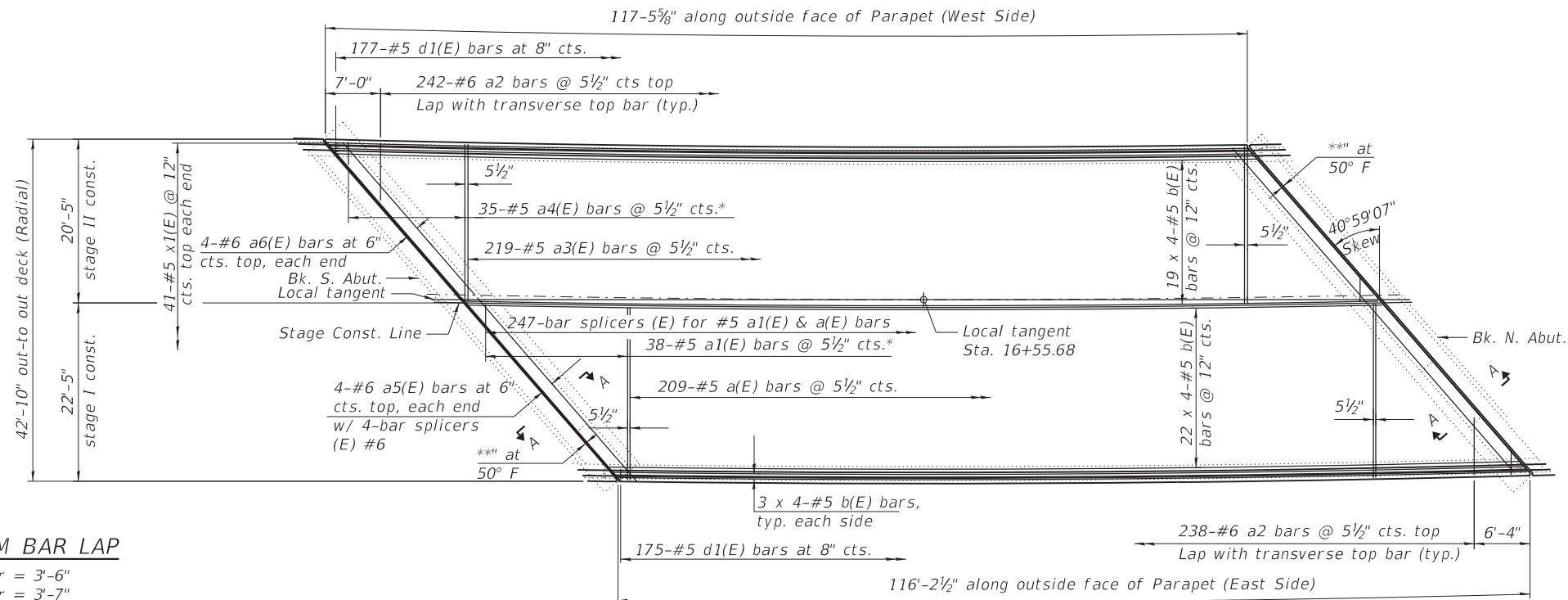
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF NORTH APPROACH ELEVATIONS
STRUCTURE NO. 054-0050

SCALE: SHEET 11 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	45
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



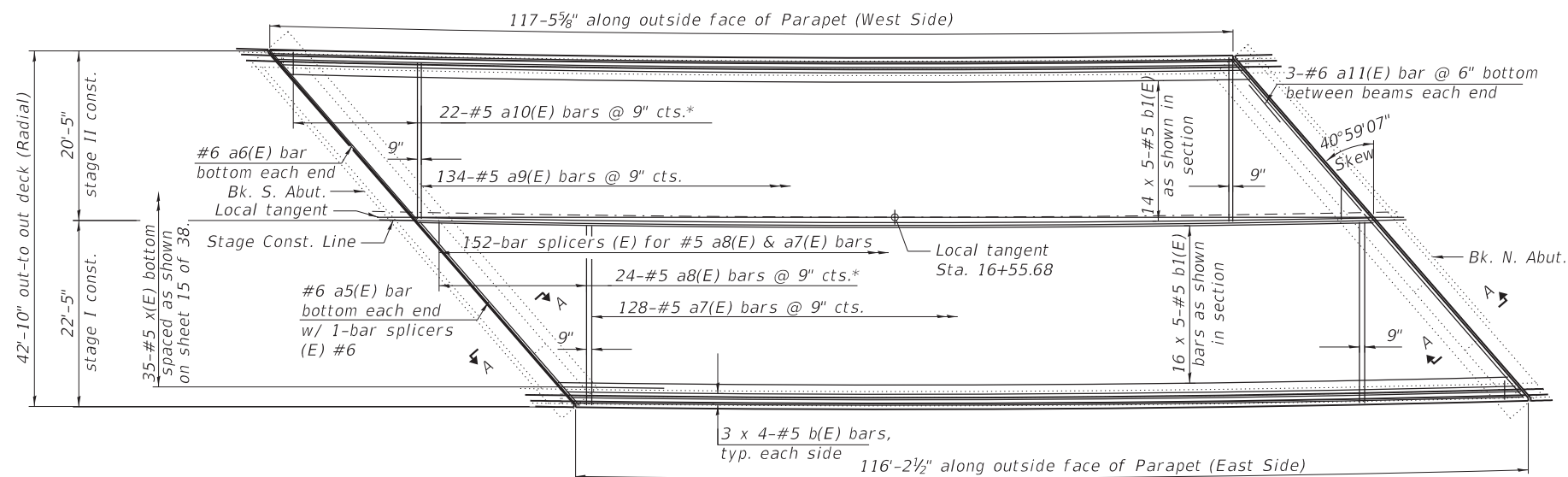
MINIMUM BAR LAP

#5 bar = 3'-6"
#6 bar = 3'-7"

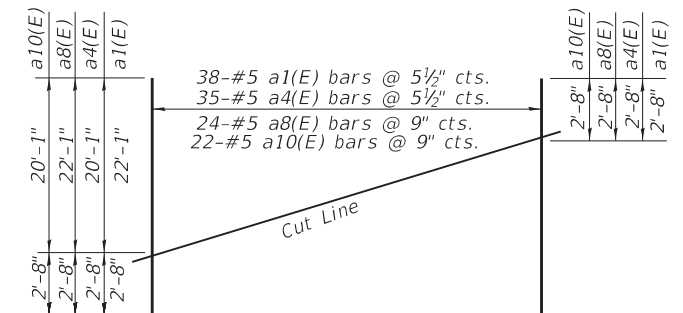
* See Field Cutting Diagram.

** Dimension showing concrete opening.
For joint opening see sheet 21 of 38.

TOP REINFORCING PLAN



BOTTOM REINFORCING PLAN

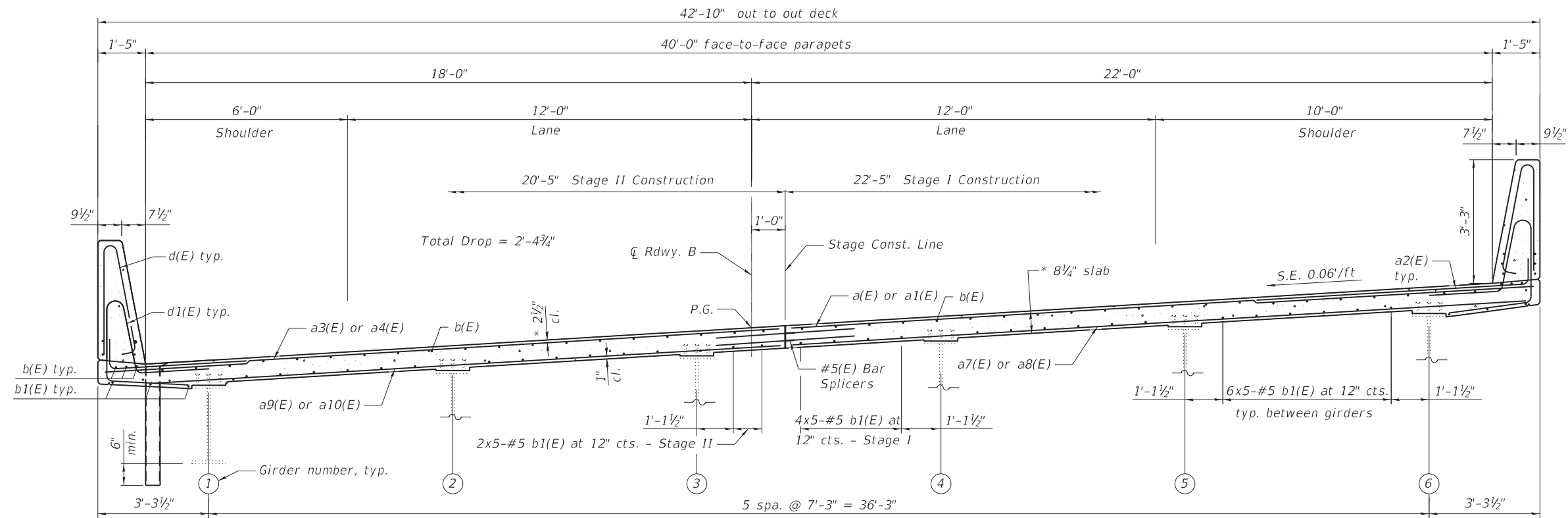


FIELD CUTTING DIAGRAM FOR SLAB (MAIN SPAN)

* Order a1(E) and a8(E) 24'-9" and a4(E) and a10(E) 22'-9", Cut as shown and use remainder of bars on the otherside (end) of deck.

Notes:
See sheet 15 of 38 for Section A-A.
See sheet 14 of 38 for superstructure details and Bill of Material.
See sheet 13 of 38 for superstructure cross section.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See sheet 38 of 38 for details of bar splicers and mechanical splicers.
The spacing of transverse bars is measured along the local tangent.

1 REVISED SHEET 4-9-2025



CROSS SECTION (MAIN SPAN)

(Looking North)

* Prior to grinding

1 REVISED SHEET 4-9-2025

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

**SUPERSTRUCTURE CROSS SECTION
STRUCTURE NO. 054-0050**

SCALE: SHEET 13 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	47
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

(Headed. 60 - #6 Bar terminators)

10"

3'-6"

BAR x1(E)

Bar	No.	Size	Length	Shape
a(E)	209	#5	22'-1"	=====
a1(E)	38	#5	24'-9"	=====
a2(E)	480	#6	8'-4"	=====
a3(E)	219	#5	20'-1"	=====
a4(E)	35	#5	22'-9"	=====
a5(E)	10	#6	29'-4"	=====
a6(E)	10	#6	23'-0"	=====
a7(E)	128	#5	20'-9"	=====
a8(E)	254	#5	24'-9"	=====
a9(E)	134	#5	18'-9"	=====
a10(E)	22	#5	22'-9"	=====
a11(E)	30	#6	9'-2"	=====
b(E)	188	#5	32'-0"	=====
b1(E)	180	#5	26'-7"	=====
d(E)	352	#5	6'-5"	=====
d1(E)	352	#5	8'-7"	=====
e(E)	36	#4	19'-0"	=====
e1(E)	36	#4	19'-2"	=====
e2(E)	32	#4	31'-1"	=====
x(E)	35	#5	6'-4"	=====
x1(E)	41	#5	4'-4"	=====
Reinforcement Bars, Epoxy Coated Concrete Superstructure			Lbs.	49,670
			Cu. Yd.	158.5

Technical drawing of a mechanical part with the following dimensions:

- Top radius: $2\frac{5}{8}"$ Rad.
- Top horizontal width: $7\frac{3}{4}"$
- Left vertical height: $2'-7"$
- Right vertical height: $2'-1\frac{1}{2}"$
- Bottom horizontal width: $11\frac{1}{8}"$
- Bottom right corner radius: $6"$

Technical drawing of a mechanical part with the following dimensions:

- Top horizontal edge: $1'-0\frac{1}{8}"$
- Top-left corner radius: $4\frac{1}{8}"$ Rad.
- Left vertical edge: $2'-0"$
- Bottom-left corner radius: $1\frac{1}{2}"$
- Internal horizontal edge (left): $1'-0\frac{1}{4}"$
- Internal horizontal edge (right): $1'-2"$
- Right vertical edge: $1'-10\frac{3}{8}"$
- Bottom horizontal edge: $2'-5"$
- Internal diagonal edge: $1'-1\frac{1}{2}"$

Technical drawing showing the reinforcement details for the parapet structure, including dimensions and bar specifications.

Dimensions:

- 116'-2 1/2" end to end parapet measured along outside face (East Parapet)
- 117'-5 5/8" end to end parapet measured along outside face (West Parapet)
- Typical panel
- 6 - Panels @ ±19'-4 3/8" long = ±116'-2 1/2" (East)
- 6 - Panels @ ±19'-6 1/8" long = ±117'-5 5/8" (West)

Reinforcement Details:

- 6-#4 e(E) bars (E. Parapet) & 6-#4 e1(E) bars (W. Parapet), see Section thru Parapet
- Cork joint (typ. between panels except at aluminum joints)
- 4 x 4 - #4 e2(E) bars, see Section thru Parapet
- 175 - #5 d(E) bars at 8" cts. (E. Parapet)
- 177 - #5 d(E) bars at 8" cts. (W. Parapet)

Technical drawing illustrating the details of a parapet joint, showing two cross-sections.

Left Section (Sloped Joint):

- Top width: $\frac{7}{8}"$
- Top height: $1\frac{5}{8}"$
- Side height: $1\frac{3}{8}"$
- Top width: $1\frac{5}{8}"$
- Side height: $\frac{7}{8}"$
- Joint filler: 2'-5" Cork jts.
- Sealant: Polyurethane sealant
- Backer rod: $\frac{5}{8}" \text{ } \varnothing$ Backer rod
- Joint type: Const. jt. (mandatory)

Right Section (Vertical Joint):

- Top width: $\frac{1}{2}"$
- Top height: $\frac{1}{2}"$
- Side height: $\frac{1}{2}"$
- Side height: $\frac{1}{4}"$
- Side height: $\frac{1}{4}"$
- Joint filler: $\frac{1}{2}"$ Preformed self-expanding cork joint filler
- Sealant: Polyurethane sealant
- Backer rod: $\frac{5}{8}" \text{ } \varnothing$ Backer rod

PARAPET JOINT DETAILS

MINIMUM BAR LAP
 #4 bar = 2'-5"

1'-5"

9 1/2" 7 1/2"

3'-1 1/2"

2" cl. min., typ.

d(E)

d1(E)

e(E) or e1(E)

e2(E)

3'-3" Parapet

9 1/2"

5"

3/4" Drip notch full length

4"

1 1/2" cl.

Varies: 5/8" min. to 2 1/2" max.

6" Ø Pipe clamp

6" min.

3'-3 1/2"

* 2 1/2" cl. (± 1/4")

a2(E)

a(E)

* 8 1/2" Slab

1" cl.

a7(E)

6" Web

6" Ø Steel stud bolts threaded 6" each end with washers and locknuts. 1 1/2" Ø holes in web (May be drilled in field.)

Note: Fibers are stre... Th... finis... Soci... Th... inclu... Th... shal... Ba...

* Prior to grinding

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings Spec. SSPC-SP1 prior to painting.

The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

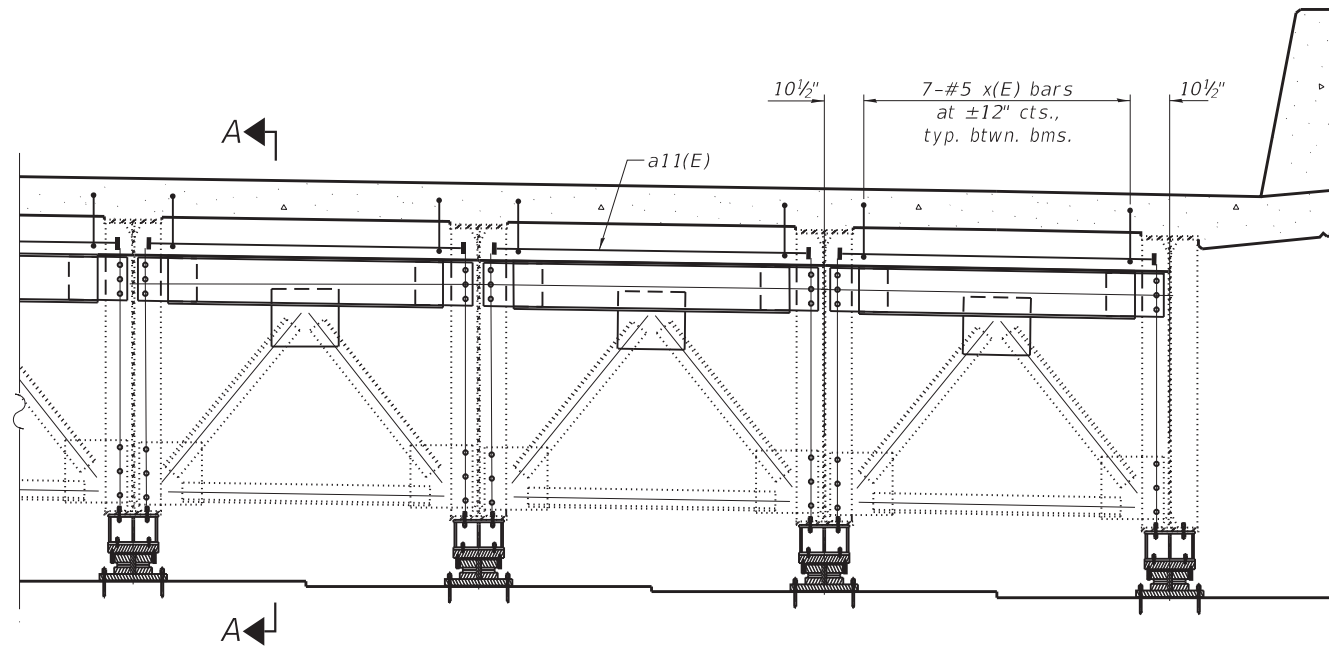
Bar Terminators paid for separately. See Total Bill of Materials.

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

Bar Terminators paid for separately. See Total Bill of Materials.

6" O.D. Aluminum tube
alloy 6061-T6 or
6" Ø fiberglass pipe

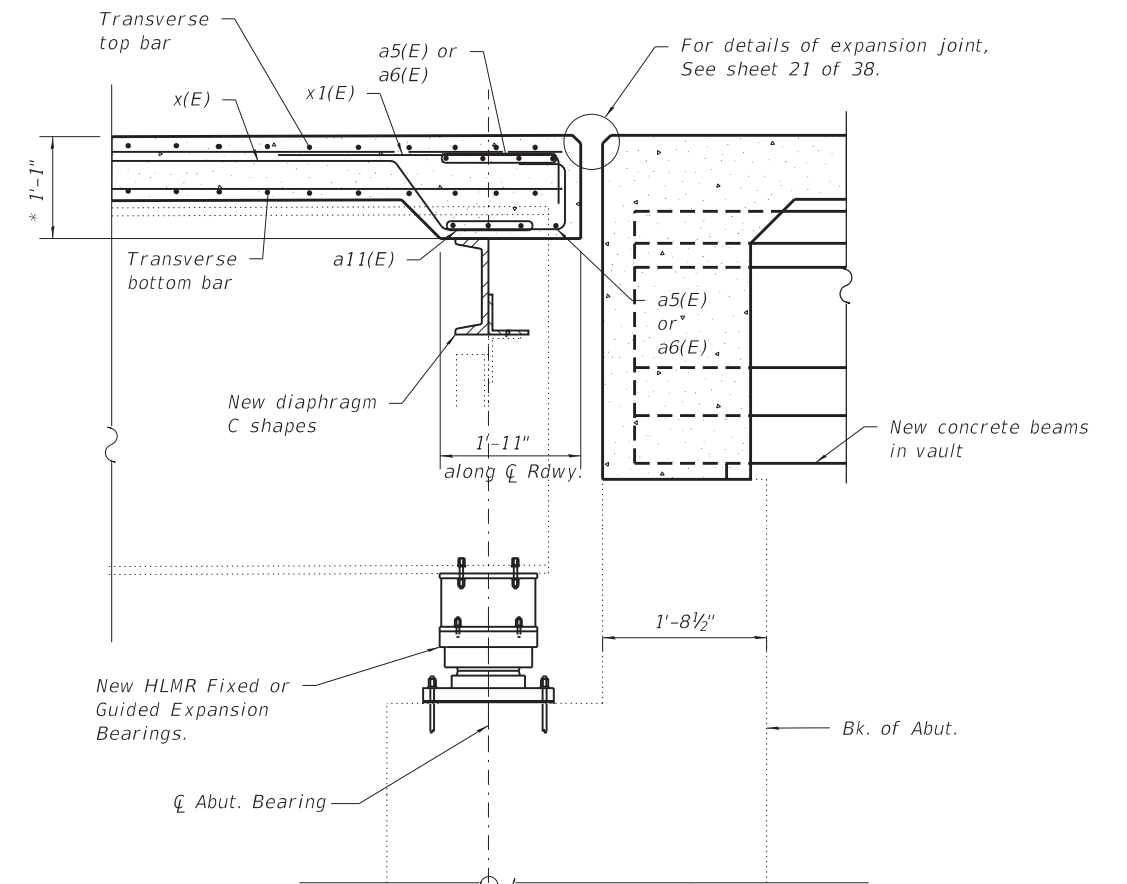
*Dimension as required by pipe clamp



DIAPHRAGM AT SOUTH ABUTMENT

(Looking South)
(North Abutment Similar)

Notes:
See sheet 14 of 38 for superstructure details and Bill of Material.
The x(E) and x1(E) bars shall be placed parallel to the beams.
Spacing for these bars shall be at right angles to the beams.



SECTION A-A

(Full cross frame not shown for clarity)

* prior to grinding

1 REVISED SHEET 4-9-2025

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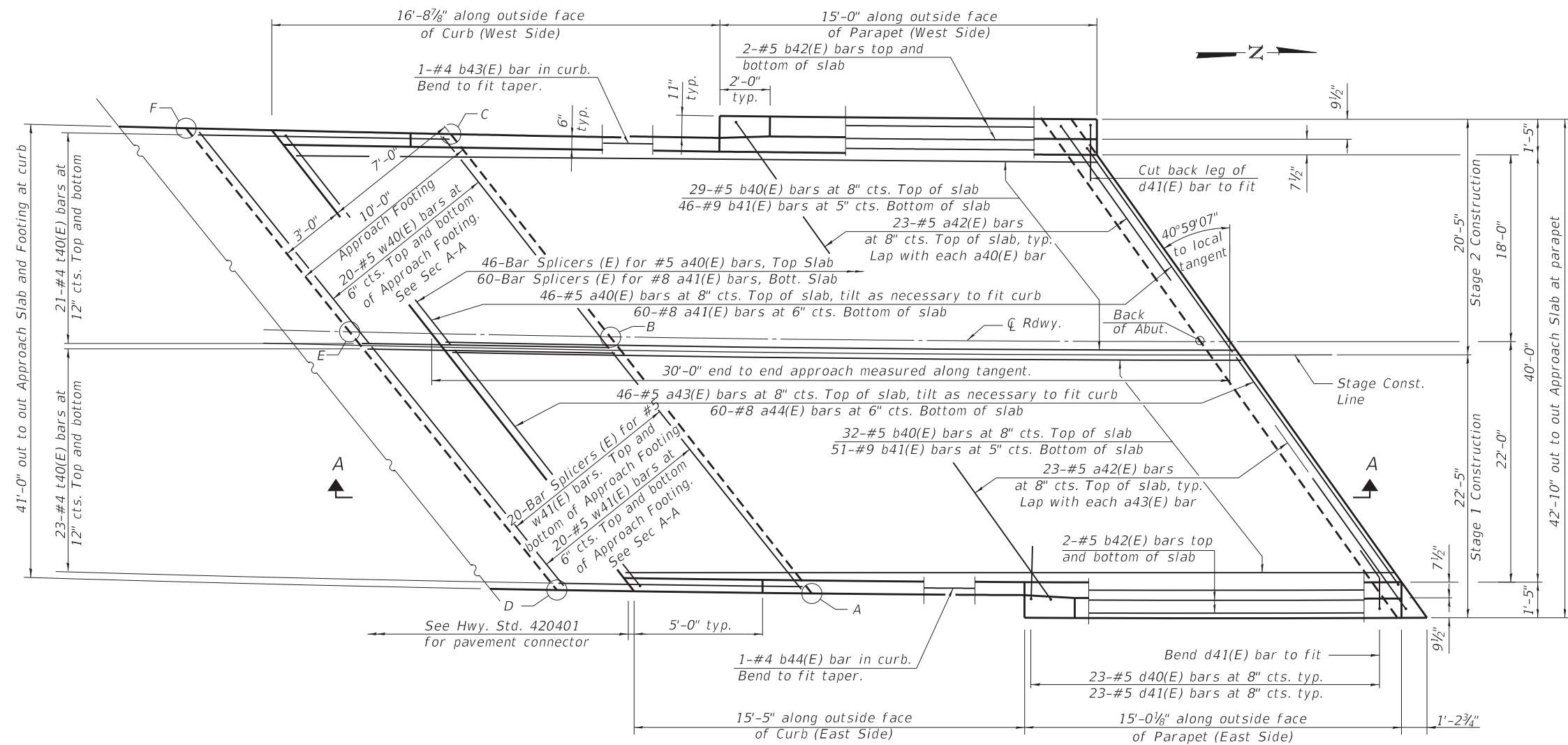


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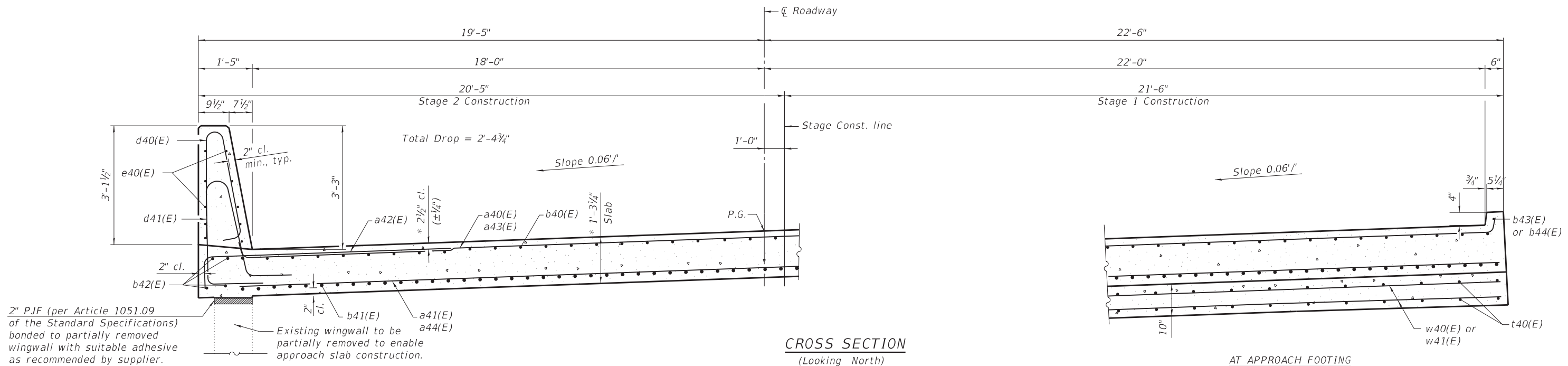
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS STRUCTURE NO. 054-0050			
SCALE:	SHEET 15 OF 38 SHEETS	STA.	TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	49
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

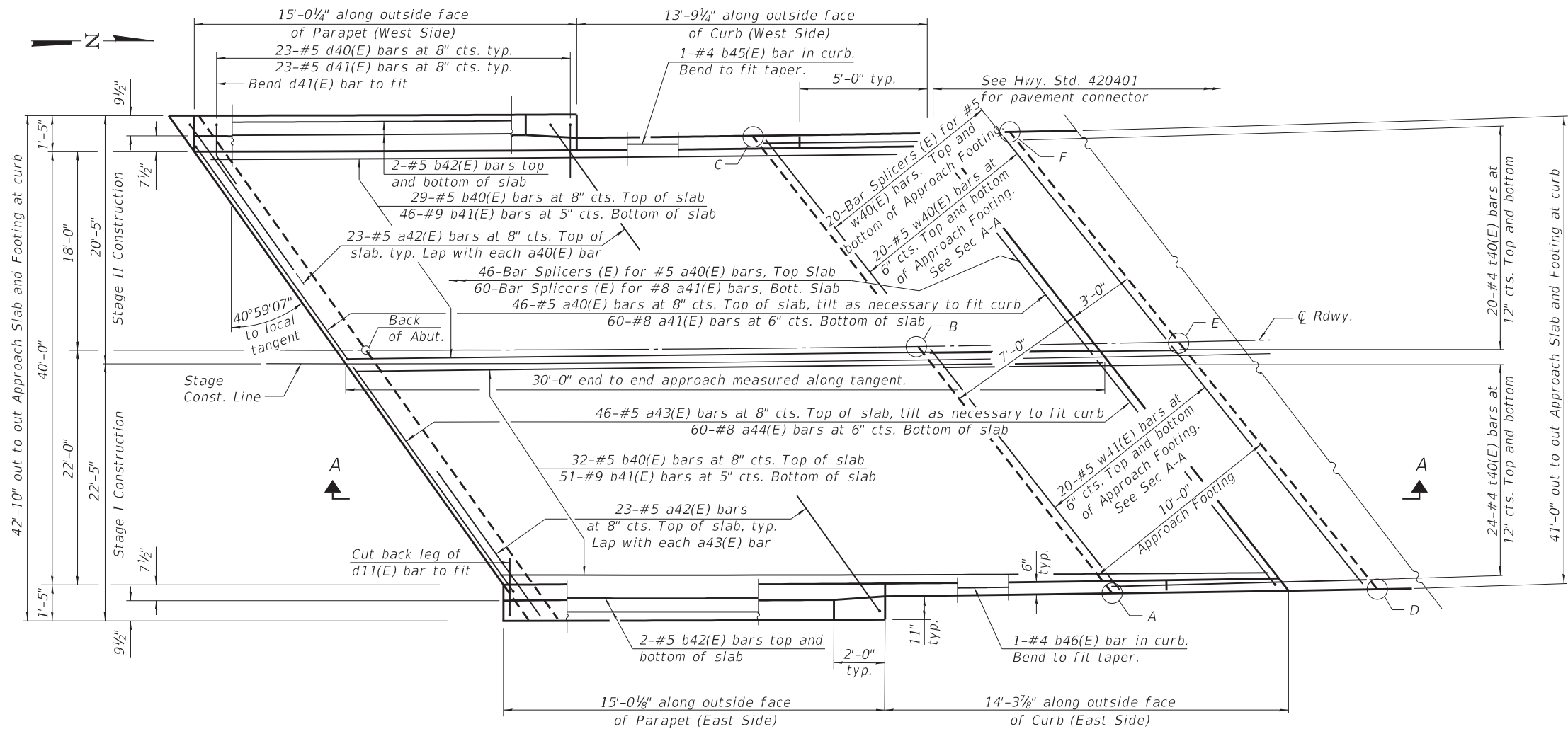


PLAN



TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING

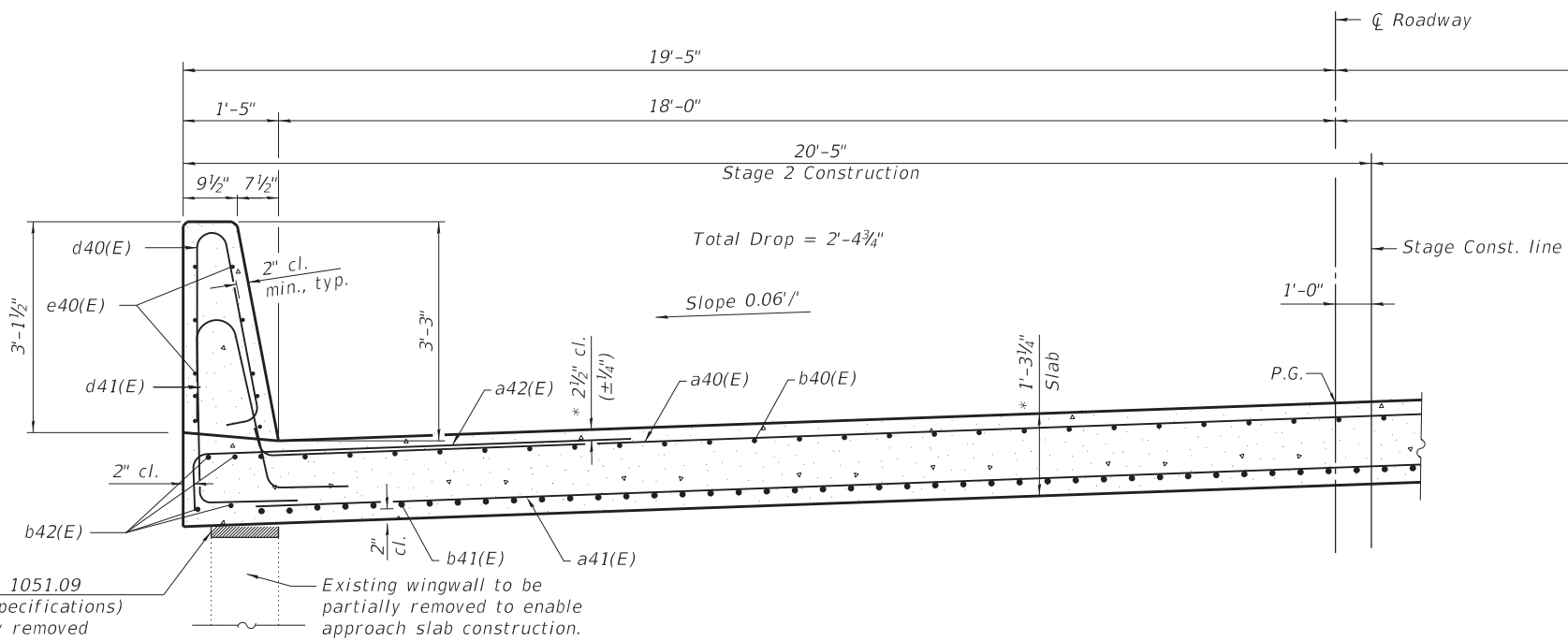
Point/ Location	Station	Offset	Top	Bottom
A	15+56.78	22.50	588.38	587.55
B	15+36.21	0.00	586.93	586.10
C	15+18.57	-18.50	585.72	584.89
D	15+43.64	22.50	588.31	587.48
E	15+22.42	0.00	586.85	586.02
F	15+04.62	-18.50	585.64	584.81



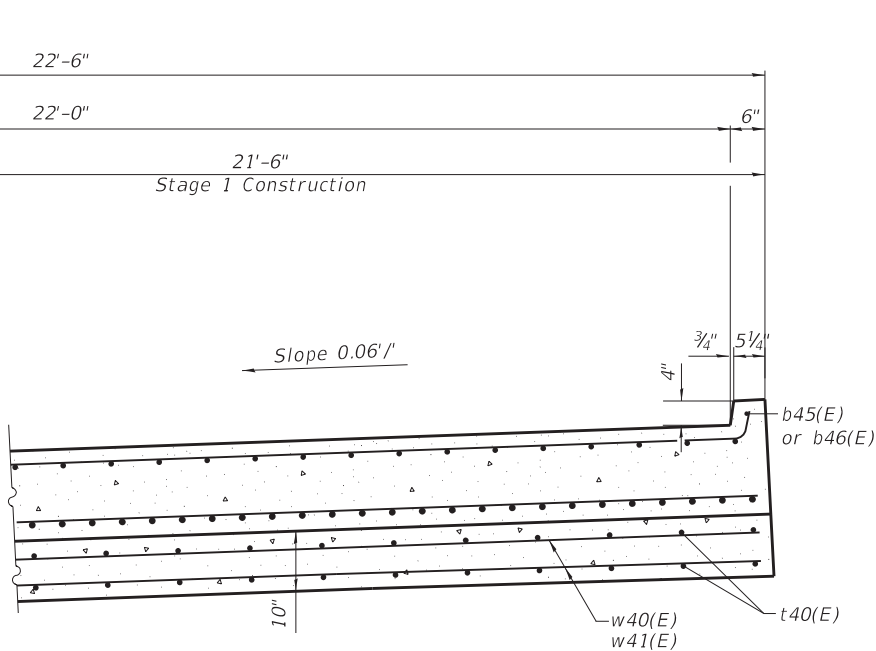
PLAN

TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING

Point/ Location	Station	Offset	Top	Bottom
A	17+88.17	22.50	588.81	587.98
B	17+70.33	0.00	587.47	586.64
C	17+55.38	-18.50	586.36	585.53
D	18+00.80	22.50	588.79	587.96
E	17+83.12	0.00	587.46	586.63
F	17+68.31	-18.50	586.36	585.53



CROSS SECTION
(Looking North)



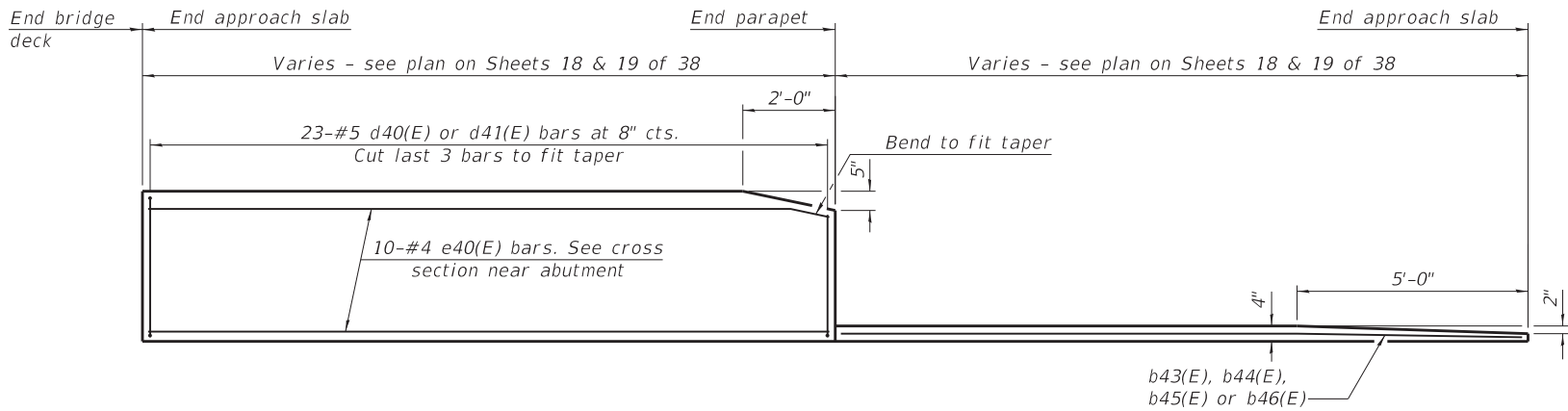
AT APPROACH FOOTING

2" PJF (per Article 1051.09 of the Standard Specifications) bonded to partially removed wingwall with suitable adhesive as recommended by supplier.

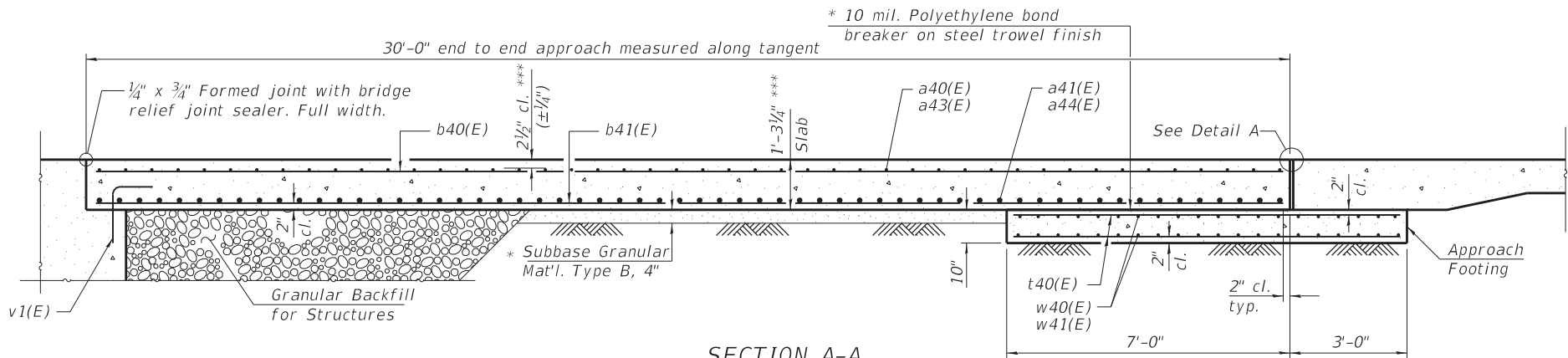
NEAR ABUTMENT
* Prior to grinding

(Sheet 2 of 3)

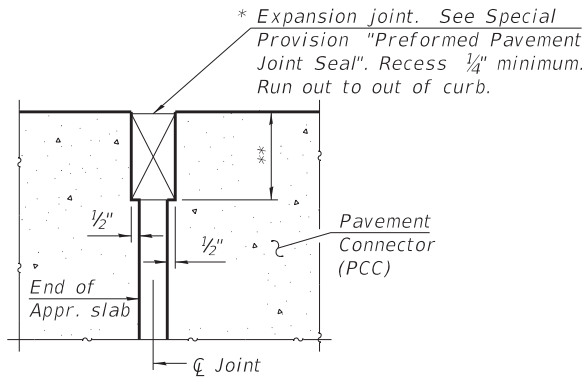
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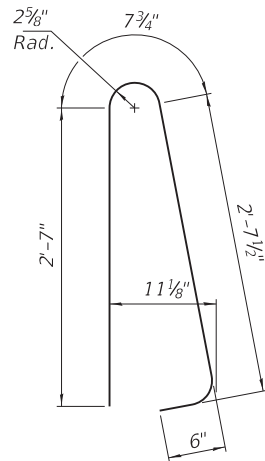
INSIDE ELEVATION OF PARAPET AND CURB



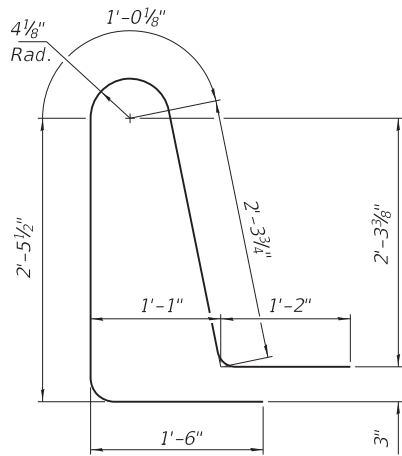
SECTION A-A
*** Prior to grinding.



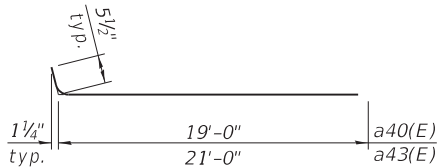
DETAIL A
(at Rt. L's)



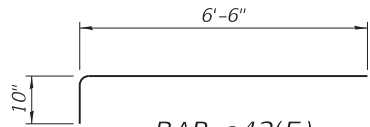
BAR d40(E)



BAR d41(E)



BARs a40(E) & a43(E)



BAR a42(E)

Notes:
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 3 of 38.

SOUTH APPROACH SLAB
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a40(E)	46	#5	19'-6"	—
a41(E)	60	#8	20'-0"	—
a42(E)	46	#5	7'-4"	—
a43(E)	46	#5	21'-6"	—
a44(E)	60	#8	22'-0"	—
b40(E)	61	#5	29'-8"	—
b41(E)	97	#9	29'-8"	—
b42(E)	8	#5	14'-8"	—
b43(E)	1	#4	16'-4"	—
b44(E)	1	#4	15'-1"	—
d40(E)	46	#5	6'-5"	⌒
d41(E)	46	#5	8'-6"	⌒
e40(E)	20	#4	14'-8"	—
t40(E)	88	#4	12'-10"	—
w40(E)	40	#5	26'-8"	—
w41(E)	40	#5	29'-4"	—
Concrete Superstructure			Cu. Yd.	3.9
Concrete Superstructure (Approach Slab)			Cu. Yd.	59.4
Concrete Structure			Cu. Yd.	12.7
Reinforcement Bars, Epoxy Coated			Pound	24,870

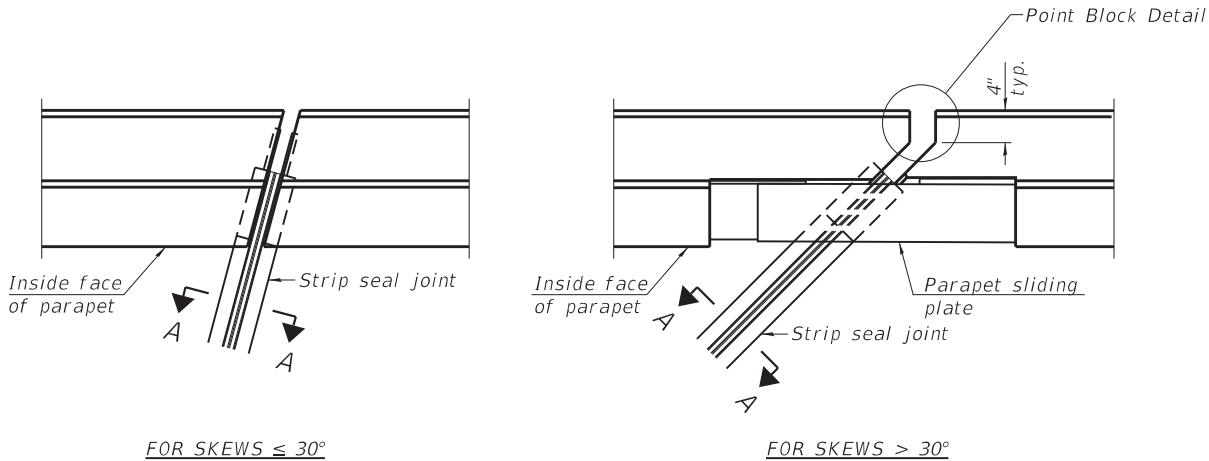
NORTH APPROACH SLAB
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a40(E)	46	#5	19'-6"	—
a41(E)	60	#8	20'-0"	—
a42(E)	46	#5	7'-4"	—
a43(E)	46	#5	21'-6"	—
a44(E)	60	#8	22'-0"	—
b40(E)	61	#5	29'-8"	—
b41(E)	97	#9	29'-8"	—
b42(E)	8	#5	14'-8"	—
b45(E)	1	#4	13'-5"	—
b46(E)	1	#4	14'-0"	—
d40(E)	46	#5	6'-5"	⌒
d41(E)	46	#5	8'-6"	⌒
e40(E)	20	#4	14'-8"	—
t40(E)	88	#4	12'-10"	—
w40(E)	40	#5	26'-8"	—
w41(E)	40	#5	29'-4"	—
Concrete Superstructure			Cu. Yd.	3.9
Concrete Superstructure (Approach Slab)			Cu. Yd.	59.4
Concrete Structure			Cu. Yd.	12.7
Reinforcement Bars, Epoxy Coated			Pound	24,870

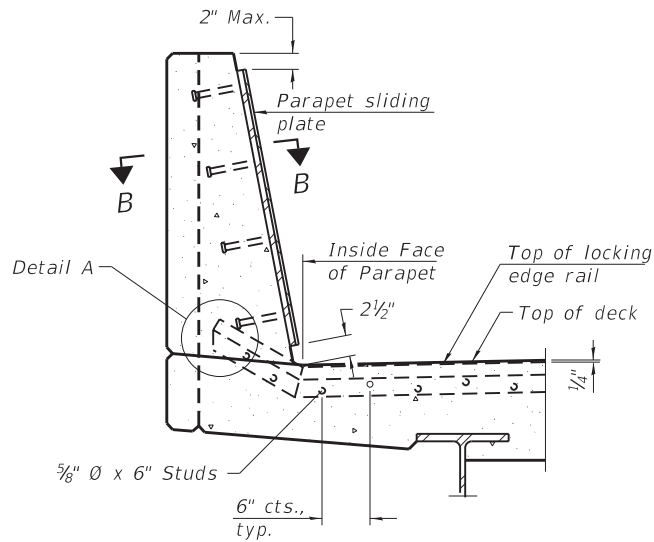
1 REVISED SHEET 4-9-2025

(Sheet 3 of 3)

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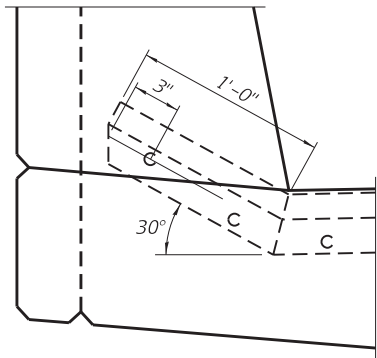


PLAN AT PARAPET

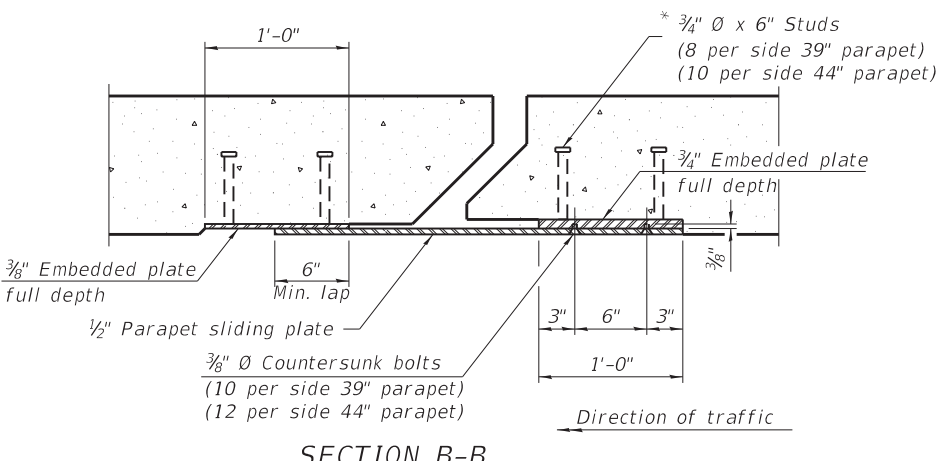


SECTION AT PARAPET

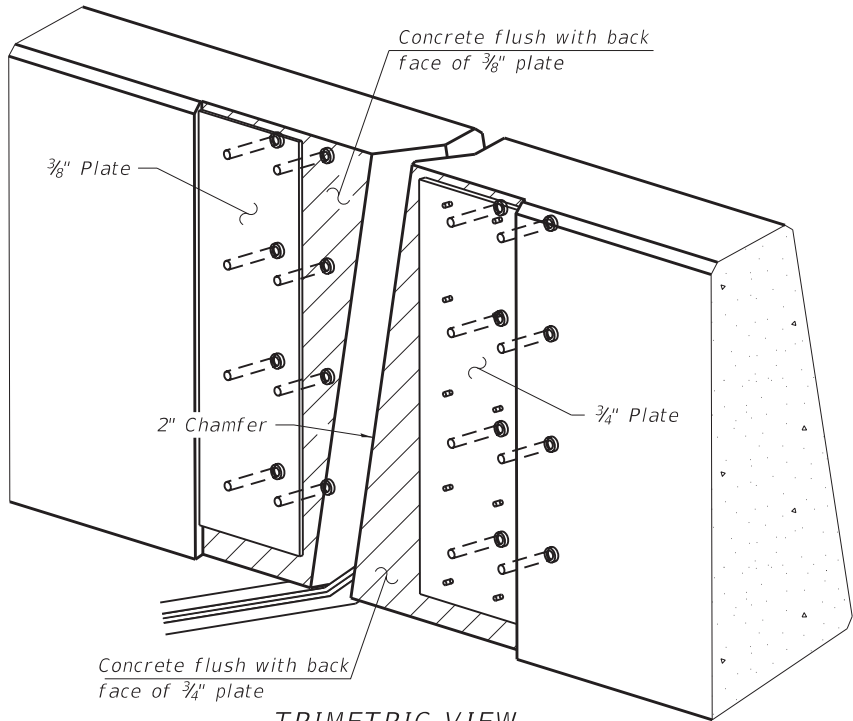
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A

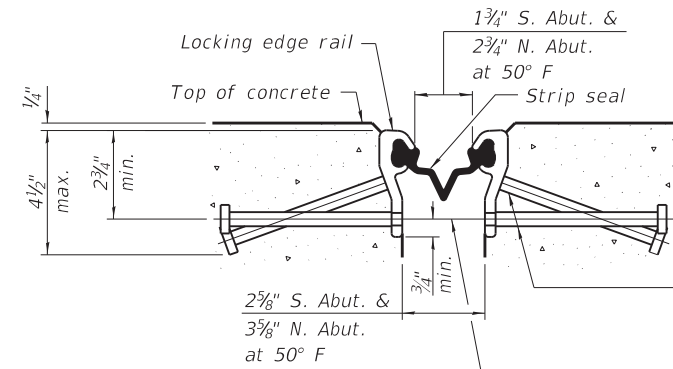


SECTION B-B



TRIMETRIC VIEW

(Showing embedded plates only)



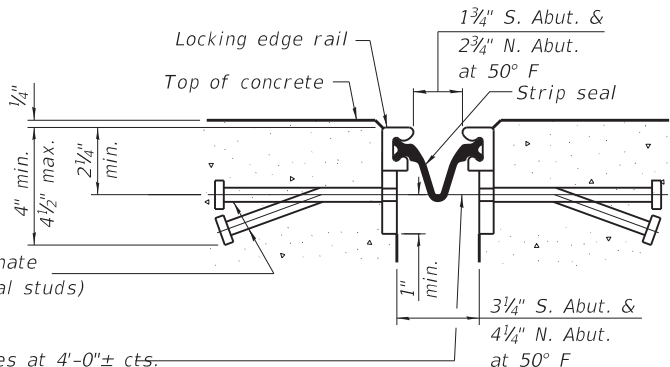
SHOWING ROLLED RAIL JOINT

* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

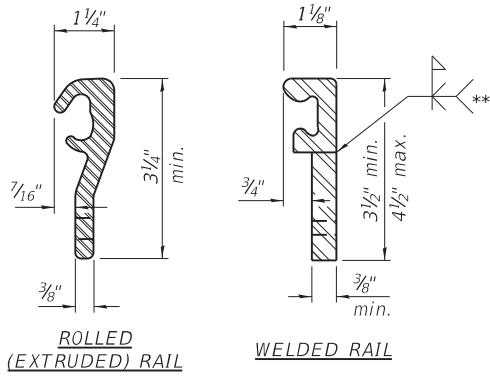
3/8" Ø threaded rods in 7/16" Ø holes at 4'-0"± cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

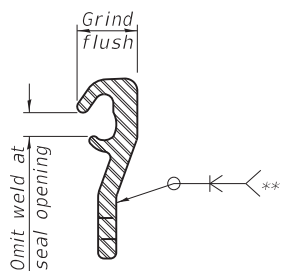


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	110

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

39" constant slope barrier shown, 44" constant slope barrier similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

EJ-SS

5-15-2023

1 REVISED SHEET 4-9-2025

MODEL: Default
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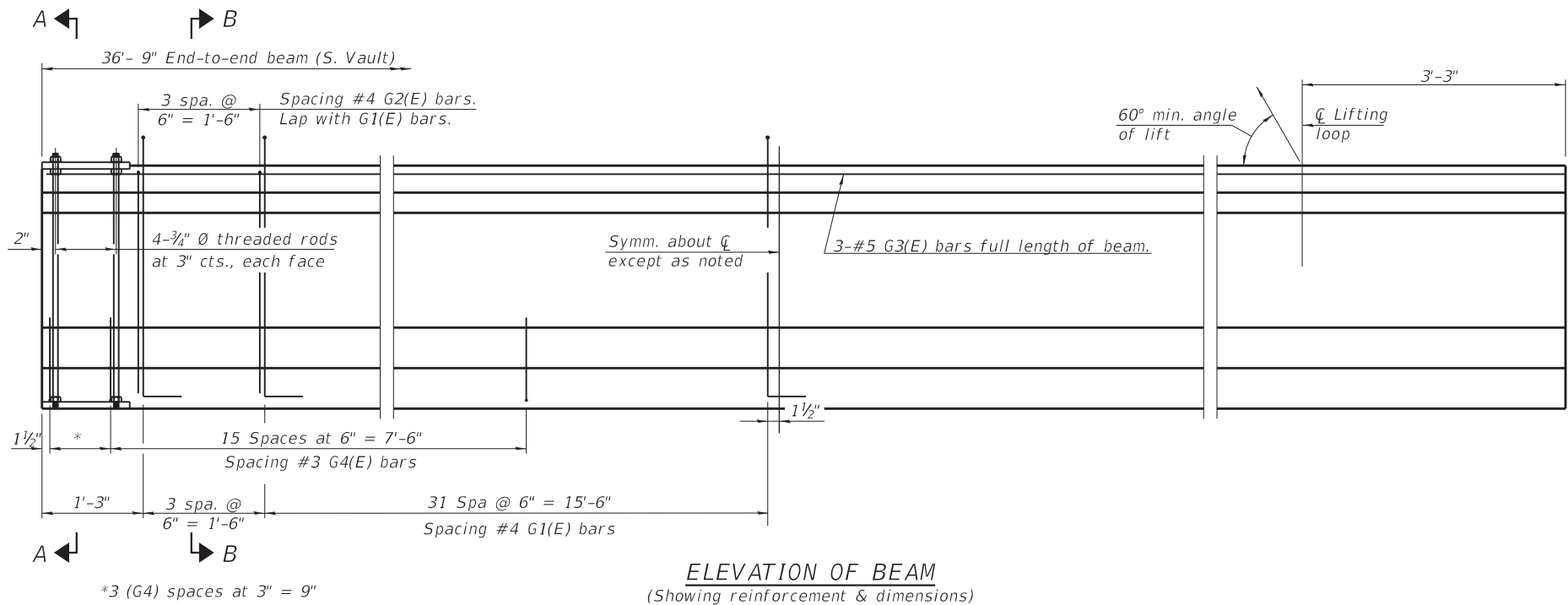
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PLOT DATE = 3/24/2025	CHECKED - JS	REVISED -
	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

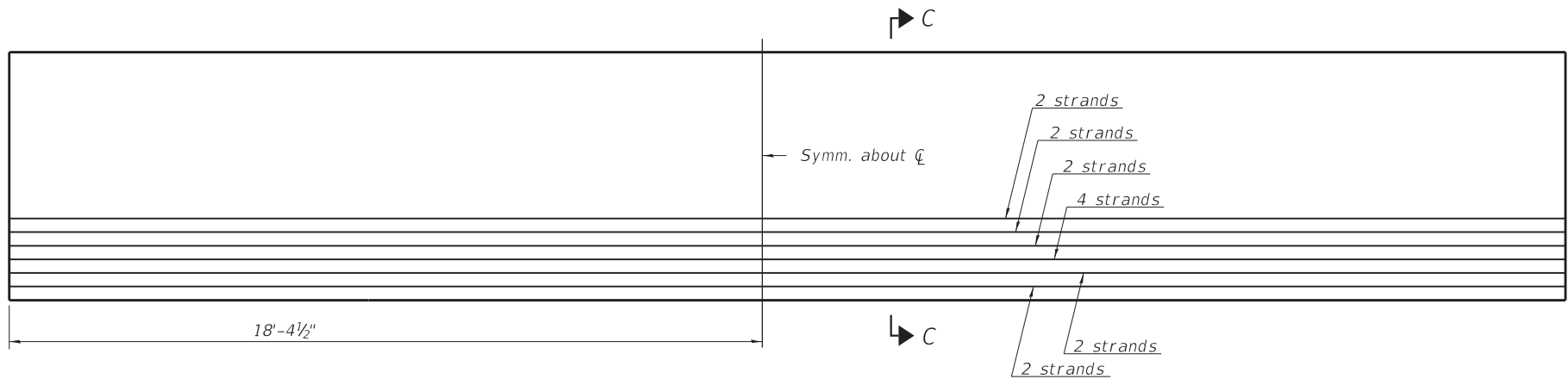
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 054-0050

SCALE: SHEET 21 OF 38 SHEETS STA. TO STA.

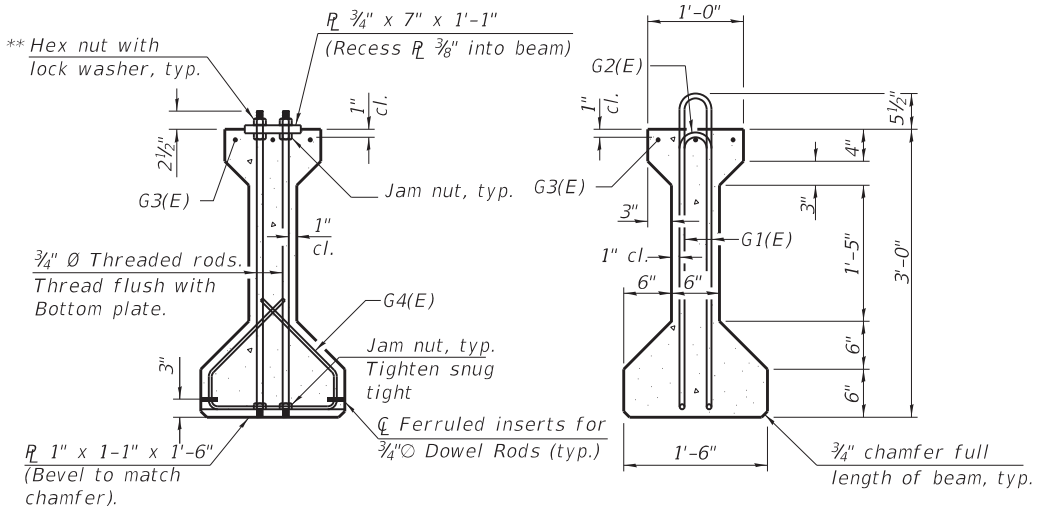
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	55
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



ELEVATION OF BEAM
(Showing reinforcement & dimensions)



ELEVATION OF BEAM
(Showing prestressing steel)



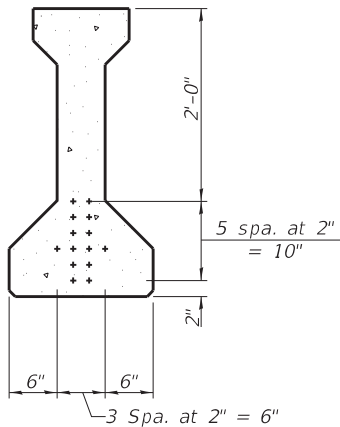
SECTION A-A

SECTION B-B

** Only tighten sufficiently to compress lock washers

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
G1(E)	72	#4	7'-7"	⏏
G2(E)	8	#4	5'-8"	⏏
G3(E)	3	#5	36'-6"	—
G4(E)	38	#3	4'-1"	⏏



SECTION C-C

(14 - 1/2" Ø 270 ksi strands)

Notes:
See sheet 23 of 38 for additional details and Bill of Material.

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I	(in ⁴)	48,647
I'	(in ⁴)	202,389
S _b	(in ³)	3,165
S _b '	(in ³)	13,011
S _t	(in ³)	2,358
S _t '	(in ³)	9,694
DC1	(k/')	1.141
M _{DC1}	('k)	183.1
DC2	(k/')	0.528
M _{DC2}	('k)	85
DW	(k/')	0.166
M _{DW}	('k)	27
LLDF	('k)	0.663
M _{L + IM}	('k)	419

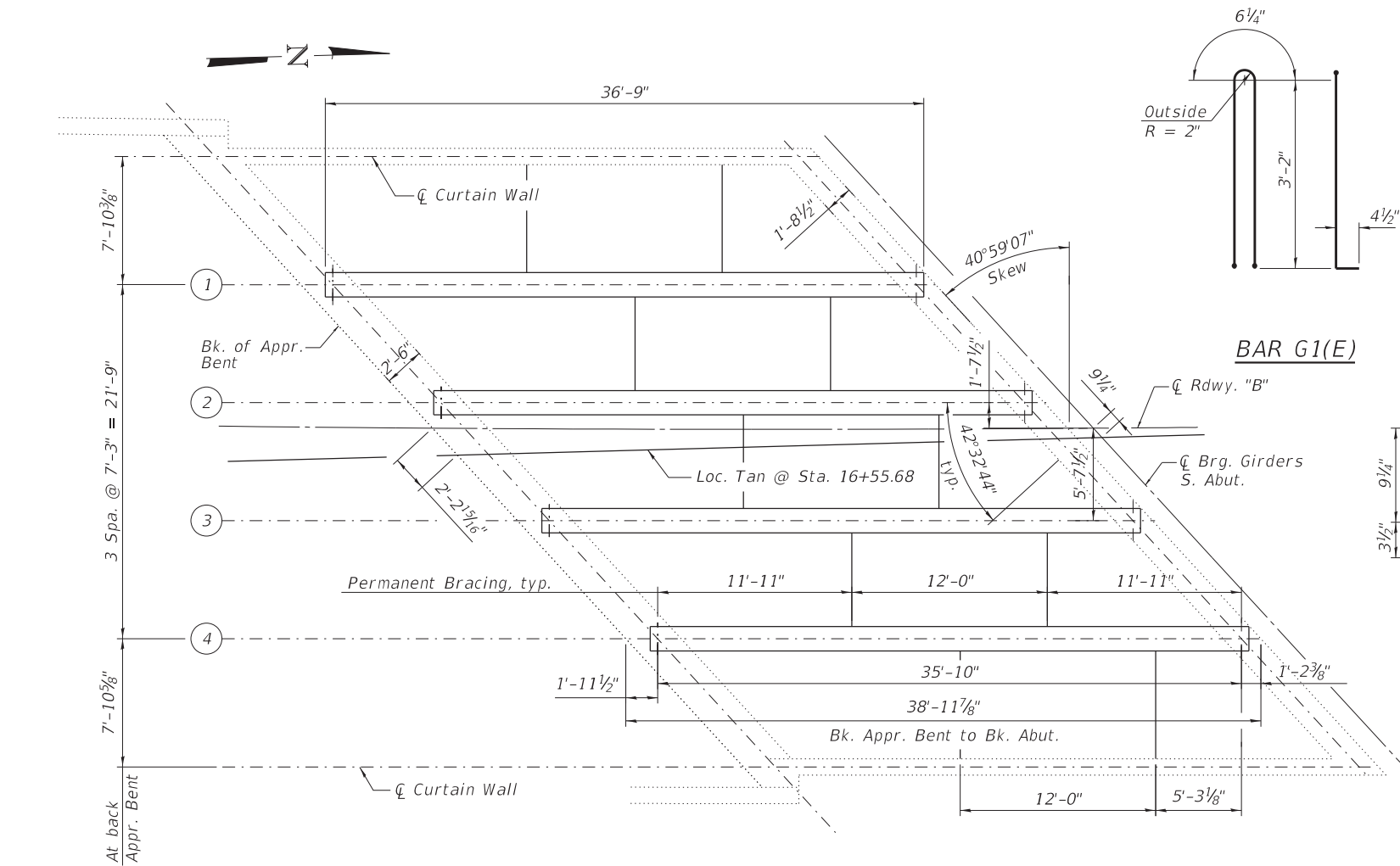
INTERIOR BEAM REACTION TABLE		
		Abutments
LLDF	(k)	0.917
OCF	(k)	1.086
R _{DC1}	(k)	20.5
R _{DC2}	(k)	20.8
R _{DW}	(k)	17.9
R _{L + IM}	(k)	75.4
R _{Total} (Strength I)(Impact)	(k)	210.4
R _{Total} (Strength I)(No Impact)	(k)	191.7

- I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
S_t: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
S_t': Composite section modulus for the top fiber of the prestressed beam (in.³).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

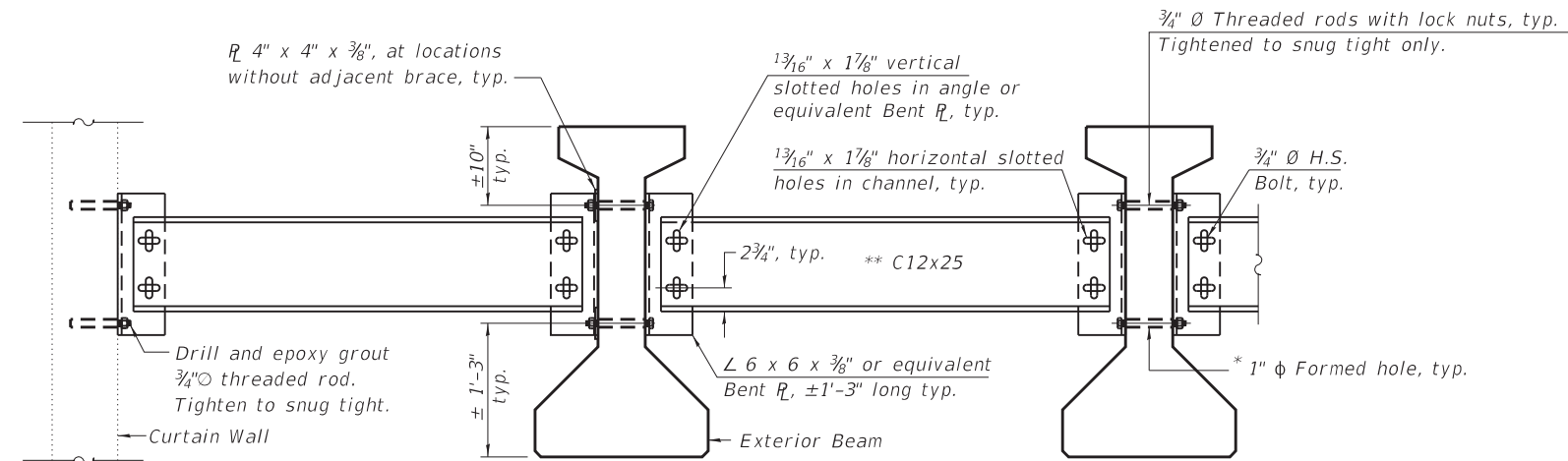
- LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.
M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
OCF: Obtuse Correction Factor computed according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.
R_{DC1}: Un-factored reaction due to non-composite dead load (kip).
R_{DC2}: Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).
R_{DW}: Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).
R_L: Un-factored live load reaction (kip).
R_{IM}: Un-factored dynamic load allowance (impact) (kip).
R_{Total} (Strength I)(Impact): Total factored reaction including dynamic load allowance (impact) (kip).
R_{Total} (Strength I)(No Impact): Total factored reaction not including dynamic load allowance (impact) (kip).

1 REVISED SHEET 4-9-2025

MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_50\054-0050-72220-023-South Vaulted Span Framing Plan.dgn



FRAMING PLAN



PERMANENT BRACING DETAILS FOR
36" PPC I-BEAMS

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.

Notes:
All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
Two hardened washers are required for each set of oversized holes.
All holes shall be 15/16" Ø unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232.
Threaded rods shall be ASTM F 1554 Grade 55.
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

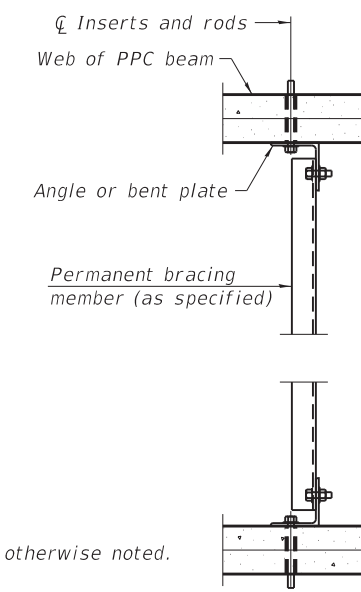
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH VAULTED SPAN FRAMING PLAN
STRUCTURE NO. 054-0050

SCALE: SHEET 23 OF 38 SHEETS STA. TO STA.



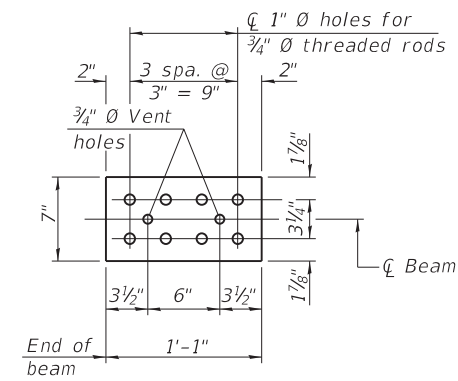
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DRAWN - DS	REVISED -	
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -



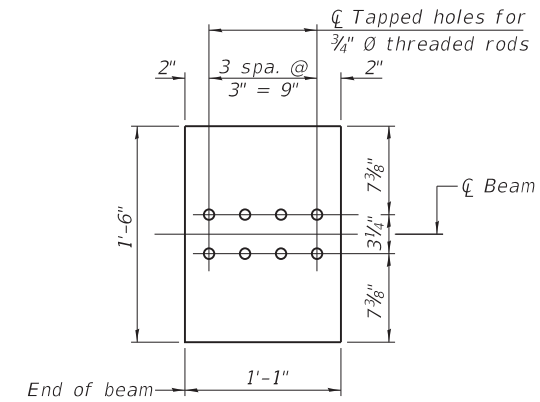
PLAN

NOTES

Inserts for 3/4" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
The beams shall have a final concrete compressive strength, f'c, of 6000 psi and a release concrete compressive strength, f'ci, of 4000 psi.
A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.
The top and bottom plates shall be AASHTO M270 Grade 50.
The top and bottom plates shall be galvanized according to AASHTO M111. The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.
Threaded rods shall be ASTM F 1554 Grade 55.
The G6(E) bar assembly shall develop, in tension, at least 125 percent of the yield strength of a grade 60 reinforcement bar times the nominal cross-sectional area of a #8 bar. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.

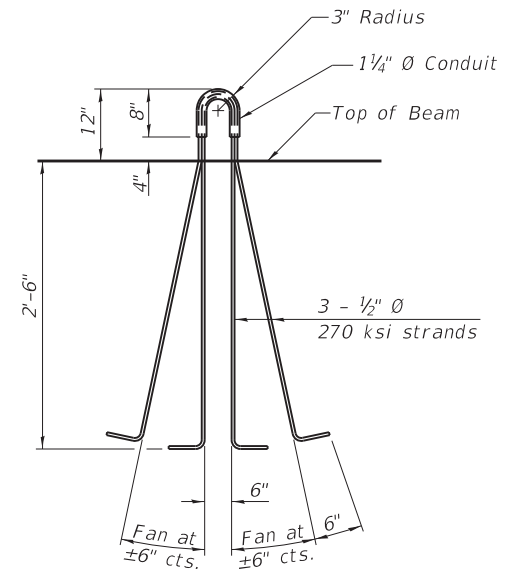


TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.



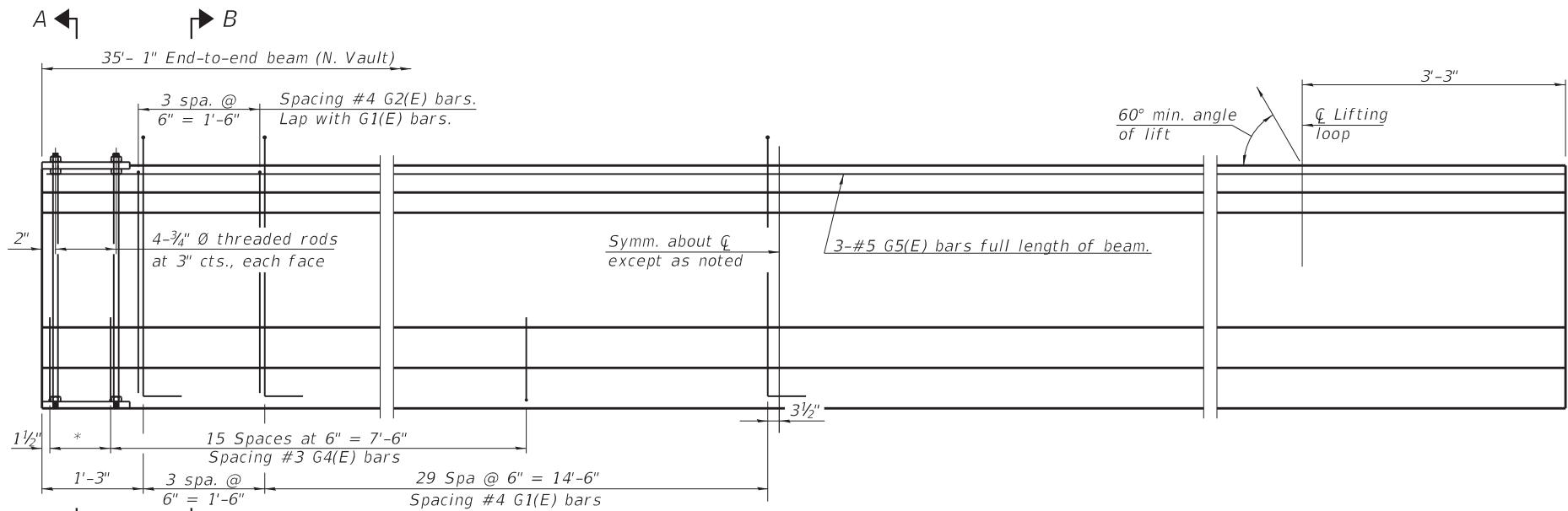
LIFTING LOOP DETAIL

BILL OF MATERIAL

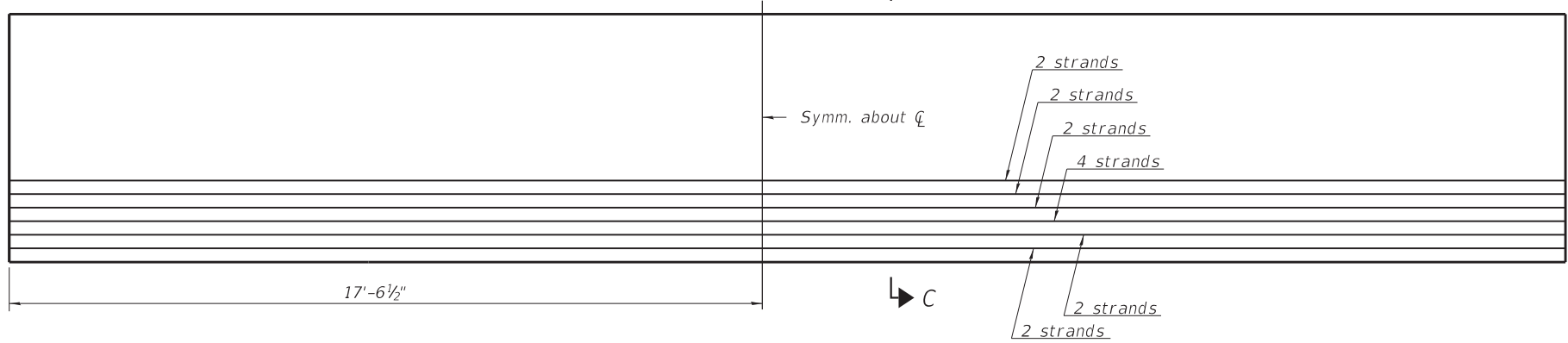
Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Ft.	147

REVISD SHEET 4-9-2025

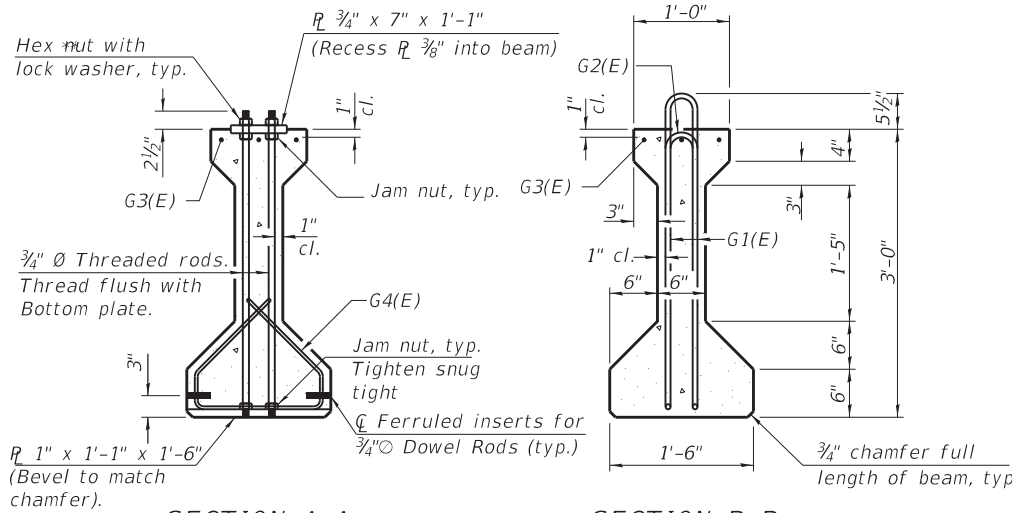
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	57
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



ELEVATION OF BEAM
(Showing reinforcement & dimensions)



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION A-A

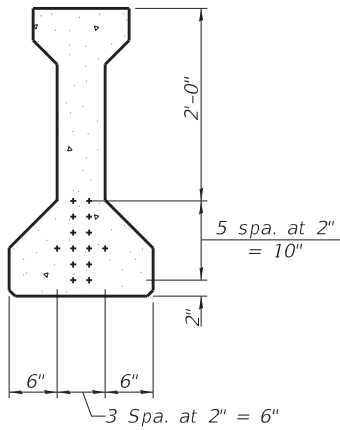
** Only tighten sufficiently to compress lock washers

SECTION B-B

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
G1(E)	66	#4	7'-7"	⏏
G2(E)	8	#4	5'-8"	⏏
G3(E)	3	#3	4'-1"	⏏
G4(E)	38	#5	34'-10"	—



SECTION C-C

(14 - 1/2" Ø 270 ksi strands)

Notes:
See sheet 25 of 38 for additional details and Bill of Material.

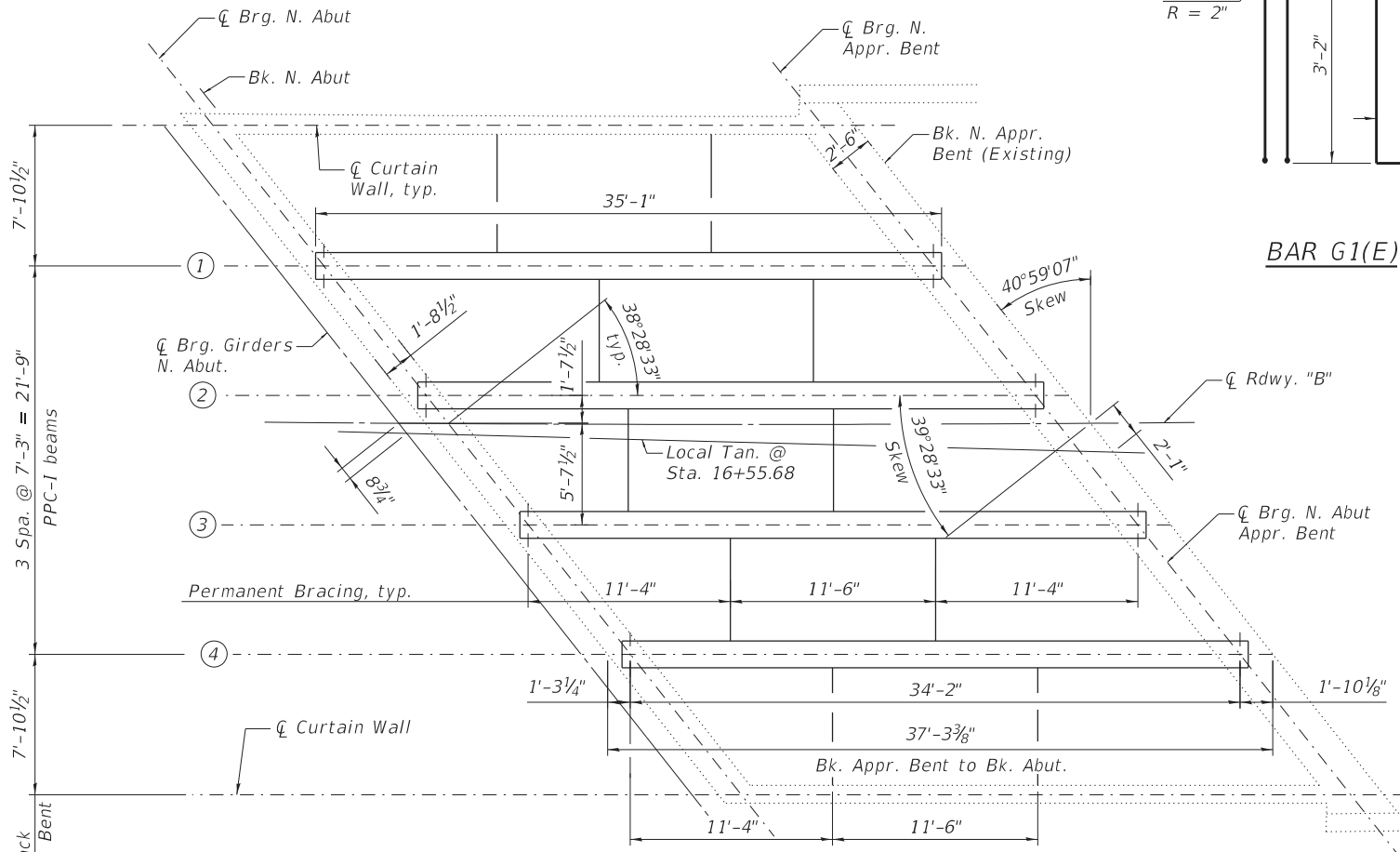
INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I	(in ⁴)	48,647
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S _b	(in ³)	3,165
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M _{DC2}	(k')	85
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M _{DW}	(k')	27
LLDF	(k')	0.663
M _{L + IM}	(k')	419

INTERIOR BEAM REACTION TABLE		
		Abutments
LLDF	(k)	0.917
OCF	(k)	1.086
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R _{Total} (Strength I)(Impact)	(k)	210.4
R _{Total} (Strength I)(No Impact)	(k)	191.7

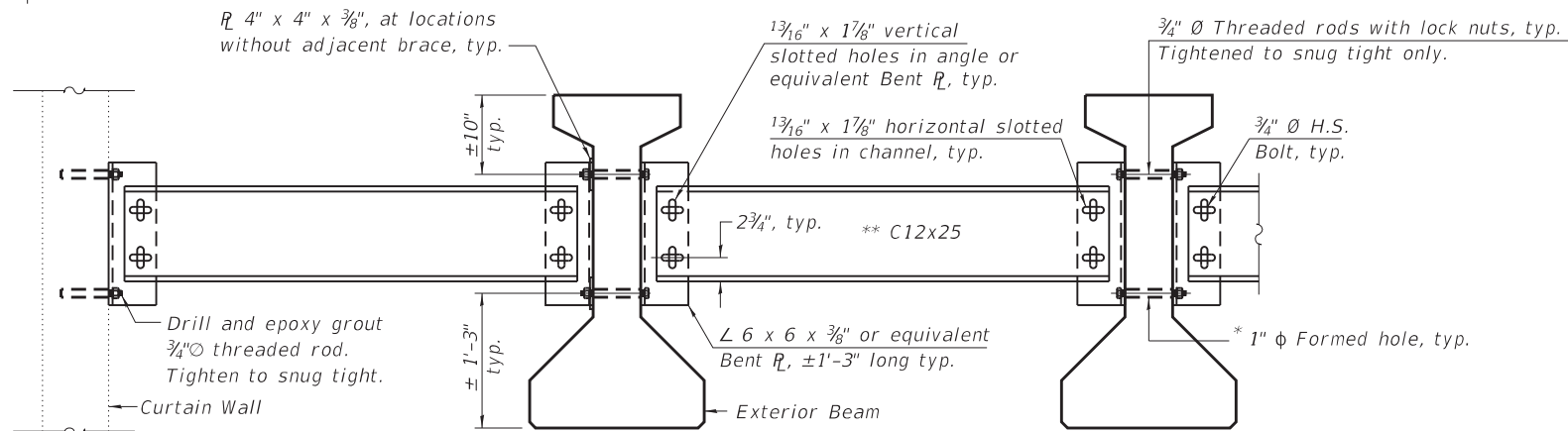
- I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
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S_t': Composite section modulus for the top fiber of the prestressed beam (in.³).
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M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
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M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

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M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
OCF: Obtuse Correction Factor computed according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.
R_{DC1}: Un-factored reaction due to non-composite dead load (kip).
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R_L: Un-factored live load reaction (kip).
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R_{Total} (Strength I)(Impact): Total factored reaction including dynamic load allowance (impact) (kip).
R_{Total} (Strength I)(No Impact): Total factored reaction not including dynamic load allowance (impact) (kip).

1 REVISED SHEET 4-9-2025



FRAMING PLAN



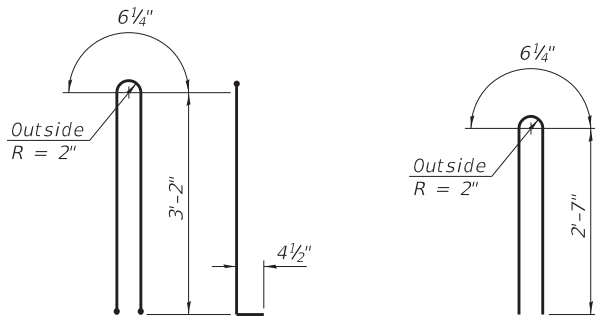
PERMANENT BRACING DETAILS FOR
36" PPC I-BEAMS

* Fabricator shall locate to miss strands
within permissible tolerances.

** Alternate C12x30 channels are permitted
to facilitate material acquisition.

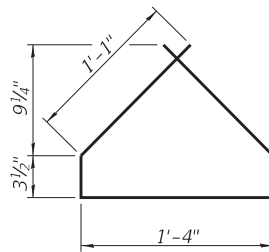
Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
Two hardened washers are required for each set of oversized holes.
All holes shall be 1 5/16" Ø unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232. Threaded rods shall be ASTM F 1554 Grade 55.
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

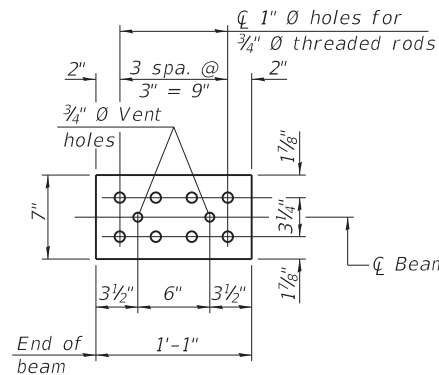


BAR G1(E)

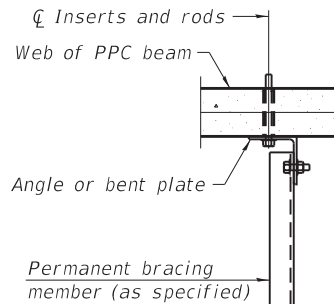
BAR G2(E)



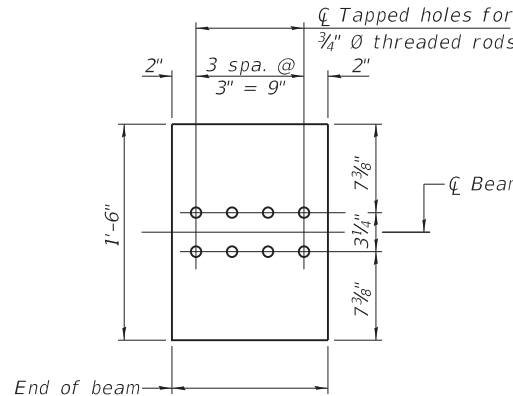
BAR G4(E)



TOP PLATE

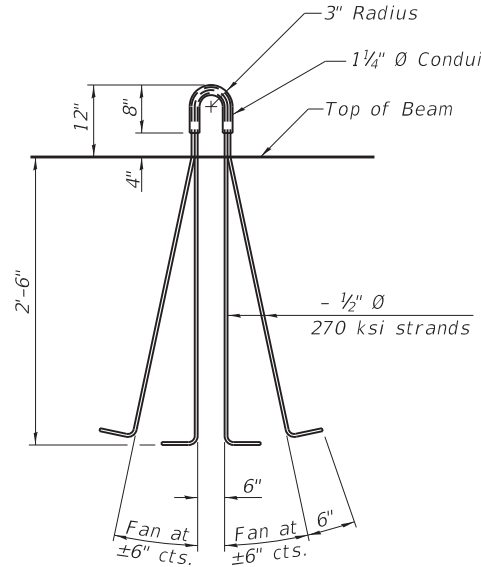


PLAN



BOTTOM PLATE

See bearing details for pintle
hole locations when required.



LIFTING LOOP DETAIL

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Foot	141

REVISED SHEET 4-9-2025

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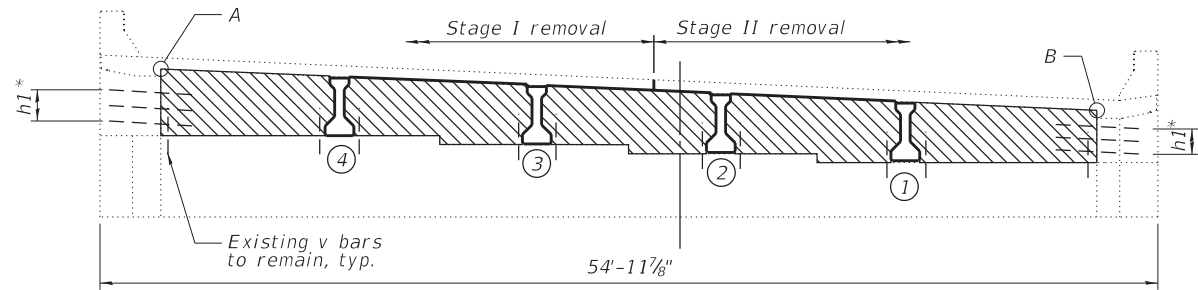
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PLOT DATE = 3/24/2025	CHECKED - JS	REVISED -
	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH VAULTED SPAN FRAMING PLAN
STRUCTURE NO. 054-0050

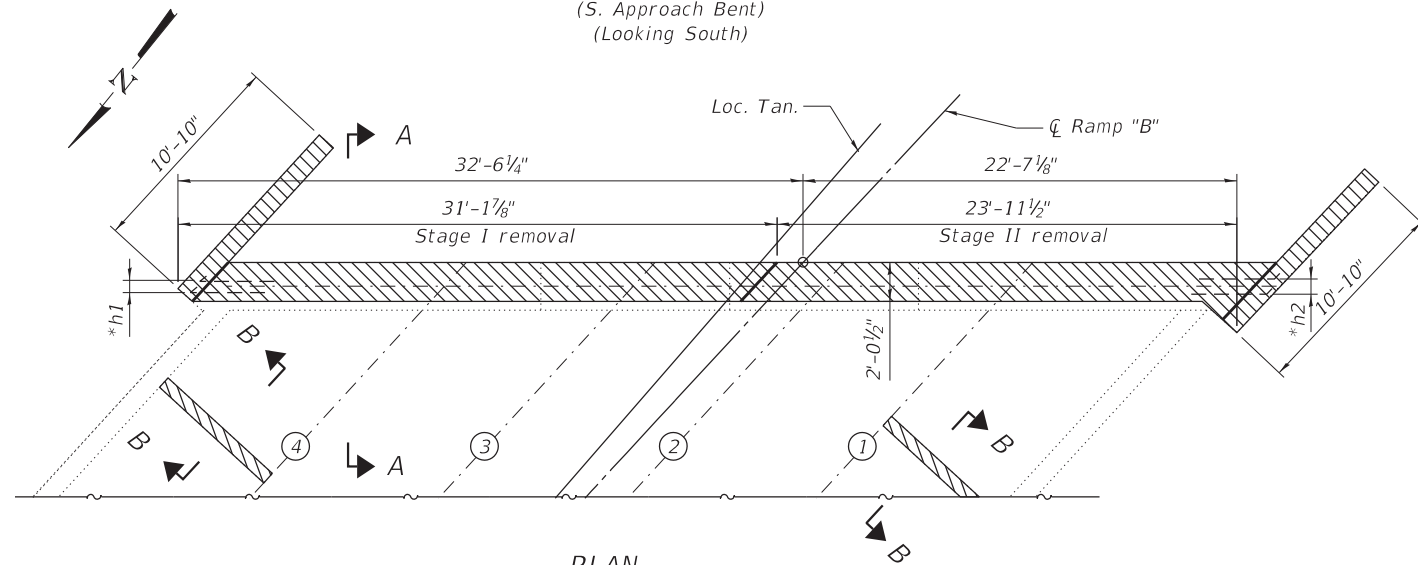
SCALE: SHEET 25 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	59
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

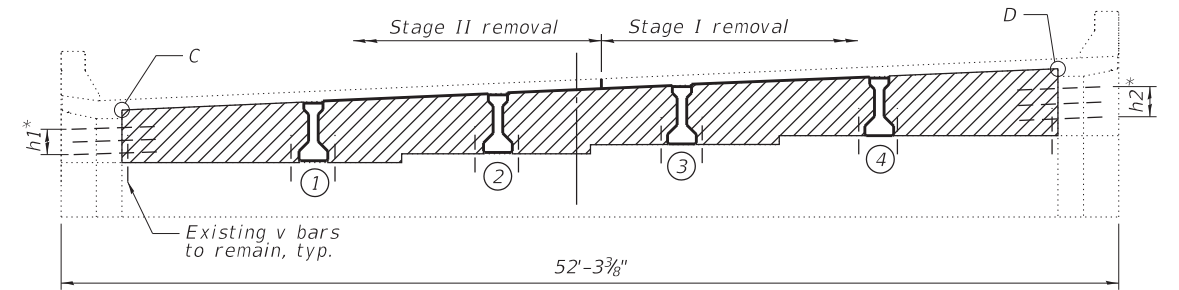


ELEVATION
(S. Approach Bent)
(Looking South)

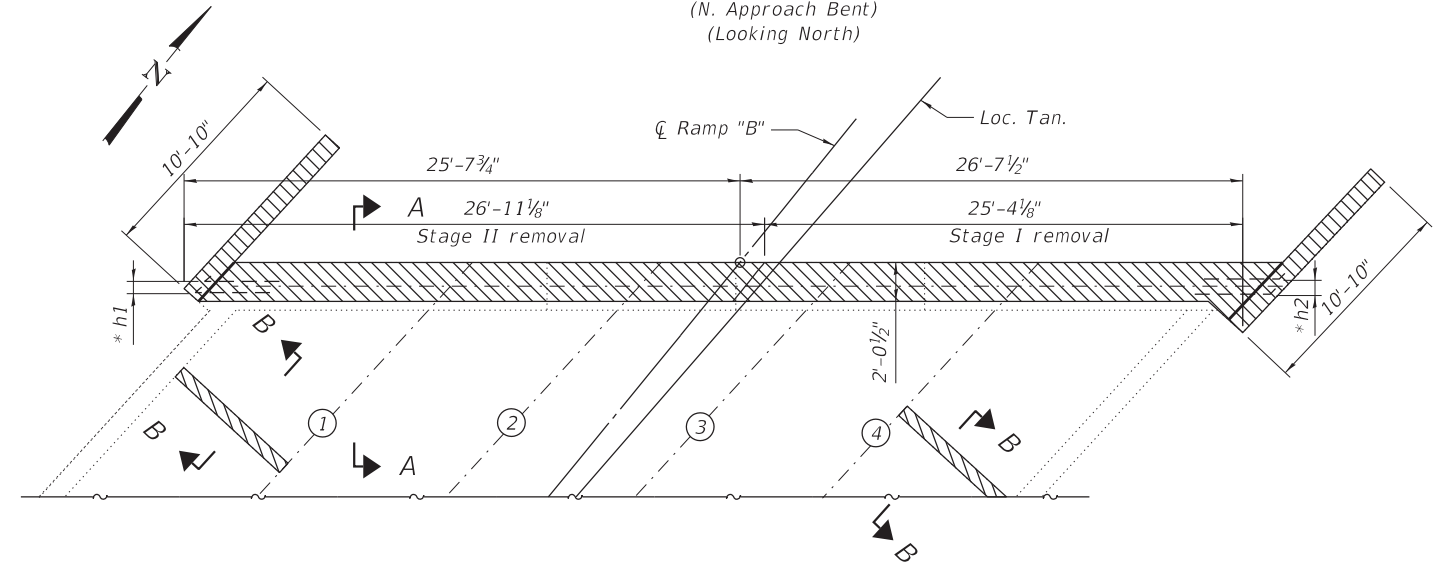
* Existing h1 and h2 bars to remain



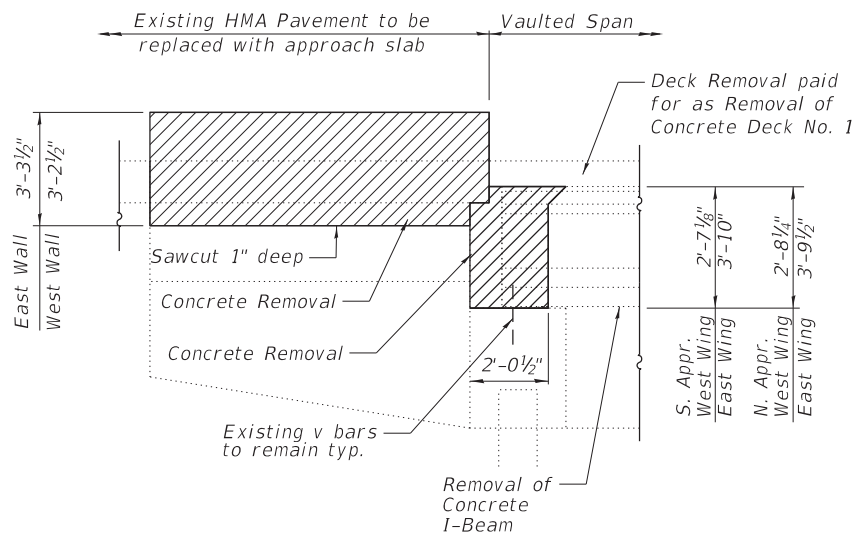
PLAN
(S. Approach Bent)



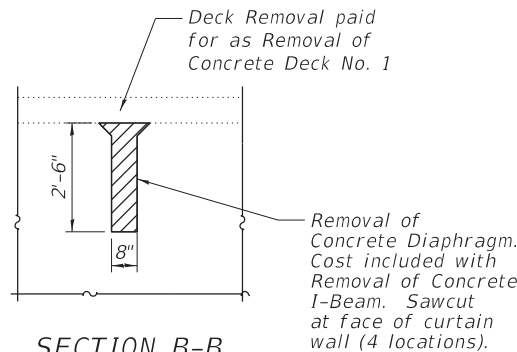
ELEVATION
(N. Approach Bent)
(Looking North)



PLAN
(N. Approach Bent)



SECTION A-A



SECTION B-B

EXIST. BEARING SEAT ELEVATIONS

Beam No.	S. Abutment	N. Abutment
1	±583.70	±583.67
2	±584.16	±584.10
3	±584.65	±584.56
4	±585.31	±585.04

**TOP OF EXISTING
DIAPHRAGM ELEVATIONS**

Point	S. Abutment	N. Abutment
A	±586.65	-
B	±586.37	-
C	-	±586.80
D	-	±588.94

Notes:
Burn the existing reinforcement bars at the top of the existing wingwalls flush with the concrete surface, grind smooth, and seal with epoxy.
Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	31.1

1 REVISED SHEET 4-9-2025

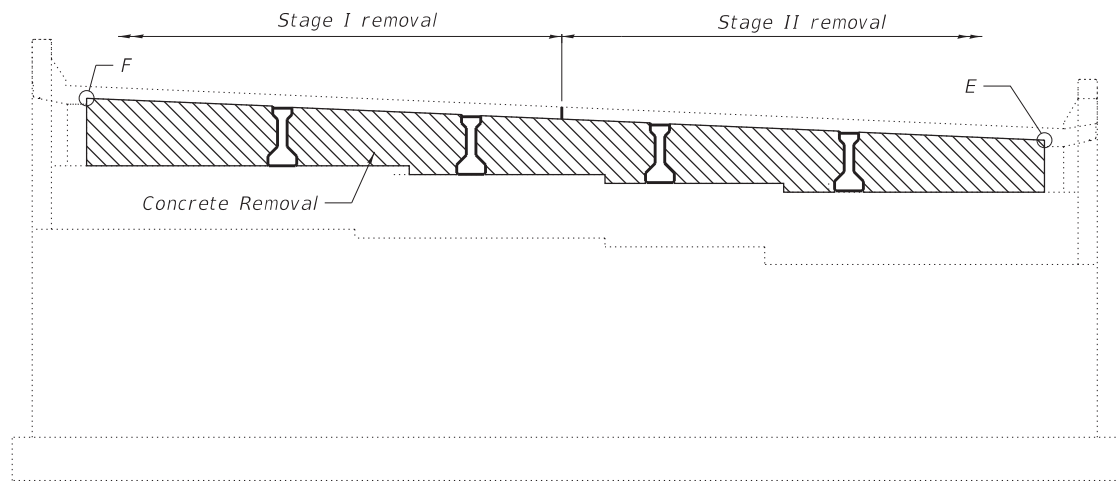
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONCRETE REMOVAL APPROACH BENTS
STRUCTURE NO. 054-0050**

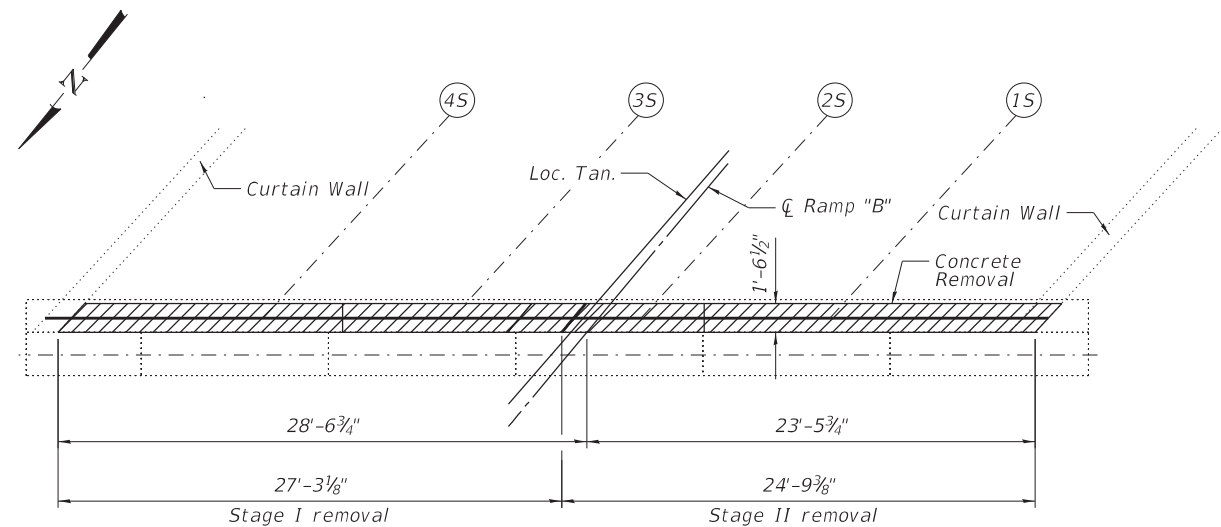
SCALE: SHEET 28 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	62
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

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	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -



ELEVATION
(S. Abutment)
(Looking South)



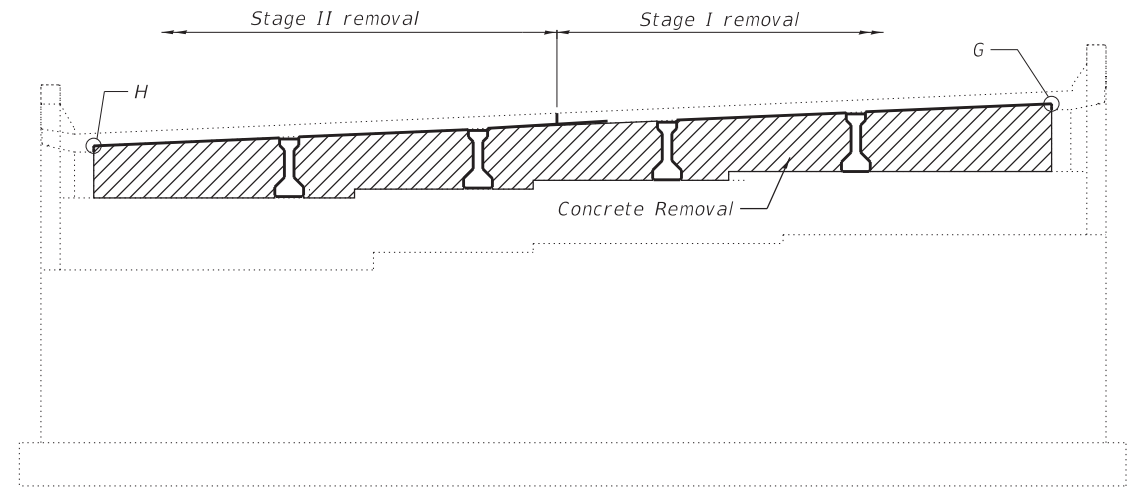
PLAN
(S. Abutment)

EXIST. BEARING SEAT ELEVATIONS

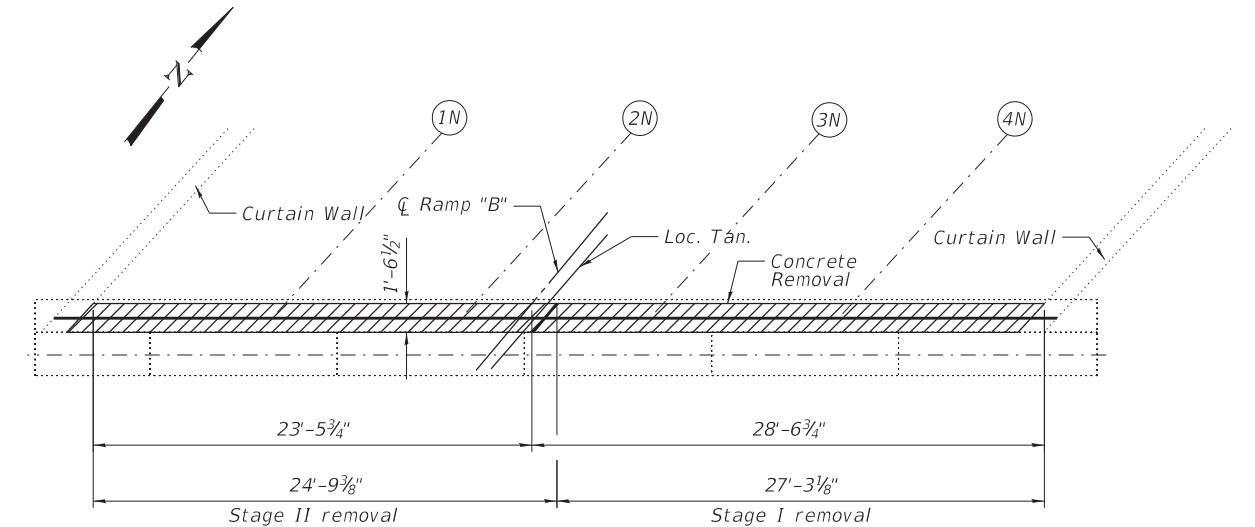
Beam No.	S. Abutment	N. Abutment
1	±583.87	±584.14
2	±584.33	±584.55
3	±584.81	±584.98
4	±585.27	±585.43

**TOP OF EXISTING
DIAPHRAGM ELEVATIONS**

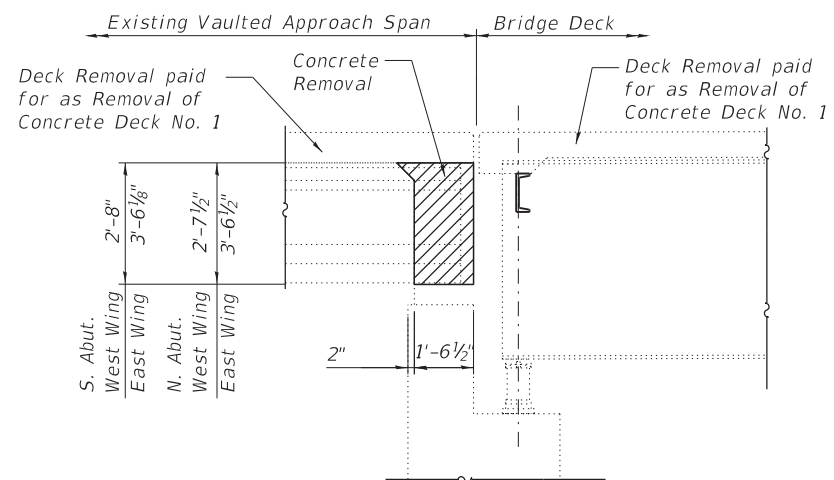
Point	S. Abutment	N. Abutment
E	±586.53	-
F	±588.78	-
G	-	±588.94
H	-	±586.77



ELEVATION
(N. Abutment)
(Looking North)



PLAN
(N. Abutment)



SECTION B-B

Notes:
Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	20.8

REVISED SHEET 4-9-2025

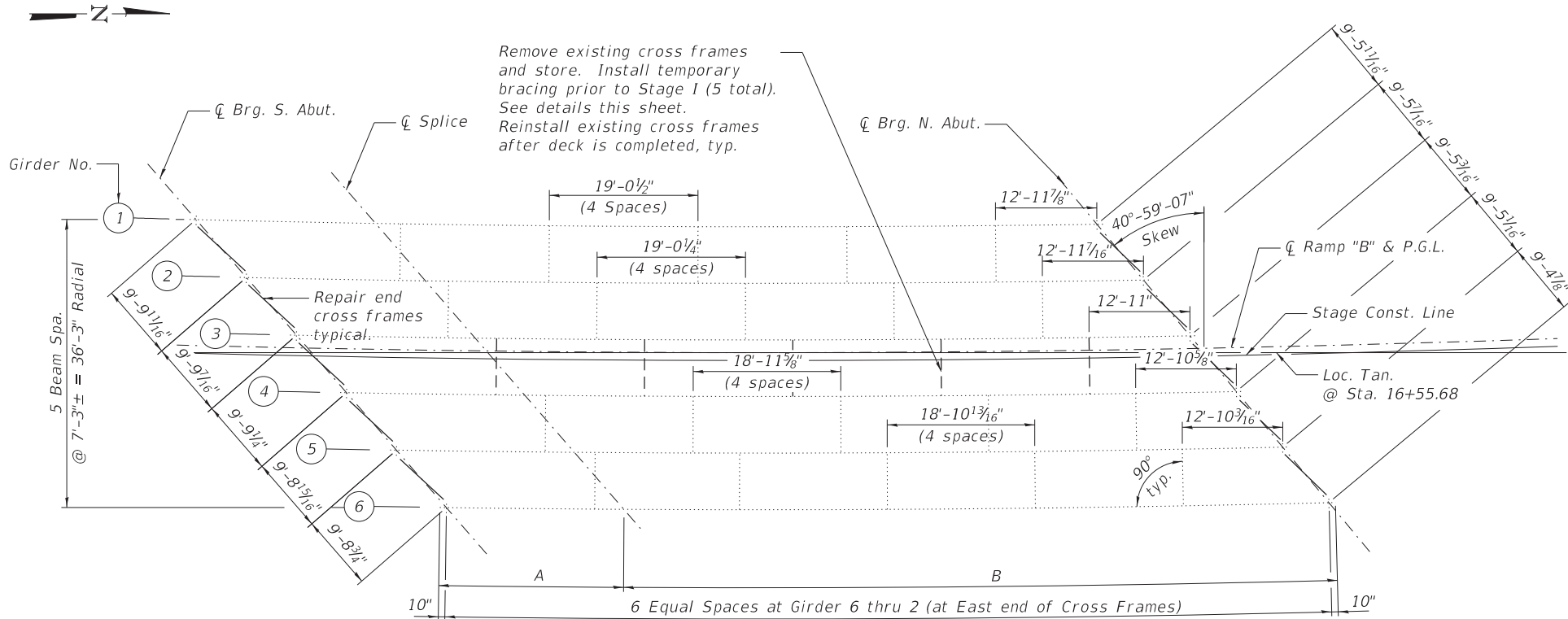
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL ABUTMENTS
STRUCTURE NO. 054-0050

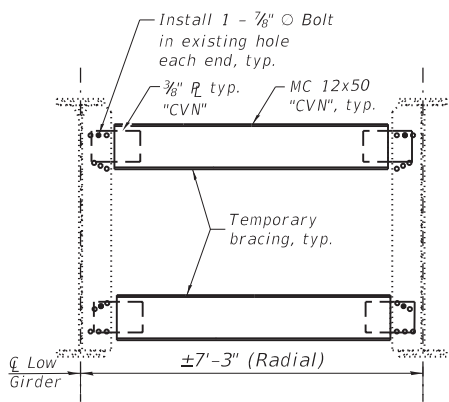
SCALE: SHEET 29 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	63
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

USER NAME = \$USERS	DESIGNED - RT	REVISED -
	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

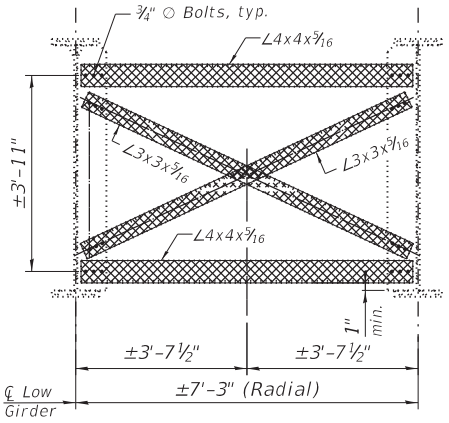


EXISTING MAIN SPAN FRAMING PLAN



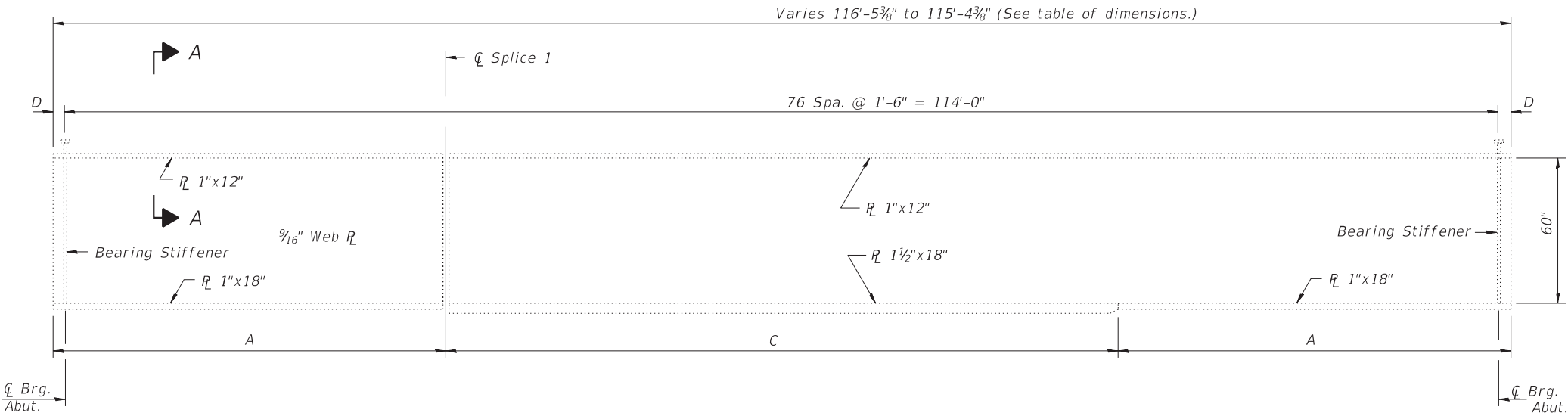
TEMPORARY BRACING DETAIL

Install temporary intermediate diaphragms between girder lines 3 & 4 prior to Stage I deck installation (5 Locations). Cost included with Structural Steel Repair. Remove braces and reinstall stored cross frames after Stage II deck slab is poured.



INTERMEDIATE CROSS FRAME DETAIL

Remove the intermediate diaphragms between girder lines 3 & 4 prior to Stage I deck removal (5 Locations). Cost included with Structural Steel Repair. Store the intermediate diaphragms and reinstall after Stage II deck slab is poured.



EXISTING GIRDER ELEVATION

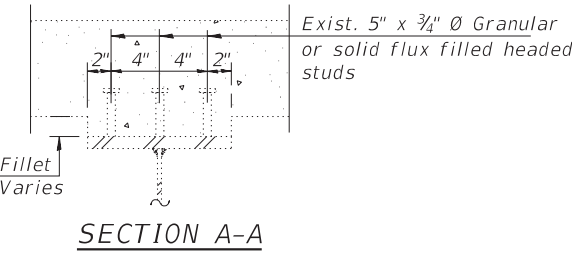


TABLE OF DIMENSIONS *

Dim.	G1	G2	G3	G4	G5	G6
A	23'-9 1/2"	23'-9"	23'-8 3/8"	23'-7 7/8"	23'-7 3/8"	23'-6 7/8"
B	92'-7 7/8"	92'-5 5/8"	92'-3 5/8"	92'-1 3/8"	91'-11 1/2"	91'-9 1/2"
C	68'-10 3/8"	68'-8 3/8"	68'-7 1/4"	68'-5 3/4"	68'-4 1/8"	68'-2 5/8"
D	1'-2 1/16"	1'-1 5/16"	1'-0"	10 3/4"	9 7/16"	7 3/16"
Radius	2860.665	2867.915	2875.165	2882.415	2889.665	2896.915
Length	116'-5 3/8"	116'-2 7/8"	116'-0"	116'-9 1/2"	115'-6 7/8"	115'-4 3/8"

* End to end of girder at CL girder.

Notes:
Any shear studs that are damaged by the Contractor's deck removal operations shall be replaced in kind or as directed by the Engineer. Cost included in Removal of Existing Concrete Deck No. 1.
See sheet 31 of 38 for additional cross frame details and detail legend.

1 REVISED SHEET 4-9-2025

MODEL Default
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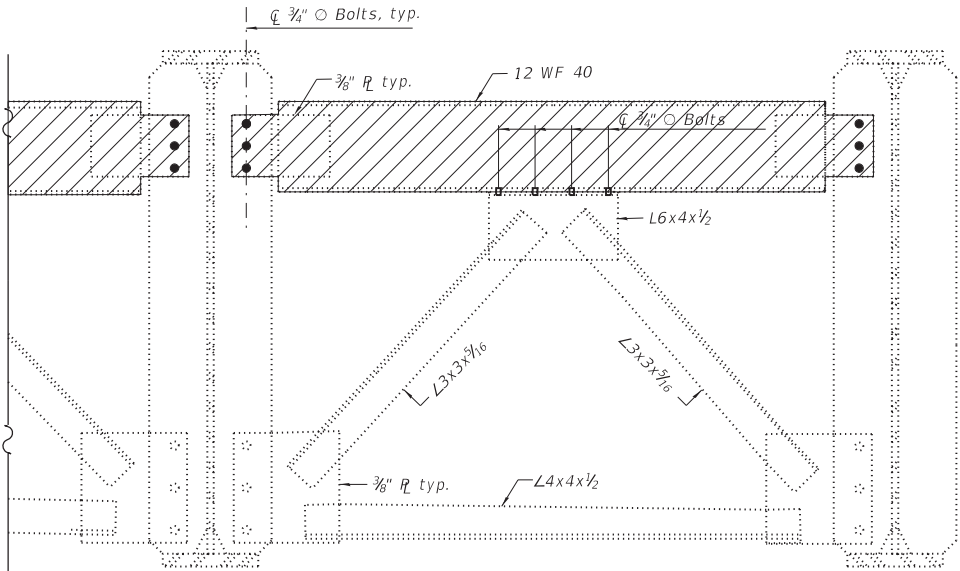
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN - MAIN SPAN
STRUCTURE NO. 054-0050

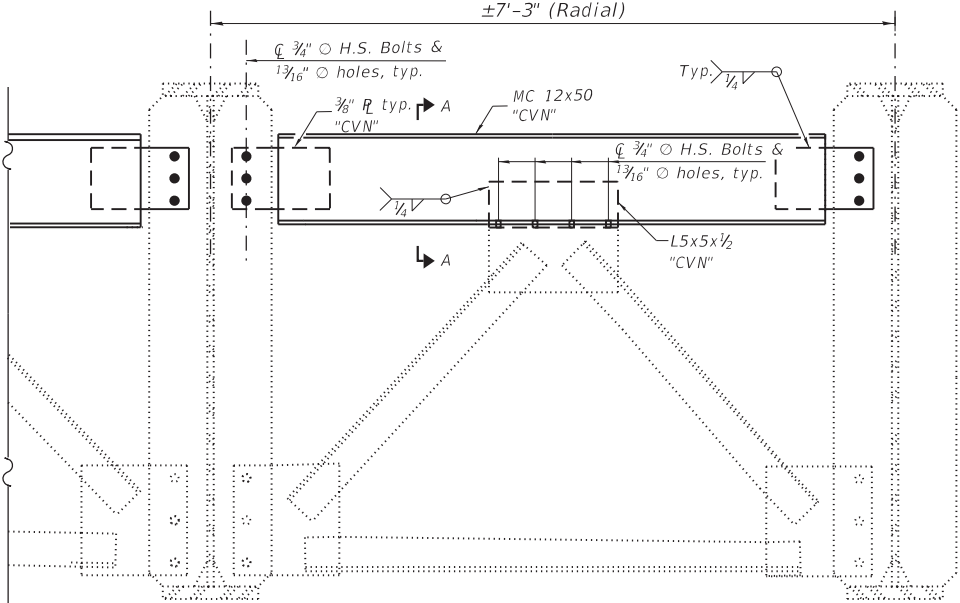
SCALE: SHEET 30 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	64
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



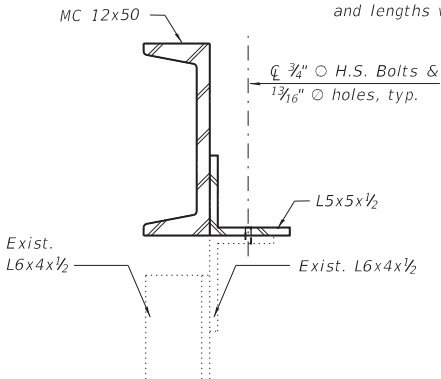
EXISTING END DIAPHRAGM PARTIAL REMOVAL DETAIL

Remove portion of each end diaphragm at both the N. Abut and S. Abut. (10 Locations). Cost included with Structural Steel Repair (North Abutment Shown, South Abutment Similar) Remove entire end diaphragm between girder lines 3 & 4 prior to Stage I deck removal. Store these two end diaphragms and reinstall after Stage II deck slab is poured.



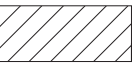
EXISTING END DIAPHRAGM REPAIR DETAIL

Cross frames are placed along C bearing and lengths vary. Field measure each location prior to fabrication.

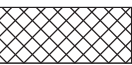


SECTION A-A

LEGEND



To be Removed



Remove prior to Stage I Deck removal, store existing cross frames in a covered area and reinstall existing cross frames after Stage II deck pour is complete.

BOLT HOLE LEGEND

- - Bolts to be removed or installed.

Note:

- Two hardened washers for each diaphragm connection
- Load carrying components designated "CVN" shall conform to the Charpy-V Notch Impact Energy Requirement, Zone 2.
- Reinstall end diaphragms prior to the concrete deck pour in each stage except at the stage construction bay. Install the proposed staged construction bay end diaphragm steel after the both stages of the deck pour are complete.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	9,310

GIRDER MOMENT TABLE		
		0.5 Span 1
		Interior Exterior
I_s	(in ⁴)	43,862
$I_c(n)$	(in ⁴)	112,452
$I_c(3n)$	(in ⁴)	79,752
$I_c(cr)$	(in ⁴)	—
S_s	(in ³)	1,173
$S_c(n)$	(in ³)	2,355
$S_c(3n)$	(in ³)	2,156
$S_c(cr)$	(in ³)	—
S_x	(in ³)	0
DC1	(k'/')	0.960 0.960
M_{DC1}	('k)	1,605 1,726
DC2	(k'/')	0.175 0.175
M_{DC2}	('k)	288 309
DW	(k'/')	0.180 0.140
M_{DW}	('k)	278 266
LLDF		— —
$M_L + IM$	('k)	1,948 2,282
f_t (Strength I)	(ksi)	4.33 4.33
$M_u + 1/3 f_t S_x$	('k)	6,192 6,936
$\phi_f M_n$	('k)	8,743 8,770
f_s DC1	(ksi)	16.41 17.66
f_s DC2	(ksi)	1.60 1.72
f_s DW	(ksi)	1.55 1.48
f_s ($\ell_t + IM$)	(ksi)	9.93 11.63
f_t (Service II)	(ksi)	3.33 2.36
$f_s + f_t / 2$ (Service II)	(ksi)	34.13 37.15
Service II Resistance	(ksi)	47.5 47.5
$f_s + f_t / 3$ (Strength I)	(ksi)	43.7 48.2
$\phi_r F_n$	(ksi)	— —
V_f	(k)	19.8 24.0

GIRDER REACTION TABLE		
	Abut.	
	Interior	Exterior
LLDF	—	—
OCF	—	—
R_{DC1}	(k)	55.7 58.8
R_{DC2}	(k)	9.6 10.6
R_{DW}	(k)	9.8 8.8
R_L	(k)	76.6 82.8
R_{IM}	(k)	17.4 17.8
R_{Total} (Strength I)(Impact)	(k)	260.8 276.0
R_{Total} (Strength I)(No Impact)	(k)	230.4 244.9

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- S_x : Section modulus about the major axis of a section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.
- $M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u : Strength I load combination of factored design moments (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L$
- f_t : Factored calculated flange lateral bending stress as calculated using Article 6.10.1.6 and as further simplified by IDOT provisions (ksi).
- $\phi_r M_n$: Factored nominal flexural resistance of the section determined as specified in Article 6.10.7.1 or A6 as applicable (kip-ft.).

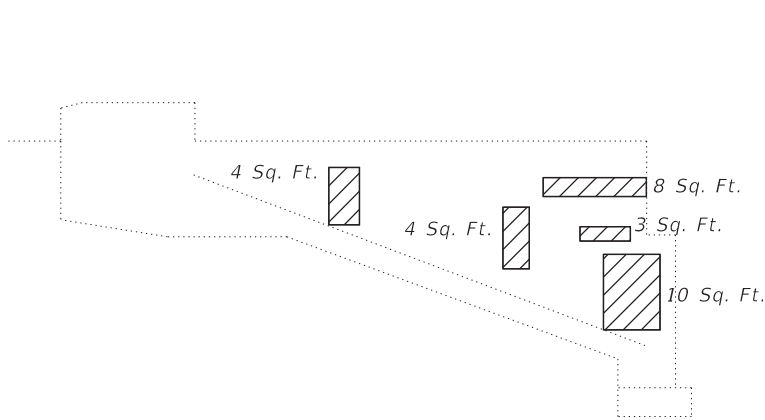
- f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_s
- f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
- f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
- f_s ($\ell_t + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
 $M_L + IM / S_c(n)$ or $M_L + IM / S_c(cr)$ as applicable.
- $f_s + f_t / 2$ (Service II): Sum of stresses as computed below (ksi).
 f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s ($\ell_t + IM$) + $f_t / 2$
- Service II Resistance: Composite (0.95 $R_h F_{yf}$) or noncomposite (0.80 $R_h F_{yf}$) stress capacity according to Article 6.10.4.2 (ksi).
- $f_s + f_t / 3$ (Strength I): Sum of stresses as computed below on non-compact sections (ksi).
1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s ($\ell_t + IM$) + $f_t / 3$
- $\phi_r F_n$: Factored nominal flexural resistance of the section as specified in Article 6.10.7.2 or 6.10.8 as applicable (ksi).
- V_f : Maximum factored shear range in span computed according to Article 6.10.10.
- OCF: Obtuse Correction Factor computed according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.
- R_{DC1} : Un-factored reaction due to non-composite dead load (kip).
- R_{DC2} : Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).
- R_{DW} : Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).
- R_L : Un-factored live load reaction (kip).
- R_{IM} : Un-factored dynamic load allowance (impact) (kip).
- R_{Total} (Strength I)(Impact): Strength I load combination of factored design reactions (kip).
1.25 ($R_{DC1} + R_{DC2}$) + 1.5 R_{DW} + 1.75 ($R_L + R_{IM}$)
- R_{Total} (Strength I)(No Impact): Strength I load combination of factored design reactions, not including dynamic load allowance (Impact) (kip).
1.25 ($R_{DC1} + R_{DC2}$) + 1.5 R_{DW} + 1.75 (R_L)

Note:

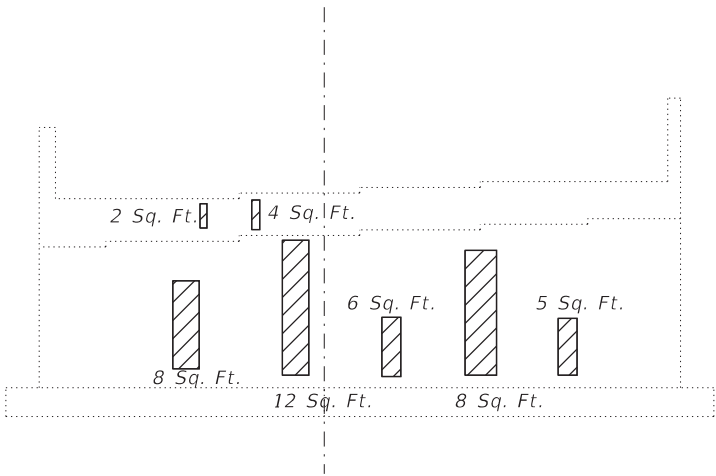
M_L and R_L include the effects of centrifugal force and superelevation.

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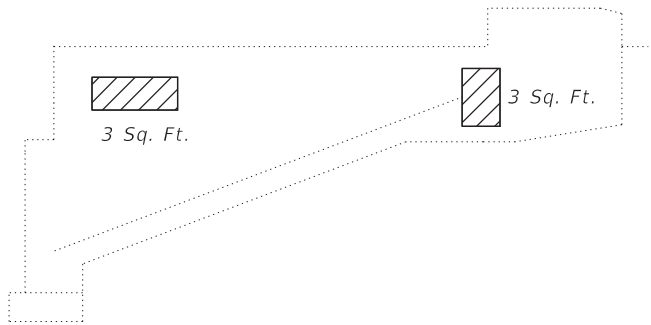
STRUCTURAL REPAIR DETAILS				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STRUCTURE NO. 054-0050				155	(54-4HB)D	LOGAN	133	65
				CONTRACT NO. 72220				
				ILLINOIS FED. AID PROJECT				



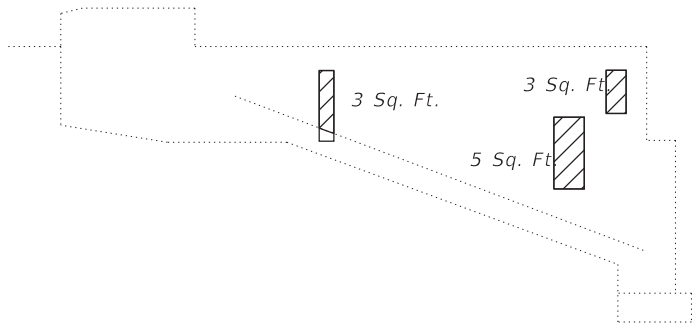
WEST CURTAIN WALL



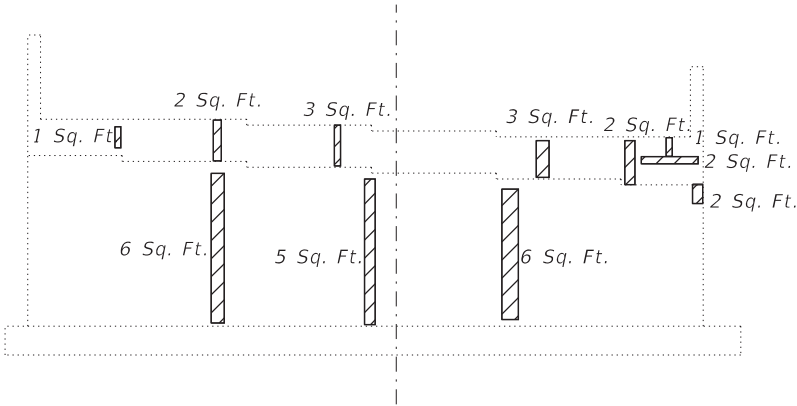
NORTH ABUTMENT



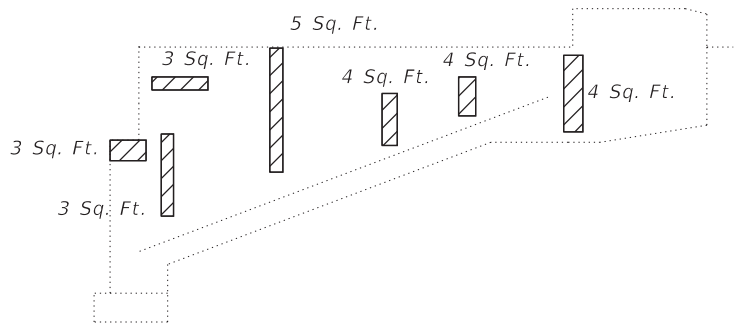
EAST CURTAIN WALL



EAST CURTAIN WALL



SOUTH ABUTMENT



WEST CURTAIN WALL

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	150

1 REVISED SHEET 4-9-2025

MODEL: Default
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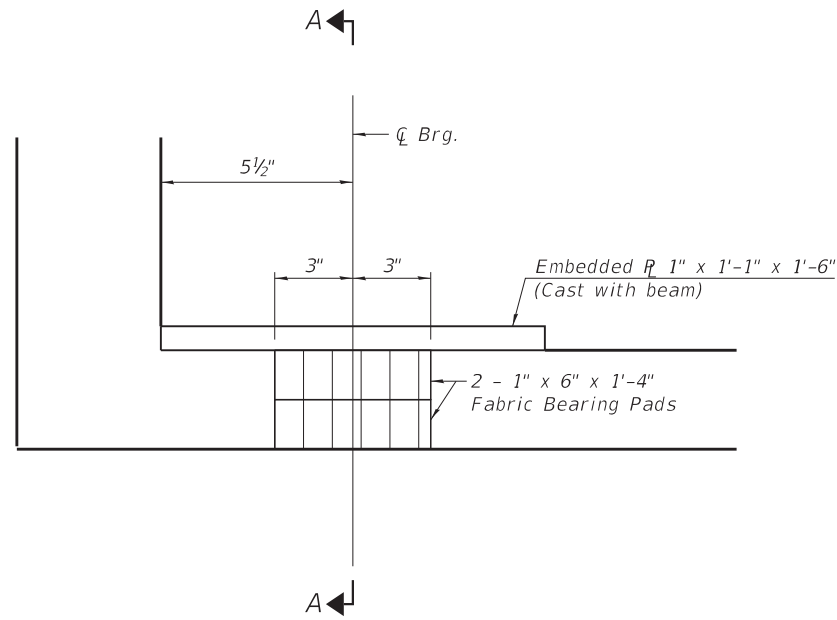
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

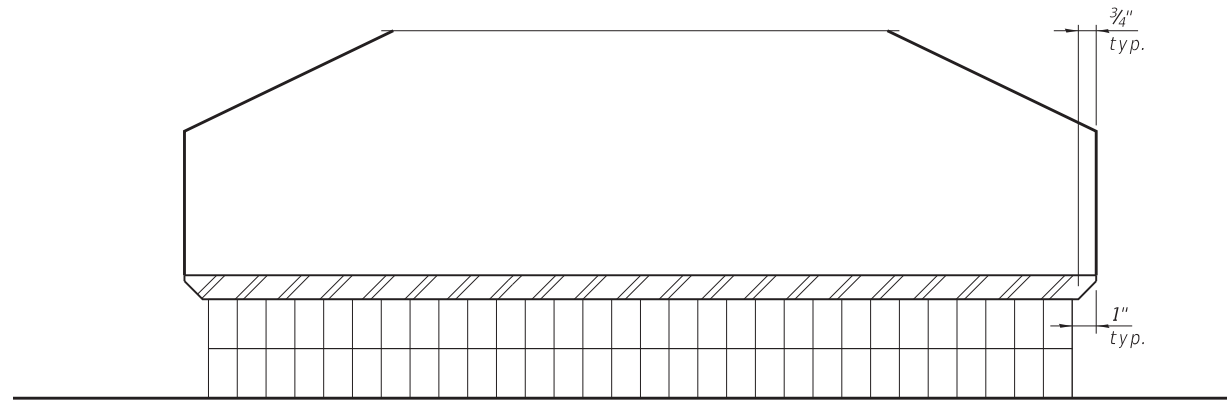
ABUTMENT REPAIR DETAILS
STRUCTURE NO. 054-0050

SCALE: SHEET 32 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	66
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUTMENT



SECTION A-A

Notes:
See sheets 22 & 24 of 38 for additional details of embedded plate.
Fabric bearing pads shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 Inches.

1 REVISED SHEET 4-9-2025

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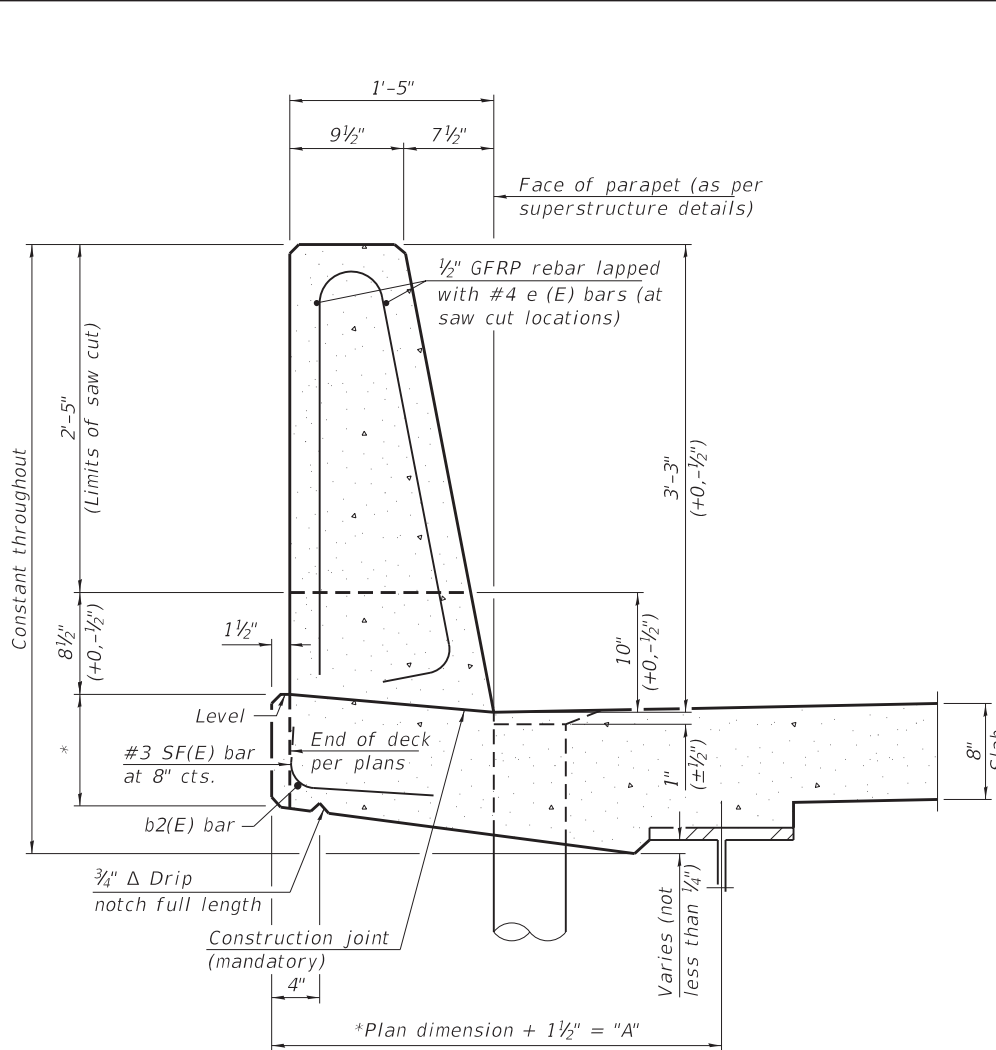


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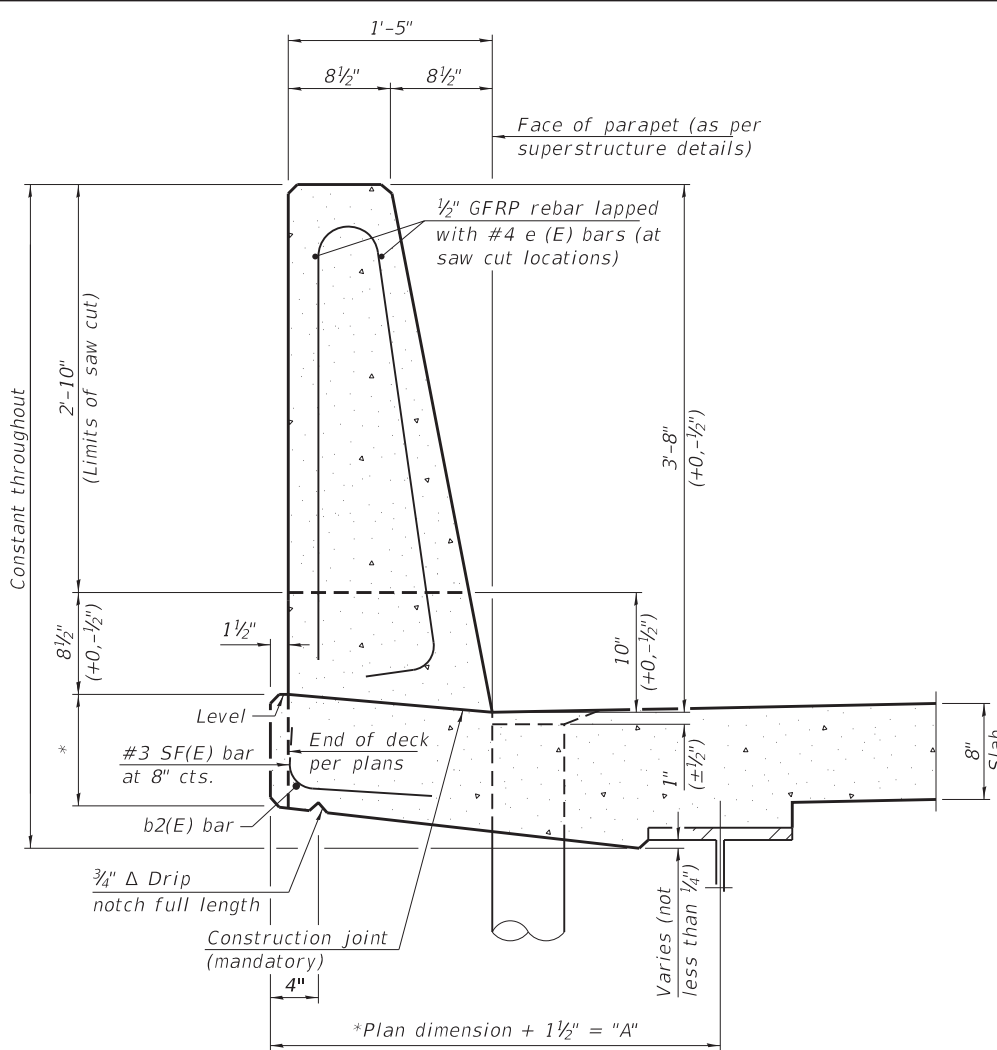
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PPC I-BEAM FIXED BEARING DETAILS STRUCTURE NO. 054-0050			
SCALE:	SHEET 35 OF 38 SHEETS	STA.	TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	69
CONTRACT NO. 72220				
		ILLINOIS	FED. AID PROJECT	

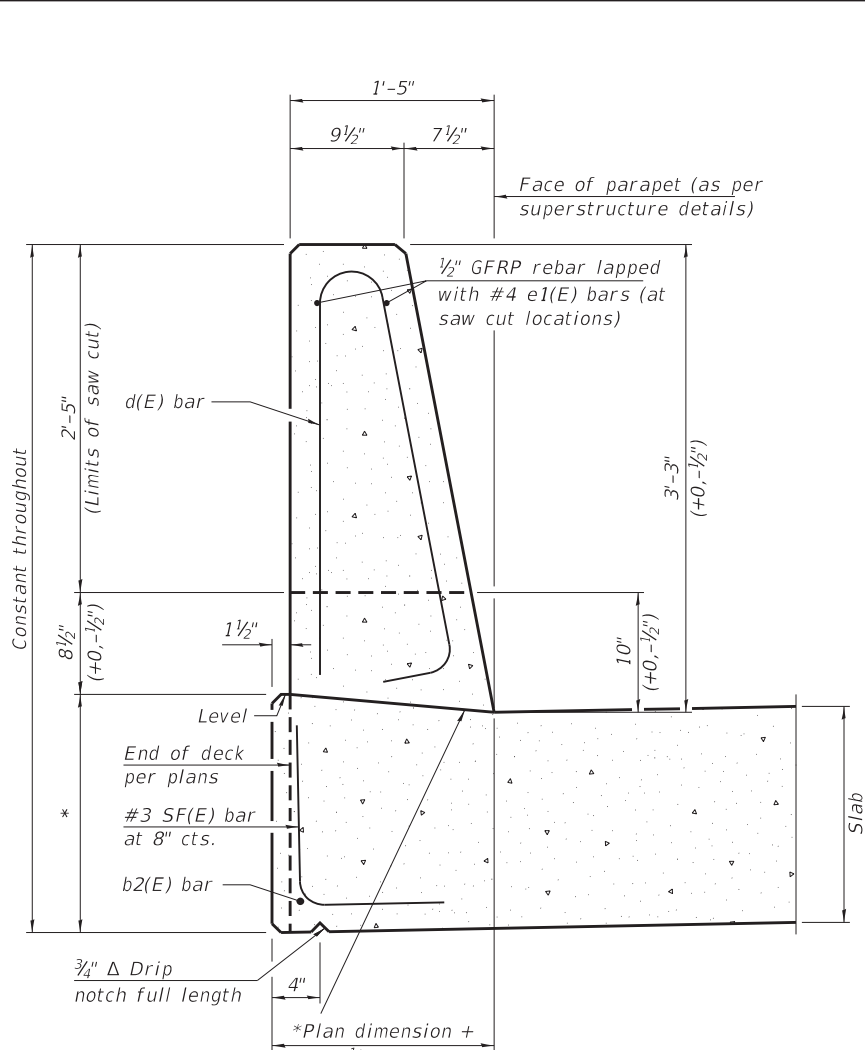


**39" CONSTANT-SLOPE
PARAPET SECTION**
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



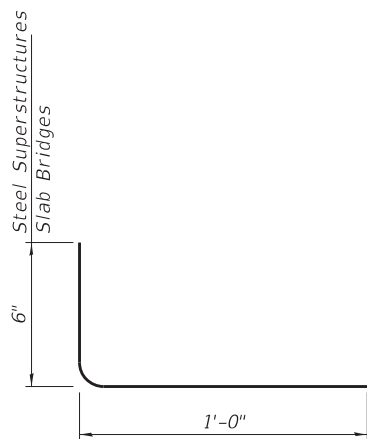
STEEL SUPERSTRUCTURES

**44" CONSTANT-SLOPE
PARAPET SECTION**
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

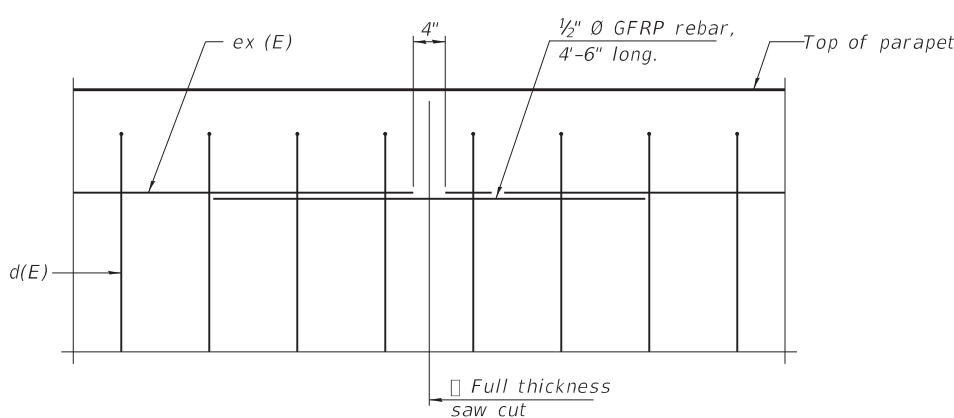


SLAB BRIDGES

**39" CONSTANT-SLOPE
PARAPET SECTION**
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



SF(E) BAR



DETAIL - GFRP REBAR STIFFENING ELEVATION

(Place as shown in parapet section
at each parapet joint location.)

Notes:
All dimensions shall remain the same as shown on superstructure details, except dimension "A" which is to be revised as shown.
Additional concrete needed to revise dimension "A" (39" and 44" parapets):
Steel Superstructures: 0.00348 cu. yds./ft.
Slab Bridge Superstructures: cu. yds./ft.
Place full depth aluminum sheets as shown on superstructure details.
Replace all cork joint filler locations with a full thickness saw cut.
Steel and slab superstructures shown. Other superstructure types similar.

1 REVISED SHEET 4-9-2025

SFP 39-44

10/27/2023



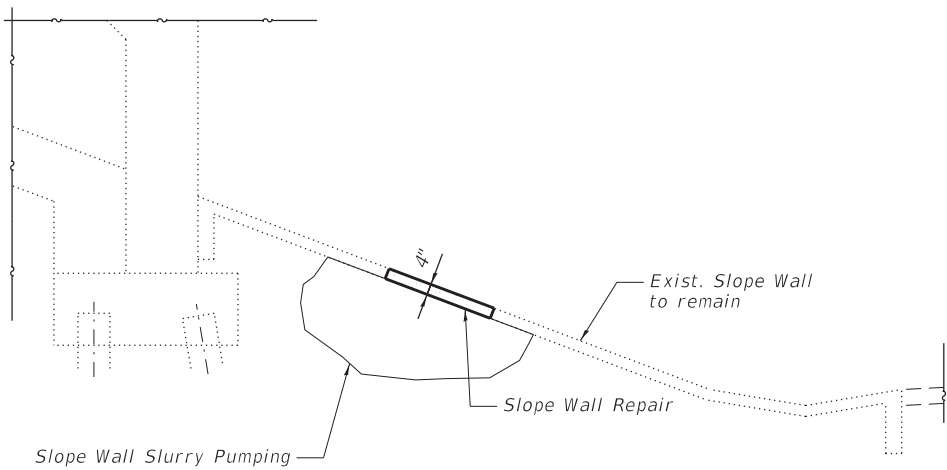
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

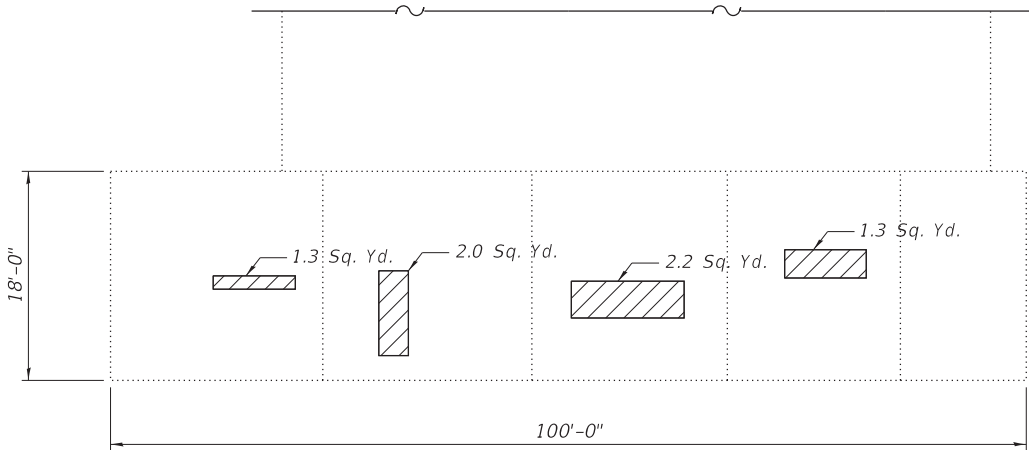
CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 054-0050

SCALE: SHEET 36 OF 38 SHEETS STA. TO STA.

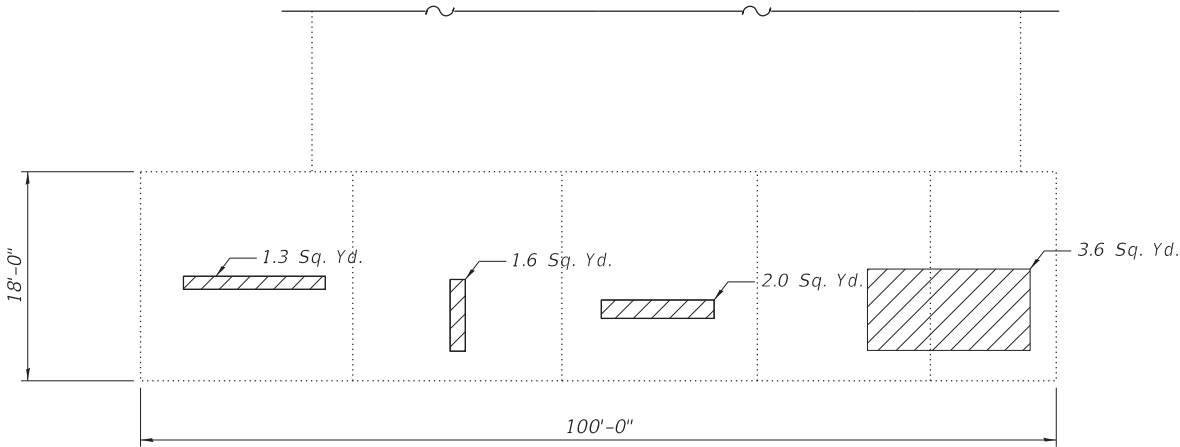
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	70
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



SECTION A-A



NORTH SLOPEWALL
Looking South



SOUTH SLOPEWALL
Looking North

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Repair	Sq. Yd.	15.3
Slope Wall Slurry Pumping	Cu. Yd.	3.4

Slope Wall Slurry Pumping pay item estimates 2' thick slurry material below each repair area.

 Slope Wall Repair

1 REVISED SHEET 4-9-2025

MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_50\054-0050-72220-037 - Slope Wall Repair.dgn



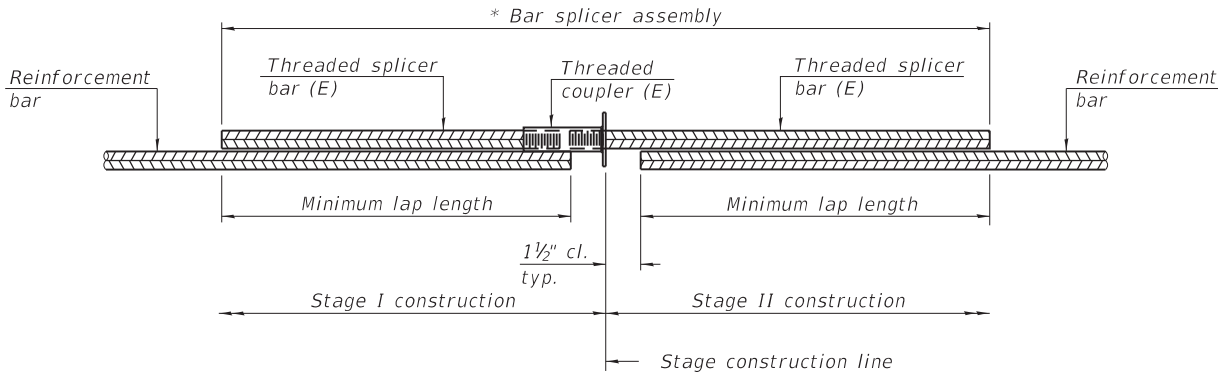
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIR DETAILS
STRUCTURE NO. 054-0050

SCALE: SHEET 37 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	71
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



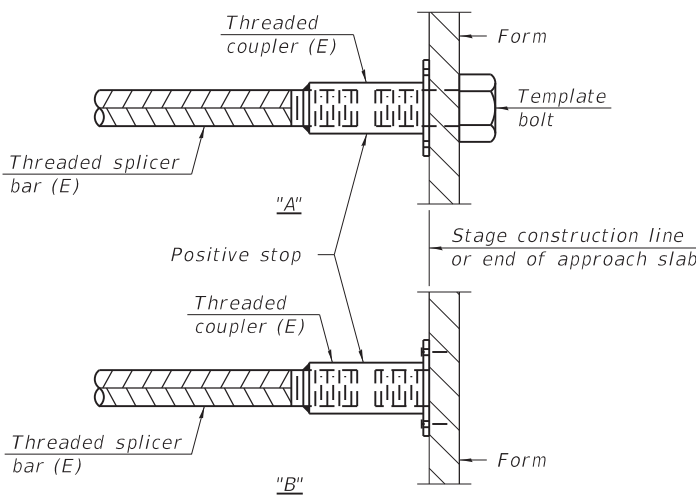
STANDARD BAR SPLICER ASSEMBLY PLAN

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Deck Slab	#5	399	3'-6"
Deck Slab	#6	10	3'-7"
S. Approach Slab	#5	46	3'-6"
S. Approach Slab	#8	60	4'-9"
N. Approach Slab	#5	46	3'-6"
N. Approach Slab	#8	60	4'-9"
S. Approach Ftg.	#5	20	3'-6"
N. Approach Ftg.	#5	20	3'-6"
S. Approach Span	#5	126	3'-6"
S. Approach Span	#6	8	3'-7"
N. Approach Span	#5	122	3'-6"
N. Approach Span	#6	8	3'-7"
S. Approach Span Diaph.	#5	10	3'-6"
S. Approach Span Diaph.	#6	6	3'-7"
N. Approach Span Diaph.	#5	10	3'-6"
N. Approach Span Diaph.	#6	6	3'-7"

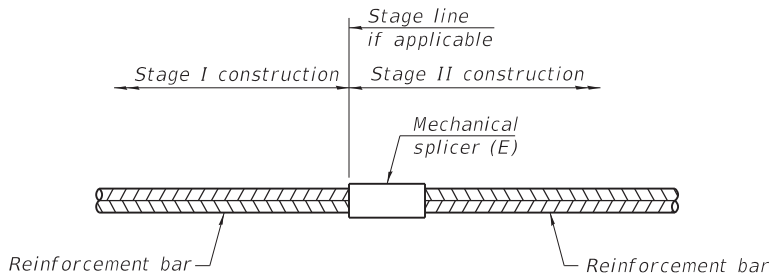


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

1 REVISED SHEET 4-9-2025

BSD-1

5-15-2023



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

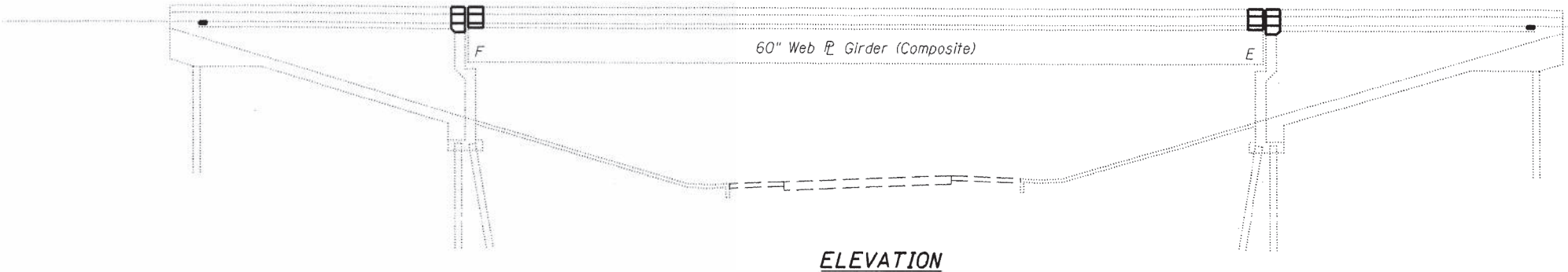
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 054-0050

SCALE: SHEET 38 OF 38 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	72
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 054-0050, The existing structure is a 3-span vaulted abutment bridge, consisting of one welded steel I girder main span and two PPC-I Beam approach spans. The original deck has a microsilica overlay. The original structure was built in 1973 as Section 54-4HB. Both abutment joints were replaced with neoprene joints in 1999. Traffic will be maintained utilizing stage construction.

No salvage.



ELEVATION

SCOPE OF WORK

Remove & replace polymer concrete at ends of approach spans.

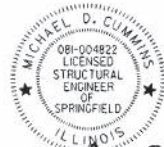
Remove neoprene expansion joint and concrete at both abutments.

Install new concrete and strip seal joint at both abutments.

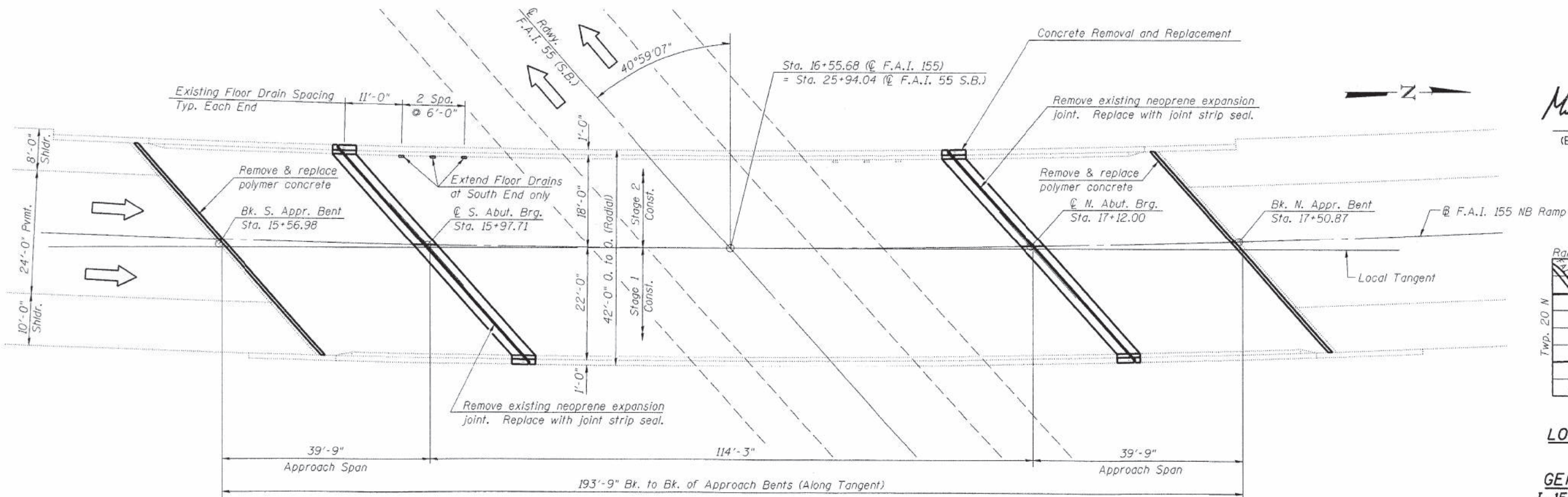
Extend existing floor drains near south abutment.

GENERAL NOTES

All work to be completed utilizing Traffic Control and Protection Standards 701400 and 701402 and the details included in the plans.

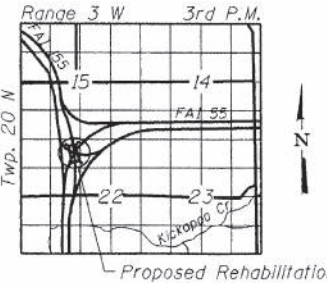


Michael D. Cummins
(Expires 11/30/2012)



PLAN

FOR INFORMATION ONLY



LOCATION SKETCH

GENERAL PLAN
I-155 RAMP (N.B.)
OVER I-55 (S.B.)
SECTION D6 LOGAN CO BR 2011
LOGAN COUNTY
STATION 16+55.68
STRUCTURE NO. 054-0050

REVISD SHEET 4-9-2025

1-1-2020



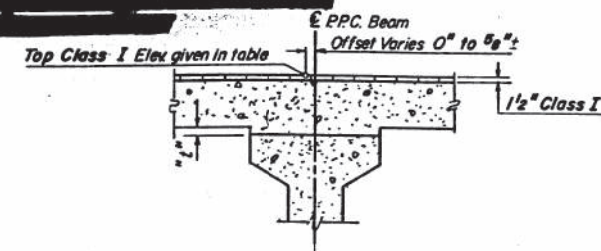
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

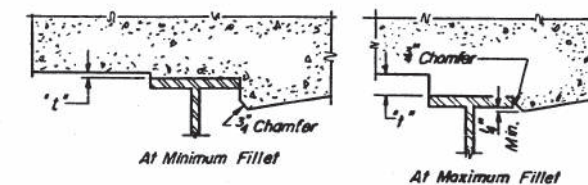
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	73
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



TO DETERMINE "t": AFTER ALL PRECAST PRESTRESSED BEAMS HAVE BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN BELOW. THESE ELEVATIONS SUBTRACTED ALGEBRAICALLY FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS SHOWN BELOW, MINUS SLAB THICKNESS + 1 1/2" CLASS 1, EQUALS THE FILLET HEIGHTS "t". A POSITIVE VALUE OF "t" EQUALS THE FILLET HEIGHT ABOVE THE TOP OF THE BEAM. A NEGATIVE VALUE OF "t", NOT TO EXCEED 1/2", EQUALS THE EMBEDMENT OF THE BEAM ABOVE THE THEORETICAL BOTTOM OF SLAB ELEVATION.

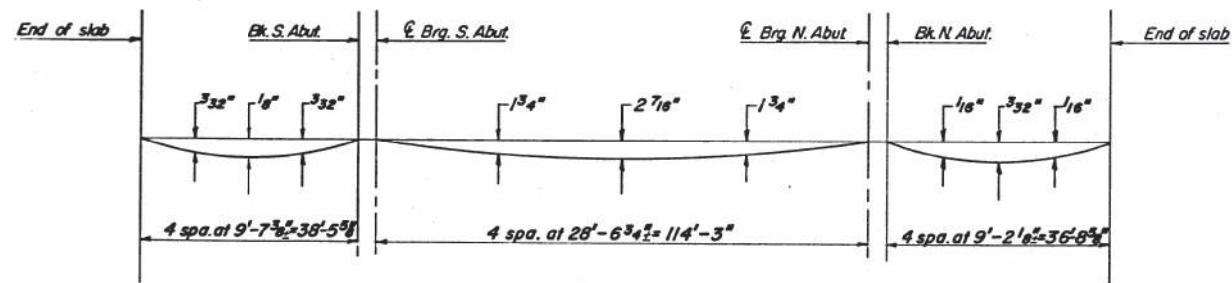
FILLET HEIGHTS



TO DETERMINE "t": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN BELOW. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN BELOW, MINUS SLAB THICKNESS $\div 1\frac{1}{2}$ " CLASS 1, EQUALS THE FILLET "t" ABOVE TOP FLANGE OF BEAMS.

FILLET HEIGHTS

PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete and Class I Surfacing)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets #38-4

NOTE: Offsets given in table are from $\bar{C}$ Rdwy "B".

	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Appr. Bent	L.J.1	1545.742	-12.000	587.621	587.621
	RPC BM 1	1548.681	-8.875	587.823	587.823
	RPC BM 2	1555.466	-1.625	588.291	588.291
	CENTER	1566.900	0.000	588.396	588.396
	RPC BM 3	1562.202	5.625	588.757	588.757
	RPC BM 4	1568.889	12.875	589.222	589.222
	L.J.2	1570.726	14.875	589.350	589.350
AA	L.J.1	1556.119	-12.000	587.671	587.682
	RPC BM 1	1559.037	-8.875	587.873	587.883
	RPC BM 2	1565.773	-1.625	588.338	588.349
	CENTER	1567.276	0.000	588.443	588.453
	RPC BM 3	1572.461	5.625	588.803	588.813
	RPC BM 4	1579.101	12.875	589.266	589.276
	L.J.2	1580.924	14.875	589.394	589.404
BB	L.J.1	1566.461	-12.000	587.719	587.733
	RPC BM 1	1569.359	-8.875	587.919	587.933
	RPC BM 2	1576.047	-1.625	588.383	588.397
	CENTER	1577.539	0.000	588.487	588.501
	RPC BM 3	1582.687	5.625	588.846	588.860
	RPC BM 4	1589.279	12.875	589.307	589.321
	L.J.2	1591.090	14.875	589.434	589.448
CC	L.J.1	1576.769	-12.000	587.764	587.779
	RPC BM 1	1579.646	-8.875	587.963	587.972
	RPC BM 2	1586.286	-1.625	588.426	588.435
	CENTER	1587.768	0.000	588.529	588.538
	RPC BM 3	1592.879	5.625	588.886	588.895
	RPC BM 4	1599.425	12.875	589.346	589.355
	L.J.2	1601.223	14.875	589.472	589.482
Bk. S. Abut	L.J.1	1585.201	-12.000	587.799	587.799
	RPC BM 1	1588.061	-8.875	587.998	587.998
	RPC BM 2	1594.663	-1.625	588.458	588.458
	CENTER	1596.136	0.000	588.561	588.561
	RPC BM 3	1601.217	5.625	588.917	588.917
	RPC BM 4	1607.725	12.875	589.375	589.375
	L.J.2	1609.513	14.875	589.502	589.502

TOP OF CLASS "ELEVATIONS
SUPL. FREEWAY N.B. RDWY "B"
over FAI RTE 55 S.B. (RDWY "C")
LOGAN COUNTY SEC 54-4HB
STA 16+55.68 RDWY "B"
STA 25+940.4-12" RT RDWY "C"

FOR INFORMATION ONLY

DESIGNED	G.E.P.	19
CHECKED	D.V.K.	ENGINEER OF BRIDGES & TRAFFIC STRUCTURE
DRAWN	E.S. & JT	ENGINEER OF DESIGN
CHECKED	G.E.P.	APPROVED

1-1-2020

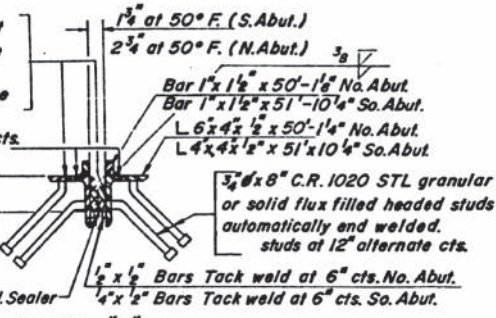
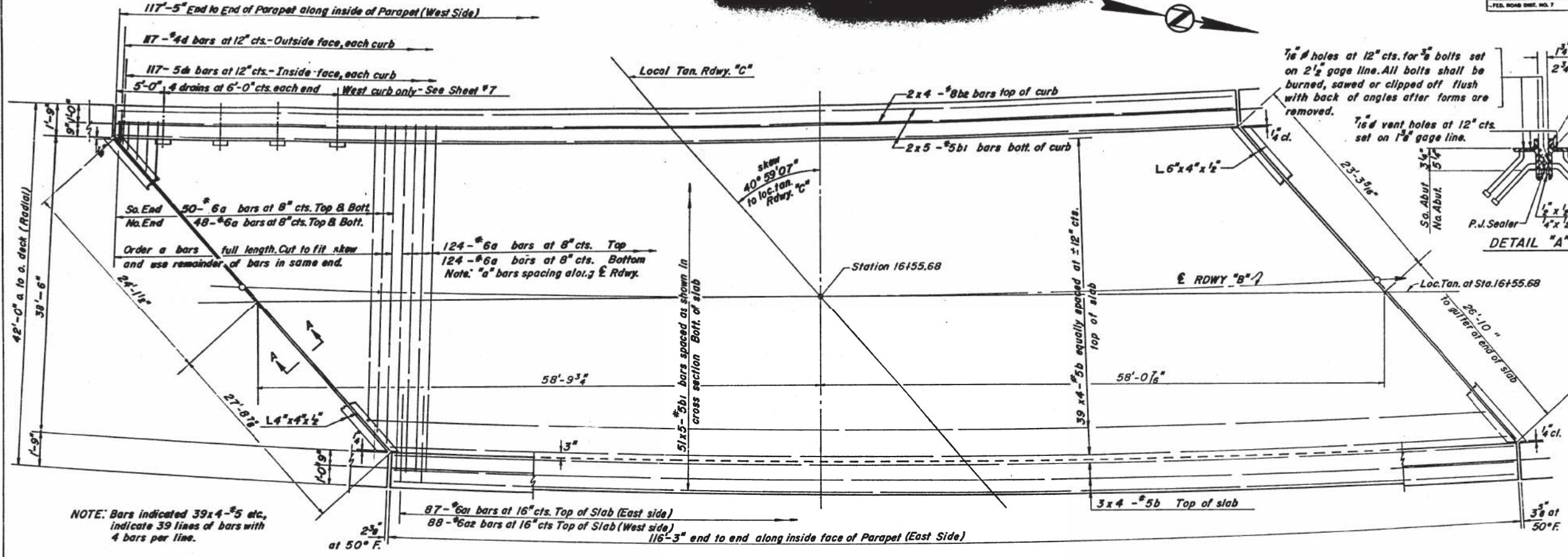
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PLOT DATE = 3/14/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

SCALE:	SHEET	OF	SHEETS	STA.	TO STA.
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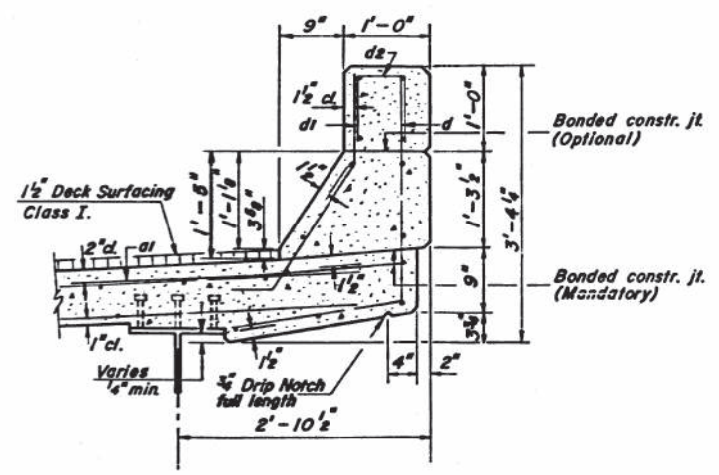
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		CONTRACT NO. 72220		
		ILLINOIS FED. AID PROJECT		



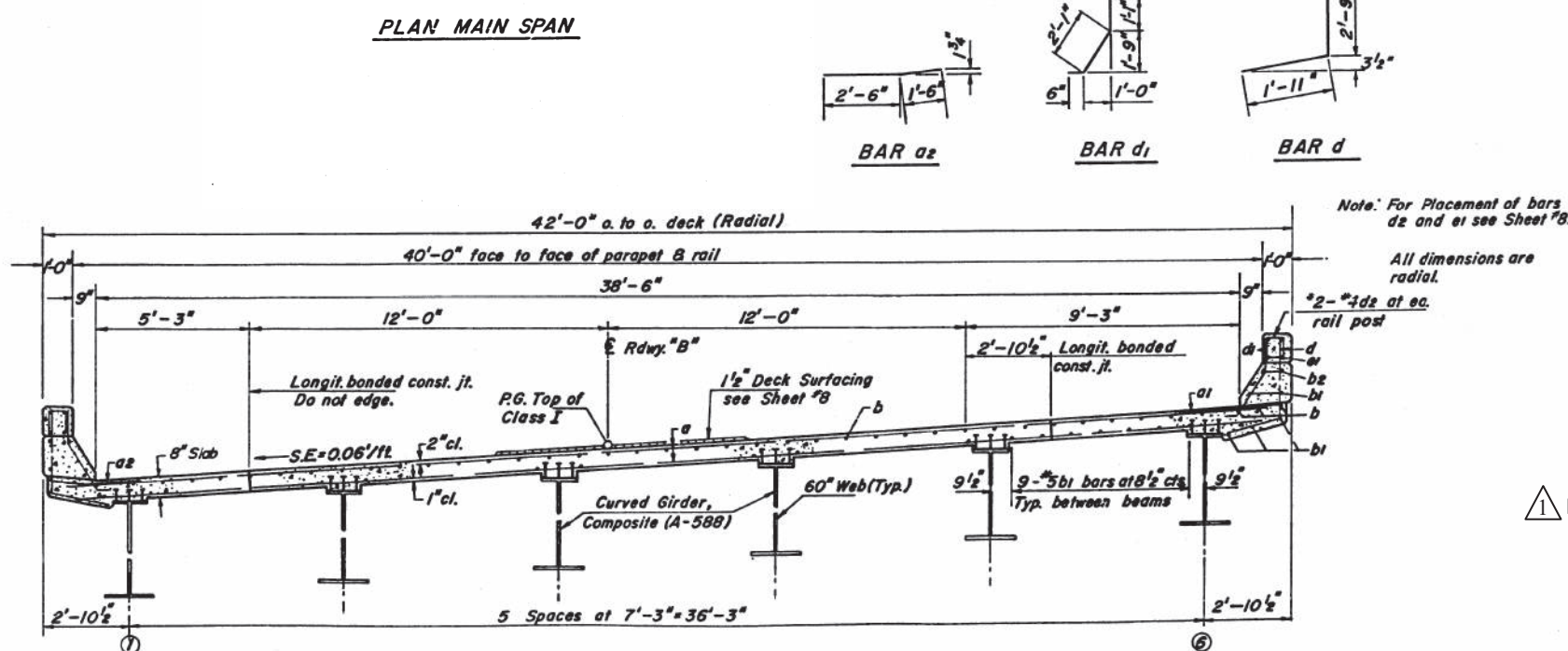
PREFORMED JOINT SEALER

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	346	#6	40'-0"	
a1	87	#6	4'-0"	
a2	88	#6	4'-0"	
b	180	#5	30'-6"	
b1	275	#5	24'-7"	
b2	16	#8	30'-9"	
d	234	#4	4'-8"	
d1	234	#5	3'-8"	
Reinforcement Bars				Lbs. 37,550
Class X Concrete				Cu.Yds. 143.8
Preformed Joint Sealer				Lin.Ft. 111



CURB SECTION EAST SIDE see Sheet #7 for W Side



CROSS SECTION Looking North

FOR INFORMATION ONLY

REVISD SHEET 4-9-2025

SUPERSTRUCTURE
F.A.I.-55 SEC. 54-4HB
RDWY. "B"
LOGAN COUNTY
STA. 16+55.68

DESIGNED	G.E.P.
CHECKED	D.V.K.
DRAWN	R.H.H.
CHECKED	G.E.P.

EXAMINED
PASSED
APPROVED

1-1-2020

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

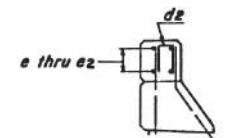
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155	(54-4HB)D	LOGAN	133	76

CONTRACT NO. 72220
ILLINOIS FED. AID PROJECT

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1-1-2020



SECTION A-A

[illegible]

NOTES:
 All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
 All joints in rail shall be spliced per detail.
 Provide 1-1/8" and 2-1/8" Aluminum Shims for 25% of the posts. Rail element shall be parallel to Grade -high spots shall be ground and low spots shimmied.
 Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.
 Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10% in 2 inches.

FOR INFORMATION ONLY

1 REVISED SHEET 4-9-2025

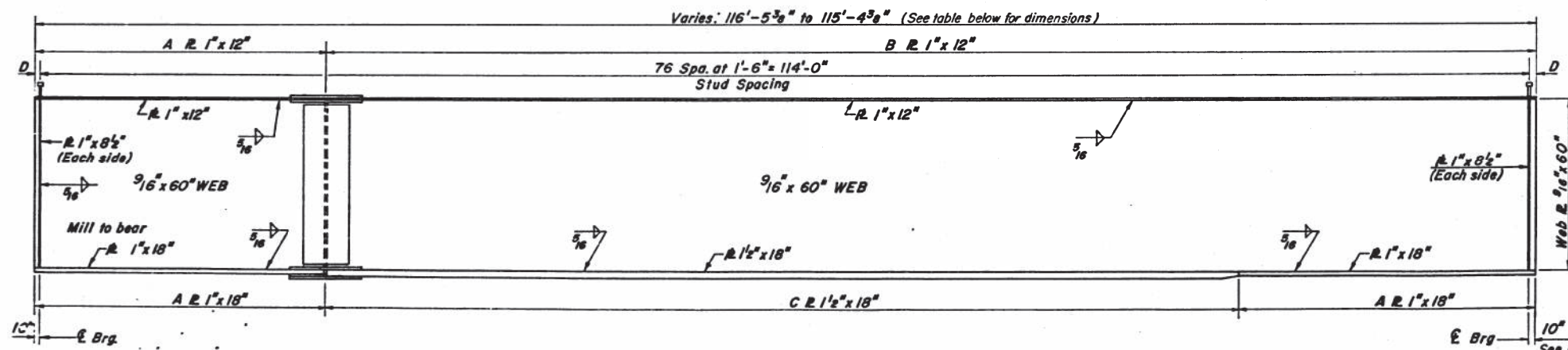
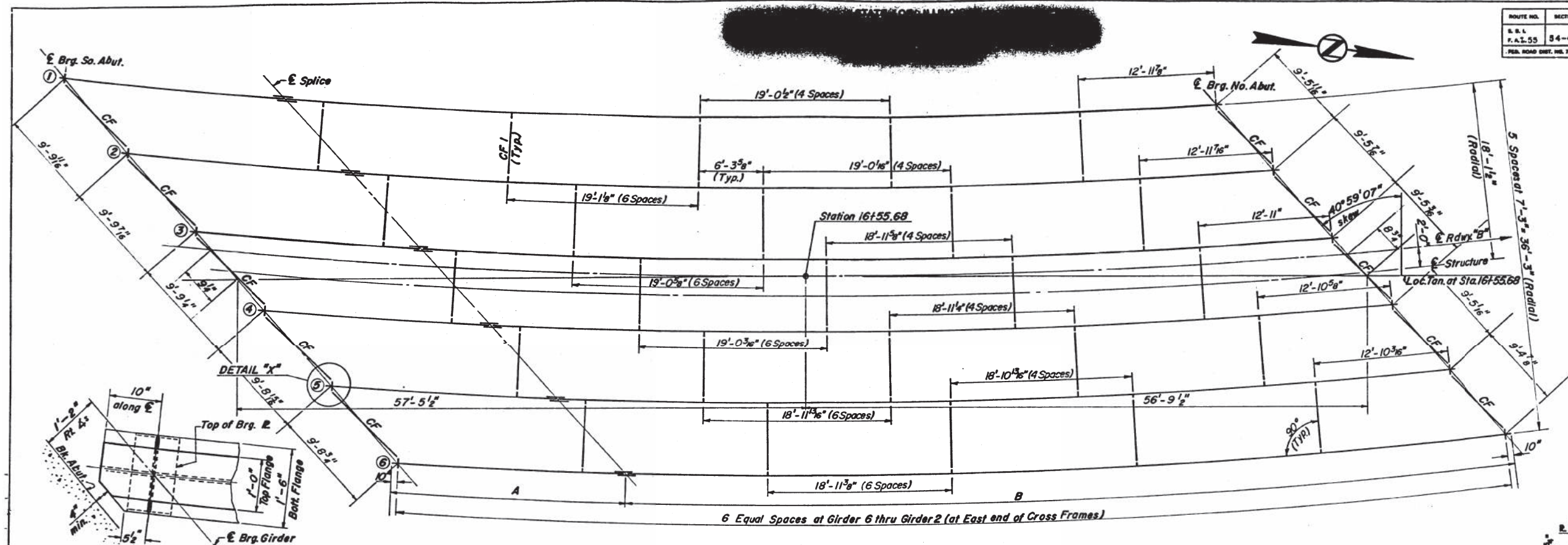
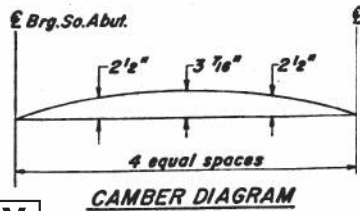
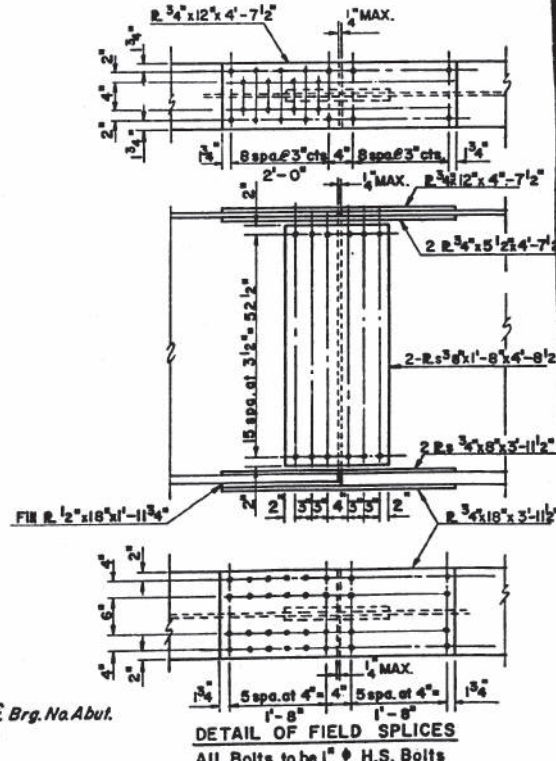
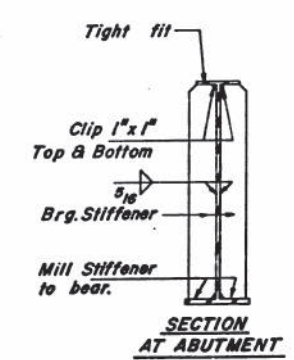


TABLE OF DIMENSIONS*

Dim.	G1	G2	G3	G4	G5	G6
A	23'-9 1/2"	23'-9"	23'-6 1/2"	23'-7 1/2"	23'-7 1/2"	23'-6 1/2"
B	92'-7 1/2"	92'-5 1/2"	92'-3 1/2"	92'-1 1/2"	91'-11 1/2"	91'-9 1/2"
C	68'-10 1/2"	68'-8 1/2"	68'-7 1/4"	68'-5 3/4"	68'-4 1/2"	68'-2 1/2"
D	1'-2 1/8"	1'-1 1/8"	1'-0"	10 3/4"	9 7/8"	7 3/8"
Radius	2860665	2862915	2875165	2882415	2889665	2896915
Length	116'-5 1/2"	116'-2 1/2"	116'-0"	115'-9 1/2"	115'-6 7/8"	115'-4 1/2"

*End to End of Girder at E Girder



STRUCTURAL STEEL
F.A.I.-55 SEC. 54-4HB
ROADWAY "B"
LOGAN COUNTY
STA. 16+55.68

FOR INFORMATION ONLY

1-1-2020

1 REVISED SHEET 4-9-2025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

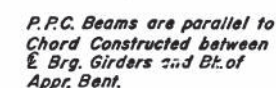
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CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

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CHECKED D.V.K.
DRAWN R.H.H.
CHECKED G.E.P.

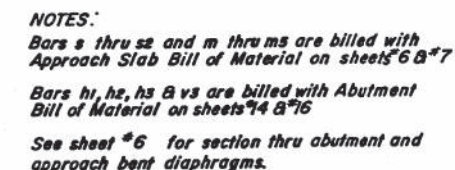
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	DATE -	REVISED -

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.



NORTH ABUTMENT



FOR INFORMATION ONLY

1 REVISED SHEET 4-9-2025

PRESTRESSED BEAMS
FRAMING DETAILS
F.A.I.-55 SEC.54-4HB
ROADWAY "B"
LOGAN COUNTY
STA.16+55.68

DESIGNED	G.E.P.
CHECKED	D.V.K.
DRAWN	R.H.H.
CHECKED	G.E.P.

EXAMINED

PASSED

APPROVED

1-1-2020

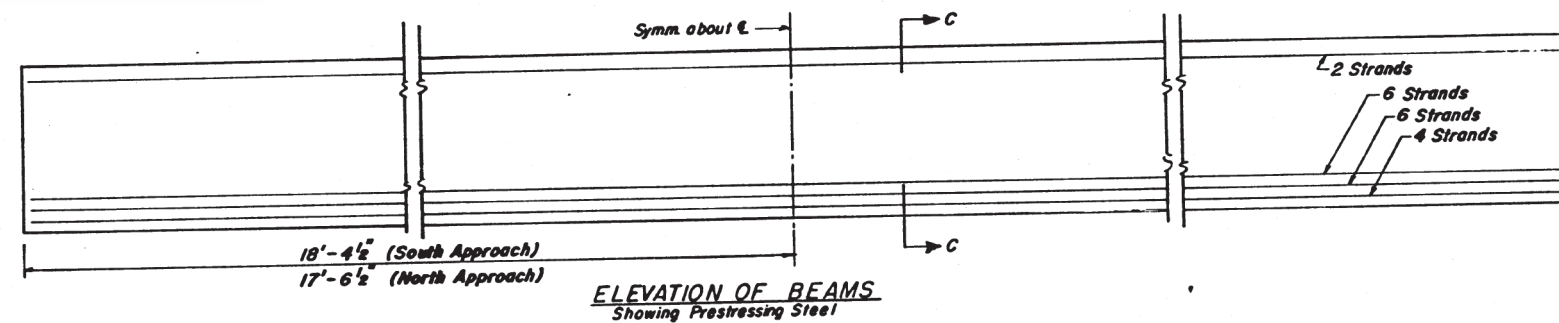
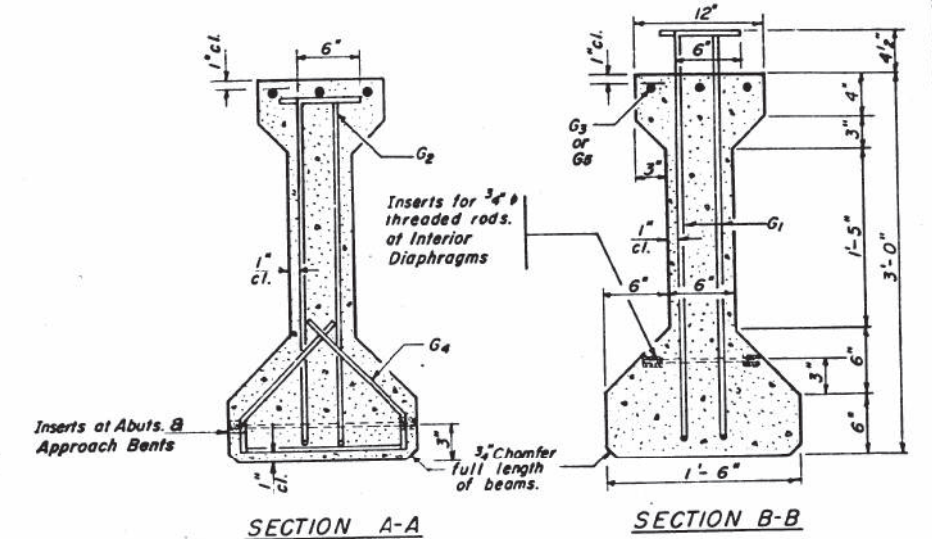
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

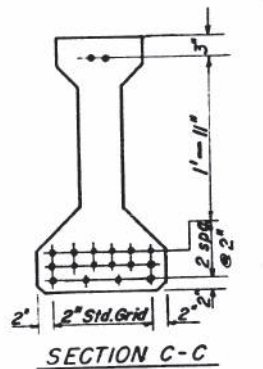
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	82
		CONTRACT NO. 72220		
		ILLINOIS FED. AID PROJECT		



SOUTH APPROACH
*BAR LIST

Bar	No.	Size	Length	Shape
G1	58	#4	4'-2"	TL
G2	12	#3	3'-9"	TL
G4	48	#3	2'-7"	L
G5	3	#5	36'-6"	—



* BAR LIST

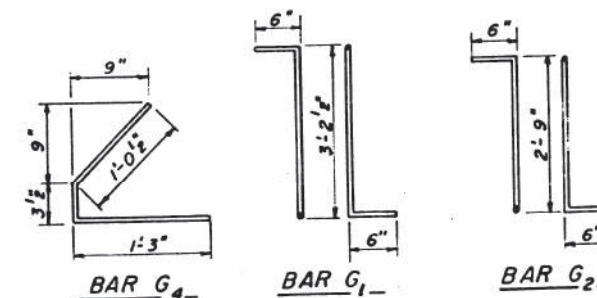
Bar	No.	Size	Length	Shape
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G ₂	12	#3	3'-9"	7L
G ₃	3	#5	34'-9"	—
G ₄	48	#3	2'-7"	L

* For one beam only.

BILL OF MATERIAL

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	288

PRECAST PRESTRESSED
CONCRETE BEAMS
F.A.I-55 SEC 54-4HB
ROADWAY "B"
LOGAN COUNTY
STA.16+55.68



NOTES

NOTES

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 36" in. Prestressing Steel shall have a nominal diameter of 7/16".

Inserts for $\frac{3}{4}$ " threaded rods are to be two strut, coil type for interior I-Beams and single coil flared loop type for exterior I-Beams.

Steel for lifting hooks shall be A.S.T.M. A-306 Grade 70-80.

An alternate strand pattern using Extra High Strength Prestressing strand (270 K.S.I.) is permitted.

FOR INFORMATION ONLY

DESIGNED	G.E.P.
CHECKED	D.V.K.
DRAWN	E.S. & R.H.H.
CHECKED	G.E.P.

	19
EXAMINED	
	CHIEF OF BUREAU AND TRADING STRUCTURE
PASSED	
	CHIEF OF BUREAU
APPROVED	

1 REVISED SHEET 4-9-2025

1-1-2020



CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

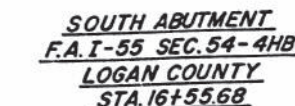
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	DRAWN -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

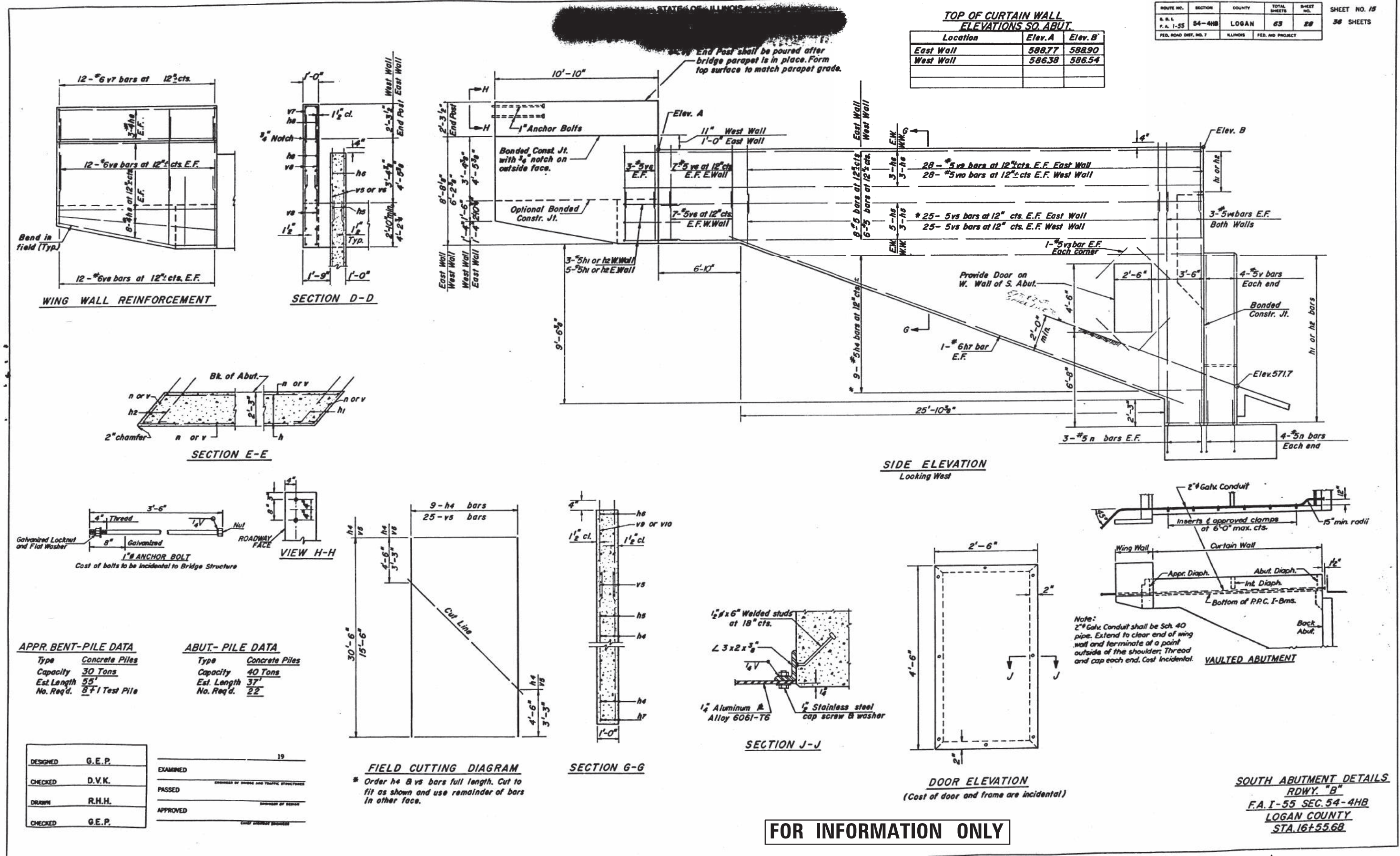
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	84
		CONTRACT NO. 72220		
ILLINOIS		FED. AID PROJECT		



1 REVISED SHEET 4-9-2025

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1-1-2020

REVISED SHEET 4-9-2025



CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE #184.003222

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CHECKED -
DATE -

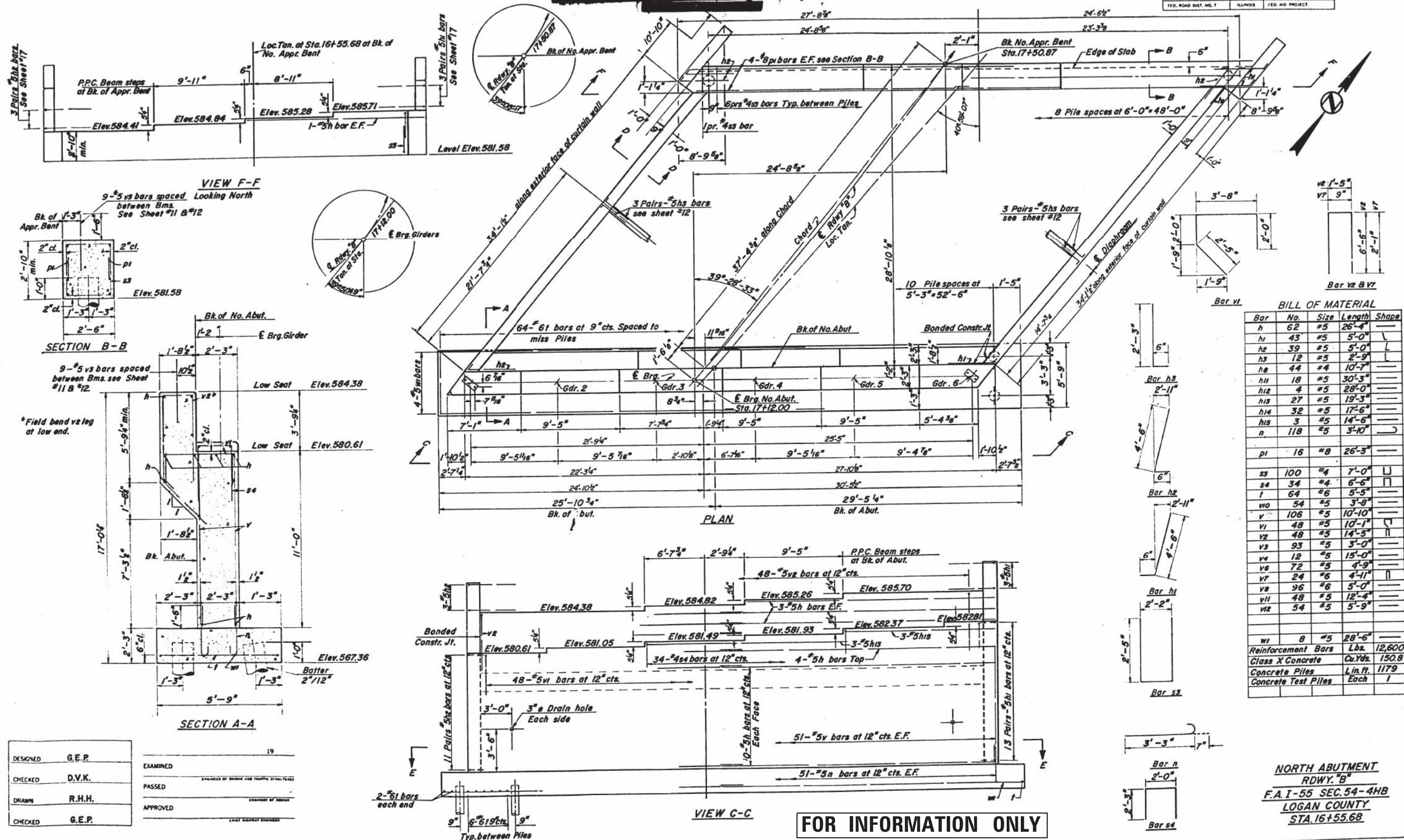
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
155 (54-4HB)D LOGAN 133 86
CONTRACT NO. 72220
ILLINOIS FED. AID PROJECT



FOR INFORMATION ONLY

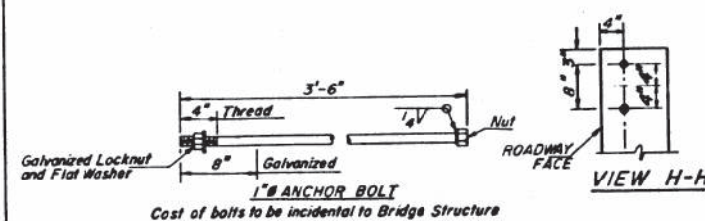
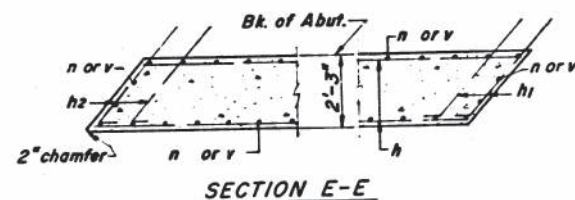
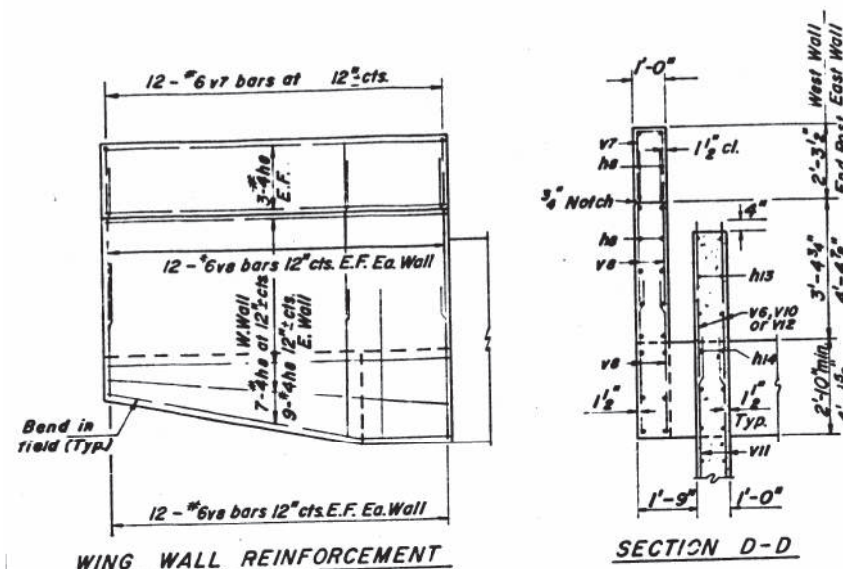
NORTH ABUTMENT
RDWY. "B"
F.A.I-55 SEC.54-4HB
LOGAN COUNTY
STA.16+55.68

1 REVISED SHEET 4-9-2025

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. & L. F. A. 1-55	54-4HB	LOGAN	63	30
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 17
36 SHEETS

Location	Elev. A	Elev. B
East Wall	589.12	589.12
West Wall	586.89	586.86



APPR. BENT-PILE DATA

Type	<u>Concrete Piles</u>
Capacity	<u>30 Tons</u>
Est. Length	<u>47'</u>
No. Req'd.	<u>9</u>

ABUT.- PILE DATA

Type	<u>Concrete Piles</u>
Capacity	<u>40 Tons</u>
Est. Length	<u>36'</u>
No. Req'd.	<u>21 + 1 Test Pile</u>

DESIGNED	G.E.P.
CHECKED	D.V.K.
DRAWN	R.H.H.
CHECKED	G.E.P.

19

EXAMINED

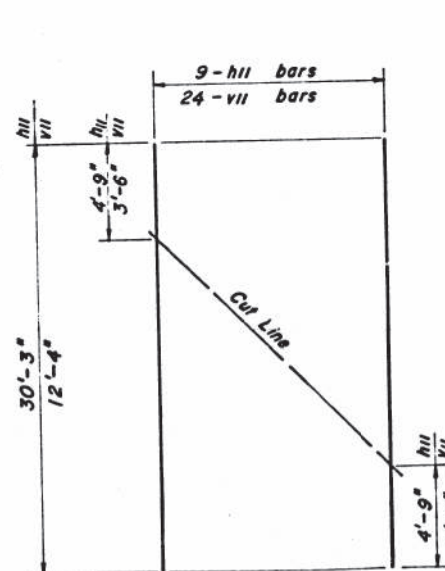
BOARDS OF BRIDGE AND TRAFFIC STRUCTURES

PASSED

BOARDS OF DESIGN

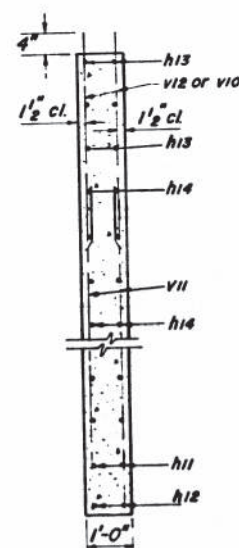
APPROVED

CODE NUMBER 8000000

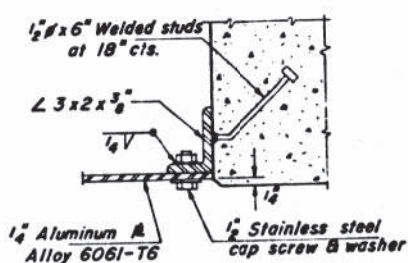


FIELD CUTTING DIAGRAM

* Order III & VII bars full length. Cut to fit as shown and use remainder of bars in other face.

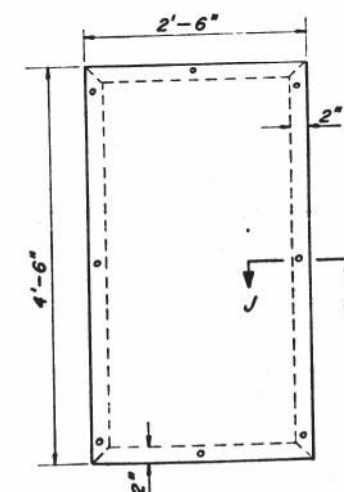


SECTION G-G



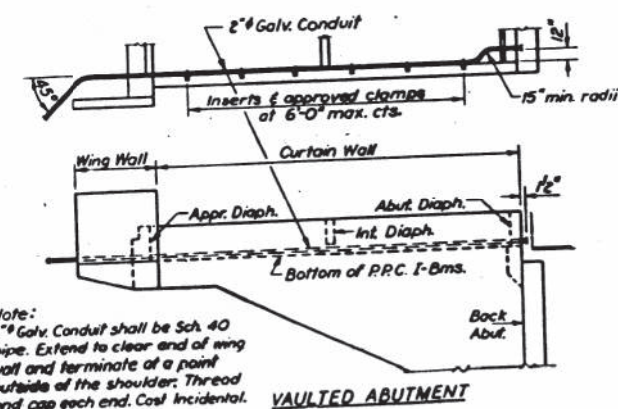
SECTION J-J

SIDE ELEVATION
Looking East



DOOR ELEVATION

(Cost of door and frame are incidental)



VAULTED ABUTMENT

Note:
2" Galv. Conduit shall be Sch. 40
pipe. Extend to clear end of wing
wall and terminate at a point
outside of the shoulder. Thread
and cap each end. Cost incidental.

1 REVISED SHEET 4-9-2025

NORTH ABUTMENT DETAIL.
RDWY. "B"
F.A. I-55 SEC. 54-4HB
LOGAN COUNTY
STA 16+55.68

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0050

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	88
		CONTRACT NO. 72220		
ILLINOIS		FED. AID PROJECT		

BRIDGE FOUNDATION BORING LOG

PROJECT _____ BRIDGE SUPPLEMENTAL _____ Date NOVEMBER 1971
 ROUTE PAI-55 INTERCHANGE _____ Bored By BILL CARTER
 SEC. 51-1BB (STRUCTURE "B") STA. 25+44.04 Rebarry c 5B ML
 COUNTY LOGAN _____ Checked By G.A. GARRELTS

[illegible]

- Standard Penetration Test -
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
10# hammer falling 30".

Qu – Unconfined Compressive Strength – t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

BRIDGE FOUNDATION BORING LOG

FAI-55 54-LHB (STRUCTURE "B") LOGAN COUNTY BORING #1		Elevation	N	Qu t/s.f.	w (%)		Elevation	N	Qu t/s.f.	w (%)
GRAY		-45								
SAND W/4" LAYER OF SILT			48	-						
DENSE	522.9									
GRAY			46	$\frac{7.8}{S}$	9					
CLAY TILL										
HARD		-50					-75			
			41	$\frac{8.3}{S}$	10					
			68	$\frac{11.0}{B}$	9					
		-55					-80			
	513.9		69	$\frac{11.0}{B}$	9					
BORING COMPLETED										
		-60					-85			
		-65					-90			
		-70					-95			

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

PROJECT _____ BRIDGE SUPPLEMENTAL _____ Date _____ NOVEMBER 1971
ROUTE FAL-55 _____ INTERCHANGE _____ Bored By BILL CARTER
SEC. 54-1 HB (STRUCTURE "B") STA. ~~69~~ 40 _____ Checked By G.A. GARRELTIS

[illegible]

-Standard Penetration Test -
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
0# hammer falling 30".

Qu - Unconfined Compressive Strength - t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value

BRIDGE FOUNDATION BORING LOG

FAT-55 54-LHB (STRUCTURE "B") LOGAN COUNTY BORING #2	Elevation	N	Qu t/a.f.	w (%)
	-45			
GRAY		95	S $\frac{11.0}{8}$	
CLAY TILL				
HARD		112	B $\frac{11.2}{9}$	
	-50			
519.2		100	B $\frac{11.2}{9}$	
BORING COMPLETED				
	-55			
	-60			
	-65			
	-70			

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

[illegible][illegible]

--Standard Penetration Test--
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
O# hammer falling 30".

Qu - Unconfined Compressive Strength - t/sf
w - Water Content - percentage of oven dry weight - %.

Type failure:
B—Bulge Failure
S—Shear Failure
E—Estimated Value
P—Penetrometer

BRIDGE FOUNDATION BORING LOG

FAT-55 54-4HB (STRUCTURE "B") LOGAN COUNTY BORING #3	Elevation	N	Qu / s.f.	w (%)
GRAY SAND & GRAVEL MEDIUM	-45			
	25	-	-	
523.2				
GRAY CLAY TILL	94	11.0 B	8	
HARD	-50			
	97	10.9 B	8	
516.7	83	11.5 S	8	
BORING COMPLETED	-55			
	-60			
	-65			
	-70			

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

PROJECT _____	BRIDGE _____ SUPPLEMENTAL _____	Date _____ NOVEMBER 1971																																								
ROUTE <u>FAI-55</u>	INTERCHANGE _____	Bored By <u>BILL CARTER</u>																																								
SEC. <u>54-11B</u> (STRUCTURE "B")	STA. <u>10</u>	Checked By <u>G. A. GARRELLS</u>																																								
COUNTY <u>LOGAN</u>	<table border="1"> <thead> <tr> <th>Elevation</th> <th>N</th> <th>Qu t / s. t.</th> <th>W (%)</th> <th>Surface Water El.</th> <th></th> <th>Elevation</th> <th>N</th> <th>Qu t / s. t.</th> <th>W (%)</th> </tr> </thead> <tbody> <tr> <td>Boring No. _____</td> <td></td> <td></td> <td></td> <td>Groundwater El. at</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Station <u>17+60</u></td> <td></td> <td></td> <td></td> <td>Completion</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Offset <u>12' RT</u></td> <td></td> <td></td> <td></td> <td>After _____ Hours</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Elevation	N	Qu t / s. t.	W (%)	Surface Water El.		Elevation	N	Qu t / s. t.	W (%)	Boring No. _____				Groundwater El. at						Station <u>17+60</u>				Completion						Offset <u>12' RT</u>				After _____ Hours					
Elevation	N	Qu t / s. t.	W (%)	Surface Water El.		Elevation	N	Qu t / s. t.	W (%)																																	
Boring No. _____				Groundwater El. at																																						
Station <u>17+60</u>				Completion																																						
Offset <u>12' RT</u>				After _____ Hours																																						

[illegible]

- Standard Penetration Test -
blows per foot to drive 2"
D. Split Spoon Sampler 12" with
10# hammer falling 30".

Qu - Unconfined Compressive
Strength - t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

BRIDGE FOUNDATION BORING LOG

[illegible]

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

PROJECT _____ BRIDGE SUPPLEMENTAL _____ Date NOVEMBER 1971
 ROUTE FAT-55 INTERCHANGE _____ Bored By BILL CARTER
 SEC. 54-1HB (STRUCTURE "D") STA. 200+10 Checked By G.A. GARRELT
 COUNTY LOGAN

COUNTY LOGAN		Elevation	N	Qu t/s.f.	W (%)	Surface Water El.	Elevation	N	Qu t/s.f.	W (%)
Boring No.	Station					Groundwater El. at Completion				
Offset						After _____ Hours				
Ground Surface	568.3	0								
BLACK SILTY CLAY	566.8					GREENISH CLAY TILL		8	1.7 B	11
BROWN SILTY CLAY							-25			
HARD	563.8		8	4.5 S	15	STIFF		6	1.9 B	17
BROWN & GRAY SILTY CLAY STIFF		-5								
			5	1.0 B	24			8	2.5 S	14
	561.3									
BROWN & GRAY SILT LOAM LOOSE			6	-			538.8			
		-10				GRAY CLAY TILL	-30	62	9.8 S	10
			5	-		HARD				
	556.3							142	7.3 S	9
GRAY SILT LOAM VERY LOOSE		-15								
			2	-			533.8			
						GRAY SAND & GRAVEL DENSE	-35	34	-	-
			2	-				33	-	-
	551.3									
GRAY SILTY CLAY VERY SOFT			3	0.2 B	25		-40			
								45	-	-
	548.8	-20								
GREENISH CLAY TILL STIFF			5	1.4 S	21	GRAY CLAY TILL HARD			11.0 B	8
							526.3			
							-45			

- Standard Penetration Test -
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
0# hammer falling 30".

Qu - Unconfined Compressive
Strength - t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

BRIDGE FOUNDATION BORING LOG

FAT-55 54-LHB (STRUCTURE "D") LOGAN COUNTY BORING #5	Elevation	N	Cu t/s.f.	w (%)
	-45			
GRAY		86	B 11.0	9
CLAY TILL				
		93	B 11.2	8
HARD				
	-50			
517.3		108	S 11.2	9
BORING COMPLETED				
	-55			
	-60			
	-65			
	-70			

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

PROJECT _____ BRIDGE SUPPLEMENTAL _____ Date NOVEMBER 1971
 ROUTE FAI-55 INTERCHANGE _____ Bored By BILL CARTER
 SEC. 54-LHB (STRUCTURE "D") STA. ~~668.20~~ _____ Checked By G.A. GARRELTS
 COUNTY LOGAN _____

[illegible]

- Standard Penetration Test -
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
0# hammer falling 30".

Qu - Unconfined Compressive
Strength - t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Parameter

BRIDGE FOUNDATION BORING LOG

[illegible]

1 REVISED SHEET 4-9-2025

BRIDGE FOUNDATION BORING LOG

PROJECT _____ BRIDGE SUPPLEMENTAL Date NOVEMBER 1971
ROUTE FAT-55 INTERCHANGE Bored By BILL CARTER
SEC. 54-4HB (STRUCTURE "D") STA. 66+10 Checked By G.A. GARRELTS
COUNTY LOGAN

Boring No. 8	Elevation	N	Qu t/s.f.	w (%)	Surface Water El.	Groundwater El. at Completion	After _____ Hours	Elevation	N	Qu t/s.f.	w (%)
Station 18+13.5											
Offset 16' RT											
Ground Surface 571.0	0										
BLACK SILTY CLAY					BLUISH GRAY				8	1.9	19
569.0					CLAY TILL						
BROWN & GRAY SILTY CLAY HARD					STIFF			-25		1.2	16
566.5	-5	10	4.1	23					4		
BROWN & GRAY SILT LOAM					GRAY CLAY TILL HARD				47	6.6	10
564.0		5	-	-							
BROWN SAND LOAM					GRAY SAND & GRAVEL MEDIUM			-30	10	-	-
561.5	-10	11	-	-							
GRAY SILT LOAM					DENSE				42	-	-
559.0											
GRAY SILTY CLAY W/SILT LENSES STIFF								-35	41	-	-
556.5	-15	7	1.9	24							
GRAY SILT LOAM					VERY DENSE				58	-	-
551.0		3	-	-							
GRAY SILTY CLAY LOAM					GRAY CLAY TILL			-40	67	9.9	8
SOFT					HARD						
549.0	-20	3	0.5	24					77	7.9	8
		5	0.8	21				-45			

- Standard Penetration Test -
ows per foot to drive 2"
D. Split Spoon Sampler 12" with
0# hammer falling 30".

Qu - Unconfined Compressive
Strength - t/sf

w - Water Content - percentage
of oven dry weight - %.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

ORM NO. B. D. 737 REV. 9-69

Sh. 16 of 16 Sh.

BRIDGE FOUNDATION BORING LOG

FAT-55 54-4HB (STRUCTURE "D") LOGAN COUNTY BORING #8	Elevation	N	Qu t/s.f.	w (%)	Elevation	N	Qu t/s.f.	w (%)
	-45							
GRAY CLAY TILL			9.2	16				
HARD								
522.5	125	11.5	8					
BORING COMPLETED								
	-50							
	-55							
	-60							
	-65							
	-70							
	-75							
	-80							
	-85							
	-90							
	-95							

1 REVISED SHEET 4-9-2025

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PLOT DATE = 3/14/2025	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BORING LOGS
STRUCTURE NO. 054-0050

SCALE: SHEET OF SHEETS STA. TO STA.

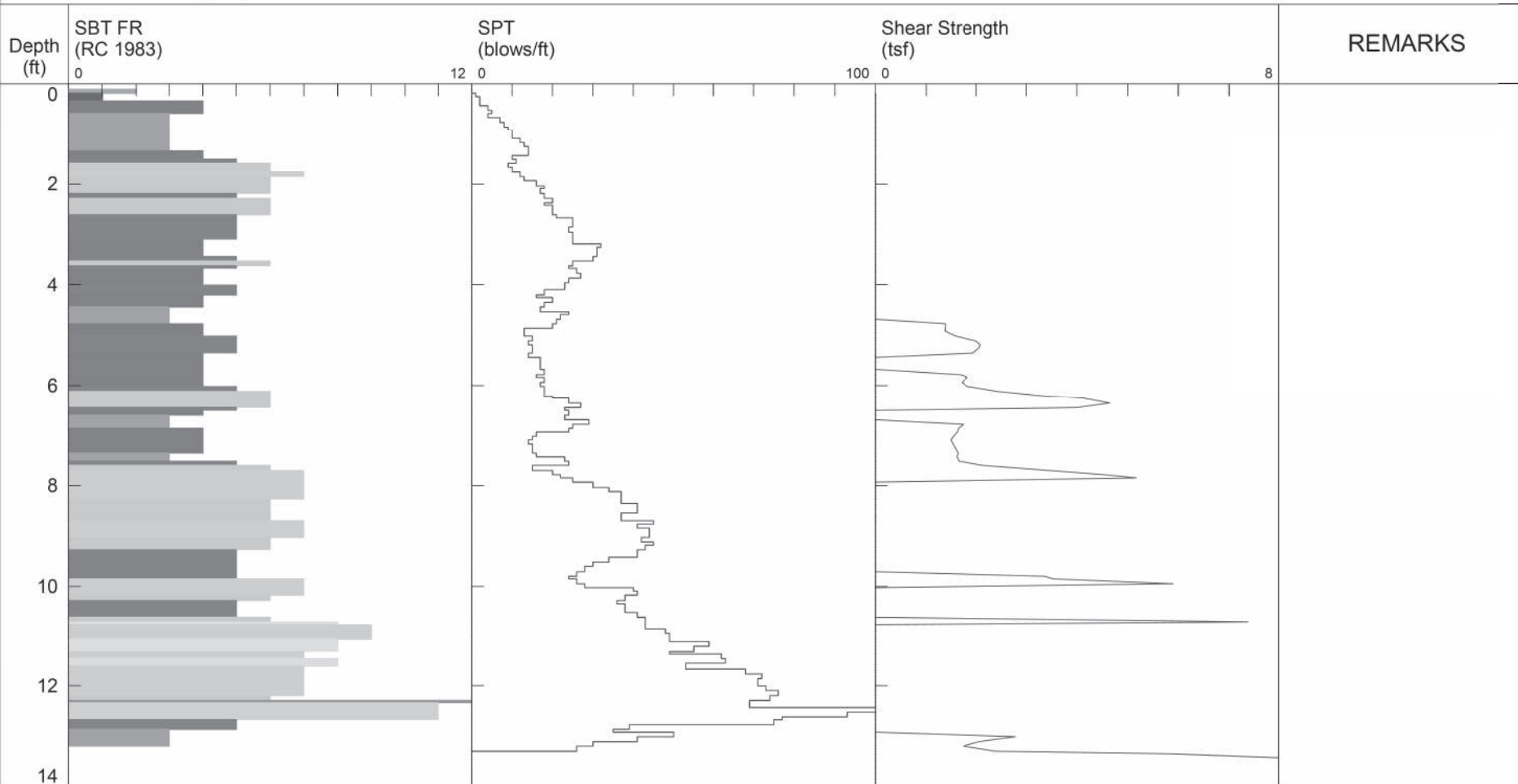
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	96
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

SOUNDING

TOTAL DEPTH: 13.504 ft
SITE: NW-155
SOUNDING
COMPANY: Illinois DOT
FILENAME: C-Demo-1(002).DAT

PROBE ID: 4644.187.X
TEST ID: C-NW-155
PROJECT: North of Lincoln
LOCATION: NW Corner

Station 17+60 37' Left
Ground Elevation: +/-589.0



NOTES:: Example of notes

- | | | | |
|--------------------------|-----------------------------|----------------------------|--------------------------------|
| 1 sensitive fine grained | 4 silty clay to clay | 7 silty sand to sandy silt | 10 gravelly sand to sand |
| 2 organic material | 5 clayey silt to silty clay | 8 sand to silty sand | 11 very stiff fine grained (*) |
| 3 clay | 6 sandy silt to clayey silt | 9 sand | 12 sand to clayey sand (*) |

*SBT/SPT CORRELATION: UBC-1983

1 REVISED SHEET 4-9-2025

1-1-2020

USER NAME = \$USERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 3/14/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**EXISTING SOUNDING LOG
STRUCTURE NO. 054-0050**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	97
		CONTRACT NO. 72220		
		ILLINOIS FED. AID PROJECT		

MODEL: Default
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GENERAL NOTES

Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts in painted areas. Bolts 3/4 in. diameter, holes 13/16 in. diameter, unless otherwise noted.

Calculated weight of Structural Steel =
3,590 lbs. (AASHTO M270 Grade 50)
2,760 lbs. (AASHTO M270 Grade 36)

All structural steel shall be AASHTO M270 Grade 50 except for connection plates at end diaphragms, MC shapes and stiffener repair plate.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete (SSPC-SP3 standards). Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be paid for according to Article 109.04 of the Standard Specifications.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4in. deep shall be identified and reported to the Bureau of Bridges & Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to the existing structure have been taken from existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Concrete Sealer shall be applied to the face of the concrete abutment backwalls beneath the superstructure preformed joint strip seals.

All new Structural Steel and bearing assemblies shall be hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel".

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". Areas to be cleaned and painted shall include all beam ends, end diaphragms, and steel components of bearings at both abutments. Beam end painting (8 ends) shall extend 10 feet from the end of the beams longitudinally. Galvanized bearings and structural steel encountered at the abutments shall be protected from normal blast cleaning operations and shall have surfaces prepared per the applicable sections of the special provision for "Cleaning and Painting Existing Steel Structures". All other areas shall be cleaned per Near White Blast Cleaning SSPC-SP10. All areas to be painted shall be painted according to the requirements of Organic Zinc-Rich Primer/Epoxy Intermediate Coat/Urethane Topcoat (OZ/E/U). The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. All other surfaces shall be gray, Munsell 5B 7/1. SSPC QP1 (and SSPC QP2) Certification is required for this contract.

GENERAL NOTES (CONT.)

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

Salvage aluminum rail and deliver to bridge crew yard in Springfield.

SCOPE OF WORK

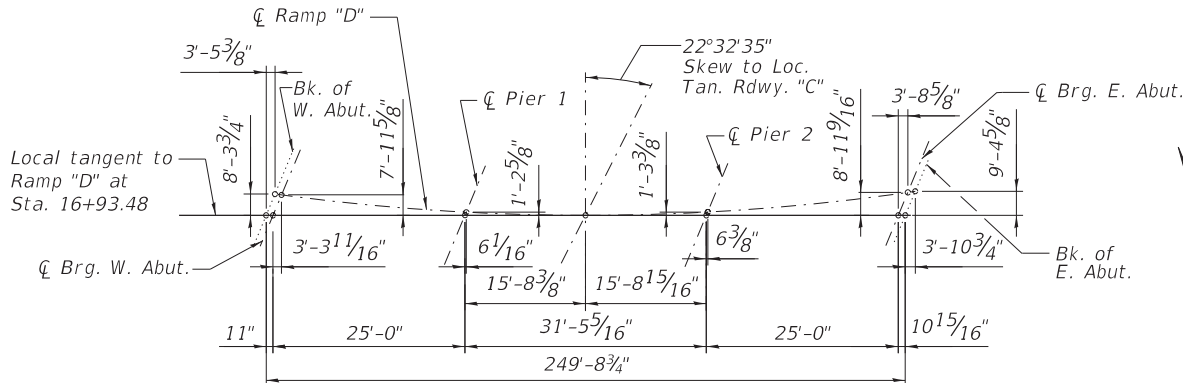
- Setup traffic control and close roadway.
- Remove concrete and steel railings, deck, and upper portion of wingwalls.
- Remove existing rocker expansion bearings, at the abutments, replace with HLMR bearings.
- Perform concrete repairs on substructure units.
- Blast and paint beam ends.
- Replace beam end diaphragms.
- Install shear connectors, replace damaged shear connectors, as needed, replace steel end diaphragms.
- Construct new concrete deck, parapets, and approach slabs. Complete diamond grinding and deck grooving.

STA. 16+93.48
RE-BUILT 202X BY
STATE OF ILLINOIS
FAI Rte. 155, Sec. (54-4HB)D
LOADING HS20-44
STR. NO. 054-0051

NAME PLATE

See Std. 515001

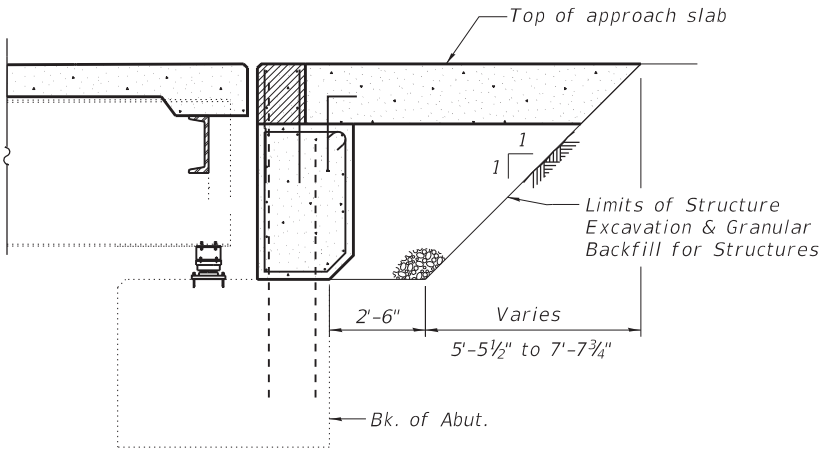
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



OFFSET SKETCH

INDEX OF SHEETS

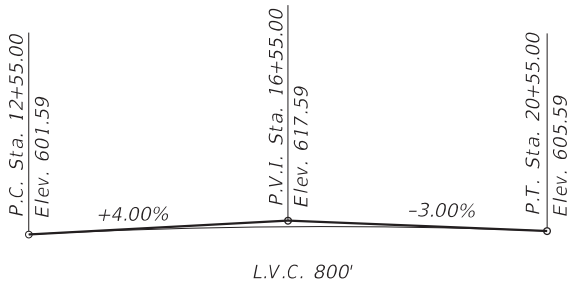
- General Plan & Elevation
- General Data
- Top of Slab Elevations
- Top of West Approach Slab Elevations
- Top of East Approach Slab Elevations
- Superstructure
- Superstructure Details
- Diaphragm Details
- West Bridge Approach Slab Details
- East Bridge Approach Slab Details
- Bridge Approach Slab Details
- Preformed Joint Strip Seal
- Framing Plan
- Structural Repair Details
- Abutment Repair Details
- Bearing Details
- Concrete Removal East Abutment
- Concrete Removal West Abutment
- Abutment Reconstruction Details
- Concrete Parapet Slipforming Option



SECTION THRU ABUTMENT

TOTAL BILL OF MATERIAL

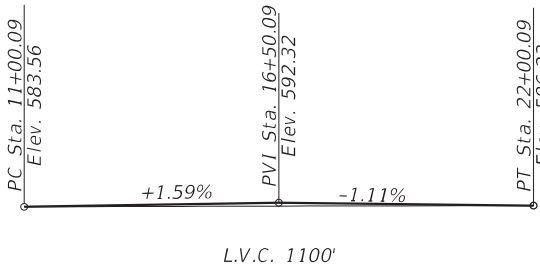
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	-	26.5	26.5
Removal of Existing Concrete Deck No. 2	Each	1	-	1
Protective Shield	Sq. Yd.	228	-	228
Structure Excavation	Cu. Yd.	-	33	33
Concrete Structures	Cu. Yd.	-	31.0	31.0
Concrete Superstructure	Cu. Yd.	259.5	-	259.5
Protective Coat	Sq. Yd.	1,161	-	1,161
Concrete Superstructure (Approach Slab)	Cu. Yd.	81.1	-	81.1
Stud Shear Connectors	Each	2,580	-	2,580
Cleaning and Painting Structural Steel, Location 2	L. Sum	1	-	1
Reinforcement Bars, Epoxy Coated	Pound	96,930	3,330	100,260
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	62.0	-	62.0
Anchor Bolts, 1"	Each	32	-	32
Granular Backfill for Structures	Cu. Yd.	-	34	34
Concrete Sealer	Sq. Ft.	-	371	371
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	548	-	548
Bar Terminators	Each	36	87	123
High Load Multi-Rotational Bearings, Disc, Guided Expansion - 200k	Each	8	-	8
Jack and Remove Existing Bearings	Each	8	-	8
Structural Steel Repair	Pound	2,780	-	2,780
Approach Slab Removal	Sq. Yd.	116	-	116
Containment and Disposal of Lead Paint Cleaning Residues No. 2	L. Sum	1	-	1
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	-	2	2
Diamond Grinding (Bridge Section)	Sq. Yd.	754	-	754



PROFILE GRADE

(Along North Edge of Ramp "D")

Up to 1/4" to be ground off the bridge deck and approach slabs. The Profile Grade shows the final grade after grinding.



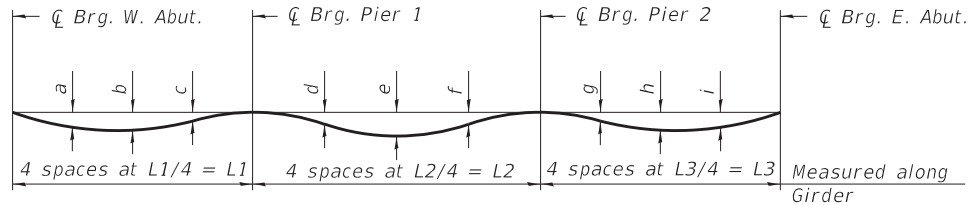
PROFILE GRADE

(Along Centerline of Ramp "B")

REVISED SHEET 4-9-2025

MODEL Default
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	DRAWN - DS		CHECKED - JS	REVISED -				155	(54-4HB)D	LOGAN	133	99
	PLOT SCALE = \$SCALES		DATE - 3/20/25	REVISED -				CONTRACT NO. 72220				
	PLOT DATE = 3/24/2025							ILLINOIS FED. AID PROJECT				



DEAD LOAD DEFLECTION DIAGRAM

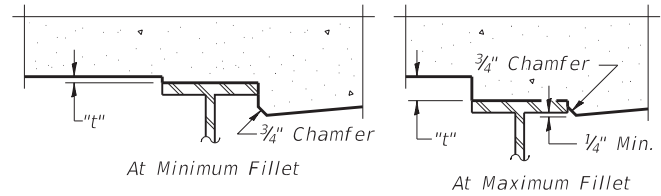
(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown below.

TABLE OF DIMENSIONS

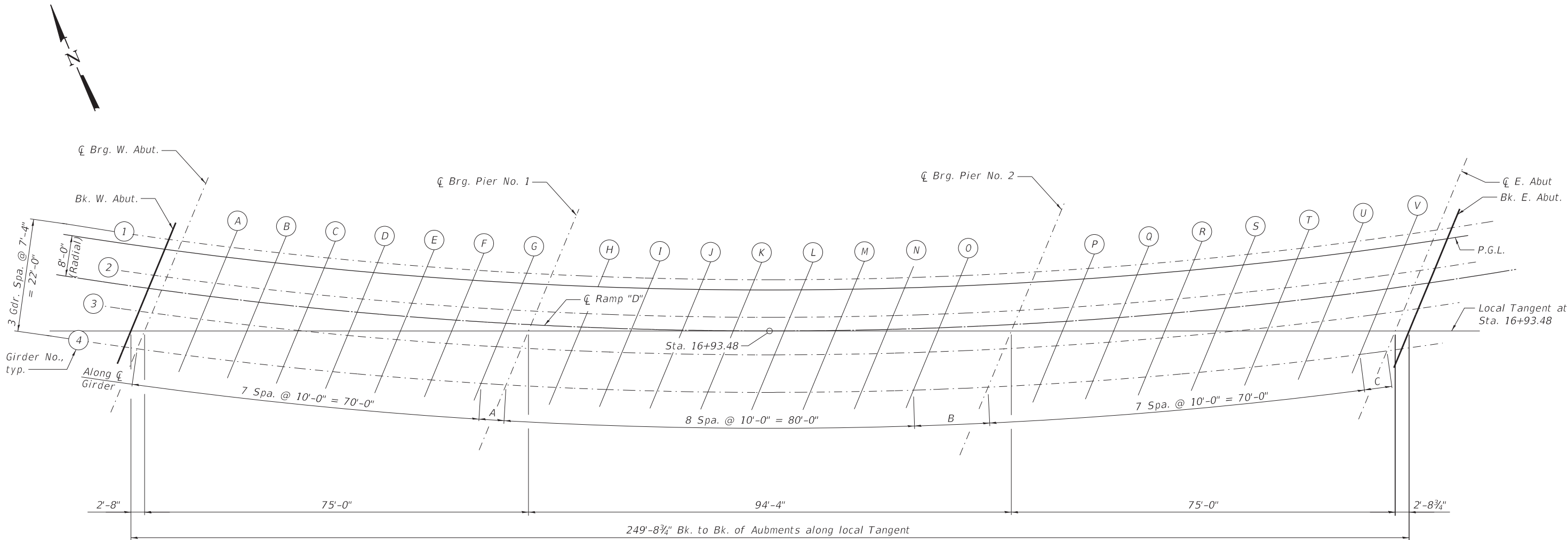
	Girder 1	Girder 2	Girder 3	Girder 4
L1	72'-7 $\frac{3}{4}$ "	72'-6 $\frac{1}{16}$ "	72'-6"	72'-5 $\frac{3}{16}$ "
L2	94'-7 $\frac{1}{8}$ "	94'-5 $\frac{7}{16}$ "	94'-3 $\frac{3}{16}$ "	94'-2 $\frac{1}{4}$ "
L3	78'-10 $\frac{3}{16}$ "	78'-7 $\frac{1}{16}$ "	78'-5 $\frac{1}{16}$ "	78'-3 $\frac{1}{2}$ "
a	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ "
b	$\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{4}$ "
c	$\frac{1}{8}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{8}$ "
d	$\frac{1}{8}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{8}$ "
e	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ "
f	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ "	$\frac{1}{8}$ "
g	$\frac{1}{8}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{8}$ "
h	$\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{4}$ "
i	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ "
A	2'-7 $\frac{3}{8}$ "	2'-6 $\frac{3}{4}$ "	2'-6"	2'-5 $\frac{3}{8}$ "
B	14'-7 $\frac{1}{8}$ "	14'-5 $\frac{1}{4}$ "	14'-3 $\frac{7}{8}$ "	14'-2 $\frac{1}{4}$ "
C	8'-10 $\frac{1}{4}$ "	8'-8"	8'-5 $\frac{3}{4}$ "	8'-3 $\frac{1}{2}$ "



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown below, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of beams.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN

1 REVISED SHEET 4-9-2025

MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_51\054-0051-72220-004-Top_Slab_Elev.dgn

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+75.50	-2.00	609.76	609.78
⌒ Brg. W. Abut.	15+78.06	-2.00	609.79	609.81
A	15+88.08	-2.00	609.90	609.95
B	15+98.10	-2.00	610.01	610.07
C	16+08.12	-2.00	610.10	610.17
D	16+18.15	-2.00	610.19	610.25
E	16+28.17	-2.00	610.27	610.32
F	16+38.19	-2.00	610.34	610.37
G	16+48.22	-2.00	610.40	610.42
⌒ Brg. Pier No. 1	16+50.82	-2.00	610.41	610.43
H	16+60.84	-2.00	610.46	610.49
I	16+70.86	-2.00	610.50	610.54
J	16+80.89	-2.00	610.53	610.59
K	16+90.91	-2.00	610.56	610.62
L	17+00.93	-2.00	610.57	610.64
M	17+10.96	-2.00	610.58	610.64
N	17+20.98	-2.00	610.57	610.62
O	17+31.00	-2.00	610.56	610.60
⌒ Brg. Pier No. 2	17+45.63	-2.00	610.53	610.55
P	17+55.65	-2.00	610.49	610.52
Q	17+65.68	-2.00	610.45	610.50
R	17+75.70	-2.00	610.40	610.46
S	17+85.72	-2.00	610.34	610.42
T	17+95.75	-2.00	610.27	610.35
U	18+05.77	-2.00	610.19	610.26
V	18+15.79	-2.00	610.11	610.15
⌒ Brg. E. Abut.	18+24.70	-2.00	610.02	610.04
Bk. E. Abut.	18+27.66	-2.00	609.99	610.01

P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+74.97	0.00	609.91	609.93
⌒ Brg. W. Abut.	15+77.52	0.00	609.94	609.96
A	15+87.52	0.00	610.05	610.10
B	15+97.52	0.00	610.16	610.22
C	16+07.52	0.00	610.25	610.32
D	16+17.52	0.00	610.34	610.40
E	16+27.52	0.00	610.42	610.47
F	16+37.52	0.00	610.49	610.52
G	16+47.52	0.00	610.55	610.57
⌒ Brg. Pier No. 1	16+50.10	0.00	610.56	610.59
H	16+60.10	0.00	610.61	610.64
I	16+70.10	0.00	610.66	610.70
J	16+80.10	0.00	610.69	610.74
K	16+90.10	0.00	610.71	610.78
L	17+00.10	0.00	610.73	610.80
M	17+10.10	0.00	610.73	610.80
N	17+20.10	0.00	610.73	610.78
O	17+30.10	0.00	610.72	610.75
⌒ Brg. Pier No. 2	17+44.66	0.00	610.69	610.71
P	17+54.66	0.00	610.65	610.68
Q	17+64.66	0.00	610.61	610.66
R	17+74.66	0.00	610.56	610.62
S	17+84.66	0.00	610.50	610.58
T	17+94.66	0.00	610.43	610.51
U	18+04.66	0.00	610.36	610.42
V	18+14.66	0.00	610.27	610.32
⌒ Brg. E. Abut.	18+23.50	0.00	610.19	610.21
Bk. E. Abut.	18+26.44	0.00	610.16	610.18

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+73.57	5.33	610.31	610.33
⌒ Brg. W. Abut.	15+76.11	5.33	610.34	610.36
A	15+86.05	5.33	610.45	610.50
B	15+95.98	5.33	610.56	610.62
C	16+05.92	5.33	610.66	610.72
D	16+15.86	5.33	610.74	610.80
E	16+25.80	5.33	610.82	610.87
F	16+35.74	5.33	610.89	610.93
G	16+45.68	5.33	610.96	610.98
⌒ Brg. Pier No. 1	16+48.20	5.33	610.97	610.99
H	16+58.14	5.33	611.02	611.05
I	16+68.08	5.33	611.06	611.10
J	16+78.02	5.33	611.10	611.15
K	16+87.96	5.33	611.12	611.19
L	16+97.90	5.33	611.14	611.21
M	17+07.84	5.33	611.15	611.21
N	17+17.78	5.33	611.15	611.20
O	17+27.72	5.33	611.14	611.17
⌒ Brg. Pier No. 2	17+42.09	5.33	611.11	611.13
P	17+52.02	5.33	611.08	611.11
Q	17+61.96	5.33	611.04	611.08
R	17+71.90	5.33	610.99	611.05
S	17+81.84	5.33	610.94	611.01
T	17+91.78	5.33	610.87	610.95
U	18+01.72	5.33	610.80	610.86
V	18+11.66	5.33	610.72	610.76
⌒ Brg. E. Abut.	18+20.31	5.33	610.64	610.66
Bk. E. Abut.	18+23.23	5.33	610.61	610.63

1 REVISED SHEET 4-9-2025



USER NAME = \$USERS	DESIGNED - RT	REVISED -
	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 054-0051

SCALE: SHEET 4 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	101
		CONTRACT NO. 72220		
		ILLINOIS	FED. AID PROJECT	

MODEL Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_51\054-0051-72220-005-Top_Slab_Elev03.dgn

⌄ RAMP "D"

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+72.88	8.00	610.51	610.53
⌄ Brg. W. Abut.	15+75.41	8.00	610.54	610.56
A	15+85.31	8.00	610.65	610.70
B	15+95.22	8.00	610.76	610.82
C	16+05.13	8.00	610.86	610.92
D	16+15.04	8.00	610.94	611.00
E	16+24.95	8.00	611.02	611.07
F	16+34.86	8.00	611.10	611.13
G	16+44.77	8.00	611.16	611.18
⌄ Brg. Pier No. 1	16+47.29	8.00	611.17	611.19
H	16+57.17	8.00	611.22	611.25
I	16+67.08	8.00	611.27	611.31
J	16+76.99	8.00	611.30	611.36
K	16+86.90	8.00	611.33	611.40
L	16+96.81	8.00	611.35	611.42
M	17+06.72	8.00	611.36	611.42
N	17+16.63	8.00	611.36	611.41
O	17+26.54	8.00	611.35	611.38
⌄ Brg. Pier No. 2	17+40.85	8.00	611.32	611.34
P	17+50.72	8.00	611.29	611.32
Q	17+60.63	8.00	611.25	611.30
R	17+70.54	8.00	611.21	611.27
S	17+80.45	8.00	611.15	611.23
T	17+90.36	8.00	611.09	611.17
U	18+00.27	8.00	611.02	611.08
V	18+10.18	8.00	610.94	610.98
⌄ Brg. E. Abut.	18+18.73	8.00	610.86	610.88
Bk. E. Abut.	18+21.64	8.00	610.83	610.85

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+71.68	12.67	610.86	610.88
⌄ Brg. W. Abut.	15+74.19	12.67	610.89	610.91
A	15+84.05	12.67	611.00	611.05
B	15+93.90	12.67	611.11	611.17
C	16+03.76	12.67	611.21	611.27
D	16+13.62	12.67	611.30	611.36
E	16+23.48	12.67	611.38	611.43
F	16+33.33	12.67	611.45	611.48
G	16+43.19	12.67	611.51	611.54
⌄ Brg. Pier No. 1	16+45.63	12.67	611.53	611.55
H	16+55.49	12.67	611.58	611.61
I	16+65.35	12.67	611.63	611.66
J	16+75.21	12.67	611.66	611.72
K	16+85.06	12.67	611.69	611.76
L	16+94.92	12.67	611.71	611.78
M	17+04.78	12.67	611.72	611.78
N	17+14.63	12.67	611.72	611.77
O	17+24.49	12.67	611.71	611.75
⌄ Brg. Pier No. 2	17+38.60	12.67	611.69	611.71
P	17+48.46	12.67	611.66	611.69
Q	17+58.32	12.67	611.63	611.67
R	17+68.18	12.67	611.58	611.65
S	17+78.03	12.67	611.53	611.61
T	17+87.89	12.67	611.47	611.55
U	17+97.75	12.67	611.40	611.47
V	18+07.60	12.67	611.32	611.37
⌄ Brg. E. Abut.	18+15.99	12.67	611.25	611.27
Bk. E. Abut.	18+18.88	12.67	611.22	611.24

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	15+69.82	20.00	611.41	611.43
⌄ Brg. W. Abut.	15+72.31	20.00	611.44	611.46
A	15+82.08	20.00	611.55	611.60
B	15+91.86	20.00	611.66	611.72
C	16+01.64	20.00	611.76	611.82
D	16+11.41	20.00	611.85	611.91
E	16+21.19	20.00	611.93	611.98
F	16+30.96	20.00	612.00	612.04
G	16+40.74	20.00	612.07	612.09
⌄ Brg. Pier No. 1	16+43.11	20.00	612.08	612.11
H	16+52.89	20.00	612.14	612.17
I	16+62.66	20.00	612.19	612.23
J	16+72.44	20.00	612.22	612.28
K	16+82.21	20.00	612.25	612.32
L	16+91.99	20.00	612.28	612.35
M	17+01.77	20.00	612.29	612.35
N	17+11.54	20.00	612.29	612.34
O	17+21.32	20.00	612.29	612.33
⌄ Brg. Pier No. 2	17+35.19	20.00	612.27	612.29
P	17+44.96	20.00	612.25	612.27
Q	17+54.74	20.00	612.21	612.26
R	17+64.52	20.00	612.17	612.23
S	17+74.29	20.00	612.12	612.20
T	17+84.07	20.00	612.07	612.14
U	17+93.84	20.00	612.00	612.07
V	18+03.62	20.00	611.93	611.97
⌄ Brg. E. Abut.	18+11.76	20.00	611.86	611.88
Bk. E. Abut.	18+14.62	20.00	611.83	611.85

1 REVISED SHEET 4-9-2025



USER NAME = \$USERS	DESIGNED - RT	REVISED -
	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 054-0051

SCALE: SHEET 5 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	102
		CONTRACT NO. 72220		
		ILLINOIS	FED. AID PROJECT	

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Slab	15+46.39	-4.00	609.22	609.24
A1	15+56.43	-4.00	609.36	609.38
A2	15+66.48	-4.00	609.49	609.51
E. End W. Appr. Slab	15+76.55	-4.00	609.62	609.64

NORTH EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Slab	15+45.47	0.00	609.52	609.54
A1	15+55.47	0.00	609.66	609.68
A2	15+65.47	0.00	609.79	609.81
E. End W. Appr. Slab	15+75.49	0.00	609.92	609.94

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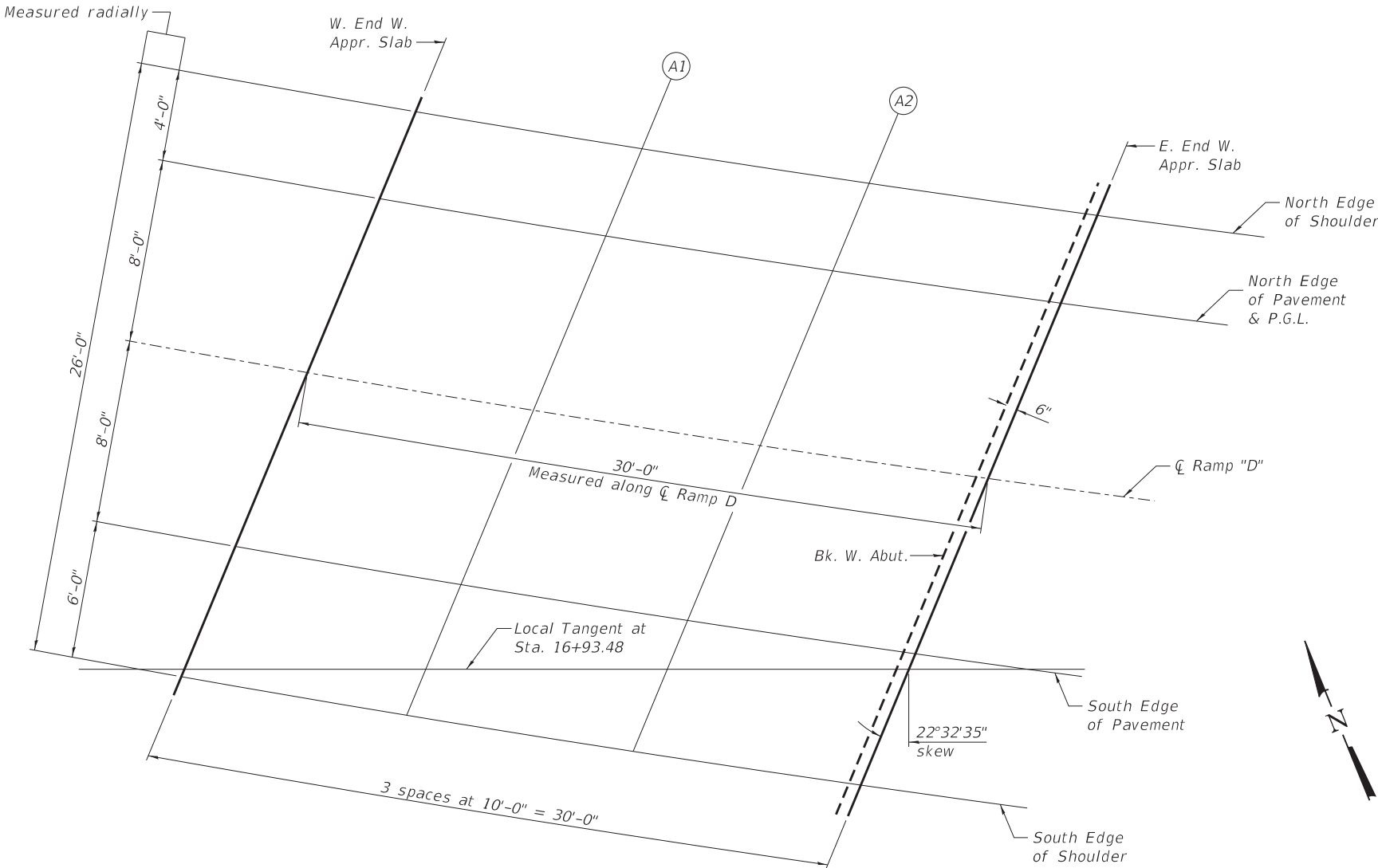
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Slab	15+43.66	8.00	610.12	610.14
A1	15+53.57	8.00	610.26	610.28
A2	15+63.48	8.00	610.39	610.41
E. End W. Appr. Slab	15+73.39	8.00	610.52	610.54

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Slab	15+41.89	16.00	610.71	610.73
A1	15+51.71	16.00	610.86	610.88
A2	15+61.53	16.00	610.99	611.01
E. End W. Appr. Slab	15+71.34	16.00	611.11	611.13

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Slab	15+40.58	22.00	611.16	611.18
A1	15+50.34	22.00	611.30	611.32
A2	15+60.09	22.00	611.44	611.46
E. End W. Appr. Slab	15+69.82	22.00	611.56	611.58



PLAN

1 REVISED SHEET 4-9-2025

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	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 054-0051

SCALE: SHEET 6 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	103
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Slab	18+28.30	-4.00	609.83	609.85
A3	18+38.34	-4.00	609.72	609.74
A4	18+48.39	-4.00	609.61	609.63
E. End E. Appr. Slab	18+58.60	-4.00	609.48	609.50

NORTH EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Slab	18+25.86	0.00	610.17	610.19
A3	18+35.86	0.00	610.06	610.08
A4	18+45.86	0.00	609.95	609.97
E. End E. Appr. Slab	18+55.97	0.00	609.83	609.85

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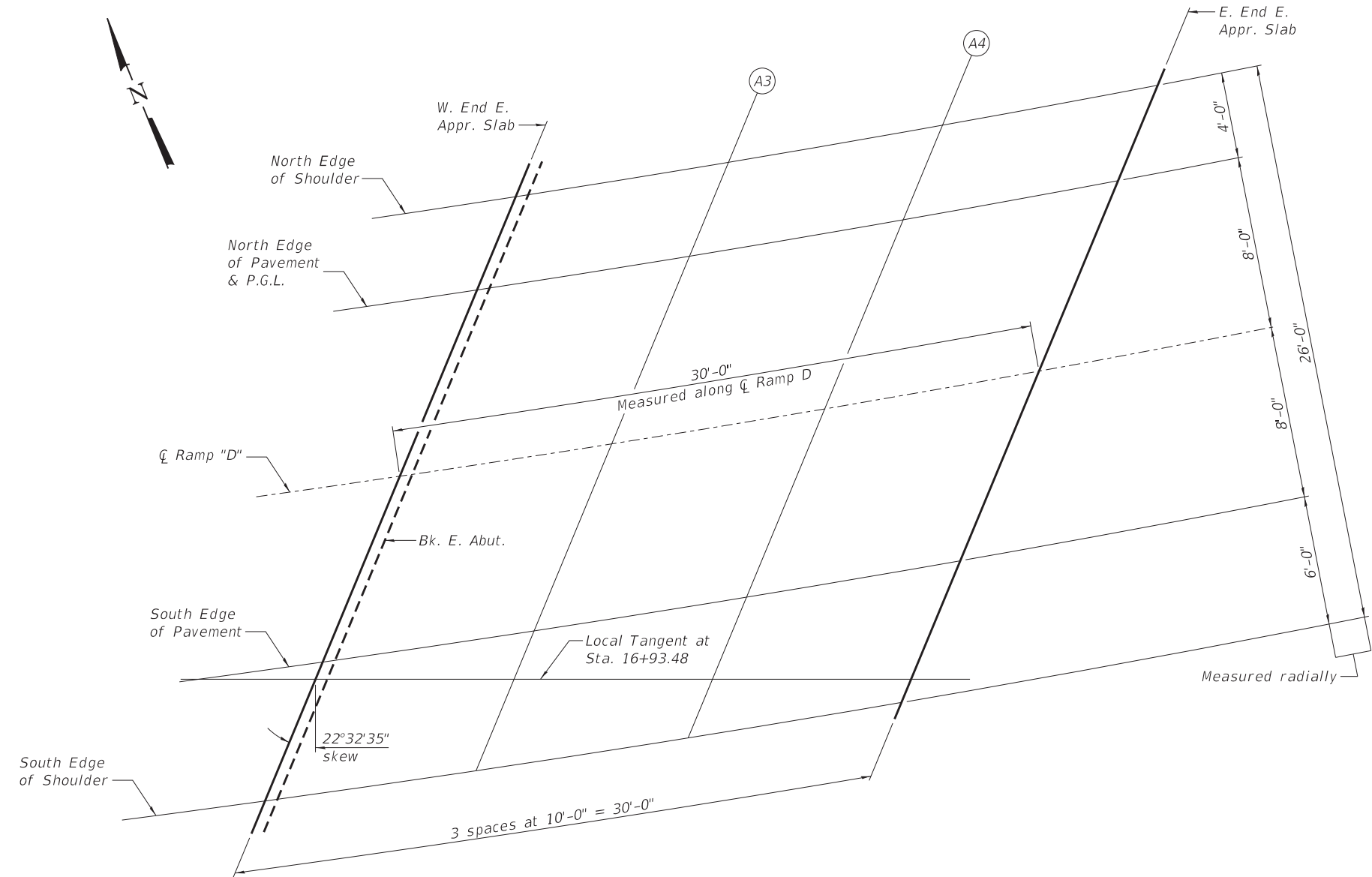
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Slab	18+21.06	8.00	610.84	610.86
A3	18+30.97	8.00	610.74	610.76
A4	18+40.88	8.00	610.63	610.65
E. End E. Appr. Slab	18+50.79	8.00	610.52	610.54

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Slab	18+16.36	16.00	611.51	611.53
A3	18+26.18	16.00	611.41	611.43
A4	18+36.00	16.00	611.31	611.33
E. End E. Appr. Slab	18+45.72	16.00	611.20	611.22

SOUTH EDGE OF SHOULDER

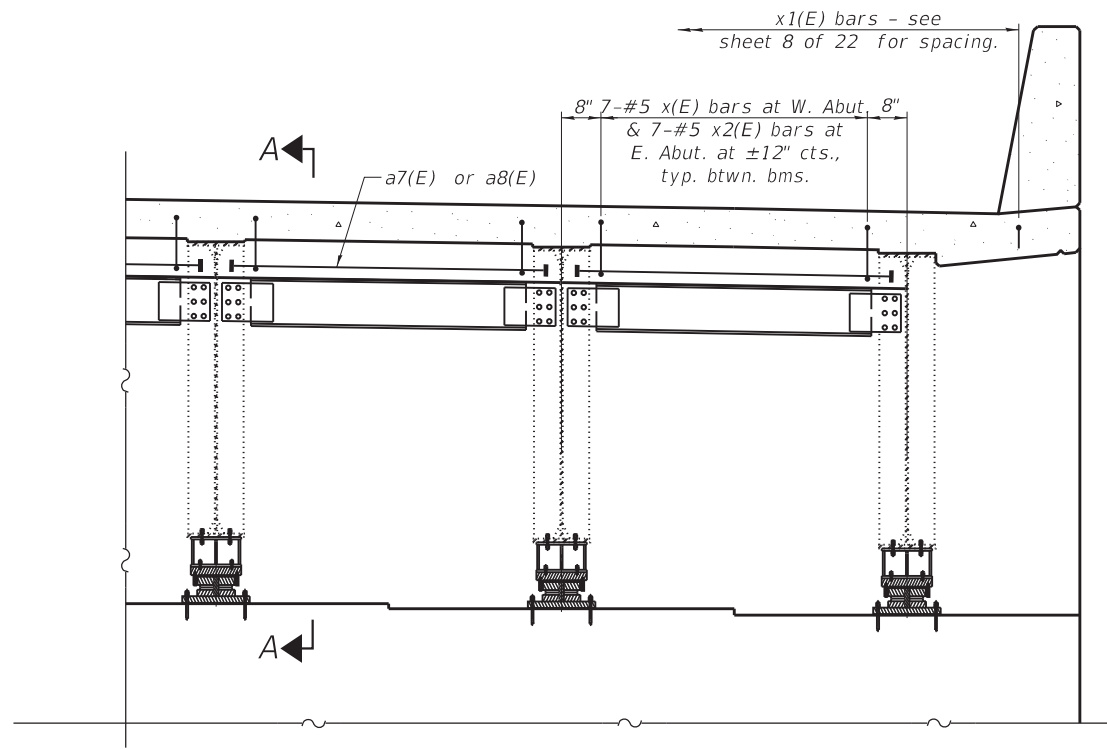
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Slab	18+12.90	22.00	612.00	612.03
A3	18+22.66	22.00	611.91	611.94
A4	18+32.41	22.00	611.82	611.84
E. End E. Appr. Slab	18+41.99	22.00	611.71	611.73



PLAN

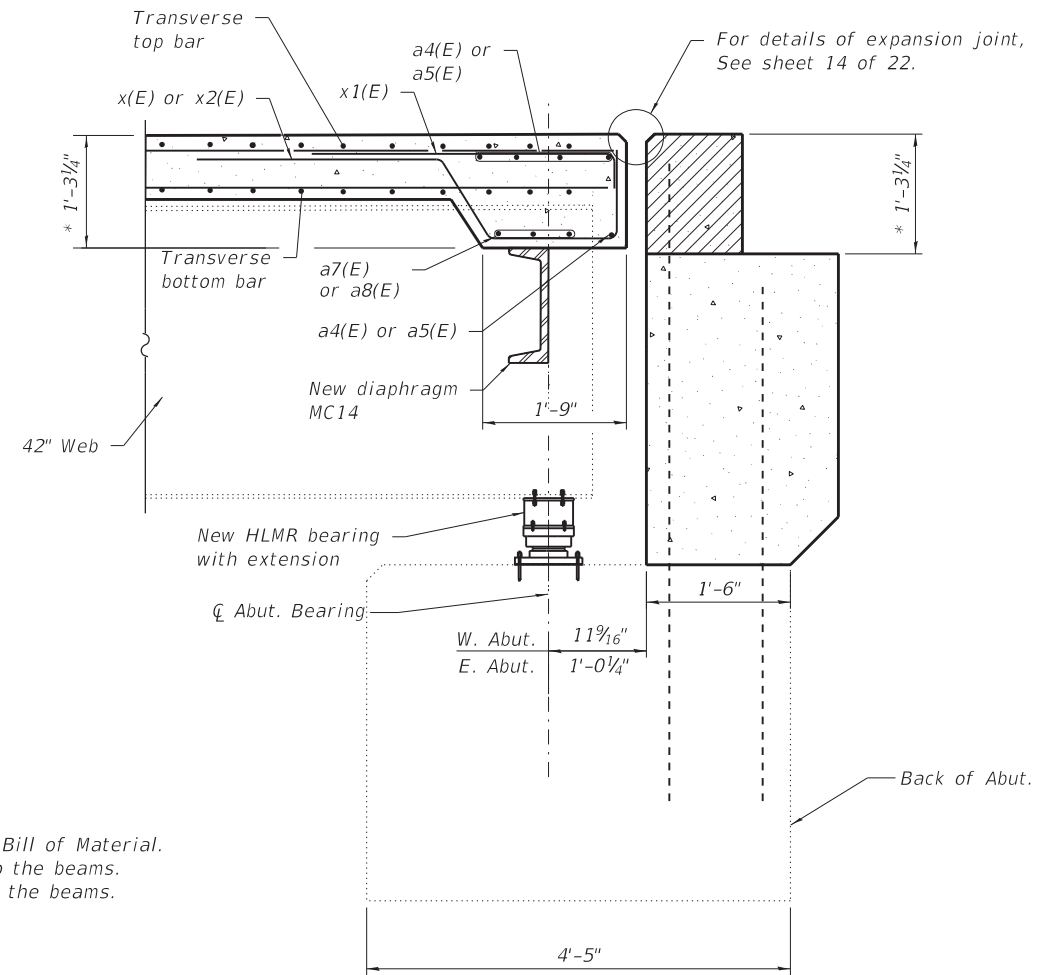
1 REVISED SHEET 4-9-2025

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DIAPHRAGM AT WEST ABUTMENT
(Looking West)
(East Abutment Similar)

Notes:
See sheet 9 of 22 for superstructure details and Bill of Material.
The x(E) and x2(E) bars shall be placed parallel to the beams.
Spacing for these bars shall be at right angles to the beams.



SECTION A-A
(Full cross frame not shown for clarity)
* prior to grinding

1 REVISED SHEET 4-9-2025

MODEL Default
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	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS
STRUCTURE NO. 054-0051**

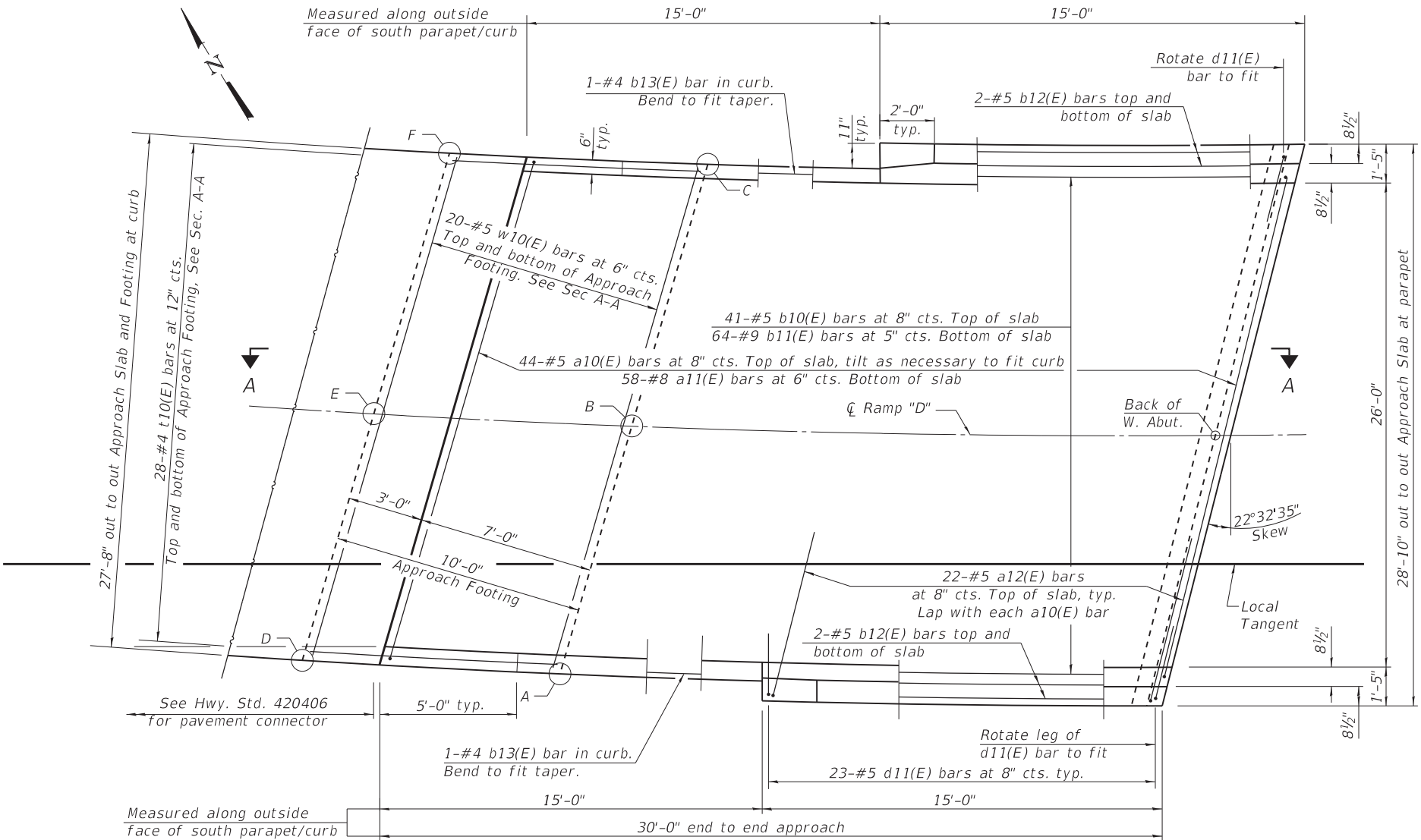
SCALE: SHEET 10 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	107
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

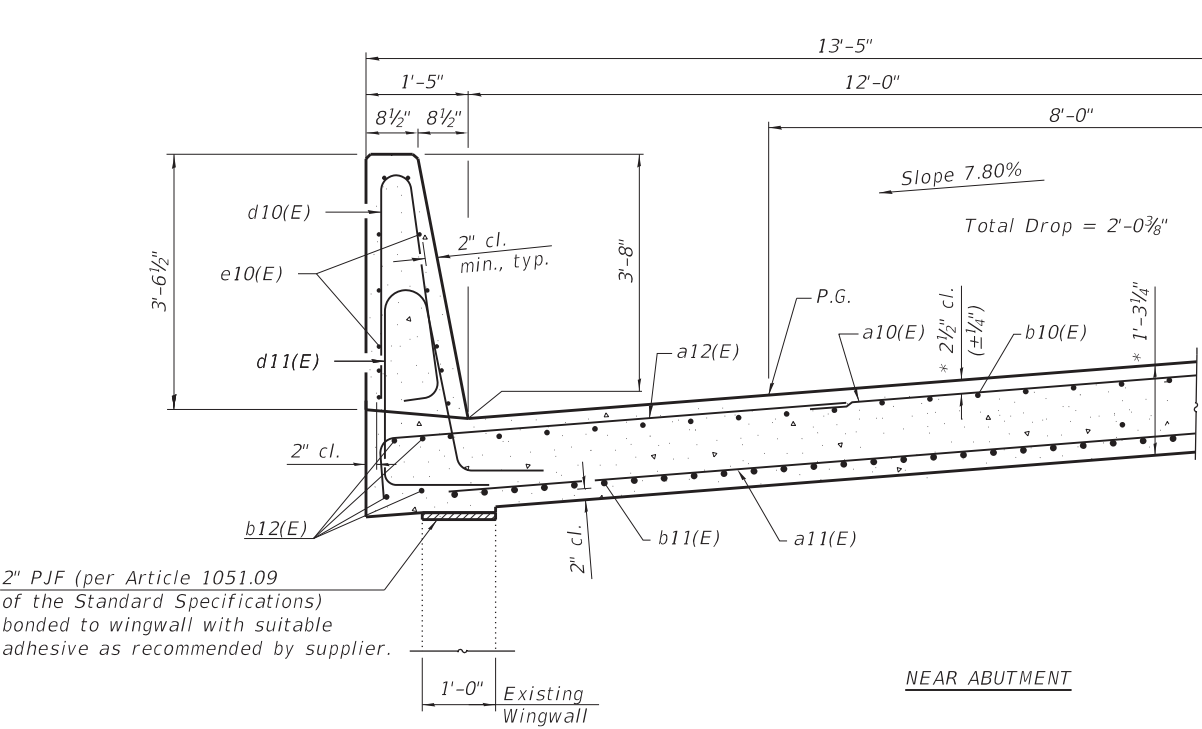
TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING

Point/ Location	Station	Offset	Top	Bottom
A	15+46.92	14.50	610.05	609.21
B	15+50.58	0.00	608.96	608.13
C	15+53.81	-12.50	608.04	607.21
D	15+36.79	14.50	609.90	609.06
E	15+40.27	0.00	608.81	607.98
F	15+43.36	-12.50	607.89	607.06

Note:
See sheet 13 of 22 for Section A-A.

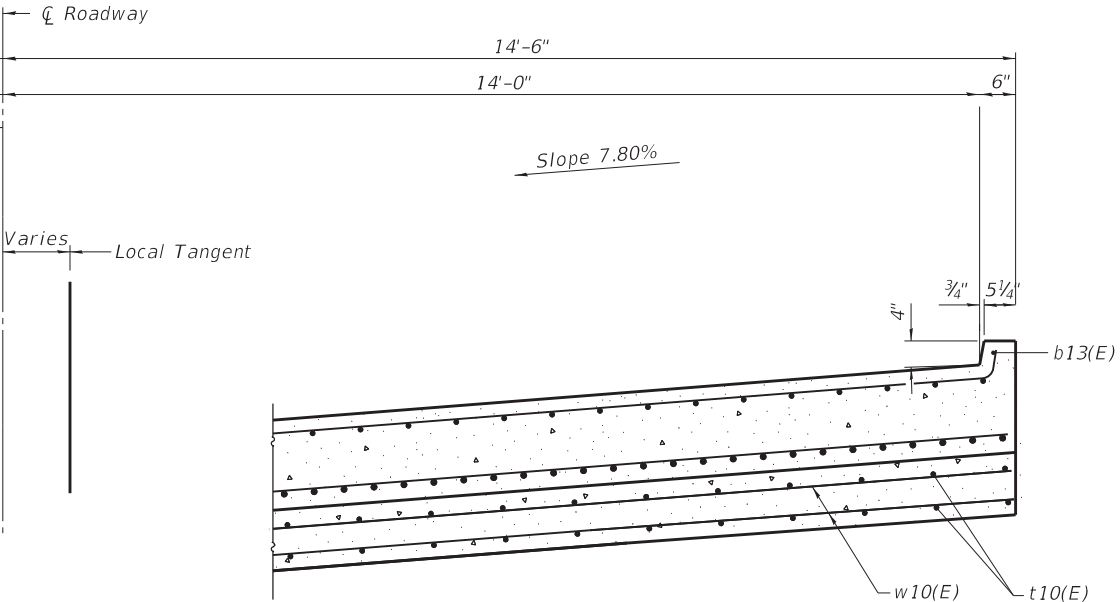


PLAN
(West approach slab)



NEAR ABUTMENT

CROSS SECTION
(Looking East)
* prior to grinding



AT APPROACH FOOTING

MODEL: Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE010\01\CADD_51\054-0051-72220-011-Approach Slab West.dgn



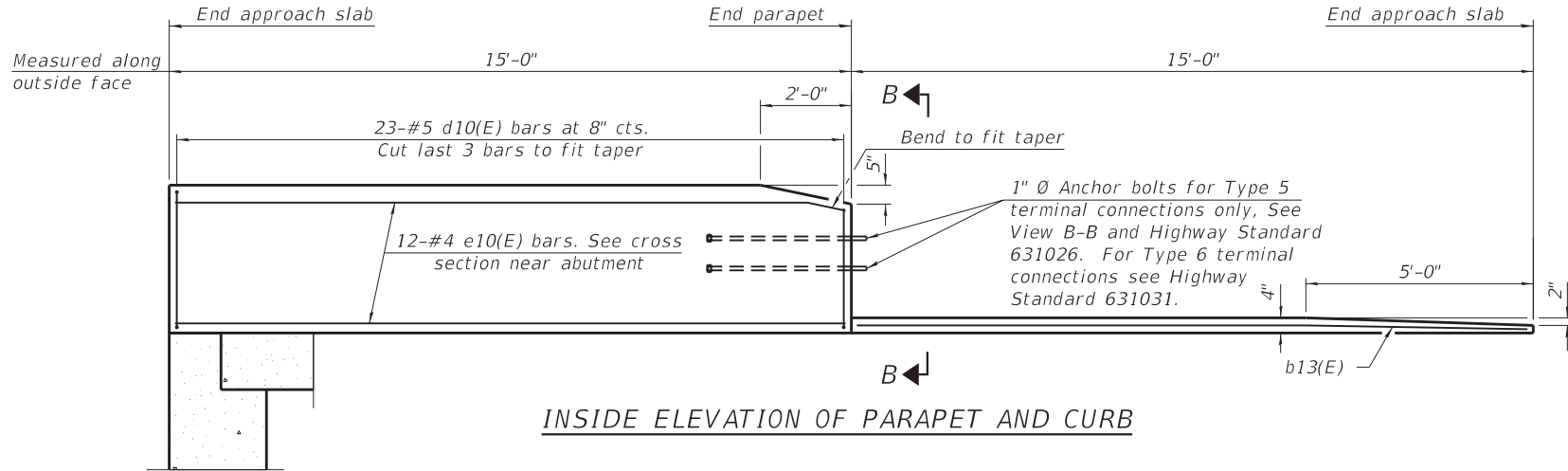
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PLOT DATE = 3/24/2025	CHECKED - JS	REVISED -
	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 054-0051

SCALE: SHEET 11 OF 22 SHEETS STA. TO STA.

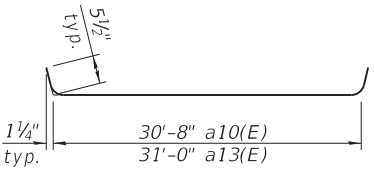
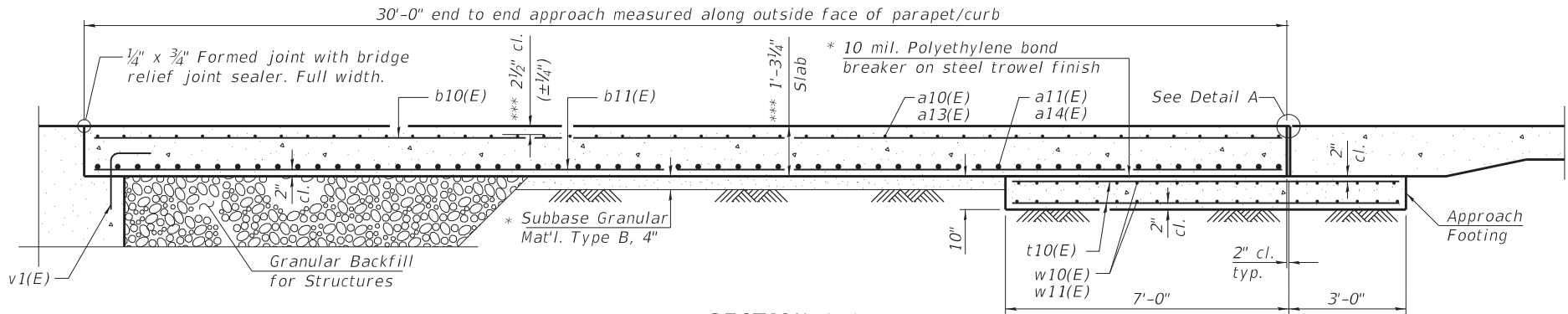
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	108
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



Notes:
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures, see sheet 2 of 22.

WEST APPROACH SLAB
BILL OF MATERIAL

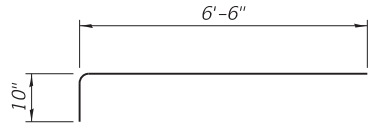
Bar	No.	Size	Length	Shape
a10(E)	44	#5	31'-7"	
a11(E)	58	#8	30'-8"	
a12(E)	44	#5	7'-4"	
b10(E)	41	#5	28'-2"	
b11(E)	64	#9	28'-2"	
b12(E)	8	#5	14'-8"	
b13(E)	2	#4	13'-2"	
w10(E)	40	#5	27'-4"	
t10(E)	56	#4	10'-6"	
d10(E)	46	#5	6'-5"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
Concrete Superstructure			Cu. Yd.	4.2
Concrete Superstructure (Approach Slab)			Cu. Yd.	37.8
Concrete Structures			Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated			Pound	16,500



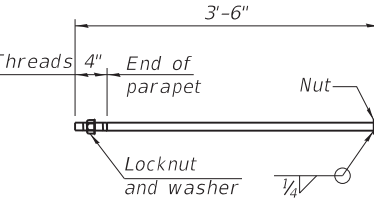
BAR a10(E) or a 13(E)

EAST APPROACH SLAB
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a12(E)	44	#5	7'-4"	
a13(E)	50	#5	31'-7"	
a14(E)	66	#8	30'-8"	
b10(E)	41	#5	32'-6"	
b11(E)	66	#9	32'-6"	
b12(E)	8	#5	14'-8"	
b14(E)	2	#4	17'-4"	
w11(E)	40	#5	31'-9"	
t10(E)	66	#4	10'-6"	
d10(E)	46	#5	6'-5"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
Concrete Superstructure			Cu. Yd.	4.2
Concrete Superstructure (Approach Slab)			Cu. Yd.	43.3
Concrete Structures			Cu. Yd.	10.0
Reinforcement Bars, Epoxy Coated			Pound	18,960



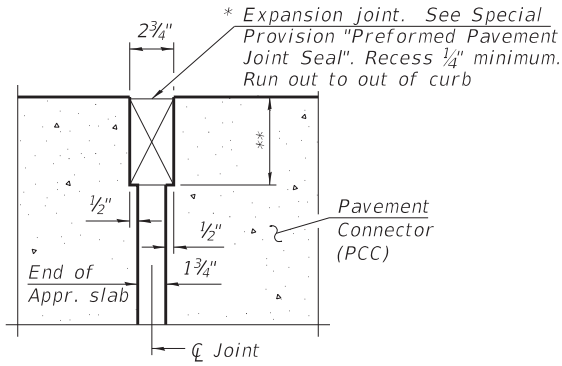
BAR a12(E)



*1" Ø ANCHOR BOLT

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

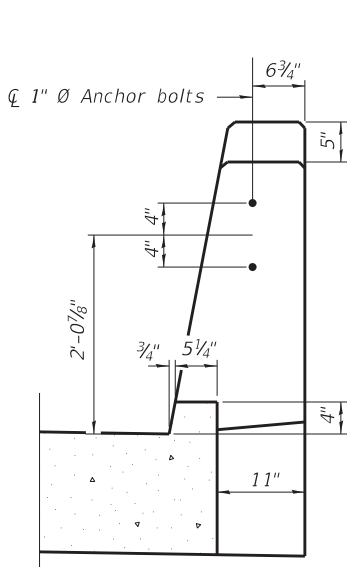
(Sheet 2 of 2)



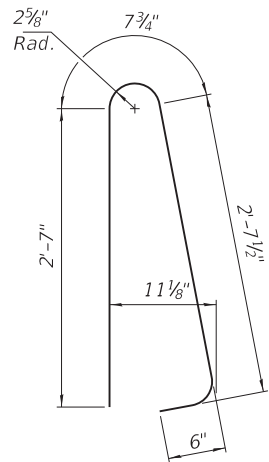
DETAIL A
(at Rt. L's)

* Cost included with Concrete Superstructure (Approach Slab).

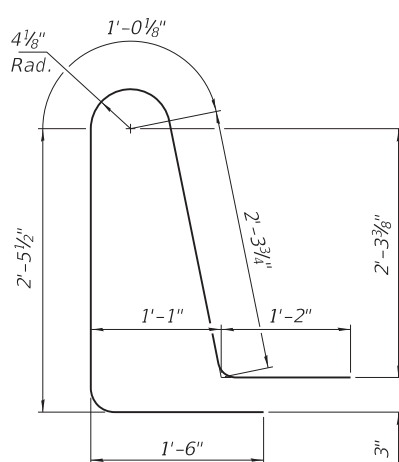
** Per manufacturer recommendations



VIEW B-B



BAR d10(E)



BAR d11(E)

REVISD SHEET 4-9-2025

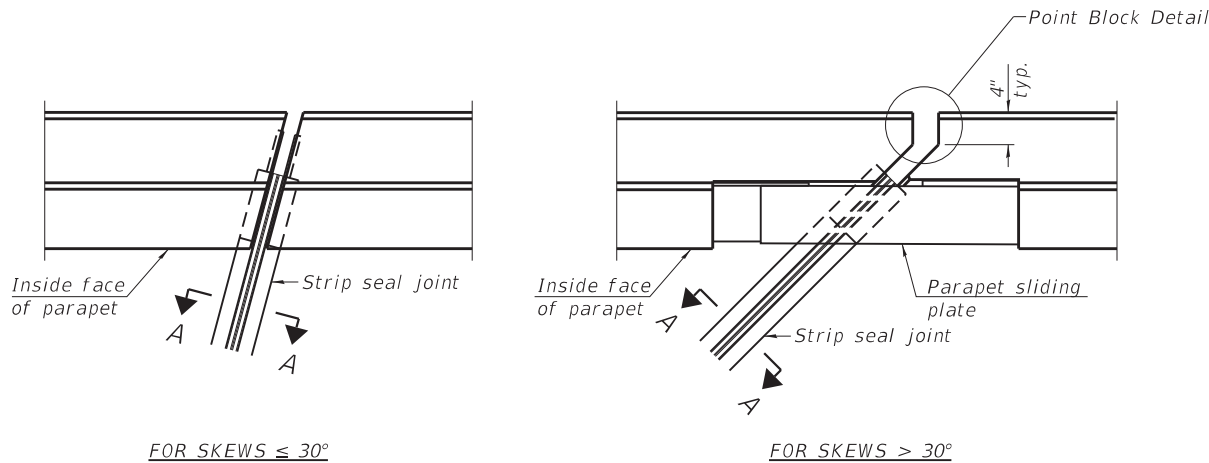
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 054-0051

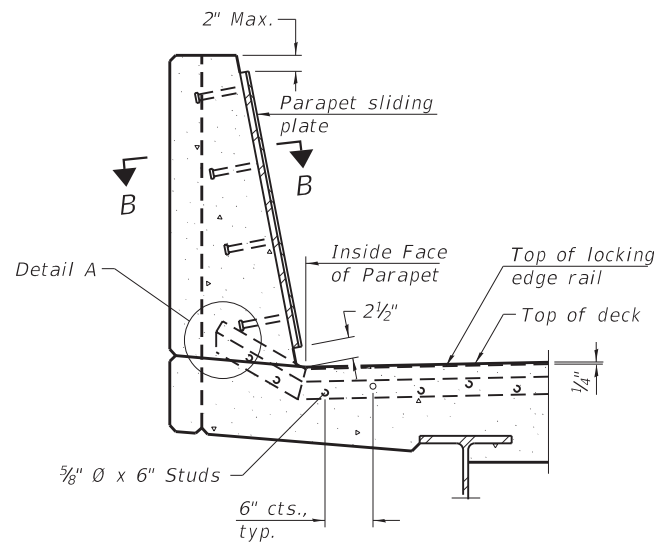
SCALE: SHEET 13 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	110
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

USER NAME = \$USERS	DESIGNED - RT	REVISED -
DRAWN - DS	REVISED -	
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

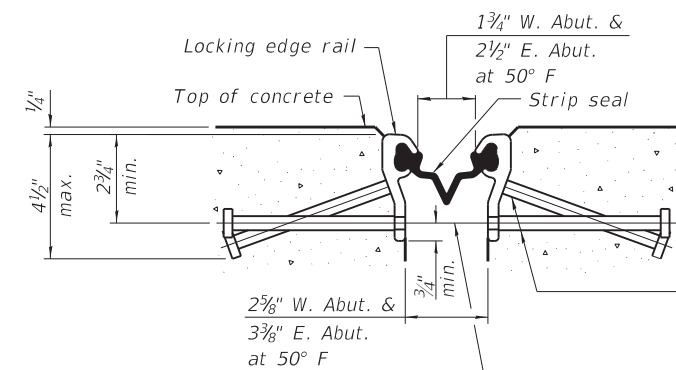


PLAN AT PARAPET



SECTION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



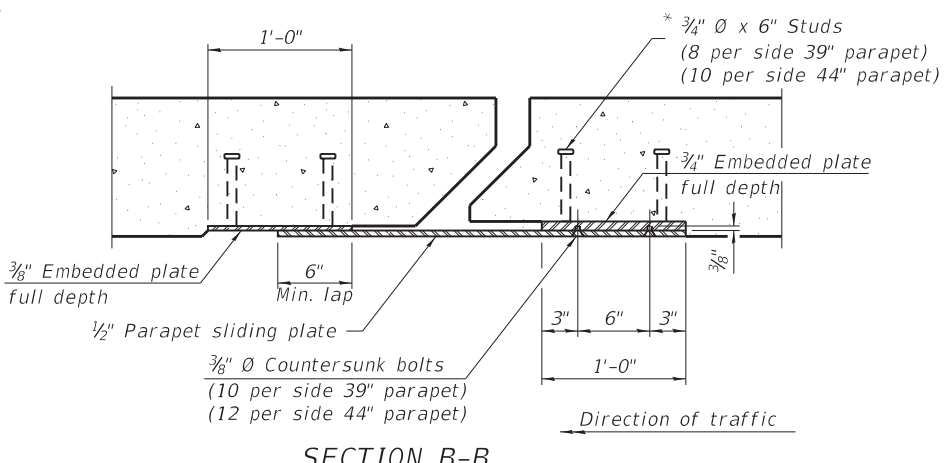
SHOWING ROLLED RAIL JOINT

* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

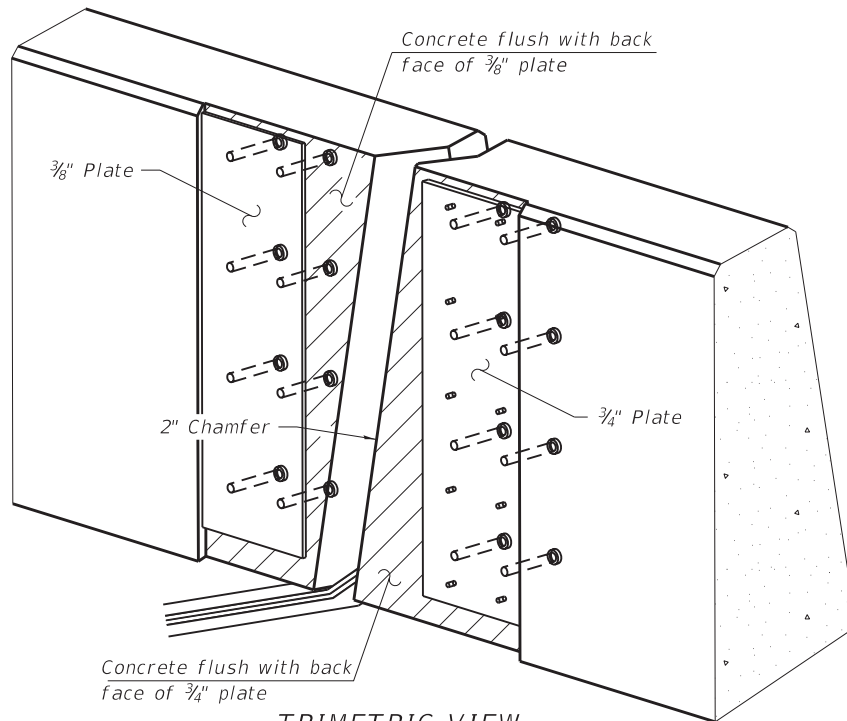
3/8" Ø threaded rods in 7/16" Ø holes at 4'-0"± cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

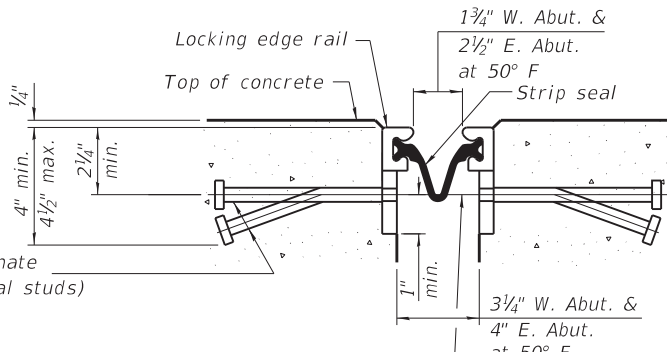


SECTION B-B

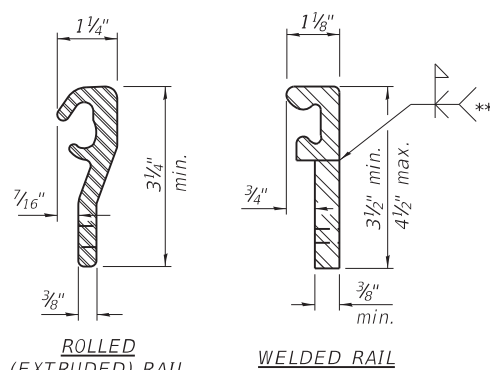


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	62

EJ-SS

5-15-2023

1 REVISED SHEET 4-9-2025

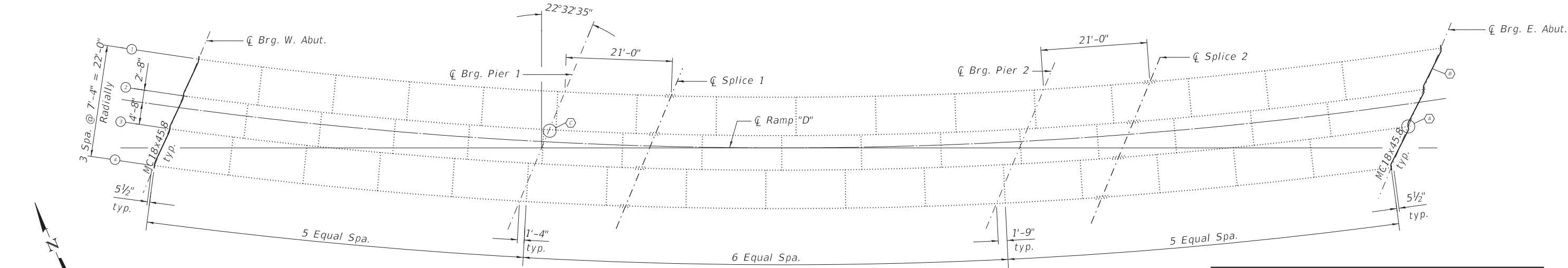
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 054-0051

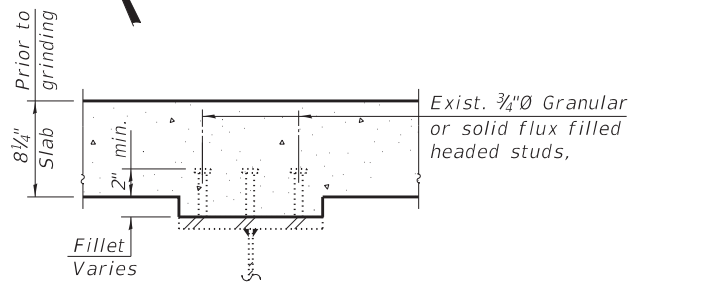
SCALE: SHEET 14 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	111
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

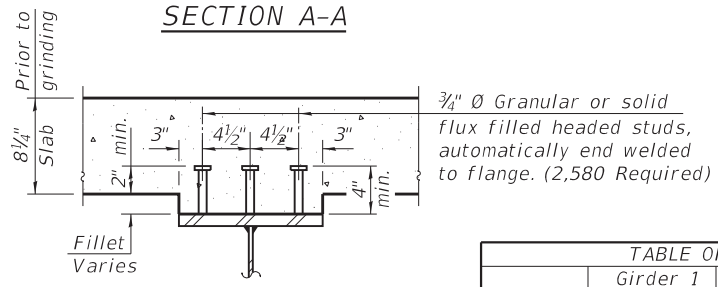
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PLOT SCALE = \$SCALES	DRAWN - DS	REVISED -
PLOT DATE = 3/24/2025	CHECKED - JS	REVISED -
	DATE - 3/2025	REVISED -



PLAN



SECTION A-A



SECTION B-B

- Ⓐ - Jack and replace all bearings at both the W. Abut. and E. Abut. (8 locations). See sheet 18 of 22 for details and quantities.
- Ⓑ - Remove portion and repair all end diaphragms at both the W. Abut. and E. Abut. (6 locations). See sheet 16 of 22 for details and quantities.
- Ⓒ - Repair bearing stiffener. See sheet 16 of 22 for details and quantities.

TABLE OF GIRDER DIMENSIONS				
	Girder 1	Girder 2	Girder 3	Girder 4
Radius	879.47'	886.80'	894.13'	901.47'
A	72'-7 7/8"	72'-6 1 1/16"	72'-6"	72'-5 5/16"
B	94'-7 1/8"	94'-5 1/16"	94'-3 1 3/16"	94'-2 1/4"
C	78'-10 3/16"	78'-7 1 1/16"	78'-5 1 1/16"	78'-3 1/2"
D	66'-7 1/8"	66'-5 1/16"	66'-3 1 3/16"	66'-2 1/4"
E	58'-3 1 1/16"	58'-1 1/16"	57'-11 3/16"	57'-9"

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in ⁴)	14,050	24,745	15,228	26,547	15,228
$I_c(n)$	(in ⁴)	41,993	-	47,113	-	47,113
$I_c(3n)$	(in ⁴)	30,324	-	33,452	-	33,452
S_s	(in ³)	743	1,094	856	1,167	856
$S_c(n)$	(in ³)	1,086	-	1,244	-	1,244
$S_c(3n)$	(in ³)	995	-	1,140	-	1,140
S_f	(in ³)	37	-	45	-	45
$\varnothing$	(k/')	0.930	0.990	0.940	1.000	0.940
$M\varnothing$	('k)	334	753	266	796	359
$s\varnothing$	(k/')	0.468	0.468	0.468	0.468	0.468
$M_s\varnothing$	('k)	180	346	162	360	196
M_t	('k)	531	499	562	512	572
M_I	('k)	180	157	166	159	186
$^{5}_3[M_t + M_I]$	('k)	1,185	1,093	1,213	1,118	1,263
M_a	('k)	2,209	2,850	2,134	2,957	2,364
M_{bl}	('k)	1.0	-	1.0	-	2.0
$fs\varnothing$ (non-comp)	(ksi)	5.4	8.3	3.7	8.2	5.0
$fs\varnothing$ (comp)	(ksi)	2.2	3.8	1.7	3.7	2.1
$fs^{5}_3 [M_t + M_I]$	(ksi)	13.1	12.0	11.7	11.5	12.2
f_l	(ksi)	0.20	-	0.18	-	0.52
fs (Overload)	(ksi)	20.7	24.1	17.1	23.4	19.3
fs (Total)	(ksi)	26.9	31.3	21.2	30.4	25.1
F_{cr} (Overload)	(ksi)	34.2	34.2	34.2	34.2	34.2
VR	(k)	22.7	31.6	23.5	33.0	24.9
F_{cr}	(ksi)	35.9	36.0	35.9	36.0	35.3

INTERIOR GIRDER REACTION TABLE					
	W. Abut.	Pier 1	Pier 2	E. Abut.	
R^D	(k)	39.0	134.7	137.6	41.1
R_t^L	(k)	52.4	70.4	70.9	51.9
R_i	(k)	17.7	22.2	22.0	16.9
R_{Total}	(k)	109.1	227.3	230.5	109.9

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

SI: Section modulus of one flange plate for lateral flange bending (in.³).

ϕ: Un-factored non-composite dead load (kips/ft.).

Mϕ: Un-factored moment due to non-composite dead load (kip-ft.).

sϕ: Un-factored long-term composite (superimposed) dead load (kips/ft.).

Msϕ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

Mℓ: Un-factored live load moment (kip-ft.).

MI: Un-factored moment due to impact (kip-ft.).

Ma: Factored design moment (kip-ft.).

1.3 [Mϕ + Msϕ + 5/3 (Mℓ + MI)]

Mbl: Factored lateral bending moment for flange plate (kip-ft.).

fl: Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

fs(Overload): Sum of stresses as computed from the moments below (ksi).

Mϕ + Msϕ + 5/3 (Mℓ + MI)

fs(Total): Sum of stresses as computed from the moments below (ksi).

1.3 [Mϕ + Msϕ + 5/3 (Mℓ + MI)]

Fcr(Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi.).

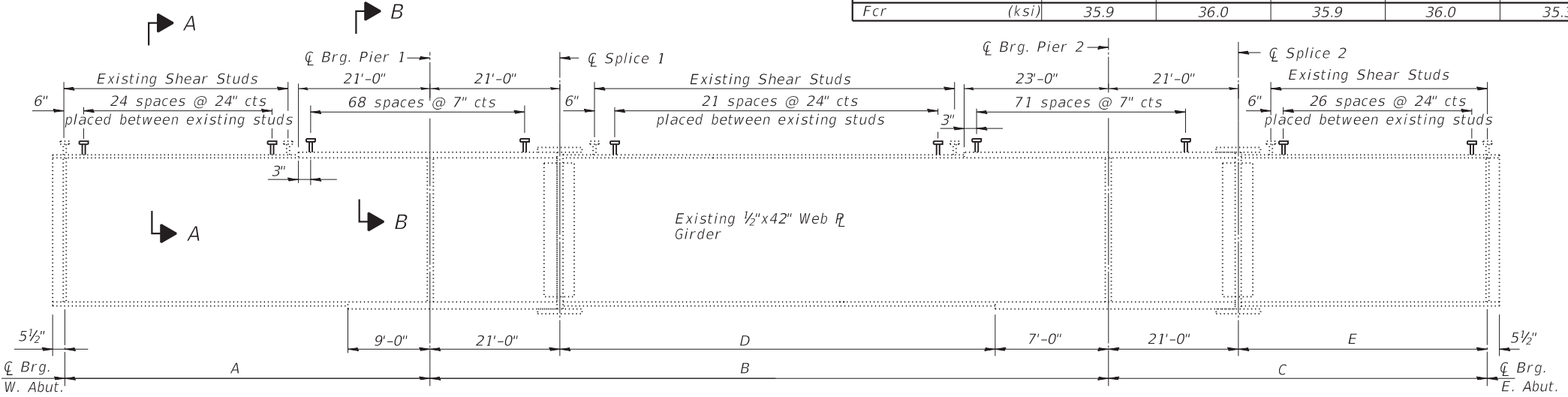
Fcr: Critical average flange stress (smaller of Fcr1 or Fcr2 for partially braced flanges and Fy for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

VR: Maximumℓ + impact shear range within span for stud shear connector design (kips).

Note:
Mℓ and Rℓ include the effects of centrifugal force and superelevation.

BILL OF MATERIAL

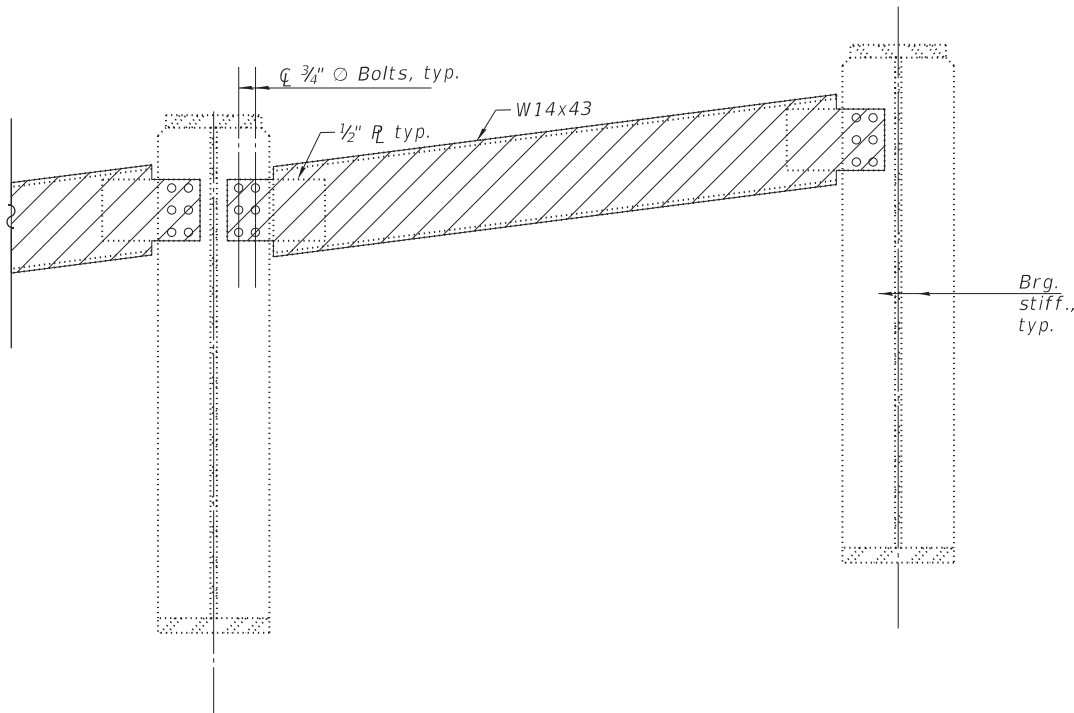
ITEM	UNIT	TOTAL
Stud Shear Connectors	Each	2,580



GIRDER ELEVATION

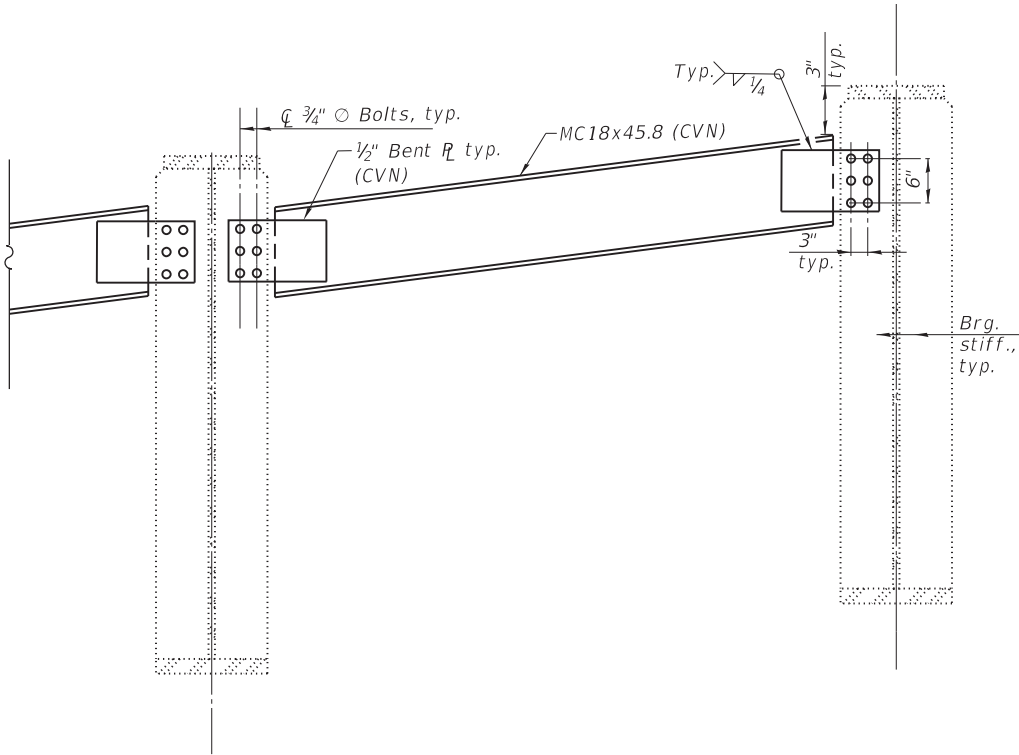
REVISD SHEET 4-9-2025

MODEL Default
FILE NAME: P:\Transportation\4554 - IDOT FTB 198-023 DE01W01\CADD_51\054-0051-72220015-Framing Plan.dgn



EXISTING END DIAPHRAGM REMOVAL DETAIL

Remove each end diaphragm at both the W. Abut and E. Abut. (6 Locations).
Cost included with Structural Steel Repair
(West Abutment Shown, East Abutment Similar)



EXISTING END DIAPHRAGM REPAIR DETAIL

"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.

LEGEND



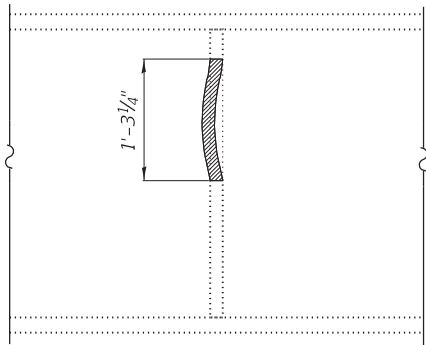
BOLT HOLE LEGEND

o - Field drill using existing steel or template

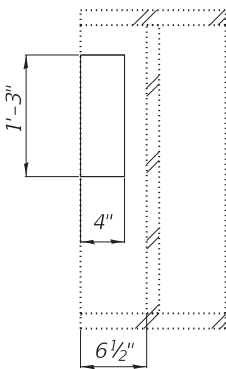
Note:
Two hardened washers for each set of oversized holes.

1 REVISED SHEET 4-9-2025

B



ELEVATION

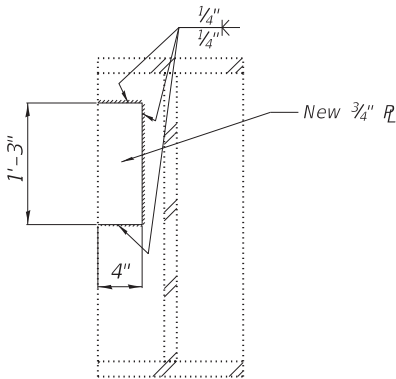


ELEVATION B-B

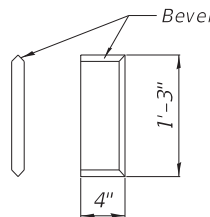
Partial bearing stiffener removal.

BENT BEARING STIFFENER REPAIR DETAIL

(Total 1 required)

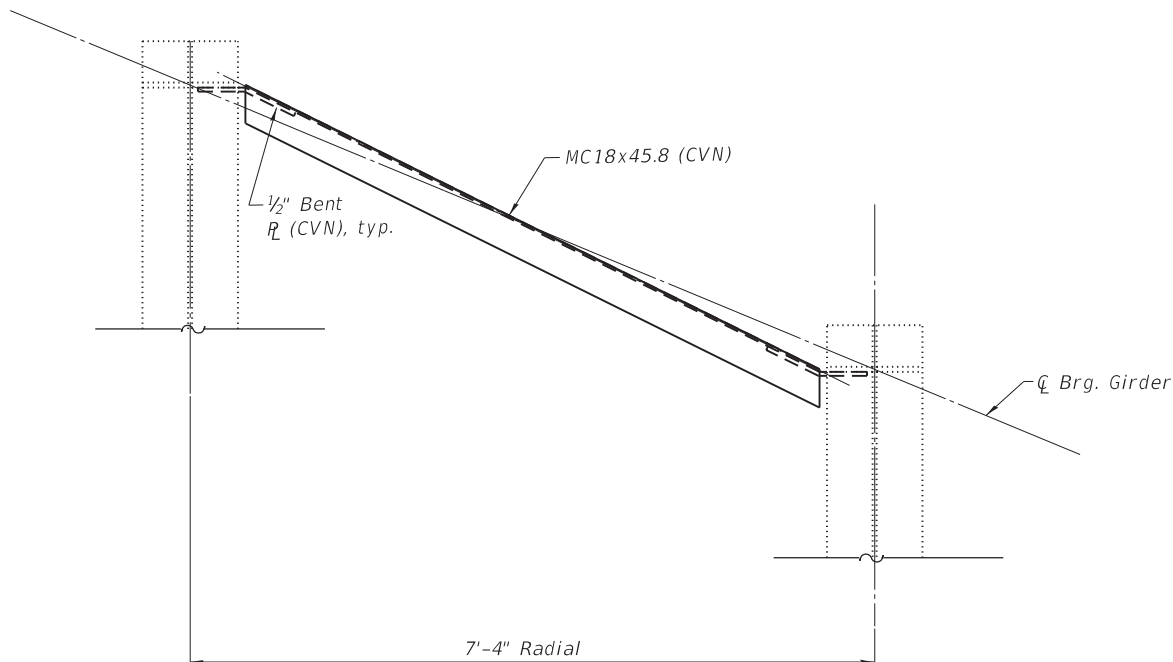


STIFFENER PLATE REPAIR



REPAIR PLATE DETAIL

Cost of bent bearing stiffener repair is paid for as Structural Steel Repair.



PLAN

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	2,790

MODEL: Default
FILE NAME: P:\Transportation\4854 - IDOT FTB 198-023 DE01W01\CADD_51\054-0051-72220-016-Structural Repair Details.dgn



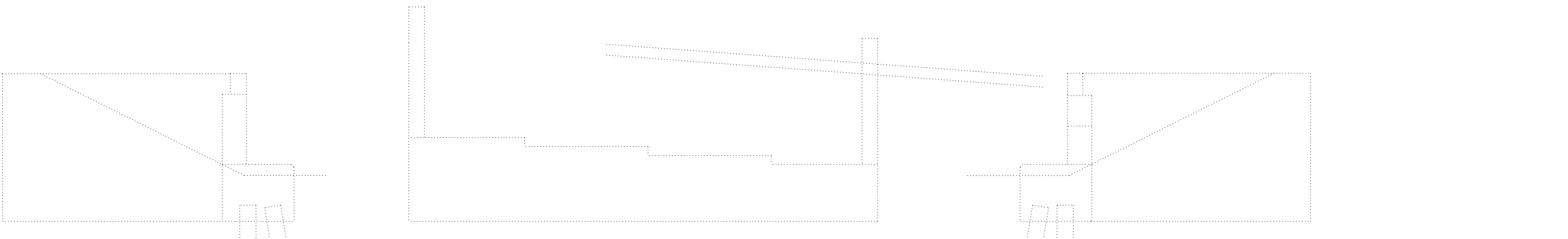
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PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIR DETAILS
STRUCTURE NO. 054-0051

SCALE: SHEET 16 OF 22 SHEETS STA. TO STA.

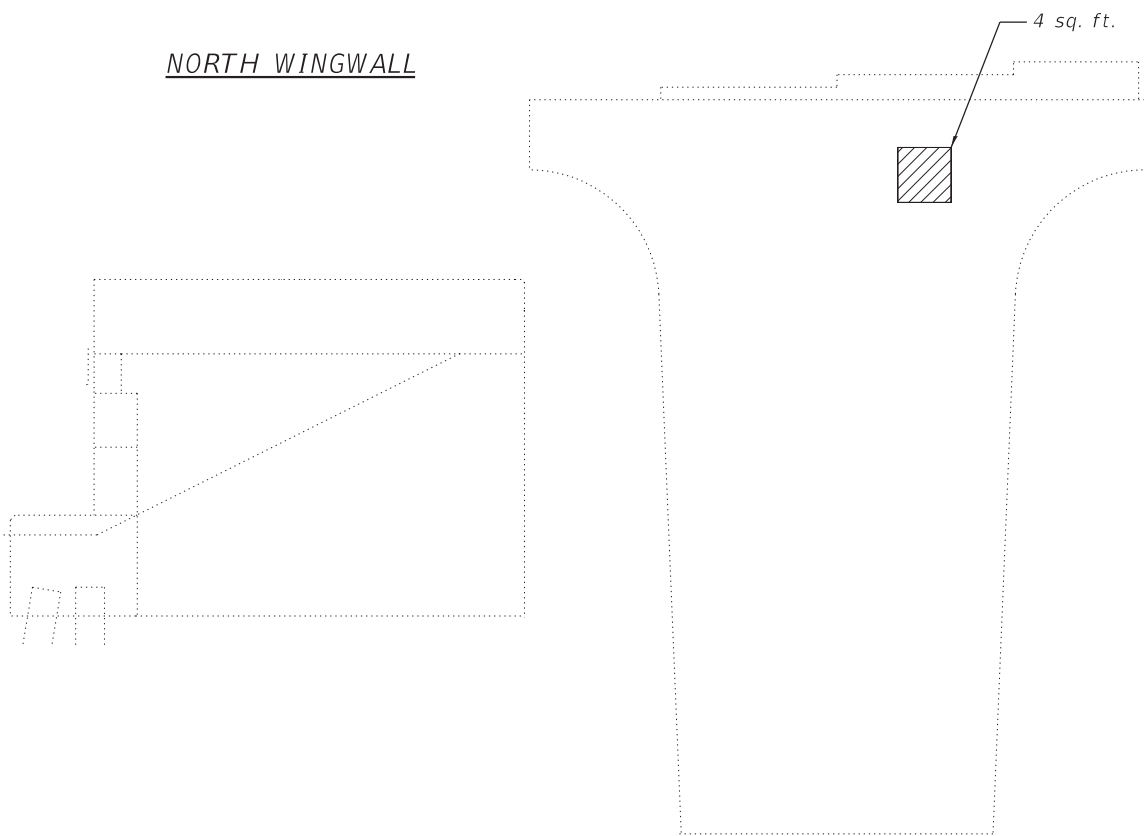
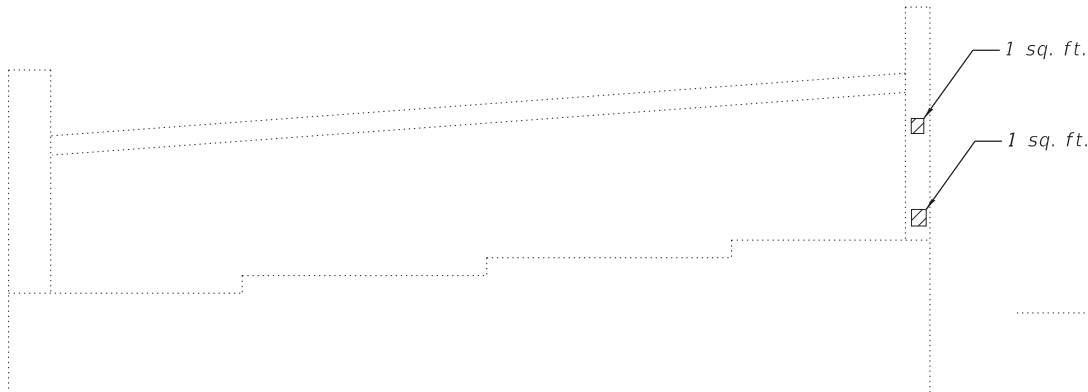
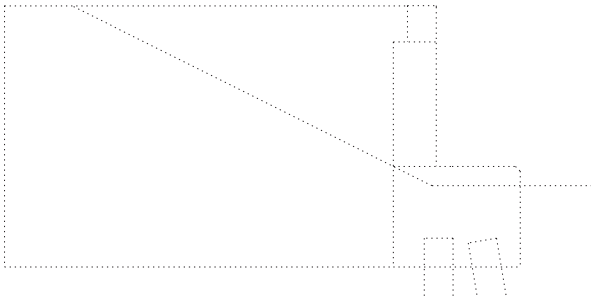
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	113
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



SOUTH WINGWALL

WEST ABUTMENT
(Looking West)

NORTH WINGWALL



NORTH WINGWALL

EAST ABUTMENT
(Looking East)

SOUTH WINGWALL

WEST FACE PIER 2

 Structural Repair of Concrete
(Depth Equal to or less than 5")

 REVISED SHEET 4-9-2025

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq. Ft.	6

MODEL Default
FILE Name: P:\Transportation\4854 - IDOT FTB 198-03 DE00W0\ACADD_5\1054-0051-72220-017-Abutment Repair Details.dgn



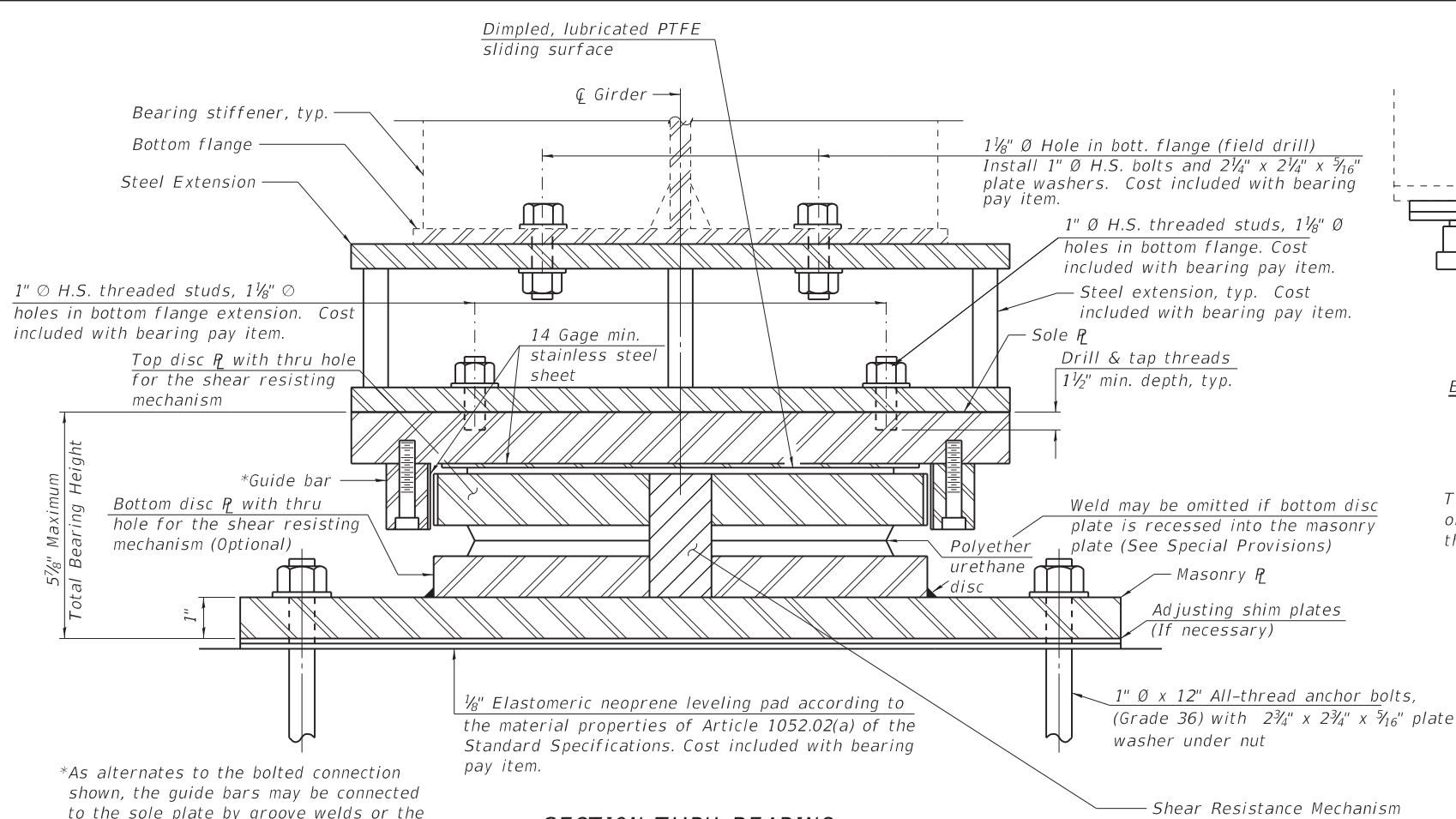
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

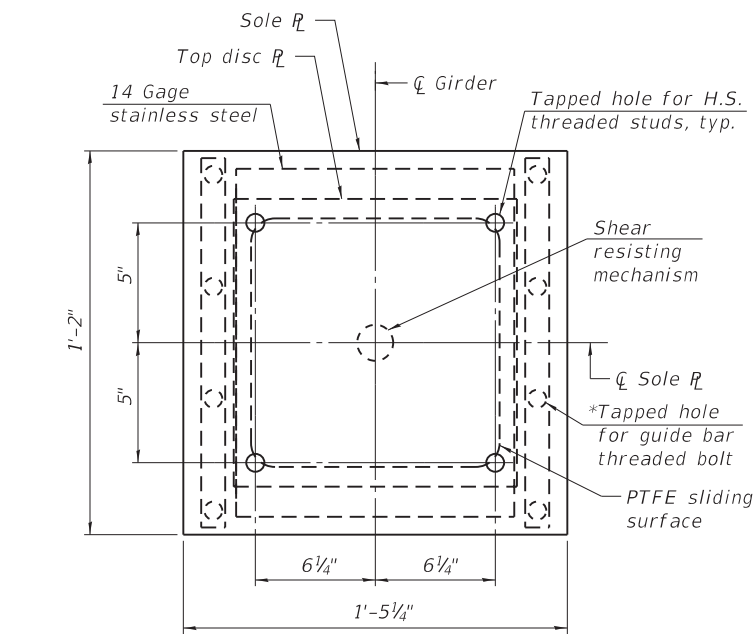
ABUTMENT REPAIR DETAILS
STRUCTURE NO. 054-0051

SCALE: SHEET 17 OF 22 SHEETS STA. TO STA.

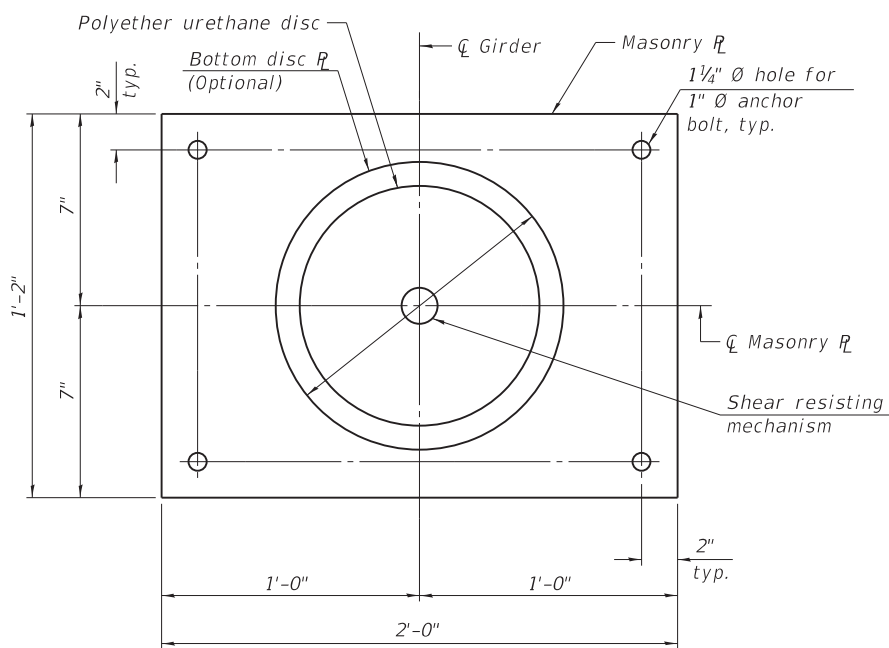
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	114
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



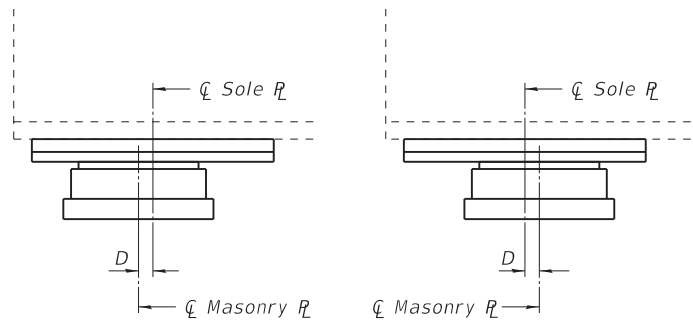
SECTION THRU BEARING



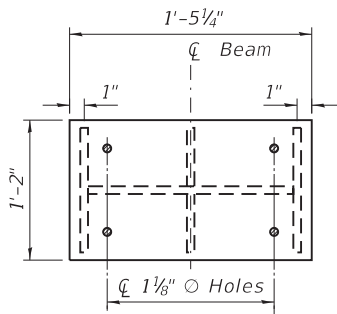
SOLE PLATE AND TOP DISC PLATE PLAN



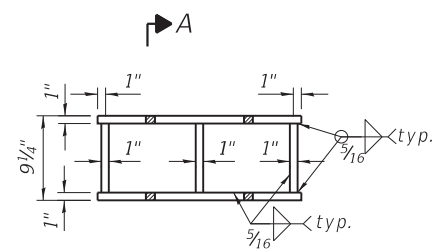
**MASONRY PLATE AND
BOTTOM DISC PLATE PLAN**



EXPANSION BEARING ORIENTATION
The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.



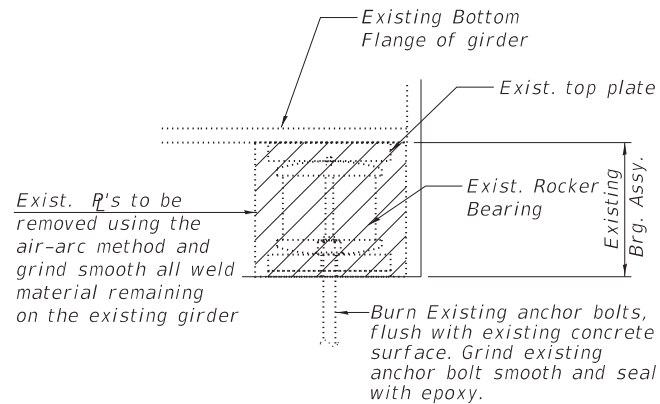
PLAN



ELEVATION

SECTION A-A

STEEL EXTENSION DETAILS



**EXISTING BEARING REMOVAL
DETAIL AT ABUTMENT**

Cost included with Jack and Remove Existing Bearings.

DESIGN DATA

Unfactored Vertical Dead Load Reaction (R _{DL})	41.1 kips
Unfactored Vertical Live Load without Impact Reaction (R _{LL})	51.9 kips
Maximum Unfactored Lateral Reaction (H)	15.6 kips
Maximum Rotation (Θ)	0.006 rad
Unfactored Design Thermal Movement from 50° F (ΔT)	2 in.
Unfactored Vertical Reaction	93.0 kips

NOTES:

- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.
- Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting steel extensions, if required.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270, Grade 50.
- All new anchor bolts, nuts and washers shall be hot dip galvanized. Steel plates of the Bearing Assembly shall be hot dip galvanized except where prohibited by the manufacturer. See Special Provision for Hot Dip Galvanizing for Structural Steel.
- Bearings shall be designed for a vertical load of 200 kips, a horizontal load of 60 kips and a total required movement of 3". Reactions given are service loads. See sheet 15 of 22 for bearing reactions.

BILL OF MATERIAL

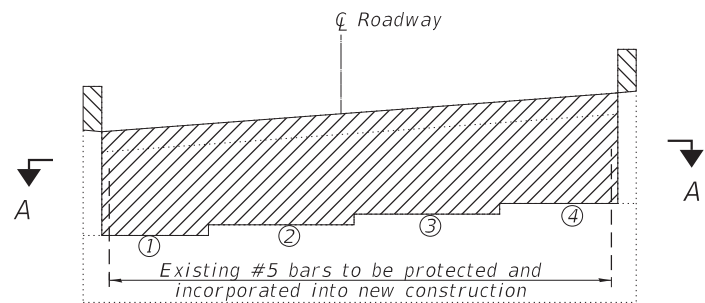
Item	Unit	Total
** High Load Multi-Rotational Bearings, Disc, Guided Expansion- 200k	Each	8
Anchor Bolts, 1"	Each	32
Jack and Remove Existing Bearings	Each	8

** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

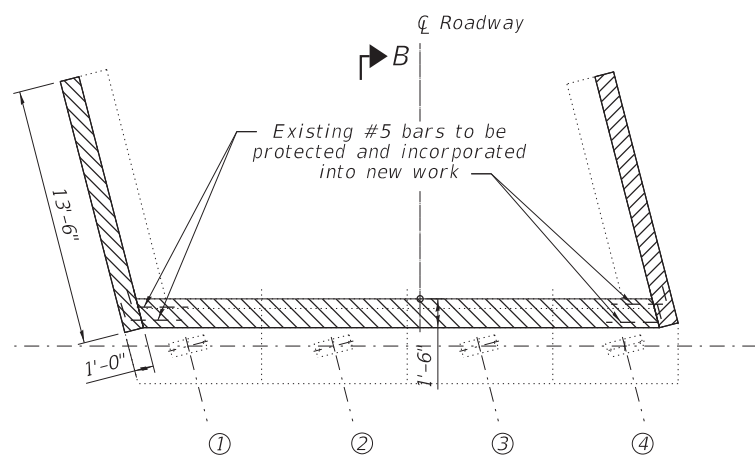
REVISD SHEET 4-9-2025

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	DATE - 3/20/25	REVISED -

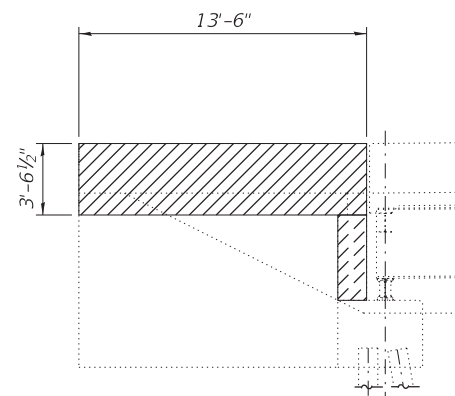
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	115
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				



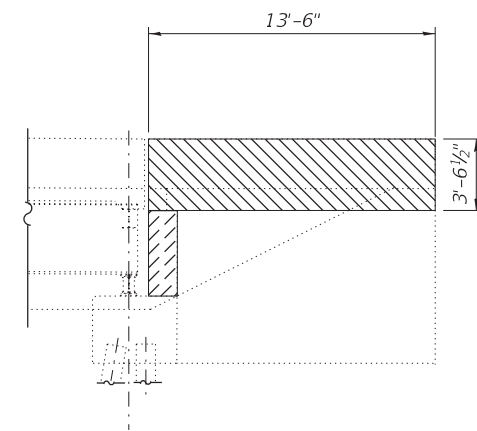
ELEVATION



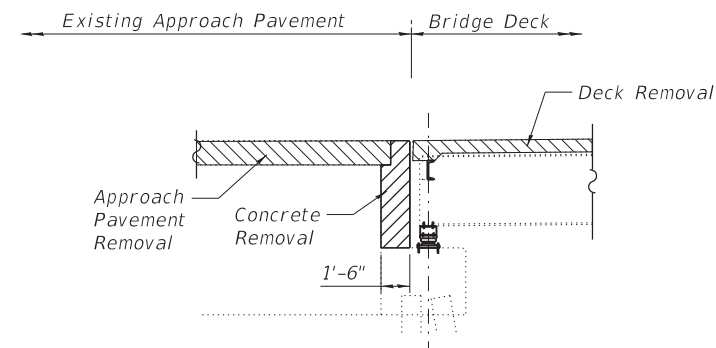
SECTION A-A



SOUTH WING WALL ELEVATION



NORTH WING WALL ELEVATION



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	13.8

1 REVISED SHEET 4-9-2025

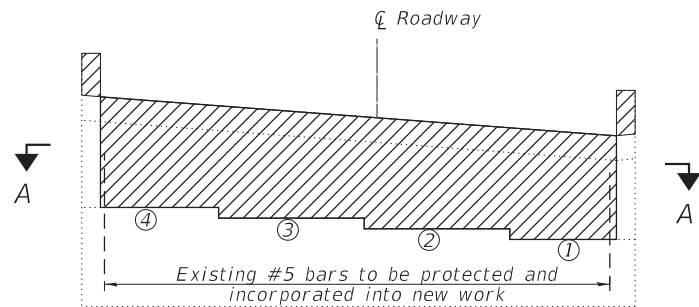
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL EAST ABUTMENT
STRUCTURE NO. 054-0051

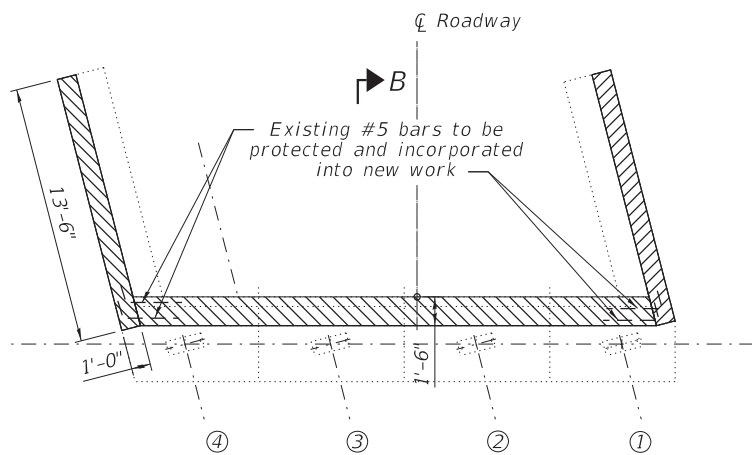
SCALE: SHEET 19 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	116
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

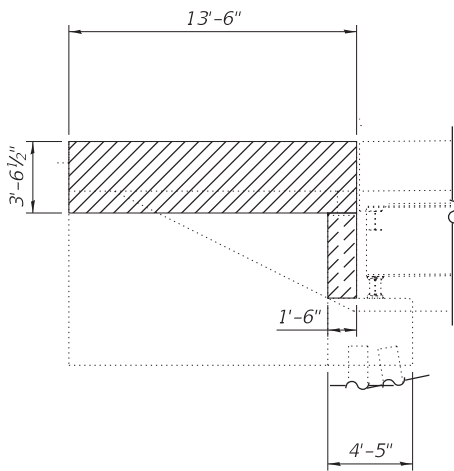
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PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -



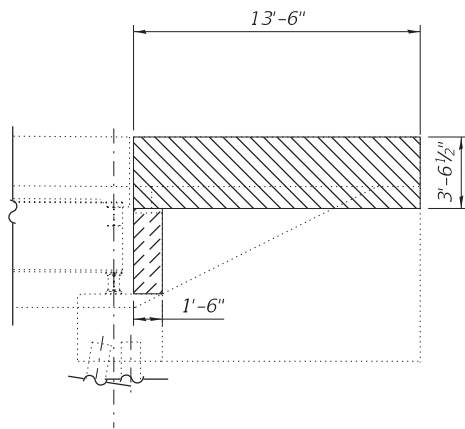
ELEVATION



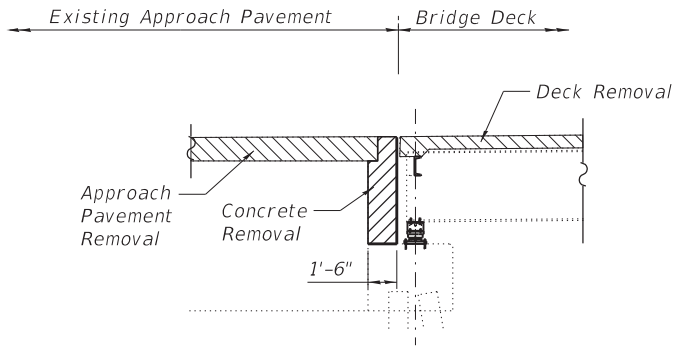
SECTION A-A



SOUTH WING WALL ELEVATION



NORTH WING WALL ELEVATION



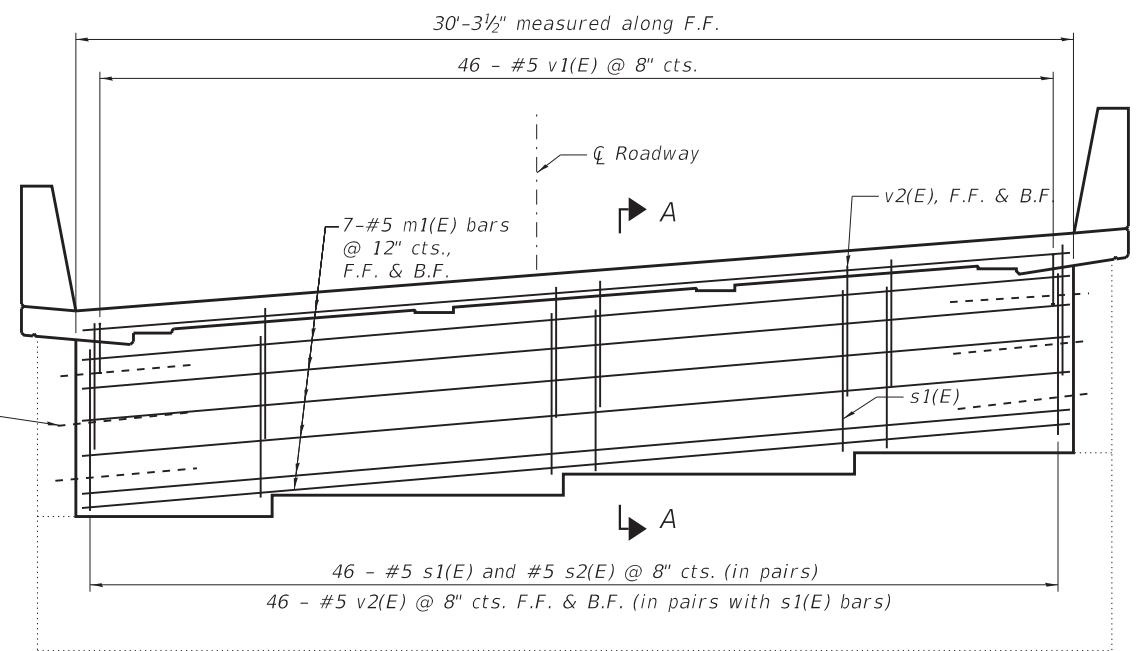
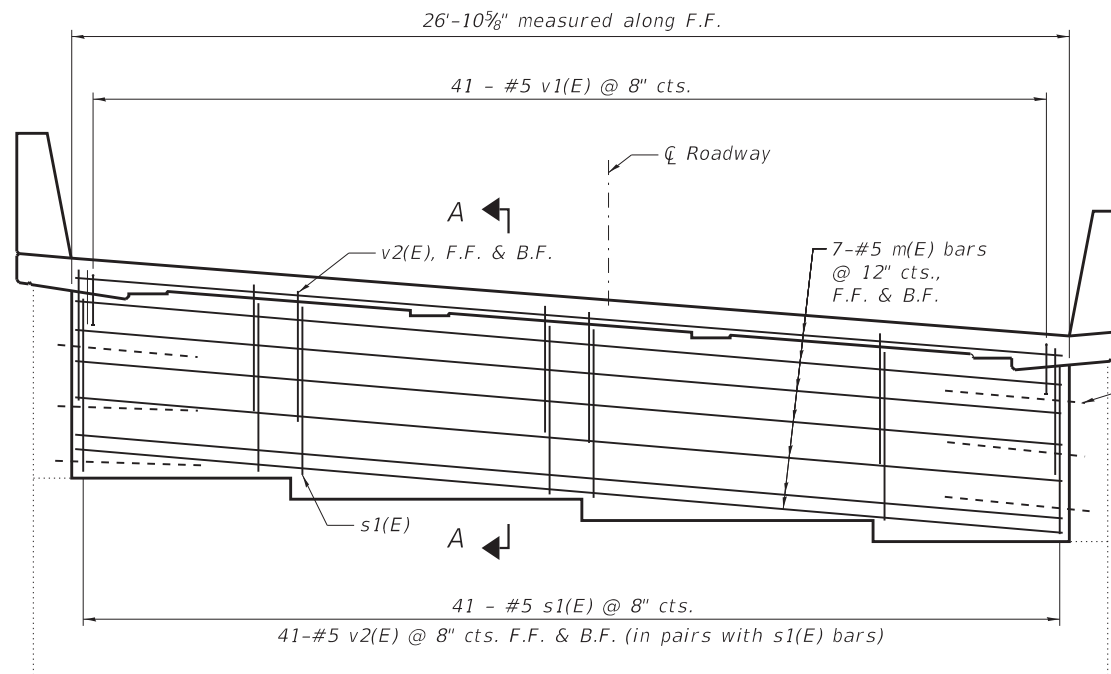
SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	12.7

1 REVISED SHEET 4-9-2025

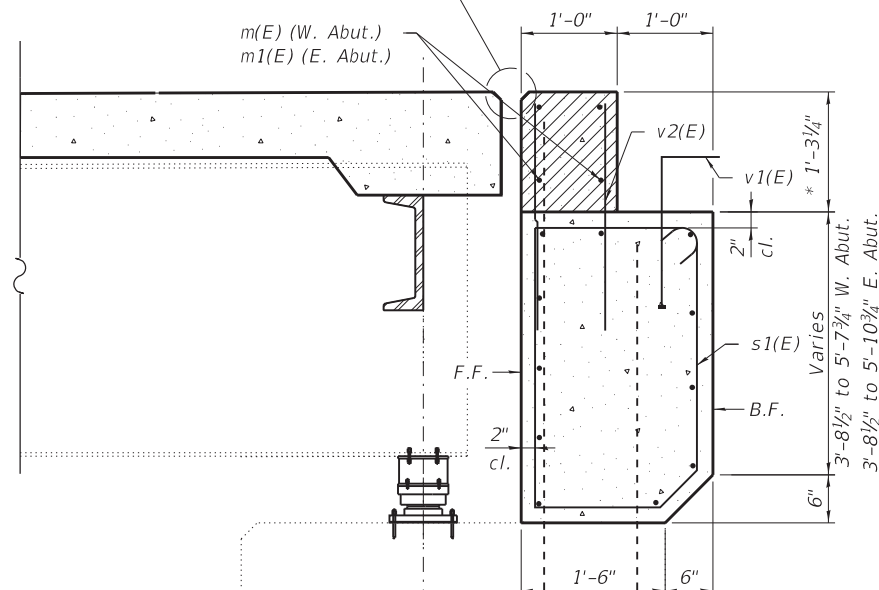
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ELEVATION

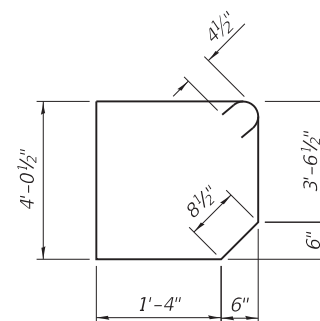
(W. Abut. Looking West)

For Exp. Jt. details
see sheet 14 of 22.

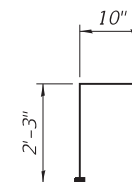


SECTION A-A

* prior to grinding



BAR s1(E)



BAR v1(E)

(Headed. 87-#5 Bar terminators)

TWO ABUTMENT BACKWALL BILL OF MATERIAL

Bar	No.	Size	Length	Shape
m(E)	14	#5	26'-6"	—
m1(E)	14	#5	29'-11"	—
s1(E)	87	#5	10'-5"	□
v1(E)	87	#5	3'-1"	┌
v2(E)	174	#5	5'-8"	—
Concrete Structures			Cu. Yd.	12.4
Reinforcement Bars, Epoxy Coated			Pound	2,230

Notes:

Hatched area to be poured separately after superstructure falsework has been removed and after approach slab side formwork has been removed.

The top of back wall and approach slab seat shall have a constant slope determined from the control points shown.
Concrete Sealer shall be applied to the bearing seats and front faces of the hatched block and back wall.

Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

1 REVISED SHEET 4-9-2025

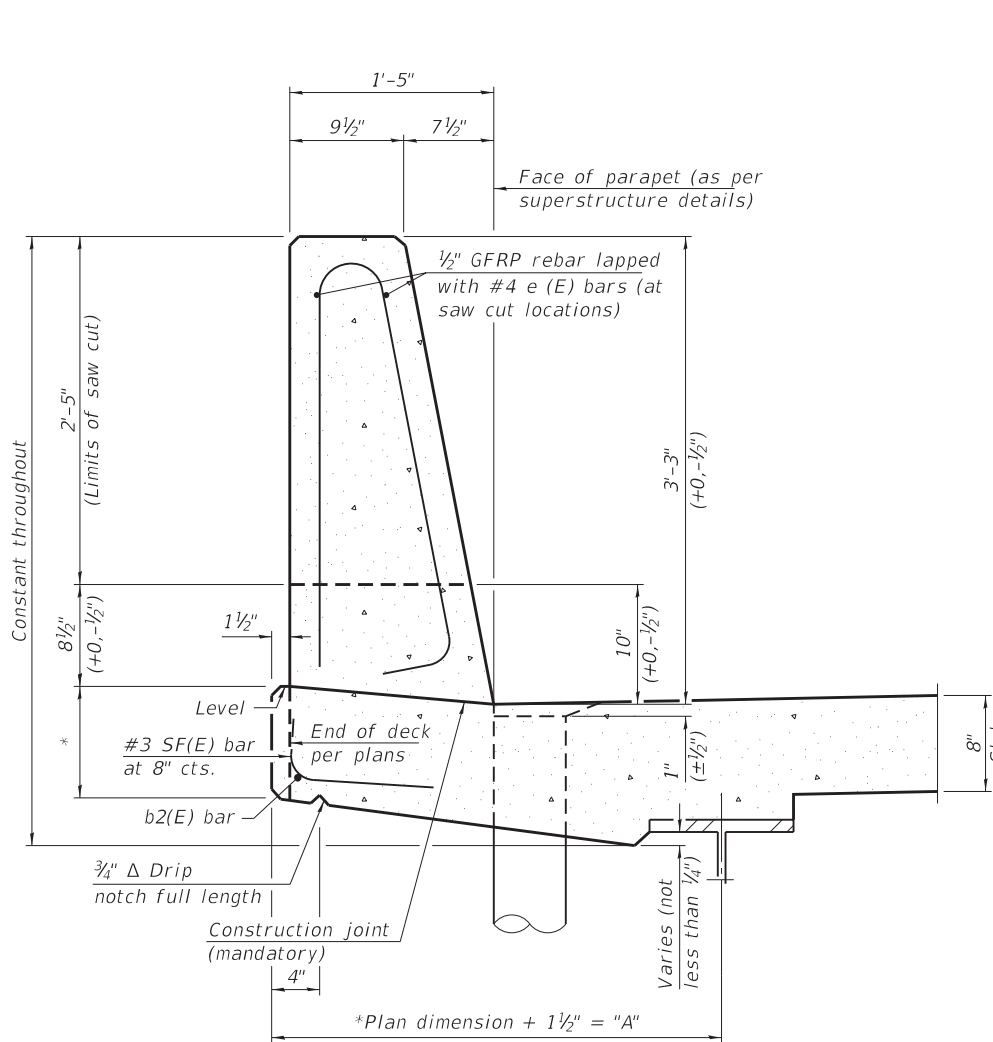
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT RECONSTRUCTION DETAILS
STRUCTURE NO. 054-0051

SCALE: SHEET 21 OF 22 SHEETS STA. TO STA.

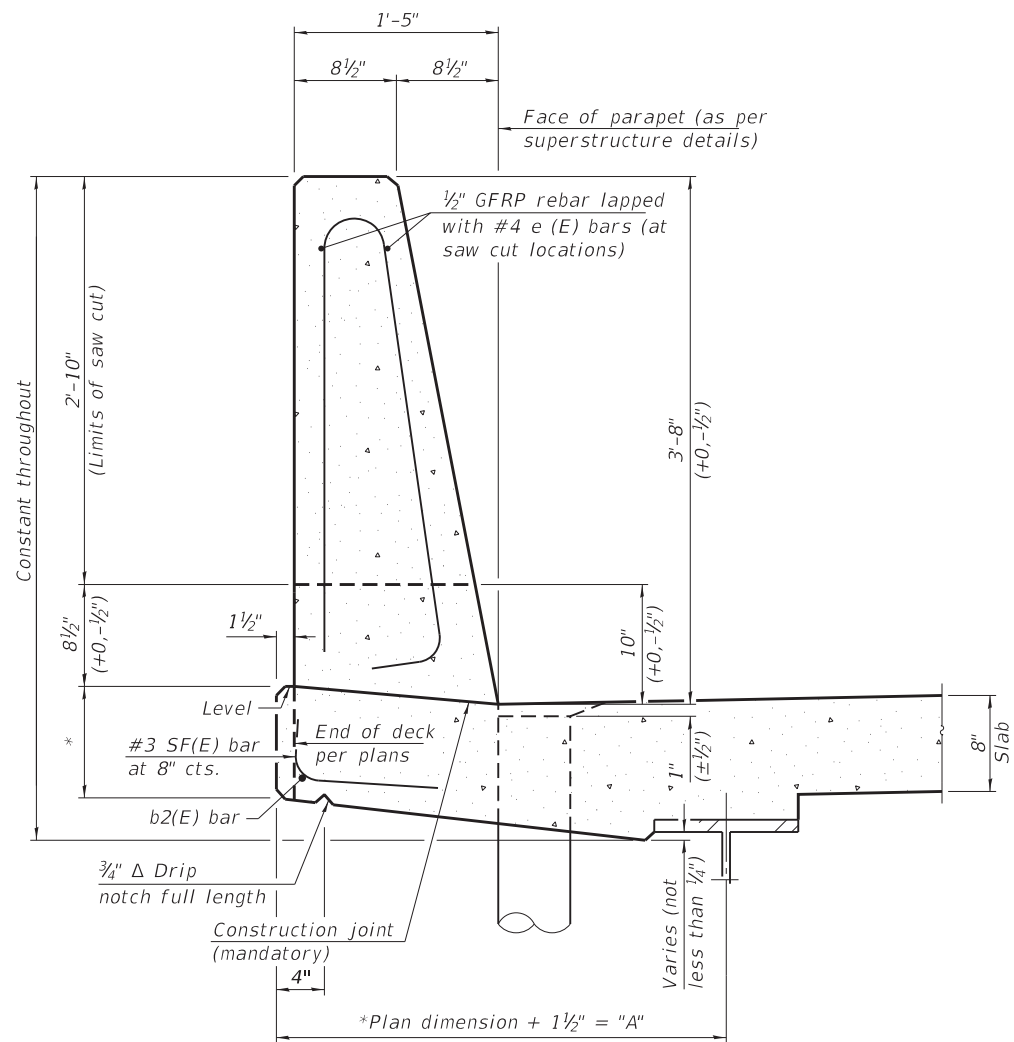
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	118
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

USER NAME = \$USERS	DESIGNED - RT	REVISED -
	DRAWN - DS	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/20/25	REVISED -



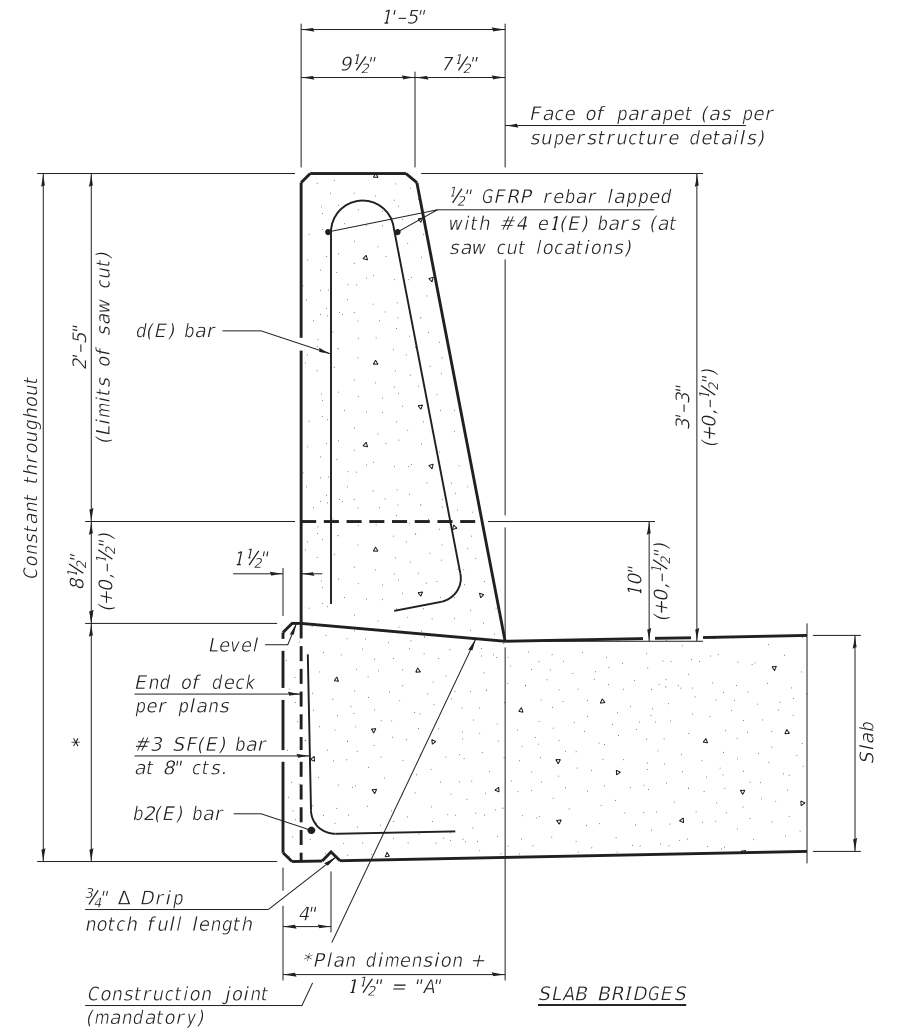
**39" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



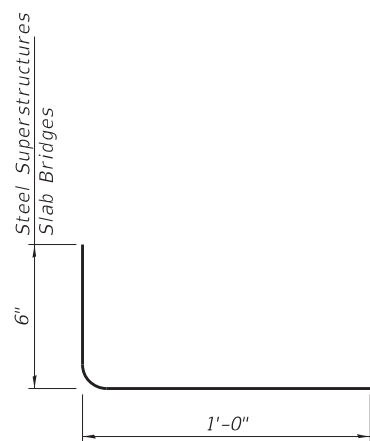
**44" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

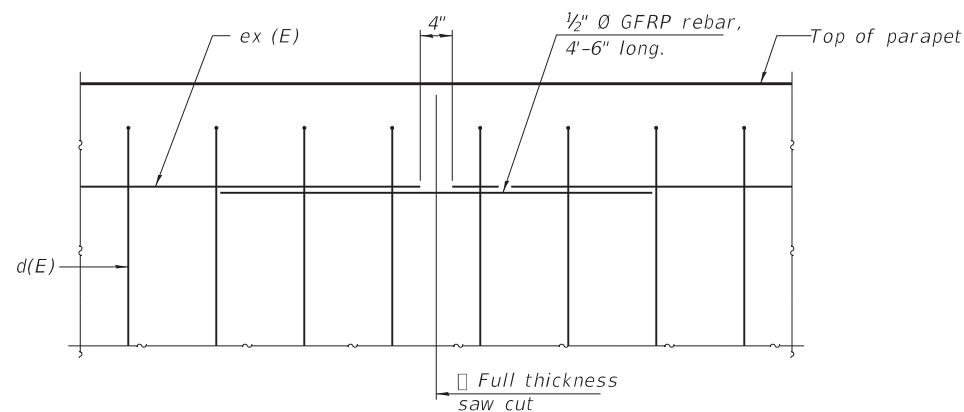


**39" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



SF(E) BAR



DETAIL - GFRP REBAR STIFFENING ELEVATION

(Place as shown in parapet section
at each parapet joint location.)

Notes:

All dimensions shall remain the same as shown on superstructure details, except dimension "A" which is to be revised as shown.
Additional concrete needed to revise dimension "A" (39" and 44" parapets):
Steel Superstructures: 0.00348 cu. yds./ft.
Slab Bridge Superstructures: cu. yds./ft.
Place full depth aluminum sheets as shown on superstructure details.
Replace all cork joint filler locations with a full thickness saw cut.
Steel and slab superstructures shown. Other superstructure types similar.

SFP 39-44

10/27/2023



USER NAME = \$USERS	DESIGNED - RT	REVISED -
DRAWN - DS	REVISED -	
PLOT SCALE = \$SCALE\$	CHECKED - JS	REVISED -
PLOT DATE = 3/24/2025	DATE - 3/2025	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 054-0051**

SCALE: SHEET 22 OF 22 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	119
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

1 REVISED SHEET 4-9-2025

1. NO.27, 6" BOAT SPIKE IN ROUGH LEAF HACKBERRY
2' LT. STA.26+30, L RDWY. "F", ELEV.571.879
TE: No Deck Drains Will be Permitted On The Structure

STATE OF ILLINOIS

CURVE DATA
(Ramp "D")

P.I. STA.18+87.71
Δ = 110°-21'-03"
D = 6°-30'
R = 881.47'
T = 1267.11'
L = 1697.70'
E = 662.08'
S.E. = 0.078 1/1
P.C. STA.6+20.60
P.T. STA.23+18.30

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18
F.A.I. 55	54-4HB	LOGAN	63	31	36 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " open holes $\frac{13}{16}$ " unless otherwise noted. Bolts $\frac{5}{8}$ " open holes $\frac{11}{16}$ " unless otherwise noted.
Calculated weight of Structural Steel = 220,730 lbs.
The Basic Lead Silica Chromate paint system shall be used for shop and field painting of structural steel.
Anchor bolts shall be set before bolting diaphragms over supports.
Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft. (For Quantity, see Sheet #1 Bill of Material.)
Concrete piles at abutments shall be driven in holes precast through the embankment in accordance with Article 513.09(c) of the Standard Specs.
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.
Protective Coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.
Field welding of construction accessories will not be permitted to the bottom flange of beams and girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
The Contractor shall drive one concrete test pile in a permanent location at the West Abutment, and one Timber test pile in a permanent location at Pier #2 as directed by the Engineer before ordering the remainder of piles.

STATION 16+93.48 RAMP "D"
BUILT 197 BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 54-4HB
F.A. PROJ. I-
LOADING HS20 & ALT.

NAME PLATE
See Std. 2113

SEC. THRU SLOPEWALL
(For Slope Wall Layout, See Sheet #19)

REVISD SHEET 4-9-2025

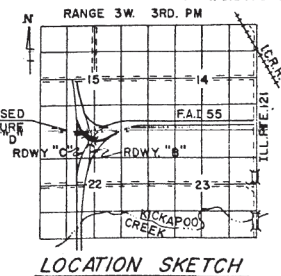
TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu.Yds.		170	170
Protective Coat	Sq.Yds.	215		215
Class X Concrete	Cu.Yds.	235.3	259.9	495.2
Structural Steel	Lump Sum	1		1
Stud Shear Connectors	Each	2100		2100
Aluminum Railing	Lin.ft.	546		546
Creosoted Piles (Over 38')	Lin.ft.		405	405
Concrete Piles	Lin.ft.		1152	1152
Test Piles Concrete	Each		1	1
Test Piles (Timber)	Each		1	1
Creosoted Piles (20' to 38')	Lin.ft.		2130	2130
Coal Tar Interlayer Protective Coat	Sq.Yds.	674		674
Bituminous Conc. Sur. Crse. Class I	Tons	55		55
Preformed Joint Sealer	Lin.ft.	30		30
Neoprene Expansion Joint (2 1/2')	Lin.ft.	32		32
Name Plate	Each	1		1
Reinforcement Bars	Lbs.	55,500	35,370	90,870

* Calculated weight of Structural = 220,730 lbs.
** Included in Sec. 54-4

FIELD UNITS

$f_c = 1,200$ psi. (Deck Slab)
 $f_c = 1,400$ psi. (Curb, Parapet & Sub.)
 $f_s = 20,000$ psi. (Reinf.)
 $f_s = 20,000$ psi. (Struct.)
 $v_c = 75$ psi. (Ftg.)
 $n = 10$
Allow 25' / Sq. Ft. for Initial Class I Surf.
Allowable $\frac{1}{4}$ " Deflection L/1200 Comp.
Design Specifications 1969 AASHTO (as applicable)
Future W.S. = 25' / Sq. Ft.
LOADING HS20-44 & ALT.



GENERAL PLAN & ELEVATION
SUPPL. FREEWAY, E.B., (RAMP "D")
over SUPPL. FREEWAY, N.B., (RDWY. "B")
over F.A.I. RTE. 55, S.B., (RDWY. "C")
LOGAN COUNTY SEC. 54-4HB
STA. 16+93.48-8' RT. RAMP "D"
STA. 16+55.68 RDWY. "B"
STA. 25+94.04-12' RT. RDWY. "C"

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0051

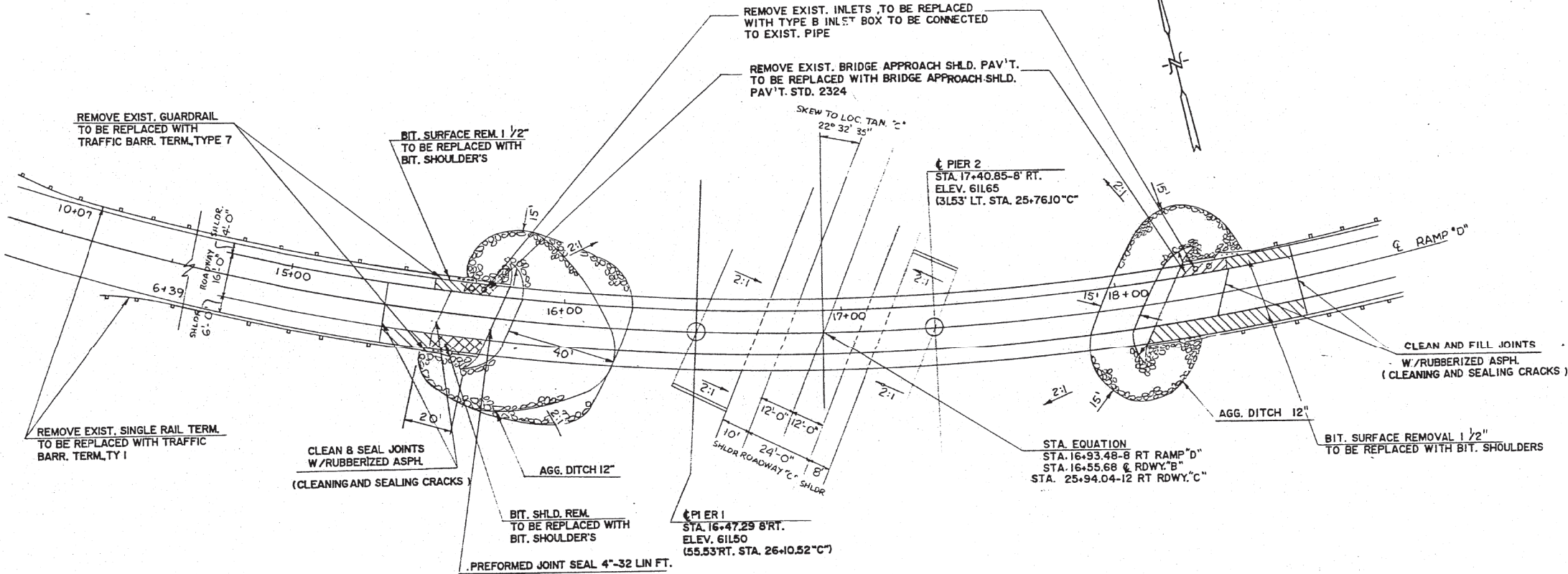
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			CONTRACT NO. 72220	
		ILLINOIS	FED. AID PROJECT	



DESIGNED - RT	REVISD -
DRAWN - DS	REVISD -
CHECKED - JS	REVISD -
DATE - 3/2025	REVISD -

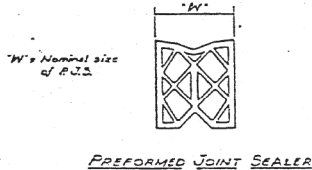
SCALE: SHEET OF SHEETS STA. TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 406		LOGAN	133	51
BY:	TO STA.			
FED. AID PROJ. NO. E	ILLINOIS	FED. AID PROJECT		
* 54-10-0556				



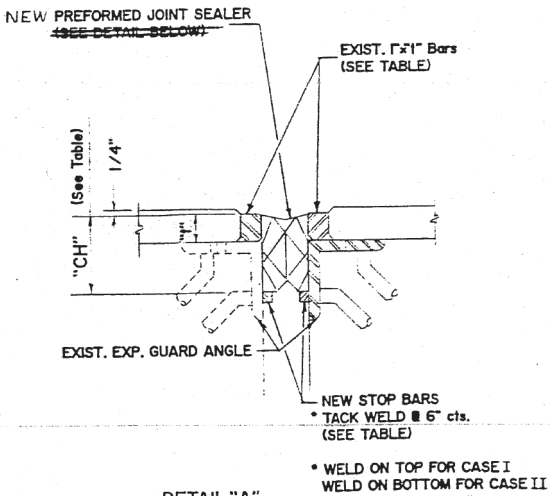
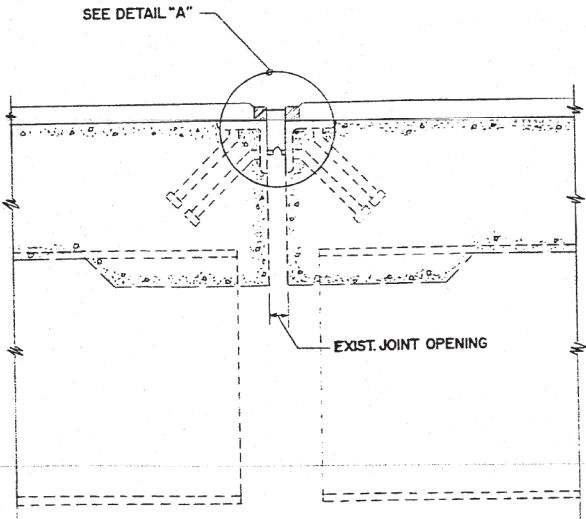
PROPOSED JOINT SEAL DIMENSIONS

STRUCTURE NUMBER	LOCATION	SIZE OF P.J.S. "W"	PLAN DETAIL (CASE)	COMPR. HEIGHT "CH"	1" BAR HEIGHT "I"	STOP BAR SIZE	PROP. OPEN "Wp"
054-0051	W. ABUT.	4	Ia	5.25	—	1/2x1/2	—



QUANTITIES

ITEM	UNIT	EAST	WEST	TOTAL
INLETS TO BE REMOVED	EACH	2	2	4
TYPE B INLET BOX, STD. 2324	EACH	1	1	2
BRIDGE APPROACH SHOULDR PAVEMENT REMOVAL	SQ.YD.	111	71	182
P.C.C. BRIDGE APPROACH SHOULDR PAVEMENT	SQ.YD.	111	71	182
BITUMINOUS SURFACE REMOVAL 1 1/2"	SQ.YD.	35.6	17.7	53.3
BITUMINOUS SHOULDR REMOVAL	SQ.YD.	13.3	13.3	26.6
BITUMINOUS SHOULDERS	TONS	22	7.4	29.4
STEEL PLATE BEAM GUARDRAIL REMOVAL	LIN.FT.	—	48	48
TERMINAL REMOVAL, SINGLE RAIL	EACH	—	2	2
TRAFFIC BARRIER TERMINAL, TYPE I	EACH	—	2	2
TRAFFIC BARRIER TERMINAL, TYPE 7	EACH	—	2	2
AGGREGATE DITCH 12"	SQ.YD.	61	120	181
CLEANING AND SEALING CRACKS	LIN.FT.	16	17	33
PREFORMED JOINT SEAL 4"	LIN.FT.	—	32	32



NOTE: SEE CONSTRUCTION DETAIL SHEET (LOWER LEVEL) STR. NO. 054-0050 FOR TYPICAL CLEANING & SEALING CRACKS WITH RUBBERIZED ASPHALT FOR C.R.C. PAVEMENT.

SEC. AT JOINT (CASE Ia)
 * WHERE THE EXISTING OPENING & L's ARE ADEQUATE FOR THE SPECIFIED P.J.S.
 STRUCTURE NO. 054-0051 - WEST ABUTMENT

DETAIL "A"
 STRUCTURE NO. 054-0051 - WEST ABUTMENT

FOR INFORMATION ONLY

UPPER LEVEL RAMP "D"
 CONSTRUCTION DETAIL
 STR. NO. 054-0051
 TRI-LEVEL INTERCHANGE
 F.A. 406
 SEC. 54-10-IX,SG
 LOGAN COUNTY

REVISED 11-10-88

REVIS'D SHEET 4-9-2025

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

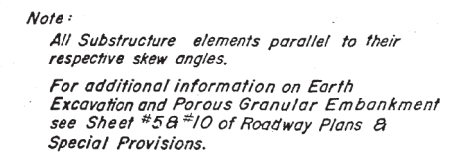
EXISTING PLANS
 STRUCTURE NO. 054-0051

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	121
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

SHEET NO. 19
36 SHEETS

STA. EQUATION
Sta. 16+55.68 (E Rdwy. "B") =
12° Rt. Sta. 25+94.04 (Rdwy. "C") =
8° Rt. Sta. 16+93.48 (Ramp "D")



GENERAL PLAN
SUPPL. FREEWAY E.B. (RAMP "D")
SUPPL. FREEWAY N.B. (RDWY "B")
FAIRTE 55, S.B. (RDWY "C")
LOGAN COUNTY SEC. 54 - 4HB
STA. 16+93.48 - 8'RT, RAMP "D" =
STA. 16+55.68 RDWY. "B" =
STA. 25+94.04 - 12'RT, RDWY "C" =

FOR INFORMATION ONLY

19

EXAMINED

PASSED

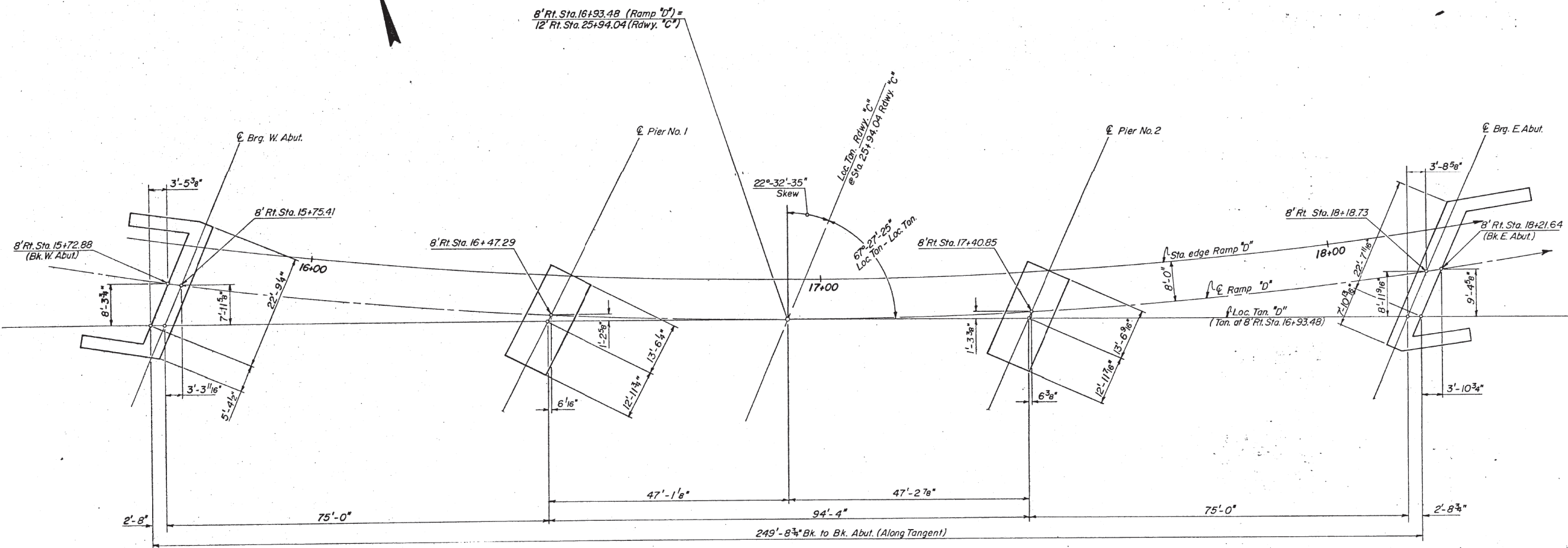
APPROVED

ENGINEER OF BRIDGE AND TRAFFIC STRUCTURE

ENGINEER OF DESIGN

CHIEF HIGHWAY ENGINEER

* Note :
Pluses and offsets are from
Sta. Edge Rdwy. "C"



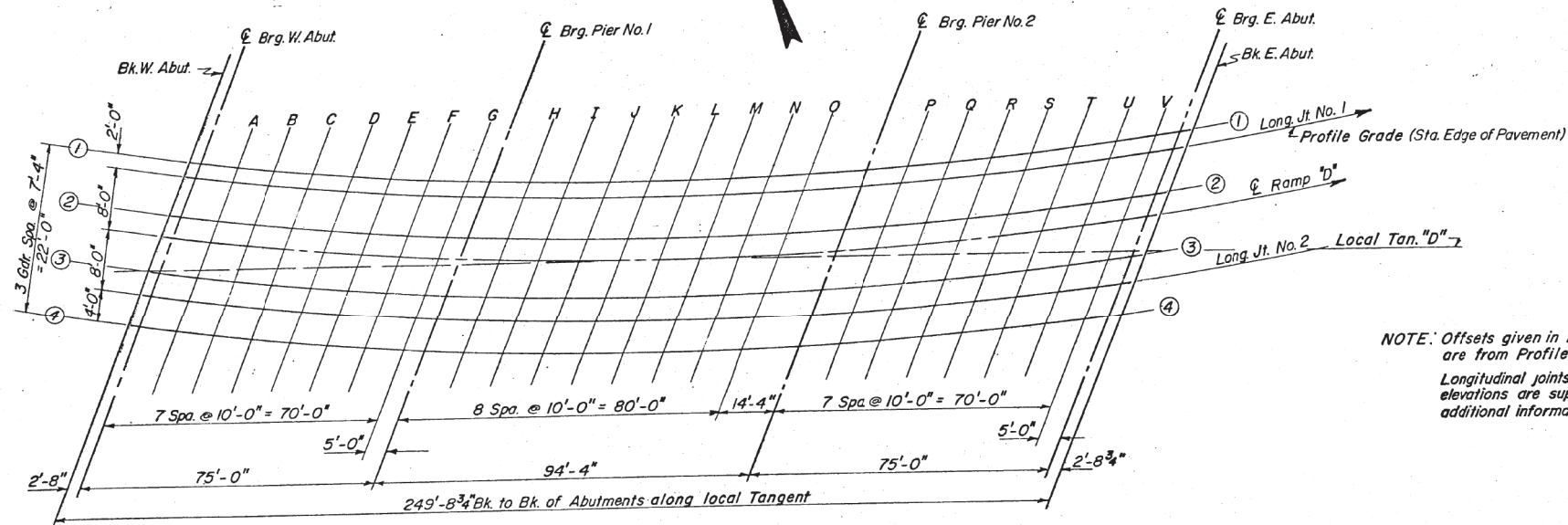
Note:
Substructure Elements are
parallel to Loc. Tan. "C"

1 REVISED SHEET 4-9-2025

FOOTING LAYOUT
F.A.I.-55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

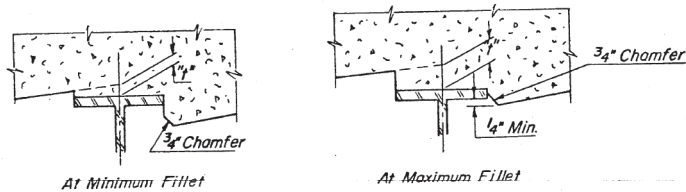
FOR INFORMATION ONLY

SIGNED	D.V.K.	19
CHECKED	G.E.P.	ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
DRAWN	J.T.	ENGINEER OF DESIGN
APPROVED	D.V.K.	CHIEF HIGHWAY ENGINEER



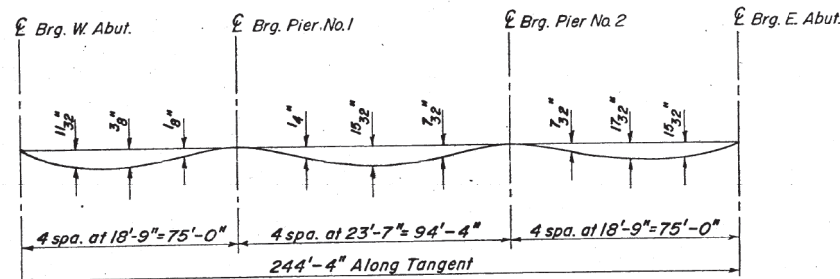
PLAN

NOTE: Offsets given in tables are from Profile Grade. Longitudinal joints no's. 1 & 2 elevations are supplied for additional information



FILLET HEIGHTS

To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness and 1/2" Class "T", equals the fillet heights "f" above top flange of beams.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete and Class "T")
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	GDR-1	1575.514	-2.000	610.090
	L.J.-1	1574.983	0.000	610.240
	GDR-2	1573.579	5.334	610.639
	CENTER	1572.883	8.000	610.839
Brg. W. Abut.	GDR-3	1571.676	12.667	611.188
	L.J.-2	1570.822	16.000	611.437
	GDR-4	1569.805	20.000	611.737
Brg. E. Abut.	GDR-1	1578.069	-2.000	610.120
	L.J.-1	1577.532	0.000	610.270
	GDR-2	1576.111	5.334	610.669
	CENTER	1575.407	8.000	610.869
Brg. E. Abut.	GDR-3	1574.186	12.667	611.219
	L.J.-2	1573.322	16.000	611.468
	GDR-4	1572.294	20.000	611.768
A	GDR-1	1587.669	-2.000	610.229
	L.J.-1	1587.108	0.000	610.379
	GDR-2	1585.626	5.334	610.779
	CENTER	1584.891	8.000	610.979
B	GDR-3	1583.617	12.667	611.328
	L.J.-2	1582.715	16.000	611.578
	GDR-4	1581.642	20.000	611.878
C	GDR-1	1597.298	-2.000	610.330
	L.J.-1	1596.714	0.000	610.480
	GDR-2	1595.169	5.333	610.880
	CENTER	1594.403	8.000	611.081
D	GDR-3	1593.075	12.667	611.431
	L.J.-2	1592.136	16.000	611.681
	GDR-4	1591.018	20.000	611.981
E	GDR-1	1606.958	-2.000	610.423
	L.J.-1	1606.350	0.000	610.573
	GDR-2	1604.742	5.333	610.974
	CENTER	1603.945	8.000	611.175
F	GDR-3	1602.563	12.667	611.526
	L.J.-2	1601.585	16.000	611.776
	GDR-4	1600.422	20.000	612.077
G	GDR-1	1616.550	-2.000	610.508
	L.J.-1	1616.018	0.000	610.659
	GDR-2	1614.346	5.333	611.061
	CENTER	1613.518	8.000	611.262
H	GDR-3	1612.082	12.667	611.613
	L.J.-2	1611.063	16.000	611.864
	GDR-4	1609.856	20.000	612.166
I	GDR-1	1626.377	-2.000	610.585
	L.J.-1	1625.720	0.000	610.736
	GDR-2	1623.984	5.333	611.139
	CENTER	1623.124	8.000	611.340
J	GDR-3	1621.632	12.667	611.693
	L.J.-2	1620.576	16.000	611.944
	GDR-4	1619.321	20.000	612.246
K	GDR-1	1636.138	-2.000	610.654
	L.J.-1	1635.457	0.000	610.806
	GDR-2	1633.655	5.333	611.209
	CENTER	1632.763	8.000	611.411
L	GDR-3	1631.216	12.667	611.765
	L.J.-2	1630.121	16.000	612.017
	GDR-4	1628.818	20.000	612.320
M	GDR-1	1645.936	-2.000	610.715
	L.J.-1	1645.230	0.000	610.867
	GDR-2	1643.363	5.333	611.272
	CENTER	1642.439	8.000	611.474
N	GDR-3	1640.835	12.667	611.829
	L.J.-2	1639.700	16.000	612.082
	GDR-4	1638.350	20.000	612.385

TOP OF CLASS "T" ELEVATIONS
F.A.I.-55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

FOR INFORMATION ONLY

DESIGNED	D.V.K.	EXAMINED	
CHECKED	G.E.P.	PASSED	ENGINEER OF BRIDGES & TRAFFIC STRUCTURES
DRAWN	J.J.T.	APPROVED	ENGINEER OF DESIGN
CHECKED	D.V.K.		CHIEF HIGHWAY ENGINEER

REVISOR SHEET 4-9-2025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 054-0051

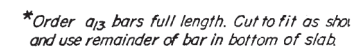
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	124
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

USER NAME = \$USERS	DESIGNED - RT	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN - DS	REVISED -
PLOT DATE = 3/16/2025	CHECKED - JS	REVISED -
	DATE - 3/20/25	REVISED -

Bars indicated thus 20x3-#5 etc.
indicates 20 lines of bars with 3
lengths per line.
Min. bar laps = 24 dia.

Spacing of the $a_1, a_2, a_{10}, a_{11}, a_{12}, a_{13}, d, d_1$, and d_{10} bars
are along $\mathcal{C}$ of Roadway



Bar	No	Size	Length	Shape
a ₁	194	#6	4'-0"	—
a ₂	201	#6	4'-0"	—
a ₁₀	190	#6	27'-6"	—
a ₁₁	378	#6	26'-0"	—
a ₁₂	9	#6	25'-9"	—
a ₁₃	23	#6	27'-0"	—
b ₁₀	248	#5	32'-0"	—
b ₁₁	28	#6	31'-6"	—
b ₁₂	28	#6	33'-0"	—
b ₁₃	252	#5	36'-5"	—
b ₁₄	8	#8	12'-3"	—
b ₁₅	8	#8	13'-0"	—
b ₁₆	8	#5	12'-3"	—
b ₁₇	8	#5	13'-0"	—
b ₁₈	8	#8	31'-4"	—
b ₁₉	16	#8	35'-3"	—
b ₂₀	8	#5	31'-0"	—
b ₂₁	16	#5	34'-10"	—
d	495	#4	4'-8"	—
d ₁	483	#5	3'-8"	—
d ₁₀	12	#5	3'-6"	—
Class X Concrete			Cu Yds.	216.9
Reinforcement Bars			Lbs.	54030
Preformed Joint Sealer			Lin. Ft.	30
Neoprene Exp Joint			Lin. Ft.	32

STA. 16 + 93.48

1 REVISED SHEET 4-9-2025

placement of
d₂ and d₃
see sheet #25

d₂ of
oil post

ru es
r bis
or b₂₁

BAR o₂

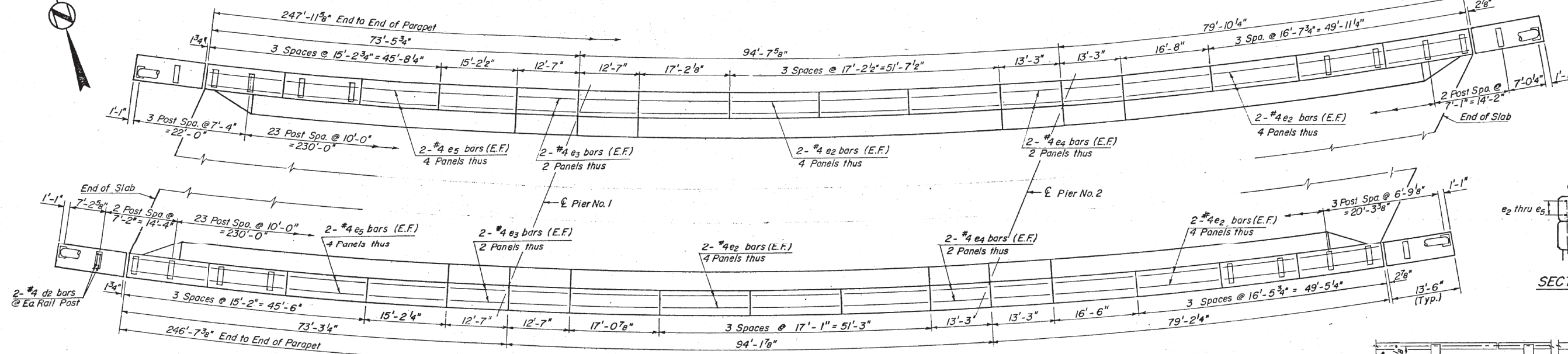
BAR d

BAR d_i

BAR d_{io}

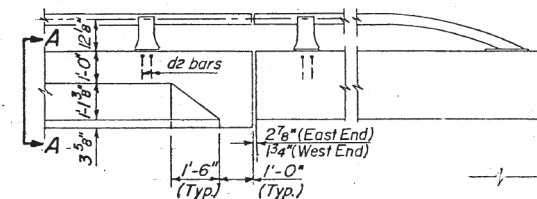
ION ONLY

BAR o₁₀



Note:
Dimensions are along inside face of parapet

SECTION A-A



TYPICAL END OF CURB AND RAIL

PARAPET & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e2	64	#4	16'-9"	
e3	16	#4	12'-3"	
e4	16	#4	13'-0"	
e5	32	#4	15'-0"	

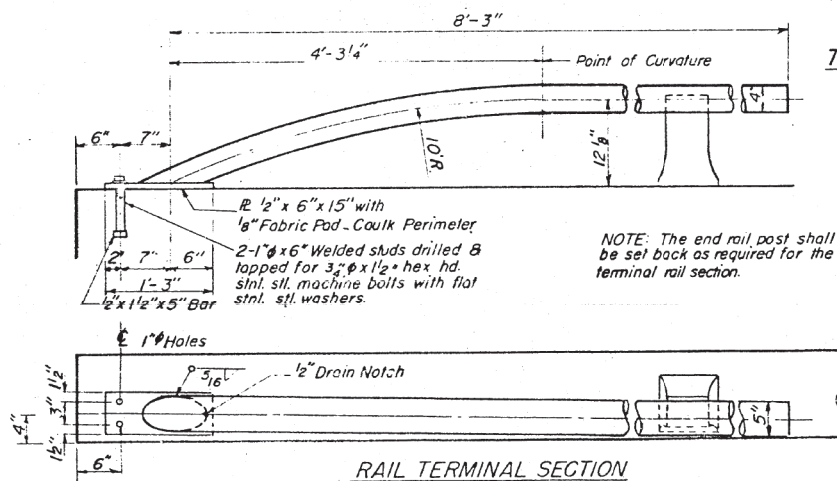
d2	112	#4	2'-2"	
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Reinforcement Bars	Lbs.	1470
Class X Concrete	Cu. Yds.	18.4
Aluminum Railing	Lin. Ft.	546

ALUMINUM RAILING
F.A.I.-55 SEC.54-4HB

RAMP "D"
LOGAN COUNTY

STA. 16+93.48



RAIL TERMINAL SECTION

NOTES:
All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
All joints in rail shall be spliced per detail.
Provide 1-1/8" and 2-1/8" Aluminum Shims for 25% of the posts. Rail element shall be parallel to Grade-high spots shall be ground and low spots shimmed.
Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.
Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10% in 2 inches

FOR INFORMATION ONLY

REVISED SHEET 4-9-2025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATIONEXISTING PLANS
STRUCTURE NO. 054-0051

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	126
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

DESIGNED	D.V.K.	USER NAME	=SUSERS	DESIGNED	- RT	REVISED	-
CHECKED	G.E.P.			DRAWN	- DS	REVISED	-
DRAWN	J.J.T.			CHECKED	- JS	REVISED	-
CHECKED	D.V.K.			DATE	- 3/2025	REVISED	-
				PLOT DATE	= 3/16/2025		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATIONEXISTING PLANS
STRUCTURE NO. 054-0051

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	126
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-55	54-4HB	LOGAN	63	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

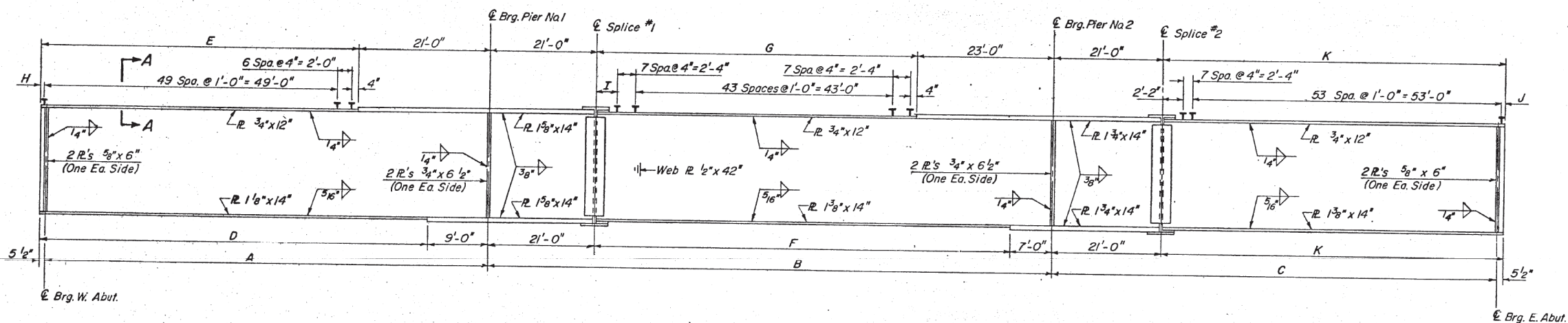
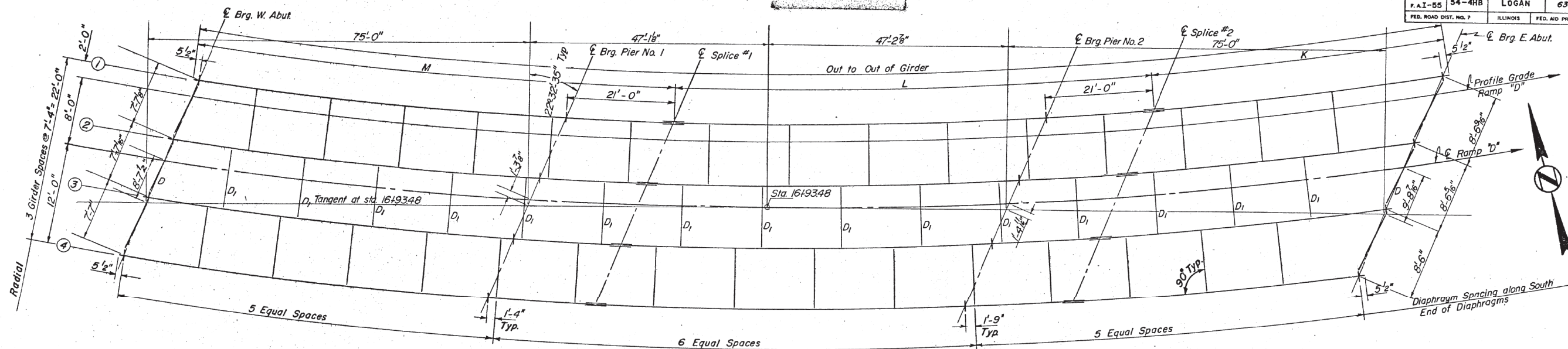


TABLE OF DIMENSIONS				
	Girder 1	Girder 2	Girder 3	Girder 4
Radius	879.47'	886.80'	894.13	901.47
A	72'-7 3/8"	72'-6 1/16"	72'-6"	72'-5 5/16"
B	94'-7 1/8"	94'-5 7/16"	94'-3 3/8"	94'-2 1/4"
C	78'-10 3/16"	78'-7 5/16"	78'-5 1/16"	78'-3 1/2"
D	64'-0 7/8"	64'-0 3/16"	63'-11 1/2"	63'-10 13/16"
E	52'-0 7/8"	52'-0 3/16"	51'-11 1/2"	51'-10 9/16"
F	66'-7 1/8"	66'-5 7/16"	66'-3 3/8"	66'-2 1/4"
G	50'-7 1/8"	50'-5 7/16"	50'-3 3/8"	50'-2 1/4"
H	8 7/8"	8 3/16"	7 1/2"	6 13/16"
I	2'-7 1/8"	2'-5 7/16"	2'-3 3/8"	2'-2 1/4"
J	9 1/16"	7 1/16"	5 3/16"	3"
K	58'-3 11/16"	58'-1 1/16"	57'-11 3/16"	57'-9"
L	94'-7 1/8"	94'-5 7/16"	94'-3 3/8"	94'-2 1/4"
M	94'-0 7/8"	94'-0 3/16"	93'-11 1/2"	93'-10 13/16"
Total a/a	246'-11 11/16"	246'-7 1/16"	246'-2 1/2"	245'-10 1/16"

△ REVISED SHEET 4-9-2025

DESIGNED	D.V.K.
CHECKED	G.E.P.
DRAWN	J.J.T.
CHECKED	D.V.K.

EXAMINED	19
PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
APPROVED	ENGINEER OF DESIGN
	CHIEF HIGHWAY ENGINEER

FOR INFORMATION ONLY

STRUCTURAL STEEL
F.A.I.-55 SEC. 54-4HB
RDWY. "D"
LOGAN COUNTY
STA. 16+93.48

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

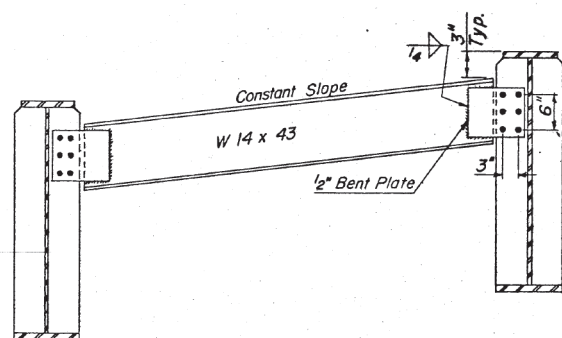
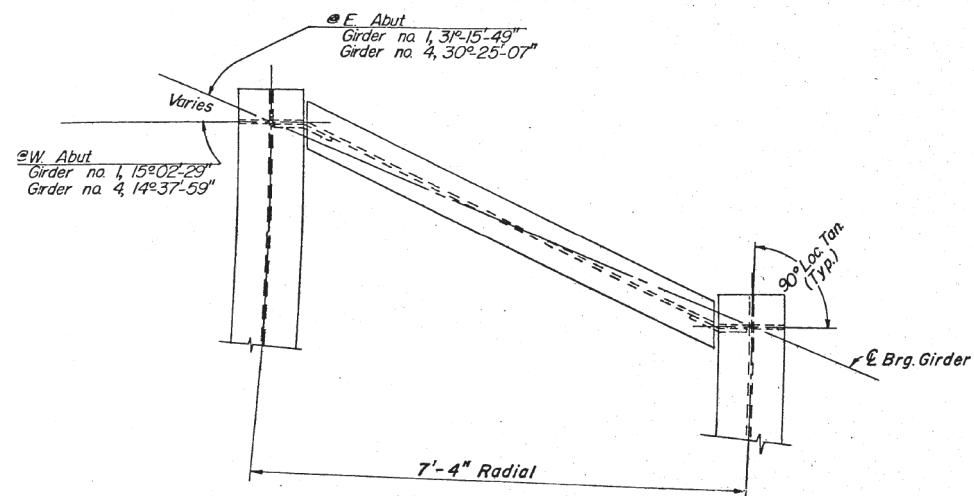
EXISTING PLANS
STRUCTURE NO. 054-0051

SCALE: SHEET OF SHEETS STA. TO STA.

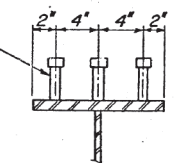
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	127
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

USER NAME	= \$USERS
DESIGNED	- RT
DRAWN	- DS
CHECKED	- JS
DATE	- 3/2025
REVIS	-
REVIS	-
REVIS	-
REVIS	-

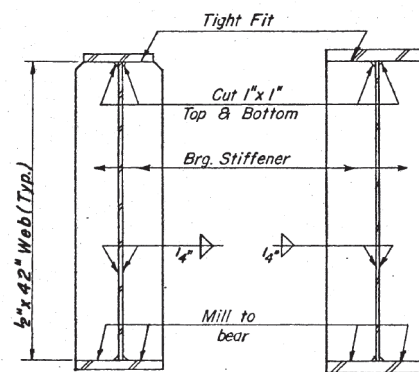
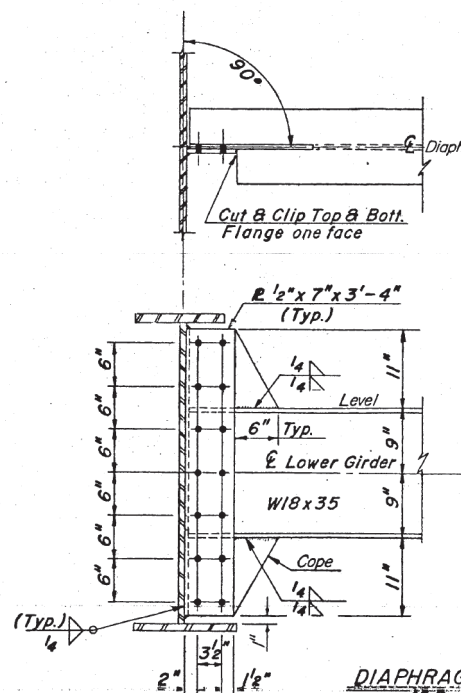
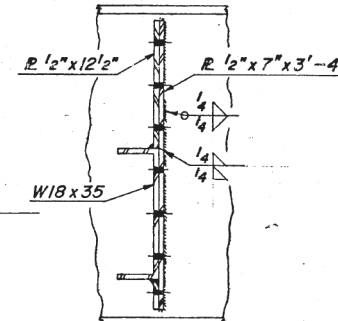
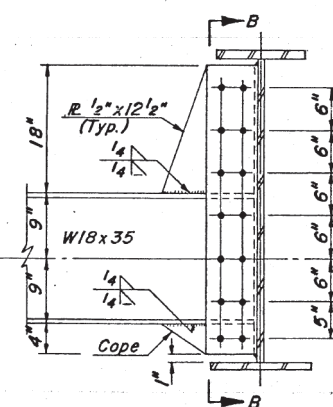
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54-4HB	LOGAN	63	40	56 SHEETS
F.A.I.-55				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

DIAPHRAGM D
6 Req'd

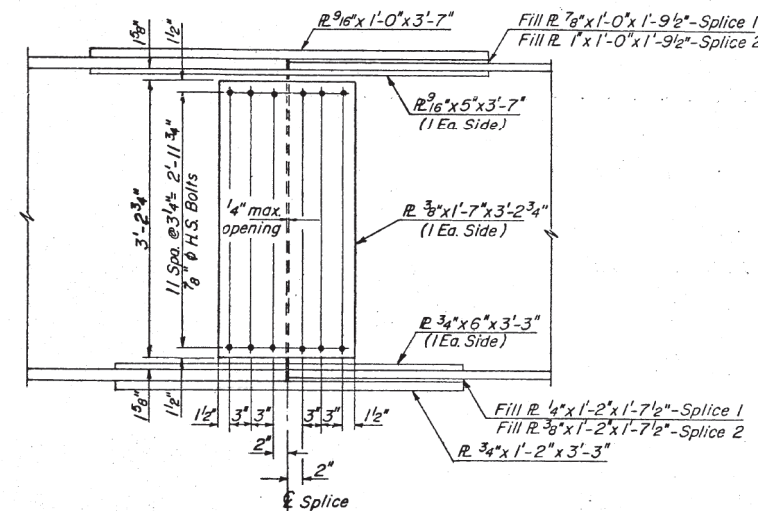
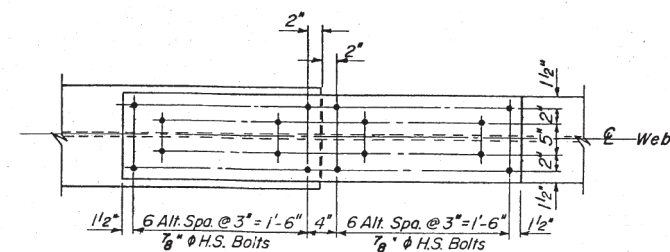
$\frac{3}{4}$ " ϕ x 4" Granular or solid
flux filled headed studs
automatically end welded to
flange.
No req'd. 525 Ea. Girder



SECTION A-A

SECTION
AT ABUTMENTSECTION
AT PIERDIAPHRAGM D1
45 Req'd
7/8" H.S. Bolts

VIEW B-B



SPlice #1 & #2

1 REVISED SHEET 4-9-2025

STRUCTURAL STEEL DETAILS
F.A.I.-55 SEC. 54-4HB
RDWY. "D"
LOGAN COUNTY
STA. 16+93.48

FOR INFORMATION ONLY

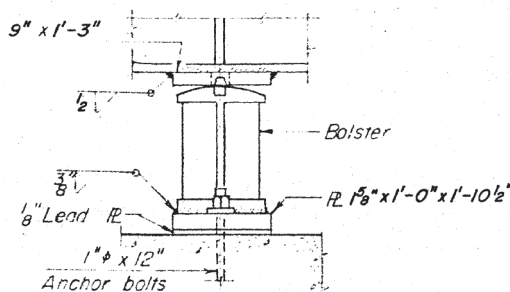
DESIGNED	D.V.K.
CHECKED	G.E.P.
DRAWN	J.J.T.
CHECKED	D.V.K.

EXAMINED	19
PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
APPROVED	ENGINEER OF DESIGN
	CHIEF HIGHWAY ENGINEER

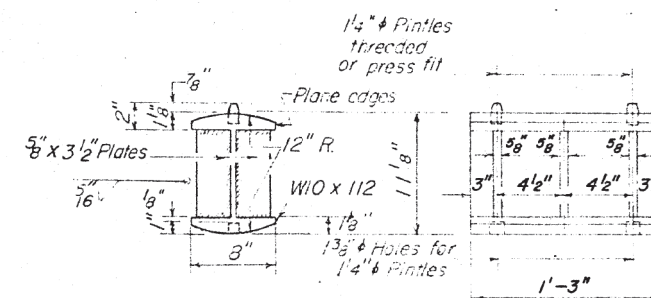
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DESIGNED	- RT
DRAWN	- DS
CHECKED	- JS
DATE	- 3/2025
PLOT SCALE	= \$SCALES
PLOT DATE	= 3/16/2025

DESIGNED	- RT
DRAWN	- DS
CHECKED	- JS
DATE	- 3/2025
REVISED	-
REVISED	-
REVISED	-

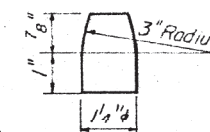
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	128
				CONTRACT NO. 72220
		ILLINOIS	FED. AID PROJECT	



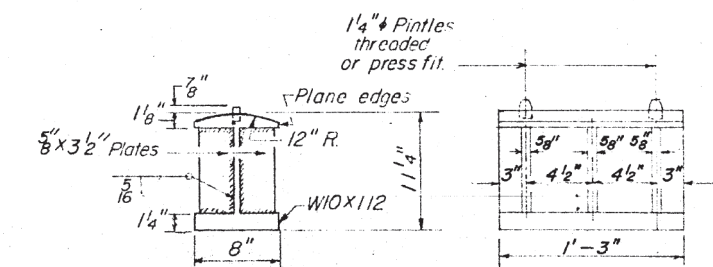
ELEVATION



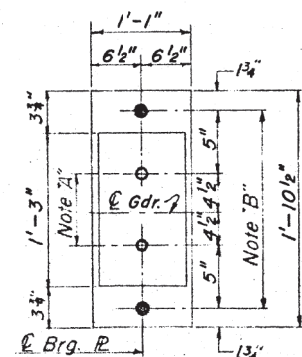
ROCKER



PINTLE

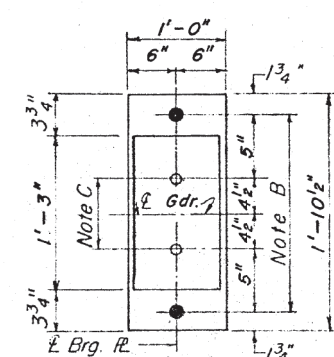


BOLSTER



PLAN
AT PIER 2

NOTE A
13/8" ϕ Holes--1" deep in top R.
for pintles. Thread or press fit
pintles into bottom R.



PLAN
AT PIER 1

NOTE C
13" ϕ Holes 1" deep in top @
only for 14" ϕ pintles.

BEARING ASSEMBLY DETAILS

- 7) D^* (Side of brg. away from fixed brg.)
 $D^* = 1/8''$ per each 100' of expansion for
every 15° fall below the normal temp
of 50°F.
 D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = 1/8''$ per each 100' of expansion for
every 15° rise above the normal temp
of 50°F.

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

19

EXAMINED

PASSED

APPROVED

ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

ENGINEER OF DESIGN

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.4 Sp. 3
Is (in ⁴)	14,050	24,745	15,228	26,547	15,228
Ss(in ³)	743.1	1093.7	855.3	1166.9	855.3
D (in)	.895	.971	.907	.984	.907
Mp (k')	288.6	699.1	272.3	791.5	356.4
fsg (Ksi)	466	767	382	814	500
Ic(n=30)(in ⁴)	27,192	————	29,966	————	29,966
Ss(in ³)	946.5	————	1086.1	————	1086.1
Se (in ³)	.532	.532	.532	.532	.532
Msp (k)	2043	3272	1939	3588	1946
fs Sg (ksi)	259	359	272	369	273
Ic(n=10)(in ⁴)	37,695	————	42,244	————	42,244
Sc(in ³)	1033.7	————	1185.2	————	1185.2
Mk (k')	538.8	422.9	611.2	456.1	602.5
Mmax(k')	135.7	101.2	139.4	107.9	148.1
Mk + 1 (k')	674.5	524.1	750.6	564.0	750.6
fs + 1 (ksi)	783	575	760	580	760
fs (pri) tot (ksi)	15.08	17.01	14.14	17.63	15.33
fs (sec) tot (ksi)	3.21	2.30	3.31	2.59	3.67
fs tot (ksi)	18.29	19.31	17.45	20.22	19.00
va (k)	55	————	47	————	57

	W. Abut.	Pier 1	Pier 2	E. Abut.
R P (k)	3764	134.53	142.59	4179
R L (k)	3900	5488	56.56	3993
R _I (k)	983	1314	13.38	982
R total (pri) (k)	8647	202.55	212.53	9154
R total (sec) (k)	143	.54	65	197
R total (k)	8790	203.09	213.18	9351

I_S and S_S are the moment of inertia and section modulus of the steel section.

I_C and S_C are the moment of inertia and section modulus of the composite section used in computing f_s .

VR is the maximum $\frac{1}{2} \times$ Impact shear range in span

Stresses and Reactions include allowance for Secondary and Torsional Loads.

*TOP OF WEB ELEVATIONS					
Location	Girder No.	1	2	3	4
£ Brg. W. Abut.		609.22	609.77	610.32	610.87
£ Pier No 1		609.70	610.26	610.83	611.4
£ Splice 1		609.84	610.40	610.97	611.5
£ Pier No 2		609.79	610.37	610.96	611.53
£ Splice 2		609.78	610.36	610.95	611.54
£ Bra. E. Abut.		609.46	610.07	610.68	611.29

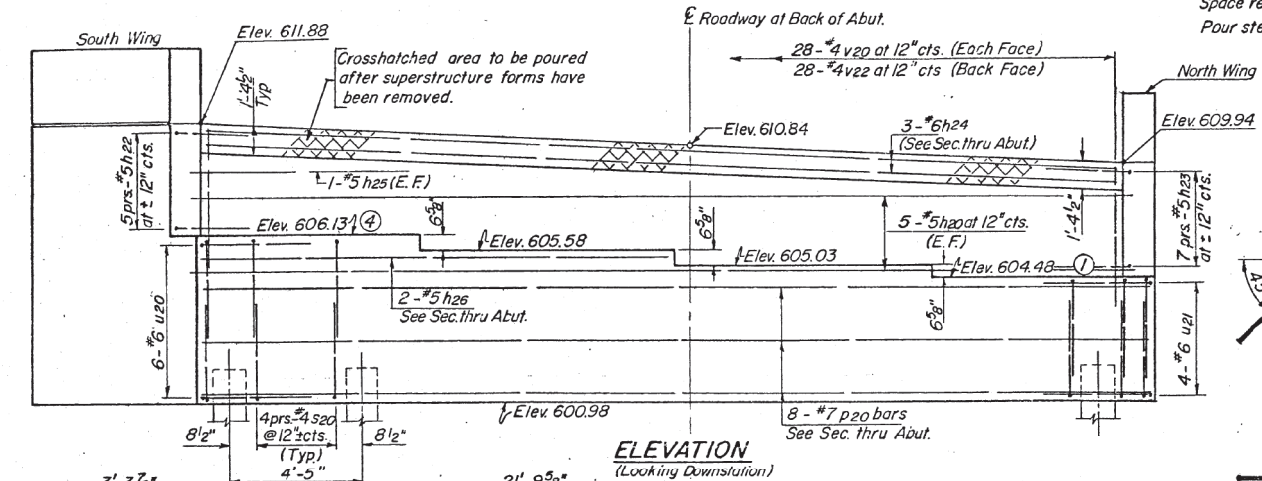
*For fabrication only

1 REVISED SHEET 4-9-2025

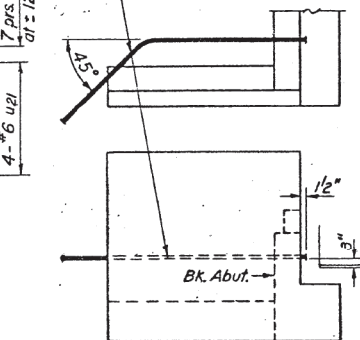
BEARING DETAILS
F.A.I.-55 SEC.54-4HB
RDWY. "D"
LOGAN COUNTY
STA. 16+93.48

FOR INFORMATION ONLY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	129
		CONTRACT NO. 72220		
ILLINOIS		FED. AID PROJECT		



Locate 2" Galv. Conduit (Sch. 40 Pipe)
± 12" inside of fascia beam web and
parallel to beam line. Extend to
clear the wing wall and terminate
at a point outside of shoulder.
Thread and cap each end.
Cost Incidental.



Hand-drawn structural drawing of a pile cap. The drawing shows a rectangular pile cap with various reinforcement details. Key dimensions include a total width of 14 feet 6 inches for the top and middle sections, and a total width of 10 feet 4 inches for the bottom section. Reinforcement includes 14 #6 bars at 12 inches center-to-center (Ea Face), 2 #4 bars at 12 inches center-to-center (Ea Face) for shear (S.W.), 1 #4 bar at 12 inches center-to-center (Ea Face) for normal stress (N.W.), 3 #7 bars at 12 inches center-to-center (Ea Face), and 3 #4 bars at 12 inches center-to-center (Ea Face). The drawing also shows a 10 #4 bar at 12 inches center-to-center for the bottom section. The drawing is labeled with 'A' and 'B' for section lines, and 'Pile' for the pile. The drawing is a hand-drawn sketch with dimensions and reinforcement details.

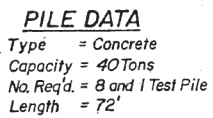
Technical drawing of a wall section showing a window opening. The window is 4'-1" wide and 13'-6" high. The wall is 13'-6" wide. The window is labeled "W.P." and "v21 or n20". The wall is labeled "h21".

Technical drawing showing three L-shaped profiles with dimensions:

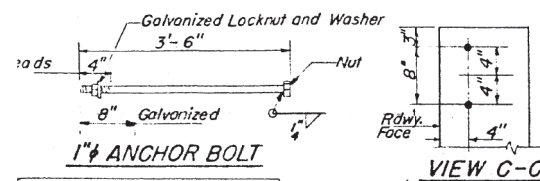
- Top Profile:** Dimensions include a vertical leg of 1'-9", a horizontal leg of 2'-0", a corner radius of 6", and a 9° angle. A dimension of 6" is also shown for the horizontal leg's width.
- Middle Profile:** Dimensions include a vertical leg of 2'-2", a horizontal leg of 2'-2", and a 9° angle. The profile is labeled BAR #21.
- Bottom Profile:** Dimensions include a vertical leg of 6'-3", a horizontal leg of 9", and a 9° angle. The profile is labeled BAR #20.

Bar	No	Size	Length	Shape
h20	10	#5	26'-6"	—
h21	42	#4	13'-3"	—
h22	10	#5	5'-6"	L
h23	14	#5	5'-6"	J
h24	3	#6	26'-6"	—
h25	2	#5	9'-3"	—
h26	2	#5	13'-9"	—
n20	28	#6	11'-3"	U
p20	8	#7	27'-10"	—
p21	12	#7	13'-3"	—
s20	54	#4	9'-11"	□
s21	26	#4	9'-6"	□
u20	6	#6	10'-2"	U
u21	4	#6	9'-0"	J
v20	56	#4	7'-0"	—
v21	56	#6	7'-6"	—
v22	28	#4	4'-6"	—
Class X Concrete			Cu. Yds.	35.8
Reinforcement Bars			Lbs.	3850
Concrete Piles			Lin. Ft.	576
Test Piles (Concrete)			Ea.	1

WEST ABUTMENT
FA.I. 55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

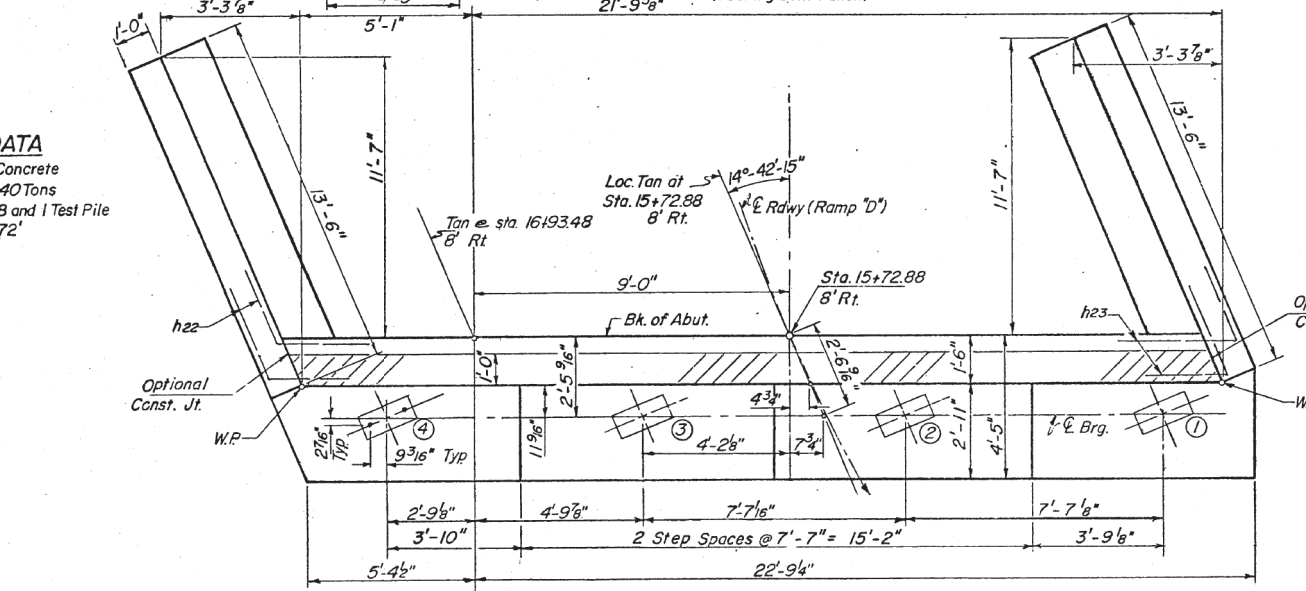


SEC. THRU ABUT.

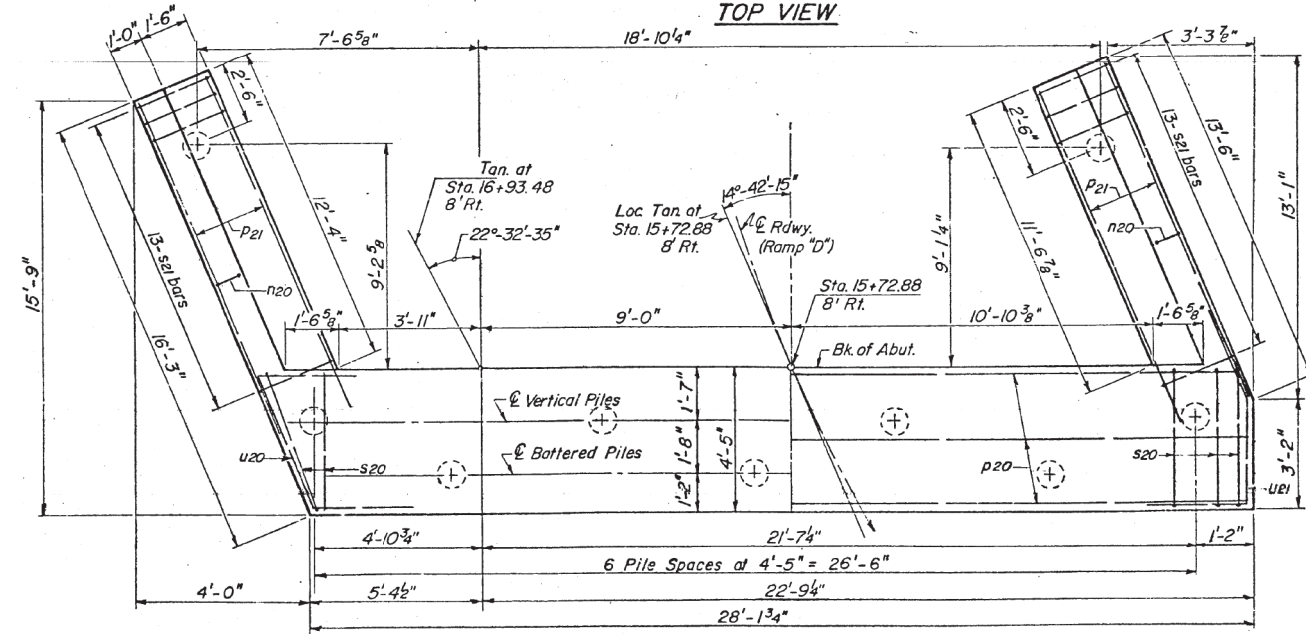


VIEW C-C

DESIGNED	D.V.K.	19
CHECKED	G.E.P.	EXAMINED
DRAWN	E.S.	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
CHECKED	D.V.K.	PASSED
		ENGINEER OF DESIGN
		APPROVED
		CHIEF HIGHWAY ENGINEER



TOP VIEW



PLAN PILE CAP

FOR INFORMATION ONLY

1 REVISED SHEET 4-9-2025

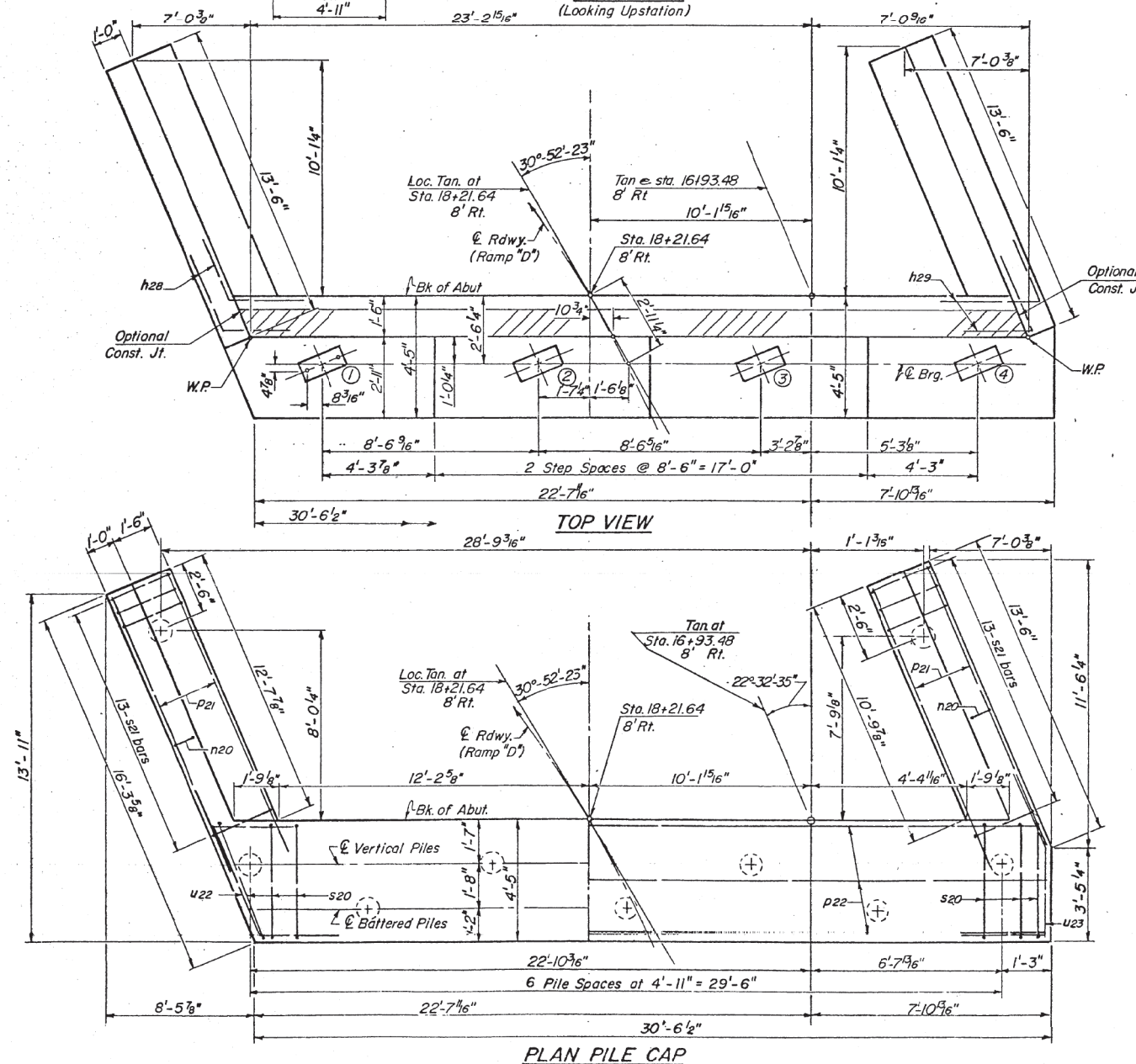
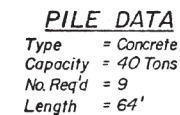
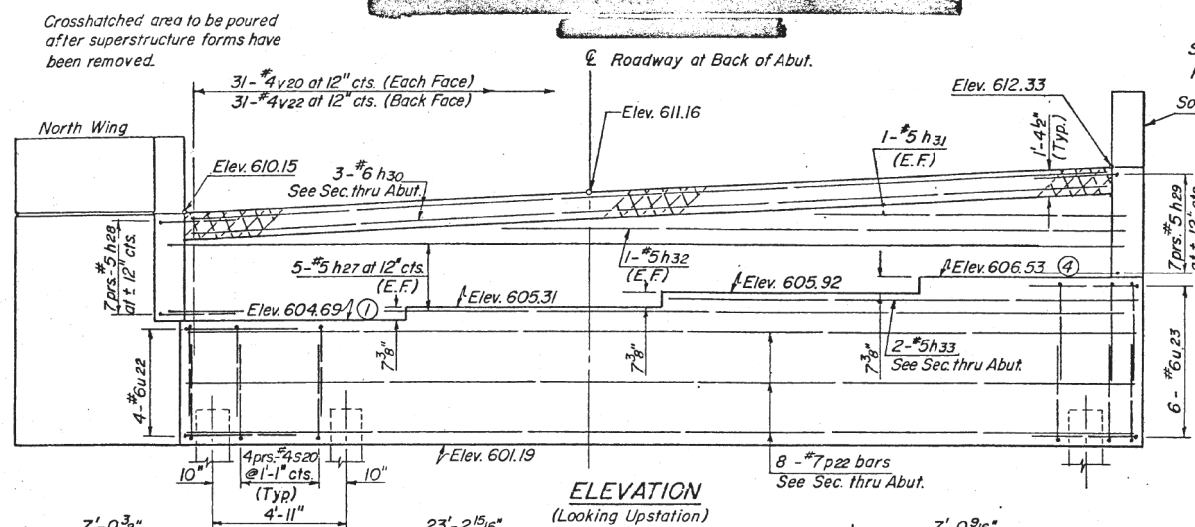
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING PLANS
STRUCTURE NO. 054-0051

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	130
		CONTRACT NO. 72220		
ILLINOIS		FED. AID PROJECT		



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	DRAWN - DS	REVISED -
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PLOT DATE = 3/16/2025	DATE - 3/2025	REVISED -

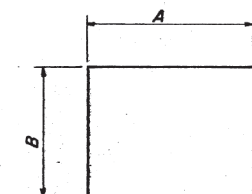
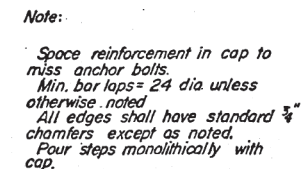


<u>ONE ABUTMENT</u>				
<u>BILL OF MATERIAL</u>				
Bar	No	Size	Length	Shape
h21	42	#4	13'-3"	—
h27	10	#5	30'-0"	—
h28	14	#5	5'-6"	└
h29	14	#5	5'-6"	┐
h30	3	#6	29'-2"	—
h31	2	#5	10'-0"	—
h32	2	#5	20'-0"	—
h33	2	#5	15'-0"	—
n20	28	#6	11'-3"	U
P21	12	#7	13'-3"	—
P22	8	#7	30'-3"	—
s20	54	#4	9'-11"	□
s21	26	#4	9'-6"	□
u22	4	#6	10'-9"	└
u23	6	#6	9'-0"	┐
v20	62	#4	7'-0"	—
v21	56	#6	7'-6"	—
v22	31	#4	4'-6"	└
Class X Concrete			Cu. Yds.	44.3
Reinforcement Bars			Lbs.	4050
Concrete Piles			Lin Ft	576

EAST ABUTMENT
FA.I. 55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

FOR INFORMATION ONLY

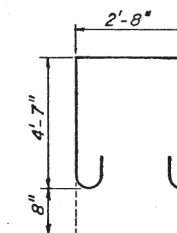
1 REVISED SHEET 4-9-2025



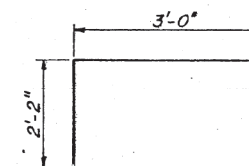
A & B DIMENSIONS

Bar	A	B
S50	2'-2"	2'-
S51	2'-2"	3'-
S52	2'-2"	5'-
S53	1'-10"	2'-
S54	2'-8"	2'-

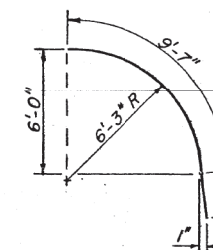
5 BARS



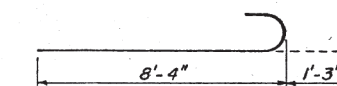
*n*₅₀ BAR



450 BAR



p52BAR



n51 BAR

PIER 1
BILL OF MATERIAL

Bar	No.	Size	Length	Shoe
<i>h50</i>	62	#5	13'-4"	—
<i>h51</i>	6	#5	27'-4"	—
<i>n50</i>	18	#6	13'-2"	J
<i>n51</i>	62	#9	9'-7"	J
<i>p50</i>	5	#10	27'-4"	—
<i>p51</i>	3	#5	13'-4"	—
<i>p52</i>	4	#6	11'-7"	✓
<i>s50</i>	92	#5	6'-10"	□
<i>s51</i>	10	#5	8'-8"	□
<i>s52</i>	8	#5	12'-8"	□
<i>s53</i>	14	#5	5'-10"	□
<i>s54</i>	8	#5	7'-8"	□
<i>t50</i>	36	#10	12'-9"	—
<i>u50</i>	8	#6	8'-2"	□
<i>v50</i>	32	#8	17'-10"	—
<i>v51</i>	66	#9	18'-6"	—
<i>w50</i>	12	#10	26'-3"	—
<i>w51</i>	8	#5	21'-8"	—
<i>Class X Concrete</i>			<i>Cu Yds.</i>	<i>90.5</i>
<i>Reinforcement Bars</i>			<i>Lbs.</i>	<i>14,390</i>
<i>Crescoted Timber Piles</i>			<i>Lin. Ft.</i>	<i>1080</i>

PIER NO.1
F.A.I. 55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

FOR INFORMATION ONLY

1 REVISED SHEET 4-9-2025

MODEL: Default
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DRAWN	- DS
CHECKED	- JS
DATE	- 3/2025
REVISD	-
REVISD	-
REVISD	-
REVISD	-

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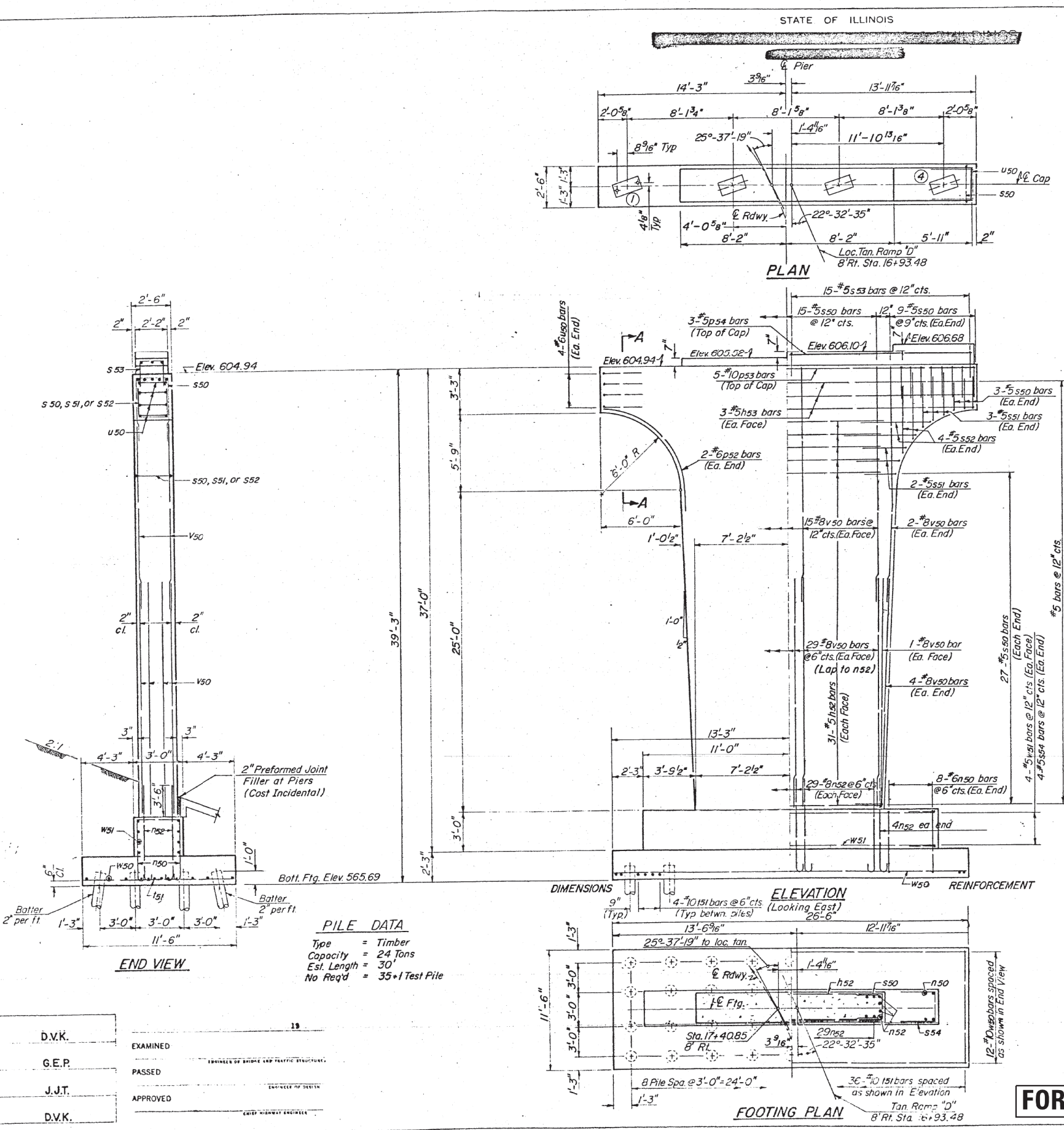
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS	STRUCTURE NO. 054-0051
SCALE:	SHEET OF SHEETS STA. TO STA.

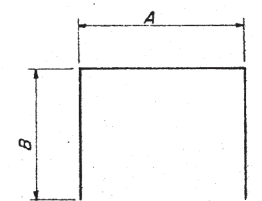
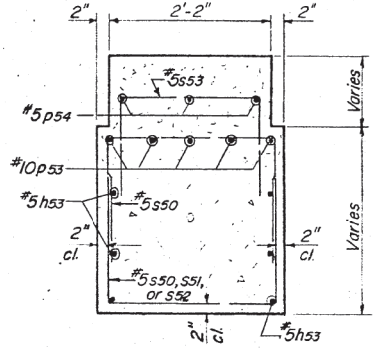
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(54-4HB)D	LOGAN	133	133
CONTRACT NO. 72220				
ILLINOIS FED. AID PROJECT				

REVISED SHEET 4-9-2025

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I.	F.A.I.-55	LOGAN	63	45
SHEET NO. 32				
36 SHEETS				
FED. ROAD DIST. NO. 7				
ILLINOIS FED. AID PROJECT				

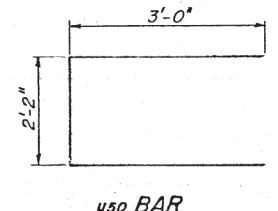


Note:
Space reinforcement in cap to miss anchor bolts.
Min. bar laps = 24 dia unless otherwise noted.
All edges shall have standard 3/4" chamfers except as noted.
Four steps monolithically with cap.

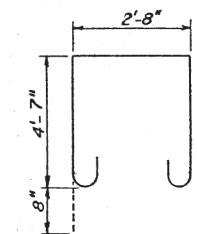


Bar	A	B
s50	2'-2"	2'-4"
s51	2'-2"	3'-3"
s52	2'-2"	5'-3"
s53	1'-10"	2'-0"
s54	2'-8"	2'-6"

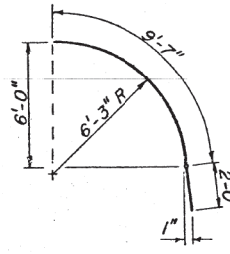
s BARS



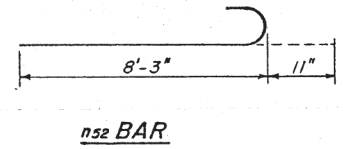
u50 BAR



n50 BAR



p52 BAR



n52 BAR

PIER 2
BILL OF MATERIAL

Bar	No	Size	Length	Shape
h52	62	#5	14'-1"	
h53	6	#5	28'-2"	
n50	16	#6	13'-2"	
n52	66	#8	9'-2"	
p52	4	#6	11'-7"	
p53	5	#10	28'-2"	
p54	3	#5	13'-9"	
s50	93	#5	6'-10"	
s51	10	#5	8'-8"	
s52	8	#5	12'-8"	
s53	15	#5	5'-10"	
s54	8	#5	7'-8"	
t51	36	#10	11'-3"	
u50	8	#6	8'-2"	
v50	104	#8	17'-10"	
w50	12	#10	26'-3"	
w51	8	#5	21'-8"	
Class X Concrete				Cu Yds. 89.3
Reinforcement Bars				Lbs. 13,080
Creosoted Timber Piles				Lin. Ft. 1050
Creosoted Test Piles				Ea. 1

PIER NO. 2
F.A.I. 55 SEC. 54-4HB
RAMP "D"
LOGAN COUNTY
STA. 16+93.48

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