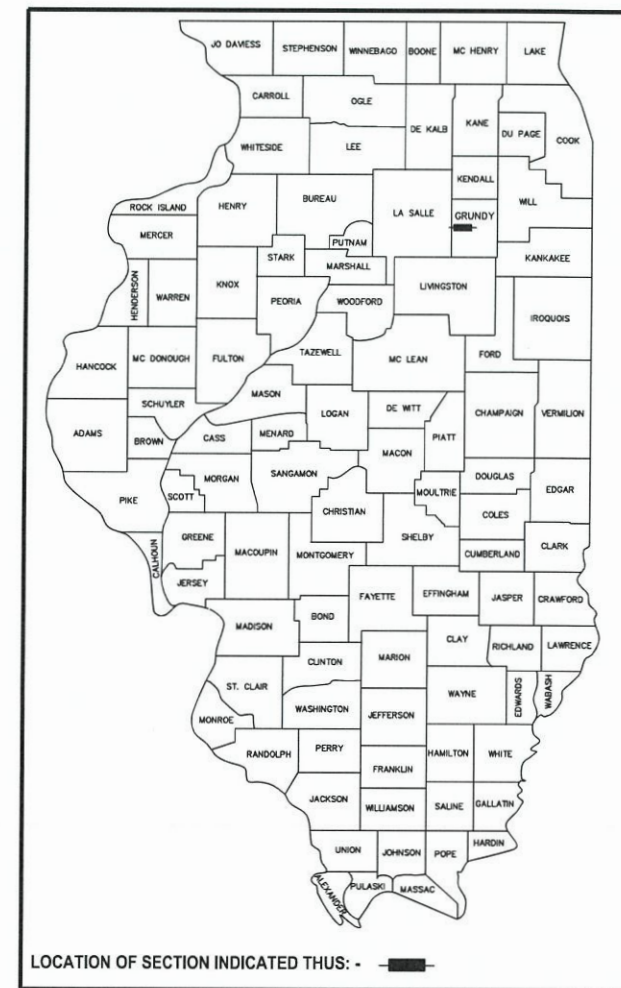


- 1. COVER SHEET
- 2. GENERAL NOTES
- 3. SUMMARY OF QUANTITIES
- 4. SUMMARY OF QUANTITIES
- 5. TYPICAL SECTIONS - BRIDGE AT STA. 8+03
- 6. TYPICAL SECTIONS - BRIDGE AT STA. 90+70
- 7. TYPICAL SECTIONS - BRIDGE AT STA. 246+27
- 8. TRAFFIC CONTROL PLAN
- 9. REMOVAL PLAN - BRIDGE AT STA. 8+03
- 10. PLAN AND PROFILE - BRIDGE AT STA. 8+03
- 11. EROSION CONTROL - BRIDGE AT STA. 8+03
- 12. REMOVAL PLAN - BRIDGE AT STA. 90+70
- 13. PLAN AND PROFILE - BRIDGE AT STA. 90+70
- 14. EROSION CONTROL - BRIDGE AT STA. 90+70
- 15. REMOVAL PLAN - BRIDGE AT STA. 246+27
- 16. PLAN AND PROFILE - BRIDGE AT STA. 246+27
- 17. DETAILED PLAN - BRIDGE AT STA. 246+27
- 18. EROSION CONTROL - BRIDGE AT STA. 246+27
- 19. GENERAL PLAN AND ELEVATION - BRIDGE AT STA. 8+03
- 20. RIPRAP DETAILS - BRIDGE AT STA. 8+03
- 21. BOX CULVERT DETAILS - BRIDGE AT STA. 8+03
- 22. BOX CULVERT DETAILS - BRIDGE AT STA. 8+03
- 23. SOIL BORINGS - BRIDGE AT STA. 8+03
- 24. SOIL BORINGS - BRIDGE AT STA. 8+03
- 25. GENERAL PLAN AND ELEVATION - BRIDGE AT STA. 90+70
- 26. RIPRAP DETAILS - BRIDGE AT STA. 90+70
- 27. BOX CULVERT DETAILS - BRIDGE AT STA. 90+70
- 28. BOX CULVERT DETAILS - BRIDGE AT STA. 90+70
- 29. SOIL BORINGS - BRIDGE AT STA. 90+70
- 30. SOIL BORINGS - BRIDGE AT STA. 90+70
- 31. GENERAL PLAN AND ELEVATION - BRIDGE AT STA. 246+27
- 32. RIPRAP DETAILS - BRIDGE AT STA. 246+27
- 33. SUPERSTRUCTURE - BRIDGE AT STA. 246+27
- 34. 33"x48" PPC DECK BEAM - BRIDGE AT STA. 246+27
- 35. 33"x48" PPC DECK BEAM DETAILS - BRIDGE AT STA. 246+27
- 36. TOP OF SLAB ELEVATION - WEST - BRIDGE AT STA. 246+27
- 37. TOP OF SLAB ELEVATION - EAST - BRIDGE AT STA. 246+27
- 38. APPROACH SLAB DETAILS - BRIDGE AT STA. 246+27
- 39. STEEL RAILING TYPE SMX DETAILS - BRIDGE AT STA. 246+27
- 40. ABUTMENT - BRIDGE AT STA. 246+27
- 41. STEEL HP PILE DETAILS - BRIDGE AT STA. 246+27
- 42. SOIL BORINGS - BRIDGE AT STA. 246+27
- 43. SOIL BORINGS - BRIDGE AT STA. 246+27
- 44. SOIL BORINGS - BRIDGE AT STA. 246+27
- 45. SOIL BORINGS - BRIDGE AT STA. 246+27
- 46.-59. EXISTING PLANS

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PLANS FOR PROPOSED**  
**FEDERAL AID PROJECT**  
**LOCAL BRIDGE**  
**FORMULA PROGRAM**  
  
**3 BRIDGE REPLACEMENTS ON GRAND RIDGE ROAD (FAS 272)**  
**OVER HOG RUN, BILLS RUN AND WAUPECAN CREEK**  
**SECTION 19-00174-00-BR**  
**PROJECT ZHOP(871)**  
**GRUNDY COUNTY**  
**C-93-006-23**



LOCATION OF SECTION INDICATED THUS: -

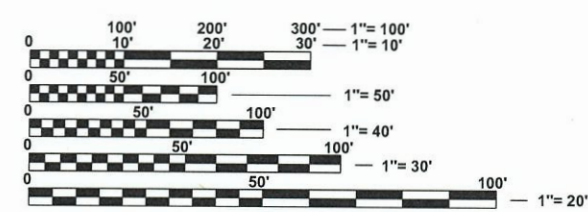
**FUNCTIONAL CLASSIFICATION**

MAJOR COLLECTOR  
 DESIGN SPEED: 55 MPH  
 DESIGN TRAFFIC: 1400 (2024)

**UTILITIES**

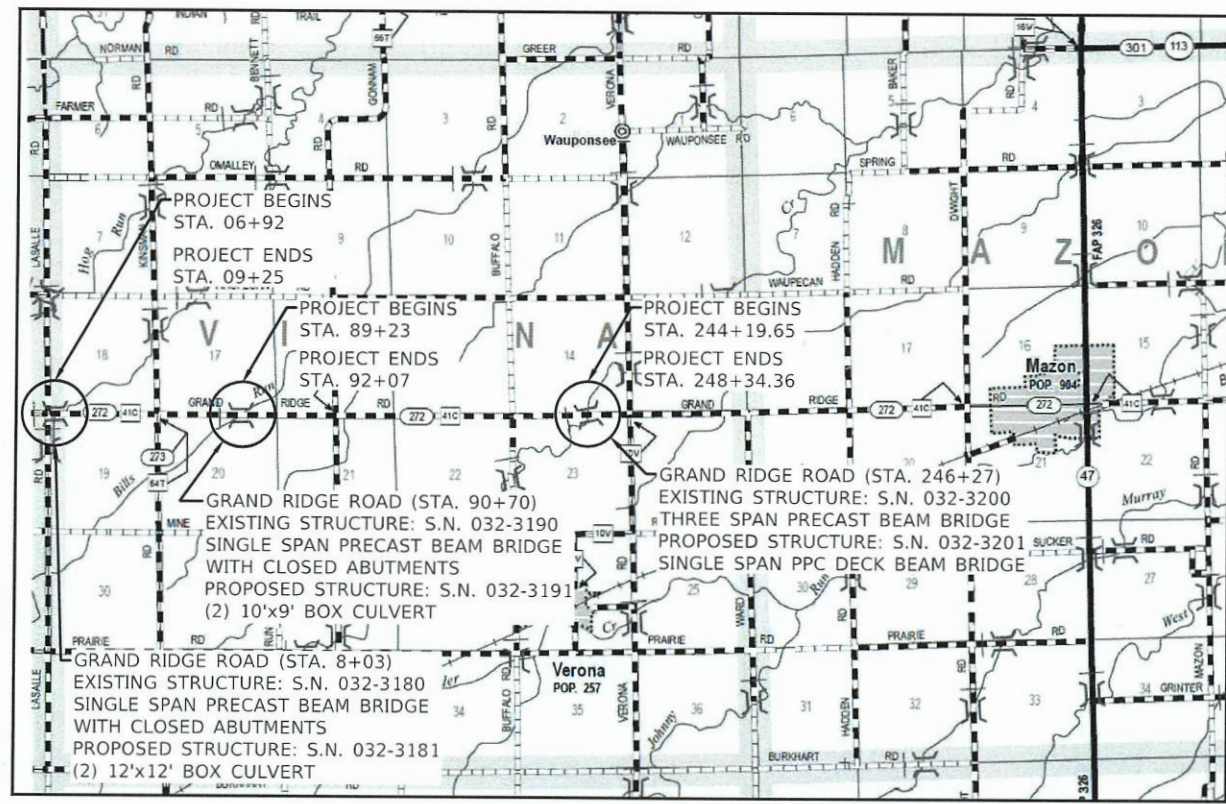
AT&T  
 1000 COMMERCE DRIVE  
 OAKBROOK, IL 60523  
 TOM LASKOWSKI  
 (630) 573-5643

COMED  
 2 LINCOLN CENTER  
 OAKBROOK TERRACE, IL 60181  
 KYLE ISEK  
 (630) 576-7094



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

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



LOCATION SKETCH  
NOT TO SCALE

GROSS LENGTH = 24,142.36 FEET = 4.57 MILES  
 NET LENGTH = 931.72 FEET = 0.18 MILES



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

APPROVED \_\_\_\_\_ 20 24  
 LOCAL AGENCY OFFICIAL

PASSED \_\_\_\_\_ 20 24  
 DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW  
 \_\_\_\_\_ 20 24  
 REGION TWO ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

**CONTRACT NO. 87792**



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KED					
CHECKED BY:					
DAH					
DATE:					
01/2024					

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 1
	FILE NO.: 111523.00-	OF 59

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 Drawing Name: C:\Users\11111523-00\GRUNDY\_CO GRAND RIDGE RD BRIDGE\CA\PLANS\01-COVER.dwg  
 Last Modified: Tuesday, February 20, 2024 9:22:12 AM  
 Printed On: Tuesday, February 20, 2024 3:03:09 PM  
 by: Kurt Becker

**General Notes**

- The thickness of HMA shown on the plans is the nominal thickness. Deviations from the nominal thickness will be permitted when such deviations occur due to irregularities in the existing surface or base on which the HMA is placed.
- Except as noted on plans, pavement grades shown are at the top of pavement surfaces.
- The Engineer will be the sole judge concerning curing time for the various HMA lifts.
- For stabilization, all Type III barricades will require a minimum of eight (8) sandbags per barricade.
- Seeding will not be permitted at any time when the ground is frozen, wet, or in an untillable condition. Locations to be seeded will be determined by the Engineer.
- All elevations referring to U.S.G.S. Mean Sea Level Datum.
- Abandoned underground utilities that conflict with construction shall be disposed of outside the limits of the Right of Way according to Article 202.03 of the Standard Specifications and as directed by the Engineer. This work will be not be paid for separately, but will be included in the cost of Earth Excavation.
- Any reference to a Standard in these Plans shall be interpreted to mean the Edition as indicated by the subnumber shown in the list of Standards or the copy included in these Plans.
- The following rates of application have been used in calculating plan quantities:
 

Granular Materials	2.05	tons/cu yd
HMA Surfacing	112	lbs/sq yd/in
Temp. Erosion Control Seeding	100	lbs/acre
- Members of J.U.L.I.E. known to be within the limits of the improvements are: ComEd AT&T
- The Contractor shall contact J.U.L.I.E. at least 48 hours prior to excavation to determine which utilities are in the area.
- The intent of schedule considers all locations to be worked at the same time.
- Project start date will be determined by deck beam delivery date.
- The finished earthwork shall have a vegetation sustaining soil covering the top four inches in areas to be seeded. The vegetation sustaining soil required will not be paid for separately but will be included in the cost of the Furnished Excavation.

**Summary of Commitments**  
 Trees 3" or greater in diameter at breast height will not be cleared April 1 through September 30.

**STANDARDS**

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-10	PAVEMENT JOINTS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
515001-04	NAME PLATE FOR BRIDGES
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAINS
630001-13	STEEL PLATE BEAM GUARDRAIL
630101-11	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-10	TRAFFIC BARRIER TERMINAL, TYPE 6A
701901-09	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

**Erosion and Sediment Control Notes**

Soil erosion and sediment control shall be in accordance with applicable portions of the Illinois Urban Manual, updated 2020.

Provisions shall be made to minimize the transport of sediment by vehicular traffic from the construction site. All public streets shall be cleaned daily or as directed by the Engineer to keep clean of sediment and debris caused by construction activities. Adjacent properties shall be protected from sediment deposition by use of an acceptable erosion control practice such as vegetative buffer strips or sediment barriers. Should an erosion control item not be included as a Bid Item or not be addressed per Special Provision and be determined necessary by the Engineer, those items will be paid for at a pre-approved unit price.

For construction sites with one (1) acre or more of disturbance, all Contractors and Sub-Contractors will be required to certify a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP, if necessary, and all permits pertaining to soil and erosion control will be prepared and submitted by the Owner/Engineer.

It will be the Contractor/Sub-Contractor's responsibility to implement all necessary erosion control measures and follow the SWPPP.

Contractor shall employ all erosion control devices as shown on the plans, applicable IDOT Roadway Standards, and applicable Illinois Urban Manual Standards. A temporary concrete washout facility shall be constructed as depicted on the plans if concrete will wash out at the work site.

All erosion control measures will be maintained in accordance with the IDOT Erosion Control and Sediment Control Field Guide for construction inspection found on the construction tab at: <https://idot.illinois.gov/> The Contractor will assume responsibility for maintenance of all soil erosion control during construction.

All the soil erosion and sediment control features must be constructed prior to the commencement of upland disturbance. Soil disturbance must be phased or enacted in such manner as to minimize erosion. Soil stabilization measures must consider the time of year, site conditions and the use of temporary and/or permanent measures.

The Contractor shall check all ESC measures weekly and after each rainfall, 0.5 inches or greater in a 24-hour period, or equivalent snowfall. Additionally, during winter months, all measures should be checked by the Contractor after each significant snowmelt.

It is the responsibility of the Contractor to ensure that sediment transport off the site is reduced by a combination of minimization of erosion at the source and with the installation of specific measures to control or reduce the transport or sediment.

All runoff originating on disturbed areas associated with this project will pass through one or more measures that will minimize the off-site sediment impacts of the construction activities.

Temporary or permanent stabilization shall be initiated immediately upon completion of disturbance or if the work area is to be left undisturbed for 14 days or more.

Disturbed areas are to be protected from erosion in a timely manner, upon completion of grading or construction activity. The area will be stabilized (using permanent measures when possible) within 7 calendar days.

Under no circumstances shall the Contractor prolong final grading and shaping so that the entire project can be permanently seeded at one time.

The Contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the resident.

The Contractor must clean up, grade the work area as the project progresses, and install erosion protection to eliminate the concentration of runoff, or must install appropriate sediment control devices to trap sediment. Pavement must be cleaned daily or necessary to remove earthen material to the satisfaction of the engineer.

The Contractor's representative and the Engineer must keep a written report summarizing the required inspections taken place. The reports must be kept at the site during construction and submitted to the Owner upon project completion. The reports must also be retained for three years from the date the site is finally stabilized.

All the erosion and sediment control measures shall be maintained during the construction season as well as over any winter shutdown period and other days when the project is closed down for a longer duration. Any control measures filled more than 75% must be cleaned and reset and these spoils removed to an approved site.

Any sediment laden dewatering discharge must be directed to an approved sediment trapping control measure prior to release from the project site. Any dewatering method used by the Contractor shall be included in the cost of the item.

**Seeding Usage:**

Class 3 shall be used at final disturbed construction areas indicated on the Plans. Temporary Erosion Control Seeding is required for use in disturbed areas requiring short term temporary seeding during construction. The application rate for Temporary Erosion Control Seeding is 100lb/acre and will not require fertilizer.

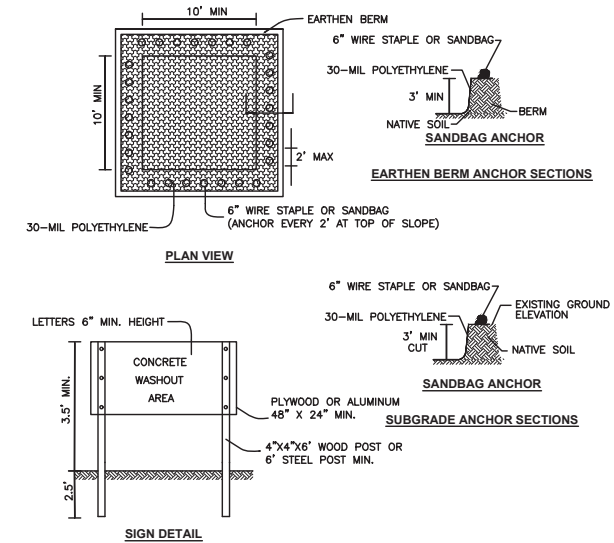
**Topsoil Placement:**

Topsoil will be placed on final slopes which will not be disturbed by future construction, as directed by the Engineer. Topsoil will not be placed on surfaces which will be paved in the future nor on temporary steep slopes.

This project requires a US Army Corps of Engineers (USACE) 404 Permit that will be secured by the County. All conditions of the 404 Permit, found in the Special Provisions, must be followed. The USACE defines and determines in-stream work. The cost of all materials and labor necessary to comply with the above provisions to prepare and implement an in-stream work plan (including work within wetlands) will not be paid for separately but shall be considered as included in the unit bid prices of the erosion items within the Contract and no additional compensation will be allowed.

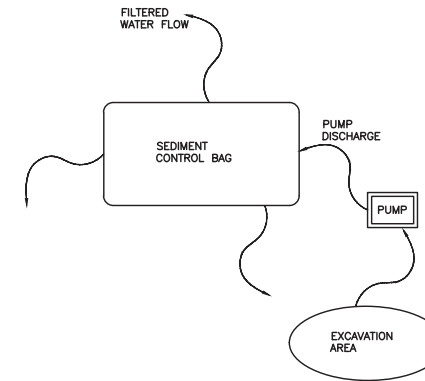
**Erosion Control Operations & Maintenance**

All maintenance of erosion control systems will be the responsibility of the Contractor.



- NOTES:**
- MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDEND CONCRETE AND/OR SLURRY AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION.
  - FACILITY SHALL BE CLEANED OR RECONSTRUCTED IN A NEW AREA ONCE WASHOUT BECOMES TWO-THIRDS FULL.
  - COST OF WASHOUT FACILITY SHALL BE INCLUDED IN THE CONCRETE PAY ITEMS.

**TEMPORARY CONCRETE WASHOUT FACILITY - EARTHEN TYPE**  
 ILLINOIS URBAN MANUAL DRAWING IUM-654ET



- NOTES:**
- SEDIMENT FILTRATION BAGS SHALL BE PLACED ON A STABILIZED SURFACE AWAY FROM RECEIVING WATERWAYS AND/OR CONSTRUCTION ACTIVITIES. SEDIMENT FILTRATION BAGS SHALL NOT BE PLACED, WHOLE OR PARTIALLY, WITHIN AQUATIC AREAS (WETLANDS, STREAMS, ETC.) OR WATER CONVEYANCE FEATURES.
  - SEDIMENT FILTER BAGS SHALL BE RAISED ABOVE THE SUPPORTING GROUND ON A SURFACE, OR MATERIAL THAT ALLOWS WATER TO FLOW OUT OF THE BOTTOM OF THE BAG. THE PUMP DISCHARGE SHALL NOT EXCEED THE DESIGN DISCHARGE RATE OF THE SELECTED SEDIMENT FILTER BAG.
  - SEDIMENT FILTER BAGS SHALL MEET THE MATERIAL REQUIREMENTS OF THE ILLINOIS URBAN MANUAL, MATERIAL SPECIFICATIONS 592, TABLE 2, CLASS 1 WITH MINIMUM TENSILE STRENGTH OF 200 LBS.
  - SEDIMENT FILTER BAGS SHALL BE SIZED PER MANUFACTURER RECOMMENDATIONS AND BASED ON THE SIZED OF PUMP. MINIMUM BAG SIZE SHALL BE 10 FEET X 15 FEET WITH A USEABLE SURFACE DRAINAGE AREA OF 300 SQUARE FEET.
  - LARGEST SIZE PUMP HOSE TO BE USED WITH A SEDIMENT FILTRATION BAG IS 4-INCHES. MULTIPLE HOSES SHALL NOT BE USED TO ONE BAG.
  - SEDIMENT FILTRATION BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS. BAGS MAY NOT BE REUSED.

**SEDIMENT CONTROL BAG FOR DEWATERING**  
 ILLINOIS URBAN MANUAL STANDARD 830

**HMA MIXTURE REQUIREMENT TABLE**

LOCATIONS:	ENTIRE PROJECT	ENTIRE PROJECT
MIXTURE USE(S):	HMA BINDER COURSE	HMA SURFACE COURSE
BINDER GRADE (PG):	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION: (MIXTURE GRADATION)	IL-19.0	IL-9.5
FRICITION AGGREGATE:		MIXTURE C
MIXTURE WEIGHT:	112.0 LB/SY/IN	112.0 LB/SY/IN
QUALITY MANAGEMENT PROGRAM:	QC/QA	QC/QA
SUBLOT SIZE:	N/A	N/A
DENSITY TEST METHOD:	NUCLEAR	NUCLEAR
MATERIAL TRANSFER DEVICE (REQUIRED):	NO	NO

CONTRACT NO. 87792

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 Drawing Name: G:\Users\11111523\OneDrive\Projects\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\002-NOTES.dwg  
 Last Modified: Tuesday, February 20, 2024 9:40:34 AM  
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 by Kurt Decker

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CHECKED BY: DAH	LEVEL	BY	DATE	DESCRIPTION
DATE: 01/2024				

PERU MORRIS  
 OTTAWA MENDOTA  
 ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**GENERAL NOTES AND EROSION & SEDIMENT CONTROL NOTES**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 2
FILE NO.: 111523.00 Y-	OF 59

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 Drawing Name: G:\Users\11111923-00\GRUNDY\_CO GRAND RIDGE RD BRIDGE\CAD\PLANS\003-500.dwg Last Modified: Wednesday, February 21, 2024 11:13:36 AM Plotted On: Thursday, February 22, 2024 5:31:03 PM by Kurt Decker

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE		CONSTR. CODE		CONSTR. CODE	
				STP-Br		STP-Br		STP-Br	
				Fed 80%	Local 20%	Fed 80%	Local 20%	Fed 80%	Local 20%
				BOX CULVERT		BOX CULVERT		BRIDGE	
				0010	0010	0010			
				032-3181	032-3191	032-3201			
20200100	EARTH EXCAVATION	CU YD	343	117	118	108			
20400800	FURNISHED EXCAVATION	CU YD	361	50	176	135			
20700220	POROUS GRANULAR EMBANKMENT	CU YD	1048	656	392	0			
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	320	164	156	0			
25000300	SEEDING, CLASS 3	ACRE	0.5	0.15	0.2	0.15			
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	45	14	17	14			
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	45	14	17	14			
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	45	14	17	14			
25100630	EROSION CONTROL BLANKET	SQ YD	1896	414	1065	417			
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	40	9	22	9			
28000305	TEMPORARY DITCH CHECKS	FOOT	86	20	36	30			
28100107	STONE RIPRAP, CLASS A4	SQ YD	657	140	132	385			
28200200	FILTER FABRIC	SQ YD	657	140	132	385			
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	320	164	156	0			
35101800	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	106	0	106	0			
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	4048	1100	1562	1386			
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	405	110	156	139			
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	244	137	107	0			
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	262	55	78	129			
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	62	0	0	62			
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	1299	232	457	610			
48101600	AGGREGATE SHOULDERS, TYPE B 8"	SQ YD	913	209	342	362			
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	3	1	1	1			
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	85	65	20	0			
50300225	CONCRETE STRUCTURES	CU YD	45	0	0	45			
50300280	CONCRETE ENCASEMENT	CU YD	5.5	0	0	5.5			
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	81	0	0	81			
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2316	0	0	2316			

\* Denotes Specialty Item

CONTRACT NO. 87792

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CHECKED BY: DAH	LEVEL	BY	DATE
DATE: 01/2024			
			DESCRIPTION



PERU MORRIS  
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 ILLINOIS  
 Chamlin & Associates

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SUMMARY OF QUANTITIES**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 3
	FILE NO.: 111523.00 Y-	OF 59

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 Drawing Name: G:\Users\11111923-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\004-500.dwg Last Modified: Wednesday, February 21, 2024 11:14:08 AM Plotted On: Thursday, February 22, 2024 5:31:49 PM by Kurt Decker

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE		CONSTR. CODE		CONSTR. CODE	
				STP-Br		STP-Br		STP-Br	
				Fed 80%	Local 20%	Fed 80%	Local 20%	Fed 80%	Local 20%
				BOX CULVERT		BOX CULVERT		BRIDGE	
				0010	0010	0010			
				032-3181	032-3191	032-3201			
50800105	REINFORCEMENT BARS	POUND	122320	81190	41130	0			
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	40330	2830	730	36770			
* 50900209	STEEL RAILING, TYPE SMX	FOOT	226	0	0	226			
51201800	FURNISHING STEEL PILES HP14X73	FOOT	467	0	0	467			
51202305	DRIVING PILES	FOOT	467	0	0	467			
51203800	TEST PILE STEEL HP14X73	EACH	1	0	0	1			
51204650	PILE SHOES	EACH	10	0	0	10			
51500100	NAME PLATES	EACH	3	1	1	1			
54003000	CONCRETE BOX CULVERTS	CU YD	486	309	177	0			
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	462	0	0	462			
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	508	0	0	508			
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	59	0	0	59			
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	332	186	126	20			
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	4	0	0	4			
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	110	0	0	110			
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	296	166	130	0			
* 63000030	STRONG POST GUARDRAIL ATTACHED TO CULVERT	FOOT	125	75	50	0			
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	0	0	4			
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	10	2	4	4			
63200310	GUARDRAIL REMOVAL	FOOT	905	284	305	316			
67100100	MOBILIZATION	L SUM	1	0.3	0.3	0.4			
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	10	2	4	4			
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2697	600	852	1245			
X5810103	WATERPROOFING MEMBRANE SYSTEM FOR BURIED STRUCTURES	SQ YD	312	186	126	0			
* X6300130	STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)	FOOT	25	25	0	0			
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	0.3	0.3	0.4			
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	0.3	0.3	0.4			
Z0054400	ROCK FILL	CU YD	85	65	20	0			

\* Denotes Specialty Item

CONTRACT NO. 87792

DRAWN BY: KED	REVISIONS		
CHECKED BY: DAH	LEVEL	BY	DATE
DATE: 01/2024			



PERU MORRIS  
OTTAWA MENDOTA  
ILLINOIS

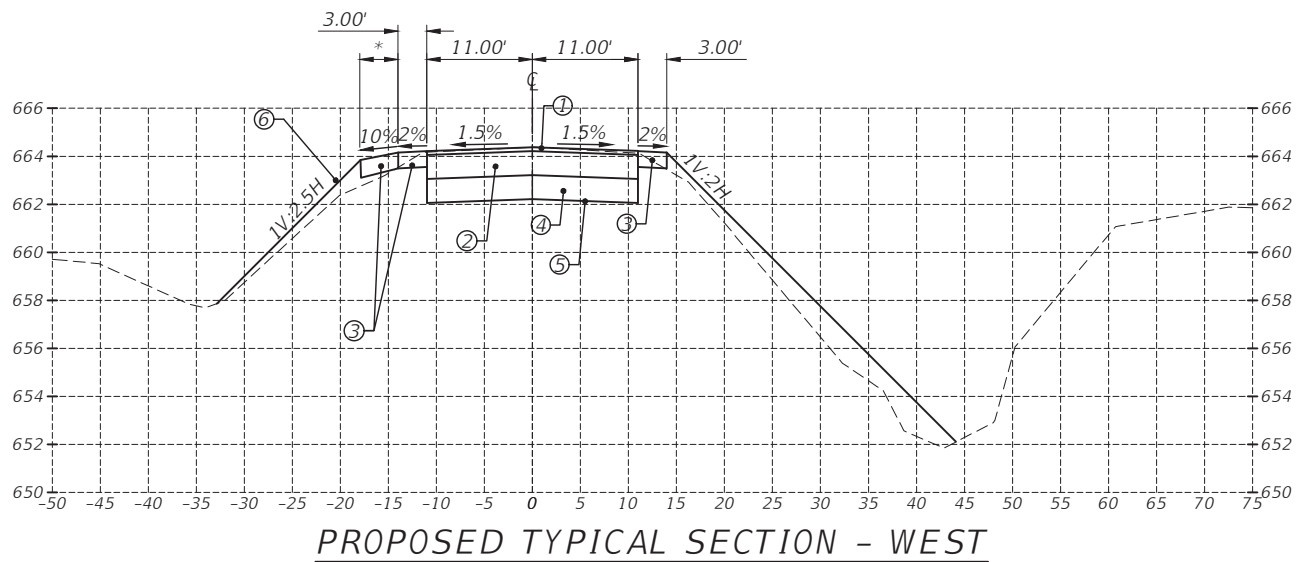
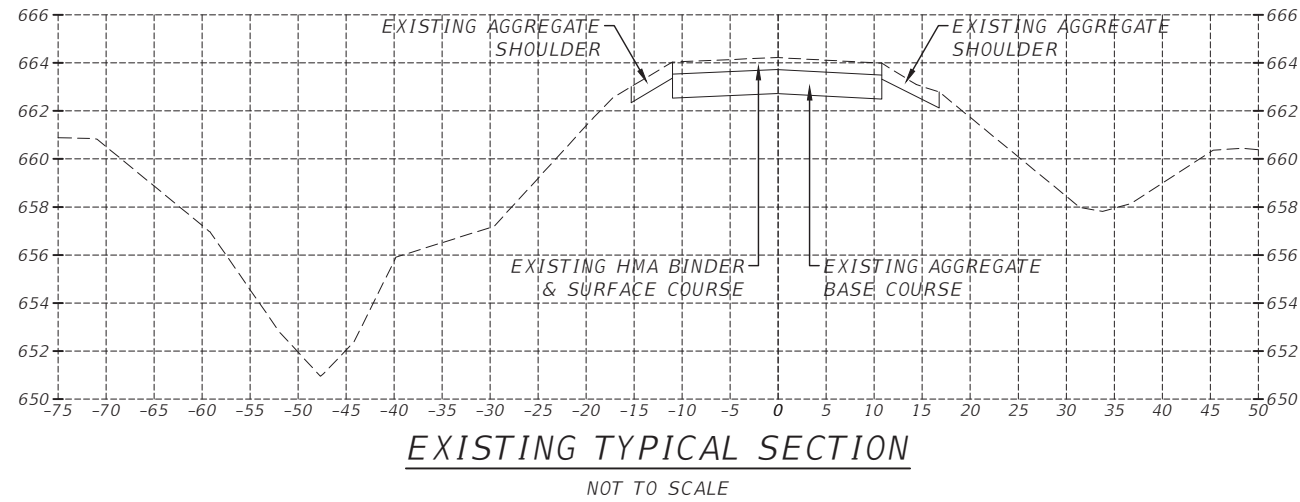
F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

SUMMARY OF QUANTITIES

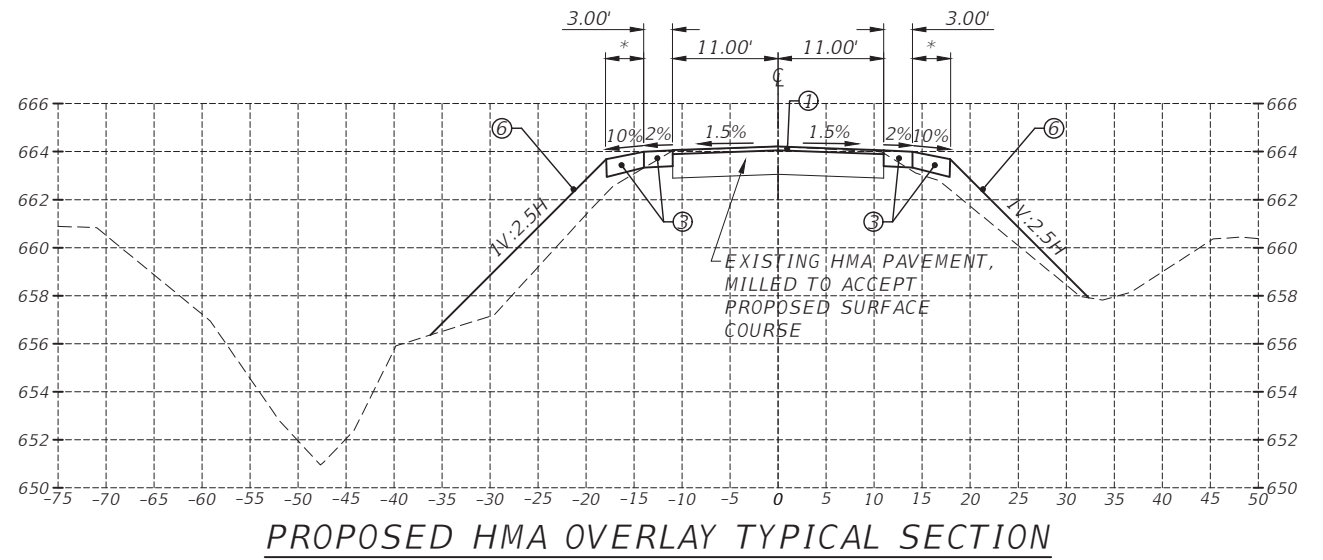
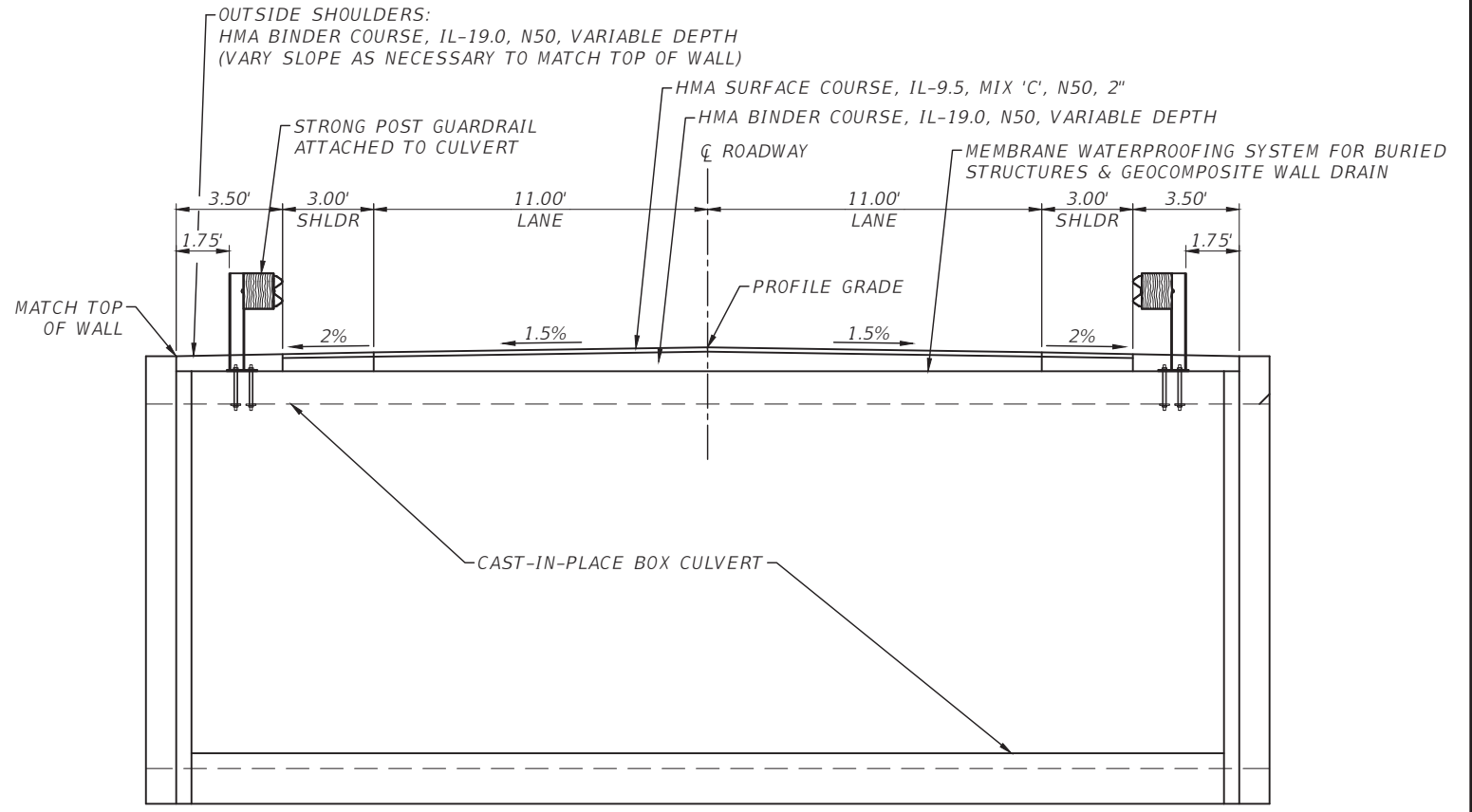
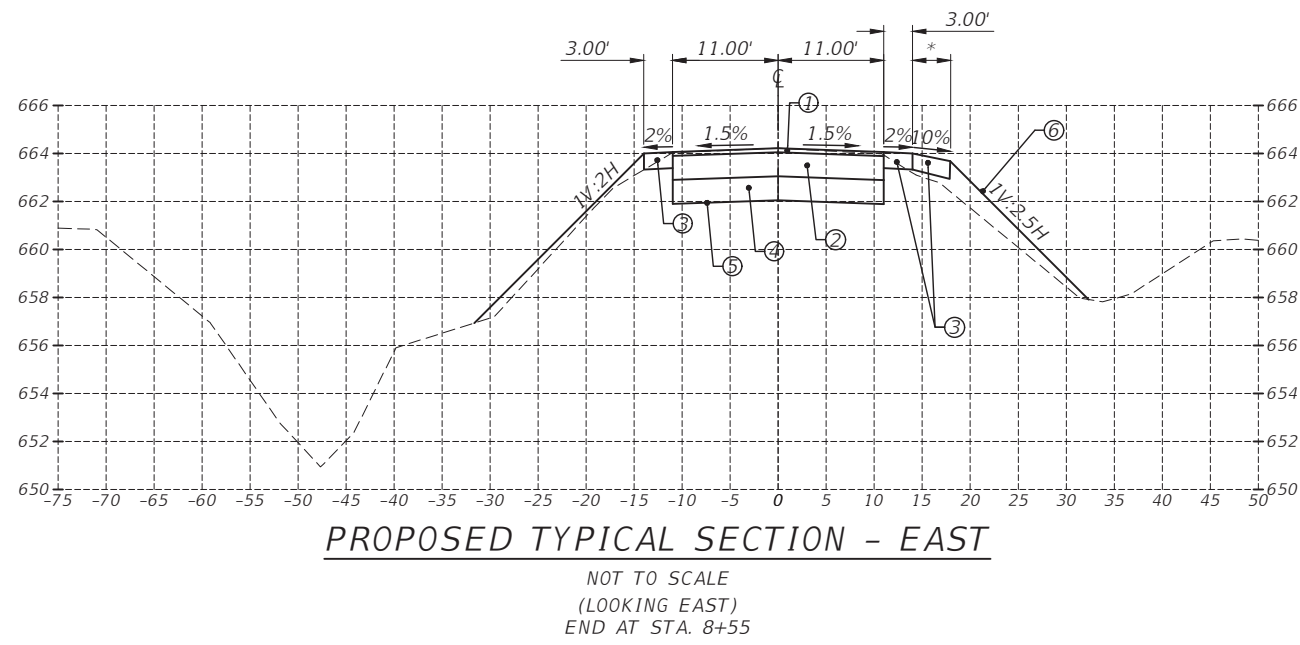
**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 4
FILE NO.: 111523.00 Y-	OF 59

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\*4' & VARIES WHERE WIDENING REQUIRED ON PLAN SHEET (IDOT STD 630301-09)



**LEGEND:**

- ① HMA SURFACE COURSE, IL-9.5, MIX 'C', N50, 2"
- ② HMA BINDER COURSE, IL-19.0, N50, 12"
- ③ AGGREGATE SHOULDER, 8"
- ④ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ⑤ GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- ⑥ EARTH EXCAVATION, FURNISHED EXCAVATION, SEEDING, FERTILIZER, EROSION MAT

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DATE: 01/2024				



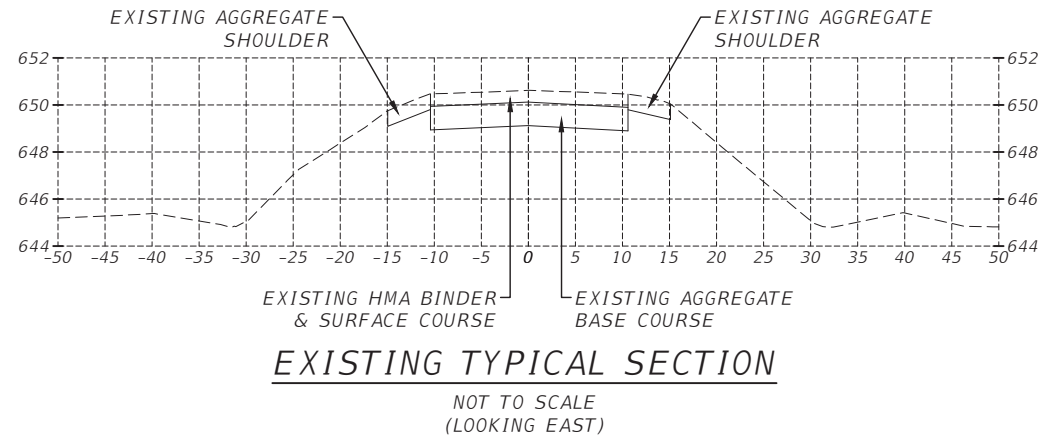
**F.A.S. 272**  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

**TYPICAL SECTIONS**  
SN 032-3180 (E) 032-3181 (P)

**BIDDING PLANS**  
CURRENT AS OF: 02/20/2024  
SCALE: AS NOTED SHEET 5  
FILE NO.: 111523.00 Y- OF 59

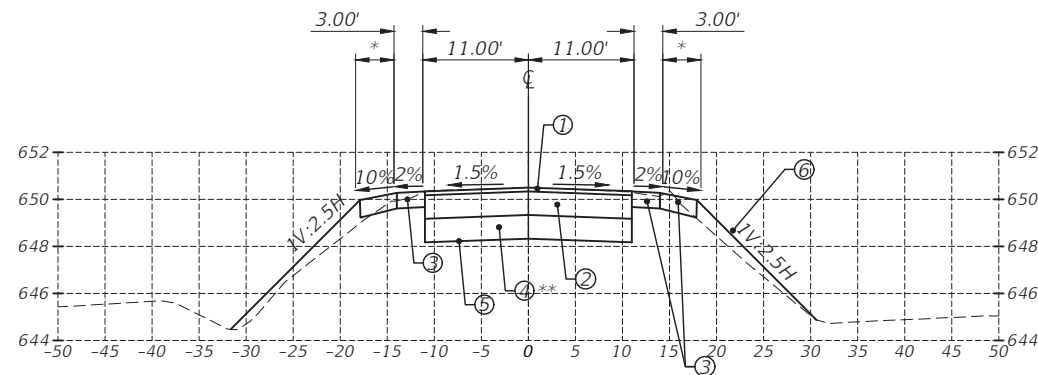
CONTRACT NO. 87792

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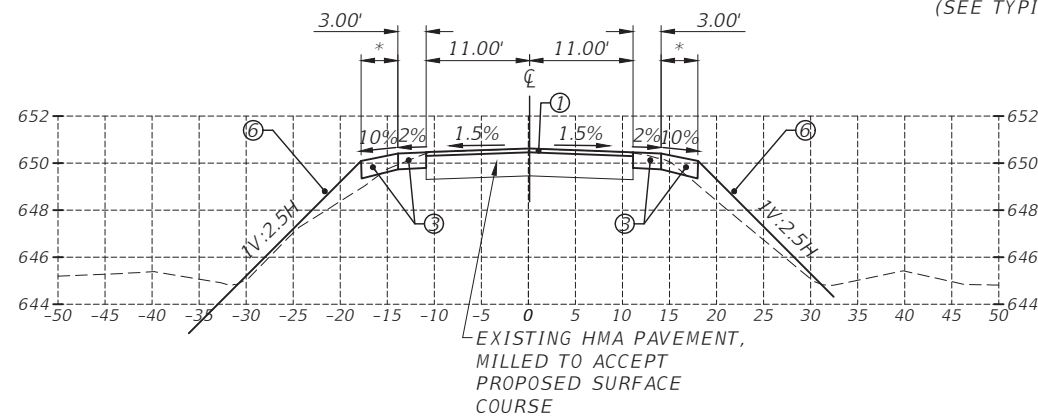
**EXISTING TYPICAL SECTION**

NOT TO SCALE  
(LOOKING EAST)



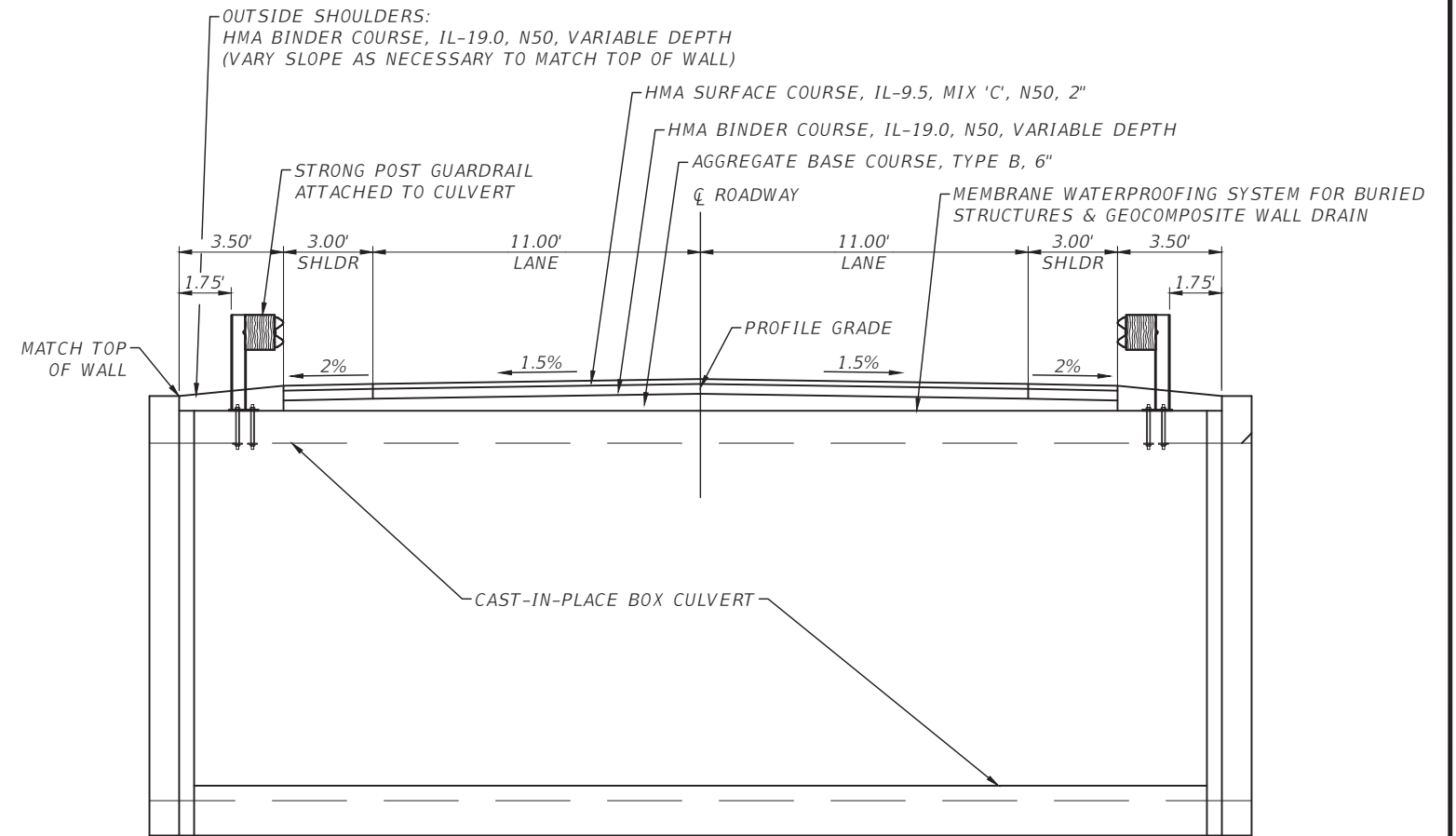
**PROPOSED FULL RECONSTRUCTION TYPICAL SECTION**

NOT TO SCALE  
STA. 90+25 TO STA. 91+15



**PROPOSED HMA OVERLAY TYPICAL SECTION**

NOT TO SCALE  
STA. 89+23 TO STA. 90+25 (WEST)  
STA. 91+15 TO STA. 92+07 (EAST)



**PROPOSED TYPICAL SECTION  
BOX CULVERT**

NOT TO SCALE  
(PERPENDICULAR TO ROADWAY CL)

\* 4' & VARIES WHERE WIDENING REQUIRED ON PLAN SHEET  
(IDOT STD 630301-09)

\*\* OMIT 12" AGGREGATE SUBGRADE IMPROVEMENT AT CULVERT  
AND USE AGGREGATE BASE COURSE 6"  
(SEE TYPICAL SECTION BOX CULVERT, THIS SHEET)

**LEGEND:**

- ① HMA SURFACE COURSE, 1L-9.5, MIX 'C', N50, 2"
- ② HMA BINDER COURSE, 1L-19.0, N50, 12"
- ③ AGGREGATE SHOULDER, 8"
- ④ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ⑤ GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- ⑥ EARTH EXCAVATION, FURNISHED EXCAVATION, SEEDING, FERTILIZER, EROSION MAT

CONTRACT NO. 87792

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DATE: 01/2024				

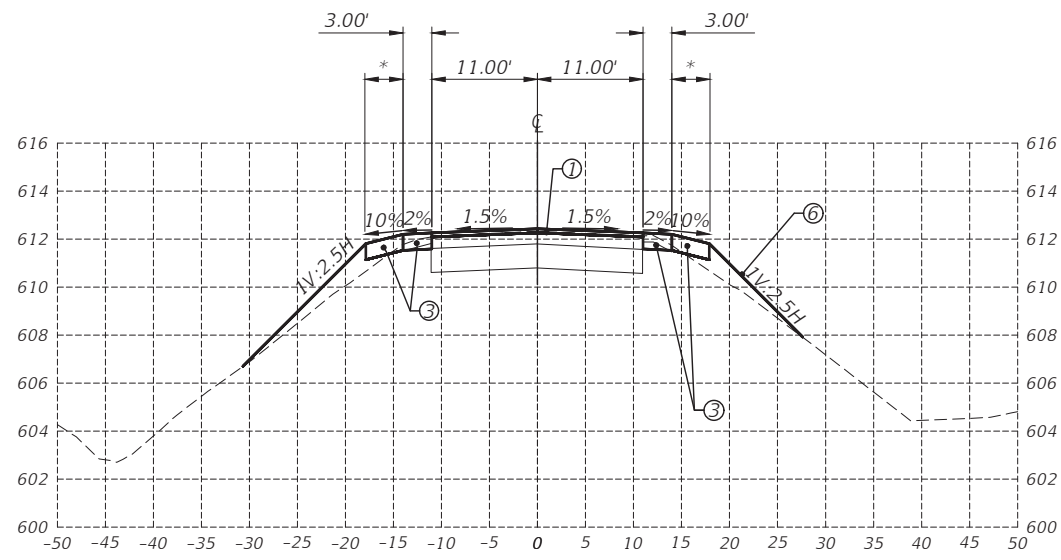

 PERU MORRIS  
 OTTAWA MENDOTA  
 ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**TYPICAL SECTIONS**  
**SN 032-3190 (E) 032-3191 (P)**

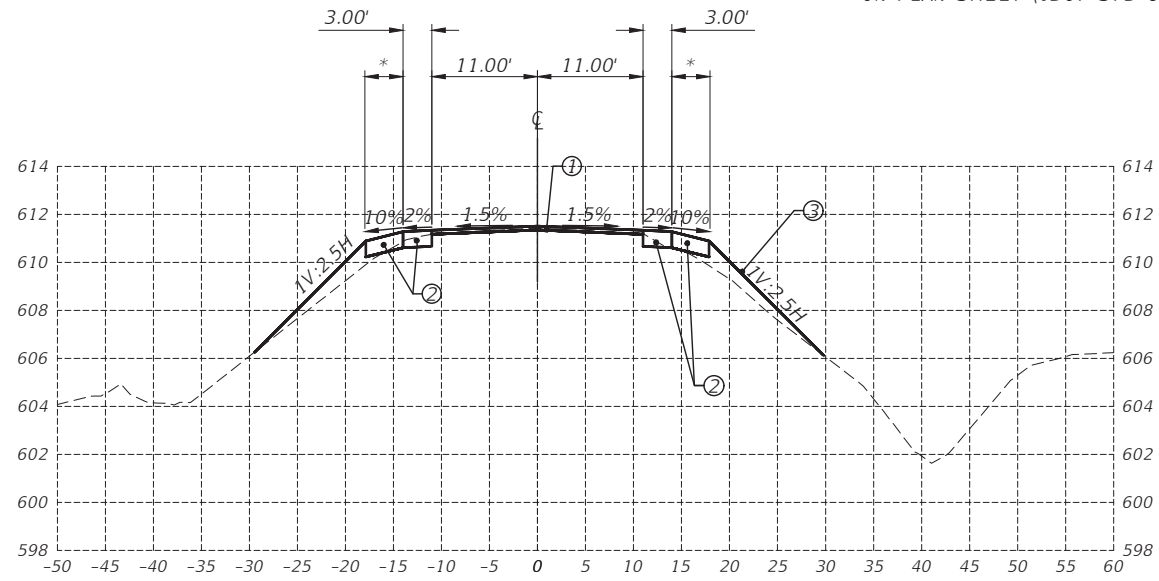
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	FILE NO.: 111523.00 Y-	OF 59

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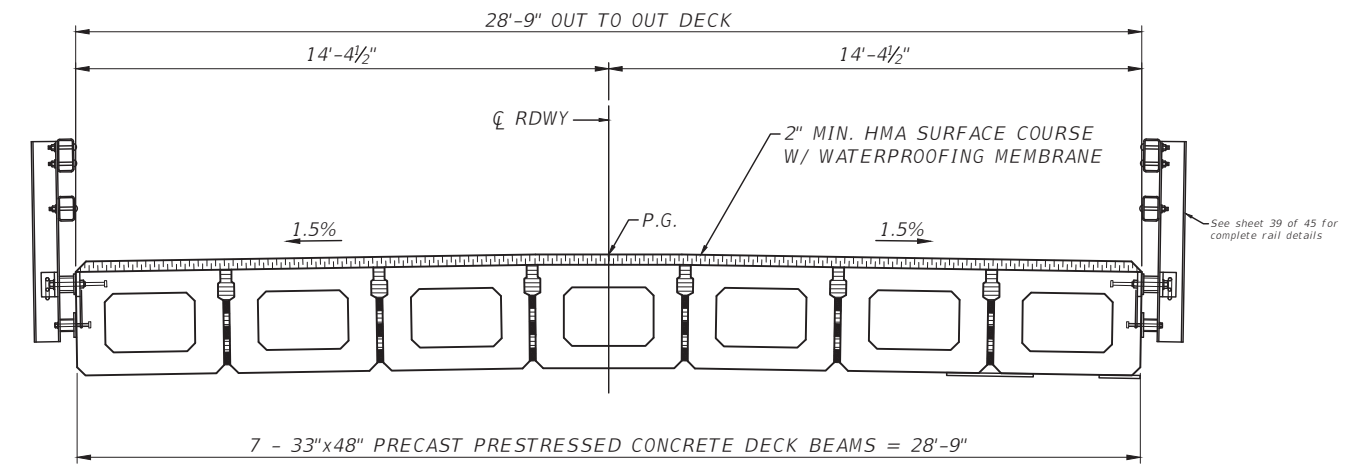


**PROPOSED  
TYPICAL SECTION - WEST**  
 NOT TO SCALE  
 (LOOKING EAST)  
 STA. 244+19.65 TO STA. 245+45.64

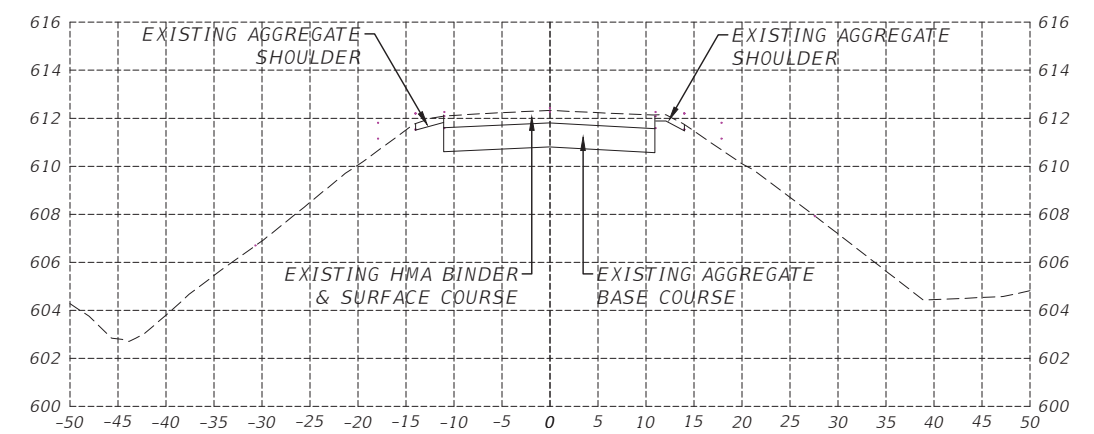
\*4' & VARIES WHERE WIDENING REQUIRED ON PLAN SHEET (IDOT STD 630301-09)



**PROPOSED  
TYPICAL SECTION - EAST**  
 NOT TO SCALE  
 (LOOKING EAST)  
 STA. 247+08.36 TO 248+34.36



**PROPOSED BRIDGE  
TYPICAL SECTION**  
 NOT TO SCALE  
 (LOOKING EAST)  
 STA. 245+85.64 TO STA. 246+68.37



**EXISTING TYPICAL SECTION**  
 NOT TO SCALE

- LEGEND:
- ① HMA SURFACE COURSE, IL-9.5, MIX 'C', N50, 2"
  - ② AGGREGATE SHOULDER, 8"
  - ③ EARTH EXCAVATION, FURNISHED EXCAVATION, SEEDING, FERTILIZER, EROSION MAT

CONTRACT NO. 87792

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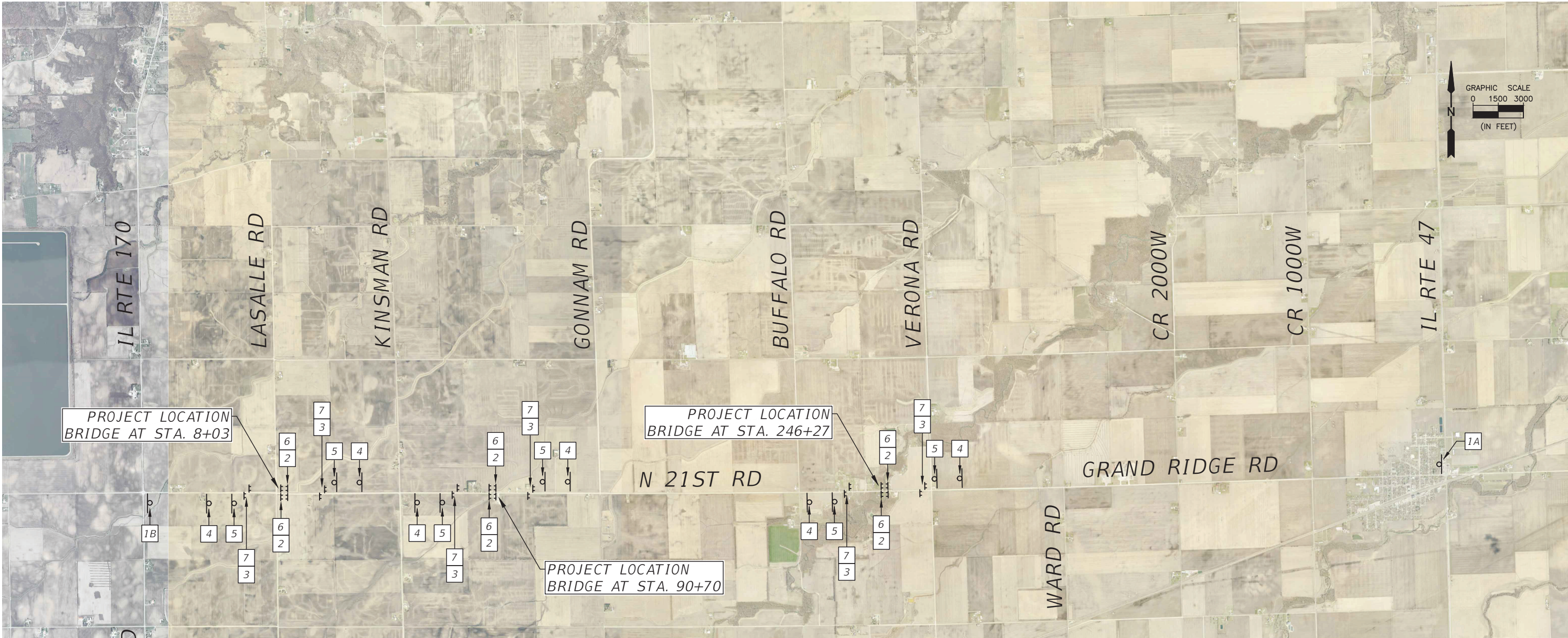

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**F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY**

**TYPICAL SECTIONS  
SN 032-3200 (E) 032-3201 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
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	FILE NO.: 111523.00 Y-	OF 59

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<p>①A ROAD CLOSED 4 MILES AHEAD BEGINS XX/XX/XX (1 REQ'D)</p> <p>①B ROAD CLOSED 1 MILE AHEAD BEGINS XX/XX/XX (1 REQ'D)</p> <p>② ROAD CLOSED R11-2 (6 REQ'D)</p> <p>③ ROAD CLOSED TO THRU TRAFFIC R11-4 (6 REQ'D)</p>	<p>④ ROAD CLOSED AHEAD W20-3 48"x48" WITH FLAG (6 REQ'D)</p> <p>⑤ ROAD CLOSED 500 FT W20-3 48"x48" WITH FLAG (6 REQ'D)</p> <p>⑥ TYPE III BARRICADES (24 REQ'D)</p> <p>⑦ TYPE III BARRICADES (12 REQ'D - OFFSET)</p>
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NOTE: INSTALLATION, MAINTENANCE & REMOVAL OF ALL ITEMS THIS SHEET SHALL BE INCLUDED IN TRAFFIC CONTROL & PROTECTION, SPECIAL PAY ITEM.

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DATE: 01/2024				



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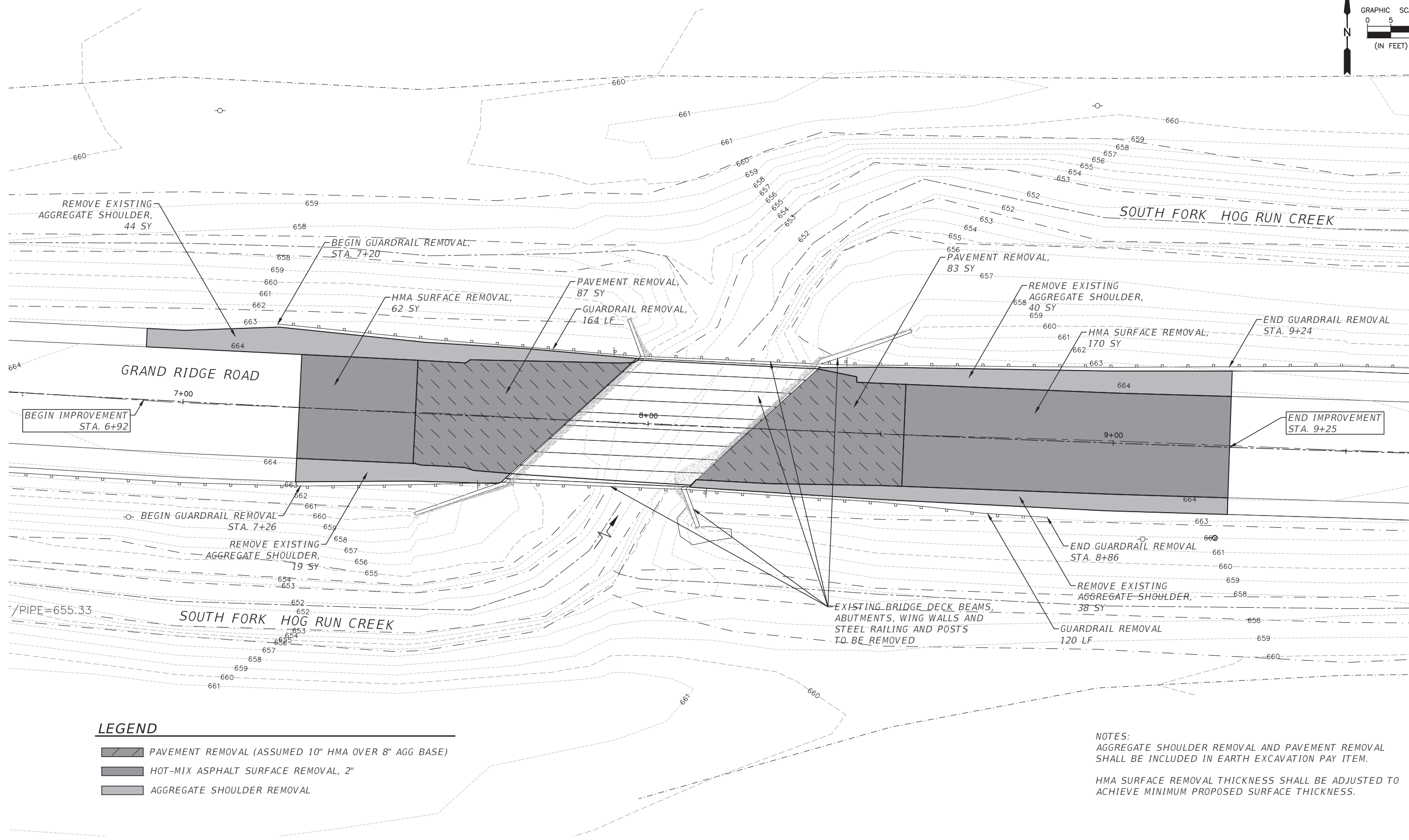
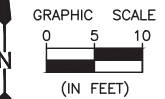
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**TRAFFIC CONTROL PLAN**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 8
	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792





**LEGEND**

- PAVEMENT REMOVAL (ASSUMED 10" HMA OVER 8" AGG BASE)
- HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- AGGREGATE SHOULDER REMOVAL

**NOTES:**  
 AGGREGATE SHOULDER REMOVAL AND PAVEMENT REMOVAL SHALL BE INCLUDED IN EARTH EXCAVATION PAY ITEM.  
 HMA SURFACE REMOVAL THICKNESS SHALL BE ADJUSTED TO ACHIEVE MINIMUM PROPOSED SURFACE THICKNESS.

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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**REMOVAL PLAN**  
**SN 032-3180 (E) 032-3181 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 9
	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

**CONTROL**

CONTROL POINT #1 - STA. 14+10.59, 15.0' LT.  
 IRON ROD IN SHOULDER NORTH SIDE OF  
 GRAND RIDGE ROAD 607± EAST OF BRIDGE  
 N: 1665362.92  
 E: 915207.46  
 ELEV: 662.14

CONTROL POINT #2 - STA. 7+52.24, 13.2' LT.  
 IRON PIPE IN SHOULDER NORTH SIDE OF  
 GRAND RIDGE ROAD 50± WEST OF BRIDGE  
 N: 1665373.26  
 E: 914550.16  
 ELEV: 664.20

CONTROL POINT #3 - STA. 5+10.38, 20.8' LT.  
 PK NAIL IN PAVEMENT AT NORTHEAST CORNER  
 OF GRAND RIDGE ROAD AND LASALLE ROAD  
 N: 1665395.05  
 E: 914309.50  
 ELEV: 663.01

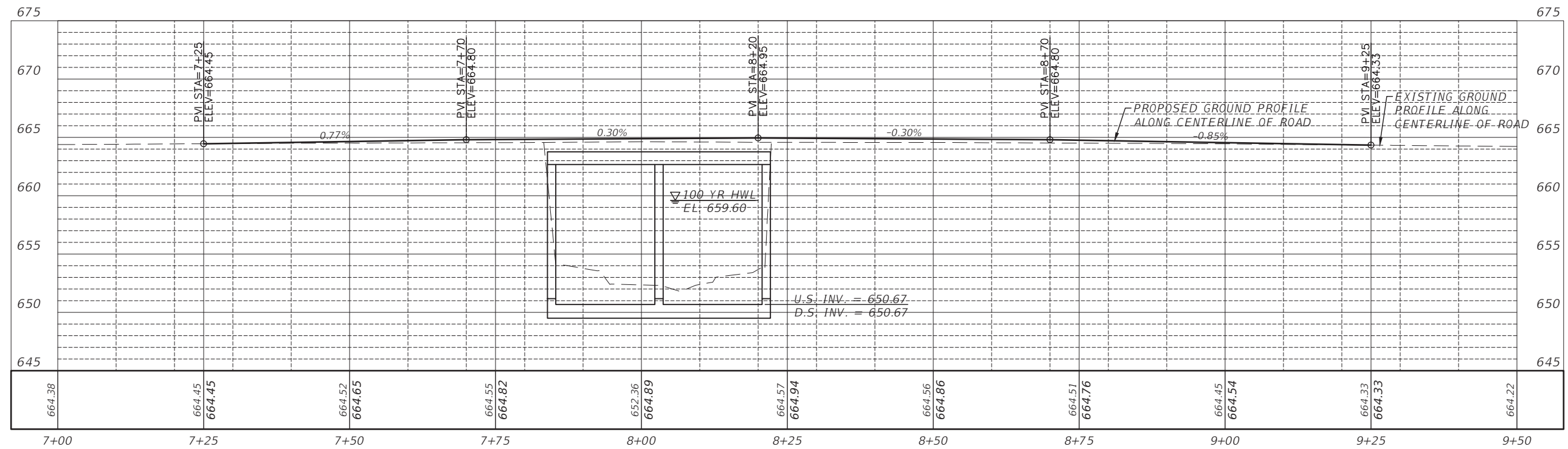
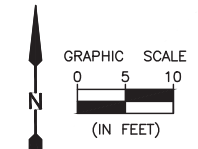
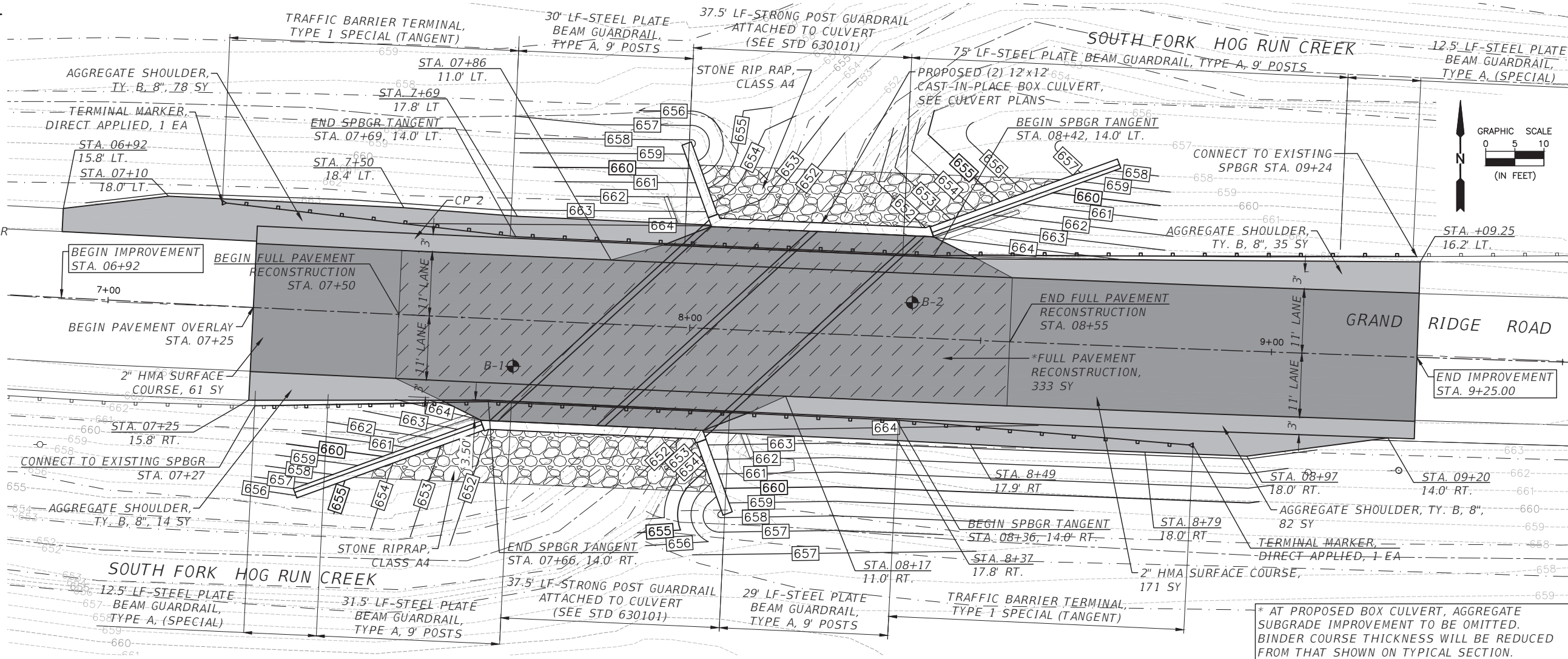
**LEGEND**

- FULL DEPTH HMA PAVEMENT (SEE TYP SECTION)
- 2" HMA SURFACE COURSE
- AGGREGATE SHOULDER, TY. B, 8"

**BENCHMARK**

BM A  
 RAILROAD SPIKE IN POWER POLE AT  
 NORTHEAST CORNER OF GRAND RIDGE  
 ROAD AND LASALLE ROAD  
 ELEV=662.91

BM B  
 RAILROAD SPIKE IN POWER POLE ON  
 NORTH SIDE OF GRAND RIDGE ROAD  
 AT 8665 W. GRAND RIDGE ROAD.  
 ELEV=662.06



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DATE: 01/2024					

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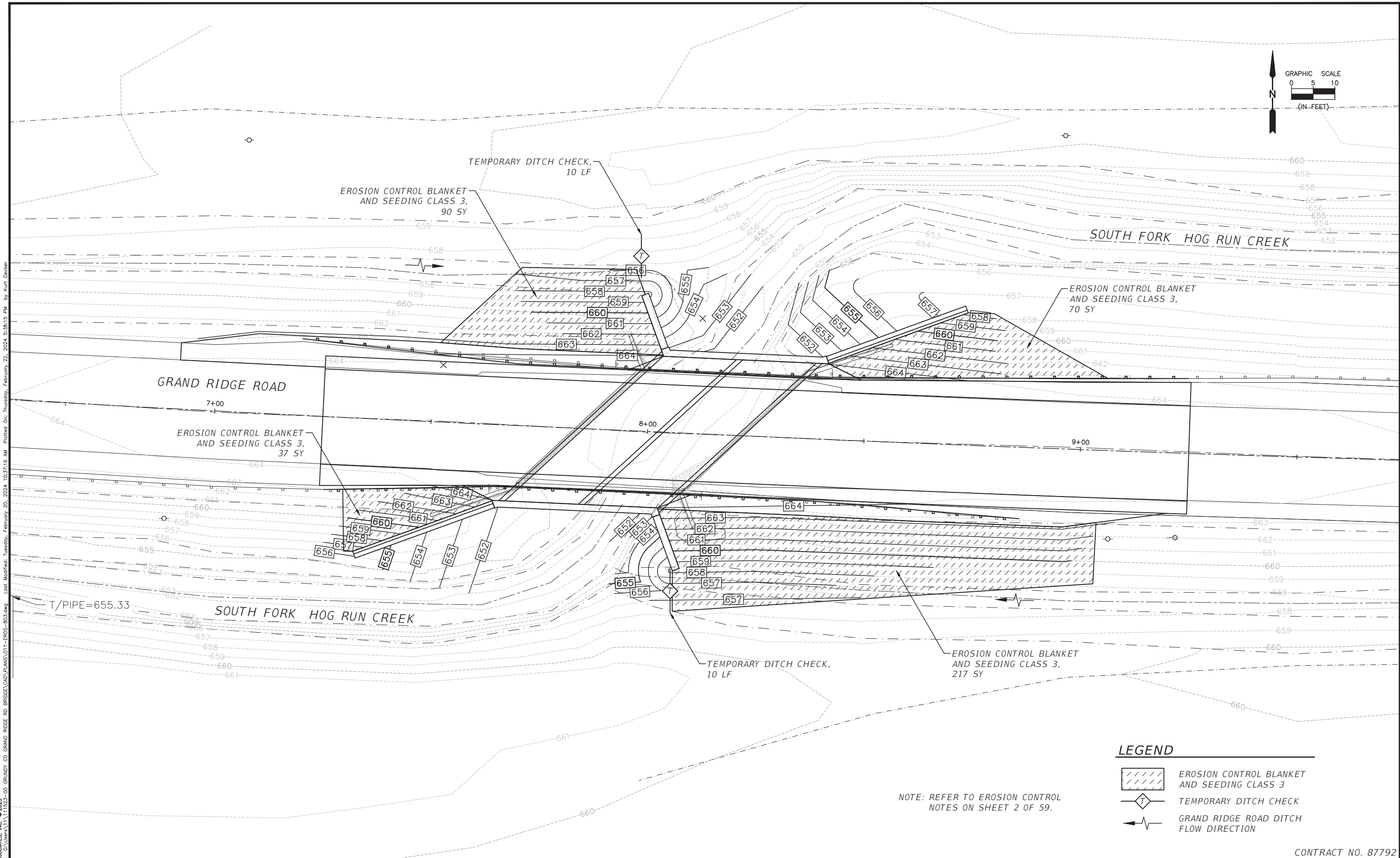
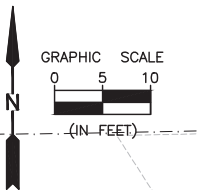
F.A.S. 272  
 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

PLAN AND PROFILE  
 SN 032-3180 (E) 032-3181 (P)

**BIDDING PLANS**

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FILE NO.: 111523.00 Y-	

CONTRACT NO. 87792



**LEGEND**

	EROSION CONTROL BLANKET AND SEEDING CLASS 3
	TEMPORARY DITCH CHECK
	GRAND RIDGE ROAD DITCH FLOW DIRECTION

NOTE: REFER TO EROSION CONTROL NOTES ON SHEET 2 OF 59.

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SECTION 19-00174-00-BR  
GRUNDY COUNTY

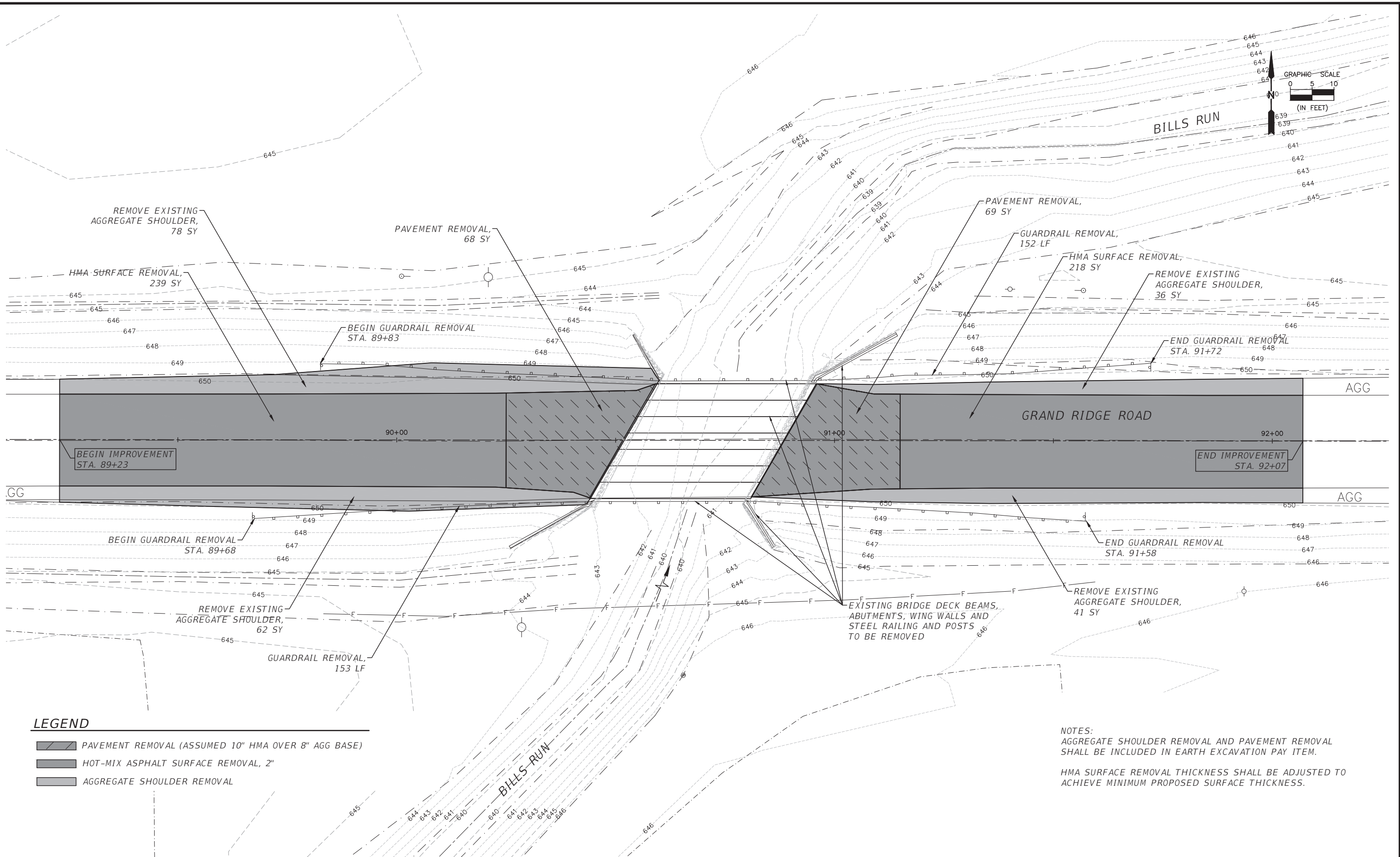
EROSION CONTROL PLAN  
SN 032-3180 (E) 032-3181 (P)

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 11
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

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 By: Kurt Decker



**LEGEND**

- PAVEMENT REMOVAL (ASSUMED 10" HMA OVER 8" AGG BASE)
- HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- AGGREGATE SHOULDER REMOVAL

**NOTES:**  
 AGGREGATE SHOULDER REMOVAL AND PAVEMENT REMOVAL SHALL BE INCLUDED IN EARTH EXCAVATION PAY ITEM.  
 HMA SURFACE REMOVAL THICKNESS SHALL BE ADJUSTED TO ACHIEVE MINIMUM PROPOSED SURFACE THICKNESS.

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DATE: 01/2024				

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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**REMOVAL PLAN**  
**SN 032-3190 (E) 032-3191 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024 SCALE: AS NOTED FILE NO.: 111523.00 Y- OF 59
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CONTRACT NO. 87792

**CONTROL**

CONTROL POINT #100 - STA. 86+56.84, 17.5' LT.  
 CONTROL POINT 7'± NORTH OF EDGE OF PAVEMENT  
 OF GRAND RIDGE ROAD 413'± WEST OF BRIDGE  
 N: 1665400.79  
 E: 922455.08  
 ELEV: 650.31

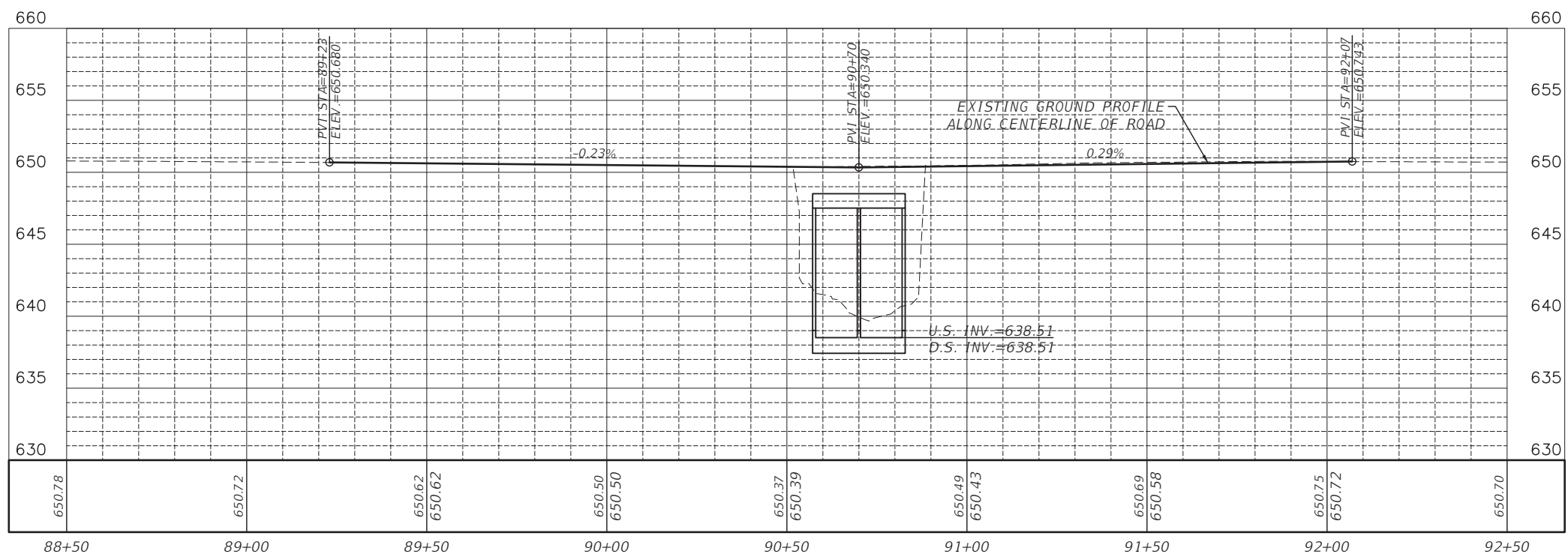
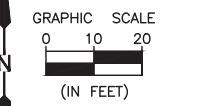
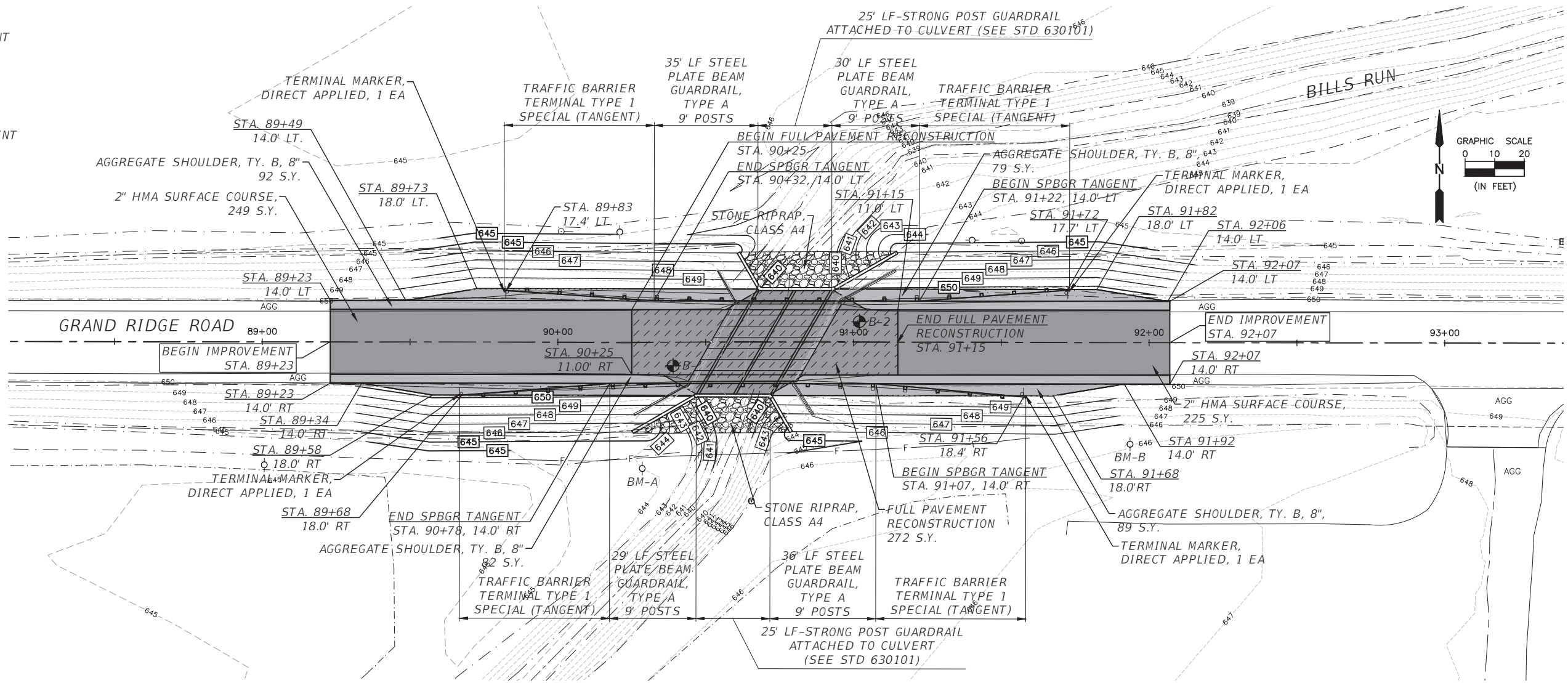
CONTROL POINT #104 - STA. 97+10.38, 39.2' RT.  
 CONTROL POINT 28'± SOUTH OF EDGE OF PAVEMENT  
 OF GRAND RIDGE ROAD 640'± EAST OF BRIDGE  
 N: 1665342.78  
 E: 923508.55  
 ELEV: 651.29

**LEGEND**

-  FULL DEPTH HMA PAVEMENT (SEE TYPICAL SECTION)
-  2" HMA SURFACE COURSE
-  AGGREGATE SHOULDER, TY. B, 8"

**BENCHMARK**

- BM A  
RAILROAD SPIKE IN FIRST POWER  
POLE WEST OF CULVERT  
ELEV=646.04
- BM B  
RAILROAD SPIKE IN FIRST POWER  
POLE EAST OF CULVERT  
ELEV=647.01

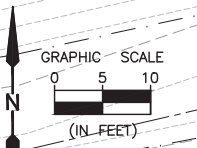
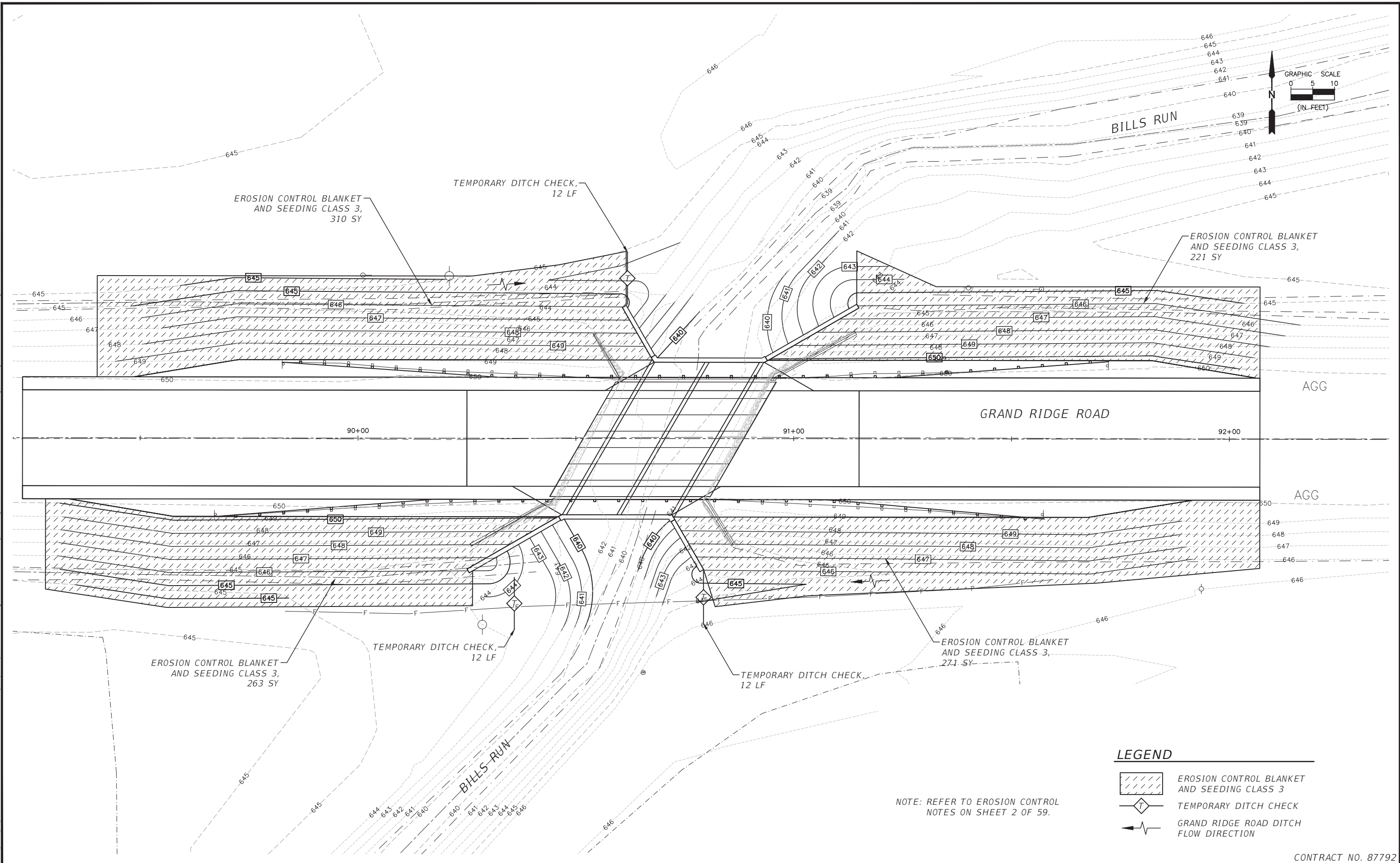


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LEVEL	BY	DATE	DESCRIPTION																					

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**LEGEND**

	EROSION CONTROL BLANKET AND SEEDING CLASS 3
	TEMPORARY DITCH CHECK
	GRAND RIDGE ROAD DITCH FLOW DIRECTION

NOTE: REFER TO EROSION CONTROL NOTES ON SHEET 2 OF 59.

CONTRACT NO. 87792

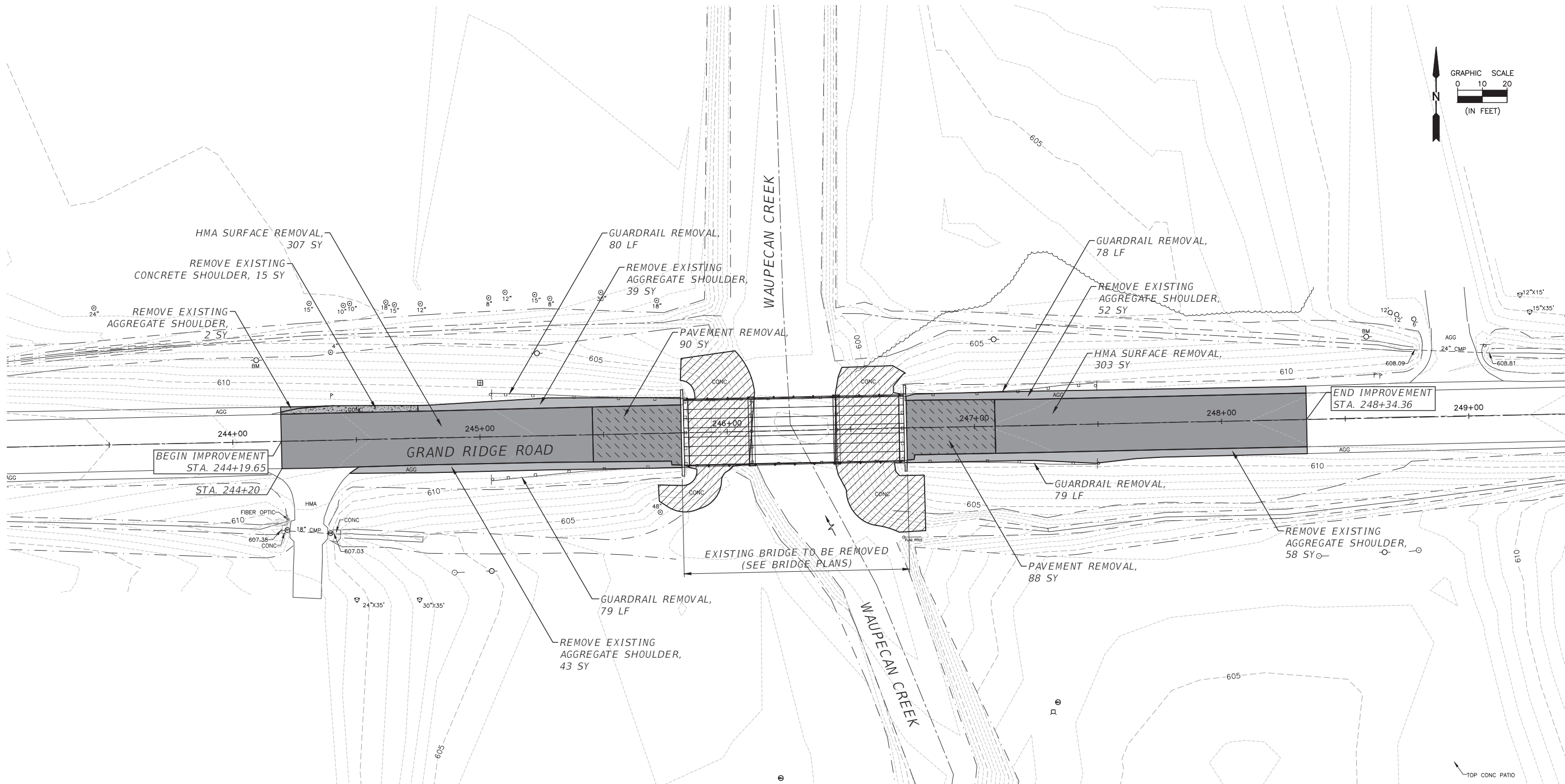
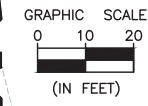
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F.A.S. 272  
 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

EROSION CONTROL PLAN  
 SN 032-3190 (E) 032-3191 (P)

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 14
	FILE NO.: 111523.00 Y-	OF 59



**LEGEND**

- PAVEMENT REMOVAL (ASSUMED 6" HMA OVER 6" AGG BASE)
- HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- AGGREGATE SHOULDER REMOVAL
- CONCRETE SHOULDER REMOVAL
- CONCRETE SLOPEWALL REMOVAL (INCLUDE COST IN REMOVAL OF EXISTING STRUCTURE PAY ITEM)

**NOTES:**  
 AGGREGATE SHOULDER REMOVAL, CONCRETE SHOULDER REMOVAL, AND PAVEMENT REMOVAL SHALL BE INCLUDED IN EARTH EXCAVATION PAY ITEM.

HMA SURFACE REMOVAL THICKNESS SHALL BE ADJUSTED TO ACHIEVE MINIMUM PROPOSED SURFACE THICKNESS.

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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

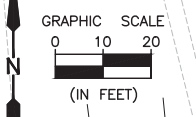
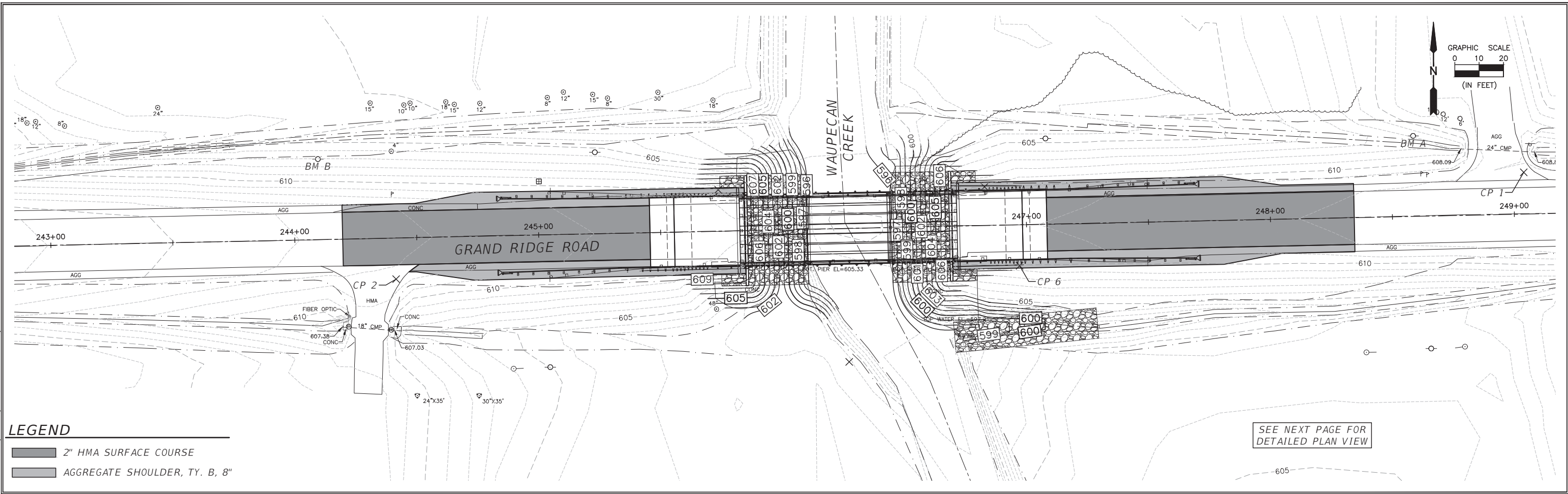
**REMOVAL PLAN**  
**SN 032-3200 (E) 032-3201 (P)**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 15
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

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**LEGEND**

- 2" HMA SURFACE COURSE
- AGGREGATE SHOULDER, TY. B, 8"

SEE NEXT PAGE FOR DETAILED PLAN VIEW

**CONTROL**

**CONTROL POINT #1**  
 STA. 249+04.21, 17.1' LT.  
 CONTROL POINT 6'± NORTH OF NORTH  
 EDGE OF PAVEMENT OF GRAND RIDGE  
 ROAD 233'± EAST OF BRIDGE  
 N: 1665480.573  
 E: 938704.673  
 ELEV: 612.23

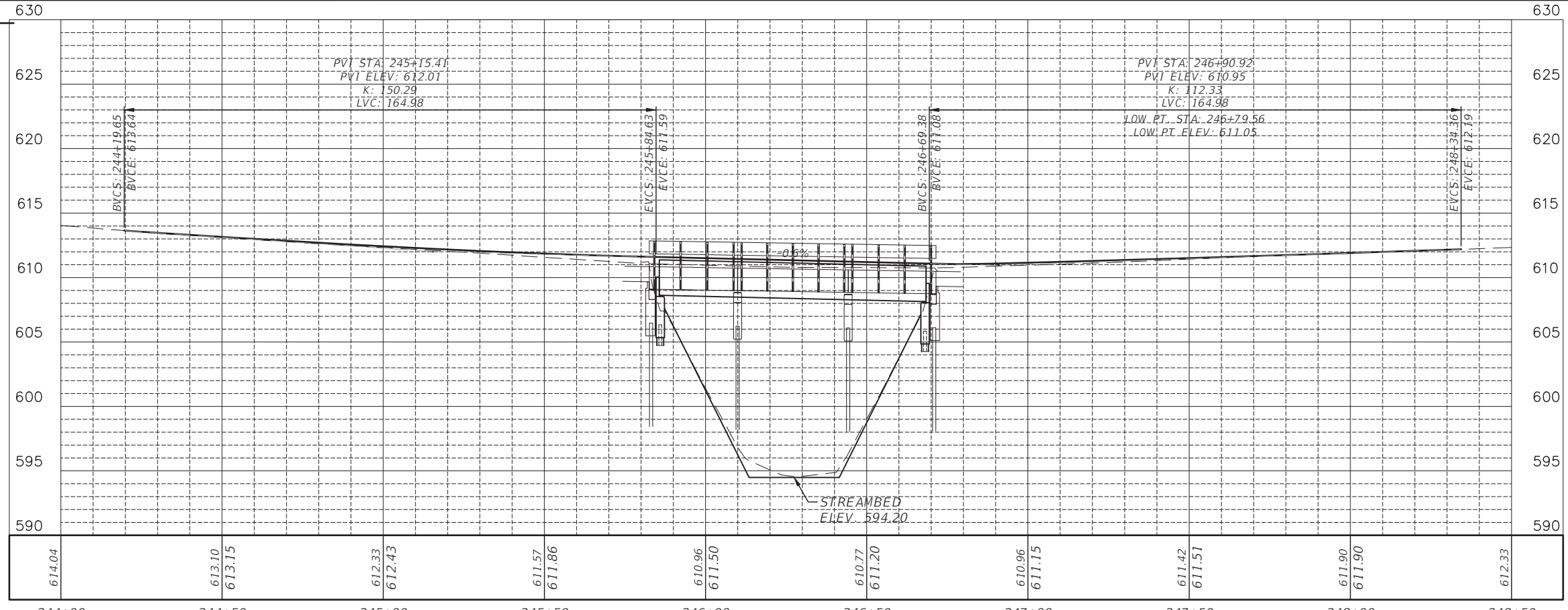
**CONTROL POINT #2**  
 STA. 244+41.19, 16.9' RT.  
 CONTROL POINT 6'± SOUTH OF SOUTH  
 EDGE OF PAVEMENT OF GRAND RIDGE  
 ROAD 141'± WEST OF BRIDGE  
 N: 1665436.816  
 E: 938242.473  
 ELEV: 612.57

**CONTROL POINT #6**  
 STA. 246+96.80, 16.8' RT.  
 CONTROL POINT 6'± SOUTH OF SOUTH  
 EDGE OF PAVEMENT OF GRAND RIDGE  
 ROAD 25'± EAST OF BRIDGE  
 N: 1665442.314  
 E: 938498.025  
 ELEV: 609.68

**BENCHMARK**

**BM A**  
 RAILROAD SPIKE IN POWER POLE  
 AT 3320 GRAND RIDGE ROAD  
 ELEV=608.97

**BM B**  
 RAILROAD SPIKE IN POWER POLE  
 ON NORTH SIDE OF GRAND RIDGE  
 ROAD AT 4395 GRAND RIDGE ROAD  
 ELEV=608.93



DRAWN BY: KED	CHECKED BY: DAH	DATE: 01/2024	REVISIONS	DESCRIPTION																

PERU MORRIS  
OTTAWA MENDOTA  
ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**PLAN AND PROFILE**  
**SN 032-3200 (E) 032-3201 (P)**

**BIDDING PLANS**

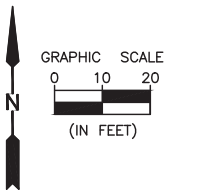
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CURRENT AS OF: 02/20/2024

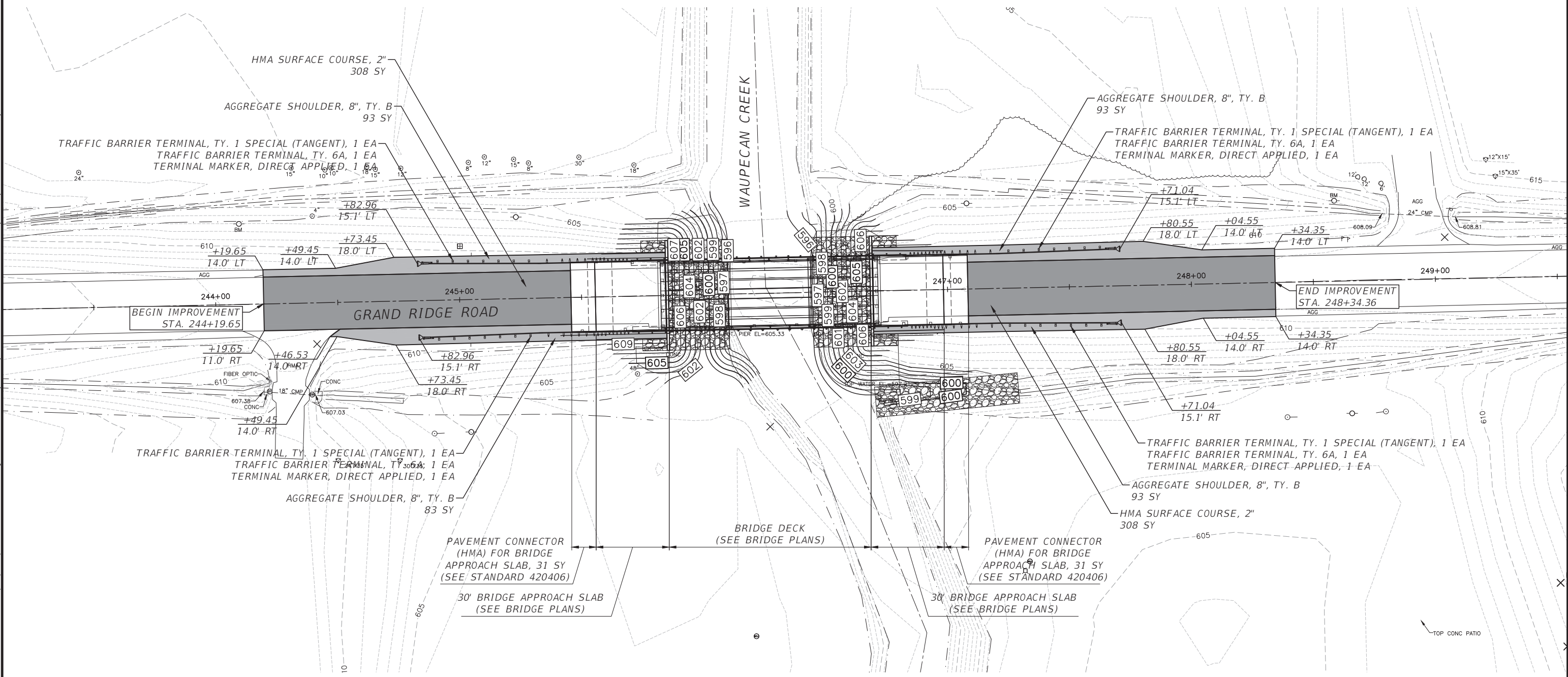
SCALE: AS NOTED SHEET 16

FILE NO.: 111523.00 Y- OF 59





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**LEGEND**

	2" HMA SURFACE COURSE
	AGGREGATE SHOULDER, TY. B, 8"

CONTRACT NO. 87792

DRAWN BY: DRAWN	REVISIONS			
	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: CHECKED				
DATE: 01/2024				

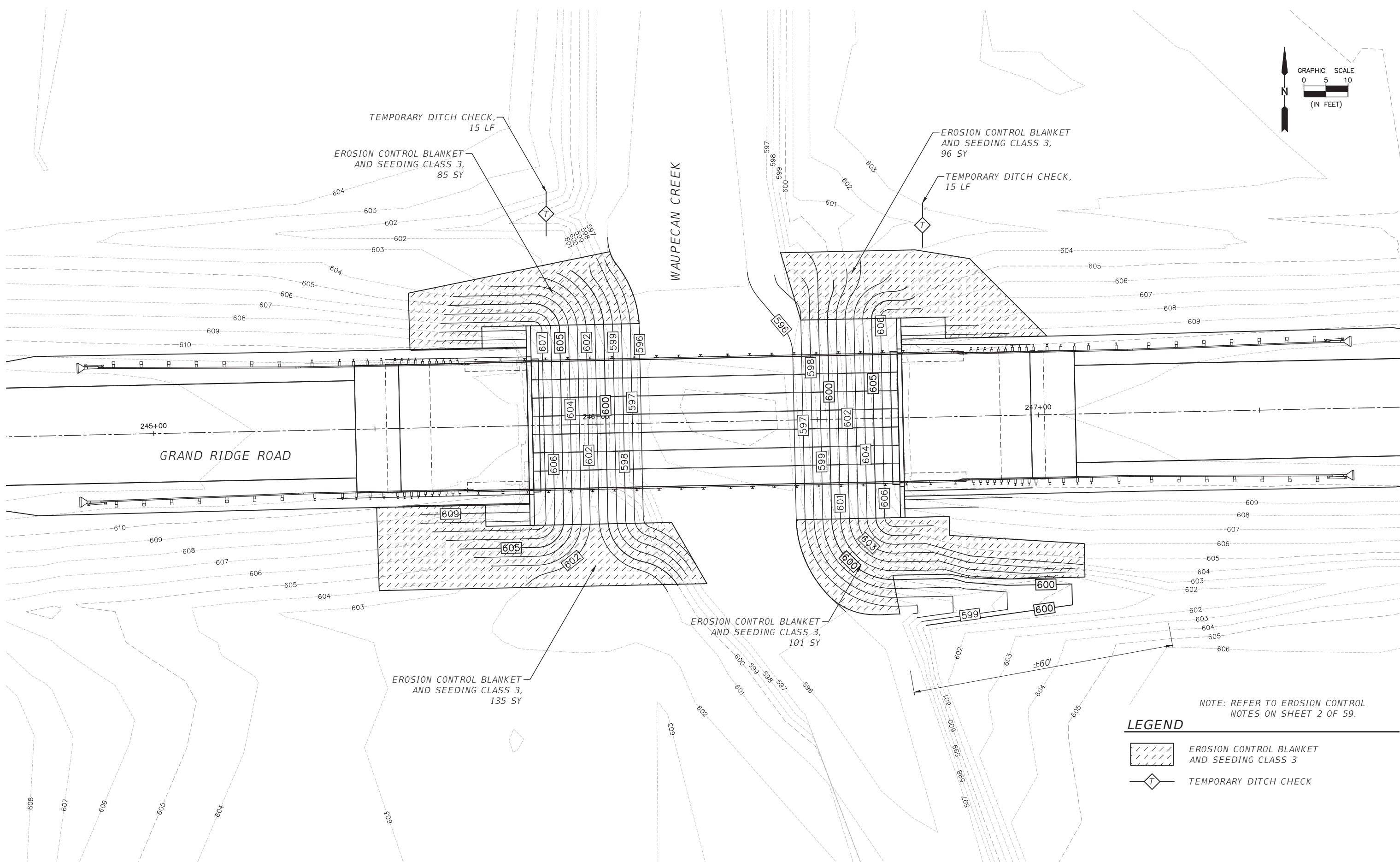
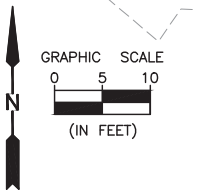
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ILLINOIS

F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

DETAILED PLAN  
SN 032-3200 (E) 032-3201 (P)



<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 17
	FILE NO.: 111523.00 Y-	OF 59

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NOTE: REFER TO EROSION CONTROL NOTES ON SHEET 2 OF 59.

**LEGEND**

	EROSION CONTROL BLANKET AND SEEDING CLASS 3
	TEMPORARY DITCH CHECK

DRAWN BY: KED	REVISIONS			
CHECKED BY: DAH	LEVEL	BY	DATE	DESCRIPTION
DATE: 01/2024				



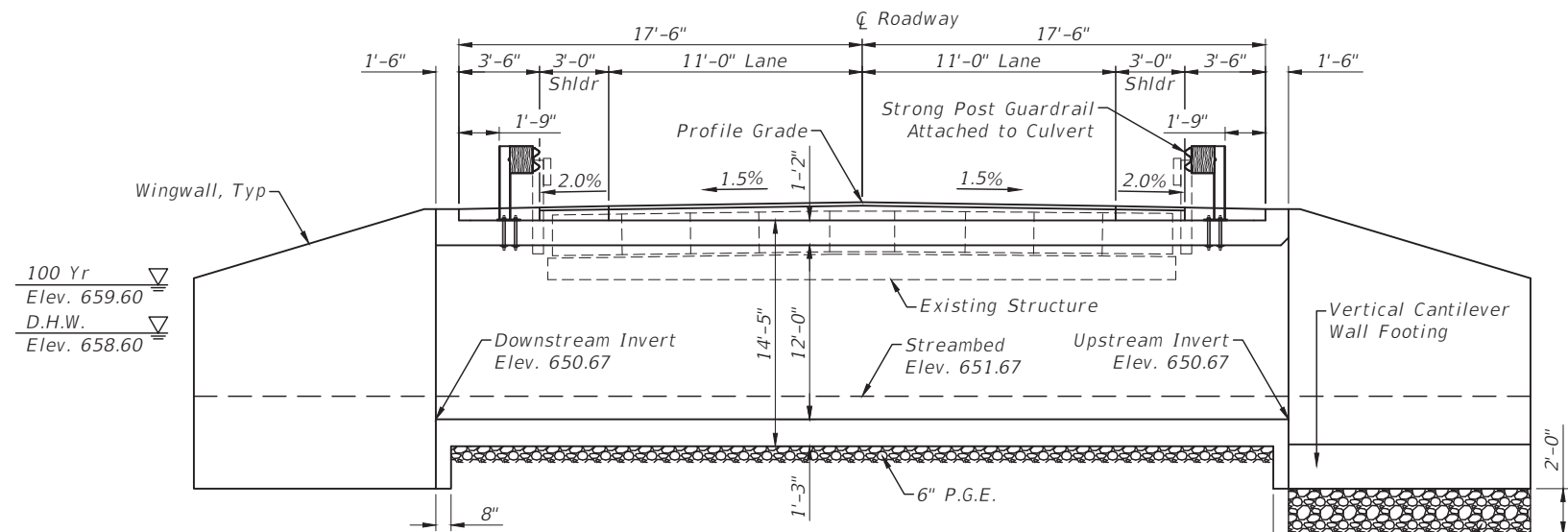
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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**EROSION CONTROL PLAN**  
**SN 032-3200 (E) 032-3201 (P)**

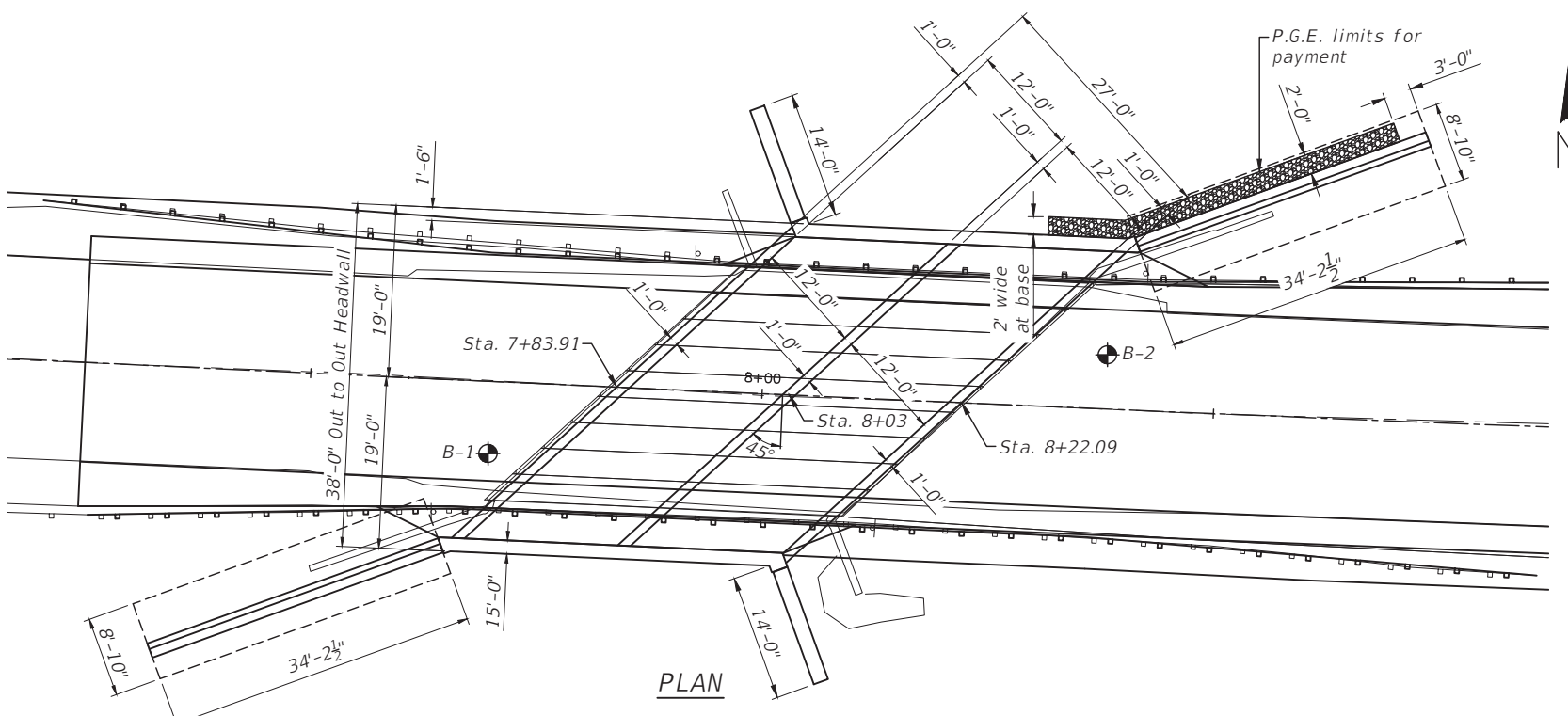
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	SCALE: AS NOTED	SHEET 18
	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**LONGITUDINAL SECTION**  
NOT TO SCALE  
(PERPENDICULAR TO ROADWAY  $\bar{C}$ )

Removal and Disposal of Unsuitable Material for Structures and backfill with Rock Fill (Vertical Cantilever Walls Only)



**PLAN**

**EXISTING STRUCTURE NO. 032-3180**

Sta. 8+03 - One span (39'-7") precast prestressed concrete deck beam bridge on reinforced concrete abutments.  
Structure closed to traffic during construction.  
No Salvage.

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications  
Customary U.S. Units, 9th Edition

**LOADING HL-93**

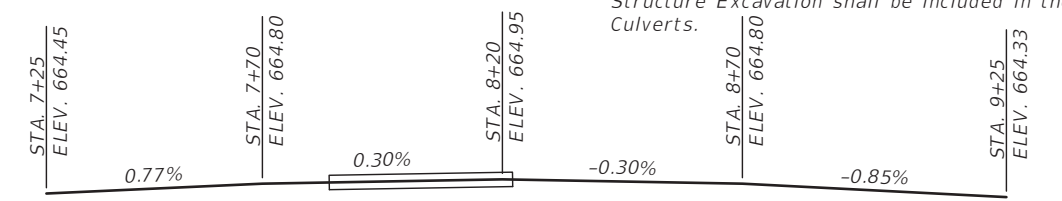
Allow 50#/sq ft for future wearing surface

**SEISMIC DATA**

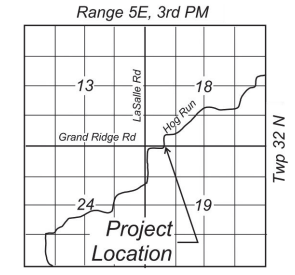
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 Sec ( $S_{D1}$ ) = 0.117  
Design Spectral Acceleration at 0.2 Sec ( $S_{D5}$ ) = 0.148  
Soil Site Class = D

**INDEX OF SHEETS**

1. General Plan and Elevation
2. Riprap Details
- 3.-4. Box Culvert Details
- 5.-6. Soil Borings



**PROFILE GRADE**  
(Along  $\bar{C}$  Roadway)



**LOCATION SKETCH**

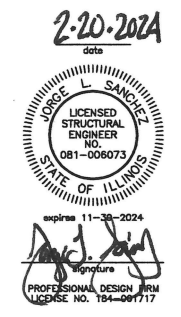
**WATERWAY INFORMATION TABLE**

Drainage Area = 4.4 SQ MI											
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.				Nat. H.W.E.	Head - Ft.		Headwater El	
			Bridge	Total	Bridge	Total		Exist.	Prop.	Exist.	Prop.
2-YR	2	150					656.50				
10-YR	10	325	112.0	112.0	130.0	130.0	658.20	0.1	0	658.20	658.20
Design	20	393	124.0	124.0	139.0	139.0	658.60	0.1	0	658.70	658.60
	50	489	139.0	139.0	151.0	151.0	659.20	0.1	0	659.30	659.20
	100	558	148.0	148.0	158.0	158.0	659.60	0.1	0	659.70	659.60
Max. Calc.	500	716	167.0	167.0	173.0	173.0	660.30	0.2	0.20	660.50	660.50

Exist. 10 Year Velocity: 2.9 (ft./sec.)  
Prop. 10 Year Velocity: 2.5 (ft./sec.)

STA. 8+03  
BUILT 2024 BY  
GRUNDY COUNTY  
F.A.S. 272 - SEC. 19-00174-00-BR  
LOADING HL-93  
STR. NO. 032-3181

**NAME PLATE**  
See Std. 515001



I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	656
Stone Rip Rap, Class A4	Cu. Yd.	140
Filter Fabric	Sq. Yd.	140
Removal of Existing Structures	Each	1
Removal and Disposal of Unsuitable Materials for Structures	Cu. Yd.	65
Reinf. Bars	Pound	81,190
Reinf. Bars, Epoxy Coated	Pound	2,830
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	309
Geocomposite Wall Drain	Sq. Yd.	186
Membrane Waterproofing System for Buried Structures	Sq. Yd.	186
Rock Fill	Cu. Yd.	65

**GENERAL NOTES**

Plan dimensions and details relative to 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.  
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
Reinforcement bars designated (E) shall be epoxy coated.  
All proposed construction activities shall be in accordance with Nationwide Permit 3 or 14 of the US Army Corps of Engineers.  
Precast alternate is not allowed.  
Concrete sealer shall not be applied to surfaces to which Waterproofing Membrane System is applied.  
Contractor shall be responsible for diverting the water flow from the construction area using a method meeting the approval of the Engineer and included in the unit cost of Concrete Box Culverts.  
Structure Excavation shall be included in the cost of Concrete Box Culverts.

**GENERAL PLAN AND ELEVATION  
GRUNDY COUNTY**

**OVER HOG RUN  
SEC. 19-00174-00-BR  
STATION 8+03  
S.N. 032-3181**

CONTRACT NO. 87792

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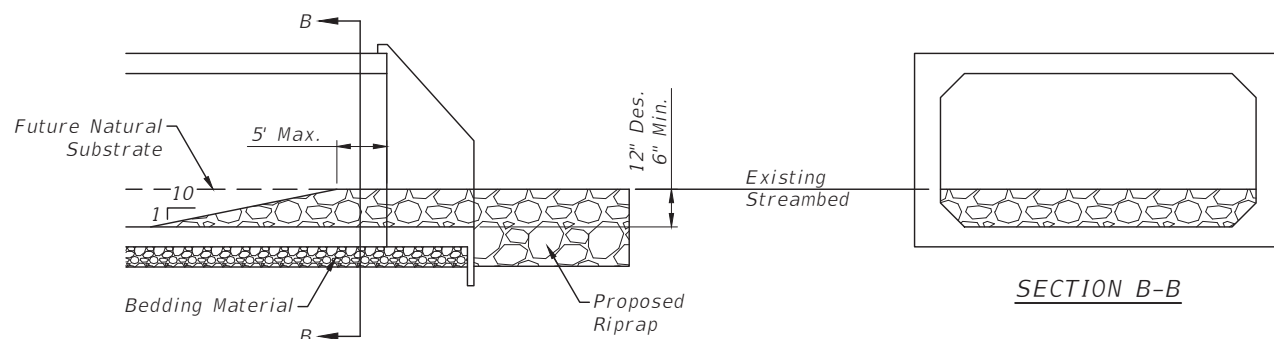
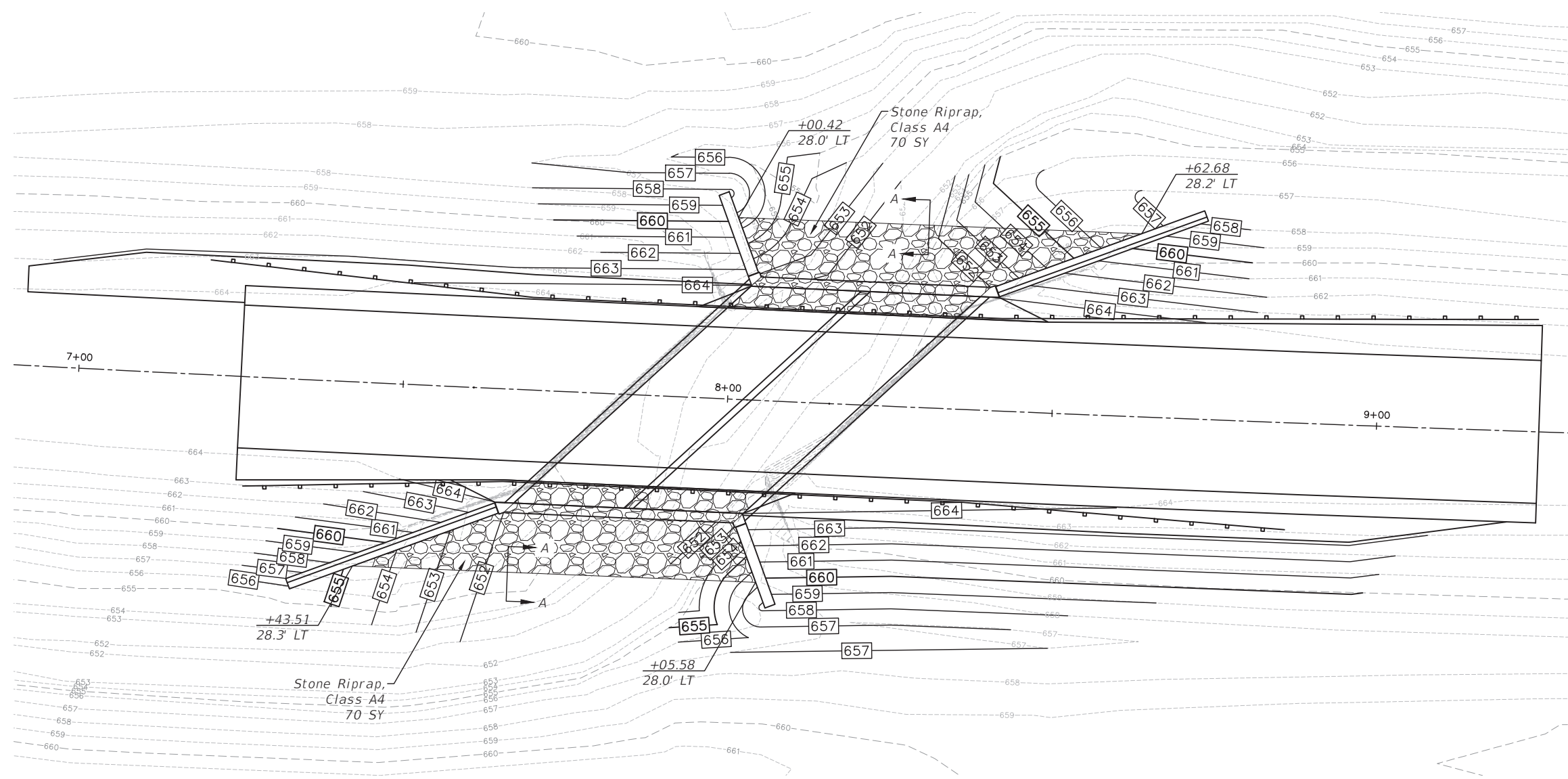
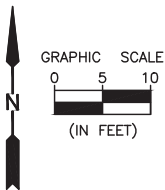
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**F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY**

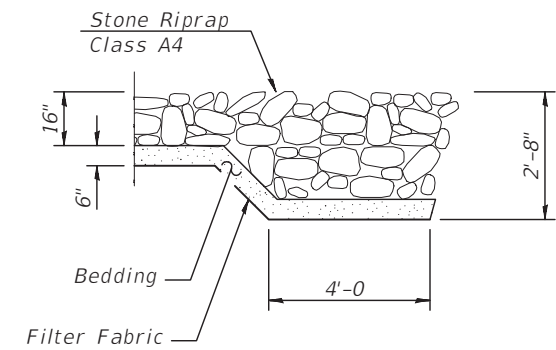
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SN 032-3180 (E) 032-3181 (P)**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 19
FILE NO.: 111523.00 Y-	OF 59



**END OF BOX CULVERT RIPRAP DETAIL**  
Use at upstream and downstream ends



**SECTION A-A**

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By: Kurt Decker

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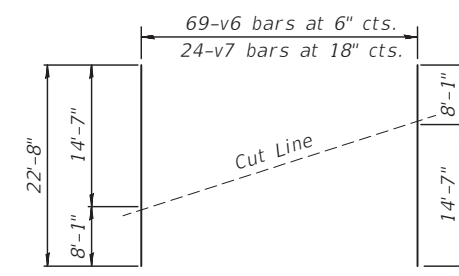
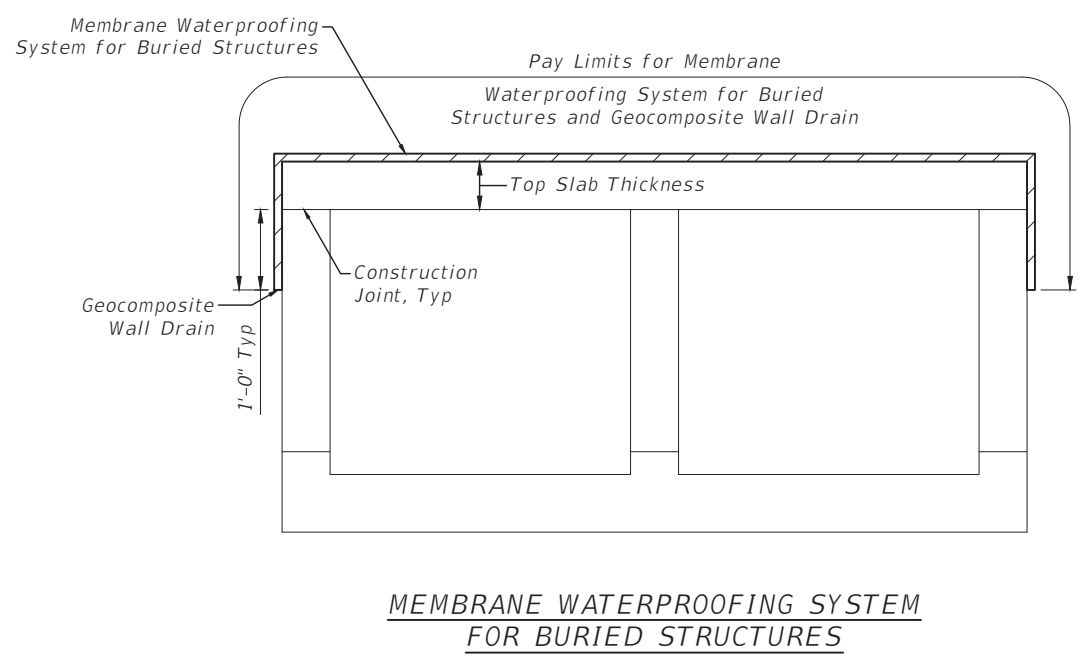
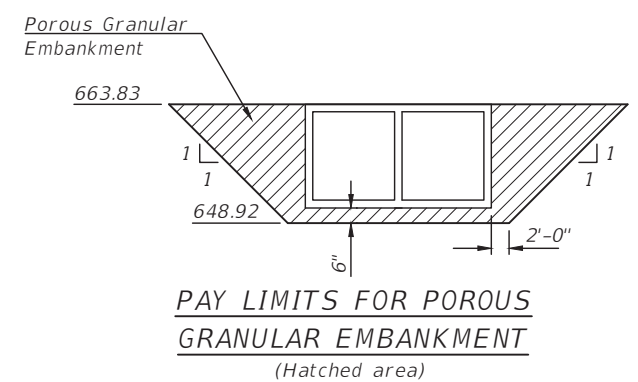
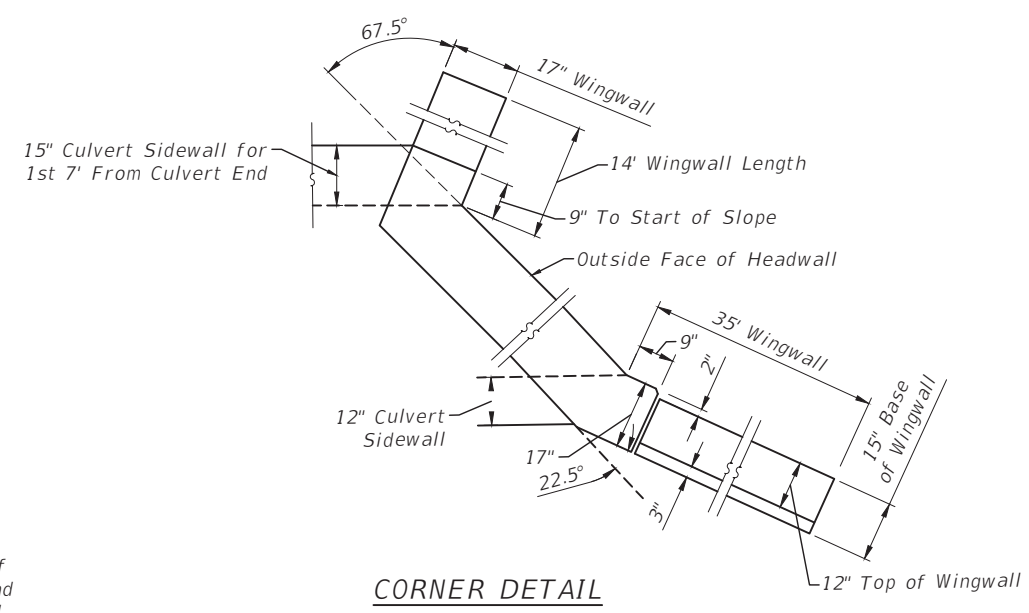
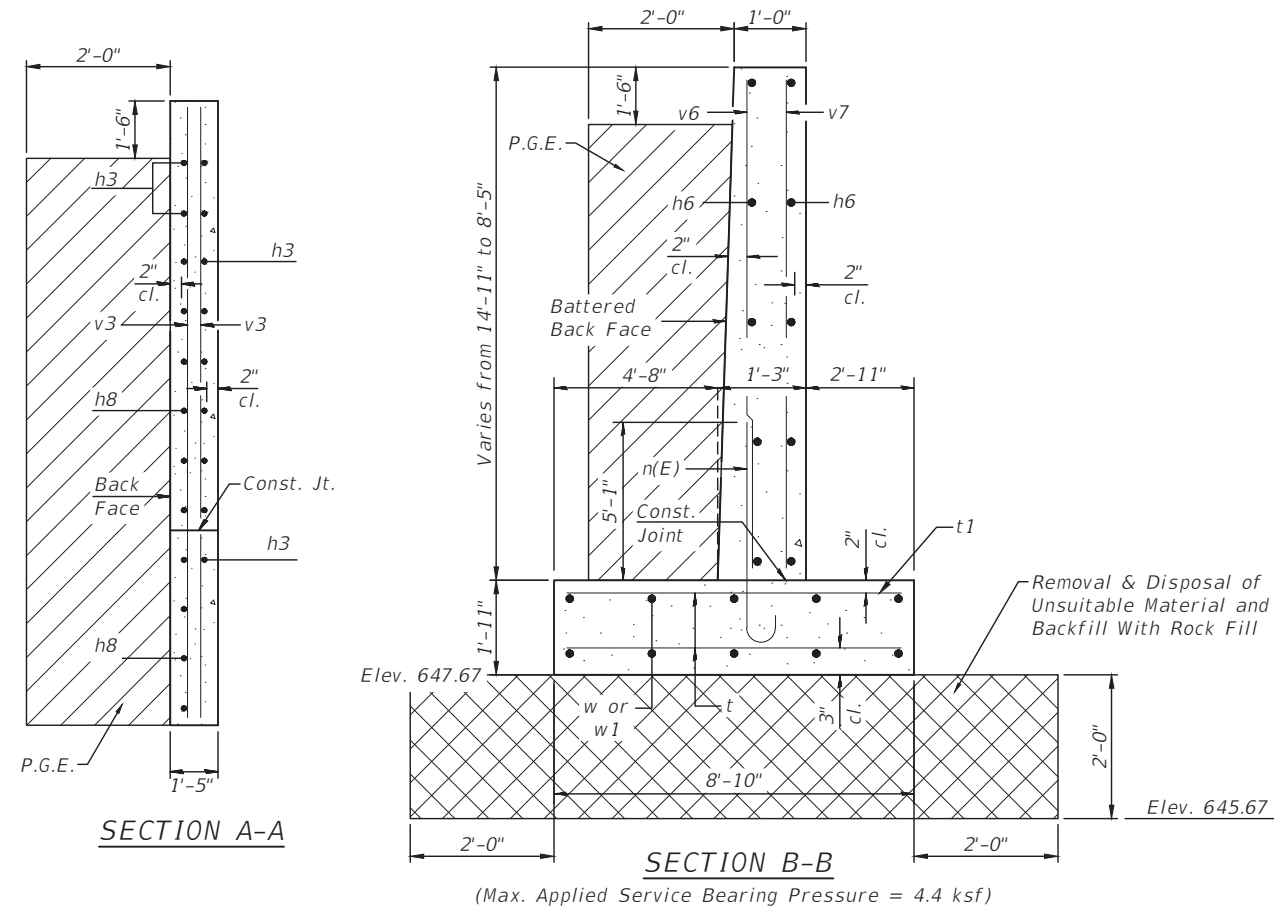
F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

RIPRAP DETAILS  
SN 032-3180 (E) 032-3181 (P)

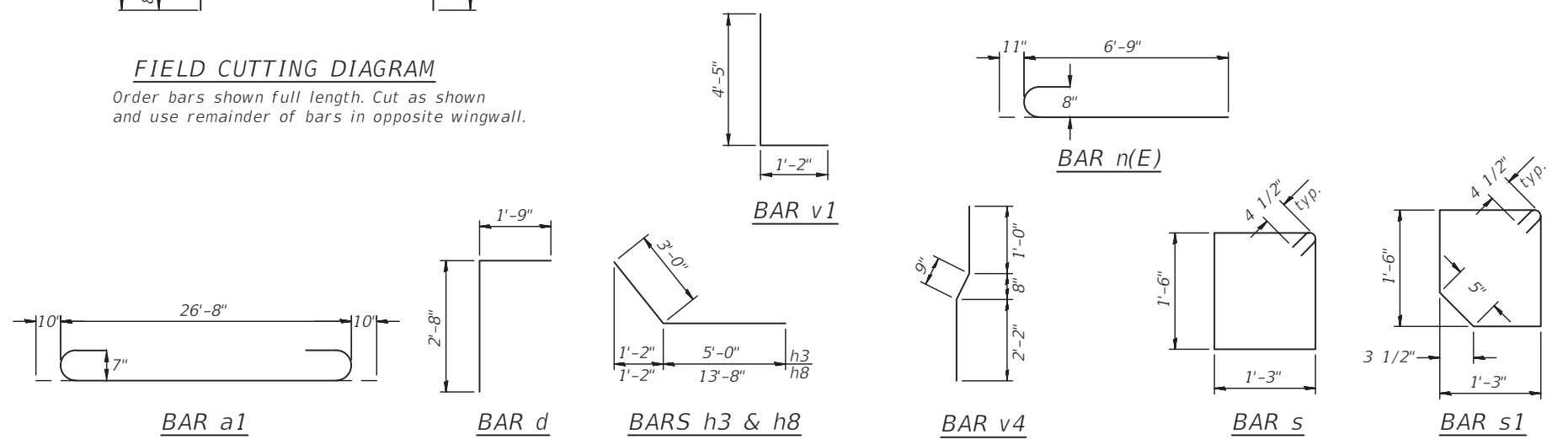
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	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792





**FIELD CUTTING DIAGRAM**  
Order bars shown full length. Cut as shown and use remainder of bars in opposite wingwall.



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DATE: 01/2024				

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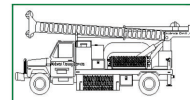
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SECTION 19-00174-00-BR  
GRUNDY COUNTY

BOX CULVERT DETAILS  
SN 032-3180 (E) 032-3181 (P)

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 22
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

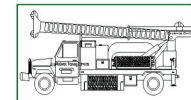
Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3180  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E. of LaSalle Rd.

Boring No. B-1  
Surface Elev. 99.83  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 33' W. of center of Box Culvert and 8' S. of Centerline

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
99.83										Randy Safranski Diedrich D-120	
98.83	Asphalt over Aggregate		1								
97.83	Medium Stiff Black/Brown Silty Clay Fill		2								
96.83		3	1	SS	1.0	6	B	12			
95.83		4									
94.83		5	2	SS	1.0	5	B	11			
93.83		6									
92.83		7									
91.83		8	3	SS	1.2	5	B	12			
90.83		9									
89.83	Soft to Medium Stiff Black Silty Clay		10								
88.83		11	4	SS	0.6	2	B	16			
87.83	Stiff Brown/Gray Clay		12								
86.83		13	5	SS	1.5	8	B	11			
85.83		14									
84.83		15									
83.83		16	6	SS	1.8	9	B	8			
82.83		17									
81.83		18	7	SS	1.8	9	B	8			
80.83		19									
79.83	20	8	SS	2.0	10	B	8				

Groundwater Data: Bore hole dry after auger removal.  
Comments: Assumed center of box to be elevation 100.0.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3180  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E. of LaSalle Rd.

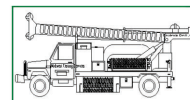
Boring No. B-1  
Surface Elev. 99.83  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 33' W. of center of Box Culvert and 8' S. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
78.83										Randy Safranski Diedrich D-120	
77.83	Medium Stiff to Stiff Brown/Gray Clay		22								
76.83		23	9	SS	1.2	7	B	12			
75.83		24									
74.83		25	10	SS	1.0	6	B	12			
73.83	Stiff Brown/Gray Clay		26								
72.83		27									
71.83		28									
70.83		29									
69.83		30	11	SS	2.4	15	B	10			
68.83		31									
67.83		32									
66.83		33									
65.83	34										
64.83	35										
63.83	36	12	SS	2.0	9	B	10				
62.83	37										
61.83	38										
60.83	39										
59.83	40										
58.83	41										

Groundwater Data: Bore hole dry after auger removal.  
Comments: Assumed center of box to be elevation 100.0.

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Peru, IL 61354

**BORING LOG**

Sheet 1 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

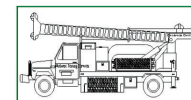
Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3180  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E. of LaSalle Rd.

Boring No. \_\_\_\_\_  
Surface Elev. 99.83  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 35' E. of center of Box Culvert and 6' N. of Centerline

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear			Moisture (%)
99.83	Asphalt over Aggregate		1						Randy Safranski Diedrich D-120		
97.83	Medium Stiff Black/Brown Silty Clay Fill		2								
96.83		1	SS	1.0	5	B	11				
95.83											
94.83		2	SS	1.2	6	B	10				
93.83											
92.83											
91.83		3	SS	1.2	6	B	9				
90.83											
89.83	Soft to Medium Stiff Black Silty Clay		10	4	SS	0.6	3	B		19	
88.83											
87.83	Stiff Brown/Gray Clay		12								
86.83		5	SS	1.3	10	B	10				
85.83											
84.83		6	SS	1.9	11	B	9				
83.83											
82.83											
81.83	7	SS	1.8	9	B	8					
80.83											
79.83	Medium Stiff to Stiff Brown/Gray Clay		20	8	SS	1.5	6	B		10	

Groundwater Data: Bore hole dry after auger removal.  
Comments: Assumed center of box to be elevation 100.0.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3180  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E. of LaSalle Rd.

Boring No. \_\_\_\_\_  
Surface Elev. 99.83  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 35' E. of center of Box Culvert and 6' N. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear			Moisture (%)
78.83	Medium Stiff to Stiff Brown/Gray Clay		22						Randy Safranski Diedrich D-120		
77.83		9	SS	1.6	7	B	12				
76.83											
75.83		10	SS	1.4	5	B	13				
74.83											
73.83											
72.83		Stiff to Very Stiff Brown/Gray Clay		27							
71.83											
70.83	11		SS	2.4	14	B	10				
69.83											
68.83											
67.83											
66.83	Bottom of Boring		30								
65.83											
64.83		12	SS	2.0	10	B	10				
63.83											
62.83											
61.83											
60.83											
59.83											
58.83											

Groundwater Data: Bore hole dry after auger removal.  
Comments: Assumed center of box to be elevation 100.0.

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Drawing Name: G:\Users\11111523\Documents\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\024-BORINGS 02-803.dwg Last Modified: Thursday, February 22, 2024 11:36:34 AM Plotted On: Thursday, February 22, 2024 5:48:54 PM by Kurt Becker

DRAWN BY: KED	REVISIONS			
CHECKED BY: DAH	LEVEL	BY	DATE	DESCRIPTION
DATE: 01/2024				

PERU MORRIS  
OTTAWA MENDOTA  
ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3180 (E) 032-3181 (P)**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 24
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**EXISTING STRUCTURE NO. 032-3190**

Sta. 90+70 - The existing structure is a 1 span bridge with a precast concrete channel beam superstructure on closed abutments. The bridge is 34'-7" fc-fc of abutments and 27'-4" out to out of deck beams with a 30° skew left ahead. The existing bridge rail is attached to the side of the channel beams.

Structure closed to traffic during construction.

No Salvage.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	392
Stone Rip Rap, Class A4	Sq. Yd.	132
Filter Fabric	Sq. Yd.	132
Removal of Existing Structures	Each	1
Removal and Disposal of Unsuitable Materials for Structures	Cu. Yd.	20
Reinf. Bars	Pound	41,130
Reinf. Bars, Epoxy Coated	Pound	730
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	177
Geocomposite Wall Drain	Sq. Yd.	126
Membrane Waterproofing System for Buried Structures	Sq. Yd.	126
Rock Fill	Cu. Yd.	20

**GENERAL NOTES**

Plan dimensions and details relative to 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.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Reinforcement bars designated (E) shall be epoxy coated.

All proposed construction activities shall be in accordance with Nationwide Permit 3 or 14 of the US Army Corps of Engineers.

Precast alternate is not allowed.

Concrete sealer shall not be applied to surfaces to which Waterproofing Membrane System is applied.

Contractor shall be responsible for diverting the water flow from the construction area using a method meeting the approval of the Engineer and included in the unit cost of Concrete Box Culverts.

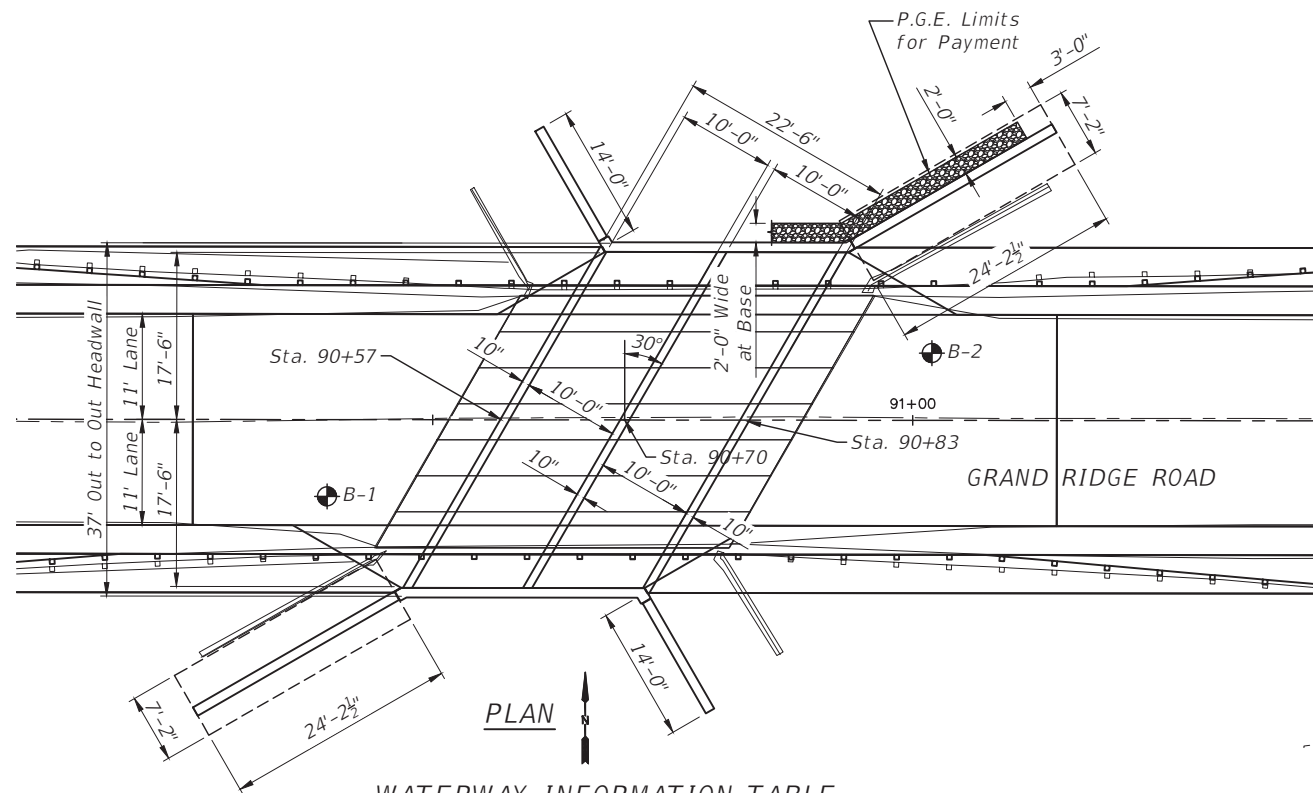
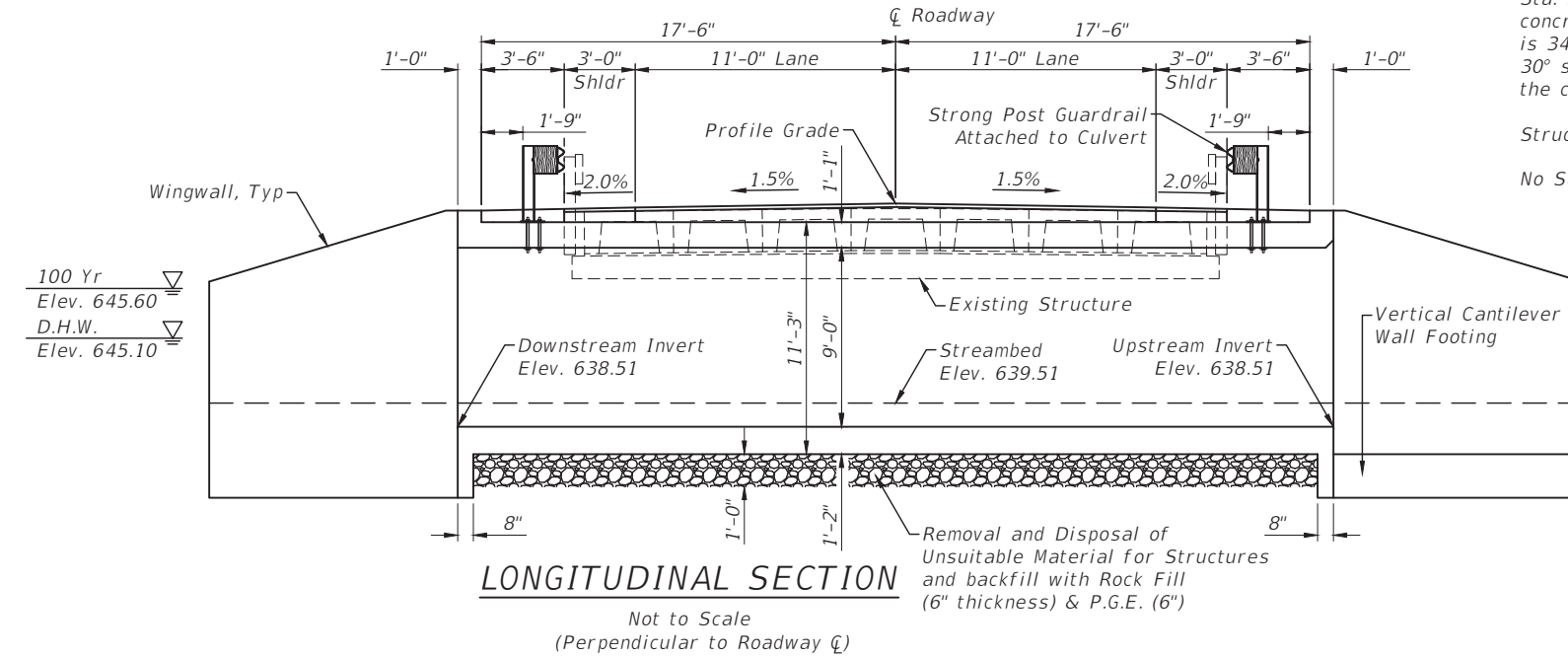
Structure Excavation shall be included in the cost of Concrete Box Culverts.

STA. 90+70  
BUILT 2024 BY  
GRUNDY COUNTY  
F.A.S. 272 - SEC. 19-00174-00-BR  
LOADING HL-93  
STR. NO. 032-3191

**NAME PLATE**  
See Std. 515001

**INDEX OF SHEETS**

- General Plan and Elevation
- Riprap Details
- 4. Box Culvert Details
- 6. Soil Borings



**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications  
Customary U.S. Units, 9th Edition

**LOADING HL-93**

Allow 50#/sq ft for future wearing surface

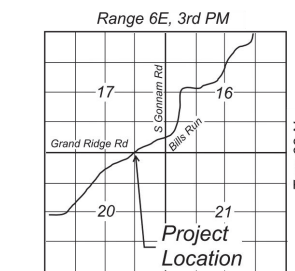
**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 Sec ( $S_{D1}$ ) = 0.117  
Design Spectral Acceleration at 0.2 Sec ( $S_{D5}$ ) = 0.148  
Soil Site Class = D

**WATERWAY INFORMATION TABLE**

Drainage Area = 3.0 SQ MI											
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.				Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist. Bridge	Total Bridge	Prop. Bridge	Total		Exist.	Prop.	Exist.	Prop.
2-YR	2	101					643.4				
10-YR	10	212	101.0	101.0	105.0	105.0	644.8	0.0	0.0	644.8	644.8
Design	20	252	110.0	110.0	111.0	111.0	645.1	0.0	0.0	645.1	645.1
	50	313	120.0	120.0	118.0	118.0	645.4	0.1	0.1	645.4	645.5
Max. Calc.	100	354	125.0	125.0	121.0	121.0	645.6	0.1	0.1	645.6	645.7
	500	447	134.0	134.0	127.0	127.0	645.9	0.1	0.2	646.0	646.1

Exist. 10 Year Velocity: 2.1 (ft./sec.)  
Prop. 10 Year Velocity: 2.0 (ft./sec.)



**GENERAL PLAN AND ELEVATION  
GRAND RIDGE ROAD (FAS 272)**

**OVER BILLS RUN  
SEC. 19-00174-00-BR  
GRUNDY COUNTY  
STATION 90+70  
S.N. 032-3191**

CONTRACT NO. 87792

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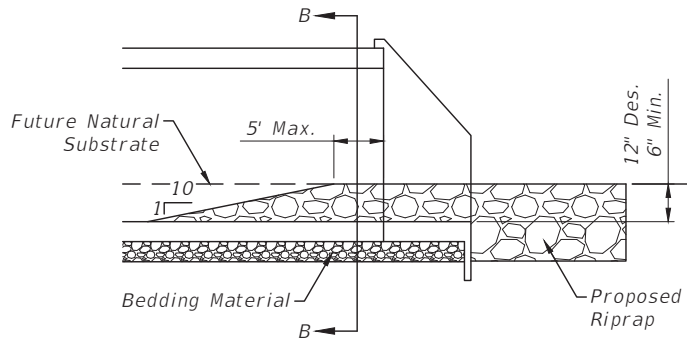
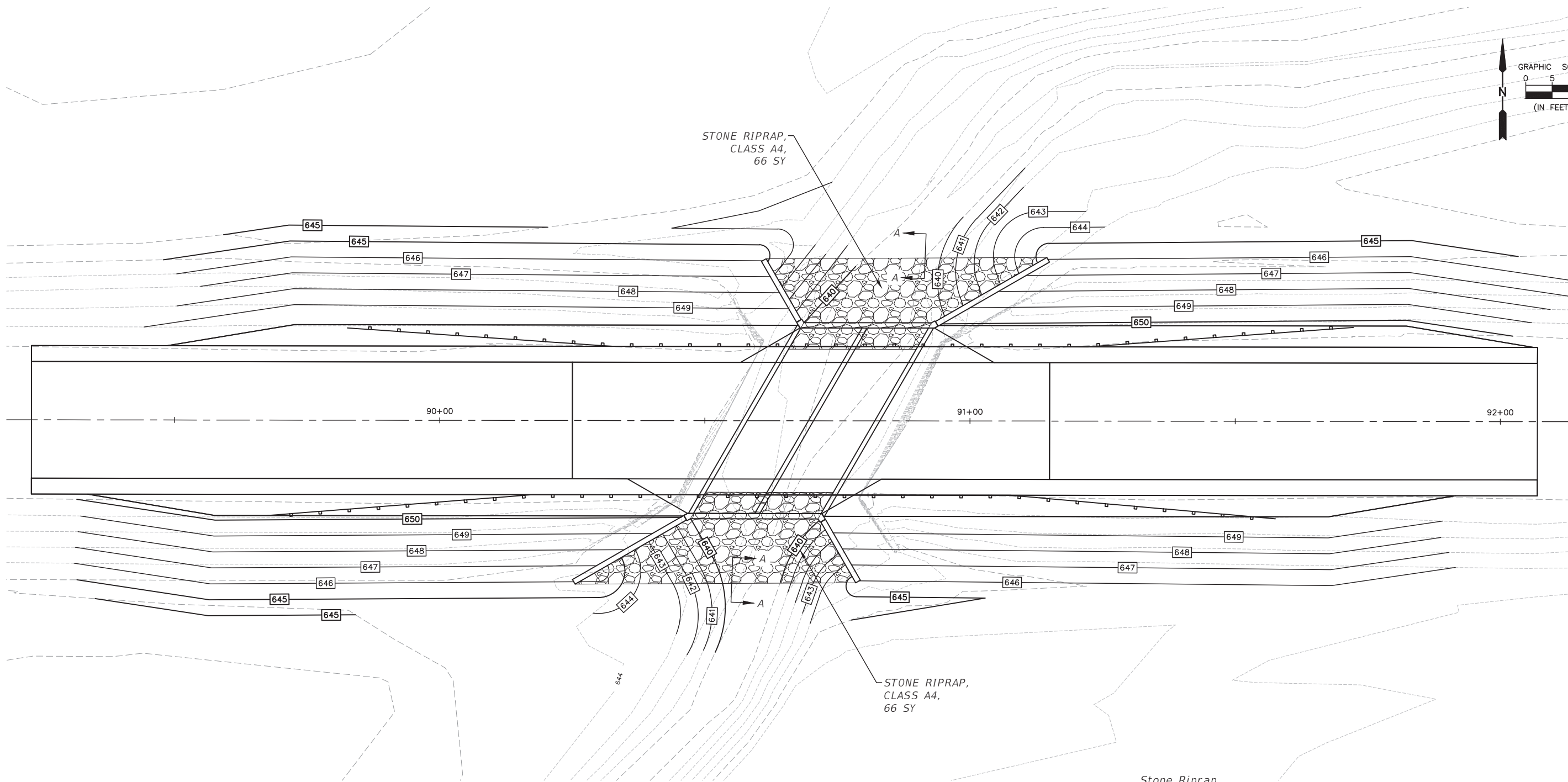
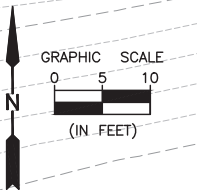
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DATE: 01/2024				

**CA**  
Chamlin & Associates  
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OTTAWA MENDOTA  
ILLINOIS

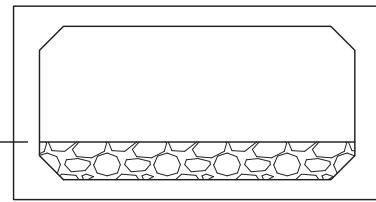
**F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY**

**GENERAL PLAN AND ELEVATION  
SN 032-3190 (E) 032-3191 (P)**

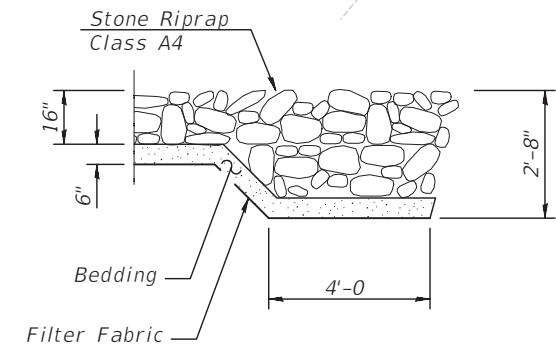
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CURRENT AS OF: 02/20/2024  
SCALE: AS NOTED  
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SHEET 25  
OF 59



**END OF BOX CULVERT RIPRAP DETAIL**  
Use at upstream and downstream ends



SECTION B-B



SECTION A-A

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SECTION 19-00174-00-BR  
GRUNDY COUNTY

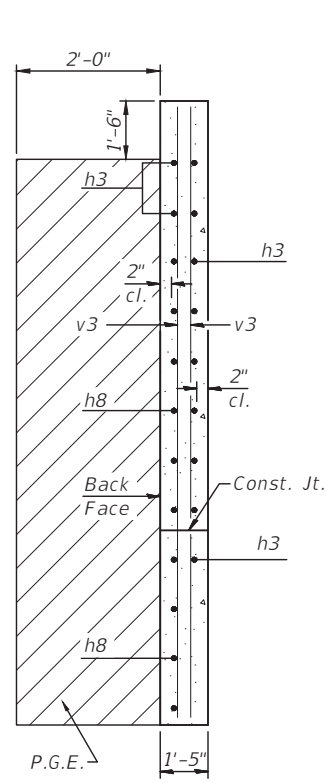
RIPRAP DETAILS  
SN 032-3190 (E) 032-3191 (P)

**BIDDING PLANS**

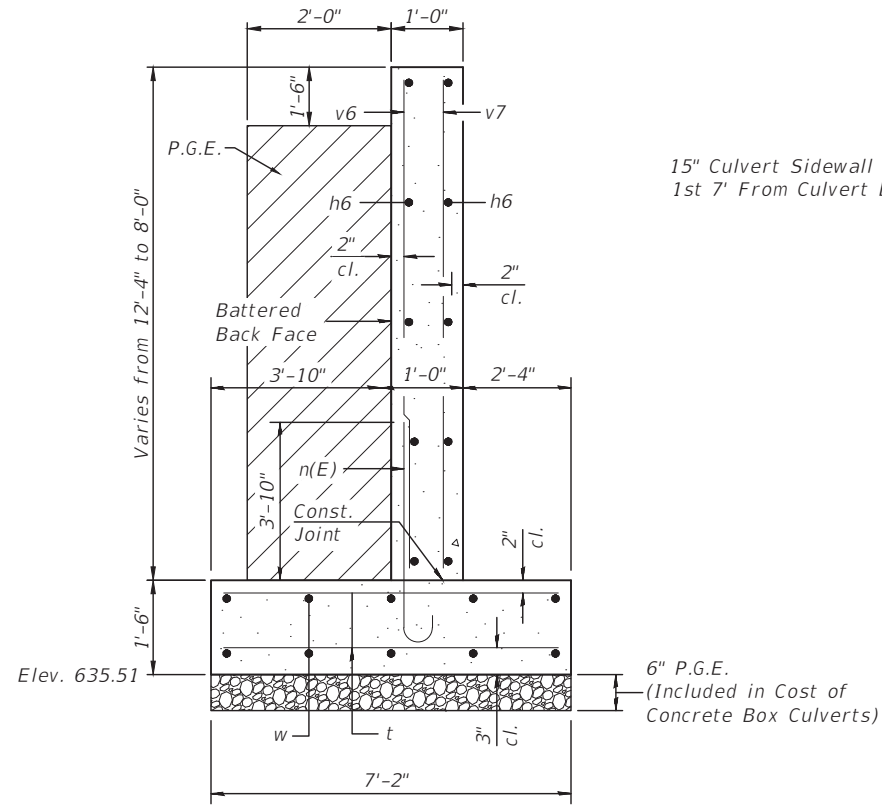
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SCALE: AS NOTED	SHEET 26
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



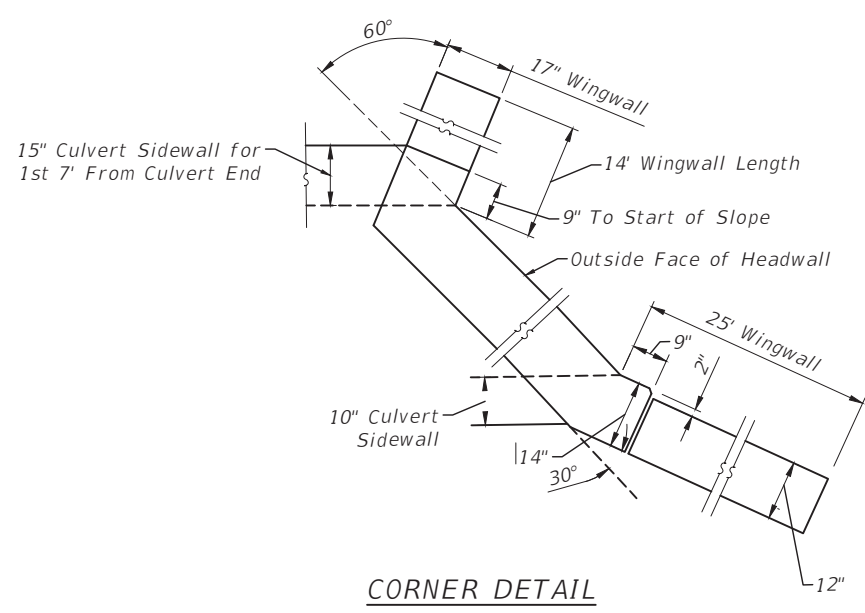


SECTION A-A

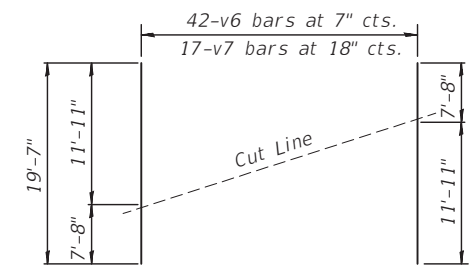


SECTION B-B

(Max. Applied Service Bearing Pressure = 2.9 ksf)

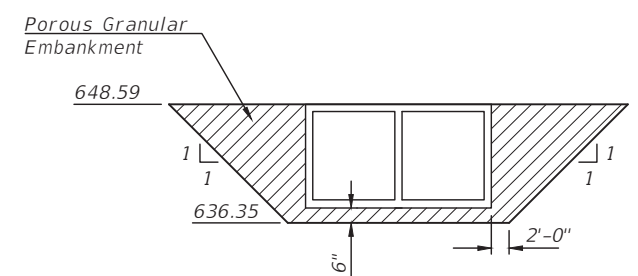


CORNER DETAIL



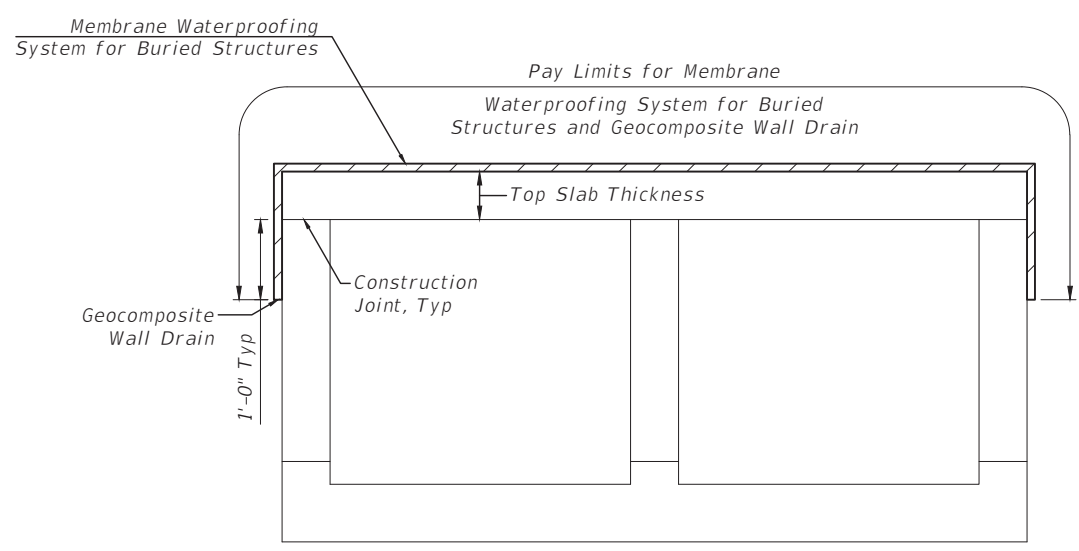
FIELD CUTTING DIAGRAM

Order bars shown full length. Cut as shown and use remainder of bars in opposite wingwall.

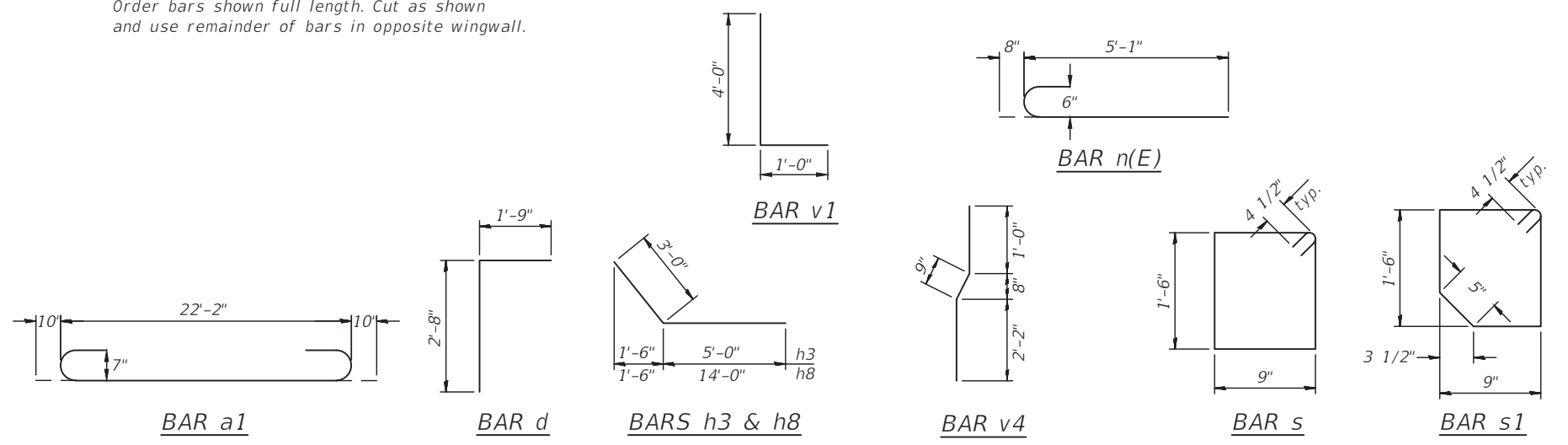


PAY LIMITS FOR POROUS GRANULAR EMBANKMENT

(Hatched area)



MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES



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DATE: 01/2024				



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ILLINOIS

F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

BOX CULVERT DETAILS  
SN 032-3190 (E) 032-3191 (P)

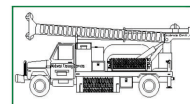
BIDDING PLANS

CONTRACT NO. 87792

CURRENT AS OF: 02/20/2024

SCALE: AS NOTED SHEET 28

FILE NO.: 111523.00 Y- OF 59



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

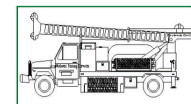
Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3190  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E of Kinsman Rd.

Boring No. B-1  
Surface Elev. 99.92  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 31' W. of center of Box Culvert and 8' S. of Centerline

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
99.92	Asphalt over Aggregate		1							Randy Safranski Diedrich D-120	
97.92	Medium Stiff Black/Gray Clay Fill		2								
96.92			3	1	SS	1.2	6	B	19		
95.92			4								
94.92			5	2	SS	1.0	4	B	20		
93.92			6								
92.92			7								
91.92			8	3	SS	1.0	4	B	20		
90.92			9								
89.92	Soft to Medium Stiff Black/Gray Clay		10	4	SS	0.6	3	B	18		
88.92			11								
87.92			12								
86.92			13	5	SS	0.8	4	B	15		
85.92	Stiff Brown Clay Till		14								
84.92			15	6	SS	1.8	10	B	9		
83.92	Stiff Brown/Gray Clay Till		16								
82.92			17								
81.92			18	7	SS	2.0	12	B	8		
80.92		19									
79.92		20	8	SS	1.6	8	B	10			

Groundwater Data: Water 34-feet below top of ground after auger removal.  
Comments: Assumed center of box to be elevation 100.0.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3190  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E of Kinsman Rd.

Boring No. B-1  
Surface Elev. 99.92  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 31' W. of center of Box Culvert and 8' S. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
78.92	Stiff Brown/Gray Clay Till		22							Randy Safranski Diedrich D-120	
77.92			23	9	SS	1.8	10	B	9		
76.92			24								
75.92			25								
74.92			26	10	SS	2.0	15	B	6		
73.92			27								
72.92			28								
71.92			29								
70.92			30								
69.92			31	11	SS	1.6	8	B	8		
68.92			32								
67.92			33								
66.92	Stiff Gray Clay with Sand Seams		34								
65.92			35	12	SS	1.8	10	B	10		
64.92	Bottom of Boring		36								
63.92			37								
62.92			38								
61.92			39								
60.92			40								
59.92			41								
58.92			42								

Groundwater Data: Water 34-feet below top of ground after auger removal.  
Comments: Assumed center of box to be elevation 100.0.

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DATE: 01/2024				

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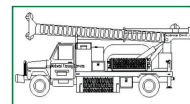
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3190 (E) 032-3191 (P)**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 29
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

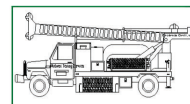
Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3190  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E of Kinsman Rd.

Boring No. B-2  
Surface Elev. 100.00  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 35' E. of center of Box Culvert and 7' N. of Centerline

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
100.00									Randy Safranski Diedrich D-120	
99.00	Asphalt over Aggregate		1							
98.00	Medium Stiff Black/Gray Clay Fill		2							
97.00			3	1	SS	1.1	6	B	18	
96.00			4							
95.00			5							
94.00			6							
93.00			7							
92.00			8	3	SS	1.0	4	B	17	
91.00	Medium Stiff to Stiff Black/Gray Clay		9							
90.00			10	4	SS	1.2	7	B	10	
89.00	Stiff Brown/Gray Clay Till		11							
88.00			12							
87.00			13	5	SS	1.8	11	B	8	
86.00			14							
85.00			15							
84.00			16	6	SS	2.0	12	B	7	
83.00			17							
82.00			18	7	SS	2.0	11	B	7	
81.00		19								
80.00		20	8	SS	1.6	11	B	9		

Groundwater Data: Water 34-feet below top of ground after auger removal.  
Comments: Assumed center of box to be elevation 100.0.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 2

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3190  
Project Site: Vienna Twp.  
Grundy Co. Box on Grand Ridge Rd. E of Kinsman Rd.

Boring No. B-2  
Surface Elev. 100.00  
Auger Depth 36.00 Rotary Depth NA  
Start Date 06/10/23 Finish Date 06/10/23

Location: 35' E. of center of Box Culvert and 7' N. of Centerline

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
79.00									Randy Safranski Diedrich D-120	
78.00	Stiff Brown/Gray Clay Till		22							
77.00			23	9	SS	1.8	11	B	10	
76.00			24							
75.00			25							
74.00			26	10	SS	2.0	11	B	9	
73.00			27							
72.00			28							
71.00			29							
70.00			30							
69.00			31	11	SS	1.6	8	B	9	
68.00			32							
67.00			33							
66.00	Stiff Gray Clay with Sand Seams		34							Water
65.00			35							
64.00			36	12	SS	1.8	9	B	12	
63.00			37							
62.00		38								
61.00		39								
60.00		40								
59.00		41								

Groundwater Data: Water 34-feet below top of ground after auger removal.  
Comments: Assumed center of box to be elevation 100.0.

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by: Kurt Decker

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	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				



**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3190 (E) 032-3191 (P)**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 30
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

**EXISTING STRUCTURE NO. 032-3200**

Sta. 246+27 - Three span concrete channel beam bridge on reinforced concrete pile supported stub abutments and reinforced concrete pile piers.

Structure closed to traffic during construction.

No Salvage.

**INDEX OF STRUCTURE SHEETS**

1. General Plan & Elevation
2. RipRap Details
3. Superstructure Details
- 4.-5. 33"x48" PPC Deck Beam Details
- 6.-8. Approach Slab Details
9. Steel Railing, Type SMX
10. Abutments
11. Pile Details
- 12.-15. Borings

STA. 246+27  
BUILT 2024 BY  
GRUNDY COUNTY  
F.A.S. 272 - SEC. 19-00174-00-BR  
LOADING HL-93  
STR. NO. 032-3201

**NAME PLATE**  
See Std. 515001

**GENERAL NOTES**

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The Contractor shall drive test pile to 110% of the nominal required bearing specified in production locations at West Abutment or approved by the Engineer before ordering the remainder of piles.

All bars to be epoxy coated.

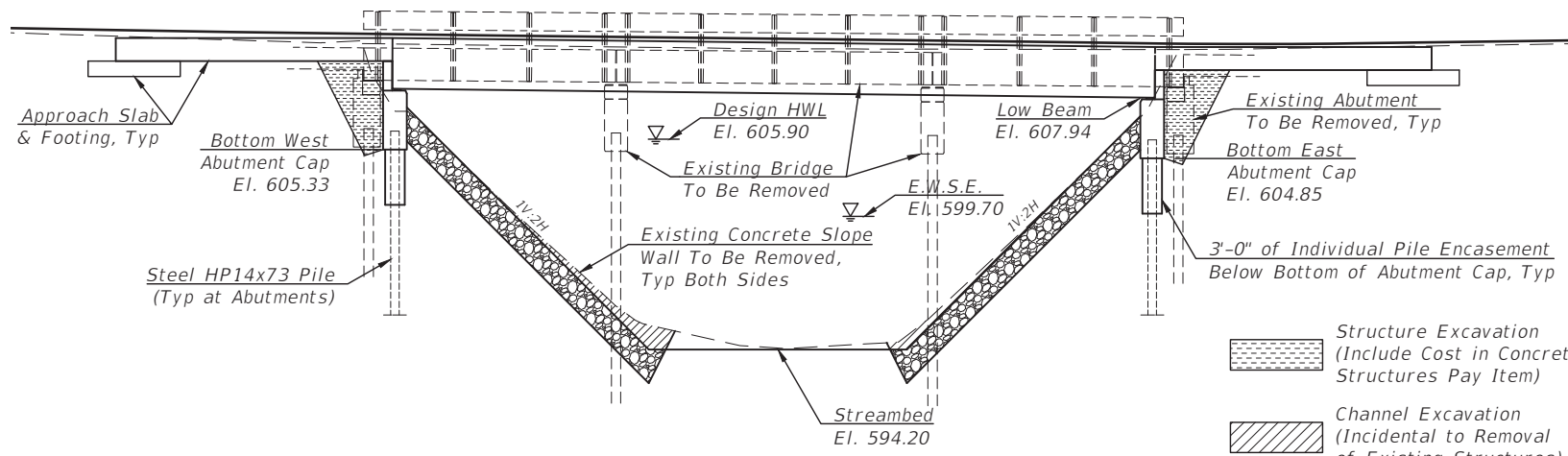
All proposed construction activities shall be in accordance with Statewide Permit 12 of the Illinois DNR Office of Water Resources and Nationwide Permit 3 or 14 of the U.S. Army Corps of Engineers.

Concrete sealer shall not be applied to surfaces to which Waterproofing Membrane System is applied.

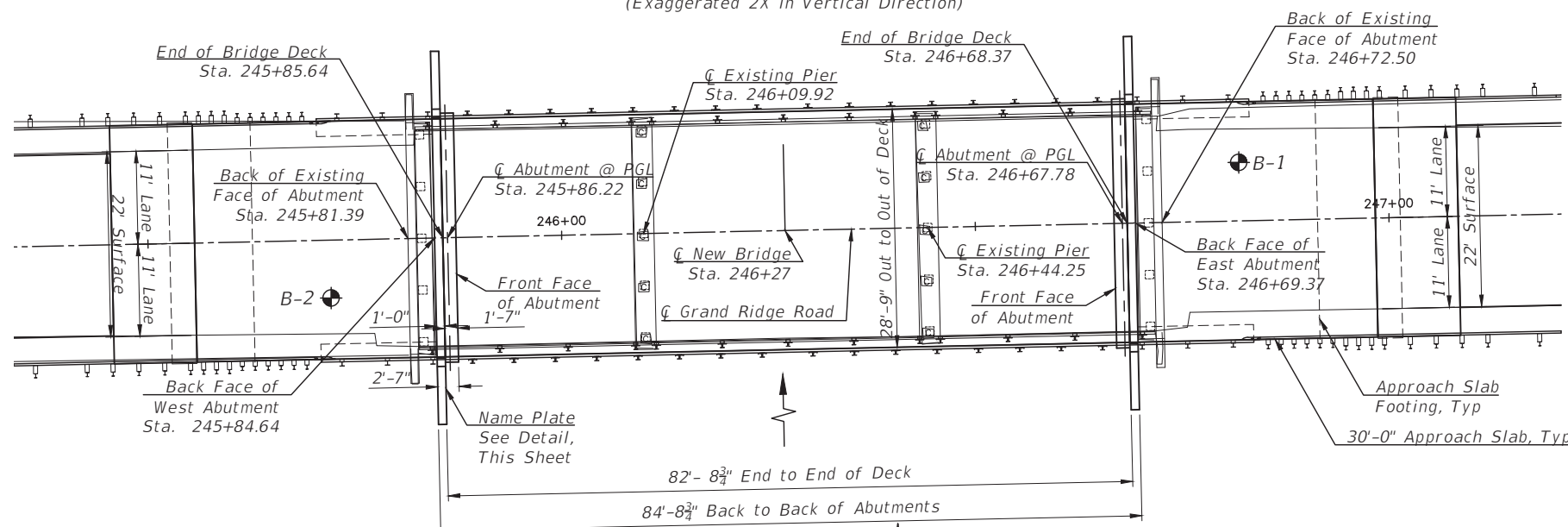
Slope wall removal shall be incidental to Removal of Existing Structures.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		385	385
Filter Fabric	Sq. Yd.		385	385
Removal of Existing Structures	Each		1	1
Concrete Structures	Cu. Yd.		44.7	44.7
Concrete Encasement	Cu. Yd.		5.5	5.5
Concrete Superstructure (Approach Slab)	Cu. Yd.	81		81
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,316		2,316
Reinf. Bars, Epoxy Coated	Pound	32,570	4,200	36,770
Steel Railing, Type SMX	Foot		226	226
Furnishing Steel Piles, HP 14x73	Foot		467	467
Driving Piles	Foot		467	467
Test Pile Steel HP 14x73	Each		1	1
Pile Shoes	Each		10	10
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	462		462
Portland Cement Mortar Fairing Course	Foot	508		508
Granular Backfill for Structures	Cu. Yd.		59	59
Geocomposite Wall Drain	Sq. Yd.		20	20
Concrete Headwalls for Pipe Drains	Each		4	4
Pipe Underdrains for Structures 4"	Foot		110	110



**ELEVATION**  
(Exaggerated 2X in Vertical Direction)



**PLAN**

**WATERWAY INFORMATION TABLE**

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.				Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.		Prop.			Exist.	Prop.	Exist.	Prop.
			Bridge	Total	Bridge	Total					
2-Year	2	642			547	547	603.4	0.1	0.1	605.2	605.2
10-Year	10	1020	499	499	547	547	605.1	0.1	0.1	605.2	605.2
Design	25	1503	544	544	593	593	605.7	0.1	0.1	605.9	605.9
Base	100	2080	609	609	658	658	606.6	0.3	0.3	606.9	606.9
Scour Check	200	2322	636	636	685	685	606.9	0.3	0.3	607.2	607.3
Max. Calc.	500	2620	665	665	715	715	607.3	0.4	0.4	607.7	607.7

**DESIGN SCOUR ELEVATION TABLE**

Event/Limit State	Design Scour Elevations (ft.)		Item 113
	W. Abut.		
	W. Abut.	E. Abut.	
Q100	Not Computed	Not Computed	8
Q200	Not Computed	Not Computed	
Design	605.33	604.85	
Check	605.33	604.85	

Design and check elevations for abutments taken as bottom of cap. Abutment scour elevations not computed since abutments will be protected with riprap.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.072g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.123g  
Soil Site Class = C

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition, no interims.

**DESIGN STRESSES**

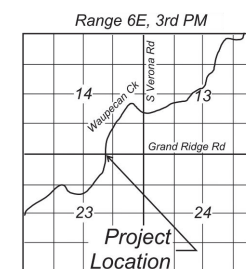
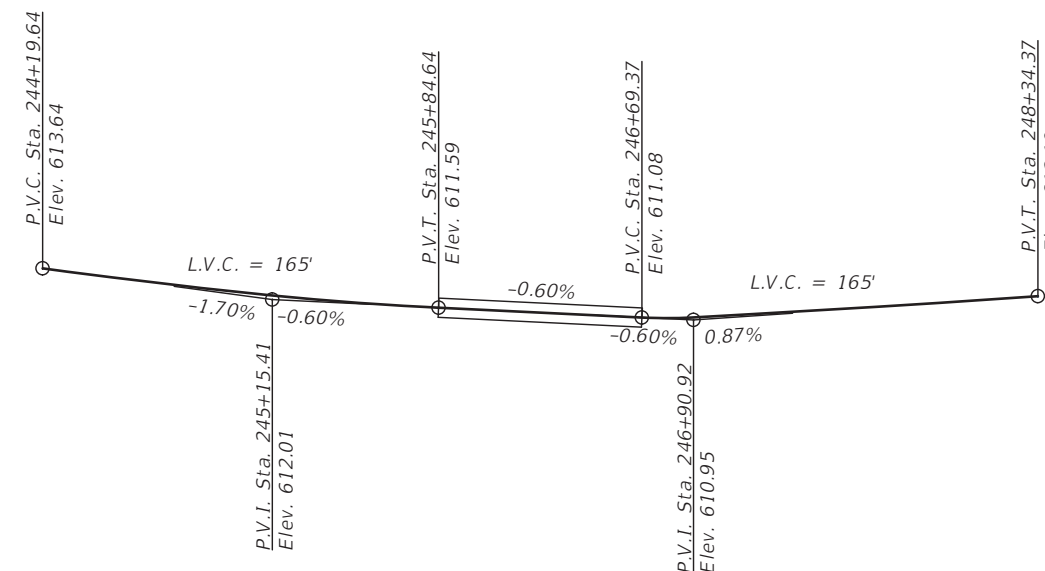
**FIELD UNITS**

$f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**

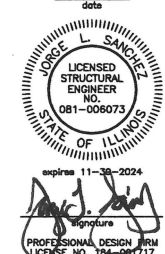
$f'_c$  = 6,000 psi  
 $f'_ci$  = 5,000 psi  
 $f_{pu}$  = 270,000 psi (1/2" low lax. strands)  
 $f_{pbt}$  = 201,960 psi (1/2" low lax. strands)  
 $f_y$  = 60,000 psi (Reinforcement)

**GRAND RIDGE ROAD PROFILE GRADE**  
(Along C Roadway)



**LOCATION SKETCH**

2-20-2024



I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Bridge Design Specifications".

CONTRACT NO. 87792

CHAMLIN & ASSOCIATES, INC. © 2023. Drawing Number: 032-3200-GRUNDY CO. GRAND RIDGE RD. BRIDGE CAD PLANS 031-GPE-24827.dwg. Last Modified: Thursday, February 22, 2024 5:16:53 PM. Plotted On: Thursday, February 22, 2024 5:54:15 PM. by Kurt Decker

DRAWN BY: KED	REVISIONS			
	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH	1	DAH	1/31/24	Revised Abutment Pile Note in Elevation
DATE: 01/2024				

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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

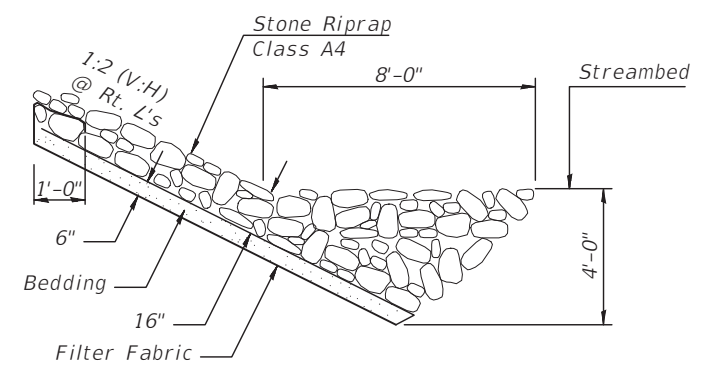
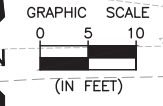
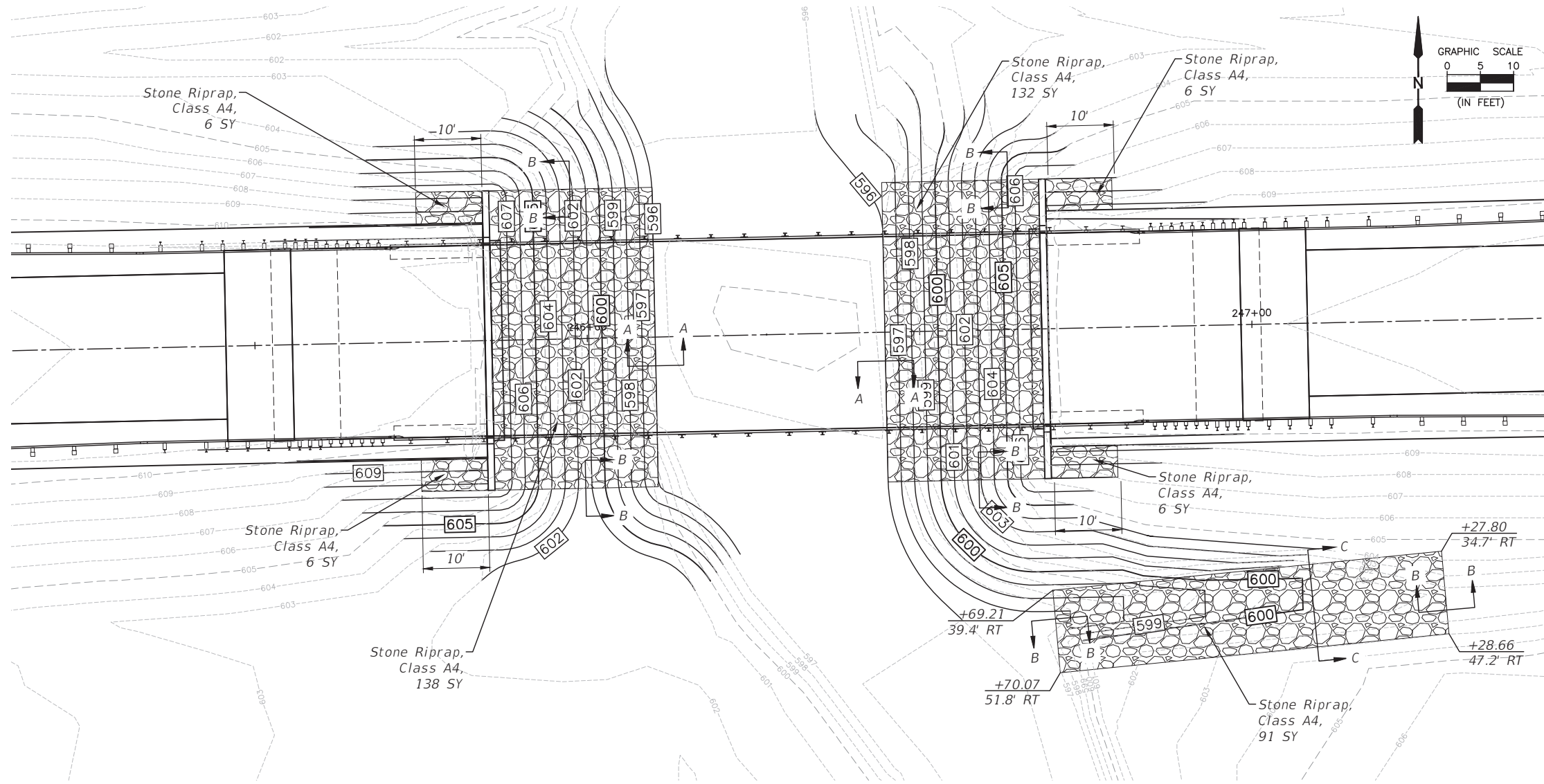
**GENERAL PLAN AND ELEVATION**  
**SN 032-3200 (E) 032-3201 (P)**

**BIDDING PLANS**

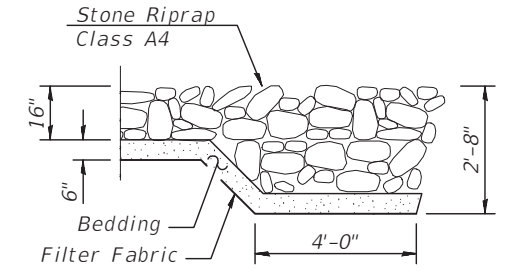
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SCALE: AS NOTED SHEET 31

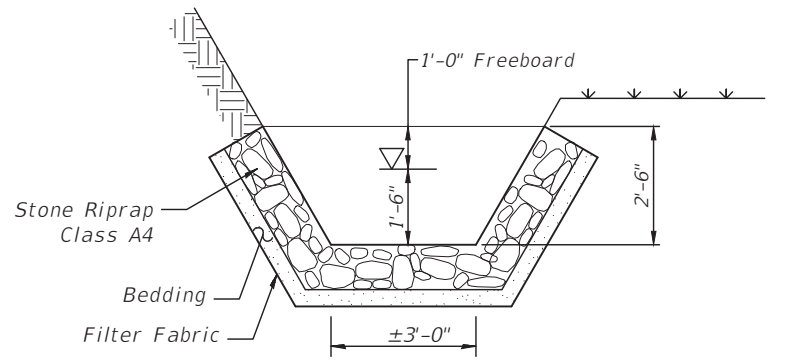
FILE NO.: 111523.00 Y- OF 59



SECTION A-A



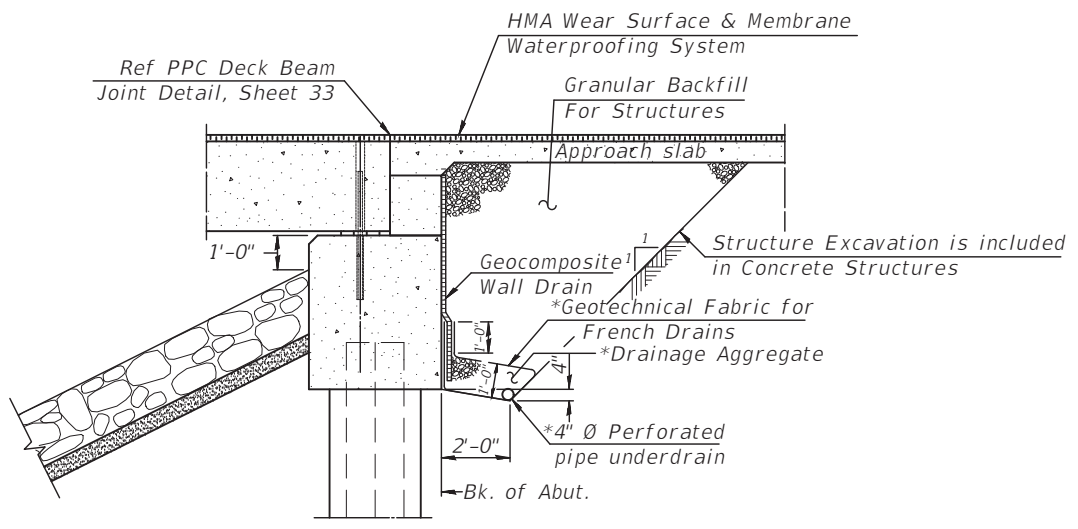
SECTION B-B



SECTION C-C

\*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:  
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION THRU ABUTMENT  
(Horiz. dim. @ Rt. L's)

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Plotted On: Thursday, February 22, 2024 5:55:05 PM  
by Kurt Decker

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	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				



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GRUNDY COUNTY

RIPRAP DETAILS  
SN 032-3200 (E) 032-3201 (P)

BIDDING PLANS

CURRENT AS OF: 02/20/2024

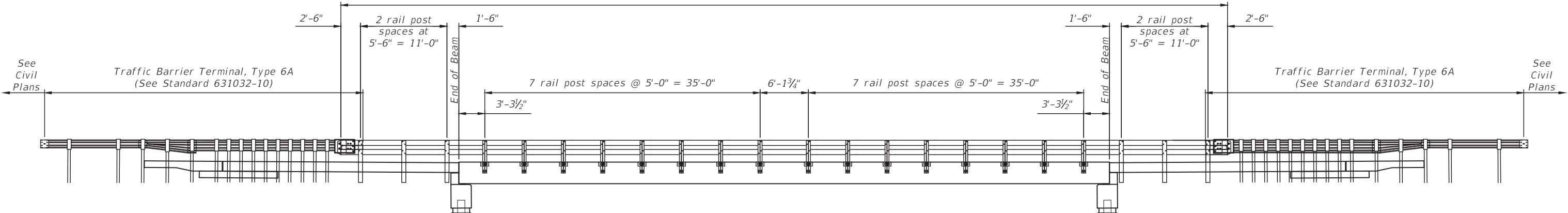
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FILE NO.: 111523.00 Y- OF 59

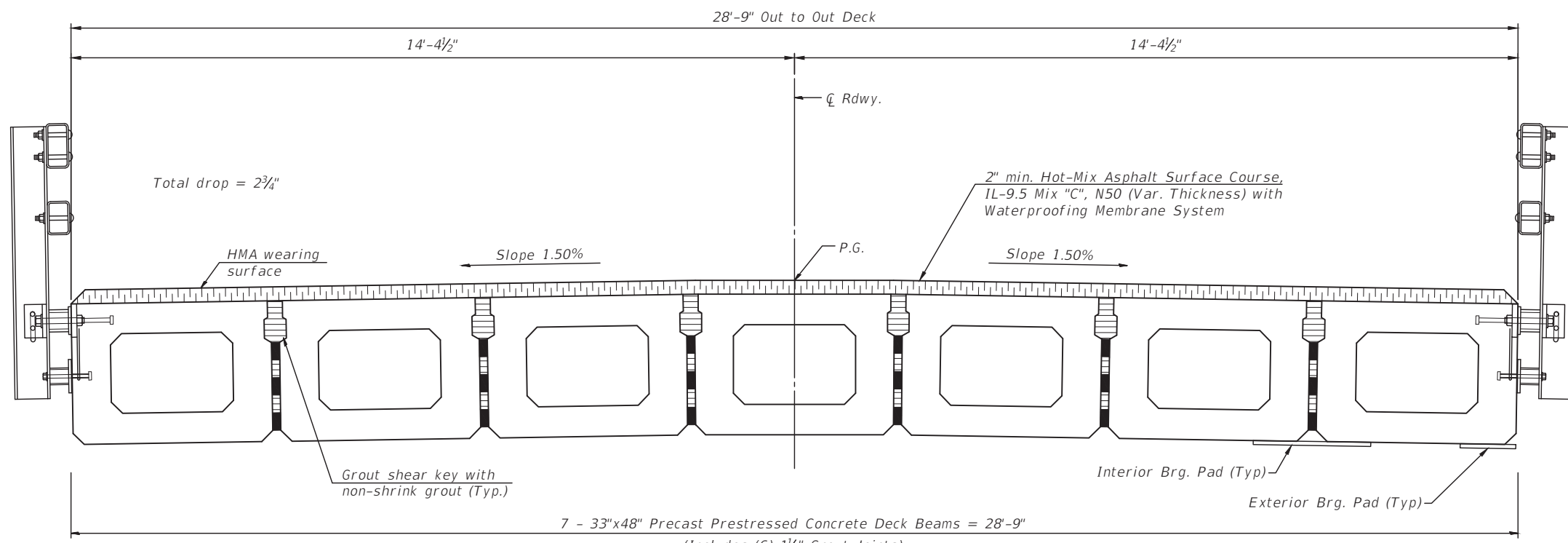
SHEET 32



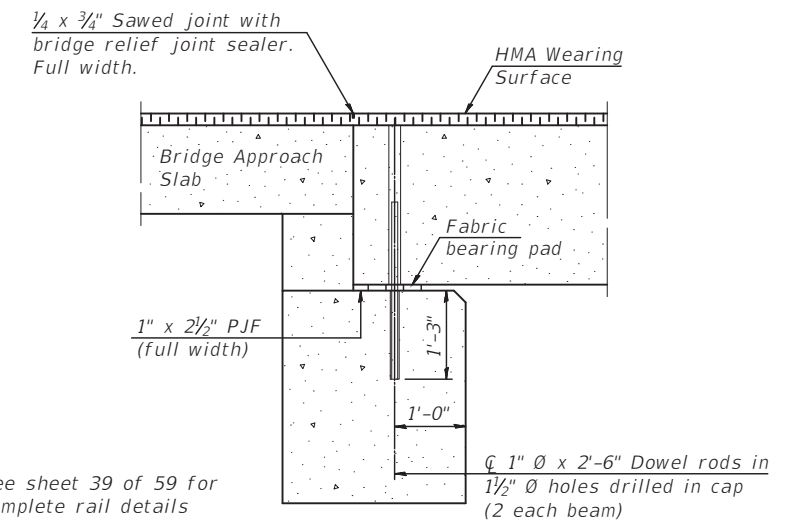
112'-8 3/4" end to end of Type SMX steel rail



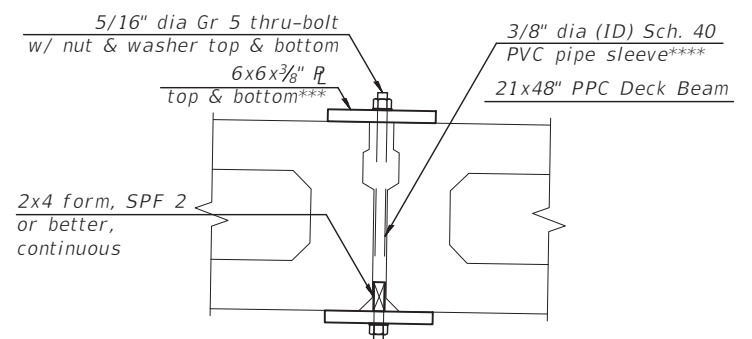
**ELEVATION**  
Showing Rail Post Spaces  
See sheet 39 of 59 for Railing Details



**CROSS SECTION**  
(Looking )

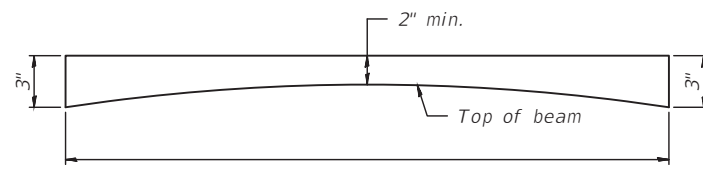


**SECTION A-A**



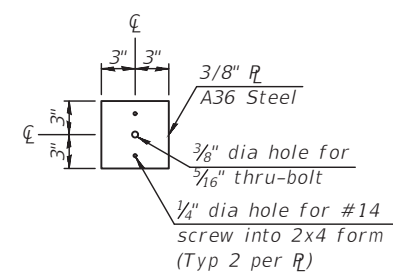
**SECTION THRU JOINT GROUT JOINT DETAIL**

\*\*\* Space form supports @ 8' o.c. max.  
\*\*\*\* Epoxy void in pipe sleeve left in place after removing thru-bolts, plates and 2x4 form.



**ANTICIPATED HMA WEARING SURFACE PROFILE**  
(For information only)

Note: 1/2" Waterproofing Membrane System not included in above dimensions.



**PL DETAIL**

Notes:  
See sheet 35 of 59 for fabric bearing pad details.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
HMA Wearing Surface (on Bridge Deck)	Tons	39

CONTRACT NO. 87792

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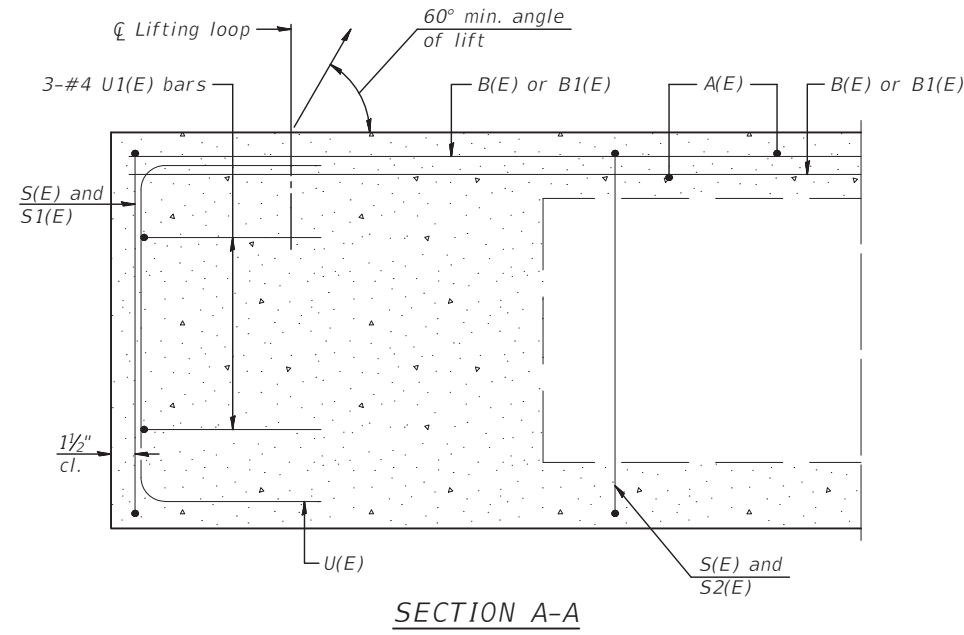
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DATE: 01/2024				

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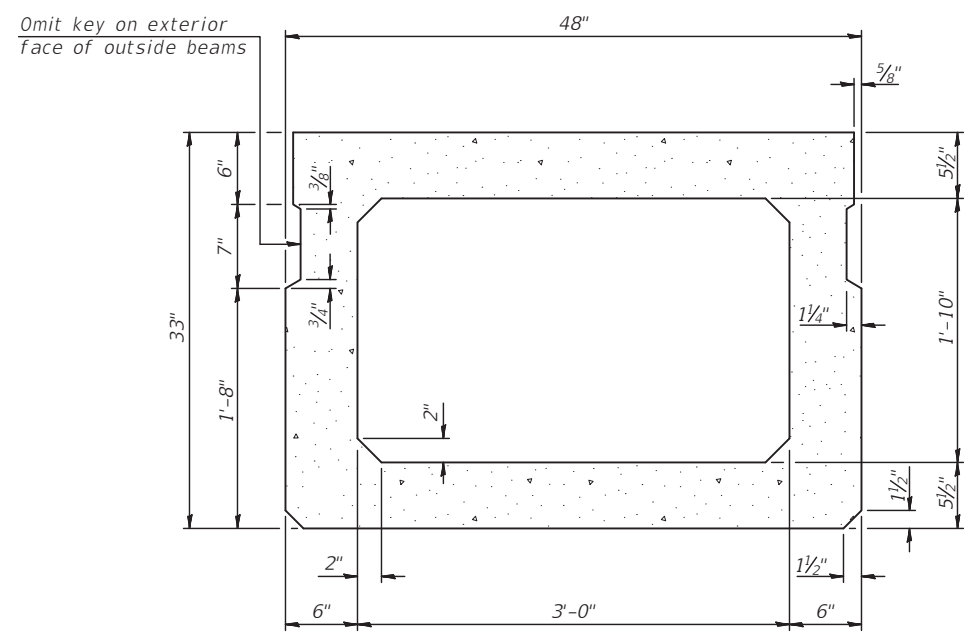
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**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SUPERSTRUCTURE**  
**SN 032-3200 (E) 032-3201 (P)**

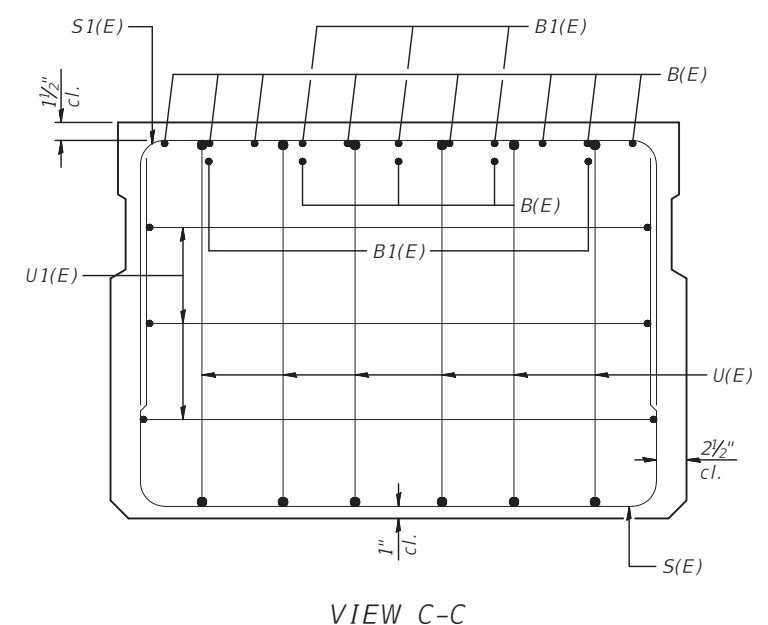
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	SCALE: AS NOTED	SHEET 33
	FILE NO.: 111523.00 Y-	OF 59



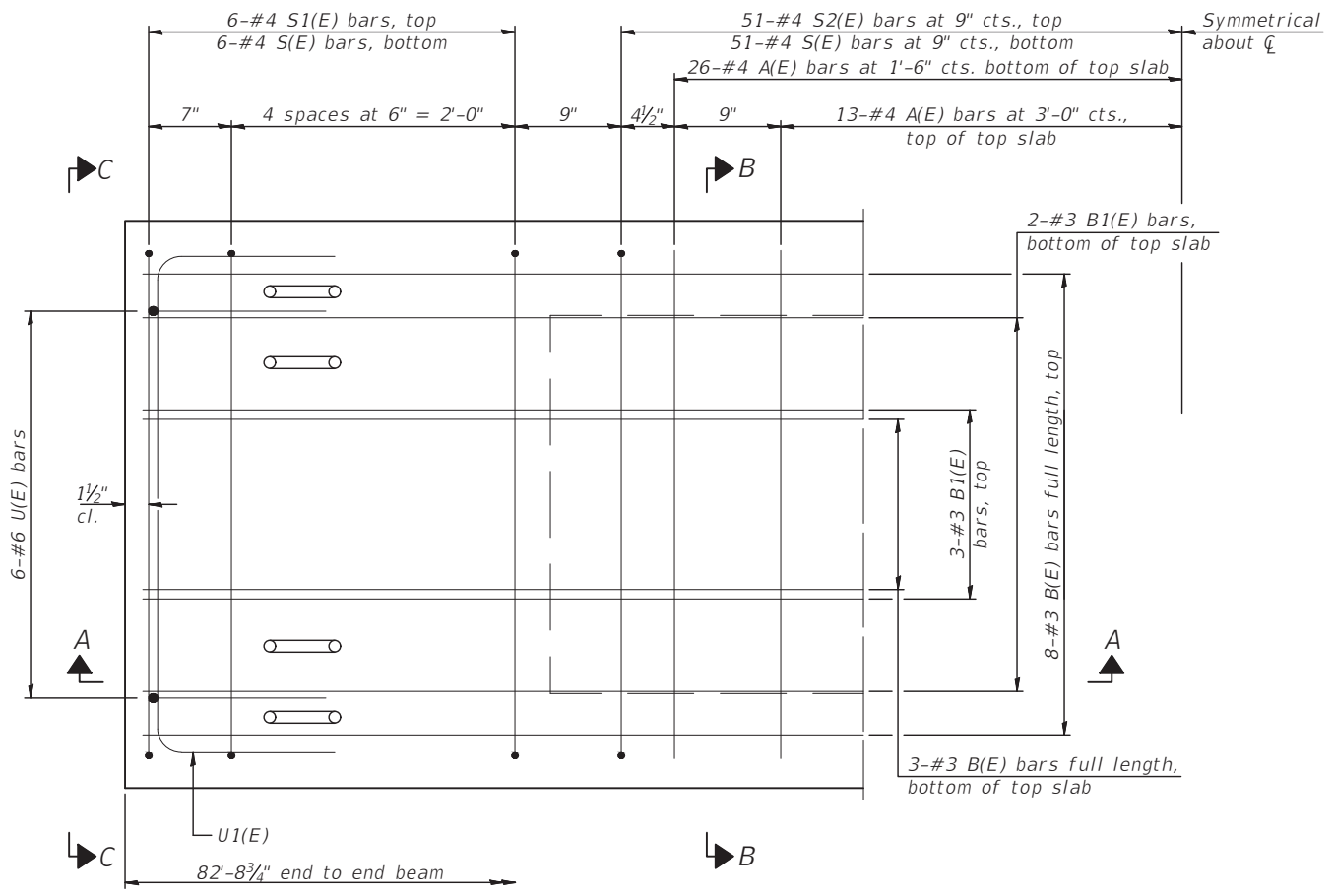
SECTION A-A



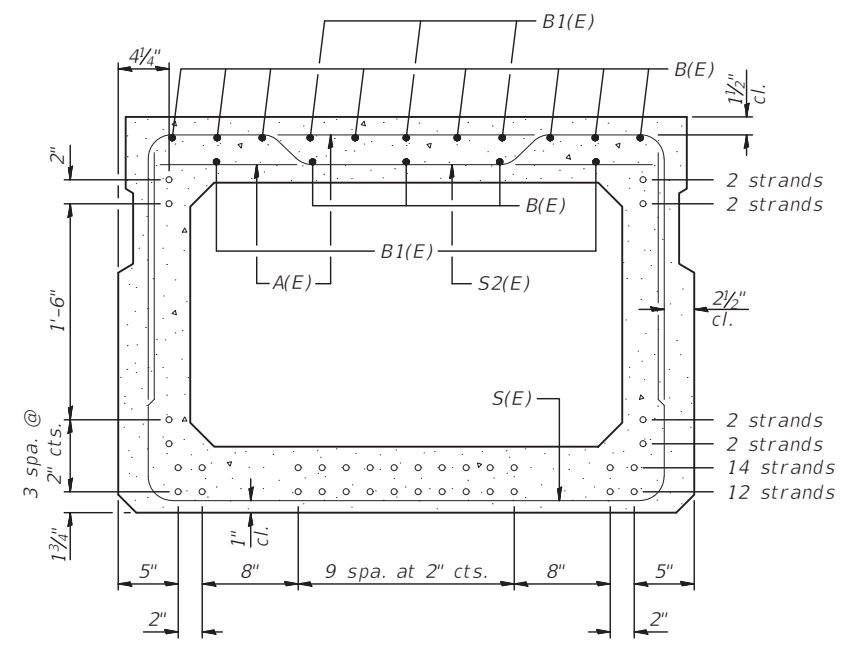
SECTION B-B  
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B  
(Showing reinforcement and permissible strand locations)

Note:  
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	78	#4	3'-7"	—
B(E)	33	#3	28'-5"	—
B1(E)	10	#3	10'-0"	—
S(E)	114	#4	8'-8"	U
S1(E)	12	#4	7'-5"	U
S2(E)	102	#4	7'-8"	U
U(E)	12	#6	5'-0"	U
U1(E)	6	#4	6'-0"	U

Note:  
See sheet 35 of 59 for additional details and Bill of Material.

**MINIMUM BAR LAP**  
#3 bar = 1'-6"

Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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Drawing Name: G:\Users\11111523\Documents\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD PLANS\034-BEAMS-24827.dwg Last Modified: Thursday, February 22, 2024 12:45:23 PM Plotted On: Thursday, February 22, 2024 5:56:22 PM by Kurt Decker

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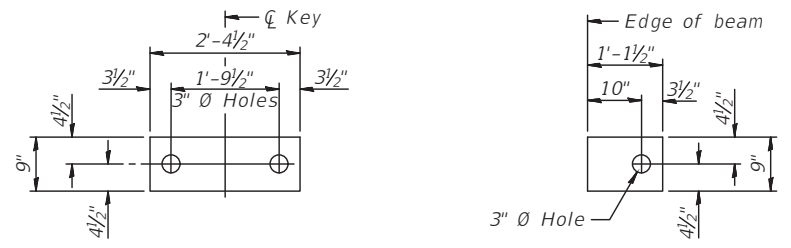
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**33" x 48" PPC DECK BEAM**  
**SN 032-3200 (E) 032-3201 (P)**

**BIDDING PLANS**

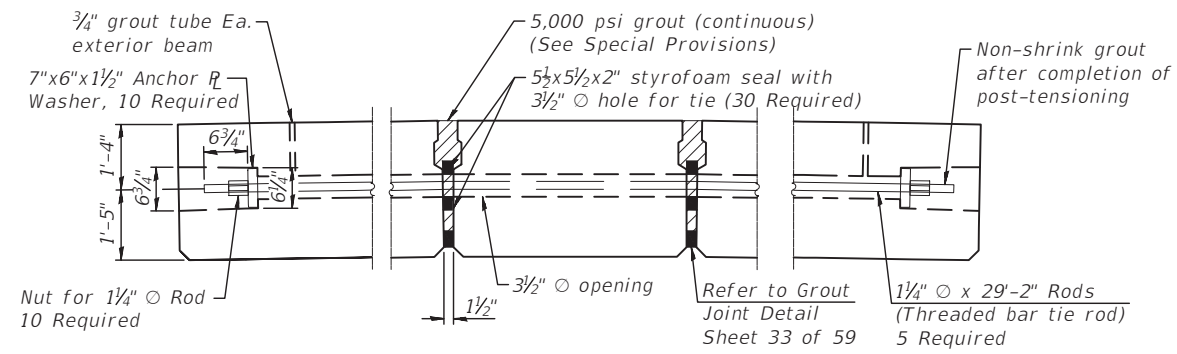
CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 34
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

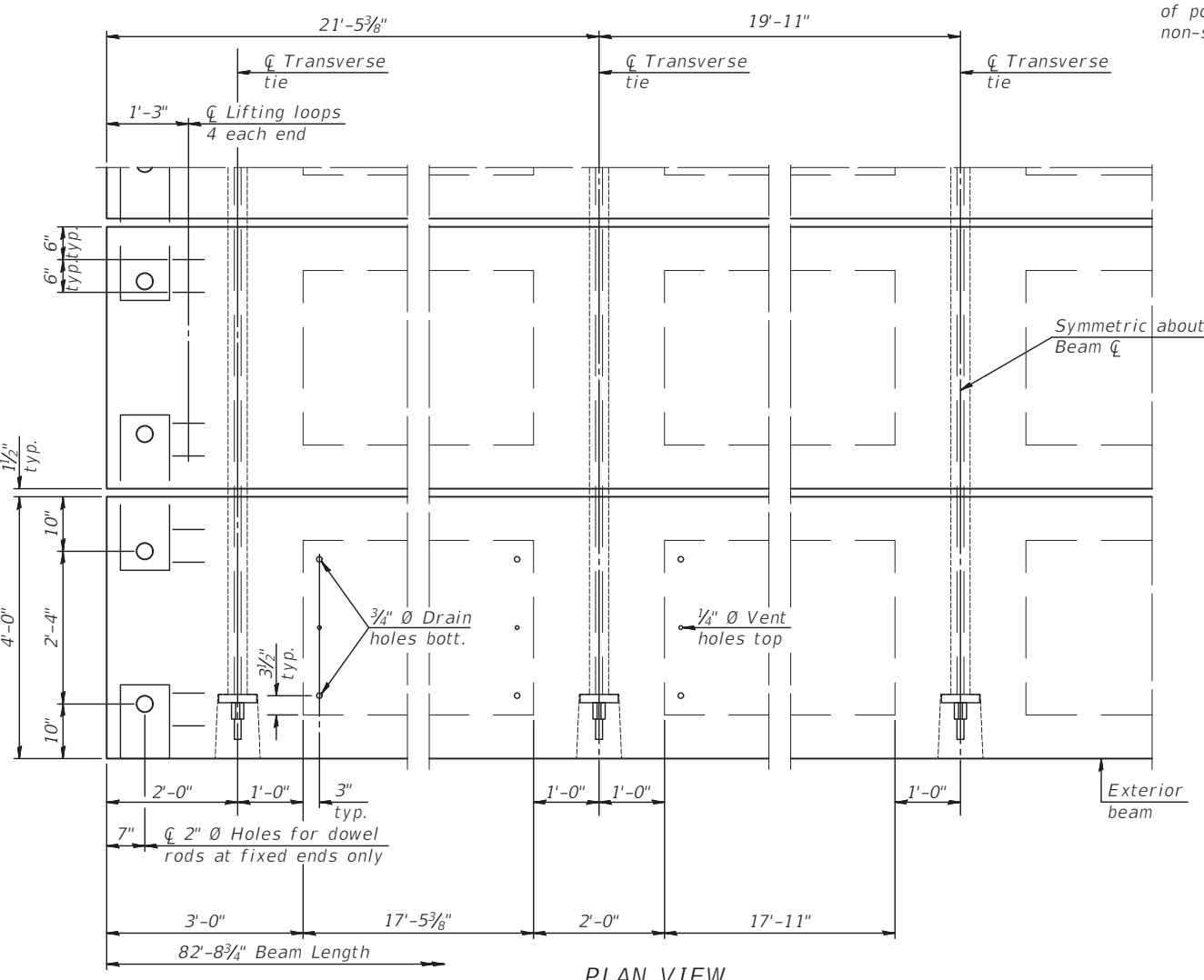
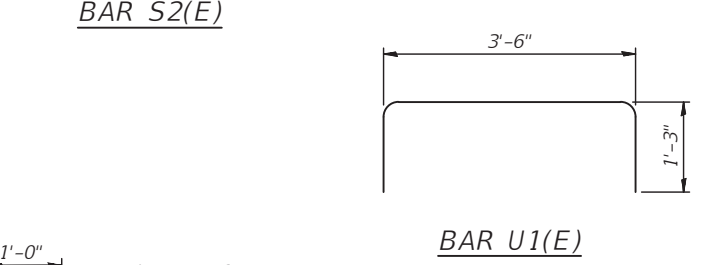
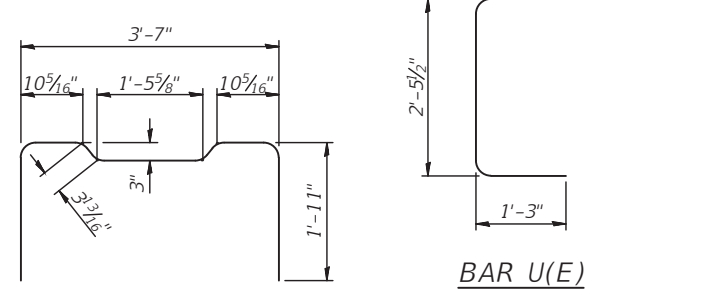
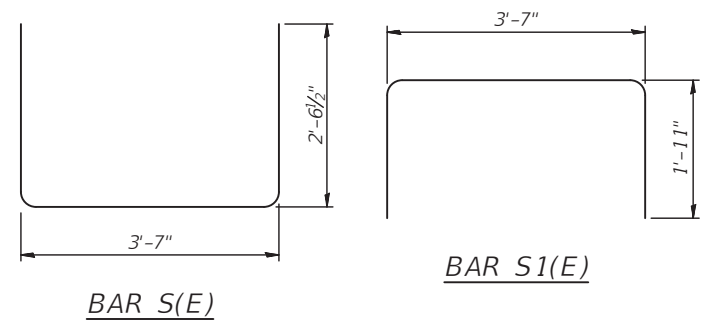


**FABRIC BEARING PAD**  
(Interior) (12 Required) **FIXED**  
**FABRIC BEARING PAD**  
(Exterior) (4 Required)

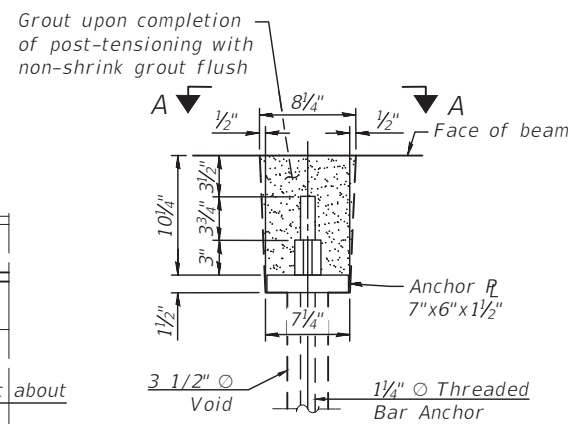
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pads shall be bonded to the substructure.



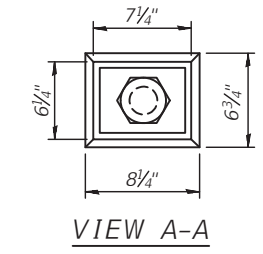
**TYPICAL POST-TENSIONED TRANSVERSE TIE ROD DETAIL**



**PLAN VIEW**

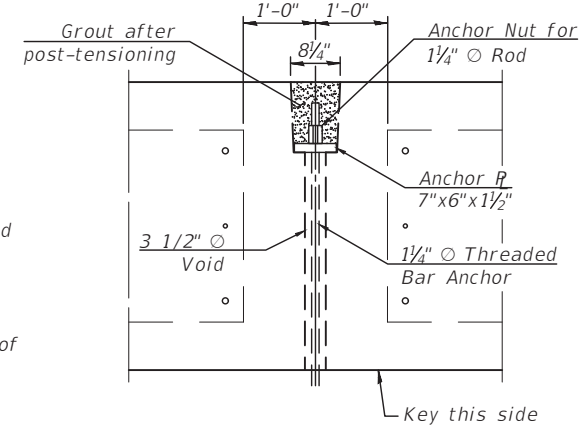


**PLAN-THREADED BAR ANCHOR**

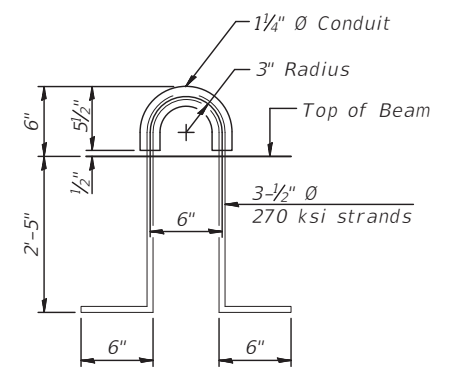


**VIEW A-A**

**NOTES**  
 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.  
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
 A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
 Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
 Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
 Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.  
 Threaded bar post-tensioning rod to be 1/4" diameter, ultimate stress 150 ksi (Ultimate Strength 187.5 k). Conforming to ASTM A722 Steel hot rolled and proof stressed. The bar deformations shall conform to the requirements of ASTM A615.  
 Voids around threaded bar to be grouted after post-tensioning is complete. See Special Provisions for grout and grouting pressures.  
 All threaded bars shall be initially stressed to not more than 37.5 k (0.2 Fpu, temporary) and the nut tightened. After all bars have been stressed to 37.5 k, the jacking may commence for 112.5 k (0.6 Fpu) maximum transfer load (lockoff).  
 Post tension rod and grout is incidental to PPC deck beam pay item.



**PLAN AT POST-TENSIONED TRANSVERSE TIE ROD**



**LIFTING LOOP DETAIL**

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2316
-------------------------------------------------	---------	------

(Does not include grout joint width)

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 Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\035-BEAM DTLS-24627.dwg Last Modified: Thursday, February 22, 2024 5:57:12 PM by Kurt Decker

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**GRUNDY COUNTY**

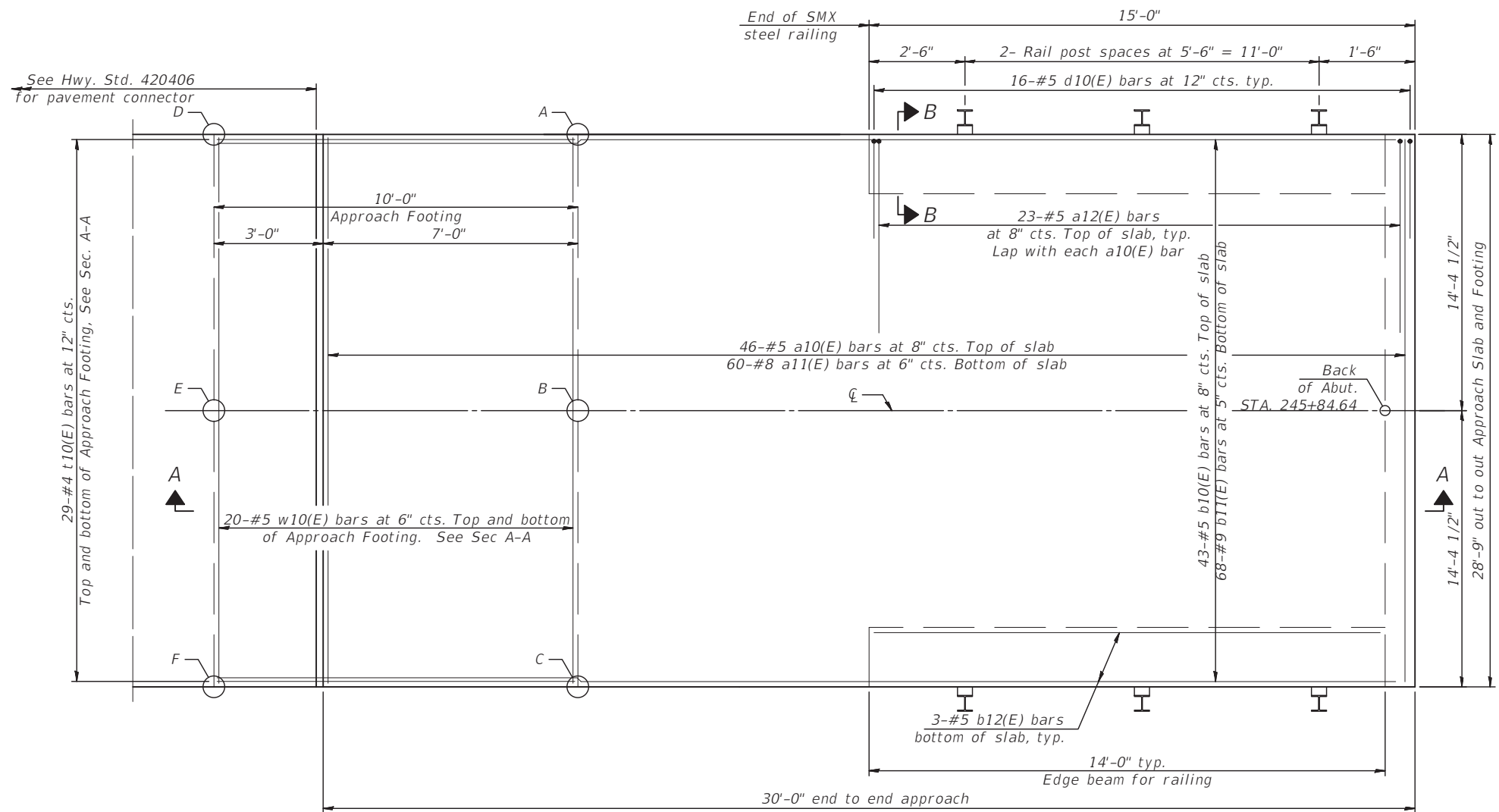
**33" x 48" PPC DECK BEAM DETAILS**  
**SN 032-3200 (E) 032-3201 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 35
	FILE NO.: 111523.00 Y-	OF 59

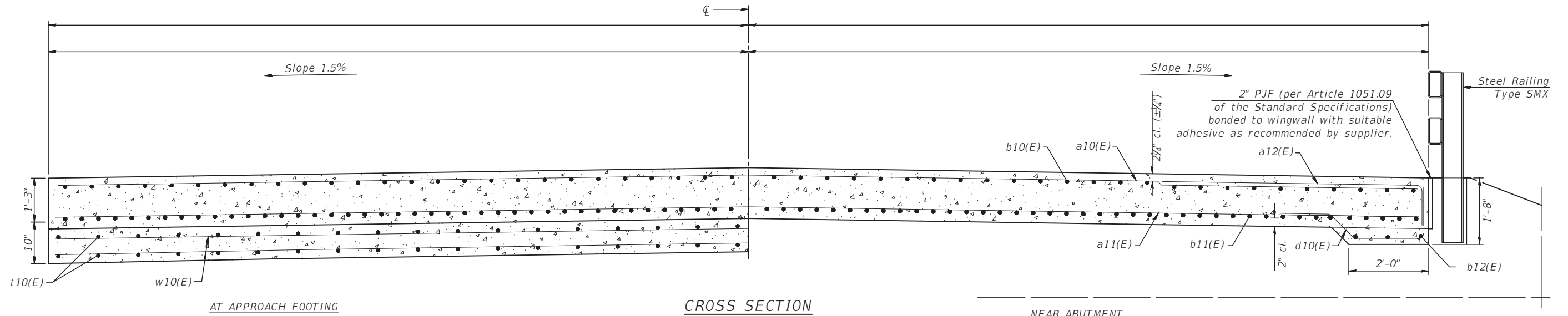
CONTRACT NO. 87792

**TOP AND BOTTOM ELEVATIONS FOR WEST APPROACH FOOTING**

Approach		
Point/Location	Top	Bottom
A -	609.94	609.11
B -	610.16	609.33
C -	609.94	609.11
D -	610.17	609.34
E -	610.39	609.56
F -	610.17	609.34



**PLAN**



**CROSS SECTION**  
(Looking East)

NEAR ABUTMENT

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DATE: 01/2024					

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**TOP OF SLAB ELEVATIONS - WEST**  
**SN 032-3200 (E) 032-3201 (P)**

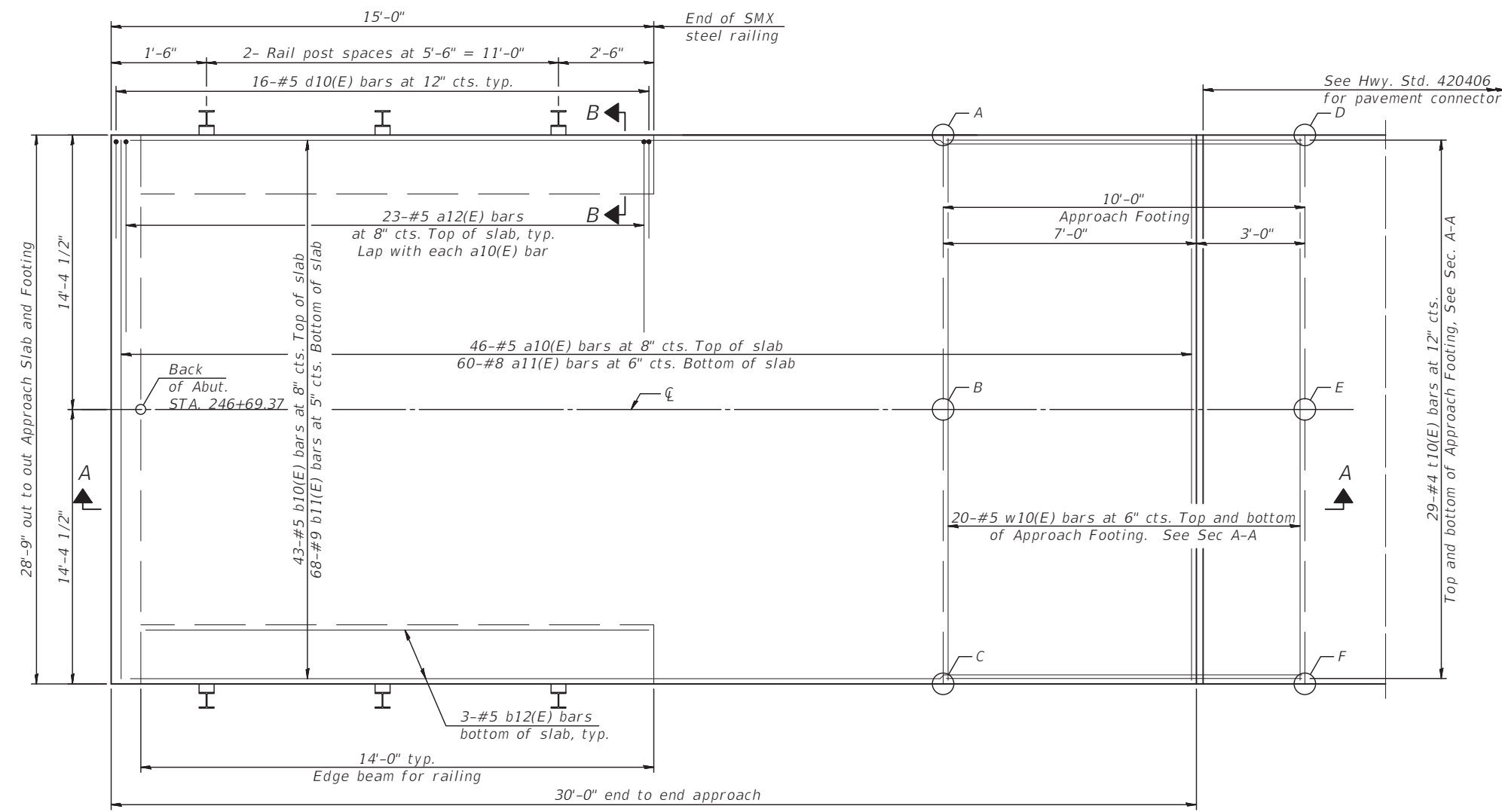
**BIDDING PLANS**

CONTRACT NO. 87792

CURRENT AS OF: 02/20/2024

SCALE: AS NOTED SHEET 36

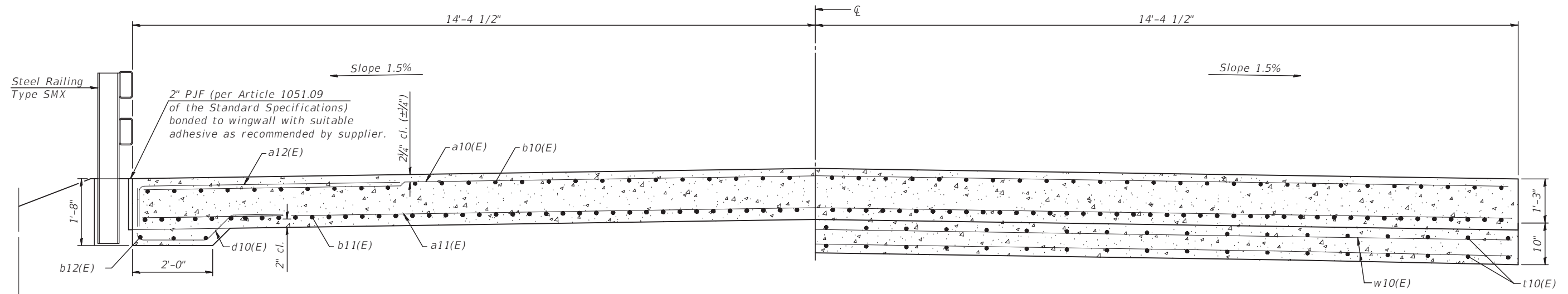
FILE NO.: 111523.00 Y- OF 59



TOP AND BOTTOM ELEVATIONS FOR EAST APPROACH FOOTING

Point/Location	Approach	
	Top	Bottom
A -	609.44	608.61
B -	609.66	608.83
C -	609.44	608.61
D -	609.44	608.61
E -	609.66	608.83
F -	609.44	608.61

PLAN



CROSS SECTION (Looking East)

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DATE: 01/2024				

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ILLINOIS

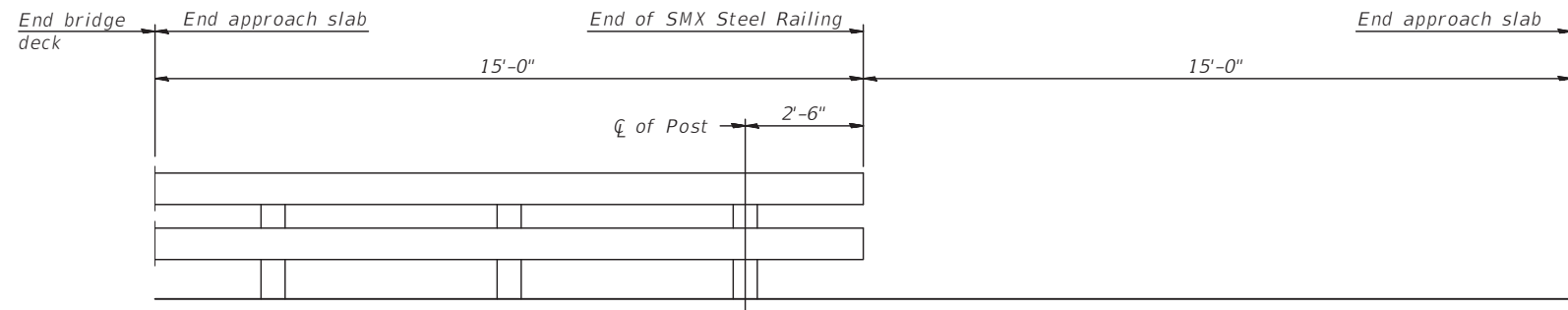
F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

TOP OF SLAB ELEVATIONS - EAST  
SN 032-3200 (E) 032-3201 (P)

BIDDING PLANS

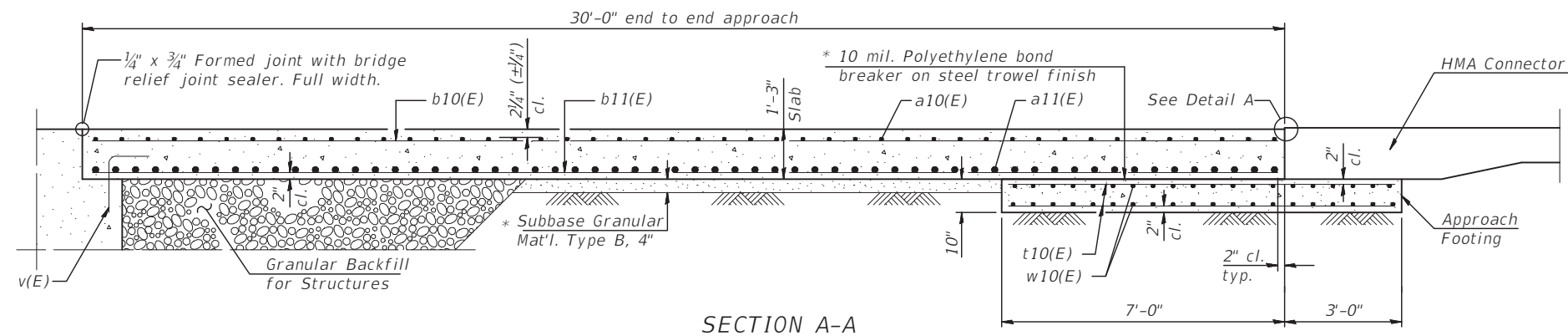
CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 37
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**INSIDE ELEVATION OF RAILING**

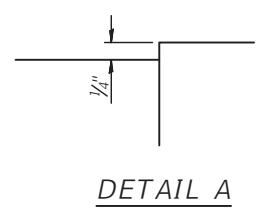
Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 32 of 59.  
 For railing details, see sheet 39 of 59.



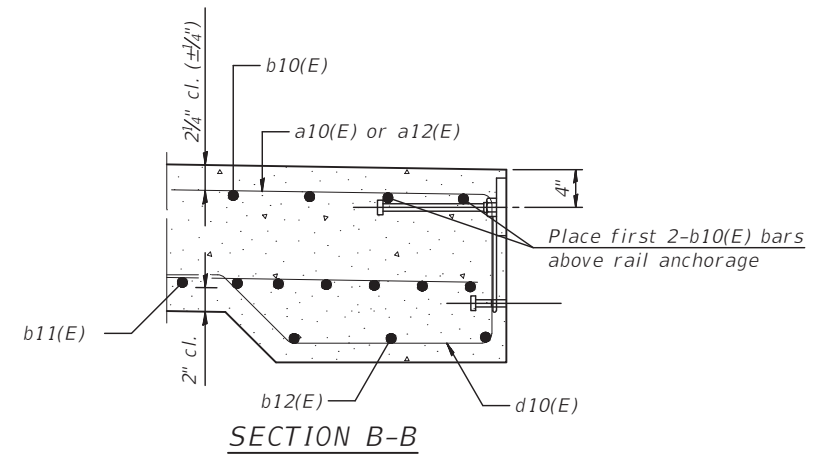
**SECTION A-A**

**TWO APPROACHES  
BILL OF MATERIAL**

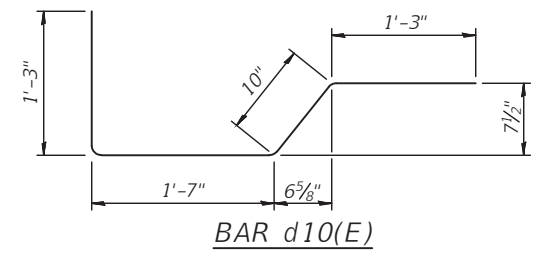
Bar	No.	Size	Length	Shape
a10(E)	92	#5	28'-5"	—
a11(E)	120	#8	28'-5"	—
a12(E)	92	#5	7'-8"	—
b10(E)	86	#5	29'-8"	—
b11(E)	136	#9	29'-8"	—
b12(E)	12	#5	13'-8"	—
d10(E)	64	#5	4'-11"	┘
t10(E)	116	#4	9'-8"	—
w10(E)	80	#5	28'-5"	—
Concrete Superstructure (Approach Slab)			Cu. Yd.	81.0
Concrete Structures			Cu. Yd.	17.7
Reinforcement Bars, Epoxy Coated			Pound	32,570



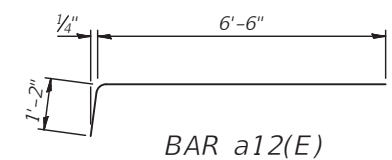
**DETAIL A**



**SECTION B-B**



**BAR d10(E)**



**BAR a12(E)**

\* Cost included with Concrete Superstructure (Approach Slab).  
 \*\* Per manufacturer recommendations

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 Drawing Name: G:\Users\11111523\Documents\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\038-APPROACH SLAB 02-24627.dwg  
 Last Modified: Thursday, February 22, 2024 12:51:42 PM  
 Plotted On: Thursday, February 22, 2024 5:58:27 PM  
 by Kurt Decker

DRAWN BY: KED	REVISIONS			
	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				

PERU MORRIS  
OTTAWA MENDOTA  
ILLINOIS

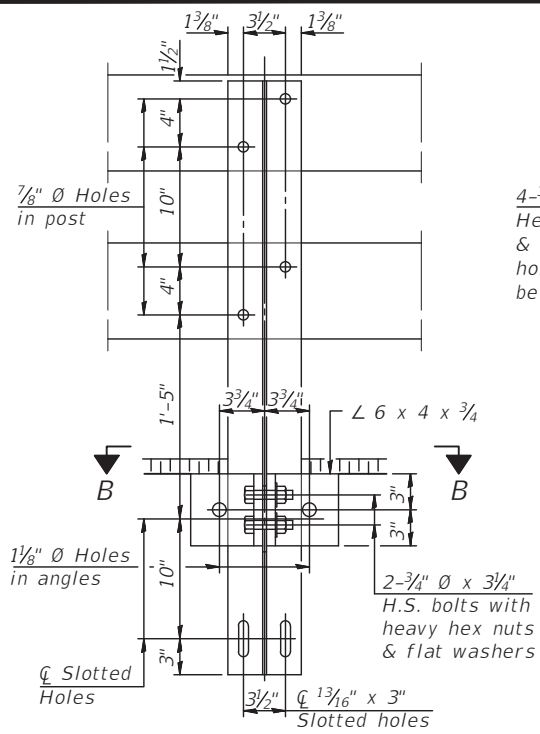
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**APPROACH SLAB DETAILS**  
**SN 032-3200 (E) 032-3201 (P)**

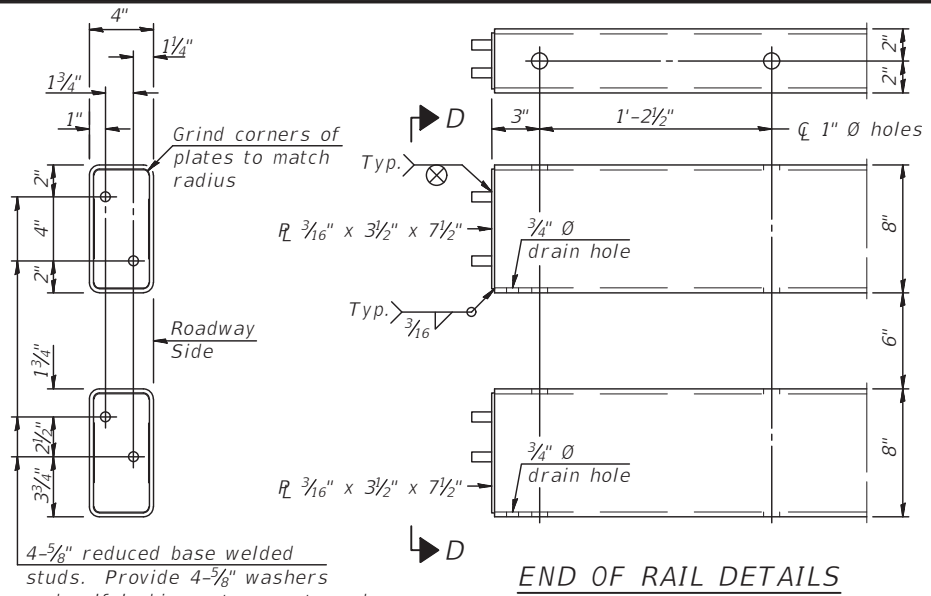
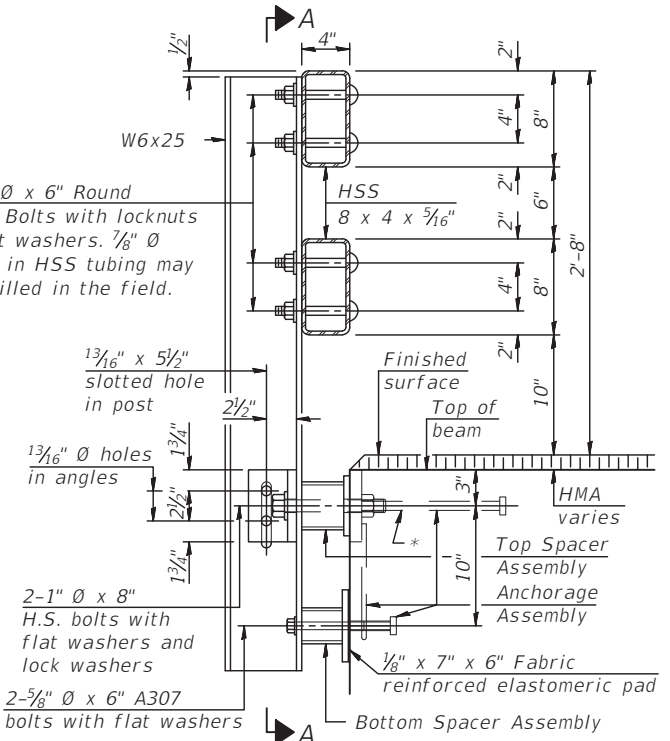
**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 38
FILE NO.: 111523.00 Y-	OF 59

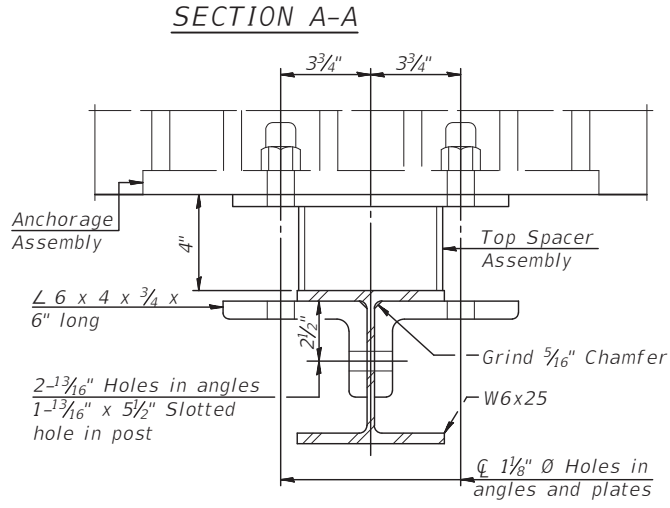
CONTRACT NO. 87792



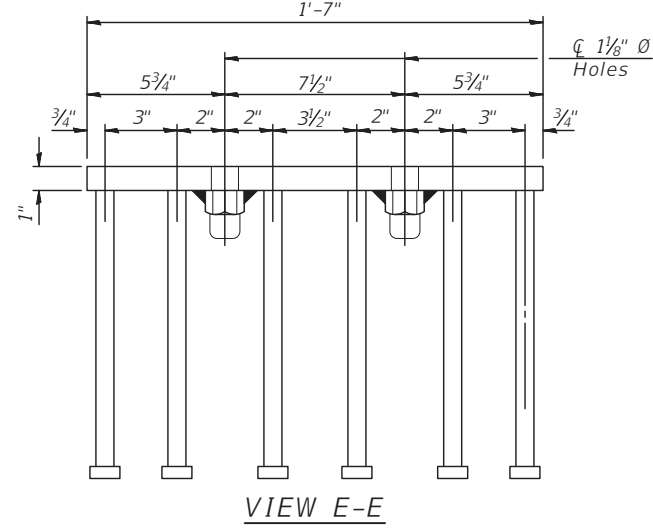
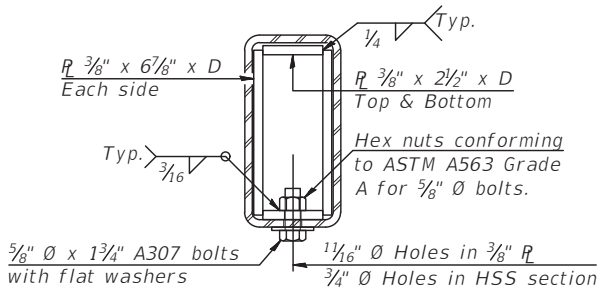
4-3/4" Ø x 6" Round Head Bolts with locknuts & flat washers. 7/8" Ø holes in HSS tubing may be drilled in the field.



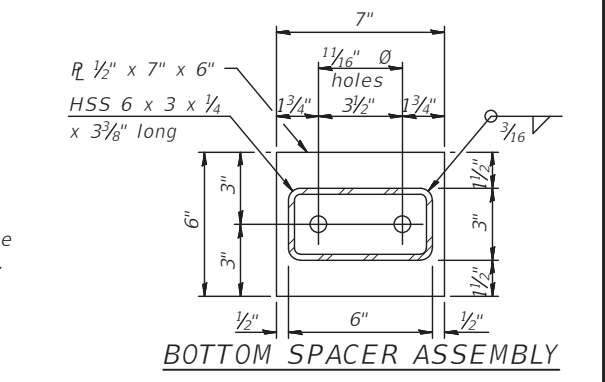
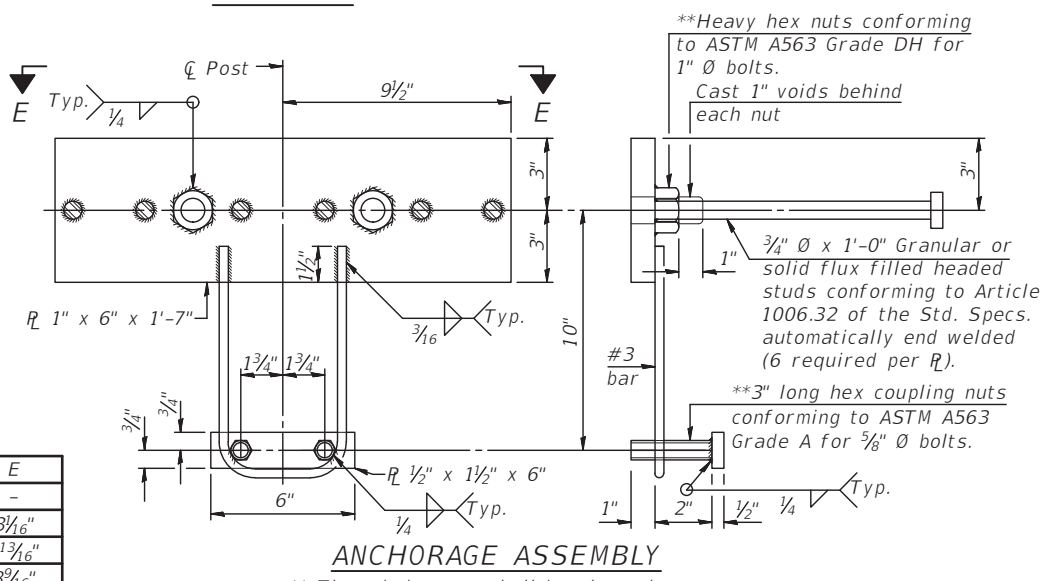
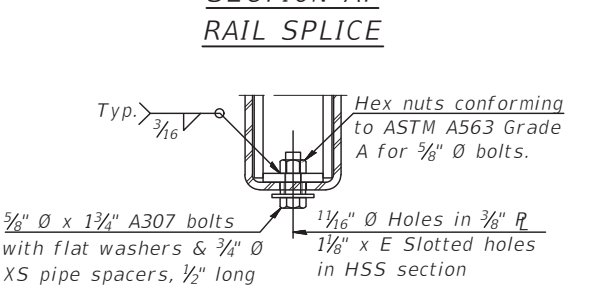
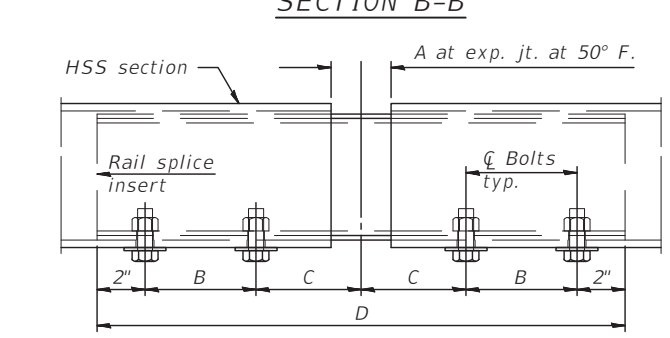
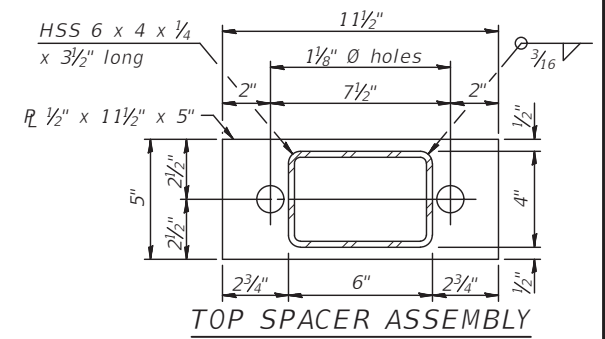
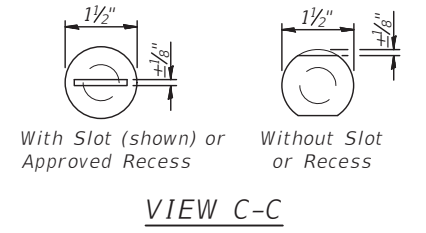
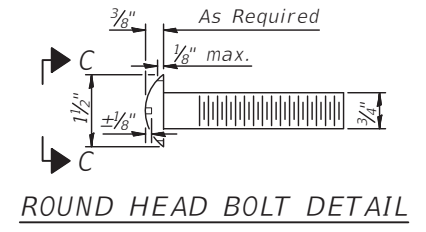
Grind corners of plates to match radius  
Roadway Side  
4-5/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Hwy. Std. 631032.



\* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



Notes:  
A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11 1/2", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (bottom), longer bolts are required. Cost included with Steel Railing, Type SMX.  
All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.  
All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.  
Rail splice inserts may be built out of 2 - 3/8" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.  
All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.



RAILING CRITERIA

MASH 2016 Conditional Test Level	3
Railing Weight (plf)	90
Min f'c (psi)	5,000
Max Post Spacing	6'-3"
HMA thickness range (in)	1 1/4" - 3 3/8"

SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 5/8"	4 3/8"	1'-10"	3 1/4"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 7/8"	10"	3'-8 1/4"	8 3/16"

T = ; total movement along centerline of roadway at expansion joint.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SMX	Foot	226

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Drawing Name: G:\Users\11111523-00 GRUNDY\CO GRAND RIDGE RD BRIDGE\CAD\PLANS\039-RAILING-24627.dwg  
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Plotted On: Thursday, February 22, 2024 6:00:15 PM  
By: Kurt Decker

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	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				

**CA**  
Chamlin & Associates

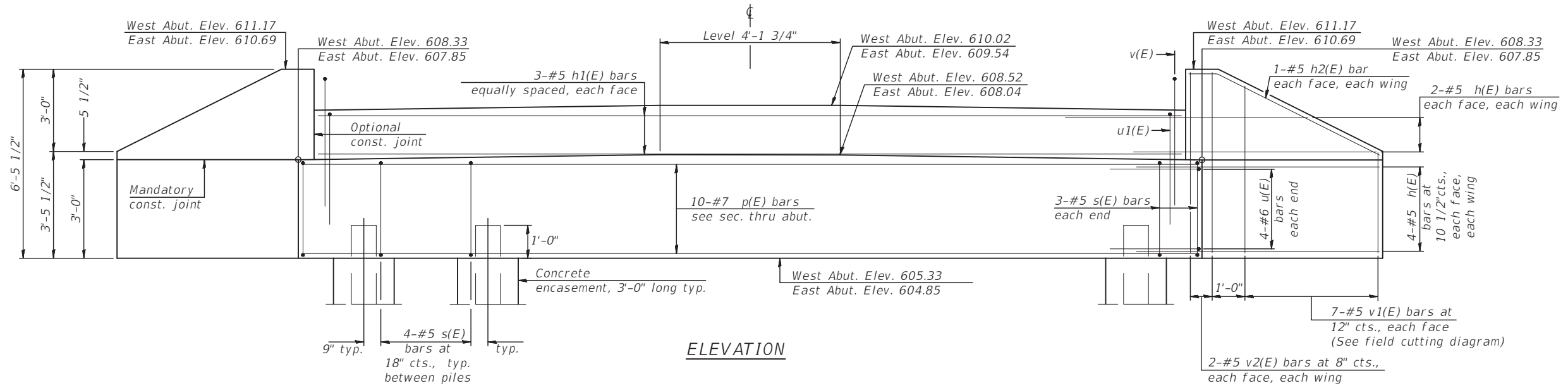
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ILLINOIS

F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

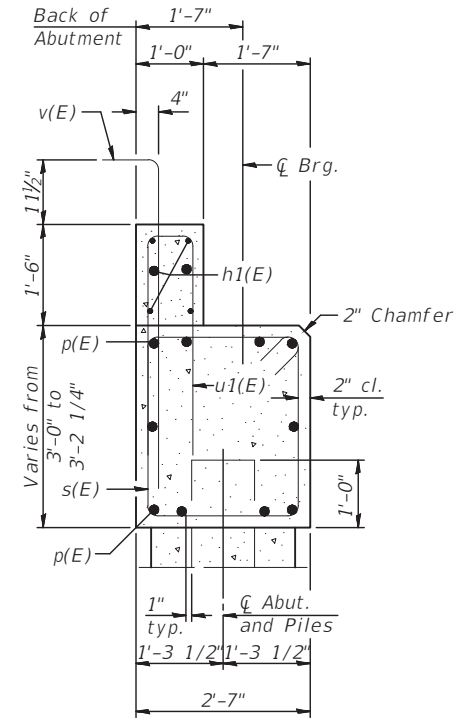
STEEL RAILING TYPE SMX  
SN 032-3200 (E) 032-3201 (P)

BIDDING PLANS

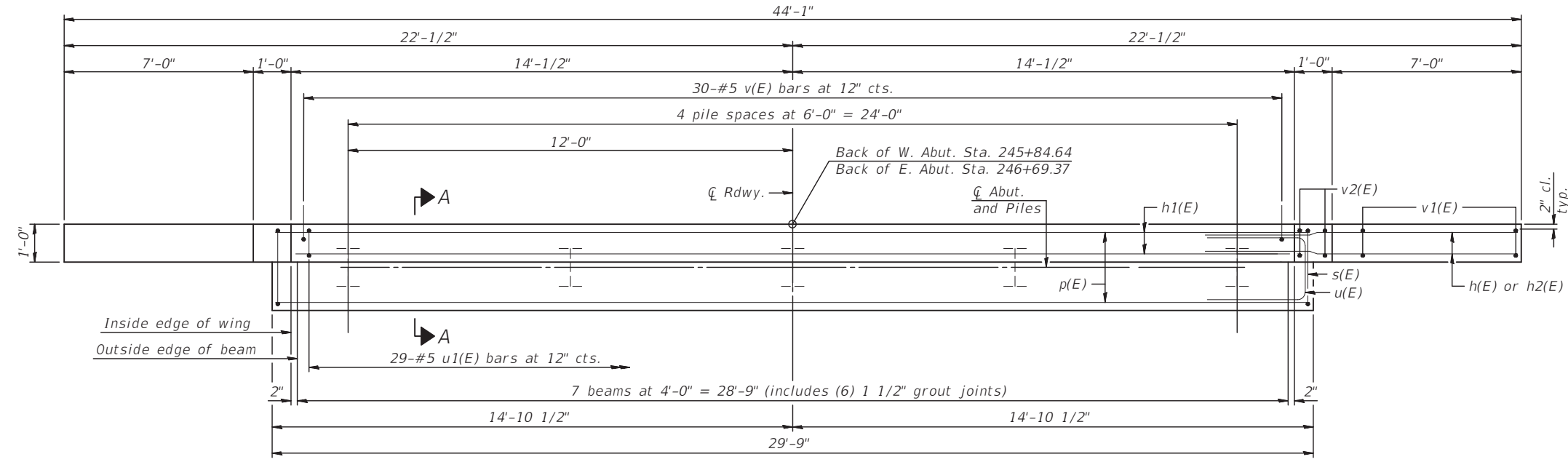
CURRENT AS OF: 02/20/2024  
SCALE: AS NOTED  
FILE NO.: 111523.00 Y- OF 59



ELEVATION



SECTION A-A



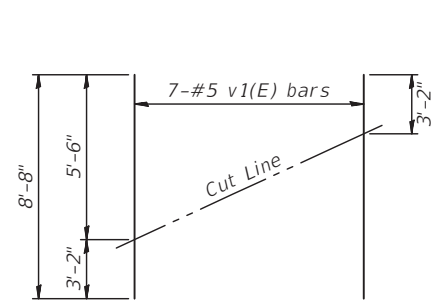
PLAN

2 ABUTMENTS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	48	#5	11'-2"	—	
h1(E)	12	#5	29'-5"	—	
h2(E)	8	#5	8'-3"	—	
p(E)	20	#7	29'-5"	—	
s(E)	44	#5	10'-9"	□	
u(E)	16	#6	10'-11"	—	
u1(E)	58	#5	8'-10"	—	
v(E)	60	#5	5'-10"	—	
v1(E)	28	#5	8'-8"	—	
v2(E)	16	#5	5'-6"	—	
Concrete Structures				Cu. Yd.	27.0
Reinforcement Bars, Epoxy Coated				Pound	4200
Furnishing Steel Piles, HP 14x73				Foot	467
Driving Piles				Foot	467
Test Pile,				Each	1
Concrete Encasement				Cu. Yd.	5.5
Pile Shoes				Each	10

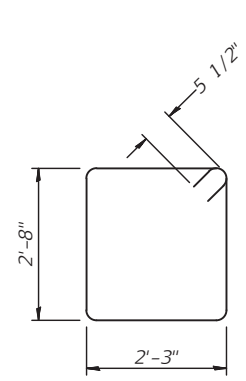
**PILE DATA**

	WEST ABUT.	EAST ABUT.
Type: HP 14x73 w/Pile Shoes	553	530
Nominal Required Bearing:	304	291
Factored Resistance Available:	51	53
Est. Length:	5	4
No. Production Piles:	0	1
No. Test Piles:		

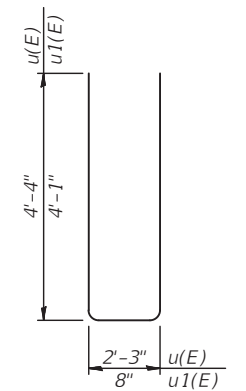


FIELD CUTTING DIAGRAM

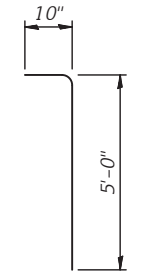
Order v1(E) bars full length. Cut as shown and use remainder of bars in opposite wing.



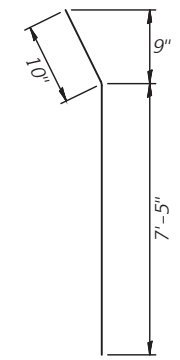
BAR s(E)



BARS u(E) & u1(E)



BAR v(E)



BAR h2(E)

Notes:  
For details of piles and Concrete Encasement, see sheet 41 of 59.  
Cast backwall and tops of wingwalls after beams have been erected.

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Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\040-ABUTMENT-24427.dwg  
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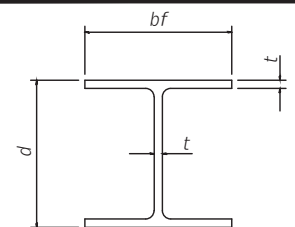
F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

EAST AND WEST ABUTMENT  
SN 032-3200 (E) 032-3201 (P)

BIDDING PLANS	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 40
	FILE NO.: 111523.00 Y-	OF 59

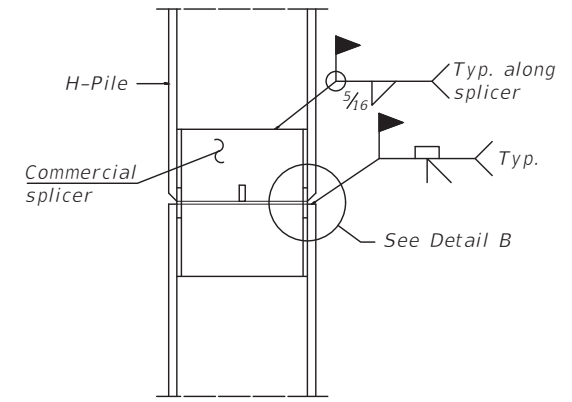
CONTRACT NO. 87792



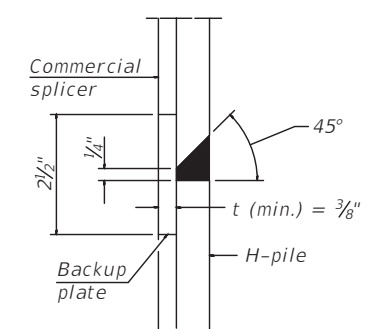


STEEL PILE TABLE

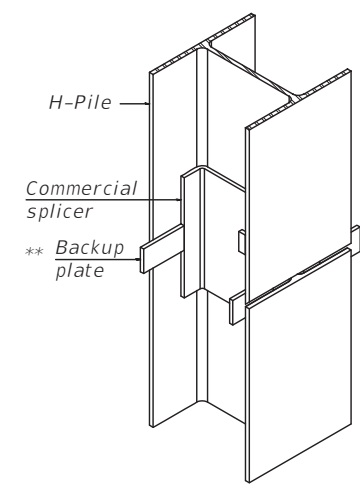
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 7/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 5/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

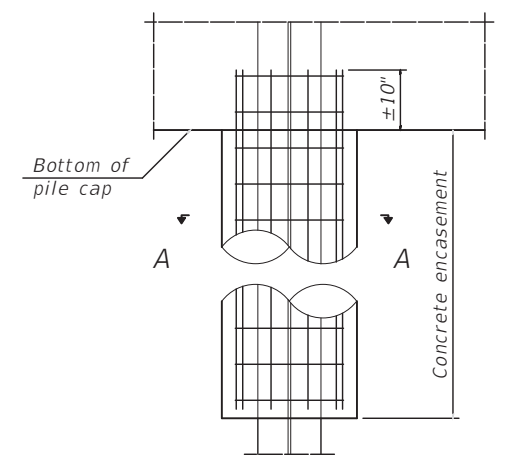


DETAIL "B"

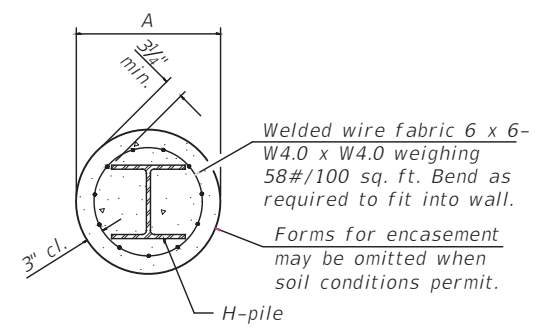


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

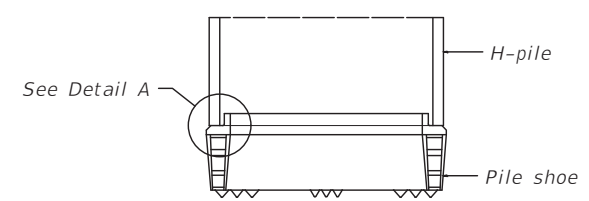


ELEVATION

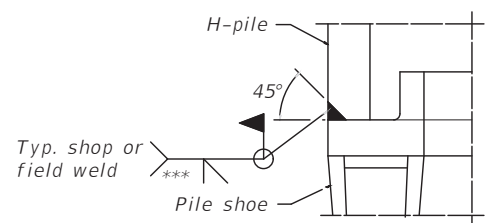


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)

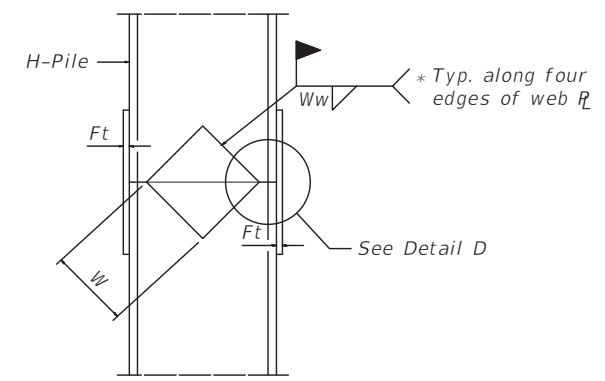


ELEVATION

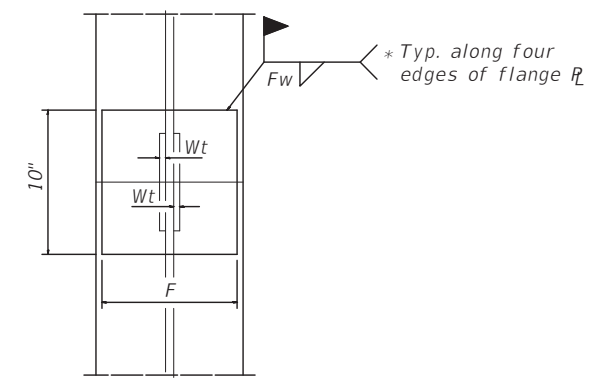


DETAIL A

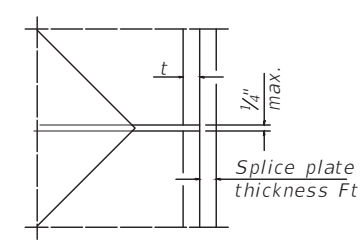
SHOE ATTACHMENT



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

WELDED COMMERCIAL SPLICE ALTERNATE

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

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DATE: 01/2024				

PERU MORRIS  
OTTAWA MENDOTA  
ILLINOIS

F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

STEEL HP PILE DETAILS  
SN 032-3200 (E) 032-3201 (P)

BIDDING PLANS

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 41
FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 4

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
 Project Name SN: 032-3200  
 Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-1  
 Surface Elev. 100.00  
 Auger Depth 71.00 Rotary Depth NA  
 Start Date 06/24/23 Finish Date 06/24/23

Location: 55' E. of center of Bridge and 7' N. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear			Moisture (%)
100.00	Asphalt over Aggregate		1						Randy Safranski Diedrich D-120		
99.00			2								
98.00			3	1	SS	1.1	6	B		19	
97.00	Medium Stiff to Stiff Black/Brown/Gray Silty Clay Fill		4								
96.00			5	2	SS	1.3	5	B		18	
95.00			6								
94.00			7								
93.00			8	3	SS	1.0	6	B		20	
92.00			9								
91.00			10	4	SS	0.8	5	S		22	
90.00	Medium Stiff Brown/Gray Clay Loam		11								
89.00			12								
88.00			13	5	SS	---	11	---		17	
87.00	Stiff Gray Gravely Loam		14								
86.00			15	6	SS	3.3	19	S		13	
85.00			16								
84.00	Very Stiff Brown/Gray Clay Till		17								
83.00			18	7	SS	2.6	15	B		16	
82.00			19								
81.00			20	8	SS	2.8	13	B		15	
80.00	Stiff to Very Stiff Brown/Gray Clay Till										

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
 Comments: Assumed Center of existing Bridge to be elevation 100.00.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 4

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
 Project Name SN: 032-3200  
 Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-1  
 Surface Elev. 100.00  
 Auger Depth 71.00 Rotary Depth NA  
 Start Date 06/24/23 Finish Date 06/24/23

Location: 55' E. of center of Bridge and 7' N. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear			Moisture (%)
79.00			22						Randy Safranski Diedrich D-120		
78.00	Stiff to Very Stiff Brown/Gray Clay Till		23	9	SS	2.5	12	B		15	
77.00			24								
76.00		25									
75.00		26	10	SS	3.8	11	B	13			
74.00		27									
73.00		28									
72.00		29									
71.00		30									
70.00	Stiff to Very Stiff Gray Clay Till		31	11	SS	2.9	8	B		17	
69.00			32								
68.00		33									
67.00		34									
66.00		35									
65.00		36	12	SS	3.8	12	B	14			
64.00		37									
63.00		38									
62.00		39									
61.00		40									
60.00	Stiff to Very Stiff Gray Sandy Clay Loam Till		41	13	SS	2.3	8	S	12		
59.00											

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
 Comments: Assumed Center of existing Bridge to be elevation 100.00.

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 Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\042-BORINGS 01-24627.dwg Last Modified: Thursday, February 22, 2024 12:55:30 PM Plotted On: Thursday, February 22, 2024 6:02:14 PM by Kurt Decker

 <b>Midwest Testing Services, Inc.</b> 3705 Progress Blvd. Peru, IL 61354	<b>BORING LOG</b>		Phone: 815-223-6696
	Sheet <u>3</u> of <u>4</u>		Fax: 815-223-6659 e-mail: mts37@comcast.net


Client: Chamlin & Associates, Inc.  
 Project Name: SN: 032-3200  
 Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-1  
 Surface Elev. 100.00  
 Auger Depth 71.00 Rotary Depth NA  
 Start Date 06/24/23 Finish Date 06/24/23

Location: 55' E. of center of Bridge and 7' N. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	
58.00									Randy Safranski Diedrich D-120	
57.00			43							
56.00			44							Water
55.00	Hard Gray Loam Till		45	14	SS	---	43	---	15	
54.00			46							
53.00			47							
52.00			48							
51.00			49							
50.00			50	15	SS	---	66	---	11	
49.00			51							
48.00			52							
47.00			53							
46.00			54							
45.00			55	16	SS	---	88	---	11	
44.00			56							
43.00			57							
42.00			58							
41.00	Hard Gray Shale		59							
40.00			60							
39.00			61	17	SS	---	42	---	18	
38.00			62							

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
 Comments: Assumed Center of existing Bridge to be elevation 100.00.

 <b>Midwest Testing Services, Inc.</b> 3705 Progress Blvd. Peru, IL 61354	<b>BORING LOG</b>		Phone: 815-223-6696
	Sheet <u>4</u> of <u>4</u>		Fax: 815-223-6659 e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
 Project Name: SN: 032-3200  
 Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-1  
 Surface Elev. 100.00  
 Auger Depth 71.00 Rotary Depth NA  
 Start Date 06/24/23 Finish Date 06/24/23

Location: 55' E. of center of Bridge and 7' N. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	
37.00									Randy Safranski Diedrich D-120	
36.00	Hard Gray Shale		64							
35.00	Hard Black Coal		65	18	SS	---	85	---	19	
34.00			66							
33.00			67							
32.00	Hard Gray Shale		68							
31.00			69							
30.00			70							
29.00			71	19	SS	---	75	---	16	
28.00			72							
27.00			73							
26.00			74							
25.00			75							
24.00			76							
23.00			77							
22.00			78							
21.00			79							
20.00			80							
19.00			81							
18.00			82							
17.00			83							

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
 Comments: Assumed Center of existing Bridge to be elevation 100.00.

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 Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\043-BORINGS 02-24627.dwg Last Modified: Thursday, February 22, 2024 12:59:55 PM Plotted On: Thursday, February 22, 2024 6:02:53 PM by Kurt Decker

DRAWN BY: KED	REVISIONS		
CHECKED BY: DAH	LEVEL	BY	DATE
DATE: 01/2024			



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 OTTAWA MENDOTA  
 ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3200 (E) 032-3201 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 43
	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3200  
Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-2  
Surface Elev. 100.17  
Auger Depth 61.00 Rotary Depth NA  
Start Date 06/24/23 Finish Date 06/24/23

Location: 55' W. of center of Bridge and 7' S. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
100.17										Randy Safranski Diedrich D-120	
99.17	Asphalt over Aggregate		1								
98.17			2								
97.17	Medium Stiff to Stiff Black/Brown/Gray Silty Clay Fill		3	1	SS	1.1	6	B	20		
96.17			4								
95.17			5	2	SS	1.0	6	B	21		
94.17			6								
93.17			7								
92.17			8	3	SS	1.0	6	B	20		
91.17			9								
90.17			10								
89.17			11	4	SS	1.0	6	B	20		
88.17	Stiff Brown/Gray Clay Till		12								
87.17	Loose Brown/Gray Sand		13	5	SS	---	11	---	8		Water
86.17			14								
85.17			15	6	SS	2.5	19	S	17		
84.17	Very Stiff Brown/Gray Clay Till		16								
83.17			17								
82.17			18	7	SS	2.8	15	B	16		
81.17			19								
80.17			20	8	SS	3.0	15	B	15		

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
Comments: Assumed Center of existing Bridge to be elevation 100.00.



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name SN: 032-3200  
Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-2  
Surface Elev. 100.17  
Auger Depth 61.00 Rotary Depth NA  
Start Date 06/24/23 Finish Date 06/24/23

Location: 55' W. of center of Bridge and 7' S. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
79.17											Randy Safranski Diedrich D-120
78.17			22								
77.17	Very Stiff Brown/Gray Clay Till		23	9	SS	3.2	20	B	14		
76.17			24								
75.17			25	10	SS	4.0	24	B	13		
74.17			26								
73.17			27								
72.17			28								
71.17			29								
70.17			30	11	SS	3.3	16	B	14		
69.17			31								
68.17			32								
67.17			33								
66.17	Medium Dense Gray Sand		34								
65.17			35								
64.17	Hard Gray Silt Loam Till		36	12	SS	---	34	---	12		
63.17			37								
62.17			38								
61.17	Stiff to Very Stiff Gray Clay Till		39								
60.17			40								
59.17			41	13	SS	2.2	11	B	16		

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD\PLANS\044-BORINGS 03-24627.dwg - Last Modified: Thursday, February 22, 2024 1:00:21 PM - Plotted On: Thursday, February 22, 2024 6:03:30 PM - by Kurt Decker

DRAWN BY: KED	REVISIONS			
	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				



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OTTAWA MENDOTA  
ILLINOIS

**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3200 (E) 032-3201 (P)**

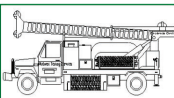
**BIDDING PLANS**

CURRENT AS OF: 02/20/2024

SCALE: AS NOTED SHEET 44

FILE NO.: 111523.00 Y- OF 59

CONTRACT NO. 87792



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 3 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.  
Project Name: SN: 032-3200  
Project Site: Vienna Twp.  
Grundy Co. Bridge on Grand Ridge Rd. W of Verona Rd.

Boring No. B-2  
Surface Elev. 100.17  
Auger Depth 61.00 Rotary Depth NA  
Start Date 06/24/23 Finish Date 06/24/23

Location: 55' W. of center of Bridge and 7' S. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
58.17	Stiff to Very Stiff Gray Clay Till		43							Randy Safranski Diedrich D-120	
57.17	Medium Dense Gray Sand		44								
56.17			45	14	SS	4.7	60	S	12		
55.17			46								
54.17			47								
53.17			48								
52.17	Hard Gray Clay Till		49								
51.17			50	15	SS	---	78	---	1		
50.17			51								
49.17			52								
48.17			53								
47.17			54								
46.17			55	16	SS	---	64	---	16		
45.17	Hard Gray Shale		56								
44.17			57								
43.17			58								
42.17			59								
41.17			60								
40.17			61	17	SS	---	85	---	15		
39.17			62								
38.17											

Groundwater Data: Water after auger removal 13-feet below top of ground elevation.  
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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Drawing Name: G:\Users\11111523\OneDrive\Work\1111523-00 GRUNDY CO GRAND RIDGE RD BRIDGE\CAD PLANS\045-BORINGS 04-24827.dwg - Last Modified: Thursday, February 22, 2024 1:06:50 PM - Plotted On: Thursday, February 22, 2024 6:04:08 PM by Kurt Decker

DRAWN BY: KED	LEVEL	BY	DATE	REVISIONS	DESCRIPTION
CHECKED BY: DAH					
DATE: 01/2024					



**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**SOIL BORINGS**  
**SN 032-3200 (E) 032-3201 (P)**

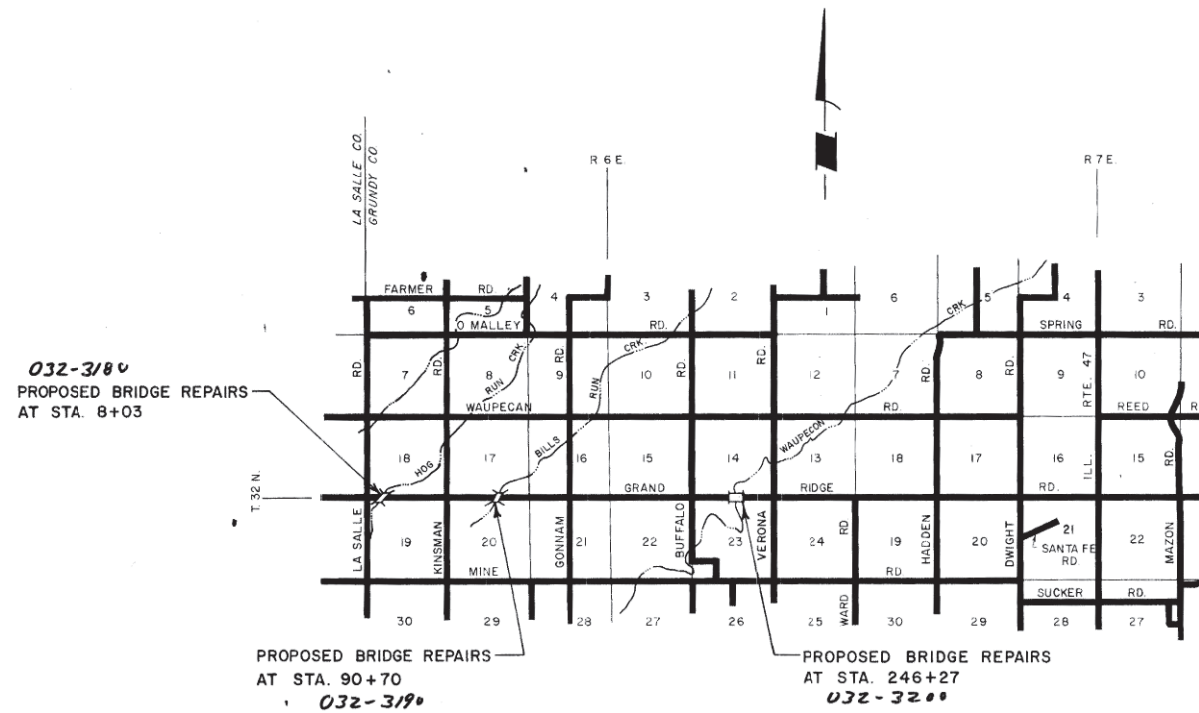
<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 45
	FILE NO.: 111523.00 Y-	OF 59

CONTRACT NO. 87792

# GRUNDY COUNTY, ILLINOIS

## GRAND RIDGE ROAD BRIDGE DECK REPLACEMENT

1981



**FOR INFORMATION ONLY**

SHEET NO.	DESCRIPTION
1	Cover Sheet and Location Map
2 & 3	Plan and Details - Bridge at Sta. 8+03
4 & 5	Plan and Details - Bridge at Sta. 90+70
6 & 7	Plan and Details - Bridge at Sta. 246+27
8	Precast Prestressed Deck Beam Details - Bridge at Sta. 8+03
9	Precast Slab Details - Bridge at Sta. 90+70
10, 11, & 12	Precast Slab Details - Bridge at Sta. 246+27
13	Standard CR-7S1 - Steel Post & Railing, Type S1
14	Standard 2340-3 - Traffic Barrier Terminal
15	Standard 2299-8 - Traffic Control Devices
16	Standard BLR-21 - Application of Traffic Control Devices

SUMMARY OF QUANTITIES		
ITEM	UNIT	QTY
Removal of Existing Super-Structures - No. 1	Each	1
Removal of Existing Super-Structures - No. 2	Each	1
Removal of Existing Super-Structures - No. 3	Each	1
Removal and Replacement of Existing Guard Rail	L.F.	600
Special Excavation	Cu.Yd.	51
Concrete Removal (Special)	Cu.Yd.	4.3
Class "X" Concrete	Cu.Yd.	12
Class "X" Concrete (Special)	Cu.Yd.	4.3
Reinforcement Bars	Lbs.	2631
1" Dia. Expansion Bolts	Each	172
Precast Prestressed Concrete Deck Beam (21" Deep)	Sq.Ft.	1069
Precast Concrete Bridge Slab	Sq.Ft.	3311
Steel Railing - Type S1	L.F.	332
Waterproofing Membrane System	Sq.Ft.	4380
Bituminous Materials - Prime Coat (RC-70)	Gal.	128
Bituminous Concrete Surface Course, Sub-Class I	Ton	107
Bituminous Base Course (12")	Sq.Yd.	93
Porous Granular Backfill	Cu.Yd.	11
Sub-Base Granular Material, Type B	Ton	57

SEPT. 1981  
PREPARED BY  
**CHAMLIN & ASSOCIATES, INC.**  
PERU MORRIS ILLINOIS

*9-24-81*

1418  
CONTRACT NO. 87792

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Drawing Name: G:\Users\11111523-00 GRUNDY CO GRAND RIDGE CAD\PLANS\046-EX PLANS 01.dwg Last Modified: Tuesday, February 20, 2024 11:57:46 AM Plotted On: Thursday, February 22, 2024 6:04:46 PM by Kurt Decker

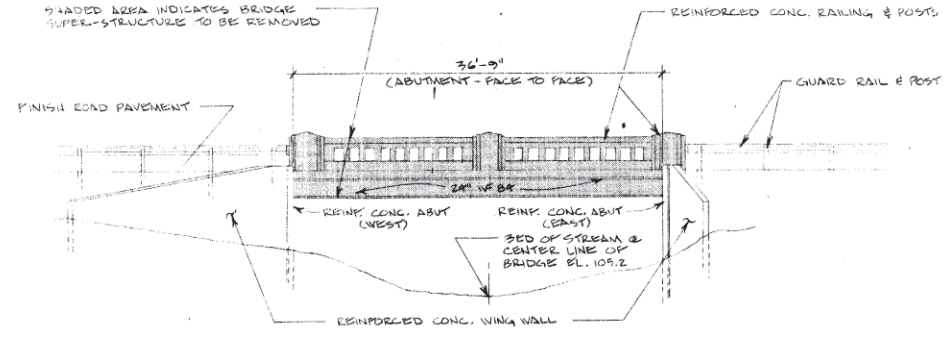
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CHECKED BY: DAH	LEVEL	BY	DATE	DESCRIPTION
DATE: 01/20/24				

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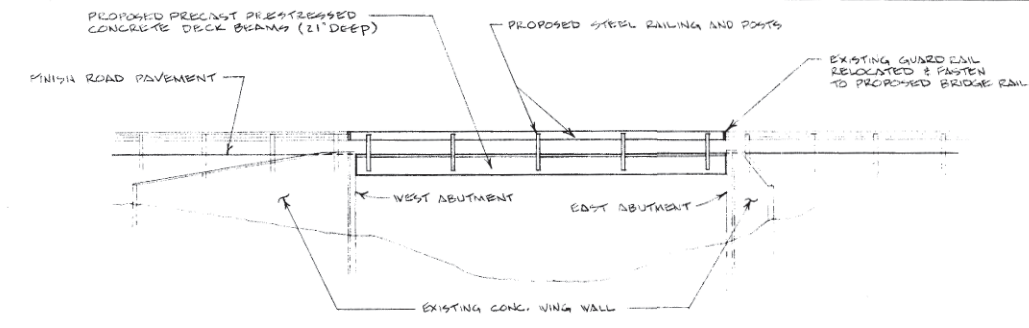
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**EXISTING PLANS**

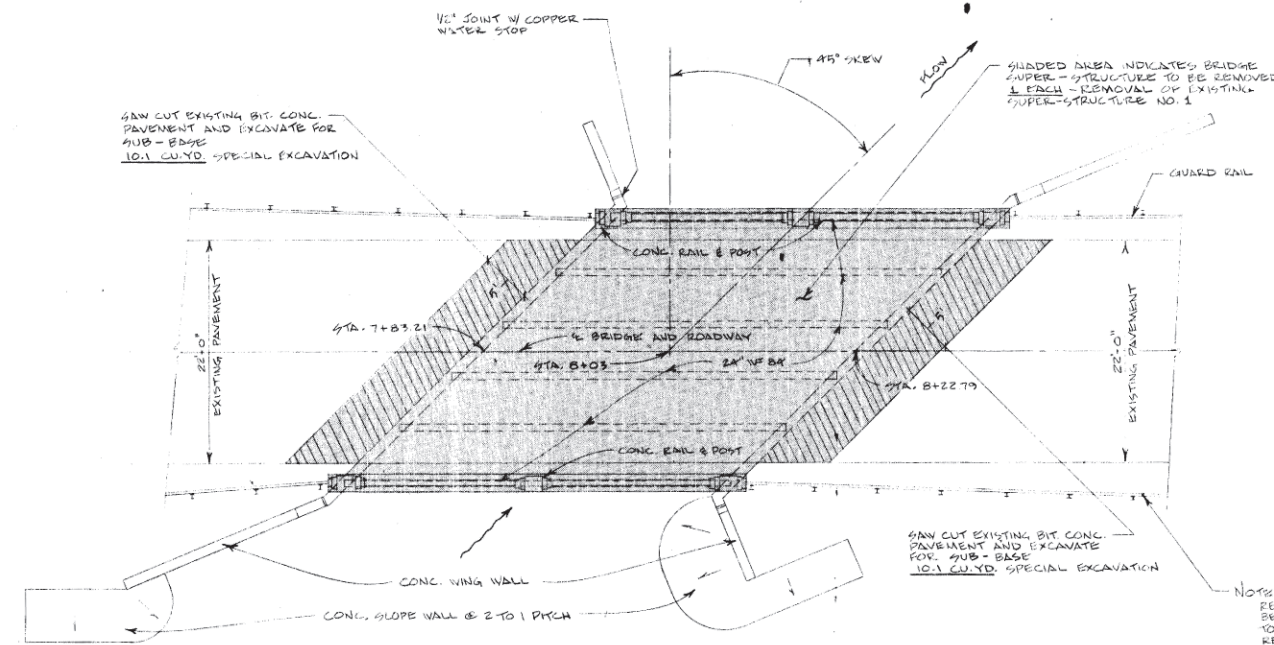
BIDDING PLANS	CURRENT AS OF: 02/20/2024
SCALE: AS NOTED	SHEET 46
FILE NO.: 111523.00 Y-	OF 59



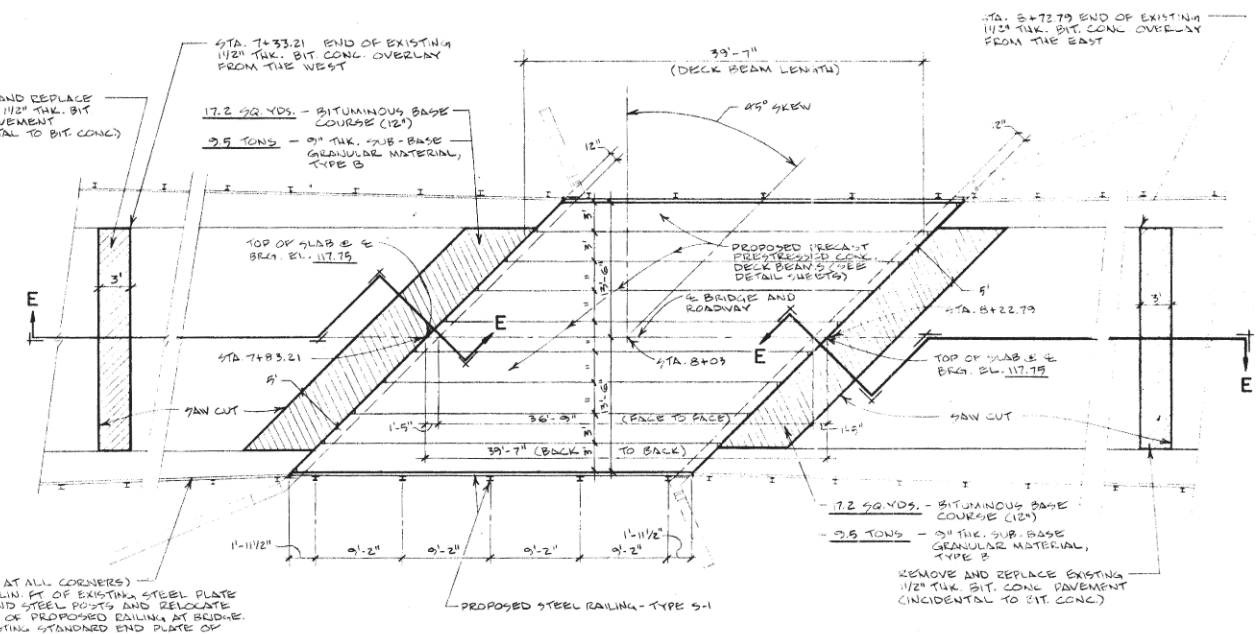
**EXISTING ELEVATION**  
 SCALE 1/8" = 1'-0"



**PROPOSED ELEVATION**  
 SCALE 1/8" = 1'-0"



**EXISTING PLAN**  
 SCALE 1/8" = 1'-0"



**PROPOSED PLAN**  
 SCALE 1/8" = 1'-0"

**BENCH MARK:**  
 CHISELED "X" ON TOP OF WEST END OF RETAINING WALL @ STA. 5+23 - 37.5' RT. - ELEV. 114.30

**BILL OF MATERIAL -- BRIDGE AT STA. 8+03**

DESCRIPTION	UNIT	QTY.
REMOVAL OF EXISTING SUPER-STRUCTURES - NO. 1	EACH	1
REMOVAL AND REPLACEMENT OF EXISTING GUARD RAIL	LIN. FT.	200
SPECIAL EXCAVATION	CU. YD.	20.2
CONCRETE REMOVAL (SPECIAL)	CU. YD.	3
CLASS XX CONCRETE	CU. YD.	3
CLASS XX CONCRETE (SPECIAL)	CU. YD.	3
REINFORCEMENT BARS	LBS.	670
1" DIA. EXPANSION BOLTS	EACH	38
PRECAST PRESTRESSED CONCR. DECK BEAM (21" DEEP)	SQ. FT.	1069
STEEL RAILING - TYPE S1	LIN. FT.	80
BITUMINOUS BASE COURSE (12")	SQ. YD.	34.4
WATERPROOFING MEMBRANE SYSTEM	SQ. FT.	1069
BITUMINOUS MATERIAL - PRIME COAT (BC-70)	GAL.	38
BITUMINOUS CONCR. SURFACE COURSE SUB-CLASS I	TONS	32
POROUS GRANULAR BACKFILL	CU. YD.	4.3
SUB-BASE GRANULAR MATERIAL, TYPE B	TONS	19

**FOR INFORMATION ONLY**

141R  
 CONTRACT NO. 87792

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 Drawing Name: G:\Users\111.11523-00 GRUNDY CO. GRAND RIDGE RD. BRIDGE\CAD\PLANS\047-EX PLANS 02.dwg Last Modified: Tuesday, February 20, 2024 12:03:37 PM Plotted On: Thursday, February 22, 2024 8:05:21 PM by Kurt Decker

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CHECKED BY: DAH					
DATE: 01/2024					

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 ILLINOIS

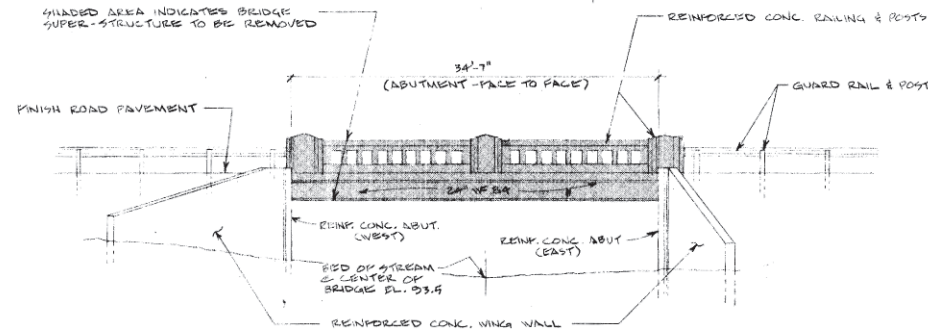
**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**EXISTING PLANS**  
**SN 032-3180 (E) 032-3181 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	SHEET 47
	SCALE: AS NOTED	OF 59
	FILE NO.: 111523.00 Y-	

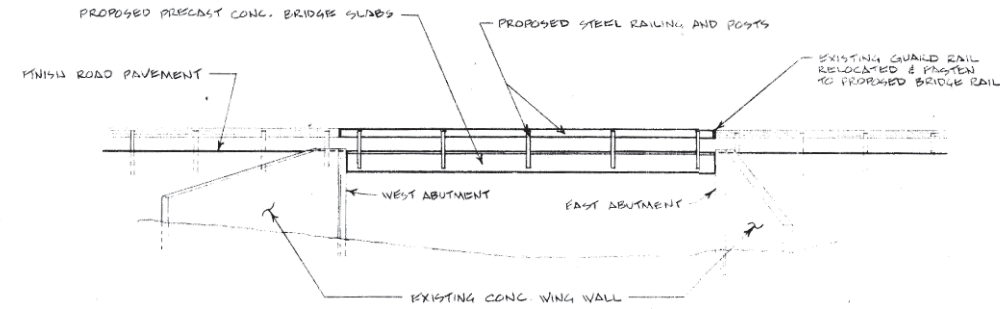






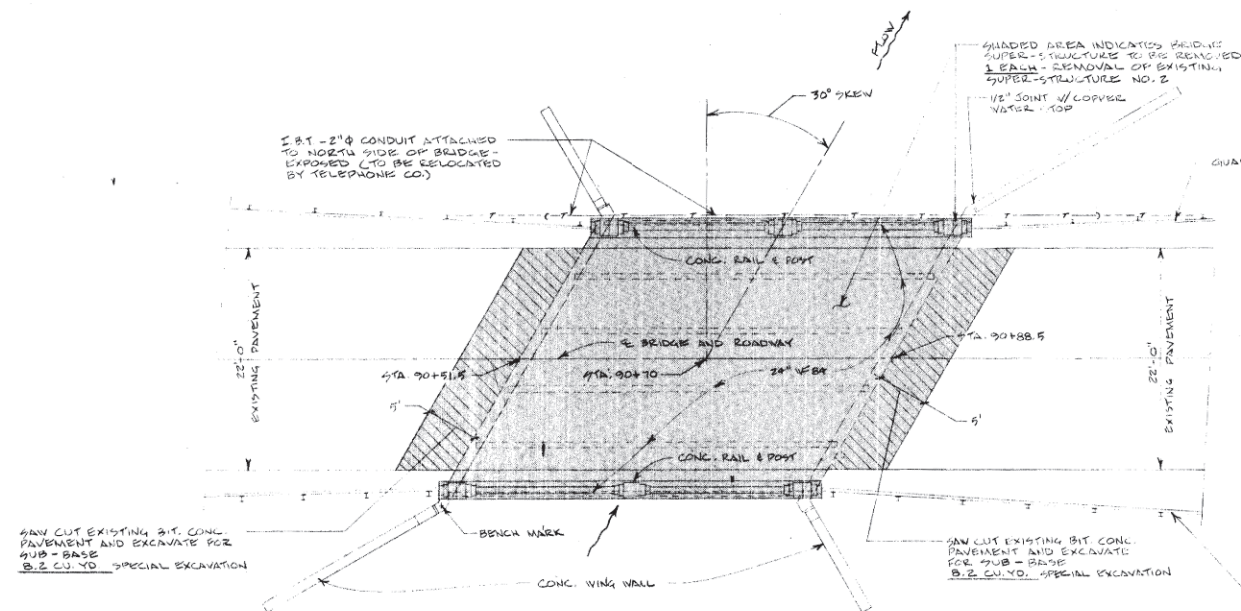
**EXISTING ELEVATION**

SCALE 1/8" = 1'-0"



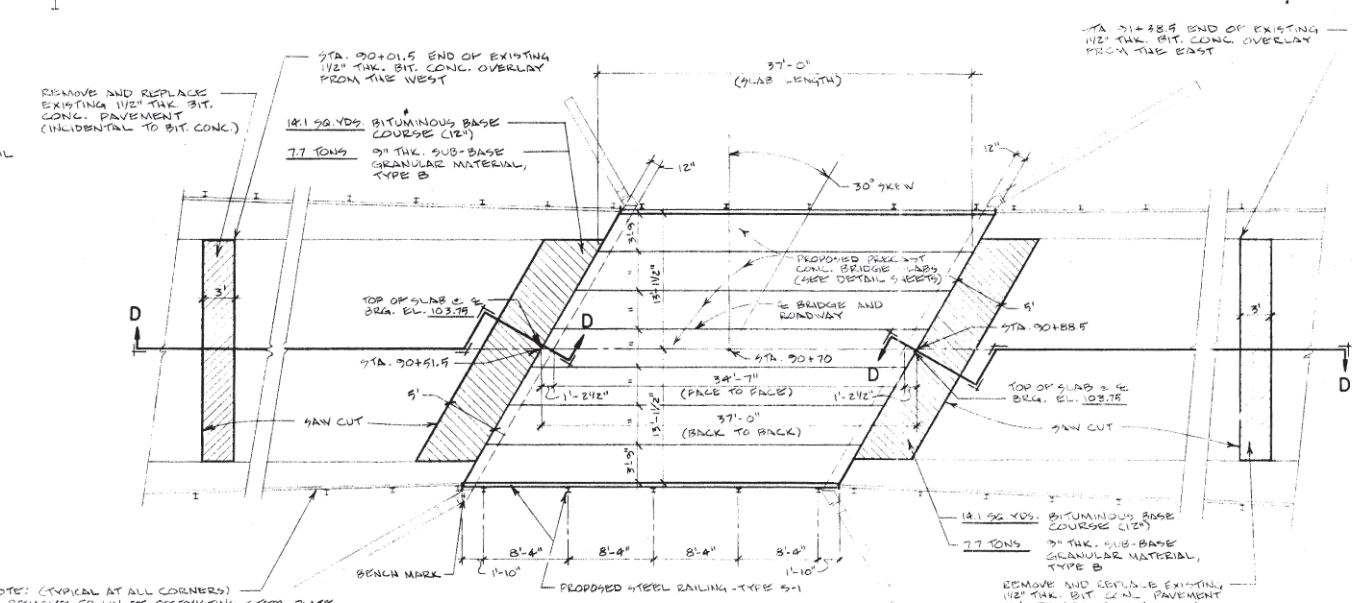
**PROPOSED ELEVATION**

SCALE 1/8" = 1'-0"



**EXISTING PLAN**

SCALE 1/8" = 1'-0"



**PROPOSED PLAN**

SCALE 1/8" = 1'-0"

BENCH MARK:  
TOP OF SOUTHWEST CONCRETE  
WING WALL - ELEV. 102.09

NOTE: (TYPICAL AT ALL CORNERS)  
REMOVE 40 LIN. FT. OF EXISTING STEEL PLATE  
BEHIND RAIL AND STEEL POSTS AND RELOCATE  
TO NEW END OF PROPOSED RAILING BY BRIDGE.  
REPLACE EXISTING STANDARD END PLATE OF  
RAIL W/ END PLATE AS PER TRAFFIC BARRIER  
TERMINAL - STANDARD # 2340  
200 LIN. FT. GUARD RAIL REMOVAL & REPLACEMENT

**BILL OF MATERIAL — BRIDGE AT STA. 90+70**

DESCRIPTION	UNIT	QTY.
REMOVAL OF EXISTING SUPER-STRUCTURES - NO. 2	EACH	1
REMOVAL AND REPLACEMENT OF EXISTING GUARD RAIL	LN. FT.	200
SPECIAL EXCAVATION	CU. YD.	16.8
CONCRETE REMOVAL (SPECIAL)	CU. YD.	1.3
CLASS "X" CONCRETE	CU. YD.	3
CLASS "X" CONCRETE (SPECIAL)	CU. YD.	1.3
REINFORCEMENT BARS	LS.	551
1" DIA. EXPANSION BOLTS	EACH	24
PRECAST CONCRETE BRIDGE SLAB	SQ. FT.	971
STEEL RAILING - TYPE S1	LN. FT.	74
BITUMINOUS BASE COURSE (12")	SQ. YD.	28.2
WATERPROOFING MEMBRANE SYSTEM	SQ. FT.	971
BITUMINOUS MATERIAL - PRIME COAT (RC-10)	GAL.	37
BITUMINOUS CONC. SURFACE COURSE SUB-CLASS II	TONS	31
POROUS GRANULAR BACKFILL	CU. YD.	3.5
SUB-BASE GRANULAR MATERIAL, TYPE B	TONS	15.4

**FOR INFORMATION ONLY**

141R  
CONTRACT NO. 87792

CHAMLIN & ASSOCIATES, INC. © 2023  
Drawing Name: G:\Users\111.11.11523-00 GRUNDY CO. GRAND RIDGE RD. BRIDGE\CAD\PLANS\049-EX PLANS 04.dwg Last Modified: Tuesday, February 20, 2024 12:40:08 PM. Plotted On: Thursday, February 22, 2024 8:06:41 PM. by Kurt Decker

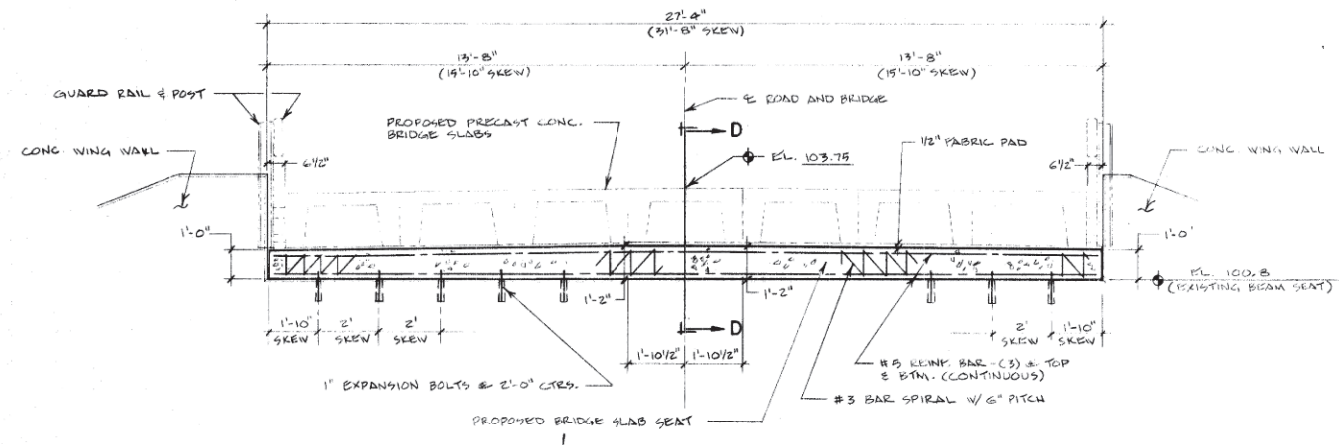
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CHECKED BY: DAH					
DATE: 01/2024					

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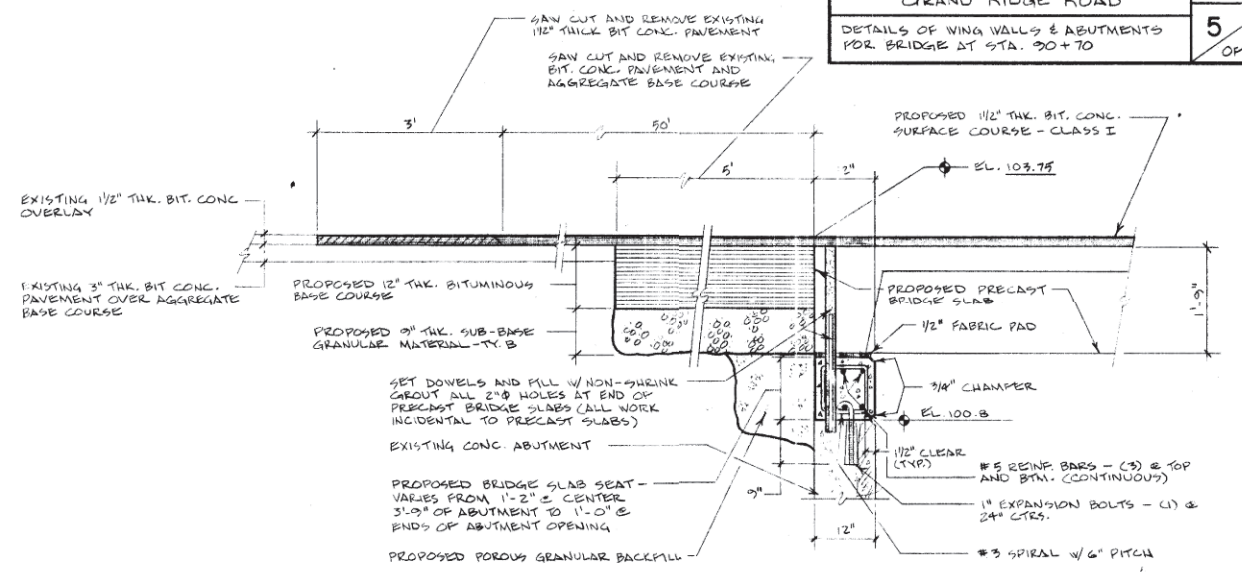
F.A.S. 272  
SECTION 19-00174-00-BR  
GRUNDY COUNTY

EXISTING PLANS  
SN 032-3190 (E) 032-3191 (P)

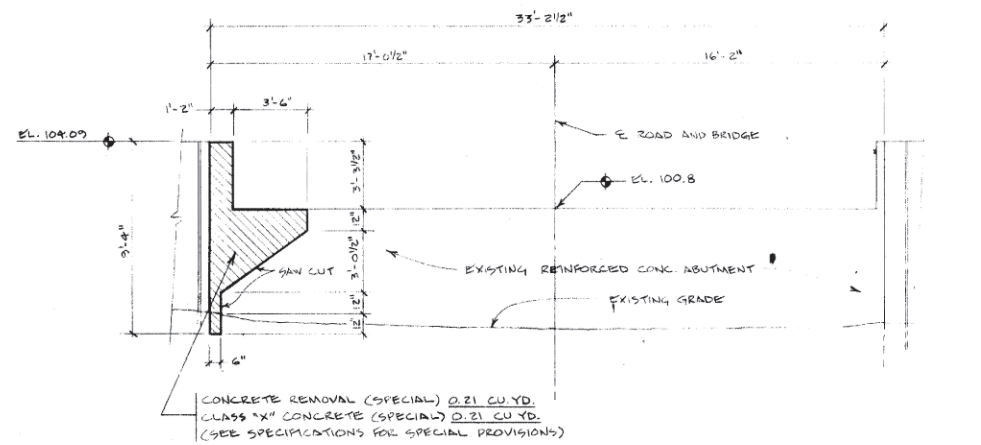
<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 49
	FILE NO.: 111523.00 Y-	OF 59



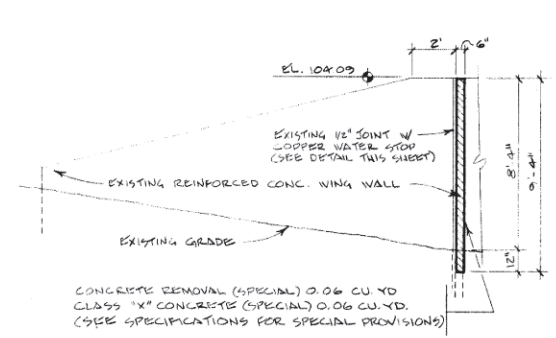
**DETAIL AT EAST & WEST ABUTMENT**  
 SCALE 3/8" = 1'-0"



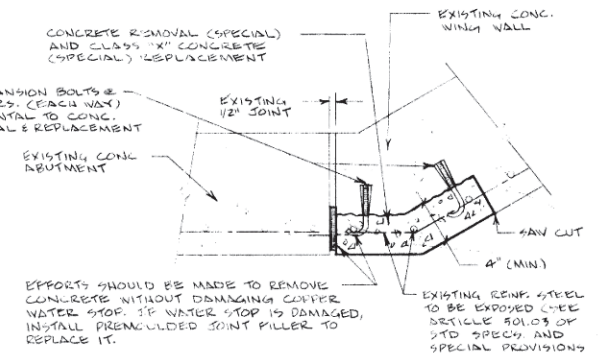
**SECTION D-D**  
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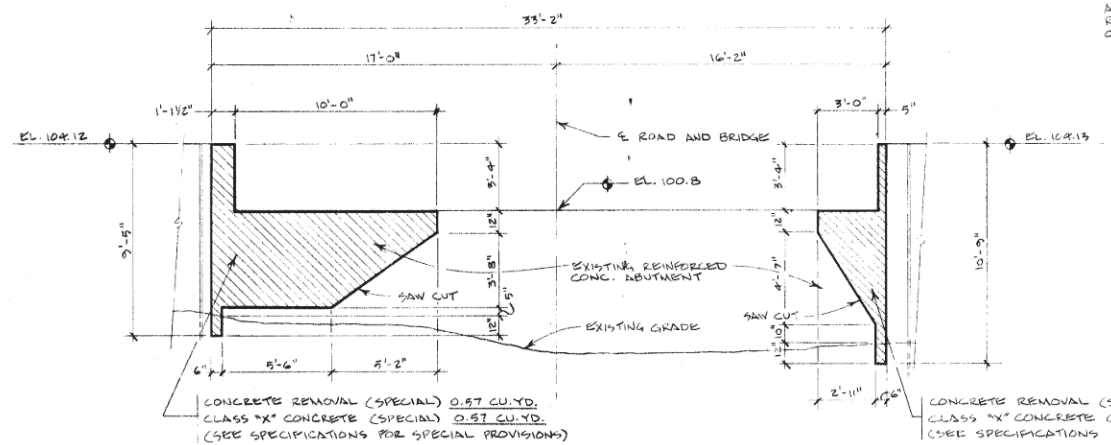
**NORMAL VIEW TO FACE OF WEST ABUTMENT**  
 SCALE 1/4" = 1'-0"



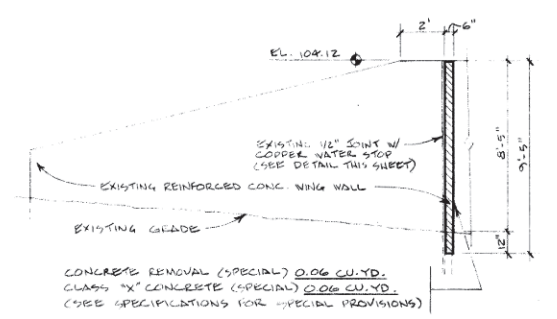
**NORMAL VIEW TO FACE OF S.W. WING WALL**  
 SCALE 1/4" = 1'-0"



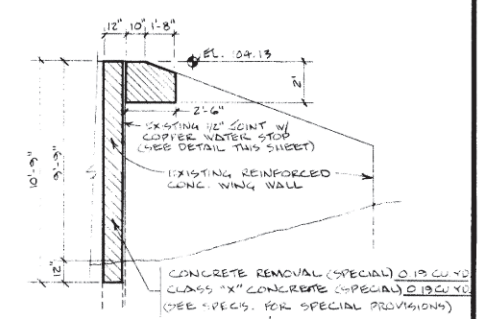
**DETAIL "A"**  
 TYPICAL SECTION OF REPAIRS TO  
 EXISTING ABUTMENTS & WING WALLS  
 SCALE 1/2" = 1'-0"



**NORMAL VIEW TO FACE OF EAST ABUTMENT**  
 SCALE 1/4" = 1'-0"



**NORMAL VIEW TO FACE OF N.E. WING WALL**  
 SCALE 1/4" = 1'-0"



**NORMAL VIEW TO FACE OF WING WALL**  
 SCALE 1/4" = 1'-0"

**NOTE:**  
 CROWN HATCHED AREAS ON ABUTMENTS AND WINGWALLS REPRESENT AREAS REQUIRING REPAIRS AS PER DETAIL "A" ON THIS SHEET.

**FOR INFORMATION ONLY**

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 By: Kurt Decker

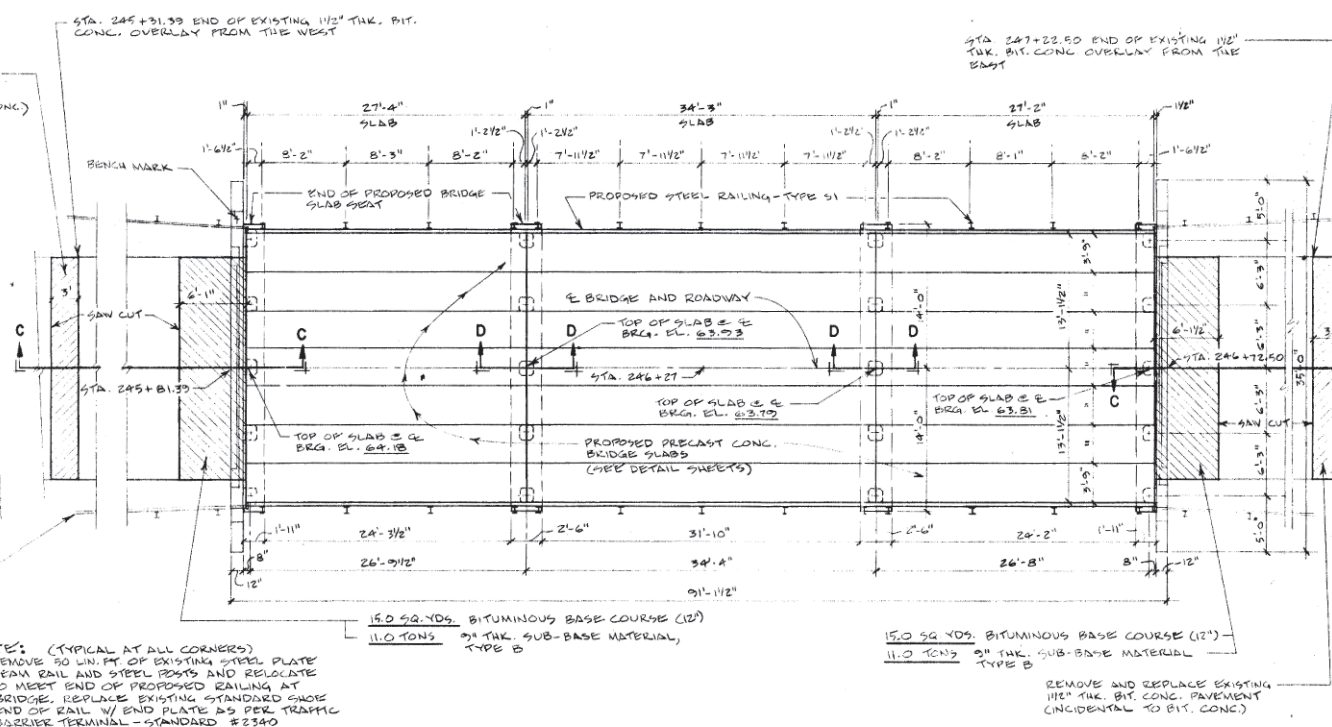
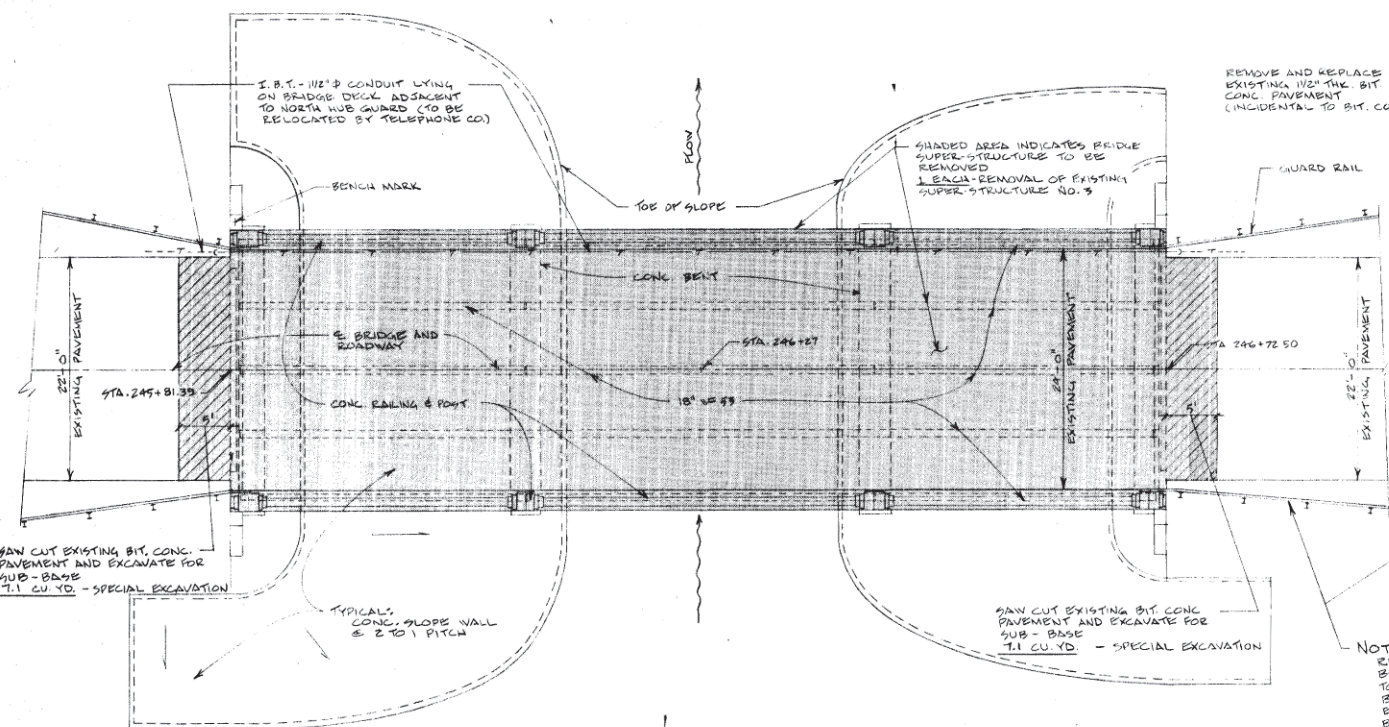
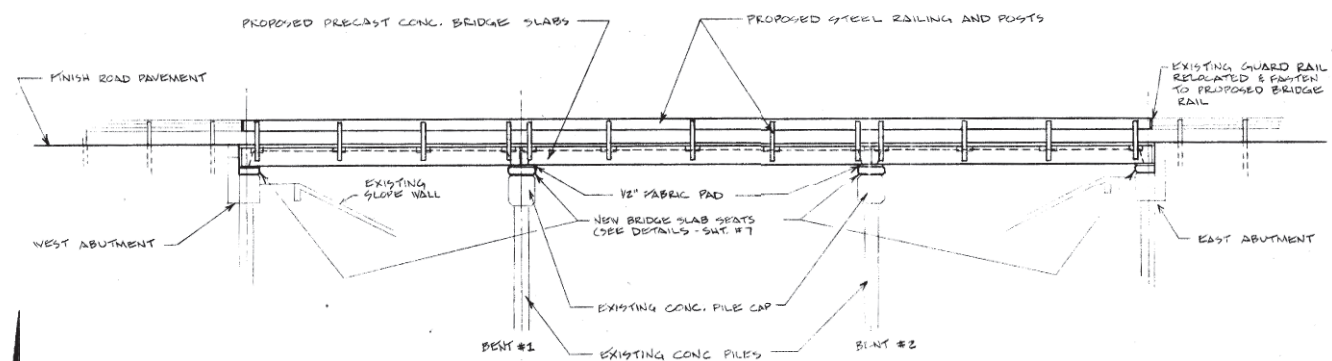
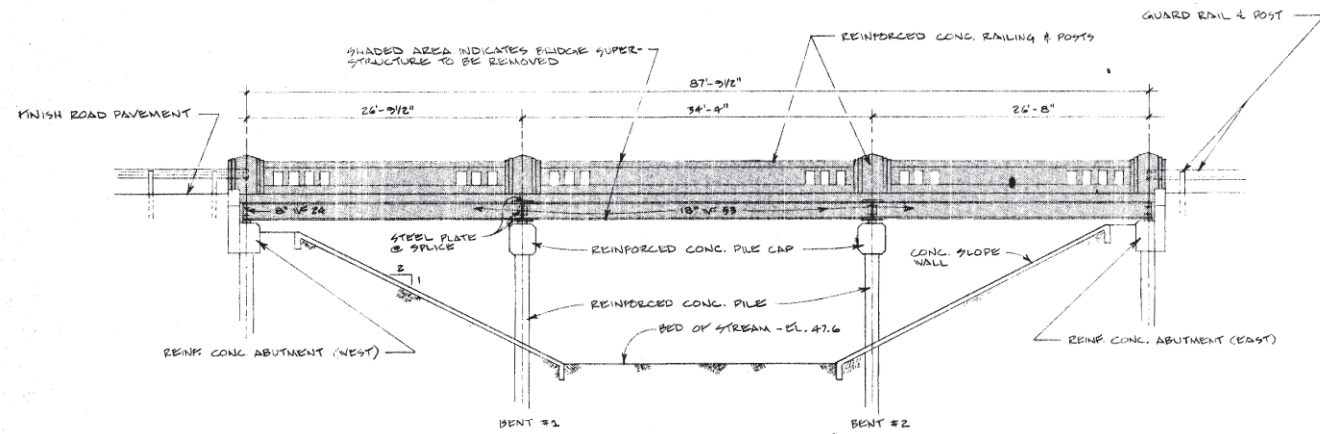
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	LEVEL	BY	DATE	DESCRIPTION
CHECKED BY: DAH				
DATE: 01/2024				


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**F.A.S. 272**  
**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**EXISTING PLANS**  
**SN 032-3190 (E) 032-3191 (P)**

<b>BIDDING PLANS</b>	CURRENT AS OF: 02/20/2024	
	SCALE: AS NOTED	SHEET 50
	FILE NO.: 111523.00 Y-	OF 59



NOTE: (TYPICAL AT ALL CORNERS)  
 REMOVE TO LIMIT OF EXISTING STEEL PLATE  
 BEAM RAIL AND STEEL POSTS AND RELOCATE  
 TO MEET END OF PROPOSED RAILING AT  
 BRIDGE. REPLACE EXISTING STANDARD SHOULDER  
 END OF RAIL W/ END PLATE AS PER TRAFFIC  
 BARRIER TERMINAL - STANDARD #2340  
 200 LIN. FT. GUARD RAIL REMOVAL & REPLACEMENT

**BILL OF MATERIAL — BRIDGE AT STA. 246+27**

DESCRIPTION	UNIT	QTY.
REMOVAL OF EXISTING SUPER-STRUCTURES - NO. 3	EACH	1
REMOVAL AND REPLACEMENT OF EXISTING GUARD RAIL	LIN. FT.	200
SPECIAL EXCAVATION	CU. YD.	14.2
CLASS III CONCRETE	CU. YD.	6
REINFORCEMENT BARS	LBS.	190
1" DIA. EXPANSION BOLTS	EACH	108
PRECAST CONCRETE BRIDGE SLAB	SQ. FT.	2340
STEEL RAILING - TYPE S1	LIN. FT.	178
BITUMINOUS BASE COURSE (12")	SQ. YD.	50
WATERPROOFING MEMBRANE SYSTEM	SQ. FT.	2340
BITUMINOUS MATERIAL - PRIME COAT (RC-70)	GAL.	53
BITUMINOUS CONC. SURFACE COURSE SUB-CLASS I	TONS	48
POROUS GRANULAR BASEPILL	CU. YD.	2.4
SUB-BASE GRANULAR MATERIAL, TYPE B	TONS	22

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1418  
 CONTRACT NO. 87792

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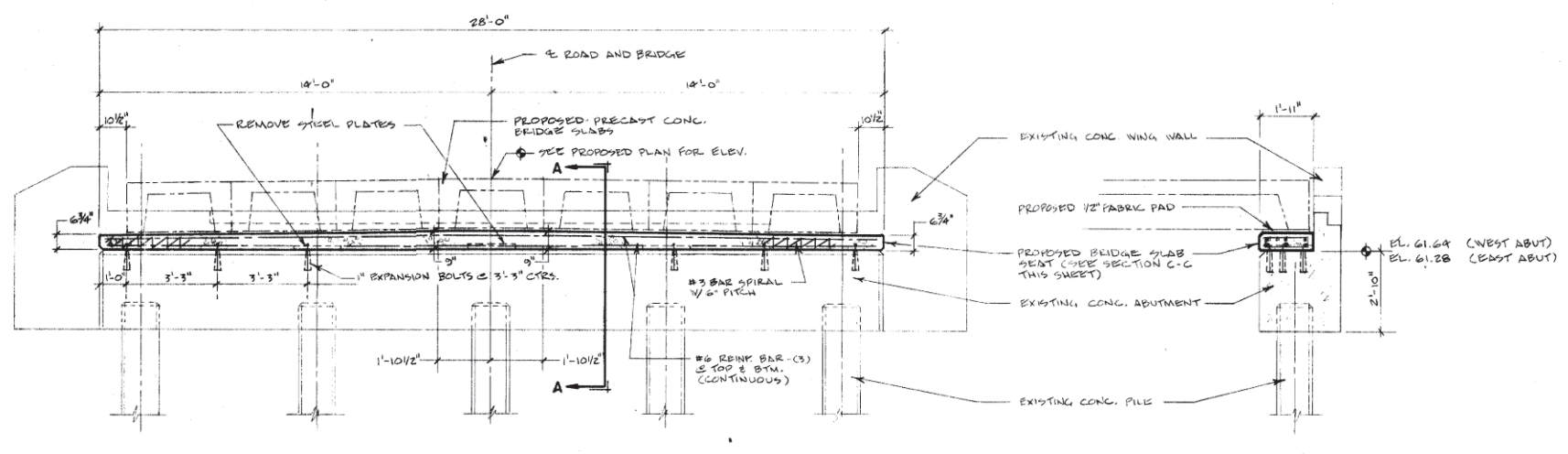
REVISIONS	DESCRIPTION
LEVEL	BY
DATE	

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 GRUNDY COUNTY

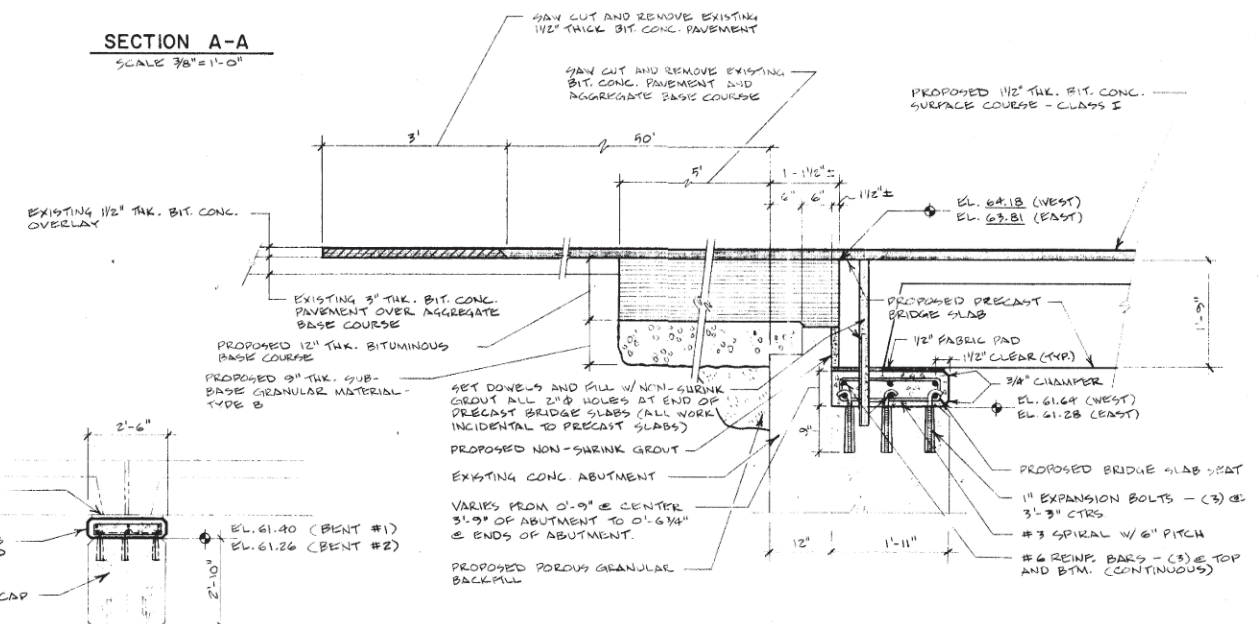
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BIDDING PLANS  
 CURRENT AS OF: 02/20/2024  
 SCALE: AS NOTED SHEET 51  
 FILE NO.: 111523.00 Y- OF 59

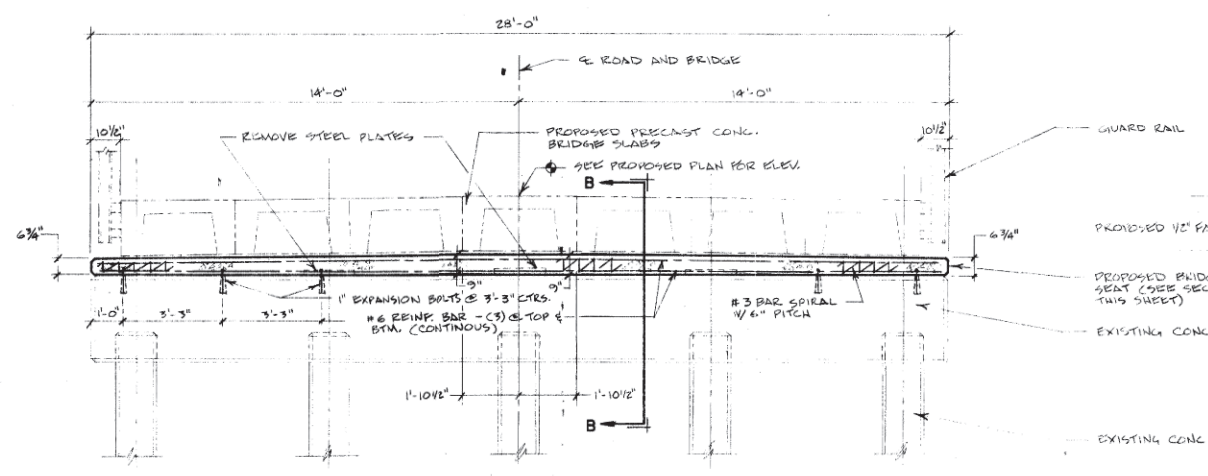


**DETAIL AT ABUTMENT**  
 SCALE 3/8" = 1'-0"

**SECTION A-A**  
 SCALE 3/8" = 1'-0"

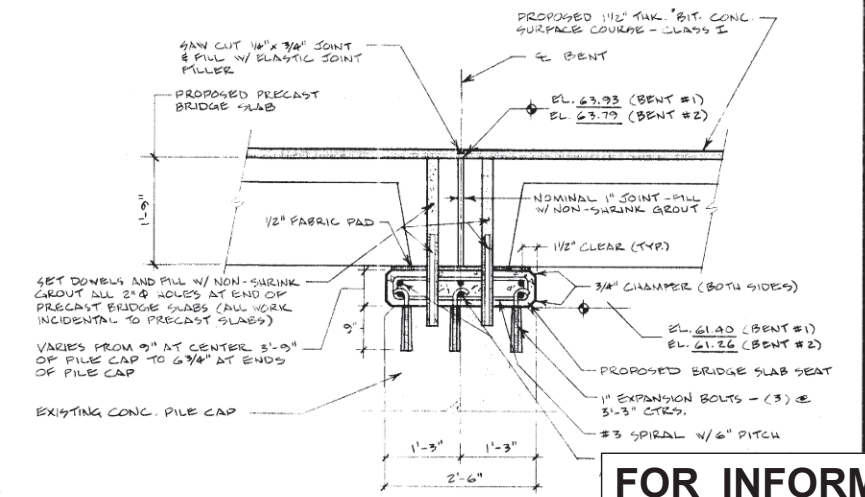


**SECTION C-C**  
 SCALE 3/4" = 1'-0"



**DETAIL AT BENT**  
 SCALE 3/8" = 1'-0"

**SECTION B-B**  
 SCALE 3/8" = 1'-0"



**SECTION D-D**  
 SCALE 3/4" = 1'-0"

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REVISIONS	LEVEL	BY	DATE	DESCRIPTION

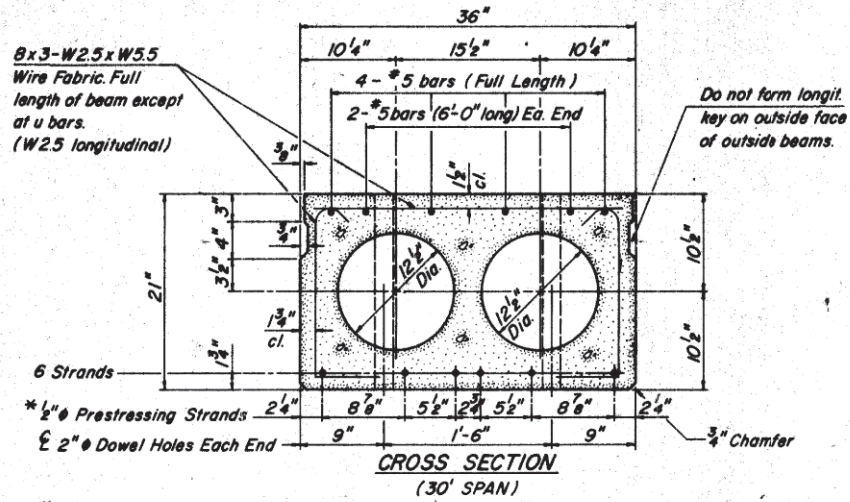
DRAWN BY: KED  
 CHECKED BY: DAH  
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F.A.S. 272  
 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

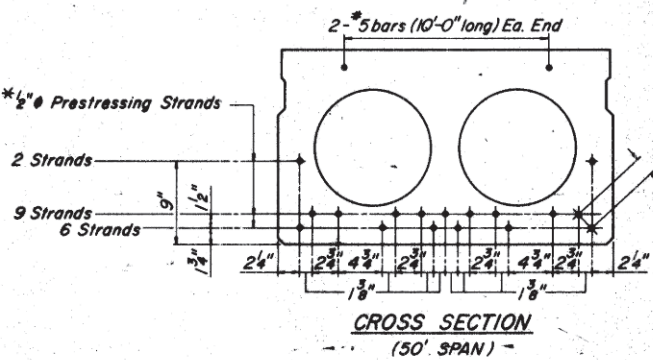
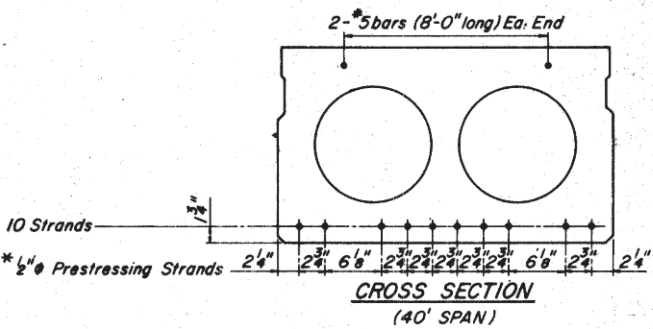
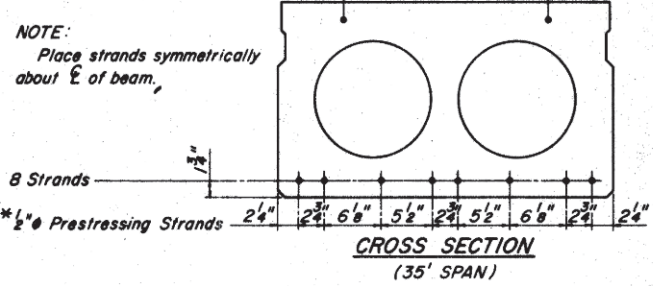
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 SN 032-3200 (E) 032-3201 (P)

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	FILE NO.: 111523.00 Y-	OF 59

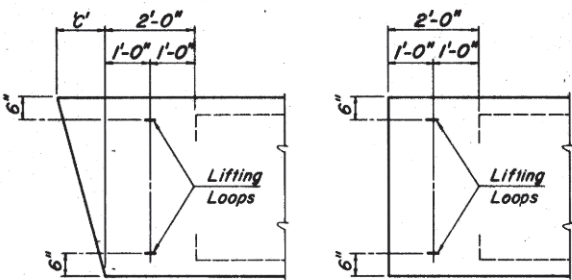


\* Stressed to 28,900 lbs.

NOTE:  
Place strands symmetrically about  $\bar{C}$  of beam.



NOTE:  
The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.



**END BLOCK DETAILS**

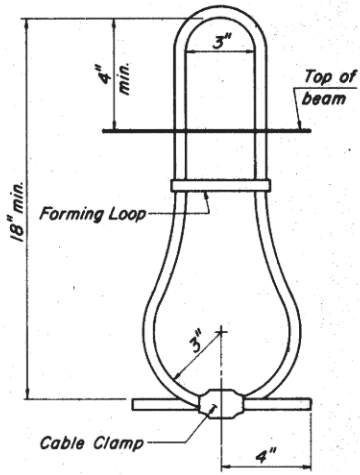
Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.

NOTE:  
ACTUAL SLAB LENGTH 39'-7" AS SHOWN. USE REINFORCEMENT SHOWN FOR 40' SPAN.

**LIFTING LOOP SPECIFICATIONS**

Span	Diameter of Wire Rope (Inches)	Min. Ultimate Tensile Strength (Pounds)
30'	1/2"	21,000
35'	1/2"	21,000
40'	1/2"	21,000
50'	3/8"	33,000

(Improved Plow Steel)

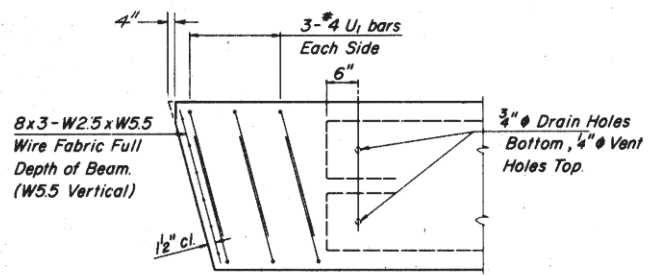


**LIFTING LOOP DETAIL**

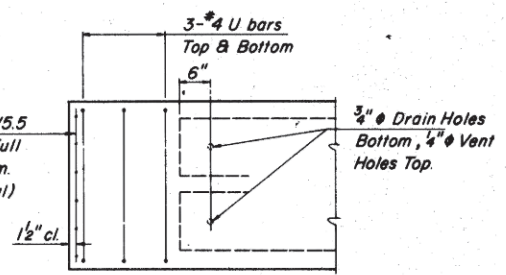
Lifting Loops shall be 6x25 class wire rope with fiber core. Diameter and Minimum Ultimate Tensile Strength shall be as specified in table. Alternate approved lifting devices are also acceptable.

**DIMENSION 'C'**

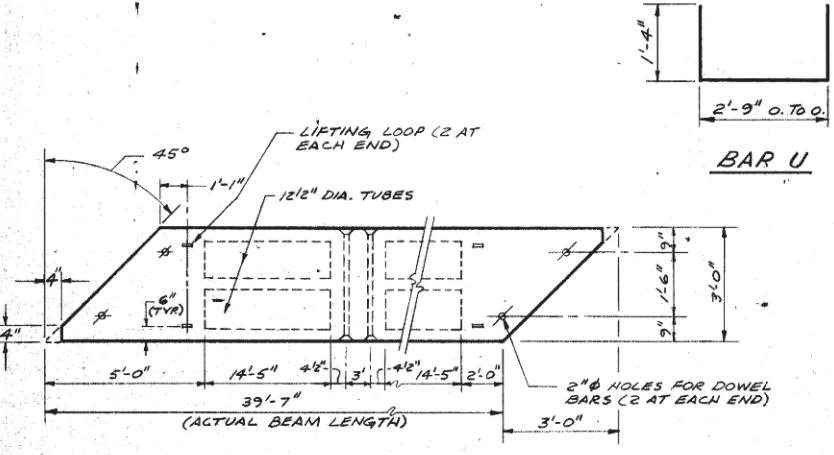
Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°	45°
Dimension 'C' (Inches)	0	3/8	6/8	9/8	13/8	16/8	20/8	36



**END REINFORCEMENT (SKEWED)**

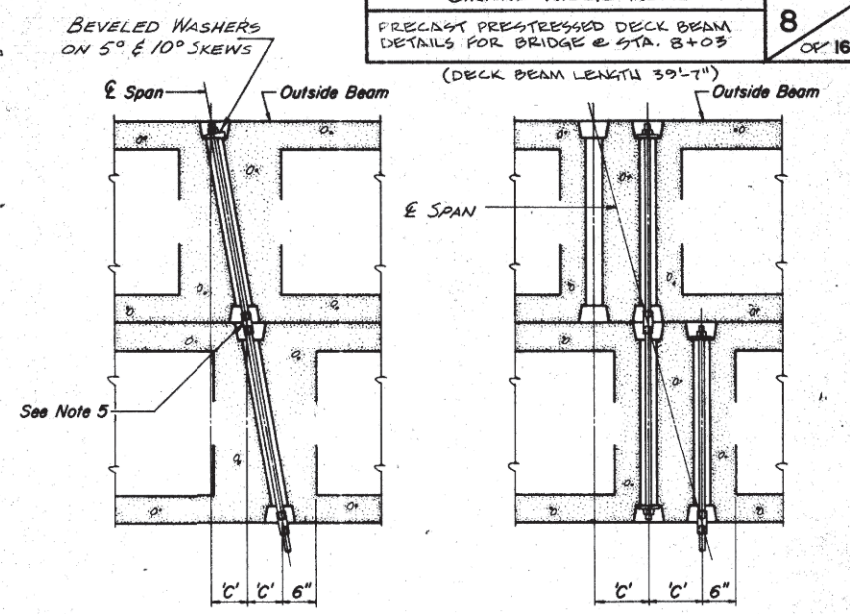


**END REINFORCEMENT (RIGHT ANGLE)**



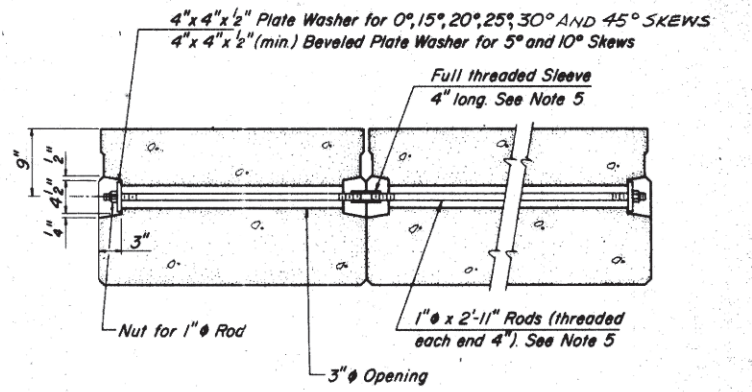
**PLAN**

NOTE: REINFORCEMENT SAME AS 40' SPAN



**PARTIAL PLAN TRANSVERSE TIE ASSEMBLY (D=0°, 5° and 10°)**

**PARTIAL PLAN TRANSVERSE TIE ASSEMBLY (D=15°, 20°, 25°, 30° AND 45°)**



**SECTION ALONG TRANSVERSE TIE ASSEMBLY (REQUIRED FOR 50' SPAN ONLY)**

**NOTES**

- Prestressing steel shall be non-galvanized high strength, stress relieved 7-wire strand, Grade 270
- The nominal diameter shall be 1/2" and the normal cross-sectional area shall be 0.153 square inches
- Lifting Loops shall be of the size and at the locations specified in the above details.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-53, Grade 60.
- On 0°, 5° and 10° Skews, alternate approved transverse tie rods of increased segmental length are acceptable.
- Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
- When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specification except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/8 inch.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT POINT BEARING OF THE BEAM.

**FOR INFORMATION ONLY**

**REQUIRED RELEASE STRENGTH**

Span	f <sub>c</sub> '
30'	4,000
35'	4,000
40'	4,200
50'	4,100

**DESIGN STRESSES**

f<sub>c</sub>' = 5,000 p.s.i.  
 f<sub>c</sub>'<sub>i</sub> = (See Required Release Strength Table)  
 f<sub>s</sub>' = 270,000 p.s.i. (1/2" # Strand)  
 f<sub>s</sub>'<sub>i</sub> = 189,000 p.s.i. (1/2" # Strand)  
 f<sub>y</sub> = 60,000 p.s.i.

**P.P.C. DECK BEAM DETAILS**  
 27' WIDE DECK  
 22' ROADWAY | 21" x 36" BEAMS  
 STANDARD CB-2421-36  
 CONTRACT NO. 87792

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 Plotted On: Thursday, February 22, 2024 6:09:06 PM by Kurt Decker

Illinois Department of Transportation  
 PASSED NOV 13 1980  
 Engineer of Bridge and Traffic Structures  
 APPROVED NOV 13 1980  
 Engineer of Design

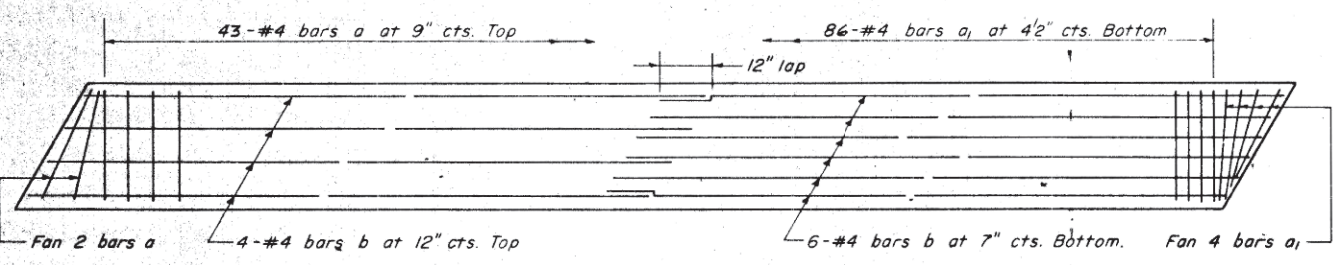
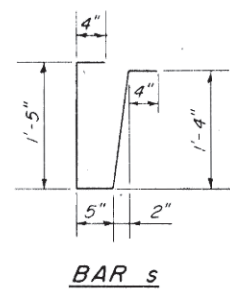
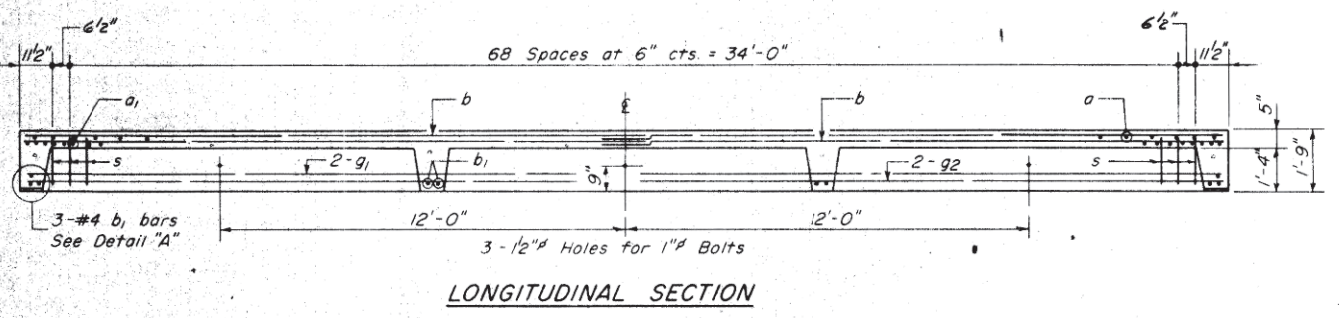
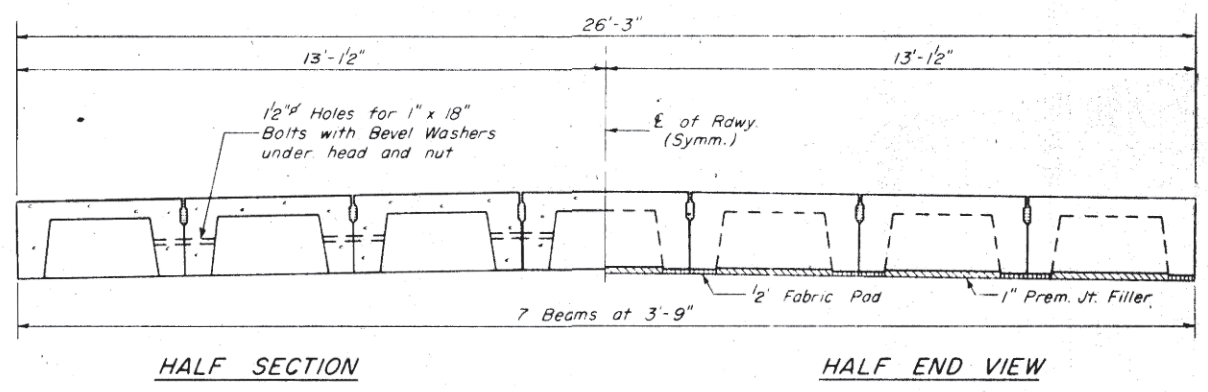
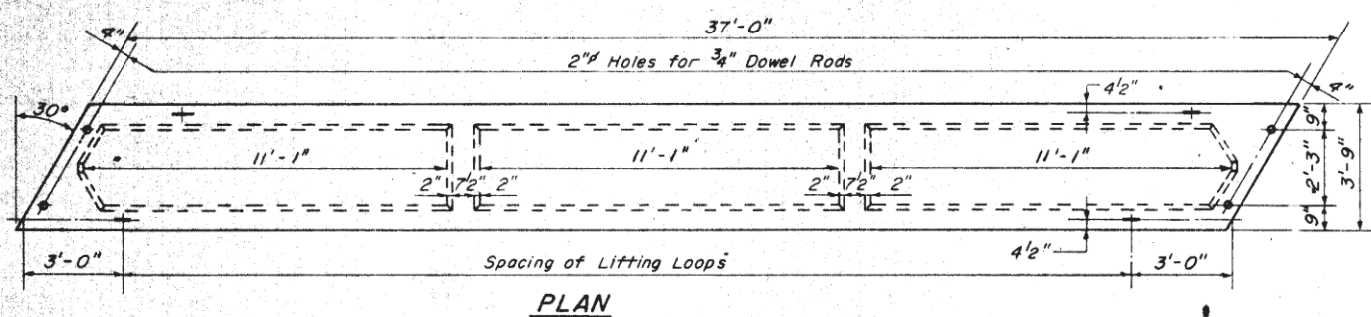
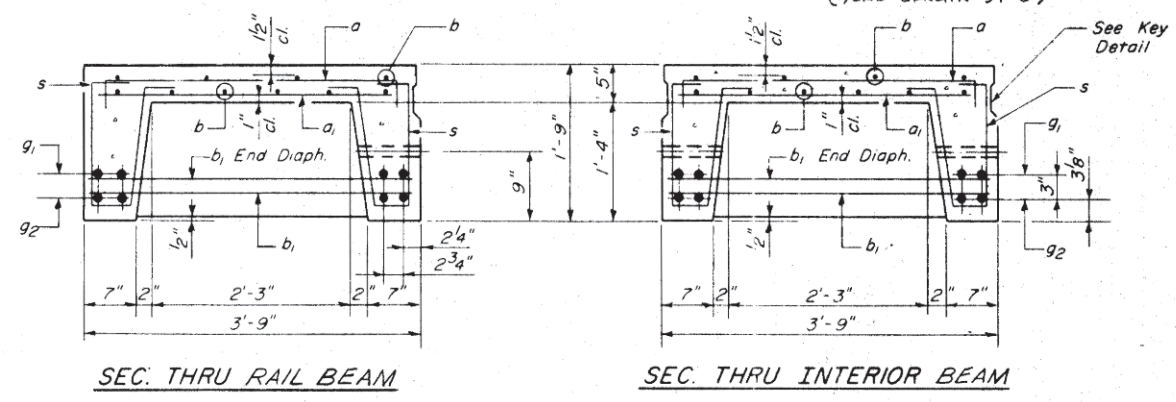
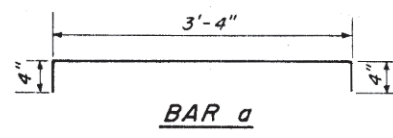
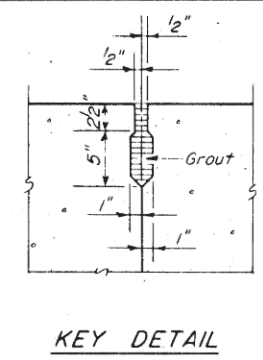
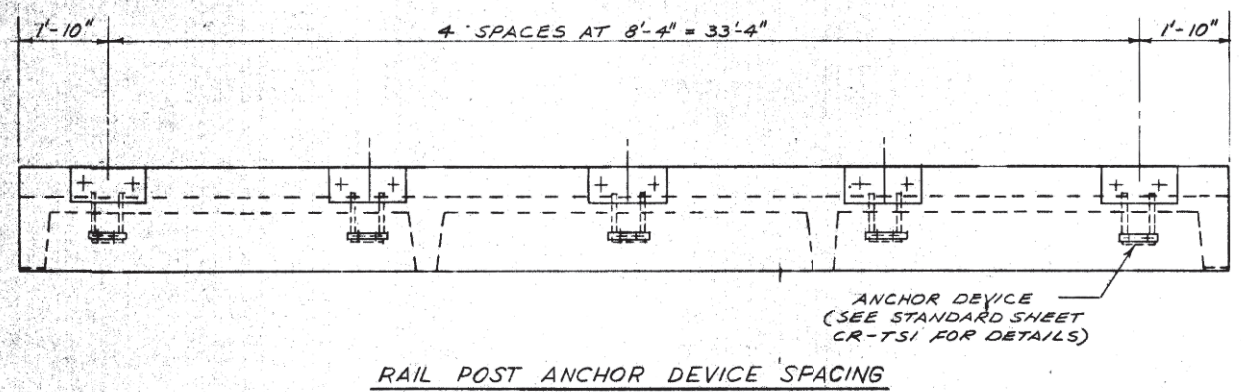
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 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

EXISTING PLANS  
 SN 032-3180 (E) 032-3181 (P)

**BIDDING PLANS**  
 CURRENT AS OF: 02/20/2024  
 SCALE: AS NOTED  
 SHEET 53 OF 59



**PRECAST NOTES**

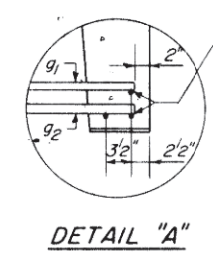
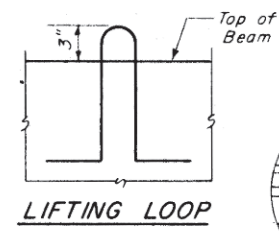
This work shall be done and paid for in accordance with Section 505 of the Standard Specifications effective OCTOBER 1, 1979. In case of conflict these notes shall take precedence.

All transverse tie assemblies (nuts, bolts and washers) shall be hot dipped galvanized in accordance with A.A.S.H.T.O. Designation M-232.

Unless otherwise approved by the Engineer, lifting loops shall be 7/16" non-galvanized high strength stress relieved wire strands. Loops shall be burned off after slab/cap have been erected.

Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" bolts and of grouting longitudinal shear key is included in Unit bid price for "Precast Concrete Bridge Slab".

Tack welding of stirrups to the bottom longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.



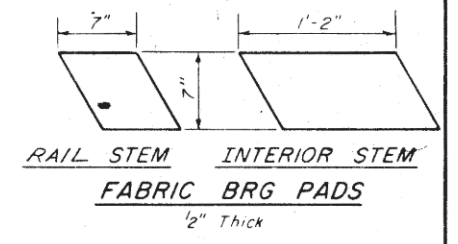
**DESIGN STRESSES**

$f'_c = 4,500$  psi.  
 $f_c = 1,800$  psi.  
 $f_s = 20,000$  psi.  
 $n = 8$

LOADING HS20-44

**BILL OF MATERIAL - FOR ONE BEAM**

37' Beam	RAIL Unit		Interior Unit				
Bar	Size	No.	Length	Weight	No.	Length	Weight
a	#4	47	4'-0"	126	47	4'-0"	126
a <sub>1</sub>	#4	94	3'-3"	204	94	3'-3"	204
b	#4	20	18'-10"	252	20	18'-10"	252
b <sub>1</sub>	#4	10	3'-6"	23	10	3'-6"	23
g <sub>1</sub>	#11	4	36'-8"	779	4	36'-8"	779
g <sub>2</sub>	#11	4	36'-8"	779	4	36'-8"	779
s	#3	138	3'-10"	199	138	3'-10"	199
Class X Concrete		Cu. Yds.			Cu. Yds.		
Reinforcement Bars		Lbs.		2,362	Lbs.		2,362
Total Weight		Lbs.			Lbs.		



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 CHECKED BY: DAH  
 DATE: 01/2024

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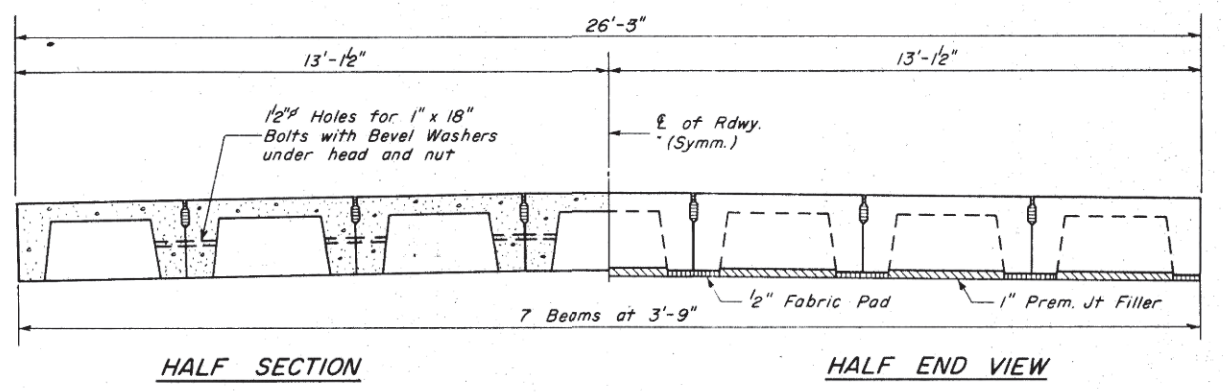
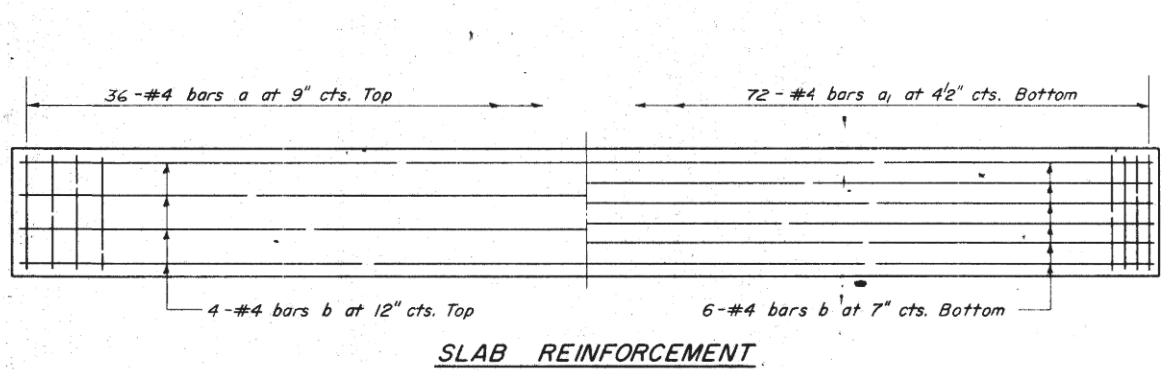
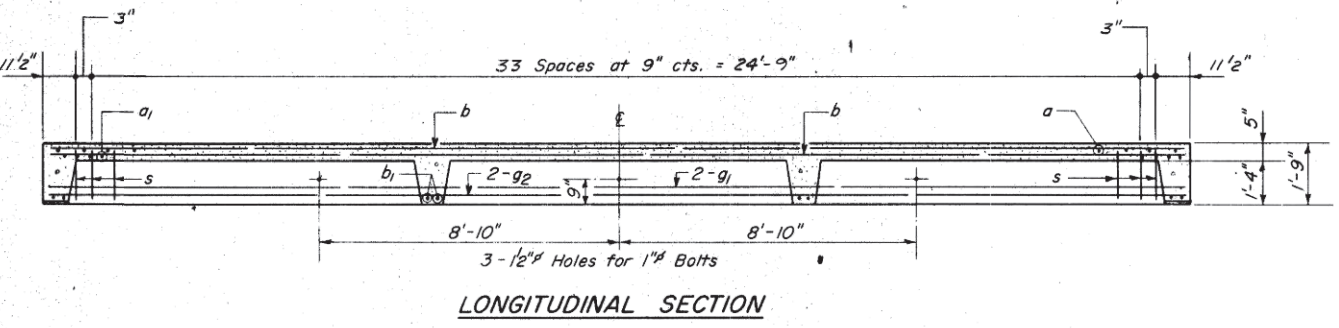
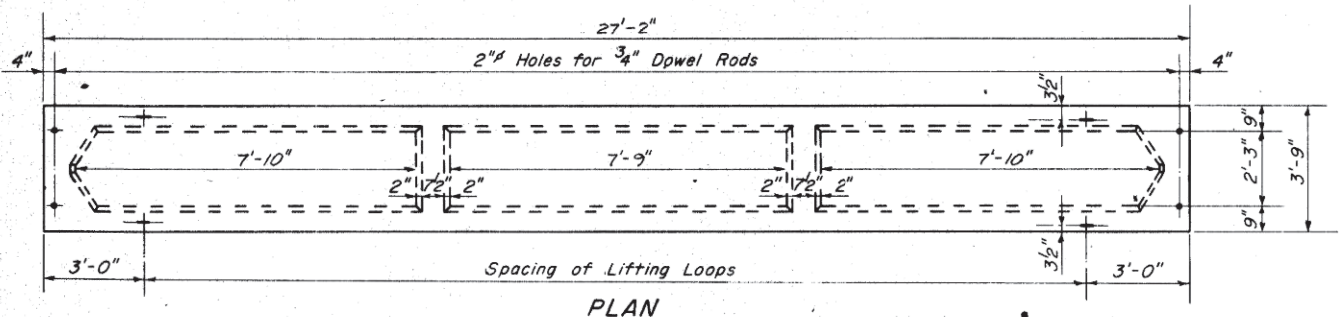
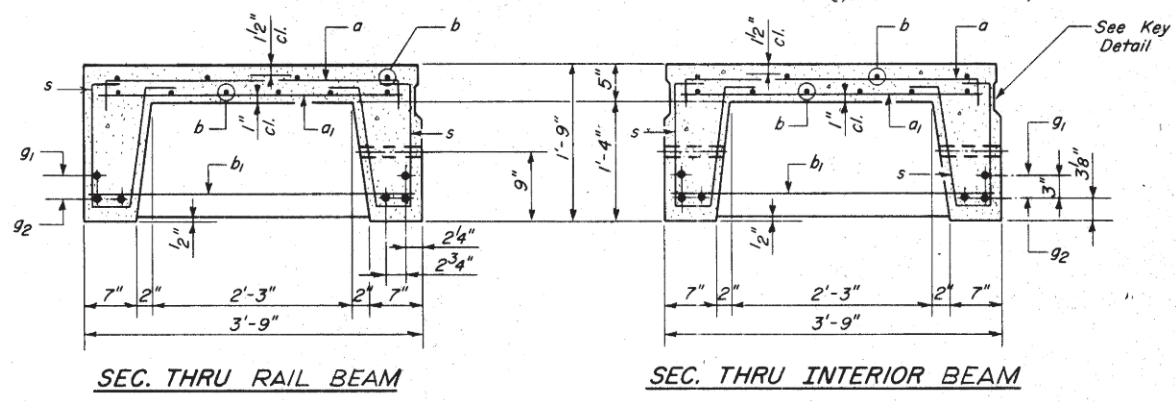
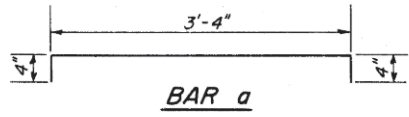
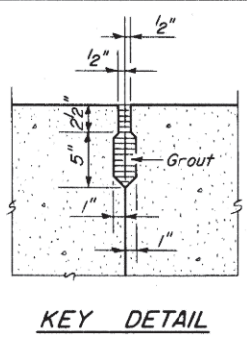
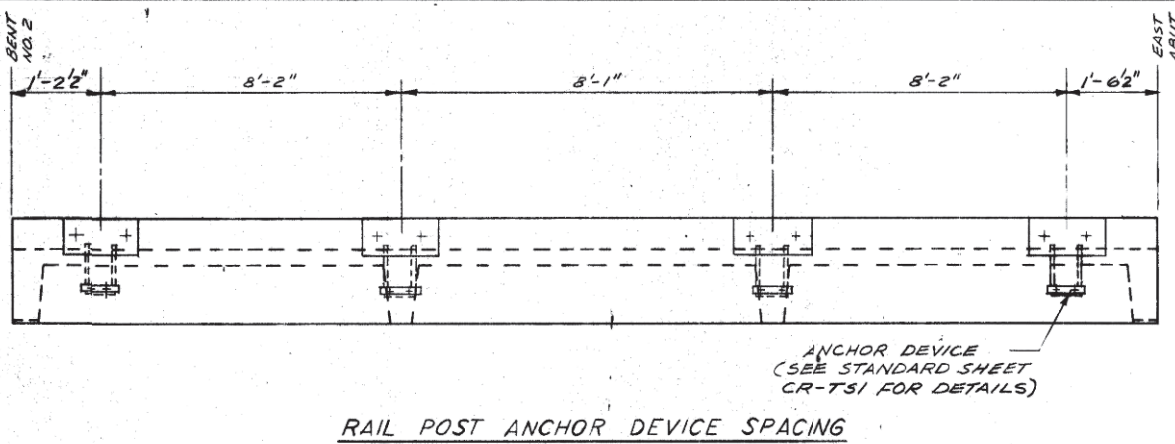
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 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

EXISTING PLANS  
 SN 032-3190 (E) 032-3191 (P)

**BIDDING PLANS**

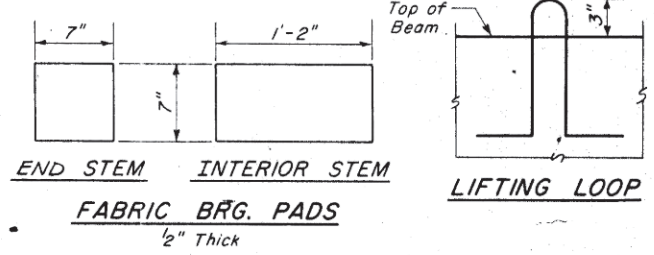
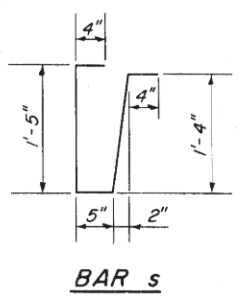
CURRENT AS OF: 02/20/2024	SHEET 54
SCALE: AS NOTED	OF 59
FILE NO.: 111523.00 Y-	

1418  
 CONTRACT NO. 87792



**BILL OF MATERIAL - FOR ONE BEAM**

27'-2" BEAM		RAIL BEAM		Interior BEAM			
Bar	Size	No.	Length	Weight	No.	Length	Weight
a	#4	36	4'-0"	96	36	4'-0"	96
a <sub>1</sub>	#4	72	3'-3"	156	72	3'-3"	156
b	#4	10	26'-9"	179	10	26'-9"	179
b <sub>1</sub>	#4	8	3'-6"	19	8	3'-6"	19
g <sub>1</sub>	#8	2	26'-9"	143	2	26'-9"	143
g <sub>2</sub>	#11	4	26'-9"	569	4	26'-9"	569
s	#3	72	3'-10"	104	72	3'-10"	104
Class X Concrete		Cu. Yds.					
Reinforcement Bars		Lbs.		1,266			1,266
Total Weight		Lbs.					



**DESIGN STRESSES**  
 $f'_c = 4,500$  psi.  
 $f_c = 1,800$  psi.  
 $f_s = 20,000$  psi.  
 $n = 8$

**LOADING HS20-44**

**FOR INFORMATION ONLY**

**PRECAST NOTES**

This work shall be done and paid for in accordance with Section 505 of the Standard Specifications effective OCTOBER 1, 1979. In case of conflict these notes shall take precedence.

All transverse tie assemblies (nuts, bolts and washers) shall be hot dipped galvanized in accordance with A.A.S.H.T.O. Designation M-232.

Unless otherwise approved by the Engineer, lifting loops shall be 1/4" NON-GALVANIZED HIGH STRENGTH STRESS RELIEVED WIRE STRANDS. LOOPS SHALL BE BURNED OFF AFTER SLAB/CAP HAVE BEEN ERECTED.

Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" bolts and of grouting longitudinal shear key is included in Unit bid price for "Precast Concrete Bridge Slab."

Tack welding of stirrups to the bottom longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.

JPBC 4-1-68 Rev. 8-5-81

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DATE: 01/2024				

PERU MORRIS  
 OTTAWA MENDOTA  
 ILLINOIS

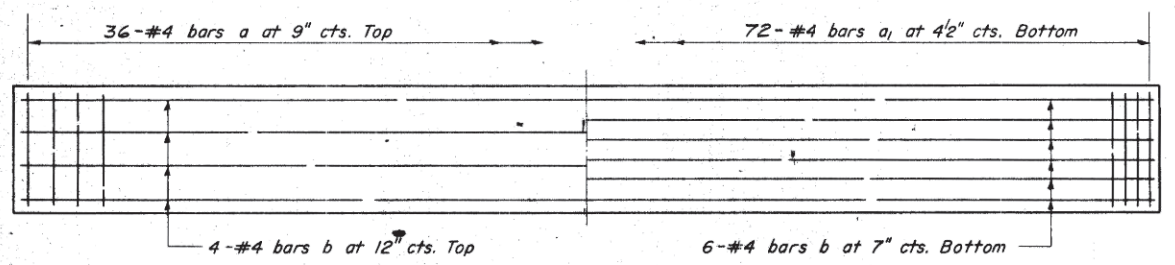
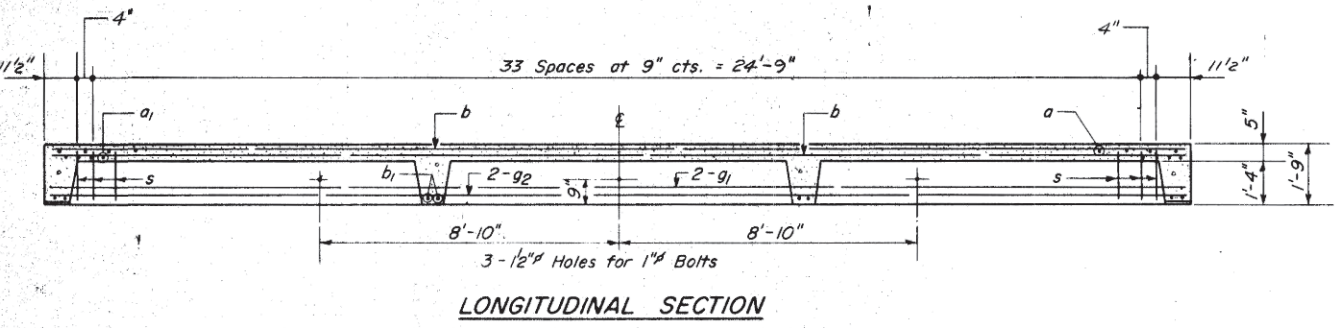
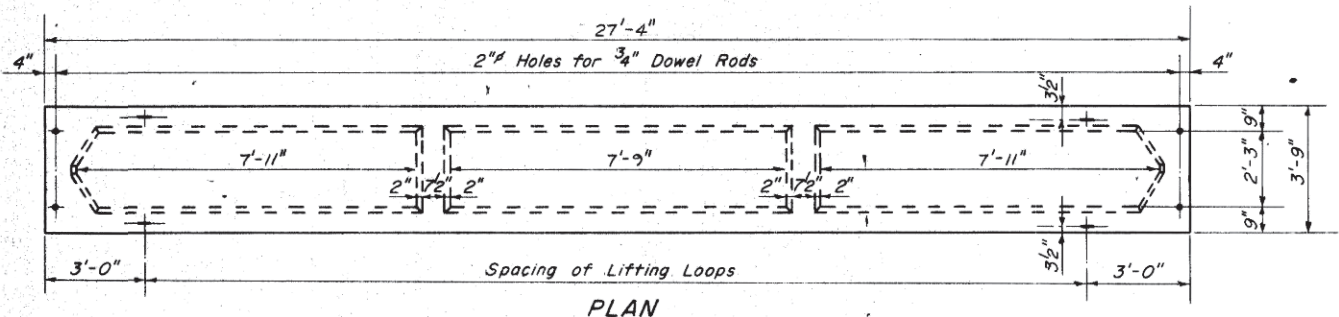
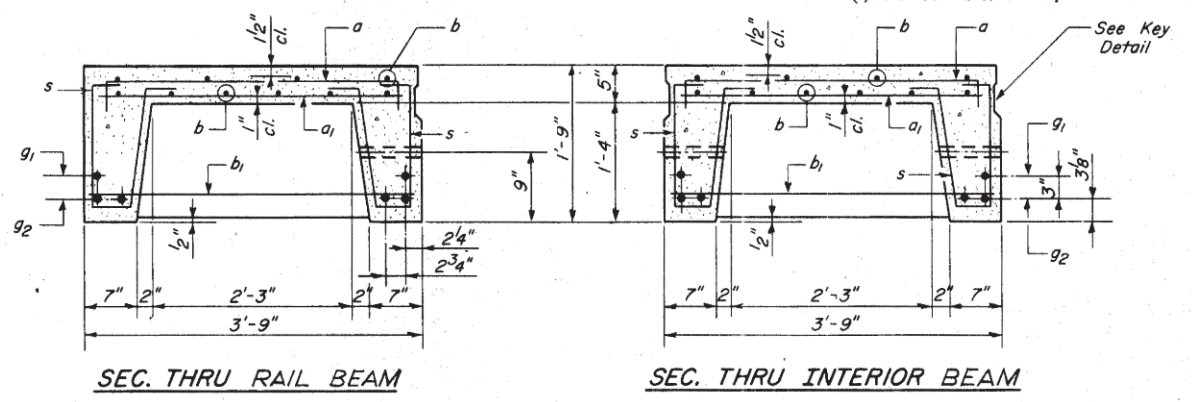
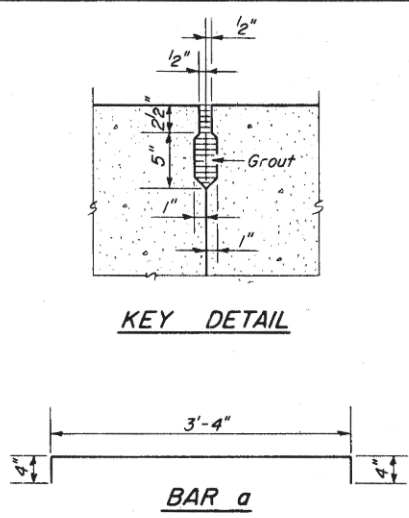
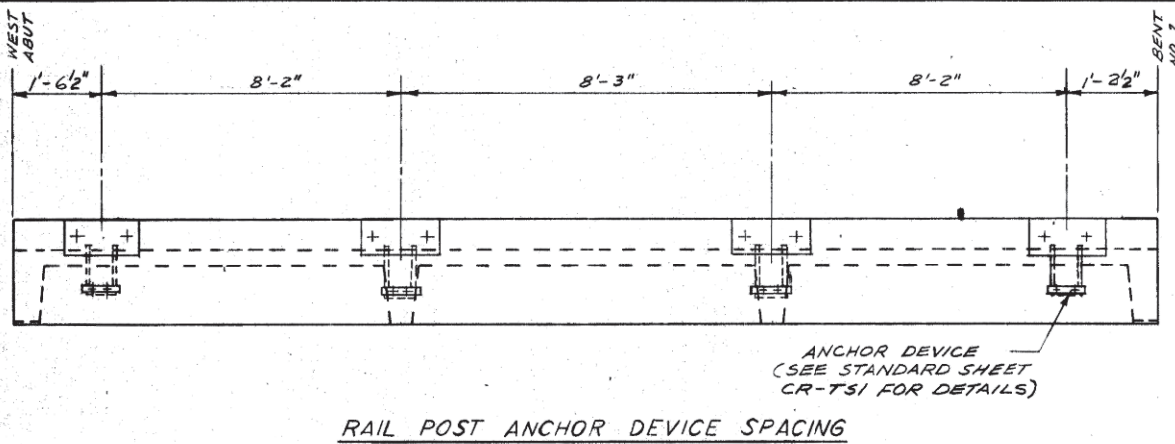
F.A.S. 272  
 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

EXISTING PLANS  
 SN 032-3200 (E) 032-3201 (P)

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 55
FILE NO.: 111523.00 Y-	OF 59

141R  
 CONTRACT NO. 87792



**PRECAST NOTES**

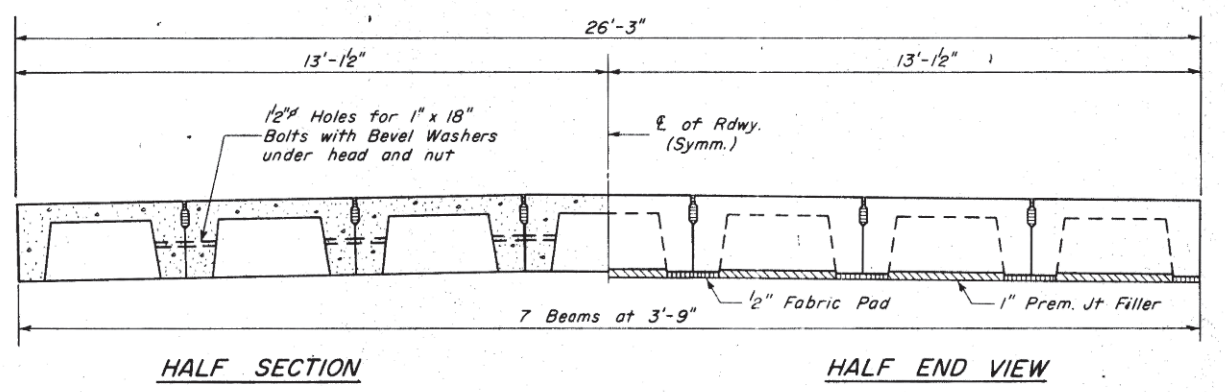
This work shall be done and paid for in accordance with Section 505 of the Standard Specifications effective OCTOBER 1, 1979. In case of conflict these notes shall take precedence.

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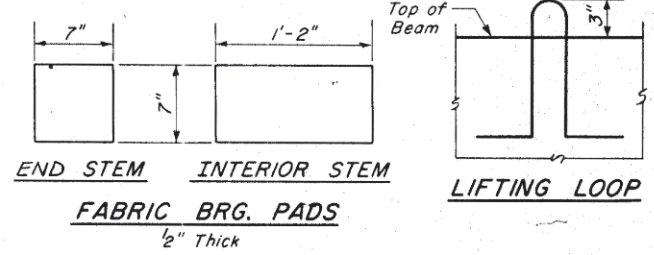
Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" bolts and of grouting longitudinal shear key is included in Unit bid price for "Precast Concrete Bridge Slab."

Tack welding of stirrups to the bottom longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.



**BILL OF MATERIAL - FOR ONE BEAM**

27'-4" BEAM		RAIL BEAM		Interior BEAM			
Bar	Size	No.	Length	Weight	No.	Length	Weight
a	#4	36	4'-0"	96	36	4'-0"	96
a <sub>1</sub>	#4	72	3'-3"	156	72	3'-3"	156
b	#4	10	26'-11"	180	10	26'-11"	180
b <sub>1</sub>	#4	8	3'-6"	19	8	3'-6"	19
g <sub>1</sub>	#8	2	26'-11"	144	2	26'-11"	144
g <sub>2</sub>	#11	4	26'-11"	572	4	26'-11"	572
s	#3	72	3'-10"	104	72	3'-10"	104
Class X Concrete		Cu. Yds.					
Reinforcement Bars		Lbs.		1,271			
Total Weight		Lbs.			1,271		



**DESIGN STRESSES**

f<sub>c</sub> = 4,500 psi.  
 f<sub>c</sub> = 1,800 psi.  
 f<sub>s</sub> = 20,000 psi.  
 n = 8

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DATE: 01/2024			

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F.A.S. 272  
 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

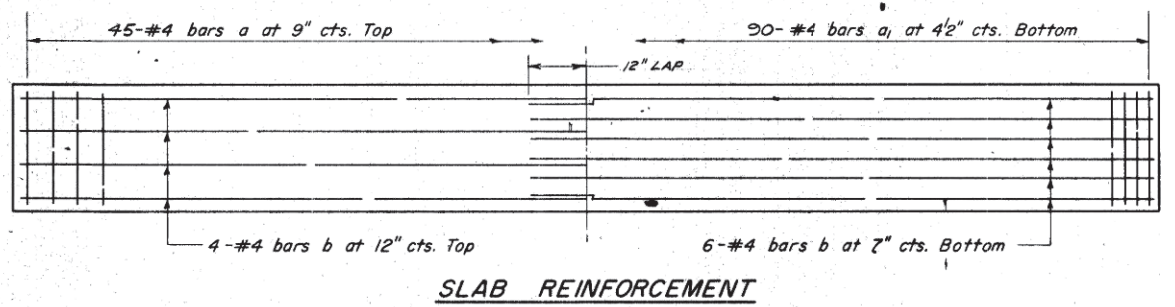
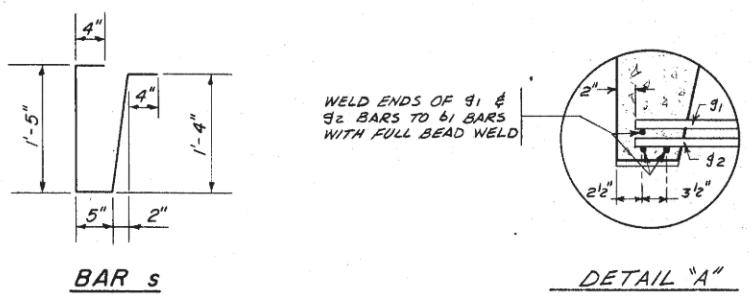
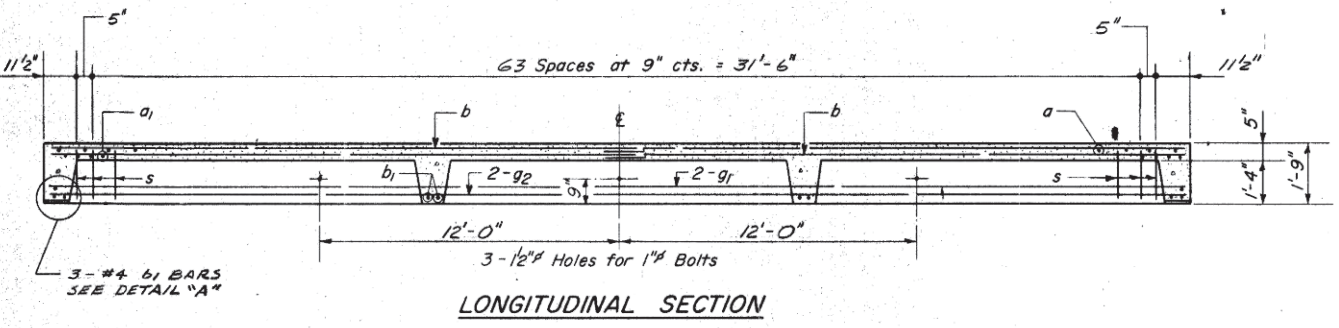
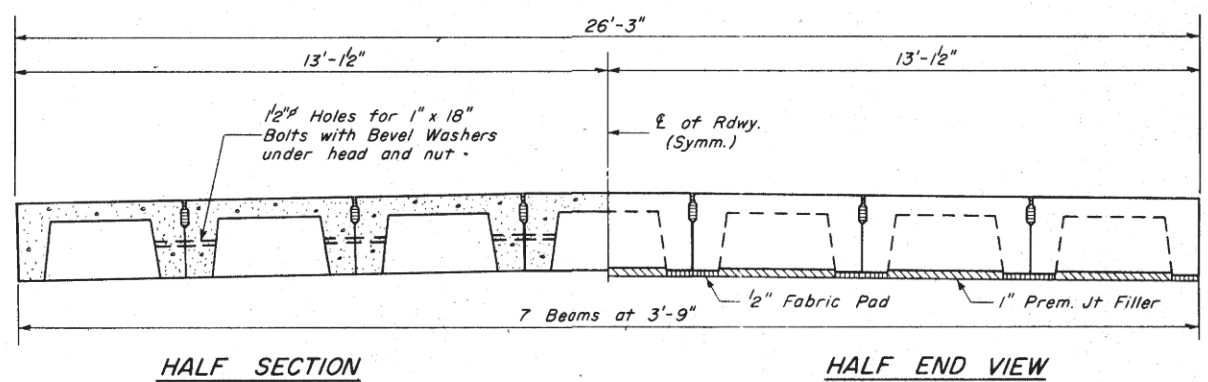
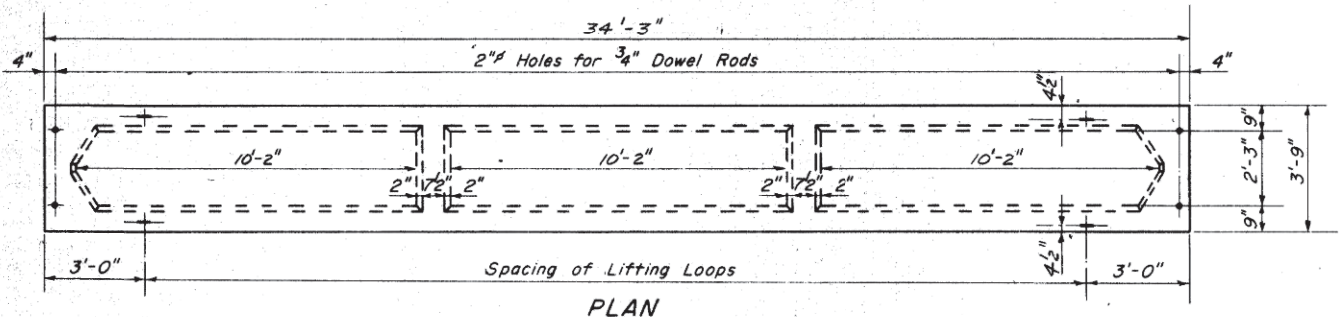
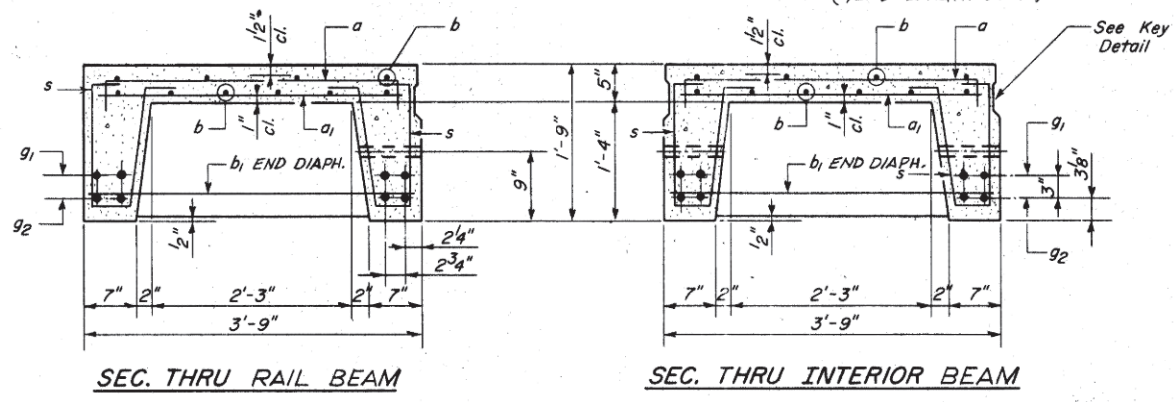
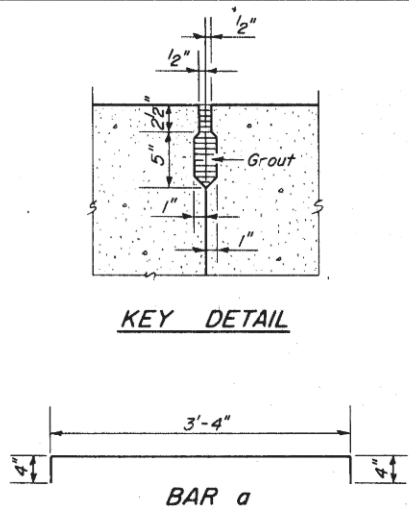
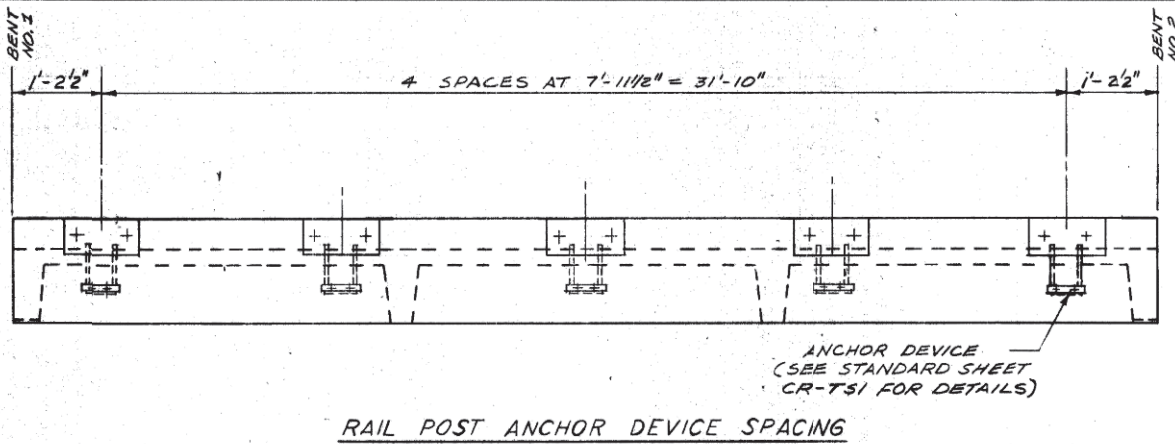
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 SN 032-3200 (E) 032-3201 (P)

BIDDING  
 PLANS

CURRENT AS OF: 02/20/2024	
SCALE: AS NOTED	SHEET 56
FILE NO.: 111523.00 Y-	OF 59

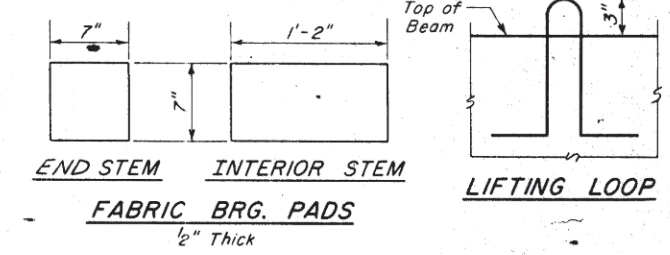
1418  
 CONTRACT NO. 87792





**BILL OF MATERIAL - FOR ONE BEAM**

34'-3" BEAM		RAIL BEAM		Interior BEAM			
Bar	Size	No.	Length	Weight	No.	Length	Weight
a	#4	45	4'-0"	120	45	4'-0"	120
a <sub>1</sub>	#4	90	3'-3"	195	90	3'-3"	195
b	#4	20	17'-6"	234	20	17'-6"	234
b <sub>1</sub>	#4	10	3'-6"	23	10	3'-6"	23
g <sub>1</sub>	#11	4	33'-11"	721	4	33'-11"	721
g <sub>2</sub>	#11	4	33'-11"	721	4	33'-11"	721
s	#3	132	3'-10"	190	132	3'-10"	190
Class X Concrete		Cu. Yds.					
Reinforcement Bars		Lbs.		2,204			2,204
Total Weight		Lbs.					



**PRECAST NOTES**

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Unless otherwise approved by the Engineer, lifting loops shall be 7/16" NON-GALVANIZED HIGH STRENGTH STRESS RELIEVE WIRE STRANDS. LOOPS SHALL BE BURNED OFF AFTER SLAB/CAP HAVE BEEN ERECTED.

Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" bolts and of grouting longitudinal shear key is included in Unit bid price for "Precast Concrete Bridge Slab."

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**DESIGN STRESSES**

$f'_c = 4,500$  psi.  
 $f_c = 1,800$  psi.  
 $f_s = 20,000$  psi.  
 $n = 8$

LOADING HS20-44

**FOR INFORMATION ONLY**

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REVISIONS	LEVEL	BY	DATE	DESCRIPTION

PERU MORRIS  
 OTTAWA MENDOTA  
 ILLINOIS

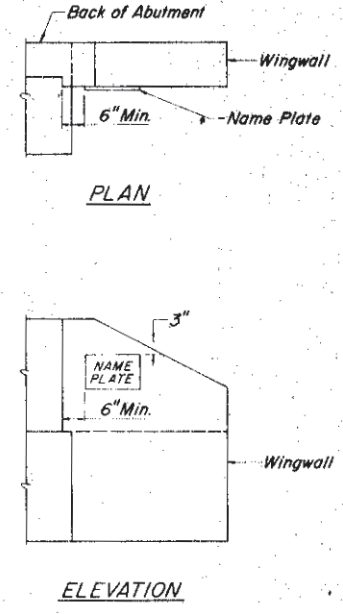
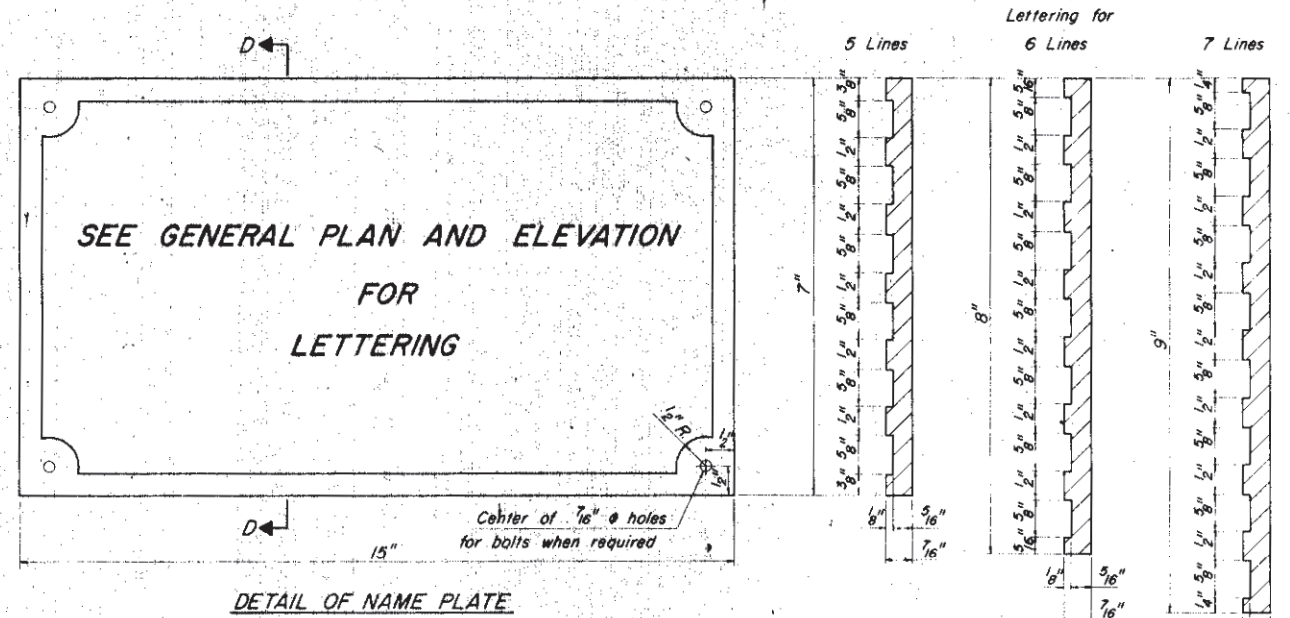
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 SECTION 19-00174-00-BR  
 GRUNDY COUNTY

EXISTING PLANS  
 SN 032-3200 (E) 032-3201 (P)

BIDDING  
 PLANS

CURRENT AS OF: 02/20/2024	SHEET 57
SCALE: AS NOTED	OF 59
FILE NO.: 111523.00 Y-	

1418  
 CONTRACT NO. 87792



**NOTES**

1. Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing.

2. All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-193 except posts and angles shall conform to A.A.S.H.T.O. M-223, Grade 50.

3. Bolts, cap screws and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. M-164.

4. All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

5. All post, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385. Galvanized rail shall not be painted.

6. For multi-span bridges, sufficient 1/2"x6"x1/2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.

7. All field drilled holes shall be coated with an approved zinc rich paint before erection.

8. The 1/2"x4"x6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/8" fabric bearing pads between the plates and concrete.

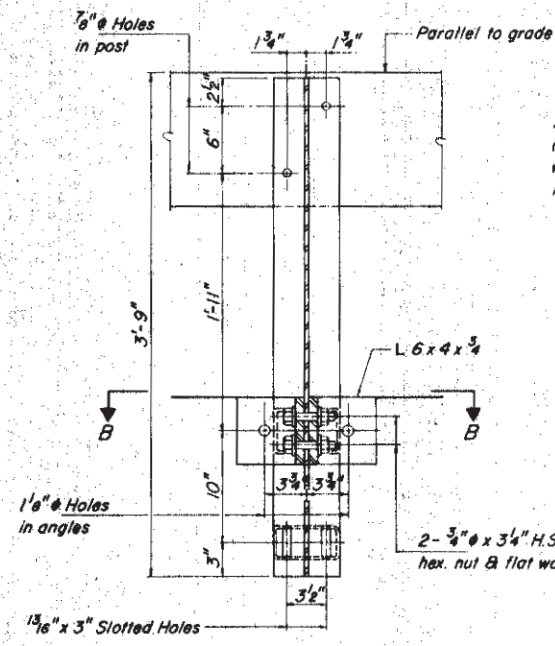
9. The 3/4" high strength bolts used to connect the 6"x4"x3/4" angles to the post shall be tightened in accordance with Article 507.04(g)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

10. The maximum allowable Rail Post spacing shall be 10'-6"

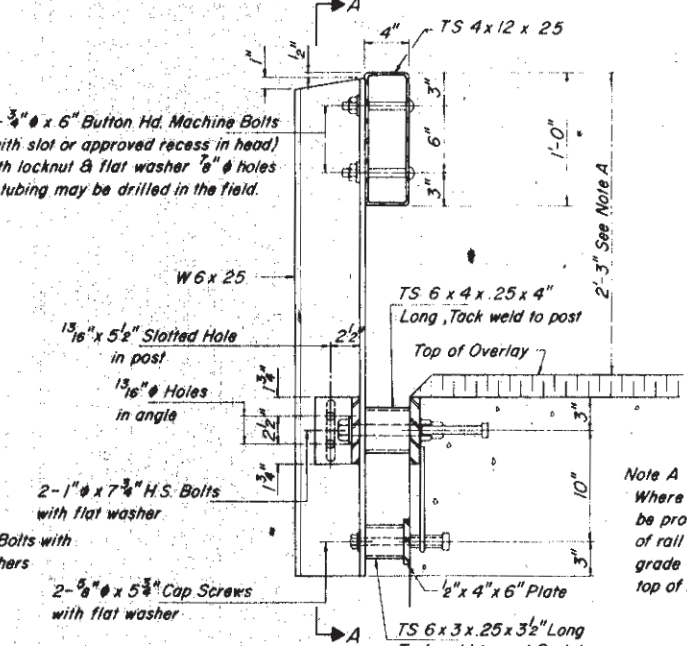
Material: Best quality brass or bronze.  
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.  
Fastenings: Four lugs at least three inches long, cast on back of plate.

SECTIONS D-D

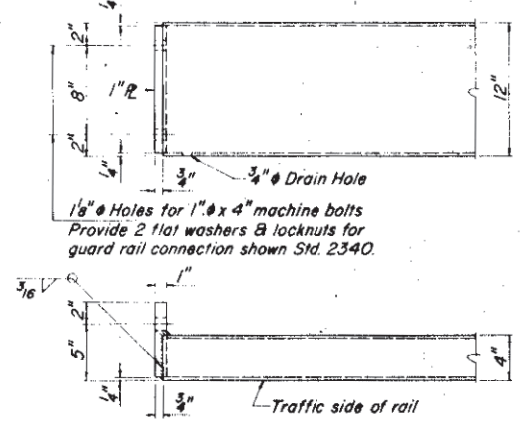
LOCATION OF NAME PLATE



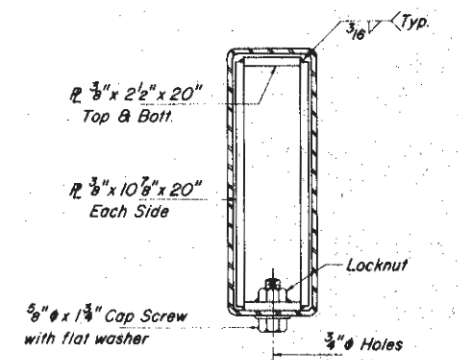
SECTION A-A



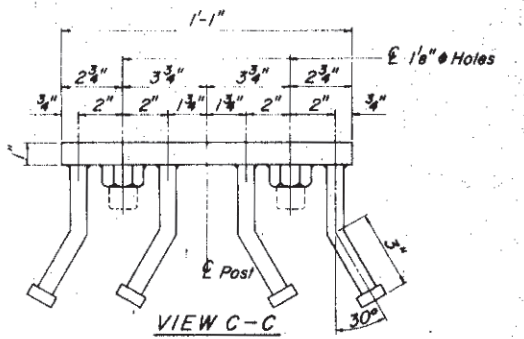
SECTION AT RAIL POST



END OF RAIL DETAILS



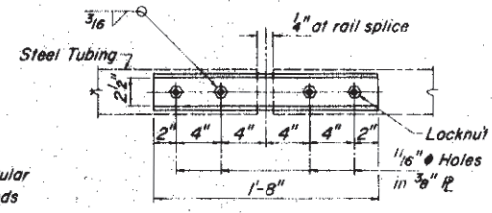
SECTION AT RAIL SPLICE



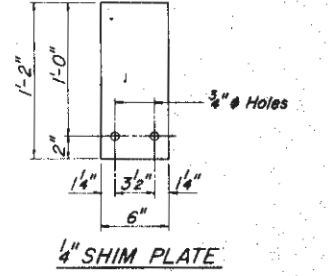
VIEW C-C

**Note A**  
Where no overlay is to be provided adjust top of rail to lay parallel grade 2'-5" max. above top of beam.

**\*\*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2"

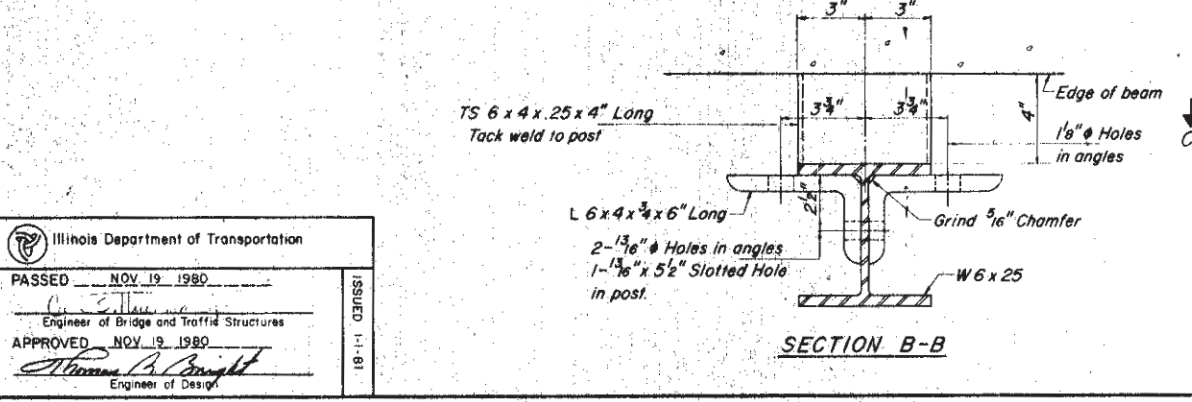


PLAN-BOTT SPLICE R. TYPICAL

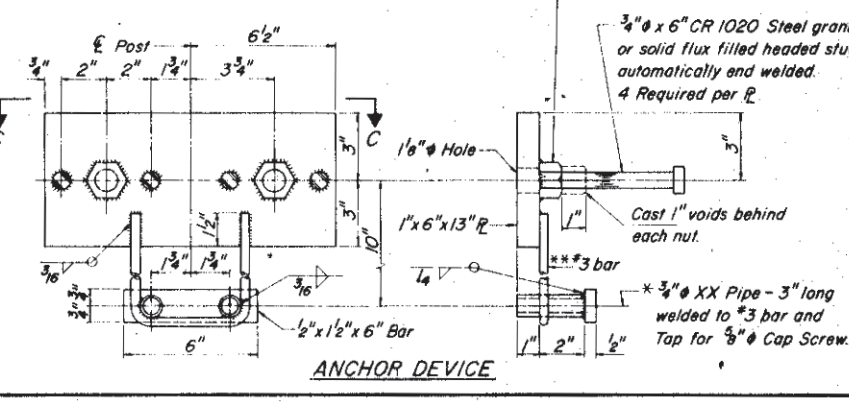


1/4 SHIM PLATE

\* Threaded areas shall be plugged or blocked off during casting of beam.



SECTION B-B



ANCHOR DEVICE

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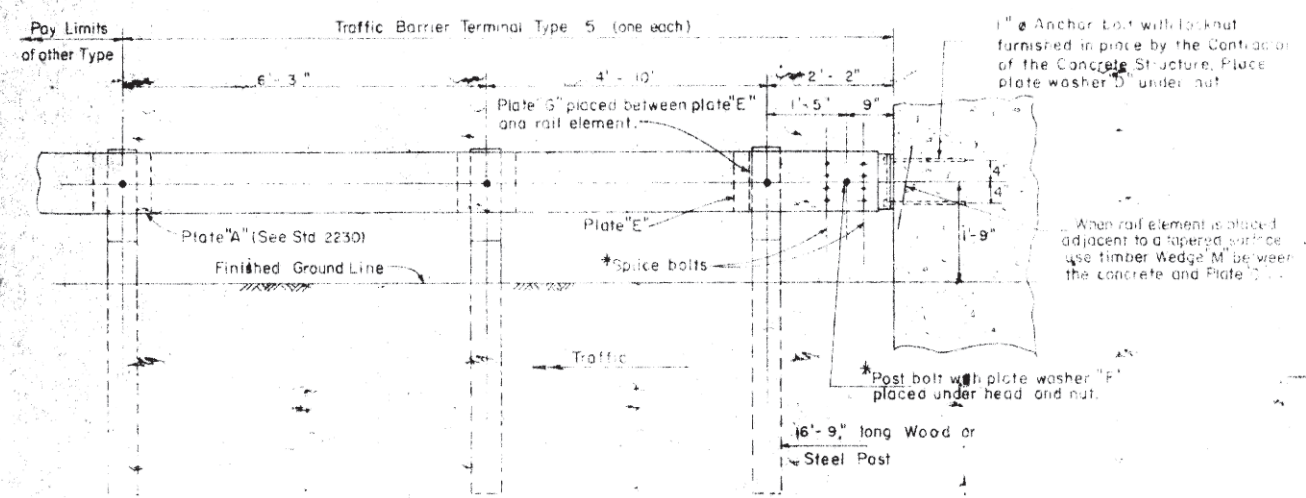
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STEEL RAILING, TYPE S1  
STANDARD CR-TS1

CONTRACT NO. 87792

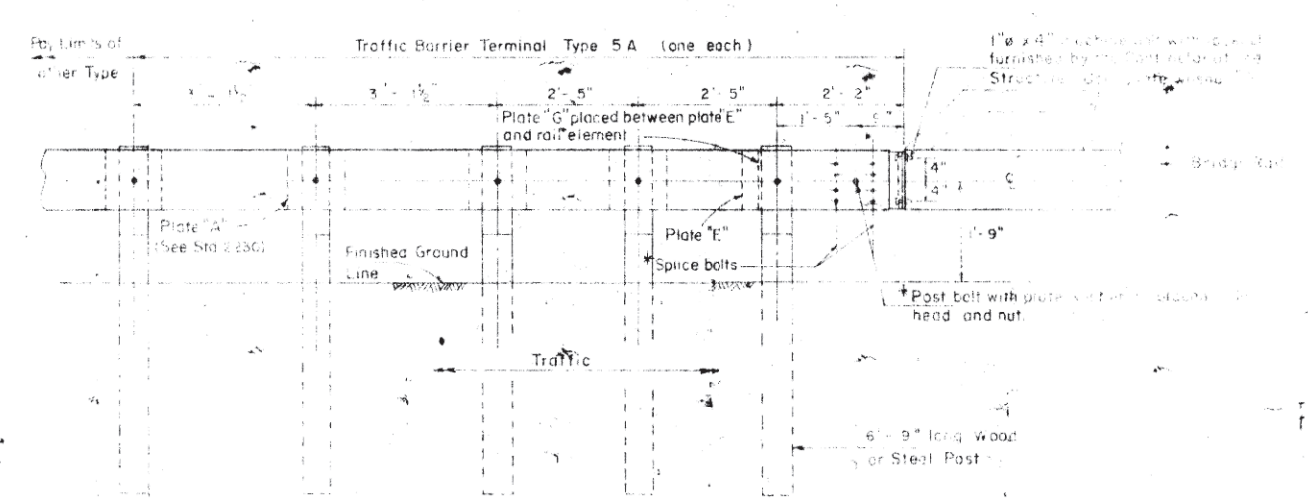
Illinois Department of Transportation  
PASSED NOV 19 1980  
Engineer of Bridge and Traffic Structures  
APPROVED NOV 19 1980  
Engineer of Design

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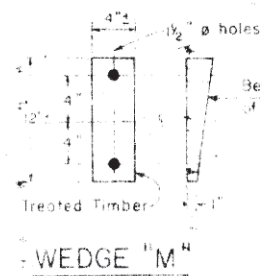
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LEVEL	BY	DATE	REVISIONS	DESCRIPTION													



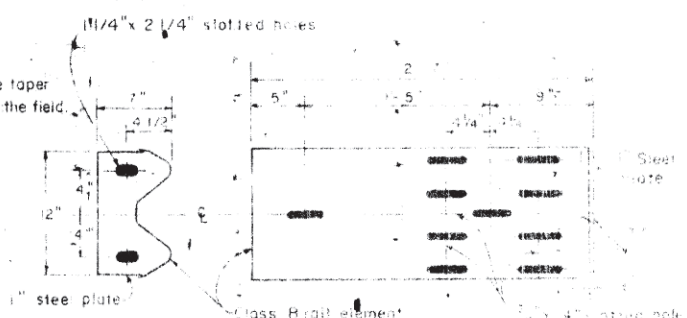
**TRAFFIC BARRIER TERMINAL TYPE 5  
ANCHORING RAIL ELEMENT TO CONCRETE BRIDGE PARAPET**



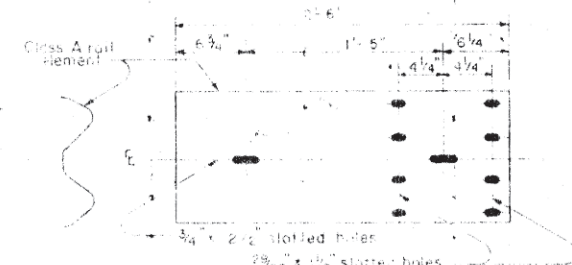
**TRAFFIC BARRIER TERMINAL TYPE 5A  
ANCHORING RAIL ELEMENT TO TYPE "S", "S-1", "T" or "T-1" BRIDGE RAIL**



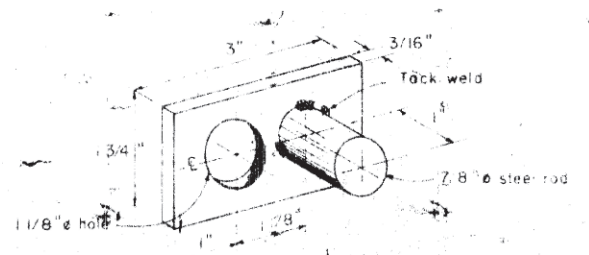
**WEDGE "M"**



**PLATE "G"**



**PLATE "E"**



**PLATE WASHER "D"**

**NOTES:**

- Install the face of the guardrail flush with the face of the bridge rail or parapet. Install plate washer "D" so that the 1/2\"/>
- \*Bolts shall be provided with lock nut or double nut and shall be tightened only to a point that will allow plate "E" to move when an expansion joint exists below the parapet.
- See Standard 2230 for details of guardrail.

**FOR INFORMATION ONLY**

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by Kurt Decker

Illinois Department of Transportation

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**SECTION 19-00174-00-BR**  
**GRUNDY COUNTY**

**EXISTING PLANS**

**BIDDING PLANS**

CURRENT AS OF: 02/20/2024	SHEET 59
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