PREPARED BY: DISTRICT STUDIES AND PLANS ENGINEER EXAMINED BY: _ DISTRICT LAND ACQUISITION ENGINEER DISTRICT PROGRAM DEVELOPMENT ENGINEER EXAMINED BY: _ EXAMINED BY: DISTRICT OPERATIONS ENGINEER DISTRICT PROJECT IMPLEMENTATION ENGINEER EXAMINED BY: _ District CONSTRUCTION ENGINEER EXAMINED BY: _ REVISED SHEET 6/6/2023

VEENSTRA & KIMM INC. Springfield, IL. Phone: (217)544-8033 IL. Design Firm No. 184-001939

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

SHEET OF SHEETS STA.

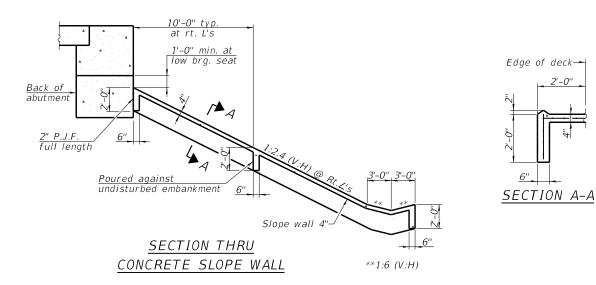
A.S.
TE. SECTION COUNTY TOTAL SHEETS NO.
900 (X1-7-1)B-2 WILLIAMSON 98 2
CONTRACT NO. 78945

Bench Mark: BM 4-A - Chiseled "□" on South End of Concrete Guardwall, south of East Pier, East LOADING HL-93 of northbound I-57, of Structure 100-0044. Station 15+14.50, 42.25' Rt. Elev. - 503.256 Allow 50#/sq. ft. for future wearing surface. Existing Structure: SN 100-0044 was constructed in 1959 under Section X1-7HB at Sta. 14+46.66. **DESIGN SPECIFICATIONS** The existing structure is a 4-span, haunched reinforced concrete deck girder bridge having a 2020 AASHTO LRFD Bridge Design back-to-back abutment length of 241'-9" and a 26'-0" face-to-face of curb and 31'-8" out-to-out of Specifications, 9th Edition. deck at a 12°52'45" left forward skew. The superstructure consists of a reinforced concrete slab supported by five haunched concrete T-beams. The substructure consists of reinforced concrete pile DESIGN STRESSES bent abutments supported by concrete piles and multi-column piers on reinforced concrete spread footings <u>FIELD UNITS</u> supported by timber piles. The structure will be replaced under road closure, traffic will be detoured. $f'_c = 3,500 \text{ psi}$ Tr<u>affic Barrier</u> $f'_c = 4,000 \text{ psi (Superstructure Concrete)}$ No salvage. Terminal Type 6 Standard 631031 $f_y = 60,000 \text{ psi (Reinforcement)}$ (4 quadrants) $f_y = 50,000 \text{ psi } (M270 \text{ Grade } 50)$ SEISMIC DATA EI. 514.08 Ex. Slope Wall (To be Removed, EI. 511.55 Seismic Performance Zone (SPZ) = 248" Web Plate Girder Design Spectral Acceleration at 1.0 sec. $(S_{D1}) = 0.297$ g -EI. ±499.36 (Composite full length) EI. ±500.96 -P.G.Steel H-Piles Steel H-Piles Design Spectral Acceleration at 0.2 sec. $(S_{DS}) = 0.810$ g Soil Site Class = C $2.0\% \pm 1.5\% / \pm 1.5\%$ See Roadway Plans 4" Concrete Steel H-Piles EI. 495.41 for Earth Excavation, (Typ.) Slope wall, Typ. 16'-11¾" Min. 17'-01⁄8" Min. Vertical Clr. Exist. 36"ø RCP 36"ø RCP Vertical Clr. +0.849% +1.009% (Roadway Item) El. 494.75 RCP T.B.R. Sta. 265+52.27 Elev. 503.51 **ELEVATION** 259+88. ₹ Boring 3-S PROFILE GRADE PROFILE GRADE (Along © NB I-57) (Along & SB I-57) /PC Sta. 10+80.00 Elev. 509.44 740.00' V.C. Name Plate Location Gutter Traffic Barrier Terminal, ShIdr 4'-0'' 5'-0'' E1. 503.00 Type 6 (Each Corner) Existing Sign PROFILE GRADE **** (Along @ CH 25) Sta. 262+82.02 Bk. E. Abut. /Sta. 15+76.00 -C Exist. Rdw\ Boring 1-S E1. 522.90 <u>Proposed</u> Structure -Boring 2-S **I**Sta. 13+23.00 Sta. 14+46.66 | El. 520.39 30'-0" Bridge PCC Connector Appr. Slab, Typ. Pavement, Typ. EI. 522.75 [|] <u>Point of min</u>. vert. clr.vert., clr. 503.25 12'-0" 12'-0" E1. 500.00-36"ø RCP Culvert ShIdr 4'-0" 5'-0" Extension (Roadway Lane Item) **APPROVED** Median Lane Existing Configuration .12'-0" | 12'-0" LOCATION SKETCH Shldr. Configuration Plans prepared by 160'-0" **-**-- € Brg. ⊈ Brg.-Civil Design, Inc. Limits of Protective Shield GENERAL PLAN & ELEVATION 121'-9%" 127'-51/2" $1'-10\%_{16}''$ 1'-10%16" FAS 1900/CH 25 (GRASSY ROAD) **OVER INTERSTATE 57** 253'-0" Bk.-Bk. Abutment JASON G. CHRECKENBERG SECTION (X1-7-1)B-2 081.006845 WILLIAMSON COUNTY <u>PLAN</u> STATION 14+46.66 ↑ REVISED 5-30-2023 REV. - TJZ STRUCTURE NO. 100-0105 Date: 05/09/2023 Expiration: 11/30/202 DESIGNED - RBT USER NAME REVISED CIVIL DESIGN,INC. WBE | DBE SECTION COUNTY **GENERAL PLAN AND ELEVATION** CHECKED _ **STATE OF ILLINOIS** JS REVISED 1900 (X1-7-1)B-2 WILLIAMSON 98 37 **STRUCTURE NO. 100-0105** ORAWN RBT REVISED **DEPARTMENT OF TRANSPORTATION** EFFINGHAM, IL CONTRACT NO. 78945 ICENSE #184.003222 PLOT DATE SHEET 1 OF 32 SHEETS CHECKED _ KAS REVISED ILLINOIS FED. AID PROJECT

5/31/2023 9:23:28 AM

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

(Horiz. dim. @ Rt. L's)



Slopewall shall be reinforced with welded wire fabric, $6" \times 6" - W4.0 \times W4.0$, weighing 58 lbs. per 100 sq. ft.

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> STATION 14+46.66 BUILT 20__ BY STATE OF ILLINOIS F.A.S. RT. 1900 SEC. (X1-7-1)B-2 LOADING HL-93 STR. NO. 100-0105

NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Protective Shield	Sg. Yd.	. = . =	534	534
Structure Excavation	Cu. Yd.		420	420
Concrete Structures	Cu. Yd.	356.0	149.6	149.6
Concrete Superstructure	Cu. Yd.	1,037		356.0
Bridge Deck Grooving	Sq. Yd.	1,377		1,037
Protective Coat	Sq. Yd.	95.3		1,377
Concrete Superstructure (Approach Slab)	Cu. Yd.	1		95.3
Furnishing and Erecting Structural Steel	L. Sum	4,572		1
Stud Shear Connectors	Each	119,350		4,572
Reinforcement Bars, Epoxy Coated	Pound		27,400	146,75
Slope Wall 4 Inch	Sq. Yd.		338	338
Furnishing Steel Piles HP14x89	Foot		1,765	1,765
Driving Piles	Foot		1,765	1,765
Pile Shoes	Each		28	28
Test Pile Steel HP14x89	Each		3	3
Name Plates	Each		1	1
Anchor Bolts, 1"	Each		24	24
Anchor Bolts, $1\frac{1}{2}$ "	Each		12	12
Geocomposite Wall Drain	Sq. Yd.		89	89
Granular Backfill for Structures	Cu. Yd.		191	191
Pipe Underdrains for Structures 4"	Foot		141	141

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ -in. Ø holes $\frac{15}{16}$ -in. Ø, unless otherwise noted.

Calculated weight of Structural Steel = 318,290 lbs. (AASHTO M270 Grade 50) 13,070 lbs. (AASHTO M270 Grade 36)

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

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1#8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The existing structural steel coating contains lead. The contractor shall take appropriate precautions to deal with presence of lead on this project.

Removal of existing concrete slope walls shall be included in the cost of Removal of Existing Structures.

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No 5.5R 3.3/11.1.

Slip forming of the parapets is not allowed.

Contractor shall refer to the aesthetic drawings for information on all aesthetic treatments, component requirements, and dimensions. Nominal structural dimensions shown in the bridge plans shall be supplemented to conform with the aesthetic drawings.

↑ REVISED 5-30-2023 REV. - TJZ



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 100-0105
SHEET 2 OF 32 SHEETS

F.A.S. SECTION COUNTY TOTAL SHEET'S NO.

1900 (X1-7-1)B-2 WILLIAMSON 98 38

CONTRACT NO. 78945

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