

B.M.: BM#14; Chiseled Square on Southeast abut. wingwall of SN 031-0015 on IL 267 over Apple Creek, Elev. 511.16
 BM#15; Chiseled Square on Northwest abut. wingwall of SN 031-0015 on IL 267 over Apple Creek, Elev. 510.85

Traffic: Traffic shall be maintained during construction by Staged Construction.

Existing Structure: SN 031-0015, 7-span Reinforced concrete slab on wide flange steel beams with expansion joints at abutments and Pier 4 (Bent 5), Reinforced concrete piers, Reinforced concrete abutments, Built as F.A.I. 64 Sec. 3-B-D-F Sta. 464+62.00 in 1938, Deck replacement and existing wide flange beams made composite 528'-7" long x 32'-6" wide as F.A.Rte. 164 Sec. 3BY-2 Sta. 464+62.00 in 1969, Deck Overlay & Joint Replacement as F.A.Rte. 10 Sec. 3BI-2 in 1987.

Salvage: None.

STATION 466+09.00
 RE-BUILT 20__ BY
 STATE OF ILLINOIS
 F.A.P. RT. 10 SEC. 3BR-2
 LOADING HS20
 STRUCTURE NO. 031-0015

NAME PLATE
 See Std. 515001

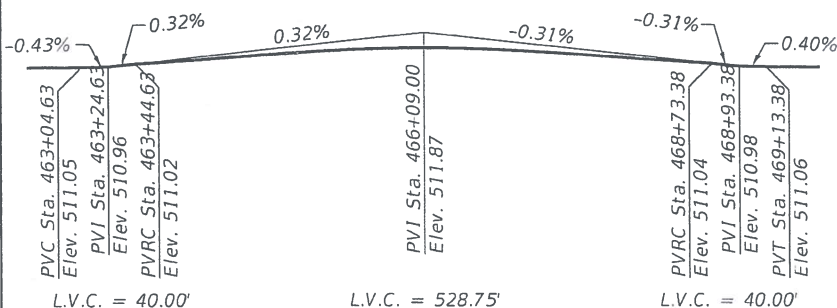
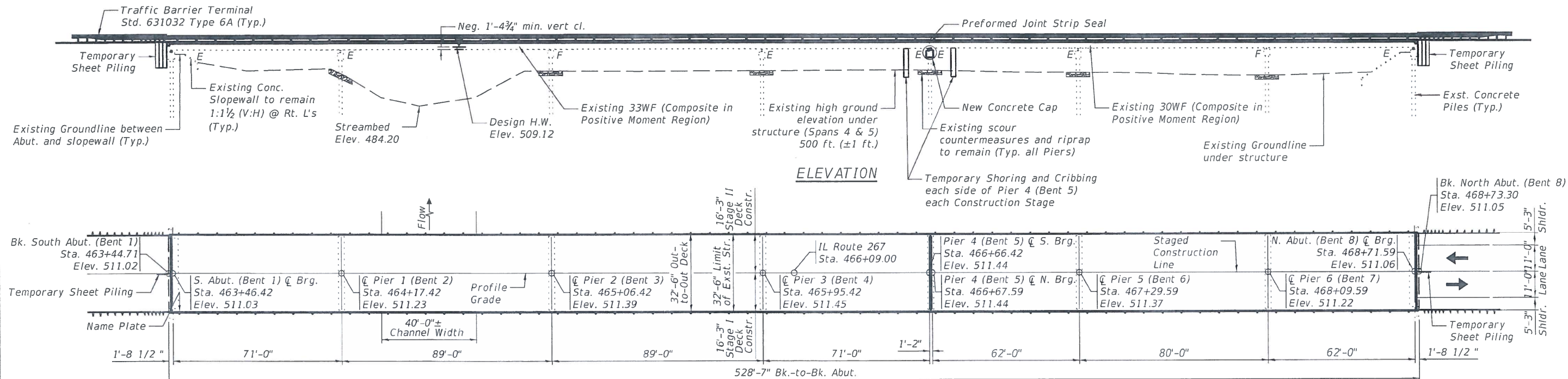
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

SCOPE OF WORK

- 1) Pre-Stage deck repair, interior diaphragm replacement, and end beam repairs at abutments and Pier 4 (Bent 5) for Stage I Traffic.
- 2) Remove and replace concrete deck and steel railing.
- 3) Remove and replace deteriorated diaphragms & all end diaphragms.
- 4) Remove and replace abutment and Pier 4 (Bent 5) bearings.
- 5) Repair beam ends where required with steel plate retrofitting and add galvanized angle bearing stiffeners.
- 6) Reset Pier bearings that are rotated.
- 7) Remove and replace pier cap at Pier 4 (Bent 5). Provide temporary support system to facilitate pier cap replacement.
- 8) Repair deteriorated parts of concrete substructures.
- 9) Clean Abut. & Pier seats.

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PROFILE GRADE
 IL ROUTE 267



REV. 6-3-2019

DESIGN STRESSES

FIELD UNITS
 f'c = 5,000 psi (Superstructure)
 f'c = 3,500 psi (Substructure)
 fy = 60,000 psi (Reinforcement)
 fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (Exist. Const.)
 f'c superstructure = 2,400 psi
 f'c substructure = 2,400 psi
 fy substructure = 40,000 psi (Reinforcement)
 fy = 33,000 psi (A7), Beam Strength limited to yield strength subject to bracing req.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

LOADING HS-20-44

Future wearing surface not allowed.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
 Design Spectral Acceleration at 1.0 sec. (S_D) = .162
 Design Spectral Acceleration at 0.2 sec. (S_D) = .304
 Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

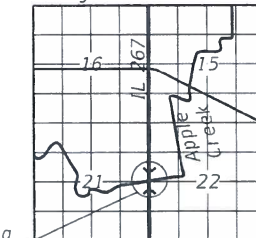
Event / Limit State	Design Scour Elevations (ft.)								Item 113
	S. Abut. (Bent 1)	Pier 1 (Bent 2)	Pier 2 (Bent 3)	Pier 3 (Bent 4)	Pier 4 (Bent 5)	Pier 5 (Bent 6)	Pier 6 (Bent 7)	N. Abut. (Bent 8)	
Q100	504.14	496.34	499.69	499.49	499.27	499.19	494.92	504.41	8
Q200	504.14	496.20	499.55	499.35	499.13	499.05	494.78	504.41	
Design	504.14	496.34	499.69	499.49	499.27	499.19	494.92	504.41	

WATERWAY INFORMATION

Drainage Area = 146.85 sq.mi. Low Grade Elev. 511.37 @ Sta. 462+00

Flood Yr.	Freq. Q C.F.S.	Opening Ft ²		Nat. H.W.E.	Head - Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.			
10									
Design	50	15,981	2,989	2,989	506.10	3.02	3.02	509.12	509.12
Base	100	18,269	3,116	3,116	506.35	3.26	3.26	509.61	509.61
Overtopping									
Max. Calc.	500	23,720			506.87	3.77	3.77	510.64	510.64

Range 10W - 3rd P.M.



Existing Structure LOCATION SKETCH

GENERAL PLAN & ELEVATION
 IL ROUTE 267 OVER APPLE CREEK
 F.A.P. RTE. 10 - SECTION 3BR-2
 GREENE COUNTY
 IL ROUTE 267 STA. 466+09.00
 STRUCTURE NO. 031-0015

USER NAME	DESIGNED	REVISION	DATE
MBH	MBH	4/11/19	
RHB	RHB	5/9/19	
MBH	MBH		
RHB	RHB		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
 STRUCTURE NO. 031-0015

SHEET 1 OF 24 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10	3BR-2	GREENE	41	18
CONTRACT NO. 76M21				
ILLINOIS FED AID PROJECT				

MODEL: Layou1
 FILE NAME: P:\10E2166 29\FAP 10 IL 267 3BR-2 Apple Creek 76M21\CADD Sheets\Structure Sheets\0310015-76M21-001.GPJ.dgn
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