Benchmark: Chisel "x" on upper flange bolt of fire hydrant at southeast corner of IL Rte. 132 and Victory Dr. intersection just west of dry land bridge, Elev. 791.41

Existing Structure: SN 049-D002, Dry Land Bridge built in 1978 as F.A.P. Rte. 541, Section A-W and RS-1 as 14 three span continuous RC slab units at 67'-0" c.c. piles and 49'-2" wide, 938'-0" total length. Slab is 12" thick at center and tapers to 36" thick at interior supports supported by concrete caps on 12" dia. metal shell piles, 8 piles (interior caps) and 6 piles (exterior caps). Existing bridge, including RC slab, pile caps, and tops of interfering metal shell piles to be removed and replaced. Traffic to be maintained utilizing staged construction.

No salvage.

HIGHWAY CLASSIFICATION

F.A.P. Rte. 541 IL Rte. 132
Functional Class: Other Principal Arterial
ADT: 21,300 (2013), 29,000 (2040)
ADTT: 1000 (2013), 1470 (2040)
DHV: 1360
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.
Two-Way Traffic
Directional Distribution: 54:46

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

FIELD UNITS

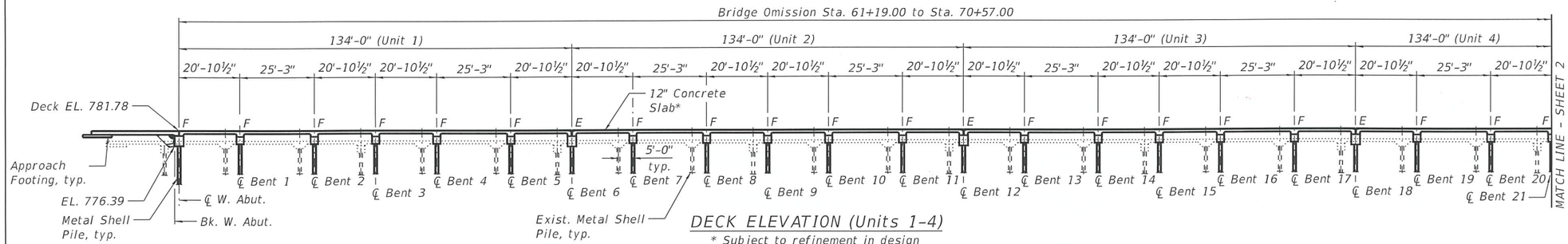
f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)

LOADING HL-93

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

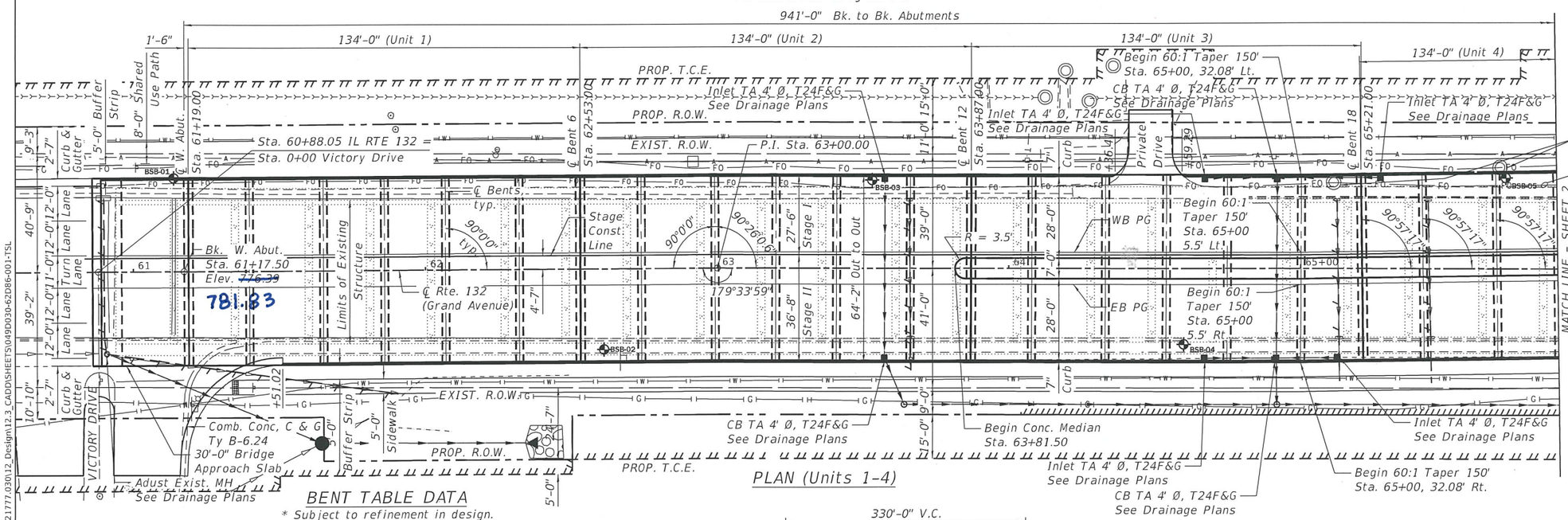
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.076 g
Design Spectral Acceleration at 0.2 sec. (SDs) = 0.124 g
Soil Site Class = D



DECK ELEVATION (Units 1-4)

* Subject to refinement in design
All dimensions along WB PG.



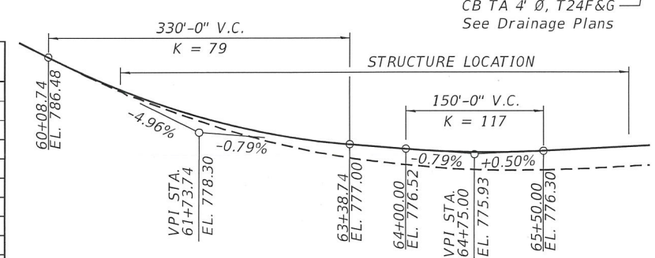
PLAN (Units 1-4)

Note:
Taper stations and offsets relative to roadway centerline.

BENT TABLE DATA

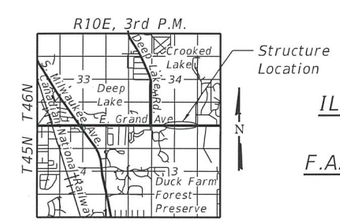
* Subject to refinement in design.

Bent No.	Station at CL Rte. 132	Deck Elev. at WB PG*	Btm. of Cap Elevation*	Bent No.	Station at CL Rte. 132	Deck Elev. at WB PG*	Btm. of Cap Elevation*
Bk. W. Abut.	61+17.50	781.83	776.39	CL of 11	63+66.13	776.79	772.35
CL W. Abut.	61+19.00	781.78	776.34	CL of 12	63+87.00	776.62	771.18
CL of 1	61+39.88	781.07	776.63	CL of 13	64+07.88	776.47	772.03
CL of 2	61+65.13	780.28	775.84	CL of 14	64+33.13	776.31	771.87
CL of 3	61+86.00	779.69	775.25	CL of 15	64+54.00	776.22	771.78
CL of 4	62+06.88	779.14	774.70	CL of 16	64+74.88	776.17	771.73
CL of 5	62+32.13	778.57	774.13	CL of 17	65+00.13	776.16	771.72
CL of 6	62+53.00	778.14	772.70	CL of 18	65+21.00	776.20	770.76
CL of 7	62+73.88	777.78	773.34	CL of 19	65+41.88	776.27	771.83
CL of 8	62+99.13	777.41	772.97	CL of 20	65+67.13	776.39	771.95
CL of 9	63+20.00	777.18	772.74	CL of 21	65+88.00	776.49	772.05
CL of 10	63+40.88	776.98	772.54				



PROFILE GRADE

ALONG EB/WB PG RTE. 132 (GRAND AVE.)



LOCATION SKETCH

APPROVED
SEP 04 2019
AS A BASIS FOR PREPARATION OF DETAILED PLANS

GENERAL PLAN
IL RTE. 132 DRY LAND BRIDGE
VICTORY DR. TO MUNN RD.
F.A.P. RTE. 541 - SEC. A-W&RS-2
LAKE COUNTY
STATION 65+88.00
STRUCTURE NO. 049-D030

PATRICK ENGINEERING

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	A-W&RS-2	LAKE	3	1
		CONTRACT NO. 62D86		
		ILLINOIS FED. AID PROJECT		

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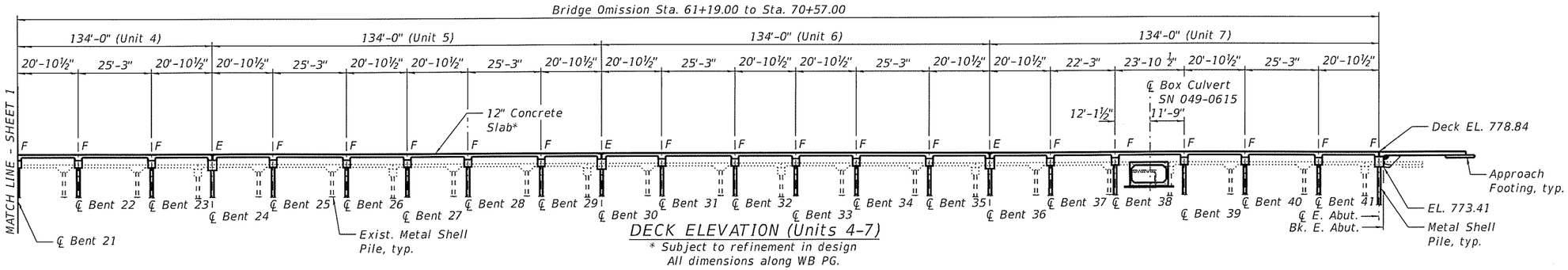
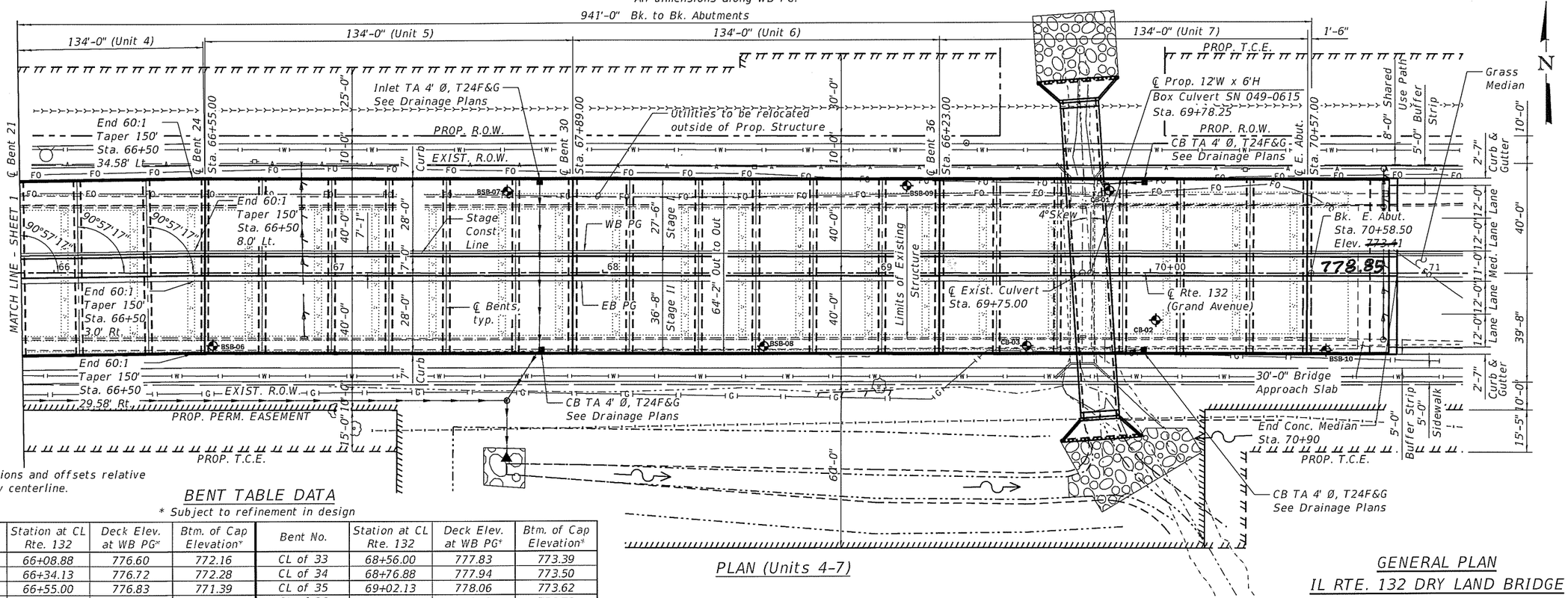


DECK ELEVATION (Units 4-7)

* Subject to refinement in design
All dimensions along WB PG.



Note:
Taper stations and offsets relative to roadway centerline.

PLAN (Units 4-7)

BENT TABLE DATA

* Subject to refinement in design

Bent No.	Station at CL Rte. 132	Deck Elev. at WB PG*	Btm. of Cap Elevation*	Bent No.	Station at CL Rte. 132	Deck Elev. at WB PG*	Btm. of Cap Elevation*
CL of 22	66+08.88	776.60	772.16	CL of 33	68+56.00	777.83	773.39
CL of 23	66+34.13	776.72	772.28	CL of 34	68+76.88	777.94	773.50
CL of 24	66+55.00	776.83	771.39	CL of 35	69+02.13	778.06	773.62
CL of 25	66+75.88	776.93	772.49	CL of 36	69+23.00	778.17	772.73
CL of 26	67+01.13	777.06	772.62	CL of 37	69+43.88	778.27	773.83
CL of 27	67+22.00	777.16	772.72	CL of 38	69+69.13	778.38	773.94
CL of 28	67+42.88	777.27	772.83	CL of 39	69+90.00	778.50	774.06
CL of 29	67+68.13	777.39	772.95	CL of 40	70+10.88	778.61	774.17
CL of 30	67+89.00	777.50	772.06	CL of 41	70+36.13	778.74	774.30
CL of 31	68+09.88	777.60	773.16	CL E. Abut.	70+57.00	778.84	773.40
CL of 32	68+35.13	777.73	773.29	Bk. E. Abut.	70+58.50	778.85	773.41

GENERAL PLAN
IL RTE. 132 DRY LAND BRIDGE
VICTORY DR. TO MUNN RD.
F.A.P. RTE. 541 - SEC. A-W&RS-2
LAKE COUNTY
STATION 65+88.00
STRUCTURE NO. 049-D030

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	A-W&RS-2	LAKE	3	2
		CONTRACT NO. 62D86		
		ILLINOIS	FED. AID PROJECT	

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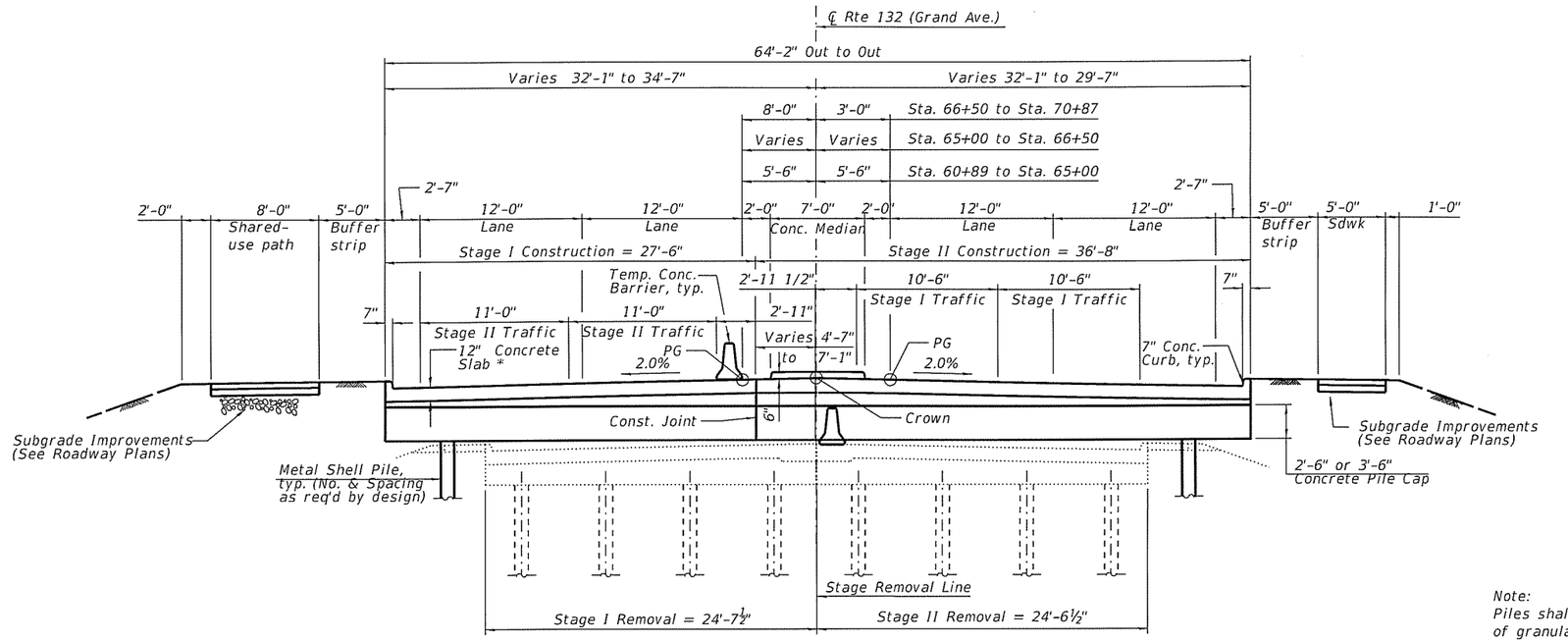
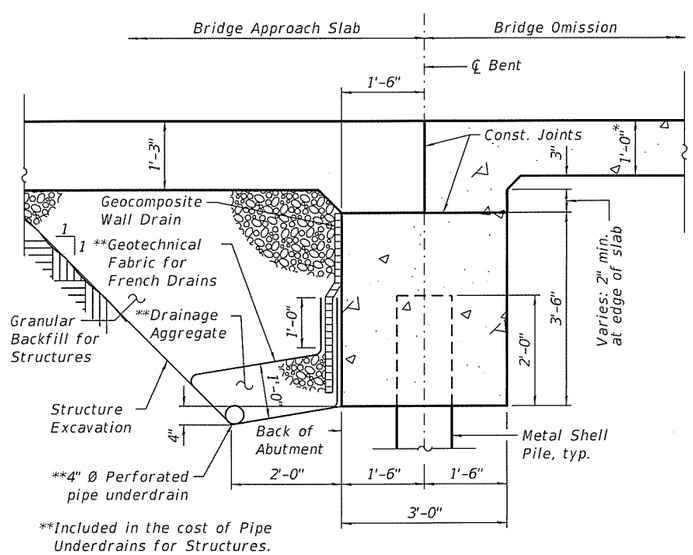


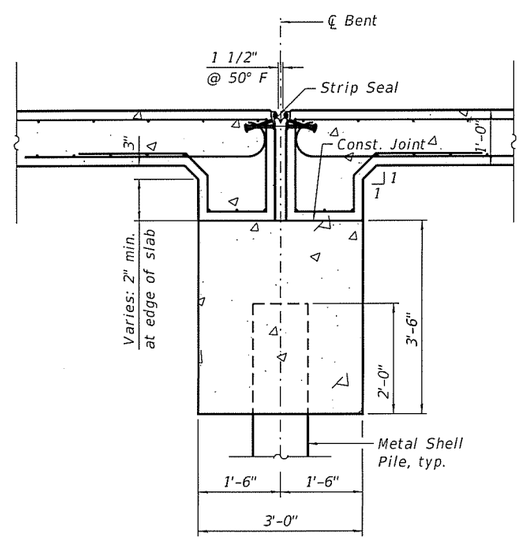
Note:
Piles shall be driven before placement of granular backfill.

CROSS SECTION

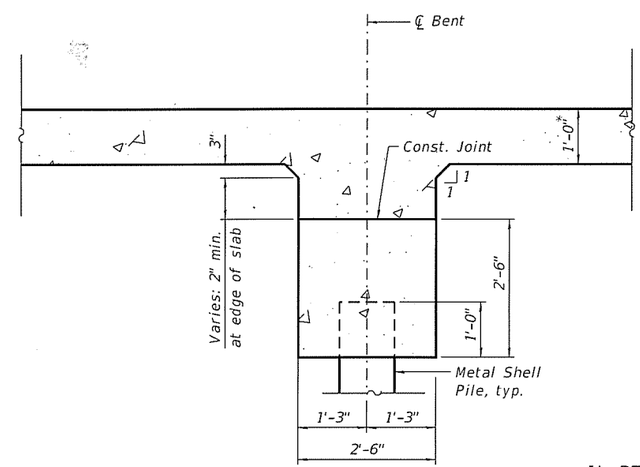
(Looking East)
* Subject to refinement during design



SECTION THRU ABUTMENT



SECTION THRU EXPANSION BENT



SECTION THRU FIXED BENT

DETAILS
IL RTE. 132 DRY LAND BRIDGE
VICTORY DR. TO MUNN RD.
F.A.P. RTE. 541 - SEC. A-W&RS-2
LAKE COUNTY
STATION 65+88.00
STRUCTURE NO. 049-D030

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 3 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	A-W&RS-2	LAKE	3	3
		CONTRACT NO. 62D86		
		ILLINOIS FED. AID PROJECT		

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