

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				90% FED 10% STATE	90% FED 10% STATE
				BRIDGE	SAFETY - IDOT
				0013	0021
		SN 016-2029			
40604062	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70	TON	32	32	
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	80	80	
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	1,138	1,138	
44000100	PAVEMENT REMOVAL	SQ YD	553	553	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	385	385	
44000600	SIDEWALK REMOVAL	SQ FT	1,792	1,792	
44213200	SAW CUTS	FOOT	451	451	
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1	
50102400	CONCRETE REMOVAL	CU YD	37.6	37.6	
50104000	BRIDGE RAIL REMOVAL	FOOT	230	230	
50157300	PROTECTIVE SHIELD	SQ YD	679	679	
50200100	STRUCTURE EXCAVATION	CU YD	122.8	122.8	
50300225	CONCRETE STRUCTURES	CU YD	107.2	107.2	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	583.4 <del>504.8</del>	583.4 <del>504.8</del>	⚠
50300260	BRIDGE DECK GROOVING	SQ YD	957	957	

⚠ REVISED SHEET 7/14/2023 \* SPECIALTY ITEMS

MODEL: Default  
 FILE NAME: X:\S00 Drawings\502 CADD Sheets\502P00-pls-S0002.dgn



USER NAME = apatel	DESIGNED - KH	REVISED -
	DRAWN - KMM	REVISED -
PLOT SCALE = 2.0000' / in.	CHECKED - AP	REVISED -
PLOT DATE = 04/17/2023	DATE - 04/17/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES  
I-57 AT PARNELL AVENUE**

SCALE: NONE SHEET 2 OF 9 SHEETS STA. TO STA.

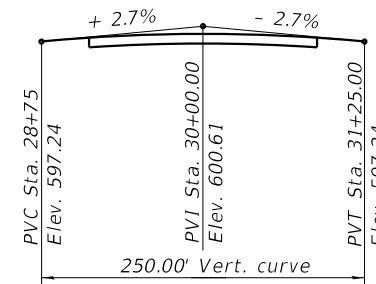
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2021-063-B	COOK	103	5
CONTRACT NO. 62P00			ILLINOIS FED. AID PROJECT	

Benchmark: Cut square on concrete wall on SW corner of 99th Street & Parnell Avenue.  
Elevation = 596.656

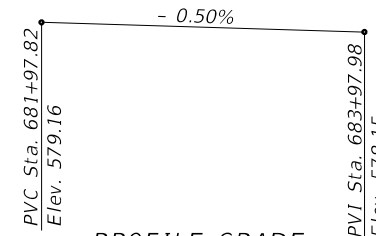
Existing Structure: S.N. 016-2029, originally built in 1962 Sta. 683+34.65.  
Existing structure is a 3-span non-composite reinforced concrete deck on steel beams supported by multi-column piers and tall wall abutments. The back-to-back of abutment length is 180'-7" with an out-to-out width of 63'-0".  
Existing superstructure shall be removed and replaced. Traffic to be detoured during construction.  
Salvage: None

**SCOPE OF WORK**

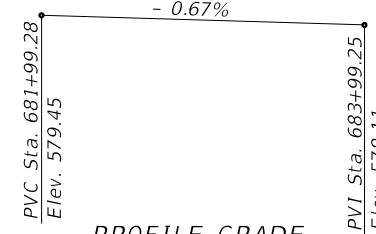
1. Remove and replace existing bridge deck and approach slabs.
2. Remove existing bridge rail beyond footprint of the bridge and modify existing abutment wingwalls to accommodate the new bridge cross section.
3. Remove and replace existing beams.
4. Raise bridge seats at piers and abutments.
5. Remove and replace bearings.
6. Repair piers and abutments as needed.
7. Replace the existing abutment backwalls.
8. Install new columns at both piers.



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



**PROFILE GRADE**  
(Along SB PGL Interstate 57)



**PROFILE GRADE**  
(Along NB PGL Interstate 57)

**DESIGN SPECIFICATIONS (NEW CONSTRUCTION)**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition  
1995 Seismic Retrofitting Manual for Highway Bridges

**LOADING HL-93**

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

**DESIGN STRESSES (FIELD UNITS)**

ITEMS	EXISTING	PROPOSED
f'c	3000 psi	3500 psi
f'c (superstructure)	3000 psi	4000 psi
f <sub>y</sub> (reinforcement)	40,000 psi	60,000 psi
f <sub>y</sub> (structural steel)	33,000 psi	50,000 psi (M270 Grade 50) *

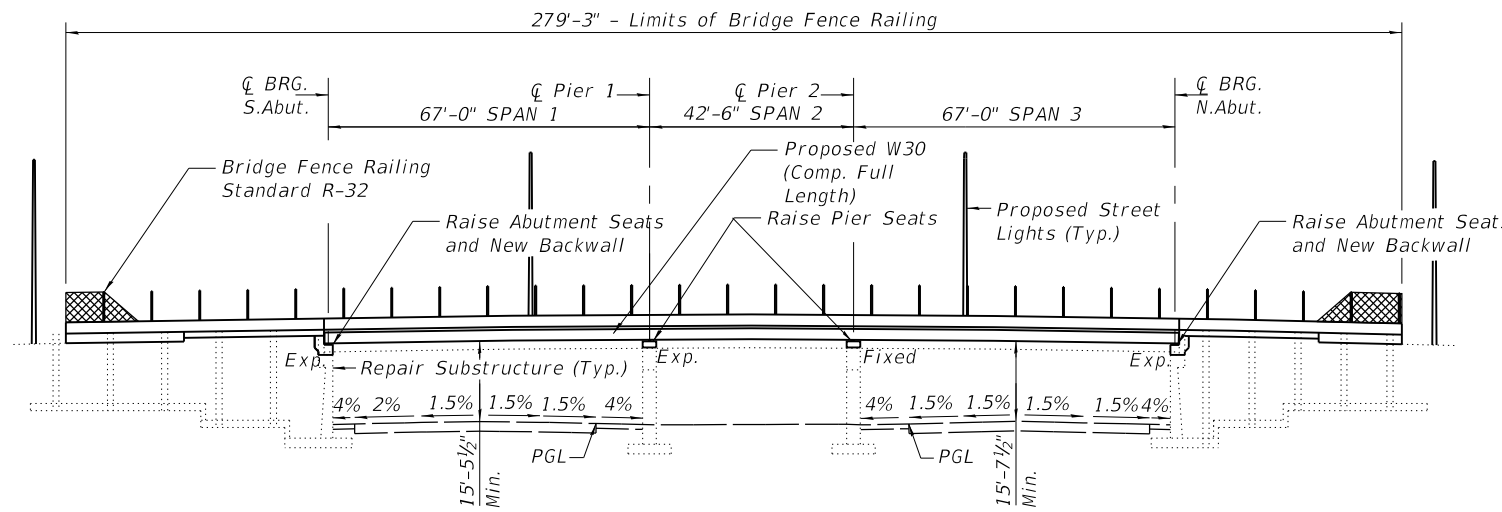
\* All structural steel shall be galvanized.

**SEISMIC DATA**

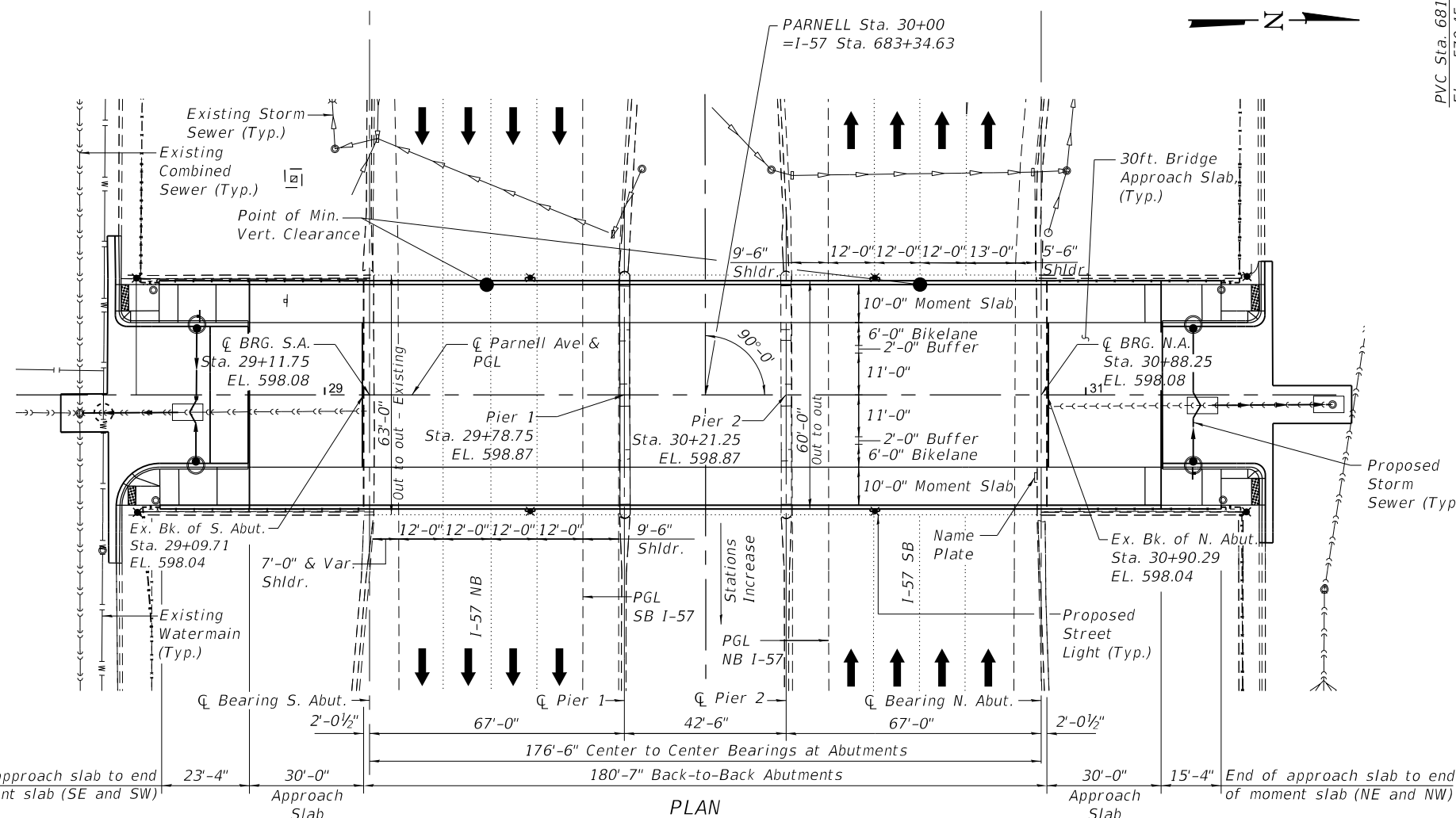
Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.038g  
Site Coefficient (S) = 1.0

**LIGHT POLE LOCATIONS**

STATION	OFFSET
28+51	30'-0" Lt.
28+51	30'-0" Rt.
29+54	30'-0" Lt.
29+54	30'-0" Rt.
30+45	30'-0" Lt.
30+45	30'-0" Rt.
31+42	30'-0" Lt.
31+42	30'-0" Rt.

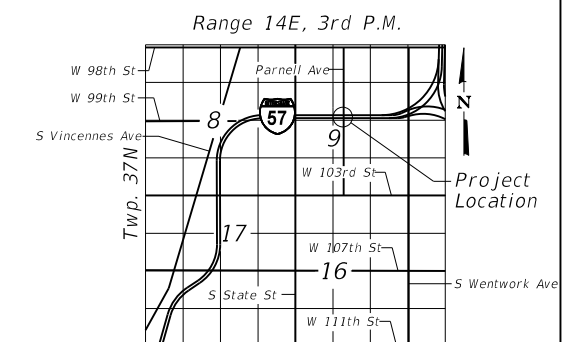


**ELEVATION**



**PLAN**

**APPROVED**  
For Structural Adequacy Only  
*Jan F. Nowak*  
Engineer of Bridges & Structures



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
**PARNELL AVENUE OVER INTERSTATE 57**  
**F.A.I. RTE. 57 - SECTION 2021-063-B**  
**COOK COUNTY**  
**STA. 30+00**  
**STRUCTURE NO. 016-2029**

REVISED ENTIRE SHEET 7/17/2023

**GENERAL PLAN & ELEVATION**  
**STRUCTURE NO. 016-2029**

SHEET 1 OF 26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2021-063-B	COOK	103	53
CONTRACT NO. 62P00			ILLINOIS FED. AID PROJECT	

USER NAME	DESIGNED	REVISIONS
asoftani	AS	-
	AJN	-
	AS	-
	AJN	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**



**GENERAL NOTES**

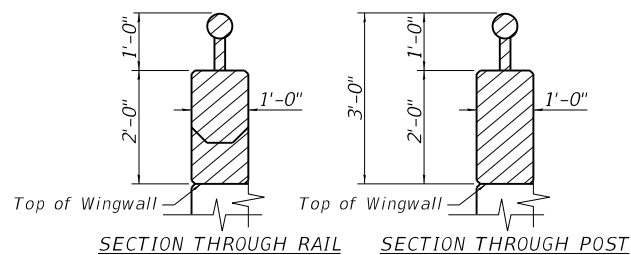
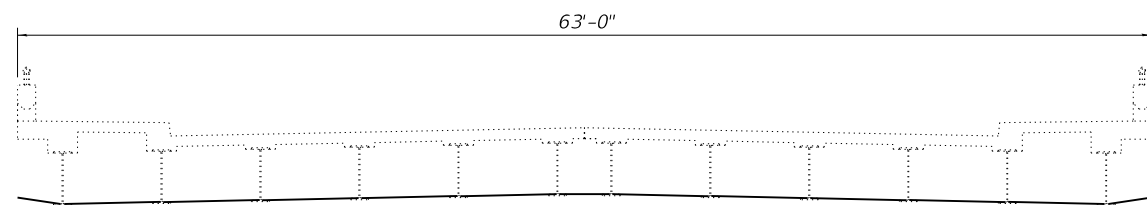
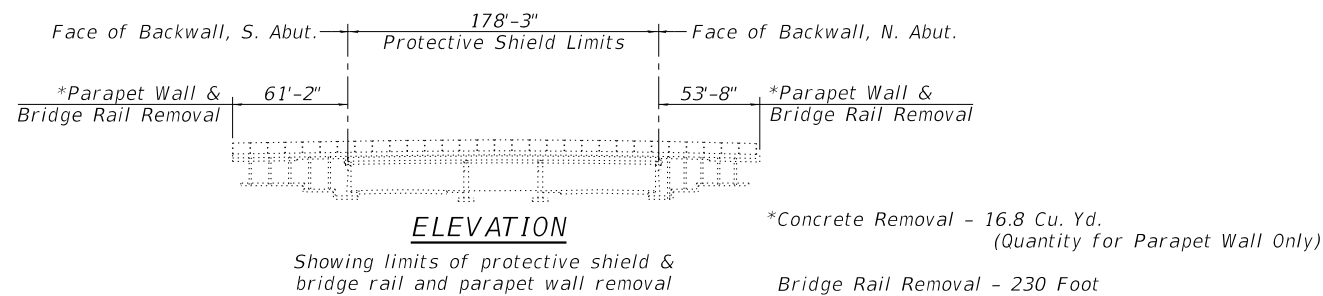
1. Reinforcement bars designated (E) shall be epoxy coated.
2. All new structural steel shall be galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel."
3. Fasteners shall be ASTM F 3125 Grade A325 Type 1, hot dip galvanized bolts. Bolts 7/8in. Ø, holes 1 1/16in. Ø, unless otherwise noted.
4. Calculated weight of Structural Steel (Grade 50)= 248,440 lb and Structural Steel (Grade 36)= 24,620 lb.
5. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction.
6. 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.
7. Bearing seat surface shall be constructed or adjusted to the designated elevation within a tolerance of 1/8"(0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
8. Concrete Sealer shall be applied to the designated areas of the piers and abutments.
9. No field welding is permitted except as specified in the contract documents.

**INDEX OF SHEETS**

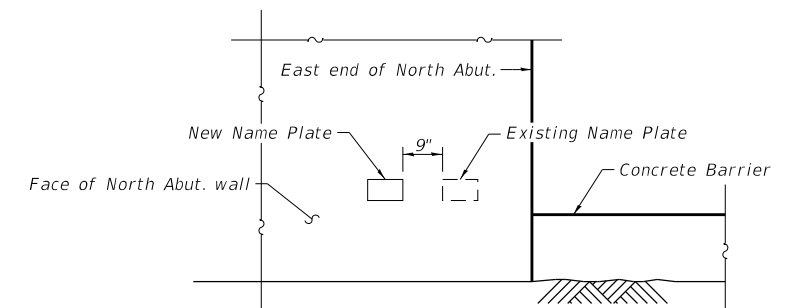
1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES & BILL OF MATERIAL
3. DECK ELEVATION 1
4. DECK ELEVATION 2
5. DECK ELEVATION 3
6. TOP OF SOUTH APPROACH SLAB ELEVATIONS
7. TOP OF NORTH APPROACH SLAB ELEVATIONS
8. SUPERSTRUCTURE DECK
9. SUPERSTRUCTURE DETAILS
10. DIAPHRAGM DETAILS
11. SOUTH APPROACH SLAB
12. NORTH APPROACH SLAB
13. APPROACH SLAB DETAILS
14. BRIDGE FENCE RAILING, PARAPET MOUNTED
15. PREFORMED JOINT STRIP SEAL
16. FRAMING PLAN AND STEEL GIRDER
17. FRAMING DETAILS
18. BEARING DETAILS
19. N. & S. ABUTMENT REMOVAL PLAN
20. N. & S. ABUTMENT CONSTRUCTION PLAN
21. N. & S. ABUTMENT DETAILS
22. N. & S. ABUTMENT & WINGWALL REPAIRS
23. PIER 1 ADJUSTMENT & DETAILS
24. PIER 1 REPAIRS
25. PIER 2 ADJUSTMENT & DETAILS
26. PIER 2 REPAIRS

**TOTAL BILL OF MATERIAL**

DESCRIPTION	Unit	Super	Sub	Total
REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	-	1
CONCRETE REMOVAL	CU YD	37.6	-	37.6
BRIDGE RAIL REMOVAL	FOOT	230	-	230
PROTECTIVE SHIELD	SQ YD	679	-	679
STRUCTURE EXCAVATION	CU YD	-	122.8	122.8
CONCRETE STRUCTURES	CU YD	-	107.2	107.2
CONCRETE SUPERSTRUCTURE	CU YD	583.4	-	583.4
BRIDGE DECK GROOVING	SQ YD	957.0	-	957.0
PROTECTIVE COAT	SQ YD	1,595	-	1,595
CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	166.8	-	166.8
FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	-	1
STUD SHEAR CONNECTORS	EACH	6,216	-	6,216
REINFORCEMENT BARS, EPOXY COATED	POUND	167,840	19,180	187,020
BRIDGE FENCE RAILING, CURVED	FOOT	560	-	560
NAME PLATES	EACH	1	-	1
PREFORMED JOINT STRIP SEAL	FOOT	124.0	-	124.0
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24	-	24
ANCHOR BOLTS, 1"	EACH	48	-	48
ANCHOR BOLTS, 1 1/4"	EACH	16	-	16
GRANULAR BACKFILL FOR STRUCTURES	CU YD	-	36.9	36.9
CONCRETE SEALER	SQ FT	-	7,748	7,748
EPOXY CRACK INJECTION	FOOT	-	100	100
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	-	885.0	885.0
STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	-	184.0	184.0



**BRIDGE RAIL AND PARAPET WALL REMOVAL**  
(This detail is applicable to the Bridge Rail and Parapet Wall removal beyond the footprint of the bridge. Bridge Rail will be removed under "Bridge Rail Removal" pay item and Parapet Wall will be removed under "Concrete Removal" pay item.)



**ABBREVIATIONS:**

abut.	abutment	NW	north west
B.F.	back face	no.	number
@	baseline	O.F.	outside face
brg.	bearing	PJF	preformed joint filler
CL	centerline	PJS	preformed joint sealer
cl.	clearance	PG	profile grade
conc.	concrete	prop.	proposed
const.	construction	req'd	required
E.B.	expansion bearings	rte.	route
EA	east abutment	SB	south bound
EB	east bound	SE	south east
E.F.	each face	SW	south west
elev.	elevation	sect.	section
exist.	existing	spa.	spaces
F.B.	fixed bearings	spec.	specification
F.F.	front face	sta.	station
I.F.	inside face	std.	standard
jt.	joint	struct.	structure
long.	longitudinal	typ.	typical
max.	maximum	UNO	unless noted otherwise
min.	minimum	WA	west abutment
NB	north bound	WB	west bound
NE	north east	WW	wingwall

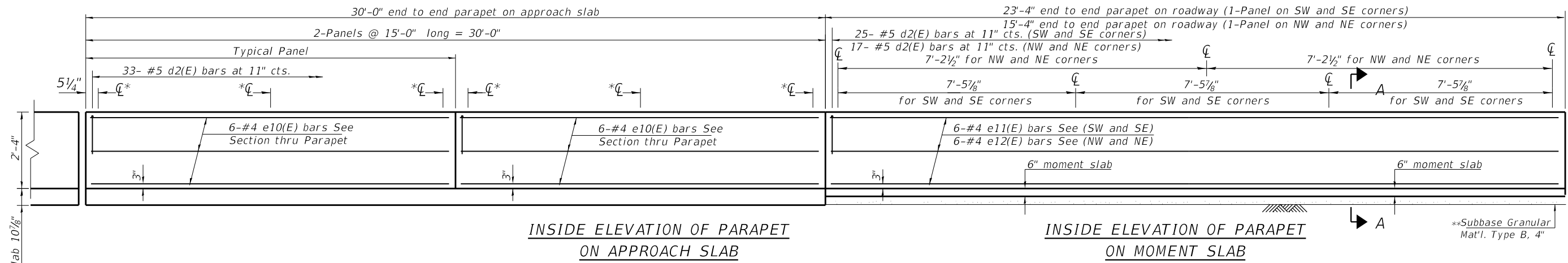
STATION 30+00  
RE-BUILT BY  
STATE OF ILLINOIS  
F.A.I. RT. 57 SEC.2021-063-B  
LOADING HL-93  
STR. NO. 016-2029

**NAME PLATE**  
See Std. 515001

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

MODEL: Default  
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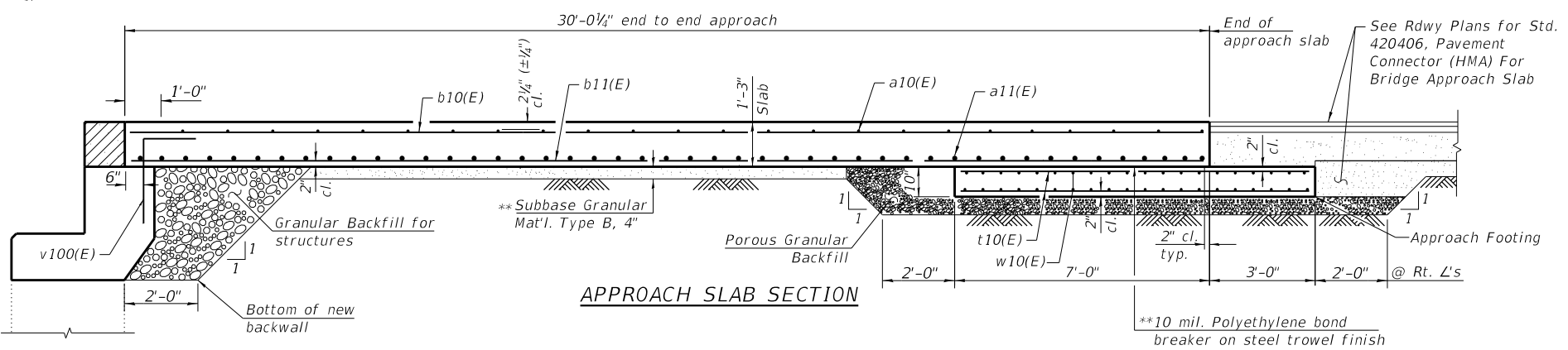
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	PLOT SCALE =	DRAWN - AS	REVISED -			CONTRACT NO. 62P00				
	PLOT DATE = 04/17/2023	CHECKED - AJN	REVISED -	SHEET 2 OF 26 SHEETS		ILLINOIS FED. AID PROJECT				



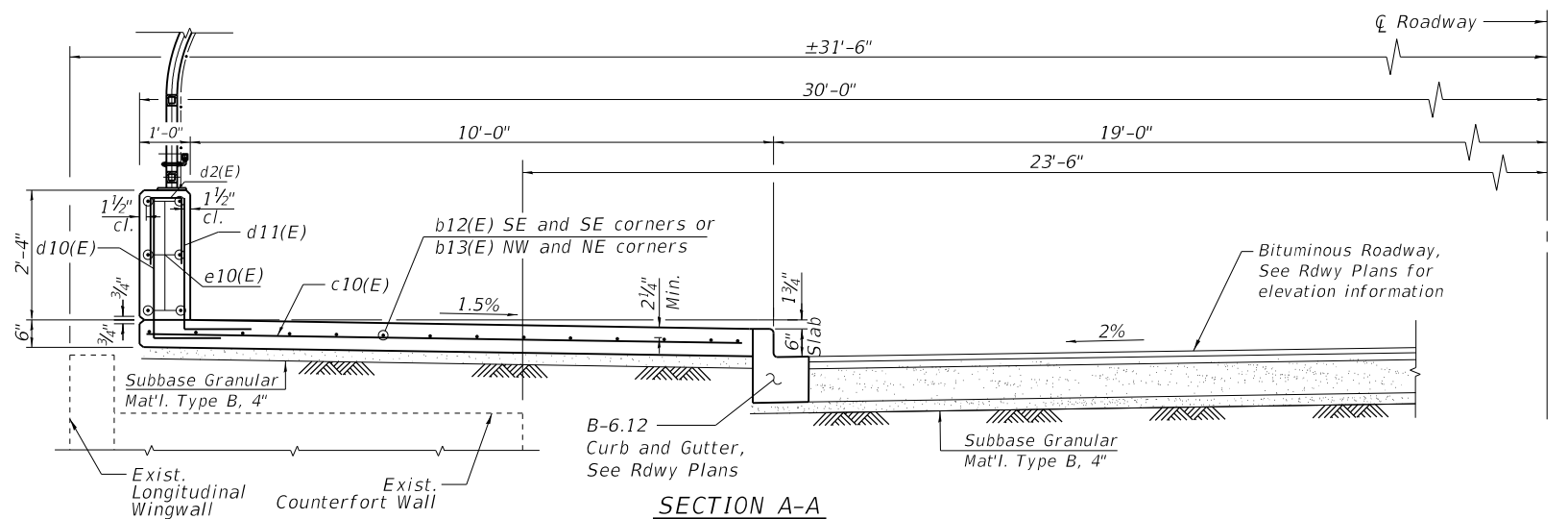
INSIDE ELEVATION OF PARAPET ON APPROACH SLAB

INSIDE ELEVATION OF PARAPET ON MOMENT SLAB

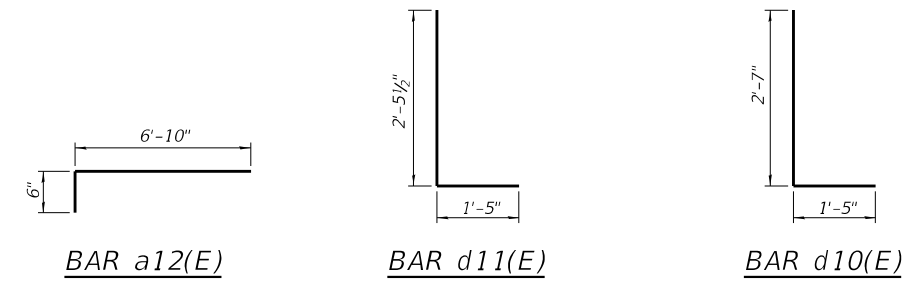
\*  $\varnothing$  Fence post at 5 1/4" from edges of each parapet and one in the middle of each parapet panel on approach slab only.



APPROACH SLAB SECTION



SECTION A-A



BAR a12(E)

BAR d11(E)

BAR d10(E)

BILL OF MATERIAL SOUTH APPROACH SLAB

Bar	No.	Size	Length	Shape
a10(E)	92	#5	30'-0"	
a11(E)	120	#8	29'-7"	
a12(E)	92	#5	7'-4"	
b1(E)	28	#5	29'-8"	
b10(E)	90	#5	29'-8"	
b11(E)	144	#9	29'-8"	
b12(E)	28	#4	23'-0"	
c(E)	66	#5	2'-4"	
c1(E)	66	#5	10'-7"	
c10(E)	50	#4	10'-1"	
d(E)	66	#4	6'-1"	L
d1(E)	66	#6	4'-9"	L
d2(E)	116	#5	2'-8 3/8"	n
d10(E)	50	#5	4'-0"	L
d11(E)	50	#5	3'-10 1/2"	L
e10(E)	24	#4	14'-8"	
e11(E)	12	#4	23'-1"	
t10(E)	120	#4	9'-6"	
w10(E)	80	#5	29'-7"	
Concrete Superstructure (Approach Slab)		Cu. Yd.	83.4	
Concrete Structures		Cu. Yd.	17.9	
Concrete Superstructure		Cu. Yd.	85.0	
Reinforcement Bars, Epoxy Coated		Pound	38,460	
Structure Excavation		Cu. Yd.	43.6	

BILL OF MATERIAL NORTH APPROACH SLAB

Bar	No.	Size	Length	Shape
a10(E)	92	#5	30'-0"	
a11(E)	120	#8	29'-7"	
a12(E)	92	#5	7'-4"	
b1(E)	28	#5	29'-8"	
b10(E)	90	#5	29'-8"	
b11(E)	144	#9	29'-8"	
b13(E)	28	#4	15'-0"	
c(E)	66	#5	2'-4"	
c1(E)	66	#5	10'-7"	
c10(E)	34	#4	10'-1"	
d(E)	66	#4	6'-1"	L
d1(E)	66	#6	4'-9"	L
d2(E)	100	#5	2'-8 3/8"	n
d10(E)	34	#5	4'-0"	L
d11(E)	34	#5	3'-10 1/2"	L
e10(E)	24	#4	14'-8"	
e12(E)	12	#4	15'-1"	
t10(E)	120	#4	9'-6"	
w10(E)	80	#5	29'-7"	
Concrete Superstructure (Approach Slab)		Cu. Yd.	83.4	
Concrete Structures		Cu. Yd.	18.0	
Concrete Superstructure		Cu. Yd.	72.4	
Reinforcement Bars, Epoxy Coated		Pound	37,690	
Structure Excavation		Cu. Yd.	43.6	

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

- Notes:
- Parapet concrete shall be paid for as Concrete Superstructure.
  - Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
  - Approach footing concrete shall be paid for as Concrete Structures. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf. Cost of excavation for approach footing included with Concrete Structures.
  - Concrete for the moment slab is paid for as Concrete Superstructure.
  - Concrete for the parapet over the moment slab is paid for as Concrete Superstructure.
  - Reinforcement bars in the moment slab and parapet outside the bridge limits is paid for in the Bill of Materials for the Approach Slabs.
  - Concrete for the grade beam is paid for as Concrete Structures.
  - See sheet 21 of 26 for hatched block details.

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CHECKED -	AJN	REVISIONS -			
PLOT SCALE =		DRAWN -	AS	REVISED -	
PLOT DATE =	04/17/2023	CHECKED -	AJN	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS  
STRUCTURE NO. 016-2029

SHEET 13 OF 26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2021-063-B	COOK	103	65
CONTRACT NO.			62P00	
ILLINOIS FED. AID PROJECT				