FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	1
	ILLINOIS	CONTRACT NO. 62U38		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENTS ARE LOCATED IN THE VILLAGES OF SUMMIT, McCOOK AND LYONS

TRAFFIC DATA: REFER TO LOCATION MAP

PROPOSED HIGHWAY PLANS

FAP 372: IL 171 (1ST AVENUE)
NORTH AND SOUTH OF I-55
SECTION: FAP 372 22 VARIOUS BS
BRIDGE DECK SEALING
COOK COUNTY

C-91-052-23

D-91-043-23

LOCATION OF SECTION INDICATED THUS:-

FOR LOCATION MAP, SEE SHEET NO. 5

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

PROJECT ENGINEER: RODRIGO LEDEZMA (847) 705-4580
PROJECT MANAGER: J. ALAIN MIDY (847) 221-3056

CONTRACT NO. 62U38

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED DECEMBER 8 20 22

REGIONAL ENGINEER

February 3, 2023

ENGINEER OF DESIGN AND ENVIRONMENT

February 3, 2023

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STATE STANDARDS

701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMPS FOR SPEEDS >=45 MPH
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS >=45 MPH TO 55 MPH
701422-10	LANE CLOSURE, MULTILANE, FOR SPEEDS >=45 MPH TO 55 MPH
701426-09	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS >=45 MPH
701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS =<40 MPH (NOT ALLOWED ON EXPRESSWAY/EXPRESSWAYS RAMPS)
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701901-08	TRAFFIC CONTROL DEVICES

GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE VILLAGES OF SUMMIT, MCCOOK AND LYONS.

3. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

4. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV FOR ARTERIALS A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

5. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4151 FOR EXPRESSWAYS A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

6. THE CONTRACTOR SHALL REQUEST AND GAIN APPROVAL FROM THE ILLINOIS DEPARTMENT OF TRANSPORATION'S EXPRESSWAY TRAFFIC OPERATIONS ENGINEER AT WWW.IDOTLCS.COM AT LEAST 24 HOURS IN ADVANCE OF ALL DAILY LANE, RAMP AND SHOULDER CLOSURES AND 7 DAYS IN ADVANCE OF ALL PERMANENT AND WEEKEND CLOSURES ON ALL FREEWAYS AND/OR EXPRESSWAYS. THIS ADVANCE NOTIFICATION IS CALCULATED BASED ON WORKWEEK OF MONDAY THOUGH FRIDAY AND SHALL NOT INCLUDE WEEKENDS AND HOLIDAYS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION OF ALL EMERGENCY SERVICES, SCHOOL DISTRICTS, I.D.O.T.'S COMMUNICATIONS CENTER, SPRINGFIELD TRUCK PERMIT SECTION AND OTHER AGENCIES AFFECTED BY THE CLOSURE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR POSTING SIGNS THAT WILL INDICATE THE DATES THE CLOSURE WILL BE IN PLACE

8. THE "ARTERIAL ROAD INFORMATION SIGN (TC-22)" IS APPLICABLE ONLY TO ARTERIAL ROADS AND SHALL NOT BE APPLIED TO EXPRESSWAYS.

9. THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE.

10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

11. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

12. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

13. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT NO DEBRIS WILL ENDANGER OR INTERFERE WITH TRAFFIC ON THE ROADWAY OR RAILROAD BENEATH THE BRIDGE ACCORDING TO ARTICLE 107.09 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE APPROPRIATE PAY ITEM INVOLVED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

14. EXISTING PAVEMENT MARKINGS SHALL BE TEMPORARILY COVERED PRIOR TO APPLICATION OF THE DECK SURFACE TREATMENT, TO PREVENT THE MATERIAL FROM BEING APPLIED TO THE MARKINGS AND TO PROTECT THE REFLECTIVE PROPERTIES OF THE MARKINGS. THE TEMPORARY COVERING MATERIAL USED SHALL BE SUCH THAT IT WILL NOT AFFECT THE MARKING'S REFLECTIVITY WHEN REMOVED AFTER APPLICATION OF THE DECK SURFACE TREATMENT AND PRIOR TO OPENING TO TRAFFIC. COST INCLUDED WITH BRIDGE DECK CONCRETE SEALER.

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	2
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE COOK 0047					
67100100	MOBILIZATION	L SUM	1	1					
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1					
70100320	TRAFFIC CONTROL AND PROTECTION, STANDARD 701422	L SUM	1	1					
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	1					
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1					
X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	511675	511675					
X6700407	ENGINEER'S FIELD OFFICE, TYPE A (D1)	CAL MO	12	12					
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1					
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	102.8	102.8					
Ø Z0076604	TRAINEES - TRAINING PROGRAM GRADUATE	HOURS	500	500					

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE COOK 0047					

Ø 0042

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REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	3

CONTRACT NO. 62U38

ILLINOIS | FED. AID PROJECT

LOCATION NUMBER	STRUCTURE NUMBER	BRIDGE DECK CONCRETE SEALER (SQ. FT.)	TRAFFIC CONTROL AND PROTECTION, STANDARD				NIGHTTIME WORK ZONE LIGHTING
			701421	701422	701601	EXPRESSWAYS	
1	016-0483	30,675	X				
2	016-0486	53,828		X		X	X
3	016-0487	40,272		X		X	X
4	016-0488	10,240	X				
5	016-0489	10,376			X	X	X
6	016-0985	26,380	X				
7	016-0987	30,798				X	X
8	016-1000	9,013			X		
9	016-1001	9,013	X				
10	016-1026	29,848				X	X
11	016-1510	15,193		X		X	X
12	016-1511	16,625		X		X	X
13	016-1512	11,818				X	X
14	016-2408	22,229				X	X
15	016-2454	22,167	X				
16	016-2455	23,609	X				
17	016-2456	78,757		X		X	X
18	016-2457	70,834		X		X	X

TOTAL =	511,675

LOCATION OF PROJECT:
16. IL 171 (SB) OVER
BNSF RAILROAD
VILLAGE OF SUMMIT
STRUCTURE NO. 016-2455
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
15. IL 171 (NB) OVER
BNSF RAILROAD
VILLAGE OF McCOOK & SUMMIT
STRUCTURE NO. 016-2454
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
8. IL 171 (SB) OVER
47TH STREET
VILLAGE OF McCOOK & LYONS
STRUCTURE NO. 016-1000
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
9. IL 171 (NB) OVER
47TH STREET
VILLAGE OF McCOOK & LYONS
STRUCTURE NO. 016-1001
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
17. IL 171 (NB) OVER
DES PLAINES RIVER VALLEY
VILLAGE OF SUMMIT
STRUCTURE NO. 016-2456
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
18. IL 171 (SB) OVER
DES PLAINES RIVER VALLEY
VILLAGE OF SUMMIT
STRUCTURE NO. 016-2457
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
7. IL 171 (NB) RAMP FROM
I-55 (SB) OVER DES PLAINES RIVER
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0987
ADT = 4,500 (2021)
POSTED SPEED LIMIT = 45 MPH

LOCATION OF PROJECT:
6. IL 171 (NB) OVER
DES PLAINES RIVER
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0985
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
1. IL 171 (SB) OVER
DES PLAINES RIVER
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0483
ADT = 19,250 (2021)
POSTED SPEED LIMIT = 50 MPH

R12N

N

T38N

LYONS TOWNSHIP

LOCATION OF PROJECT:
10. IL 171 (SB) RAMP TO
I-55 OVER DES PLAINES RIVER
VILLAGE OF SUMMIT
STRUCTURE NO. 016-1026
ADT = 10,000 (2021)
POSTED SPEED LIMIT = 45 MPH

LOCATION OF PROJECT:
11. IL 171 (SB) OVER
I-55
VILLAGE OF SUMMIT
STRUCTURE NO. 016-1510
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
12. IL 171 (NB) OVER
I-55
VILLAGE OF SUMMIT
STRUCTURE NO. 016-1511
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
13. IL 171 (SB) RAMP TO
I-55 (NB) OVER I-55
VILLAGE OF SUMMIT
STRUCTURE NO. 016-1512
ADT = 10,000 (2021)
POSTED SPEED LIMIT = 45 MPH

LOCATION OF PROJECT:
2. IL 171 (SB) OVER
CHICAGO SANITARY & SHIP CANAL
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0486
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
3. IL 171 (NB) OVER
CHICAGO SANITARY & SHIP CANAL
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0487
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
4. IL 171 (SB) OVER
IC RAILROAD
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0488
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
5. IL 171 (NB) OVER
IC RAILROAD
VILLAGE OF SUMMIT
STRUCTURE NO. 016-0489
ADT = 23,850 (2021)
POSTED SPEED LIMIT = 50 MPH

LOCATION OF PROJECT:
14. IL 171 (NB) RAMP TO
I-55 (NB) OVER CHICAGO S&S CANAL
VILLAGE OF SUMMIT
STRUCTURE NO. 016-2408
ADT = 4,650 (2017)
POSTED SPEED LIMIT = 40 MPH

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LOCATION MAP

SCALE: | SHEET 1 OF SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	5
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Bench Mark: Chiseled square at SW corner of SB IL-171 bridge over Des Plaines River. El. 622.14

Existing Structures: S.N. 016-0483 (SB) and S.N. 016-0985 (NB) were built in 1964 as F.A.I. Rte. 55, Section 0707-6138 at Sta. 50+80. Existing dual structures each consist of a four span reinforced concrete deck on five lines of continuous welded haunched plate girders. The reinforced concrete deck is 7½" thick, including a 2" microsilica concrete overlay. The substructures consist of open stub abutments founded on steel piles at the downstation end, solid wall concrete piers founded on spread footings through the river, and multi-column piers founded on spread footings at the upstation end. Piers 23 and 4 are shared with S.N. 016-2456 (NB) and S.N. 016-2457 (SB), respectively. The structures are 527'-9½" from back of abutment to centerline of Pier 4 and 23, with an out-to-out deck width of 36'-0" and no skew. Traffic is to be maintained utilizing crossovers.

No salvage.

All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 578.00 = NAVD88 Elev. 577.72.

WATERWAY INFORMATION

Drainage Area = 641.59 sq. mi. Low Grade Elev. 619.97 at Sta. 48+42

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	2	4,554	3,423	3,423	594.80				
	10	5,930	2,988	2,988	595.75	0.57	0.57	596.32	596.32
Design	50	7,370	3,567	3,567	597.15	0.60	0.61	597.75	597.76
Base	100	7,900	3,773	3,773	597.64	0.61	0.61	598.25	598.25
Overtopping	>500								
Max. Calc.	500	9,316	4,297	4,297	598.88	0.63	0.63	599.51	599.51

10 Year Velocity through Existing and Proposed Bridge = 1.95 fps

LOADING HS20-44

No future wearing surface allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

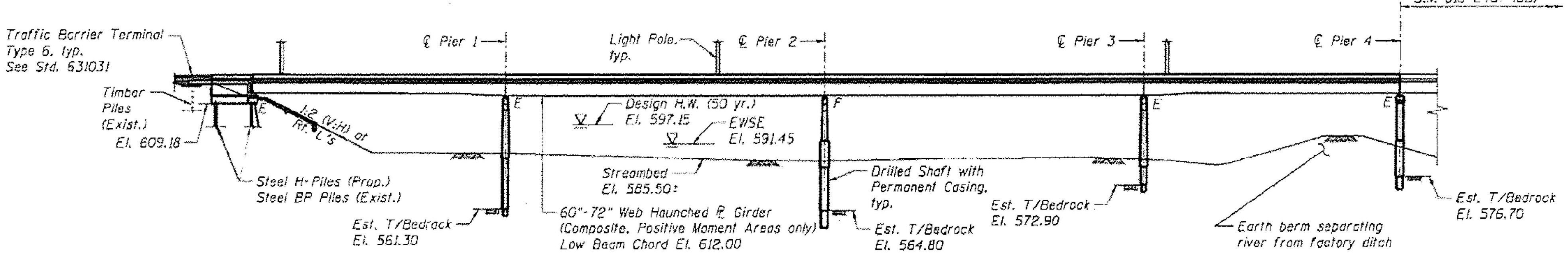
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

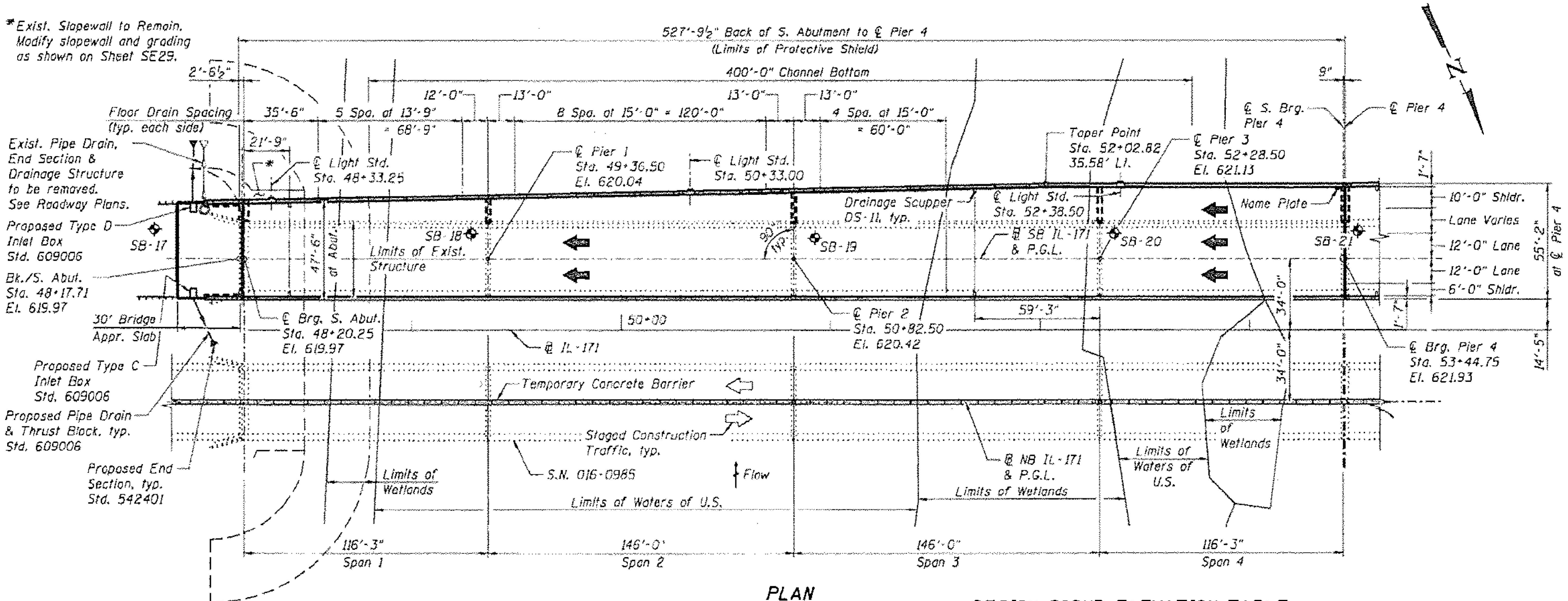
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



REFLECTED ELEVATION



PLAN

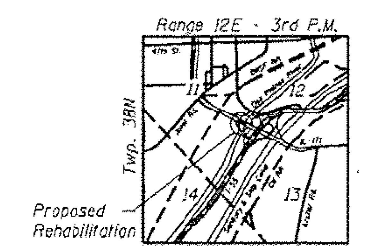
NOTE:

See Roadway Plans-Bridge Approach Schedule for Proposed Drainage Quantities.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)				
S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4
609.18	581.00	579.00	583.30	584.22

Design scour elevations estimated from existing data.



LOCATION SKETCH

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION
SN: 016-0483

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	6

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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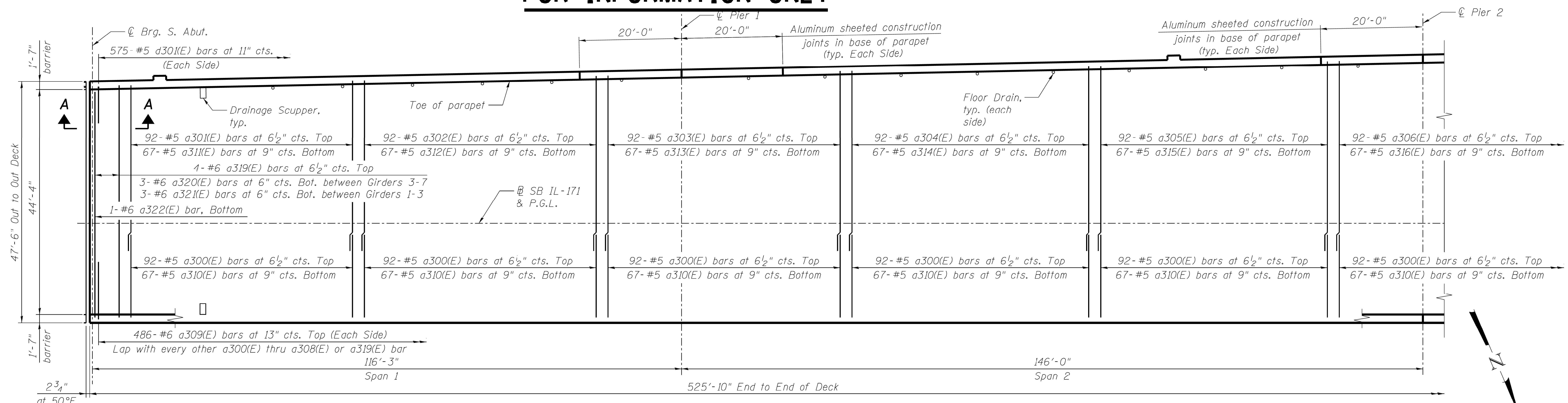
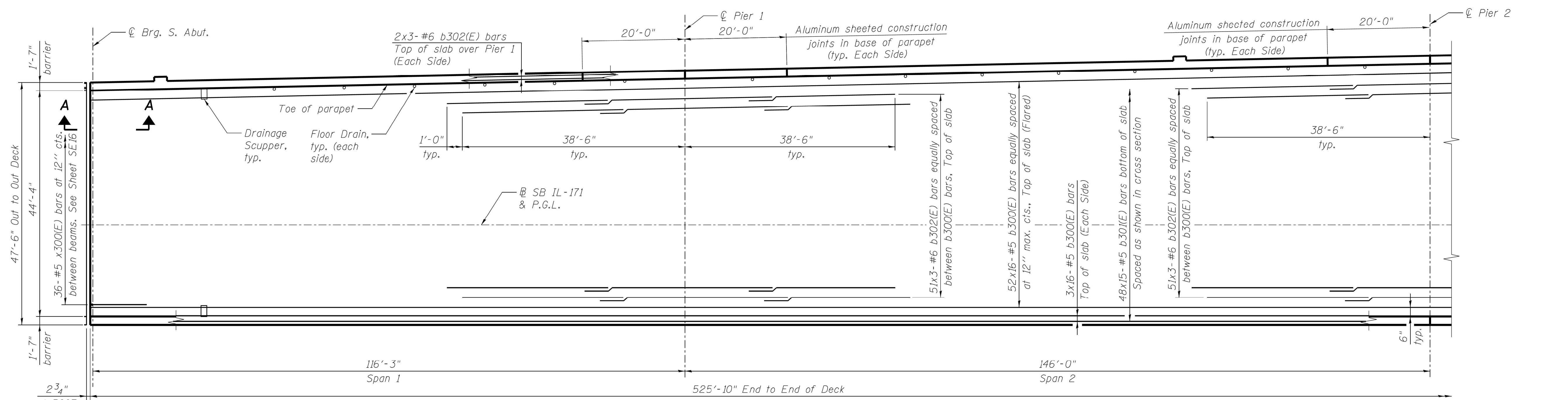


PLAN

(showing transverse reinforcement)



PLAN

(showing longitudinal reinforcement)

MINIMUM BAR LAP

(Slab)

#4 bar = 2'-7"
#5 bar = 3'-3"
#6 bar = 3'-10"

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EXISTING DECK PLAN (1 OF 2)
SN: 016-0483

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	7
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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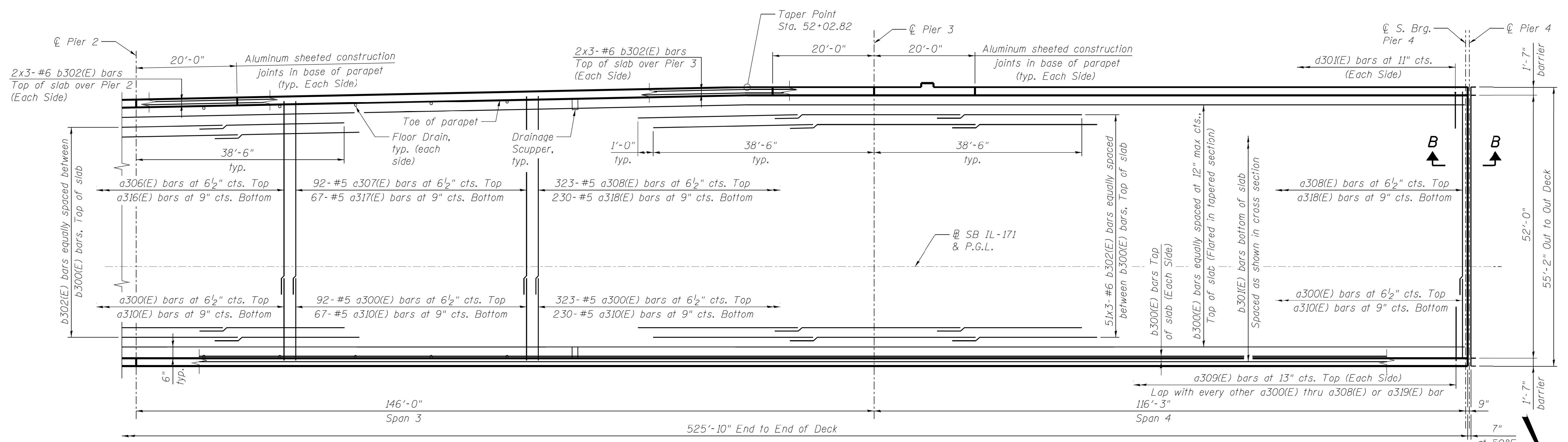
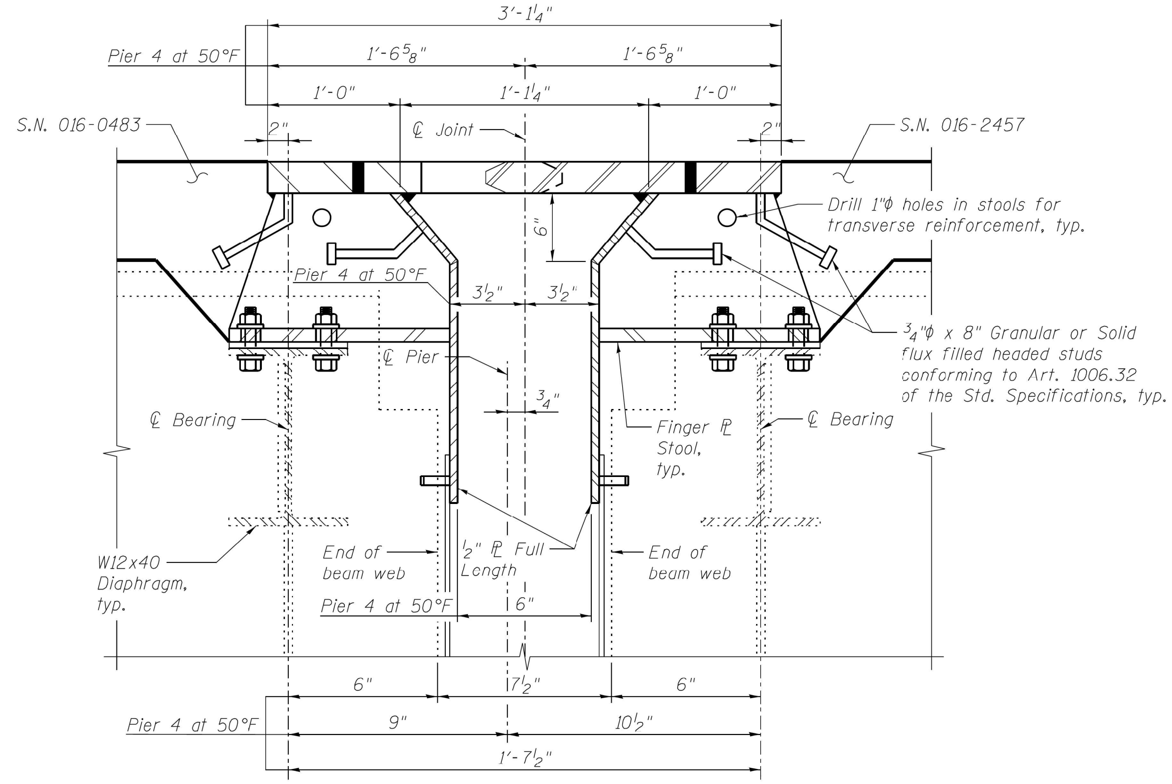


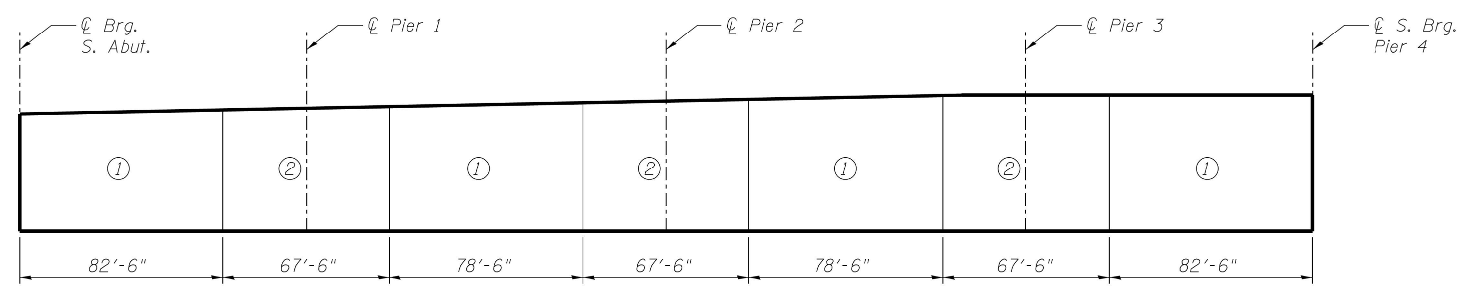
PLAN



SECTION B-B

(All dimensions shown along ℄ IL-171)

(See SN 016-2457 plans for additional finger plate joint details. Cost of finger plate joint included with SN 016-2457.)



DECK POUR SEQUENCE

MINIMUM BAR LAP

(Slab)

#4 bar = 2'-7"
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
   A) At least 72 hours shall have elapsed from the end of the previous pour.
   B) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
2. The Contractor is alerted that camber and dead load deflection values were developed based on the deck pouring sequence shown. Any deviation from this pouring sequence will result in changes to camber and deck elevations and will require a submittal to the Engineer for review and approval.
3. See Sheet SE16 for Superstructure Details and Bill of Material.
4. See Sheet SE13 for Deck Cross Section.
5. See Sheet SE1 for locations of Drainage Scuppers, Floor Drains and Light Poles.
6. See Sheet SE16 for Section A-A.
7. Dimensions are based on a Rolled Rail Strip Seal Joint at the S. Abutment. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SE20.

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EXISTING DECK PLAN (2 OF 2)
SN: 016-0483

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	8
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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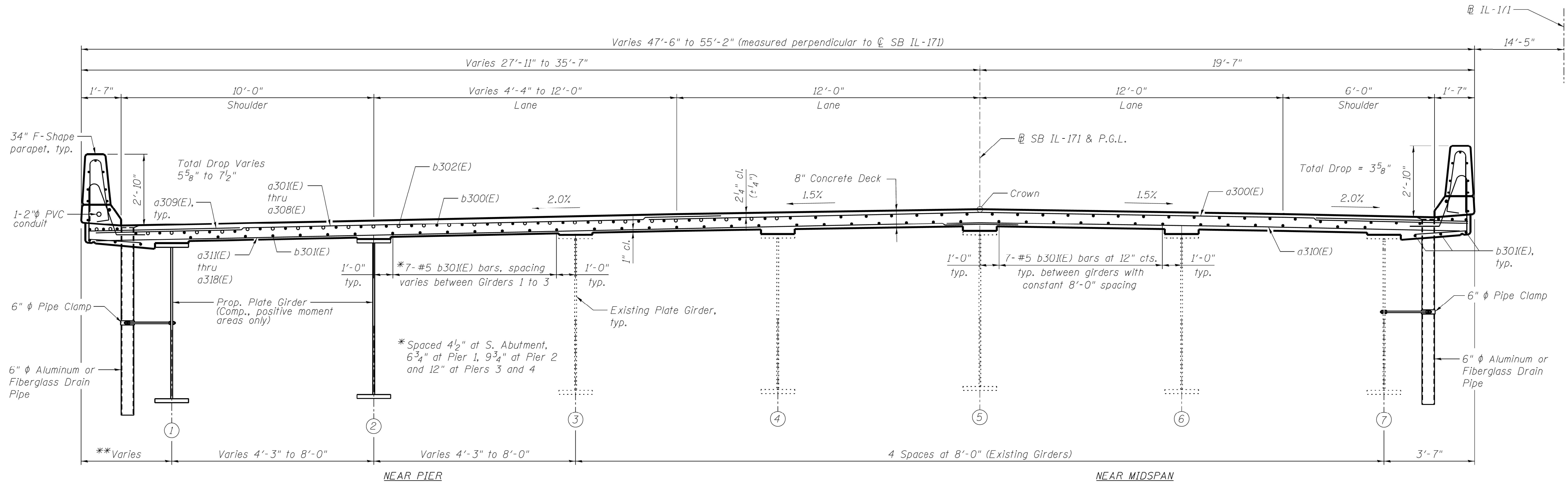
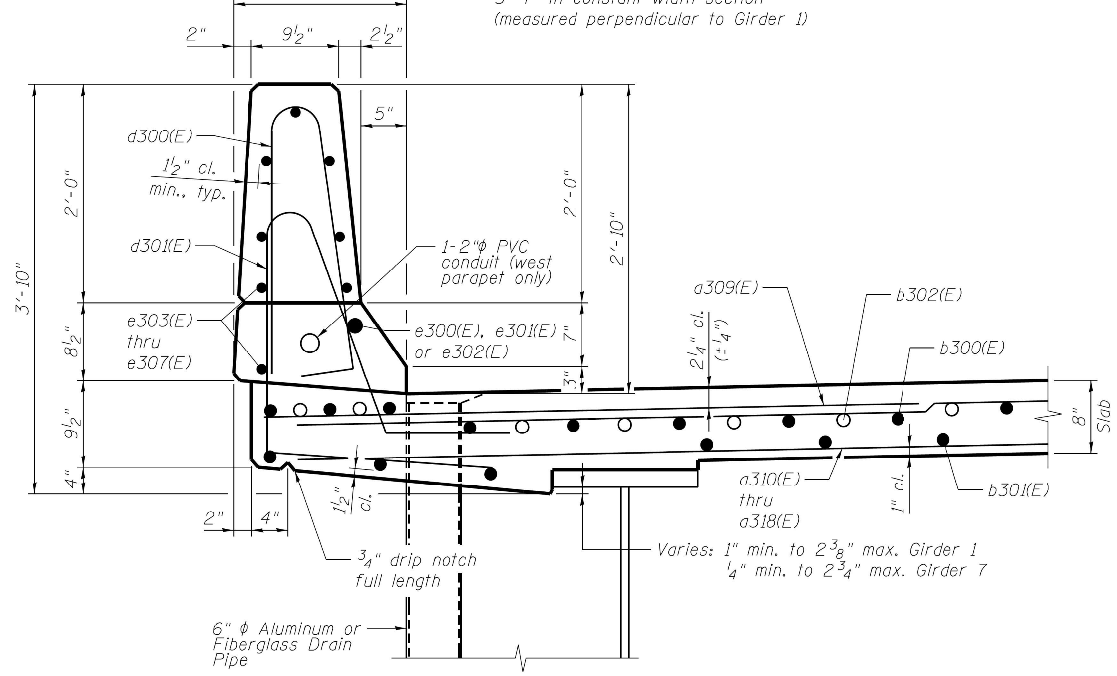


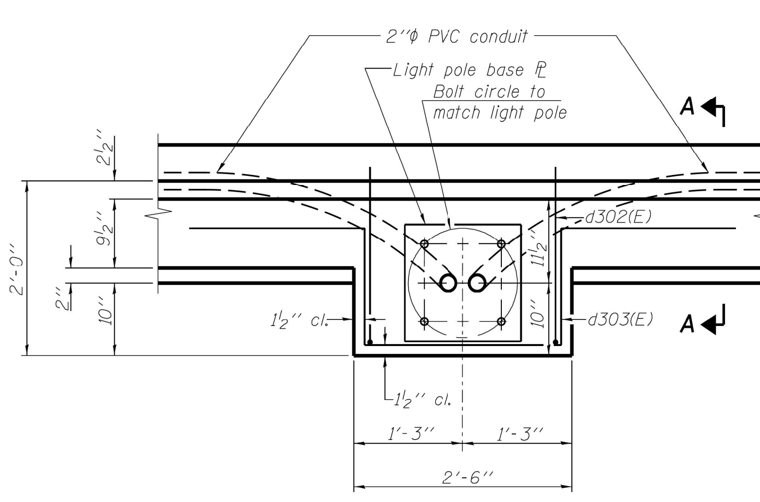
CROSS SECTION

(Looking Upstation/North)
(showing Floor Drains)



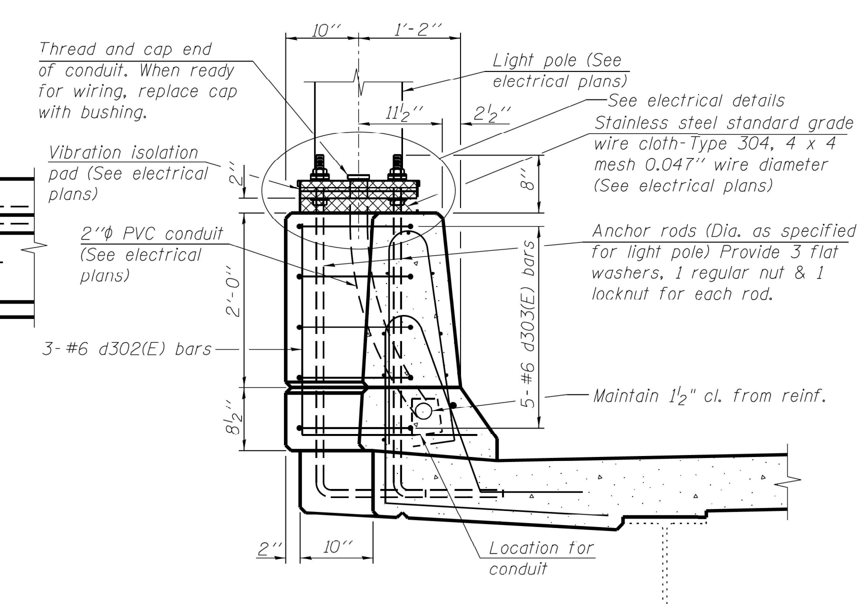
SECTION THRU PARAPET

(showing Floor Drain)



PLAN

Note:
Cost of anchor rods is included with Concrete Superstructure.



SECTION A-A

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING DECK CROSS SECTION AND DETAILS SN: 016-0483	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			372	FAP 372 22 VARIOUS BS	COOK	138	9
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			CONTRACT NO. 62U38				
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

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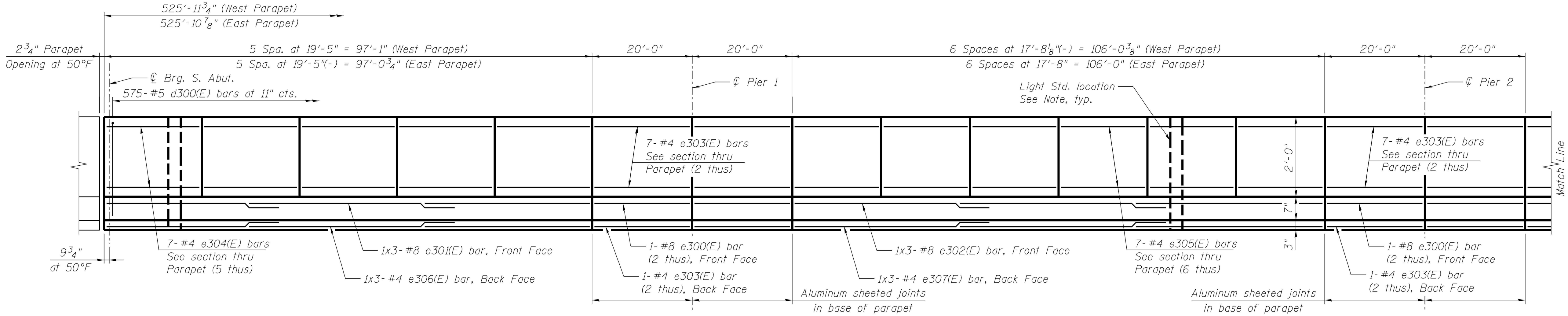
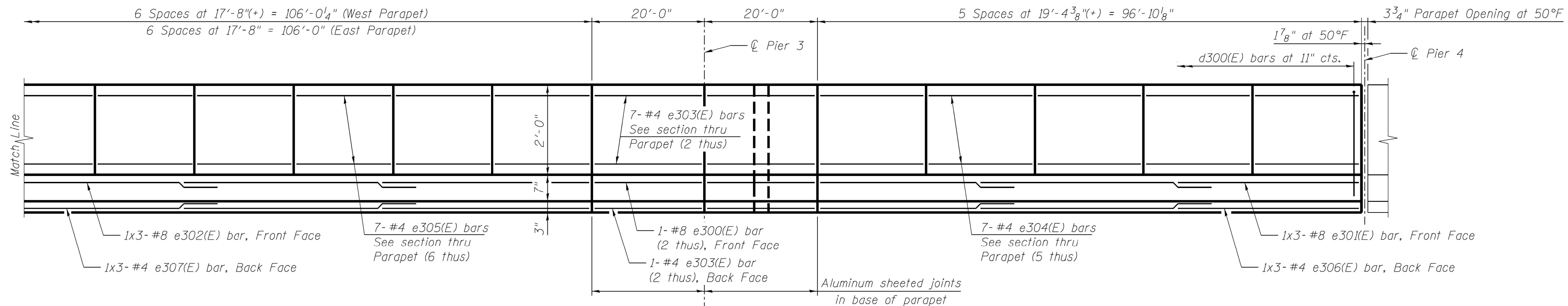
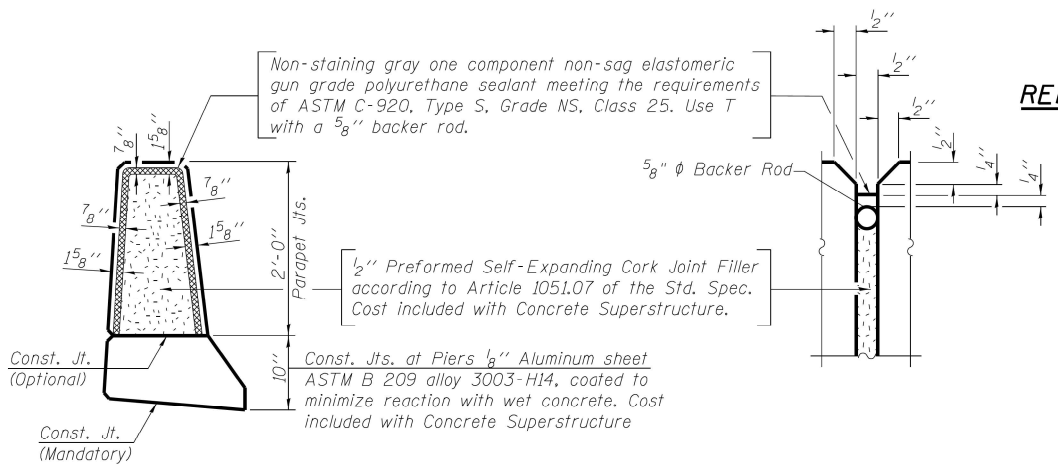




INSIDE ELEVATION OF WEST PARAPET
REFLECTED INSIDE ELEVATION OF EAST PARAPET



PARAPET JOINT DETAILS
(For conventional concrete placement)

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTE:
See Sheet SE1 for Light Pole locations (W. Parapet only).

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS (1 OF 2)
SN: 016-0483
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	10
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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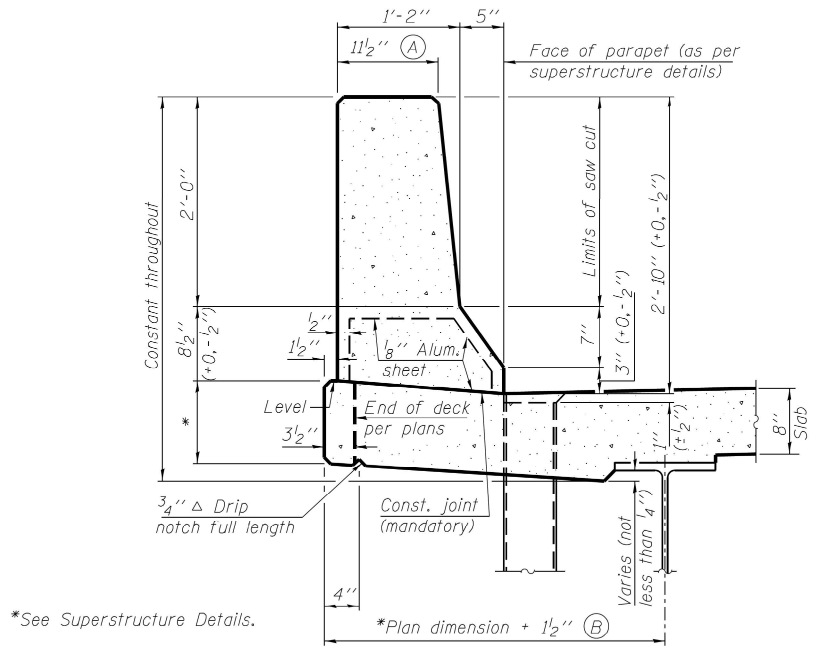
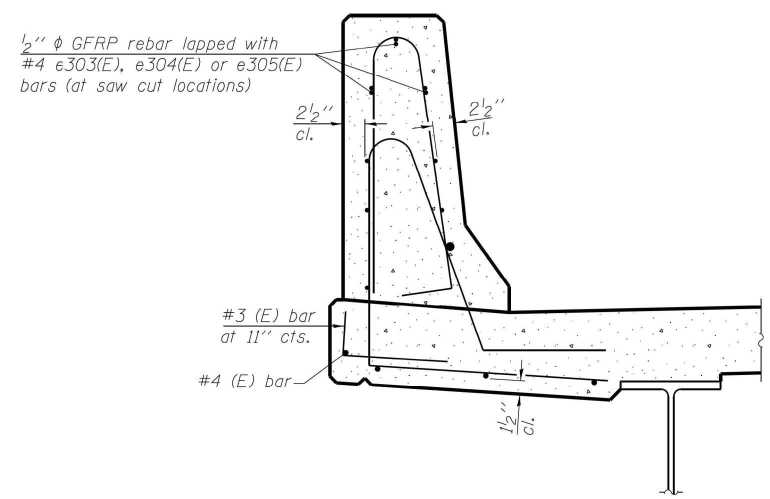


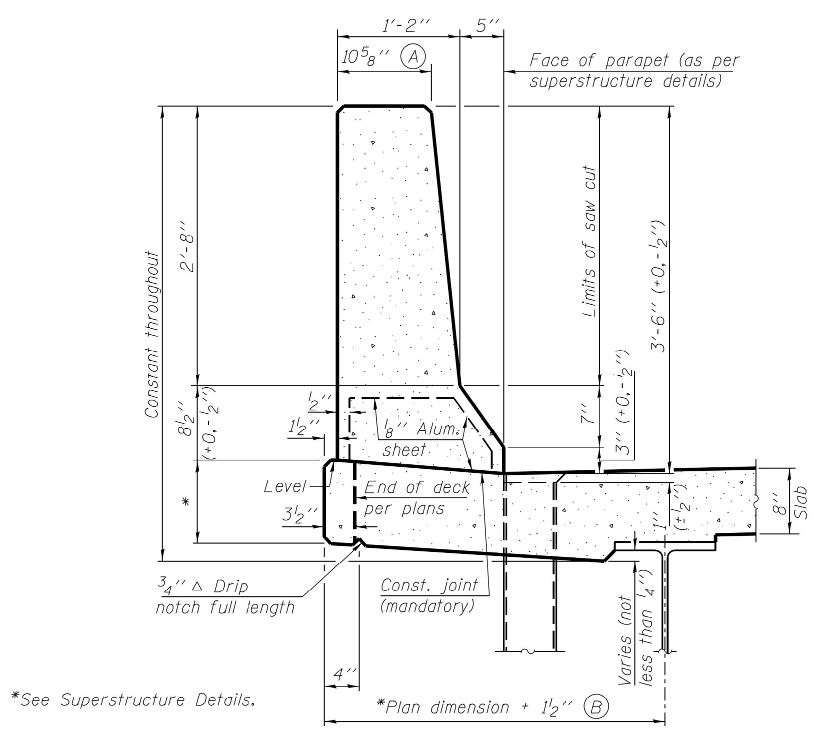
34'' F SHAPE PARAPET SECTION

(Showing dimensions)



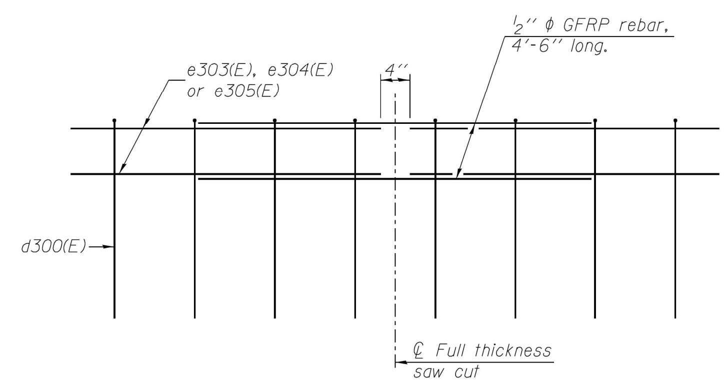
SECTION

(34'' parapet shown - 42'' parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



42'' F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34'' parapet or = 0.0223 cu. yds./ft. for 42'' parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.

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	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	11
		CONTRACT NO. 62U38		
	ILLINOIS FED. AID PROJECT			

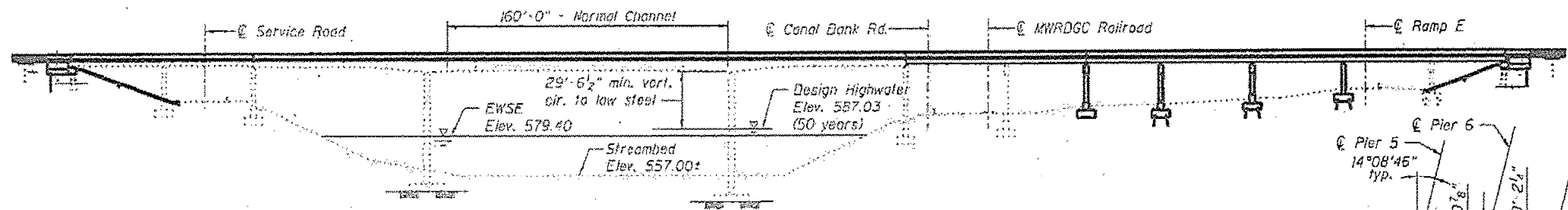
FOR INFORMATION ONLY

Bench Mark:
Chiseled square on SE corner of concrete wingwall at SW corner of SB IL-171 Bridge over Sanitary & Ship Canal. El. 626.20.

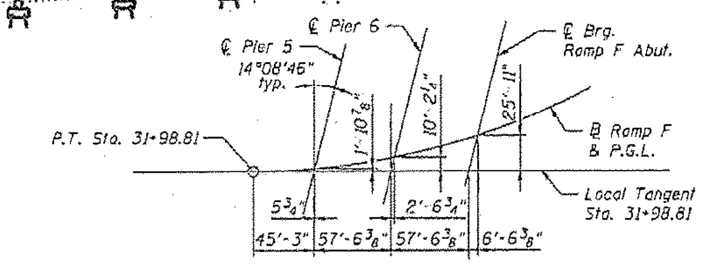
Existing Structures: S.N. 016-0486 built in 1964 under F.A. Route 133, Sections 0707-626B & 0707-610HB, consist of a $7\frac{1}{2}$" concrete deck with a 2" microsilica overlay. The structure consists of a twelve span mainline bridge with a two span ramp bridge. The structures are supported by 11 multi-column piers, founded on spread footings or BP piles, and 3 abutments, 2 mainline and 1 Ramp F, founded on BP piles. The mainline structure is 833'-5" back to back of abutments, with an out to out deck width which varies from 36'-$6\frac{1}{4}$" to 62'-$11\frac{1}{2}$". The Ramp F structure has an out to out deck width of 28'-0". The structures have varying skew angles. Traffic is to be maintained utilizing crossovers.

No salvage.

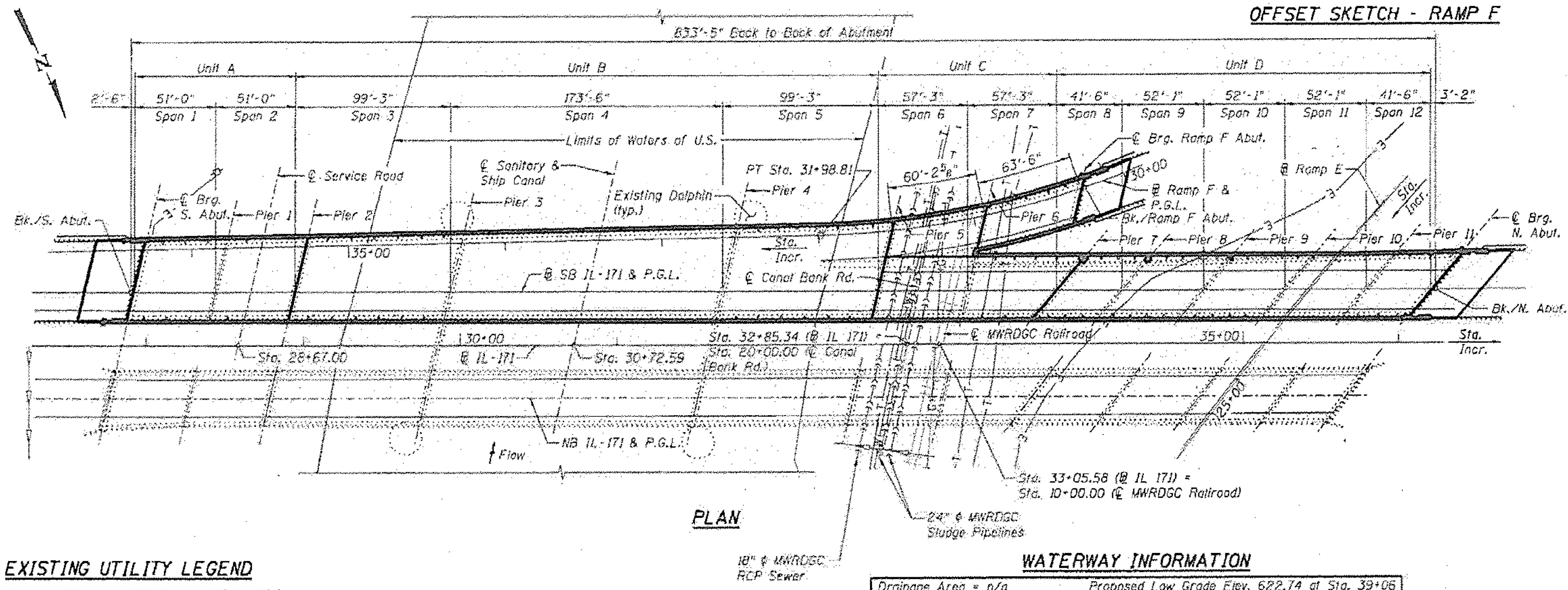
All elevations in the proposed plans are base on NAVD88 Datum. Elevations in the existing plans are base on NAVD29 Datum. NAVD29 Elev. 584.50 = NAVD88 Elev. 584.22.



ELEVATION



OFFSET SKETCH - RAMP F



PLAN

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

LOADING HS20-44

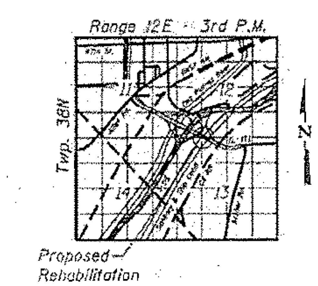
No future wearing surface allowed.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

CURVE DATA
RAMP F

P.I. = Sta. 30+28.04
Δ = 35°54'40" (RT)
D = 10°25'03"
R = 550.00'
T = 183.55'
L = 354.32'
E = 29.82'
e = 6.0%
P.C. = Sta. 28+44.49
P.T. = Sta. 31+98.81



LOCATION SKETCH

EXISTING UTILITY LEGEND

W — Underground Water Main
G — Underground Gas Line
T — Underground Telephone Line
E — Underground Electrical Line
Utility Pole

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)				
	Pier 13	Pier 14	Pier 15	Pier 16
Q100	590.0	553.0	553.0	585.7
Q500	589.0	553.0	553.0	585.4

Design scour elevations estimated from existing data.

WATERWAY INFORMATION

Drainage Area = n/a — Proposed Low Grade Elev. 622.74 at Sta. 39+06

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	8,500	6,997	6,997	583.92	0.00	0.00	583.92	583.92
Design	50	11,300	7,965	7,965	587.03	0.00	0.00	587.03	587.03
Base	100	12,800	8,279	8,279	588.03	0.00	0.00	588.03	588.03
Overtopping	>500								
Max. Calc.	500	16,100	9,439	9,439	591.44	0.00	0.00	591.43	591.43

10 Year Velocity through Existing and Proposed Bridge = 1.21 fps

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016–0486

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	12

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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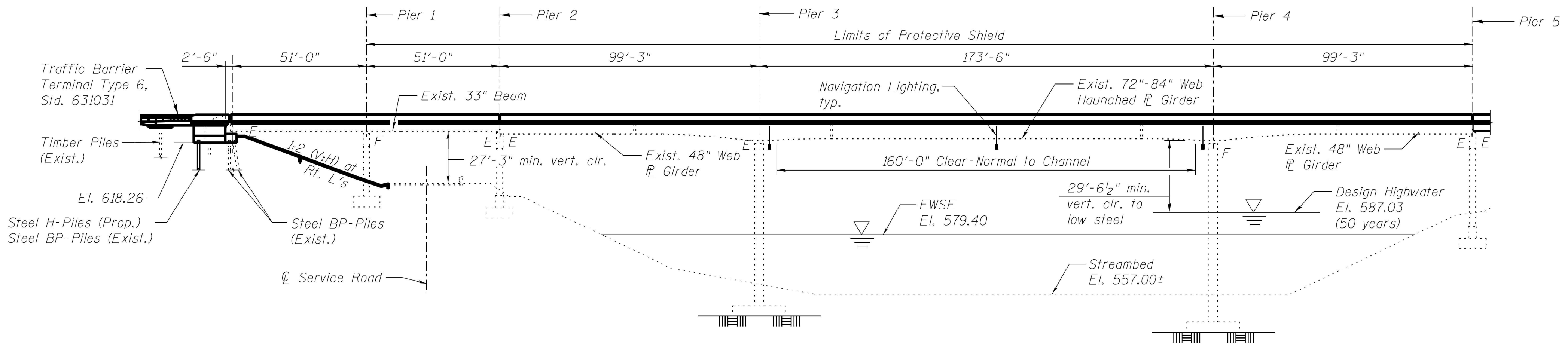
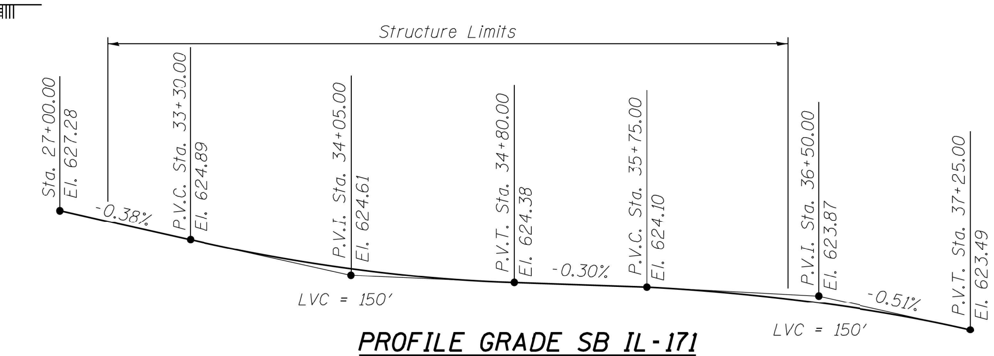


ELEVATION

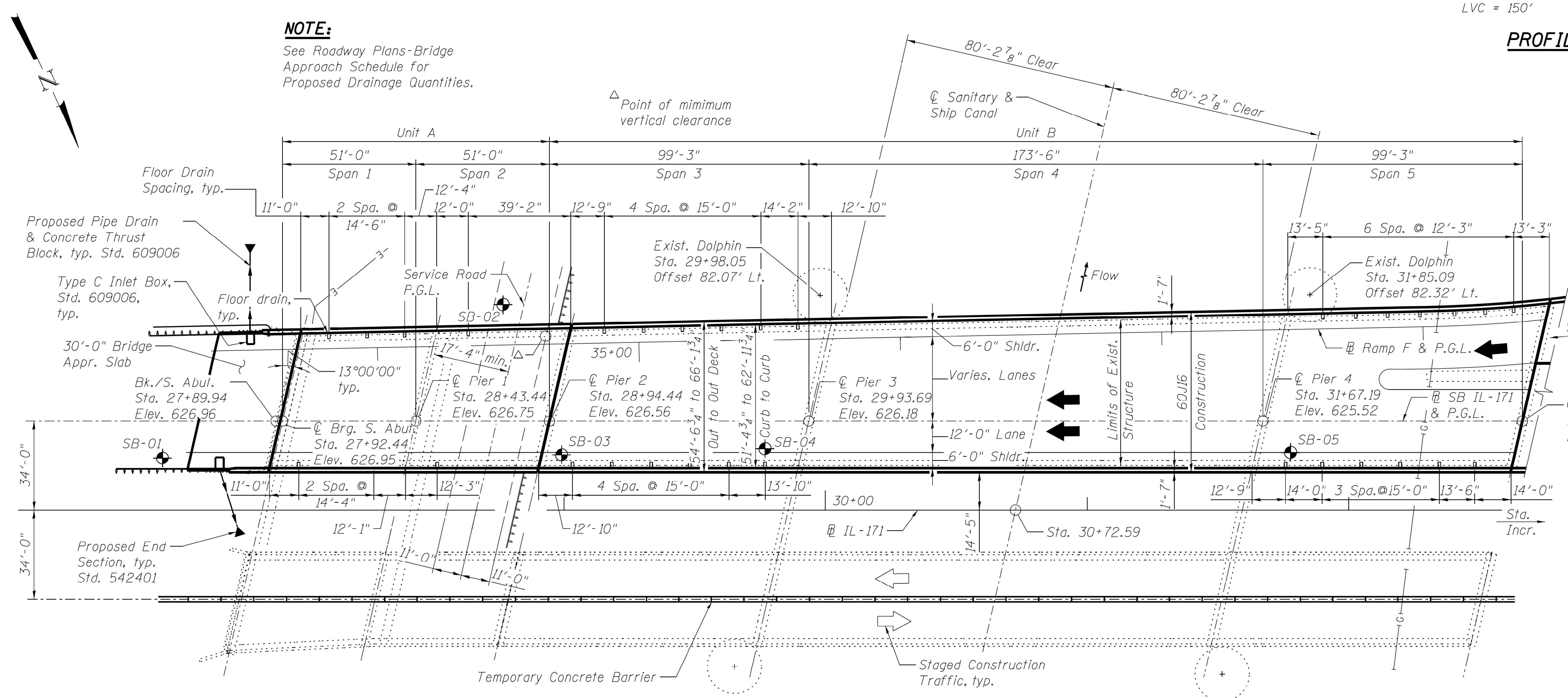


PROFILE GRADE SB IL-171

(Along ℄ SB IL-171)

NOTE:
See Roadway Plans-Bridge Approach Schedule for Proposed Drainage Quantities.

△ Point of mimimum vertical clearance



PLAN

EXISTING UTILITY LEGEND

—G—	Underground Gas Line
—E—	Underground Electrical Line

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	DRAWN	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION SPANS 1 – 5
SN: 016–0486

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	13

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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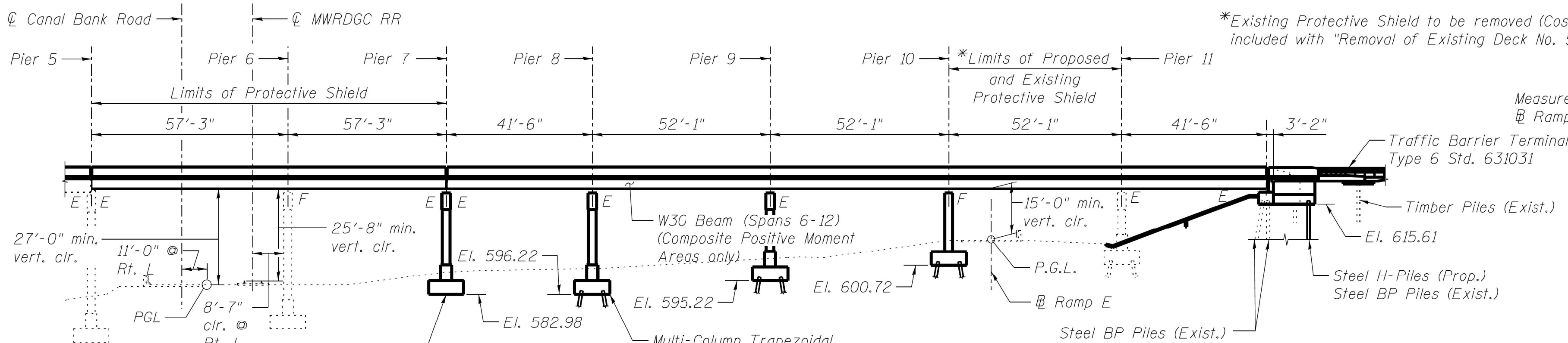
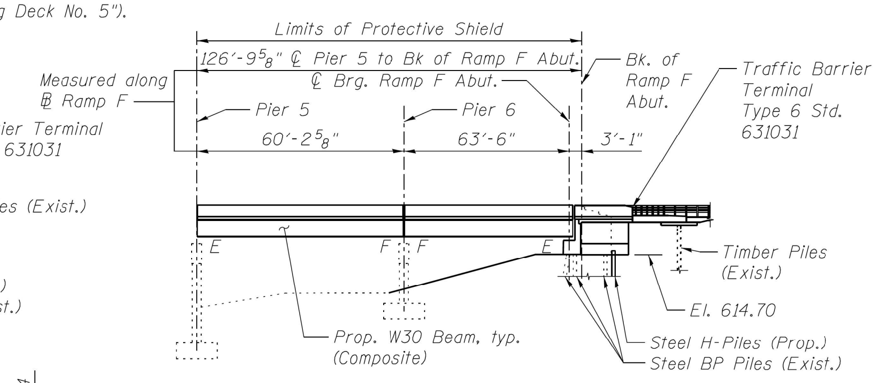


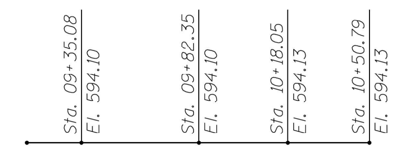
REFLECTED ELEVATION

*Existing Protective Shield to be removed (Cost included with "Removal of Existing Deck No. 5").

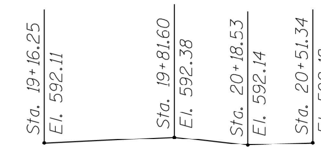


REFLECTED ELEVATION - RAMP F

Floor Drain Location	Spacing from ℄ Brg.	Spacing between Drains
Ramp F Span 7	13'-6"	3 at 12'-0"
IL-171 Span 7 West	13'-0"	3 at 14'-0"
IL-171 Span 7 East	15'-0"	1 at 15'-0"
Span 8	13'-6"	2 at 6'-6"
Span 9	13'-6"	3 at 8'-4"
Span 10	13'-6"	3 at 8'-4"
Span 12	13'-6"	2 at 7'-6"

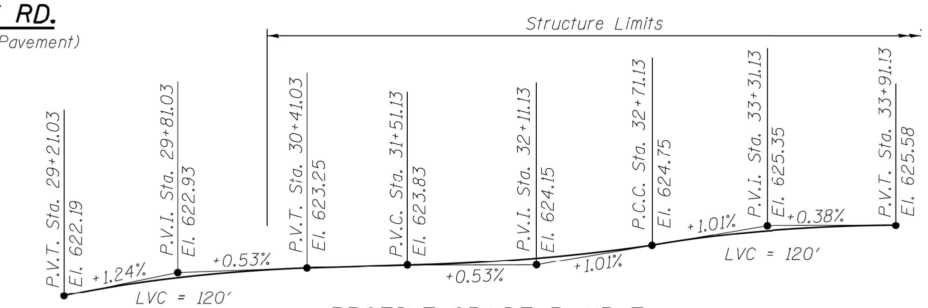


TOP OF RAIL MWRDGC RR



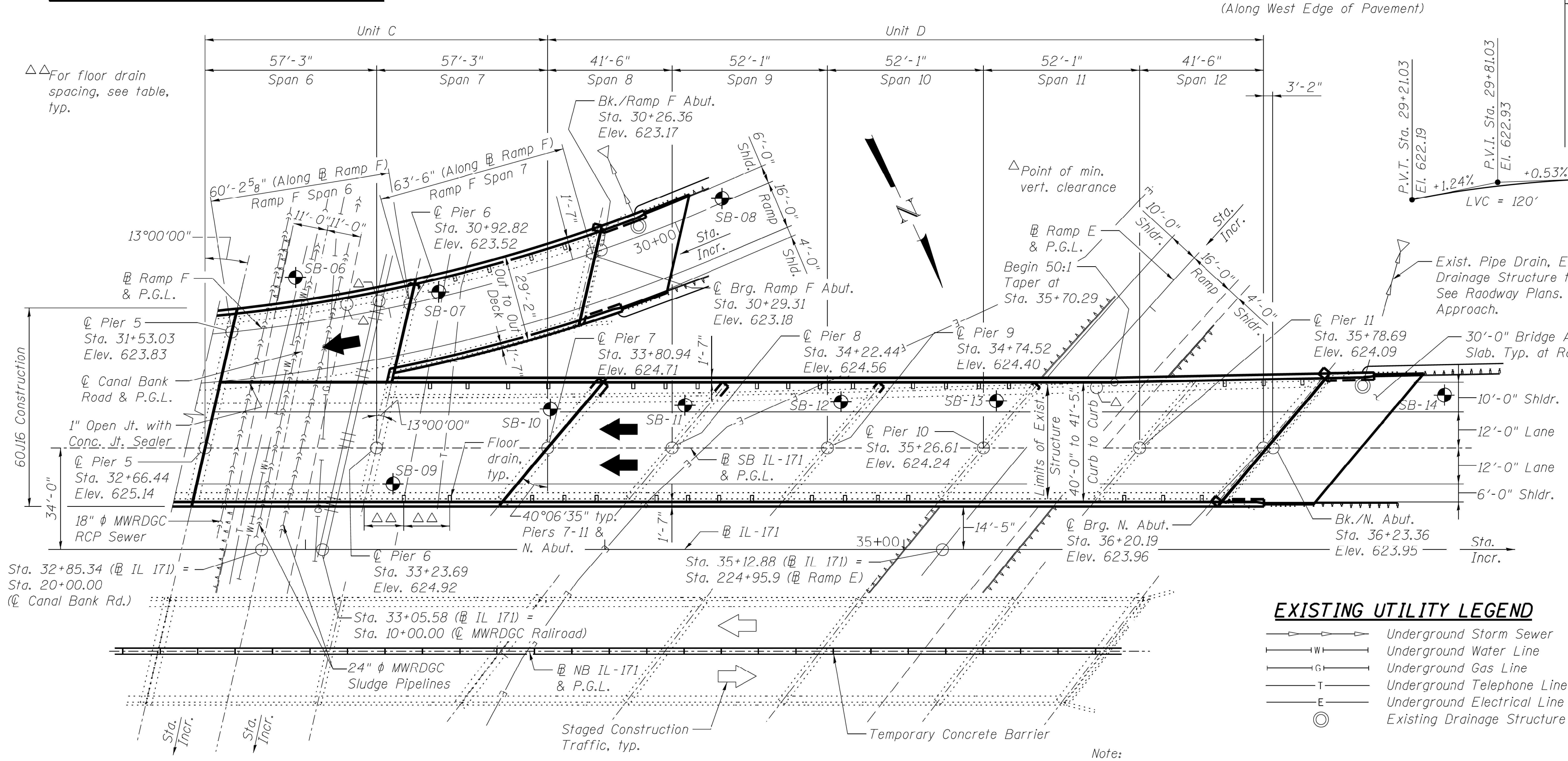
PROFILE GRADE CANAL BANK RD.

(Along West Edge of Pavement)

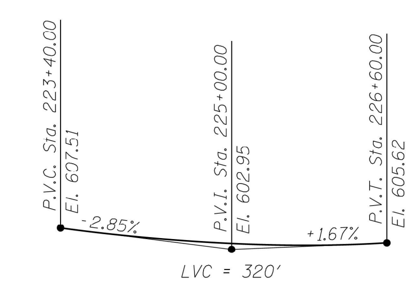


PROFILE GRADE RAMP F

(Along ℄ Ramp F)



PLAN



PROFILE GRADE RAMP E

(Along ℄ Ramp E)

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- Underground Water Line
- Underground Gas Line
- Underground Telephone Line
- Underground Electrical Line
- Existing Drainage Structure

Note:
No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line

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	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	14
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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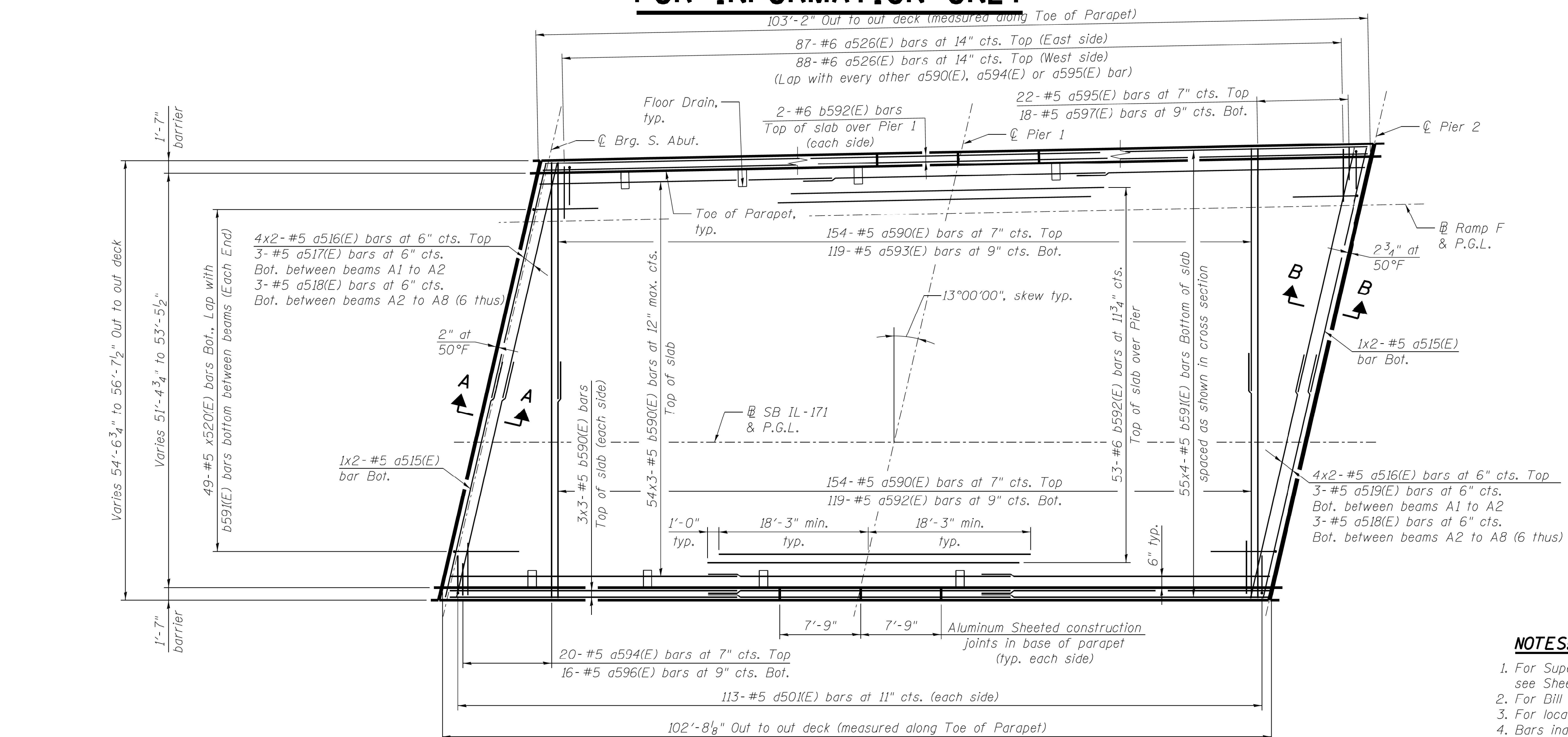


△ Measured perpendicular to ℗ IL-171
△△ Measured perpendicular to ℗ Ramp F
△△△ Measured perpendicular to Beam A2

PLAN

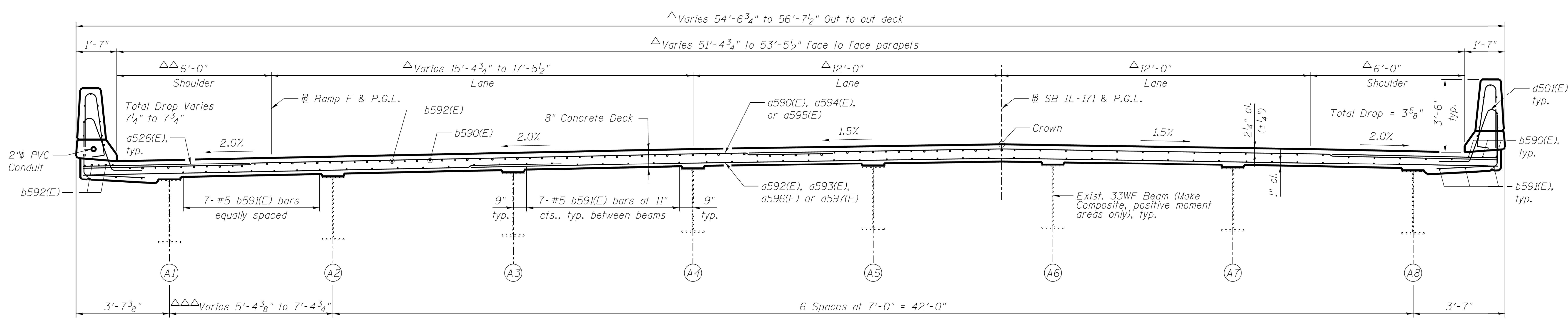
MINIMUM BAR LAP

(Slab)

#5 bar = 3'-3"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG42.
3. For locations and spacing of Floor Drains, see Sheet SG2.
4. Bars indicated thus 54x3-#5 etc. indicates 54 lines of bars with 3 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.



CROSS SECTION

(Looking Upstation/North)

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING DECK PLAN AND CROSS SECTION SPANS 1 AND 2 SN: 016-0486	
	DRAWN -	REVISED -			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	15
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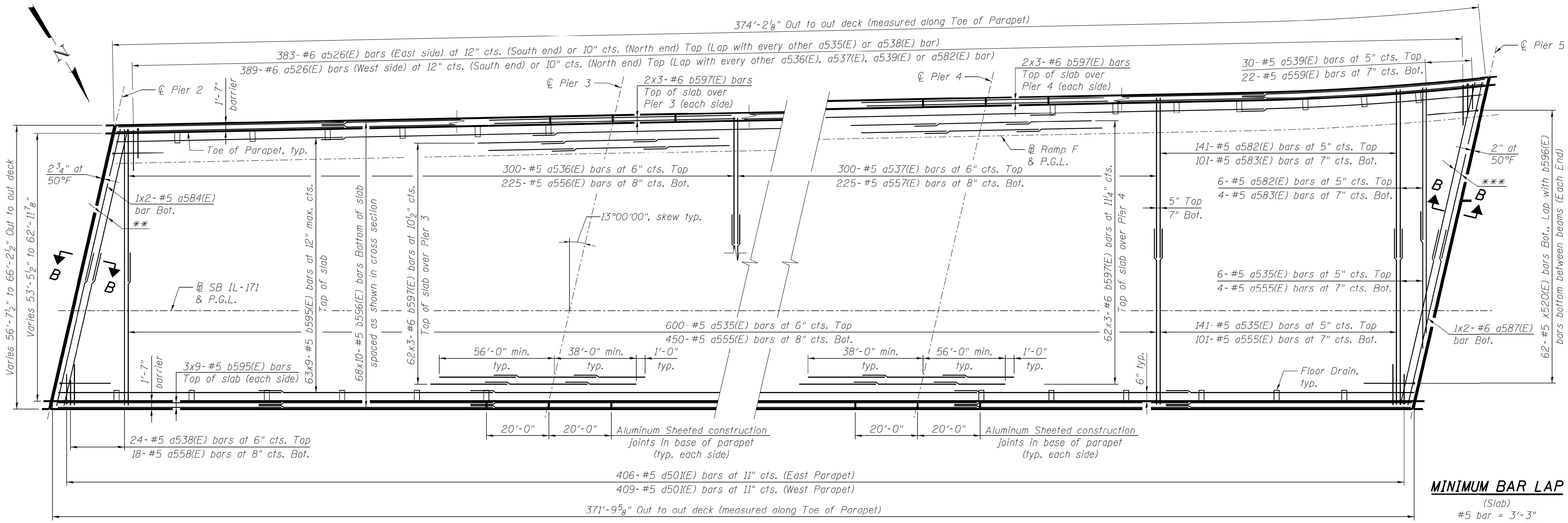


MINIMUM BAR LAP

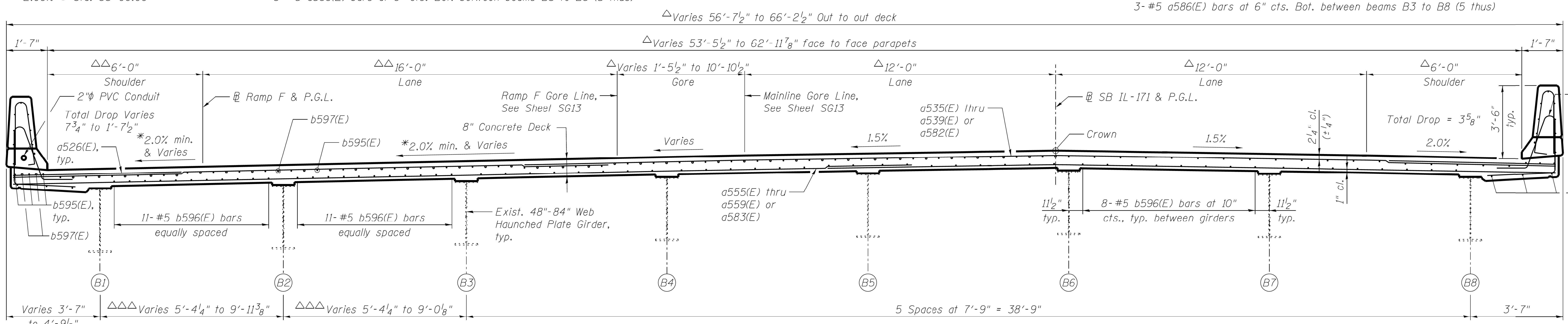
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

*Ramp F Superelevation transitions from 6.00% @ Sta. 31+50.00 to 2.00% @ Sta. 33+00.00

**4x2-#5 a584(E) bars at 6" cts. Top
3-#5 a585(E) bars at 6" cts. Bot. between beams B1 to B3 (2 thus)
3-#5 a586(E) bars at 6" cts. Bot. between beams B3 to B8 (5 thus)

PLAN

***4x2-#6 a587(E) bars at 6" cts. Top
3-#6 a588(E) bars at 6" cts. Bot. between beams B1 to B2
3-#6 a589(E) bars at 6" cts. Bot. between beams B2 to B3
3-#5 a586(E) bars at 6" cts. Bot. between beams B3 to B8 (5 thus)



CROSS SECTION

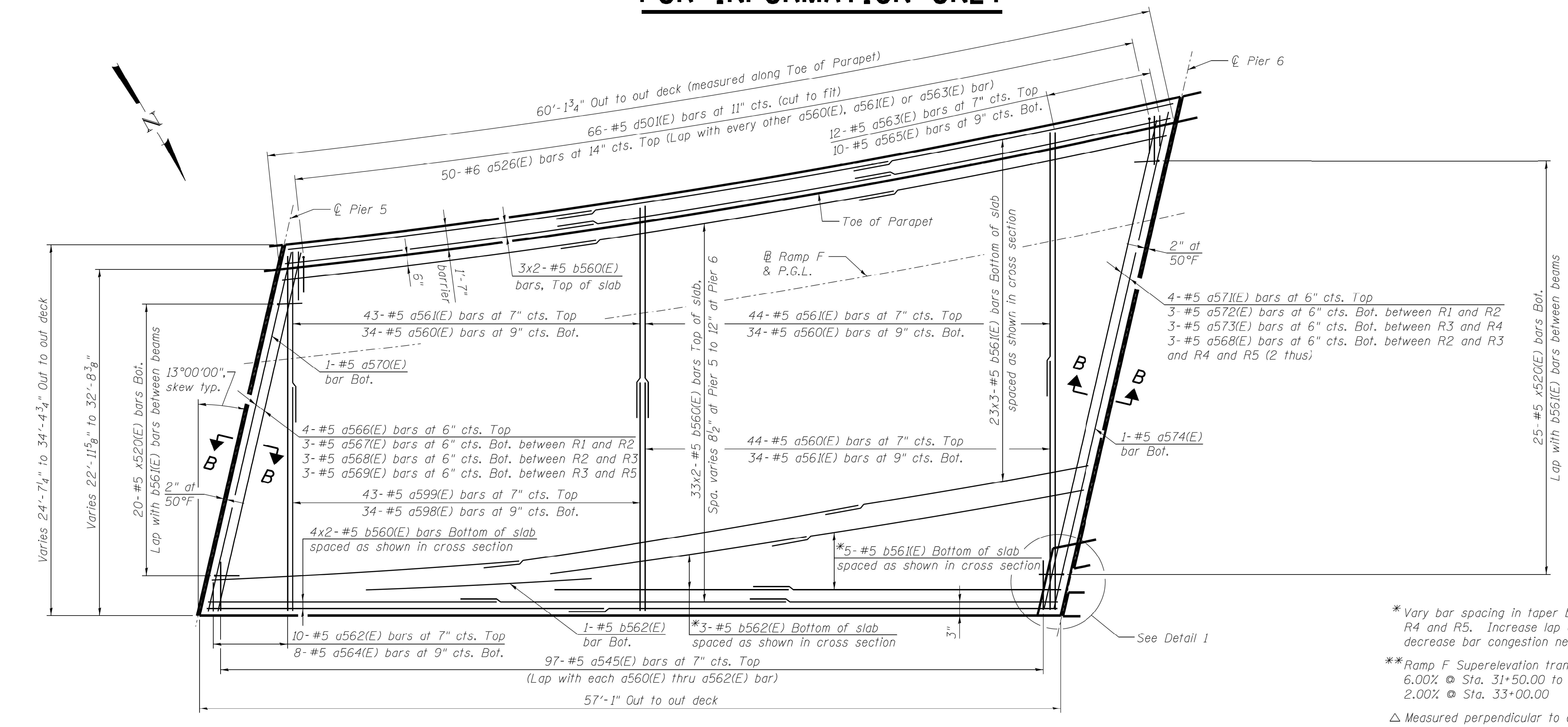
(Looking Upstation/North)

△ Measured perpendicular to ℄ IL-171
△△ Measured perpendicular to ℄ Ramp F
△△△ Measured perpendicular to east girder

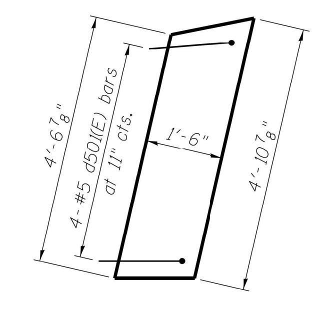
NOTES:

1. For Superstructure Details and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG42.
3. For locations and spacing of Floor Drains, see Sheet SG2.
4. Bars indicated thus 63x9-#5 etc. indicates 63 lines of bars with 9 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.
6. See Lighting Plans for Navigation Lighting details.

FOR INFORMATION ONLY



PLAN



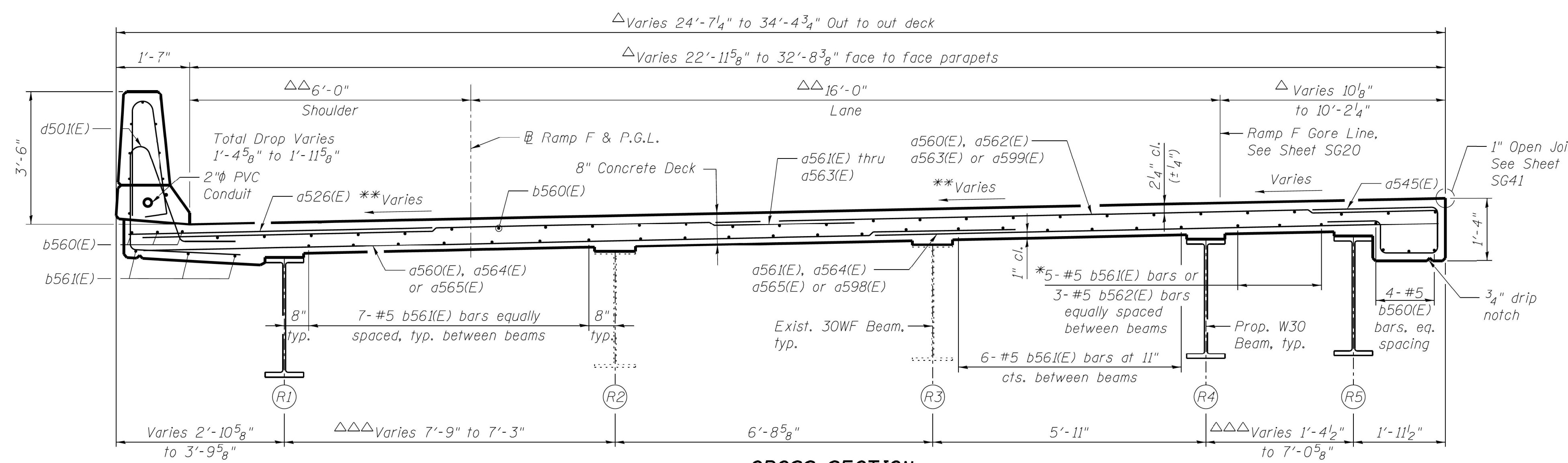
DETAIL 1

* Vary bar spacing in taper between beams R4 and R5. Increase lap as required to decrease bar congestion near crosshead beam.

** Ramp F Superelevation transitions from 6.00% @ Sta. 31+50.00 to 2.00% @ Sta. 33+00.00

△ Measured perpendicular to open joint
△△ Measured perpendicular to ℄ Ramp F
△△△ Measured perpendicular to east girder

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"



CROSS SECTION
(Looking North/Upstation along ℄ IL-171)

NOTES:

1. For Superstructure Details and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. Bars indicated thus 33x2-#5 etc. indicates 33 lines of bars with 2 lengths per line.
4. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.

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PLOT DATE = 12/13/2022	DATE -	REVISED -

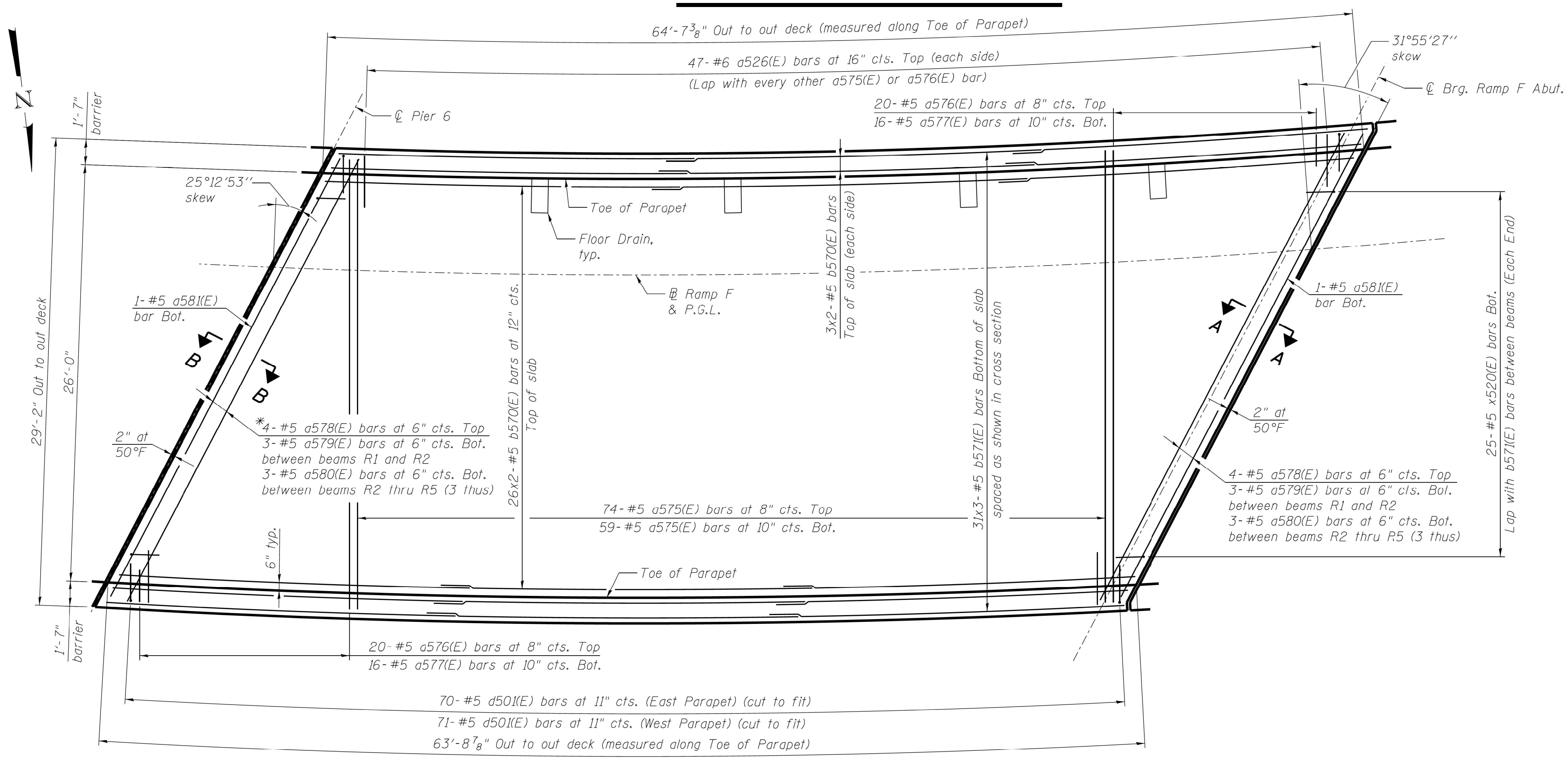
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN AND CROSS SECTION SPAN 6 RAMP F
SN: 016-0486

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	17
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

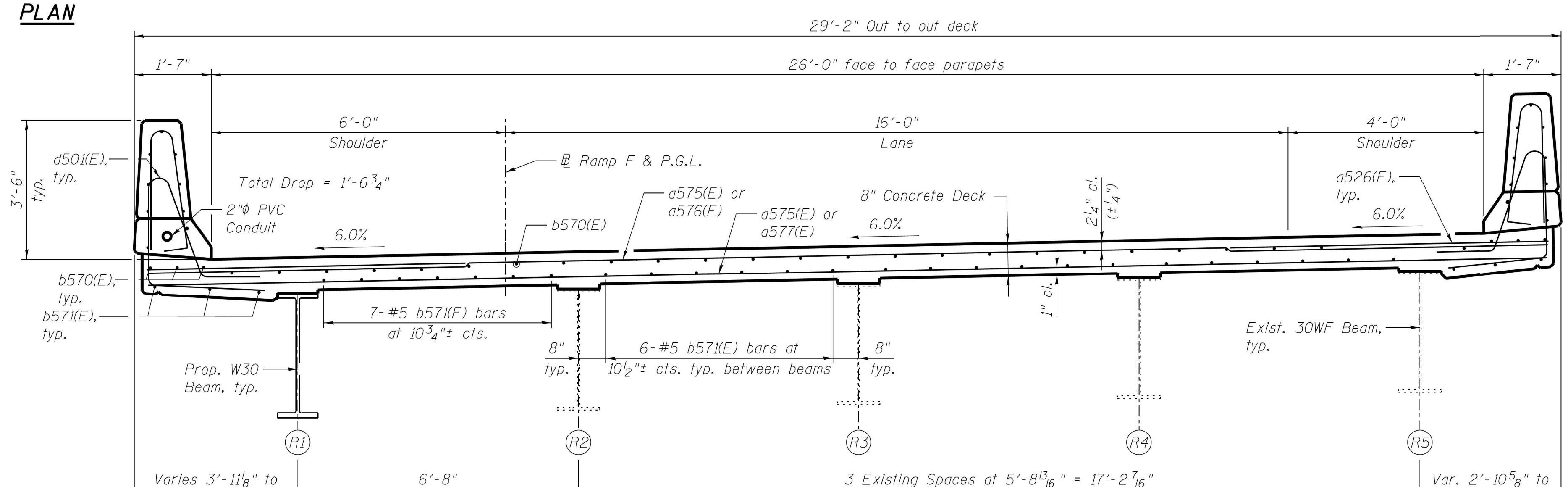
FOR INFORMATION ONLY



PLAN

* Cut to fit

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"

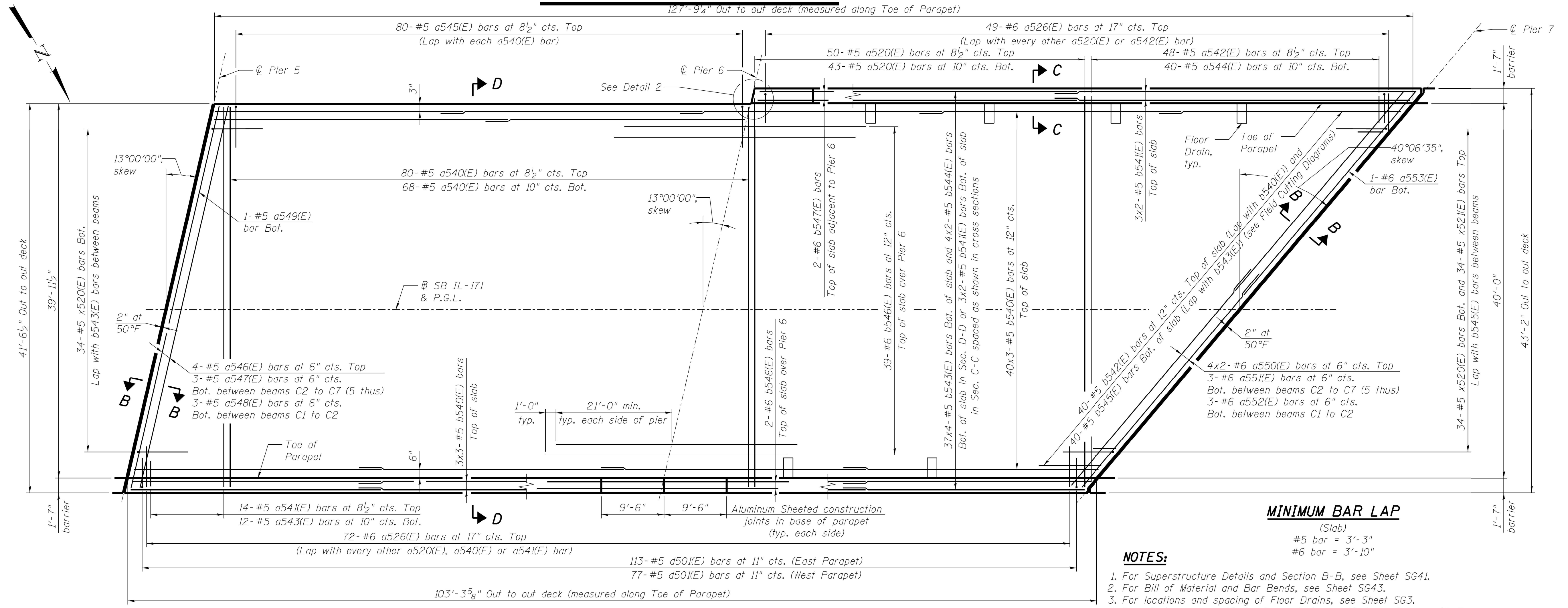


CROSS SECTION
(Looking North/Upstation along ℄ IL-171)

NOTES:

1. For Superstructure Details, Section A-A and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. For locations and spacing of Floor Drains, see Sheet SG3.
4. Bars indicated thus 26x2-#5 etc. indicates 26 lines of bars with 2 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.

FOR INFORMATION ONLY

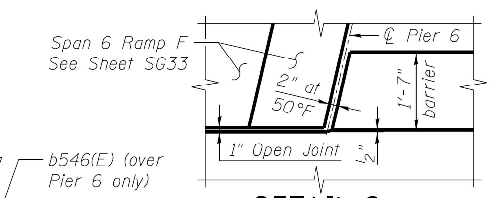


PLAN

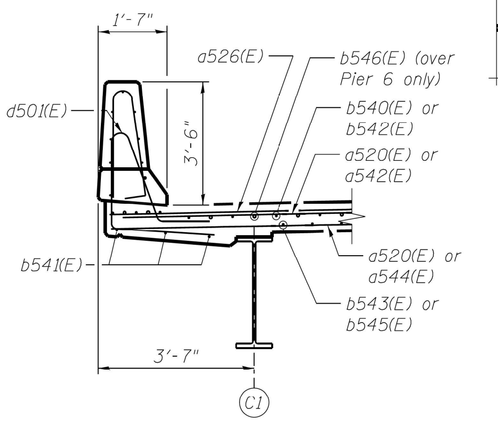
MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

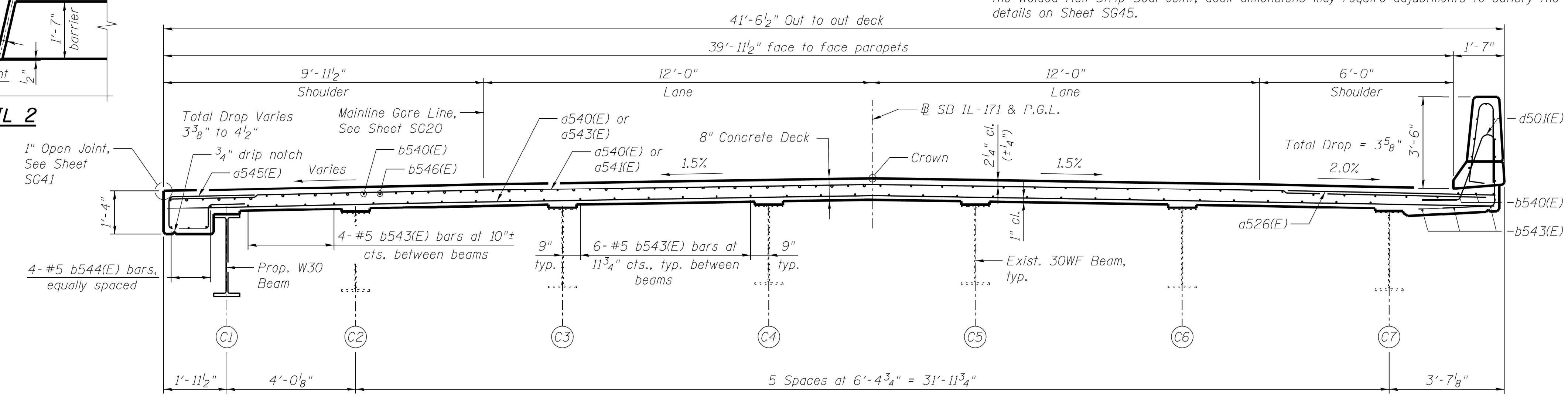
1. For Superstructure Details and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. For locations and spacing of Floor Drains, see Sheet SG3.
4. Bars indicated thus 40x3-#5 etc. indicates 40 lines of bars with 3 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.



DETAIL 2



SECTION C-C



SECTION D-D
(Looking Upstation/North)

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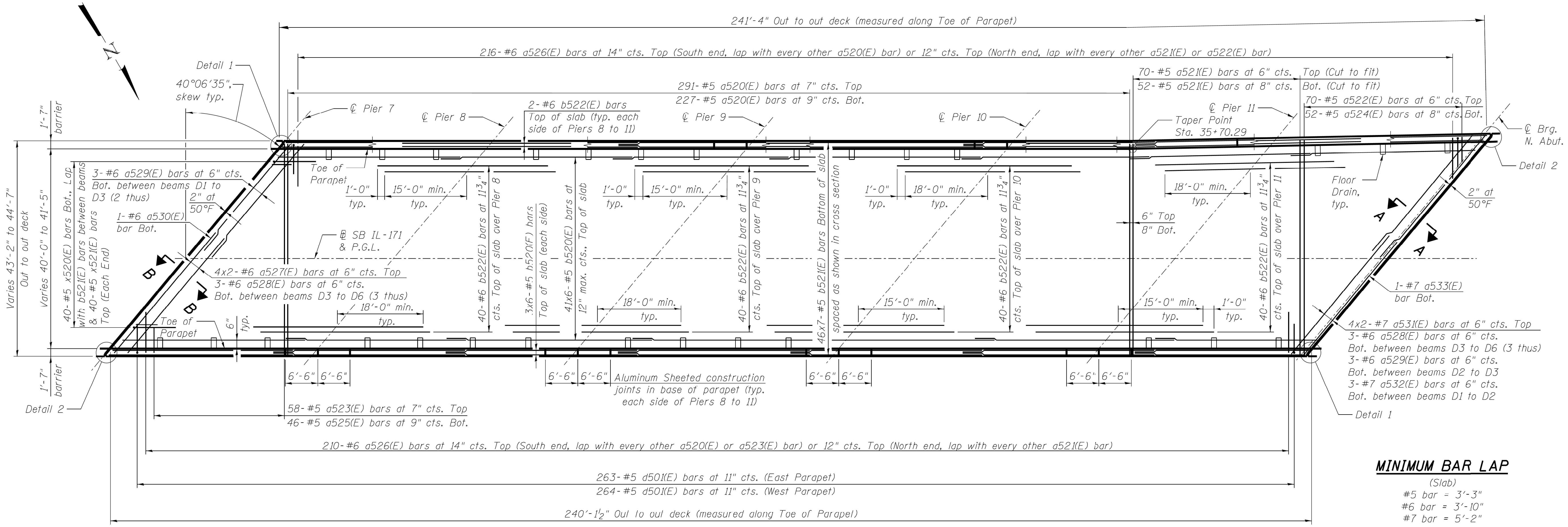
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK PLAN AND CROSS SECTION SPANS 6 AND 7
SN: 016-0486
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	19
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY

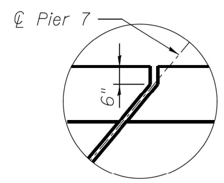


PLAN

MINIMUM BAR LAP

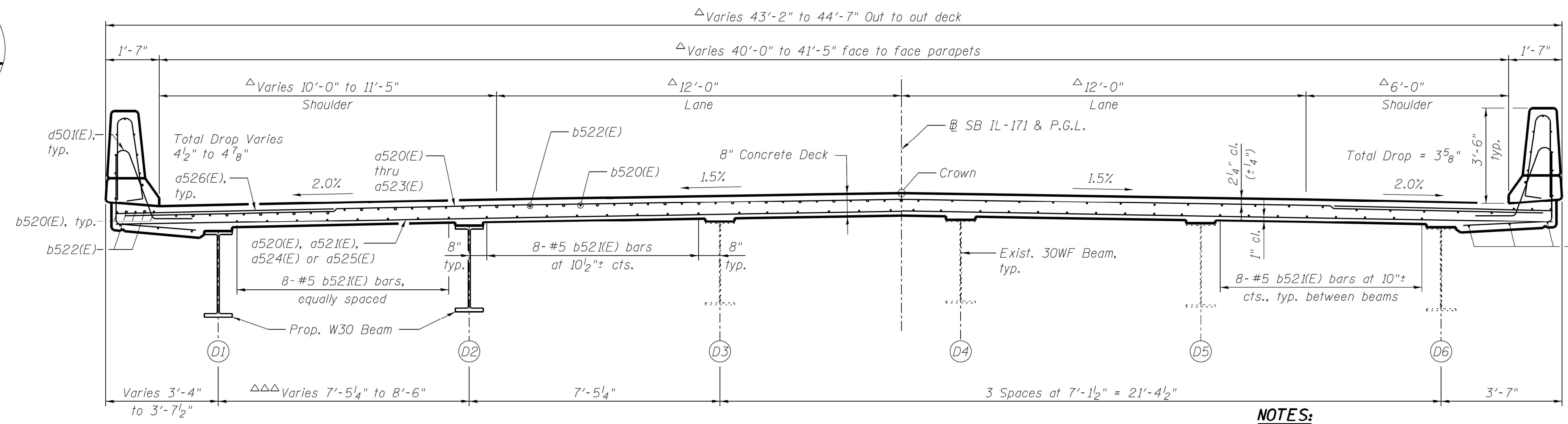
(Slab)

#5 bar = 3'-3"
#6 bar = 3'-10"
#7 bar = 5'-2"



DETAIL 1

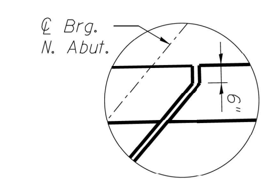
(Pier 7 shown, N. Abut. similar)



CROSS SECTION

(Looking Upstation/North)

△ Measured perpendicular to ℄ IL-171
△△△ Measured perpendicular to Beam D2



DETAIL 2

(N. Abut. shown, Pier 7 similar)

NOTES:

1. For Superstructure Details, Section A-A and Section B-B, see Sheet SG41.
2. For Bill of Material and Bar Bends, see Sheet SG43.
3. For locations and spacing of Floor Drains, see Sheet SG3.
4. Bars indicated thus 41x6-#5 etc. indicates 41 lines of bars with 6 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SG45.

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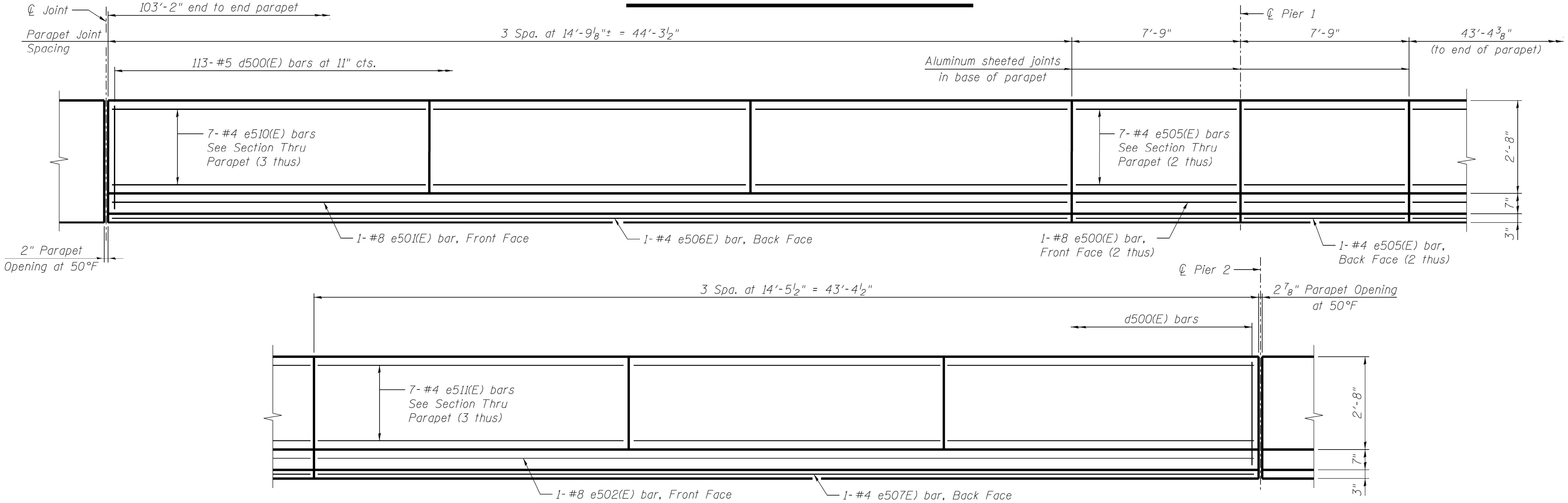
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING DECK PLAN AND CROSS SECTION SPANS 8 THRU 12
SN: 016-0486

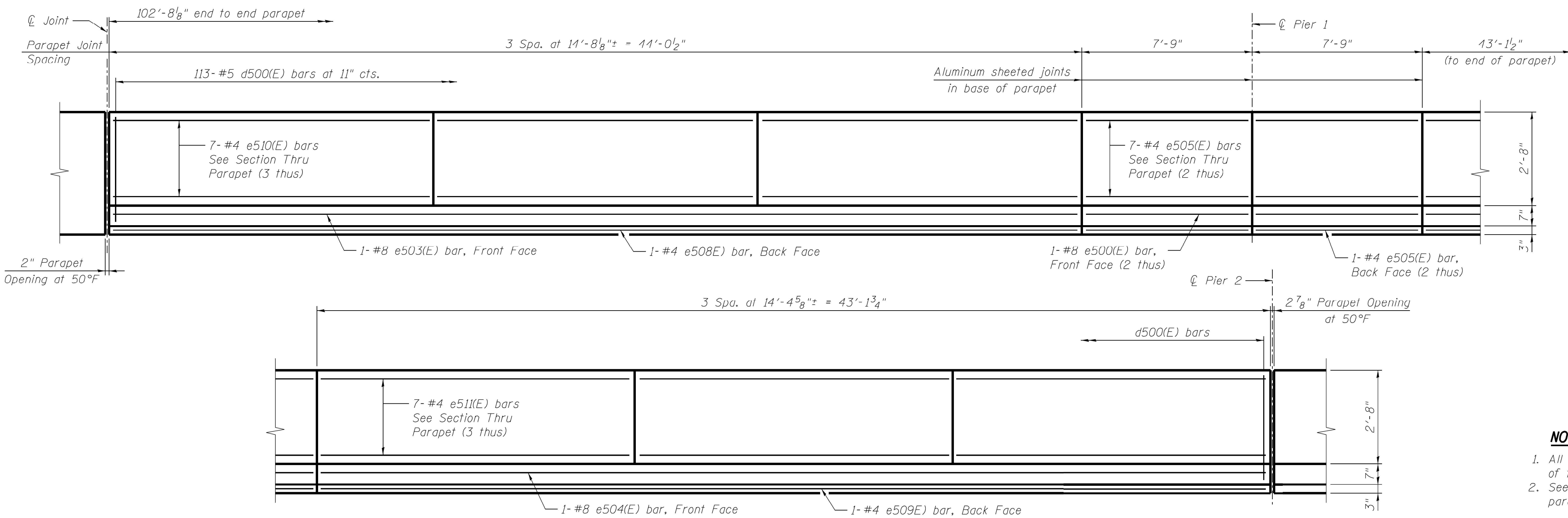
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	20
	CONTRACT NO. 62U38			
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET

(Reflected View Shown)

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. See Sheet SG41 for cross section thru parapet and parapet joint details.

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PARAPET DETAILS SPANS 1 AND 2
SN: 016-0486

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	21

CONTRACT NO. 62U38

ILLINOIS | FED. AID PROJECT

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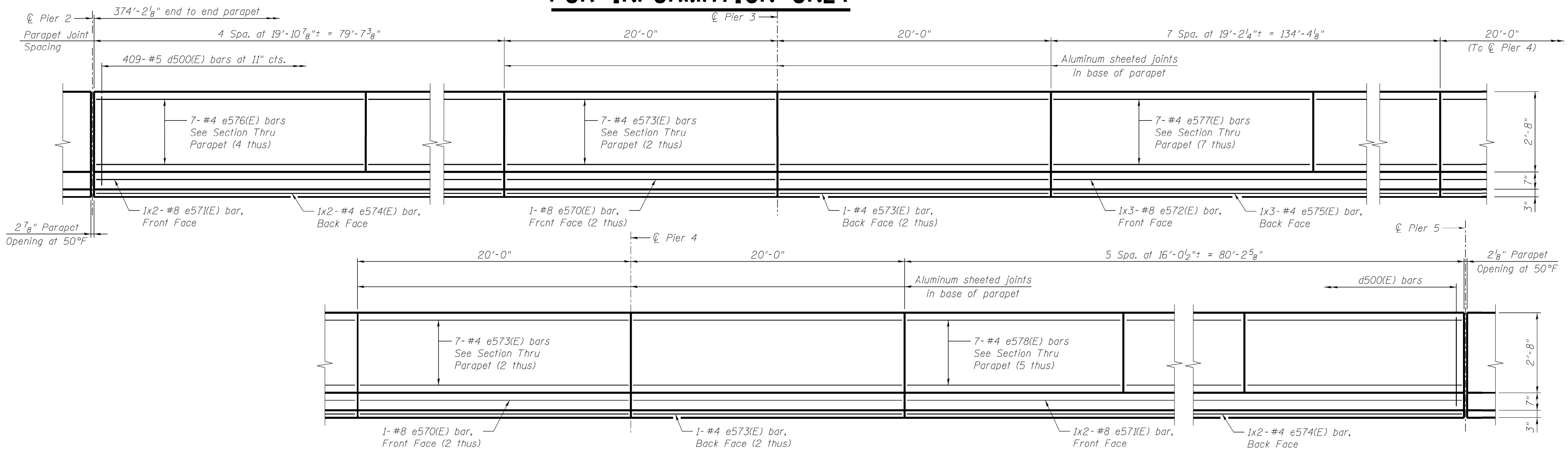
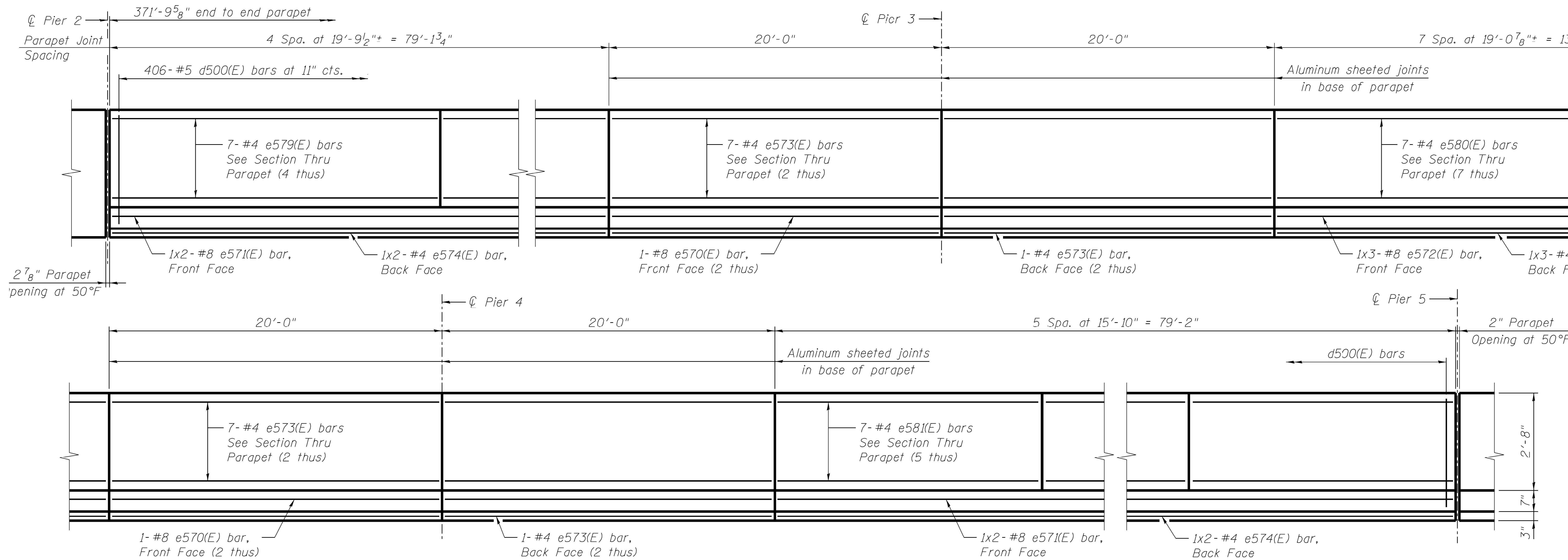


INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET

(Reflected View Shown)

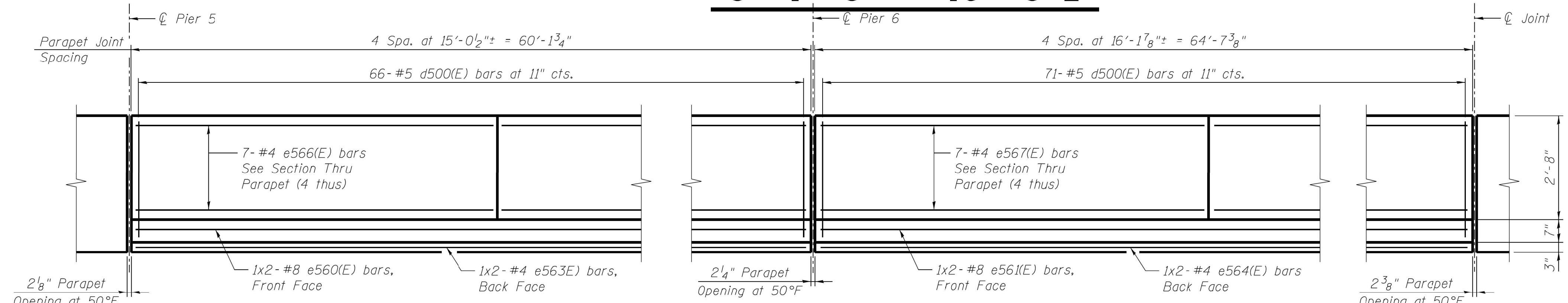
MINIMUM BAR LAP

#4 Bar = 2'-0"
#8 Bar = 5'-2"

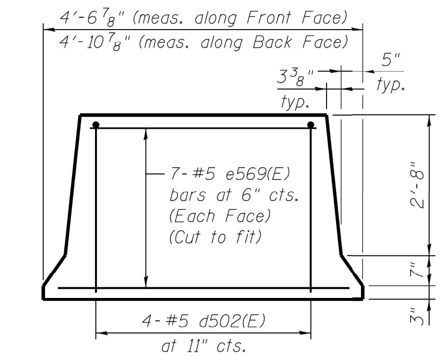
NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SG41 for cross section thru parapet and parapet joint details.
4. See Lighting Plans for Navigation Lighting details.

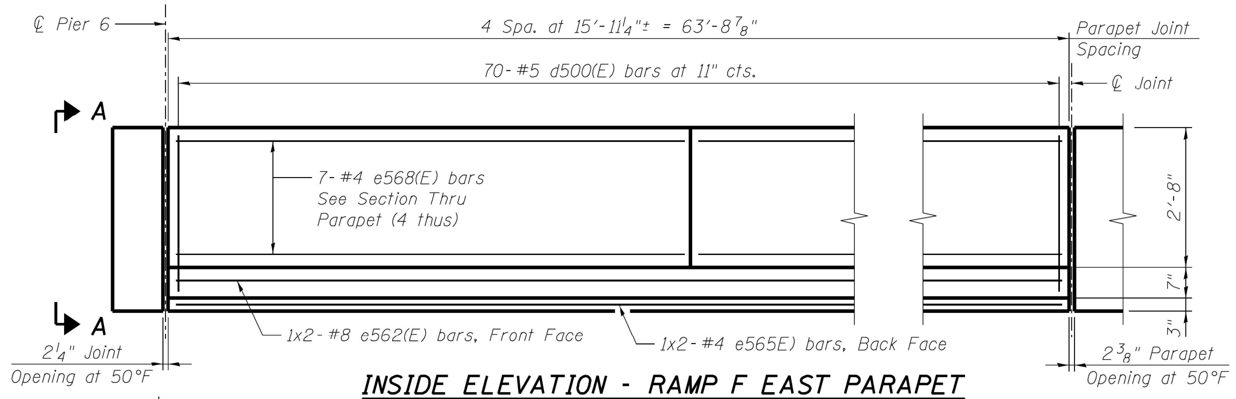
FOR INFORMATION ONLY



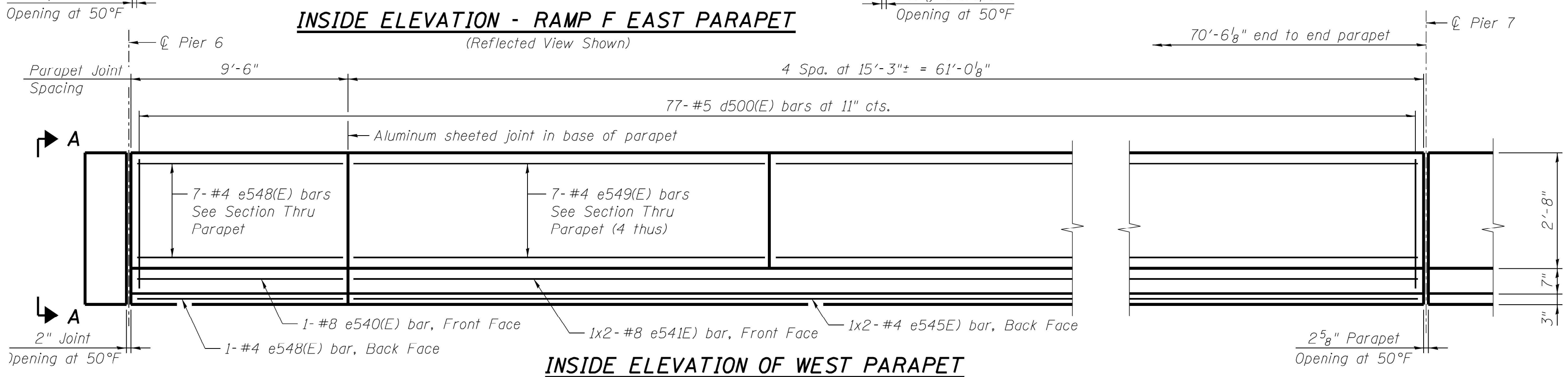
INSIDE ELEVATION - RAMP F WEST PARAPET



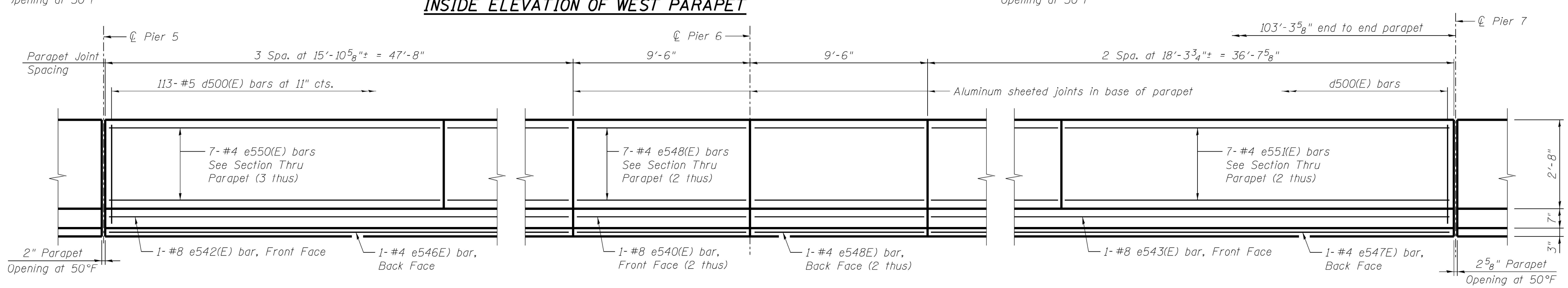
VIEW A-A



INSIDE ELEVATION - RAMP F EAST PARAPET
(Reflected View Shown)



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"
#8 Bar = 5'-2"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SG41 for cross section thru parapet and parapet joint details.

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

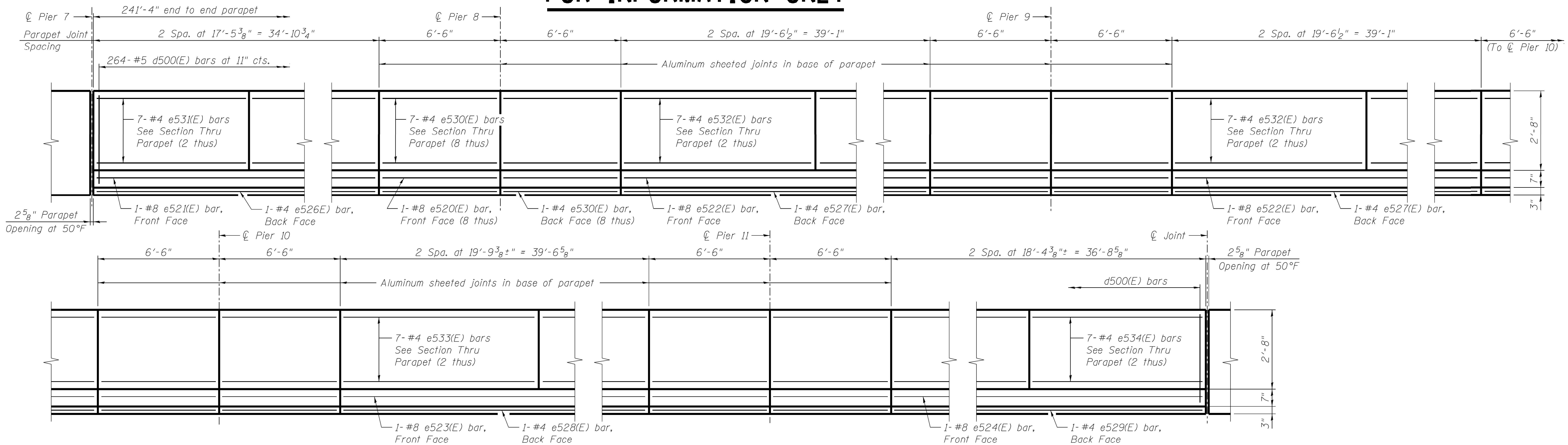
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PARAPET DETAILS SPANS 6 AND 7
SN: 016–0486

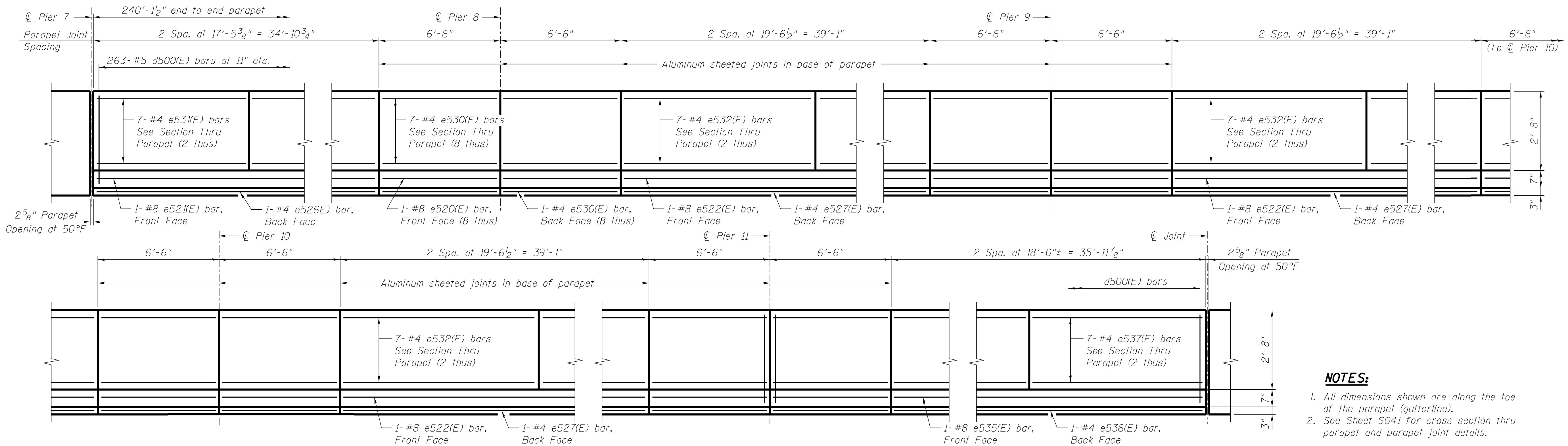
SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	23
CONTRACT NO. 62U38				
ILLINOIS	FED. AID PROJECT			

FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET



NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. See Sheet SG41 for cross section thru parapet and parapet joint details.

INSIDE ELEVATION OF EAST PARAPET

(Reflected View Shown)

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS SPANS 8 – 12
SN: 016–0486

SCALE: | SHEET OF SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	24
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Bench Mark:
Chiseled square on NW corner of concrete wingwall at NE corner of NB IL-171 Bridge over Sanitary & Ship Canal, El. 625.62.

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on NAVD29 Datum. NAVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

Existing Structure: S.N. 016-0487 built in 1964 under F.A. Route 133, Sections 0707-626B & 0707-610HB, consists of a 7½" concrete deck with a 2" microsilica overlay. The structure consists of an eleven span bridge. The structure is supported by 10 multi-column piers, founded on spread footings or BP piles, and 2 abutments founded on BP piles. The structure is 794'-7" back to back of abutments, with an out to out deck width which varies from 36'-0" to 38'-8⅛". The structure has varying skew angles. Traffic is to be maintained utilizing crossovers.

No salvage.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

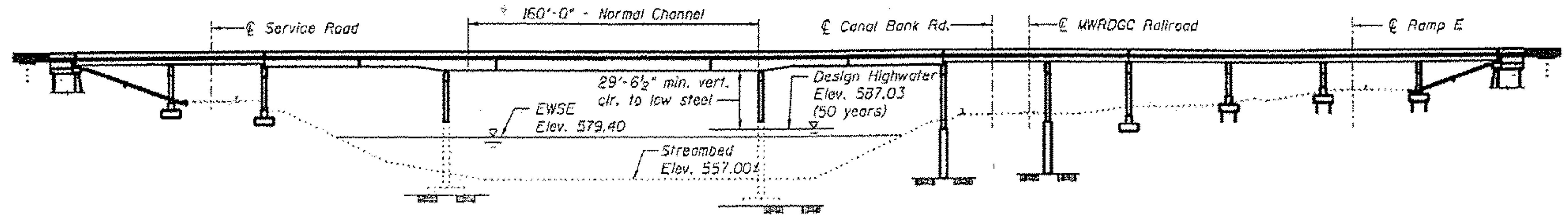
FIELD UNITS (Exist. Construction)
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

LOADING HS20-44

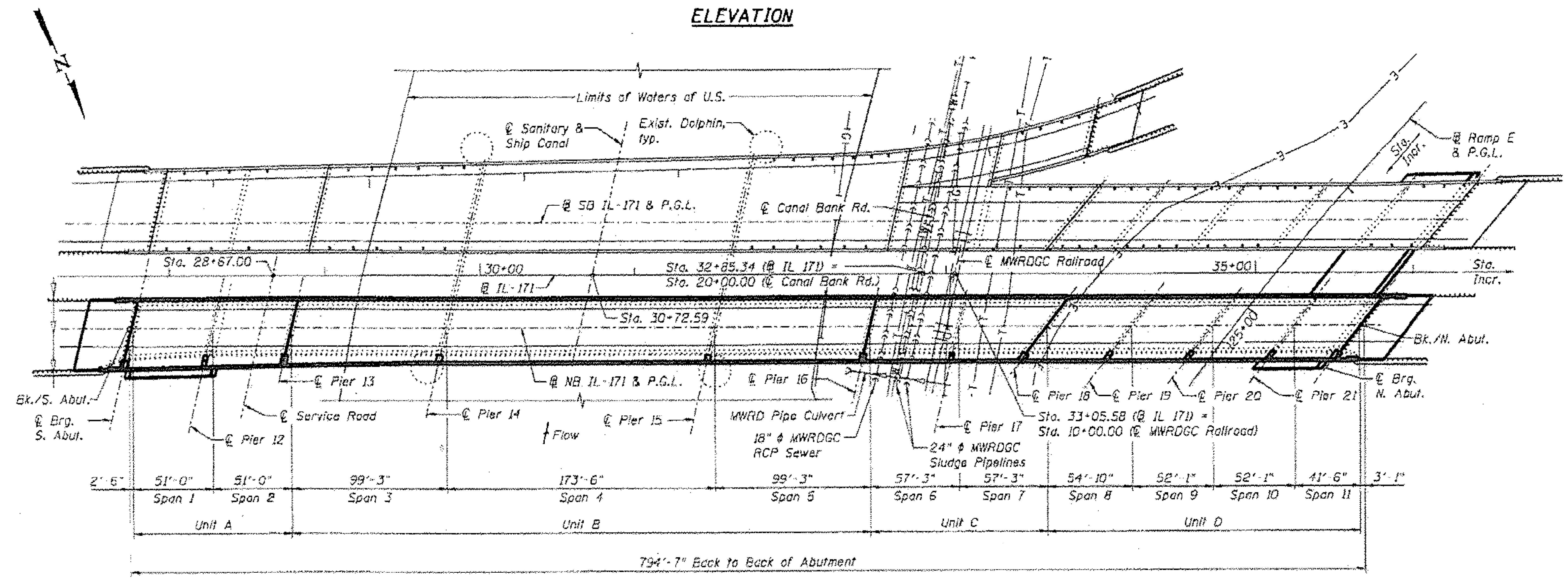
No future wearing surface allowed.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



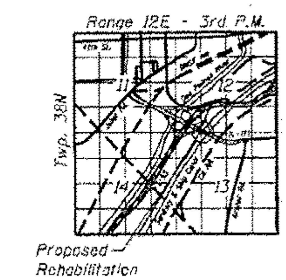
ELEVATION



PLAN

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- W — Underground Water Main
- G — Underground Gas Line
- T — Underground Telephone Line
- E — Underground Electrical Line
- Existing Drainage Structure



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

	Design Scour Elevation (ft.)			
	Pier 13	Pier 14	Pier 15	Pier 16
Q100	590.0	553.0	553.0	585.7
Q500	589.0	553.0	553.0	585.4

Design scour elevations estimated from existing data.

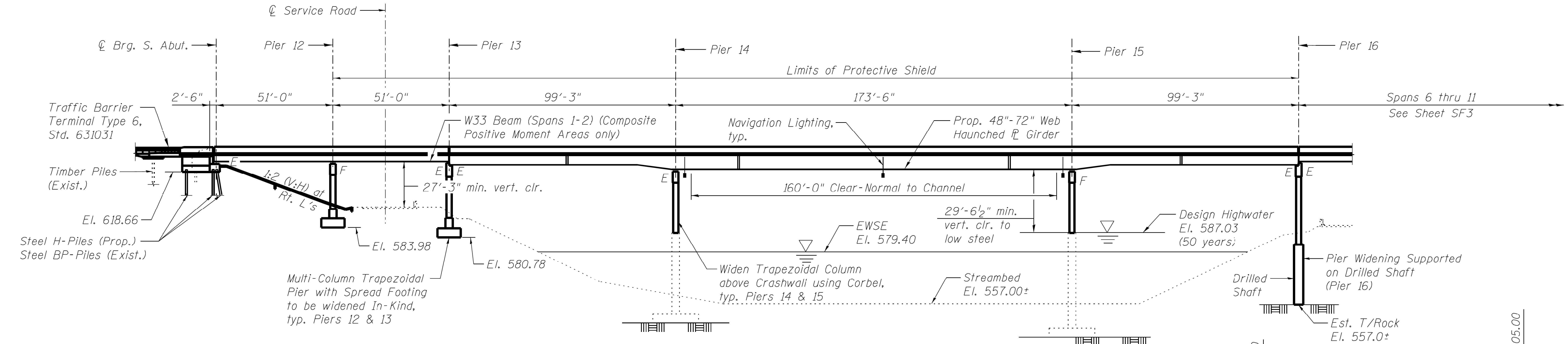
WATERWAY INFORMATION

Drainage Area = n/a — Proposed Low Grade Elev. 622.74 at Sta. 39+06

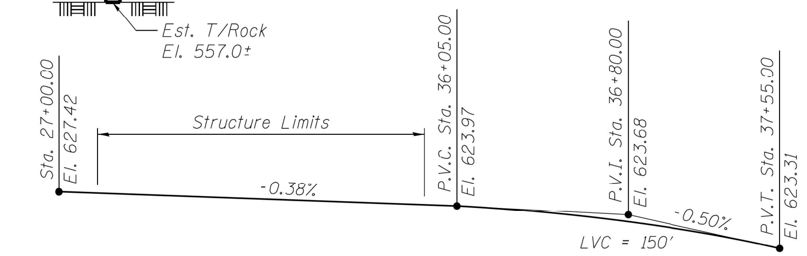
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	8,500	6,997	6,997	583.92	0.00	0.00	583.92	583.92
Design	50	11,300	7,965	7,965	587.03	0.00	0.00	587.03	587.03
Base	100	12,800	8,279	8,279	588.03	0.00	0.00	588.03	588.03
Overtopping	>500								
Max. Calc.	500	16,100	9,439	9,439	591.44	0.00	0.00	591.43	591.43

10 Year Velocity through Existing and Proposed Bridge = 1.21 fps

FOR INFORMATION ONLY

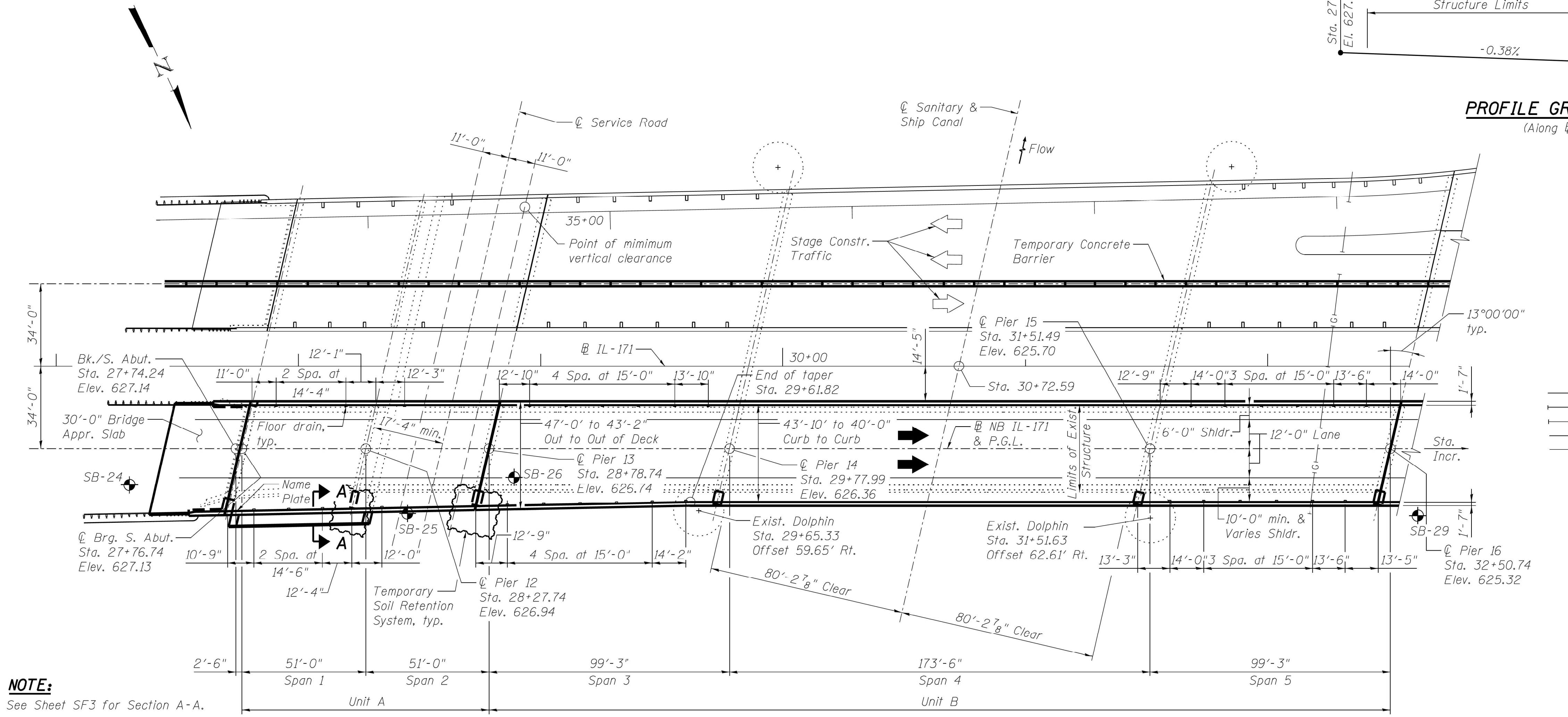


ELEVATION



PROFILE GRADE NB IL-171

(Along ℄ NB IL-171)



PLAN

NOTE:
See Sheet SF3 for Section A-A.

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- Underground Water Line
- Underground Gas Line
- Underground Telephone Line
- Underground Electrical Line
- Existing Drainage Structure

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION SPANS 1 – 5
SN: 016–0487

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	26

CONTRACT NO. 62U38
ILLINOIS FED. AID PROJECT

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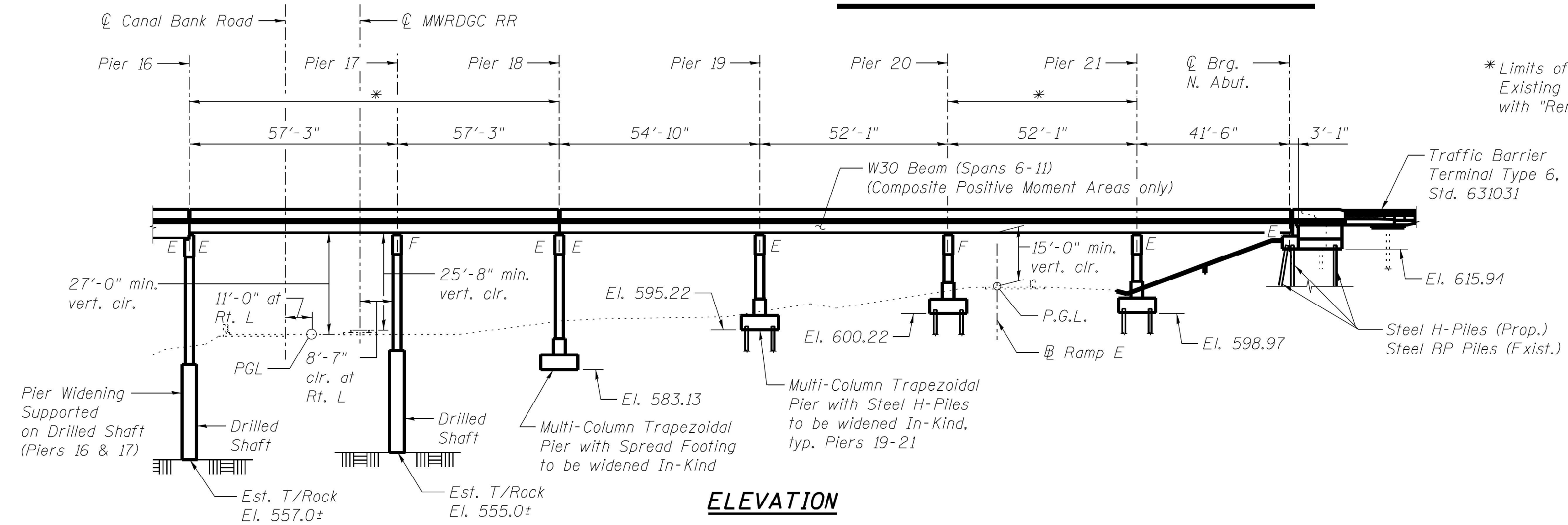
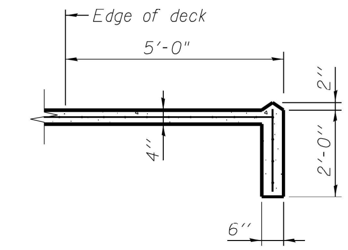


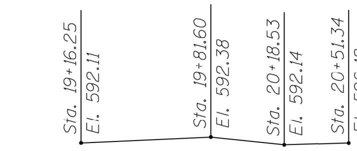
ELEVATION

* Limits of Proposed and Existing Protective Shield. Existing Protective Shield to be removed (Cost included with "Removal of Existing Concrete Deck No. 4").



SECTION A-A

TOP OF RAIL MWRDGC RR

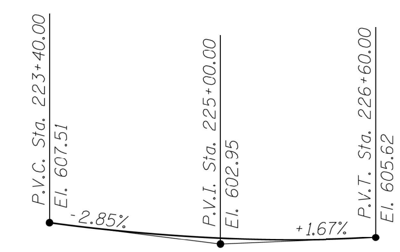


PROFILE GRADE CANAL BANK RD.

(Along West Edge of Pavement)

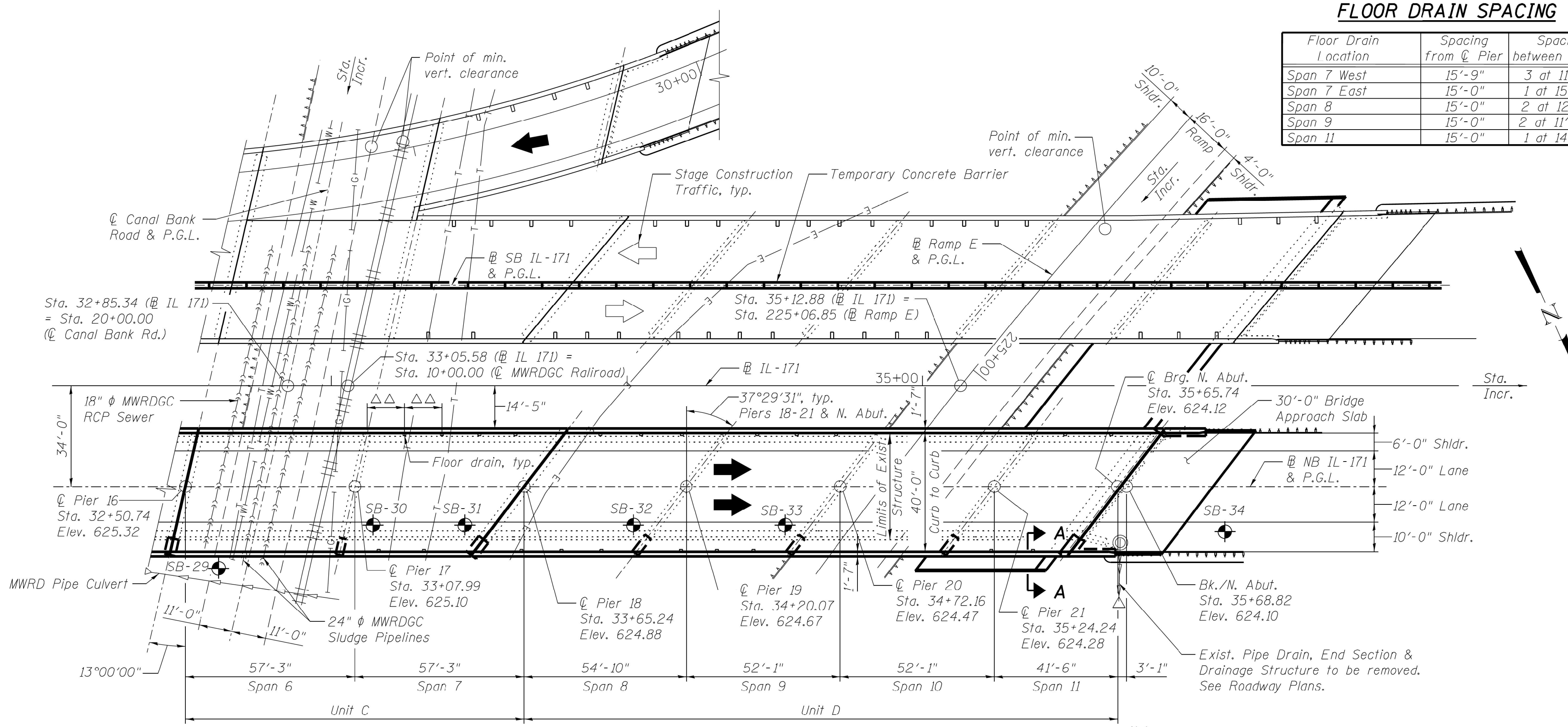
FLOOR DRAIN SPACING

Floor Drain Location	Spacing from ℄ Pier	Spacing between Drains
Span 7 West	15'-9"	3 at 11'-9"
Span 7 East	15'-0"	1 at 15'-0"
Span 8	15'-0"	2 at 12'-5"
Span 9	15'-0"	2 at 11'-0½"
Span 11	15'-0"	1 at 14'-0"



PROFILE GRADE RAMP E

(Along ℗ Ramp E)



PLAN

△△ For floor drain spacing, see table, typ.

Note:
No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line.

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- Underground Water Line
- Underground Gas Line
- Underground Telephone Line
- Underground Electrical Line
- Existing Drainage Structure

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION SPANS 6 – 11
SN: 016–0487

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	27

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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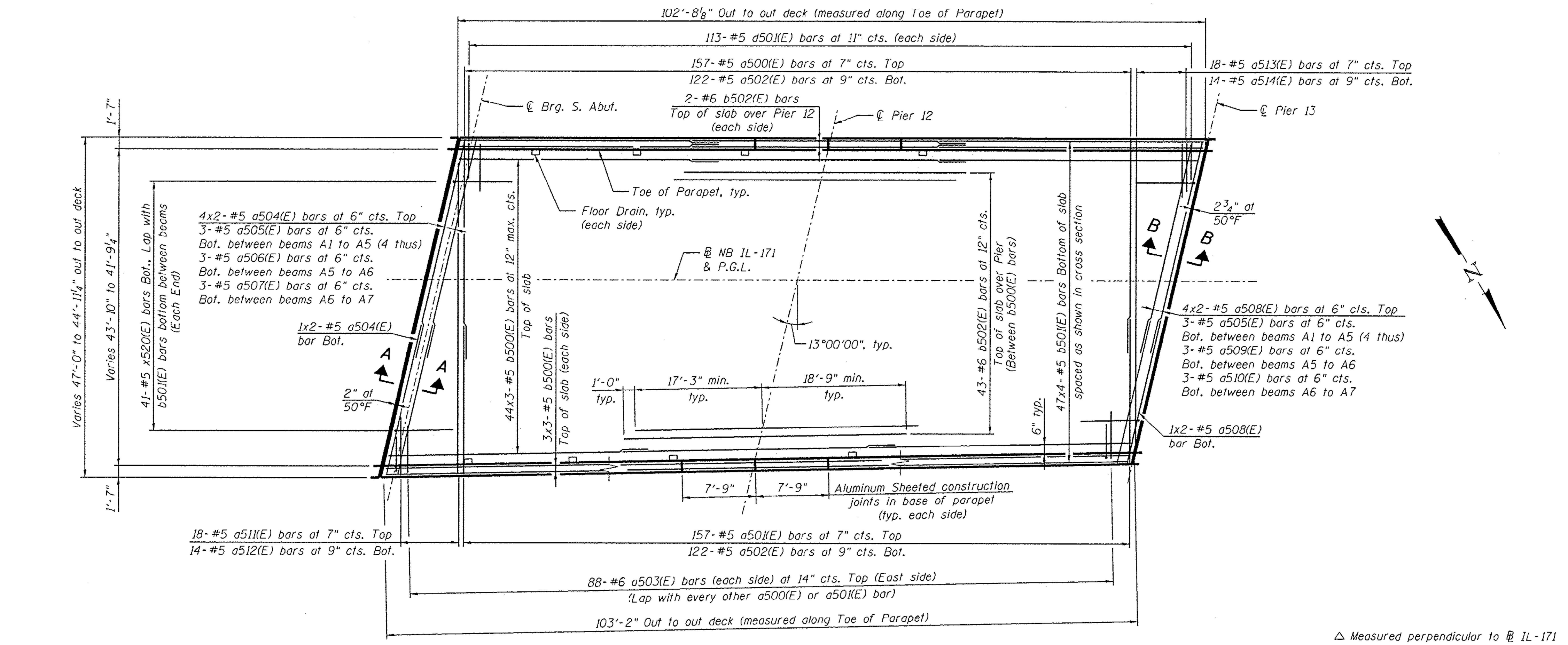
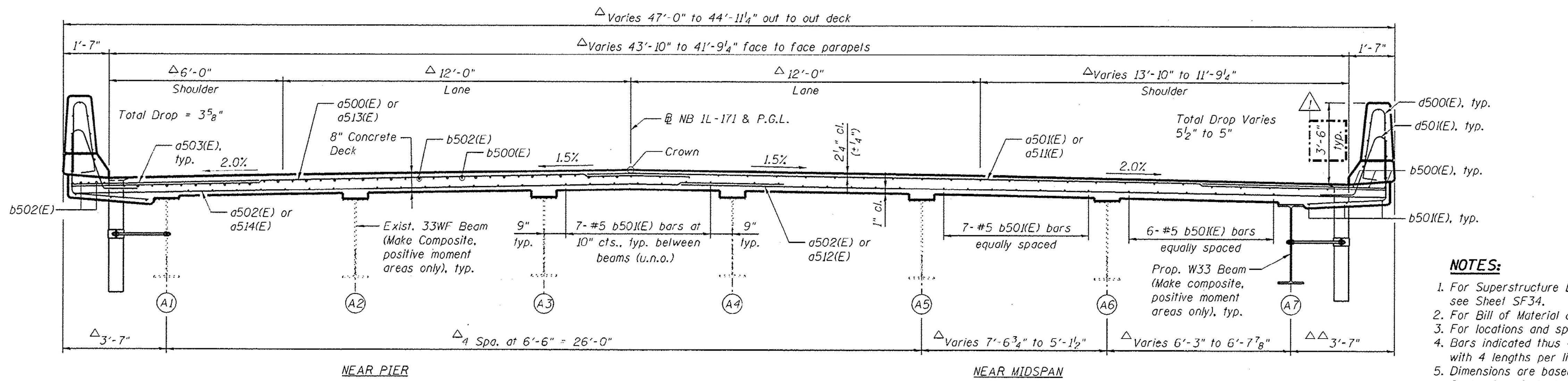


△ Measured perpendicular to ℄ IL-171
△△ Measured perpendicular to Beam A7

PLAN



CROSS SECTION
(Looking Upstation/North)

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
2. For Bill of Material and Bar Bends, see Sheet SF35.
3. For locations and spacing of Floor Drains, see Sheet SF2.
4. Bars indicated thus 47x4-#5 etc. indicates 47 lines of bars with 4 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

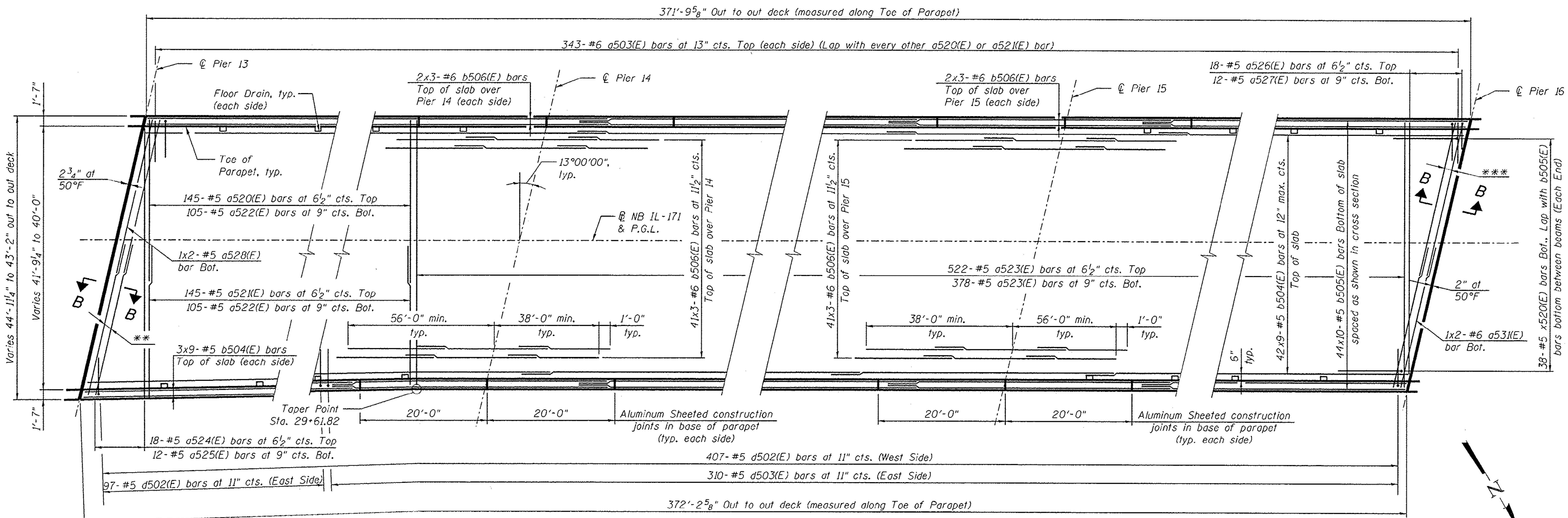
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING DECK PLAN AND CROSS SECTION SPANS 1 AND 2
SN: 016-0487

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	28
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY

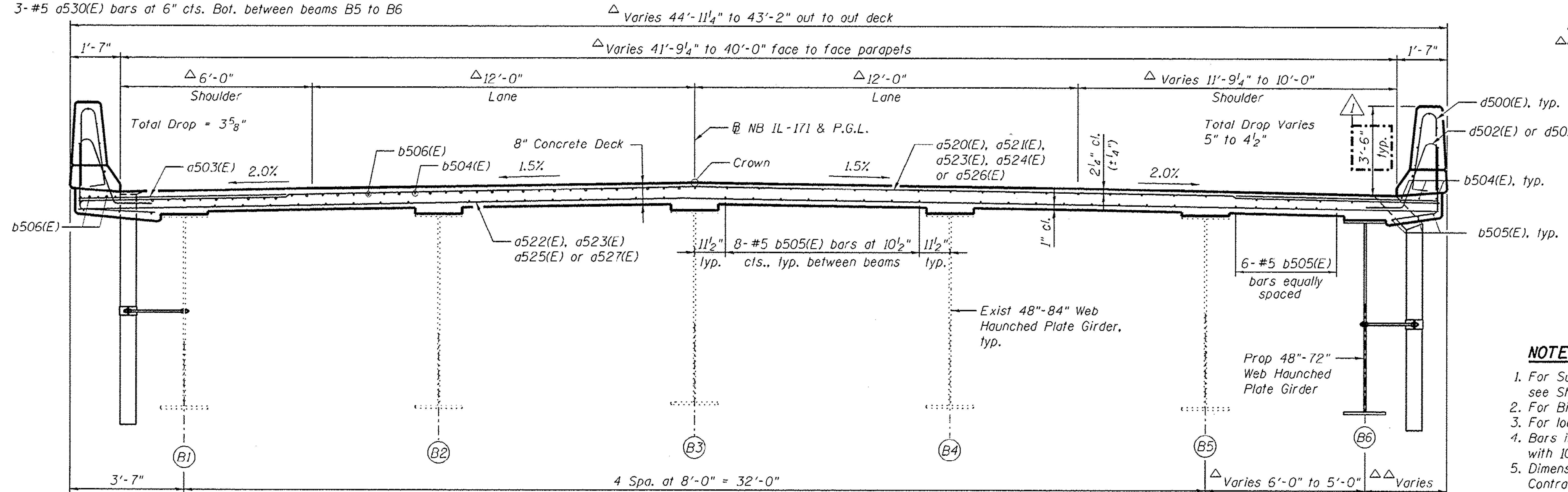


PLAN

** 4x2- #5 a528(E) bars at 6" cts. Top
3- #5 a529(E) bars at 6" cts. Bot. between beams B1 to B5 (4 thus)
3- #5 a530(E) bars at 6" cts. Bot. between beams B5 to B6

*** 4x2- #5 a531(E) bars at 6" cts. Top
3- #5 a529(E) bars at 6" cts. Bot. between beams B1 to B5 (4 thus)
3- #5 a532(E) bars at 6" cts. Bot. between beams B5 to B6

△ Measured perpendicular to ℄ IL-171
△△ Measured perpendicular to Girder B6



NEAR PIER

CROSS SECTION
(Looking Upstation/North)

NEAR MIDSPAN

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
2. For Bill of Material and Bar Bends, see Sheet SF35.
3. For locations and spacing of Floor Drains, see Sheet SF2.
4. Bars indicated thus 44x10- #5 etc. indicates 44 lines of bars with 10 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

MODEL: Default
FILE NAME: pw:\\ildot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D104323\CADData\Design\D104323-sht-bridge.dgn

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -
	DRAWN	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

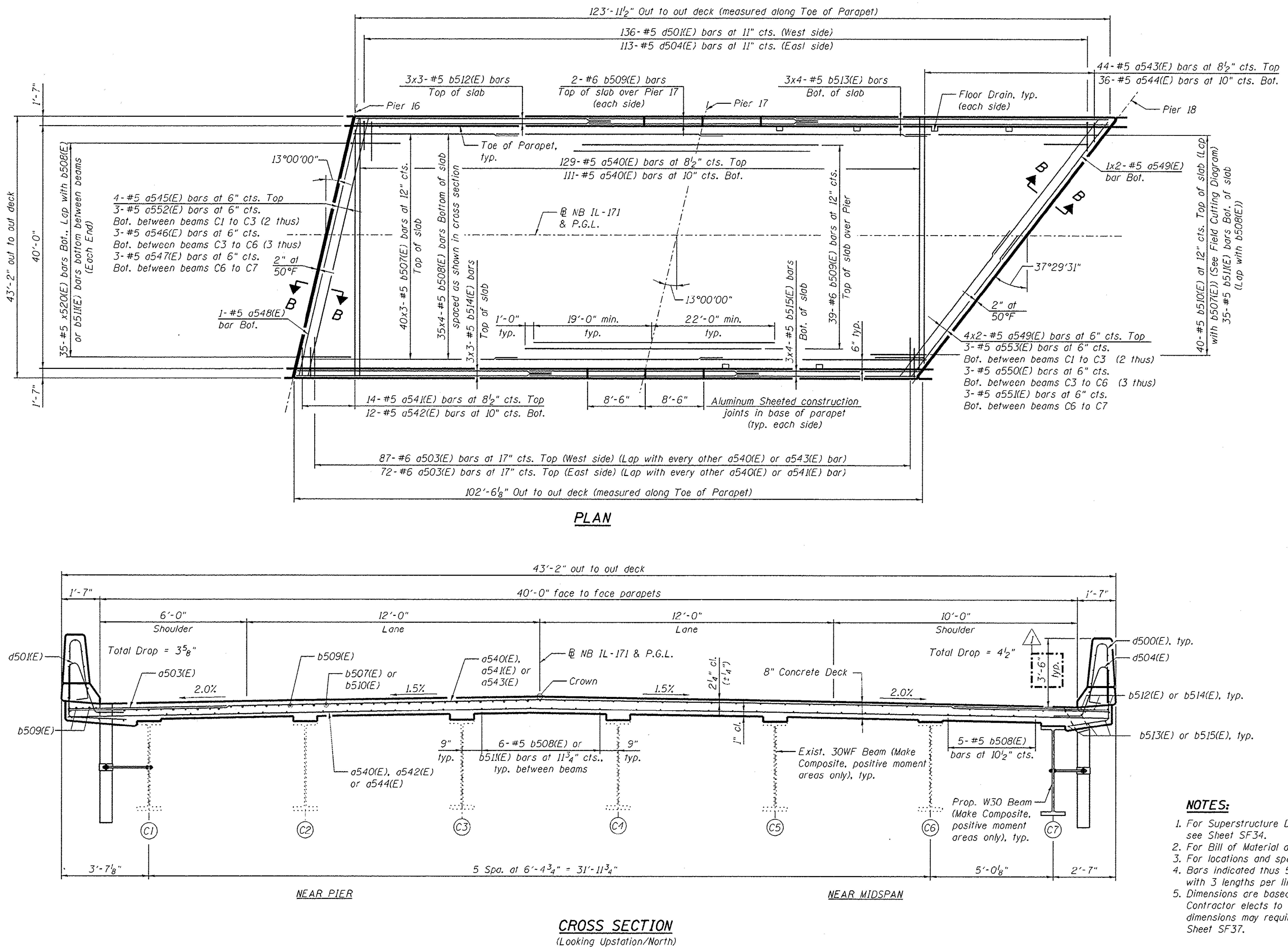
EXISTING DECK PLAN AND CROSS SECTION SPANS 3 – 5
SN: 016–0487

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	29

CONTRACT NO. 62U38
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY



MINIMUM BAR LAP

(Slab)

#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
2. For Bill of Material and Bar Bends, see Sheet SF35.
3. For locations and spacing of Floor Drains, see Sheet SF3.
4. Bars indicated thus 54x3-#5 etc. indicates 54 lines of bars with 3 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK PLAN AND CROSS SECTION SPANS 6 AND 7
SN: 016-0487

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	30
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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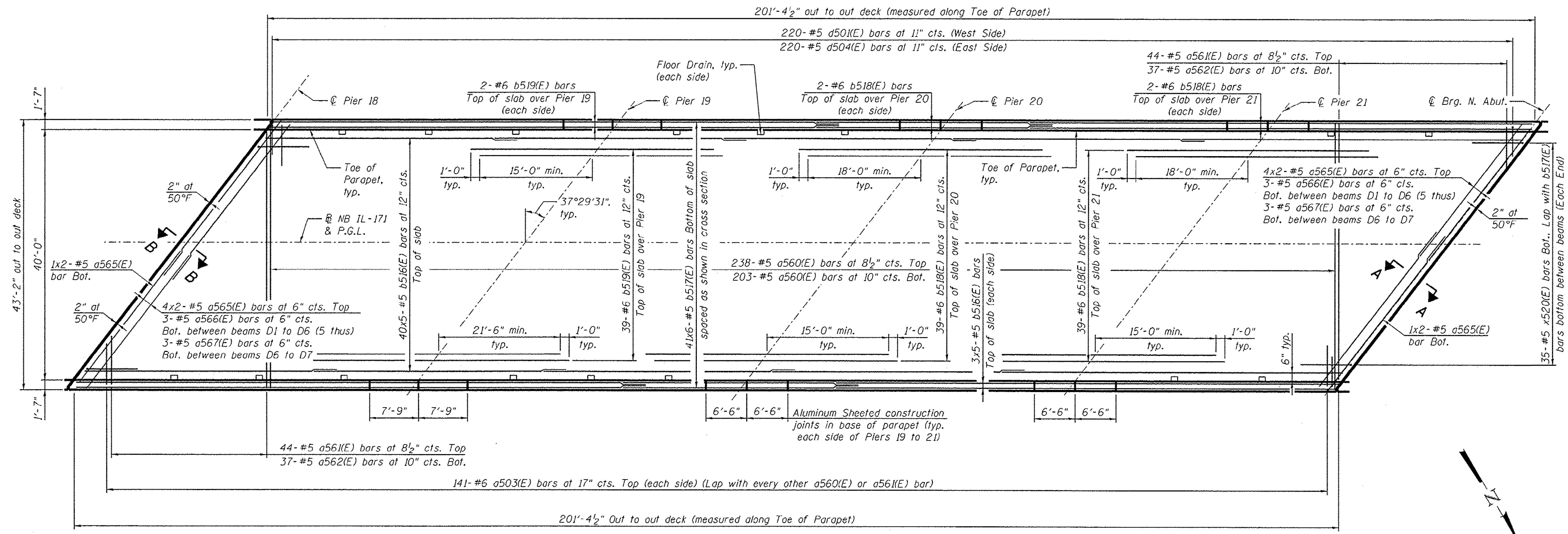
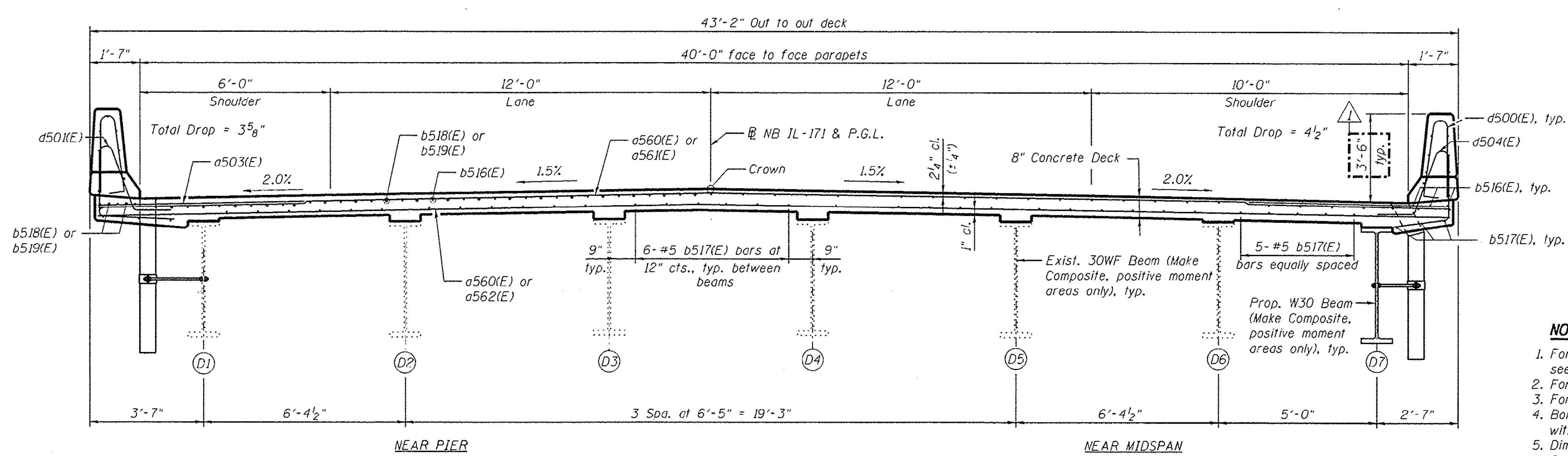


PLAN



CROSS SECTION
(Looking Upstation/North)

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
2. For Bill of Material and Bar Bends, see Sheet SF35.
3. For locations and spacing of Floor Drains, see Sheet SF3.
4. Bars indicated thus 54x3-#5 etc. indicates 54 lines of bars with 3 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK PLAN AND CROSS SECTION SPANS 8 – 11
SN: 016–0487

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	31
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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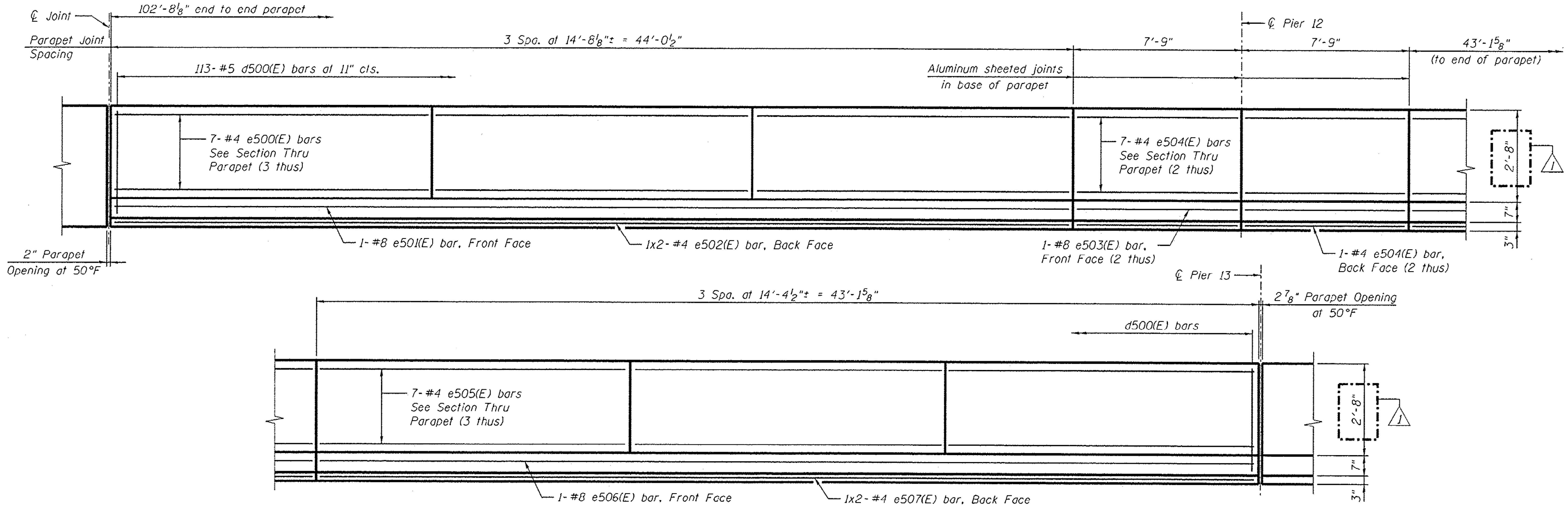
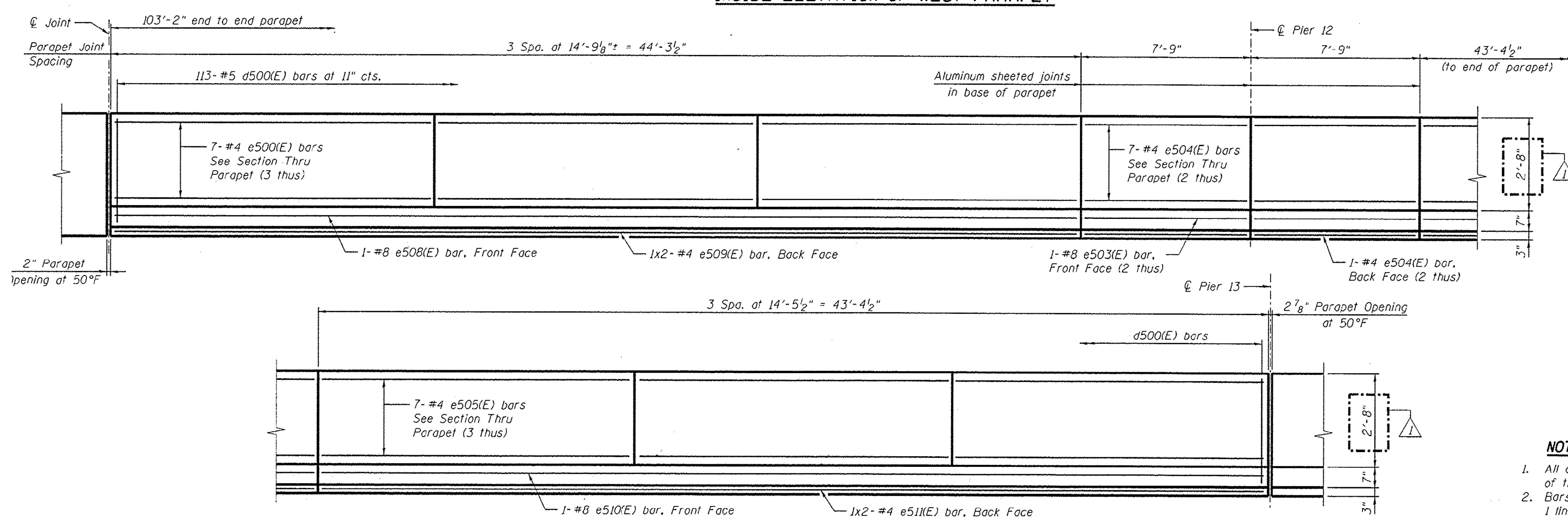
FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET

(Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SF34 for cross section thru parapet and parapet joint details.

MODEL: Default
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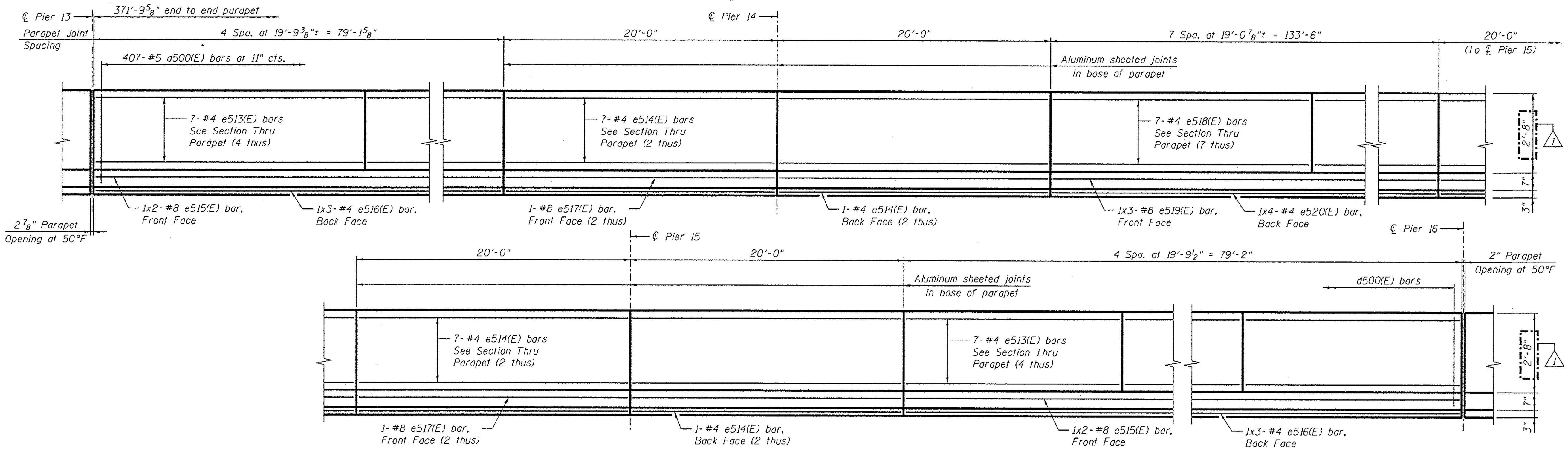
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS SPANS 1 AND 2
SN: 016-0487

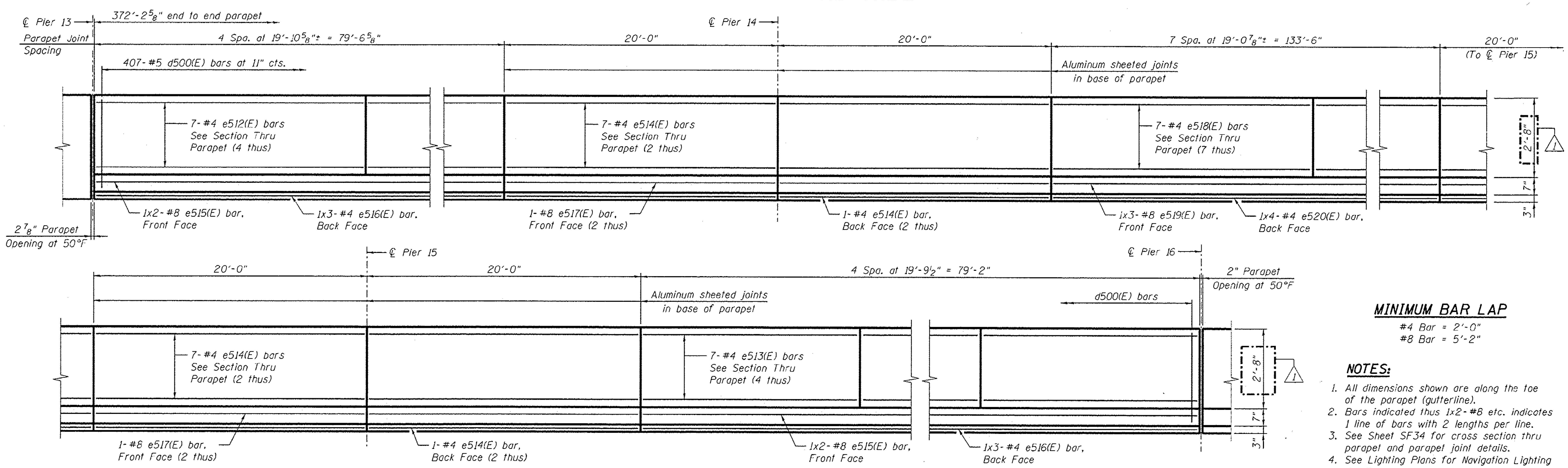
SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	32
		CONTRACT NO. 62U38		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP
#4 Bar = 2'-0"
#8 Bar = 5'-2"

NOTES:
1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SF34 for cross section thru parapet and parapet joint details.
4. See Lighting Plans for Navigation Lighting details.

MODEL: Default
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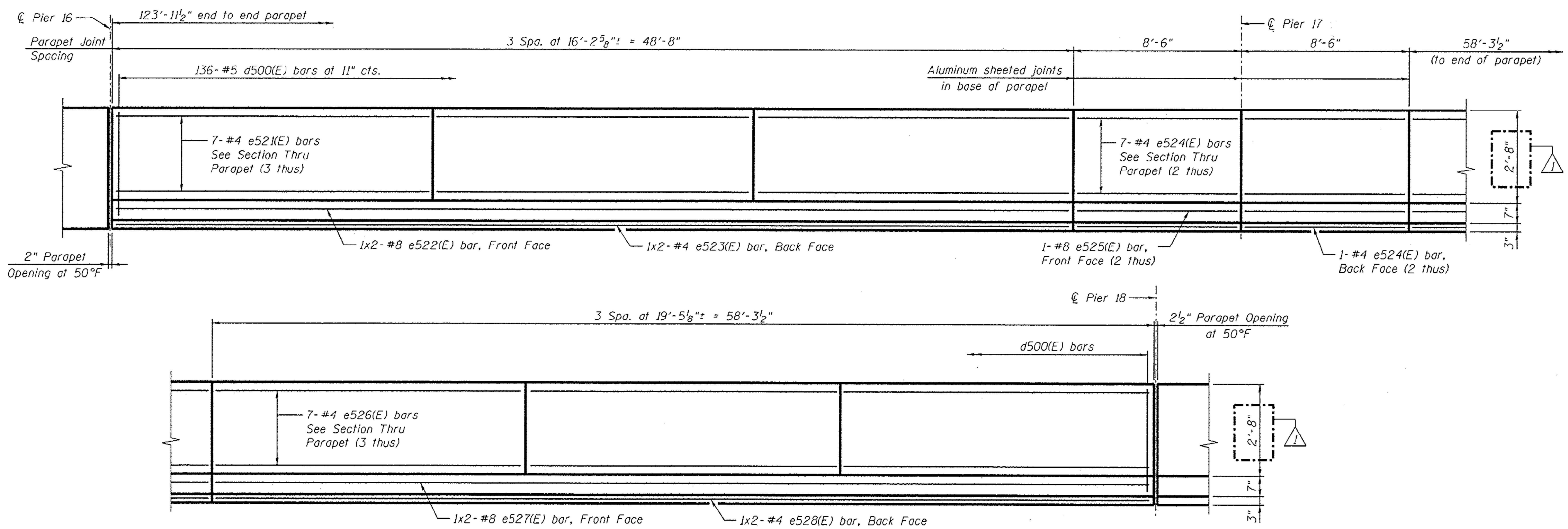
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS SPANS 3 – 5
SN: 016–0487

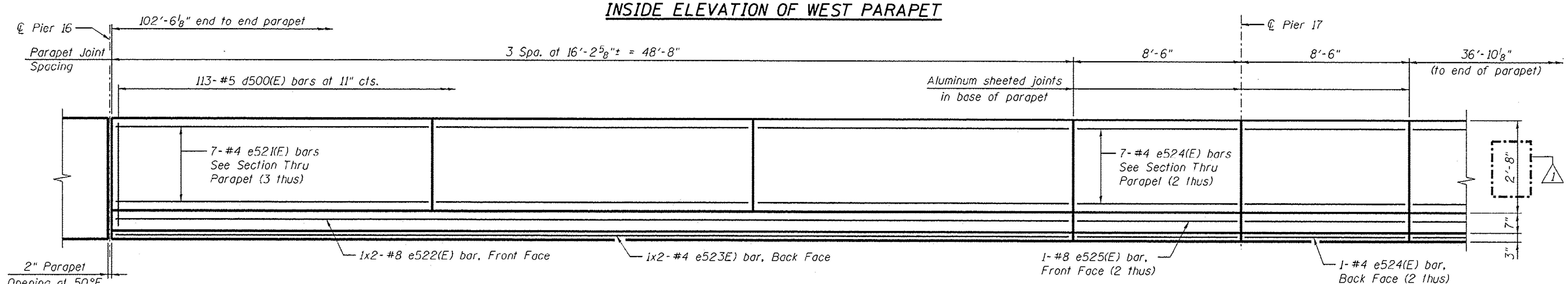
SCALE: | SHEET OF SHEETS | STA. TO STA.

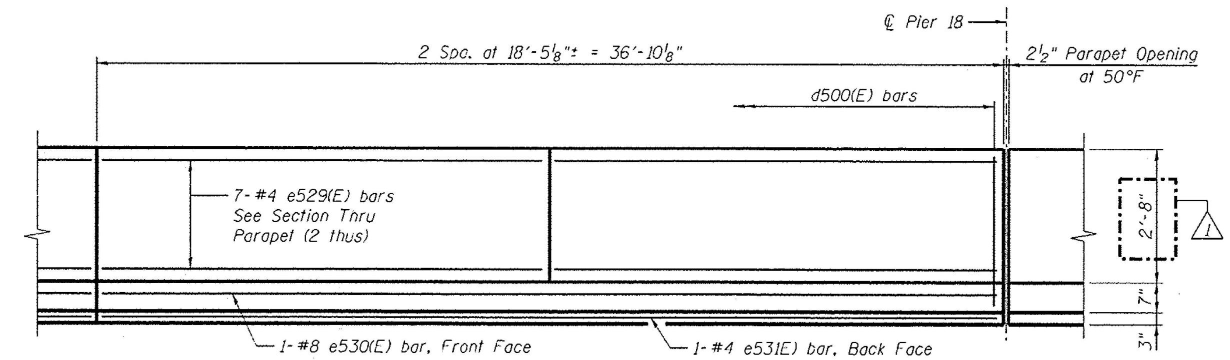
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	33
		CONTRACT NO. 62U38		
	ILLINOIS	FED. AID PROJECT		

FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET





INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"
#8 Bar = 5'-2"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated this 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SF34 for cross section thru parapet and parapet joint details.

MODEL: Default
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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS SPANS 6 AND 7
SN: 016-0487

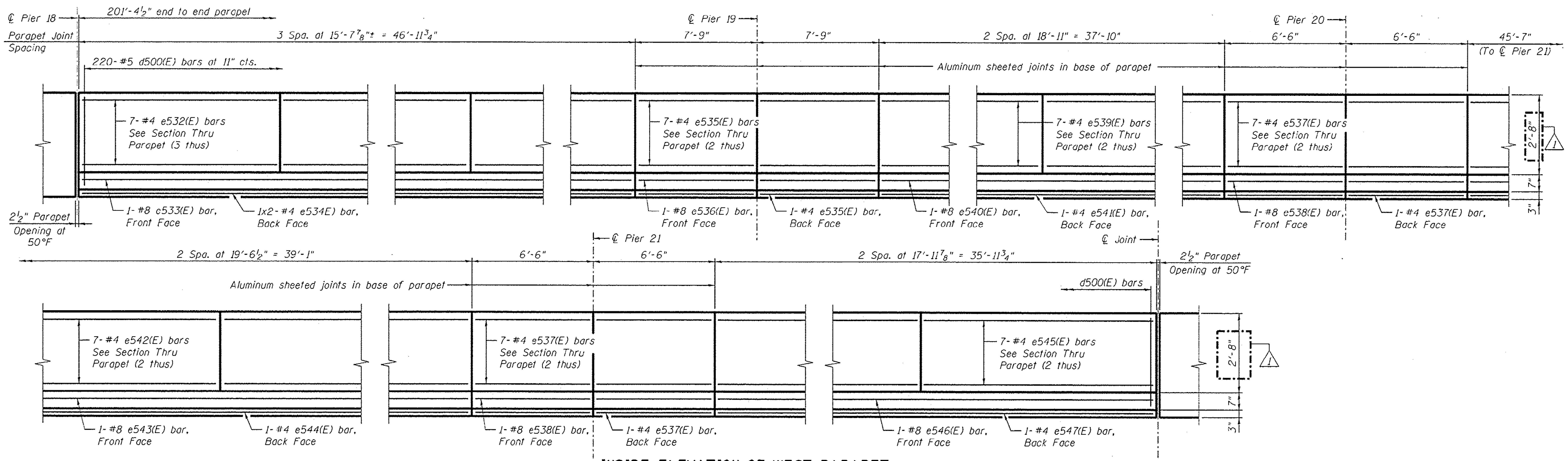
SCALE: | SHEET OF SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	34

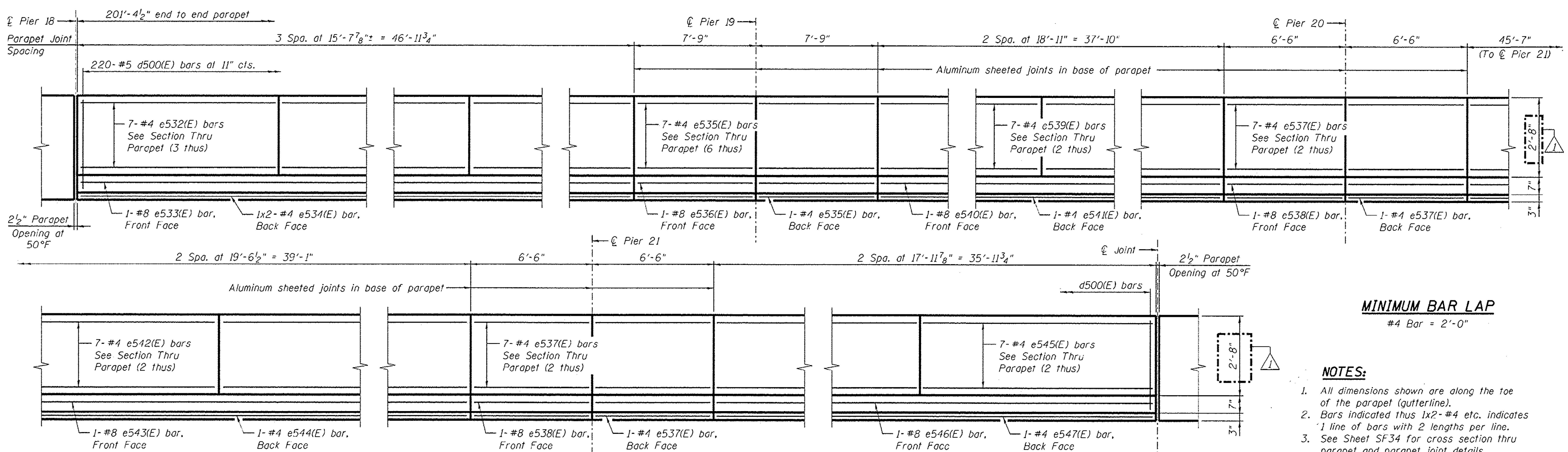
CONTRACT NO. 62U38

ILLINOIS | FED. AID PROJECT

FOR INFORMATION ONLY



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET

(Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SF34 for cross section thru parapet and parapet joint details.

MODEL: Default
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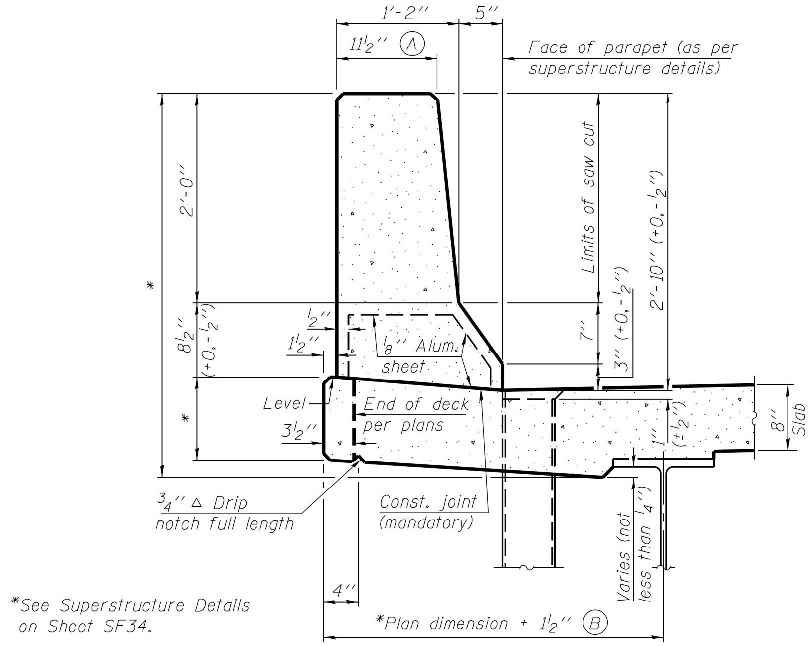
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

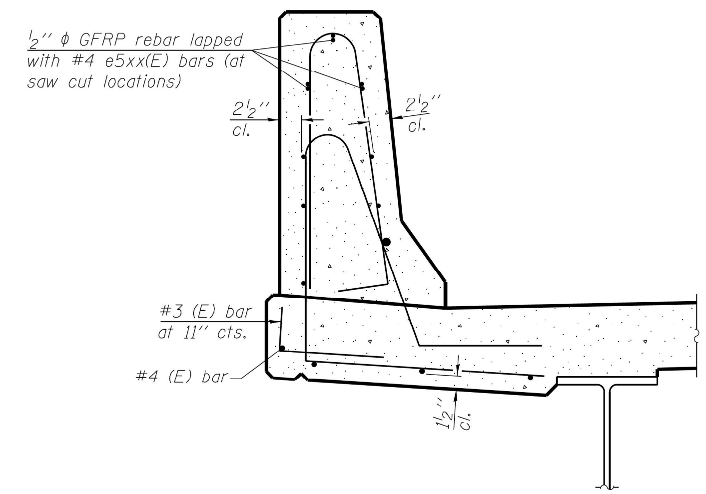
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	35
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



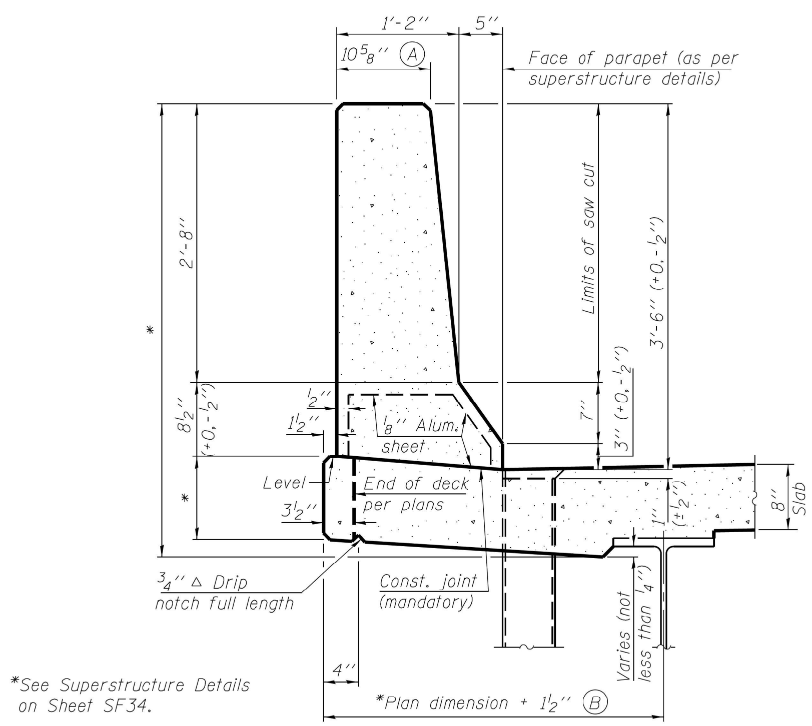
34" F SHAPE PARAPET SECTION

(Showing dimensions)



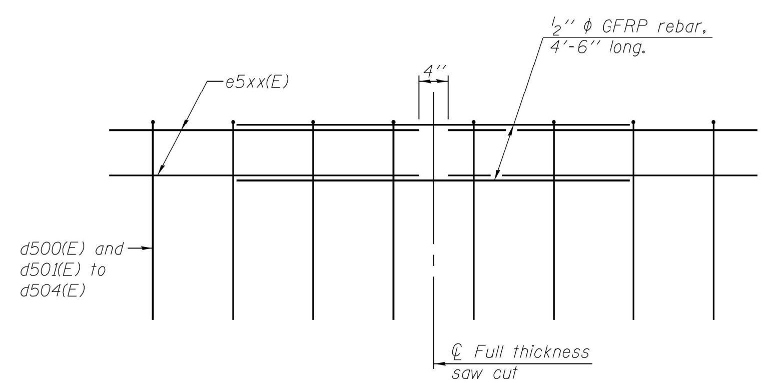
SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or - 0.0223 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

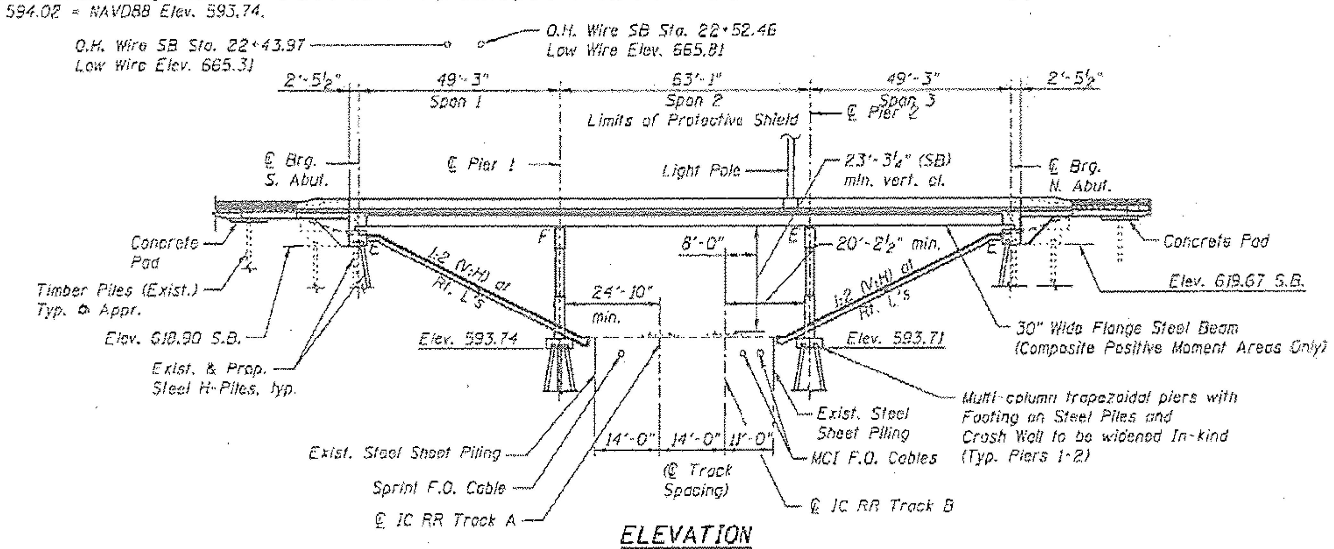
Steel superstructure shown. Other superstructure types similar.

FOR INFORMATION ONLY

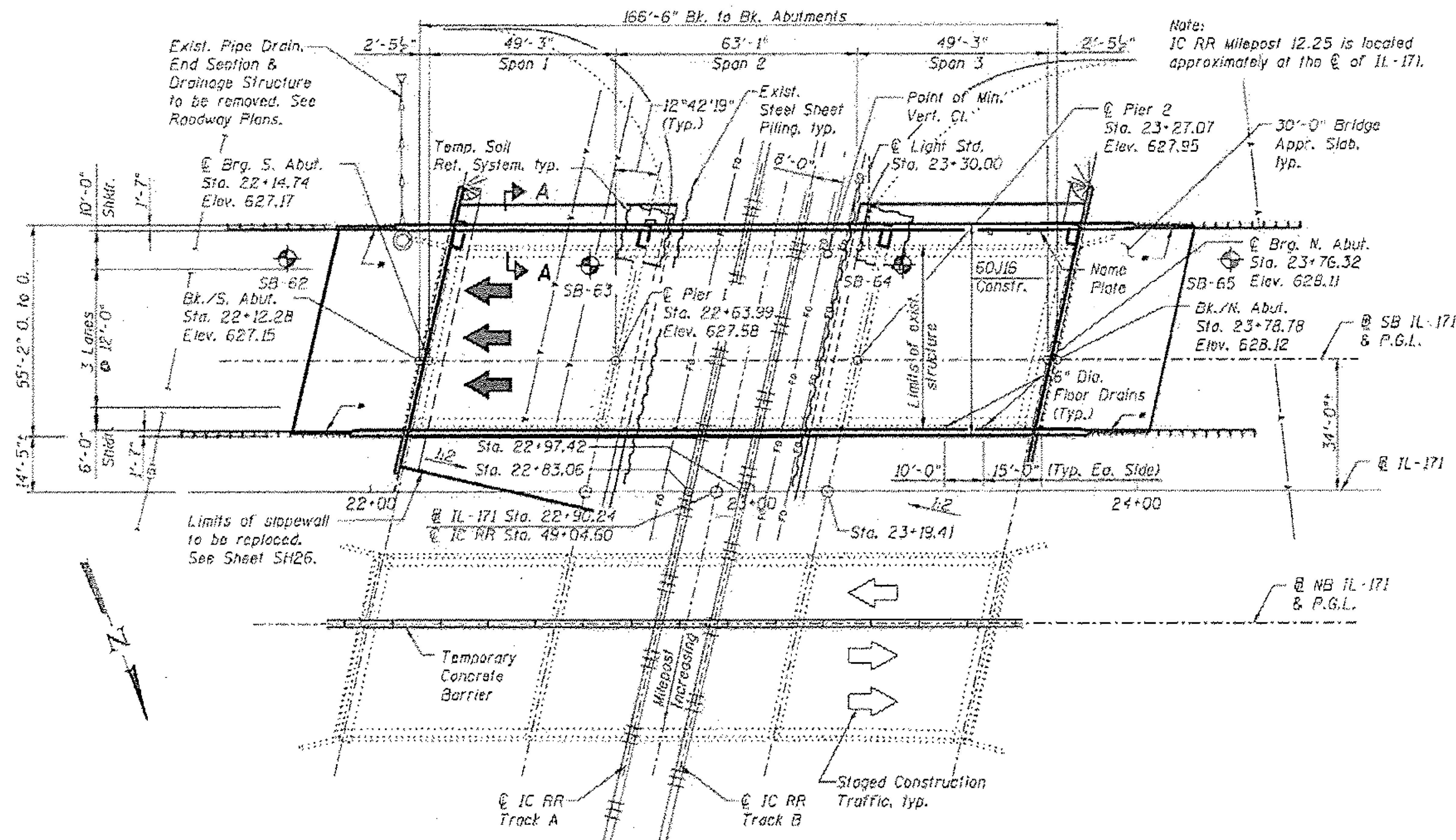
Bench Marks: Chiseled square on SW corner of SB IL-171 bridge wing wall over IC RR, El. 629.23.

Existing Structure: S.N. 016-0488 (SB) was built in 1963 as F.A. Rte. 133, Section 0707-617 VB at Sta. 22+90.24. Existing dual structures each consist of three continuous span reinforced concrete decks on eight steel 30" WF beams in all three spans. The reinforced concrete deck is 7" thick, including a 2" microsilica concrete overlay. The abutments are reinforced concrete stub abutments founded on steel H-piles. Each pier is reinforced concrete consisting of a cap beam, multiple trapezoidal columns on a crashwall supported by a continuous spread footing on steel piles. The structure is 166'-6" back-to-back of abutments and the out-to-out deck width is 48'-0". Structure has a 12° 42' 19" skew. Traffic will be maintained utilizing crossovers. All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 594.02 = NAVD88 Elev. 593.74.

No Salvage.



ELEVATION



PLAN

SCOPE OF WORK

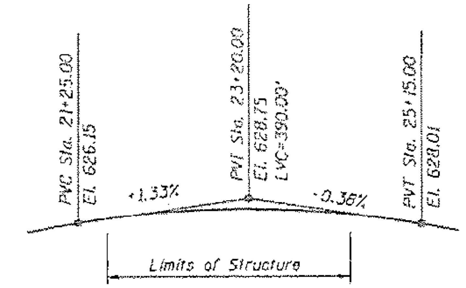
1. Remove the existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
2. Widen abutments, piers, and slopewalls to the outside.
3. Remove and replace approach slabs and wingwalls as shown for new deck width and semi-intregral abutments.
4. Add one additional steel beam line to outside of the structure.
5. Repair spalls, delaminations and open cracks in substructures using formed concrete repair and epoxy crack injection. Replace failed slopewall panels.
6. Remove and replace existing roadway lighting.
7. Retrofit cover plates on the top flanges of steel beams.
8. Perform miscellaneous repairs including debris/vegetation removal.
9. Re-set the steel expansion rocker bearings at Pier 2.
10. Remove existing backwalls and convert abutments to semi-integral.
11. Remove and dispose of existing electrical conduits and junction boxes attached to the beams and/or deck.

STA. 22+90.24
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT. 373
SECTION 2013-038B-R
LOADING HS20-44
STR. NO. 016-0488

NAME PLATE

(See Std. 515001)

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



PROFILE GRADE SB IL-171

(Along ℄ SB IL-171)

NOTE:
For Section A-A, see Sheet SH2.

* Traffic Barrier Terminal Type 6 Std. 631031

DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

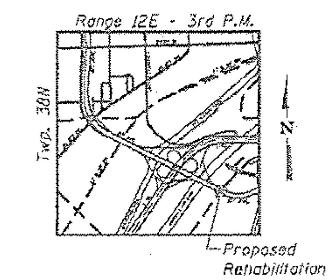
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

LOADING HS20-44

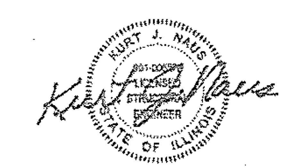
No future wearing surface allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges



LOCATION SKETCH



EXPIRATION DATE 11-30-2014
DATE: 06-23-2014

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- Aerial Electric Line
- Underground Gas Line
- Underground Fiber Optic Line
- Existing Drainage Structure

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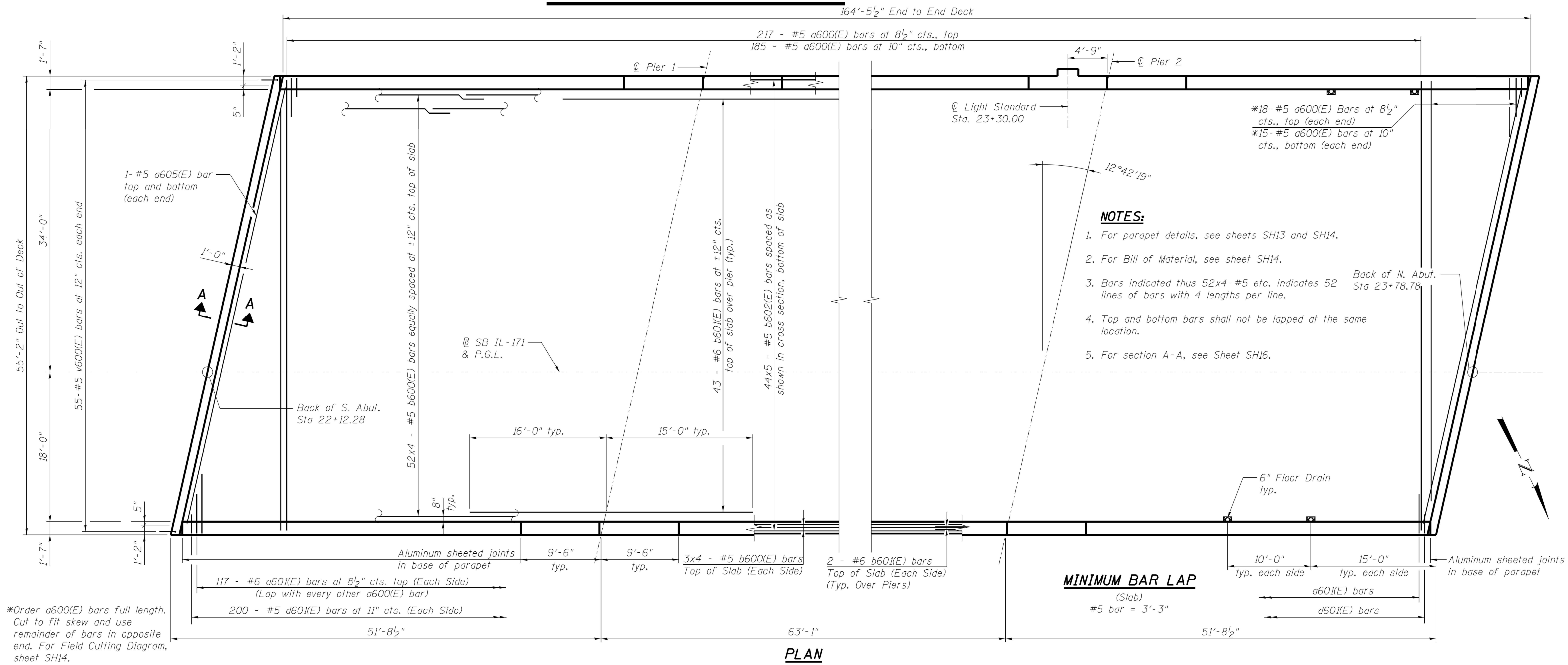
	DRAWN	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016–0488

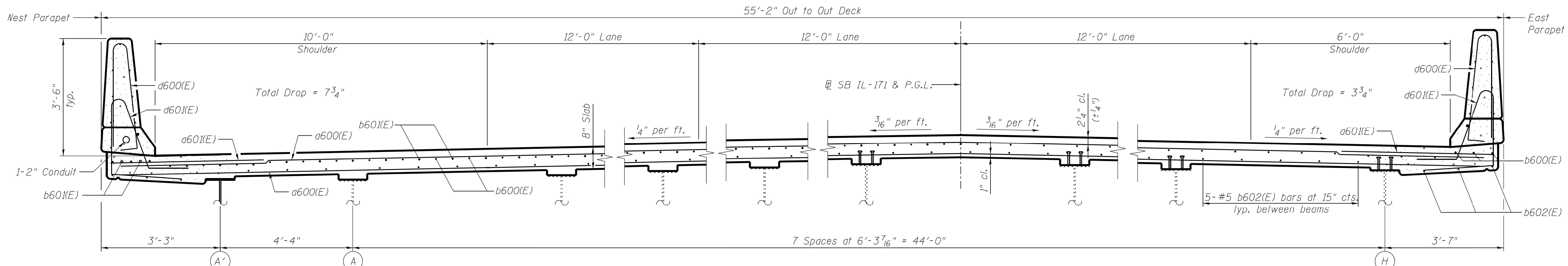
SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	37
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



PLAN



CROSS SECTION
Looking North

NEAR PIERS

NEAR MIDSPAN

MODEL: Default
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	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

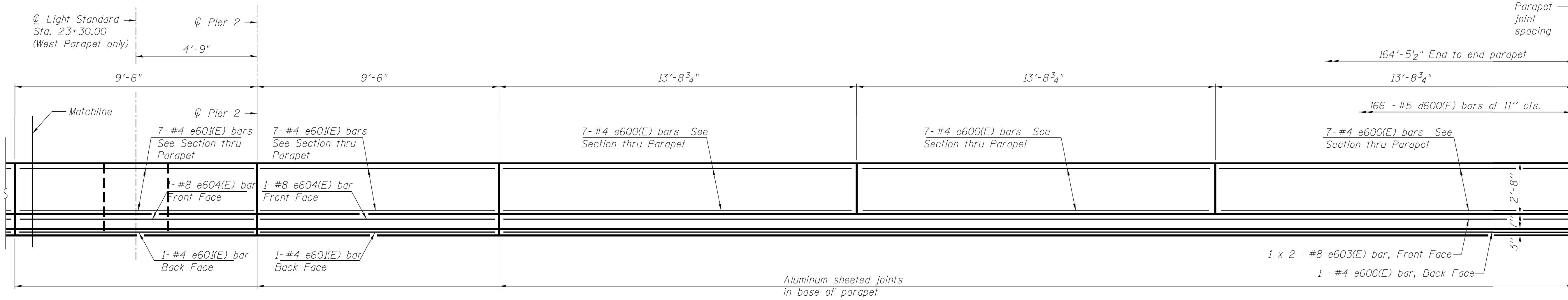
EXISTING DECK PLAN & CROSS SECTION
SN: 016-0488

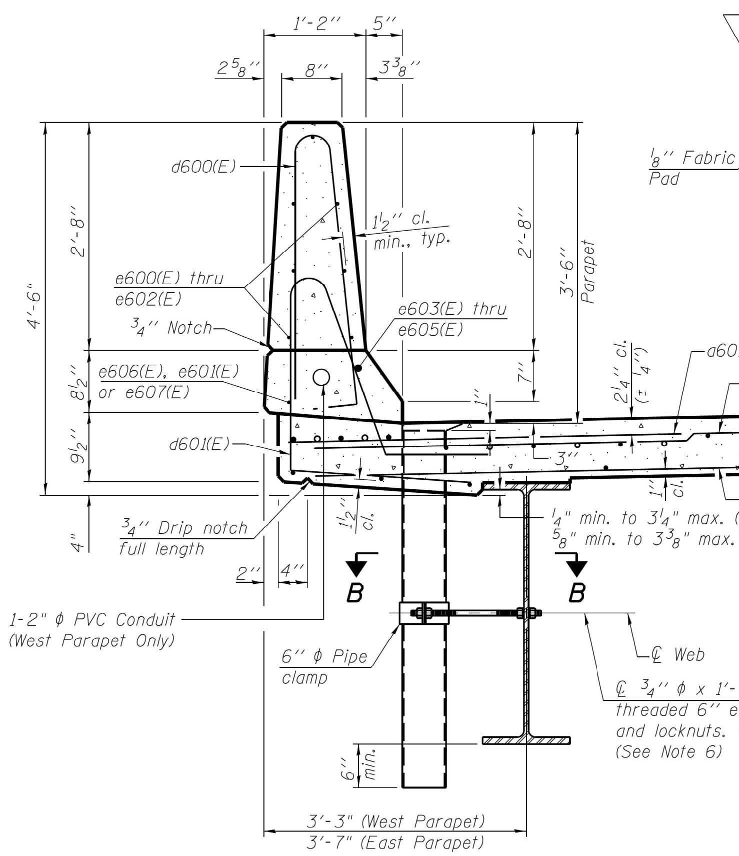
SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	38

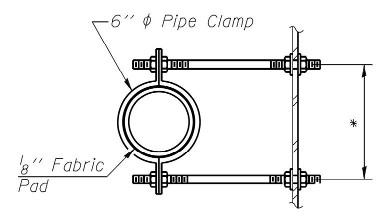
CONTRACT NO. 62U38
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

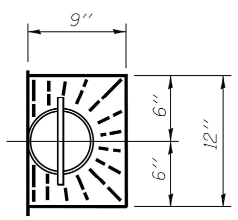




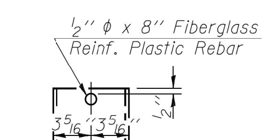
SECTION THRU PARAPET



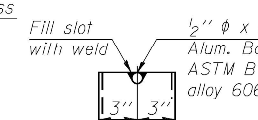
SECTION B-B
* Dimension as required by Pipe Clamp



TOP PLAN

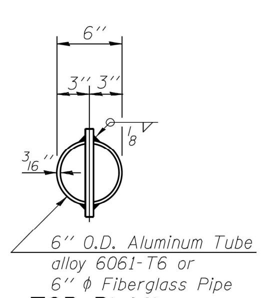


FIBERGLASS PIPE

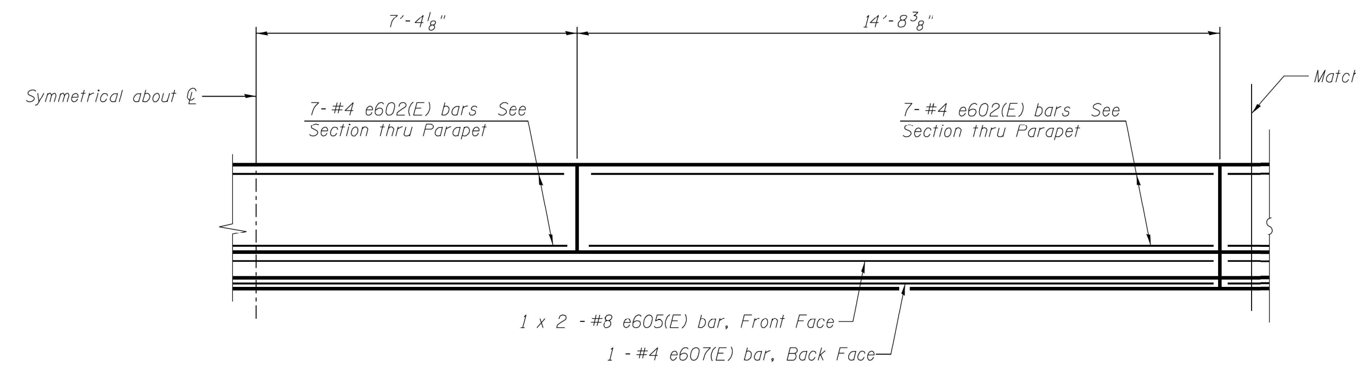


ALUMINUM TUBE

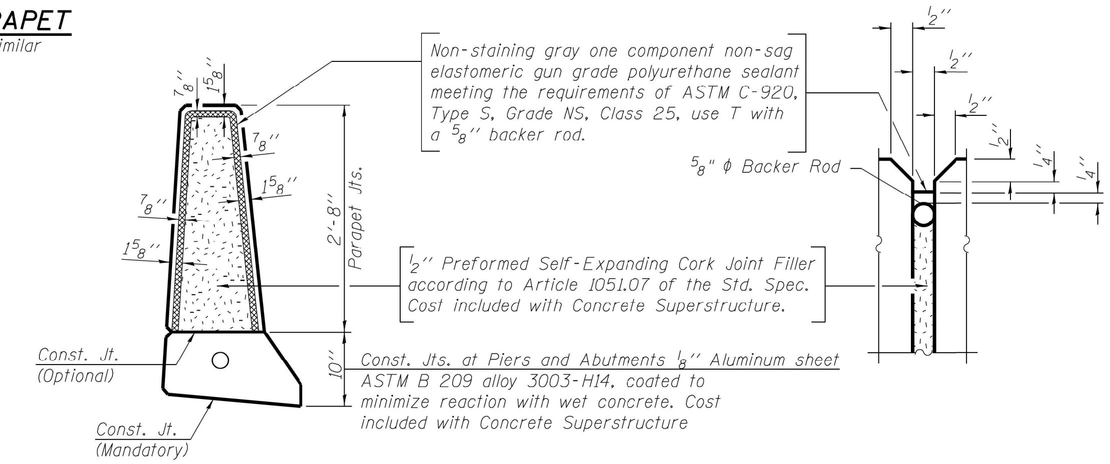
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



TOP PLAN
(Showing Aluminum Tube)



INSIDE ELEVATION OF PARAPET
West Parapet Shown, East Parapet similar



PARAPET JOINT DETAILS

NOTES:

1. See sheet SH14 for Bill of Material.
2. Drains shall be located clear of all diaphragms.
3. Cleaning and painting of the exterior surfaces of the floor drains shall be performed under a separate painting contract.
4. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
5. Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.
6. Holes shall be drilled in field for existing beam and may be either field drilled or shop drilled for proposed beam.

MODEL: Default
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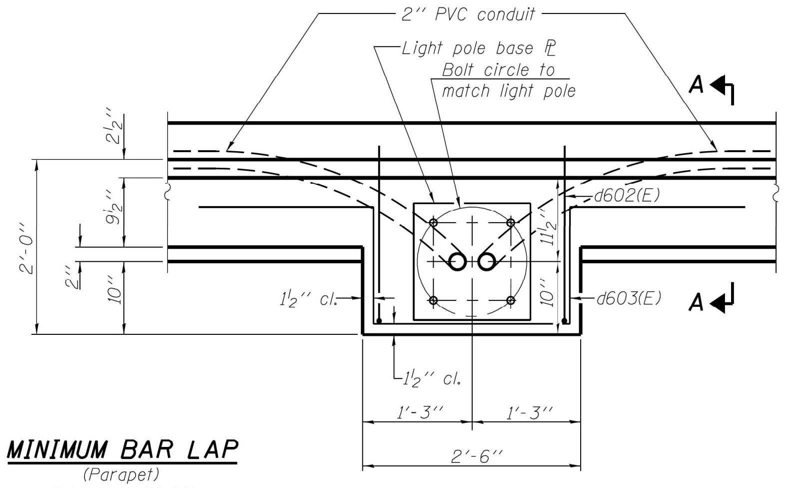
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING SUPERSTRUCTURE DETAILS (1 OF 2) SN: 016-0488
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	39
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

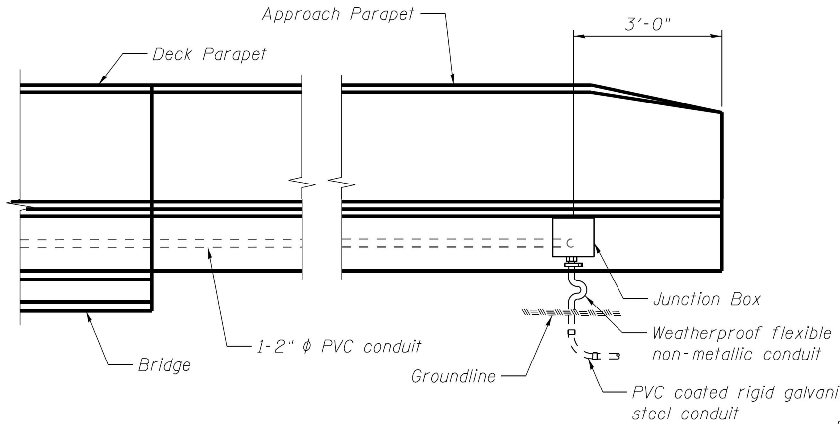
FOR INFORMATION ONLY



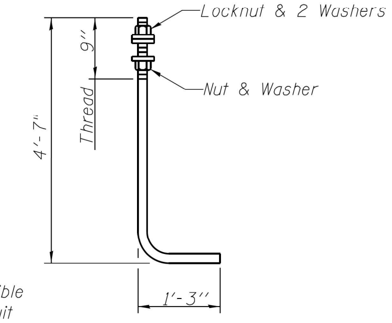
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

PLAN

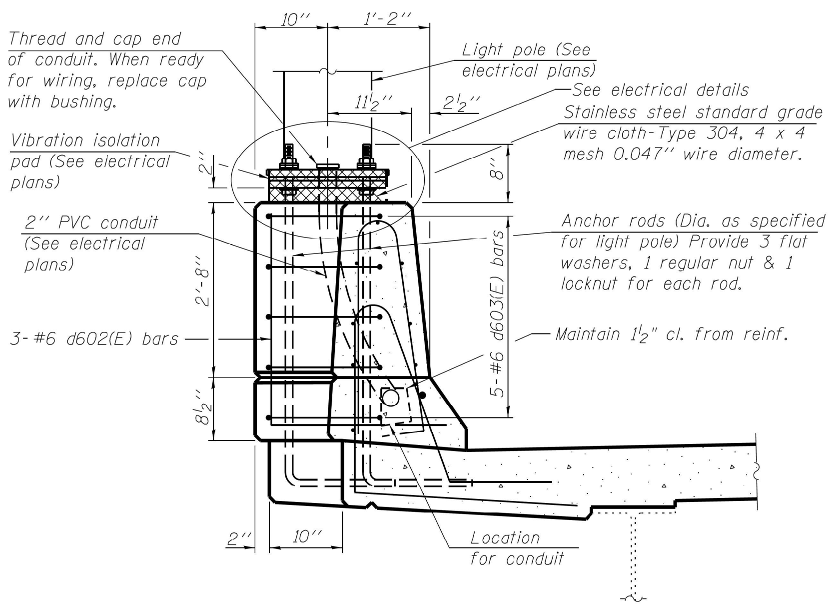
Note:
Cost of anchor rods is included with Concrete Superstructure.



CONDUIT DETAIL
(North approach shown. South approach opposite hand)
(West parapet only)



ANCHOR ROD
Diameter as specified for light poles.
(ASTM F 1554 Grade 105)



SECTION A-A

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING SUPERSTRUCTURE DETAILS (2 OF 2)
SN: 016-0488
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	40
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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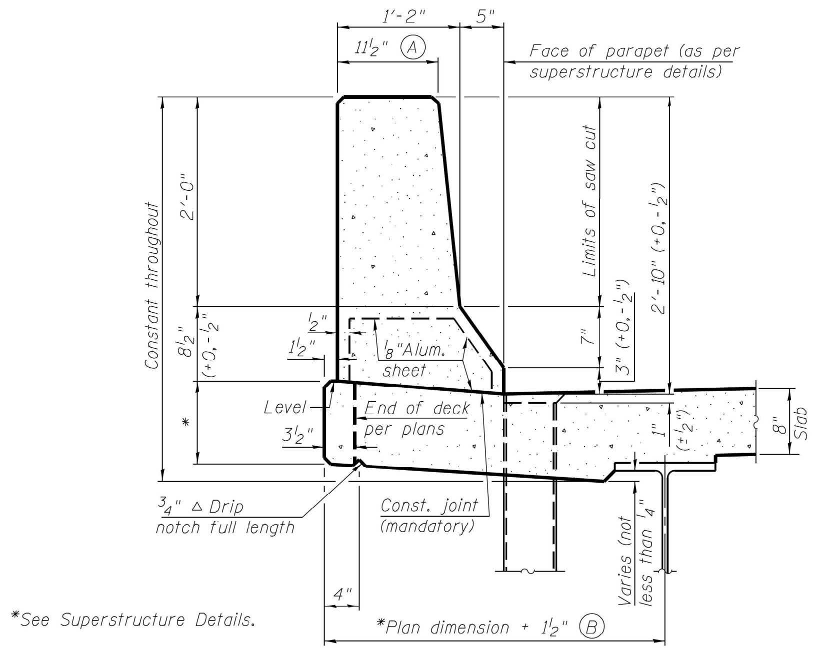
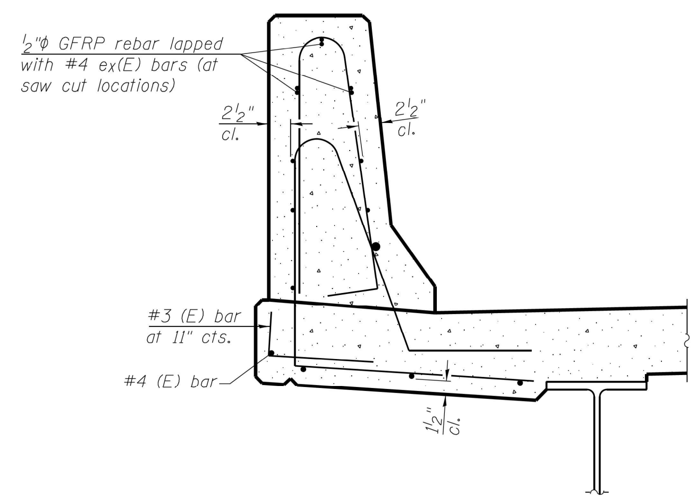
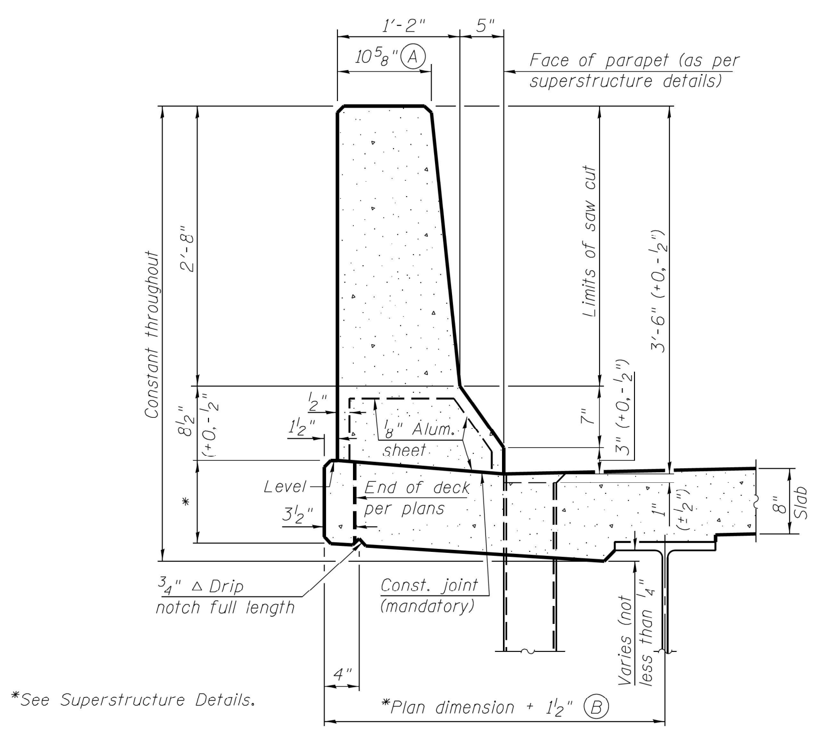


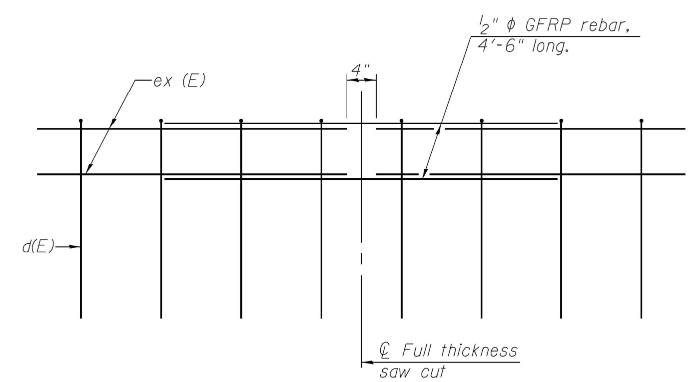
34" F SHAPE PARAPET SECTION
(Showing dimensions)



SECTION
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



42" F SHAPE PARAPET SECTION
(Showing dimensions)



GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.

MODEL: Default
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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING CONCRETE PARAPET DETAILS
SN: 016-0488

SCALE: | SHEET OF SHEETS | STA. | TO STA.

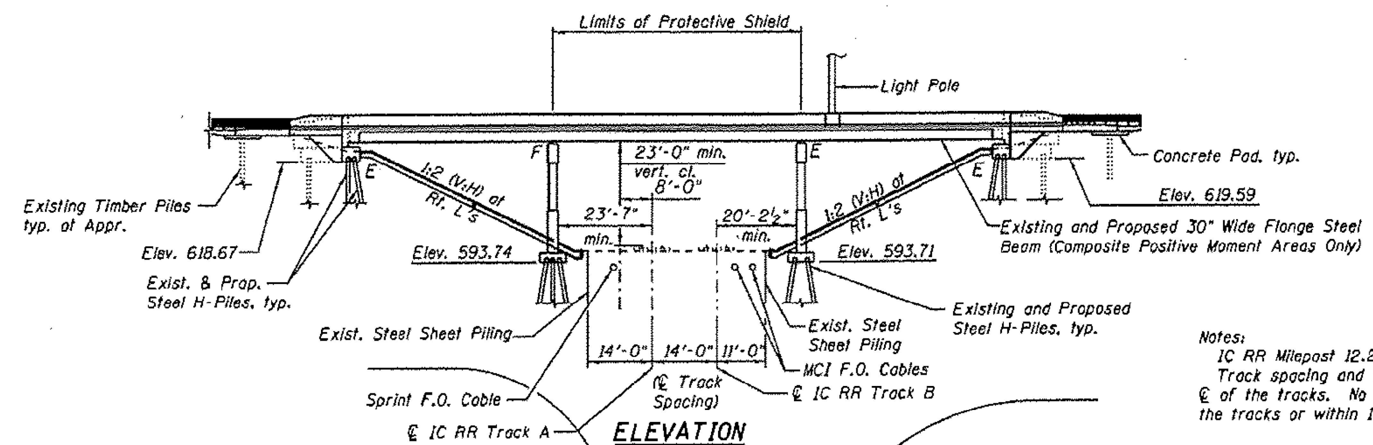
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	41
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Bench Marks: Chiseled square on N.E. corner of N.B. IL-171 bridge wing wall over IC RR, El. 630.58

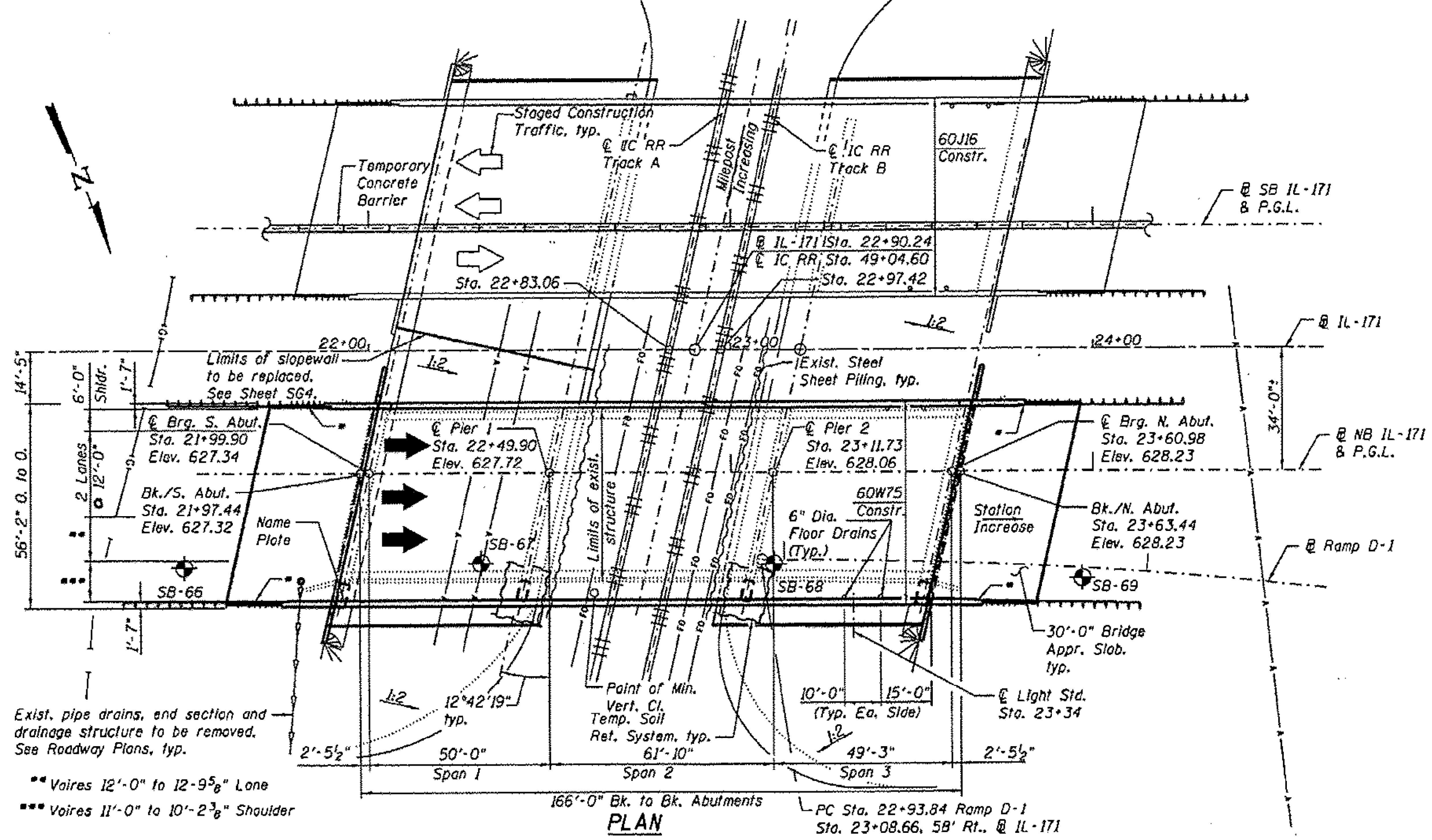
Existing Structure: S.N. 016-0489 (N.B.) was built in 1963 as F.A. Rte. 133, Section 0707-617 VB at Sta. 22+90.24. Existing dual structures each consist of three continuous span reinforced concrete decks on eight steel 30" WF beams in all three spans. The reinforced concrete deck is 8" thick, including a 2" microsilica concrete overlay. The abutments are reinforced concrete stub abutments founded on steel H-piles. Each pier is reinforced concrete consisting of a cap beam, multiple trapezoidal columns on a crashwall supported by a continuous spread footing on steel piles. The structure is 166'-6" back-to-back of abutments and the out-to-out deck width varies 48'-0" to 48'-9" in Span 3. Structure has a 12° 42' 19" skew. Traffic will be maintained utilizing crossovers. All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 594.02 = NAVD88 Elev. 593.74.

No Salvage.



ELEVATION

Notes:
IC RR Milepost 12.25 is located approximately at the ℄ of IL-171. Track spacing and horizontal clearances are at right angles to the ℄ of the tracks. No free fall drains will be permitted in the span over the tracks or within 10 feet of cross arms of a railroad pole line.



** Varies 12'-0" to 12-9⅝" Lane

*** Varies 11'-0" to 10'-2⅜" Shoulder

PLAN

* Traffic Barrier Terminal Type 6 Std. 631031

SCOPE OF WORK

1. Remove the existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
2. Widen abutments, piers, and slopewalls to the outside.
3. Remove and replace approach slabs and wingwalls as shown for new deck width and semi-intregral abutments.
4. Add one additional steel beam line to outside of the structure.
5. Repair spalls, delaminations and open cracks in substructures using formed concrete repair and epoxy crack injection. Replace failed slopewall panels.
6. Remove and replace existing roadway lighting.
7. Retrofit cover plates on the top flanges of steel beams.
8. Perform miscellaneous repairs including debris/vegetation removal.
9. Re-set the steel expansion rocker bearings at Pier 2.
10. Remove existing backwalls and convert abutments to semi-integral.
11. Remove and dispose of existing electrical conduits and junction boxes attached to the beams and/or deck.

STATION 22+90.24
RE-BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 373
SEC. 2013-037B-R
LOADING HS20
STR. NO. 016-0489

NAME PLATE

(See Std. 515001)

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

DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

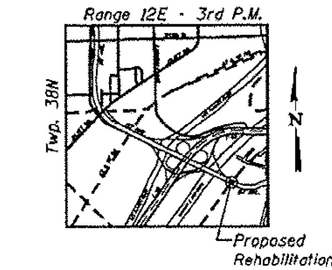
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

LOADING HS20-44

No future wearing surface allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges



LOCATION SKETCH

EXISTING UTILITY LEGEND

Underground Storm Sewer
Aerial Electric Line
Underground Gas Line
Underground Fiber Optic Line

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016-0489

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	42
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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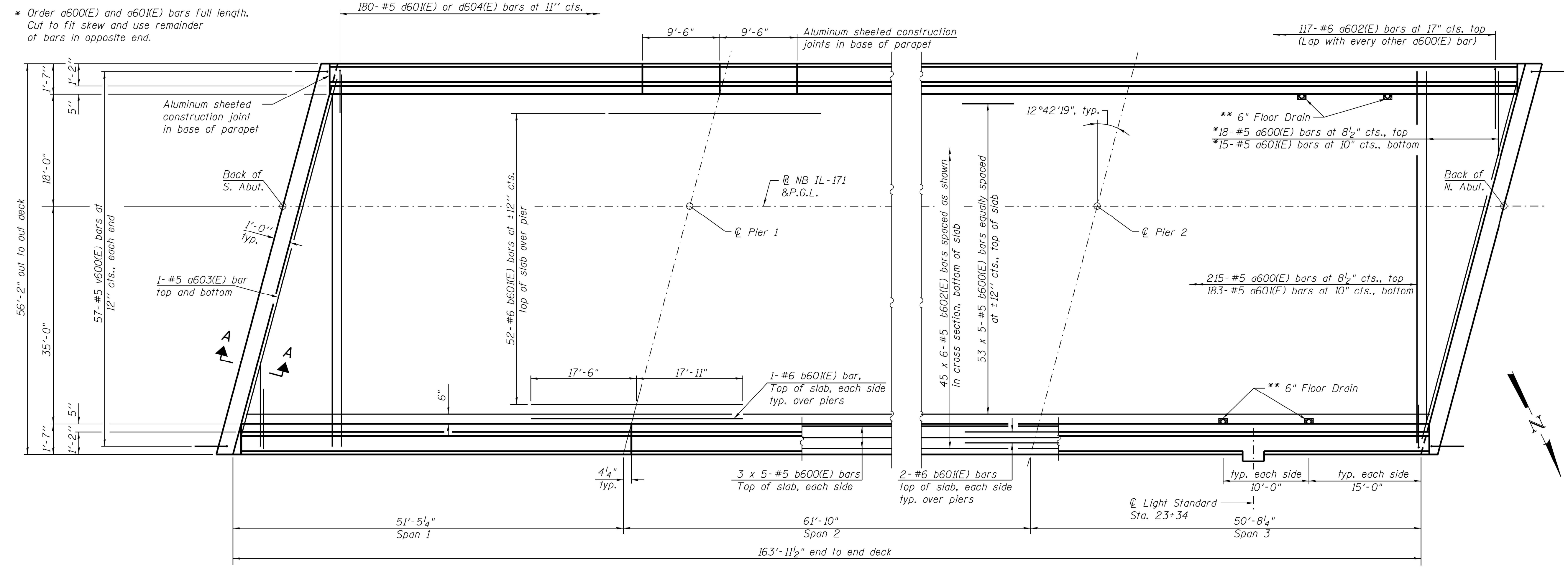
FOR INFORMATION ONLY



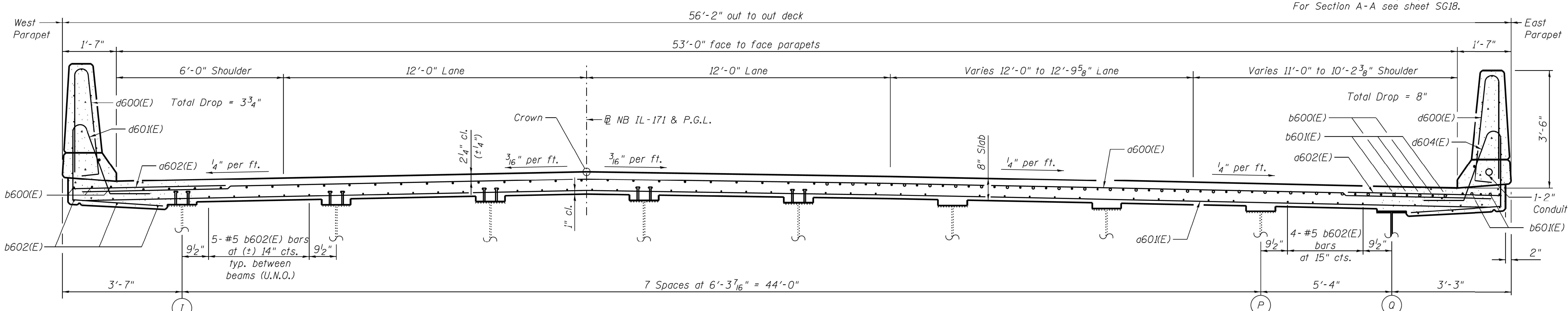
PLAN

** See SG1 for locations.

MINIMUM BAR LAP

#5 bar = 2'-7"

Notes:
See Sheet SG15 and SG16 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet SG15 for parapet reinforcement.
For Section A-A see sheet SG18.



CROSS SECTION

Looking Upstation

MODEL: Default
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	DRAWN -	REVISED -	STATE OF ILLINOIS
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE
SN: 016-0489

SCALE: | SHEET OF SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	43

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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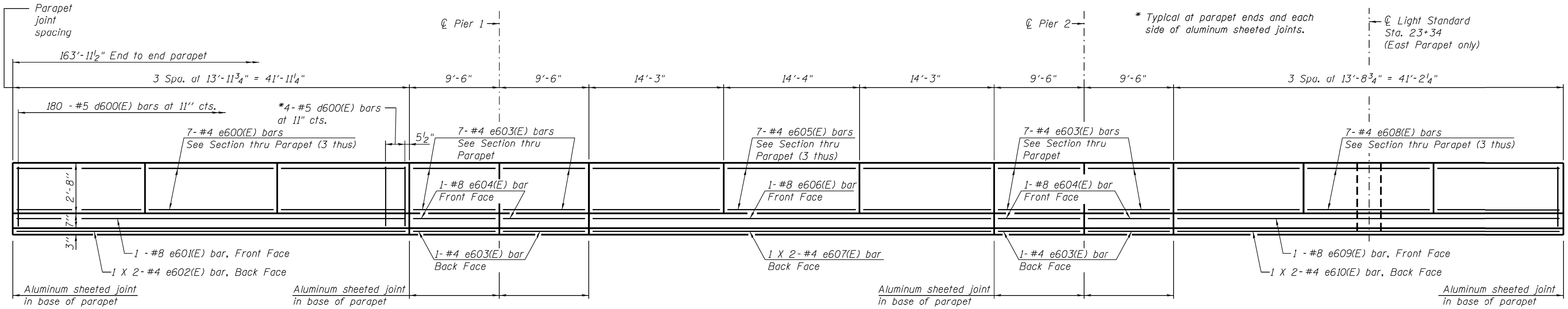
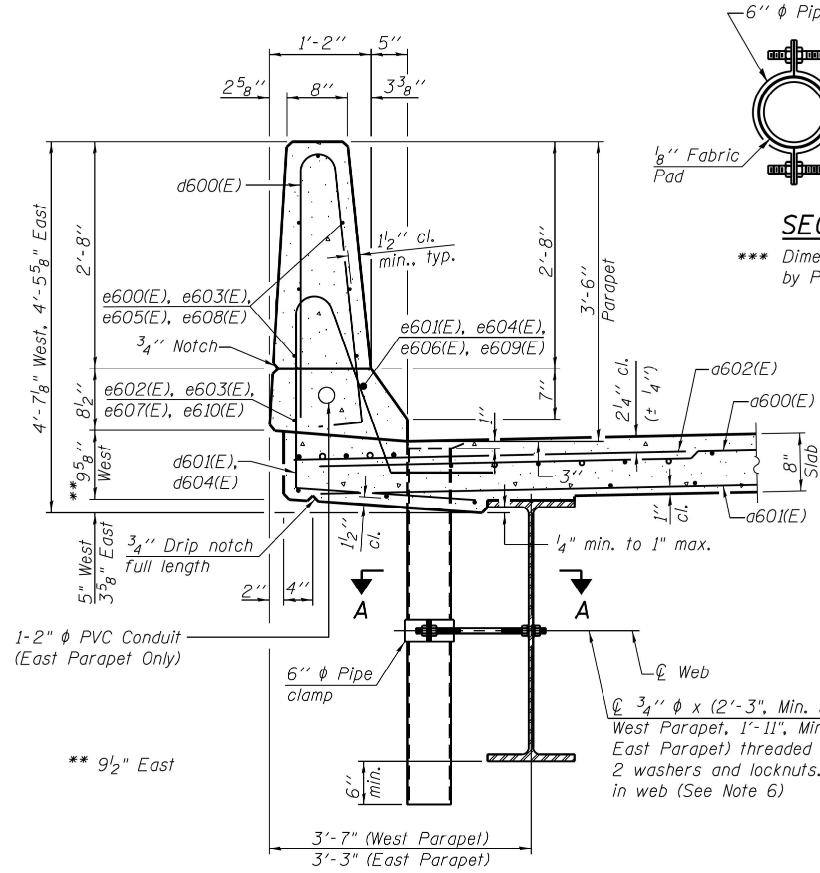


INSIDE ELEVATION OF PARAPET

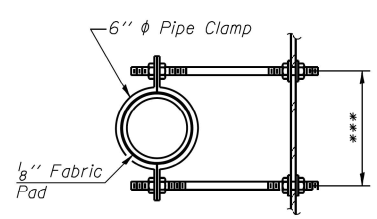
West Parapet Shown, East Parapet similar

MINIMUM BAR LAP

#4 bar = 2'-0"

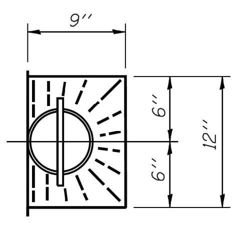


SECTION THRU PARAPET

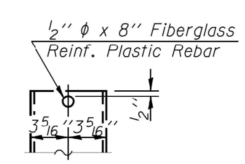


SECTION A-A

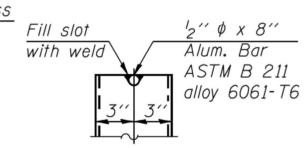
*** Dimension as required by Pipe Clamp



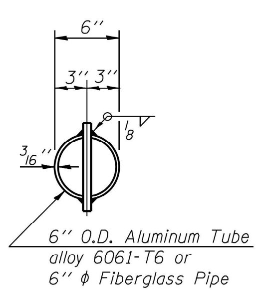
TOP PLAN



FIBERGLASS PIPE

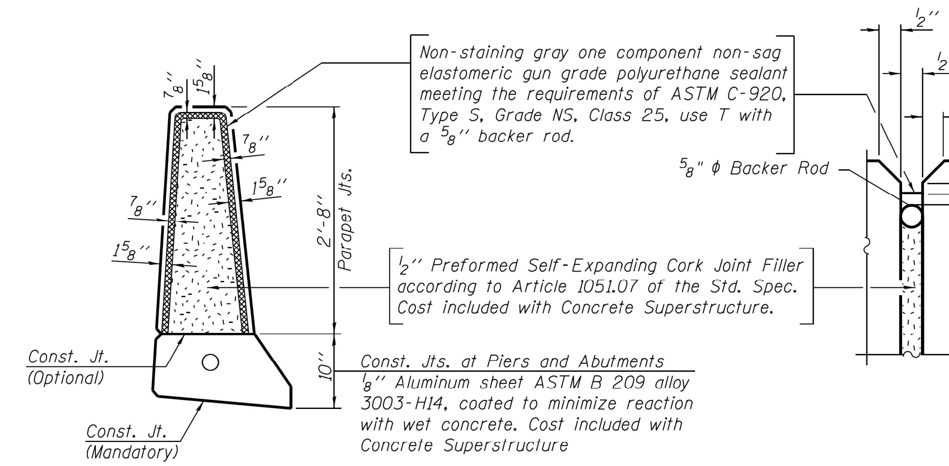


ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)



PARAPET JOINT DETAILS

Notes:

See sheet SG16 for Bill of Material.

Drains shall be located clear of all diaphragms.

Floor Drains need not be painted.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

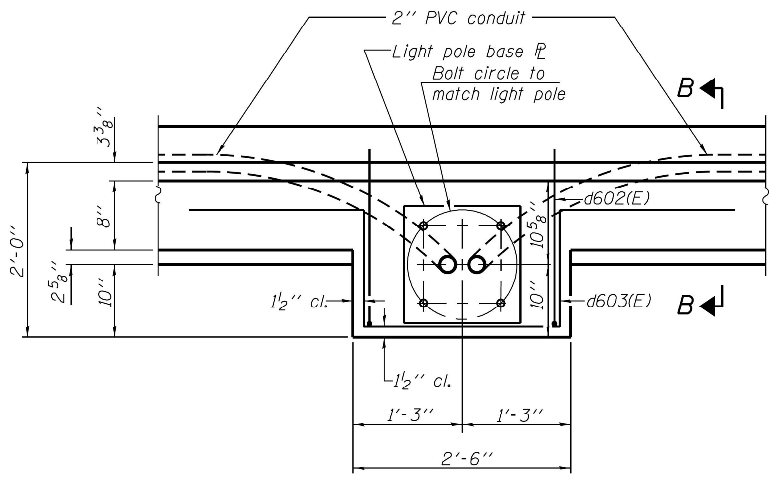
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

Holes shall be drilled in field for existing beam and may be either field drilled or shop drilled for proposed beam. Cost of field drilling included in "Furnishing and Erecting Structural Steel".

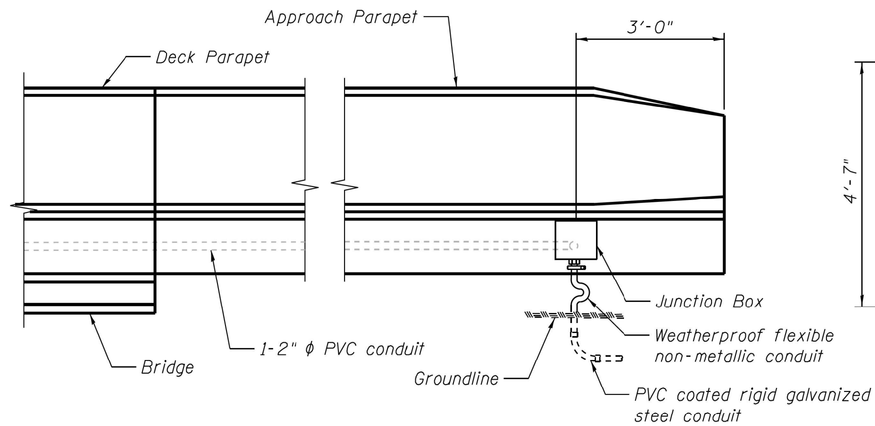
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

(Sheet 1 of 2)

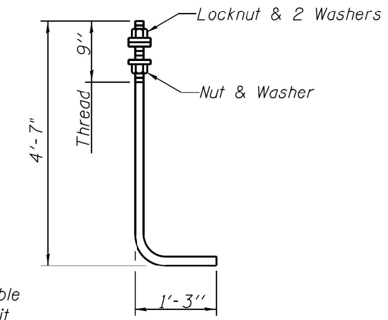
FOR INFORMATION ONLY



PLAN
(East Parapet only)

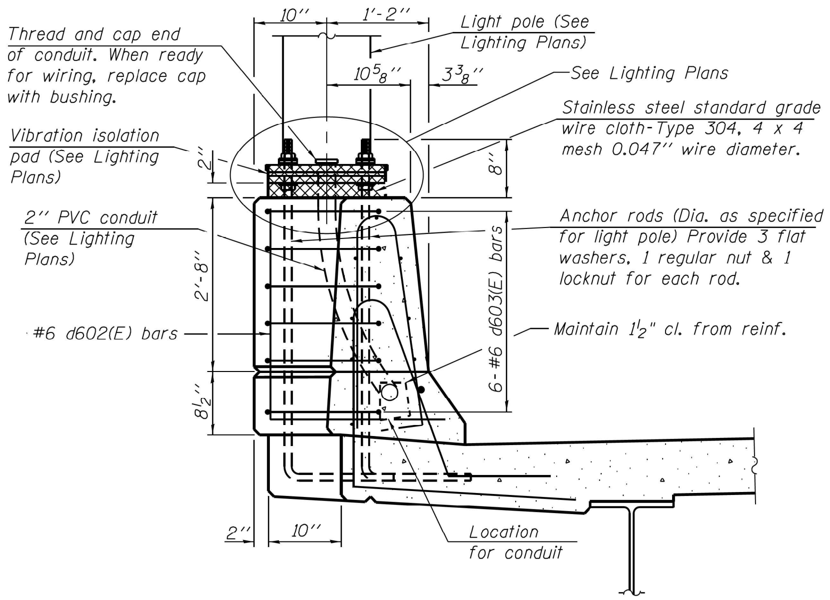


CONDUIT DETAIL
(North approach shown, South approach opposite hand)
(East parapet only - see Lighting Plans)



ANCHOR ROD
Diameter as specified for light poles. (ASTM F 1554 Grade 105) Full length hot dipped galvanized.

Note:
Cost of anchor rods is included with Concrete Superstructure.



USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE DETAILS
SN: 016-0489
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	45
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

MODEL: Default
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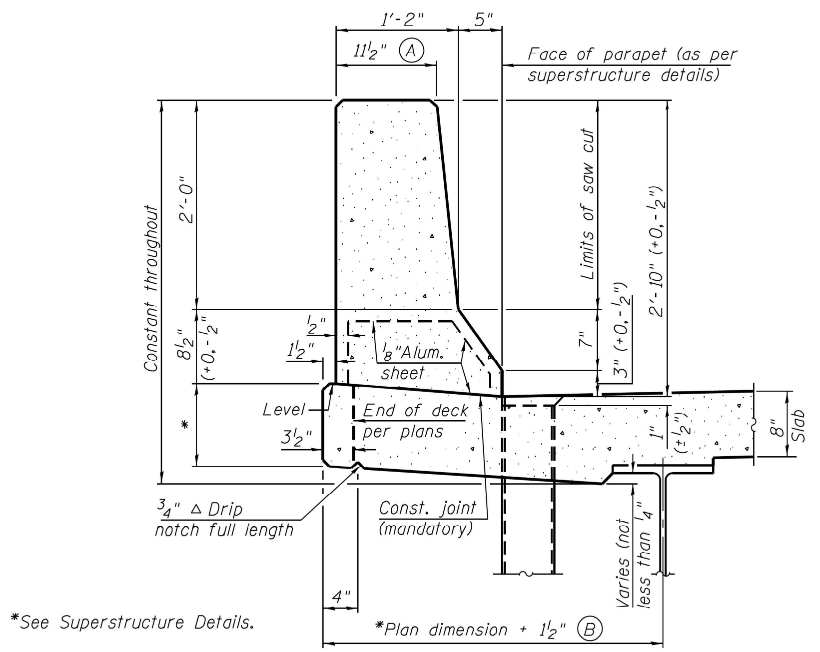
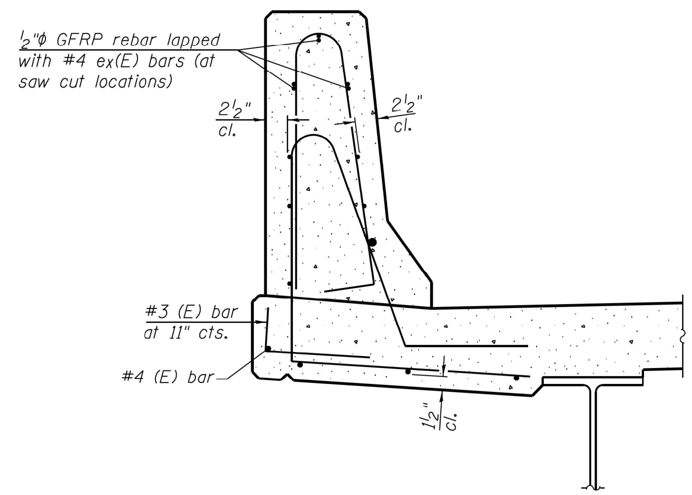


34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

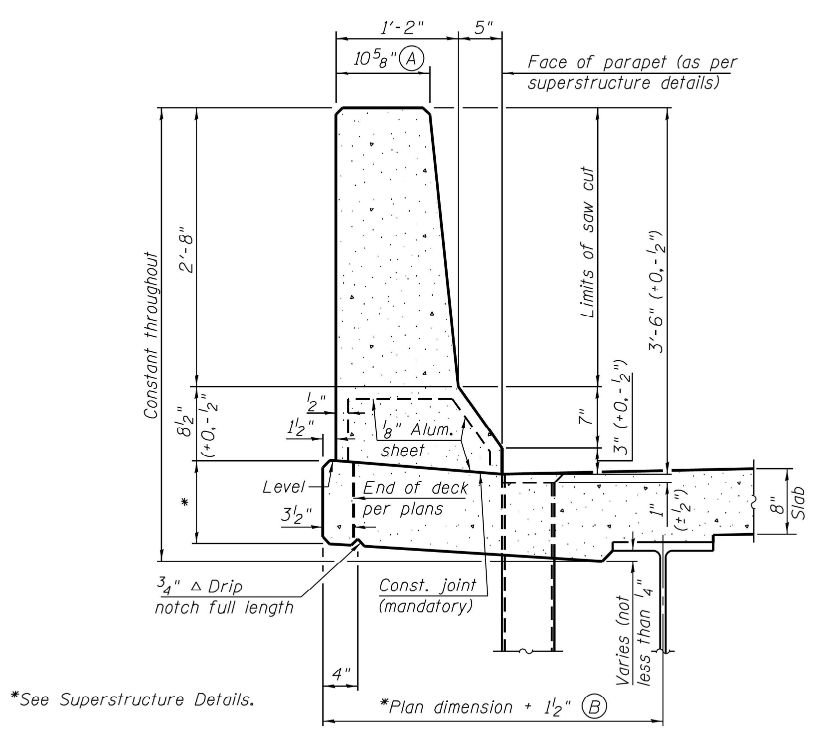
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

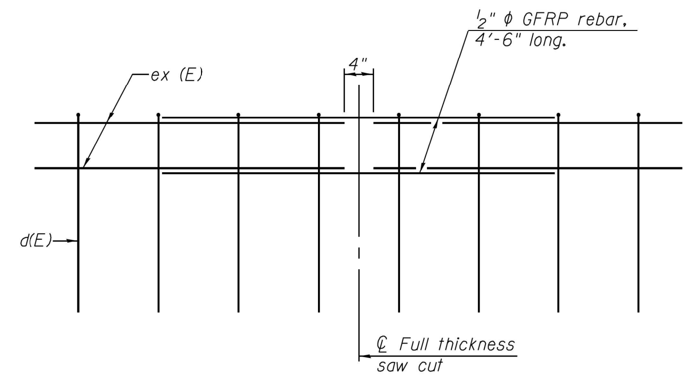
Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.



42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

SFP 34-42 8-16-12

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING CONCRETE PARAPET
SN: 016-0489

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	46
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Bench Mark: Chiseled square at SE corner of NB IL-171 bridge over Des Plaines River. El. 622.69

Existing Structure: S.N. 016-0985 (NB) was built in 1964 as F.A.I. Rte. 55, Section 0707-613B at Sta. 50+80. Structure consists of a four span reinforced concrete deck on five lines of continuous welded haunched plate girders. The reinforced concrete deck is 7½" thick, including a 2" microsilica concrete overlay. The substructure consists of an open stub abutment founded on steel piles at the downstation end, solid wall concrete piers founded on spread footings through the river, and a multi-column pier founded on a spread footing at the upstation end. Pier 23 is shared with S.N. 016-2456. The structure is 527'-9½" from back of abutment to centerline of Pier 23, with an out-to-out deck width of 36'-0" and no skew. Traffic is to be maintained utilizing crossovers.

No salvage.

All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 578.00 = NAVD88 Elev. 577.72.

WATERWAY INFORMATION

Drainage Area = 641.59 sq. mi.			Low Grade Elev. 619.97 at Sta. 48+42						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	2	4,554	3,423	3,423	594.80				
	10	5,930	2,988	2,988	595.75	0.57	0.57	596.32	596.32
Design	50	7,370	3,567	3,567	597.15	0.60	0.61	597.75	597.76
Base	100	7,900	3,773	3,773	597.64	0.61	0.61	598.25	598.25
Overtopping	>500								
Max. Calc.	500	9,316	4,297	4,297	598.88	0.63	0.63	599.51	599.51

10 Year Velocity through Existing and Proposed Bridge = 1.95 fps

LOADING HS20-44

No future wearing surface allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

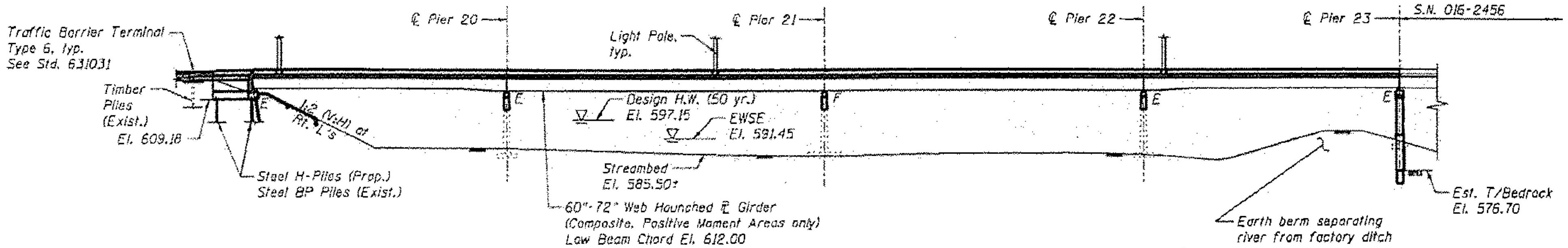
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

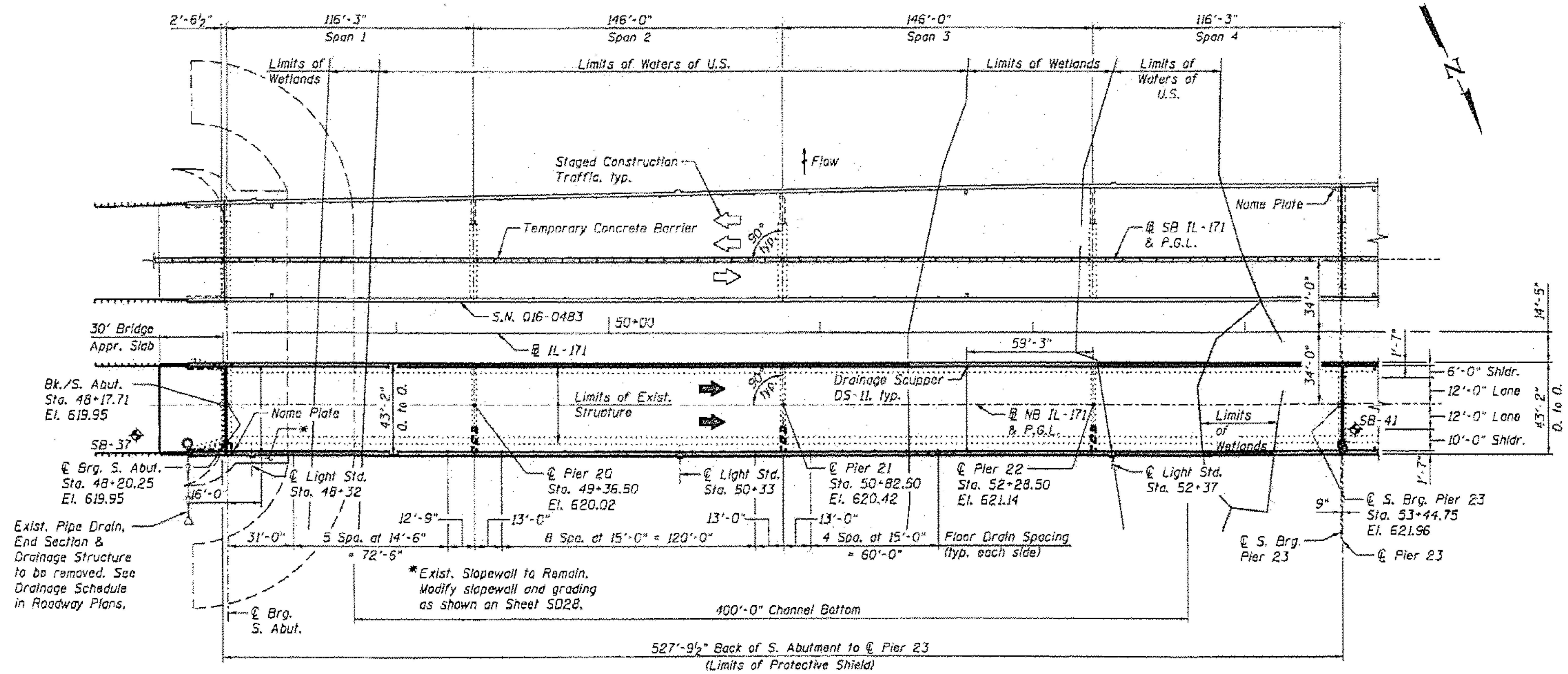


REFLECTED ELEVATION

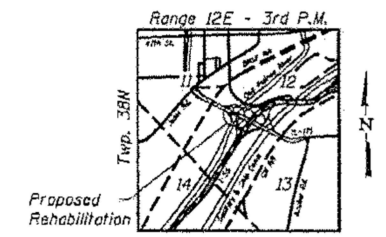
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)				
S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4
609.18	580.00	579.66	585.00	584.22

Design scour elevations estimated from existing data.



PLAN



LOCATION SKETCH

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016–0985	FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			372	FAP 372 22 VARIOUS BS	COOK	138	47
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			CONTRACT NO. 62U38				
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

MODEL: Default
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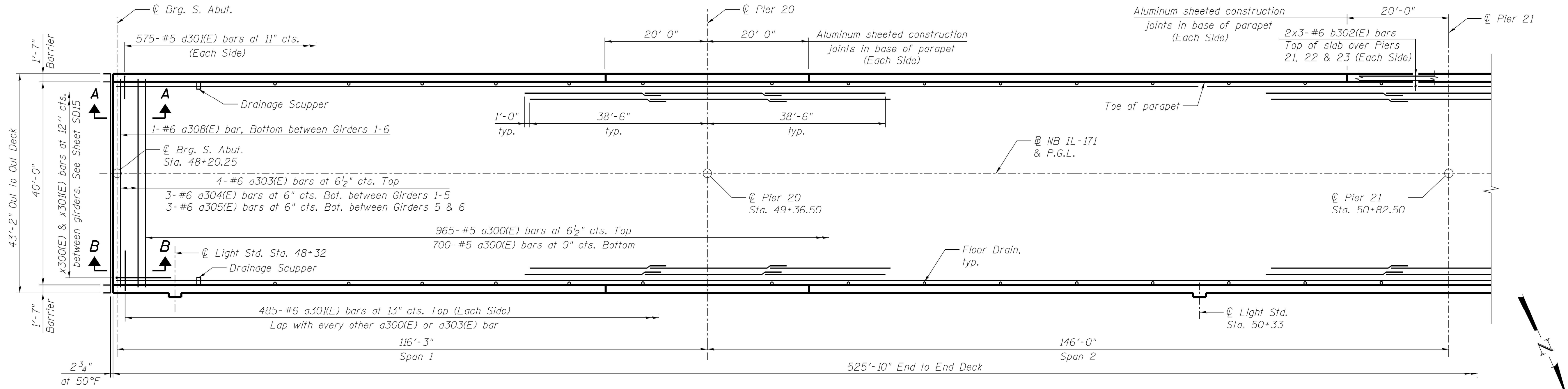
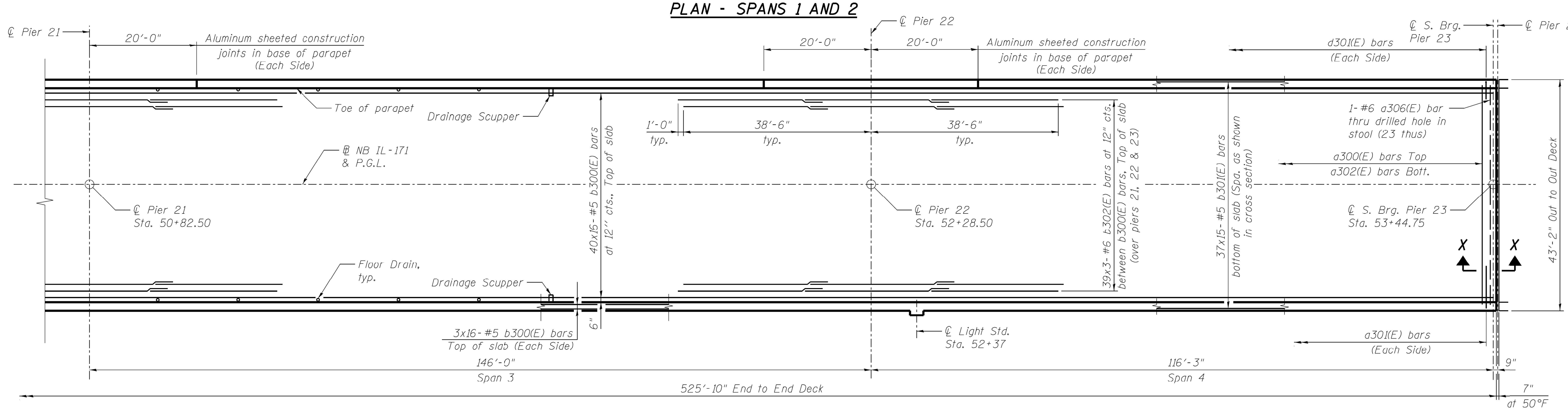
FOR INFORMATION ONLY



PLAN - SPANS 1 AND 2

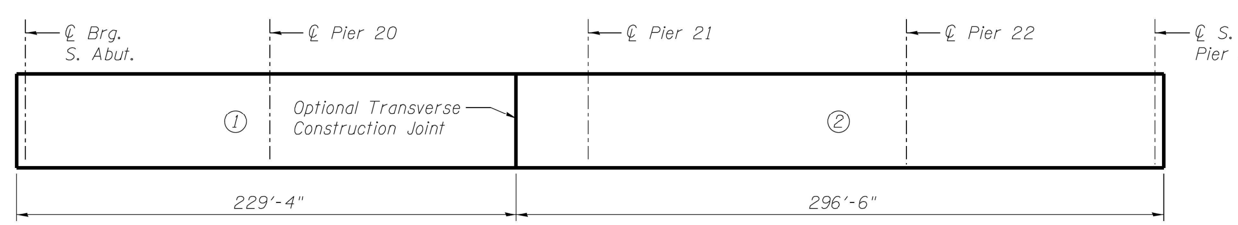


PLAN - SPANS 3 AND 4

MINIMUM BAR LAP

(Slab)

#5 bar = 3'-3"
#6 bar = 3'-10"

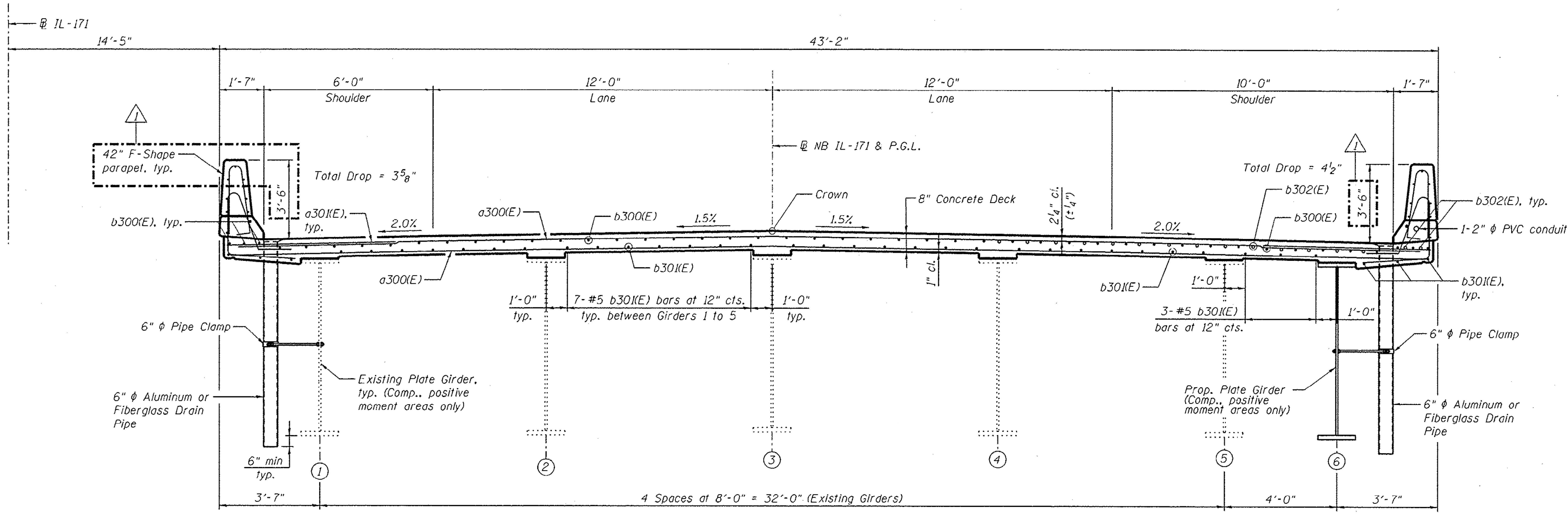


OPTIONAL DECK POUR SEQUENCE

NOTES:

1. When the deck pour is stopped for the day at the optional transverse construction joint in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
   A) At least 72 hours shall have elapsed from the end of the previous pour.
   B) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
2. See Sheet SD15 for Superstructure Details and Bill of Material.
3. See Sheet SD12 for Deck Cross Section.
4. See Sheet SD1 for locations of Drainage Scuppers and Floor Drains.
5. See Sheet SD15 for Sections A-A & B-B.
6. See Sheet SD13 for Section X-X.
7. Dimensions are based on a Rolled Rail Strip Seal Joint at the S. Abutment. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SD19.

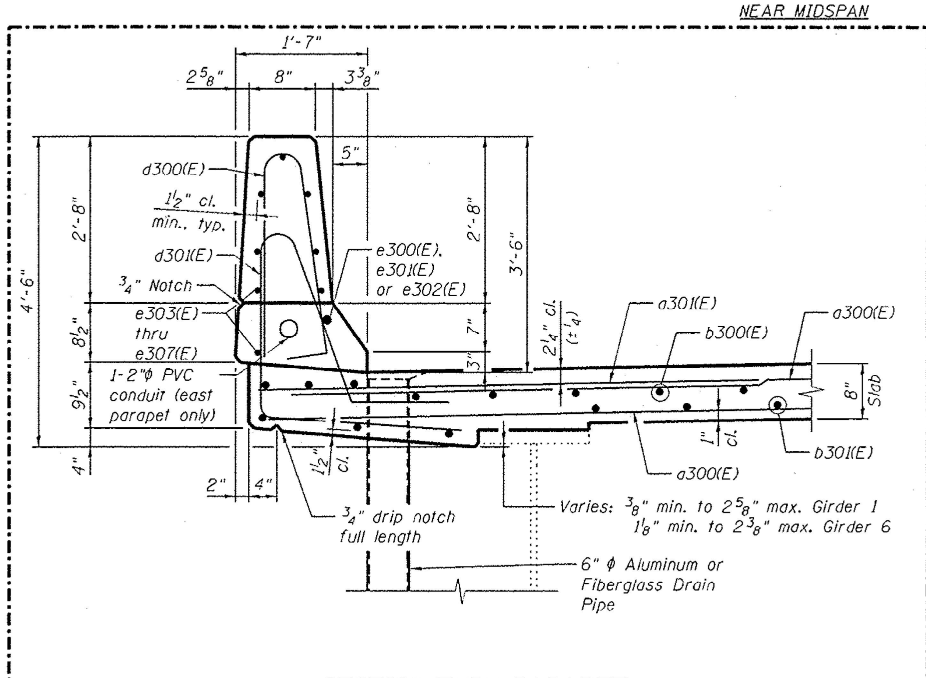
FOR INFORMATION ONLY



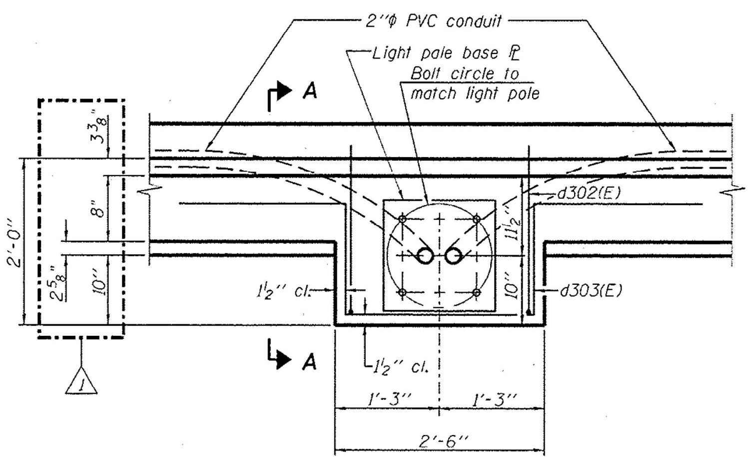
NEAR MIDSPAN

NEAR PIER

CROSS SECTION
(Looking Upstation/North)
(showing Floor Drains)

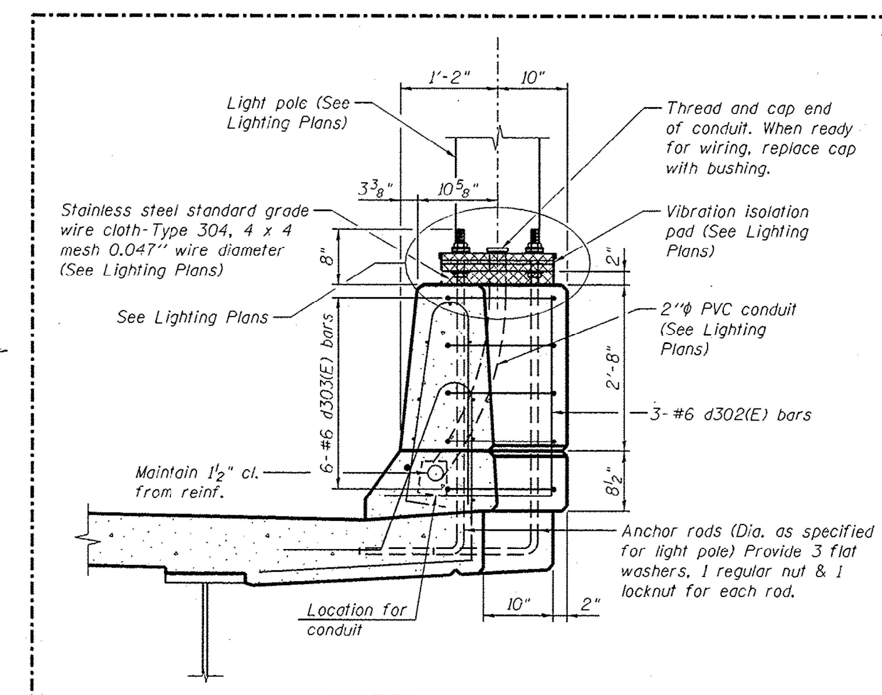


SECTION THRU PARAPET
(showing Floor Drain)



PLAN

Note:
Cost of anchor rods is included with Concrete Superstructure.



SECTION A-A

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK SECTION AND DETAILS
SN: 016–0985

SCALE:	SHEET	OF	SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	49
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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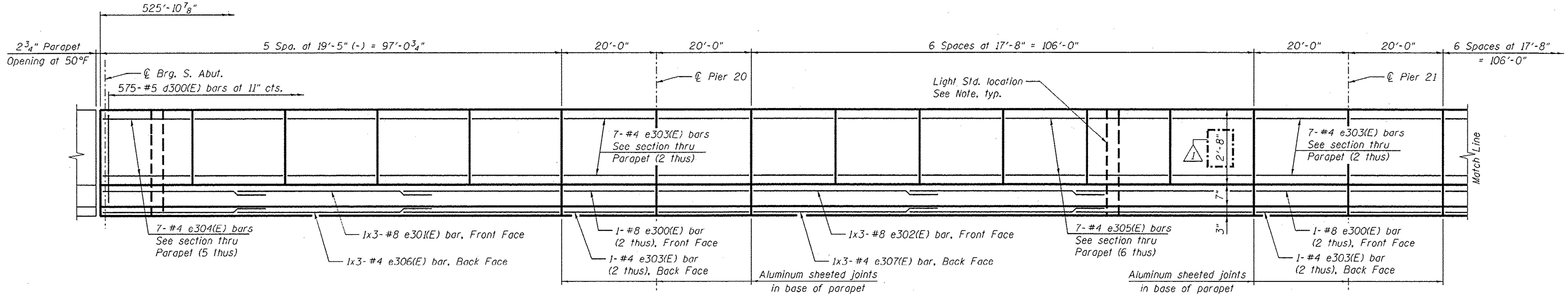
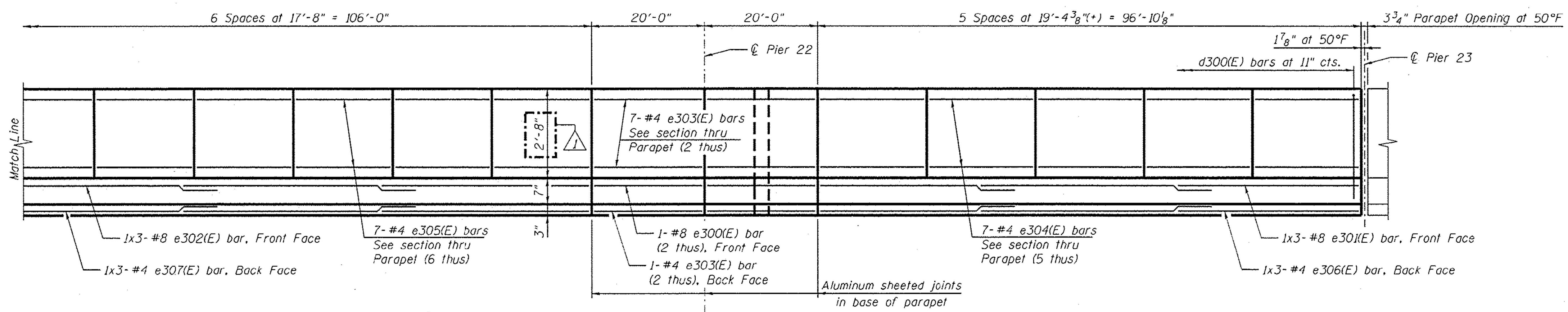
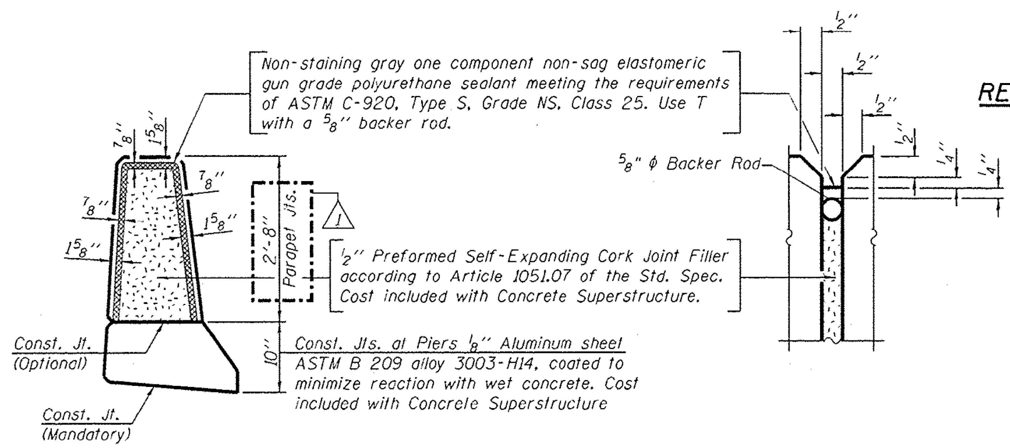
FOR INFORMATION ONLY





INSIDE ELEVATION OF WEST PARAPET
REFLECTED INSIDE ELEVATION OF EAST PARAPET



PARAPET JOINT DETAILS
(For conventional concrete placement)

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTE:
See Sheet SD1 for Light Pole locations (E. Parapet only).

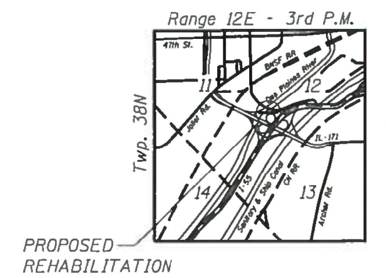
FOR INFORMATION ONLY

Bench Mark: Chiseled square cut on south side parapet wall at Pier 55 (T.B.M. #7) 617.59

Existing Structure:
The structure is eight spans comprised of two four-span composite continuous welded plate girders and 7½ inch reinforced concrete slab. The original structure was built in 1963. In 1994, the deck was replaced and jersey parapet, bridge lighting, and transverse expansion joints were added; substructure was repaired, new elastomeric bearings, drain extensions added, wingwalls at the southeast abutment, and existing plate girders were made composite. In 2008, lateral bracing was replaced at the north fascia girder in the fourth bay west of the east abutment.

Bridge shall be closed during construction. A detour shall be utilized to maintain traffic.

No salvage.



LOCATION SKETCH

DESIGN SPECIFICATIONS

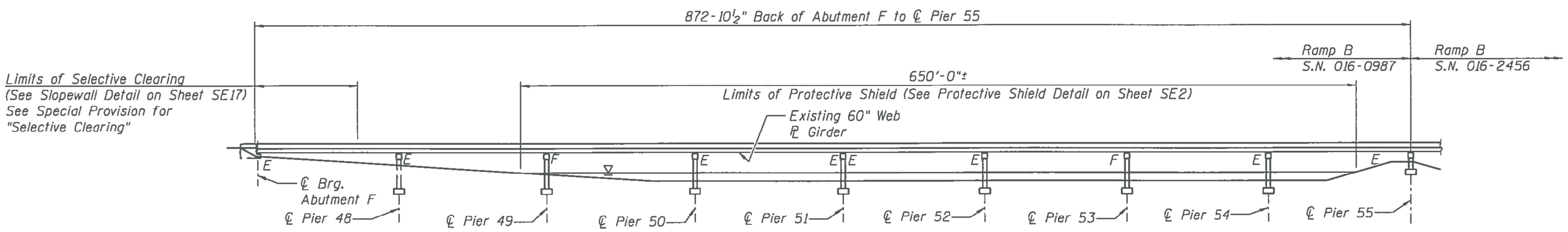
2002 AASHTO Standard Specifications for highway Bridges, 17th Edition

DESIGN STRESSES

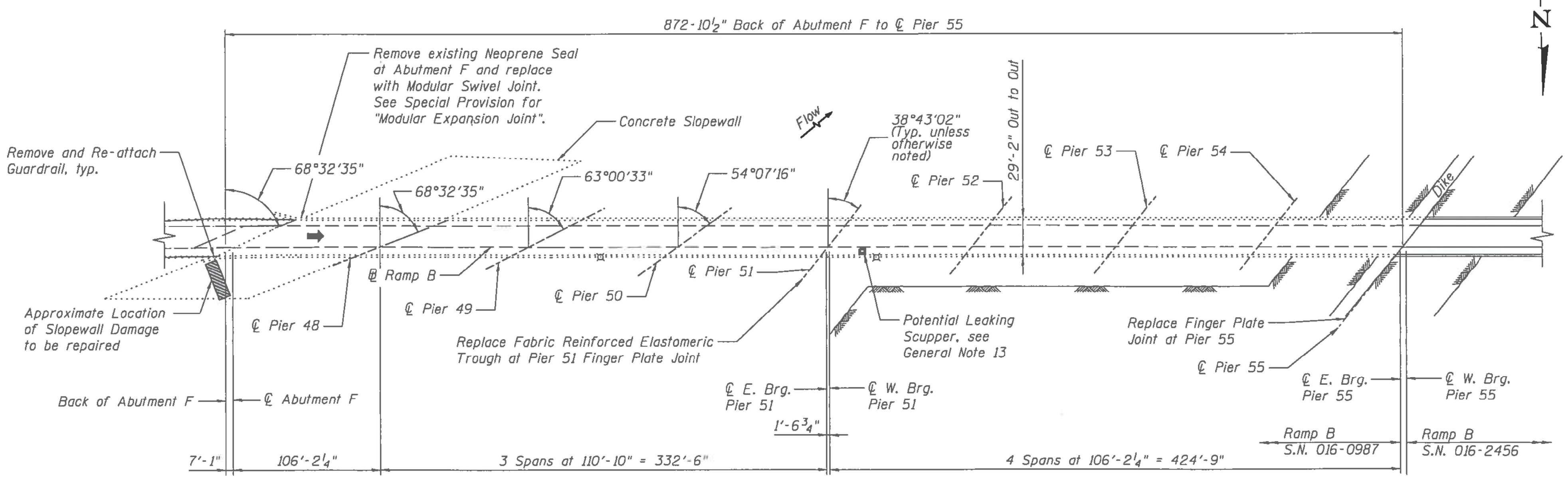
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 36,000 psi (existing structural steel)
fy = 36,000 psi (proposed structural steel repair)

SCOPE OF WORK

1. Substructure repair consisting of structural concrete repair and epoxy crack sealing.
2. Concrete repair of concrete parapets.
3. Structural steel repairs.
4. Remove lateral wind bracing.
5. Remove abandoned conduit under bridge.
6. Repair the anchor bolt missing a nut at the western bearing of Girder No. 4 at Pier 51.
7. Fix loose bearing bolt at Girder No. 4 bearing at Pier 48.
8. Repair slopewall at Abutment F.
9. Replace expansion joint at Abutment F with modular expansion joint and replace finger plate expansion joint at Pier 55. Replace fabric reinforced elastomeric trough at Pier 51.
10. Vegetation removal.
11. Clean out deck drains and repair as necessary. Clean and seal bridge deck, approach slab and parapets.



ELEVATION



PLAN

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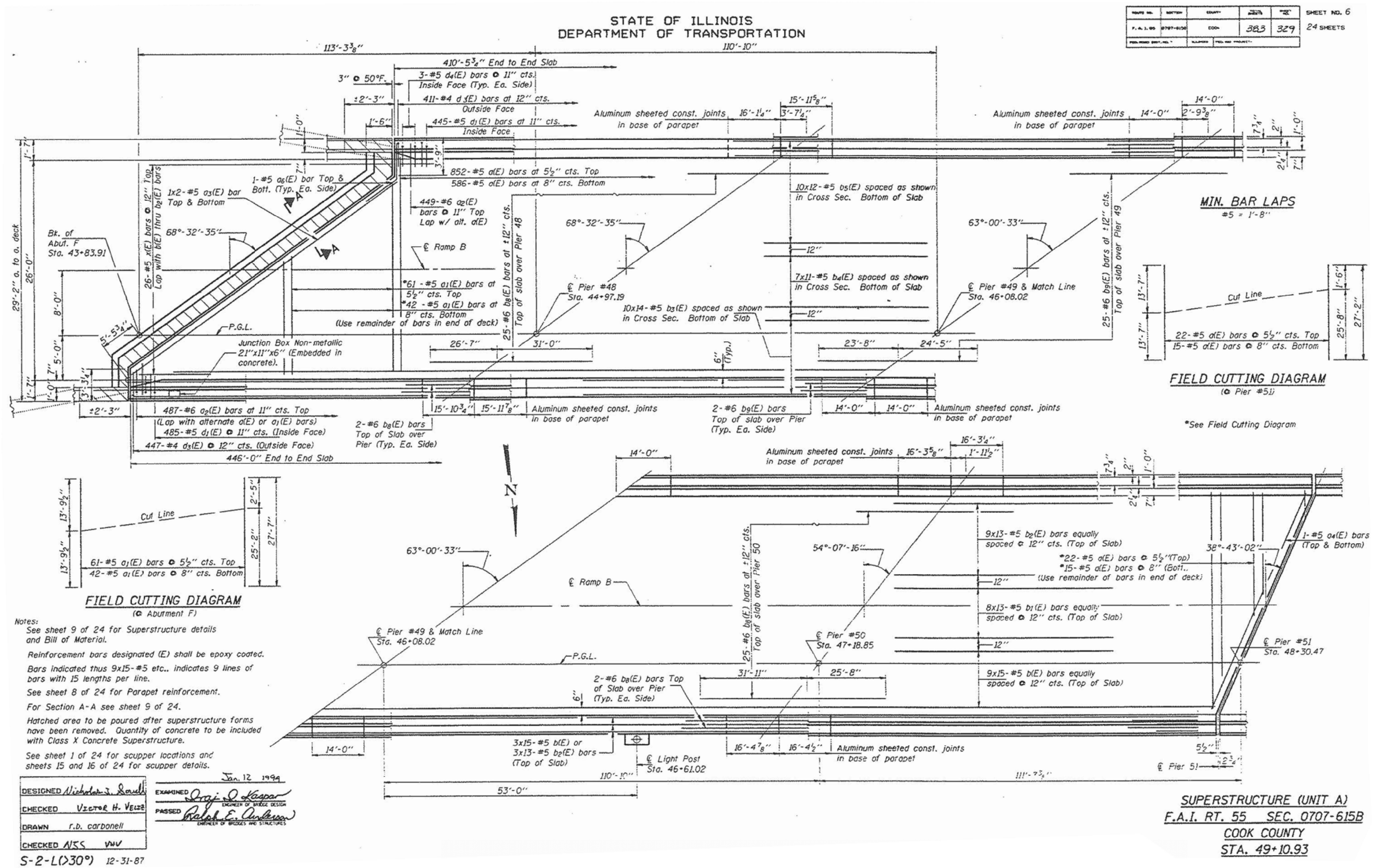
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016-0987	
	DRAWN -	REVISED -			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	51
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



Notes:

See sheet 9 of 24 for Superstructure details and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated.

Bars indicated thus 9x15-#5 etc., indicates 9 lines of bars with 15 lengths per line.

See sheet 8 of 24 for Parapet reinforcement.

For Section A-A see sheet 9 of 24.

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Class X Concrete Superstructure.

See sheet 1 of 24 for scupper locations and sheets 15 and 16 of 24 for scupper details.

Jan. 12 1994

DESIGNED	Nicholas J. Sorrell
CHECKED	Victor H. Velez
DRAWN	r.b. carbonell
CHECKED	NSS VHV

EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

S-2-L(>30°) 12-31-87

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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING SUPERSTUCTURE (UNIT A)
SN: 016–0987

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	52

CONTRACT NO. 62U38

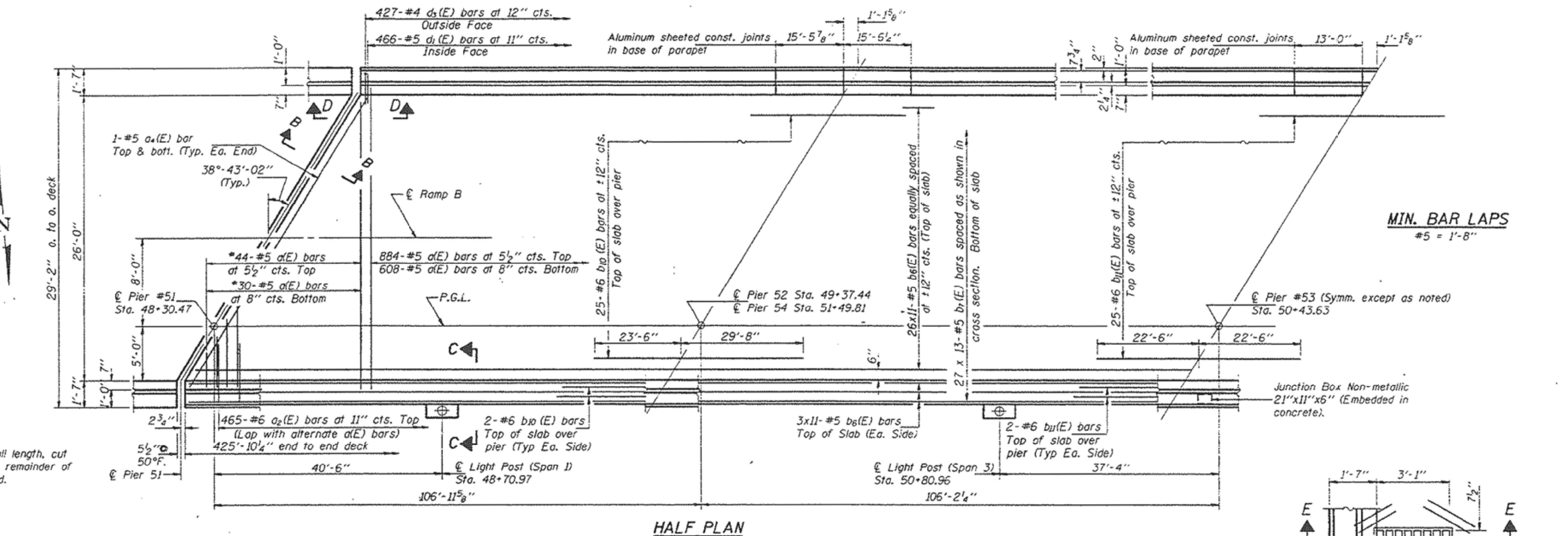
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

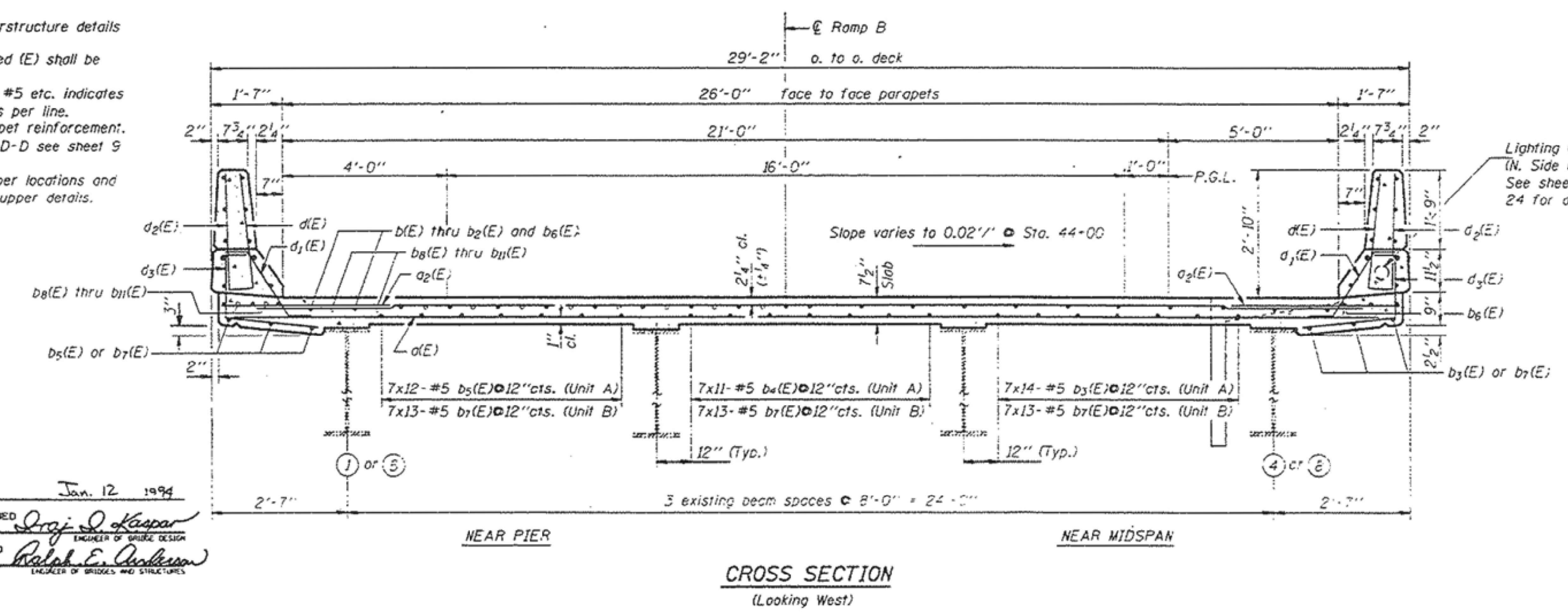
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

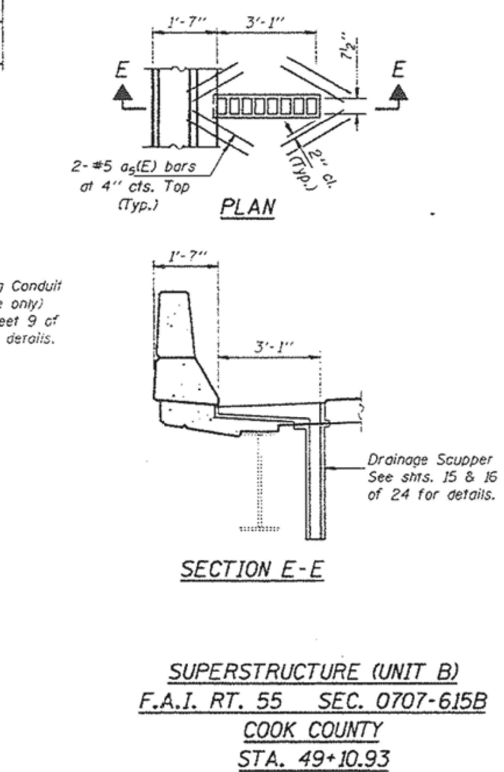
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	0707-615B	COOK	383	330

SHEET NO. 7
24 SHEETS



Notes: See Sheet 9 of 24 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 26 x 11-#5 etc. indicates 26 lines of bars with 11 lengths per line.
See Sheet 8 of 24 for parapet reinforcement.
For Sections B-B, C-C and D-D see sheet 9 of 24.
See sheet 1 of 24 for scupper locations and sheets 15 and 16 of 24 for scupper details.





SUPERSTRUCTURE (UNIT B)
F.A.I. RT. 55 SEC. 0707-615B
COOK COUNTY
STA. 49+10.93

DESIGNED	Nicholas J. Lovell
CHECKED	Victor H. Velez
DRAWN	r.b. carbonell
CHECKED	NJS VHV

Jan. 12 1994
EXAMINED: Joraj J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED: Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING SUPERSTUCTURE (UNIT B) SN: 016–0987
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	53
	CONTRACT NO. 62U38			
	ILLINOIS FED. AID PROJECT			

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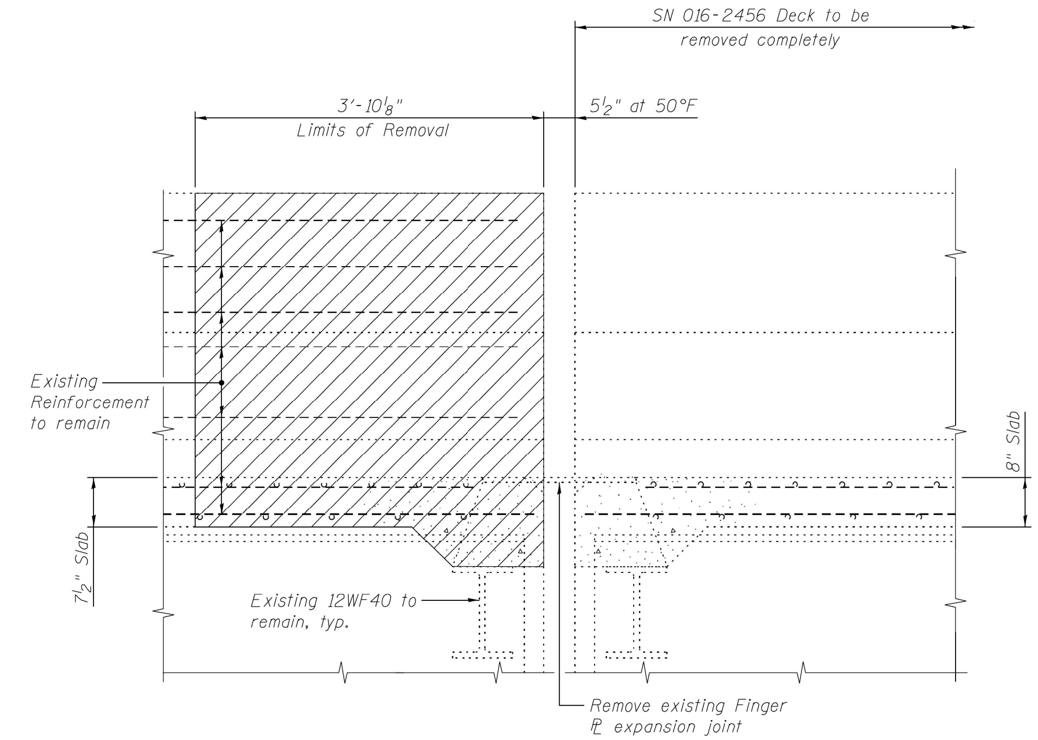
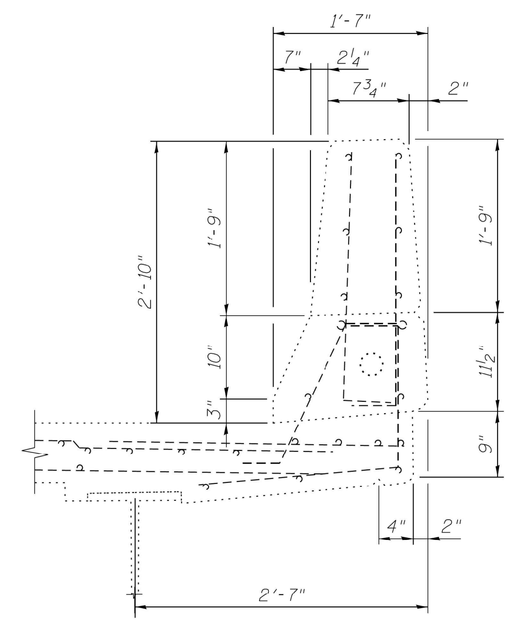


SECTION A-A

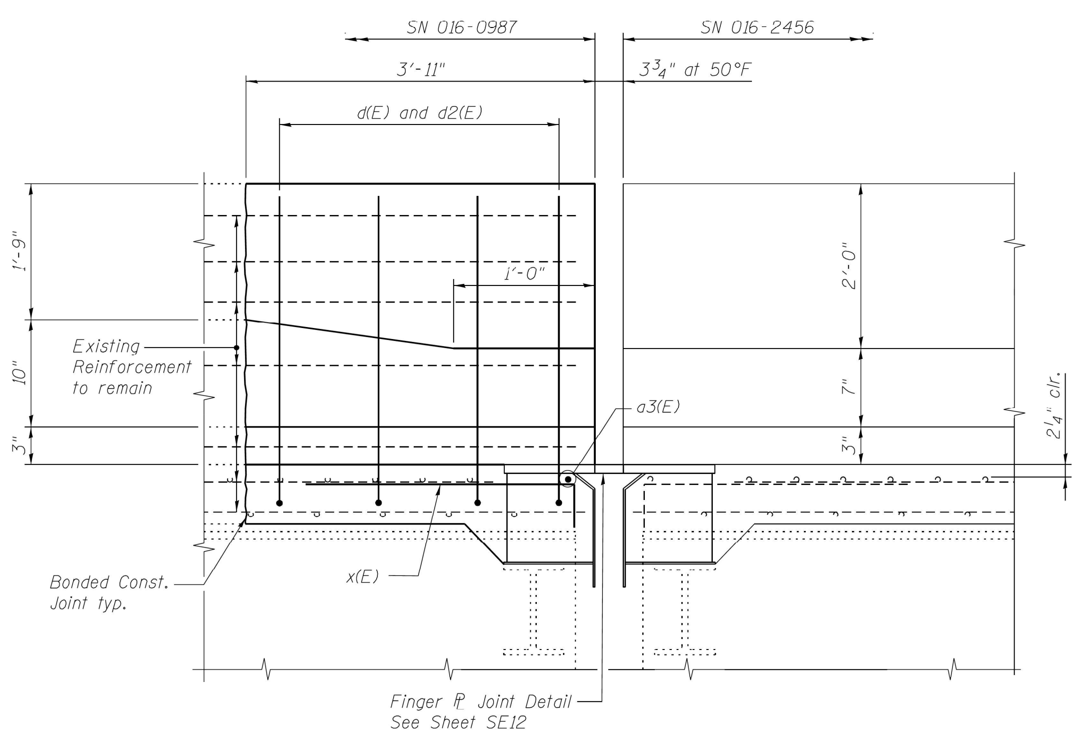
(Measured along toe of parapet)



SECTION THROUGH EXISTING PARAPET

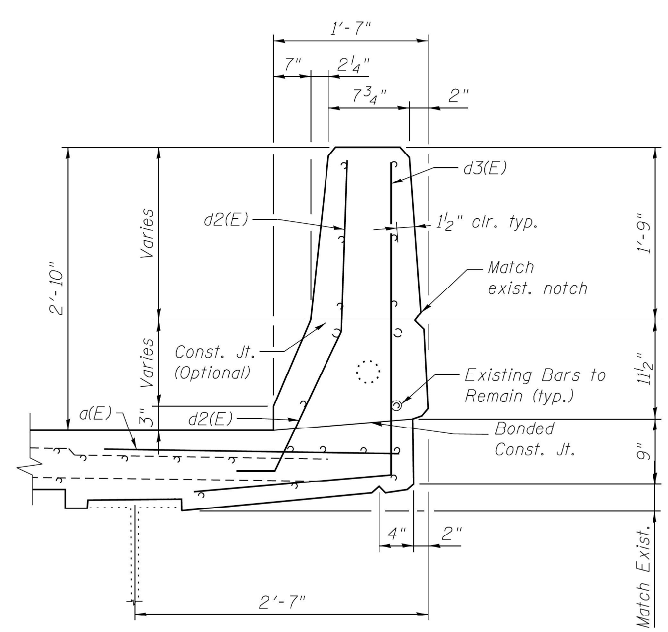
NOTES:

1. Existing reinforcement bars extending into the concrete removal area shall be blast-cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired or replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
2. Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of "Concrete Removal".
3. The Contractor shall exercise extreme care with the existing conduits in sections of the parapet to be removed and to protect and support the conduit. The Contractor will be required to repair any damage done to the conduit to the satisfaction of the Engineer, at no additonal cost to the Department.
4. Work this sheet with sheets SE8 thru SE12.



SECTION B-B

(Measured along toe of parapet)



PROPOSED PARAPET SECTION

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PARAPET CROSS SECTION DETAILS SN: 016–0987	
	DRAWN -	REVISED -			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	54
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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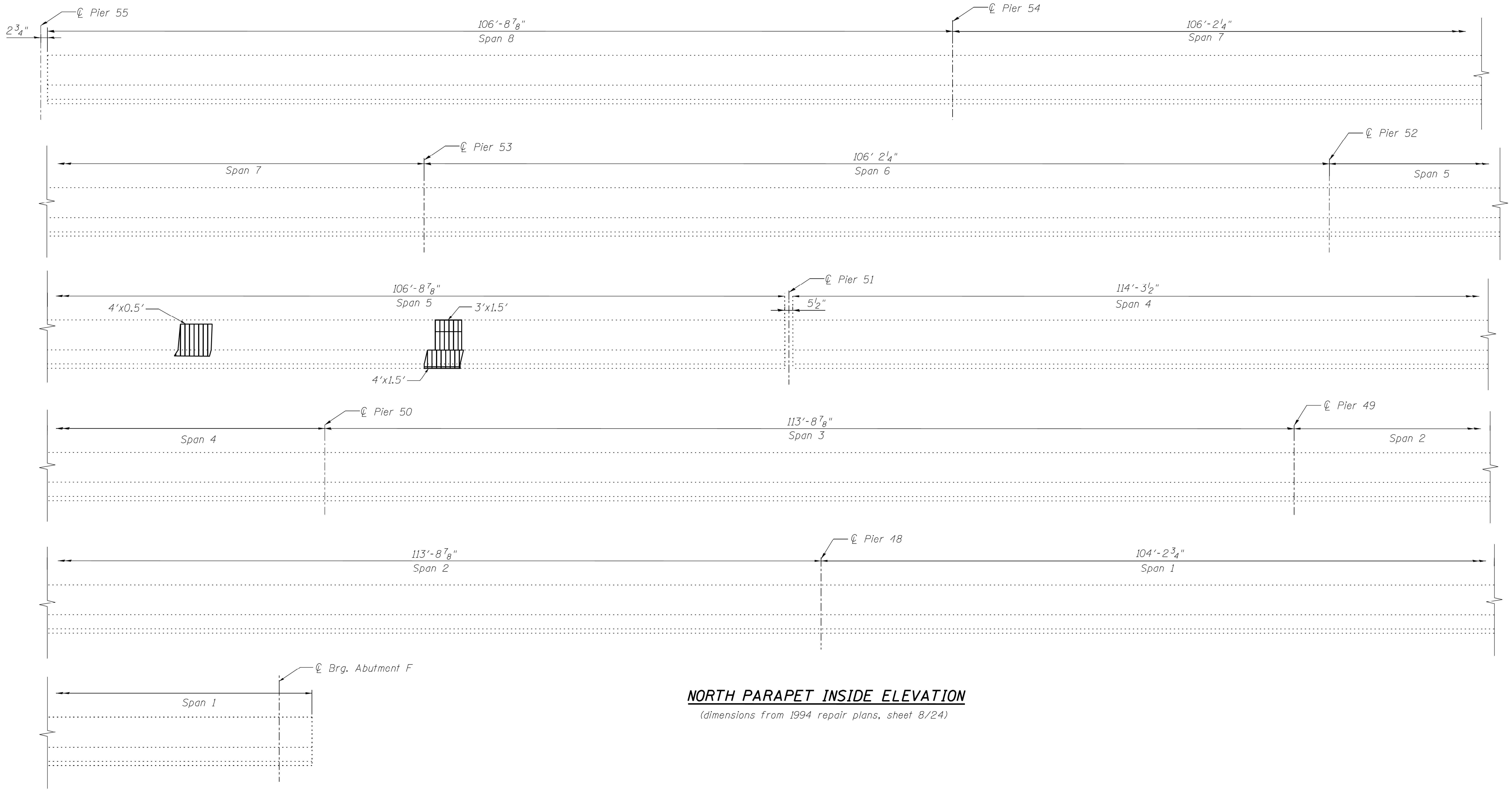

NORTH PARAPET INSIDE ELEVATION

(dimensions from 1994 repair plans, sheet 8/24)

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	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2022	DATE -	REVISED -

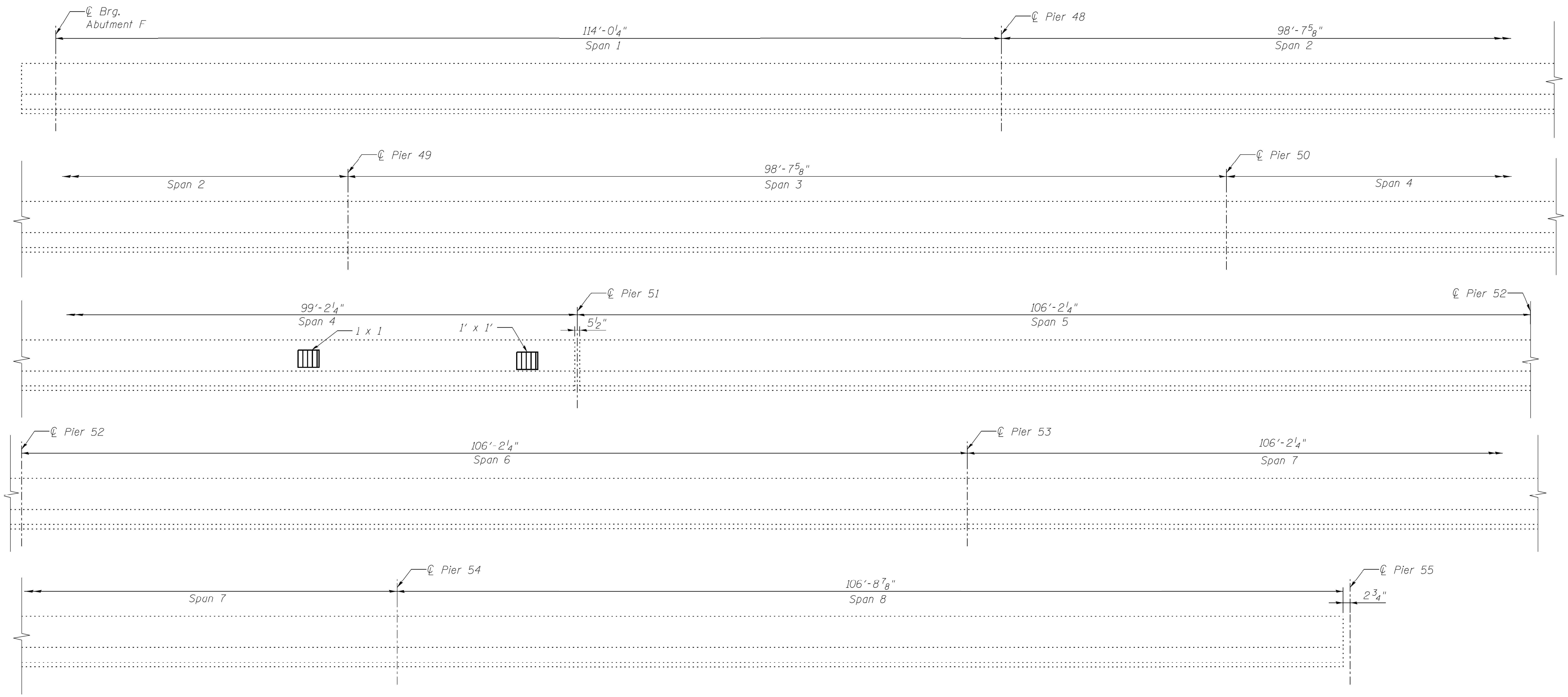
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING NORTH PARAPET DETAILS
SN: 016–0987

SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	55
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



SOUTH PARAPET - INSIDE ELEVATION

(dimensions from 1994 repair plans, sheet 8/24)

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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SOUTH PARAPET DETAILS

SN: 016-0987

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	56

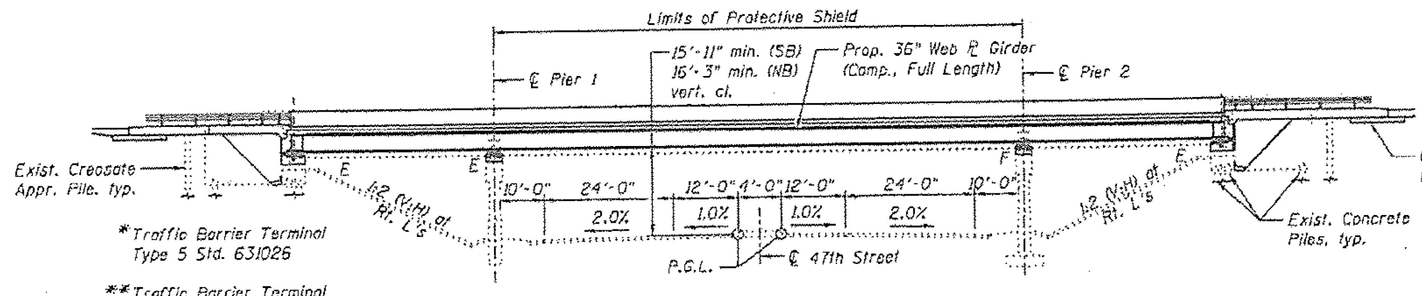
CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

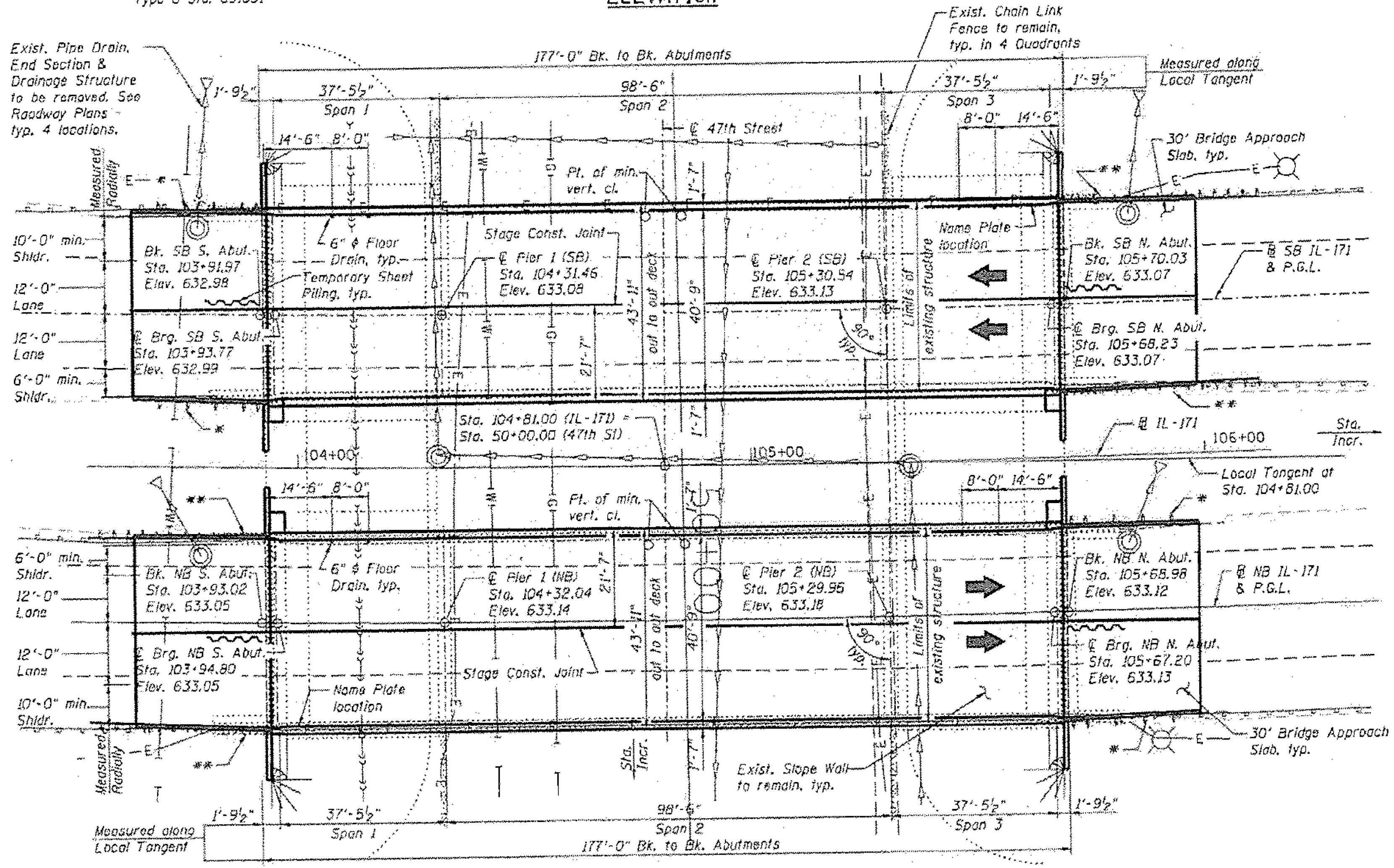
FOR INFORMATION ONLY

Bench Mark: BM# 203 Chiseled square on NW corner of SB IL-171 bridge wall over 47th Street. El. 635.53

Existing Structure: S.N. 016-1000 (SB) and S.N. 016-1001 (NB) were built in 1968 as F.A. Rte. 133, Section 0102-683HBK at Sta. 104+82.77. Existing dual structures each consist of three simple span reinforced concrete decks on four interior steel 30" WF beams and two exterior steel 48" welded plate girders in spans 1 and 3 and six 48" steel welded plate girders in span 2. The reinforced concrete deck is 8½" thick, including a 2" microsilica concrete overlay. The substructure consists of open stub abutments founded on concrete piles and multi-column trapezoidal piers, one pier being founded on drilled shafts and the other a spread footing. The structures are 177'-0" back-to-back of abutments and the out-to-out deck width is 42'-6" with no skew. The superstructure shall be removed and replaced with a continuous steel plate girder structure. The abutments shall be converted to semi-integral. Traffic will be maintained utilizing Stage Construction. All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.



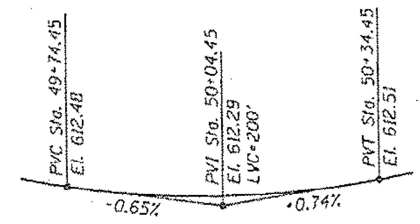
ELEVATION



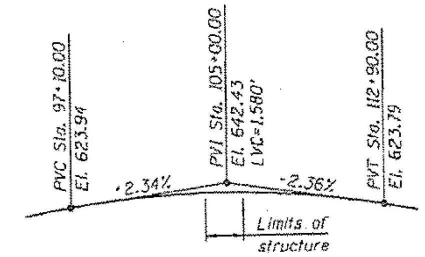
PLAN

SCOPE OF WORK

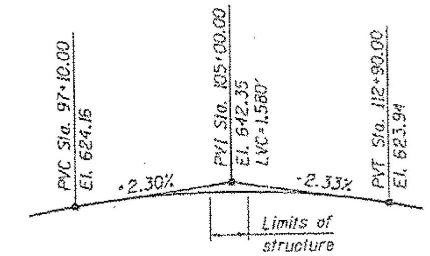
1. Remove existing concrete deck, steel girders/beams and bearings.
2. Replace with continuous steel plate girders, 8" reinforced concrete deck and new bearings.
3. Remove existing backwalls and convert abutments to semi-integral.
4. Remove and replace approach slabs.
5. Repair spalls, delaminations and open cracks in substructures using formed concrete repair and epoxy crack injection.
6. Remove and replace wingwalls as required for new deck width and semi-integral abutments.
7. Remove and replace underdeck lighting.



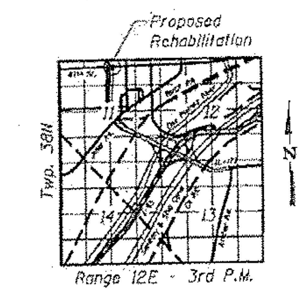
PROFILE GRADE 47TH STREET
(Along ℄ 47th Street)



PROFILE GRADE SB IL-171
(Along ℄ SB IL-171)



PROFILE GRADE NB IL-171
(Along ℄ NB IL-171)



LOCATION SKETCH

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications with 2013 Interims (New Construction)

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.063
Design Spectral Acceleration at 2.0 sec. (SDS) = 0.114
Soil Site Class C

CURVE DATA

P.I. = Sta. 105+97.15
Δ = 14°00'00" (LT)
D = 1°00'00"
R = 5,729.58'
L = 1,400.00'
T = 703.50'
E = 43.03'
P.C. = Sta. 98+93.64
P.T. = Sta. 112+93.64
S.E. = 2.0%

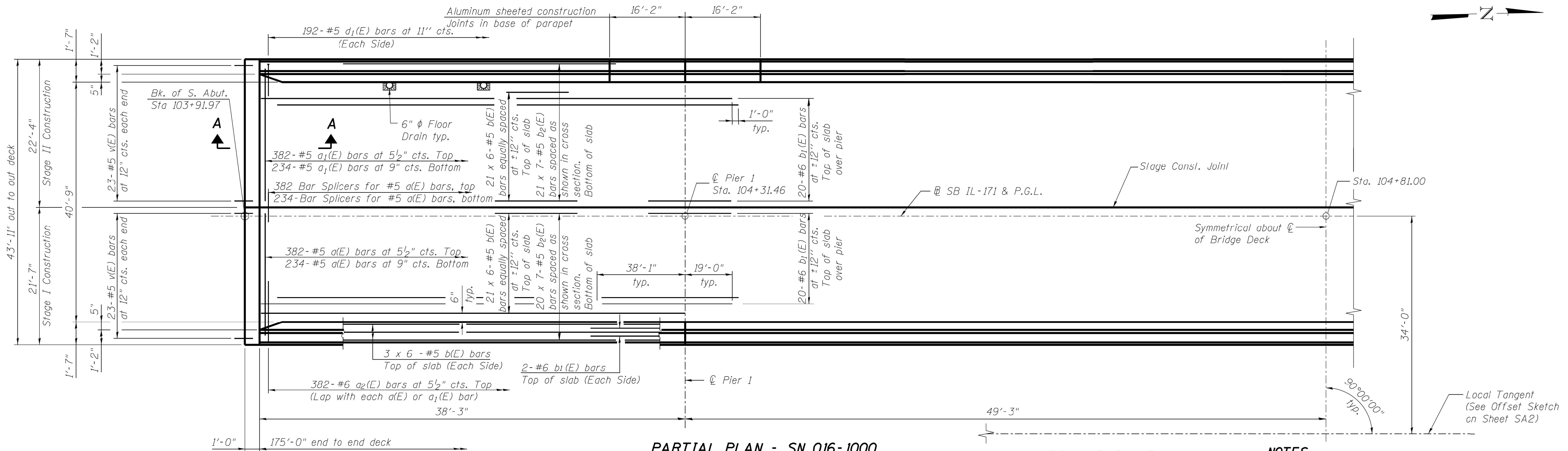
EXISTING UTILITY LEGEND

- G — Underground Gas Line
- W — Underground Water Line
- E — Underground Electric Line
- Underground Storm Sewer
- Underground MWRDGC 24" ϕ Sanitary Sewer
- Existing Drainage Structure

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016–1000
	DRAWN	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	57
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



PARTIAL PLAN - SN 016-1000

(SB South half shown - SB North half opposite hand)

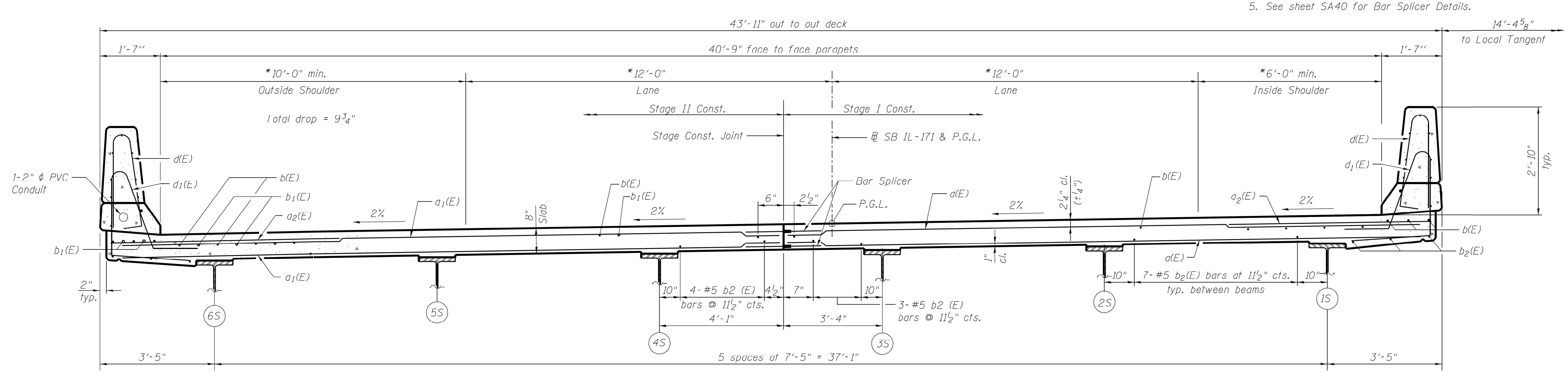
MINIMUM BAR LAP

(Slab)

#5 bar - 3'-3"

NOTES:

1. See sheet SA15 for superstructure details, parapet reinforcement and Bill of Material.
2. See sheet SA19 for Section A-A.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. See sheet SA1 for Floor Drain locations.
5. See sheet SA40 for Bar Splicer Details.



NEAR PIER

NEAR MIDSPAN

* Measured radial to ℄ and P.G.L.'s

CROSS SECTION - SN 016-1000

(Looking North)

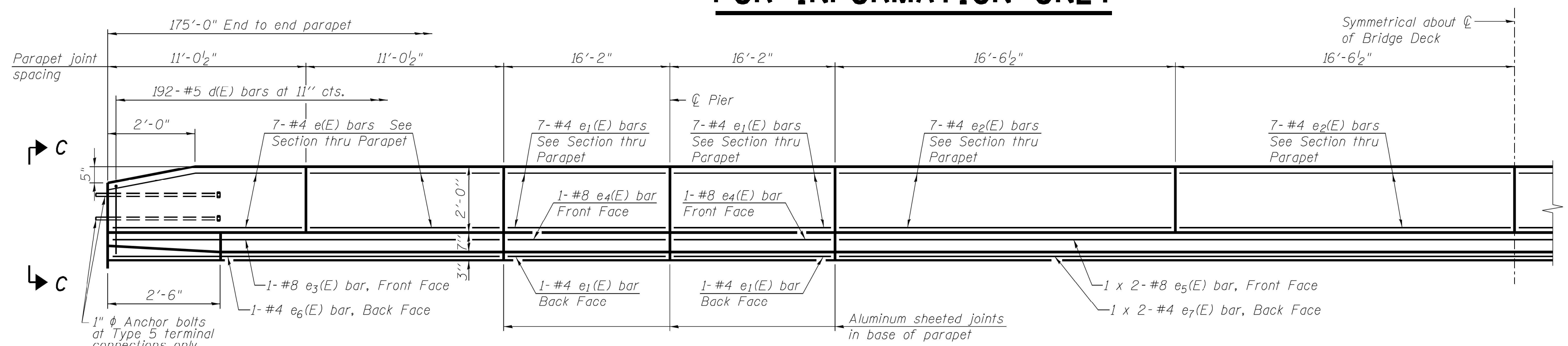
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE
SN: 016–1000

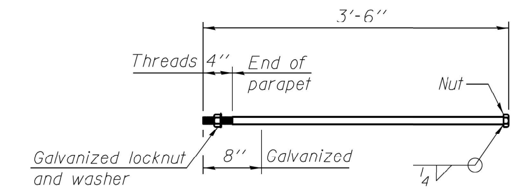
SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	58
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

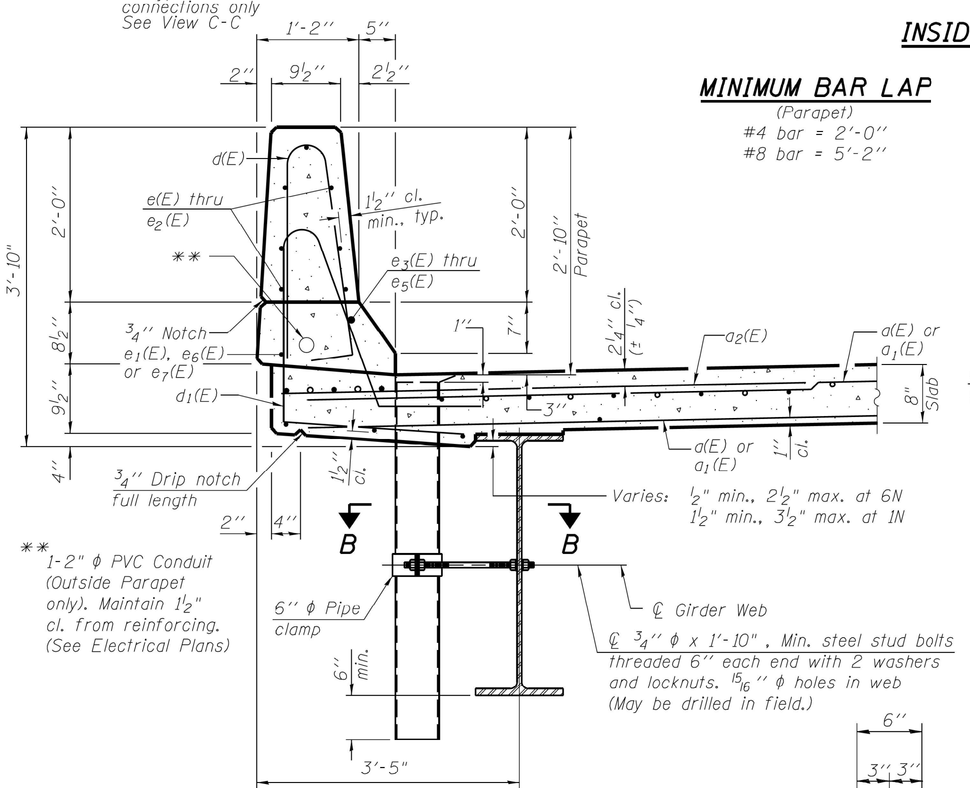


INSIDE ELEVATION OF PARAPET - SN 016-1000



1"ϕ ANCHOR BOLT

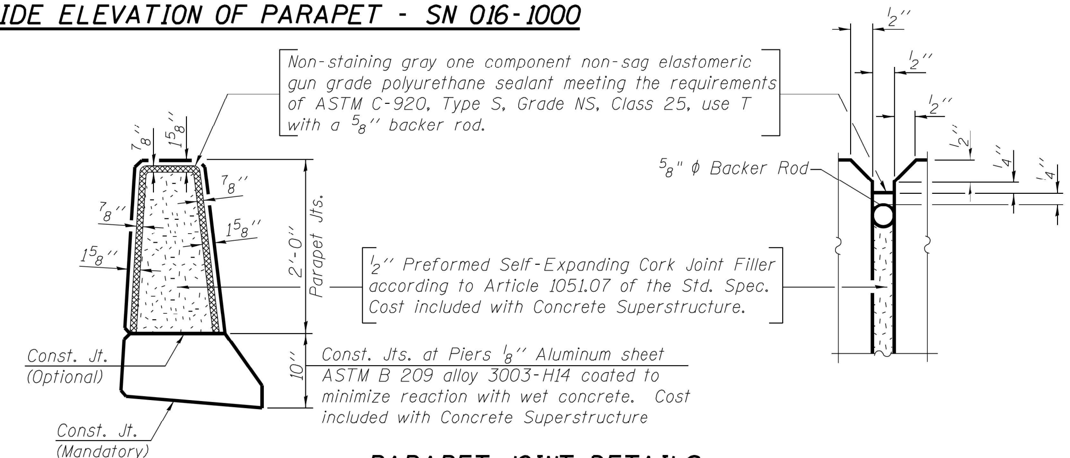
(Cost included with Concrete Superstructure)



** 1-2" ϕ PVC Conduit (Outside Parapet only). Maintain 1½" cl. from reinforcing. (See Electrical Plans)

SECTION THRU PARAPET

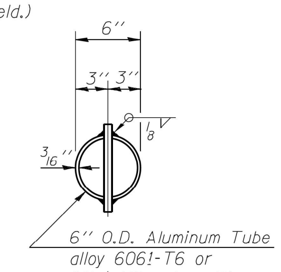
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



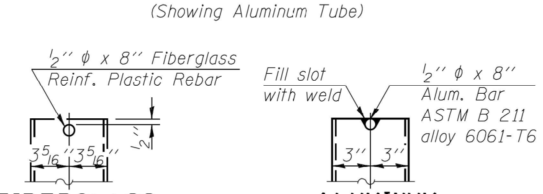
PARAPET JOINT DETAILS

NOTES:

1. Drains shall be located clear of all diaphragms.
2. The exterior surfaces of the floor drains shall be painted with the finish coat as specified in Section 506 of the Standard Specifications. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.
3. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
4. Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

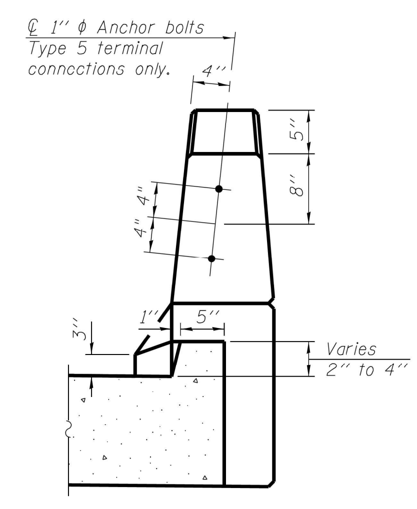


TOP PLAN
(Showing Aluminum Tube)

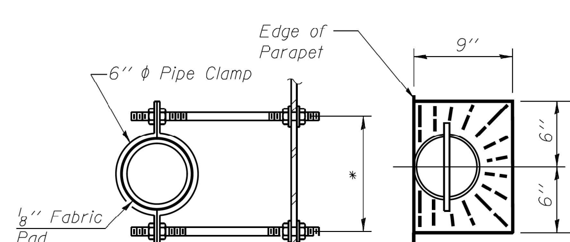


FIBERGLASS PIPE

ALUMINUM TUBE



VIEW C-C



SECTION B-B

* Dimension as required by Pipe Clamp

TOP PLAN

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE DETAILS
SN: 016–1000

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	59

CONTRACT NO. 62U38

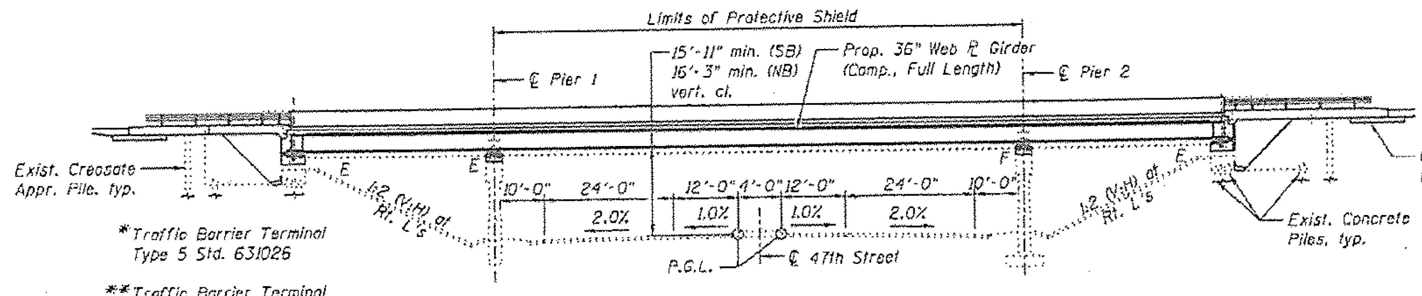
ILLINOIS FED. AID PROJECT

MODEL: Default
FILE NAME: pw:\\idot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D104323\CADData\Design\D104323-erepair.dgn

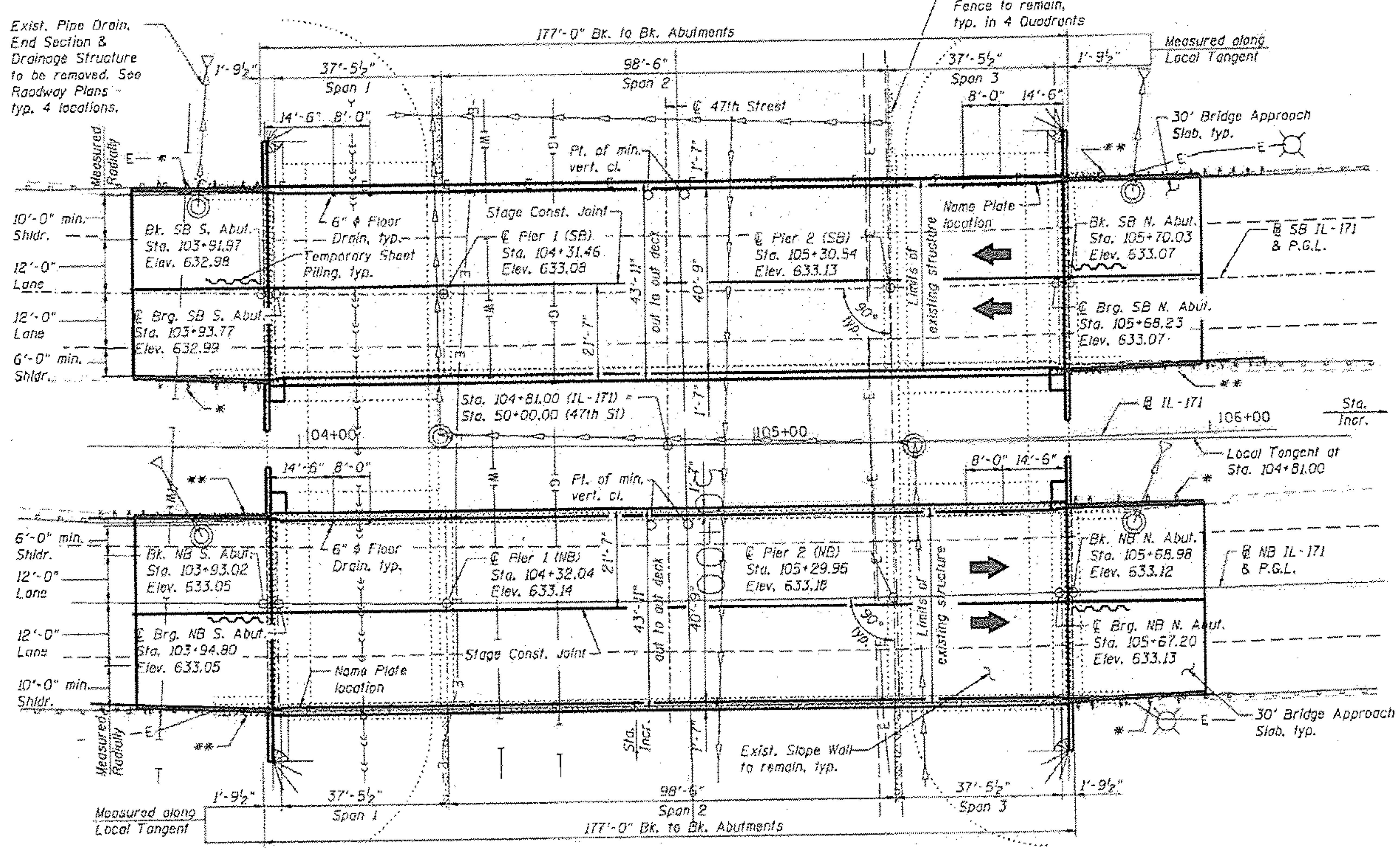
FOR INFORMATION ONLY

Bench Mark: BM# 203 Chiseled square on NW corner of SB IL-171 bridge wall over 47th Street. El. 635.53

Existing Structure: S.N. 016-1000 (SB) and S.N. 016-1001 (NB) were built in 1968 as F.A. Rte. 133, Section 0102-683HBK at Sta. 104+82.77. Existing dual structures each consist of three simple span reinforced concrete decks on four interior steel 30" WF beams and two exterior steel 48" welded plate girders in spans 1 and 3 and six 48" steel welded plate girders in span 2. The reinforced concrete deck is 8½" thick, including a 2" microsilica concrete overlay. The substructure consists of open stub abutments founded on concrete piles and multi-column trapezoidal piers, one pier being founded on drilled shafts and the other a spread footing. The structures are 177'-0" back-to-back of abutments and the out-to-out deck width is 42'-6" with no skew. The superstructure shall be removed and replaced with a continuous steel plate girder structure. The abutments shall be converted to semi-integral. Traffic will be maintained utilizing Stage Construction. All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the exisitng plans are based on NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.



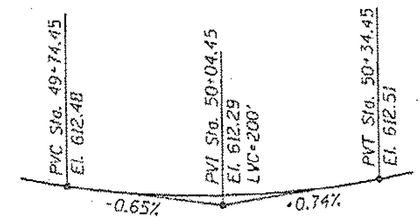
ELEVATION



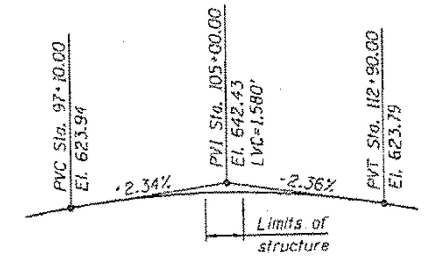
PLAN

SCOPE OF WORK

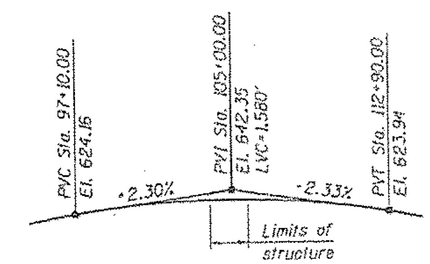
1. Remove existing concrete deck, steel girders/beams and bearings.
2. Replace with continuous steel plate girders, 8" reinforced concrete deck and new bearings.
3. Remove existing backwalls and convert abutments to semi-integral.
4. Remove and replace approach slabs.
5. Repair spalls, delaminations and open cracks in substructures using formed concrete repair and epoxy crack injection.
6. Remove and replace wingwalls as required for new deck width and semi-integral abutments.
7. Remove and replace underdeck lighting.



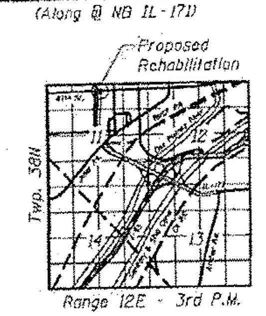
PROFILE GRADE 47TH STREET
(Along ℄ 47th Street)



PROFILE GRADE SB IL-171
(Along ℞ SB IL-171)



PROFILE GRADE NB IL-171
(Along ℞ NB IL-171)



LOCATION SKETCH

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
with 2013 Interims (New Construction)

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD) = 0.063
Design Spectral Acceleration at 2.0 sec. (SD) = 0.114
Soil Site Class C

CURVE DATA

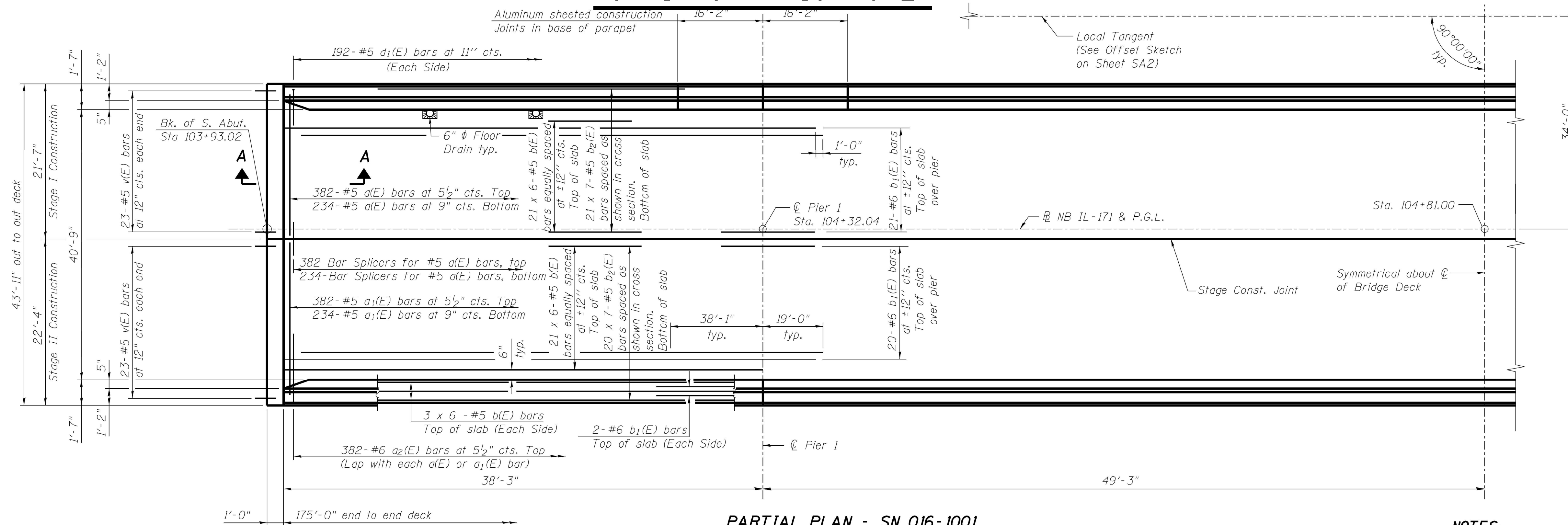
P.I. = Sta. 105+97.15
Δ = 14°00'00" (LT)
D = 1°00'00"
R = 5,729.58'
L = 1,400.00'
T = 703.50'
E = 43.03'
P.C. = Sta. 98+93.64
P.T. = Sta. 112+93.64
S.E. = 2.0%

EXISTING UTILITY LEGEND

- G — Underground Gas Line
- W — Underground Water Line
- E — Underground Electric Line
- Underground Storm Sewer
- Underground MWRDGC 24" ⌀ Sanitary Sewer
- Existing Drainage Structure

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016–1001	FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			372	FAP 372 22 VARIOUS BS	COOK	138	60
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			CONTRACT NO. 62U38				
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY



PARTIAL PLAN - SN 016-1001

(NB South half shown - NB North half opposite hand)

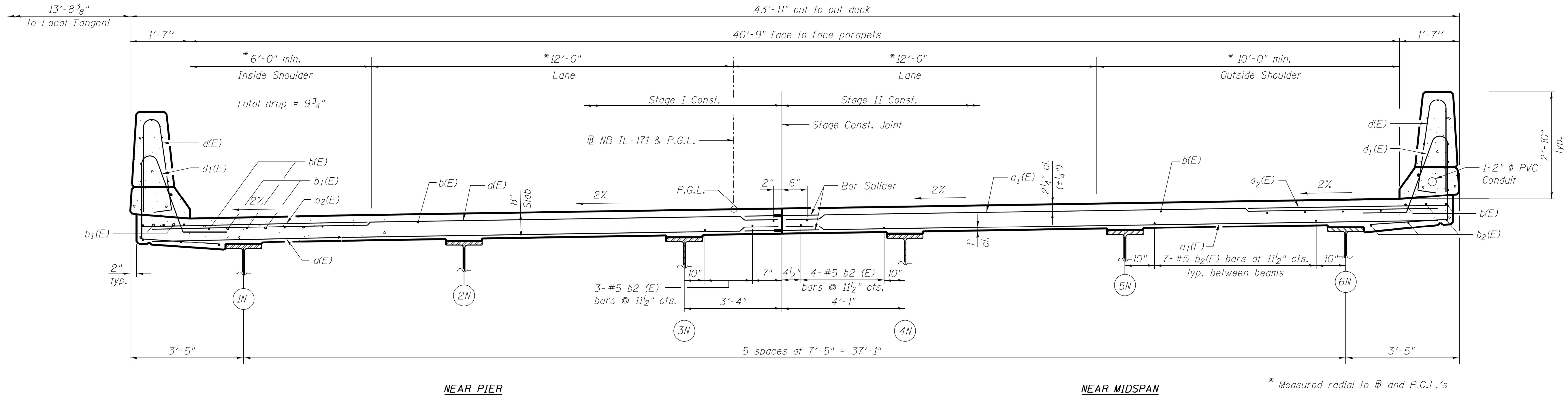
MINIMUM BAR LAP

(Slab)

#5 bar - 3'-3"

NOTES:

1. See sheet SA17 for superstructure details, parapet reinforcement and Bill of Material.
2. See sheet SA20 for Section A-A.
3. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. See sheet SA1 for Floor Drain locations.
5. See sheet SA40 for Bar Splicer Details.



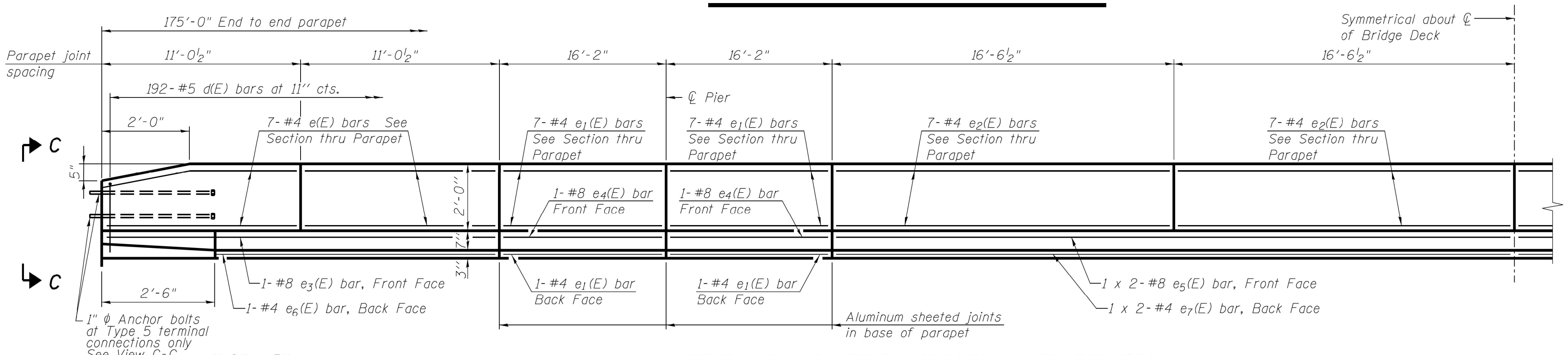
CROSS SECTION - SN 016-1001

(Looking North)

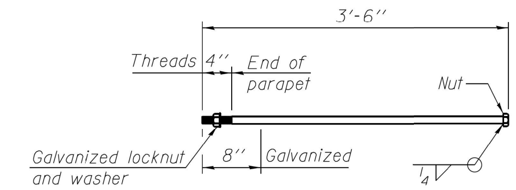
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING SUPERSTRUCTURE SN: 016–1001	
	DRAWN -	REVISED -			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	61
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



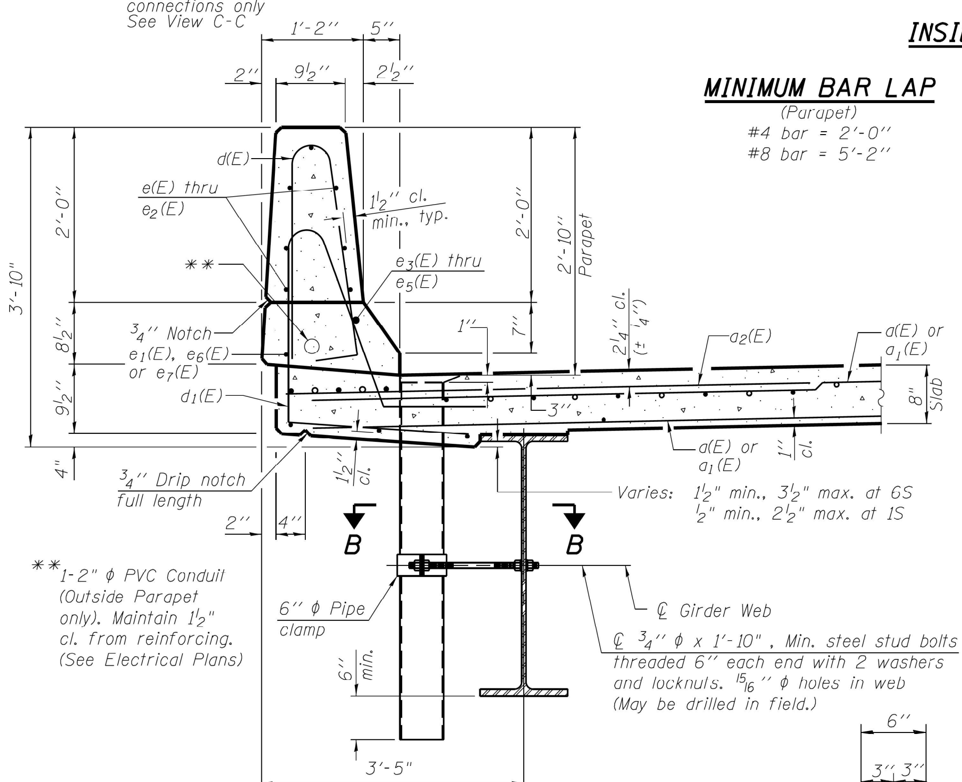
INSIDE ELEVATION OF PARAPET - SN 016-1001



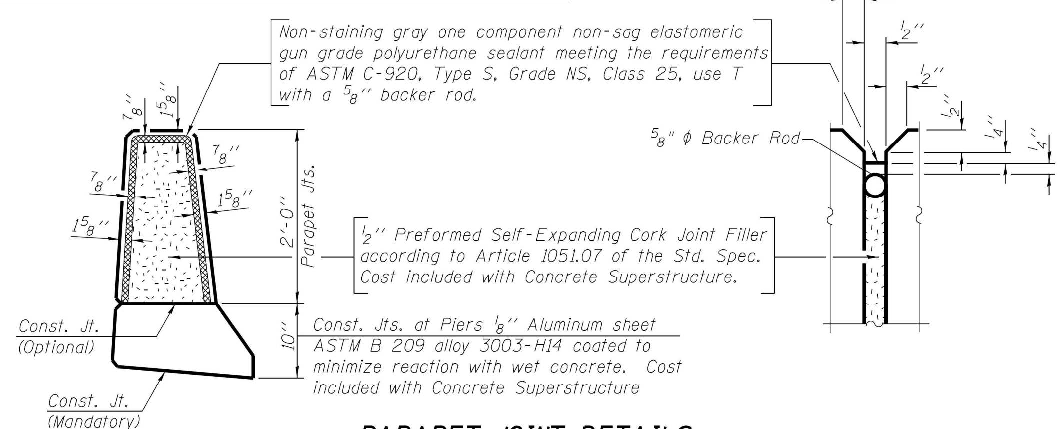
1"φ ANCHOR BOLT

(Cost included with Concrete Superstructure)

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



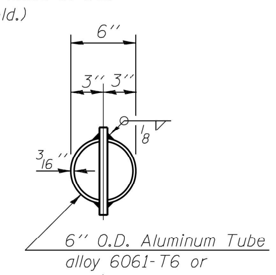
SECTION THRU PARAPET



PARAPET JOINT DETAILS

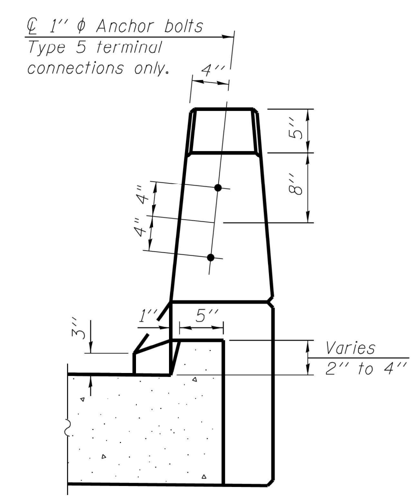
NOTES:

1. Drains shall be located clear of all diaphragms.
2. The exterior surfaces of the floor drains shall be painted with the finish coat as specified in Section 506 of the Standard Specifications. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.
3. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
4. Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

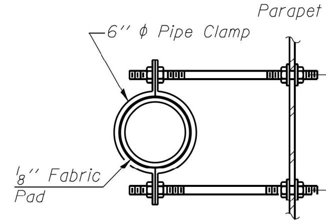


TOP PLAN

(Showing Aluminum Tube)

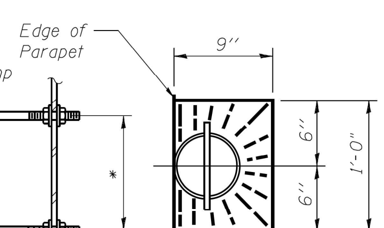


VIEW C-C

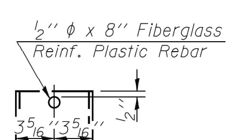


SECTION B-B

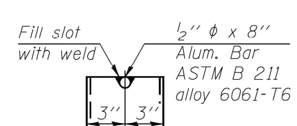
* Dimension as required by Pipe Clamp



TOP PLAN



FIBERGLASS PIPE



ALUMINUM TUBE

MODEL: Default
FILE NAME: pw:\\idot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D104323\CADData\Design\D104323-erepair.dgn

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE DETAILS
SN: 016-1001

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	62
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Bench Mark: Chiseled square at SW corner of SB IL-171 Bridge over Des Plaines River. Elev. 622.14

Existing Structure: S.N. 016-1026 was originally built in 1964 under Section 0707-614B. The structure consists of seven spans with a $7\frac{1}{2}$" concrete deck that was replaced in 1994. Continuous spans 41 thru 44 consist of four girder lines with 36 WF beams from Pier 41 to the pin and link connections, variable height steel plate girders from the pin and link connections to Pier 42, and three spans of 60" web steel plate girders. Simply supported spans 45 thru 47 consist of five, six, and seven flared girder lines, respectively, all 60" web steel plate girders. The substructures consist of two multi-column piers, five solid wall piers, and a pile bent abutment. Pier 41 and the abutment are supported on steel piles, and all other piers are supported on spread footings. The structure is 687'-$8\frac{3}{4}$" from centerline of Pier 41 to back of abutment, with an out to out deck width which varies from 29'-2" to 58'-$3\frac{1}{2}$", with a 32°-16'-30" skew angle. The bridge shall be closed during construction. A detour shall be utilized to maintain traffic.

No salvage.

All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 618.58 = NAVD88 Elev. 618.30.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATION 206+25.24
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT. 372
SECTION 2013-038B-R
LOADING HS-20
STRUCTURE NO. 016-1026

NAME PLATE
(See Std. 515001)

LOADING HS20-44 (New Constr.)
No future wearing surface allowed.

DESIGN SPECIFICATIONS (New Constr.)
2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (AASHTO M270 Grade 36 - Cross Frames & Diaphragms)
fy = 50,000 psi (AASHTO M270 Grade 50 - Splice Plates)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement - Superstructure)
fy = 40,000 psi (Reinforcement - Substructure)
fy = 36,000 psi (Structural Steel)

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

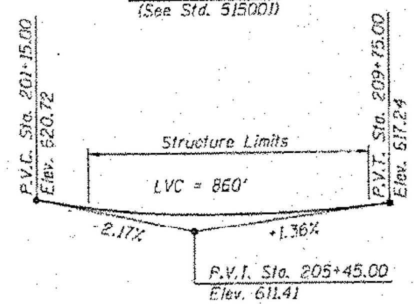
WATERWAY INFORMATION

Drainage Area = 641.59 sq. mi.			Low Grade Elev. 615.05 at Sta. 206+50						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	5,930	2,719	2,719	595.68	0.01	0.01	595.69	595.69
Design	50	7,370	3,217	3,217	597.09	0.01	0.01	597.10	597.10
Base	100	7,900	3,338	3,338	597.58	0.00	0.00	597.58	597.58
Overtopping	>500								
Max. Calc.	500	9,316	3,833	3,833	598.82	0.00	0.00	598.82	598.82

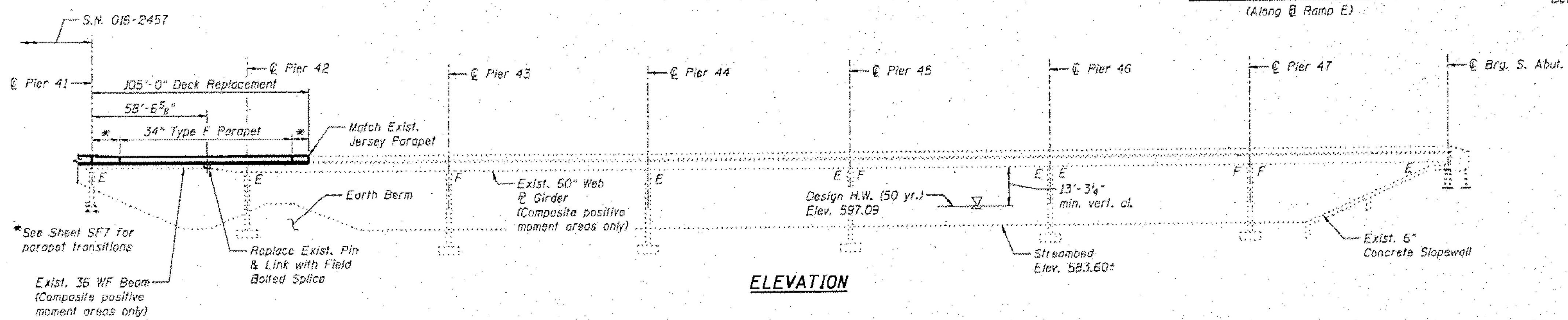
10 Year Velocity through Existing and Proposed Bridge = 2.21 fps

DESIGN SCOUR ELEVATION TABLE

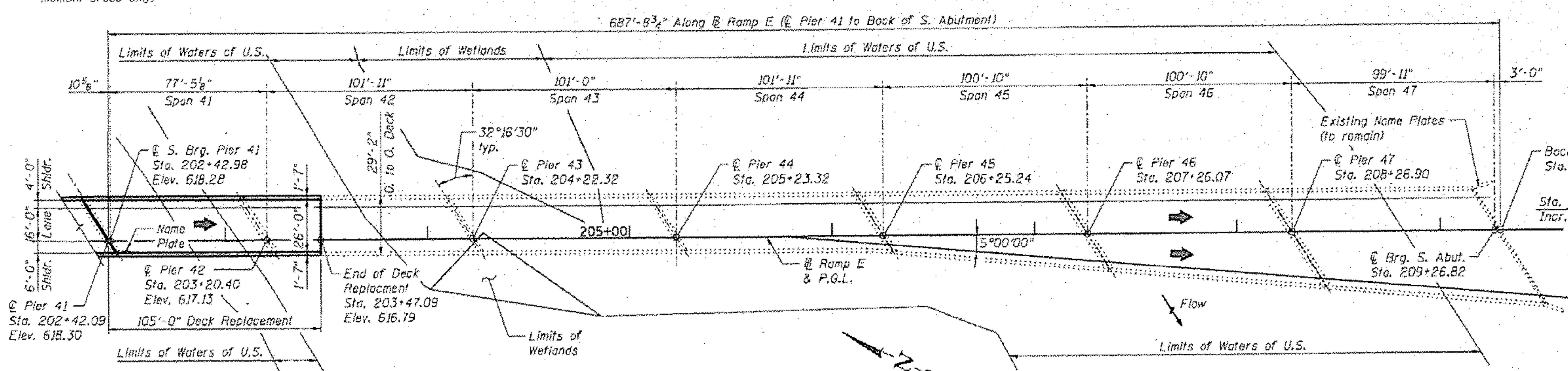
Design Scour Elevation (ft.)				
Pier 43	Pier 44	Pier 45	Pier 46	Pier 47
582.50	583.40	581.10	579.00	579.40



PROFILE GRADE RAMP E
(Along ℄ Ramp E)

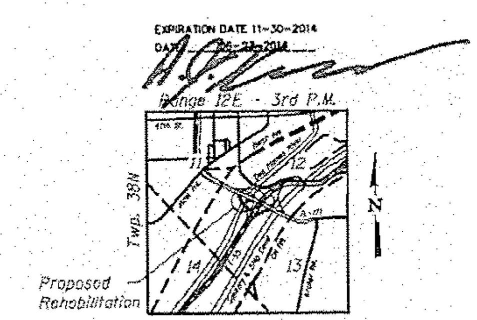


ELEVATION



PLAN

EXPIRATION DATE 11-30-2014



LOCATION SKETCH

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016–1026
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	63
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

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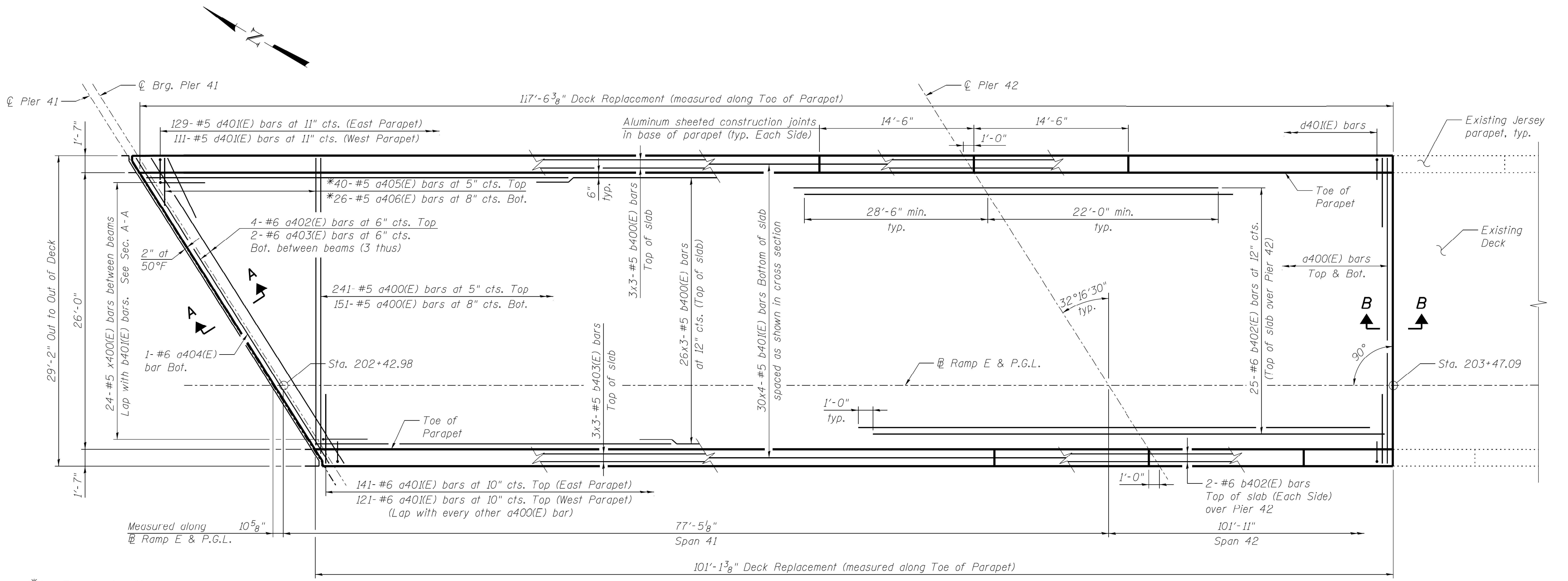
FOR INFORMATION ONLY



*See Field Cutting Diagram
on Sheet SF7.

PLAN

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

NOTES:

1. See Sheet SF6 for Section A-A, Section B-B and Deck Cross Section.
2. See Sheet SF7 for Superstructure Details, parapet reinforcement and Bill of Material.
3. Bars indicated thus 26x3- #5 etc. indicates 26 lines of bars with 3 lengths per line.
4. Dimensions are based on a Rolled Rail Strip Seal Joint. If the contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on the Preformed Joint Strip Seal sheet of SN 016-2457.
5. The deck shall be poured after the Pin & Link retrofits have been completed and shall progress from Pier 41 towards Pier 42.

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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK PLAN
SN: 016–1026

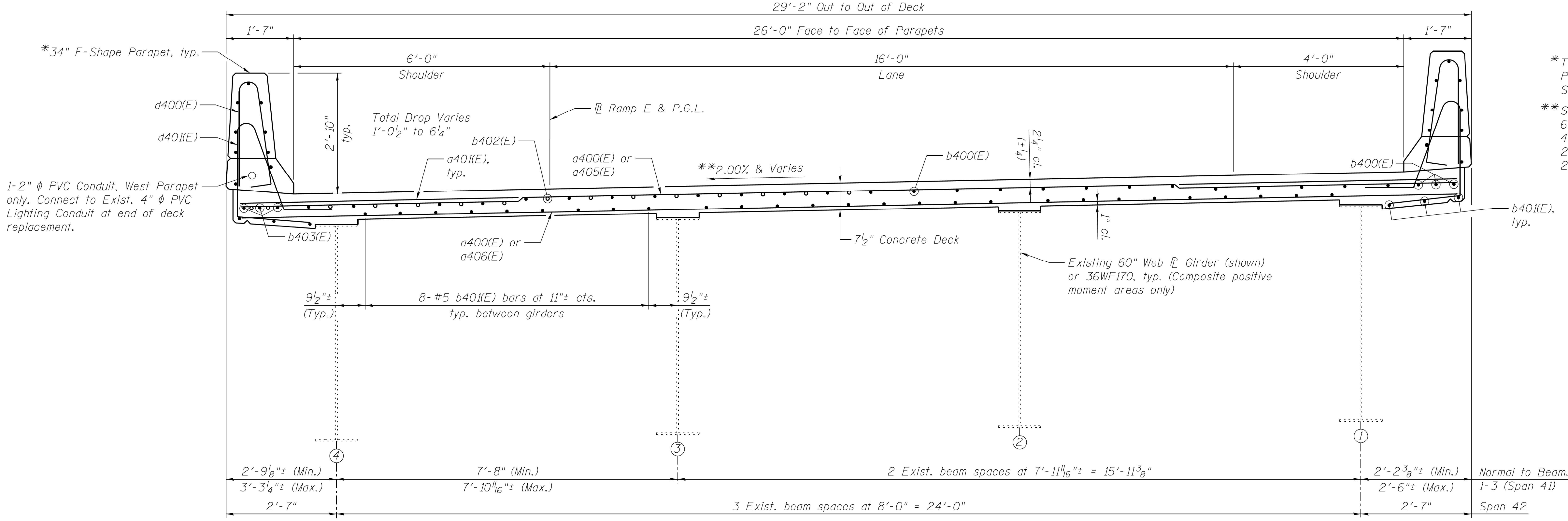
SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	64

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

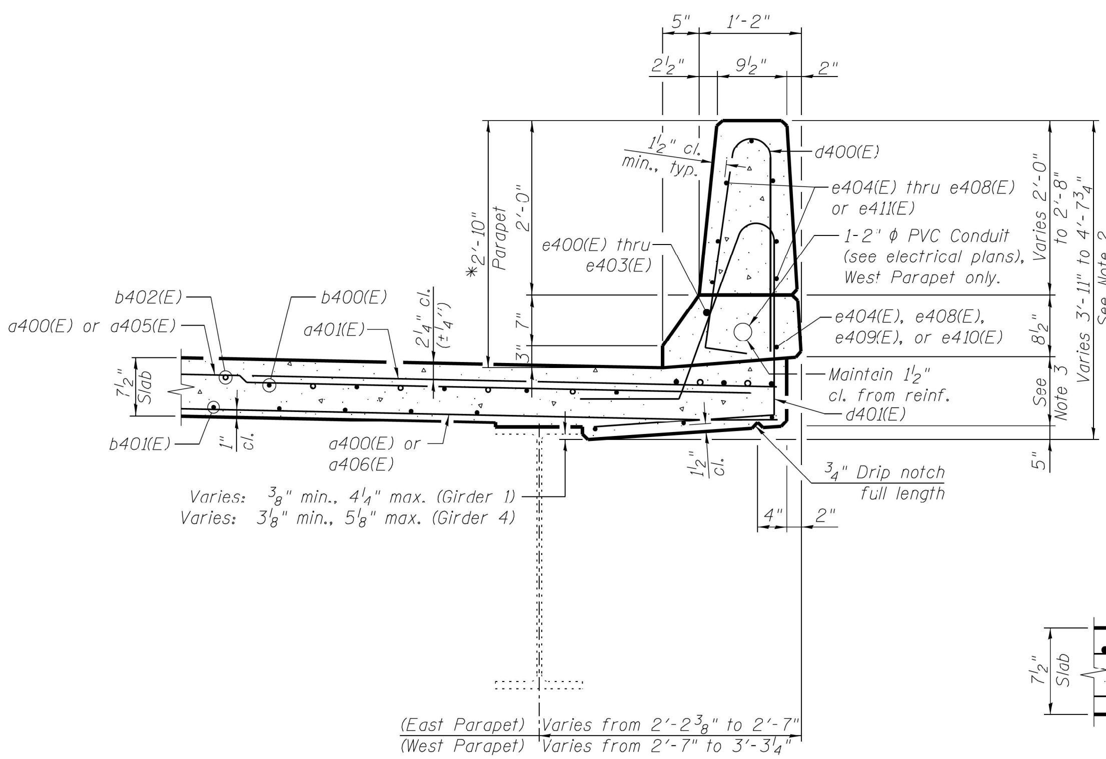


*Transition from 42" to 34" Parapet near Pier 41 (See Sheet SF7)

**Slope transitions from 6.2% at Sta. 201+70.00 to 4.0% at Sta. 202+43.02 to 2.3% at Sta. 203+00.00 to 2.0% at Sta. 203+25.00

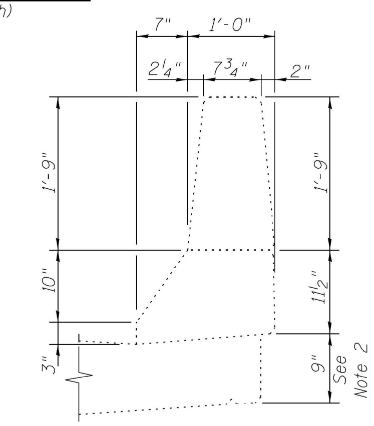
DECK CROSS SECTION

(Looking North)



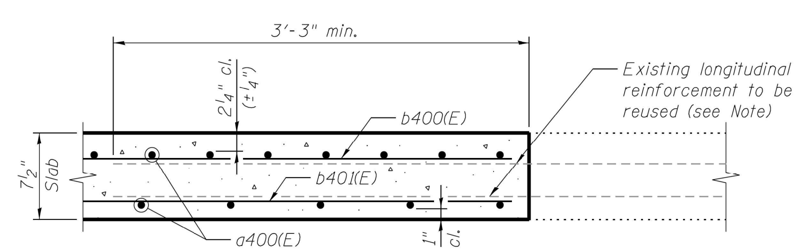
SECTION THRU WEST PARAPET

(East parapet similar)

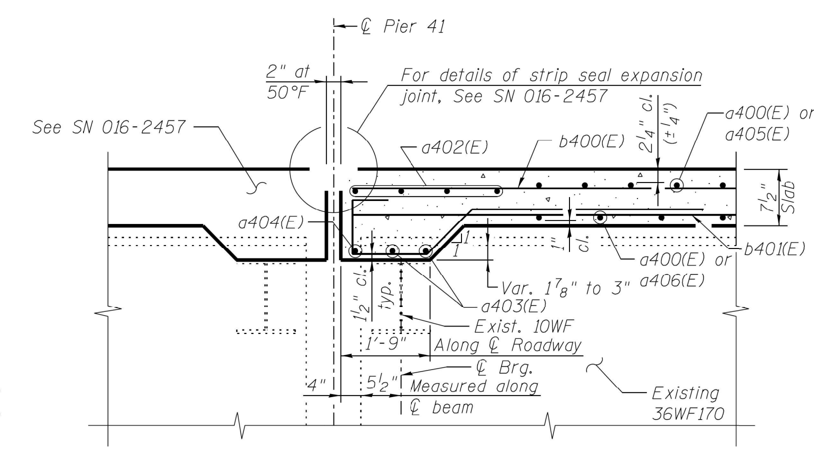


SECTION THRU EXISTING WEST JERSEY PARAPET

(Existing East parapet similar)



SECTION B-B



SECTION A-A

NOTES:

1. Existing longitudinal reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Removal of Existing Concrete Deck No. 4.

2. Dimension is 10¼" at the east side and 9½" at the west side of the proposed deck. Dimension must taper down to 9" at both sides to meet the existing deck.

MODEL: Default
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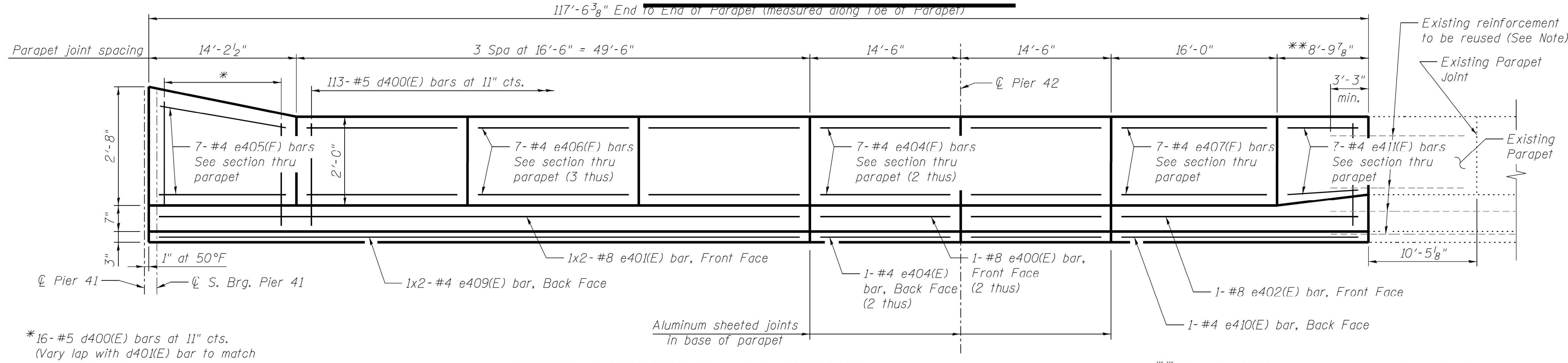
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK CROSS SECTION AND DETAILS
SN: 016–1026

SCALE: SHEET OF SHEETS STA. TO STA.

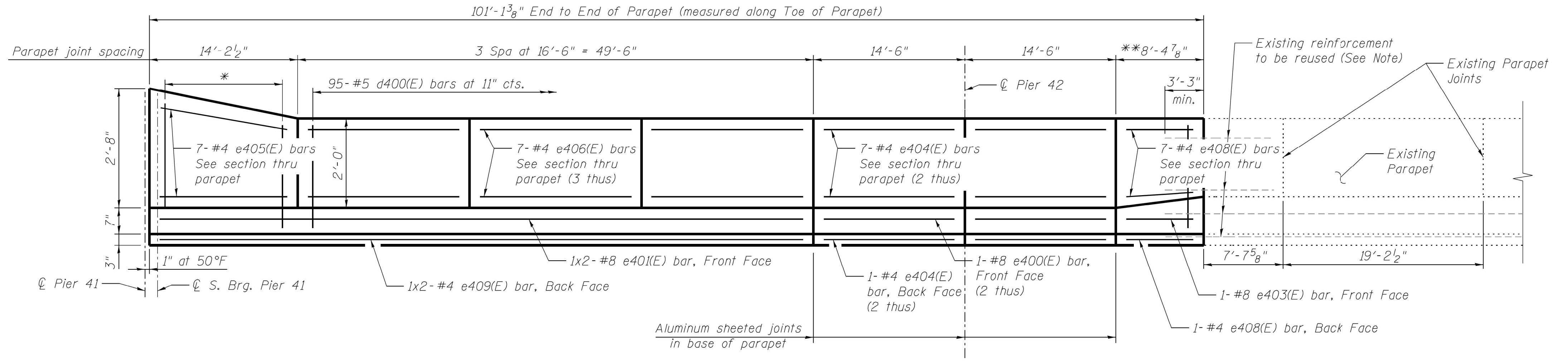
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	65
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

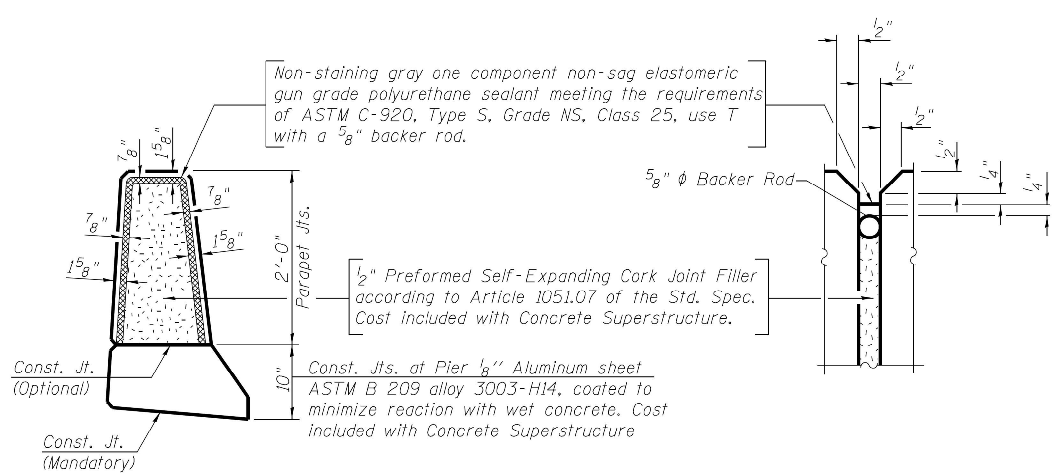


INSIDE ELEVATION OF EAST PARAPET

**Transition F-Shape parapet to match existing Jersey parapet. See Section Thru Existing Jersey Parapet on Sheet SF6.



REFLECTED INSIDE ELEVATION OF WEST PARAPET



PARAPET JOINT DETAILS

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS AND BILL OF MATERIAL
SN: 016-1026

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	66
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

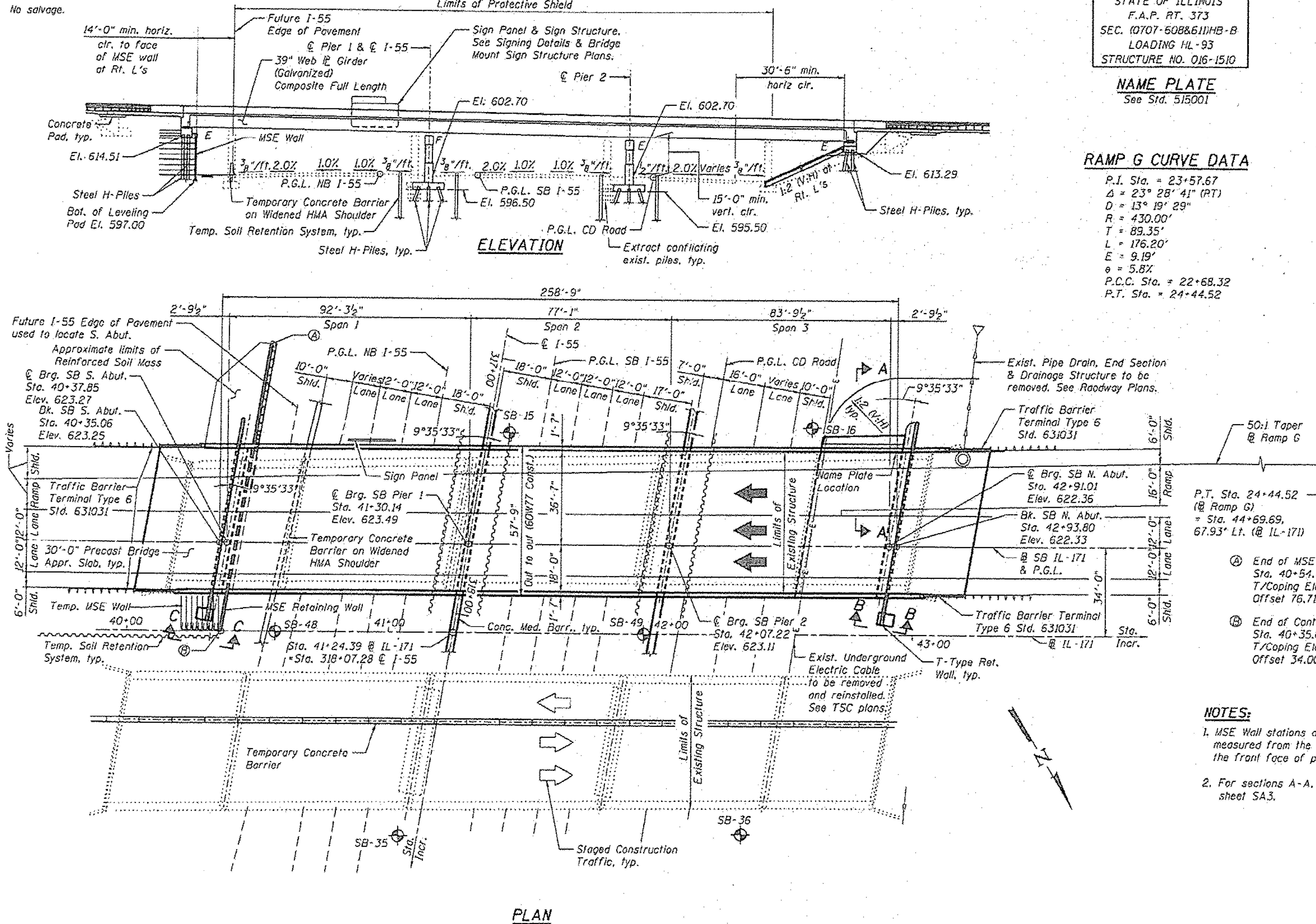
MODEL: Default
FILE NAME: pw:\\ildot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D104323\CADData\Design\D104323-erepair.dgn

FOR INFORMATION ONLY

Benchmark: Chiseled square on wingwall of NE corner of NB IL-171 bridge wall over sanitary and ship canal. El. 625.62

Existing Structure: S.N. 016-0484 was originally built in 1964 under section number 0707-608HB. The superstructure consists of five span continuous W33 rolled beams (8 beam lines). The reinforced concrete deck is 7½" thick, including a 2" microsilica concrete overlay. The substructure consists of four reinforced concrete column piers founded on steel piles and two reinforced concrete stub abutments founded on steel piles. The structure is 283'-8" back to back of abutments, with an out-to-out deck width varying from 49'-0⅞" to 54'-8½" on 9° 34' 18" ahead left skew. Traffic is to be maintained utilizing crossovers.

No salvage.



STATION 41+24.39
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT. 373
SEC. (0707-608&61)HB-B
LOADING HL-93
STRUCTURE NO. 016-1510

NAME PLATE

See Std. 515001

RAMP G CURVE DATA

P.I. Sta. = 23+57.67
Δ = 23° 28' 41" (RT)
D = 13° 19' 29"
R = 430.00'
T = 89.35'
L = 176.20'
E = 9.19'
e = 5.8%
P.C.C. Sta. = 22+68.32
P.T. Sta. = 24+44.52

Ⓐ End of MSE Wall
Sta. 40+54.35
T/Coping Elev. 603.00
Offset 76.71' Lt.

Ⓑ End of Contract 60W77 MSE Wall
Sta. 40+35.64
T/Coping Elev. 616.09
Offset 34.00' Rt.

NOTES:

1. MSE Wall stations and offsets are measured from the ℄ SB IL-171 to the front face of precast panels.
2. For sections A-A, B-B and C-C see sheet SA3.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.063 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.114 g
Soil Site Class = C

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

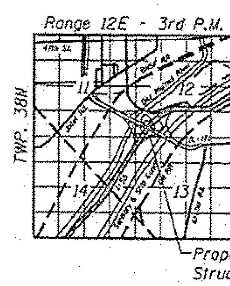
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
f'c = 6,000 psi (Precast Bridge Approach Slab)



LOCATION SKETCH

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION
SN: 016-1510

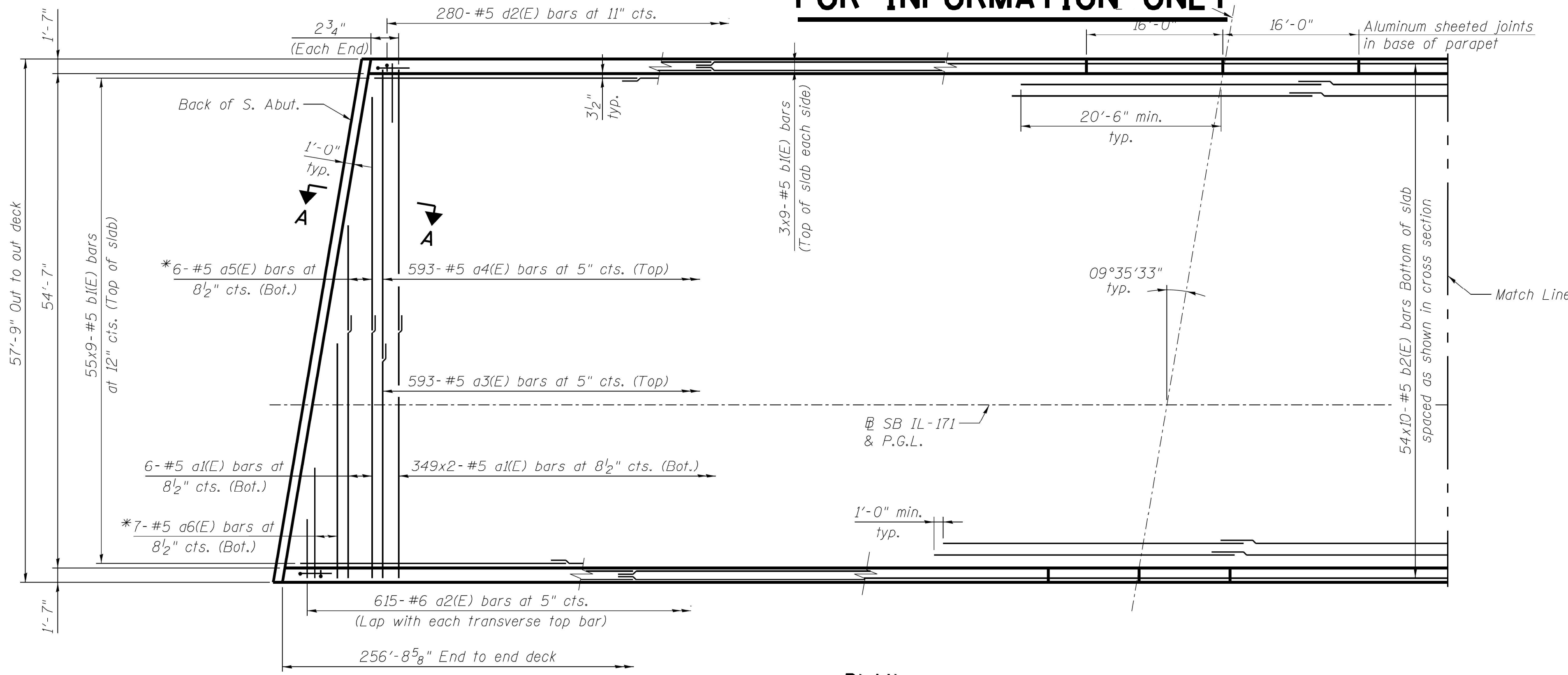
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	67

CONTRACT NO. 62U38

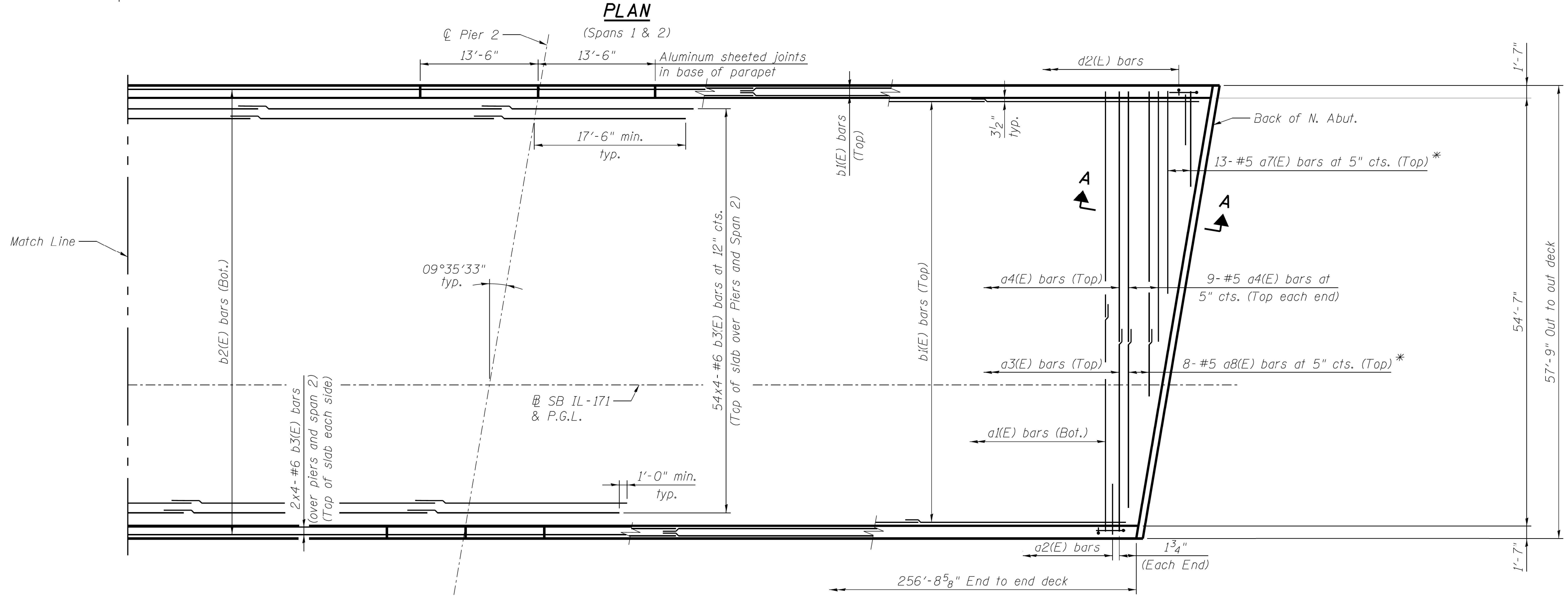
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY



PLAN

(Spans 1 & 2)



PLAN

(Spans 2 & 3)

NOTES:

1. See sheet SA15 for superstructure details and Bill of Materials.
2. See sheet SA13 for Deck Cross Section
3. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. See sheet SA14 for parapet reinforcement.

MINIMUM BAR LAP

(Slab)

#5 bar = 3'-3"

#6 bar = 3'-10"

* Order a5(E) thru a8(E) bars full length. Cut to fit skew and use remainder of bars on opposite end.

N

MODEL: Default
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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

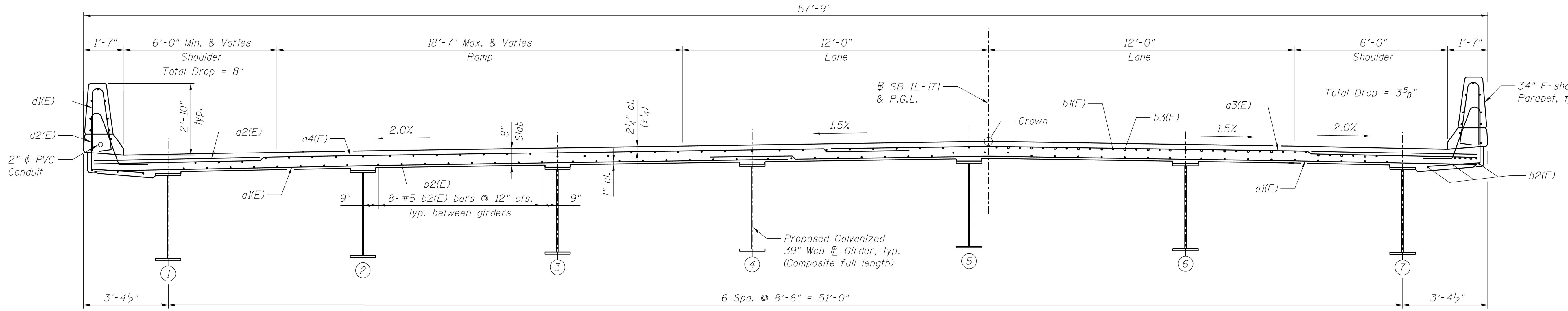
EXISTING DECK PLAN

SN: 016–1510

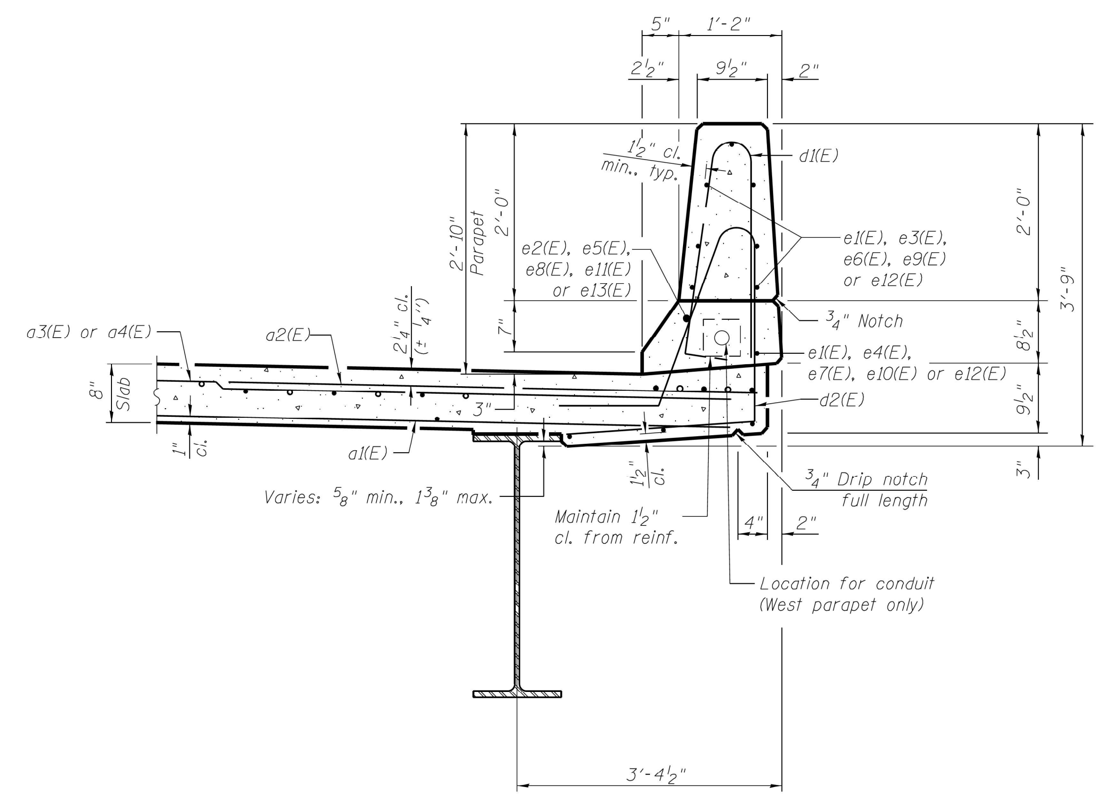
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	68
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



DECK CROSS SECTION
(Looking North)



SECTION THRU EAST PARAPET
(West parapet similar)

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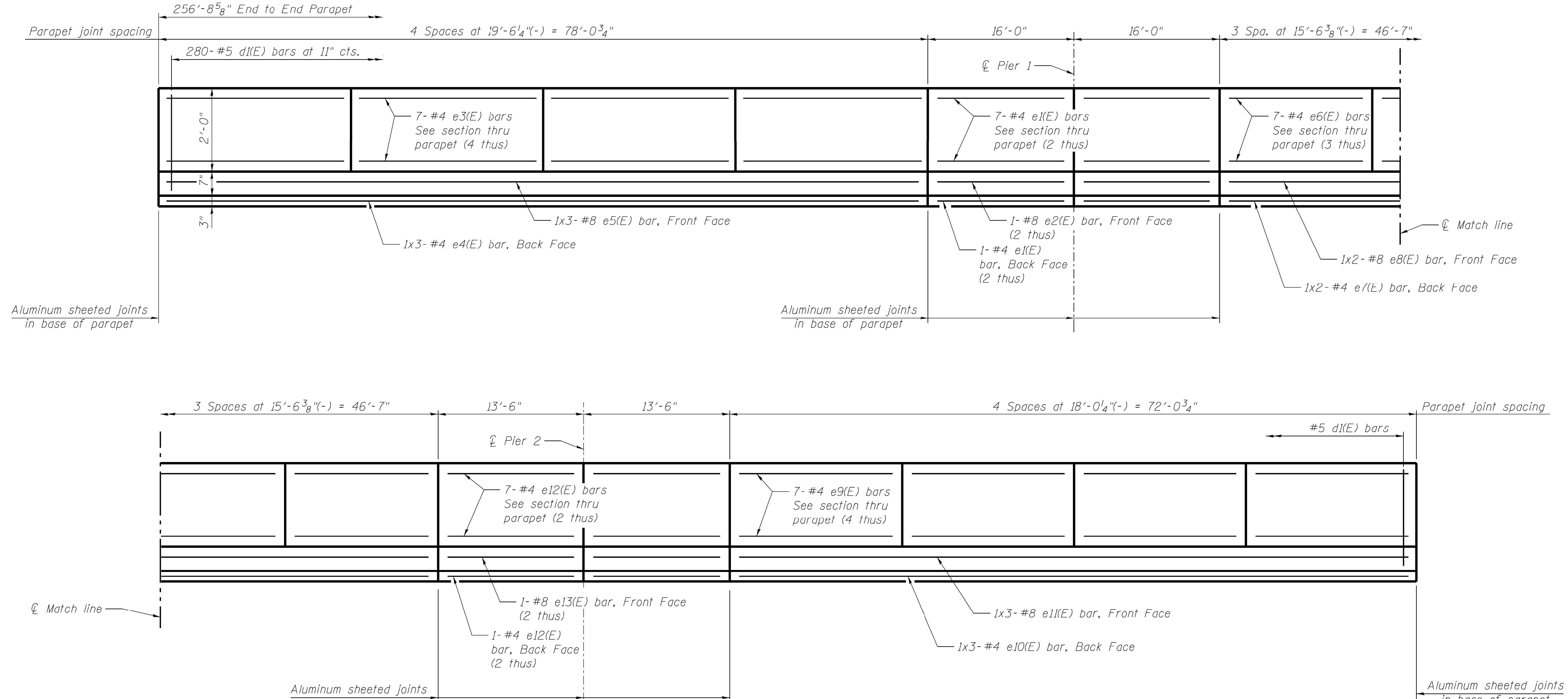
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK CROSS SECTION AND DETAILS
SN: 016–1510

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	69
		CONTRACT NO. 62U38		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY

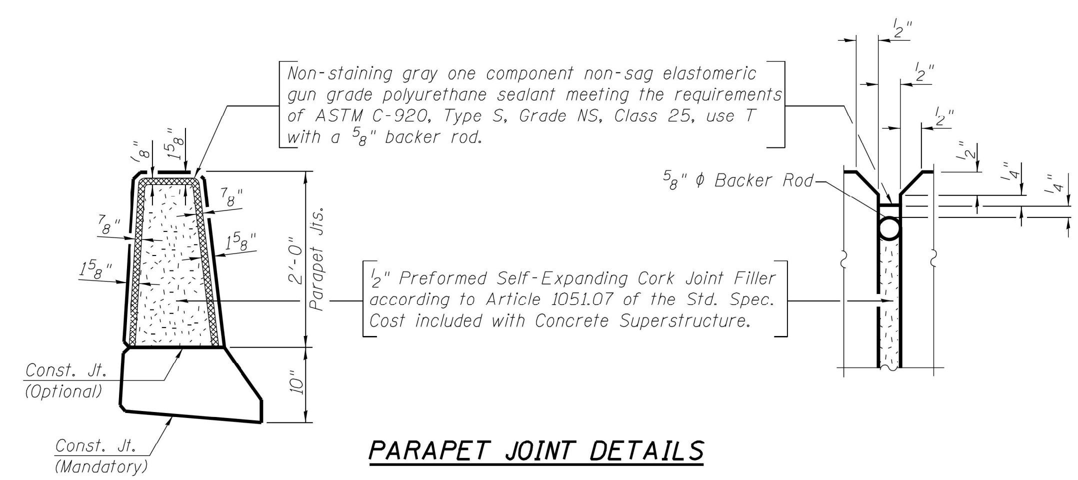


INSIDE ELEVATION OF PARAPET

(West parapet shown, east parapet similar)

MINIMUM BAR LAP

(Parapet)
#4 bar = 2′-0"
#8 bar = 5′-2"



PARAPET JOINT DETAILS

MODEL: Default
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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS
SN: 016–1510

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	70

CONTRACT NO. 62U38

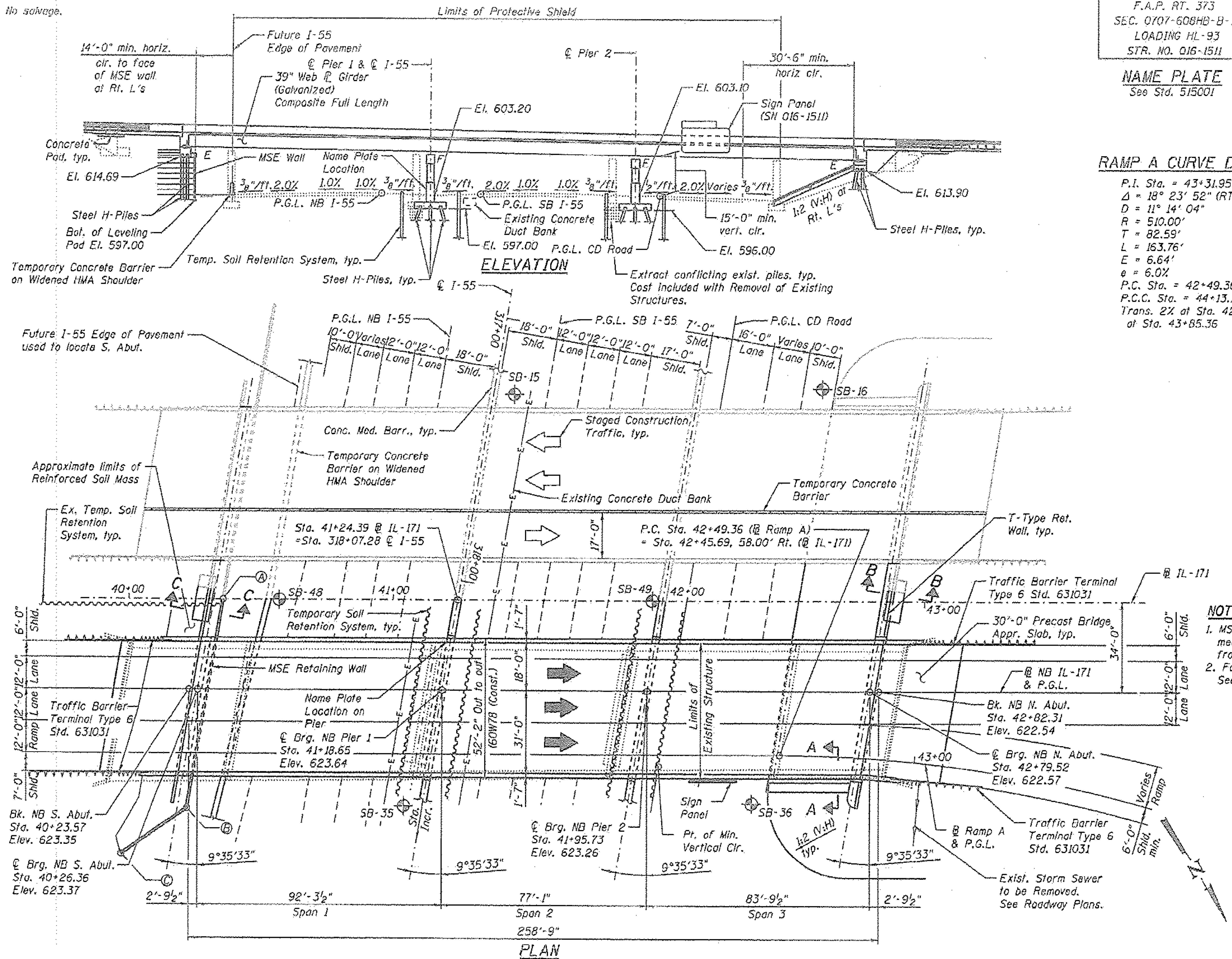
ILLINOIS | FED. AID PROJECT

FOR INFORMATION ONLY

Benchmark: Chiseled square on wingwall at NE corner of NB IL-171 bridge wall over sanitary and ship canal. El. 625.62

Existing Structure: S.N. 016-0485 was originally built in 1964 under section number 0707-608HB. The superstructure consists of five span continuous W33 rolled beams (8 beam lines). The reinforced concrete deck is 7½" thick, including a 2" microsilica concrete overlay. The substructure consists of four reinforced concrete column piers founded on steel piles and two reinforced concrete stub abutments founded on steel piles. The structure is 293'-7" back to back of abutments, with an out-to-out deck width varying from 52'-10¼" to 50'-10⅛" on 9° 34' 18" ahead left skew. Traffic is to be maintained utilizing crossovers.

No salvage.



STATION 41+24.39
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 373
SEC. 0707-608HB-B-1
LOADING HL-93
STR. NO. 016-1511

NAME PLATE
See Std. 515001

RAMP A CURVE DATA
P.I. Sta. = 43+31.95
Δ = 18° 23' 52" (RT)
D = 11° 14' 04"
R = 510.00'
T = 82.59'
L = 163.76'
E = 6.64'
e = 6.0%
P.C. Sta. = 42+49.36
P.C.C. Sta. = 44+13.12
Trans. 2% at Sta. 42+49.36 to 6% at Sta. 43+85.36

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.063 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.114 g
Soil Site Class = C

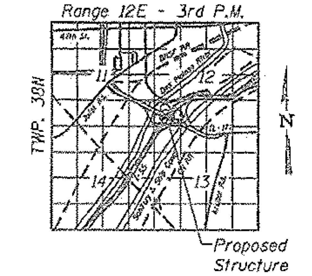
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

PRECAST UNITS
f'c = 4,500 psi (Precast Panels)
f'c = 6,000 psi (Precast Bridge Approach Slab)

Range 12E - 3rd P.M.



LOCATION SKETCH

NOTES:
1. MSE Wall stations and offsets are measured from the ℄ NB IL-171 to the front face of precast panels.
2. For sections A-A, B-B and C-C See sheet SA3.

(A) End of Contract 60W78 MSE Wall Sta. 40+35.64 T/Coping Elev. 616.09 Offset 34.00' Lt.

(B) Kink Pt. Sta. 40+22.40 T/Coping Elev. 615.96 Offset 44.42' Rt.

(C) End of MSE Wall Sta. 39+97.49 T/Coping Elev. 610.00 Offset 61.43' Rt.

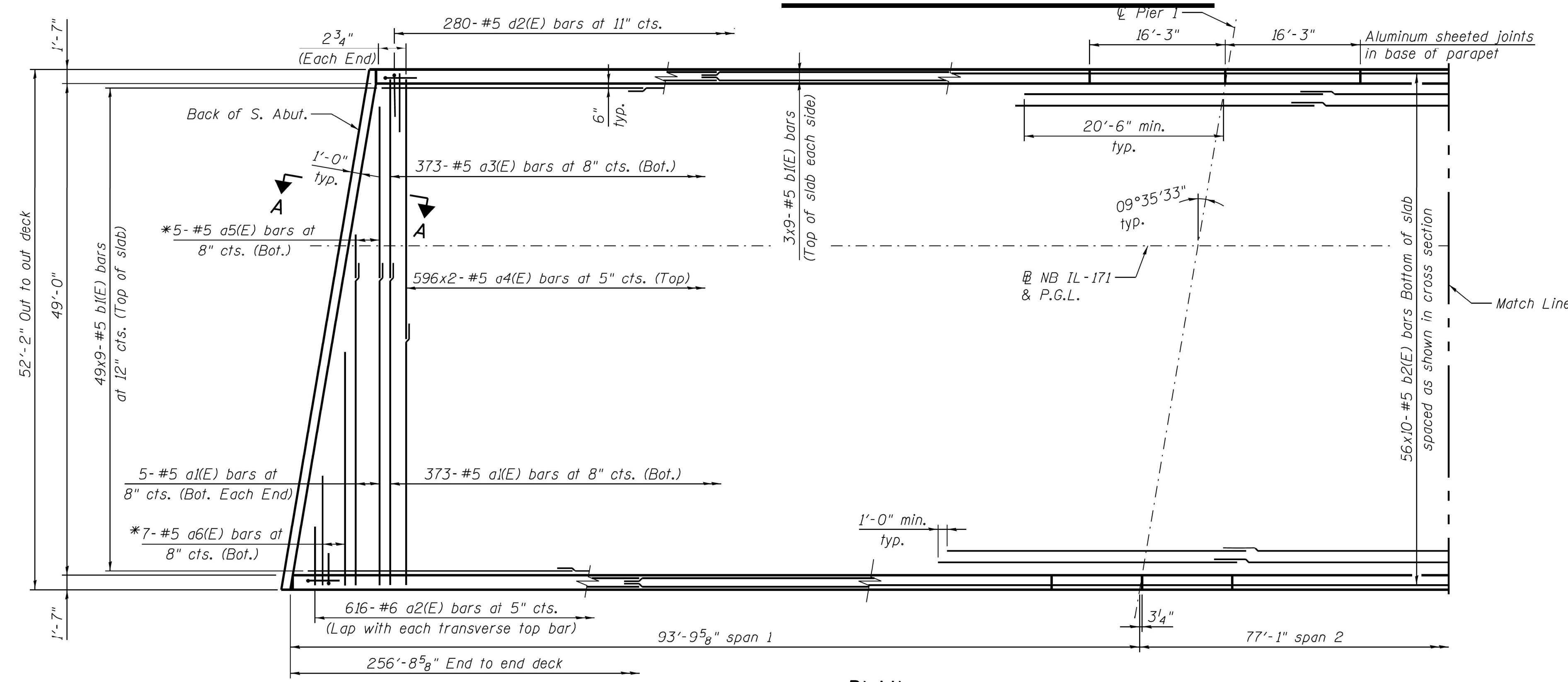
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016–1511
SCALE: SHEET OF SHEETS STA. TO STA.

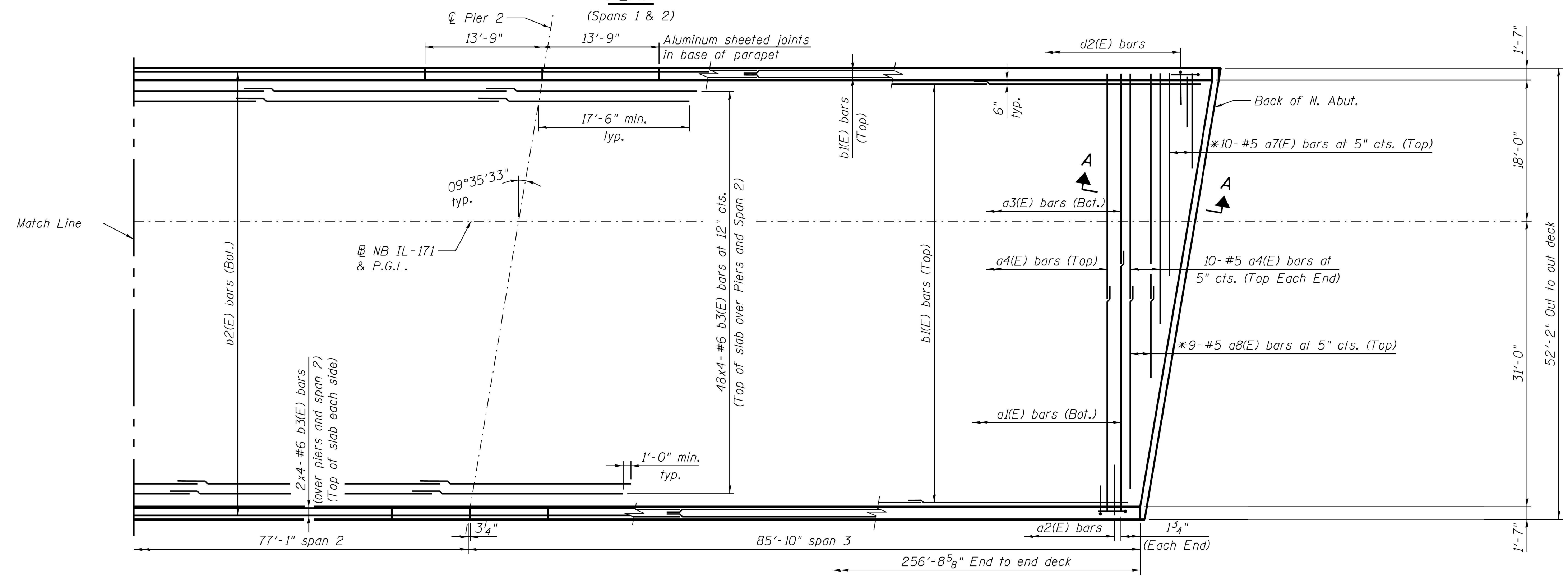
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	71

CONTRACT NO. 62U38
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY



PLAN
(Spans 1 & 2)



PLAN
(Spans 2 & 3)

NOTES:

1. See sheet SA15 for superstructure details, Section A-A and Bill of Materials.
2. See sheet SA13 for Deck Cross Section
3. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. See sheet SA14 for parapet reinforcement.

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

* Order a5(E) thru a8(E) bars full length. Cut to fit skew and use remainder of bars on opposite end.

N

MODEL: Default
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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK PLAN
SN: 016-1511

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	72
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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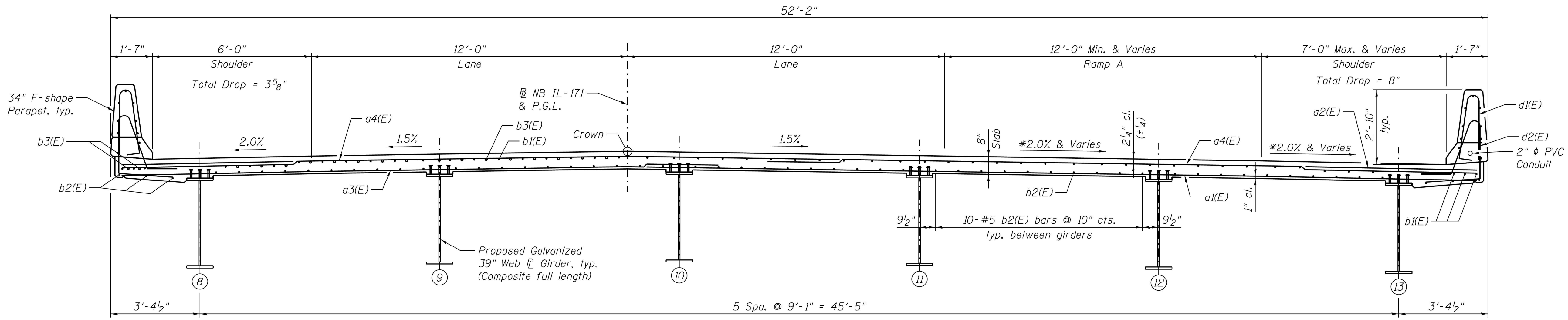
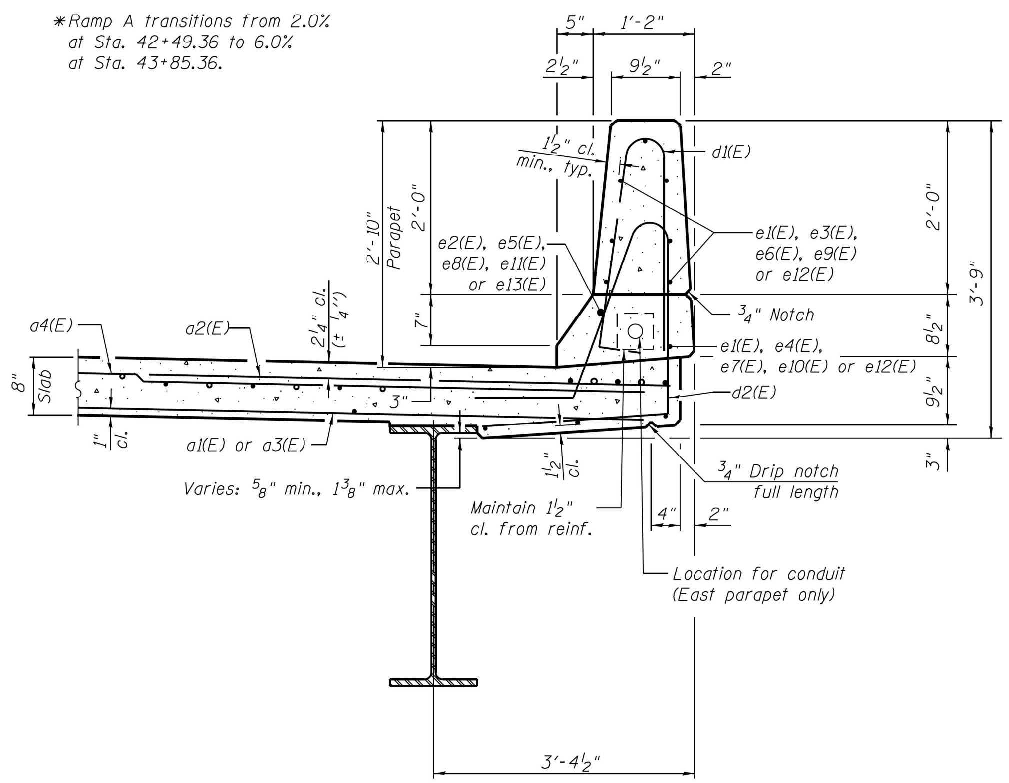


NEAR PIER

DECK CROSS SECTION
(Looking North)

NEAR MIDSPAN
(Span 1 and Span 3)

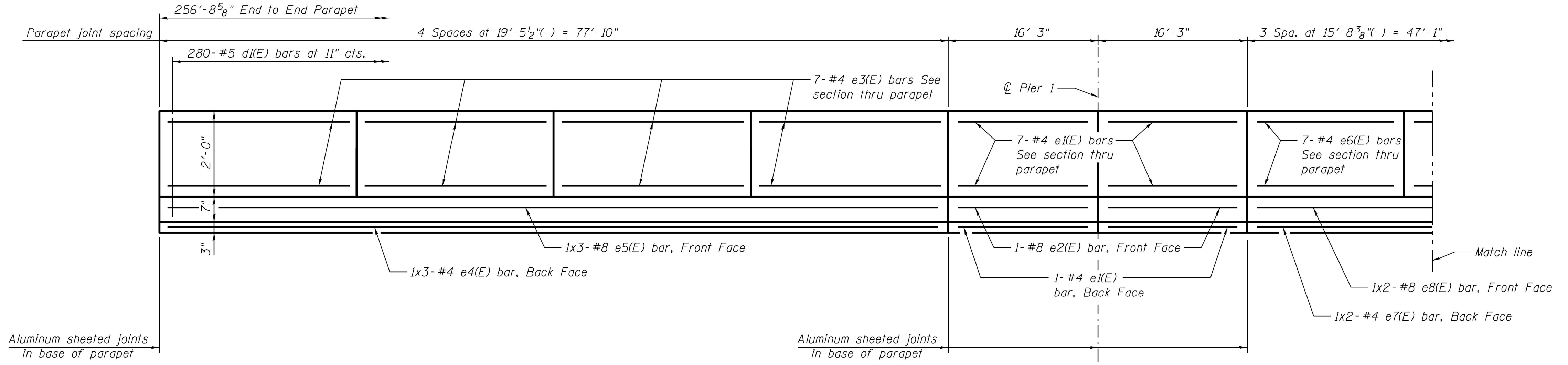
*Ramp A transitions from 2.0% at Sta. 42+49.36 to 6.0% at Sta. 43+85.36.

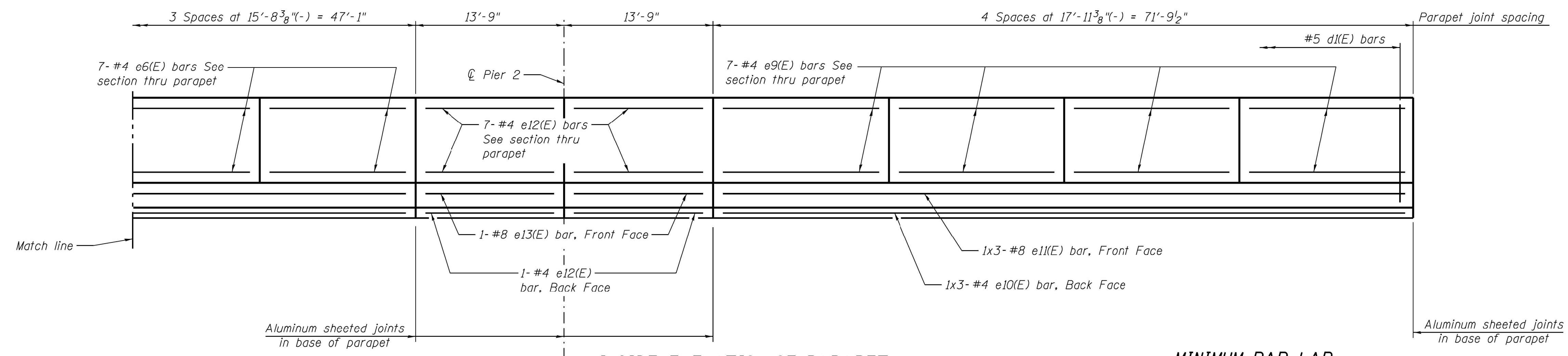


SECTION THRU EAST PARAPET
(West parapet similar)

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING DECK CROSS SECTION AND DETAILS SN: 016-1511	FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			372	FAP 372 22 VARIOUS BS	COOK	138	73
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			CONTRACT NO. 62U38				
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY



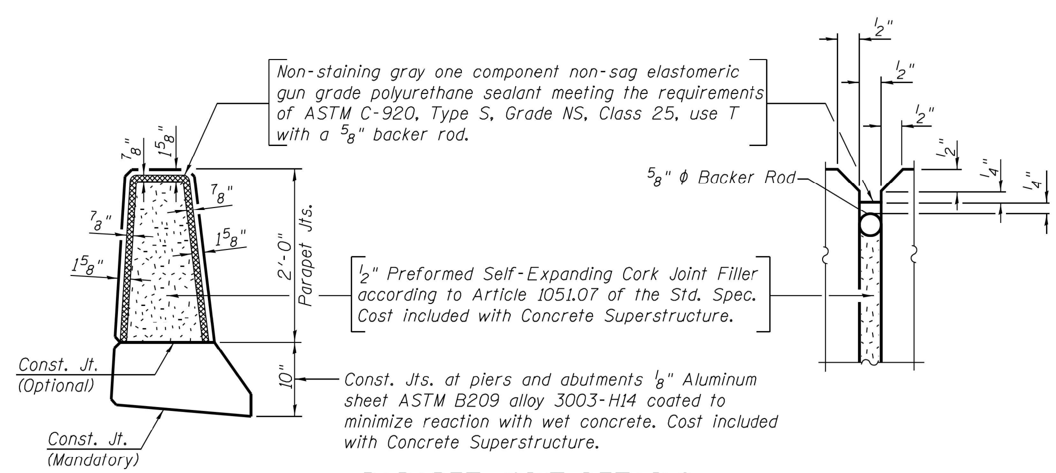


INSIDE ELEVATION OF PARAPET

(West parapet shown, east parapet similar)

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



PARAPET JOINT DETAILS

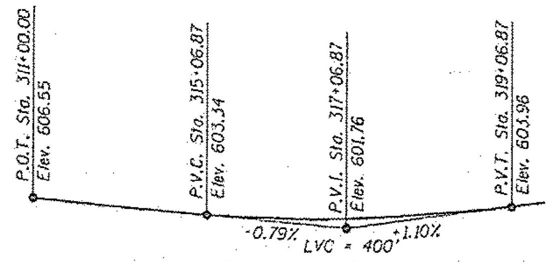
Notes:
For section thru the parapet see sheet SA13.
Bars indicated thus 1x3-#4 etc. indicates 1 line of bars with 3 lengths per line.
For bill of materials see sheet SA15.

FOR INFORMATION ONLY

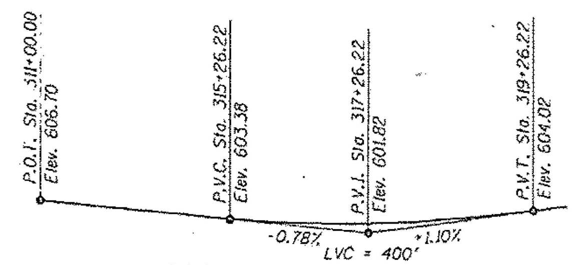
Bench Mark: Chiseled square on wingwall at NE corner of NB IL-171 bridge wall over sanitary and ship canal. El. 625.62

Existing Structure: S.N. 016-0046 was originally built in 1963 under Section 0707-611HB. The structure consists of an 8½" concrete deck (including microsilica overlay) supported by five single spans (W24 & W36 rolled beams). The substructures consist four hammerhead concrete piers and stub abutments with wingwalls on variable skews, all founded on steel piles. The structure is 308'-0¹³⁄₁₆" back to back of abutments, with an out-to-out deck width of 28'-0". The structure is to be removed and replaced. Traffic will be detoured to complete construction of the proposed structure, but will remain in service on the existing bridge for the majority of the contract duration.

No salvage.



PROFILE GRADE NB & SB I-55
(Along Median Edge of Pavement)



PROFILE GRADE CD ROAD
(Along Median Edge of Pavement)

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

DESIGN STRESSES

FIELD UNITS

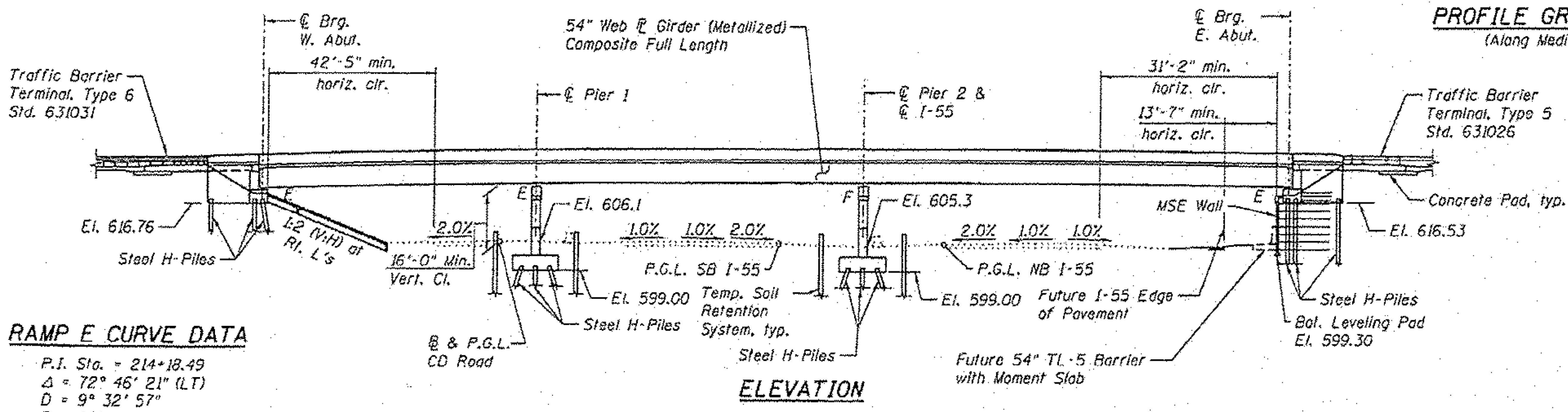
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)

SEISMIC DATA

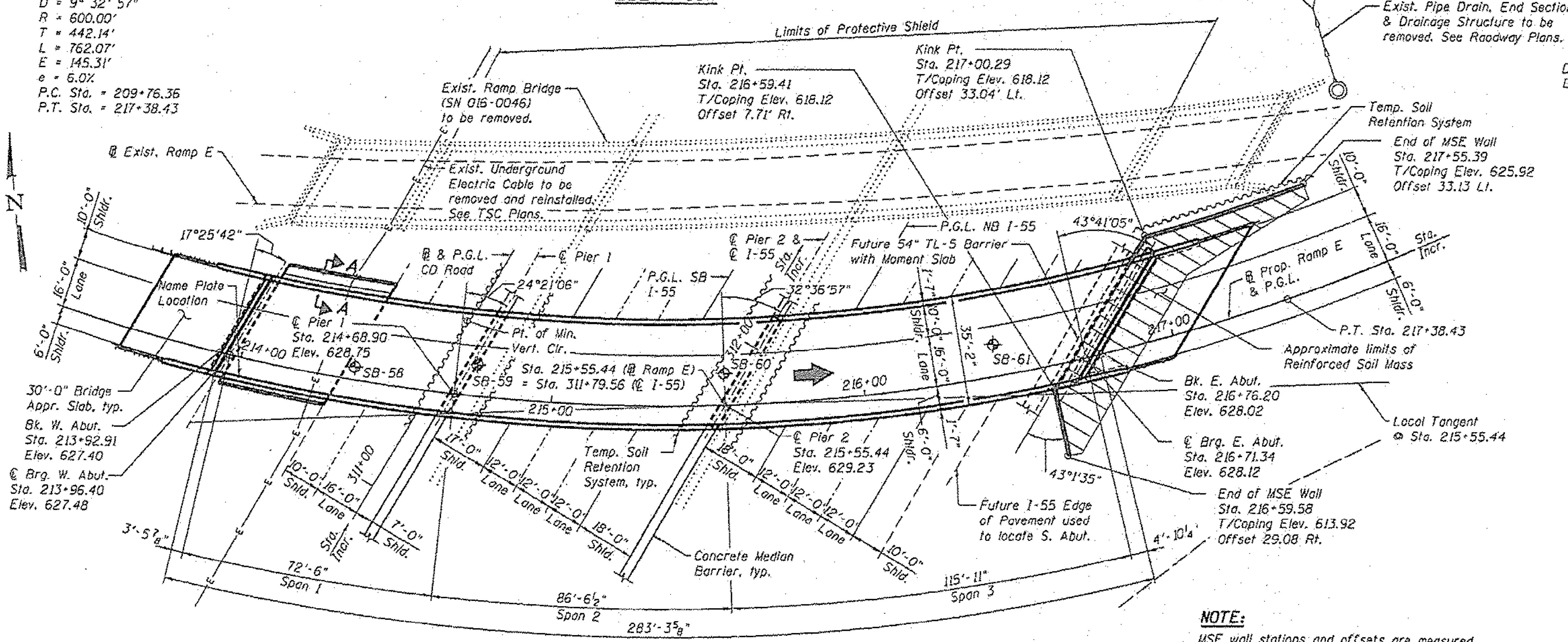
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.063 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.114 g
Soil Site Class = C



ELEVATION

RAMP E CURVE DATA

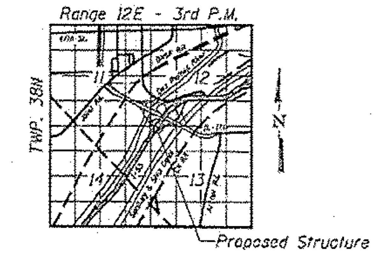
P.I. Sta. = 214+18.49
Δ = 72° 46' 21" (LT)
D = 9° 32' 57"
R = 600.00'
T = 442.14'
L = 762.07'
E = 145.31'
e = 6.0%
P.C. Sta. = 209+76.36
P.T. Sta. = 217+38.43



PLAN

NOTE:

MSE wall stations and offsets are measured from the ℄ Proposed Ramp E to the front face of precast panels.



LOCATION SKETCH

MODEL: Default
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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016-1512
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	75
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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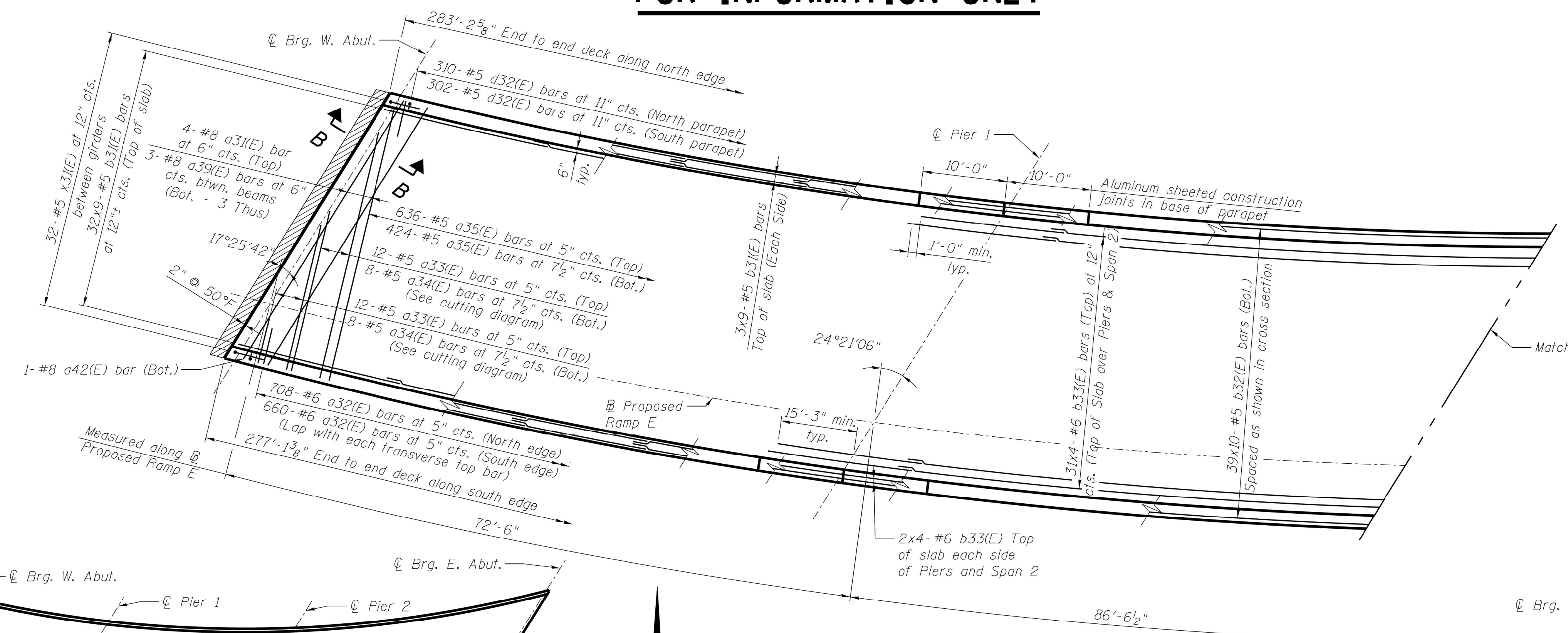
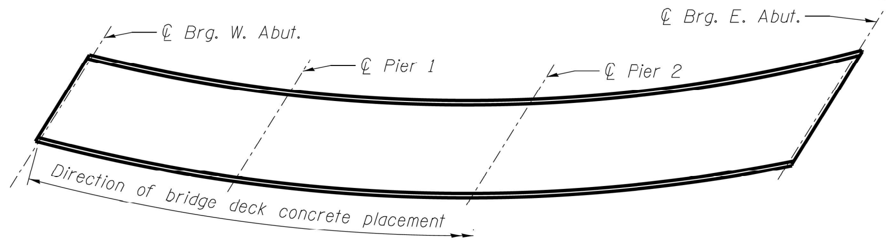
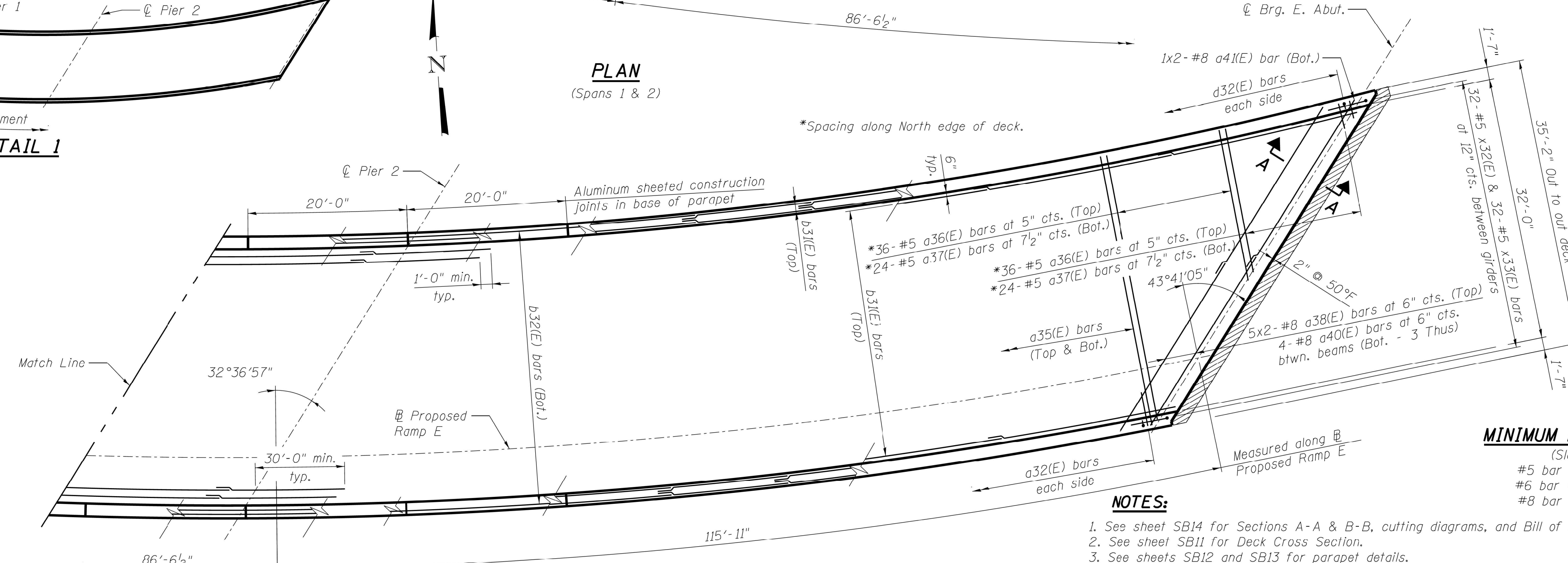


PLAN
(Spans 1 & 2)



DETAIL 1

N



PLAN
(Spans 2 & 3)

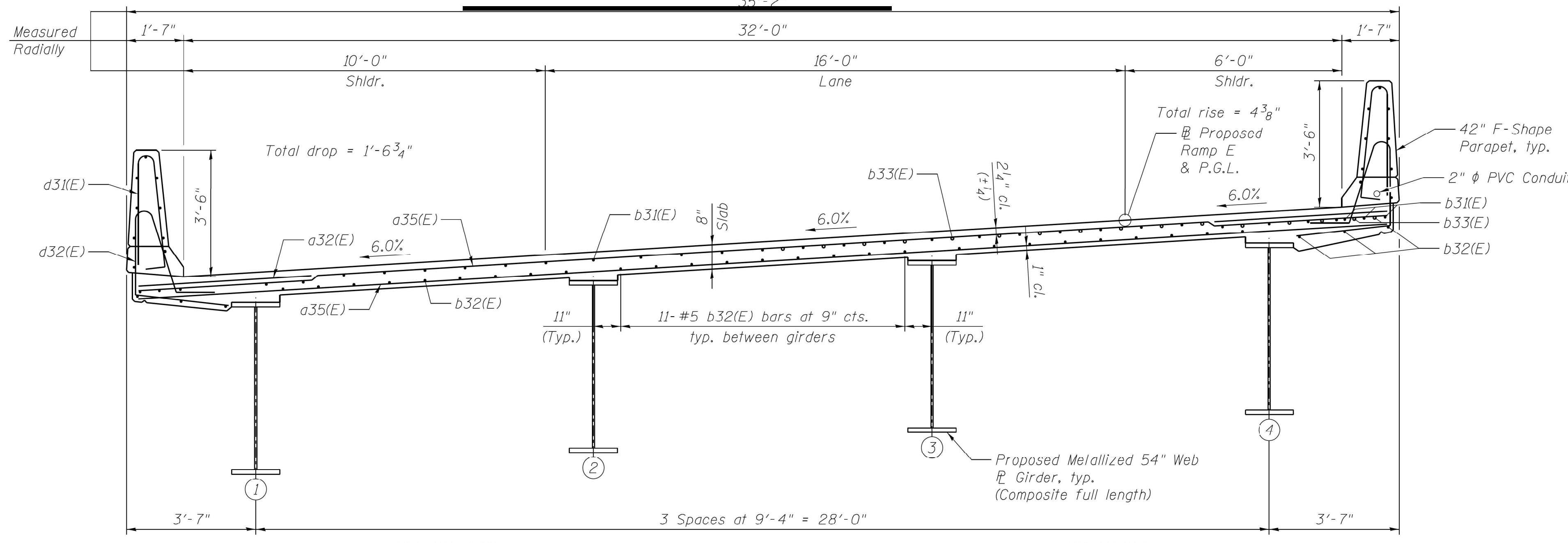
MINIMUM BAR LAP
(Slab)

#5 bar = 3'-3"
#6 bar = 3'-10"
#8 bar = 6'-9"

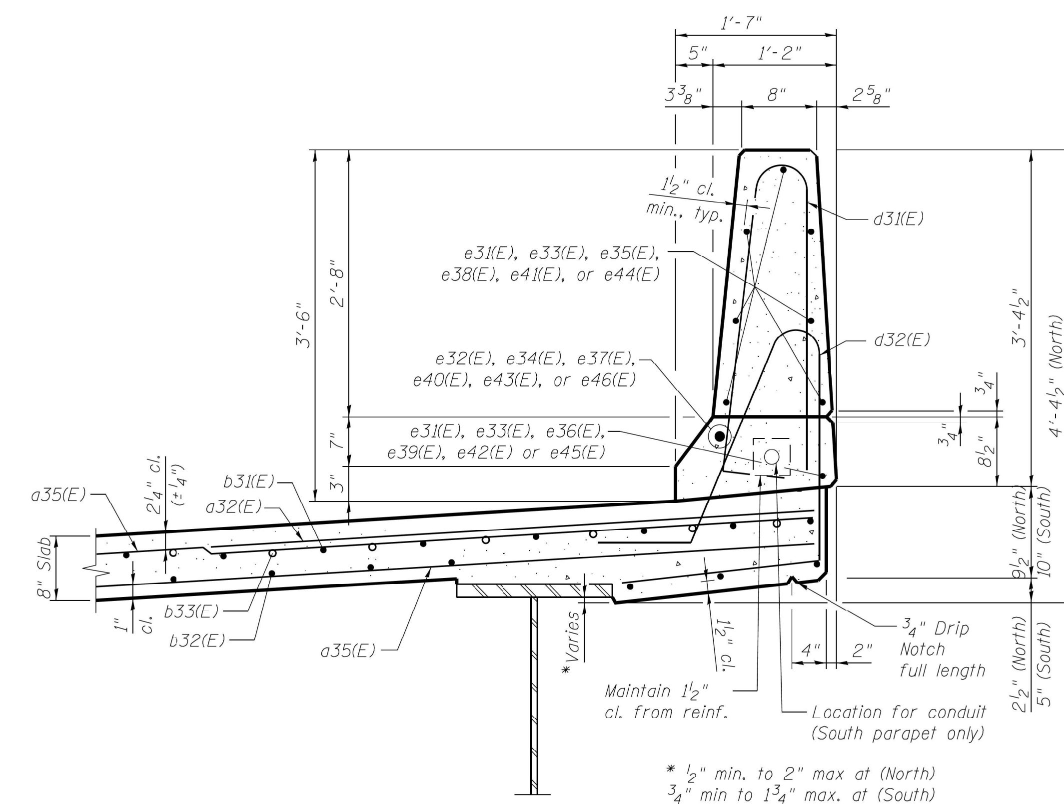
NOTES:

1. See sheet SB14 for Sections A-A & B-B, cutting diagrams, and Bill of Materials.
2. See sheet SB11 for Deck Cross Section.
3. See sheets SB12 and SB13 for parapet details.
4. Bars indicated thus 31x2- #6 cts. indicates 31 lines of bars with 2 lengths per line.
5. All transverse reinforcement is radial to the south curb.
6. Spacing of transverse reinforcement is along the south edge of deck unless noted otherwise.
7. The deck shall be poured proceeding from the west abutment to the east abutment as shown in detail 1.
8. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

FOR INFORMATION ONLY



DECK CROSS SECTION
(Looking East)



SECTION THRU SOUTH PARAPET
(North parapet similar)

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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK CROSS SECTION AND DETAILS
SN: 016–1512

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	77

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

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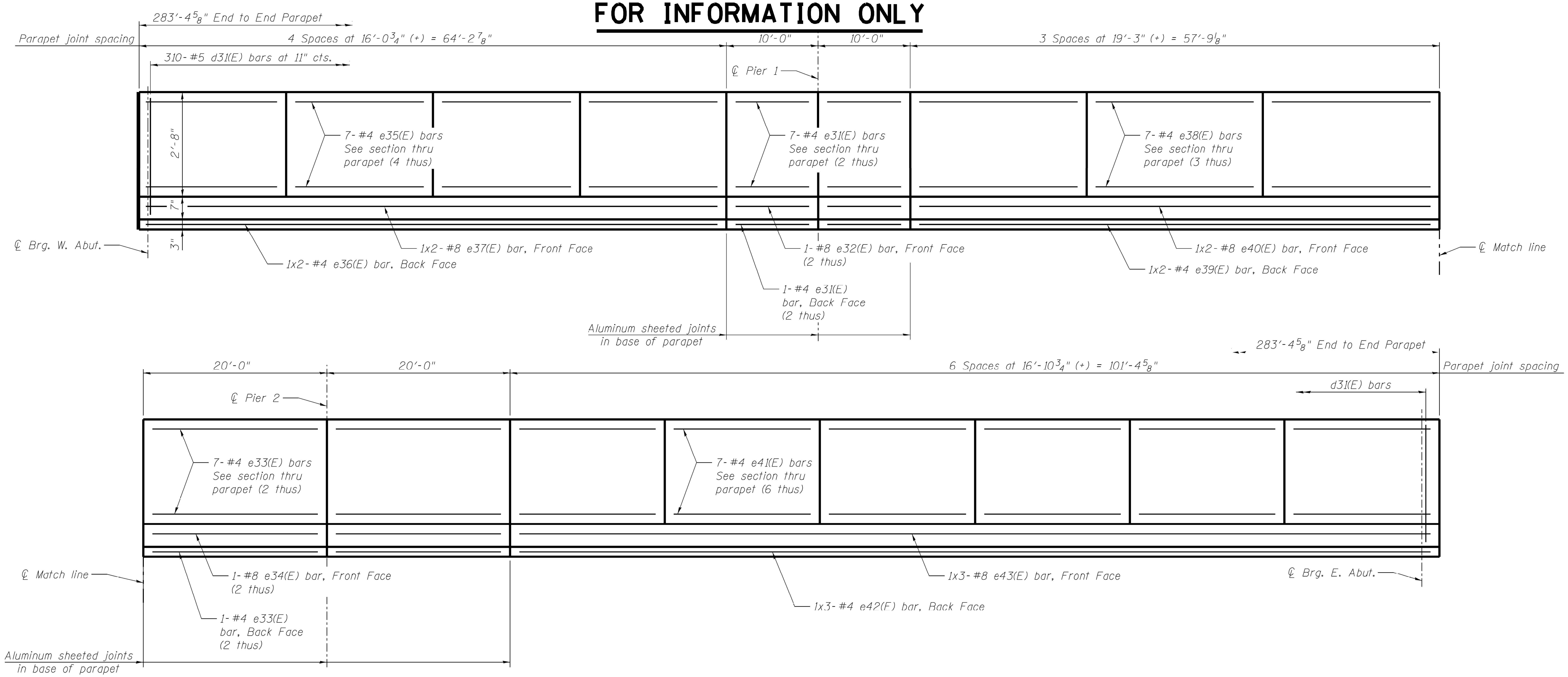
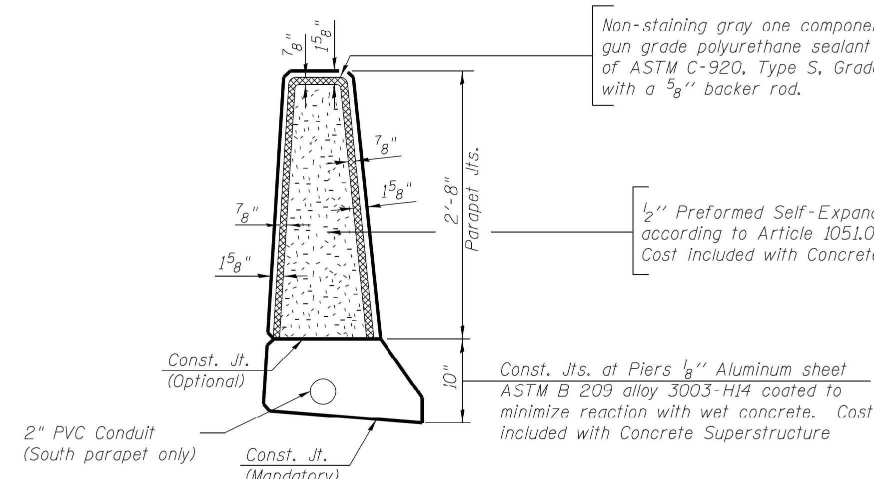
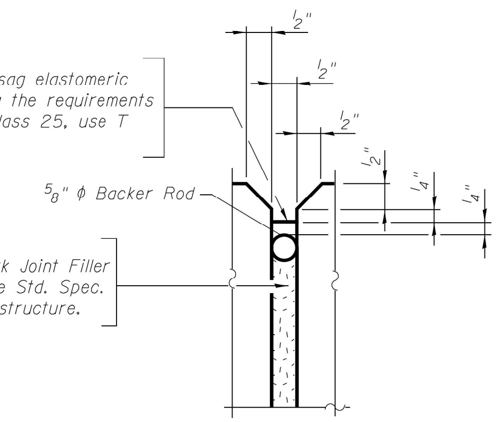


INSIDE ELEVATION OF NORTH PARAPET

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"





PARAPET JOINT DETAILS

NOTES:

1. All dimensions are along the inside face of the parapet (gutterline).
2. Bars indicated thus 1x3-#4 etc. indicates 1 line of bars with 3 lengths per line.

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USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING NORTH PARAPET DETAILS
SN: 016-1512

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	78
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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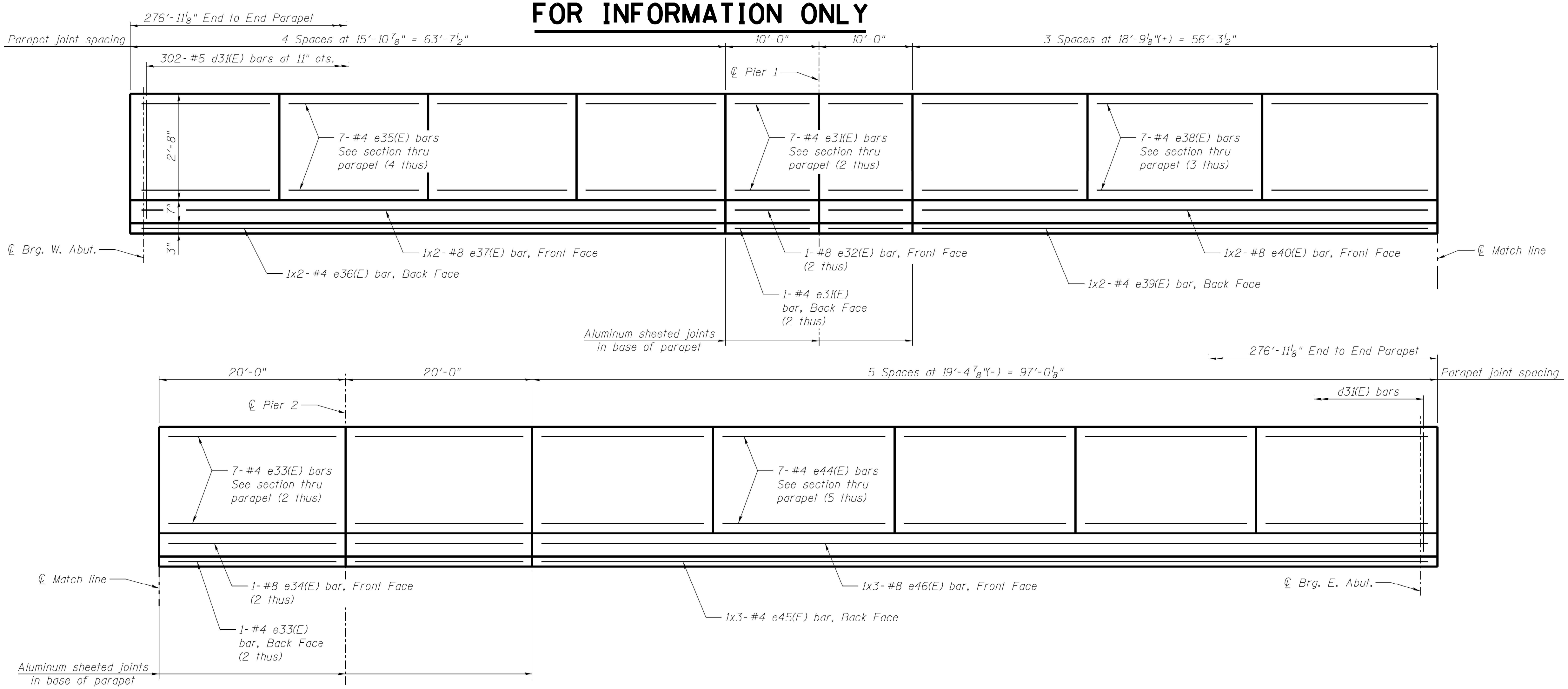

INSIDE ELEVATION OF SOUTH PARAPET

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTES:

1. All dimensions are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x3-#4 etc. indicates 1 line of bars with 3 lengths per line.
3. For parapet joint details, see sheet SB12.

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FILE NAME: pw:\\idot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D104323\CADData\Design\D104323-sht-plan.dgn

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING SOUTH PARAPET DETAILS
SN: 016-1512

SCALE: | SHEET OF SHEETS | STA. TO STA.

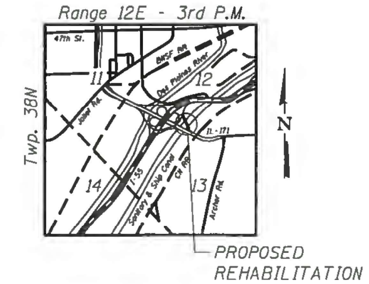
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	79
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

Existing Structure:
The structure consists of five composite spans, with simple beam end spans (1 and 5) and continuous plate girder interior spans (2 through 4), with a 7-inch reinforced concrete deck and a $2\frac{1}{4}$-inch concrete overlay. The original structure was built in 1981. In 1998, structural concrete repairs were performed on Piers 1 and 4. In 2001, bearings were replaced, partial-depth and full-depth deck repairs performed, structural concrete repairs at piers and abutments, expansion joints were removed and replaced, bituminous concrete overlay was removed, performed bridge deck hydroscarification and latex concrete overlay, outside edges of fascia girders and ends of interior girders were cleaned and painted.

Bridge shall be closed during construction. A detour shall be utilized to maintain traffic.

No salvage



LOCATION SKETCH

DESIGN SPECIFICATIONS

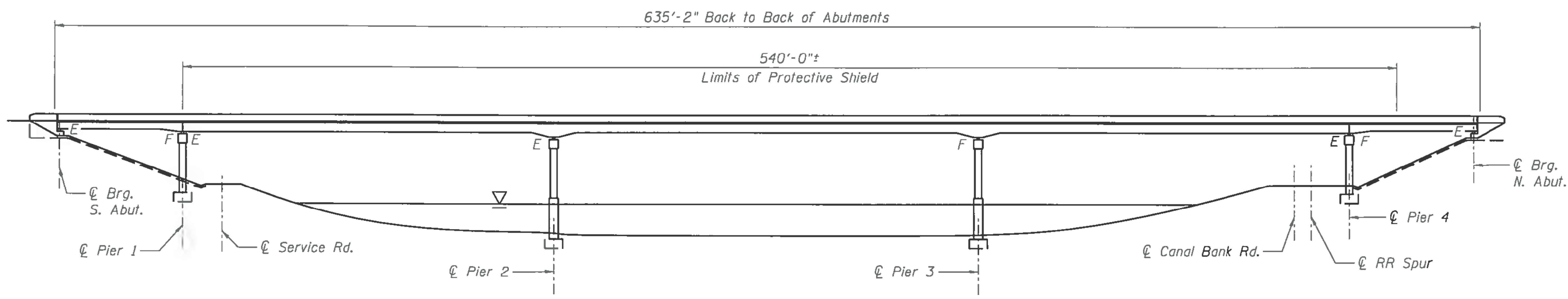
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

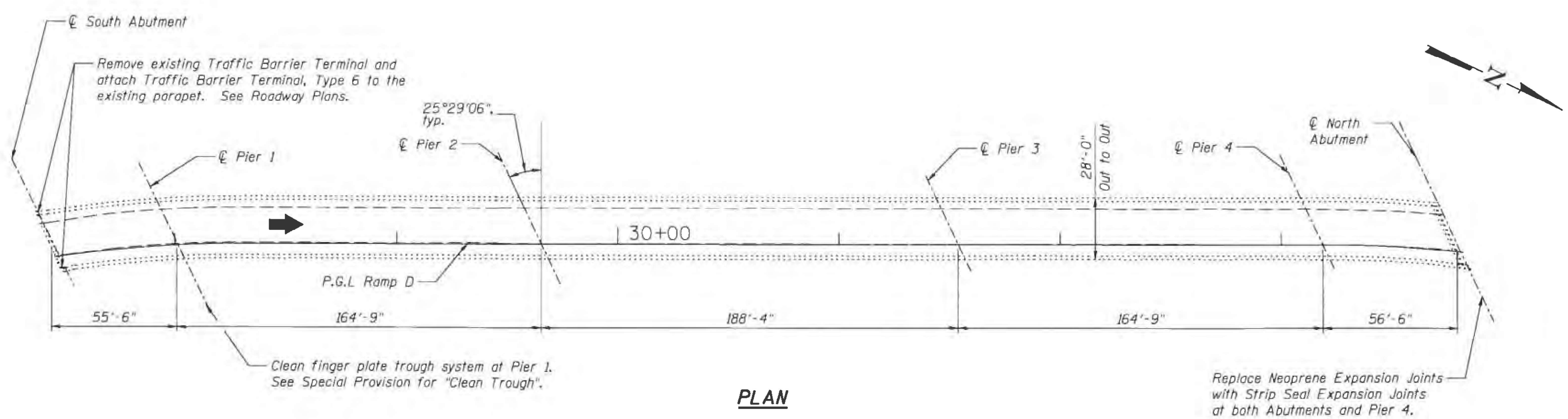
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (existing structural steel)
fy = 36,000 psi (proposed structural steel repair)

SCOPE OF WORK

1. Replace neoprene expansion joints with strip seal expansion joints.
2. Clean finger plate trough system at Pier 1.
3. Replace buckled lateral bracing angle in Span 4 (L4x4x$\frac{1}{4}$) and add girder web plating at two locations.
4. Structural repairs of concrete at the parapets, piers, and abutments.
5. Remove and replace the traffic barrier terminals at the south end of the bridge.
6. Repair bridge deck. Clean and seal bridge deck, approach slabs and parapets.
7. Repair timber fenders at Piers 2 and 3.
8. Remove and dispose of existing electrical conduit and junction boxes attached to the girders and/or piers.



ELEVATION



PLAN

MODEL: Default

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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016–2408

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	80
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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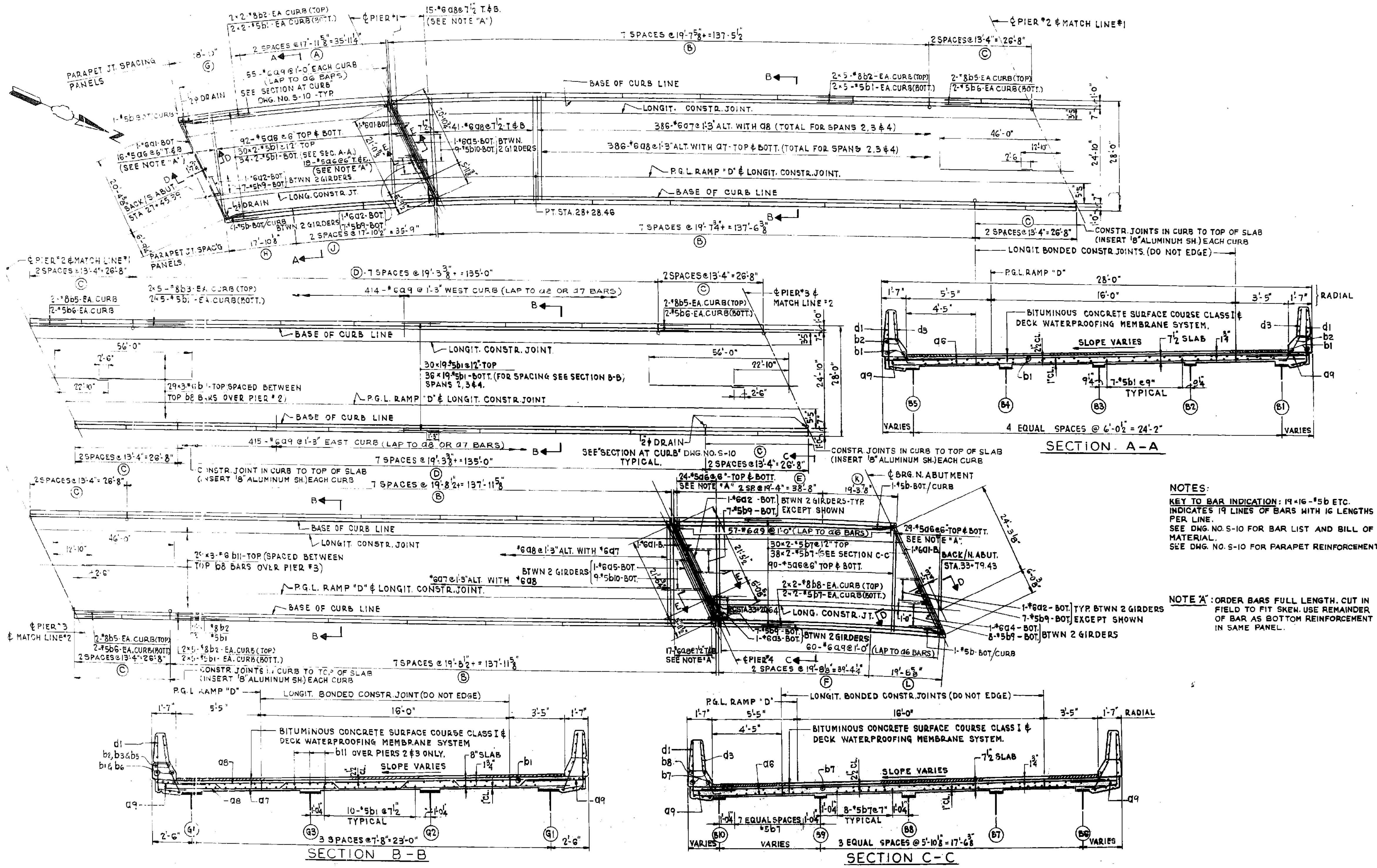

NOTES:

KEY TO BAR INDICATION: 19×16-#5b ETC. INDICATES 19 LINES OF BARS WITH 16 LENGTHS PER LINE.
SEE DWG. NO. S-10 FOR BAR LIST AND BILL OF MATERIAL.
SEE DWG. NO. S-10 FOR PARAPET REINFORCEMENT.

NOTE "A": ORDER BARS FULL LENGTH. CUT IN FIELD TO FIT SKEW. USE REMAINDER OF BAR AS BOTTOM REINFORCEMENT IN SAME PANEL.

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING DECK PLAN SN: 016-2408	F.A.P. RTE. 372	SECTION FAP 372 22 VARIOUS BS	COUNTY COOK · TOTAL SHEETS 138 · SHEET NO. 81
	DRAWN -	REVISED -					CONTRACT NO. 62U38
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		SCALE: · SHEET OF SHEETS · STA. TO STA.			ILLINOIS FED. AID PROJECT
PLOT DATE = 12/13/2022	DATE -	REVISED -					

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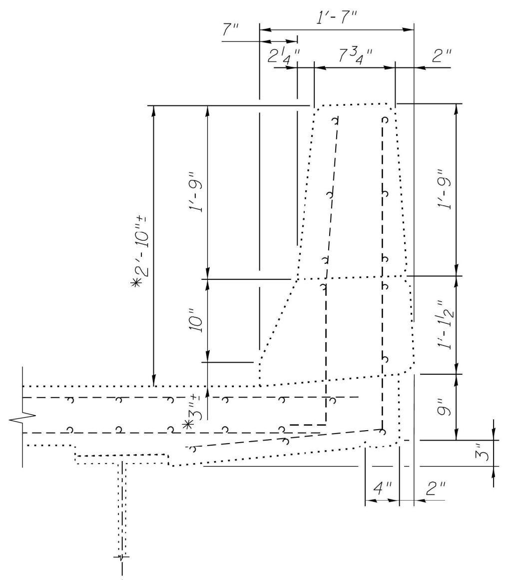
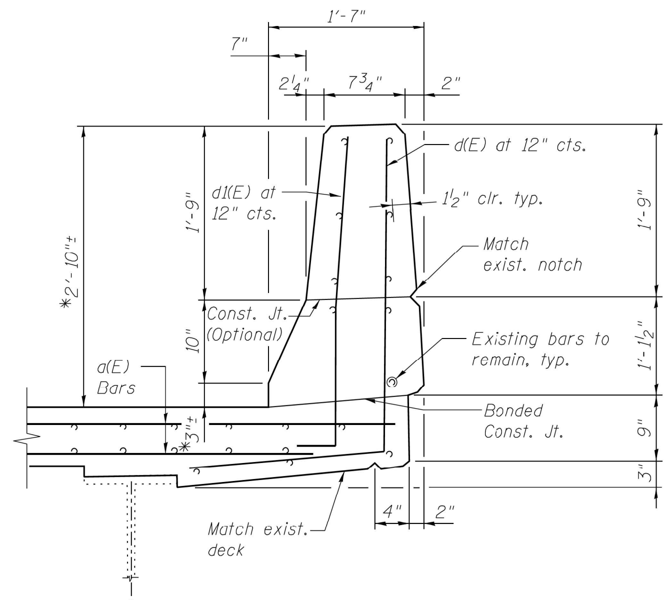
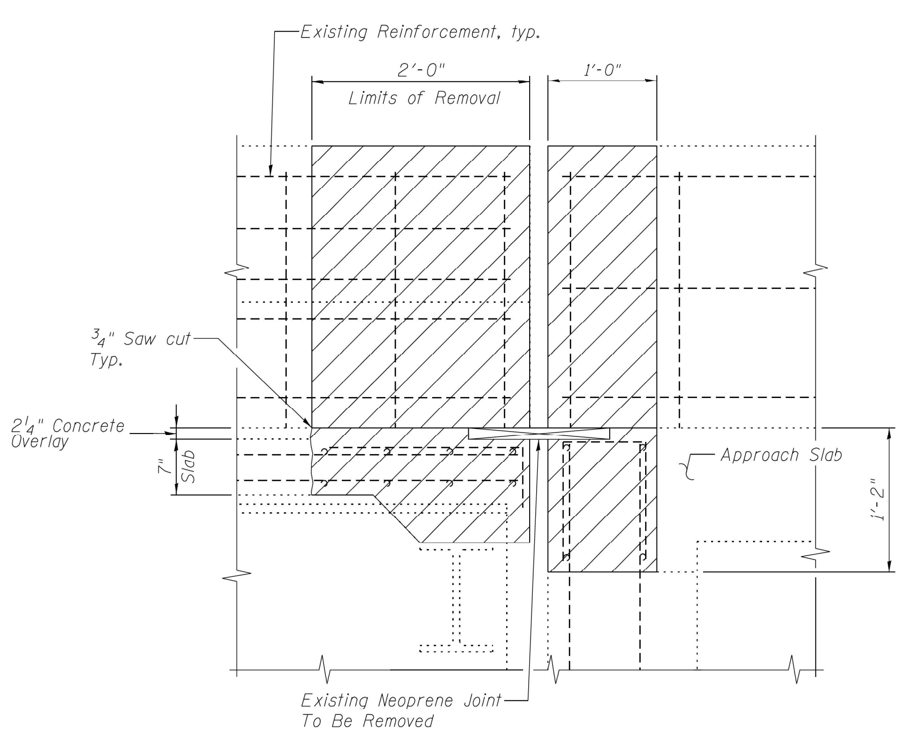


SECTION - EXISTING PARAPET
AT S. ABUTMENT
(N. Abutment Similar)

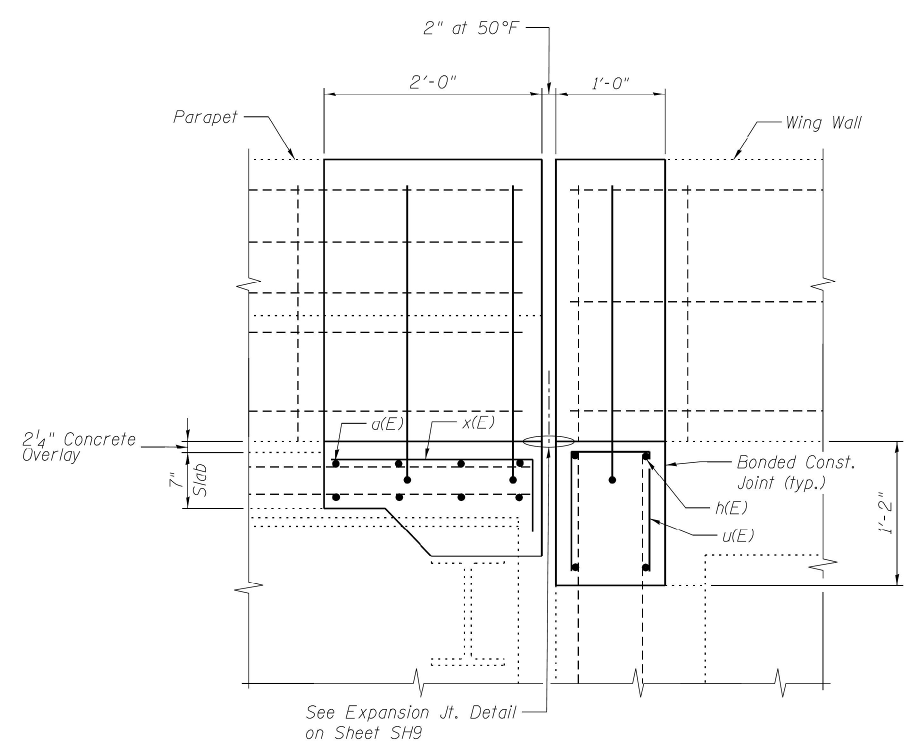
*Match existing



SECTION - PROPOSED PARAPET
AT S. ABUTMENT
(N. Abutment Similar)



SECTION A-A



SECTION B-B

NOTES:

1. Work this sheet with Sheet SH5.
2. Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of "Concrete Removal".
3. Existing reinforcement bars extending into the concrete removal area shall be blast-cleaned, straightened and incoporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired or replaced with an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
4. If existing name plate falls within the limits of Concrete Removal, it shall be removed and reinstalled in its original location in accordance with IDOT Std. 515001. Cost included with "Concrete Removal".

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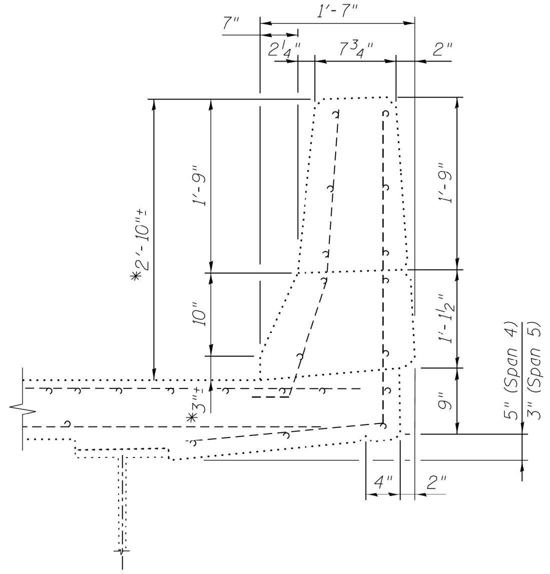
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS AT SOUTH ABUTMENT
SN: 016–2408

SCALE: SHEET OF SHEETS STA. TO STA.

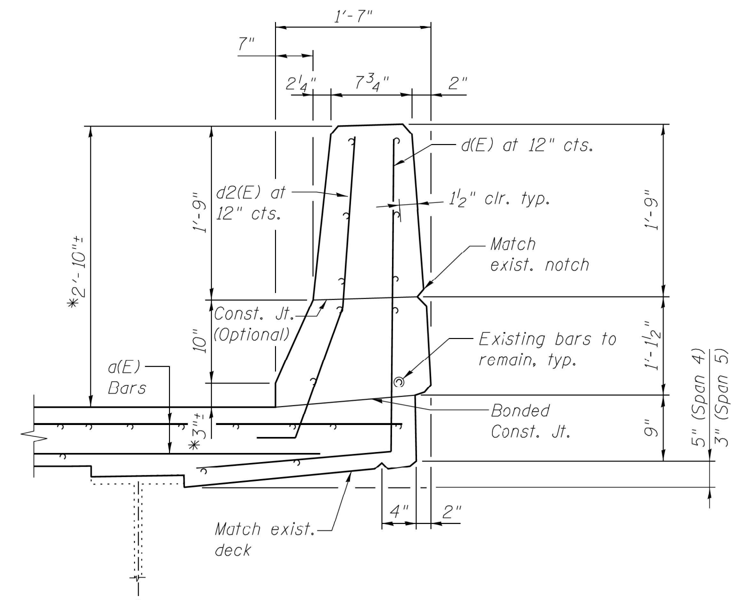
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	82
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

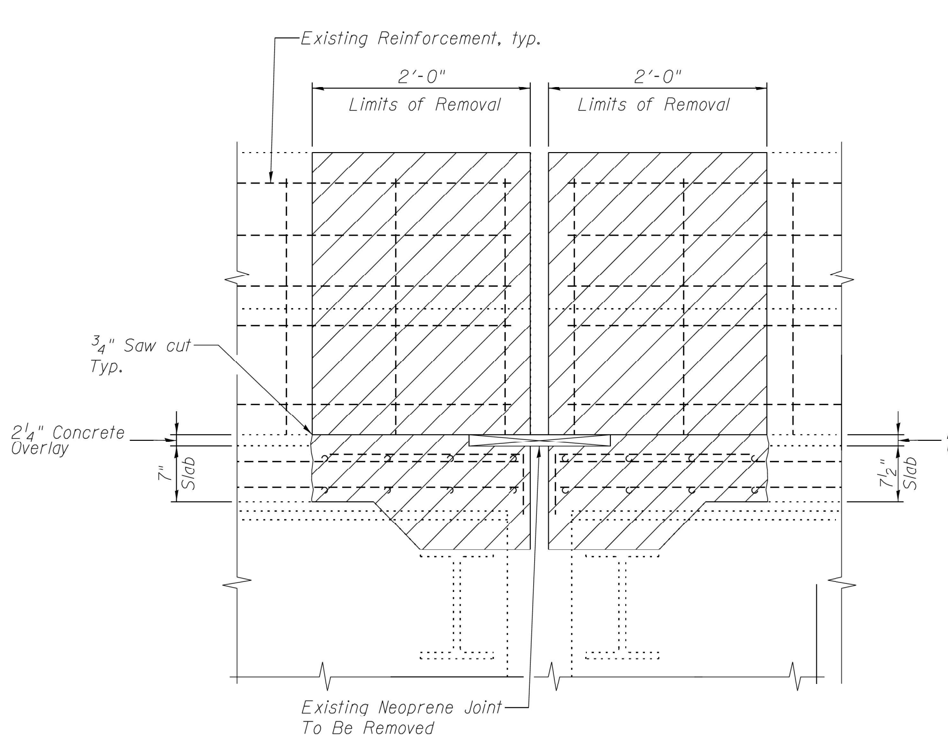


SECTION - EXISTING PARAPET
AT PIER 4

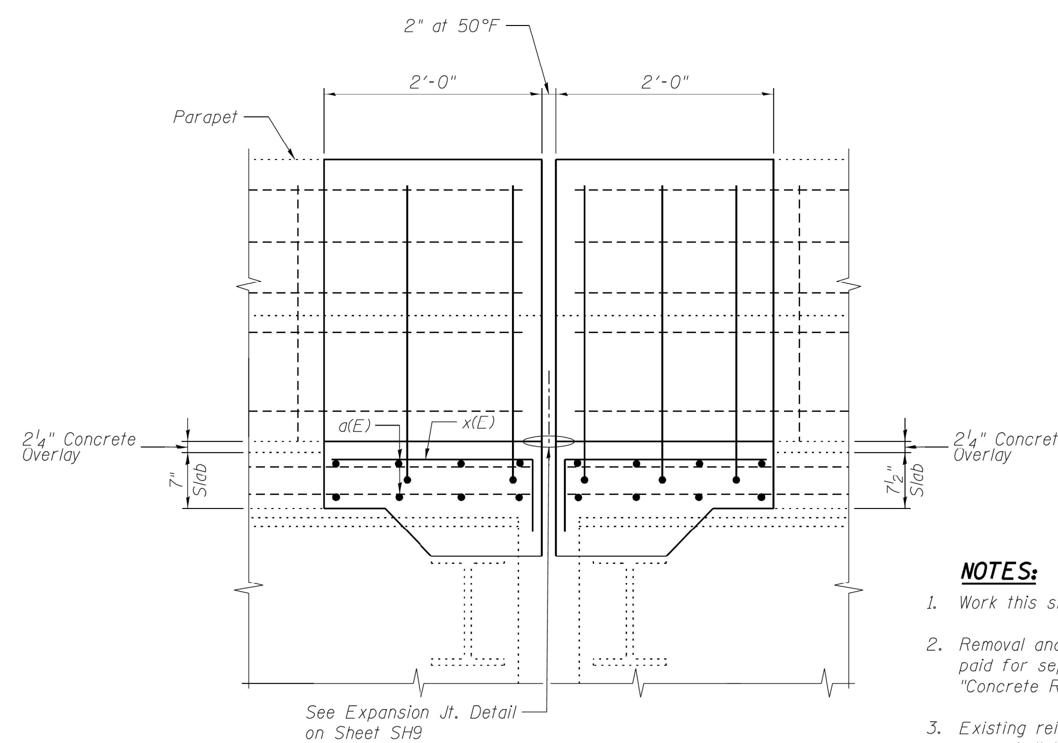
*Match existing



SECTION - PROPOSED PARAPET
AT PIER 4



SECTION A-A



SECTION B-B

NOTES:

1. Work this sheet with Sheet SH7.
2. Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of "Concrete Removal".
3. Existing reinforcement bars extending into the concrete removal area shall be blast-cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired or replaced with an approved bar splicer or anchorage system. Cost included with "Concrete Removal".

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING PARAPET DETAILS AT PIER 4
SN: 016–2408

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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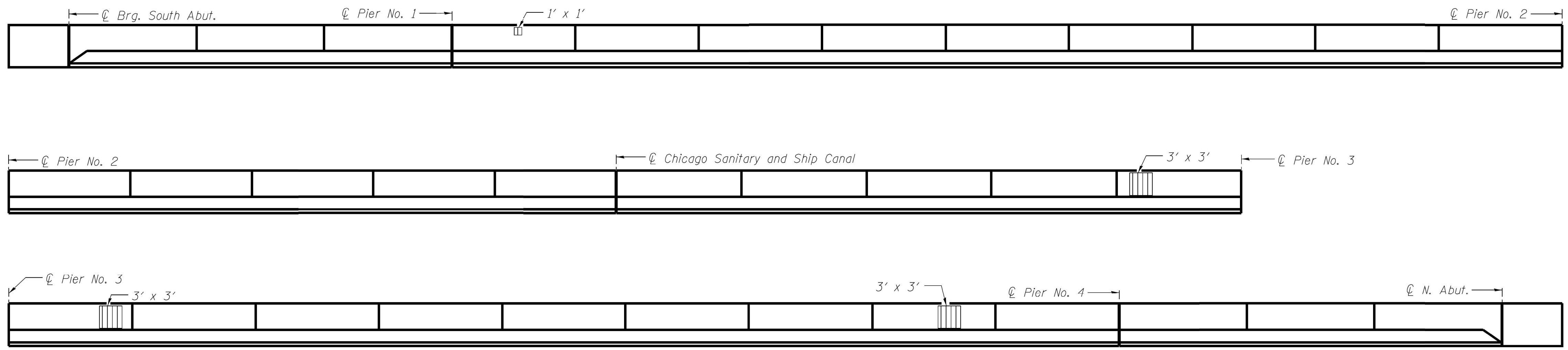
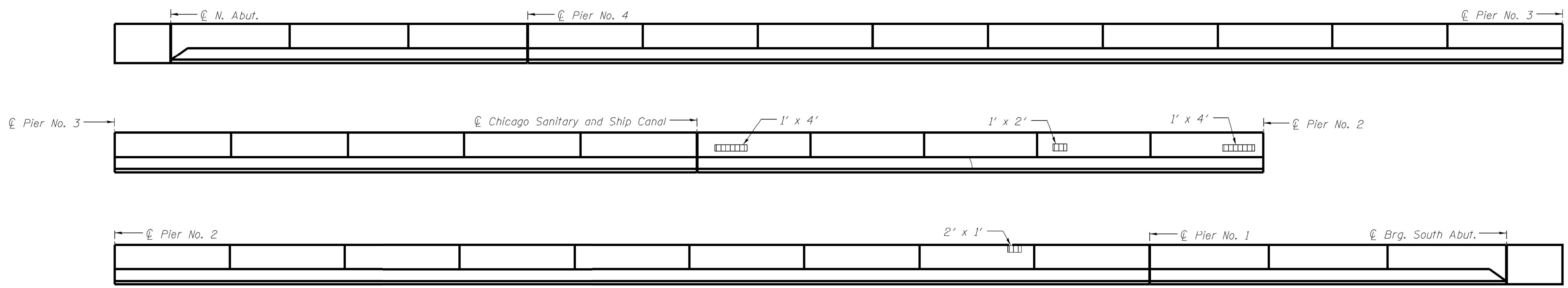


INSIDE FACE OF WEST PARAPET



INSIDE FACE OF EAST PARAPET

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	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	84
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY

Bench Mark: Chiseled square of NE corner of NB IL-171 bridge wingwall over BNSF R.R. El. 640.61

Existing Structure: S.N. 016-2454 (NB) was built in 1964 as F.A. Rte. 133, Section 0606-627VB at Sta. 65+06.90. Existing structure consists of a three span reinforced concrete deck on seven continuous 54" steel welded plate girders in spans 1 thru 3 and a single span reinforced concrete deck on eight steel 33" WF beams in span 4. The reinforced concrete deck is 8½" thick, including a 1½" microsilica concrete overlay. The substructure consists of open stub abutments founded on steel piles at the north end and by multi-column circular piers founded on spread footings. The south pier is shared with S.N. 016-2456 (NB). S.N. 016-2454 measures 363'-9" from back of north abutment to centerline of south pier, with an out-to-out deck width varying from 50'-3¼" to 57'-4". Piers 35, 36, and 37 are at a skew angle of 6°08'00" and Pier 38 and the North Abutment are at a skew angle of 15°03'45". The concrete deck is to be removed and replaced with traffic maintained utilizing crossovers. No salvage.

All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

Notes:
Existing Protective Shield to be removed. (Cost included in "Removal of Existing Deck No. 1").
No freefall drains will be permitted over Santa Fe Road and the BNSF RR tracks or within 10 ft. of cross arms of a railroad pole line.
BNSF RR Milepost 12.08 is located approximately at the ℄ IL-171.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

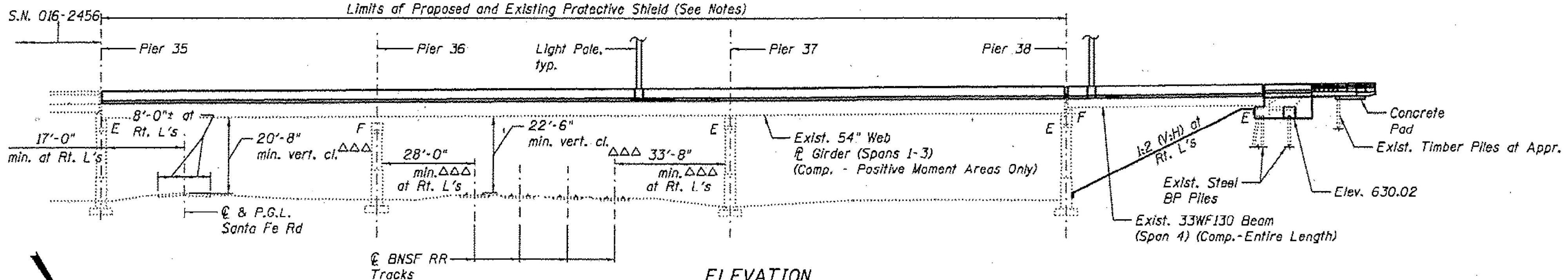
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

LOADING HS20-44

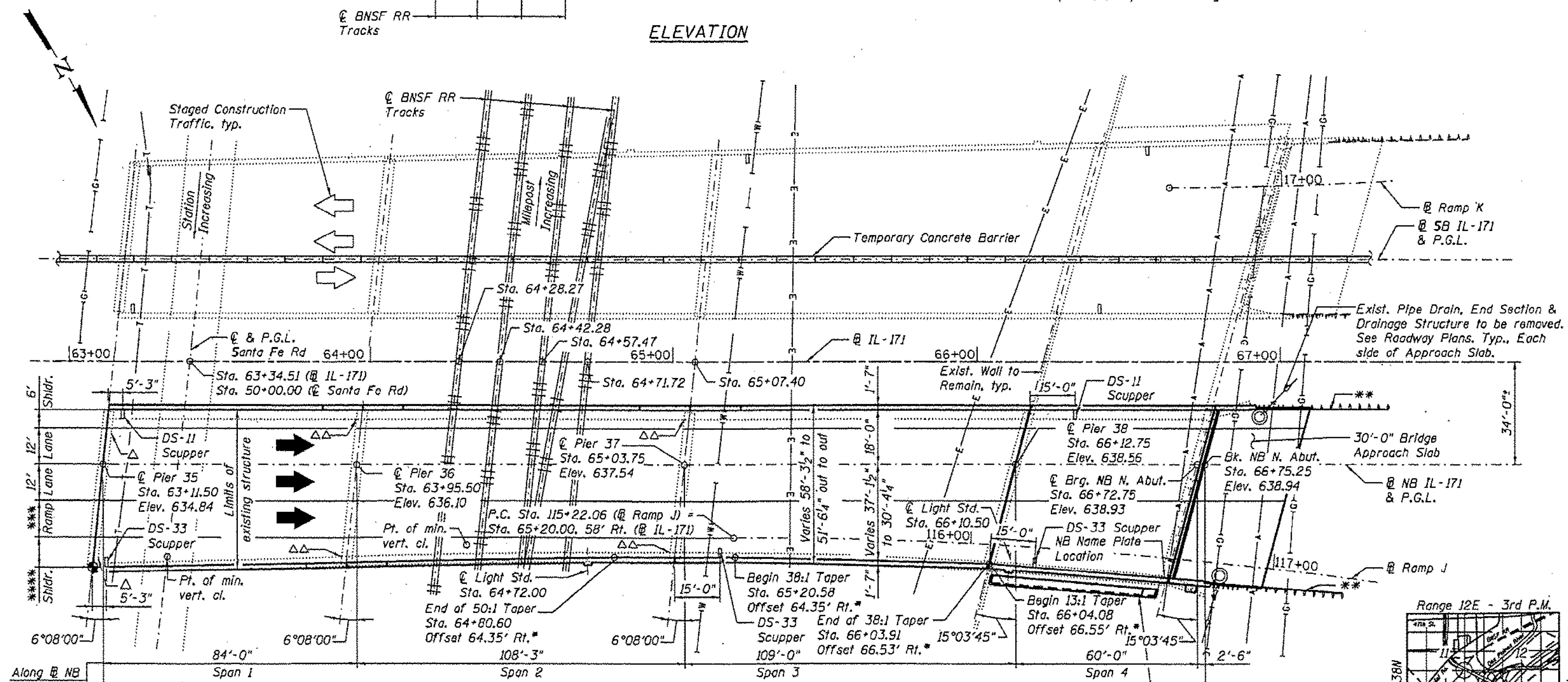
No future wearing surface allowed.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



ELEVATION



PLAN

△ Remove and replace existing closed drainage system. See sheets SB24 and SB25.
△△ Remove existing closed drainage system.
△△△ Based on Phase I survey information dated 08/11/2008

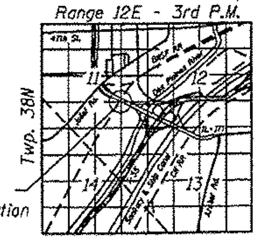
* Offset measured perpendicular to ℄ IL-171
** Traffic Barrier Terminal Type 6 Std. 631031
*** Ramp width varies 12'-0" to 18'-7¼", measured perpendicular to ℄ NB IL-171
**** Shoulder width varies 6'-3¼" to 9'-8¼", measured perpendicular to ℄ NB IL-171

Exist. slopewall to remain. Modify slopewall and grading as req'd for structure widening. See Sheet SB3 and SB28.

EXISTING UTILITY LEGEND

- Underground Storm Sewer
- Aerial Electric Line
- Underground Gas Line
- Underground Electric Line
- Underground Telephone Line
- Underground Water Line
- Existing Drainage Structure

Range 12E - 3rd P.M.

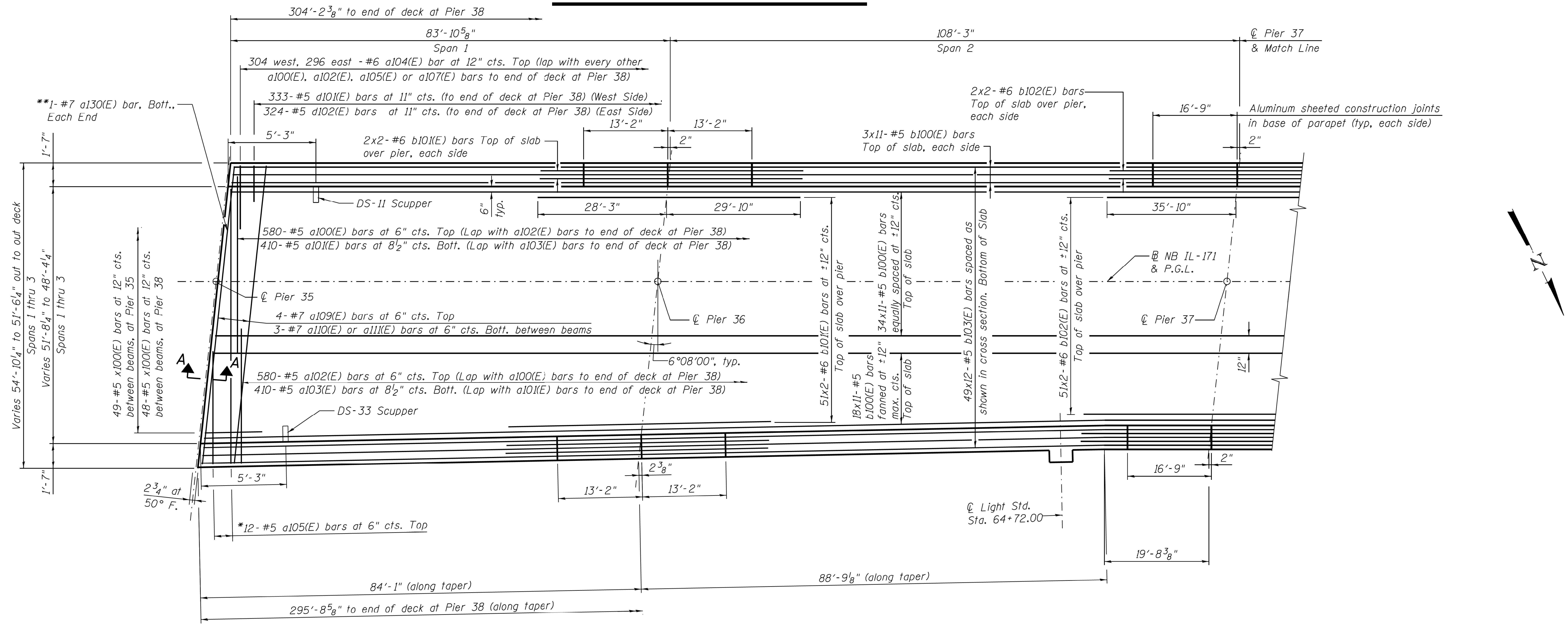


LOCATION SKETCH

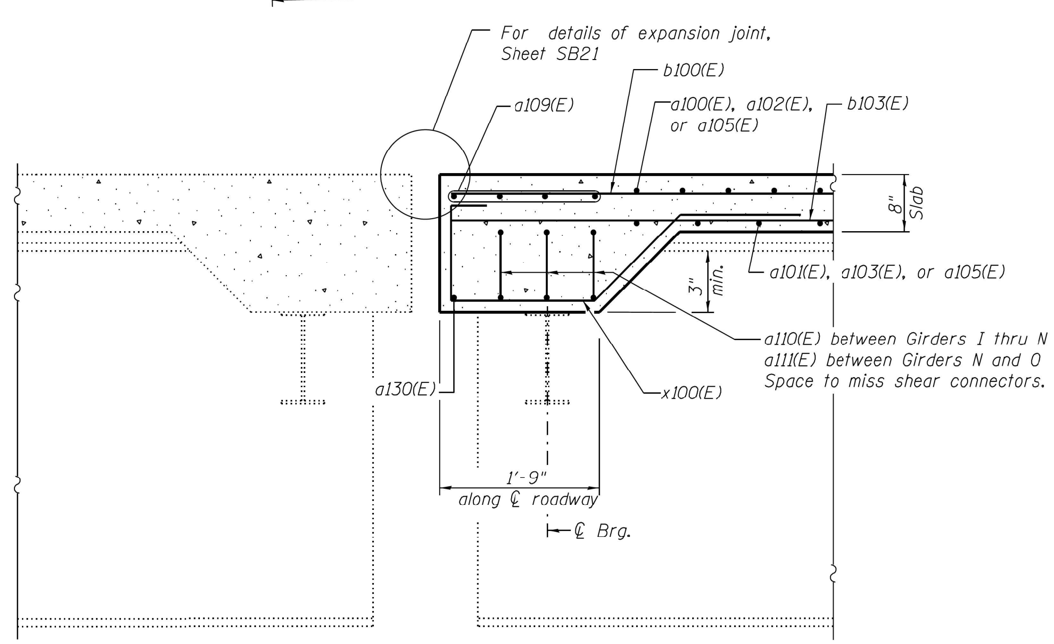
USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING GENERAL PLAN AND ELEVATION SN: 016-2454
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	85
CONTRACT NO. 62U38				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY



PARTIAL PLAN - SPANS 1 & 2



SECTION A-A

* Order full length. Cut as shown and use remainder of bars in bottom of deck at same spacing as top bars. See bar cutting diagram on Sheet SB17.

** Cut to fit skew.

MINIMUM BAR LAP
#5 bar = 2'-7"
#6 bar = 3'-1"

Notes:
See Sheets SB16 & SB17 for superstructure details and Bill of Material.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SB21.

(Sheet 1 of 3)

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	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE
SN: 016-2454

SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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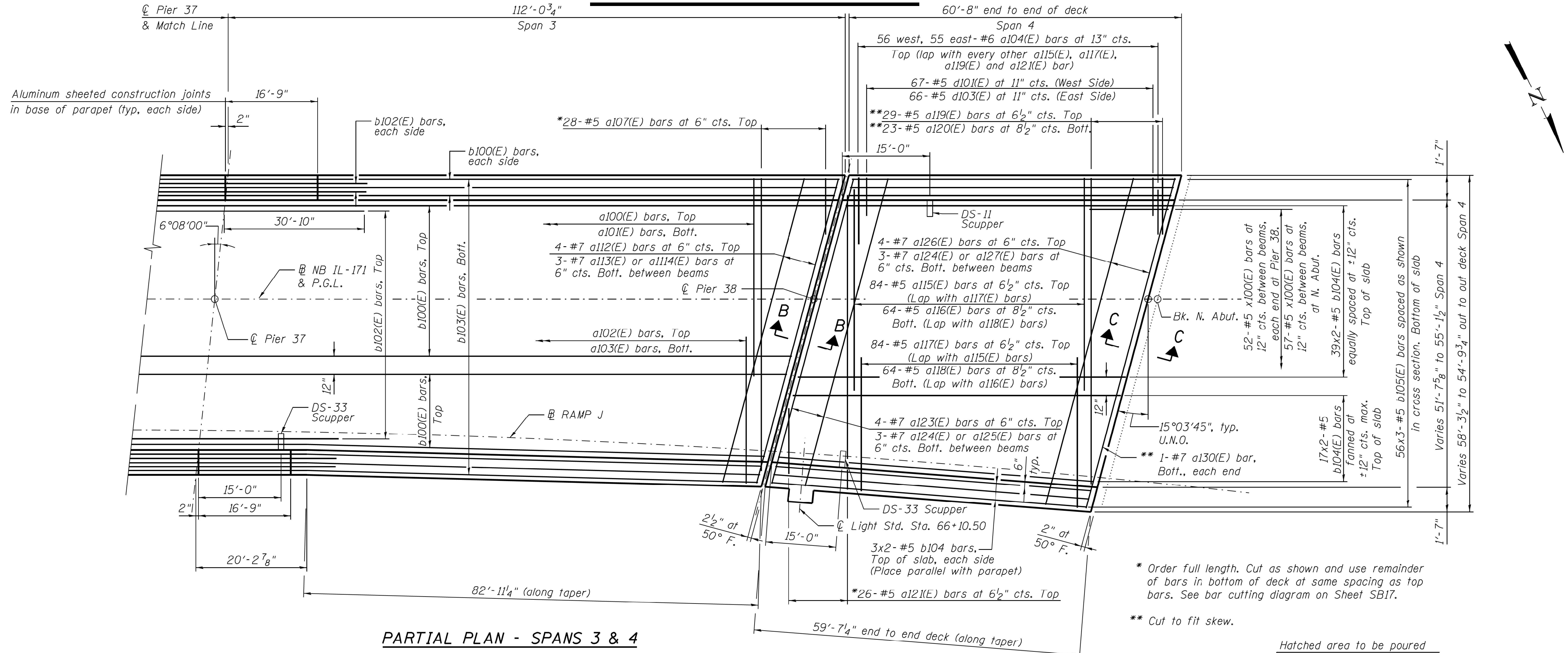
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

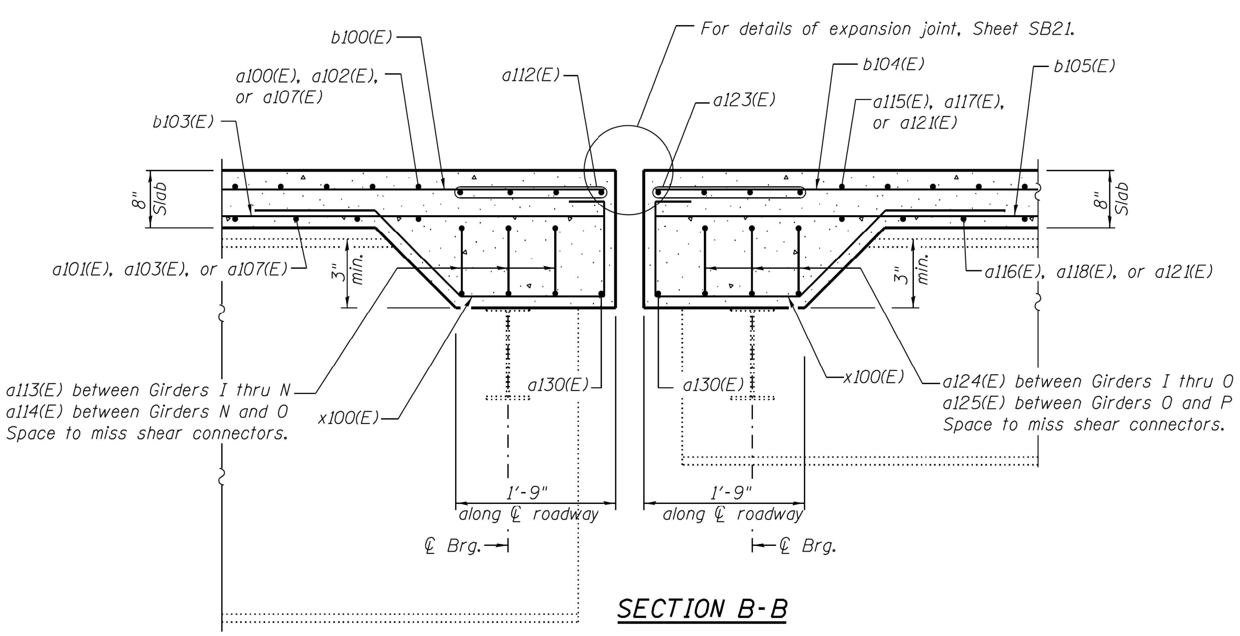
FOR INFORMATION ONLY



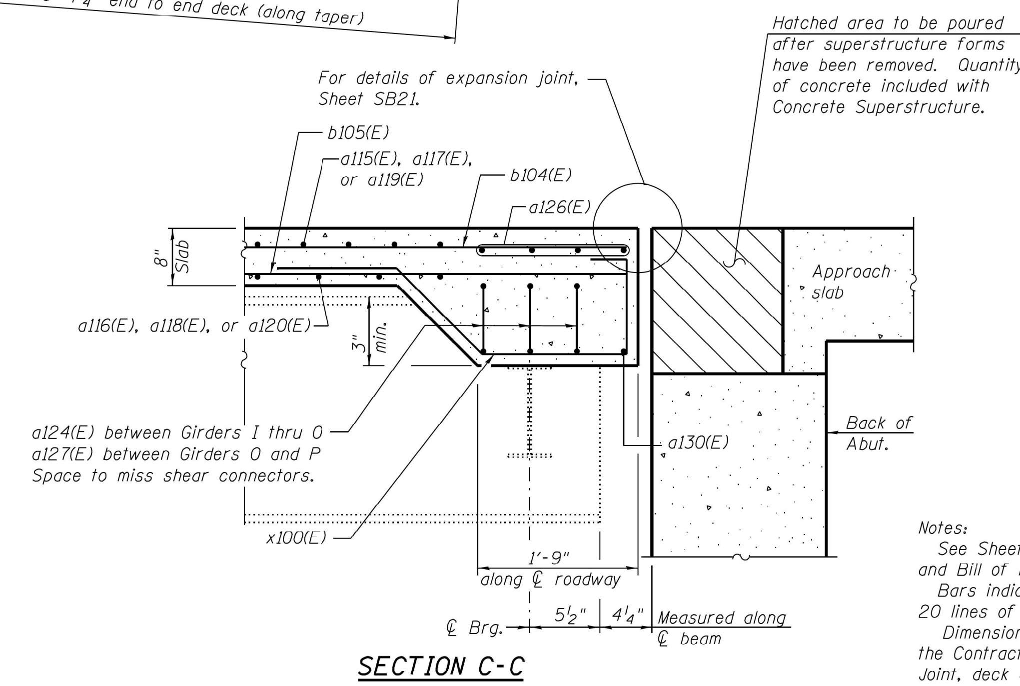
* Order full length. Cut as shown and use remainder of bars in bottom of deck at same spacing as top bars. See bar cutting diagram on Sheet SB17.

** Cut to fit skew.

PARTIAL PLAN - SPANS 3 & 4



SECTION B-B



SECTION C-C

(Sheet 2 of 3)

MINIMUM BAR LAP
#5 bar = 2'-7"
#6 bar = 3'-1"

Notes:
See Sheets SB16 & SB17 for superstructure details and Bill of Material.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SB21.

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING SUPERSTRUCTURE SN: 016-2454
	DRAWN -	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		
PLOT DATE = 12/13/2022	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	87
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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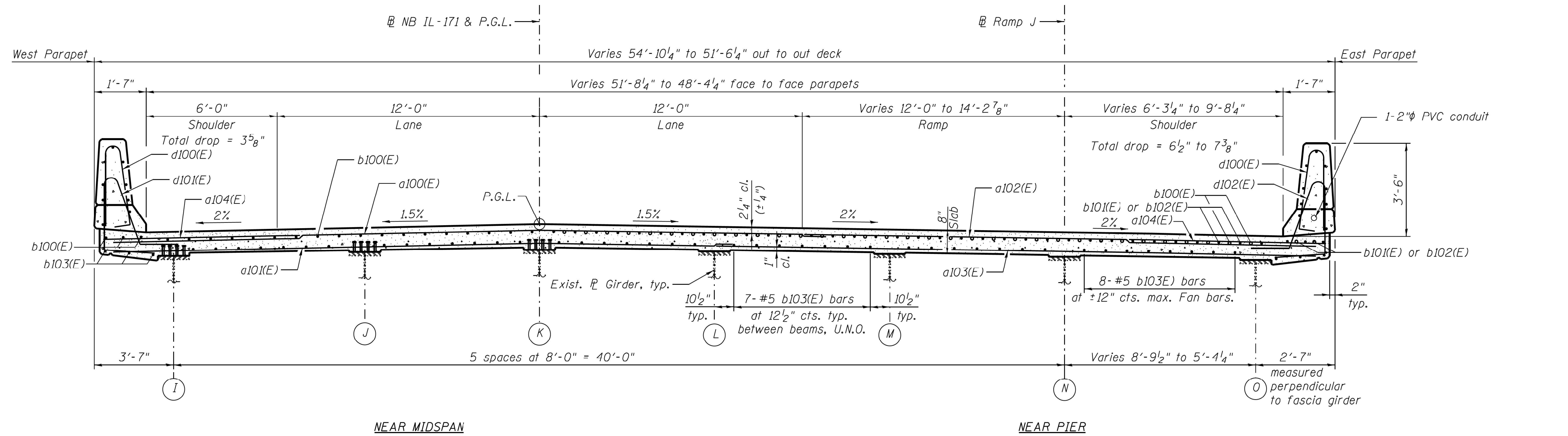
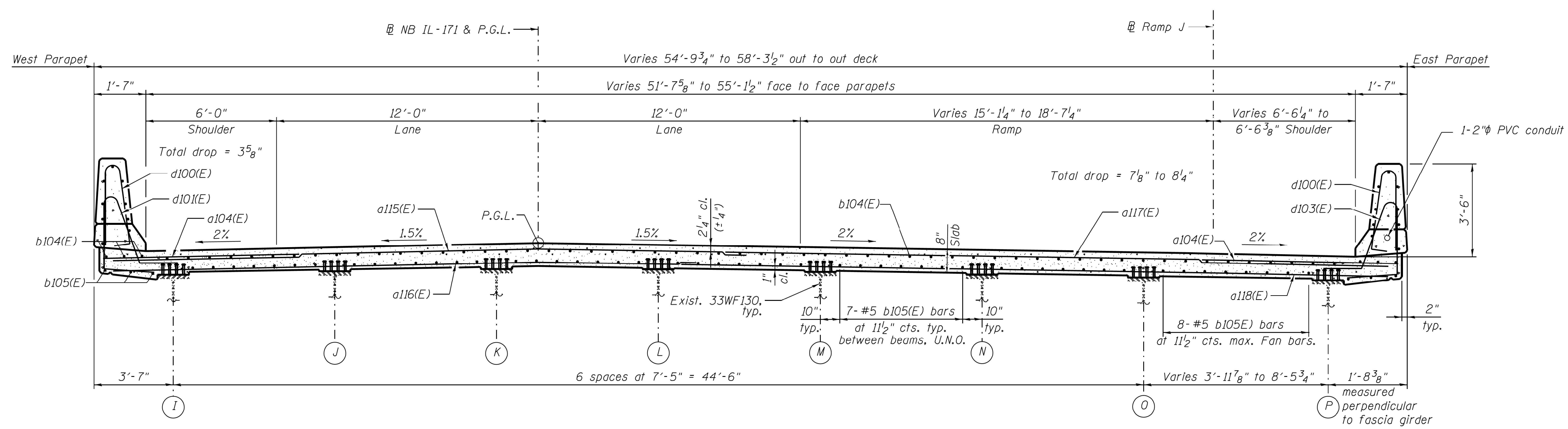
FOR INFORMATION ONLY



CROSS SECTION
(Spans 1 thru 3, Looking Upstation)

MINIMUM BAR LAP
#5 bar = 2'-7"



CROSS SECTION
(Span 4, Looking Upstation)

Note:
All dimensions are measured perpendicular to ℄ NB IL-171 unless noted otherwise.

(Sheet 3 of 3)

MODEL: Default

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	DRAWN -	REVISED -	
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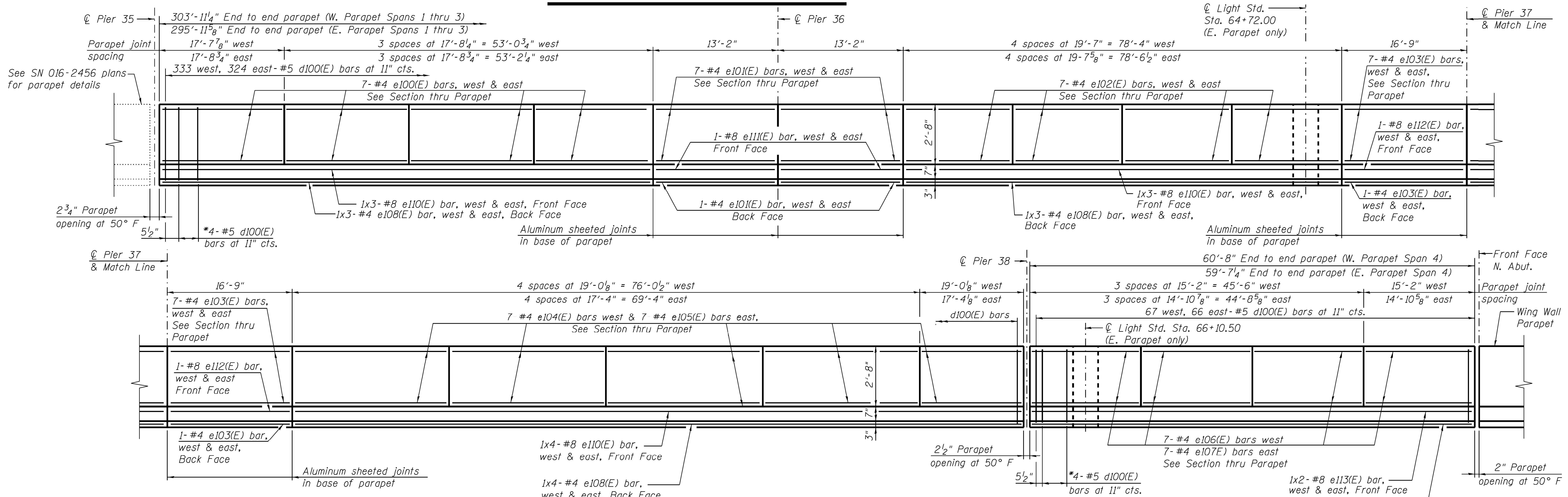
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE
SN: 016-2454

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	88
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



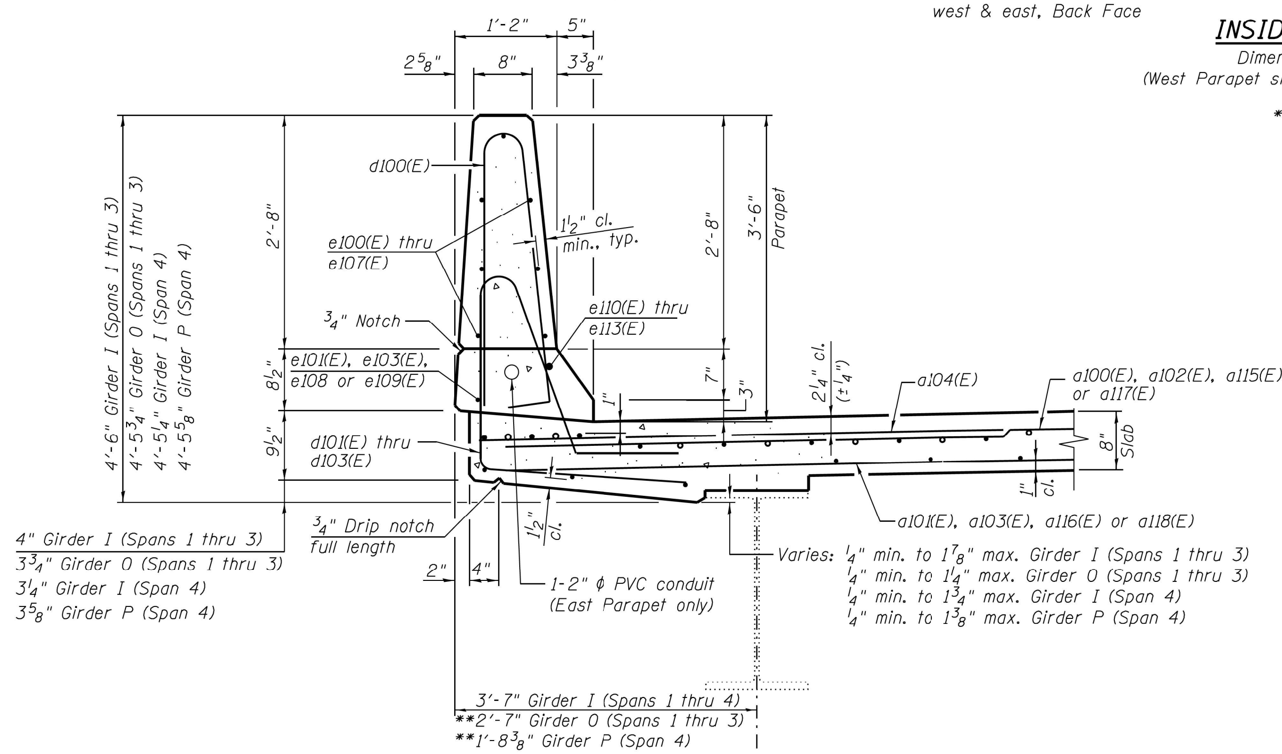
INSIDE ELEVATION OF PARAPET

Dimensions measured along toe of parapet.
(West Parapet shown, East Parapet opposite hand and as noted)

*Typical at parapet ends and each side of aluminum sheeted joints.

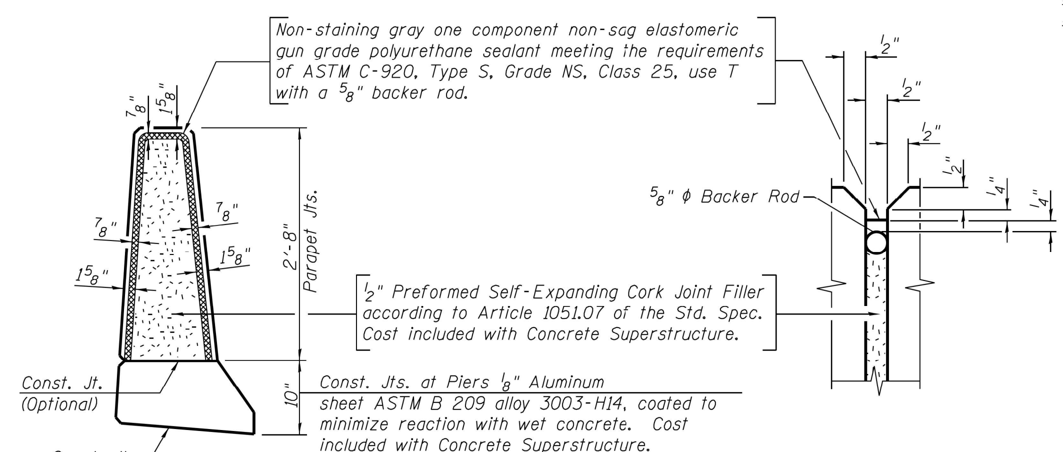
MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



SECTION THRU PARAPET

** Measured perpendicular to Fascia Girder



PARAPET JOINT DETAILS

Note:
Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.

(Sheet 1 of 2)

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING SUPERSTRUCTURE DETAILS
SN: 016-2454

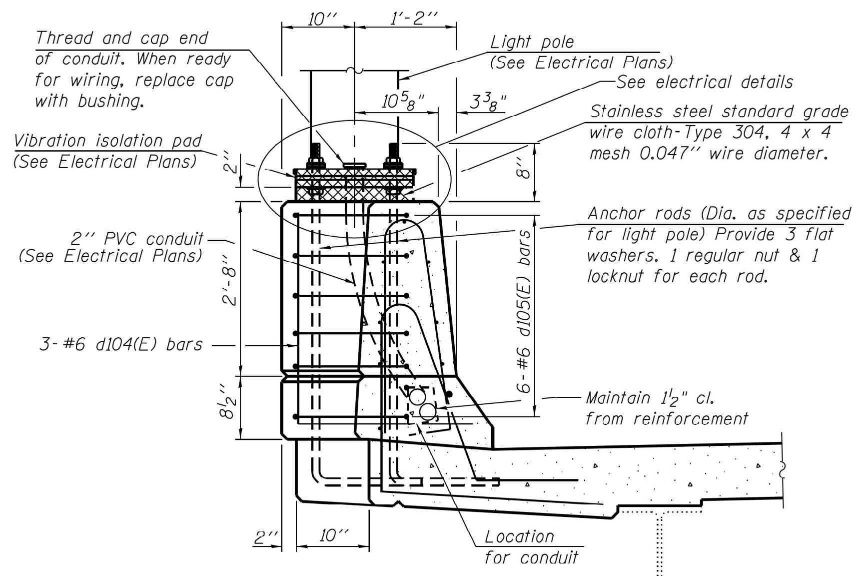
SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	89

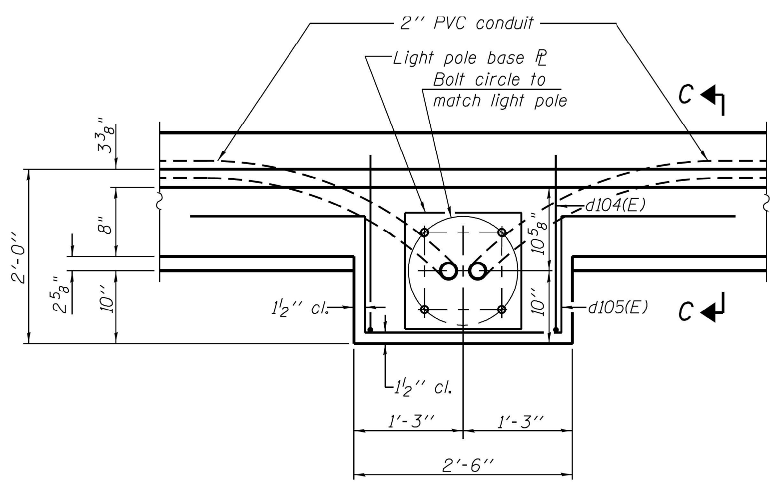
CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY



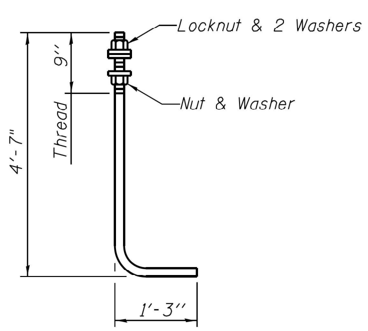
SECTION C-C



PLAN

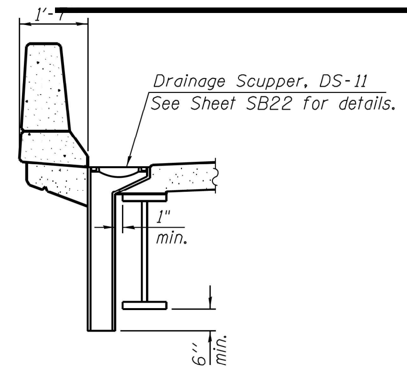
LIGHT POLE FOUNDATION DETAILS

Cost of anchor rods is included with "Concrete Superstructure".



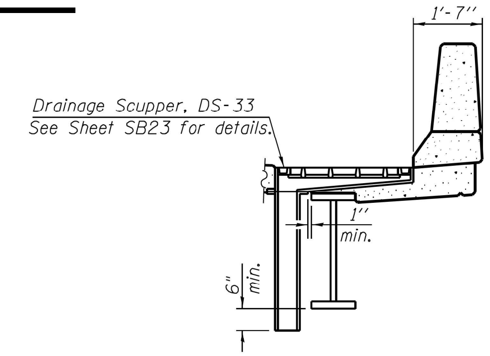
ANCHOR ROD

Diameter as specified for light poles. (ASTM F 1554 Grade 105) Full length hot dipped galvanized.



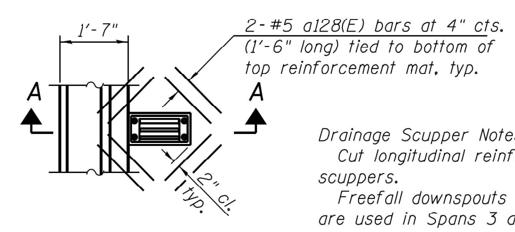
SECTION A-A

Girder I (Span 1 & 4)



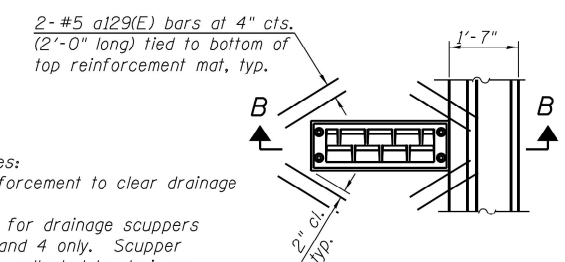
SECTION B-B

Girder O (Span 1 & 3)
Girder P (Span 4)



PLAN

Drainage Scupper Notes:
Cut longitudinal reinforcement to clear drainage scuppers.
Freefall downspouts for drainage scuppers are used in Spans 3 and 4 only. Scupper discharge in Span 1 is collected by drainage system. See Sheet SB24.



PLAN

DRAINAGE SCUPPER REINFORCEMENT DETAILS

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	DRAWN -	REVISED -	
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PLOT DATE = 12/13/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING SUPERSTRUCTURE DETAILS
SN: 016-2454

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	90

CONTRACT NO. 62U38

ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

Bench Mark: Chiseled square of SW corner of SB IL-171 bridge wingwall over Des Plaines River El. 622.14

Existing Structure: S.N. 016-2455 (SB) was built in 1964 as F.A. Rte. 133, Section 0606-627VB at Sta. 65+06.90. Existing structure consists of a three span reinforced concrete deck on eight continuous 54" steel welded plate girders in spans 1 thru 3 and a single span reinforced concrete deck on eight steel 33" WF beams in span 4. The reinforced concrete deck is 8½" thick, including a 1½" microsilica concrete overlay. The substructure consists of open stub abutments founded on steel piles at the north end and by multi-column circular piers founded on spread footings. The south pier is shored with S.N. 016-2457 (SB). S.N. 016-2455 measures 374'-9" from back of north abutment to centerline of south pier, with an out-to-out deck width varying from 50'-7½" to 58'-2¾". Piers 16, 17, and 18 are at a skew angle of 6°08'00" and Pier 19 and the North Abutment are at a skew angle of 15°03'45". The concrete deck is to be removed and replaced with traffic maintained utilizing crossovers. No salvage.

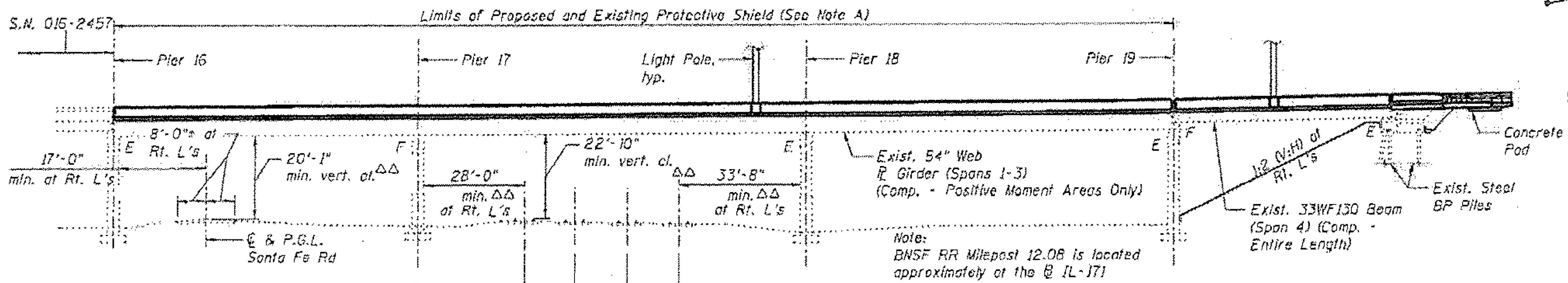
All Elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

NOTE A:

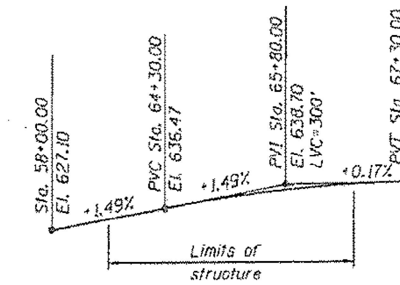
Existing Protective Shield to be removed. (Cost included in "Removal of Existing Deck No. 1").

NOTE B:

See Roadway Plans-Bridge Approach Schedule for Proposed Drainage Quantities.



ELEVATION



PROFILE GRADE SB IL-171

(Along ℄ SB IL-171)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)

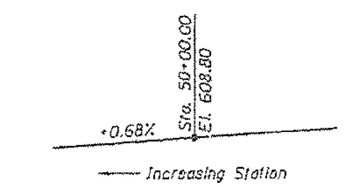
f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

LOADING HS20-44

No future wearing surface allowed.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

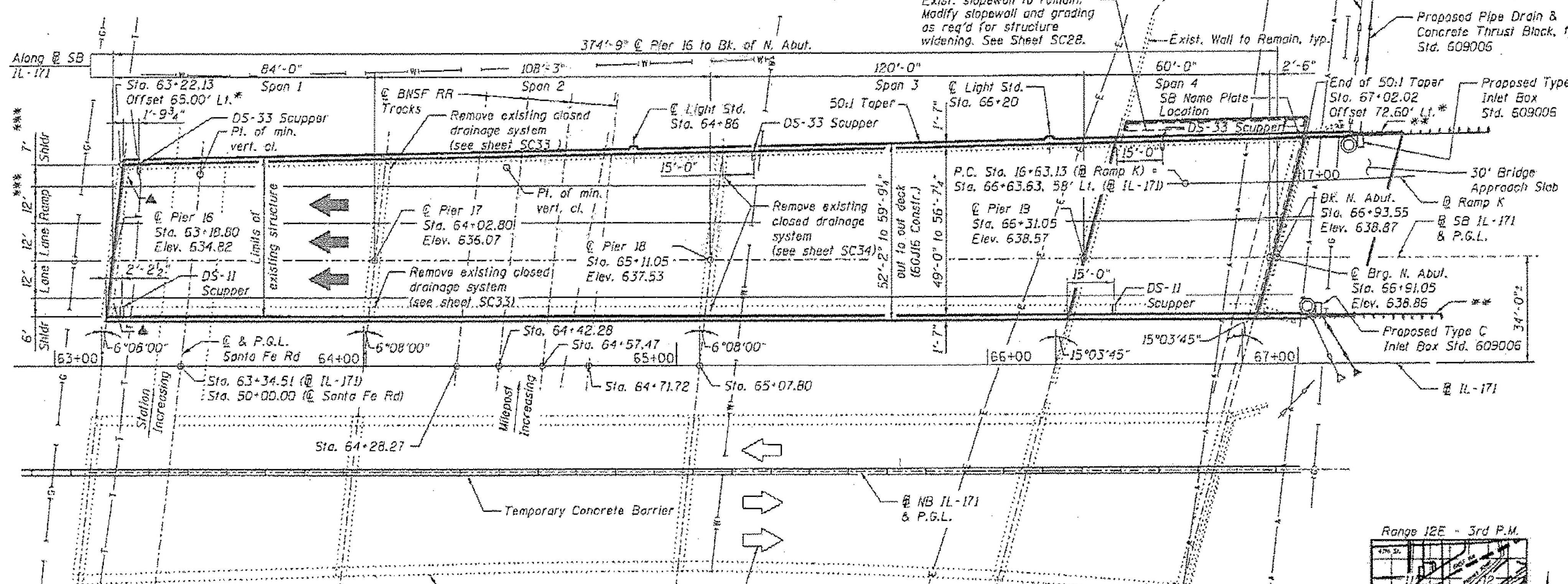


PROFILE GRADE SANTA FE RD

(Along ℄ Santa Fe Rd)

CURVE DATA - ℄ RAMP K

P.I. Sta. = 17+59.11
Δ = 9°08'46" (LT)
D = 4°46'29"
R = 1,200.00'
L = 191.55'
T = 95.98'
E = 3.83'
P.C. Sta. = 16+63.13
P.T. Sta. = 18+54.68
S.E. = 4.5%



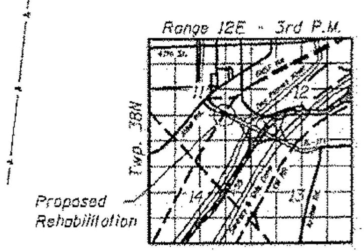
▲ Remove and replace existing closed drainage system (See sheets SC23, SC24 & SC33)

PLAN

Note:
No freefall drains will be permitted over Santa Fe Road and the BNSF RR tracks or within 10 ft. of cross arms of a railroad pole line.

* Offset measured perpendicular to ℄ IL-171
** Traffic Barrier Terminal Type 6 Std. 631031
*** Minimum width (varies)

ΔΔ Based on Phase I survey information dated 08/11/2008



LOCATION SKETCH

EXISTING UTILITY LEGEND

Underground Storm Sewer
Aerial Electric Line
Underground Gas Line
Underground Electric Line
Underground Telephone Line
Underground Water Line
Existing Drainage Structure

USER NAME = Ivan.Diaz	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION
SN: 016–2455

SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	91
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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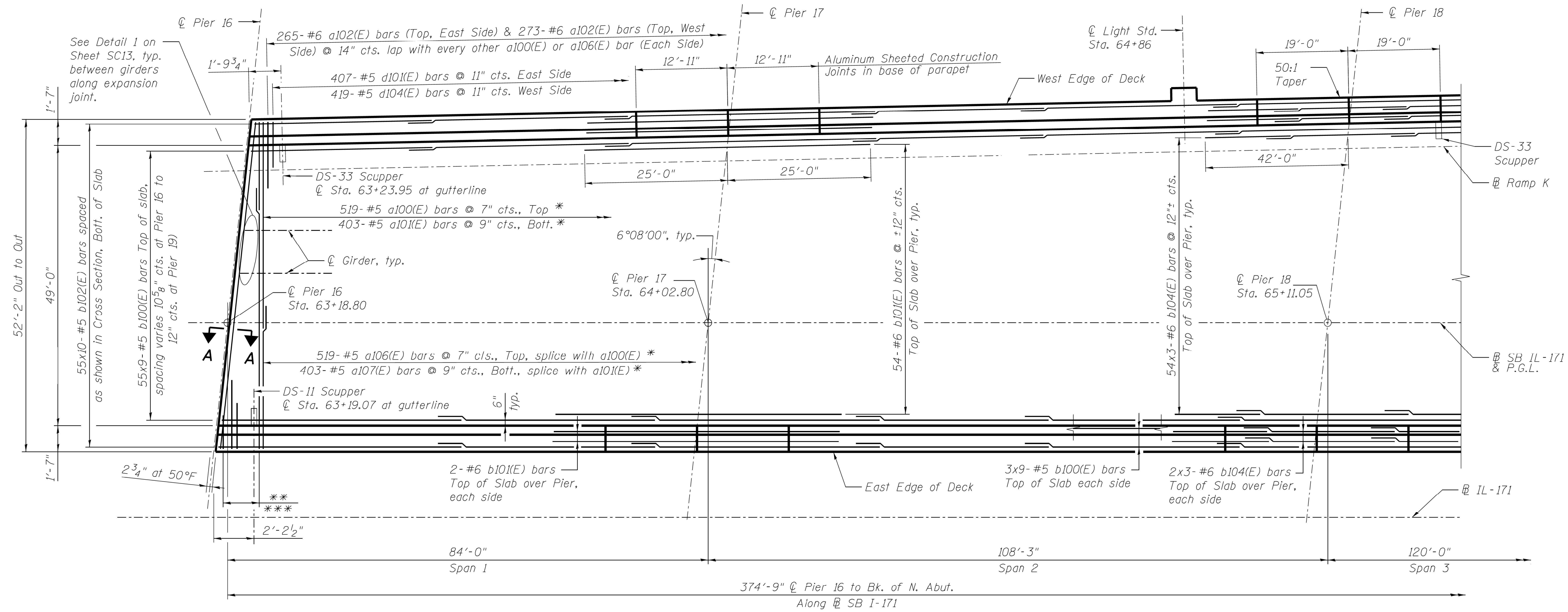
FOR INFORMATION ONLY

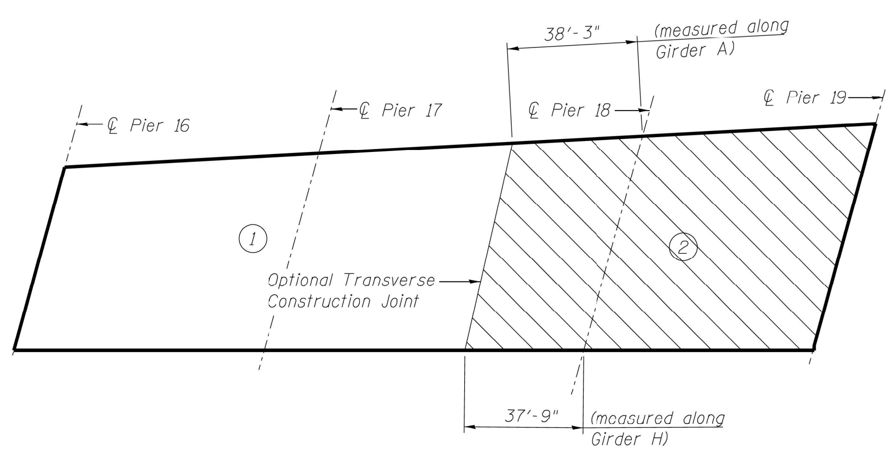


* Vary lap to account for tapered deck.
Do not lap Top and Bott. bars at the same location.
** 10-#5 a100(E) bars @ 7" cts., Top
(cut to fit and use excess where laps are needed)
*** 8-#5 a107(E) bars @ 9" cts., Bott.
(cut to fit and use excess where laps are needed)

PARTIAL PLAN

MINIMUM BAR LAP

(Slab)
#5 bar - 3'-3"
#6 bar - 3'-10"



OPTIONAL DECK POUR SEQUENCE

NOTES:

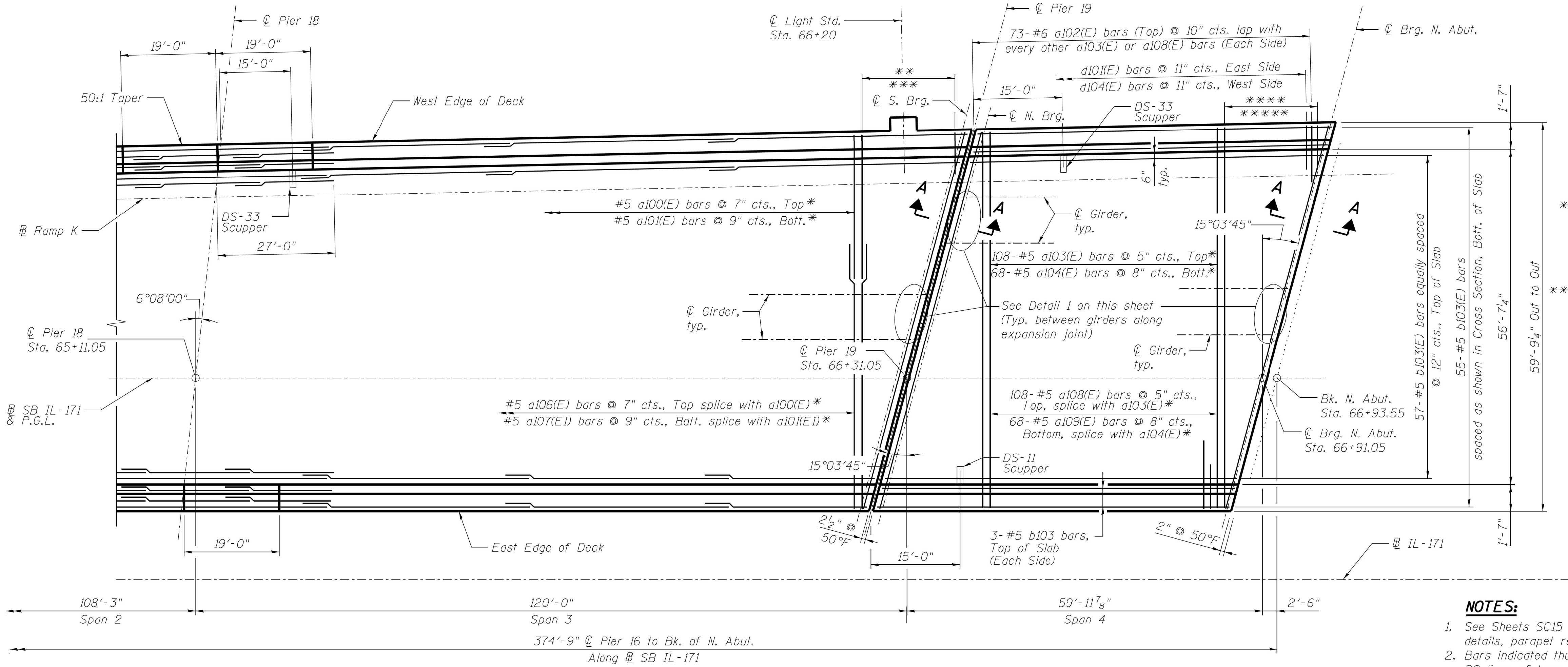
1. See Sheets SC15 & SC16 of SC35 for superstructure details, parapet reinforcement and Bill of Material.
2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet SC16 of SC35 for additional bars at scuppers.
4. See Sheet SC35 of SC35 for Bar Splicer Details.
5. When the deck pour is stopped for the day at one or more of the transverse construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:

   A) At least 72 hours shall have lapsed from the end of the previous pour.

   B) the concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

6. The Contractor is alerted that camber and dead load deflection values were developed based on the deck pouring sequence shown. Any deviations from this pouring sequence will result in changes to camber and deck elevations. These changes shall be submitted to the Engineer for review and approval.
7. See Sheet SC13 of SC35 for section A-A and Detail 1.
8. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC20.

FOR INFORMATION ONLY



**** 37-#5 a103(E) bars @ 5" cts., Top (cut to fit skew and use remainder of bars in opposite end of Span 4)
6-#5 a108(E) bars @ 5" cts., Top (Each End, lap with a103(E) where needed)

***** 23-#5 a109(E) bars @ 8" cts., Bott. (cut to fit skew and use remainder of bars in opposite end of Span 4)
4-#5 a104(E) bars @ 8" cts., Bott. (Each End, lap with a109(E) where needed)

PARTIAL PLAN

* Vary lap to account for tapered deck. Do not lap Top and Bott. bars at the same location.

** 26-#5 a100(E) bars @ 7" cts., Top (cut to fit and use excess where laps are needed)

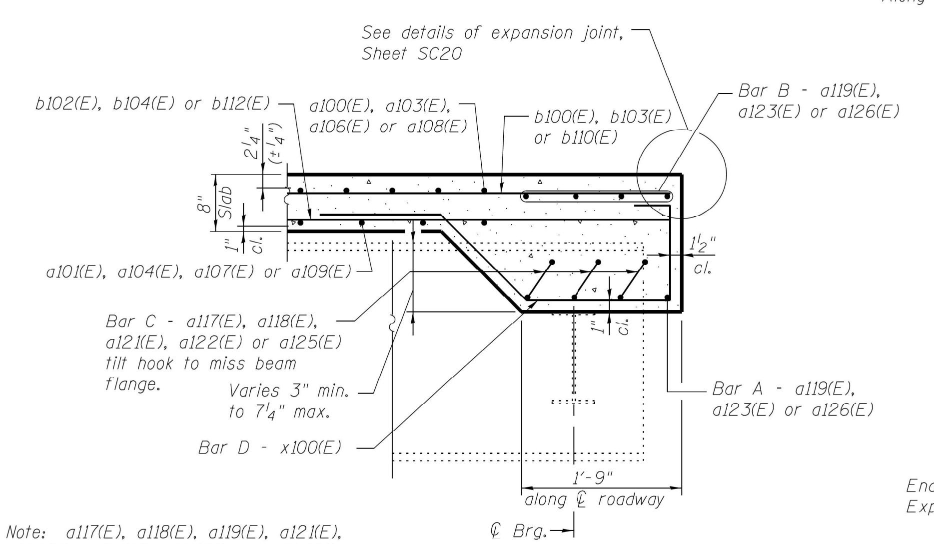
*** 21-#5 a107(E) bars @ 9" cts., Bott. (cut to fit and use excess where laps are needed)

MINIMUM BAR LAP

(Slab)
#5 bar - 3'-3"
#6 bar - 3'-10"

NOTES:

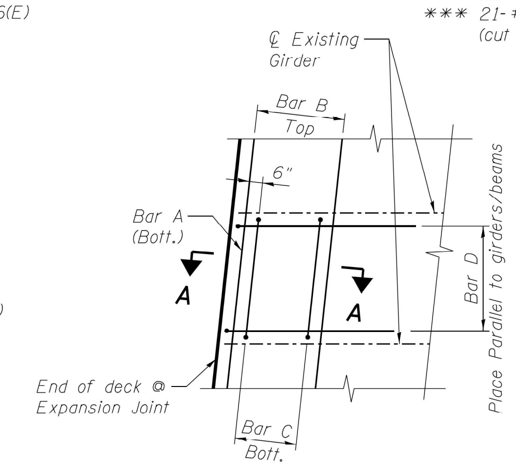
1. See Sheets SC15 & SC16 of SC35 for superstructure details, parapet reinforcement and Bill of Material.
2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet SC35 for Bar Splicer Details.
4. See Sheet SC16 of SC35 for additional bars at scuppers.
5. For section through Preformed Joint Strip Seal at Pier 19 and N Abut, see Sheet SC20 of SC35.
6. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SC20.



Note: a117(E), a118(E), a119(E), a121(E), a122(E), a123(E), a125(E) and a126(E) bars placed along skew.

SECTION A-A

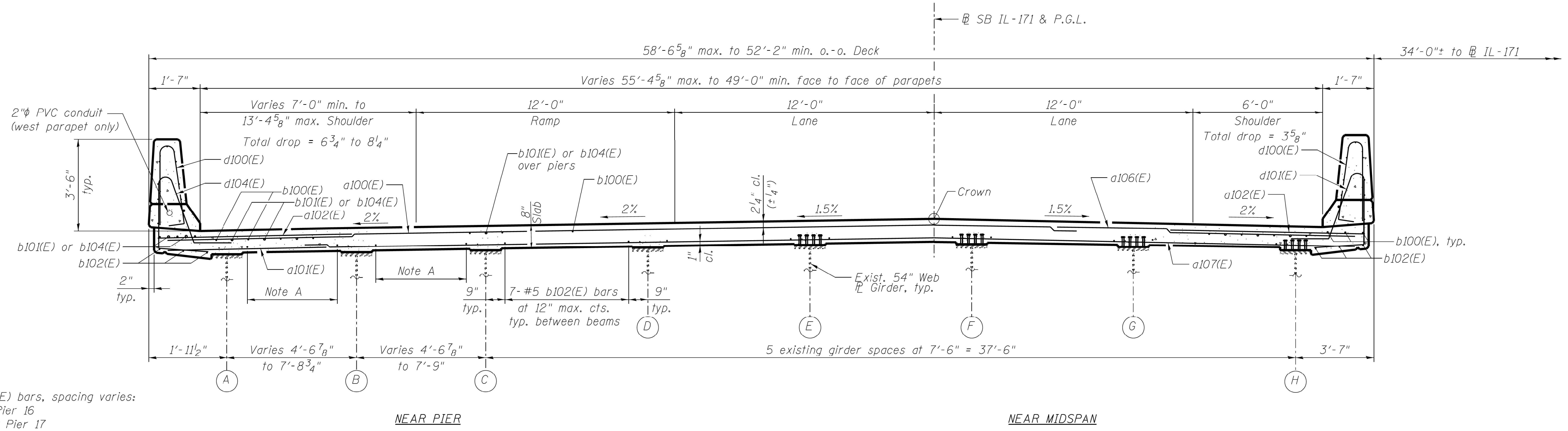
(016-2457 side of Pier 16, Span 4 side of Pier 19 & Abutment not shown for clarity)
(The concrete edge beam shall be placed from ℄ web of fascia Beam to ℄ web of fascia beam and not on the overhang of the stucture.)



DETAIL 1

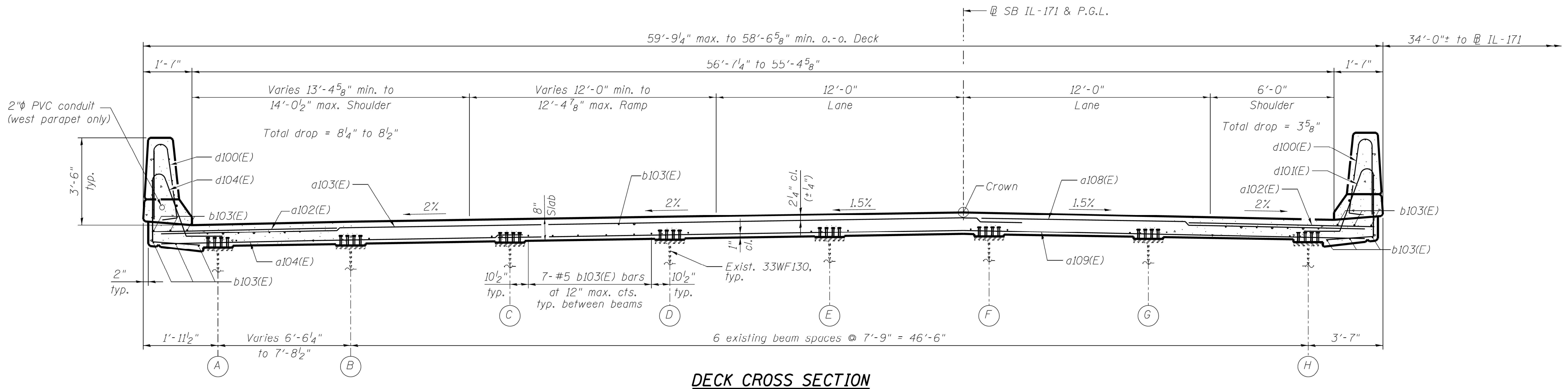
BAR	DESIGNATION	EDGE BEAM LOCATION
A	1-#6 a119(E) bar, bott.	016-2455 side of Pier 16
	1x2-#6 a123(E) bar, bott.	Both sides of Pier 19
	1x2-#6 a126(E) bar, bott.	N. Abut.
B	4-#6 a119(E) bars at 6" cts. top	016-2455 side of Pier 16
	4x2-#6 a123(E) bars at 6" cts. top	Both sides of Pier 19
	4x2-#6 a126(E) bars at 6" cts. top	N. Abut.
C	3-#6 a117(E) bars at 6" cts. bott. between girders	016-2455 side of Pier 16 between Girders C thru H
	3-#6 a118(E) bars at 6" cts. bott. between girders	016-2455 side of Pier 16 between Girders A thru C
	3-#6 a121(E) bars at 6" cts. bott. between girders	Span 3 side of Pier 19 between Girders C thru H
	3-#6 a122(E) bars at 6" cts. bott. between girders	Span 3 side of Pier 19 between Girders A thru C
	3-#6 a122(E) bars at 6" cts. bott. between beams	Span 4 side of Pier 19 between Beams B thru H
	3-#6 a125(E) bars at 6" cts. bott. between beams	Span 4 side of Pier 19 between Beams A and B
	3-#6 a122(E) bars at 6" cts. bott. between beams	N. Abut. between all beams
D	7-#5 x100(E) bars at 12" cts. between girders	016-2455 side of Pier 16 between Girders C thru H
	4-#5 x100(E) bars at 12" cts. between girders	016-2455 side of Pier 16 between Girders A thru C
	7-#5 x100(E) bars at 12" cts. between girders	Span 3 side of Pier 19 between Girders C thru H
	4-#5 x100(F) bars at 12" cts. between girders	Span 3 side of Pier 19 between Girders A thru C
	8-#5 x100(E) bars at 12" cts. between beams	Span 4 side of Pier 19 between Beams B thru H
	6-#5 x100(E) bars at 12" cts. between beams	Span 4 side of Pier 19 between Beams A and B
	8-#5 x100(E) bars at 12" cts. between beams	N. Abut. between all beams

FOR INFORMATION ONLY



NOTE A:
7-#5 b102(E) bars, spacing varies:
6" cts. at Pier 16
7 3/4" cts. at Pier 17
10" cts. at Pier 18
12 1/2" cts. at Pier 19

DECK CROSS SECTION
(Spans 1 thru 3, Looking Upstation)



DECK CROSS SECTION
(Span 4, Looking Upstation)

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING DECK CROSS SECTIONS
SN: 016–2455
SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	94
		CONTRACT NO. 62U38		
		ILLINOIS FED. AID PROJECT		

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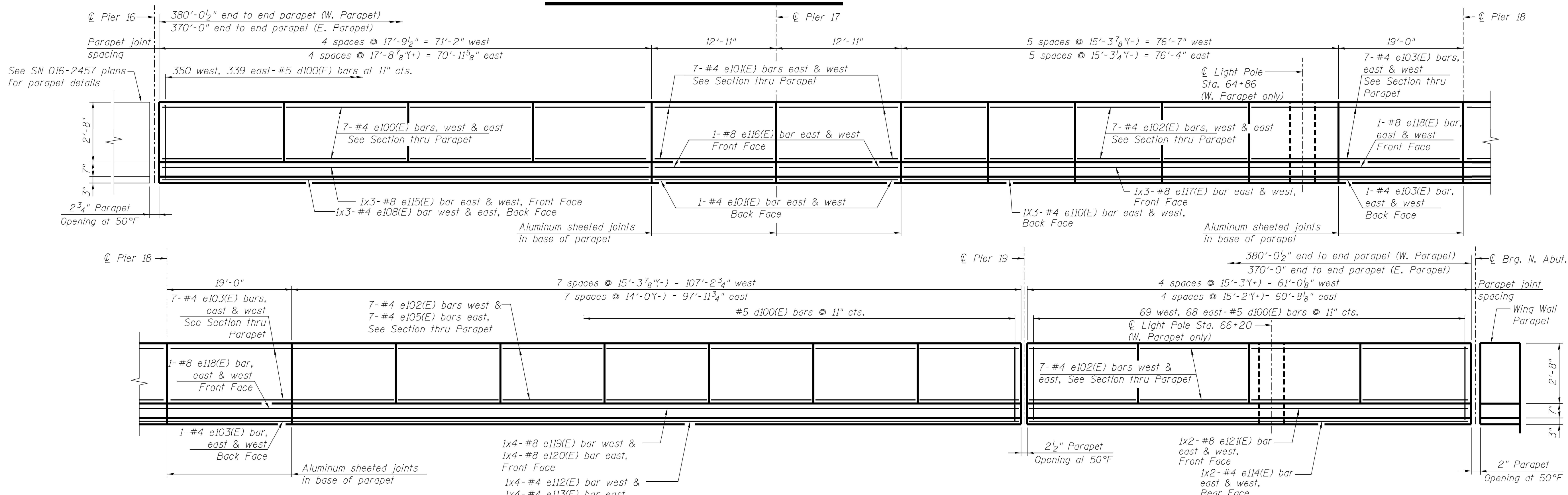
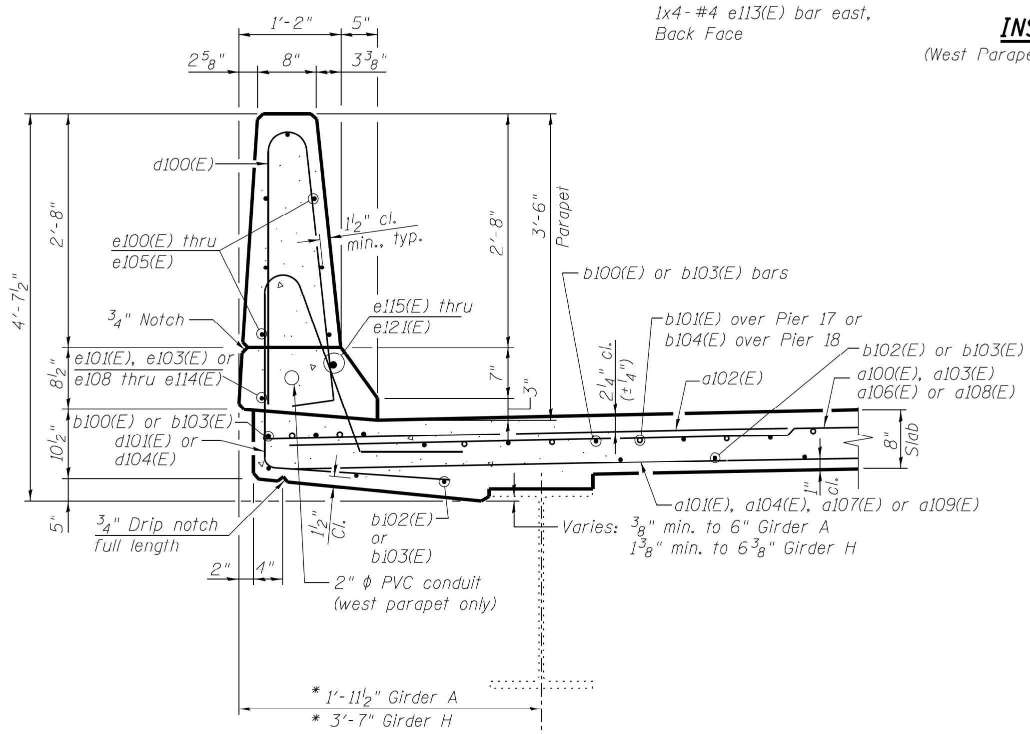


INSIDE ELEVATION OF PARAPET

(West Parapet shown, East Parapet opposite hand and as noted)

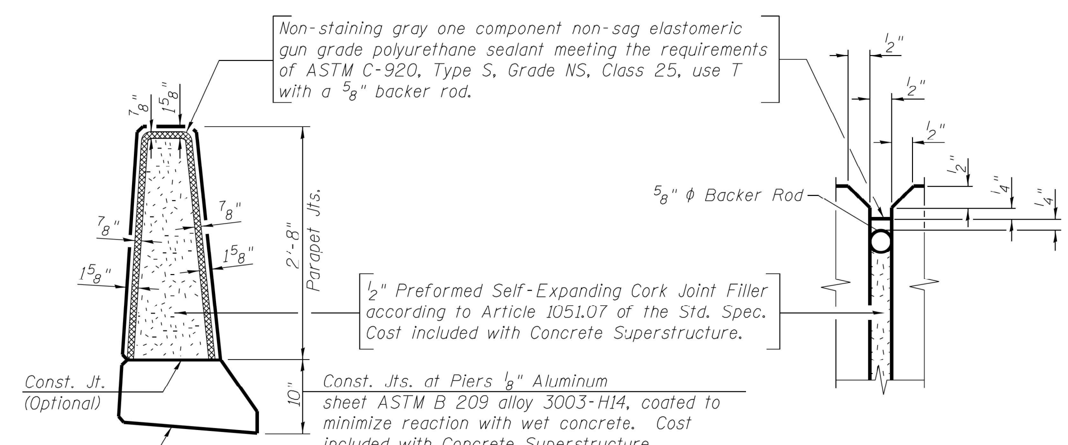
MINIMUM BAR LAP

(Parapets)
#4 bar = 2′-0"
#8 bar = 5′-2"



SECTION THRU PARAPET

* Measured perpendicular to Fascia Girder



PARAPET JOINT DETAILS

NOTE:
Dimensions measured along toe of parapet (gutterline).

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EXISTING SUPERSTRUCTURE DETAILS (1 OF 2)
SN: 016–2455

SCALE: | SHEET OF SHEETS | STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 62U38		
	ILLINOIS FED. AID PROJECT			

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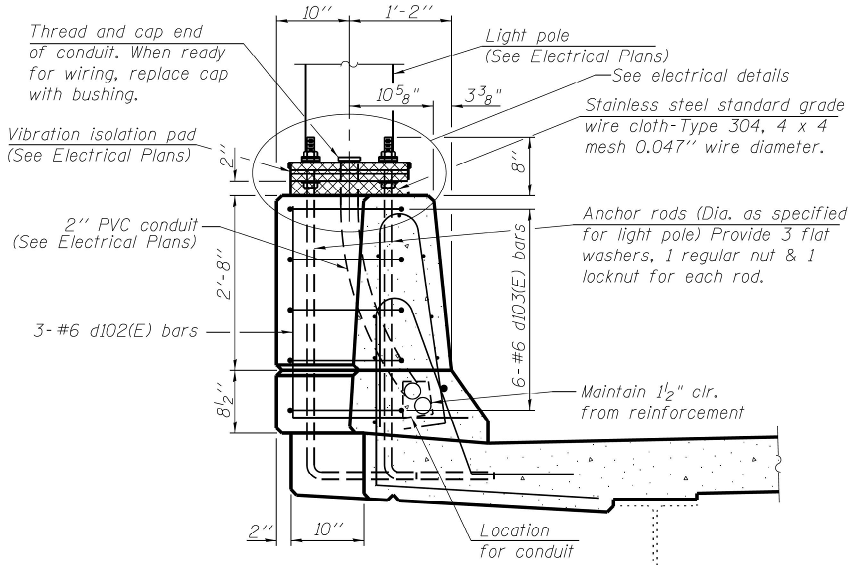
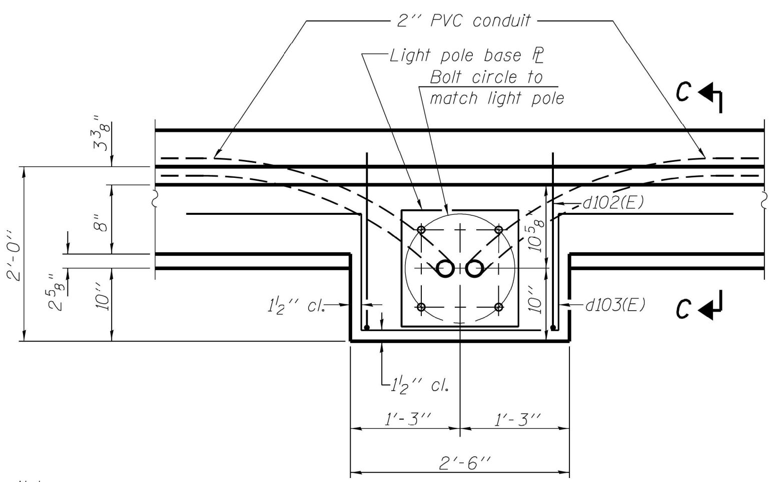
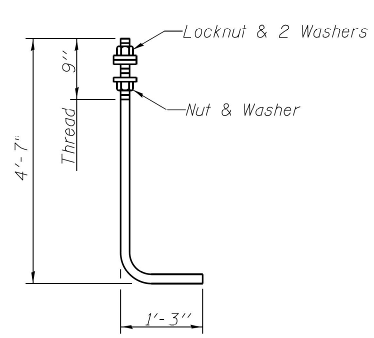


SECTION C-C



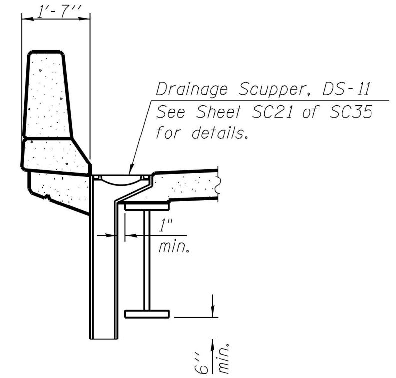
Note:
Cost of anchor rods is included with "Concrete Superstructure".

PLAN



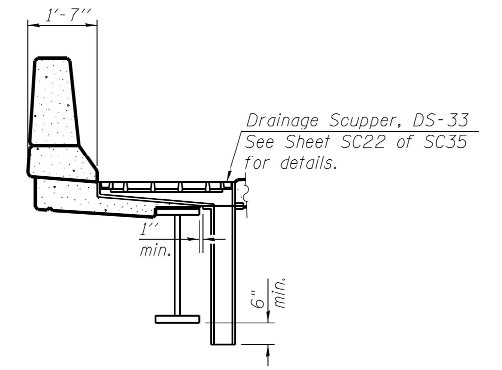
ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105)
Full length hot dipped galvanized.



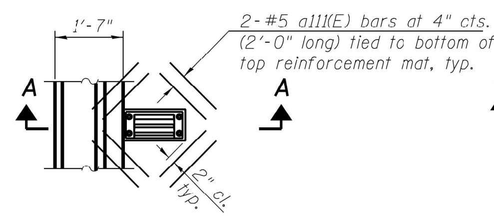
SECTION A-A

Girder H

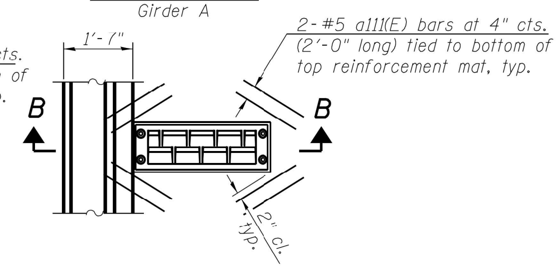


SECTION B-B

Girder A



PLAN



PLAN

Note: Cut longitudinal reinforcement to clear drainage scuppers.

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EXISTING SUPERSTRUCTURE DETAILS (2 OF 2)
SN: 016-2455
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	96

CONTRACT NO. 62U38
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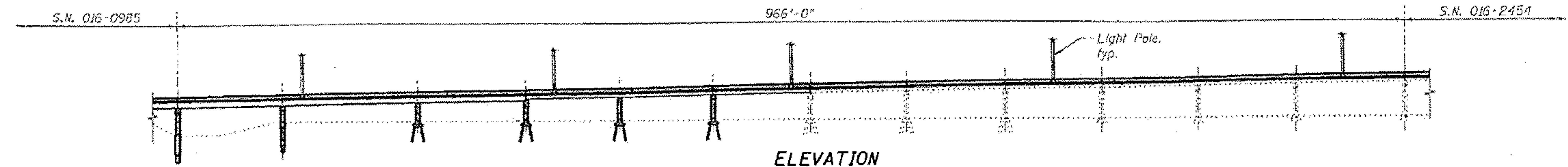
Bench Mark: Chiseled square of NE corner of NB IL-171 bridge wingwall over BNSF RR. El. 640.61.

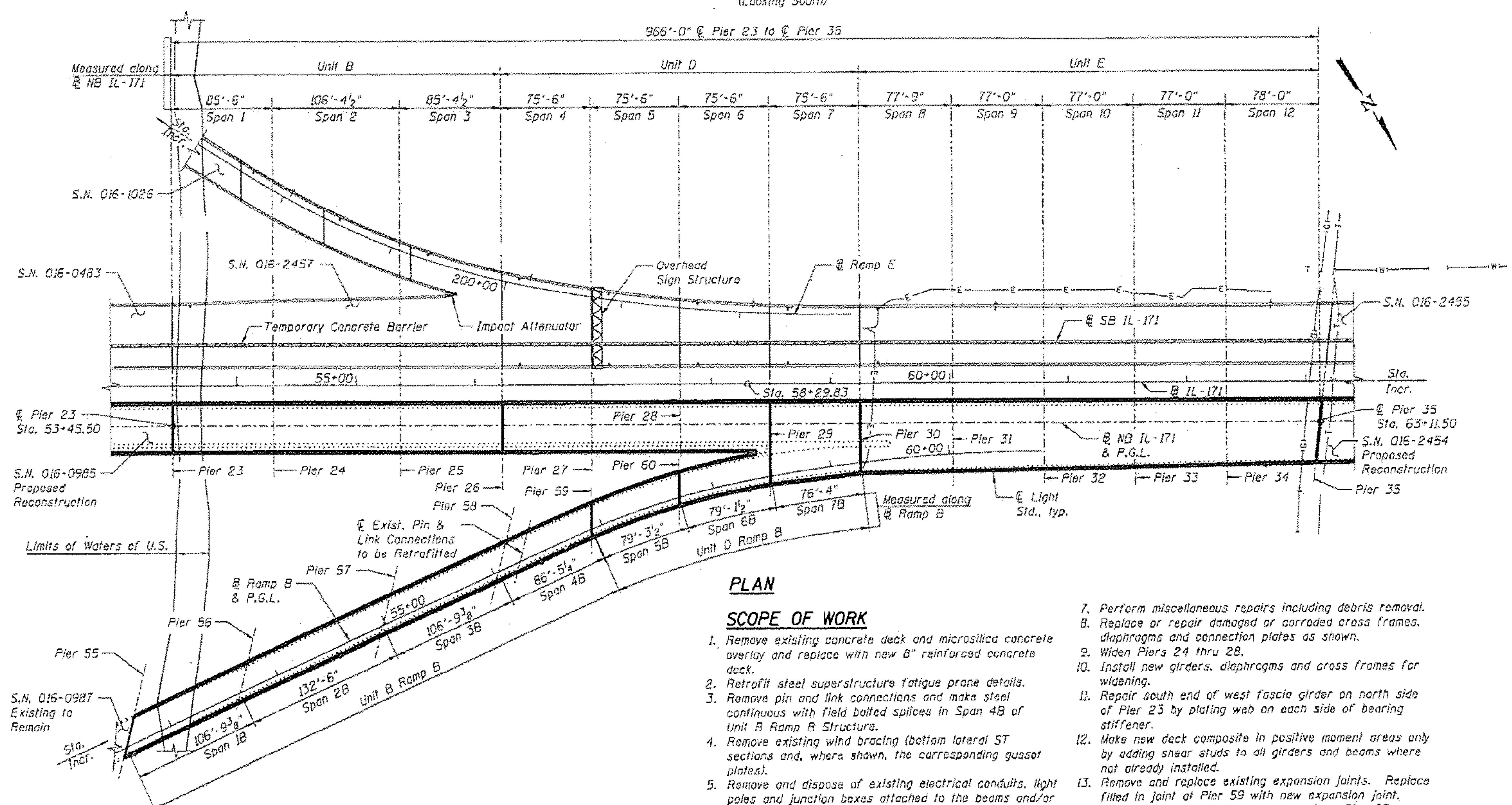
Existing Structure: S.N. 016-2456 (Northbound) was originally built in 1964 under Section 0707-675HB. The structure consists of a $5\frac{1}{2}$" concrete deck with a 2" microsilica overlay. The structure consists of a twelve span mainline bridge and a six span ramp bridge (Ramp B), supported by 15 multi-column and three solid wall concrete piers (55, 56 & 57), predominantly founded on steel BP-piles with a select few on the north side of the structure supported on spread footings. The mainline structure is 966'-0" centerline of pier to centerline of pier, with an out to out deck width which varies from 36'-0" to 69'-$2\frac{1}{4}$" with no skew angle (except at Pier 35). The Ramp B Structure has an out to out deck width of 28'-0", with a varying skew angle. Traffic to be maintained utilizing crossovers.

No salvage.

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.



ELEVATION
(Looking South)



PLAN

SCOPE OF WORK

1. Remove existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
2. Retrofit steel superstructure fatigue prone details.
3. Remove pin and link connections and make steel continuous with field bolted splices in Span 4B of Unit B Ramp B Structure.
4. Remove existing wind bracing (bottom lateral ST sections and, where shown, the corresponding gusset plates).
5. Remove and dispose of existing electrical conduits, light poles and junction boxes attached to the beams and/or deck. Add new conventional light poles.
6. Repair spalls and delaminations in substructures using structural repair of concrete.
7. Perform miscellaneous repairs including debris removal.
8. Replace or repair damaged or corroded cross frames, diaphragms and connection plates as shown.
9. Widen Piers 24 thru 28.
10. Install new girders, diaphragms and cross frames for widening.
11. Repair south end of west fascia girder on north side of Pier 23 by plating web on each side of bearing stiffener.
12. Make new deck composite in positive moment areas only by adding shear studs to all girders and beams where not already installed.
13. Remove and replace existing expansion joints. Replace filled in joint of Pier 59 with new expansion joint. Replace finger plate joint and trough at Pier 55.
14. Replace existing fixed bearings on south side of Pier 59 with new elastomeric bearings and steel extensions.

LOADING HS20-44

No future wearing surface allowed.

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

FIELD UNITS (Exist. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

DESIGN SPECIFICATIONS

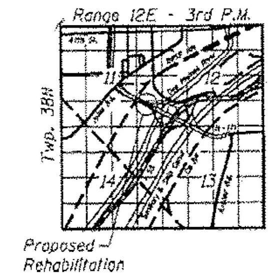
2002 AASHTO Standard Specifications for Highway Bridges

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

EXISTING UTILITY LEGEND

—E—E— Underground Electric Line
—T—T— Underground Telephone Line
—G— Underground Gas Line
—W— Underground Water Line



LOCATION SKETCH

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EXISTING GENERAL PLAN AND ELEVATION
SN: 016–2456

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	97
		CONTRACT NO. 62U38		

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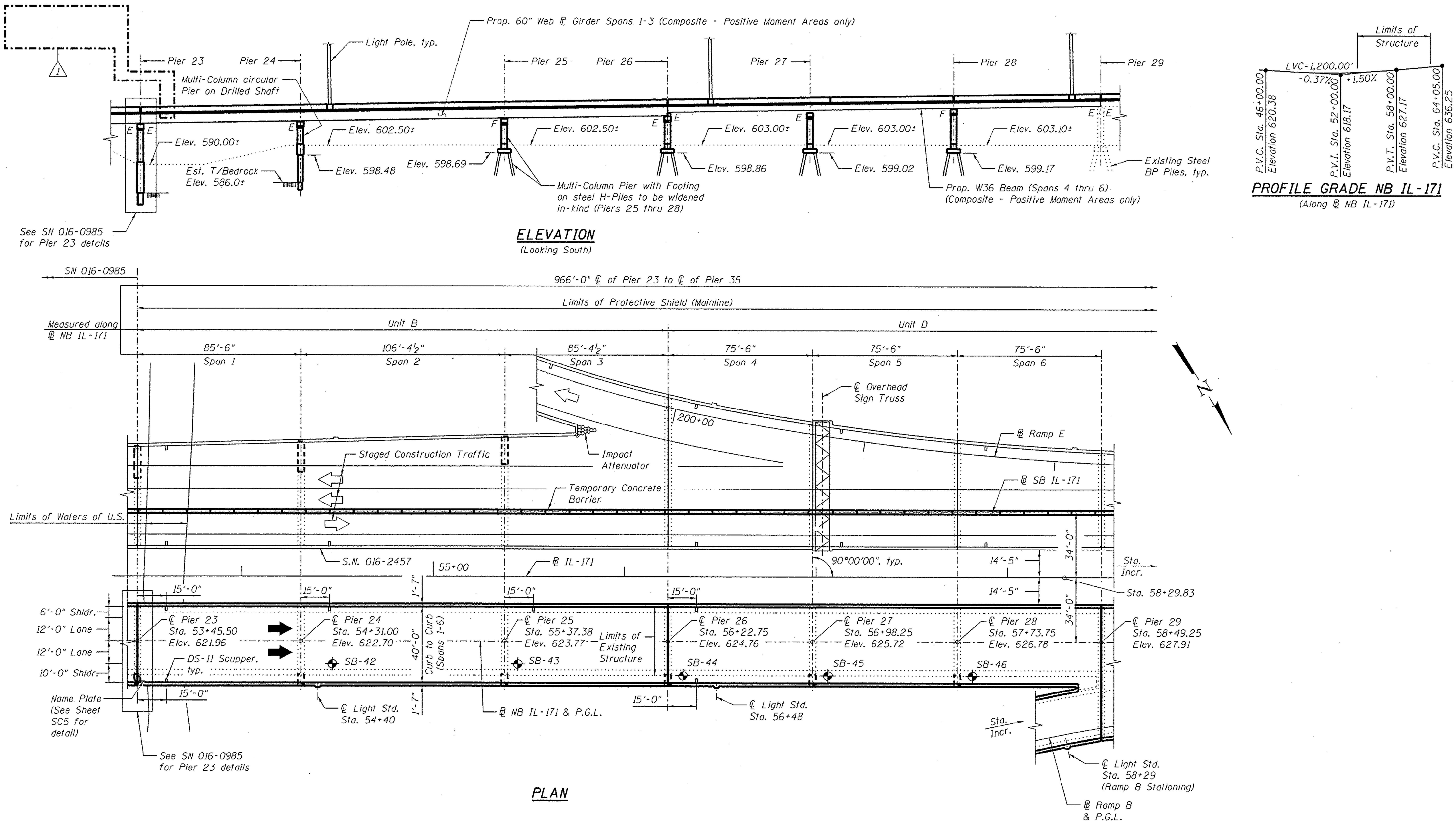

NOTE:
All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

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PLOT DATE = 12/13/2022	DATE -	REVISED -	

EXISTING GENERAL PLAN AND ELEVATION (UNITS B & D)
SN: 016–2456
SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	98

CONTRACT NO. 62U38
ILLINOIS FED. AID PROJECT

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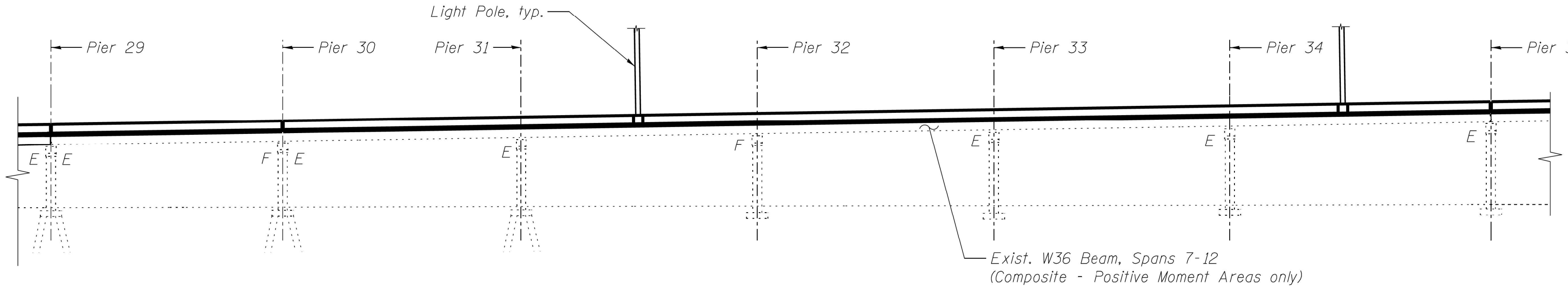
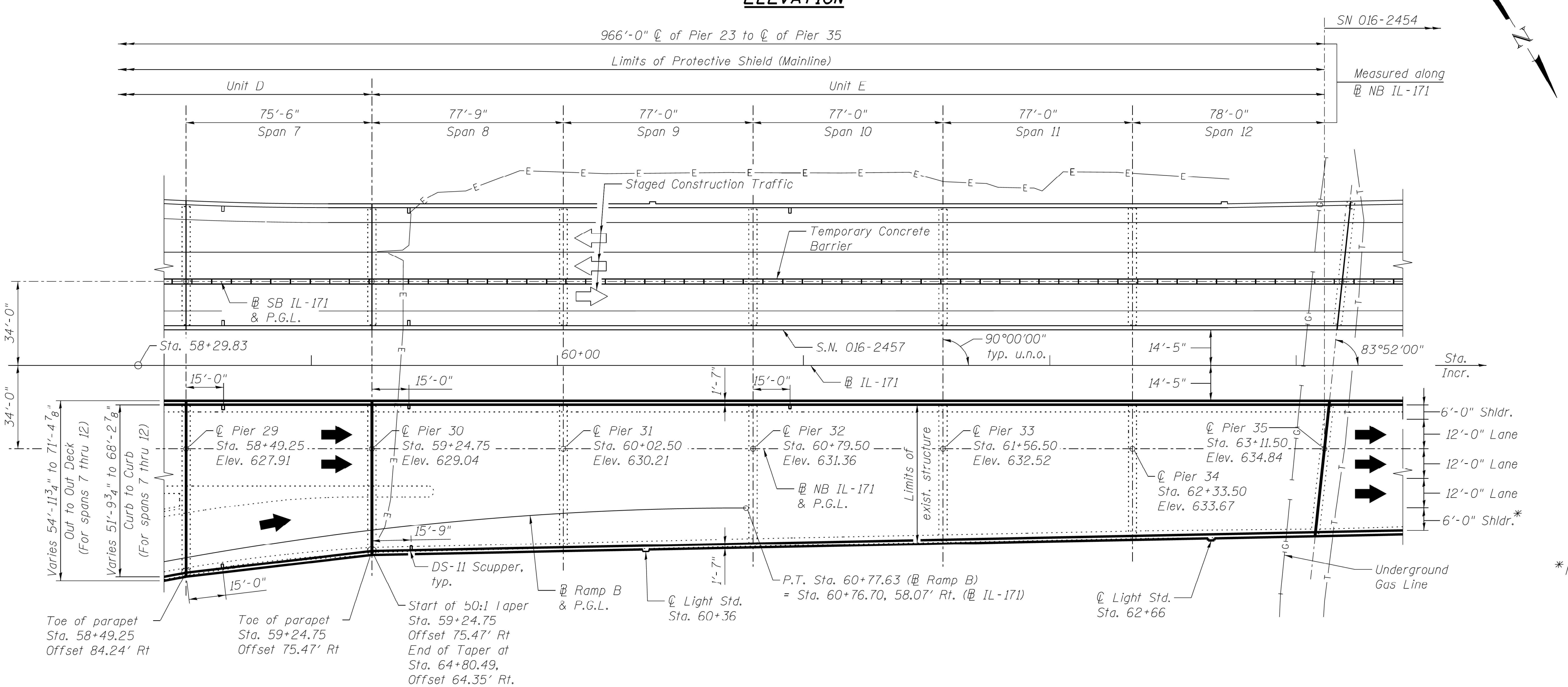


ELEVATION

EXISTING UTILITY LEGEND

- E — Underground Electric Line
- T — Underground Telephone Line
- G — Underground Gas Line
- W — Underground Water Line



*Minimum, width varies

PLAN

NOTE:

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING GENERAL PLAN AND ELEVATION (UNITS D & E)
SN: 016–2456

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 62U38		
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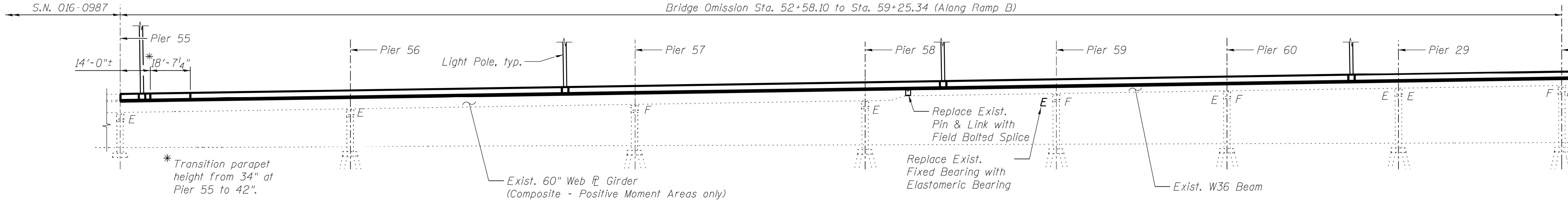
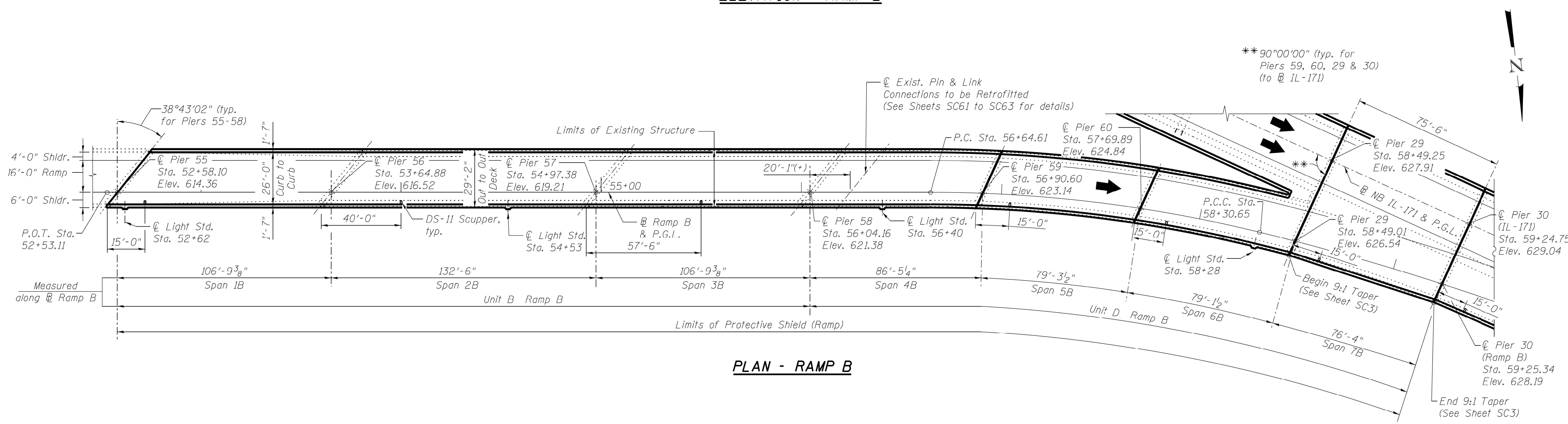


ELEVATION - RAMP B



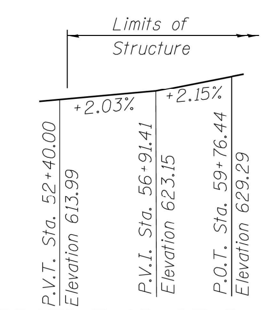
PLAN - RAMP B

CURVE DATA - ℄ RAMP B

CURVE RAMP B REV-1	CURVE RAMP B REV-2
P.I. Sta. = 57+48.03	P.I. Sta. = 59+54.51
Δ = 13°46'16" (RT)	Δ = 10°53'15" (RT)
D = 8°17'38"	D = 4°24'30"
R = 690.82'	R = 1,299.74'
T = 83.42'	T = 123.86'
L = 166.04'	L = 246.98'
E = 5.02'	E = 5.89'
P.C. Sta. = 56+64.61	P.C.C. Sta. = 58+30.65
P.C.C. Sta. = 58+30.65	P.T. Sta. = 60+77.63

S.E. DATA - RAMP B

2.0% to 2.38% S.E. = Sta. 55+50.00 to Sta. 55+75.00
2.38% to 3.25% S.E. = Sta. 55+75.00 to Sta. 56+00.00
3.25% to 3.94% S.E. = Sta. 56+00.00 to Sta. 56+25.00
3.94% to 4.69% S.E. = Sta. 56+25.00 to Sta. 56+50.00
4.69% to 5.38% S.E. = Sta. 56+50.00 to Sta. 56+75.00
5.38% to 6.50% S.E. = Sta. 56+75.00 to Sta. 57+15.00
6.50% S.E. = Sta. 57+15.00 to Sta. 58+15.00
6.50% to 5.30% S.E. = Sta. 58+15.00 to Sta. 58+45.00
5.30% S.E. = Sta. 58+45.00 to Sta. 58+80.00
5.30% to 2.00% S.E. = Sta. 58+80.00 to Sta. 59+75.00
Normal Crown = Sta. 59+75.00



PROFILE GRADE RAMP B
(Along ℄ Ramp B)

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EXISTING GENERAL PLAN AND ELEVATION (RAMP B)
SN: 016-2456
SCALE: SHEET OF SHEETS STA. TO STA.

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	FAP 372 22 VARIOUS BS	COOK	138	100

CONTRACT NO. 62U38
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