151

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	1
	ILLINOIS	CONTRACT NO. 70D77		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

FAP ROUTE 820 (IL-130)
SECTION [(1-G),(25)]BDR
PROJECT
EMBARRAS RIVER 1.5 MILES SOUTH OF CAMARGO
SCATTERING FORK 3.0 MILES SOUTH OF CAMARGO
BRIDGE REPAIRS
DOUGLAS COUNTY

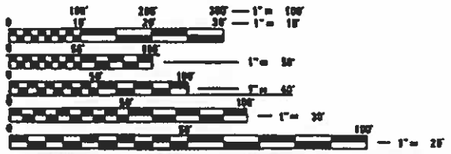
C-95-046-19

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-5

CURRENT TRAFFIC DATA
STR. 021-0030
STR. 021-0031

2018 ADT	=	1,650
2038 ADT	=	2,050
PU+PC %	=	95.0
SU %	=	3.0
MU%	=	5.0

DESIGN DESIGNATION
MINOR ARTERIAL



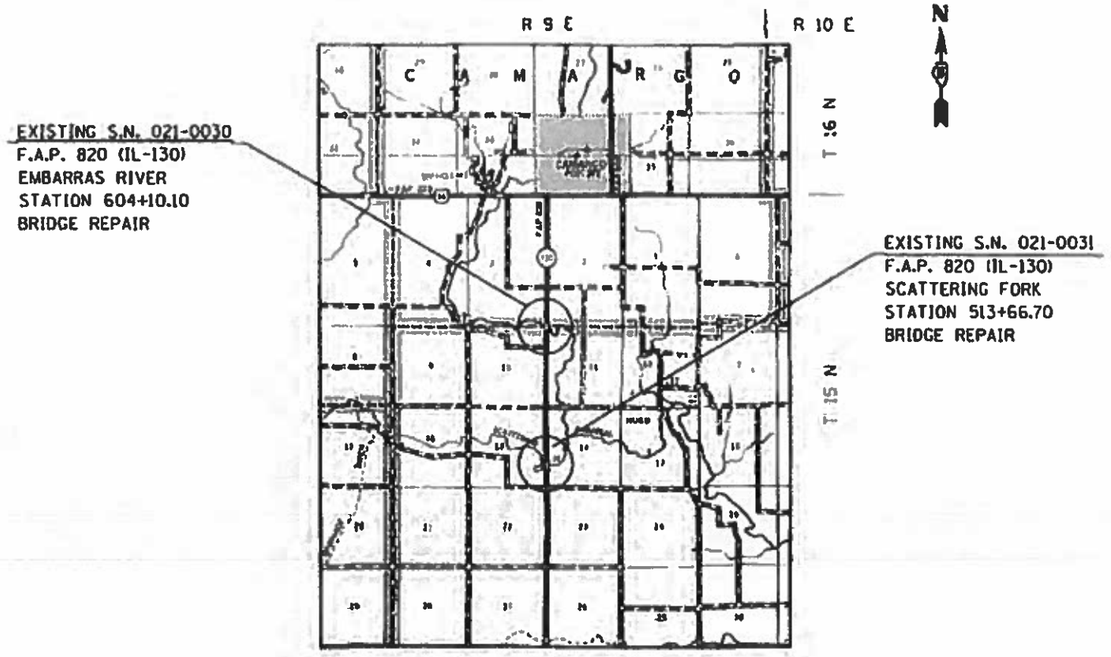
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

TOWNSHIPS: CAMARGO, BOWDRE

PROJECT ENGINEER: TIM BRANDENBURG
PROJECT MANAGER: ERIC SHAWLER
1-217-466-7102

CONTRACT NO. 70D77



GROSS LENGTH = x.xx FT. = x.xxx MILE
NET LENGTH = x.xx FT. = x.xxx MILE

D-95-041-19

LOCATION OF SECTION INDICATED THUS:-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED October 20 2019

DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER

Jan 31 20

ENGINEER OF DESIGN AND ENVIRONMENT

Jan 31 20

13

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS
2	LIST OF STANDARDS
2	GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5-6	CONCRETE BARRIER LAYOUTS
7-31	STRUCTURE PLANS S.N. 021-0030
32-53	STRUCTURE PLANS S.N. 021-0031
54-56	WIDTH RESTRICTION SIGNS

LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND FOOT
667101-02	PERMANENT SURVEY MARKERS
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15′ TO 24″ FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS > 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER

GENERAL NOTES

G.N.-100

ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-105.09A

ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.- Z0038

AN ALUMINUM TABLE OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

SEE R.E. FILE FOR CALCULATIONS AND SCHEDULES.

THERE ARE NO COMMITMENTS ASSOCIATED WITH THIS PROJECT.

MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d570077\CADData\CADsheets\D570077_sht_Index.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STANDARDS, GENERAL NOTES
S.N. 021–0030 & S.N. 021–0031

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	2
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

				DOUGLAS CO.	
				FAP 820 (IL-130)	
				RURAL / TWO-LANE	
				BRIDGE	
				100% STATE	
				0013	
				STATION	STATION
				604+10.10	513+66.70
CODE			TOTAL	S.N. 021-0030	S.N. 021-0031
NO.	ITEM	UNIT	QUANTITY	QUANTITY	QUANTITY
20200100	EARTH EXCAVATION	CU YD	88.0	44.0	44.0
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	7.0	4.0	3.0
48300100	PORTLAND CEMENT CONCRETE SHOULDERS 6"	SQ YD	520.0	261.0	259.0
50102400	CONCRETE REMOVAL	CU YD	21.3	11.8	9.5
50300255	CONCRETE SUPERSTRUCTURE	CU YD	21.2	11.8	9.4
50300300	PROTECTIVE COAT	SQ YD	61.0	33.0	28.0
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	6,440.0	3,970.0	2,470.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,420.0	1,320.0	1,100.0
50800515	BAR SPLICERS	EACH	48.0	24.0	24.0
52000110	PREFORMED JOINT STRIP SEAL	FOOT	174.0	94.0	80.0
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	22.0	10.0	12.0
52100520	ANCHOR BOLTS, 1"	EACH	44.0	20.0	24.0
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	6.0	3.0	3.0
67100100	MOBILIZATION	L SUM	1.0	0.5	0.5

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
S.N. 021–0030 & S.N. 021–0031

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	3
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

				DOUGLAS CO.	
				FAP 820 (IL-130)	
				RURAL / TWO-LANE	
				BRIDGE	
				100% STATE	
				0013	
				STATION	STATION
				604+10.10	513+66.70
CODE			TOTAL	S.N. 021-0030	S.N. 021-0031
NO.	ITEM	UNIT	QUANTITY	QUANTITY	QUANTITY
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2.0	1.0	1.0
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1.0	0.5	0.5
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2.0	1.0	1.0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	962.5	525.0	437.5
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	912.5	500.0	412.5
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4.0	2.0	2.0
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4.0	2.0	2.0
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1.0	0.5	0.5
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	22.0	10.0	12.0
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	5,760.0	3,320.0	2,440.0
Z0001905	STRUCTURAL STEEL REPAIR	POUND	7,100.0	3,170.0	3,930.0
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	26	15.0	11.0
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	26	15.0	11.0
Z0038700	PERMANENT BENCH MARKS	EACH	2.0	1.0	1.0

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
S.N. 021–0030 & S.N. 021–0031

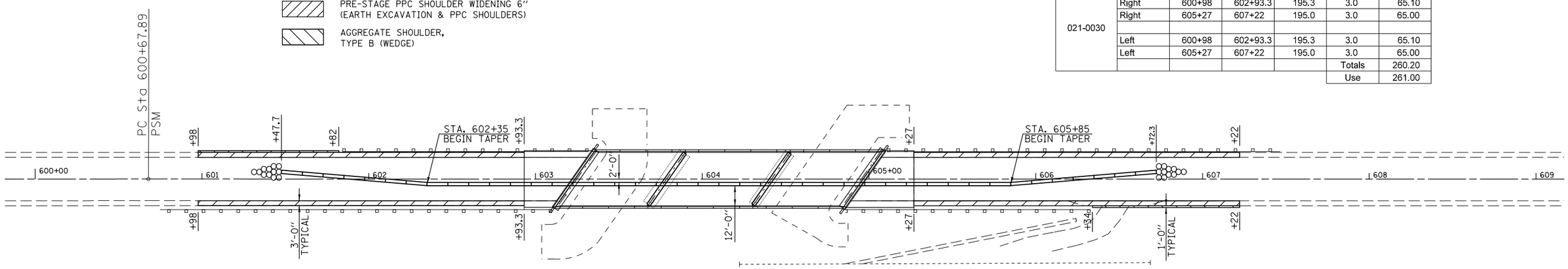
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	4
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

STAGE I CONSTRUCTION
S.N. 021–0030

PRE-STAGE PPC SHOULDER WIDENING 6"
(EARTH EXCAVATION & PPC SHOULDERS)

AGGREGATE SHOULDER,
TYPE B (WEDGE)



PORTLAND CEMENT CONCRETE SHOULDERS 6" (Pre-Stage PPC Shoulder 6") Stage I & II						
		Begin	End	Length	Shldr Width	Area
Structure	Side	Station	Station	(foot)	(foot)	(sq yd)
021-0030	Right	600+98	602+93.3	195.3	3.0	65.10
	Right	605+27	607+22	195.0	3.0	65.00
	Left	600+98	602+93.3	195.3	3.0	65.10
	Left	605+27	607+22	195.0	3.0	65.00
					Totals	260.20
					Use	261.00

EARTH EXCAVATION Stage I & II							
		Begin	End	Length	Shldr Width	Depth	Removal
Structure	Side	Station	Station	(foot)	(foot)	(foot)	(cu yd)
021-0030	Right	600+98	602+93.3	195.3	3.0	0.5	10.85
	Right	605+27	607+22	195.0	3.0	0.5	10.84
	Left	600+98	602+93.3	195.3	3.0	0.5	10.85
	Left	605+27	607+22	195.0	3.0	0.5	10.84
						Totals	43.38
						Use	44.00

AGGREGATE SHOULDER, TYPE B (WEDGE) (Pre-Stage) Stage I & II							
		Begin	End	Length	Shldr Width	Area	AGG.
Structure	Side	Station	Station	(foot)	(foot)	(cu yd)	Tons
021-0030	Right	606+34	607+22	88.0	1.0	0.82	1.68
	Left	600+98	601+82	84.0	1.0	0.78	1.60
						Totals	3.28
						Use	4.00

PLAN NOTES:

ALL STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321 AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH LOCATION.

ALL WORK WITHOUT TEMPORARY CONCRETE BARRIER IN PLACE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701201 AND 701206.

FOR ADDITIONAL DETAILS ASSOCIATED WITH TEMPORARY CONCRETE BARRIER, SEE HIGHWAY STANDARD 701321.

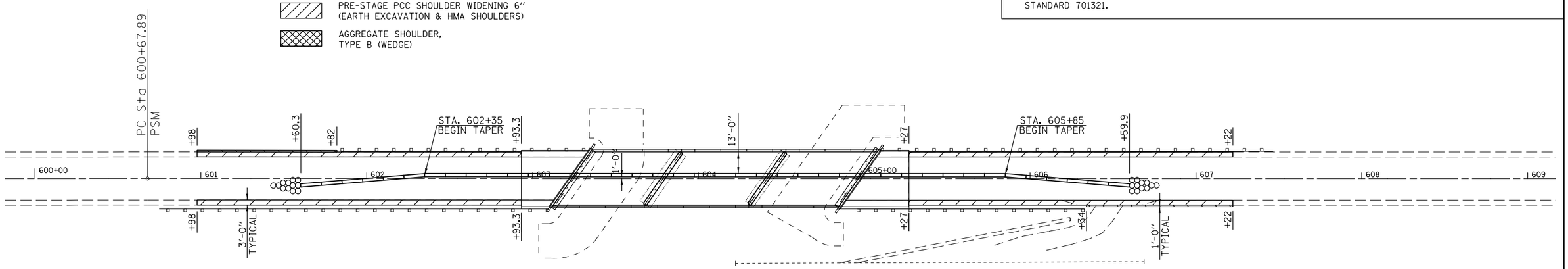
REFLECTOR SHALL BE ATTACHED TO GUARDRAIL AND BARRIER WALL AT 25 FOOT CENTERS. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER, AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED OR COVERED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

STAGE II CONSTRUCTION
S.N. 021–0030

PRE-STAGE PCC SHOULDER WIDENING 6"
(EARTH EXCAVATION & HMA SHOULDERS)

AGGREGATE SHOULDER,
TYPE B (WEDGE)



BILL OF MATERIALS

ITEM	UNIT	TOTAL
EARTH EXCAVATION	CU YD	44.0
PORLAND CEMENT CONCRETE SHOULDERS 6"	SQ YD	261.0
AGGREGATE WEDGE SHOULDERS, TYPE B	TONS	4.0
TEMPORARY CONRETE BARRIER	FOOT	525.0
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	500.0
IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.0
IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.0

USER NAME = shawleres	DESIGNED - ESS	REVISED -
	DRAWN - ESS	REVISED -
PLOT SCALE = 60.0000 ' / in.	CHECKED - TJB	REVISED -
PLOT DATE = 11/21/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER DETAILS
S.N. 021–0030

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

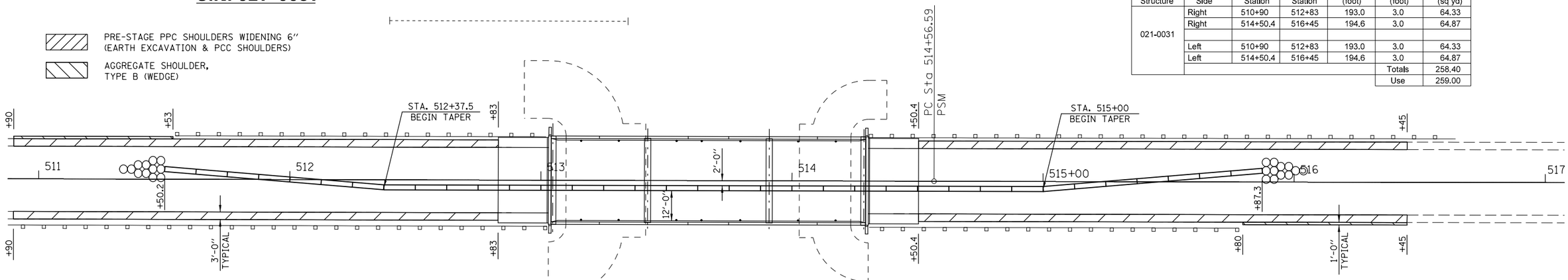
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	5
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

MODEL: $MODELNAME$
FILE NAME: pw:\\dbnroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\D5 70D77\CADData\CADSheets\D570D77 dlt_staplnu.dgn

STAGE I CONSTRUCTION
S.N. 021–0031

PRE-STAGE PPC SHOULDERS WIDENING 6"
(EARTH EXCAVATION & PCC SHOULDERS)

AGGREGATE SHOULDER,
TYPE B (WEDGE)



PORTLAND CEMENT CONCRETE SHOULDERS 6" (Pre-Stage PCC Shoulders) Stage I & II						
		Begin	End	Length	Shldr Width	Area
Structure	Side	Station	Station	(foot)	(foot)	(sq yd)
021-0031	Right	510+90	512+83	193.0	3.0	64.33
	Right	514+50.4	516+45	194.6	3.0	64.87
	Left	510+90	512+83	193.0	3.0	64.33
	Left	514+50.4	516+45	194.6	3.0	64.87
					Totals	258.40
					Use	259.00

EARTH EXCAVATION Stage I & II							
		Begin	End	Length	Shldr Width	Depth	Removal
Structure	Side	Station	Station	(foot)	(foot)	(foot)	(cu yd)
021-0031	Right	510+90	512+83	193.0	3.0	0.5	10.72
	Right	514+50.4	516+45	194.6	3.0	0.5	10.81
	Left	510+90	512+83	193.0	3.0	0.5	10.72
	Left	514+50.4	516+45	194.6	3.0	0.5	10.81
						Totals	43.06
						Use	44.00

AGGREGATE SHOULDER, TYPE B (WEDGE) (Pre-Stage) Stage I & II							
		Begin	End	Length	Shldr Width	Area	AGG.
Structure	Side	Station	Station	(foot)	(foot)	(cu yd)	Tons
021-0031	Right	515+80	516+45	65.0	2.0	0.61	1.25
	Left	510+90	511+53	63.0	2.0	0.59	1.21
						Totals	2.46
						Use	3.00

PLAN NOTES:

ALL STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321 AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH LOCATION.

ALL WORK WITHOUT TEMPORARY CONCRETE BARRIER IN PLACE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701201 AND 701206.

FOR ADDITIONAL DETAILS ASSOCIATED WITH TEMPORARY CONCRETE BARRIER, SEE HIGHWAY STANDARD 701321.

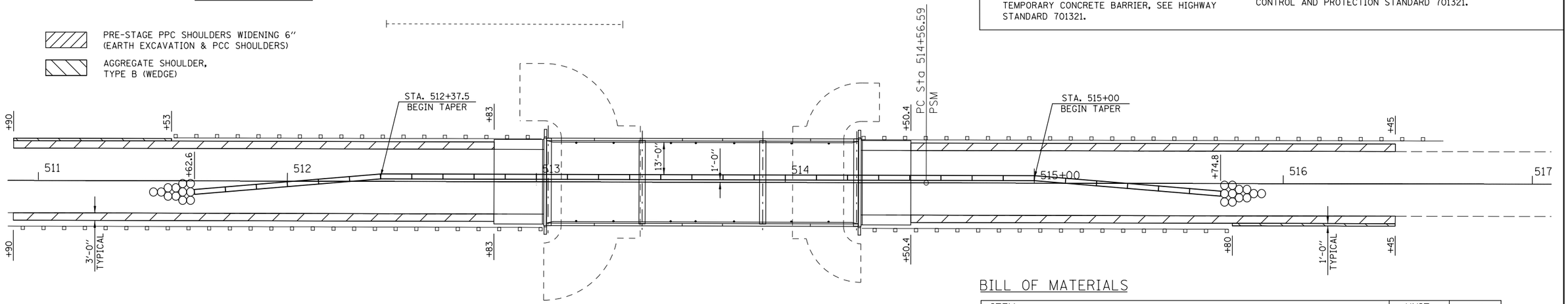
REFLECTOR SHALL BE ATTACHED TO GUARDRAIL AND BARRIER WALL AT 25 FOOT CENTERS. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER, AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED OR COVERED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

STAGE II CONSTRUCTION
S.N. 021–0031

PRE-STAGE PPC SHOULDERS WIDENING 6"
(EARTH EXCAVATION & PCC SHOULDERS)

AGGREGATE SHOULDER,
TYPE B (WEDGE)



BILL OF MATERIALS

ITEM	UNIT	TOTAL
EARTH EXCAVATION	CU YD	44.0
PORLAND CEMENT CONCRETE SHOULDERS 6"	SQ YD	259.0
AGGREGATE WEDGE SHOULDERS, TYPE B	TONS	3.0
TEMPORARY CONRETE BARRIER	FOOT	437.5
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	412.5
IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.0
IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.0

MODEL: $MODELNAME$
FILE NAME: pw:\\dothanoom.dot.illinois.gov:PWIDOTDocuments:IDOT Offices\District 5\Projects\D570D77\CADData\CADSheets\D570D77_GN_standno.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER DETAILS
S.N. 021–0031

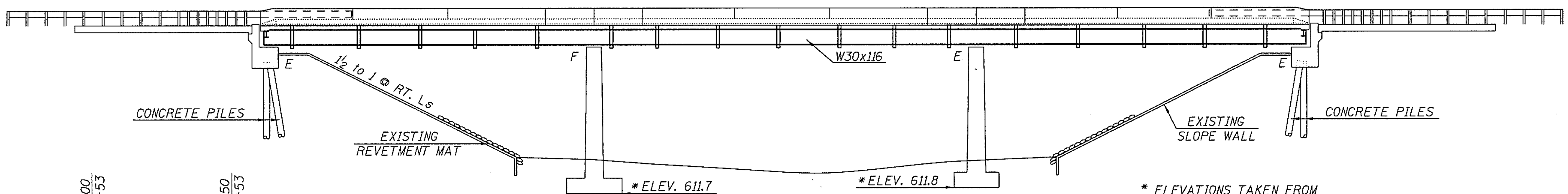
SCALE: | SHEET OF SHEETS | STA. | TO STA.

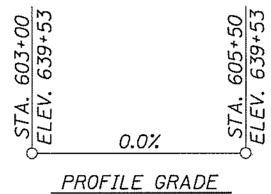
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	6
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

STRUCTURE NO. 021-0030 BUILT AS FAS RTE. 524 SECTION 25B IN 1955 AT STATION 104+10. A THREE SPAN CONTINUOUS STEEL WF BEAM STRUCTURE, 2 SPANS @ 53'-10½" AND 1 @ 62'-11" SKEWED 35 DEGREES LEFT FORWARD SUPPORTED BY SPILL THRU ABUTMENTS AND SOLID CONCRETE PIERS. IN 1987 WAS RECONSTRUCTED AS FA RTE. 820, SECTION 25BR AT 604+10. THE EXISTING SUBSTRUCTURE WAS WIDENED, THE DECK AND SUPERSTRUCTURE WERE REMOVED AND REPLACED WITH FIVE W30X116 CONTINUOUS STEEL BEAMS AND 7½" CONCRETE DECK. THE BACK TO BACK ABUTMENTS LENGTH IS 175'-6". AN OUT TO OUT WIDTH OF 35'-2" AND A CLEAR WIDTH OF 32'-0" FACE TO FACE OF PARAPET.

WORK SHALL BE COMPLETED WITH STAGE CONSTRUCTION.

GENERAL PLAN & ELEVATION
S.N. 021-0030

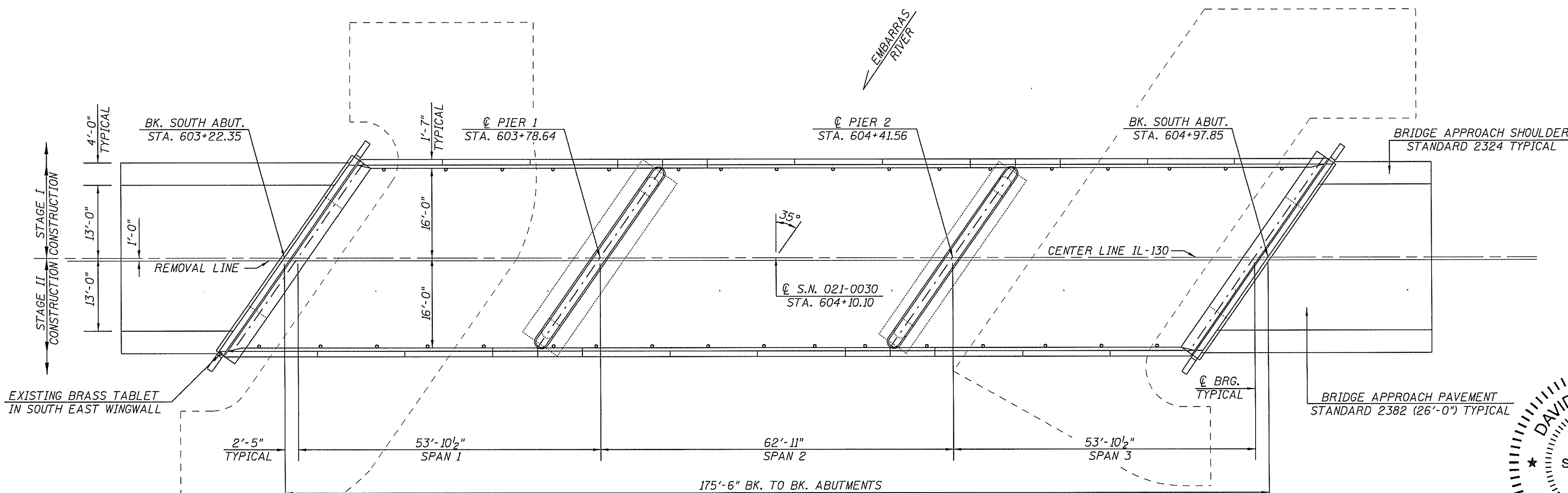




* ELEVATIONS TAKEN FROM AS-BUILT PLANS AND ARE SHOWN FOR PERSPECTIVE ONLY.

N

ELEVATION



PLAN VIEW

DAVID CARL PUZEY
081.005470
LICENSED
STRUCTURAL
ENGINEER
OF
STATE OF ILLINOIS

[illegible] 1/27/20
Expires 11/30/20

MODEL: $MODELNAME$
FILE NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CADData\CADsheets\D570D77_sht_Str.021-0030_CM.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION S.N. 021-0030
	DRAWN - ESS	REVISED -		
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -		
PLOT DATE = 11/21/2019	DATE -	REVISED -		SCALE: SHEET 1 OF 25 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	7
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

SCOPE OF WORK

1. COMPLETE BRIDGE DECK PATCHING, REMOVAL DECK ENDS, PARAPETS, AND HATCH BLOCKS.
2. COMPLETE STRUCTURAL STEEL REPAIR, REPLACE BEARINGS AND END DIAPHRAGMS.
3. CAST DECK ENDS, PARAPET ENDS AND HATCH BLOCKS.
4. PLACE STRIP SEAL.

TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	CU YD	11.8
CONCRETE SUPERSTRUCTURE	CU YD	11.8
PROTECTIVE COAT	SQ YD	33.0
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3,970.0
REINFORCEMENT BARS (EPOXY COATED)	POUND	1,320.0
BAR SPLICERS	EACH	24.0
PREFORMED JOINT STRIP SEAL	FOOT	94.0
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10.0
ANCHOR BOLTS 1"	EACH	20.0
JACK AND REMOVE EXISTING BEARINGS	EACH	10.0
STRUCTURAL STEEL REMOVAL	POUND	3,320.0
STRUCTURAL STEEL REPAIR	POUND	3,170.0
DECK SLAB REPAIR (FULL-DEPTH, TY I)	SQ YD	15.0
DECK SLAB REPAIR (PARTIAL)	SQ YD	15.0
PERMANENT BENCH MARK	EACH	1.0

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR LOOSE RUST, LOOSE MILL SCALE, AND OTHER LOOSE OR POTENTIALLY DETRIMENTAL FOREIGN MATERIAL SHALL BE REMOVED FROM THE SURFACES IN CONTACT WITH THE CONCRETE. TIGHTLY ADHERED PAINT MAY REMAIN UNLESS OTHERWISE NOTED. REMOVAL SHALL BE ACCOMPLISHED BY METHODS THAT WILL NOT DAMAGE THE STEEL AND THE COST WILL BE INCLUDED IN THE PAY ITEM COVERING REMOVAL OF THE EXISTING CONCRETE.

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

EXISTING STRUCTURAL STEEL THAT WILL BE IN CONTACT WITH NEW STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED PRIOR TO ERECTION AS REQUIRED BY THE SPECIAL PROVISION "CLEANING AND PAINTING CONTACT SURFACE AREAS OF EXISTING STEEL STRUCTURES".

ALL NEW STRUCTURAL STEEL AND BEARING ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED. SEE SPECIAL PROVISIONS FOR "HOT DIP GALVANIZING FOR STRUCTURAL STEEL".

ALL CROSS FRAMES OR DIAPHRAGMS SHALL BE INSTALLED AS STEEL IS ERECTED AND SECURED WITH ERECTION PINS AND BOLTS EXCEPT AS OTHERWISE NOTED. INDIVIDUAL CROSS FRAMES OR DIAPHRAGMS AT SUPPORTS MAY BE TEMPORARILY DISCONNECTED TO INSTALL BEARING ANCHOR RODS.

ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO CLASSIFICATION M-270, GR. 50, UNLESS OTHERWISE NOTED.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 520.04 OF THE STD. SPECS. WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50° F.

AREAS OF DECK SLAB REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK SLAB REPAIRS ON AS-BUILT PLANS.

SEE SPECIAL PROVISION "DECK SLAB REPAIR" FOR ADDITIONAL REQUIREMENTS PERTAINING TO DECK SLAB REPAIR.

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

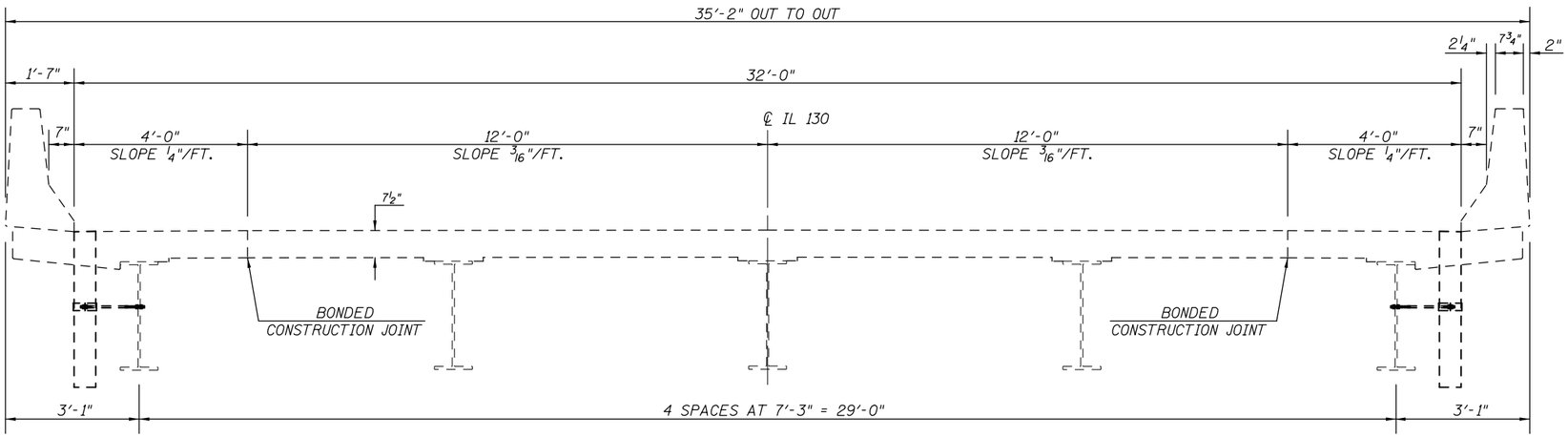
TOTAL BILL OF MATERIALS & GENERAL NOTES
S.N. 021–0030

SCALE: | SHEET 2 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	8
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

EXISTING DECK CROSS SECTION

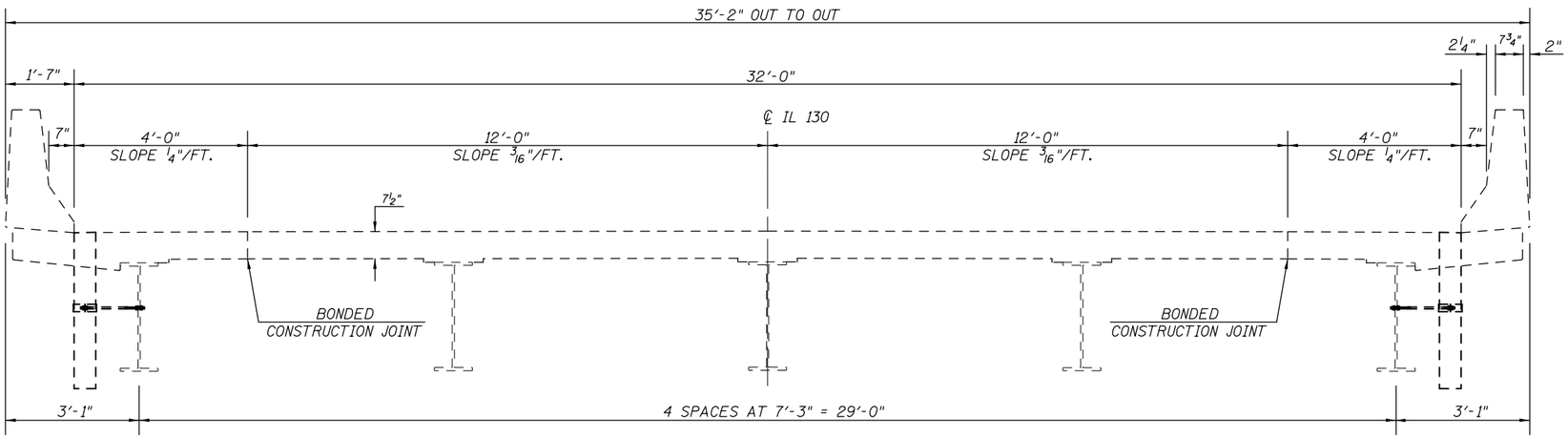
S.N. 021–0030



LOOKING NORTH

PROPOSED DECK CROSS SECTION

S.N. 021–0030



LOOKING NORTH

MODEL: $MODELNAME$
FILE NAME: pw:\\dlanroom.dot.illinois.gov:PWIDOT1Documents\IDOT Offices\District 5\Projects\D5770D77\CADData\CADsheets\D5770D77_dht_Str.021-0030_CM.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	**STATE OF ILLINOIS**
	DRAWN - ESS	REVISED -	**DEPARTMENT OF TRANSPORTATION**
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

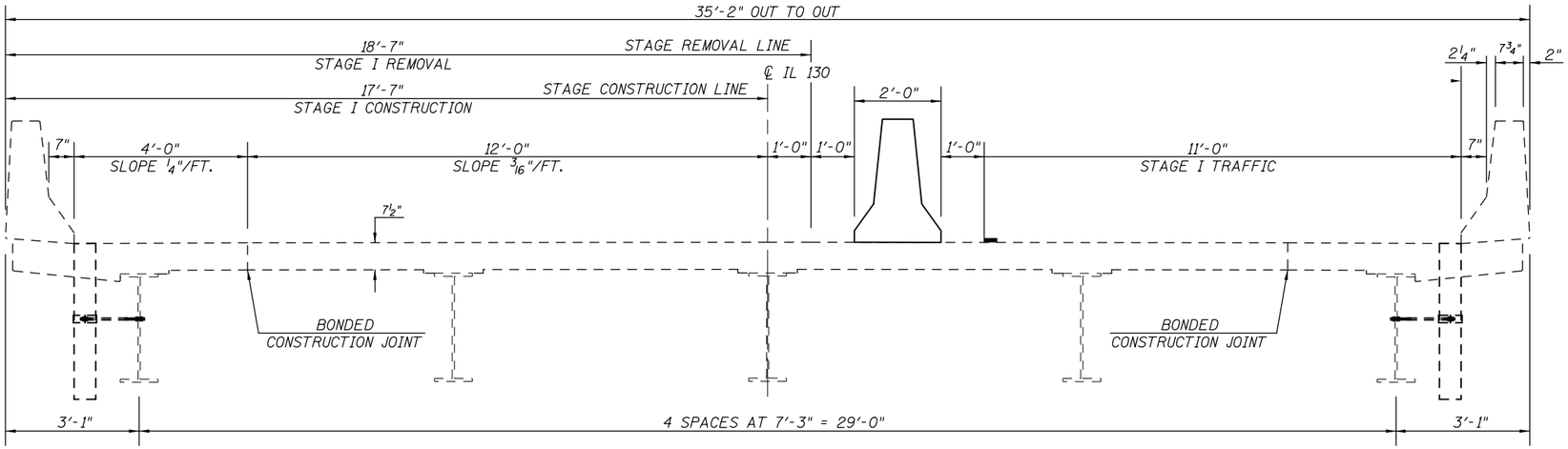
DECK CROSS SECTION
S.N. 021–0030

SCALE: | SHEET 3 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	9
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

STAGE I CONSTRUCTION DETAIL

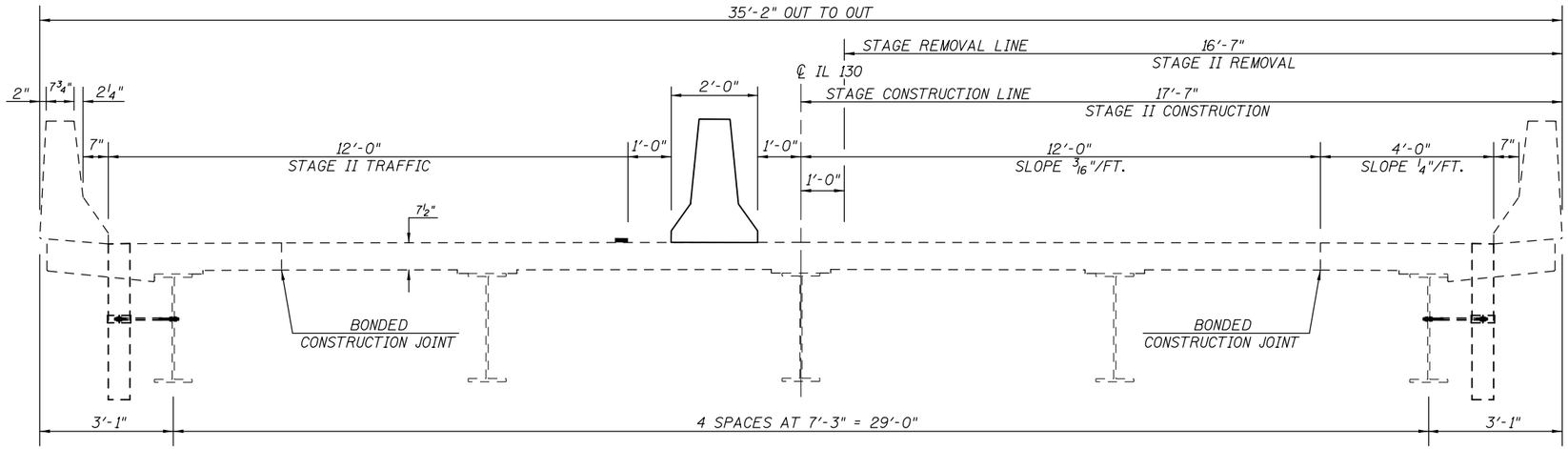
S.N. 021–0030



LOOKING NORTH

STAGE II CONSTRUCTION DETAIL

S.N. 021–0030



LOOKING NORTH

MODEL: $MODELNAME$
FILE NAME: pw:\\dlanroom.dot.illinois.gov:PWIDOT1Documents\IDOT Offices\District 5\Projects\D5770D77\CADData\CADsheets\D5770D77_dht_Str.021-0030_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	ESS
	DRAWN -	REVISED -	ESS
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	TJB
PLOT DATE = 11/21/2019	DATE -	REVISED -	

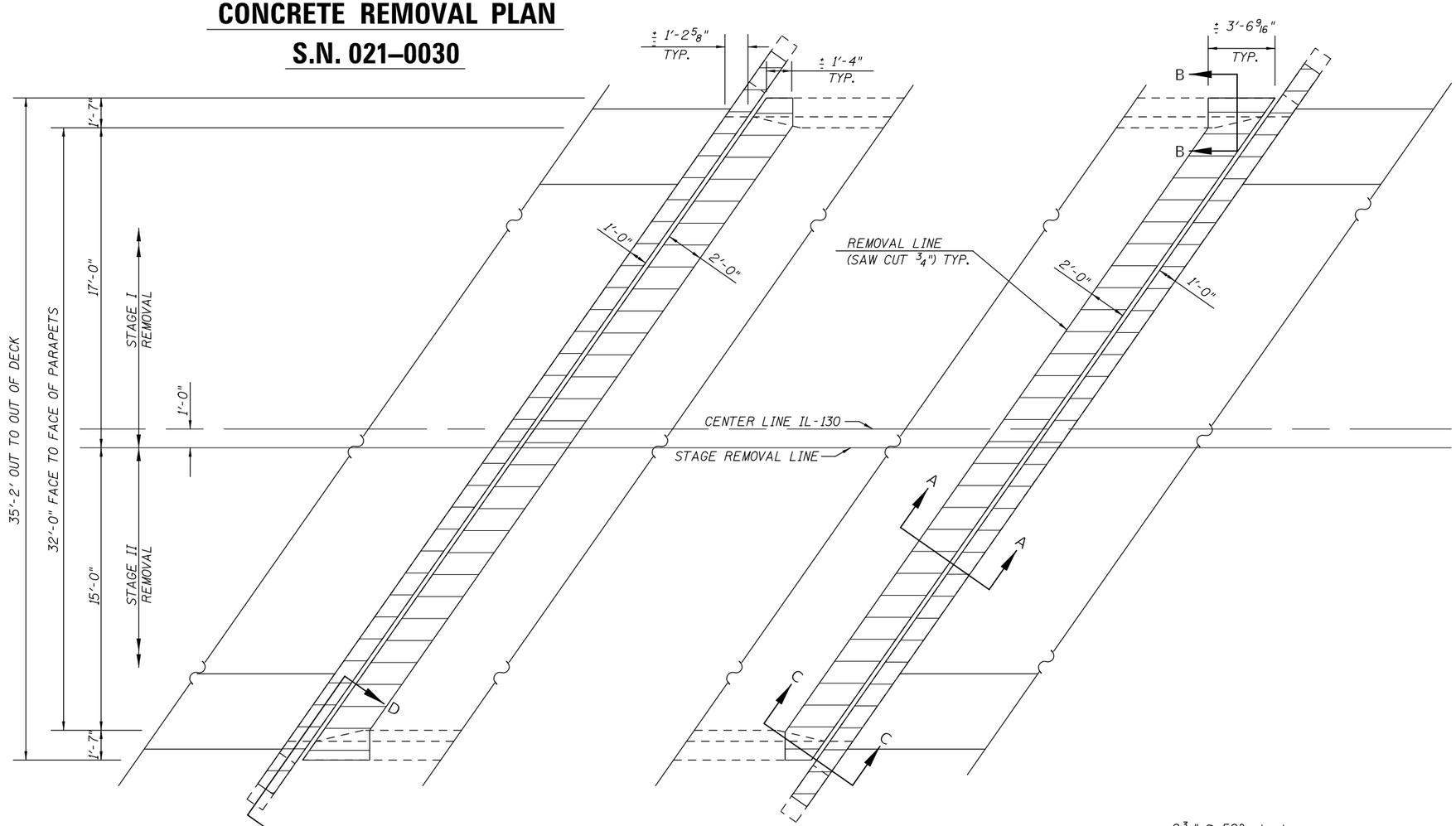
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
S.N. 021–0030

SCALE: | SHEET 4 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	10
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	

CONCRETE REMOVAL PLAN
S.N. 021–0030

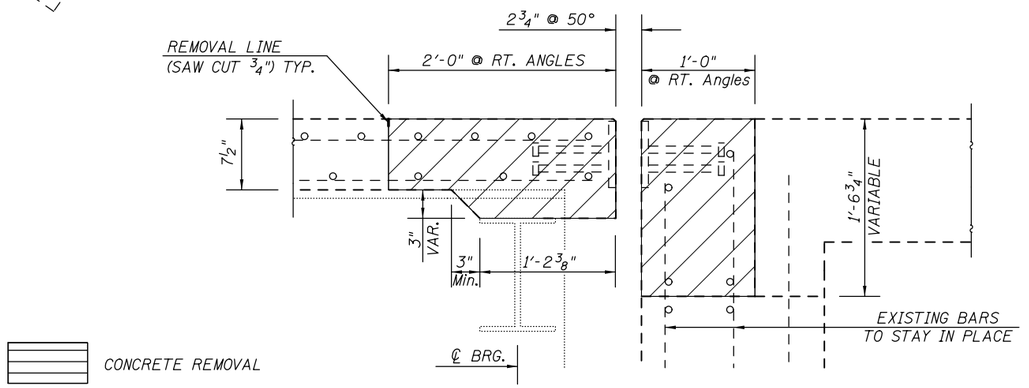


PLAN VIEW
CONCRETE REMOVAL

NOTE:

THE EXISTING EXPANSION JOINT SYSTEM SHALL BE REMOVED COMPLETELY, AS WELL AS ANY FOREIGN MATERIAL THAT HAS ACCUMULATED OR BEEN PLACED IN THE JOINT OPENINGS. THE COST OF THIS WORK IS INCLUDED IN CONCRETE REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE GUARDRAIL WITHIN THE PARAPET REMOVAL AND REPLACEMENT LIMITS SHALL BE REMOVED TO ALLOW FOR THE REPAIR WORK TO BE COMPLETED. THE CONTRACTOR IS TO SAFELY STORE REMOVED MATERIAL. FOLLOWING COMPLETION OF REPAIR WORK THE CONTRACTOR TO EITHER SAVE AND RE-USE THE EXISTING CAST-IN-PLACE ANCHOR SYSTEM OR USE EPOXY-GROUTED THREADED RODS TO RE-ATTACH THE EXISTING GUARDRAIL. THE COST OF THIS WORK IS INCLUDED IN CONCRETE REMOVAL AND CONCRETE SUPERSTRUCTURE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.



SECTION A–A
CONCRETE REMOVAL

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

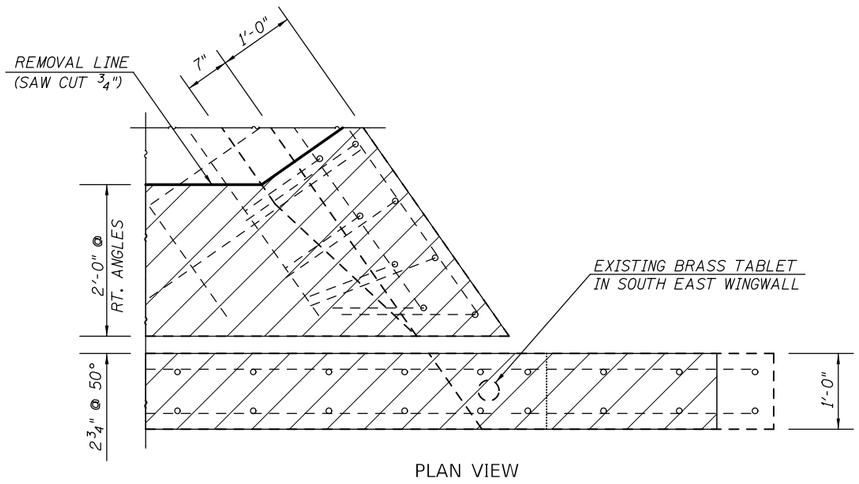
CONCRETE REMOVAL DETAIL – JOINTS
S.N. 021–0030

SCALE: | SHEET 5 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	11
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

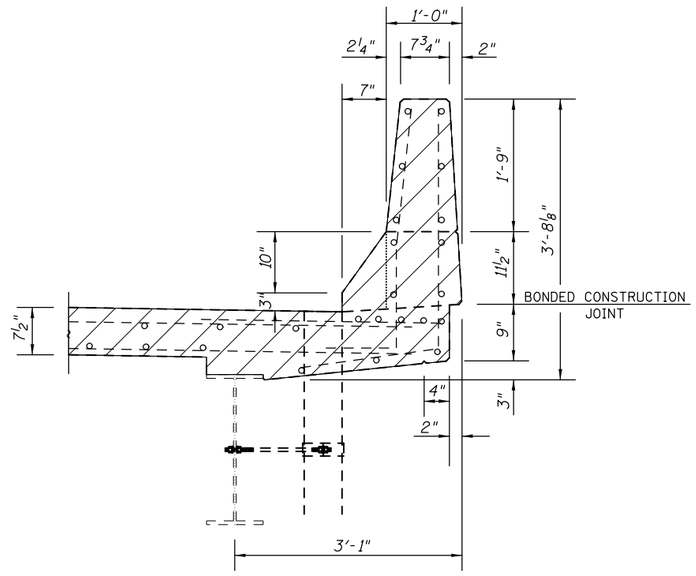
MODEL: $MODELNAME$
FILE NAME: p:\tplanroom.dat\Illinois.gov\PWIDOT\Documents\IDOT Offices\Districts 5\Projects\D5T077X\CADData\CADsheets\D5T077X_4IM_5ft-021-0030_CM.dgn

CONCRETE REMOVAL DETAILS
S.N. 021–0030

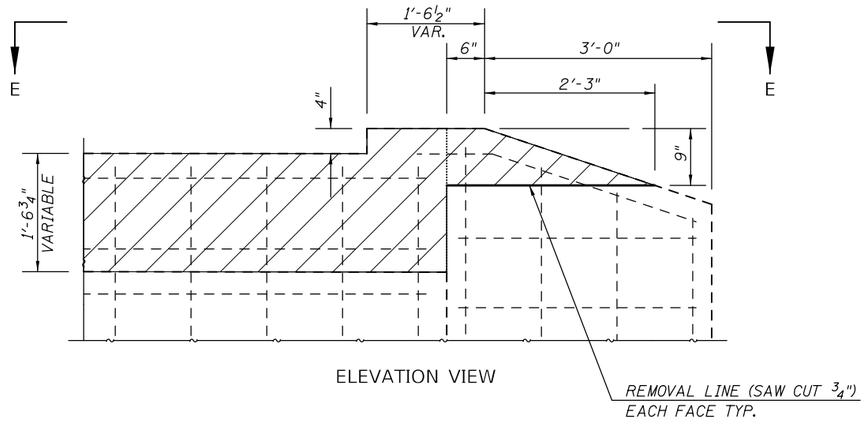


PLAN VIEW

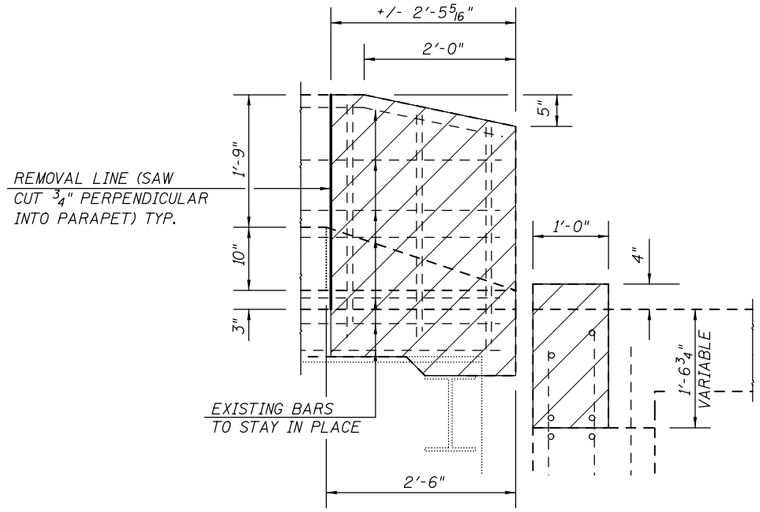
VIEW E–E
CONCRETE REMOVAL
ALL WINGWALLS (SIMILAR)



SECTION B–B
CONCRETE REMOVAL



SECTION D–D
CONCRETE REMOVAL
ALL WINGWALLS (SIMILAR)



SECTION C–C
CONCRETE REMOVAL

CONCRETE REMOVAL

BILL OF MATERIALS

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	CU YD	11.8

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

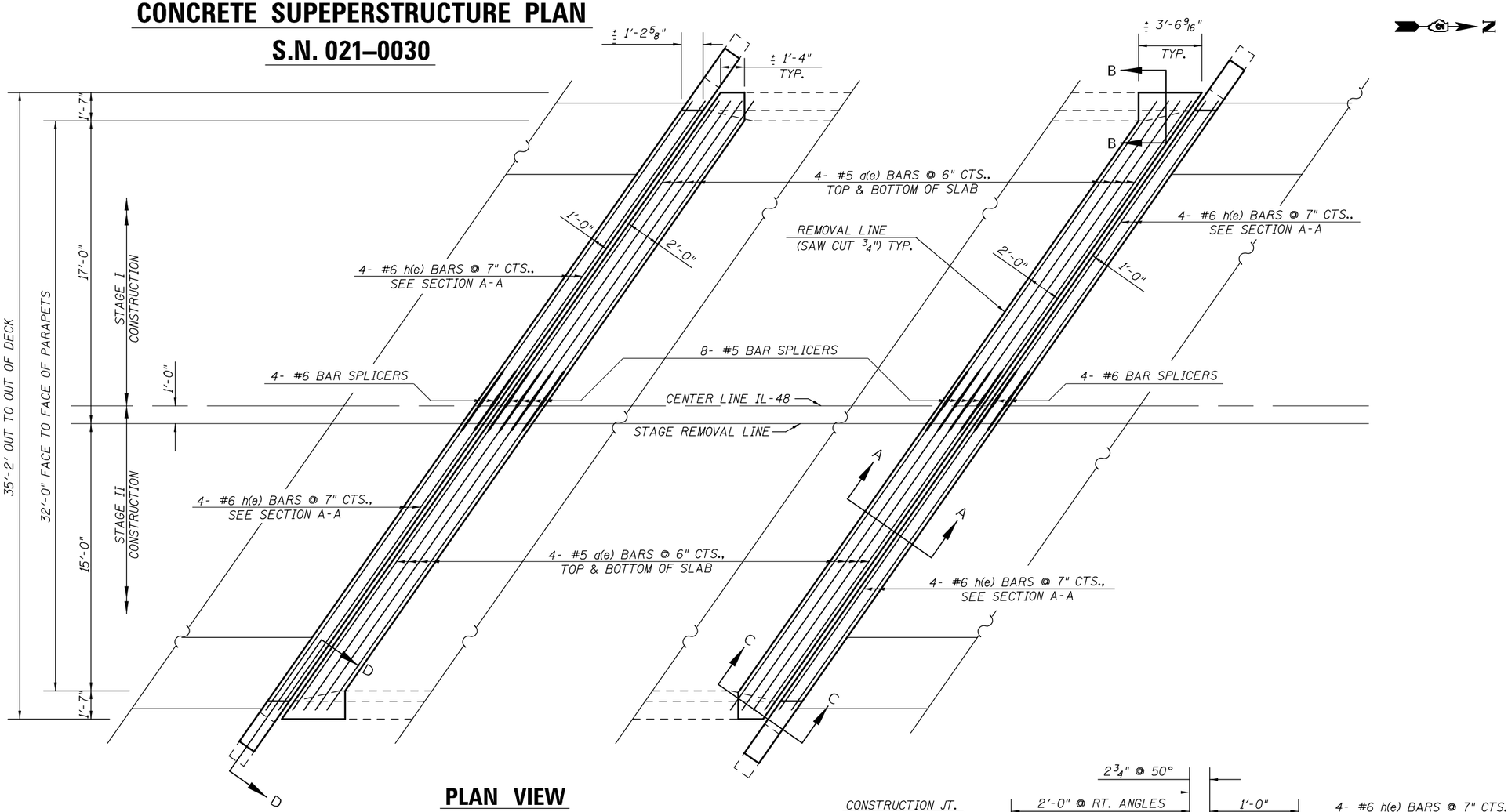
CONCRETE REMOVAL DETAIL – JOINTS
S.N. 021–0030

SCALE: | SHEET 6 OF 25 SHEETS | STA. | TO STA.

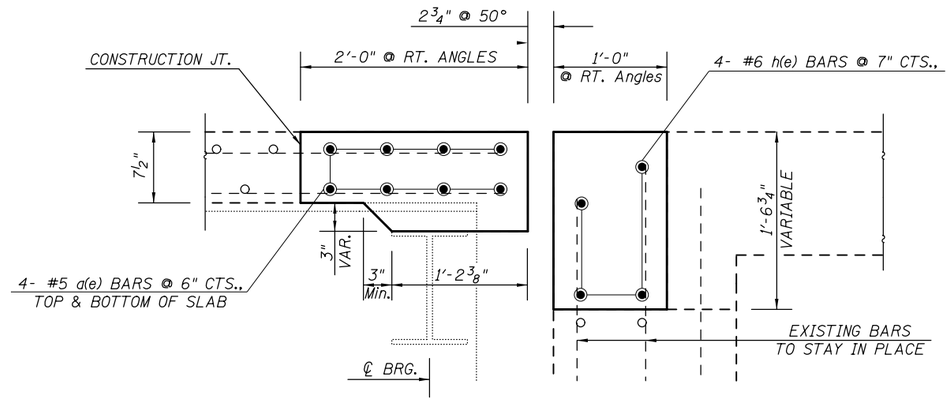
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	12
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d5570077\CADData\CADsheets\D5700T7 sht 5tr.021-0030_CM.dgn

CONCRETE SUPEPERSTRUCTURE PLAN
S.N. 021–0030



PLAN VIEW
CONCRETE REMOVAL



SECTION A–A
CONCRETE REMOVAL

USER NAME = shawleres	DESIGNED - ESS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

CONCRETE SUPERSTRUCTURE – JOINTS
S.N. 021–0030

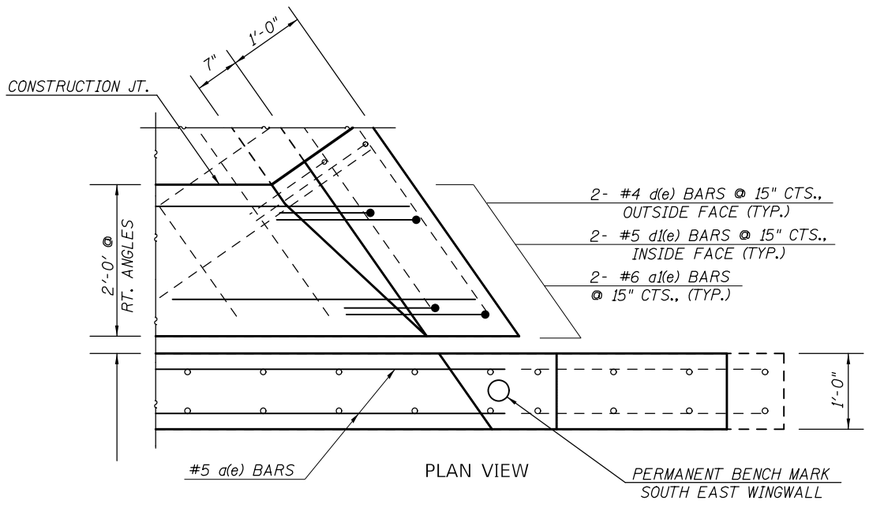
SCALE: | SHEET 7 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	13
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\Districts 5\Projects\D5770177\CADD\data\CADsheets\D5770177_sht_5ft-021-0030_CM.dgn

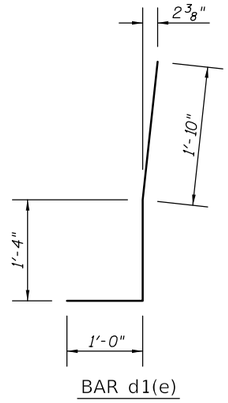
CONCRETE SUPERSTRUCTURE DETAILS

S.N. 021–0030

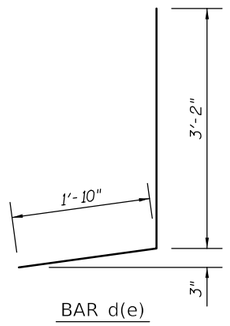


VIEW E–E
CONCRETE SUPERSTRUCTURE

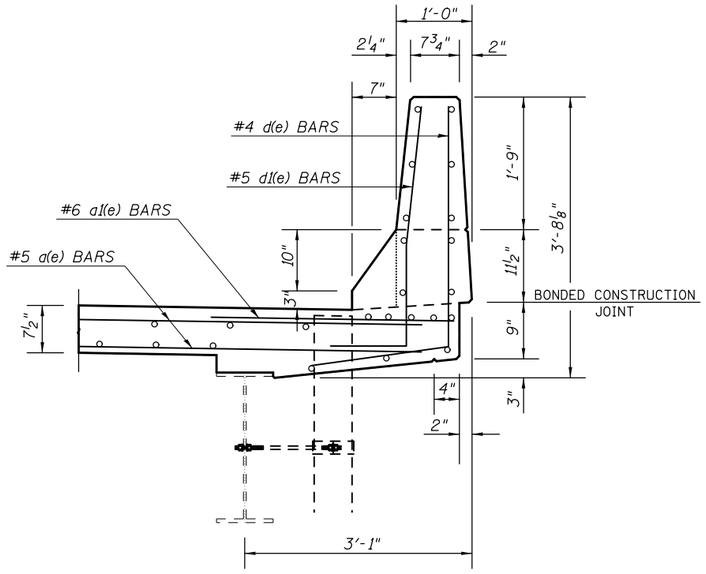
ALL WINGWALLS (SIMILAR)



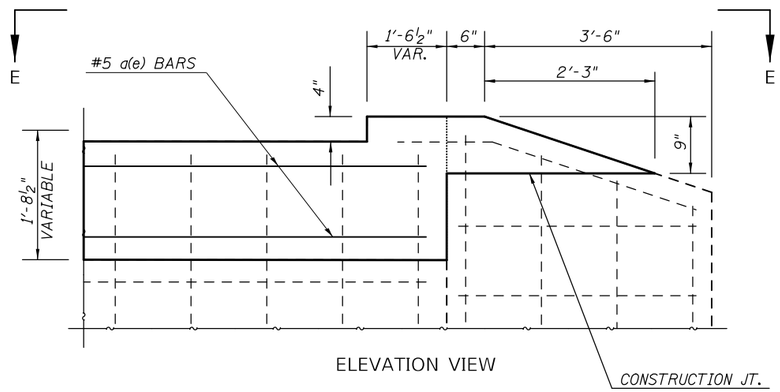
BAR d1(e)



BAR d(e)

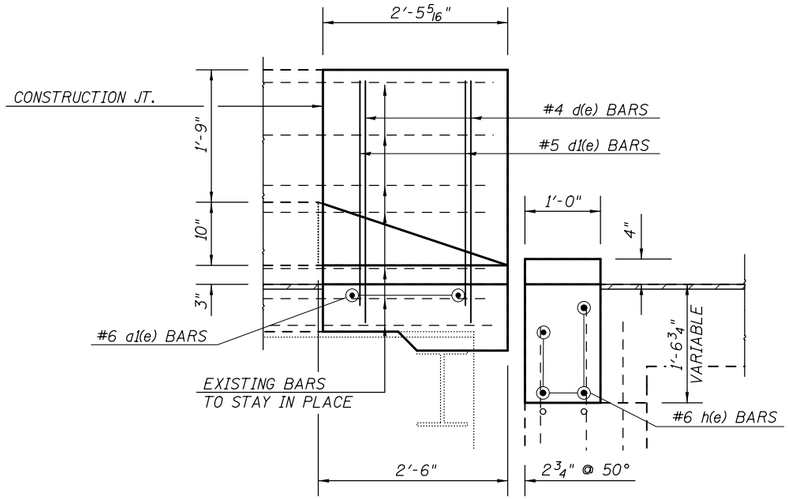


SECTION B–B
CONCRETE SUPERSTRUCTURE



SECTION D–D
CONCRETE SUPERSTRUCTURE

ALL WINGWALLS (SIMILAR)



SECTION C–C
CONCRETE SUPERSTRUCTURE

NOTE:

PROTECTIVE COAT SHALL BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS AND DECK SURFACE OF NEW CONCRETE ADJACENT TO JOINTS.

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a(e)	32	#5	20'-11"	
a1(e)	8	#6	4'-0"	
h(e)	16	#6	20'-11"	
d(e)	8	#4	5'-0"	
d1(e)	8	#5	4'-2"	

ITEM	UNIT	TOTAL
REINFORCEMENT BARS (EPOXY)	POUND	1,320.0
CONCRETE SUPERSTRUCTURE	POUND	11.8
BAR SPLICERS	EACH	24.0
PROTECTIVE COAT	SQ YD	33.0
PERMANENT BENCH MARK	EACH	1.0

MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\Districts $\Projects\d570077\CADData\CADsheets\D570077_sht_Str.021-0030_CM.dgn

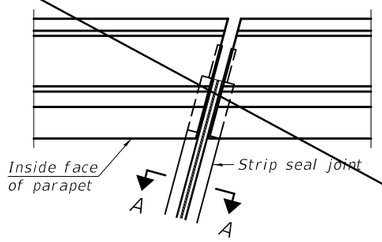
USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

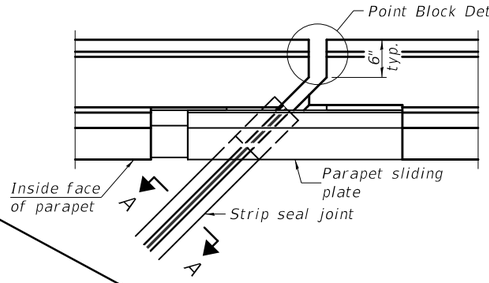
CONCRETE SUPERSTRUCTURE – JOINTS
S.N. 021–0030

SCALE: | SHEET 8 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	14
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

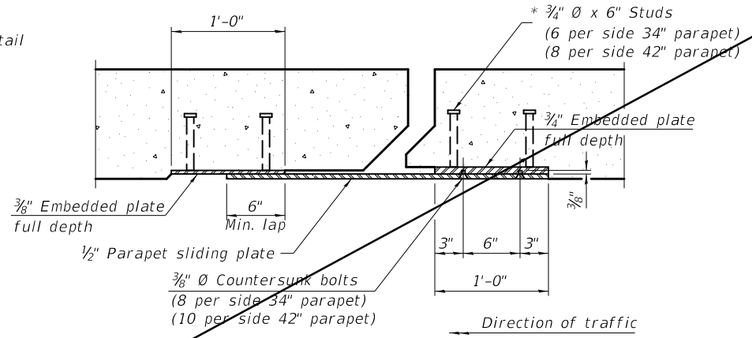


FOR SKEWS ≤ 30°

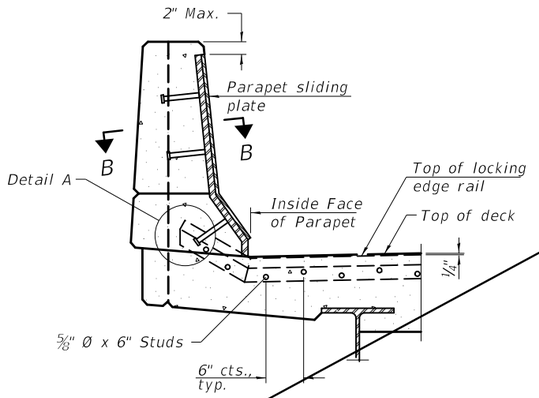


FOR SKEWS > 30°

PLAN AT PARAPET

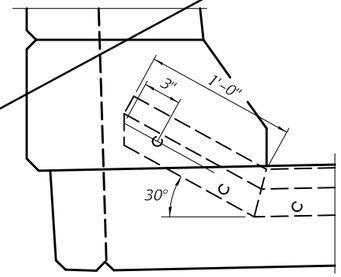


SECTION B-B

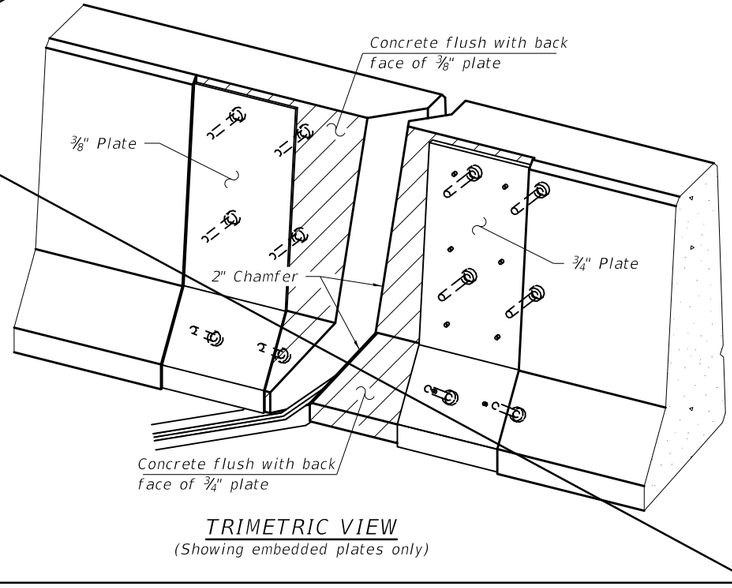


ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

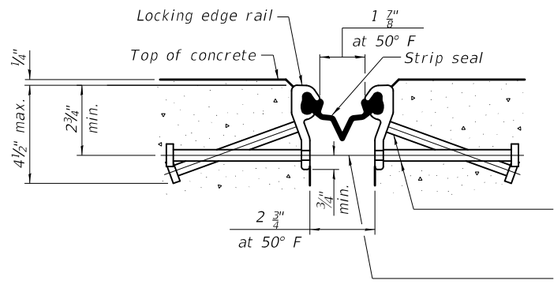
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

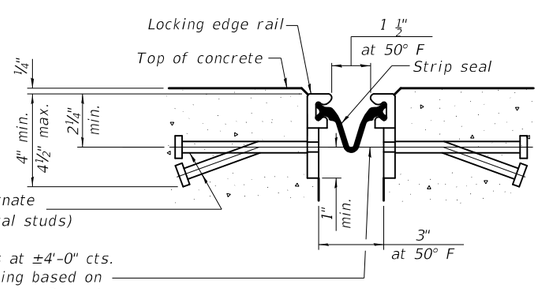
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



SHOWING ROLLED RAIL JOINT



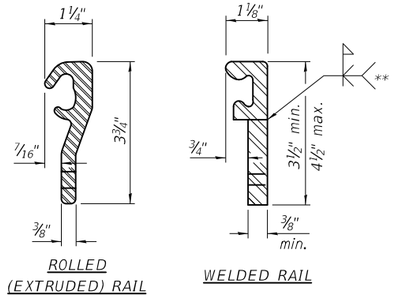
SHOWING WELDED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅞" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	94.0

EJ-SS 1-24-2020

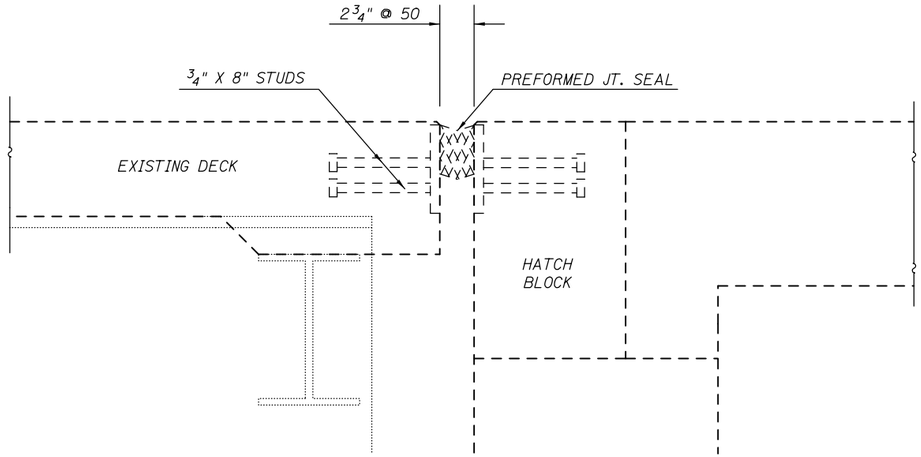
USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED -	REVISED -	
PLOT SCALE =	DRAWN -	REVISED -	
PLOT DATE =	CHECKED -	REVISED -	

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 021-0030
SHEET 9 OF 25 SHEETS

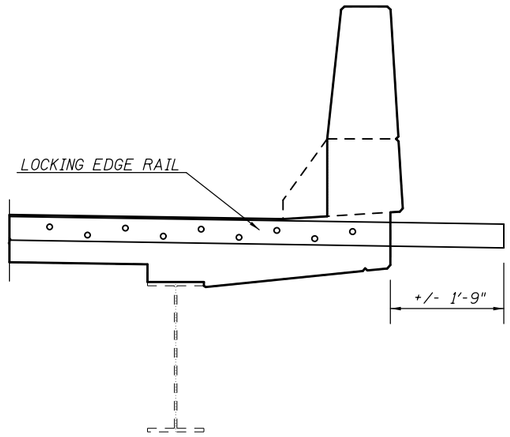
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			56	15
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5700D77\CADData\CADsheets\D5700D77_sht_Str-021-0030_CM.dgn

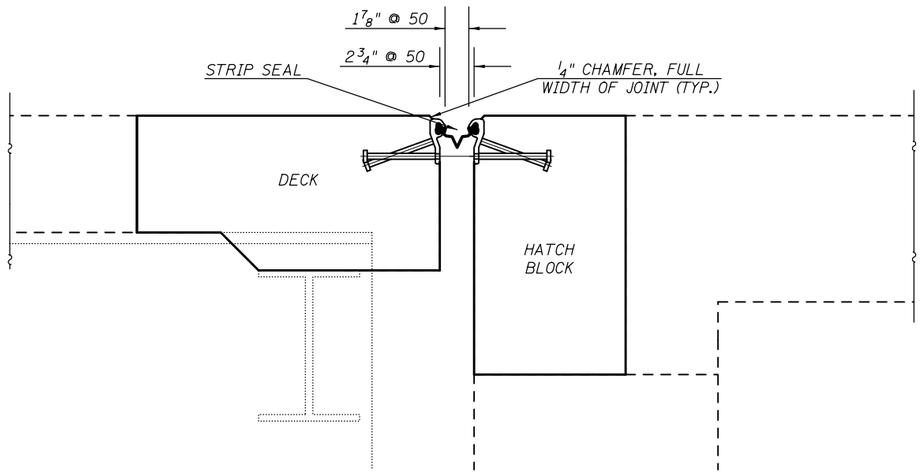
1/24/2020 $TIME$



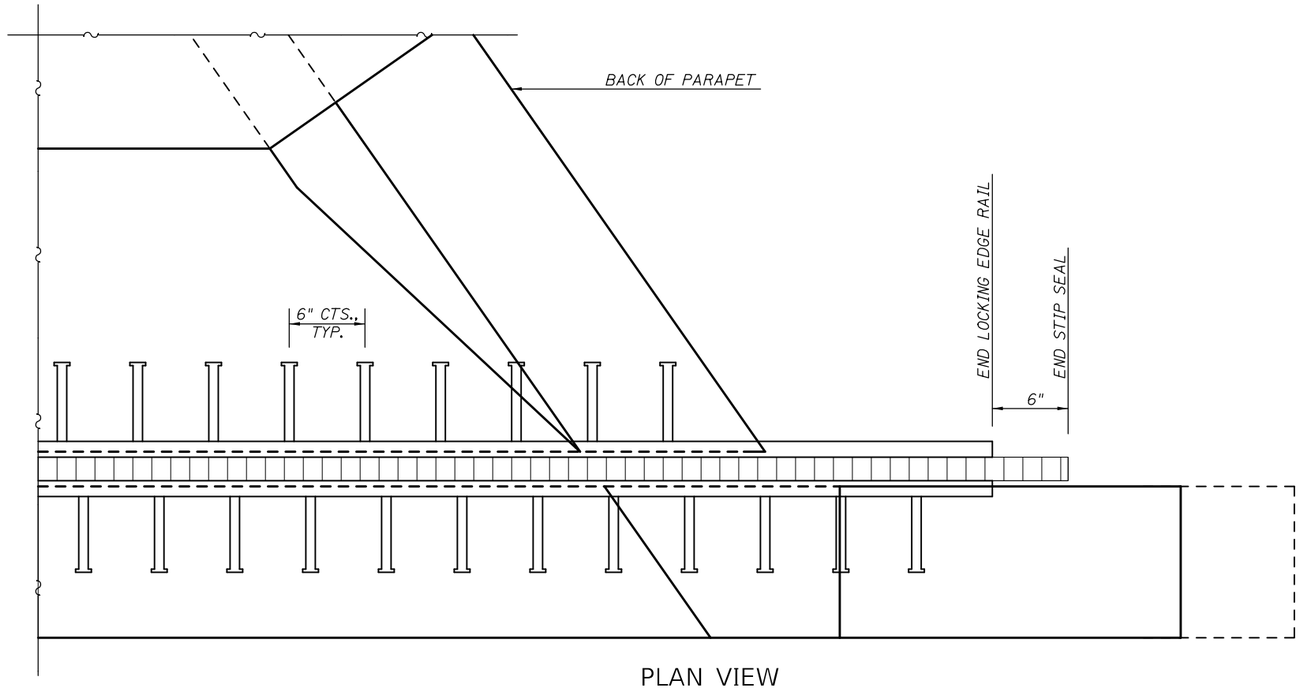
SECTION AT EXISTING JOINT



SECTION AT PROPOSED JOINTS



SECTION AT PROPOSED JOINTS



PLAN VIEW

STRIP SEAL

PROPOSED JOINTS

ALL WINGWALLS (SIMILAR)

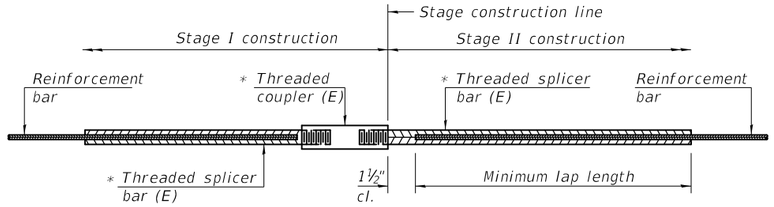
USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAIL
S.N. 021–0030

SCALE: | SHEET 10 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	16
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

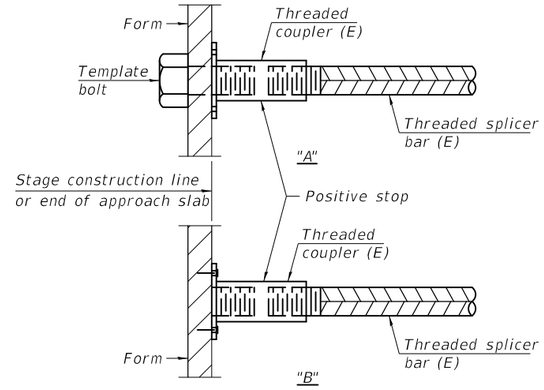


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

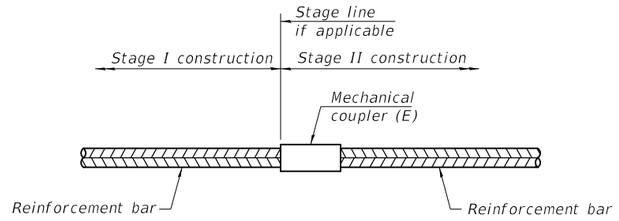
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
HATCH BLOCKS	#6	8.0	4'-0"
DECK ENDS	#5	16.0	3'-6"



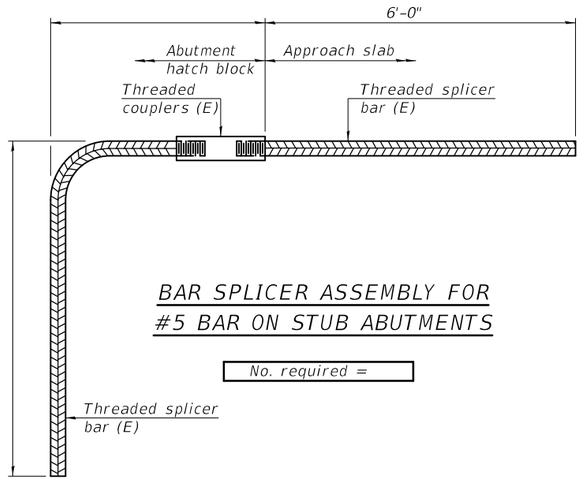
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

2-17-2017

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

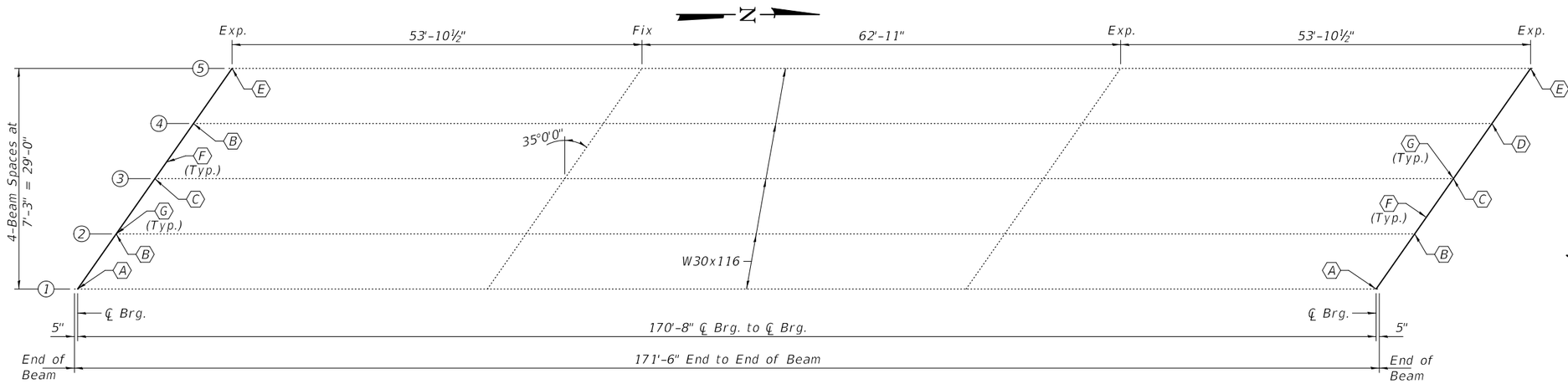
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 021-0030

SCALE: | SHEET 11 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	17
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: z:\c\plan\room.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d570077\CADData\CADsheets\D570077_sht_Str.021-0030_CM.dgn



FRAMING PLAN

Ⓐ – Beam End Repair (1N & 1S)

Ⓑ – Beam End Repair (2N, 2S & 4S)

Ⓒ – Beam End Repair (3N & 3S)

Ⓓ – Beam End Repair (4N)

Ⓔ – Beam End Repair (5N & 5S)

Ⓕ – Remove & Replace Diaphragms at Both Abutments

Ⓖ – Remove & Replace Bearings at Both Abutments

GENERAL NOTES

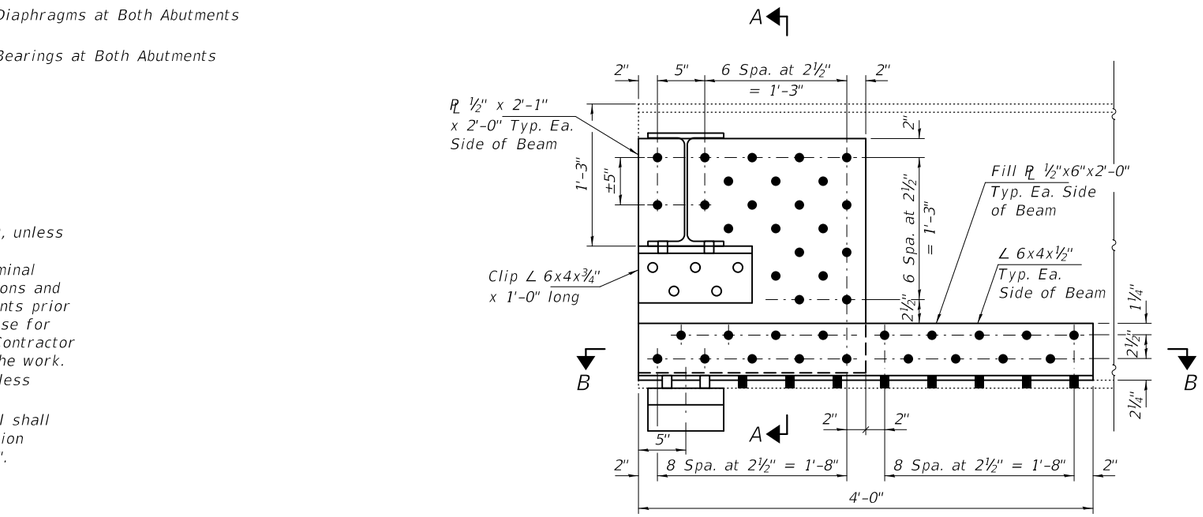
All structural steel shall conform to AASHTO Classification M-270 Gr. 50, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Fasteners shall be high strength bolts. Bolts ¾"Ø, open holes $^{13}/_{16}$"Ø, unless otherwise noted.

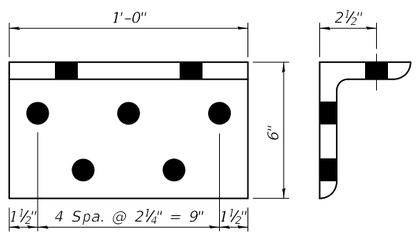
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel."



REPAIR A

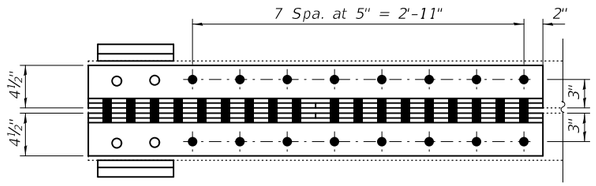
(2 Locations)



CLIP ANGLE DETAILS

∠ 6x4x¾" x 1'-0" long

(8 Required)

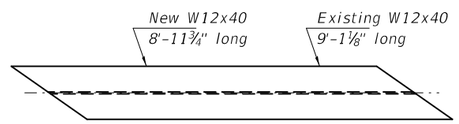


SECTION B-B

BOLT HOLE LEGEND

○ – Field drill using new or existing steel as template.

● – Shop drill holes in new steel.

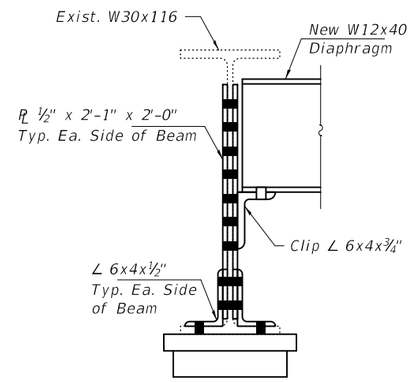


DIAPHRAGM

(8 Required)

REPAIR F

Existing ∠ 6"x4"x¾" shall be removed by the air-arc method and grind smooth all weld material remaining on the web.



SECTION A-A

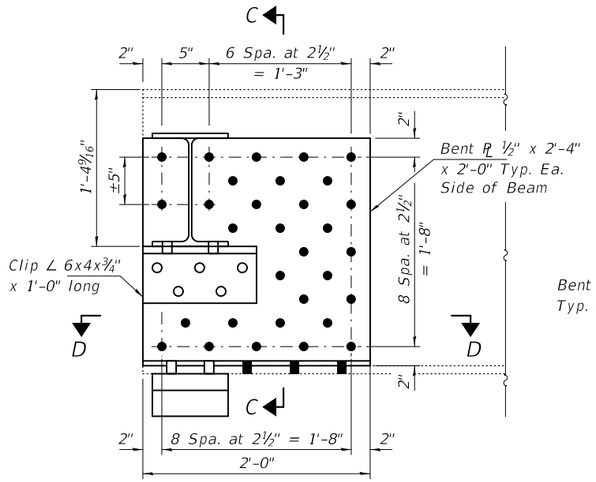
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	3320
Structural Steel Repair	Pound	3170
Furnishing and Erecting Structural Steel	Pound	3300

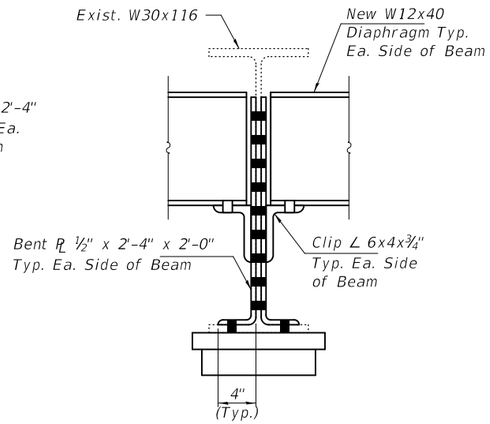
DESIGNED - JSB	EXAMINED	Timothy A. Sheehy ENGINEER OF STRUCTURAL SERVICES	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - AJR	PASSED	Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	
DRAWN - Venkat Reddy			REVISED -	
CHECKED - JSB AJR				

GENERAL PLAN AND ELEVATION
FAP 820 OVER EMBARRAS RIVER
SN 021-0030
SHEET NO. 1 OF 5 SHEETS

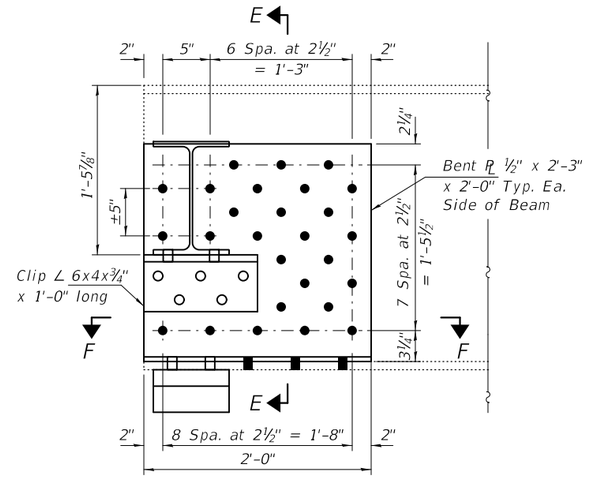
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	18
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	



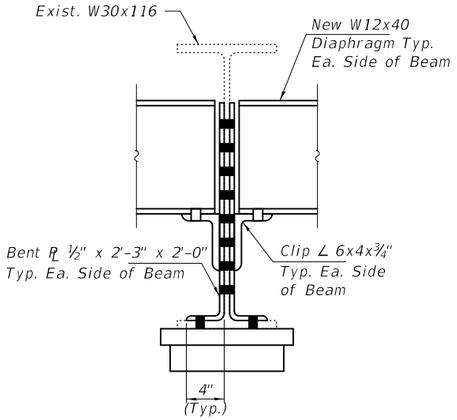
REPAIR B
(3 Locations)



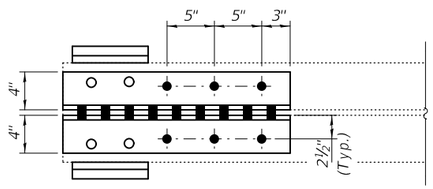
SECTION C-C



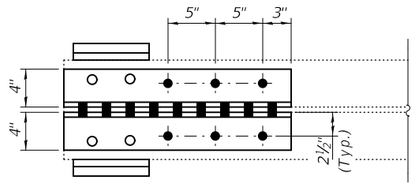
REPAIR C
(2 Locations)



SECTION E-E



SECTION D-D



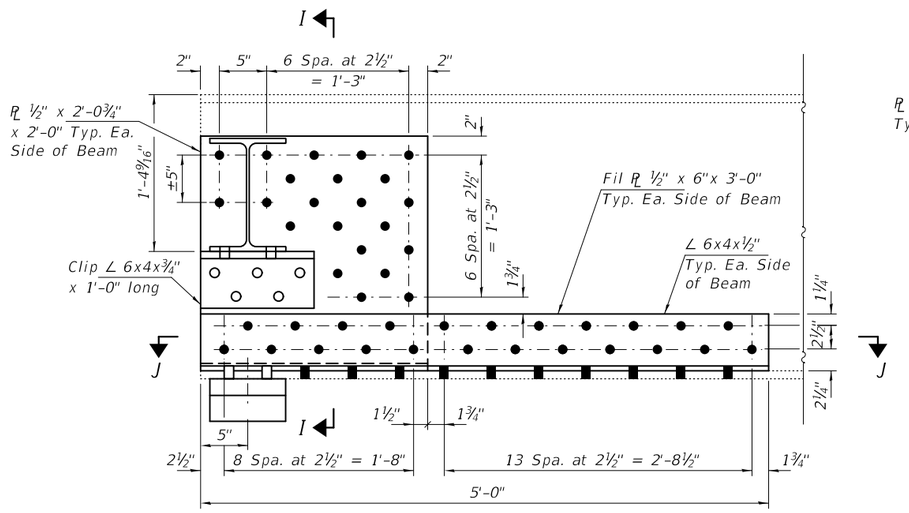
SECTION F-F

BOLT HOLE LEGEND

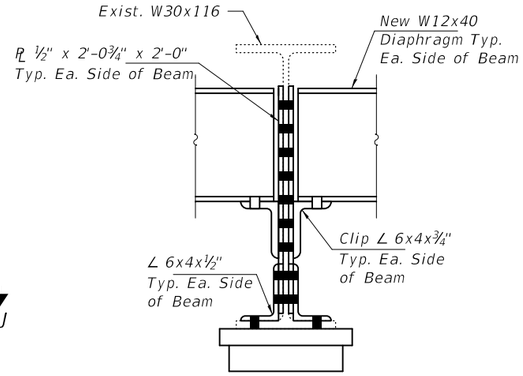
○ – Field drill using existing steel as template.

● – Shop drill holes in new steel.

DESIGNED - JSB	EXAMINED		DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEAM END REPAIR DETAILS - REPAIR B & C SN 021-0030	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - AJR		ENGINEER OF STRUCTURAL SERVICES				820	[(1-G),(25)]BDR	DOUGLAS	56	19
DRAWN - Venkat Reddy	PASSED		REVISED -							
CHECKED - JSB AJR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 2 OF 5 SHEETS			CONTRACT NO. 70D77		
							ILLINOIS	FED. AID PROJECT		



REPAIR D
(1 Locations)

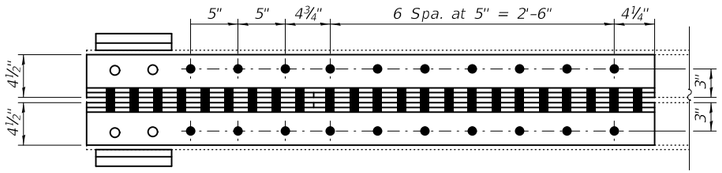


SECTION I-I

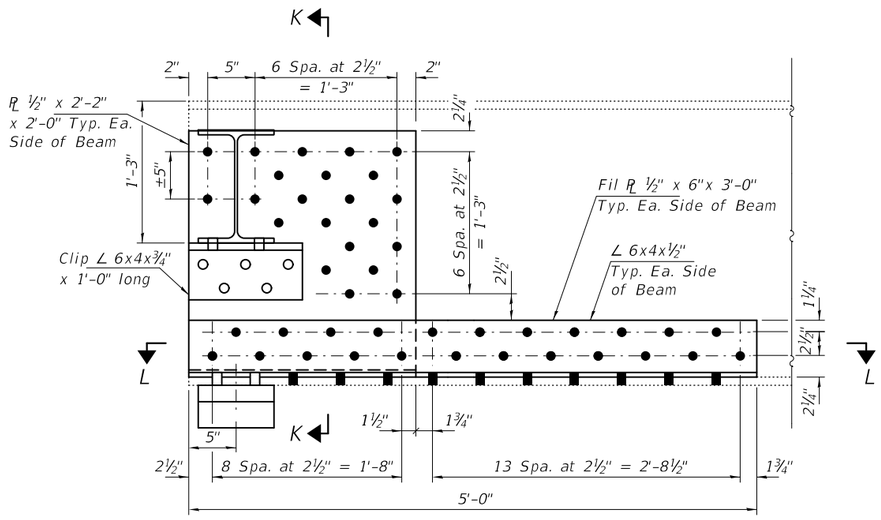
BOLT HOLE LEGEND

○ – Field drill using existing steel as template.

● – Shop drill holes in new steel.

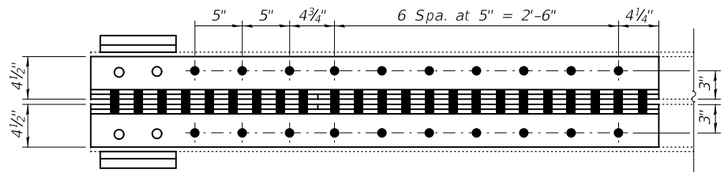


SECTION J-J



REPAIR E
(2 Locations)

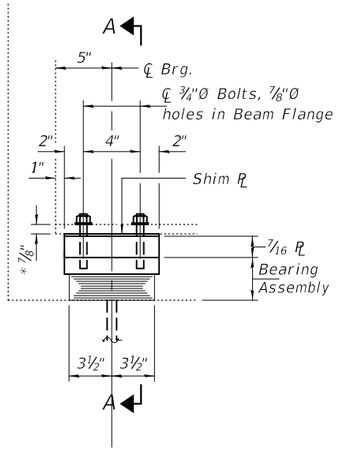
SECTION K-K



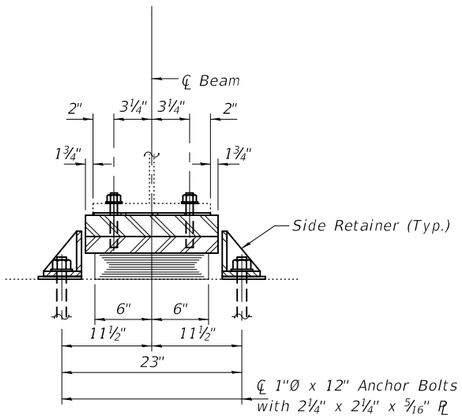
SECTION L-L

DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEAM END REPAIR DETAILS - REPAIR D & E SN 021-0030	
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES				
DRAWN - Venkat Reddy	PASSED	REVISED -			
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 3 OF 5 SHEETS	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	20
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	



ELEVATION AT ABUTMENT



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RP	(K)	23.9
RL	(K)	42.3
Imp.	(K)	11.8
R (Total)	(K)	78.0

Notes:

All steel plates and structural steel shapes used in bearing assemblies shall be AASHTO M270 Gr. 36.

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

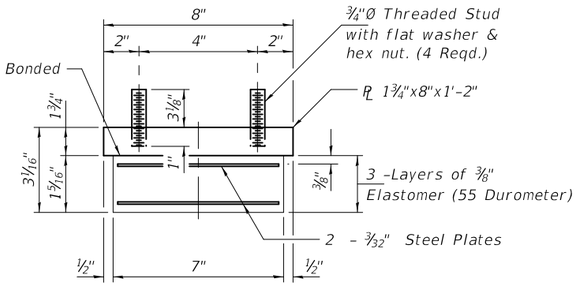
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 39 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

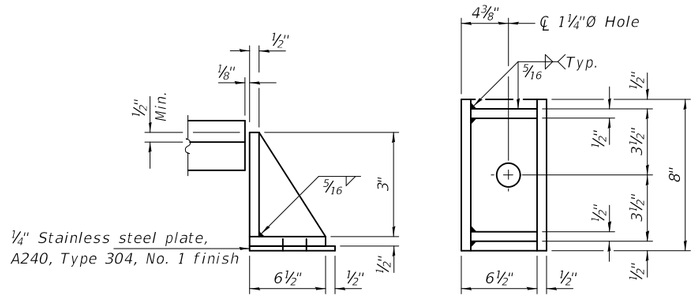


BEARING ASSEMBLY

* See sheets 1 thru 3 of 5 for additional repair PL thickness

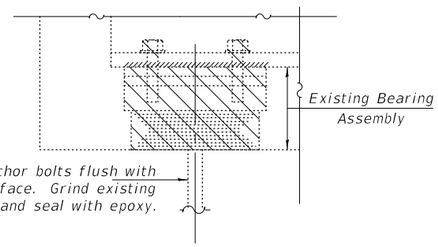
Note:

Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	5
Jack and Remove Existing Bearings	Each	5
Furnishing and Erecting Structural Steel	Pound	110
Anchor Bolts, 1"Ø	Each	10

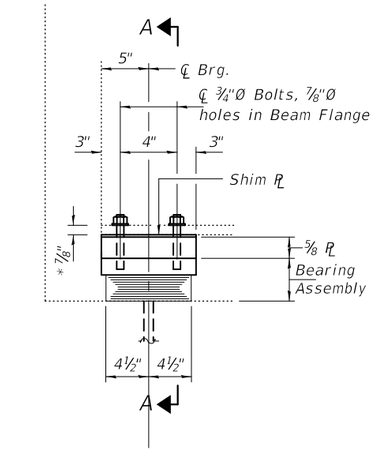
TYI/REPS 5-17-2018

DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Reddy	PASSED	REVISED -	
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

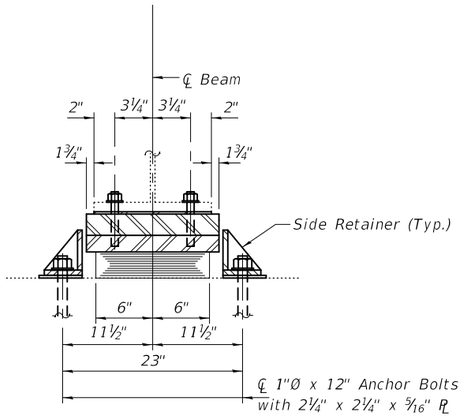
SOUTH ABUT. BEARING REPLACEMENT DETAILS - REPAIR G
SN 021-0030

SHEET NO. 4 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	21
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	



ELEVATION AT ABUTMENT



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RP	(K)	23.9
RL	(K)	42.3
Imp.	(K)	11.8
R (Total)	(K)	78.0

Notes:

All steel plates and structural steel shapes used in bearing assemblies shall be AASHTO M270 Gr. 36.

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

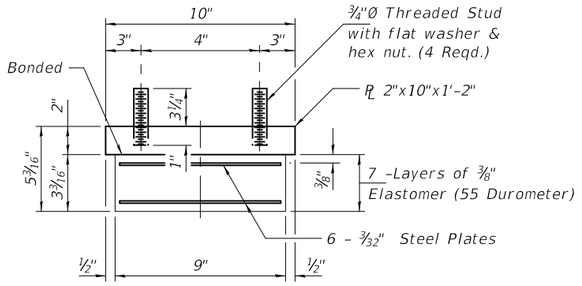
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 39 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

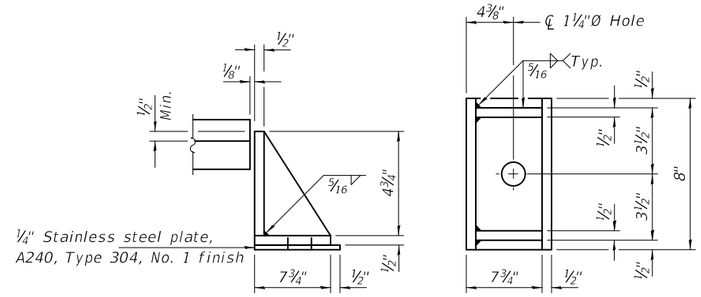


BEARING ASSEMBLY

* See sheets 1 thru 3 of 5 for additional repair PL thickness

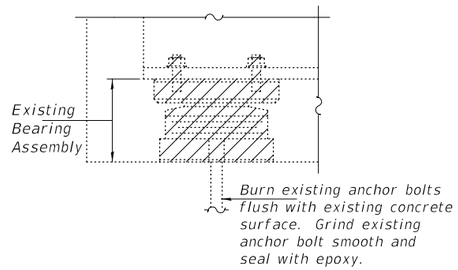
Note:

Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	5
Jack and Remove Existing Bearings	Each	5
Furnishing and Erecting Structural Steel	Pound	225
Anchor Bolts, 1"Ø	Each	10

TYI/REPS 5-17-2018

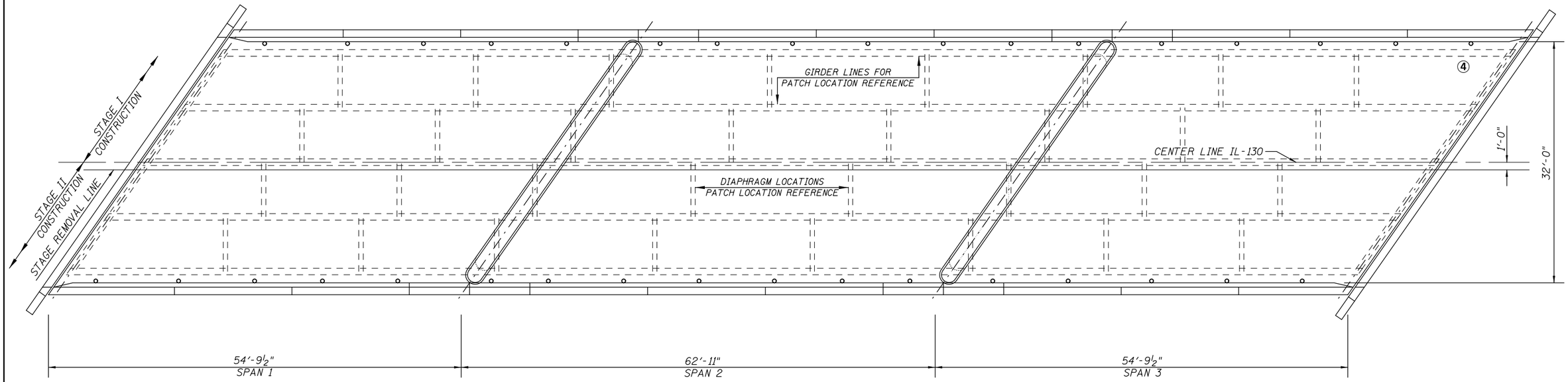
DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
DRAWN - Venkat Reddy	PASSED	REVISED -	
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES		

NORTH ABUT. BEARING REPLACEMENT DETAILS - REPAIR G
SN 021-0030
SHEET NO. 5 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	22
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

BRIDGE DECK PATCHING

S.N. 021–0030



EXTREME CARE MUST BE USED WHEN REMOVING CONCRETE NEAR THE TOP FLANGE OF THE BEAMS. THE CONTRACTOR IS RESPONSIBLE OF ANY DAMAGE TO THE BEAMS.

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK SLAB REPAIR ON THE AS-BUILT PLANS. THE PREFERRED METHOD OF RECORDING THIS INFORMATION IS DATA RECORDING BY GPS OR TOTAL STATION, PROCESSED IN MICROSTATION. IF DESIRED, THE ENGINEER MAY RECORD BY HAND.

DECK SURVEY PERFORMED ON JUNE 28. 2019. SOME TIGHT TRANSVERSE CRACKS WERE VISIBLE, PATCHING WAS ESTIMATED AT 5% SHOULD AREAS OF PARTIAL DEPTH OR FULL DEPTH PATCHING BE INDENTIFIED.

PATCHES ACTUAL SIZE AND LOCATION SHOULD BE SHOWN ON THIS SHEET.

METHOD OF SURVEY: VISUAL

BILL OF MATERIALS

ITEM	UNIT	TOTAL
DECK SLAB REPAIR (PARTIAL)	*SQ YD*	*15.0*
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	*SQ YD*	*15.0*

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
S.N. 021–0030

SCALE: | SHEET 17 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	23
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

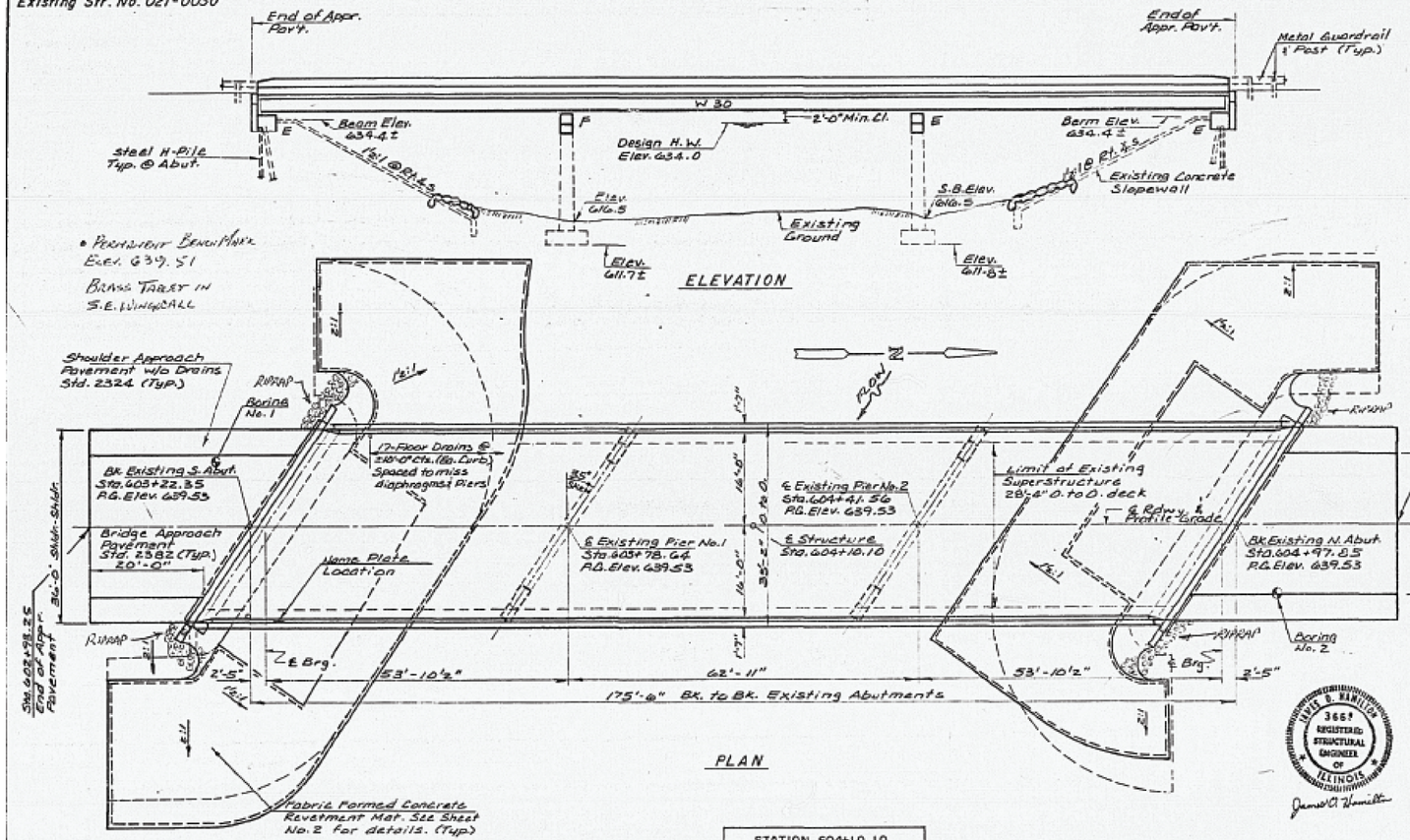
MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d570077\CADData\CADsheets\D570077_sht_Str.021-0030_CM.dgn

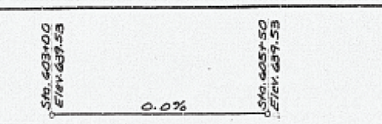
AS–BUILT PLANS
FOR INFORMATION ONLY

Bench Mark : Chiseled "O" on S.W. wingwall of bridge
Elev. 639.89

Existing Structure : Three span continuous steel WF beam structure, 2 spans @ 53'-10½" and 1 @ 62'-11", 24' clear roadway, 35° skew, 175'-6" Bk. to Bk. abutments. Concrete spill thru abutments and solid concrete piers. Existing superstructure to be removed and replaced with new W-Beams and concrete deck. Existing substructure to be extended to accommodate the new widened Superstructure Traffic to be detoured during reconstruction.

Existing Str. No. 021-0030





SHEETS NO.	FED.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 820	ISR	DOUGLAS	127	71

SHEET NO. 1
14 SHEETS

GENERAL NOTES

SEE PROPOSAL FOR BORING DATA.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" Ø, OPEN HOLES 13/16" Ø, UNLESS OTHERWISE NOTED.

CALCULATED WEIGHT OF STRUCTURAL STEEL = 117,150 LBS M223 GRADE 50, 4,350 LBS M183

THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED.

ALL STRUCTURAL STEEL SHALL BE AASHTO M223 GRADE 50 EXCEPT EXPANSION JOINT PLATES, ATTACHED BARS, AND BEARING PLATES WHICH SHALL BE AASHTO M183.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. THAO 1/16" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. FOR TYPE I ELASTOMERIC BEARINGS, SHIMS OF TWO DIMENSIONS OF TOP PLATE SHALL BE PROVIDED AND PLACED AS DETAILED.

THE CONTRACTOR SHALL DRIVE ONE STEEL HP 8 X 36 TEST PILES IN A PERMANENT LOCATION AT EA. ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE WIDE FLANGE BEAMS AND ALL SPLICE PLATE MATERIAL.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31/M42M-93 GRADE 60.

LAYOUT OF CONCRETE REVETMENT MAT SLOPE PROTECTION MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,000 LBS., and 1/4" Ø x 12" HOOKED BOLTS.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

SEE SPECIAL PROVISIONS FOR FABRIC FORMED CONCRETE REVETMENT MATS.

NOTE: MECHANICALLY GALVANIZED FASTENERS USED ON ALL BOLTED CONNECTIONS FOR STRUCTURAL STEEL.

TOTAL BILL OF MATERIAL

ITEM NO.	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructure	Each	1		1
Concrete Removal	Cu. Yds.		27[illegible]	45[illegible]
Expansion Bolts 3/4" ø	Each		48	48
Floor Drains	Each	32		32
Class K Concrete	Cu. Yds.	154.8	43.8	224.6
Preformed Joint Seal 4"	Lin. Ft.		85	85
F. & E. Structural Steel	L. Sum	0.6		0.6
Elast. Bearing Assy. Type I	Each		10	10
Reinforcement Bars	Lbs.		4,710	4,710
Reinforcement Bars (Epoxy Coated)	Lbs.	43,780		43,780
Name Plates	Each	1		1
Steel Piles HP 8x36	Lin. Ft.		105	105
Test Piles Steel HP8x36	Each		1	1
Fabric Formed Concrete Revetment Mats	Sq. Yd.		580	580
Elast. Bearing Assy. Type II	Each		5	5
Slope Wall Removal	Sq. Yd.		255	255
Protective Coat	Sq. Yd.	755		755
REMOVE EXISTING TIMBER ABT.	Quant.		711.03	711.03
SLOPEWALL 6"	Sq. YD		22	22

STATION 604+10.10
REBUILT 198 BY
STATE OF ILLINOIS
F.A.P. RT. 820 SEC. 25BR
F.A. PROJ. MAF-820 (9)
LOADING HS20
STR. NO. 021-0030

NAME PLATE
(See Std. No. 2113)

NOTE: Locate name plate on South East Concrete Parapet.

WATERWAY INFORMATION

Drainage Area 189.1 Sq. Mi. Low Grade Elev. 639.24 @ Sta. 601+00

Flood	Freq Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Net H.W.E.	Head Ft. Exist.	Head Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	7954	1626	1626	634.0	0.73	0.78	634.73	634.73
Base	100	8954	1716	1716	634.7	0.84	0.84	635.54	635.54
Overtopping									
Max. Calc.	500			1899	636.2		1.14		637.34

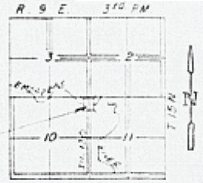
DESIGN STRESSES
(LOAD FACTOR DESIGN)

f'c = 3,500 p.s.i. (Superstructure)
fy = 60,000 p.s.i. (Reinforcement, Grade 60)

fy = 36,000 p.s.i. (M 183, New Structural Steel)
fy = 50,000 P.S.I. (M 223 Gr. 50 New Structural Steel)
fc = 1,400 P.S.I. (Substructure)

LOADING HS 20-44

Design Specifications : 1983 AASHTO & 1984 & 1985 Interims.



APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Kaufman
DEPUTY DIRECTOR OF HIGHWAYS

GENERAL PLAN
ILL. RT. 130 OVER
EMBARRAS RIVER
F.A. 820 SEC. 25BR
DOUGLAS COUNTY
STATION 604+10.10

USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/21/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: | SHEET 18 OF 25 SHEETS | STA. | TO STA.

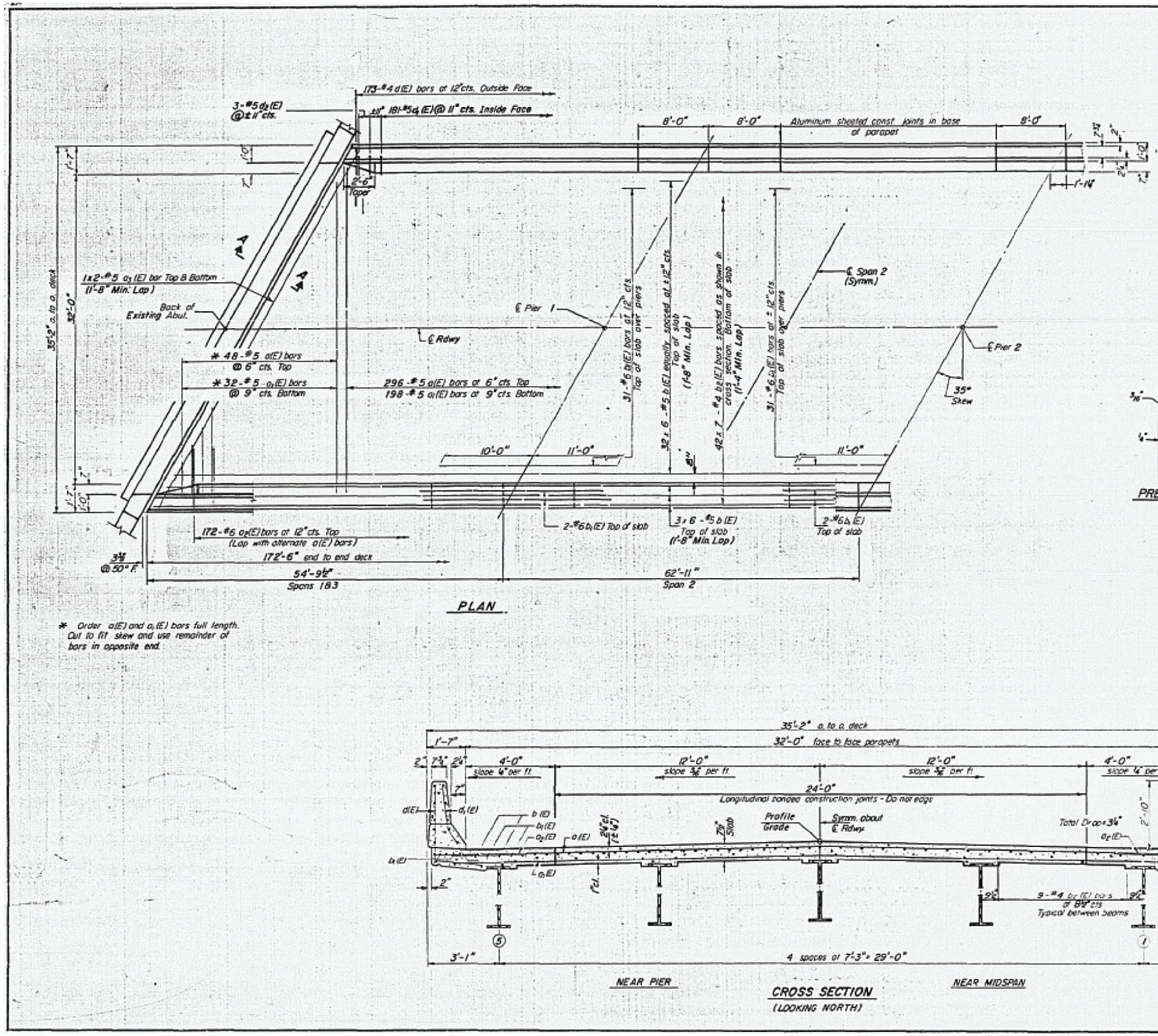
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	24
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: sMODELNAME5
FILE NAME: pw:\\plannroom.dot.illinois.gov:PWIDOT1Documents\IDOT Offices\District 5\Projects\D57D77\CADData\CADsheets\D570177_sht_Str.021-0030_CM.dgn

AS–BUILT PLANS
FOR INFORMATION ONLY

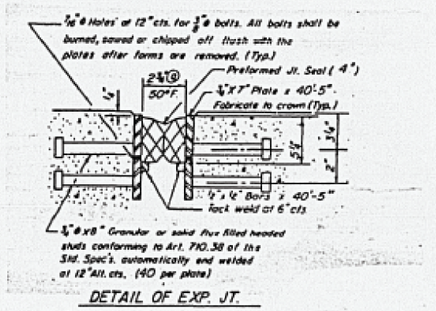
F.A.P. 820	25BR	DOUGLAS	127	74

SHEET NO. 4 14 SHEETS

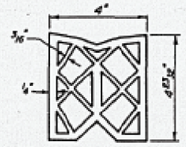


PLAN

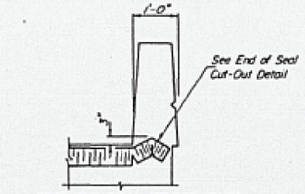
* Order a(E) and a1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



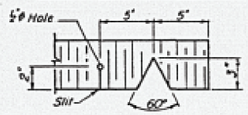
DETAIL OF EXP. JT.



PREFORMED JOINT SEAL (4")



END OF SEAL TREATMENT



SEAL CUT-OUT

NEAR PIER — CROSS SECTION (LOOKING NORTH) — NEAR MIDSPAN

NOTES:
See sheet #5 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 s 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet #5 for Sec. A-A

SUPERSTRUCTURE
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

MODEL: $MODELNAMES
FILE NAME: pw:\\dotnaoom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570077\CADD\sta\CADD\sheets\d570077_str_021-0030_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0030

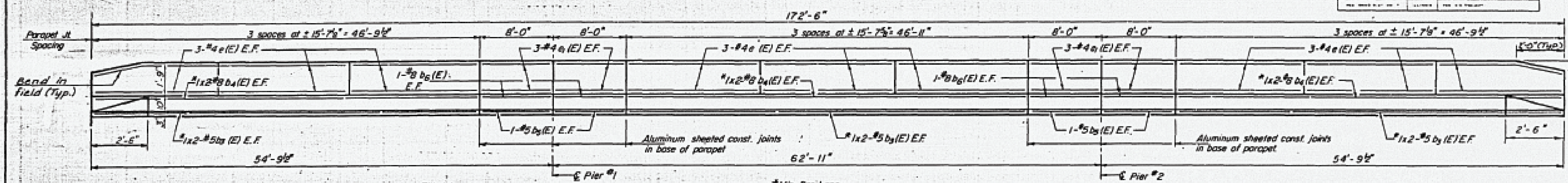
SCALE: | SHEET 19 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	25
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

AS–BUILT PLANS
FOR INFORMATION ONLY

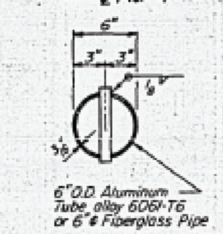
F.A.P. 820	25BR	DOUGLAS	127	75

SHEET NO. 5
14 SHEETS

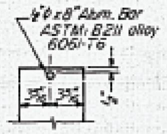


INSIDE ELEVATION OF PARAPET

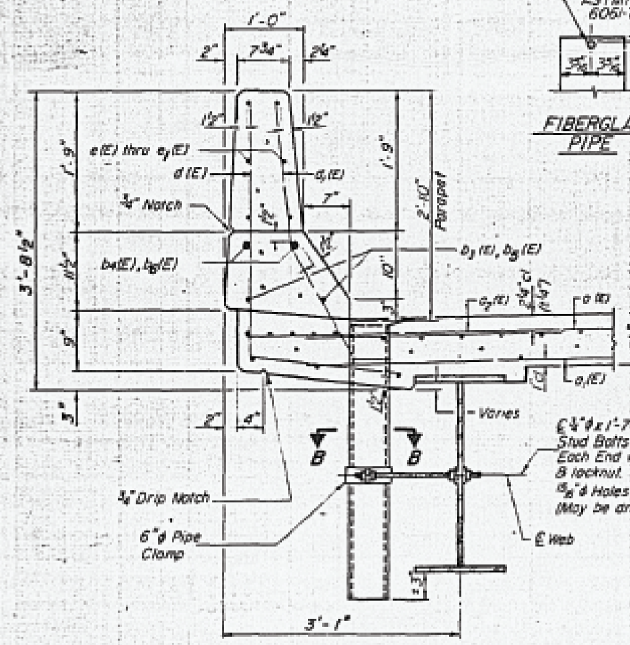
ALUMINUM TUBE

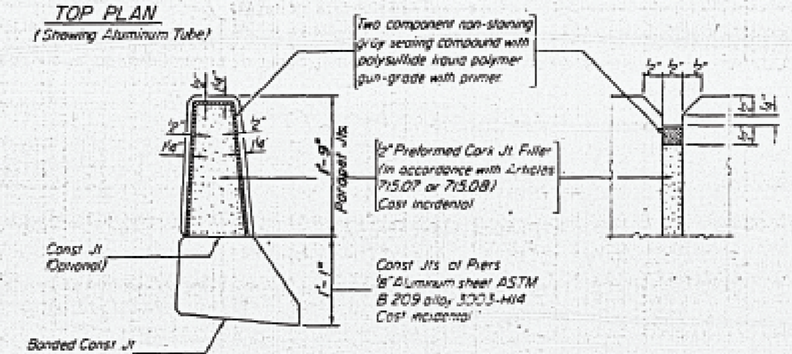


TOP PLAN
(Showing Aluminum Tube)



FIBERGLASS PIPE





PARAPET JOINT DETAILS

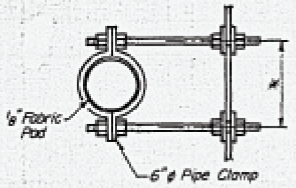
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	344	#5	34'-0"	——
a1(E)	230	#5	34'-0"	——
a2(E)	344	#6	4'-0"	——
a3(E)	8	#5	21'-6"	——
b(E)	228	#5	30'-3"	——
b1(E)	70	#6	21'-0"	——
b2(E)	294	#4	25'-9"	——
b3(E)	24	#5	24'-3"	——
b4(E)	24	#8	25'-3"	——
b5(E)	16	#5	7'-9"	——
b6(E)	16	#8	7'-9"	——
d(E)	346	#4	5'-0"	L
d1(E)	362	#5	3'-11"	
d2(E)	12	#5	4'-2"	
e(E)	108	#4	15'-3"	——
e1(E)	48	#4	7'-9"	——
Reinforcement Bars (Epoxy Coated)			Lbs	43,780
Class X Concrete			Cu Yds	184.8

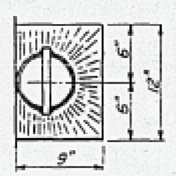
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

Notes:
The exterior surfaces of the Floor Drain shall be painted with the vinyl enamel coat painting specified for Structural Steel. The exterior surfaces of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surfaces of the Fiberglass pipe shall be free of bond inhibiting agents.
See Sheet #1 for Drain location and spacing.

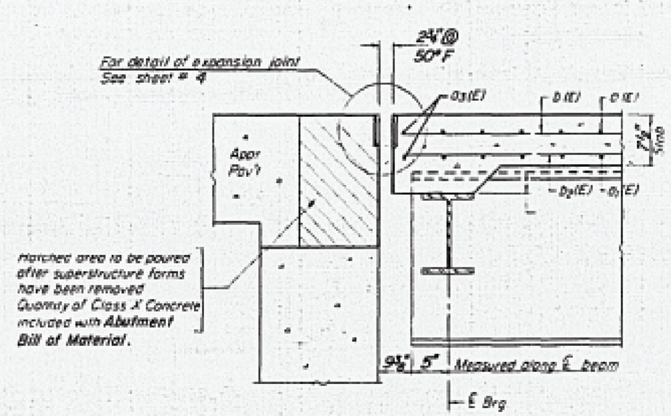
* Dimension as required by Pipe Clamp.



SECTION B-B



TOP PLAN



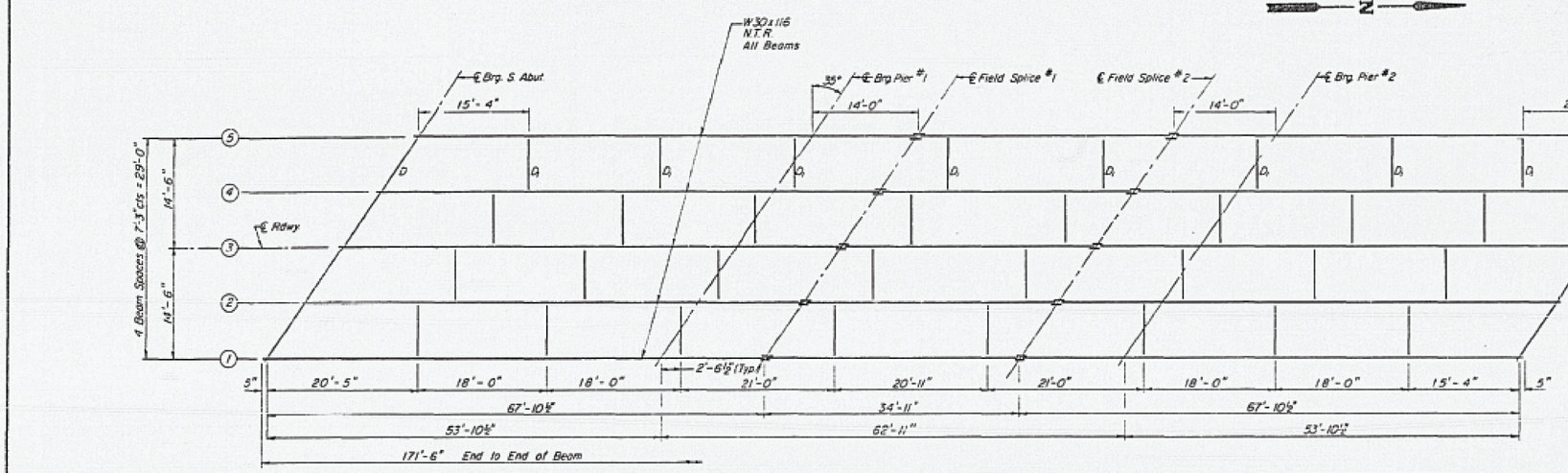
SECTION A-A

SUPERSTRUCTURE DETAILS
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

AS–BUILT PLANS
FOR INFORMATION ONLY

STATE	SEC. NO.	COUNTY	TOTAL SHEETS	SHEET NO.
820	25BR	DOUGLAS	127	76

SHEET NO. 6
14 SHEETS



FRAMING PLAN

N.T.R. denotes Notch Toughness Requirements

INTERIOR BEAM REACTION TABLE		
	Abut.	Pier
R℄ (k)	23.9	75.4
R℄ (k)	42.3	49.8
Imp. (k)	11.8	13.6
R Total (k)	78.0	138.8

INTERIOR BEAM MOMENT TABLE			
	0.4 Sp. 1	Pier	0.5 Sp. 2
Is (in⁴)	4,930	4,930	4,930
Ss (in³)	329	329	329
Z (in³)	378		378
M℄ (k/')	1.163	1.163	1.163
M℄ ('k)	246	398	179
M℄ ('k)	368	289	353
MIMP ('k)	103	79	94
S3(M℄ + I) ('k)	785	613	745
Mo ('k)	1340		1427
Mu ('k)	1575		1575
fs ℄ non-comp (k.s.i)	8.97	14.52	6.53
fs S3(℄ + I) (k.s.i)	28.63	22.36	27.17
fs (Overload) (k.s.i)	37.60	36.88	33.70
fs (Total) (k.s.i)		47.94	

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total and Overload).

Z is the plastic section modulus used to determine the Fully Plastic Moment.

Mu = Full Plastic Moment Capacity for Compact, Braced section.

Mo (Applied Moment) = 1.3 [M℄ + S3 (M℄ + I)]

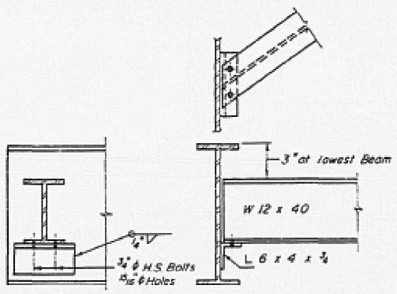
f_s (Total) is the sum of the stresses due to 1.3 [M℄ + S3 (M℄ + I)]

f_s (Overload) is the sum of the stresses due to M℄ + S3 (M℄ + I)

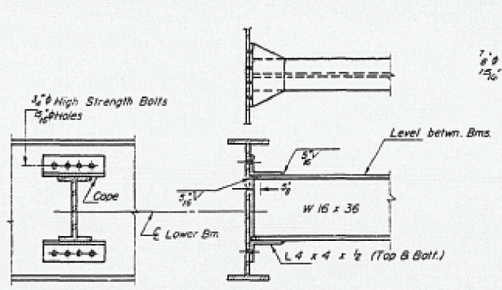
M℄ - Moment due to dead loads on non-composite section.

M℄ - Moment due to live load on non composite or composite section.

I - Live load impact.

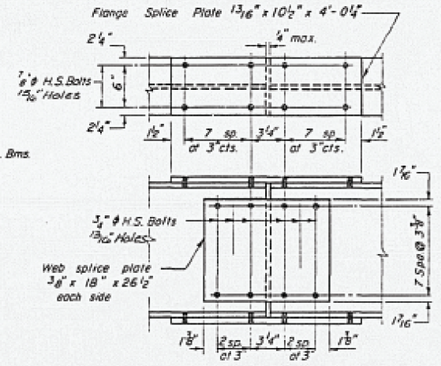


DIAPHRAGM D
8 Required



DIAPHRAGM D_1
32 Required

Note: Two hardened washers shall be required over all 15/16" ϕ holes. All contact surfaces of joints shall be free of paint or lacquer.



SPLICE

Splice Plates = N.T.R.

TOP OF W℄ BEAM ELEVATION

	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
℄ Brg. S. Abut.	638.62	638.75	638.86	638.75	638.62
℄ Pier 1	638.57	638.70	638.81	638.70	638.57
℄ Splice 1	638.56	638.69	638.80	638.69	638.56
℄ Splice 2	638.56	638.69	638.80	638.69	638.56
℄ Pier 2	638.57	638.70	638.81	638.70	638.57
℄ Brg. N. Abut.	638.62	638.75	638.86	638.75	638.62

For Fabrication only

STRUCTURAL STEEL
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 504+10.10

MODEL: \$MODELNAMES
FILE NAME: pw:\\dallasroom.dot:dl\Inst\Projects\PWIDOT\Documents\IDOT Offices\District 5\Projects\D5703D77\CADData\CADsheets\D5703D77_sht_Str.021-0030_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0030

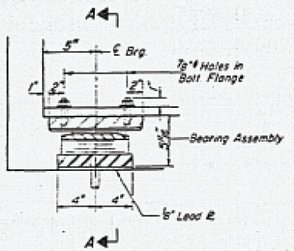
SCALE: | SHEET 21 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	27
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

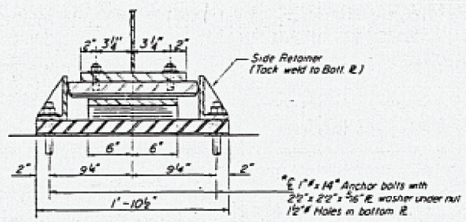
AS–BUILT PLANS
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	25BR	DOUGLAS	127	77

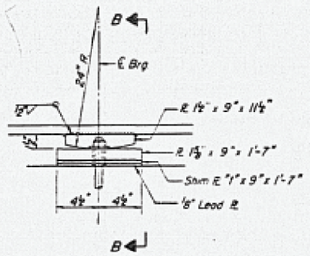
SHEET NO. 7
14 SHEETS.



SECTION AT N. ABUT.

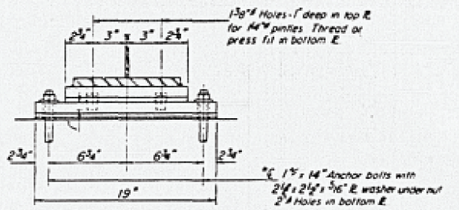


SECTION A-A



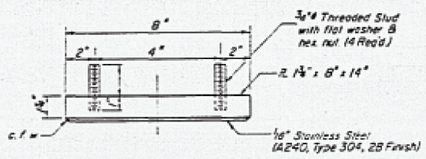
ELEVATION AT PIER #1

FIXED BEARING
PIER #1

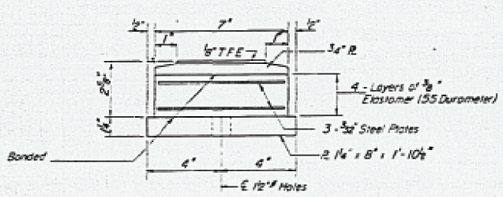


SECTION B-B

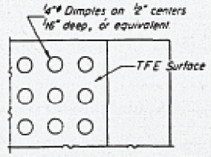
TYPE II TFE ELASTOMERIC EXP. BRG.
N. ABUT.



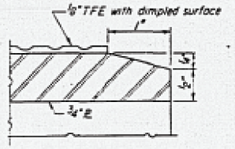
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



PLAN - TFE SURFACE



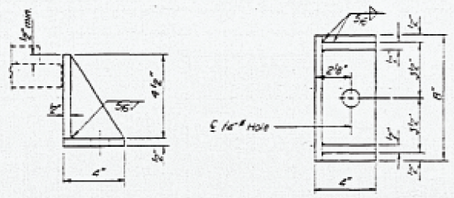
SECTION THRU TFE

*Note:
Anchor bolts at fixed bearings may be built into the masonry.
See sheet #9 for Anchor Bolt installation.

Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

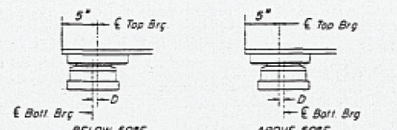
Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Note: All steel plates and structural steel shapes used in bearing assemblies shall be AASHTO M183.



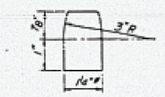
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F



PINTLE

SHIM PLATE THICKNESS AT PIER #1

LOCATION	BEAM 1 & 5	BEAM 2 & 4	BEAM 3
"1"	0⅞"	1¼"	2⅝"

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type II	Each	5

BEARING DETAILS
N. ABUT., PIER #1
F.A.P RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0030

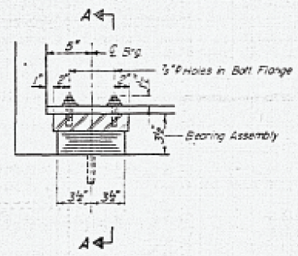
SCALE: | SHEET 22 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	28
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

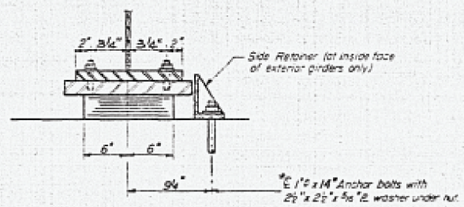
MODEL: $MODELNAMES
FILE NAME: pw:\\danroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5 70077\CADData\CADSheets\D570077_alt_Str.021-0030_CM.dgn

AS–BUILT PLANS
FOR INFORMATION ONLY

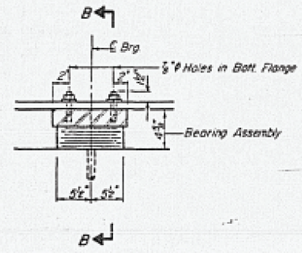
R.A.P. 820	25BR	DOUGLAS	127	78	SHEET NO. 8 14 SHEETS



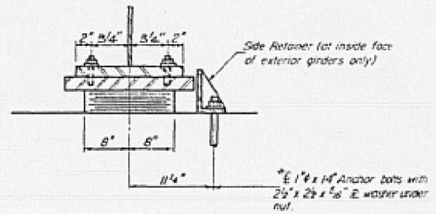
SECTION AT S. ABUT.



SECTION A-A



SECTION AT PIER #2



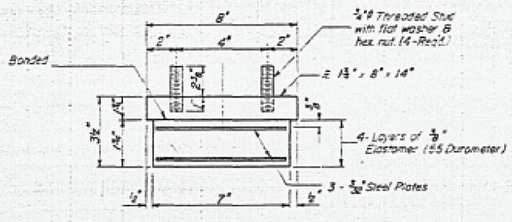
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.
S. ABUT.

*See Sheet #9 for Anchor Bolt installation.

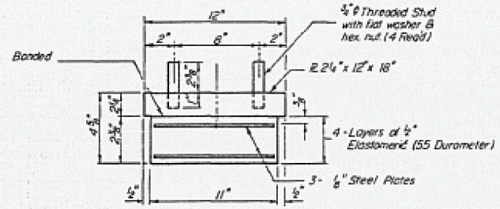
Note: All steel plates and structural steel shapes used in bearing assemblies shall be AASHTO M183.

TYPE I ELASTOMERIC EXP. BRG.
PIER #2



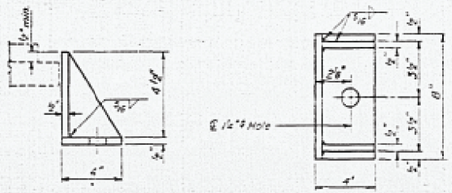
BEARING ASSEMBLY
(At S. Abut.)

Note: Shim plates shall not be placed under Bearing Assembly.



BEARING ASSEMBLY
(At Pier # 2)

Note: Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates

BILL OF MATERIAL

ITEM	UNIT	TOTAL
ELASTOMERIC BEARING	Each	10

BEARING DETAILS
S. ABUTMENT, PIER #2
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

MODEL: $MODELNAMES
FILE NAME: pw:\\danroom.dot:dlinois.pw:\PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CADData\CADSheets\D570D77_sht_Str_021-0030_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N.. 021–0030

SCALE: | SHEET 23 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	29
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

AS–BUILT PLANS
FOR INFORMATION ONLY

Notes:

Space reinforcement in cap and steps to miss anchor bolts.

The designation 3 x 2-#4 , etc. indicates 3 Lines of bars with 2 Lengths per line.

All edges shall have standard ¾" Chamfers unless otherwise noted.

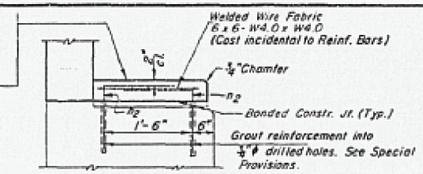
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

See Sheet No. 12 for Sec. D-D and abutment details.

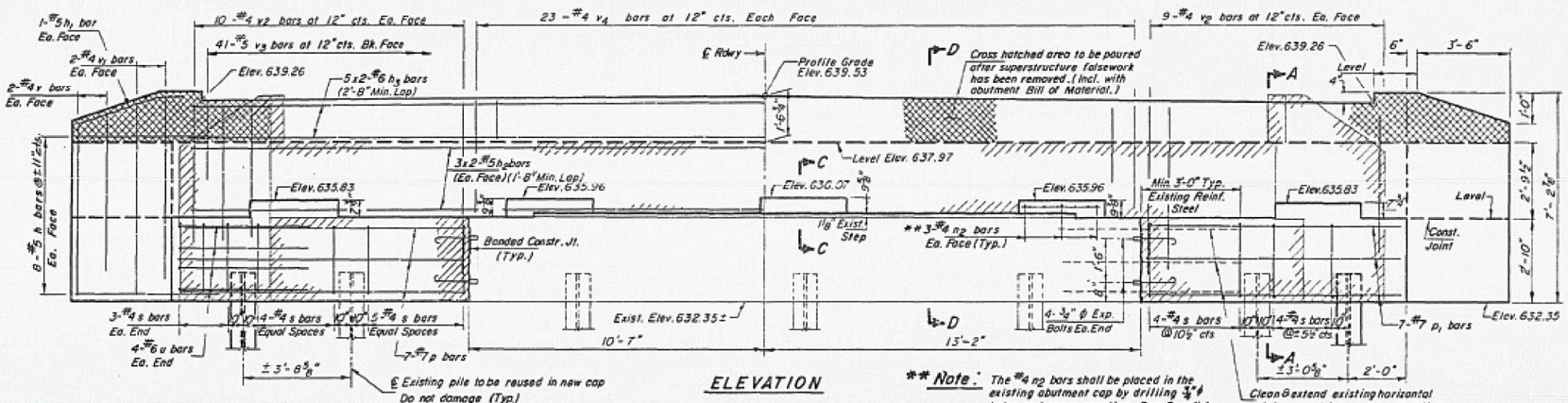
Prior to pouring new concrete steps, the surface shall be clean and coated with an epoxy bonding agent. (Cost incidental to Class X Concrete). Cut existing anchor bolts to 2" below proposed top of step where necessary.

820	25BR	DOUGLAS	127	80

SHEET NO. 10 OF 14 SHEETS

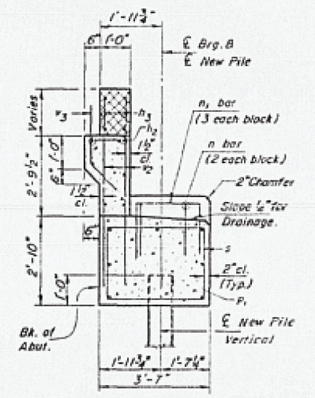


SECTION C-C



ELEVATION

**Note: The #4 n2 bars shall be placed in the existing abutment cap by drilling ¾"ϕ holes and epoxy grouting. See Special Provisions.

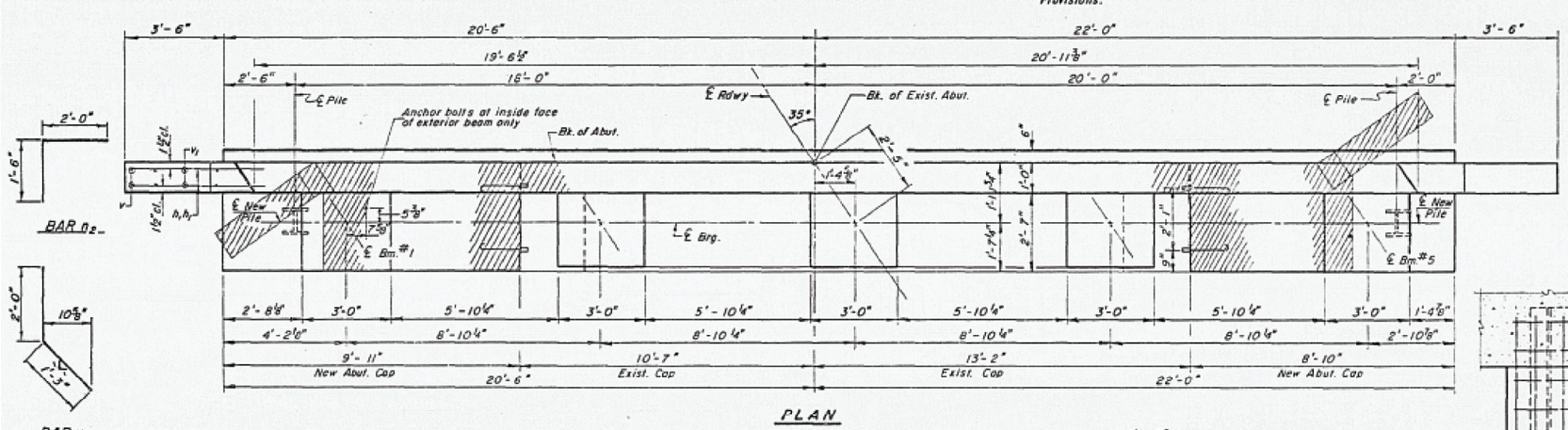


SECTION A-A

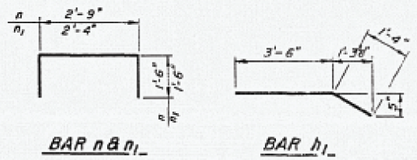
(at Rt. ∠s)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	32	#5	6'-0"	
h1	4	#5	4'-10"	
h2	12	#5	22'-0"	
h3	10	#6	22'-6"	
n	4	#4	5'-9"	
n1	6	#4	5'-4"	
n2	18	#4	3'-6"	
p	7	#7	9'-8"	
p1	7	#7	8'-7"	
s	23	#4	12'-3"	
u	8	#6	12'-2"	
v	8	#4	7'-0"	
v1	8	#4	7'-6"	
v2	38	#4	6'-0"	
v3	41	#5	3'-3"	
v4	46	#4	4'-0"	
Class X Concrete			Cu Yds	17.4
Reinforcement Bars			Lbs.	2000
Concrete Removal			Cu. Yds.	10.6
Steel Piles HP 8 x 36			Lin Ft	35
Test Piles Steel HP 8 x 36			Each	1
Exp. Bolts (¾" ϕ)			Each	8

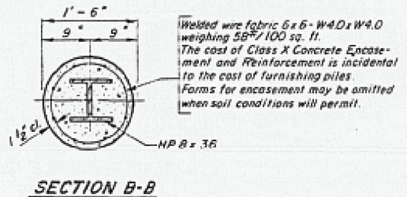


PLAN



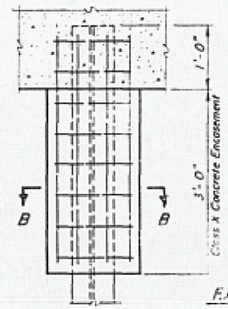
PILE DATA

Type ------- Steel HP 8 x 36
Capacity ---- 25 Ton
Est. Length --- 35'
No. Req'd. --- 1 plus one test pile



SECTION B-B

Welded wire fabric 6 x 6 - W4.0 x W4.0 weighing 58 #/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.



PILE ENCASEMENT

SOUTH ABUTMENT
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/21/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0030

SCALE: | SHEET 24 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	30
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAMES
FILE NAME: pw:\\planroom.dot.illinois.gov:PWBODT\Documents\IDOT Offices\District 5\Project\D570077\CADD\data\CADdrives\D570077_4IN_SE-021-0030_CM.dgn

AS–BUILT PLANS
FOR INFORMATION ONLY

F.A.P. 820	25BR	DOUGLAS	127	81

SHEET NO. 11 14 SHEETS

Notes:

Space reinforcement in cap and steps to miss anchor bolts.

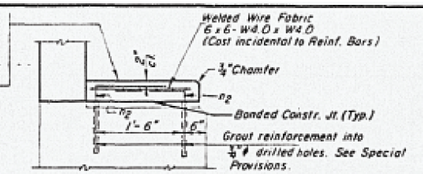
The designation 3 x 2-#4 , etc. indicates 3 Lines of bars with 2 Lengths per line.

All edges shall have standard ¾" Chamfers unless otherwise noted.

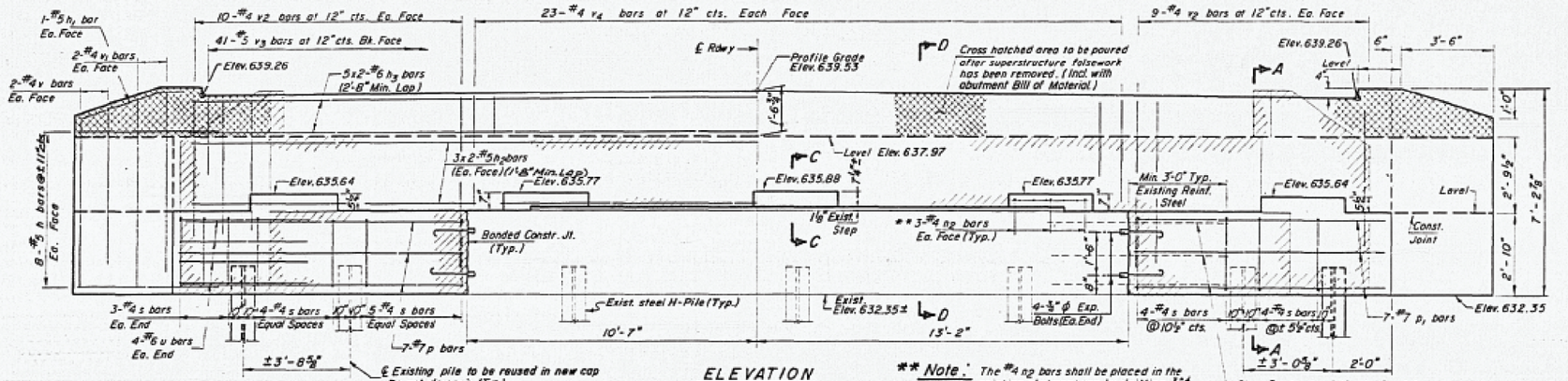
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

See Sheet No.12 for Sec. D-D and abutment details.

Prior to pouring new concrete steps, the surface shall be clean and coated with an epoxy bonding agent. (Cost incidental to Class X Concrete). Cut existing anchor bolts to 2" below proposed top of step where necessary.



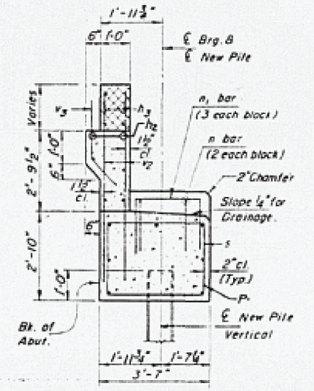
SECTION C-C



ELEVATION

**Note: The #4 n2 bars shall be placed in the existing abutment cap by drilling ¾" ϕ holes and epoxy grouting. See Special Provisions.

Clean & extend existing horizontal reinforcement into new construction

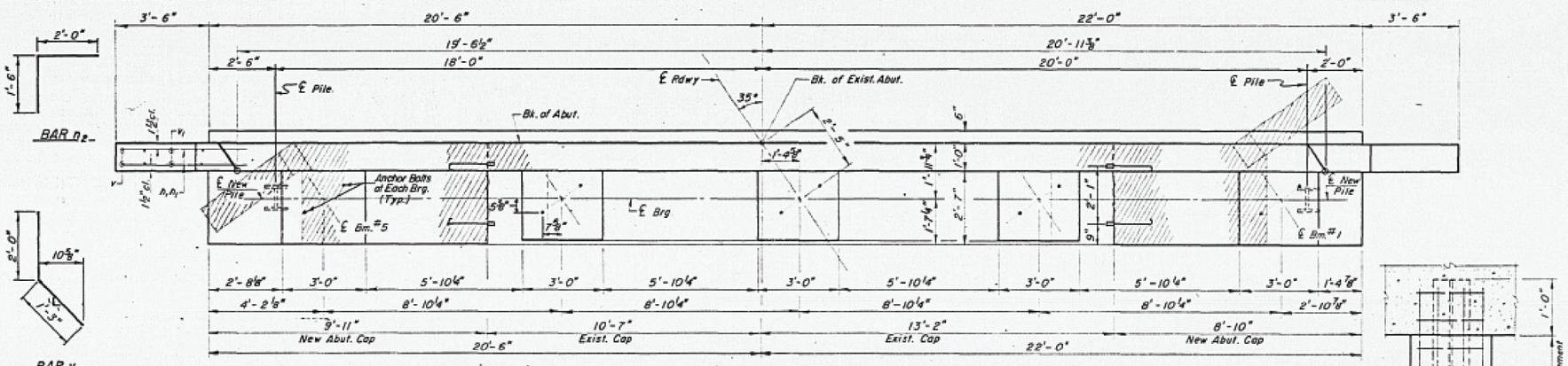


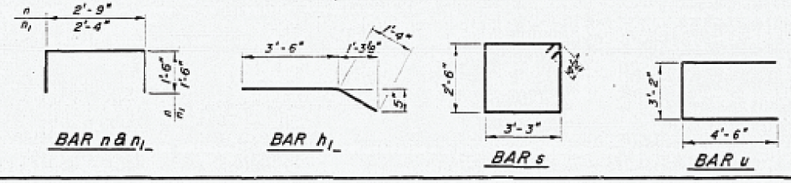
SECTION A-A

(at Rt. ∠s)

BILL OF MATERIAL

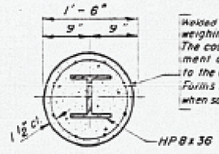
Bar	No.	Size	Length	Shape
h	32	#5	6'-0"	
h1	4	#5	4'-10"	
h2	12	#5	22'-0"	
h3	10	#6	22'-6"	
n	4	#4	5'-9"	
n1	6	#4	5'-4"	
n2	18	#4	3'-6"	
p	7	#7	9'-8"	
p1	7	#7	8'-7"	
s	23	#4	12'-3"	
u	8	#6	12'-2"	
v	8	#4	7'-0"	
v1	8	#4	7'-6"	
v2	38	#4	6'-0"	
v3	41	#5	3'-3"	
v4	46	#4	4'-0"	
Class X Concrete			Cu. Yds.	17.4
Reinforcement Bars			Lbs.	2000
Concrete Removal			Cu. Yds.	10.6
Steel Piles HP8 x 36			Lin. Ft.	TO
Exp. Bolts (¾" ϕ)			Each	8





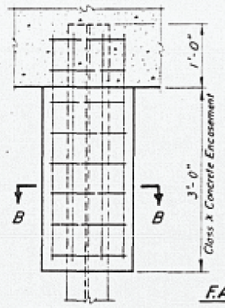
PILE DATA

Type ------- Steel HP8 x 36
Capacity ---- 25 Ton
Est. Length--- 35'
No. Req'd. --- 2



SECTION B-B

Welded wire fabric 6 x 6 - W4.0 x W4.0 weighing 58 lbs/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.



PILE ENCASEMENT

NORTH ABUTMENT
F.A.P. RTE. 820 ~ SEC. 25BR
DOUGLAS COUNTY
STA. 604+10.10

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0030

SCALE: | SHEET 25 OF 25 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	31
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

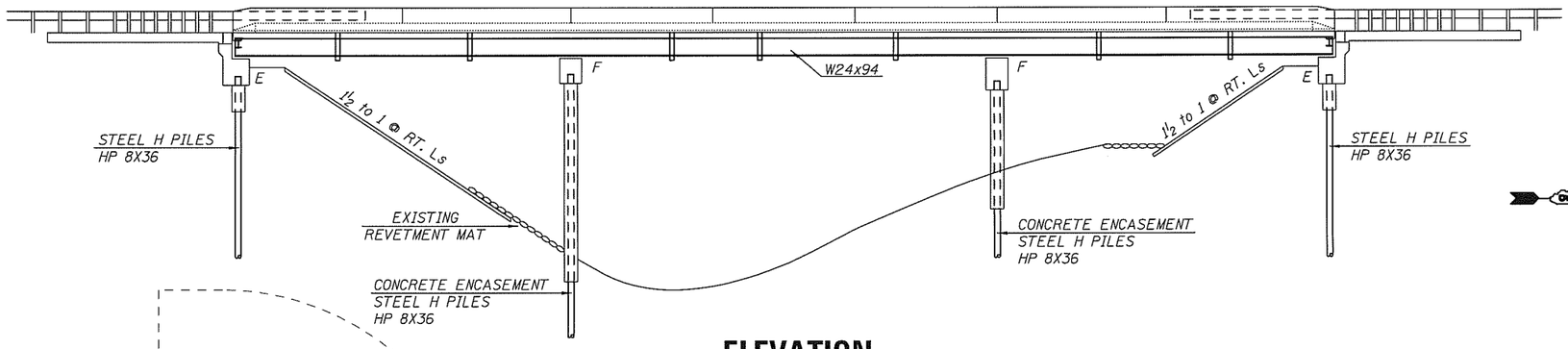
MODEL: sMODELNAMES
FILE NAME: pw:\\plannroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5T0D77\CADData\CADsheets\D5T0D77-sht-S5r.021-0030_CM.dgn

STRUCTURE NO. 021-0031 BUILT AS FAS RTE. 524 SECTION 1-G IN 1948 AT STATION 13+66.50. A THREE SPAN CONTINUOUS STEEL WF BEAM STRUCTURE, 2 SPANS @ 37'-9" AND 1 @ 48'-5" SKEWED 0° SUPPORTED BY SPILL THRU ABUTMENTS AND PILE BENT PIERS. IN 1987 WAS RECONSTRUCTED AS FA RTE. 820, SECTION 1-G-BR AT 513+66.70. THE EXISTING SUBSTRUCTURE WAS WIDENED, THE DECK AND SUPERSTRUCTURE WERE REMOVED AND REPLACED WITH SIX W24X94 CONTINUOUS STEEL BEAMS AND 7½" CONCRETE DECK. THE BACK TO BACK ABUTMENTS LENGTH IS 127'-5". AN OUT TO OUT WIDTH OF 35'-2" AND A CLEAR WIDTH OF 32'-0" FACE TO FACE OF PARAPET.

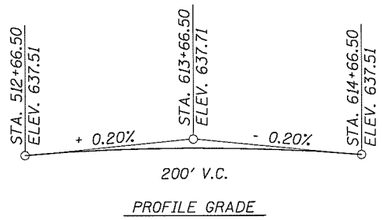
WORK SHALL BE COMPLETED WITH STAGE CONSTRUCTION.

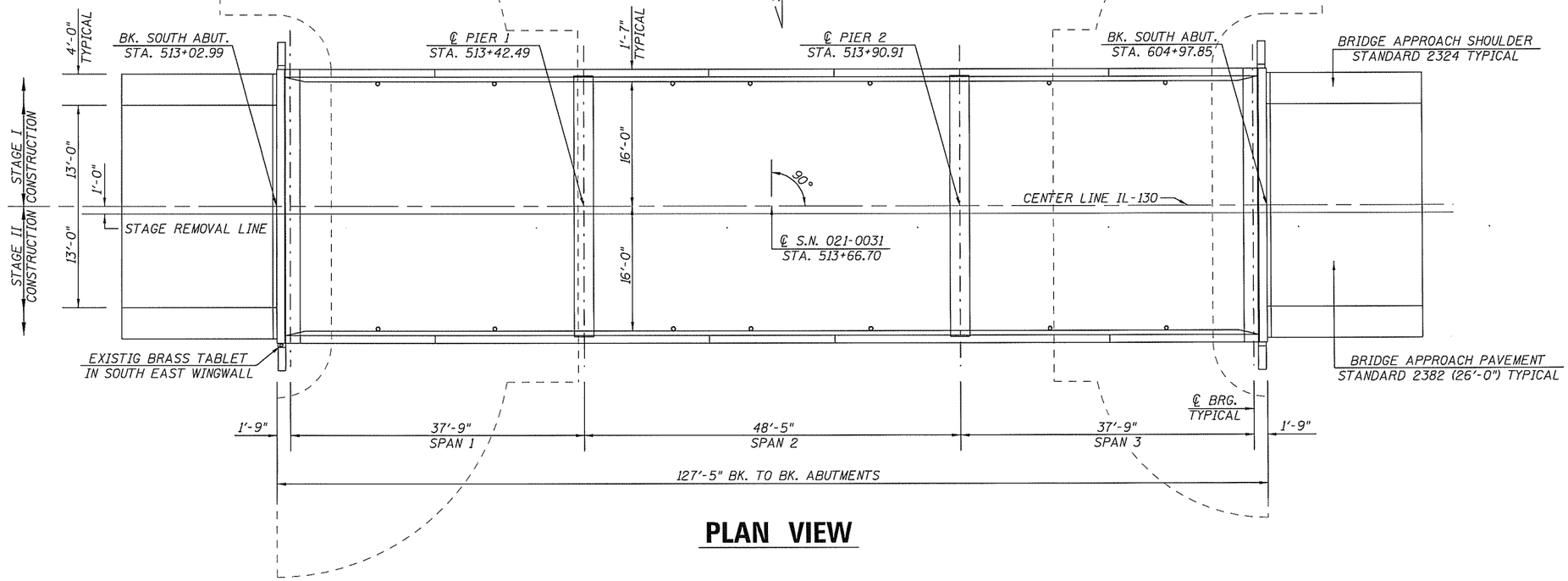
GENERAL PLAN & ELEVATION

S.N. 021–0031



ELEVATION





PLAN VIEW

DAVID CARL PUZEY
081.005470
LICENSED
STRUCTURAL
ENGINEER
OF
STATE OF ILLINOIS

Expires 11/30/20

MODEL: SNYDERNAMES
FILE NAME: c:\users\dansroom.dot.illinois.gov-PW\DOT\Documents\IDOT Offices\District 5\Projects\D5TOD77\CADD\dail\CADsheets\D570D77_sht_Su-021-0031_CM.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
S.N. 021–0031

SCALE: | SHEET 1 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	32
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

SCOPE OF WORK

1. COMPLETE BRIDGE DECK PATCHING, REMOVAL DECK ENDS, PARAPETS, AND HATCH BLOCKS.
2. COMPLETE STRUCTURAL STEEL REPAIR, REPLACE BEARINGS AND END DIAPHRAGMS.
3. CAST DECK ENDS, PARAPET ENDS AND HATCH BLOCKS.
4. PLACE STRIP SEAL.

TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	CU YD	9.5
CONCRETE SUPERSTRUCTURE	CU YD	9.4
PROTECTIVE COAT	SQ YD	28.0
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2,470.0
REINFORCEMENT BARS (EPOXY COATED)	POUND	1,100.0
BAR SPLICERS	EACH	24.0
PREFORMED JOINT STRIP SEAL	FOOT	80.0
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12.0
ANCHOR BOLTS 1"	EACH	24.0
JACK AND REMOVE EXISTING BEARINGS	EACH	12.0
STRUCTURAL STEEL REMOVAL	POUND	2,440.0
STRUCTURAL STEEL REPAIR	POUND	3,930.0
DECK SLAB REPAIR (FULL-DEPTH, TY I)	SQ YD	11.0
DECK SLAB REPAIR (PARTIAL)	SQ YD	11.0
PERMANENT BENCH MARK	EACH	1.0

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR LOOSE RUST, LOOSE MILL SCALE, AND OTHER LOOSE OR POTENTIALLY DETRIMENTAL FOREIGN MATERIAL SHALL BE REMOVED FROM THE SURFACES IN CONTACT WITH THE CONCRETE. TIGHTLY ADHERED PAINT MAY REMAIN UNLESS OTHERWISE NOTED. REMOVAL SHALL BE ACCOMPLISHED BY METHODS THAT WILL NOT DAMAGE THE STEEL AND THE COST WILL BE INCLUDED IN THE PAY ITEM COVERING REMOVAL OF THE EXISTING CONCRETE.

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

EXISTING STRUCTURAL STEEL THAT WILL BE IN CONTACT WITH NEW STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED PRIOR TO ERECTION AS REQUIRED BY THE SPECIAL PROVISION "CLEANING AND PAINTING CONTACT SURFACE AREAS OF EXISTING STEEL STRUCTURES".

ALL NEW STRUCTURAL STEEL AND BEARING ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED. SEE SPECIAL PROVISIONS FOR "HOT DIP GALVANIZING FOR STRUCTURAL STEEL".

ALL CROSS FRAMES OR DIAPHRAGMS SHALL BE INSTALLED AS STEEL IS ERECTED AND SECURED WITH ERECTION PINS AND BOLTS EXCEPT AS OTHERWISE NOTED. INDIVIDUAL CROSS FRAMES OR DIAPHRAGMS AT SUPPORTS MAY BE TEMPORARILY DISCONNECTED TO INSTALL BEARING ANCHOR RODS.

ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO CLASSIFICATION M-270, GR. 50, UNLESS OTHERWISE NOTED.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 520.04 OF THE STD. SPECS. WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50° F.

AREAS OF DECK SLAB REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK SLAB REPAIRS ON AS-BUILT PLANS.

SEE SPECIAL PROVISION "DECK SLAB REPAIR" FOR ADDITIONAL REQUIREMENTS PERTAINING TO DECK SLAB REPAIR.

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

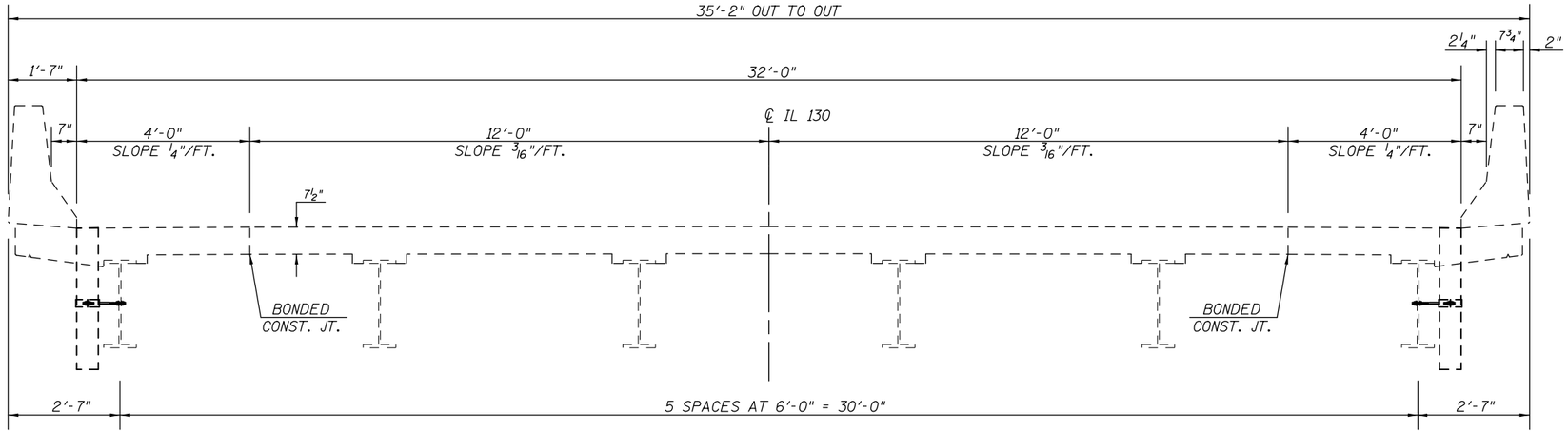
TOTAL BILL OF MATERIALS & GENERAL NOTES
S.N. 021–0031

SCALE: | SHEET 2 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	33
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

EXISTING DECK CROSS SECTION

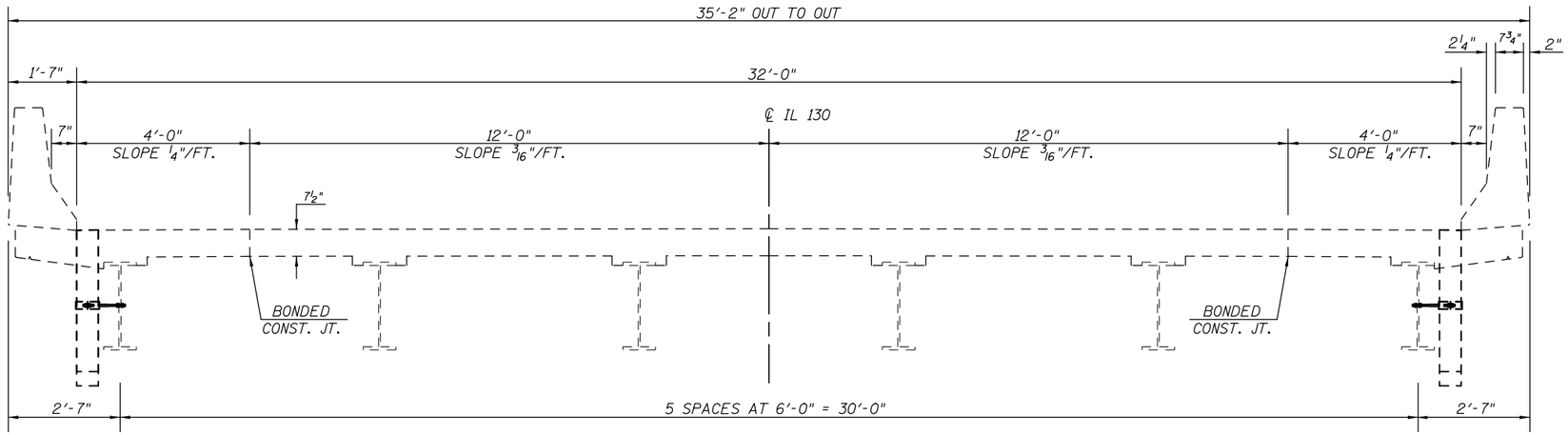
S.N. 021–0031



LOOKING NORTH

PROPOSED DECK CROSS SECTION

S.N. 021–0031



LOOKING NORTH

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - JTB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

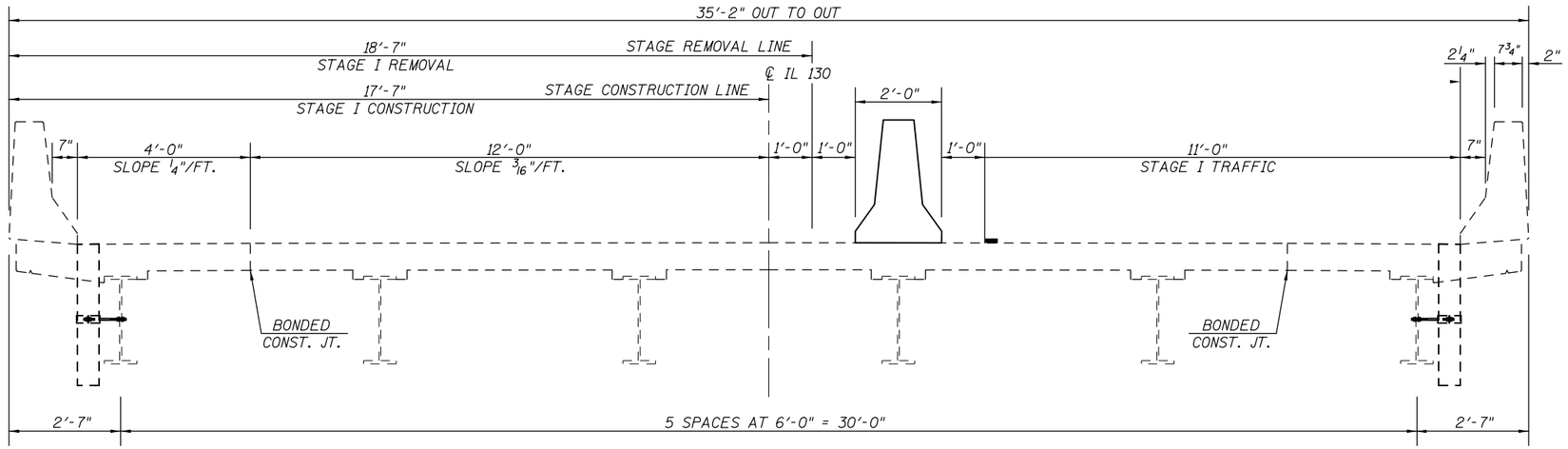
DECK CROSS SECTION
S.N. 021–0031

SCALE: | SHEET 3 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	34
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	

STAGE I CONSTRUCTION DETAIL

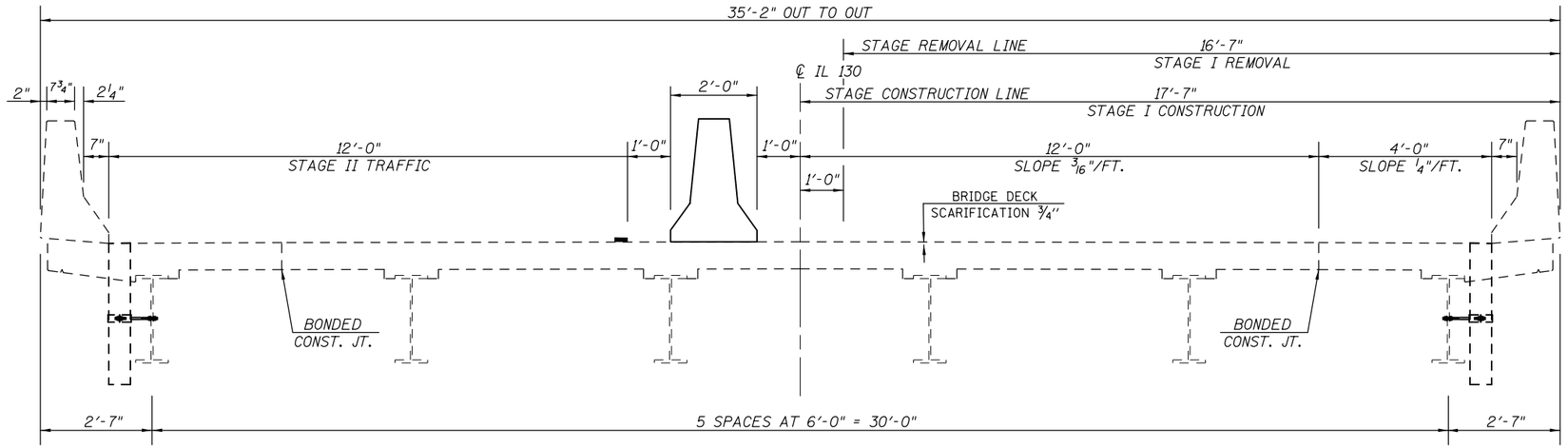
S.N. 021–0031



LOOKING NORTH

STAGE II CONSTRUCTION DETAIL

S.N. 021–0031



LOOKING NORTH

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

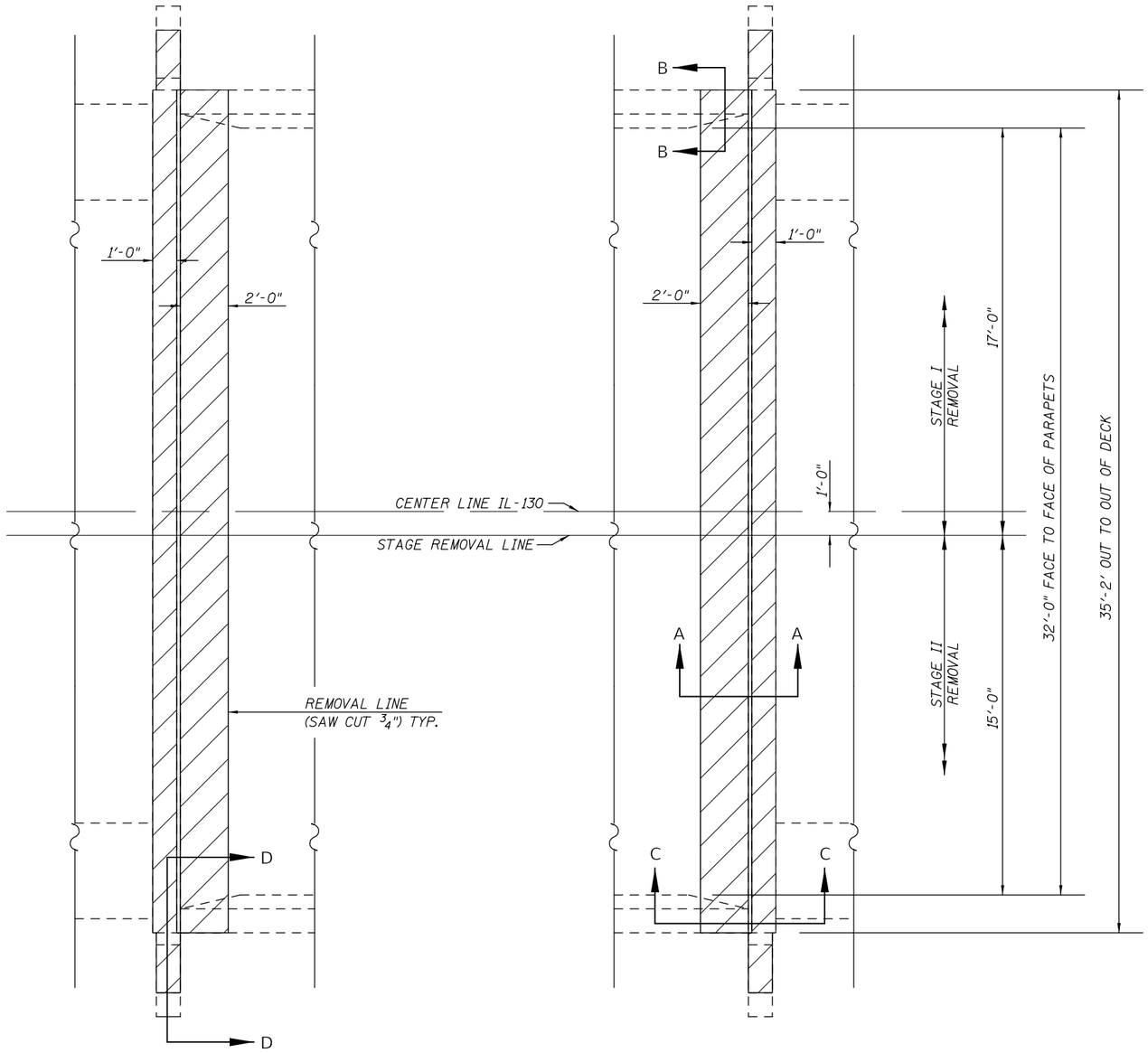
STAGE CONSTRUCTION DETAILS
S.N. 021–0031

SCALE: | SHEET 4 OF 22 SHEETS | STA. | TO STA.

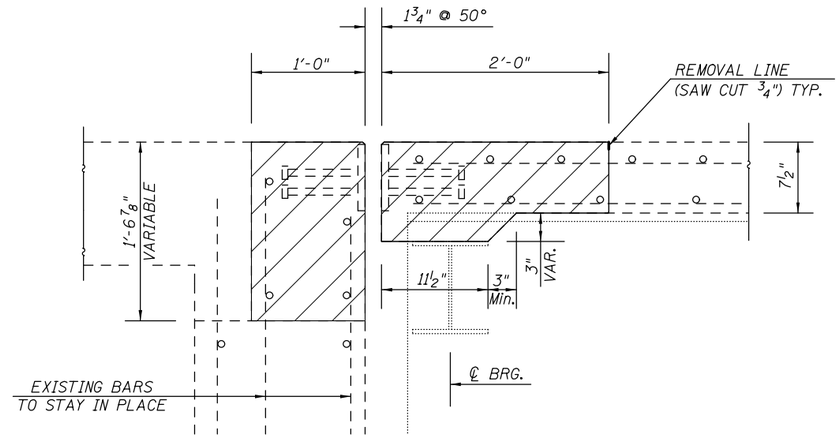
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	35
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

CONCRETE REMOVAL PLAN

S.N. 021–0031



PLAN VIEW
CONCRETE REMOVAL



SECTION A–A
CONCRETE REMOVAL

CONCRETE REMOVAL

NOTE:

THE EXISTING EXPANSION JOINT SYSTEM SHALL BE REMOVED COMPLETELY, AS WELL AS ANY FOREIGN MATERIAL THAT HAS ACCUMULATED OR BEEN PLACED IN THE JOINT OPENINGS. THE COST OF THIS WORK IS INCLUDED IN CONCRETE REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE GUARDRAIL WITHIN THE PARAPET REMOVAL AND REPLACEMENT LIMITS SHALL BE REMOVED TO ALLOW FOR THE REPAIR WORK TO BE COMPLETED. THE CONTRACTOR IS TO SAFELY STORE REMOVED MATERIAL. FOLLOWING COMPLETION OF REPAIR WORK THE CONTRACTOR TO EITHER SAVE AND RE-USE THE EXISTING CAST-IN-PLACE ANCHOR SYSTEM OR USE EPOXY-GROUTED THREADED RODS TO RE-ATTACH THE EXISTING GUARDRAIL. THE COST OF THIS WORK IS INCLUDED IN CONCRETE REMOVAL AND CONCRETE SUPERSTRUCTURE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

MODEL: $MODELNAME$
FILE NAME: pw:\\dunroomn.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5702077\CADData\CADData\sheets\D5702077_sht_Str-021-0031_CM.dgn

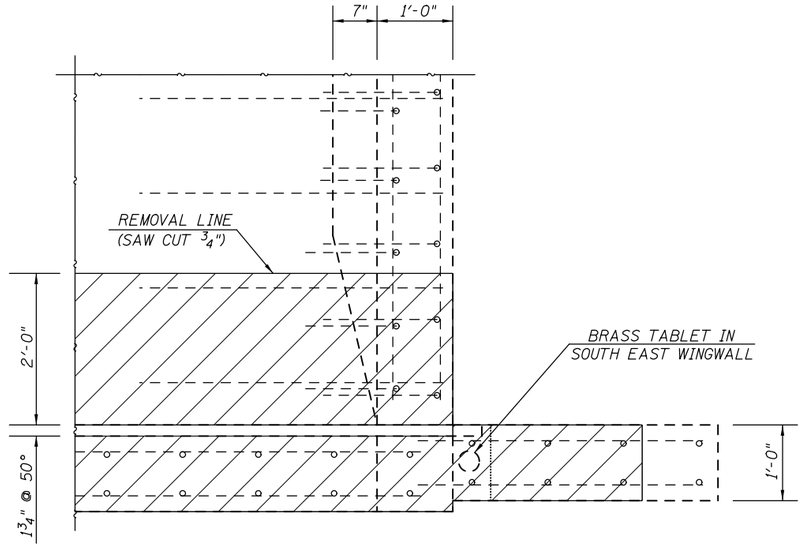
USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL – JOINTS
S.N. 021–0031

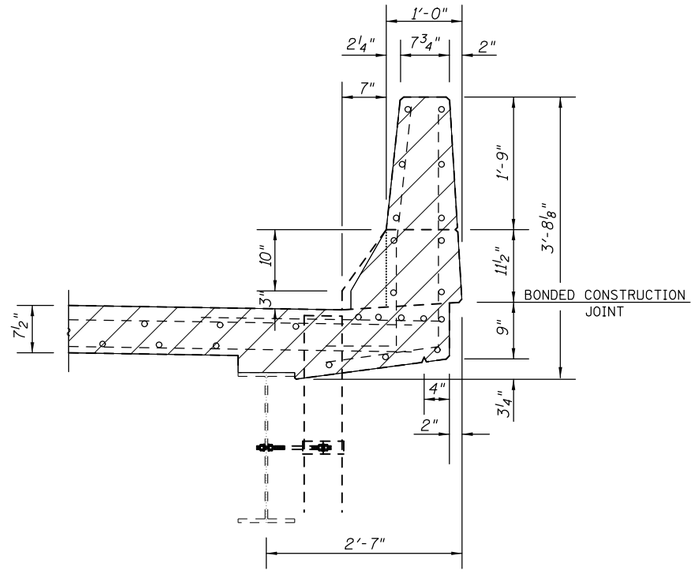
SCALE: | SHEET 5 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	36
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

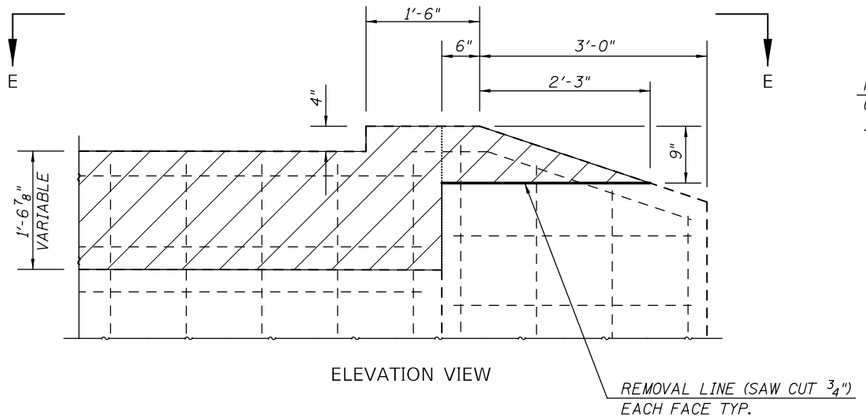


PLAN VIEW

VIEW E–E
CONCRETE REMOVAL
ALL WINGWALLS (SIMILAR)

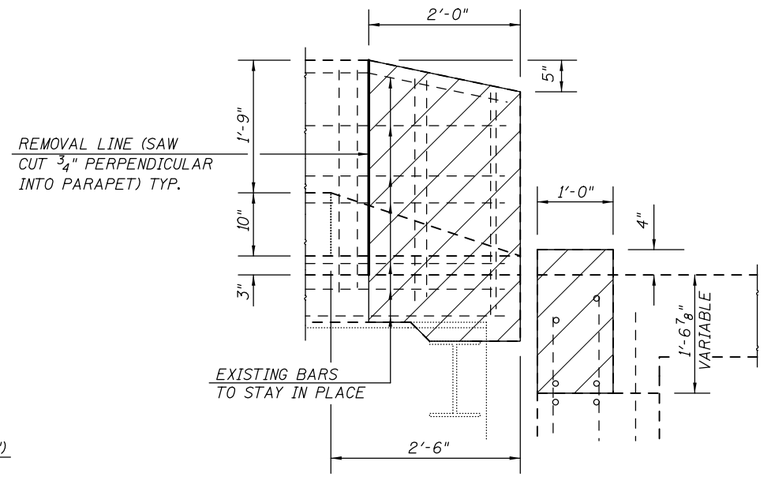


SECTION B–B
CONCRETE REMOVAL



ELEVATION VIEW

SECTION D–D
CONCRETE REMOVAL
ALL WINGWALLS (SIMILAR)



SECTION C–C
CONCRETE REMOVAL

CONCRETE REMOVAL

BILL OF MATERIALS

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	CU YD	9.5

MODEL: $MODELNAME$
FILE NAME: z:\x\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d570077\CADData\CADsheets\D570077_sht_Str.021-0031_CM.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

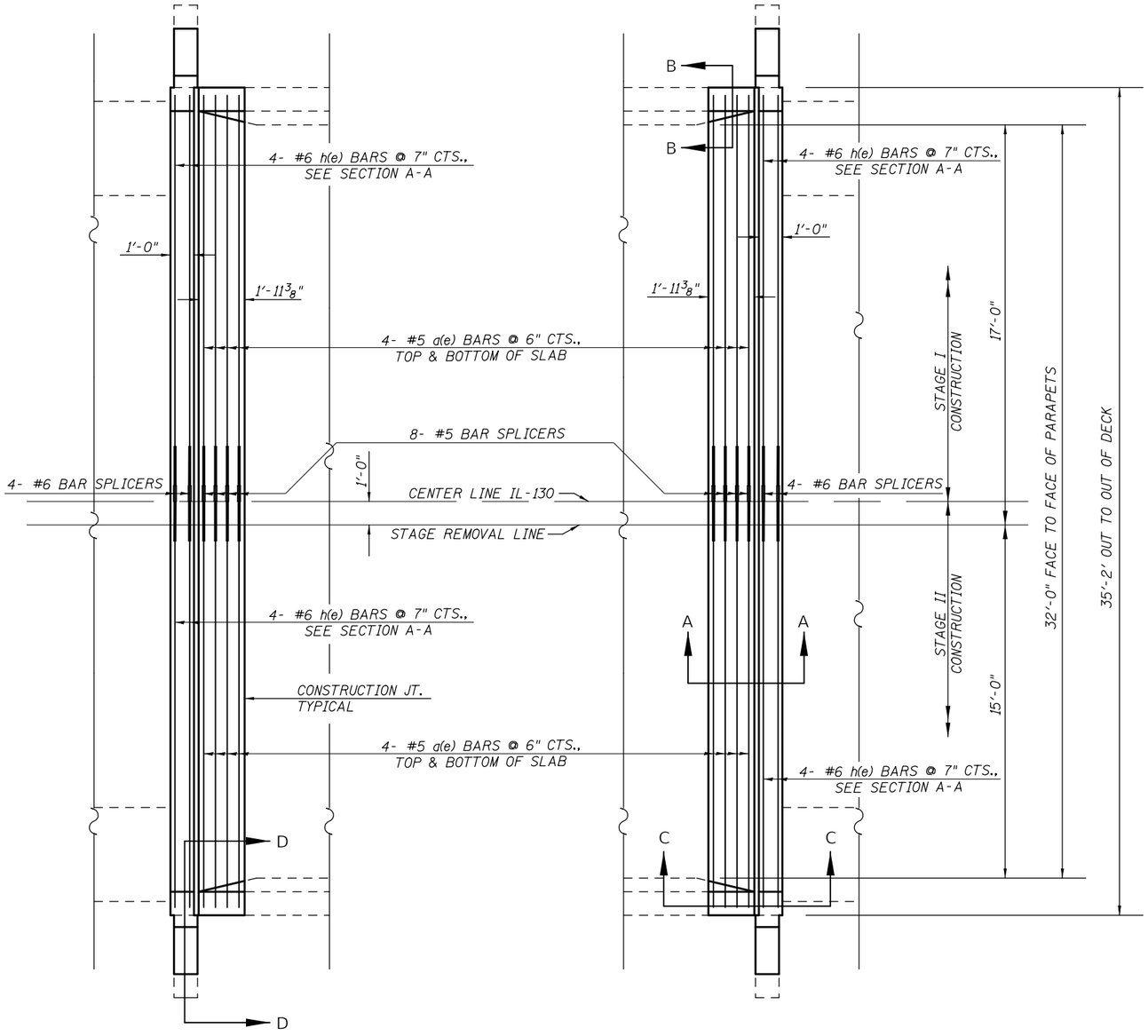
CONCRETE REMOVAL – JOINTS
S.N. 021–0031

SCALE: | SHEET 6 OF 22 SHEETS | STA. | TO STA.

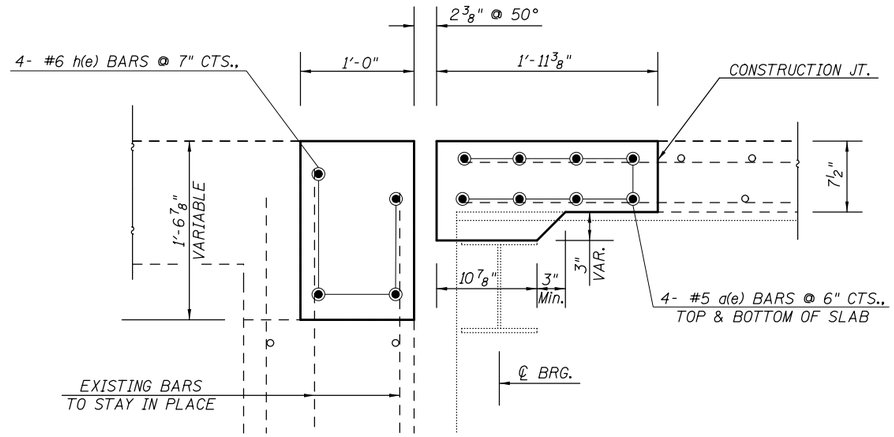
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	37
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

CONCRETE REMOVAL PLAN

S.N. 021–0031



PLAN VIEW
CONCRETE REMOVAL



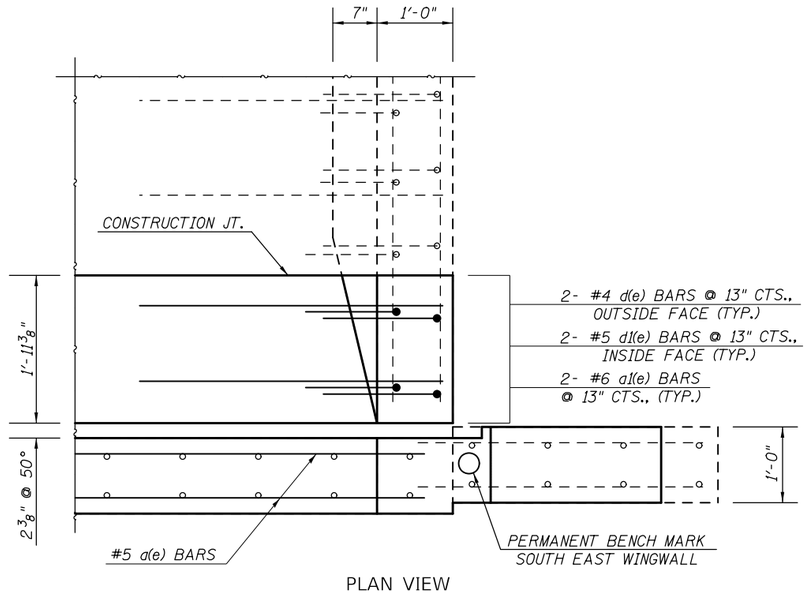
SECTION A–A
CONCRETE SUPERSTRUCTURE

USER NAME = shawleres	DESIGNED - ESS	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

CONCRETE SUPERSTRUCTURE – JOINTS
S.N. 021–0031

SCALE: | SHEET 7 OF 22 SHEETS | STA. | TO STA.

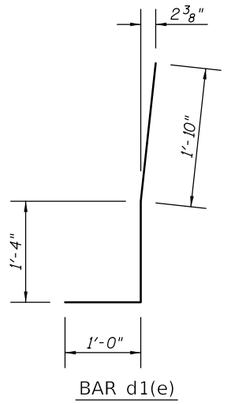
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	38
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		



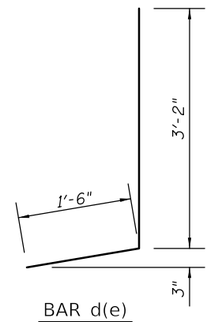
PLAN VIEW

VIEW E–E
CONCRETE SUPERSTRUCTURE

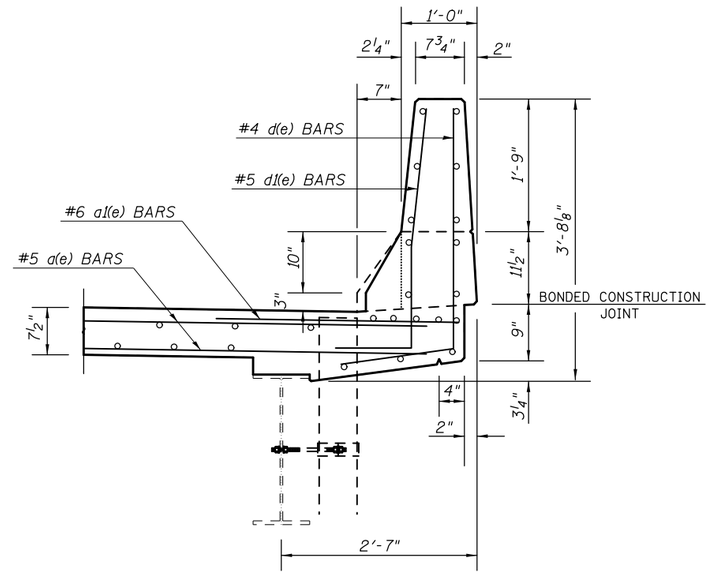
ALL WINGWALLS (SIMILAR)



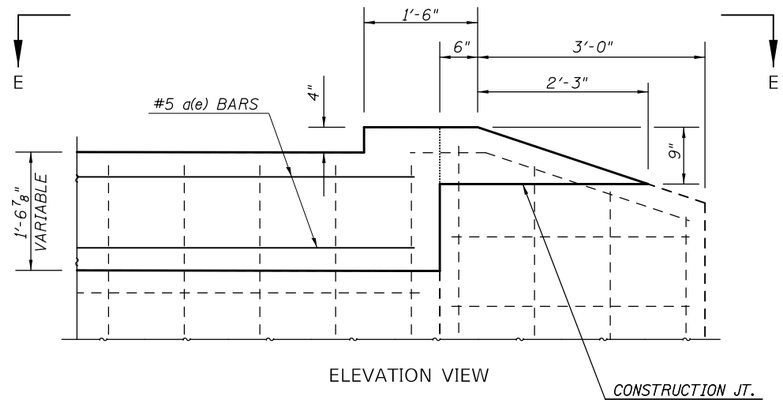
BAR d1(e)



BAR d(e)



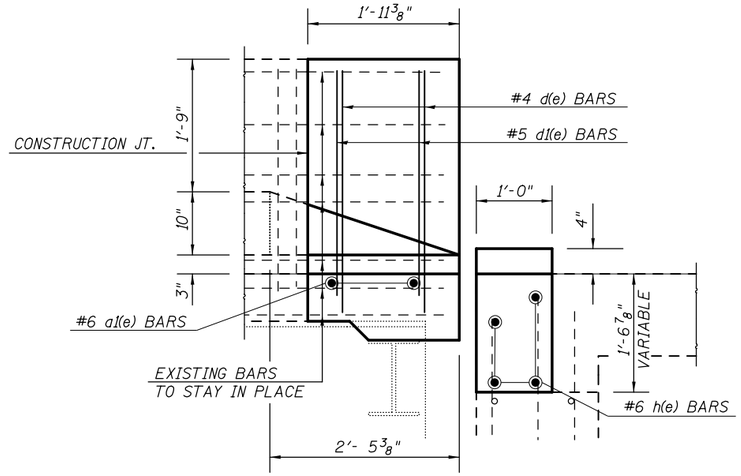
SECTION B–B
CONCRETE SUPERSTRUCTURE



ELEVATION VIEW

SECTION D–D
CONCRETE SUPERSTRUCTURE

ALL WINGWALLS (SIMILAR)



SECTION C–C
CONCRETE SUPERSTRUCTURE

NOTE:

PROTECTIVE COAT SHALL BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS AND DECK SURFACE OF NEW CONCRETE ADJACENT TO JOINTS.

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a(e)	32	#5	17'-3"	
a1(e)	8	#6	4'-0"	
h(e)	16	#6	17'-3"	
d(e)	8	#4	4'-8"	
d1(e)	8	#5	4'-2"	

ITEM	UNIT	TOTAL
REINFORCEMENT BARS (EPOXY)	POUND	1,100.0
CONCRETE SUPERSTRUCTURE	POUND	9.4
BAR SPLICERS	EACH	24.0
PROTECTIVE COAT	SQ YD	28.0
PERMANENT BENCH MARK	EACH	1.0

MODEL: $MODELNAME$
FILE NAME: pw:\\plannroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5T0077\CADD\data\CADsheets\D5T0077_SHT_5tr-021-0031_CM.dgn

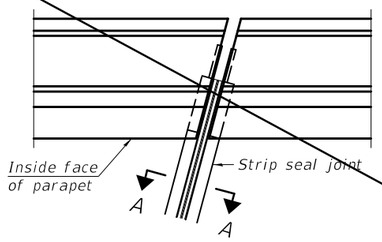
USER NAME = shawleres	DESIGNED - ESS	REVISED -	
	DRAWN - ESS	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/24/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

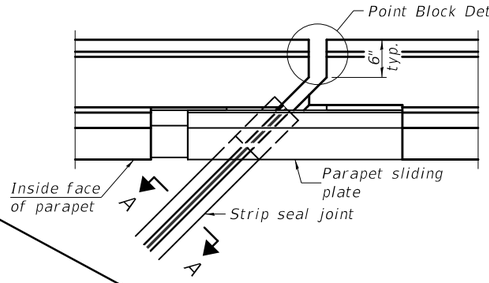
CONCRETE SUPERSTRUCTURE – JOINTS
S.N. 021–0031

SCALE: | SHEET 8 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	39
		CONTRACT NO. 70D77		
		ILLINOIS	FED. AID PROJECT	

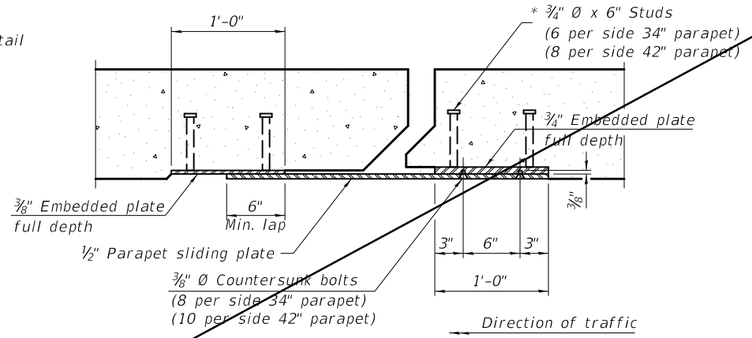


FOR SKEWS ≤ 30°

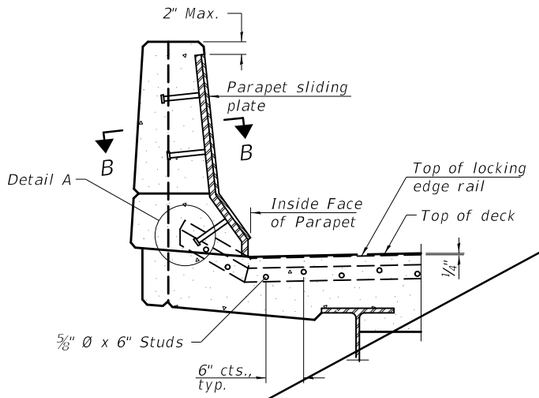


FOR SKEWS > 30°

PLAN AT PARAPET

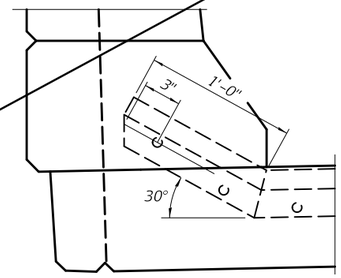


SECTION B-B

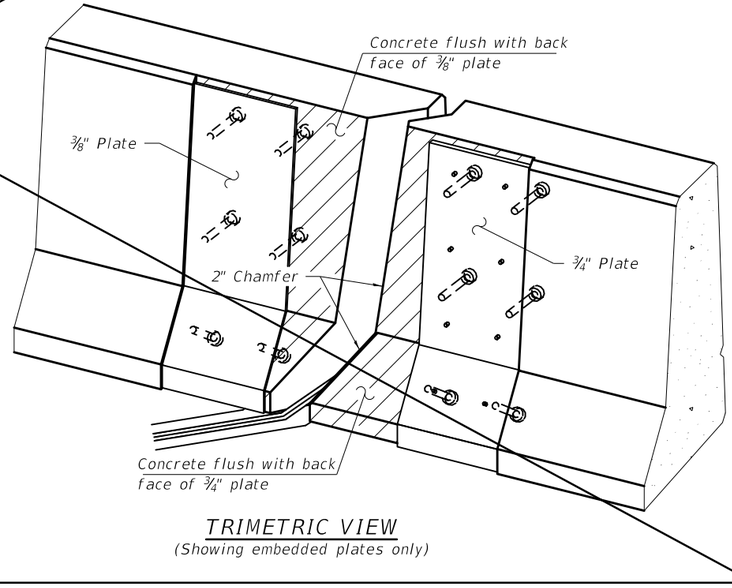


ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

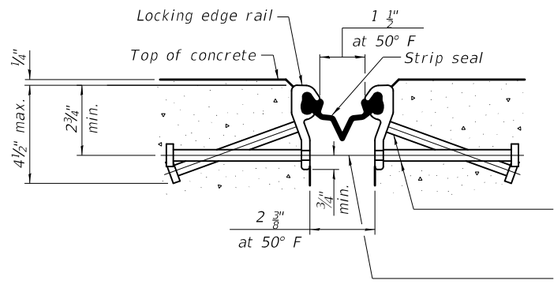
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

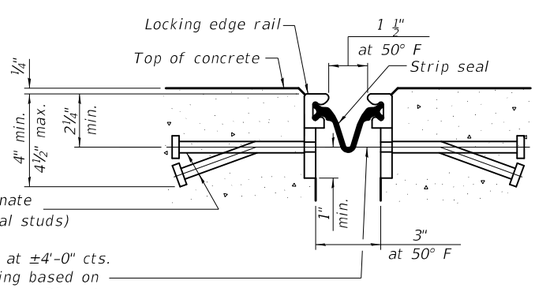
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



SHOWING ROLLED RAIL JOINT



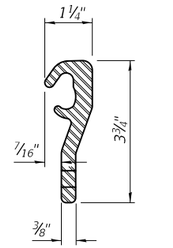
SHOWING WELDED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

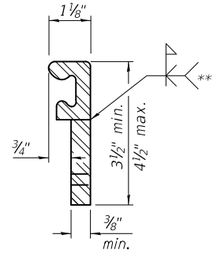
⅝" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



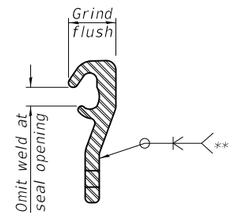
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	80.0

EJ-SS 1-24-2020

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED -	REVISED -	
PLOT SCALE =	DRAWN -	REVISED -	
PLOT DATE =	CHECKED -	REVISED -	

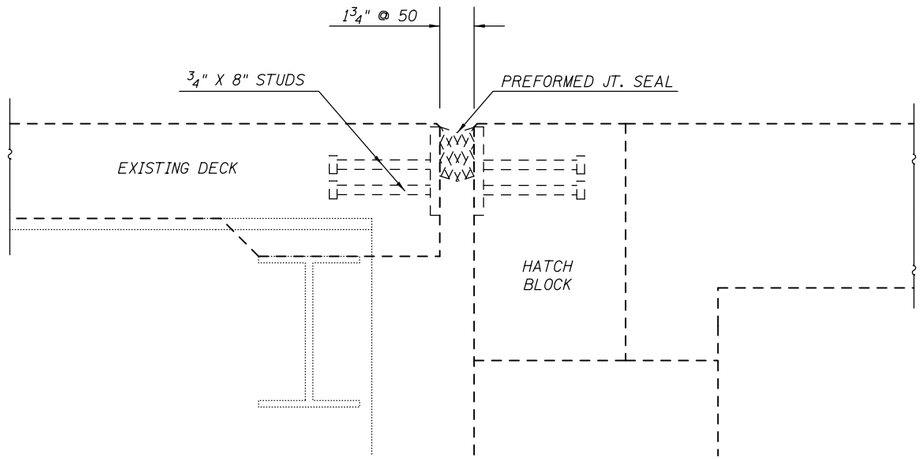
PREFORMED JOINT STRIP SEAL STRUCTURE NO. 021-0031

SHEET 9 OF 22 SHEETS

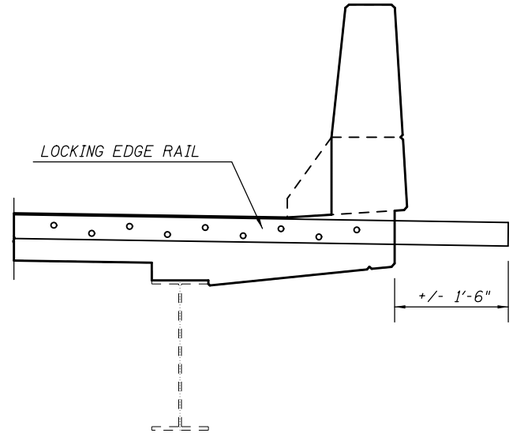
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			56	40
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CADData\CADsheets\D570D77_sht_Str-021-0031_CM.dgn

1/24/2020 $TIME$

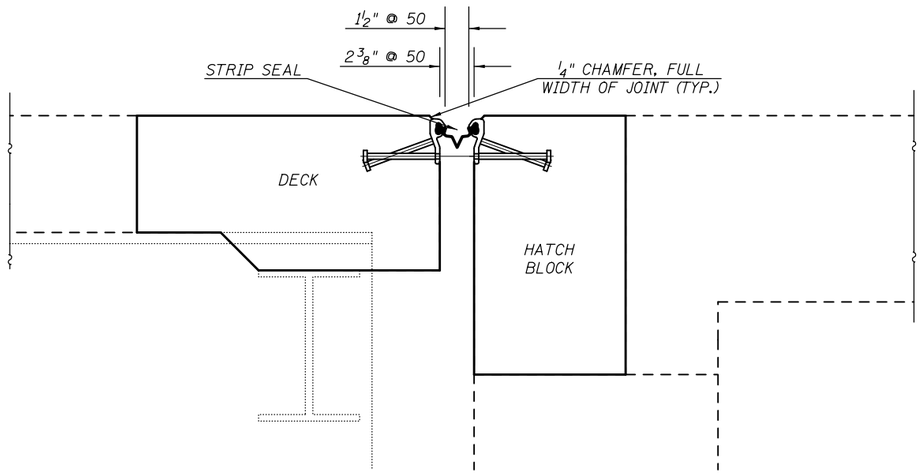


SECTION AT EXISTING JOINT

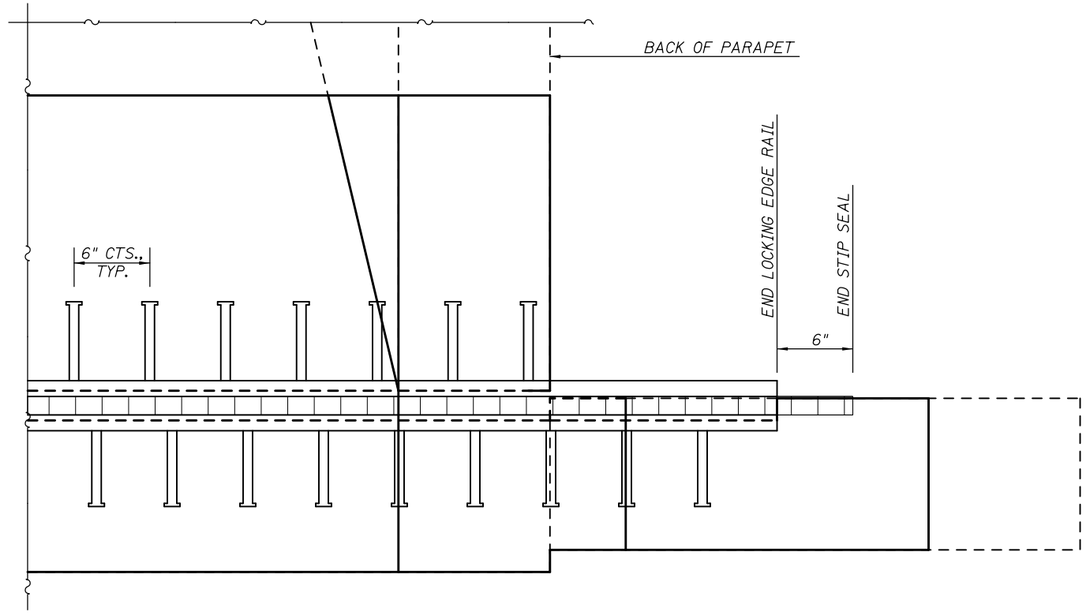


SECTION AT PROPOSED JOINTS

DECK END



SECTION AT PROPOSED JOINTS



PLAN VIEW

STRIP SEAL

PROPOSED JOINTS

ALL WINGWALLS (SIMILAR)

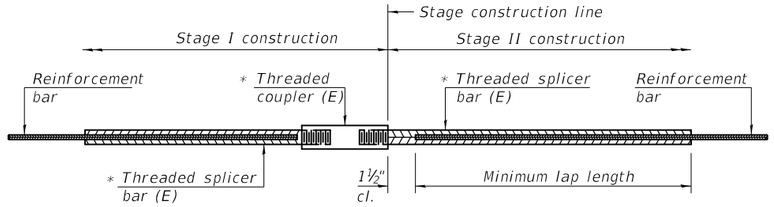
MODEL: $MODELNAME$
FILE NAME: pw:\\dbnroom.doatillinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CADData\CADs\sheets\D570D77_gnl_Str_021-0031_CM.dgn

USER NAME = shawleres	DESIGNED - ESS	REVISED -	**STATE OF ILLINOIS**
	DRAWN - ESS	REVISED -	**DEPARTMENT OF TRANSPORTATION**
PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

JOINT REPLACEMENT DETAIL
S.N. 021–0031

SCALE: | SHEET 10 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	41
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			

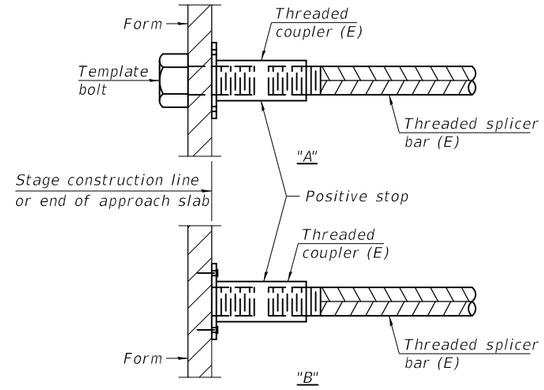


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

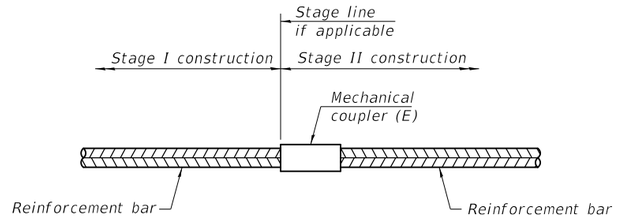
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
HATCH BLOCKS	#6	8.0	4'-0"
DECK ENDS	#5	16.0	3'-6"



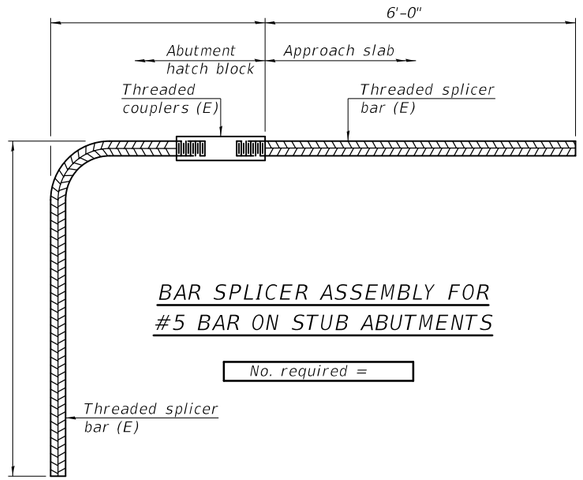
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

2-17-2017

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

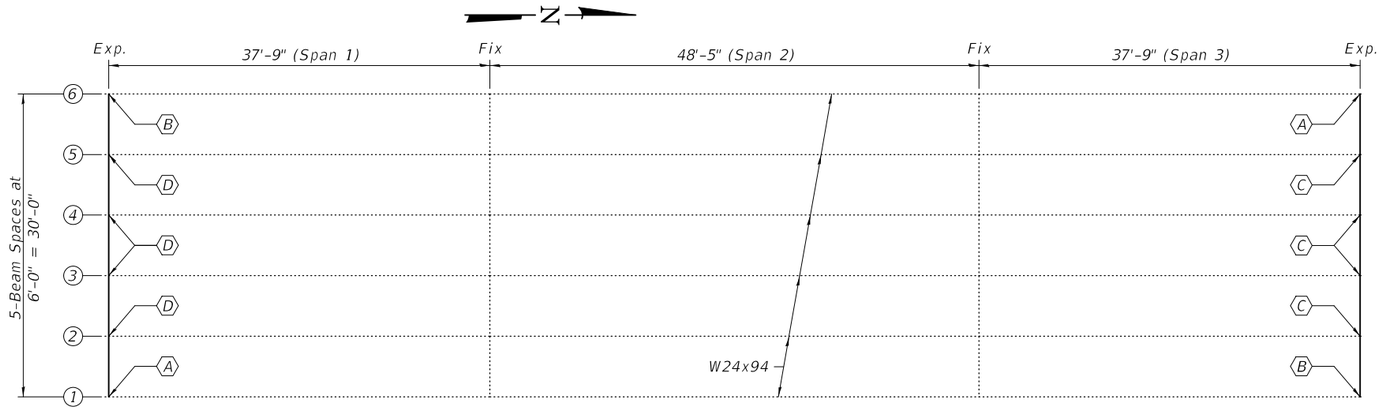
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 021-0031

SCALE: | SHEET 11 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	42
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d570077\CADData\CADsheets\D570077_sht_Str.021-0031_CM.dgn



FRAMING PLAN

Ⓐ – Beam End Repair (1S & 6N)

Ⓑ – Beam End Repair (1N & 6S)

Ⓒ – Beam End Repair (2N, 3N, 4N & 5N)

Ⓓ – Beam End Repair (2S, 3S, 4S & 5S)

Ⓔ – Remove & Replace Bearings at Both Abutments

Ⓕ – Remove & Replace Diaphragms at Both Abutments

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

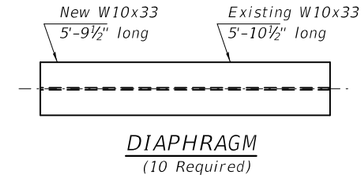
Fasteners shall be high strength bolts. Bolts ¾"Ø, open holes $^{13}/_{16}$"Ø, unless otherwise noted.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel."

CLIP ANGLE DETAILS

∠ 6x4x½" x 6" long
(8 Required)



DIAPHRAGM

(10 Required)

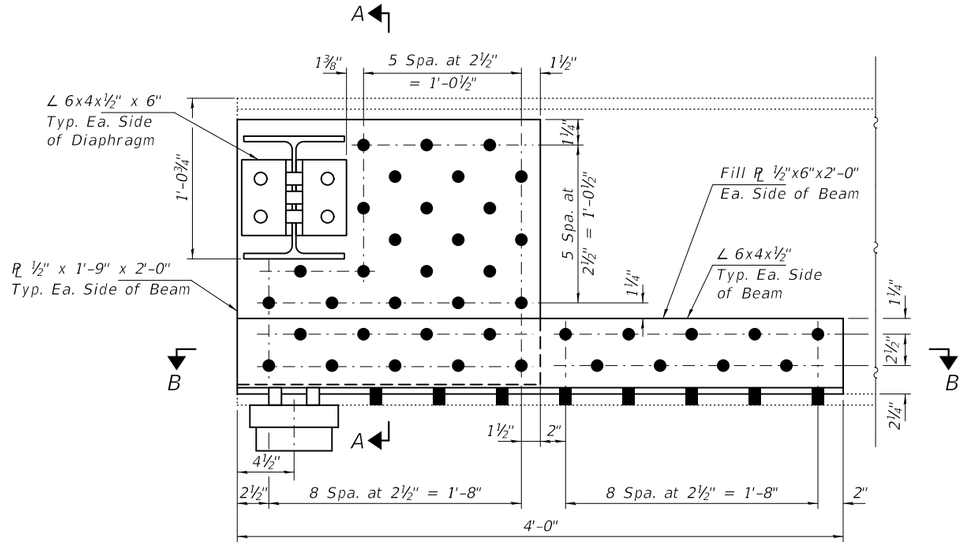
BOLT HOLE LEGEND

○ – Field drill using new or existing steel as template.

● – Shop drill holes in new steel.

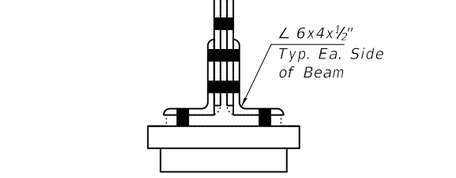
REPAIR F

Existing ∠ 6"x4"x¾" shall be removed by the air-arc method and grind smooth all weld material remaining on the web.

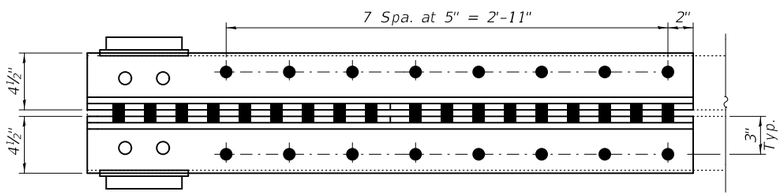


REPAIR A

(2 Locations)



SECTION A-A



SECTION B-B

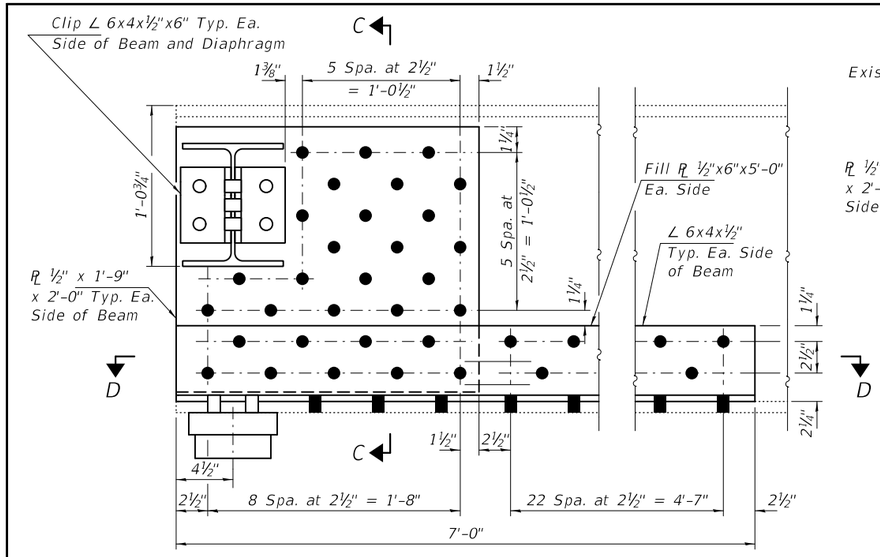
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	2440
Structural Steel Repair	Pound	3930
Furnishing and Erecting Structural Steel	Pound	2160

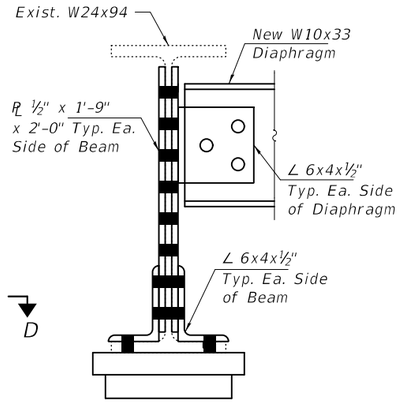
DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
DRAWN - Venkat Reddy	PASSED	REVISED -	
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES		

GENERAL PLAN AND ELEVATION
FAP 820 OVER SCATTERING FORK
SN 021-0031
SHEET NO. 1 OF 3 SHEETS

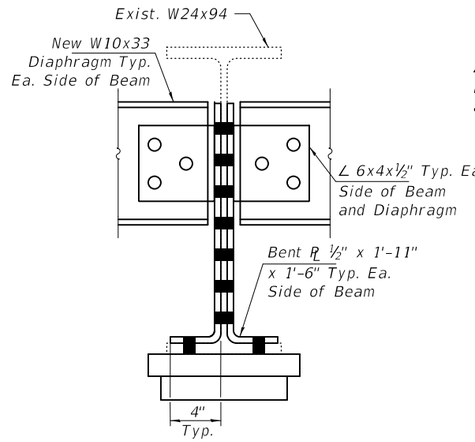
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	43
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		



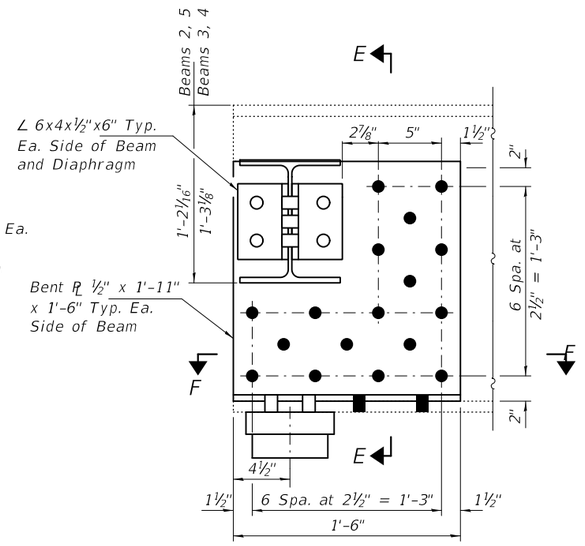
REPAIR B
(2 Locations)



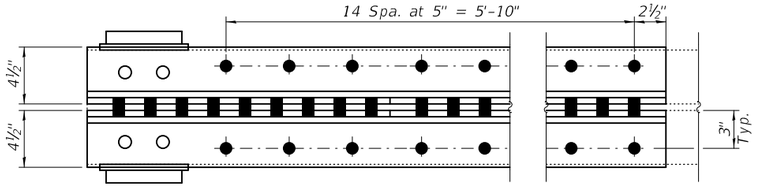
SECTION C-C



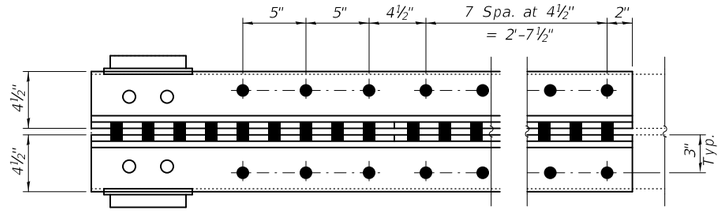
SECTION E-E



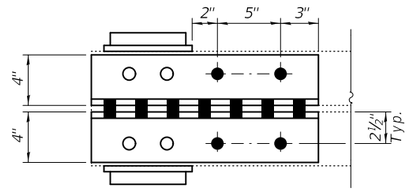
REPAIR C
(4 Locations)



SECTION D-D



SECTION J-J

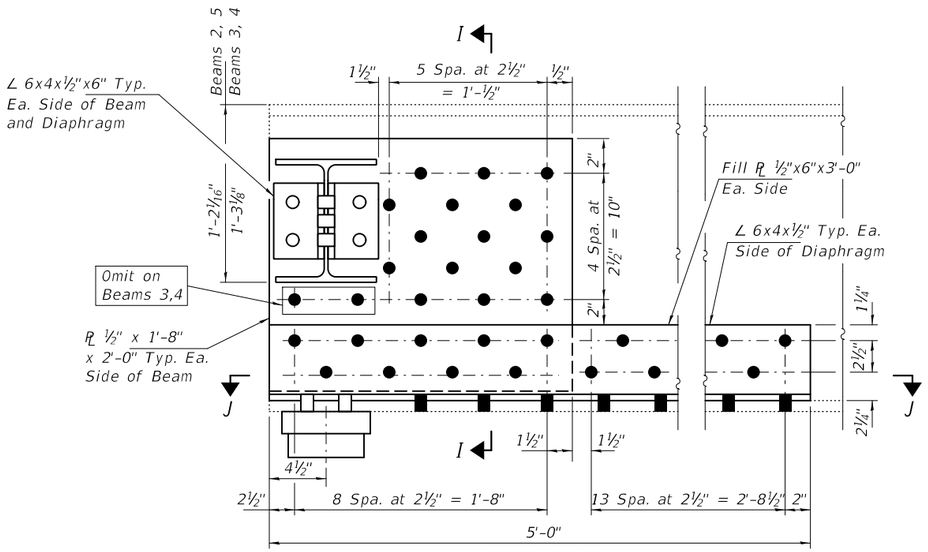


SECTION F-F

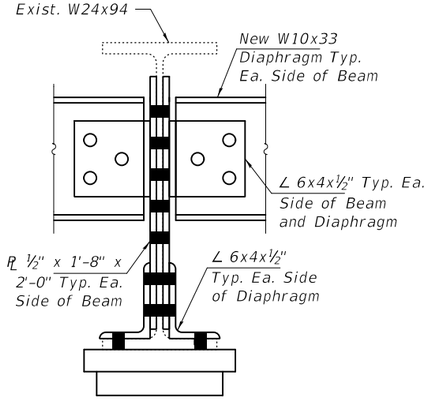
BOLT HOLE LEGEND

○ – Field drill using new or existing steel as template.

● – Shop drill holes in new steel.



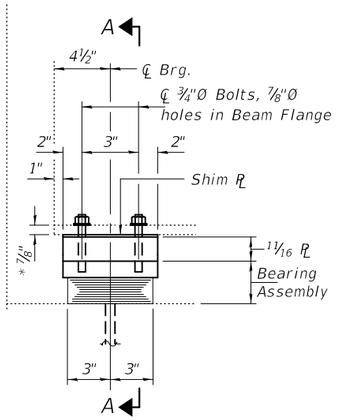
REPAIR D
(4 Locations)



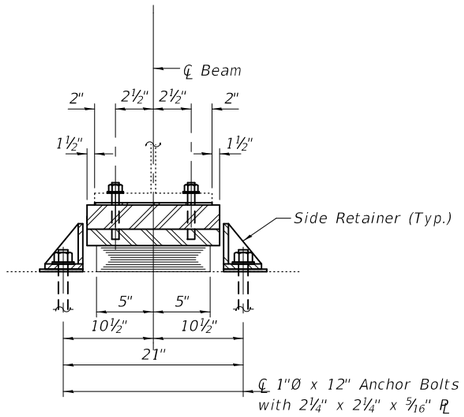
SECTION I-I

DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BEAM END REPAIR DETAILS - REPAIR B, C & D SN 021-0031**	
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES				
DRAWN - Venkat Reddy	PASSED	REVISED -		SHEET NO. 2 OF 3 SHEETS	
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	44
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		



ELEVATION AT ABUTMENT



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RP	(K)	13.8
RL	(K)	31.8
Imp.	(K)	9.5
R (Total)	(K)	55.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

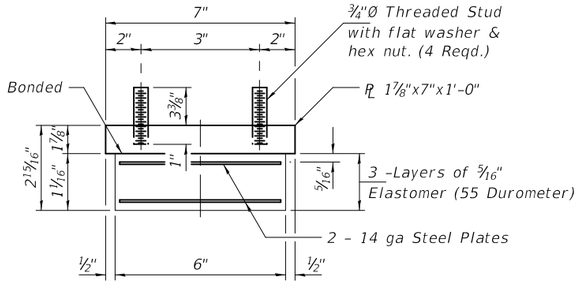
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 26 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

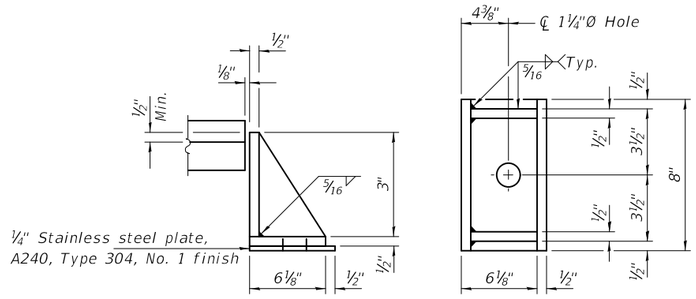


BEARING ASSEMBLY

Note:

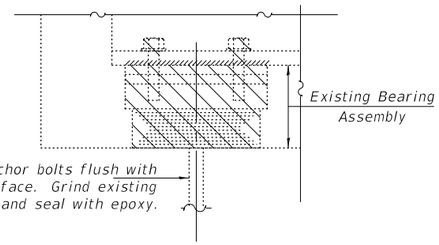
Shim plates shall not be placed under Bearing Assembly.

* *See sheets 1 thru 2 of 3 for additional repair PL thickness*



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	310
Anchor Bolts, 1"Ø	Each	24

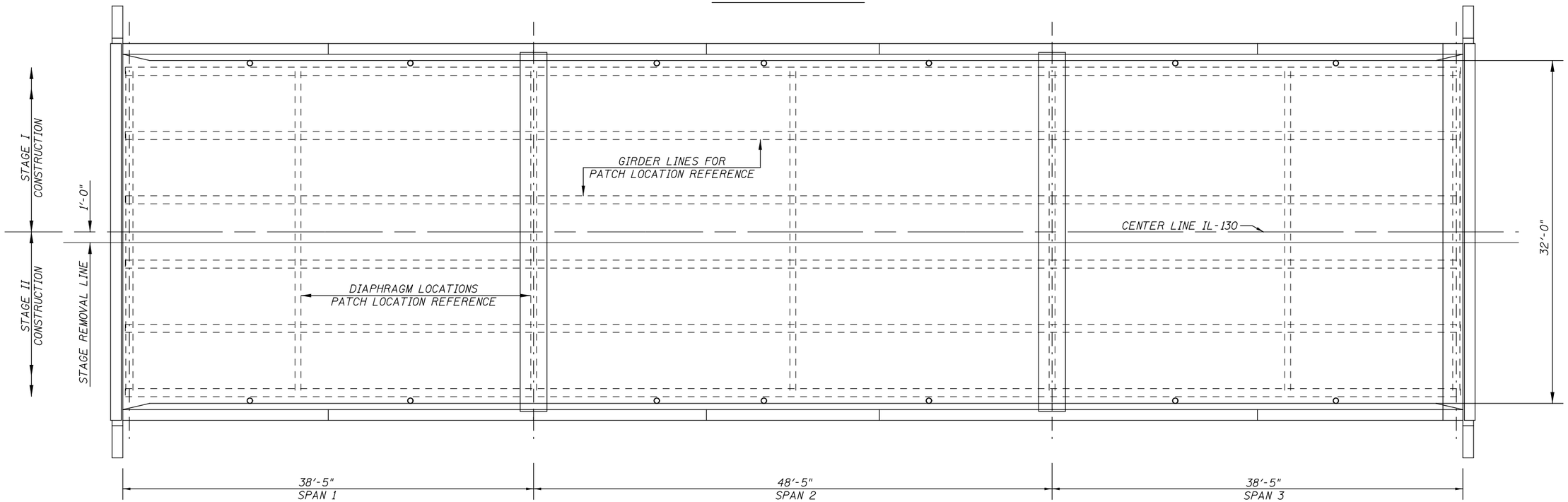
DESIGNED - JSB	EXAMINED	DATE - January 24, 2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - AJR	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Reddy	PASSED	REVISED -	
CHECKED - JSB AJR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

BEARING REPLACEMENT DETAILS - REPAIR E
SN 021-0031
SHEET NO. 3 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	45
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

BRIDGE DECK PATCHING

S.N. 021–0031



PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ FT	DECK SLAB REPAIR (FD TY 1) SQ FT	DECK SLAB REPAIR (FD TY 2) SQ FT	

THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK SLAB REPAIR ON THE AS-BUILT PLANS. THE PREFERRED METHOD OF RECORDING THIS INFORMATION IS DATA RECORDING BY GPS OR TOTAL STATION, PROCESSED IN MICROSTATION. IF DESIRED, THE ENGINEER MAY RECORD BY HAND.

EXTREME CARE MUST BE USED WHEN REMOVING CONCRETE NEAR THE TOP FLANGE OF THE BEAMS. THE CONTRACTOR IS RESPONSIBLE OF ANY DAMAGE TO THE BEAMS.

BILL OF MATERIALS

ITEM	UNIT	TOTAL
DECK SLAB REPAIR (PARTIAL)	*SQ YD*	*11.0*
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	*SQ YD*	*11.0*

DECK SURVEY PERFORMED ON JUNE 28. 2019. SOME TIGHT TRANSVERSE CRACKS WERE VISIBLE, PATCHING WAS ESTIMATED AT 5 % SHOULD AREAS OF PARTIAL DEPTH OR FULL DEPTH PATCHING BE INDENTIFIED.

PATCHES ACTUAL SIZE AND LOCATION SHOULD BE SHOWN ON THIS SHEET.

METHOD OF SURVEY: VISUAL

MODEL: $MODELNAME$
FILE NAME: pw:\\plannroom.dot.illinois.gov:PWIDOT\IDocuments\IDOT Offices\District 5\Projects\D5\70D77\CADData\CADsheets\D570D77_dht_Str.021-0031_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
S.N. 021–0031

SCALE: | SHEET 15 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	46
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

AS–BUILT PLANS
FOR INFORMATION ONLY

BENCH MARK: Chiseled "X" Top of Southwest wing of bridge; Elev. 637.95

EXISTING STRUCTURE: Three-span continuous steel wide flange beam and concrete deck superstructure with pile bent piers and spill-thru abutments. 24'-0" o.to.o. existing deck, 127'-5" Bk.to Bk. abutments. Replace existing superstructure with a new superstructure having 32'-0" clear roadway. Existing piers and abutments to be widened to accommodate the new, widened superstructure.

Traffic to be detoured during reconstruction.

EXISTING STR. NO. 021-0031

Sta. 512+66.50 Elev. 637.51 — P.V.I. Sta. 513+66.50 Elev. 637.71 — Sta. 514+66.50 Elev. 637.51

+0.20% — -0.20%

200' V.C.

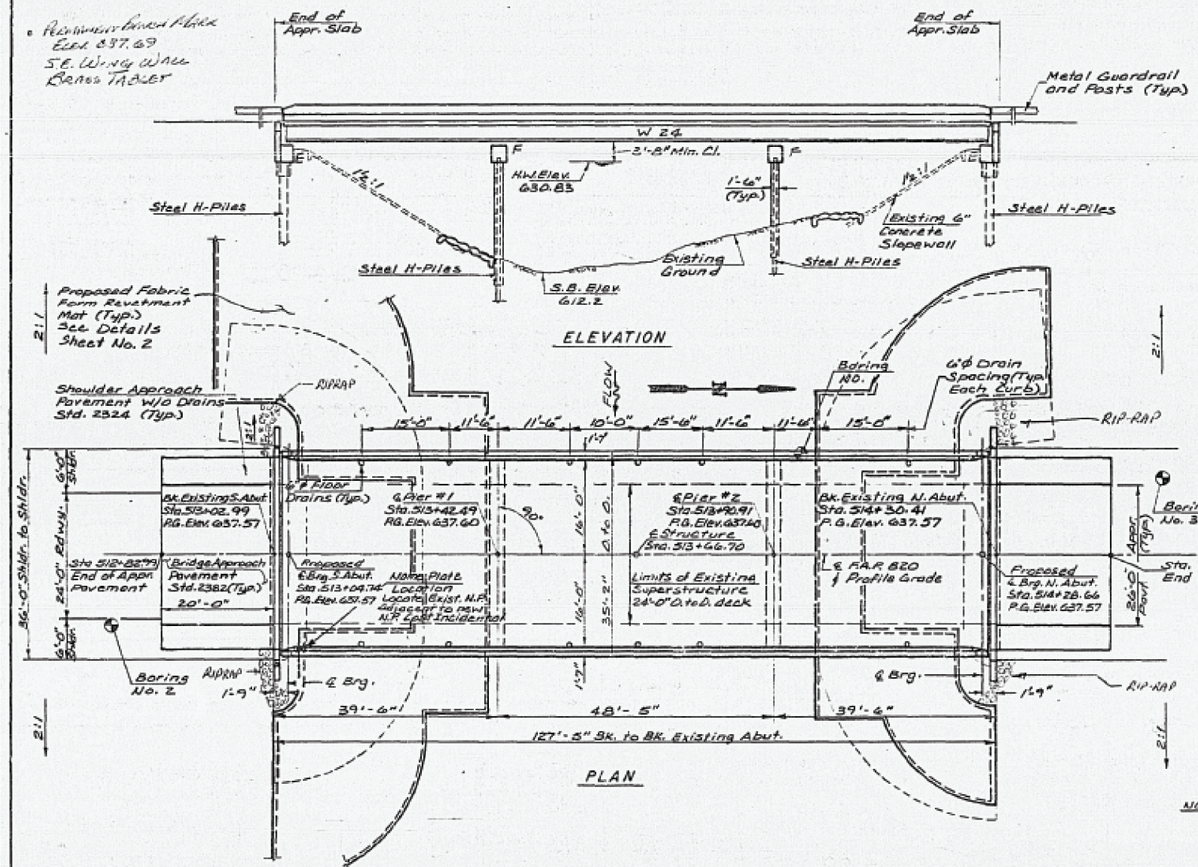
PROPOSED PROFILE GRADE

SHEETS NO.	SHEET	QTY DATA	TOTAL SHEETS	SHEET NO.
FAP 820	X	Douglas	127	61

SHEET NO. 1
10 SHEETS

#Sec. 1-G-BR

Permanent Bench Mark Elev. 637.69 S.E. Wing Wall Brass Tablet



GENERAL NOTES

SEE PROPOSAL FOR BORING DATA.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" ϕ, OPEN HOLES 13/16" ϕ, UNLESS OTHERWISE NOTED.

CALCULATED WEIGHT OF STRUCTURAL STEEL = 86,920 LBS. (M183)

THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. FOR TYPE I ELASTOMERIC BEARINGS, SHIMS OF THE DIMENSIONS OF TOP PLATE SHALL BE PROVIDED AND PLACED AS DETAILED.

THE CONTRACTOR SHALL DRIVE ONE STEEL HP 8 X 36 TEST PILES IN A PERMANENT LOCATION AT PIER 1 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE WEB, FLANGE BEARS AND ALL SPLICE PLATE MATERIAL OF THE WIDE FLANGE BEAMS.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31M/M-31 GRADE 60.

LAYOUT OF CONCRETE REVETMENT MAT SLOPE PROTECTION MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD - 4,000 LBS., and 3/4" ϕ X 12" HOOKED BOLTS.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

SEE SPECIAL PROVISIONS FOR FABRIC FORMED CONCRETE REVETMENT MAT.

NOTE: MECHANICALLY GALVANIZED FASTENERS USED ON ALL BOLTED CONNECTIONS FOR STRUCTURAL STEEL.

TOTAL BILL OF MATERIAL

ITEM (M.1.)	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructure	Each			1
Concrete Removal	Cu. Yds.		20.2	20.2
Expansion Bolts 3/4" ϕ	Each		48	48
Floor Drains	Each			14
Class X Concrete	Cu. Yds.	135.5	40.8	176.3
Preformed Joint Seal 2½"	Lin. Ft.	70		70
F. & E. Structural Steel	L. Sum	0.4		0.4
Elast. Bearing Assy. Type I	Each			12
Reinforcement Bars	Lbs.		4270	4270
Reinforcement Bars (Epoxy Coated)	Lbs.	28,910		28,910
Class X Concrete Encasement	Cu. Yds.		11.6	11.6
Name Plates	Each			1
Steel Piles HP 8 x 36	Lin. Ft.		440	440
Test Piles Steel HP8 x 36	Each			1
Fabric Formed Concrete Revetment Mat	Sq. Yd.			683
Slope Wall Removal	Sq. Yd.			250
Protective Coat	Sq. Yd.	550		550
REPAIR EXISTING PIER #2 CAP	ALLOW		125.86	

STATION 513+66.70
REBUILT 198 BY
STATE OF ILLINOIS
F.A.P. RT. 820 SEC. 1-G-BR
F.A. PROJ. MAF-820(9)
LOADING HS20
STR. NO. 021-0031

NAME PLATE
(See Std. No. 2113)

NOTE: Locate name plate on South East Concrete Parapet.

WATERWAY INFORMATION

Drainage Area 110.38 Sq. Mi. Low Grade Elev. 636.85' @ Sta. 509+00

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.
Design	50	7,289	1,172	1,172	630.83'	1.11	1.11	631.94	631.94
Base	100	8,292	1,235	1,235	631.43'	1.35'	1.35'	632.78	632.78
Overtopping									
Max. Calc.	500	10,570		1,365	632.63'		1.92'		634.55

DESIGN STRESSES

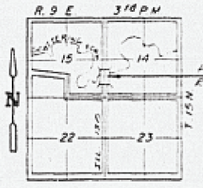
f'c = 3,500 p.s.i. (Superstructure)
fy = 60,000 p.s.i. (Reinforcement, Grade 60)
fy = 36,000 p.s.i. (Structural, M183)
fc = 1,400 p.s.i. (Substructure)

LOADING HS 20-44

Allow 25#/0' for future wearing surface.
Design Specifications: 1983 AASHTO with 1984 & 1985 Interims.

JAMES B. HAMILTON 3668 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS

James B. Hamilton



LOCATION SKECH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James J. Rayburn
Engineer of Bridges and Structures

GENERAL PLAN
ILL. RT. 130 OVER
SCATTERING FORK CREEK
F.A.P. 820 SEC. 1-G-BR
DOUGLAS COUNTY
STATION 513+66.70

MODEL: $MODELNAME$
FILE NAME: pw:\\dbmroom.dot.illinois.gov:PWIDOTDocuments\IDOT Offices\District 5\Projects\D5T0D77\CADData\CADSheets\D5T0077_gen_Str_021-0031_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

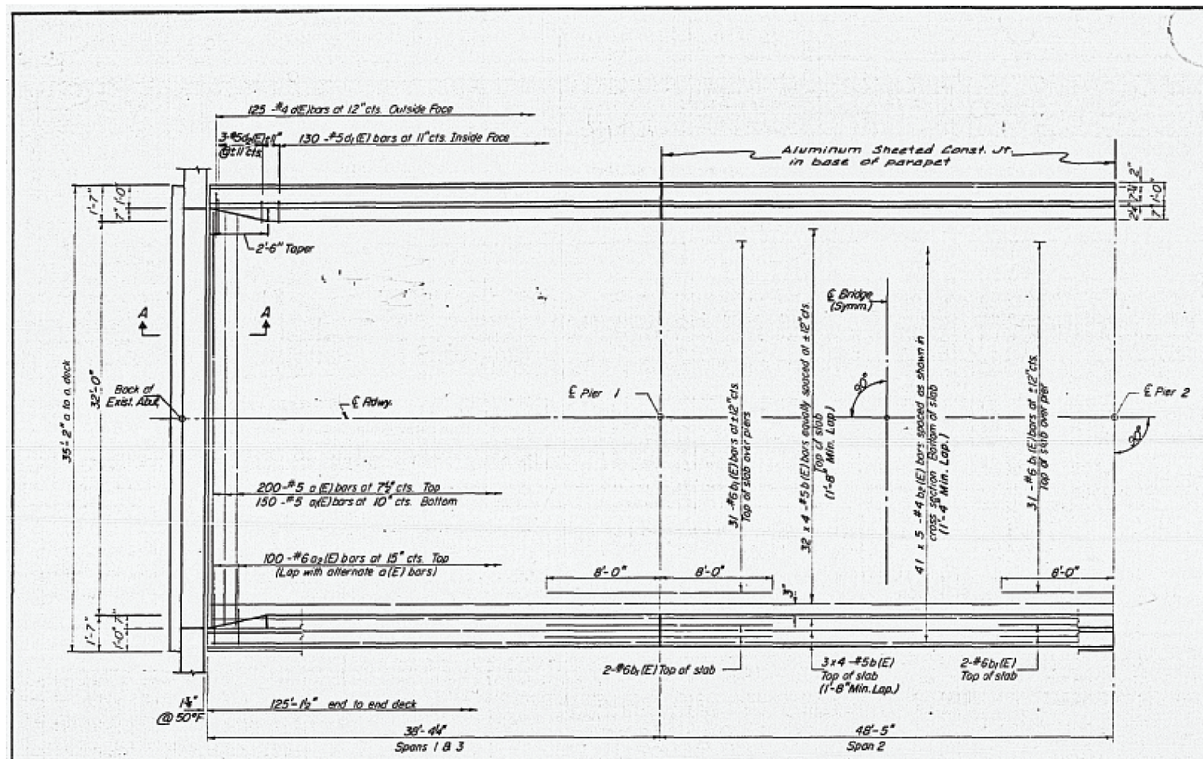
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

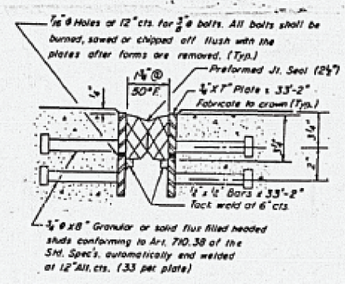
SCALE: | SHEET 16 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	47
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

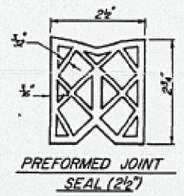
AS–BUILT PLANS
FOR INFORMATION ONLY



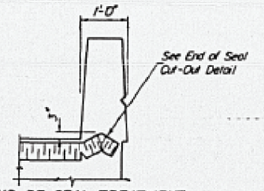
PLAN



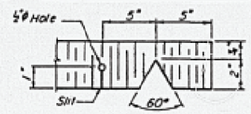
DETAIL OF EXP. JT.



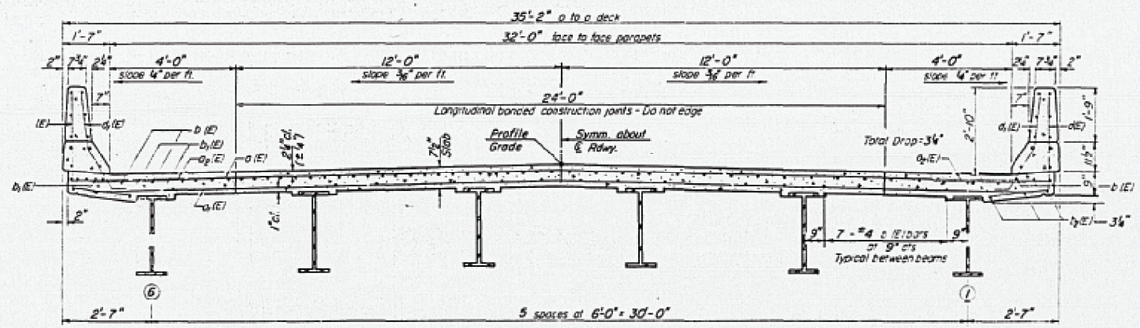
PREFORMED JOINT SEAL (2½")



END OF SEAL TREATMENT



SEAL CUT-OUT



CROSS SECTION
(LOOKING NORTH)

NOTES:
See sheet #5 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 5-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet #5 for Sec. A-A.

SUPERSTRUCTURE
F.A.P. RTE. 820 ~ SEC. 1-G-BR
DOUGLAS COUNTY
STA. 513+66.70

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

SCALE: | SHEET 17 OF 22 SHEETS | STA. | TO STA.

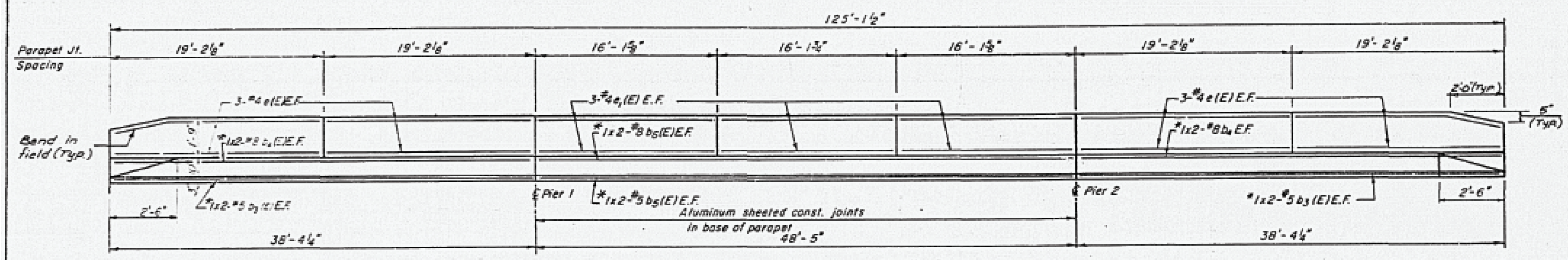
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	48
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAMES
FILE NAME: pw:\\dmroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CAD\data\CADsheets\D570077_str_021-0031_CM.dgn

AS–BUILT PLANS
FOR INFORMATION ONLY

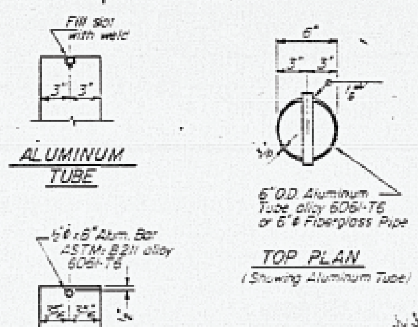
SHEET NO. 5
10 SHEETS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	1-G-BR	DOUGLAS	127	65



* Min. Bar Laps
#5 b3(E), #5 b5(E) = 1'-8"
#8 b4(E), #8 b6(E) = 3'-5"

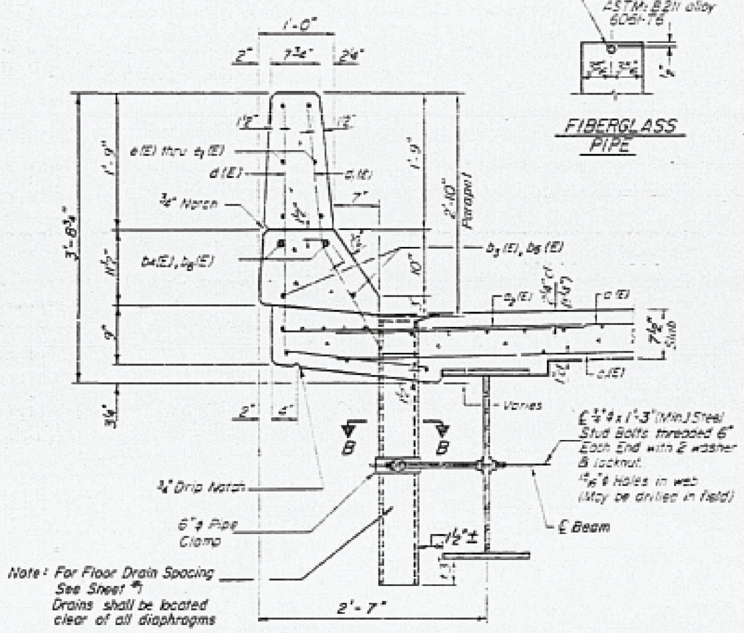
INSIDE ELEVATION OF PARAPET



ALUMINUM TUBE

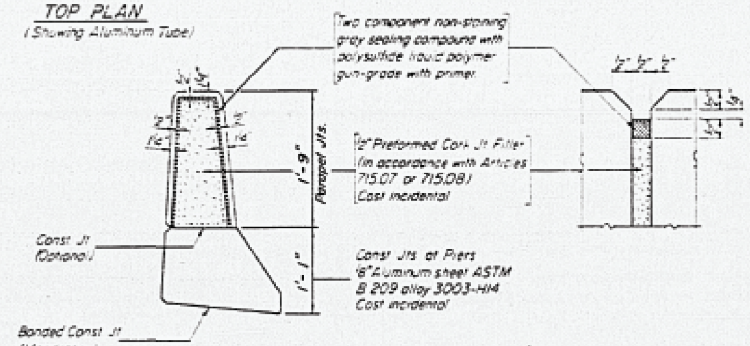
TOP PLAN
(Showing Aluminum Tube)

FIBERGLASS PIPE

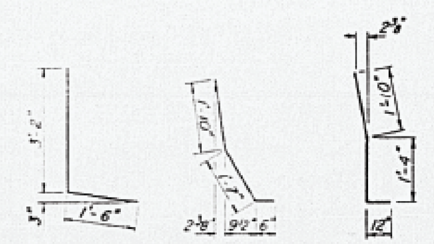


SECTION THRU PARAPET

* Dimension as required by Pipe Clamp.

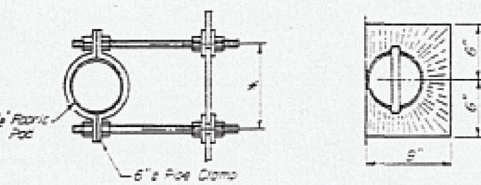


PARAPET JOINT DETAILS



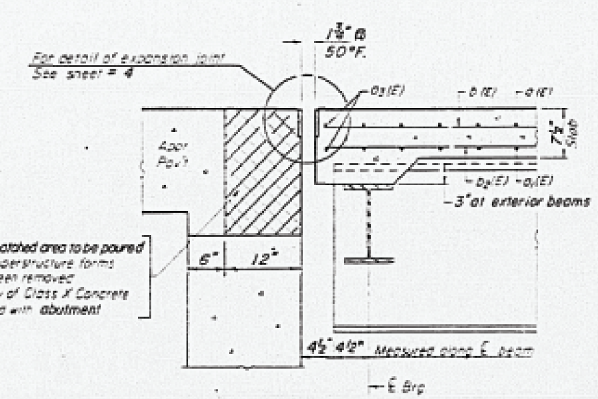
BAR d(E) BAR d1(E) BAR d2(E)

Notes:
The exterior surfaces of the Floor Drain shall be painted with the vinyl enamel coat painting specified for Structural Steel. The exterior surfaces of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surfaces of the Fiberglass pipe shall be free of bond inhibiting agents.



SECTION B-B

TOP PLAN



SECTION A-A

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	200	#5	34'-0"	——
a1(E)	150	#5	34'-0"	——
a2(E)	200	#6	4'-0"	——
b(E)	152	#5	32'-6"	——
b1(E)	70	#6	16'-0"	——
b2(E)	205	#4	26'-3"	——
b3(E)	16	#5	20'-0"	——
b4(E)	16	#8	21'-0"	——
b5(E)	8	#5	25'-0"	——
b6(E)	8	#8	26'-0"	——
d(E)	250	#4	4'-8"	
d1(E)	260	#5	3'-11"	
d2(E)	12	#5	4'-2"	
e(E)	48	#4	18'-9"	——
e1(E)	36	#4	15'-9"	——
Reinforcement Bars (Epoxy Coated)			Lbs.	28,910
Class X Concrete			Cu. Yds.	135.5
Floor Drains			Each	14

Reinforcement bars designated (E) shall be epoxy coated.

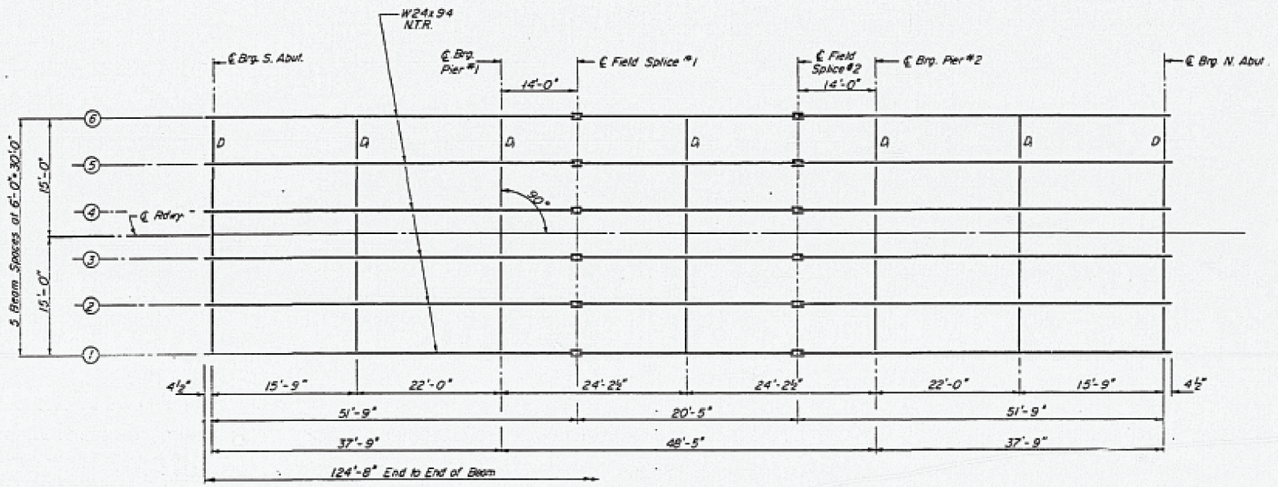
Bars indicated thus 20x3- 5 etc. indicates 20 lines of bars with 3 lengths per line.

SUPERSTRUCTURE DETAILS
F.A.P. RTE. 820 ~ SEC. 1-G-BR
DOUGLAS COUNTY
STA. 513+66.70

AS–BUILT PLANS
FOR INFORMATION ONLY

F.A.P. 820	1-G-BR	DOUGLAS	127	GG

SHEET NO. 6 OF 10 SHEETS



FRAMING PLAN

N.T.R. Denotes Notch Toughness Requirement

INTERIOR BEAM MOMENT TABLE			
	0.4 Sp. 1	Pier	0.5 Sp. 2
I_s (in^4)	2700	2700	2700
S_s (in^3)	222	222	222
Z (in^3)	254		254
M_D ('k)	91	181	99
M_L ('k)	180	151	197
M IMP ('k)	54	44	57
$S_3(M_L + I)$ ('k)	390	325	423
Ma ('k)	625	658	677
Mu ('k)	762		762
f_s D non-comp (k.s.i)	4.9	9.8	5.4
f_s $\frac{3}{3}(\frac{L}{L}+I)$ (k.s.i.)	21.1	17.6	22.9
f_s (Overload) (k.s.i)	26.0	27.4	28.3
f_s (Total) (k.s.i.)		35.6	

INTERIOR BEAM REACTION TABLE		
	Abut.	Pier
R D (k)	13.8	46.4
R L (k)	31.8	39.9
Imp. (k)	9.5	11.8
R Total (k)	55.1	98.1

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total and Overload).

Z is the plastic section modulus used to determine the Fully Plastic Moment.

Mu = Full Plastic Moment Capacity for Compact, Braced section.

Ma (Applied Moment) = 1.3 $[M_D + \frac{5}{3}(M_L + I)]$

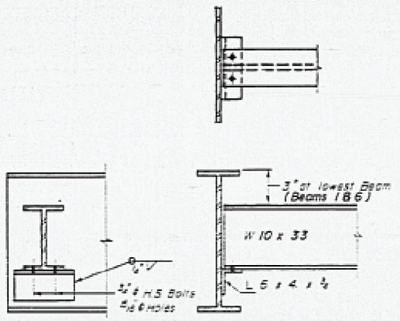
f_s (Total) is the sum of the stresses due to 1.3 $[M_D + \frac{3}{3}(M_L + I)]$

f_s (Overload) is the sum of the stresses due to $M_D + \frac{3}{3}(M_L + I)$

M_D - Moment due to dead loads on non-composite section.

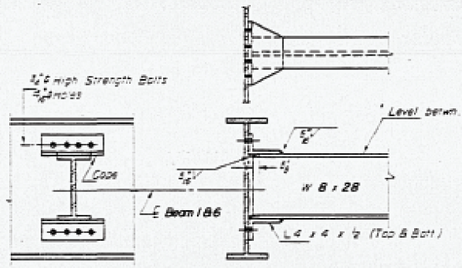
M_L - Moment due to live load on non-composite section.

I - Live load impact.



DIAPHRAGM D

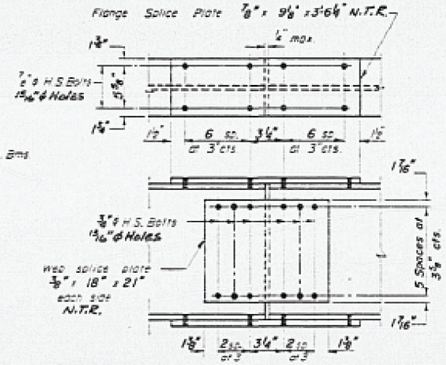
10 Required



DIAPHRAGM D_1

28 Required

Note: Two hardened washers shall be required over all 13/16"ϕ holes.



SPLICE

All Splice Plates = N.T.R.

TOP OF W-BEAM ELEVATION

	Beam 1,6	Beam 2,5	Beam 3,4
℄ Brg. S. Abut	636.62	636.73	636.82
℄ Pier 1			
℄ Splice 1			
℄ Splice 2			
℄ Pier 2			
℄ Brg. N. Abut			

For Fabrication only. At field splice locations elevations given are at top of the W-beam.

STRUCTURAL STEEL
F.A.P. RTE. 820 ~ SEC. 1-G-BR
DOUGLAS COUNTY
STA. 513+66.70

MODEL: $MODELNAMES
FILE NAME: pw:\\dlarroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CAD\data\CADsheets\D570077_sht_Str.021-0031_CM.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

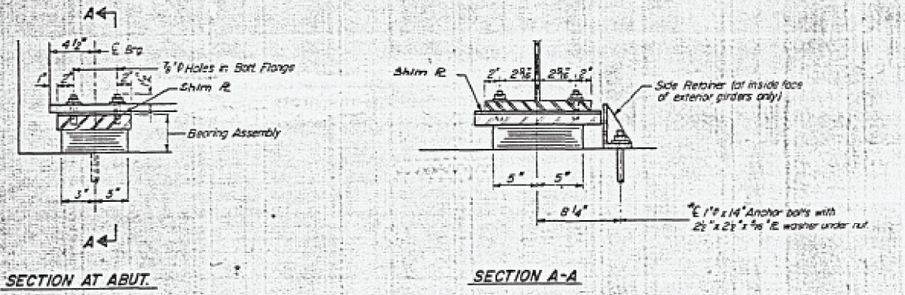
SCALE: | SHEET 19 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	50
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

AS–BUILT PLANS
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	127	67

SHEET NO. 7
10 SHEETS

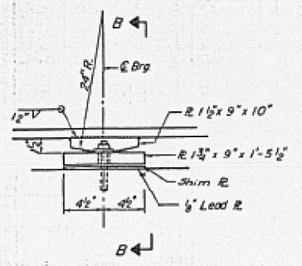


SECTION AT ABUT.

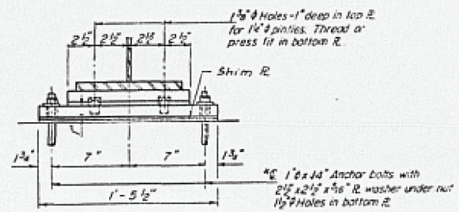
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

*Note: Anchor bolt at fixed bearing may be built into the masonry. See Sheet 8 for Anchor Bolt installation.

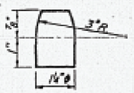


ELEVATION AT PIERS

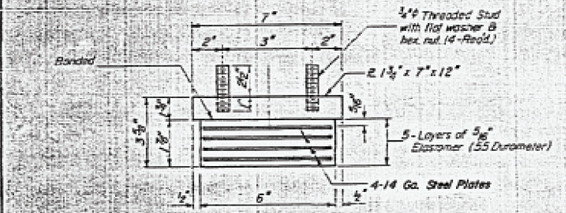


SECTION B-B

FIXED BEARING

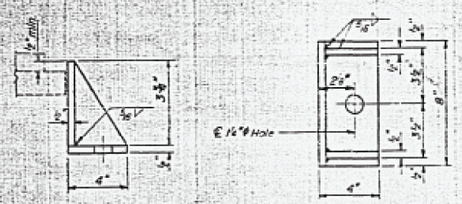


PINTLE



BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing (Fixed) Type I	Each	12

BEARING DETAILS
F.A.P. RTE. 820 ~ SEC. 1-G-BR
DOUGLAS COUNTY
STA 513+66.70

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

SCALE: | SHEET 20 OF 22 SHEETS | STA. | TO STA.

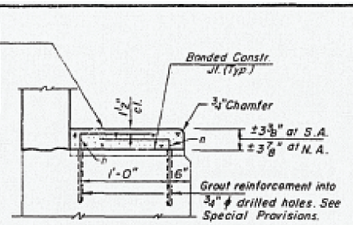
CONTRACT NO. 70D77
ILLINOIS | FED. AID PROJECT

MODEL: $MODELNAME$
FILE NAME: p:\tollamroom.dat\Illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\D570077\CADD\data\CADsheets\D570077 4IN 5ft-021-0031 CM.dgn

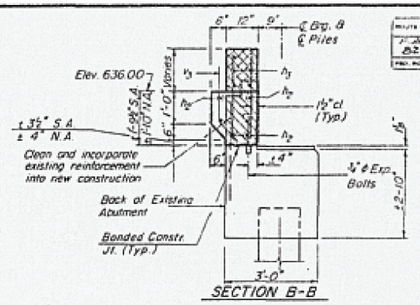
AS–BUILT PLANS
FOR INFORMATION ONLY

NOTE:
Space reinforcement in cap and steps to miss anchor bolts.
The designation 3x2-#4, etc. indicates 3 lines of #4 bars with 2 lengths per line.
All edges shall have standard ¾" chamfers unless otherwise noted.
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

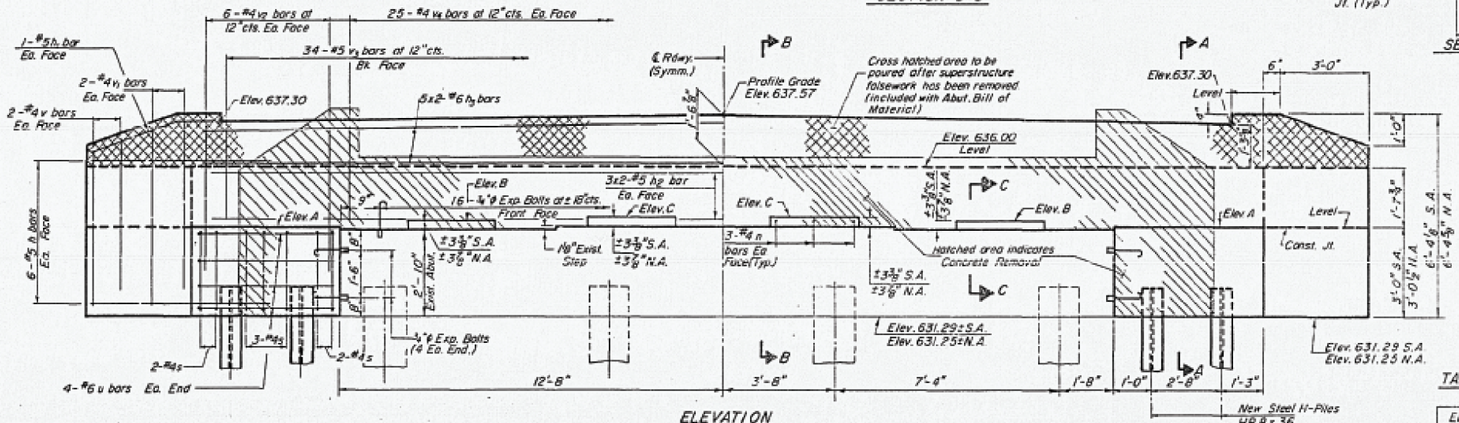
Prior to pouring new concrete steps, the surface shall be clean and coated with an epoxy bonding agent. (Cost incidental to Class X Concrete). Cut existing anchor bolts to 2" below proposed top of steps where necessary.



SECTION C-C

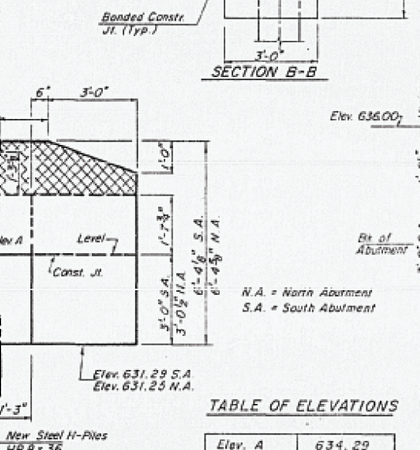


SECTION B-B



ELEVATION

Min. Bar Lap
#5 h_2 = 1'-8"
#6 h_3 = 2'-1"



SECTION A-A
(at Rt. ∠'s)

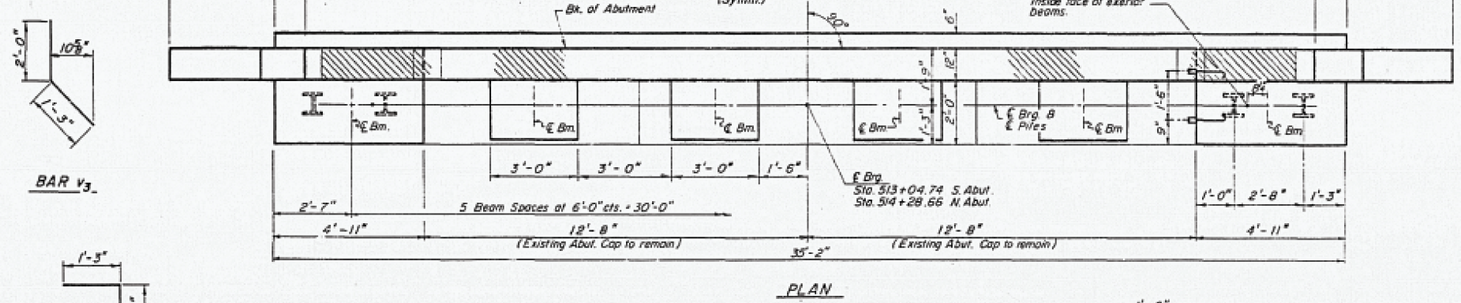
N.A. = North Abutment
S.A. = South Abutment

TABLE OF ELEVATIONS

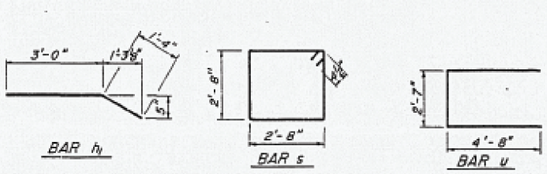
Elev. A	634.29
Elev. B	634.40
Elev. C	634.49

(TWO ABUTMENTS)
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	48	#5	5'-6"	
h_1	8	#5	4'-4"	
h_2	24	#5	19'-0"	
h_4	20	#6	19'-0"	
n	48	#3	2'-6"	
s	28	#4	11'-5"	
u	16	#6	11'-11"	
v	16	#4	5'-0"	
v_1	16	#4	5'-6"	
v_2	48	#4	5'-0"	
v_3	68	#5	3'-3"	
v_4	100	#4	2'-9"	
Class X Concrete		Cu. Yds.	20.1	
Reinforcement Bars		Lbs.	2,620	
Exp. Bolts (¾" ϕ)		Each	48	
Concrete Removal		Cu. Yds.	6.8	
Steel Pile HP 8 x 36		Lin. Ft.	240	

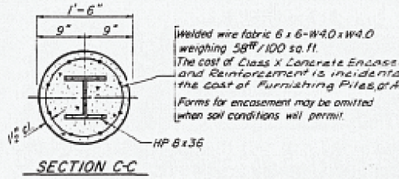


PLAN



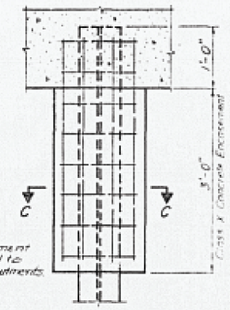
PILE DATA

Type -------HP 8 x 36
Capacity- 30 Ton Design Capacity driven to 42 Ton Bearing
Est. Length- 30'
No. Req'd. - 6



SECTION C-C

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58# / 100 sq. ft.
The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of Furnishing Piles at Abutments.
Forms for encasement may be omitted when soil conditions will permit.



PILE ENCASEMENT

ABUTMENTS
F. P. RTE. 820 – SEC. I-G-BR
DOUGLAS COUNTY
STA. 513+66.70

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

SCALE: | SHEET 21 OF 22 SHEETS | STA. | TO STA.

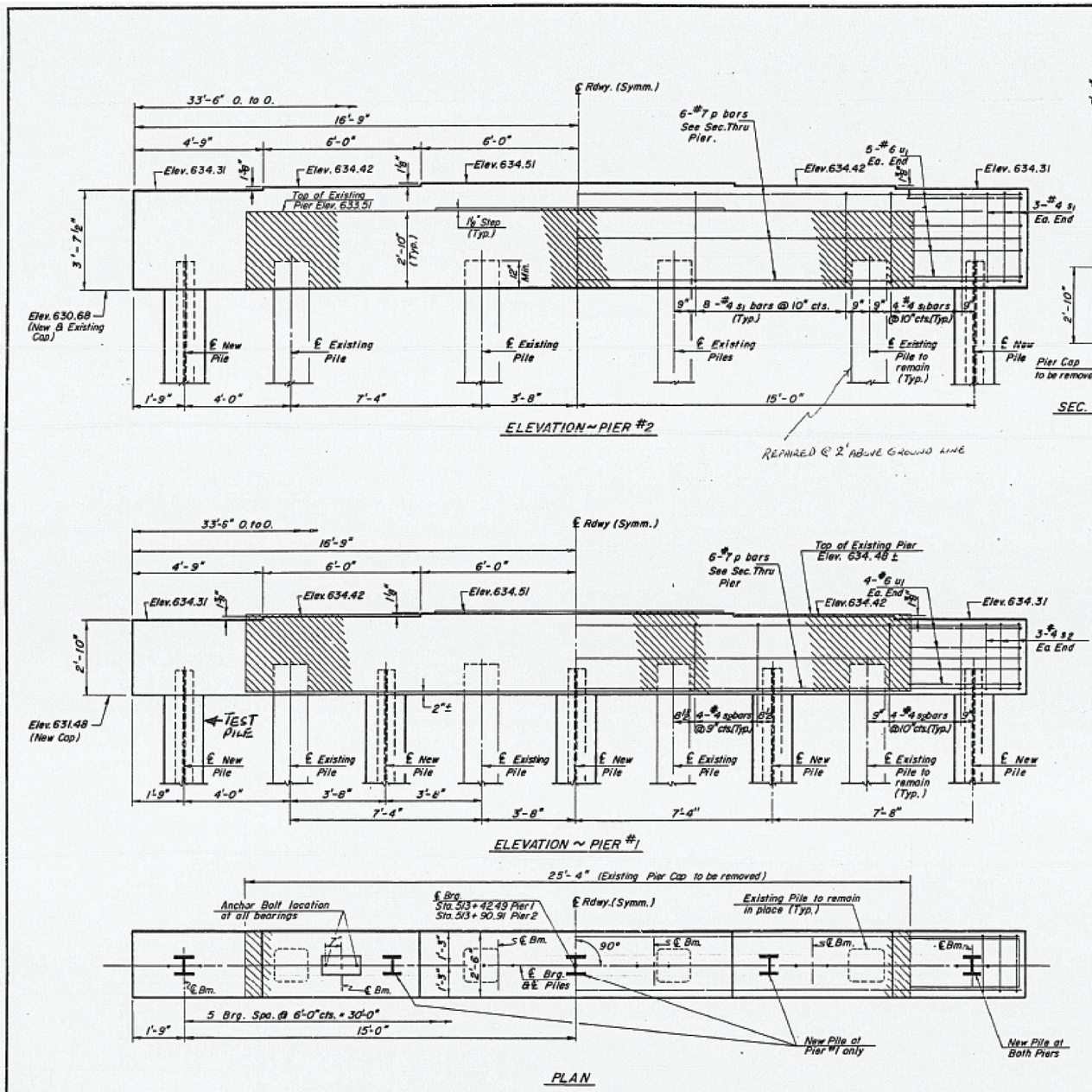
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	52
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: p:\planroom.dot\Illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Projects\D570077\CADData\CADsheets\D570077_4thSt.021-0031_CM.dgn

AS–BUILT PLANS
FOR INFORMATION ONLY

ROUTE NO	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 820	1-G-BR	DOUGLAS	127	70
PROJ. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 10
10 SHEETS



(TWO PIERS)
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p	12	#7	33'-0"	
s1	38	#4	10'-1"	
s2	38	#4	11'-7"	
u1	18	#6	10'-7"	
Class X Concrete			Cu. Yds.	20.7
Reinforcement Bars			Lbs.	1,650
Concrete Removal			Cu. Yds.	13.4
Steel Piles HP 8 x 36			Lin. Ft.	200
Test Pile Steel HP 8x36			Each	1
Class X Concrete Encasement			Cu. Yd.	11.6

NOTES
Do not damage existing piles, to be reused in new cap.

Space reinforcement in cap to miss anchor bolts. Pour Brg. Seat Blocks monolithically with cap.

PIERS
F.A.P. RTE. 820 ~ SEC. 1-G-BR
DOUGLAS COUNTY
STA. 513+66.70

MODEL: $MODELNAMES
FILE NAME: pw:\\dlanroom.dot.illinois.gov:PWIDOTDocuments\IDOT Offices\District 5\Projects\D570D77\CADData\CADSheets\D570D77_gnl_Str.021-0031_CM.dgn

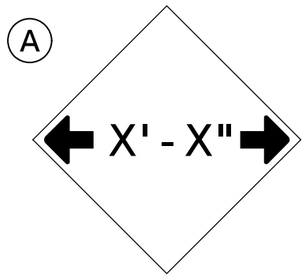
USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/21/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS–BUILT PLANS
S.N. 021–0031

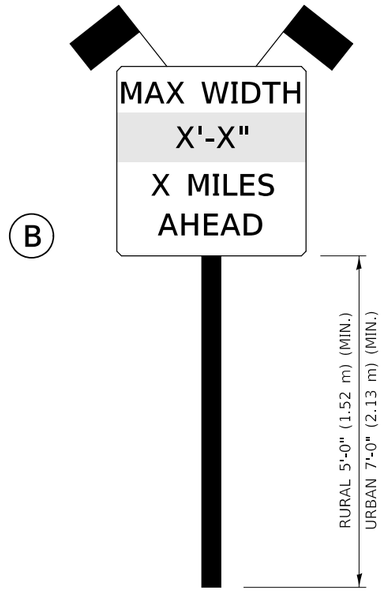
SCALE: | SHEET 22 OF 22 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	(1-G),(25)]BDR	DOUGLAS	56	53
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

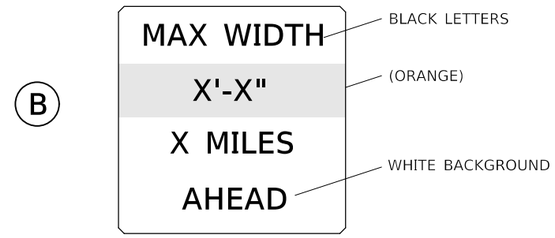


W12-2(0)-48"x48"(1200x1200)

SIGN (A) 2 SIGNS - W12-2(O)-48"x48"(1200x1200) ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.



SIGN PANEL, TYPE II



W12-I103(O)-48"x48"(1200x1200)
"D" LETTERS/NUMBERS

SIGN (B) 2 SIGNS - (SIGN PANEL, TYPE II) AS SHOWN ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

STAGE WIDTHS:

STAGE 1 WIDTH = 12'–0" ACTUAL; 10'–6" POSTED; REQUIRED
STAGE 2 WIDTH = 13'–0" ACTUAL; 11'–6" POSTED; REQUIRED

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
2. ALL (B) SIGNS SHALL HAVE FLAGS INSTALLED UNLESS OTHERWISE DIRECTED.
3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
4. ALL TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR WIDTH RESTRICTION SIGNING.
5. ALL SIGNS SHALL BE POST MOUNTED UNLESS OTHERWISE DIRECTED.
6. ALL SIGNS SHOWN ORANGE (O) SHALL BE FLUORESCENT ORANGE.
7. ALL SIGNS SHOWN SHALL CONSIST OF THE CURRENT RETROREFLECTIVE SHEETING REQUIREMENTS AS OUTLINED IN SECTION 1106.01 OF THE STANDARD SPECIFICATIONS BOOK.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. X7200201

USER NAME = shawleres	DESIGNED -	REVISED -	05/08
	DRAWN -	REVISED -	10/08 KJT
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	07/09 KJT
PLOT DATE = 11/21/2019	DATE -	REVISED -	03/11 KJT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIDTH RESTRICTION SIGNING

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	54
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

MODEL: $MODELNAME$
FILE NAME: z:\planroom.dot.illinois.gov\PWIDOT\Documents\IDOT Offices\District 5\Project\d5\70D77\CADData\CADsheets\D570D77_4th_width_restrictions.dgn

S.N. 021–0030 AND S.N. 021–0031
WIDTH RESTRICTION SIGNINGS FOR IL–130 TRAFFIC

A1 US 36 WEST BOUND
ERECT BY SOUTH IL-130 PRE-TURN SIGN
INCLUDE DIRECTION ARROW


(21'' X 15'')

A2 US 36 EAST BOUND
ERECT BY EAST US 36 SIGN
AND SOUTH IL-130 SIGN
INCLUDE DIRECTION ARROW


(21'' X 15'')

B1 IL-130 SOUTH
ERECT BY IL-130 SOUTH SIGN
2 MILES AHEAD

MODEL: $MODELNAME$
FILE NAME: pw:\\dalroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570D77\CADData\CADsheets\D570D77_4th_width_restrictions.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

WIDTH RESTRICTION SIGNING
S.N. 021–0030 & S.N. 021–0031

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	55
		CONTRACT NO. 70D77		
	ILLINOIS	FED. AID PROJECT		

S.N. 021–0030 AND S.N. 021–0031
WIDTH RESTRICTION SIGNINGS FOR IL–130 TRAFFIC

A3 US 130 NORTH BOUND
ERECT BY NORTH IL-130 SIGN
5 MILES AHEAD


(21" X 15")

B2 IL-130 NORTH
ERECT BY JUNCTION IL-133 SIGN
5 MILES AHEAD

MODEL: $MODELNAME$
FILE NAME: pw:\\danroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570077\CADData\CADSheets\D570077_sht_width_restrictions.dgn

USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 11/21/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIDTH RESTRICTION SIGNING
S.N. 021–0030 & S.N. 021–0031

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
820	[(1-G),(25)]BDR	DOUGLAS	56	56
		CONTRACT NO. 70D77		
	ILLINOIS FED. AID PROJECT			