

BILL OF MATERIAL - NORTH ABUTMENT

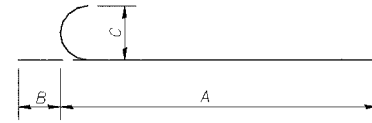
Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape
n(E)	36	#5	38'-4"	—	v(E)	50	#7	6'-5"	—
n ₁ (E)	36	#5	15'-5"	—	v ₁ (E)	50	#5	6'-5"	—
n ₂ (E)	2	#5	9'-7"	—	v ₂ (E)	57	#5	9'-2"	—
n ₃ (E)	18	#5	6'-9"	—	v ₃ (E)	28	#5	8'-3"	—
n ₄ (E)	3	#5	3'-6"	—	v ₄ (E)	36	#5	13'-10"	—
n ₅ (E)	3	#5	3'-3"	—	v ₅ (E)	28	#5	13'-11"	—
n ₆ (E)	3	#5	2'-11"	—	v ₆ (E)	33	#8	13'-11"	—
n ₇ (E)	3	#5	2'-8"	—	v ₇ (E)	2	#5	16'-4"	—
n ₈ (E)	3	#5	2'-4"	—	v ₈ (E)	14	#5	18'-7"	—
n ₉ (E)	3	#5	2'-1"	—	v ₉ (E)	2	#6	16'-4"	—
n ₁₀ (E)	3	#5	1'-9"	—	v ₁₀ (E)	12	#6	26'-7"	—
n ₁₁ (E)	3	#5	1'-6"	—	v ₁₁ (E)	6	#6	13'-6"	—
n ₁₂ (E)	3	#5	1'-2"	—					
n ₁₃ (E)	6	#5	27'-5"	—					
n ₁₄ (E)	12	#5	31'-3"	—					
n ₁₅ (E)	2	#5	2'-10"	—	w(E)	34	#7	38'-7"	—
n ₁₆ (E)	2	#5	31'-1"	—	w ₁ (E)	34	#7	15'-7"	—
n ₁₇ (E)	30	#5	14'-3"	—	w ₂ (E)	7	#5	27'-7"	—
n ₁₈ (E)	30	#5	13'-9"	—	w ₃ (E)	7	#7	27'-7"	—
n ₂₃ (E)	1	#5	6'-3"	—	w ₄ (E)	4	#5	28'-1"	—
					w ₅ (E)	4	#7	28'-1"	—
					w ₆ (E)	2	#5	28'-7"	—
n(E)	111	#9	13'-9"	—					
n ₁ (E)	93	#5	5'-1"	—					
n ₂ (E)	24	#5	5'-1"	—					
n ₃ (E)	27	#10	10'-5"	—					
n ₄ (E)	26	#7	9'-5"	—					
n ₅ (E)	15	#7	6'-6"	—					
n ₆ (E)	31	#5	4'-2"	—					
n ₇ (E)	240	#10	24'-5"	—					
n ₈ (E)	91	#10	24'-6"	—					
sp	12	#5	19'-8"	WWWWW	Porous Granular Embankment, Special	Cu. Yd.	407		
sp ₁	7	#5	20'-8"	WWWWW	Structure Excavation Concrete Structures	Cu. Yd.	200		
n(E)	75	#10	16'-5"	—	Reinforcement Bars	Cu. Yd.	360.2		
n ₁ (E)	57	#6	16'-5"	—	Reinforcement Bars, Epoxy Coated	Lbs.	8,150		
n ₂ (E)	9	#7	26'-4"	—					
n ₃ (E)	9	#7	18'-4"	—	Bridge Seat Sealer	Sq. Ft.	192		
n ₄ (E)	17	#5	21'-1"	—	Pipe Underdrains	Foot	87		
n ₅ (E)	1	#7	6'-5"	—	For Structures 6"				
u(E)	104	#5	8'-8"	—	Non-Special Waste Disposal	Cu. Yd.	179		
u ₁ (E)	3	#5	8'-4"	—	Geocomposite Wall Drain	Sq. Yd.	113		
u ₂ (E)	3	#5	5'-11"	—	Braced Excavation	Cu. Yd.	430		
u ₃ (E)	3	#5	8'-11"	—	Drilled Shaft in Soil 54"	Foot	198.0		
u ₄ (E)	3	#5	5'-11"	—	Drilled Shaft in Soil 36"	Foot	122.5		
u ₅ (E)	30	#5	16'-9"	—	Drilled Shaft in Rock 48"	Foot	36.0		
u ₆ (E)	15	#5	9'-9"	—	Drilled Shaft in Rock 30"	Foot	21.0		
					Permanent Steel Sheet Piling	Sq. Ft.	1,328		
					Bar Splicers	Each	86		

(See Note 4)

- Notes:
- Place backfill behind sidewalk retaining wall prior to backfilling behind abutment and abutment retaining wall.
 - Bars designated (E) shall be epoxy coated.
 - Length of Spiral given is Height of Spiral. Weight includes Weight of Spacers for Spiral.
 - IDOT Approved Mechanical Reinforcing Bar Splicer/Coupler (E) is allowed for the n₈(E) bars to allow hooks at top to be spliced on after shafts are poured. Cost included in Reinforcement Bars, Epoxy Coated.

NORTH ABUTMENT - DETAILS

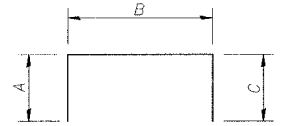
Date 3/27/06	Designed TDN	CN RAILROAD BRIDGE OVER U.S. 6 (159TH STREET) F.A.P. RTE. 351 SECTION 3277R COOK COUNTY STATION 92+24.25 STRUCTURE NO. 016-2754	Sheet No. 19 of 30
Revisions	Drawn BKN		
	Checked DCS		
	Approved KWB		
Prepared By:	URS 3040 N. University Ave., Suite 1 Decatur, IL.		URS Job No. 36430825



BARS n(E), n₁(E), n₂(E), n₃(E) & n₄(E) thru n(E)₈

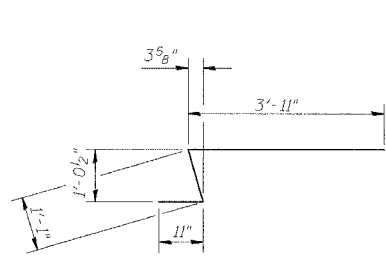
Bar	A	B	C
n(E)	12'-6"	1'-3"	11'-3"
n ₁ (E)	4'-6"	7"	5"
n ₂ (E)	4'-6"	7"	5"
n ₃ (E)	9'-0"	1'-5"	1'-1 1/4"
n ₄ (E)	8'-7"	10"	7"
n ₅ (E)	5'-8"	10"	7"
n ₆ (E)	3'-7"	7"	5"
n ₇ (E)	23'-0"	1'-5"	1'-1 1/4"
n ₈ (E)	23'-1"	1'-5"	1'-1 1/4"

(See Note 4)

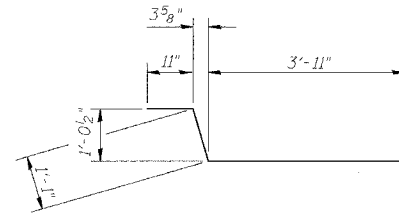


BARS u(E), u₁(E) & u₃(E)

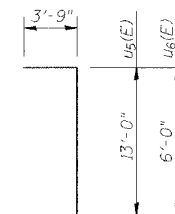
Bar	A	B	C
u(E)	2'-0"	4'-8"	2'-0"
u ₁ (E)	1'-8"	4'-8"	2'-0"
u ₃ (E)	10"	4'-8"	3'-5"



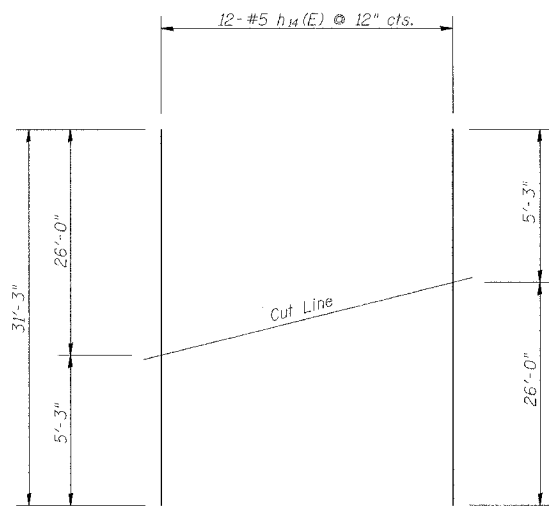
BAR u₂(E)



BAR u₄(E)

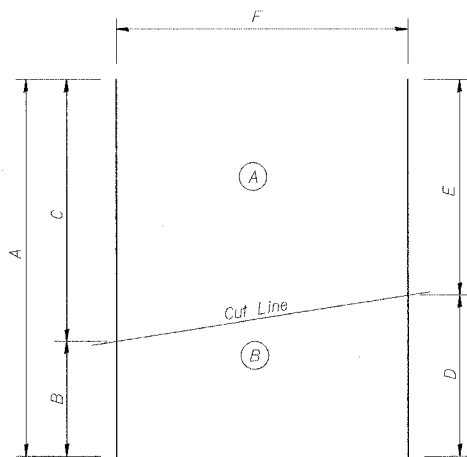


BAR u₅(E) & u₆(E)



FIELD CUTTING DIAGRAM #1

Order bars full length. Cut bars in field as shown. Use top half in F.F. and bottom half in B.F. for h₁₄(E) bars.



FIELD CUTTING DIAGRAM #2

Order bars full length. Cut bars in field as shown. Place patterns (A) & (B) side by side as shown on sheet 18 of 30 for v₄(E) bars, sheet 15 of 30 for v₅(E) bars and sheet 18 of 30 for w₄(E) bars.

Bar	A	B	C	D	E	F
v ₂ (E)	26'-4"	11'-9"	14'-7"	13'-1"	13'-3"	9-#7 bars @ 7" cts.
v ₃ (E)	18'-4"	6'-10"	11'-6"	9'-0"	9'-4"	9-#7 bars @ 11" cts.
v ₄ (E)	21'-1"	6'-5"	14'-8"	10'-5"	10'-8"	17-#5 bars @ 10" cts.
v ₅ (E)	18'-7"	2'-9"	15'-10"	9'-1"	9'-6"	14-#5 bars @ 11" cts.
v ₆ (E)	26'-7"	10'-3"	16'-4"	13'-2"	13'-5"	12-#6 bars @ 6" cts.
v ₁₁ (E)	13'-6"	3'-10"	9'-8"	6'-6"	7'-0"	6-#6 bars @ 12" cts.
w ₄ (E)	28'-1"	2'-2"	25'-11"	12'-4"	15'-9"	4-#5 bars @ 12" cts.
w ₅ (E)	28'-1"	2'-2"	25'-11"	12'-4"	15'-9"	4-#7 bars @ 12" cts.