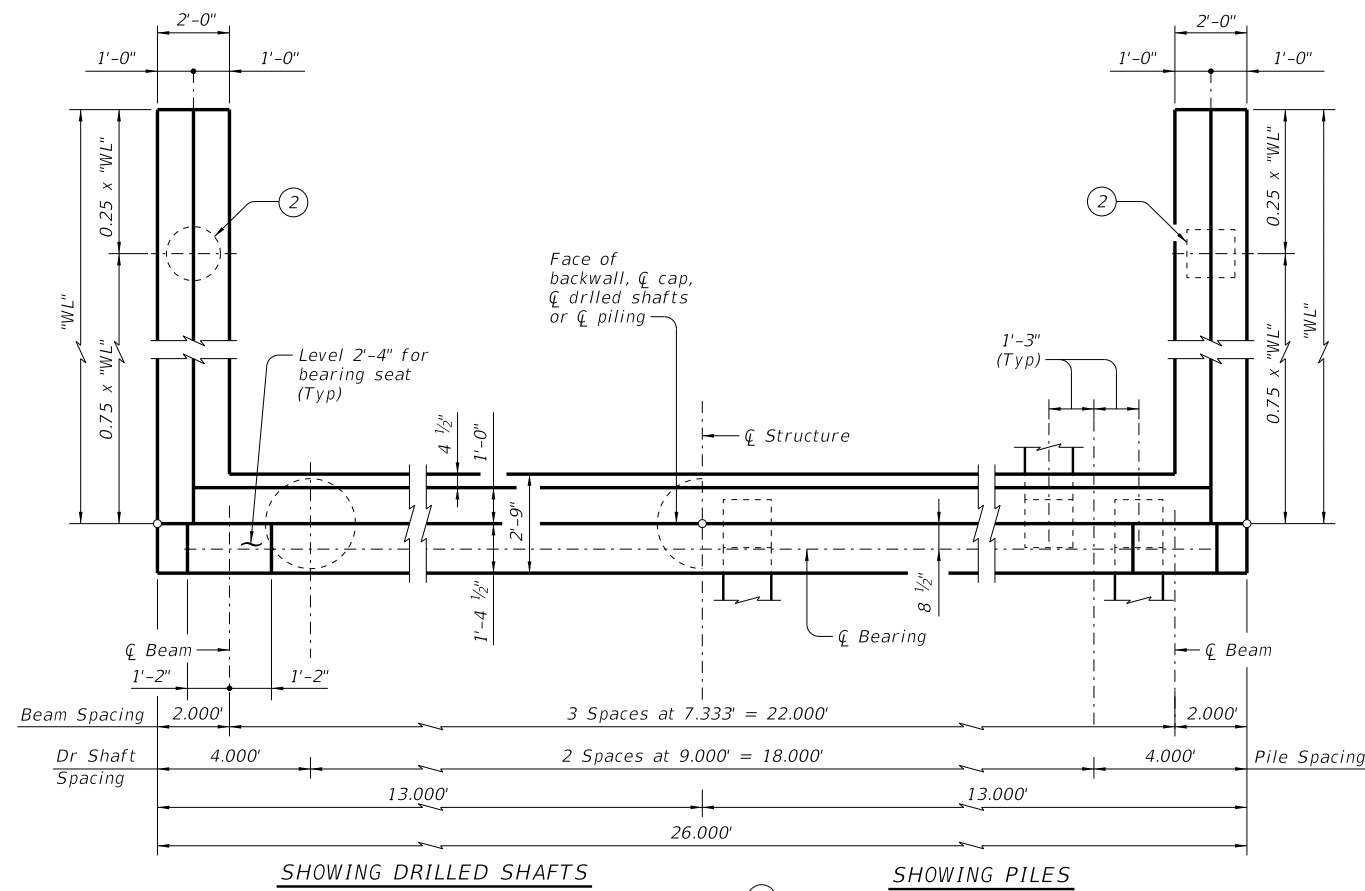
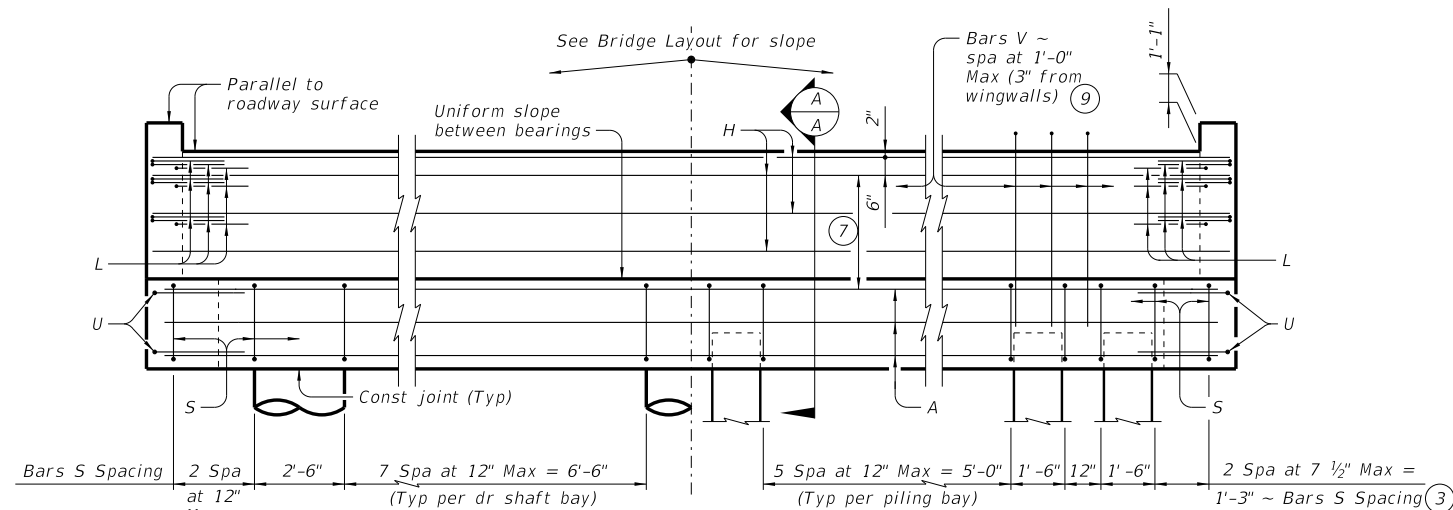


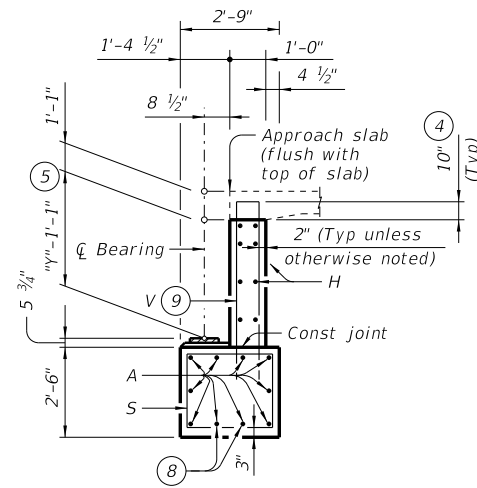
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PLAN 1

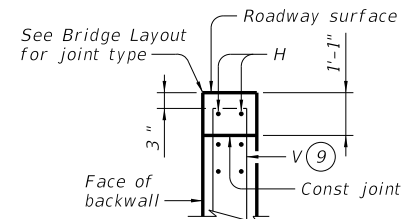


ELEVATION



SECTION A-A

(With approach slab) 6



BACKWALL DETAIL

(Without approach slab) 6

TABLE A			
Header Slope	Beam Type	Wingwall Type	Wingwall length "WL"
2:1	W18	Cantilevered	6.000'
	W21	Cantilevered	7.000'
	W24	Cantilevered	7.000'
	W27	Cantilevered	8.000'
	W30	Cantilevered	8.000'
	W33	Cantilevered	9.000'
3:1	W36	Cantilevered	9.000'
	W40	Cantilevered	10.000'
	W18	Cantilevered	9.000'
	W21	Cantilevered	10.000'
	W24	Cantilevered	11.000'
	W27	Cantilevered	12.000'
	W30	Cantilevered	12.000'
	W33	Founded	13.000'
W36	Founded	14.000'	
W40	Founded	15.000'	

**MATERIAL NOTES:**

Provide Class C Concrete,  $f'_c = 3,600$  psi.  
Provide Class C (HPC) Concrete if shown elsewhere in the plans.  
Provide Grade 60 reinforcing steel.

**GENERAL NOTES:**

- 1. Designed according to AASHTO LRFD Bridge Design Specifications. See Bridge Layout for beam type, header slope, and foundation type, size, and length. See Common Foundation Details (FD) standard sheet for all foundation details and notes. See Concrete Riprap (CRR) standard sheet or Stone Riprap (SRR) standard sheet for riprap attachment details, if applicable. See Standard Erection and Bracing Requirements (SBBR) standard sheet for location and size of anchor bolt required for erection bracing. See applicable rail details for rail anchorage in wingwalls. These abutment details may be used with standard SSB-24 only.
- 2. See Table A to determine if wingwall foundations are required.
- 3. For piling larger than 16", adjust Bars S spacing as required to avoid piling.
- 4. Increase as required to maintain 3" from finished grade.
- 5. See Steel Beam Standard Design (SBSD-24) standard for "Y" value.
- 6. See Bridge Layout to determine if approach slab is present.
- 7. Use 2 spaces at 12" Max for W18 through W24 beams and 3 spaces at 12" Max for W27 beams and larger.
- 8. With pile foundations, replace Bars A located at bottom centerline of cap with 2 ~ #11 x 5'-0" (per bay) placed between piling groups. Deduct 160 lbs total from reinforcing steel total.
- 9. Field bend as needed to clear piles.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING

SHEET 1 OF 3



**ABUTMENTS  
STEEL BEAM SPANS  
24' ROADWAY**

**ASB-24**

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# 2:1 HEADER SLOPE

**TABLE OF ESTIMATED QUANTITIES (11)  
(W18 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)	10	#11	25'- 0"	1,328
H	6	#6	25'- 8"	231
L	18	#6	4'- 0"	108
S	22	#5	10'- 0"	229
U	4	#6	7'- 3"	44
V	25	#5		259
wH1	14	#6	7'- 1"	149
wH2	16	#6	5'- 8"	136
wS	14	#4		73
wV	14	#5		145

Reinforcing Steel	Lb	2,702
Class "C" Concrete (Abut)	CY	11.4

**TABLE OF ESTIMATED QUANTITIES (W21 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)	10	#11	25'- 0"	1,328
H	6	#6	25'- 8"	231
L	18	#6	4'- 0"	108
S	22	#5	10'- 0"	229
U	4	#6	7'- 3"	44
V	25	#5	10'- 5"	272
wH1	14	#6	8'- 1"	170
wH2	16	#6	6'- 8"	160
wS	16	#4		84
wV	16	#5	10'- 5"	174

Reinforcing Steel	Lb	2,800
Class "C" Concrete (Abut)	CY	12.4

**TABLE OF ESTIMATED QUANTITIES (W24 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)	10	#11	25'- 0"	1,328
H	6	#6	25'- 8"	231
L	18	#6	4'- 0"	108
S	22	#5	10'- 0"	229
U	4	#6	7'- 3"	44
V	25	#5		287
wH1	14	#6	8'- 1"	170
wH2	16	#6	6'- 8"	160
wS	16	#4		84
wV	16	#5		184

Reinforcing Steel	Lb	2,825
Class "C" Concrete (Abut)	CY	12.7

**TABLE OF ESTIMATED QUANTITIES (W18 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)	10	#11	25'- 0"	1,328
H	6	#6	25'- 8"	231
L	18	#6	4'- 0"	108
S	22	#5	10'- 0"	229
V	25	#5		256
wH1	14	#6	10'- 1"	212
wH2	16	#6	8'- 8"	208
wS	20	#4		105
wV	20	#5		205

Reinforcing Steel	Lb	2,931
Class "C" Concrete (Abut)	CY	13.1

**TABLE OF ESTIMATED QUANTITIES (W21 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)	10	#11	25'- 0"	1,328
H	6	#6	25'- 8"	231
L	18	#6	4'- 0"	108
S	22	#5	10'- 0"	229
U	4	#6	7'- 3"	44
V	25	#5	10'- 5"	269
wH1	14	#6	11'- 1"	233
wH2	16	#6	9'- 8"	232
wS	22	#4		115
wV	22	#5	10'- 5"	237

Reinforcing Steel	Lb	3,031
Class "C" Concrete (Abut)	CY	14.2

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

**TABLE OF ESTIMATED QUANTITIES (W27 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

**TABLE OF ESTIMATED QUANTITIES (W30 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

**TABLE OF ESTIMATED QUANTITIES (W33 BEAMS)**

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

**(W27)**

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

**(W21)**

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

Bar	No.	Size	Length	Weight
A (8)				
H				
L				
S				
U				
V				
wH1				
wH2				
wS				
wV				

(8) With pile foundations, replace Bars A located at bottom centerline of cap with 2 ~ #11 x 5'-0" (per bay) placed between piling groups. Deduct 160 lbs total from reinforcing steel total.

(11) Quantities shown are for one abutment only (with approach slab). With no approach slab, add 1.0 CY Class "C" concrete and 77 Lb reinforcing steel for 2 additional H bars.



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