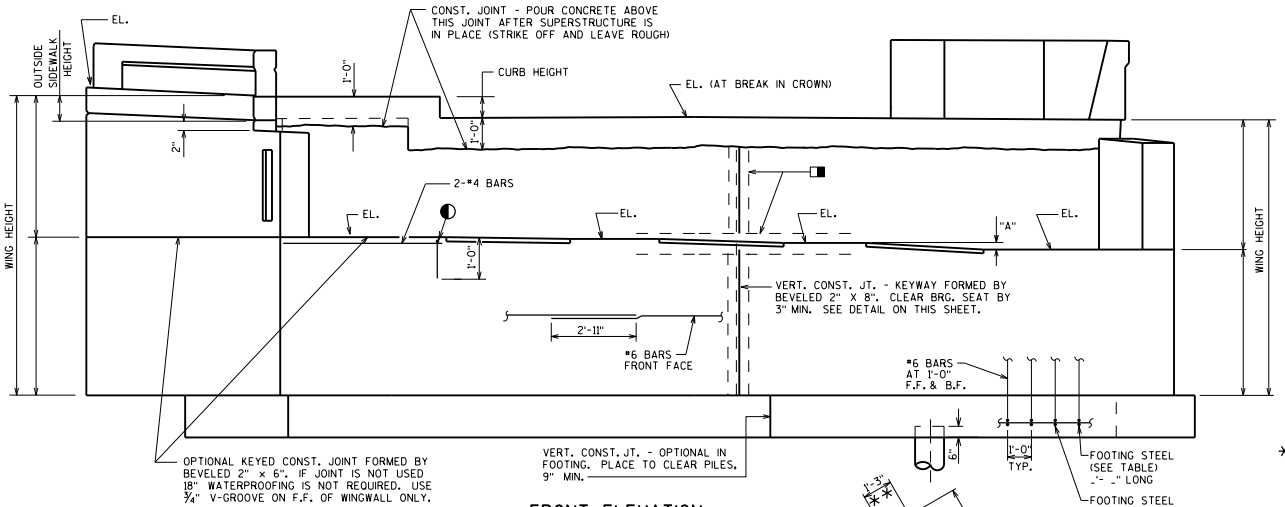
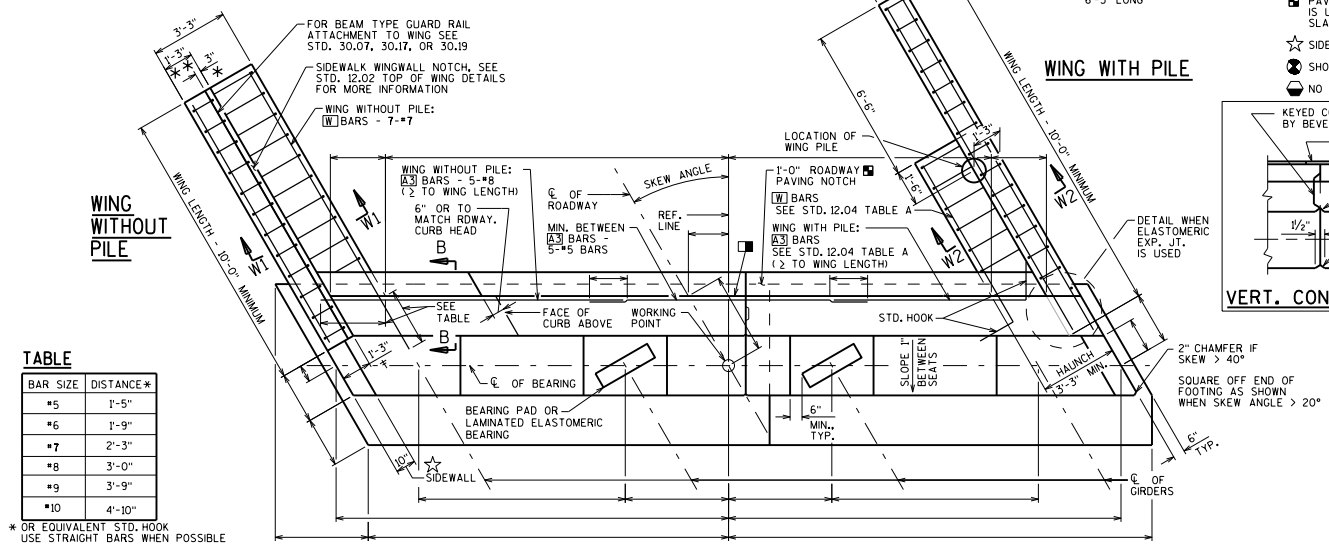


FRONT ELEVATION



WING WITHOUT PILE

WING WITH PILE

PLAN

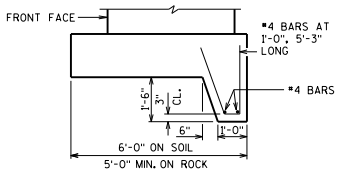
TABLE

BAR SIZE	DISTANCE*
#5	1'-5"
#6	1'-9"
#7	2'-3"
#8	3'-0"
#9	3'-9"
#10	4'-10"

* OR EQUIVALENT STD. HOOK USE STRAIGHT BARS WHEN POSSIBLE

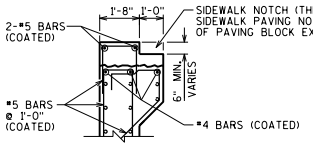
WING WITH SIDEWALK

WING WITH SLOPED FACE PARAPET



KEY DETAIL

FOR SILL ABUTMENT WITHOUT PILING PLACED ON SOIL



SECTION B-B

PILE REACTIONS PER FOOT IN KIPS
FRONT ROW = P[(10.22+X/4.25)] + [(h+2.25)³/310] +4.6
BACK ROW = P[(10.78-X/4.25)] - [(h+2.25)³/705] +16.8

NOTES:

h = WING HEIGHT (FT.)

$P = \gamma_{DC}(P_{DC}) + \gamma_{DW}(P_{DW}) + \gamma_{LL}(LL)$ (k/FT.)

FRONT ROW PILE DESIGN IS BASED ON AN EQUIVALENT FLUID UNIT WEIGHT OF SOIL OF 40 P.C.F. WITH γ_{EH} = 1.50, AND SUPERSTRUCTURE REACTIONS "P". BACK ROW PILE DESIGN IS BASED ON AN EQUIVALENT FLUID UNIT WEIGHT OF SOIL OF 40 P.C.F. WITH γ_{EH} MIN. = 0.90, AND "P".

PILES MUST ALSO BE DESIGNED TO ACCOUNT FOR LATERAL LOADS

P k/FT.	FOOTING STEEL SIZE
20	#6
40	#7
62	#8
75	#9

DESIGNER NOTES

LAP LENGTHS FOR HORIZONTAL BARS SHALL BE BASED ON A "CLASS C" TOP TENSION LAP SPLICE.

BARS IN WINGS, ABUTMENT BACKWALL, AND PAVING BLOCK SHALL BE EPOXY COATED.

PILING SPACING IN ABUTMENT FOOTING SHALL BE 8'-0" MAXIMUM.

PILE REACTION EQUATIONS ARE FOR PRELIMINARY PILE LAYOUT PURPOSES ONLY.

TOTAL LENGTH OF A3 BARS SHALL BE ≥ TO WING LENGTH.

WHEN BODY SECTION IS MORE THAN 50'-0"± LONG, PROVIDE VERTICAL CONSTRUCTION JOINT, RUN BAR STEEL THRU JOINT, SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE STD. 12.09 FOR ALTERNATE CONSTRUCTION JOINT.

IN "FRONT ELEVATION" VIEW, GIVE ELEVATION OF ALL BEARING AREAS AND ELEVATION AT BOTTOM OF PARAPETS AT EACH END OF WINGS. ALL ELEVATIONS ARE TAKEN AT FRONT FACE OF BACKWALL.

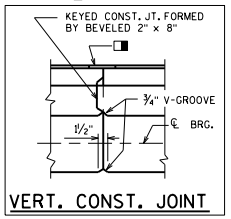
PARAPET NOT SHOWN IN PLAN VIEW FOR CLARITY.

ABUTMENT DETAILED WITHOUT STRUCTURAL APPROACH SLAB. SEE STD. 12.10 THRU 12.13 FOR STRUCTURAL APPROACH DETAILS.

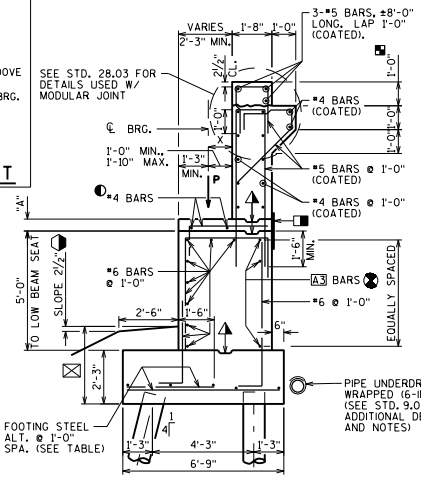
SEE STANDARDS 12.01 AND 13.01 FOR SLOPED BEAM SEAT CRITERIA AND DETAILS.

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- #4 AT 9" BEAM SEAT. SPACE AT 1'-0" BETWEEN SEATS. THIS STEEL IS REQUIRED ONLY IF DIMENSION "A" EXCEEDS 4".
- † 1'-5" WHEN VERTICAL FACE PARAPET TYPE "TX" IS USED.
- * 4" WHEN VERTICAL FACE PARAPET TYPE "TX" IS USED.
- ** WINGWALL WIDTH SHALL BE 1'-6" WHEN TYPE "M" RAILING, VERTICAL FACE PARAPET "TX", OR SINGLE SLOPE PARAPET "56SS" IS USED. "56SS" SHOULD NOT BE USED ON A SIDEWALK. WINGWALL WIDTHE SHALL BE 1'-4" WHEN PARAPET 'A' ON A RAISED SIDEWALK IS USED. WINGWALL WIDTH SHALL BE 1'-9" WHEN TYPE "NY3" OR "NY4" RAILING IS USED.
- 3'-3" (SLOPE PAVING), 4'-6" (HEAVY RIPRAP)
- PAVING NOTCH IS 1'-0" WIDE BY 1'-4" DEEP IF STRUCTURAL APPROACH SLAB (STD. 12.10) IS USED. SHOW NO. 9 STAINLESS STEEL BAR (STD 12.12) FOR STRUCTURAL APPROACH SLAB ON THE ABUTMENT SHEET.
- ☆ SIDEWALL IS 1'-3" WIDE IF STRUCTURAL APPROACH SLAB (STD. 12.10) IS USED.
- SHOW ALL BARS FOR CLARITY.
- NO SLOPE FOR HEAVY RIPRAP. SEE STANDARD 12.08 FOR DETAILS.



VERT. CONST. JOINT



SECTION THRU BODY

ALL FOOTING BARS NOT IDENTIFIED ARE #5 BARS

ABUTMENT TYPE A3

BUREAU OF STRUCTURES

APPROVED: Bill Oliva

DATE: 7-20

STANDARD 12.03