WING WITHOUT PILE ELEVATION

WING WITH PILE ELEVATION

Table A

<table>
<thead>
<tr>
<th>Wing Length</th>
<th>Wing Height</th>
<th>Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>11'-6&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>12'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>13'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>14'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>15'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
<tr>
<td>16'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6-#7's</td>
</tr>
</tbody>
</table>

Designer Notes

See designer's notes for additional designer notes.
**TABLE A**

<table>
<thead>
<tr>
<th>WING LENGTH</th>
<th>10'-0&quot;</th>
<th>12'-0&quot;</th>
<th>16'-0&quot;</th>
<th>20'-0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAR SIZE</td>
<td>5-#5's</td>
<td>2-#5's</td>
<td>4-#6's</td>
<td>8'-6&quot;</td>
</tr>
<tr>
<td></td>
<td>5-#6's</td>
<td>5-#8's</td>
<td>2-#8's</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>6-#5's</td>
<td>2-#5's</td>
<td>5-#7's</td>
<td>11'-6&quot;</td>
</tr>
<tr>
<td></td>
<td>2-#7's</td>
<td>5-#8's</td>
<td>2-#9's</td>
<td>13'-0&quot;</td>
</tr>
</tbody>
</table>

**DESIGNER NOTES**

- The type of abutment should be used when possible along with the roadway. Do not use for the following:
  - Roadway alignment, water elevation is above the bottom of abutment.
  - Concrete masonry incidental to this item, waterproofing if constant joint is used.

- When timber railing is used as per standard 30.24, the 2'-0" or the construction joint shall be waterproofed. The two concrete sheets in lieu of the timber end posts are in place.

- All wing bars shall be epoxy coated.

**LRFD DESIGN LOADS (WINGS)**

**WEIGHT OF SOIL**
- Exposure Class 2
  - V = 0.75
  - f'c = 3,500 P.S.I.
  - fy = 60,000 P.S.I.

**FINITE ELEMENT ANALYSIS**
- Weight of soil
- Horiz. Earth load based on: 35 P.C.F. equiv. Fluid unit
- Exposure Class 2
- f'c = 3,500 P.S.I.
- fy = 60,000 P.S.I.

**LOAD FACTORS:**
- Live Load = 1'-0" Surcharge
- 1'-3" Fill & Sealer
- 2'-0" Fill & Sealer

**SECTION A-A**

- R/C slab poured as 3'-0" thick, concrete reinforced with A1 bars per AASHTO specifications.
- Plan for Type A1 Abutment (see std. 12.01 for abutment body details)

**SECTION B-B**

- Note all longitudinal bars for clarity.

**BARS**
- #4 bars at 1'-0" centers
- #5 bars at 2'-0" centers
- #6 bars at 3'-0" centers
- #7 bars at 4'-0" centers
- #8 bars at 5'-0" centers
- #9 bars at 6'-0" centers

**DISTANCE**
- 2'-0" @ 5
- 2'-3" @ 5
- 3'-0" @ 6
- 3'-6" @ 6
- 4'-0" @ 6

**WING ELEVATION**

- Wing elevation for wings over 12'-0" only.

**PROFILE**

- Plan view of wing showing wing elevation and details.

**NOTE:**
- The bottom of abutment raised 2' to 3' from the bottom of the abutment.
- All wing bars shall be epoxy coated.
**Designer Notes**

For spans and cross-sections where spans are less than 80% of the bay, the following recommendations should be followed:

- Use #4 bars at 9" for spans less than 80% of the bay.
- Use #5 bars at 1' for spans between 80% and 100% of the bay.
- Use #8 bars at 3' for spans greater than 100% of the bay.

These bars may be placed after concrete is poured, but before initial set has taken place.

**Plan and Elevation Details**

- Use 3/4" thick filler for slab structures.
- Use 2'-3" for girder spans with a paving notch, but no structural support.
- Use 1'-7" for girder spans with structural support and no paving notch.
- Use 1'-11" for girder spans with a paving notch and no structural support.
- Use 1'-3" for slab spans with a paving notch and no structural support.
- Use 1'-6" for slab spans with a structural support and no paving notch.

**Wing Traveling Up Station**

When traveling up station, use 14' for spans between 80% and 100% of the bay.

**Joint Filler**

- Use 4" x 1" prefabricated joint filler for slab structures.
- Use 2'-3" for girder spans with a paving notch, but no structural support.
- Use 1'-7" for girder spans with structural support and no paving notch.
- Use 1'-11" for girder spans with a paving notch and no structural support.
- Use 1'-3" for slab spans with a structural support and no paving notch.

**Underdrain**

- For bottom of abutments located above normal water, place underdrain above normal water.
- Use 2'-3" for girder spans with a structural support and no paving notch.
- Use 1'-7" for girder spans with structural support and no paving notch.
- Use 1'-11" for girder spans with a paving notch and no structural support.
- Use 1'-3" for slab spans with a structural support and no paving notch.

**Additional Details**

- Use 2'-3" for girder spans with a paving notch and no structural support.
- Use 1'-7" for girder spans with structural support and no paving notch.
- Use 1'-11" for girder spans with a paving notch and no structural support.
- Use 1'-3" for slab spans with a structural support and no paving notch.

**Approval**

Approved: 
Date: 7-20

Bill Oliva

Bureau of Structures

Standards 12.08
ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES
- Paint zinc or plastic strips 1/8" before forming steel to prevent zinc or plastic strips from adhering to reinforcing steel.
- Paint zinc or plastic strips 1/8" before forming steel to prevent zinc or plastic strips from adhering to reinforcing steel.
- Use a joint tool to construct a contraction joint approximately 1/8" thick.
- Paint zinc or plastic strips.
STRUCTURAL APPROACH SLAB

DESIGNER NOTES

1. APPROACH SLAB FOOTING TO BE PLACED TO MATCH POST INSTALLATION WHEN APPLICABLE.

2. CONSTRUCTION JOINTS TO BE PLACED PARALLEL TO THE APPROACH SLAB, NOT NORMAL TO THE ABUTMENT WITH SKewed STRUCTURES.

3. DESIGNER TO COORDINATE LOCATION OF SURFACE DRAINS, INLETS, AND/OR FLUMES WITH RESPECT TO THE END OF PARAPET.

4. BILL OF BARS TO BE SHOWN ON FIRST SHEET OF PLANS.

5. DESIGN DATA TO BE SHOWN ON FIRST SHEET OF PLANS.

6. BAR STEEL REINFORCEMENT, GRADE 60, fy: 60,000 psi.

7. ALLOWABLE SOIL BEARING PRESSURE: 2,000 psi.

8. GROUT, TYP. STD. 180°

9. HPC SHALL BE USED FOR THE APPROACH SLAB ONLY (I.E., HPC STRUCTURE). PROTECTIVE SURFACE TREATMENT, STAINLESS STEEL REINFORCEMENT, LONGITUDINAL APPROACH SLAB REINFORCEMENT SHALL BE PLACED PARALLEL TO THE STRUCTURE APPROACH SLABS TO BE DETAILED TO MATCH THE BRIDGE DECK (I.E., NOT NORMAL TO THE ABUTMENT WITH SKewed STRUCTURES).

10. QUANTITIES FOR APPROACH SLABS SHALL BE SHOWN IN A SEPARATE COLUMN WITHIN THE TOTAL ESTIMATED VOLUME IN THE BILL OF MATERIALS.

11. CONSTRUCTION JOINT DESIGNED WHEN WIDTH OF SUPERSTRUCTURE EXCEEDS 10% OF RUN REQUIREMENT THROUGH THE JOINT.

12. DESIGNER TO COORDINATE LOCATION OF SURFACE DRAINS, INLETS, AND/OR FLUMES WITH RESPECT TO THE END OF PARAPET.


14. SEE STANDARD 9.01 FOR BACKFILL AND BASE AGGREGATE DENSE 1-1/4 INCH DETAILS.

15. DESIGNER TO COORDINATE LOCATION OF SURFACE DRAINS, INLETS, AND/OR FLUMES WITH RESPECT TO THE END OF PARAPET.

16. CONSIDER THE BID ITEM FOR SS901 AND SS601 BARS STANDARD SPECIAL PROVISION.

17. POLYETHYLENE SHEETS SHALL BE INCIDENTAL TO CONCRETE MASONRY BRIDGES.

18. CONCRETE MASONRY BRIDGES, BAR STEEL REINFORCEMENT HS COATED STRUCTURES, ETC. IS NOT REQUIRED FOR APPROACH SLAB FOOTING.


20. STAINING GRAY NON-BITUMINOUS JOINTER SEALER. (1" DEEP AND HOLD FROM 1/2" BELOW)

21. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/4" FILLER WITH NON-BITUMINOUS JOINT SEALER.

22. BAR MARKS SIGNIFICANT THE BAR SIZE.

23. NO. 1 BAR MARKS SIGNIFICANT THE BAR SIZE.

24. STAINLESS STEEL AS ABUT. - GRACY SPAN...

25. STAINLESS STEEL AS ABUT. - SLAB SPAN...

26. STAINLESS STEEL AS ABUT...

27. STANDARD...
SECTION E-E

SECTION THRU APPROACH SLAB

SECTION F-F

SECTION G-G

NO FILLER, NO GAP

SS901 @ 1'-0" (STAINLESS STEEL)

T802, TYP.

T501 @ 1'-0"

STANDARD SPEC. 502.2.7

FILLER ACCORDING TO "V" Groove NOTCH LENGTH

SS601 @ 1'-0"

T03, T02

(1'-6" WIDE x FTG. LENGTH)

APPROACH SLAB FTG.

1'-0"

3" C.L.

1'-8"

20'-0" slab

1'-0"

MIN.

MIN.

M IN .

M IN .

CONCRETE DIAPHRAGM

T03

T02

T508

T803 @ 7"

T802 @ 7"

T03

(1'-6" WIDE x PAVING NOTCH LENGTH)

SS901  @ 1'-0"

T501, r502

r501, r502

8"

V" Groove

END OF GIRDER

OUTSIDE ELEVATION

J O I N T

P A V I N G

O P E N I N G

D E C K

E D G E O F

D E C K

B R I D G E

S T R U C T U R E

8"

20'-0"

J O I N T

S T R U C T U R E

B R I D G E

8"

SECTION G-G

NO FILLER, NO GAP

SS901 @ 1'-0"

T501 @ 1'-0"

STANDARD SPEC. 502.2.7

FILLER ACCORDING TO "V" Groove NOTCH LENGTH

SS601 @ 1'-0"

T03, T02

(1'-6" WIDE x FTG. LENGTH)

APPROACH SLAB FTG.

1'-0"

3" C.L.

1'-8"

20'-0" slab

1'-0"

MIN.

MIN.

M IN .

M IN .

CONCRETE DIAPHRAGM

T03

T02

T508

T803 @ 7"

T802 @ 7"

T03

(1'-6" WIDE x PAVING NOTCH LENGTH)

SS901  @ 1'-0"

T501, r502

r501, r502

8"

V" Groove
**LEGEND**

A. Seal all exposed horizontal and vertical surfaces of 1/4" deep with non-sagging joint sealant.
B. Seal all exposed horizontal and vertical surfaces of 1/4" deep fill and seal with 7/8" depth of concrete.

*Partial plan representative of similar location as shown on standard 12.10 for different applications.*

**PARTIAL PLANS** shown here are from standard 12.10

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**APPROACH SLAB PARTIAL PLAN**

(at wingwalls parallel to bridge - at abut. - slabs span)

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**APPROACH SLAB PARTIAL PLAN**

(at wingwalls parallel to bridge - abut. - order span)

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**APPROACH SLAB PARTIAL PLAN**

(at wingwalls parallel to bridge - abut. at MSE wingwalls - order span)