# Index 400-091 Approach Slabs (Rigid Pavement Approaches)

## Design Criteria

***AASHTO LRFD Bridge Design Specifications***; ***Structures Design Guidelines (SDG)***

## Design Assumptions and Limitations

Index 400-091 is intended to be used with concrete (rigid) roadway approach pavement.

Approach Slabs are intended to provide a smooth vertical transition between the roadway approach pavement and the bridge. They are supported at the bridge end by the end bent and by the embankment at the roadway approach end. This support configuration allows the Approach Slabs to rotate and settle as the roadway approach embankment settles. No additional supports (piles, footings, etc.) are required or allowed.

Index 400-091 works with Index 370-001 Bridge Approach Expansion Joint- Concrete Pavement. The roadway approach end of the Approach Slab must be non-skewed to match up with Index 370-001.

See ***SDG*** 3.1 for distribution of design loads from the approach slab to the end bent.

The details of the approach slab adjacent to the End Bent Backwall as shown on the standard are intended for use with Poured Joint with Backer Rod and Strip Seal Expansion Joints. If other expansion joint types are used, e.g. finger or modular expansion joints, modifications to the standard may be required to accommodate the expansion joints and the blockouts used to install them.

## Plan Content Requirements

Index 400-091 requires supplemental sheets, a completed data table and reinforcing bar lists to be included in the Structures Plans. Some roadway elements may need to be carried onto the approach slab, and in these cases special attention must be given to clarifying in the plans which elements are to be included as part of the roadway.

In the Roadway Plans:

Include details and payment for the optional base under the approach slab. The minimum structural requirement under the approach slab is Optional Base Group 2. If the optional base group for the roadway approaches is Group 2 or better, the same base group may be continued under the approach slab. Include embankment and optional base for the approach slab area in the roadway quantities.

In the Structures Plans:

Include supplemental sheets showing as a minimum a Plan View with geometry and pertinent information not covered by this standard e.g., Survey Lines, PGL, Direction of Stationing, Phase Construction Joints, Raised Sidewalks and any other information necessary to accurately complete detailing of the Approach Slabs. Label Approach Slab by name or Index number. Match the skew angle of the bridge at the bridge end of the

Approach Slab. The roadway approach end of the Approach Slab shall be non-skewed (perpendicular to the stationing line) to match up with the details shown on Index 370-001 Bridge Approach Expansion Joint - Concrete Pavement.

Urban roadway approaches usually have a 6-inch raised sidewalk. If the raised sidewalk is not continued across the bridge, when possible, transition the raised sidewalk to the bridge deck elevation over the length of the approach slab. Design and detail the transition to prohibit low spots or ponding and to redirect or collect runoff from the bridge and approach slab onto suitable roadway or into drainage structures.

When raised sidewalks with or without transitions are required on the approach slab, include the details for the sidewalks with the approach slab sheets. Concrete quantities for raised sidewalks on the approach slab shall be paid for as approach slab concrete.

Include Approach Slab Finish Grade Elevations with the Bridge Finish Grade Elevations.

Include reinforcing bars in the Reinforcing Steel List. All reinforcing bars are straight bars (Types 1 and 2). Bars 5C1 are 5'-0" long.

Complete the following "Approach Slab Table of Dimensions" and include it on the supplemental sheets. See ***FDM*** 115 for more information regarding use of Data Tables.

| APPROACH SLAB TABLE OF DIMENSIONS | | | | | | Table Date 11-01-16 |
|---|---|---|---|---|---|---|
| LOCATION | DIMENSIONS | | | | | ANGLE Ø |
| | L1 | L2 | M1 | M2 | N | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Dimension Notes:
Dimensions L1 & L2 are measured along gutter line, inside face of parapet or inside face of railing on raised sidewalks.
Dimensions L1 & L2 are arc dimensions within curved alignments.

Work this Data Table with Standards Plans Index ___-___.

## Payment

| Item number | Item Description | Unit Measure |
|---|---|---|
| 400-2-10 | Concrete Class II, Approach Slabs | CY |
| 400-7-A | Bridge Deck Grooving | SY |
| 400-9 | Bridge Deck Planing | SY |
| 415-1-9 | Reinforcing Steel - Approach Slabs | LB |