GENERAL NOTES:

See the Bridge Layout for selected Option. Option 2 is intended for new construction requiring high plasticity embankment fill with a plasticity index (PI) greater than 30 or pavement built in poor native soil. Poor soils are defined as high plasticity clays or expansive clays.

Option 1 is intended for construction only requiring PI controlled embankment fill or excavation in competent soils/stones in order to construct the pavement.

Provide Cement Stabilized Backfill (CSB) meeting the requirements of Item 400, "Excavation and Backfill for Structures," to the limits shown at bridge abutments.

If required elsewhere in the plans, provide Flowable Backfill meeting the requirements of Item 401, "Flowable Backfill," and Flowable Backfill meeting the requirements of Item 401, "Flowable Backfill," as required.

Details are drawn showing left forward skew. See bridge layout for actual skew direction.

These details do not apply when Concrete Block retaining walls are used in lieu of wingwalls.

WITH APPROACH SLAB

SHOWING BAS-C, BAS-A SIMILAR.

SECTION A-A

OPTION 1 - PLAN WITH WINGWALLS

Cement-stabilized backfill.

Pavement thickness

See appropriate details elsewhere for dimension.

End of wingwall

No steeper than 1:1

Abutment

2'-0"

Cement stabilized backfill

OPTION 1 - PLAN WITH MSE RETAINING WALLS

Cement-stabilized backfill.

End of wingwall

No steeper than 1:1

Abutment

2'-0"

Cement stabilized backfill

USUAL LIMIT OF CEMENT STABILIZED BACKFILL IS AT END OF WINGWALL. EXTEND CSB LIMITS AS REQUIRED TO MAINTAIN A SLOPE NO STEEPER THAN 1:1 AT BOTTOM OF BACKFILL.

BENCH BACKFILL AS SHOWN WITH 12" (APPROXIMATE) BENCH DEPTHS.

WHERE MSE RETAINING WALLS ARE PRESENT, ADJUST CSB LIMITS TO ACCOMMODATE THE SELECT FILL ZONE. SEE RETAINING WALL DETAILS FOR ADDITIONAL INFORMATION.

WHEN DISTANCE BETWEEN SELECT FILL ZONES IS LESS THAN 9'-0", MSE SELECT FILL MAY BE SUBSTITUTED FOR CEMENT STABILIZED BACKFILL WITH APPROVAL FROM THE ENGINEER.

IF SHOWN IN THE PLANS, FLOWABLE BACKFILL CAN BE USED AS A SUBSTITUTE FOR CEMENT STABILIZED BACKFILL WITH THE FOLLOWING CONSIDERATIONS:

1. IF FLOWABLE BACKFILL IS TO BE PLACED OVER MSE BACKFILL, THEN A FIBER FABRIC WILL BE PLACED OVER THE MSE BACKFILL PRIOR TO PLACEMENT OF THE FLOWABLE FILL AND IN THE EVENT THE FLOWABLE FILL IS TO BE EMBANKMENT FILL EXCEEDING 2 FEET IN HEIGHT, PLACE EACH SUCCESSIVE LIFT WITHIN THE PREVIOUS LIFT THAT HAS STIFFENED/HARDENED (I.E. HAS LOSS ITS FLOWABILITY).
OPTION 2 - PLAN WITH WINGWALLS

Cast-in-place retaining wall similar.

- End of wingwall
- Pavement thickness
- See appropriate details elsewhere for dimension
- Bridge approach slab
- End of approach slab
- P-0'
- Top pavement section

WITH APPROACH SLAB

SECTION B-B


OPTION 2 - PLAN WITH MSE RETAINING WALLS

- End of MSE retaining wall
- MSE retaining wall
- Select fill prior to placement of MSE backfill

SHOWING BS-C, BS-A

CEMENT STABILIZED ABUTMENT BACKFILL

Bench backfill as shown with 1/2" (approximate) bench depths.

1. Usual level of Cement Stabilized Backfill is at end of wingwall. Extend CSB limits as required to maintain a slope of 1:1 between backfill top and pavement.
2. If shown in the plans flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
   a. If flowable backfill is to be placed over MSE backfill as a substitute for cement stabilized backfill, prior to placement of MSE backfill, a flowing test shall be conducted to confirm the flowability of the backfill. If the backfill has (i.e. has lost its flowability).
   b. Place flowable fill in lifts not exceeding 2 feet in height, place each successive lift when the previous lift has stiffened/hardened

3. If shown in the plans flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
   a. If flowable backfill is to be placed over MSE backfill as a substitute for cement stabilized backfill, prior to placement of MSE backfill, a flowing test shall be conducted to confirm the flowability of the backfill. If the backfill has (i.e. has lost its flowability).
   b. Place flowable fill in lifts not exceeding 2 feet in height, place each successive lift when the previous lift has stiffened/hardened

4. Where MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.
5. Select fill may be substituted for cement stabilized backfill with approval from the Engineer.
6. When distance between select fill zones is less than 5'-0", MSE select fill may be substituted for cement stabilized backfill with approval from the Engineer.
7. When MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.

TxDOT

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Bridge Design Standard

CSAB

SHEET 2 OF 2