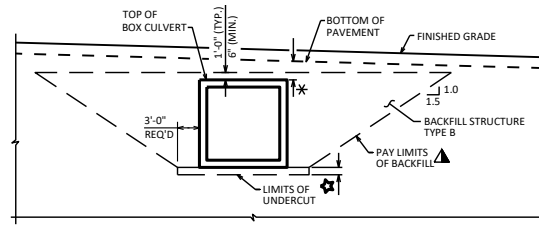


**TYPICAL SECTION
THRU BOX CULVERT WINGWALL**



**TYPICAL SECTION
THRU BOX CULVERT**
(CIP BOX CULVERT WITH SHALLOW FILLS)

★ CULVERT UNDERCUT AND BEDDING BACKFILL TO BE DETERMINED BY GEOTECHNICAL ENGINEER. (CHOOSE APPLICABLE NOTE, MODIFY AS NEEDED)

NOTES (BOX CULVERTS)

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-_-_" SHALL BE THE EXISTING GROUNDLINE.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" REQUIRED ON THE BOX CULVERT SIDES AND BEHIND APRON WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

NOTE AND DIMENSION NOT REQUIRED. (UNDERCUT NOT REQUIRED PER GEOTECHNICAL ENGINEER OR WHEN CONSTRUCTED ON FILLS)

UNDER CUT "X"-X". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. BACKFILL WITH "BACKFILL STRUCTURE TYPE B".

UNDER CUT "X"-X". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE COARSE AGGREGATE AASHTO NO. 67 OR AASHTO NO. 4 IN ACCORDANCE WITH STANDARD SPEC 310 AND 604, RESPECTIVELY, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

PRECAST ELEMENTS SHALL BE PLACED ON A BEDDING OF "BACKFILL STRUCTURE TYPE B" OF 6" MINIMUM DEPTH AND AS APPROVED BY THE ENGINEER. (NOTE APPLICABLE WHEN PRECAST ELEMENTS ARE ALLOWED PER STANDARD 36.02)

NOTES (RETAINING WALLS)

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES RETAINING WALLS R-_-_" SHALL BE THE EXISTING GROUNDLINE.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

DESIGNER NOTES

▲ THE DESIGN ENGINEER SHOULD PROVIDE ALL NECESSARY BACKFILL PAY LIMITS AND NOTES IN ORDER TO DETERMINE QUANTITIES. SEE BRIDGE MANUAL SECTIONS 6.4.2 AND 9.10 FOR ADDITIONAL INFORMATION.

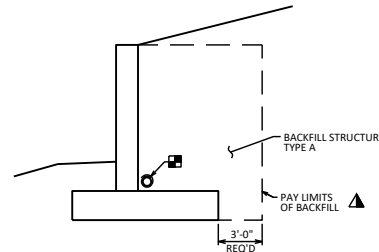
FOR CULVERTS, THE ABOVE NOTE REGARDING POTENTIAL SUBSTITUTION OF BREAKER RUN SHOULD ONLY BE INCLUDED ON THE PLANS IF ALLOWED BY THE REGION GEOTECHNICAL ENGINEER.

* 6" MINIMUM OF "BACKFILL STRUCTURE TYPE B" REQUIRED BETWEEN BOTTOM OF ROADWAY SURFACE AND TOP OF CULVERT.

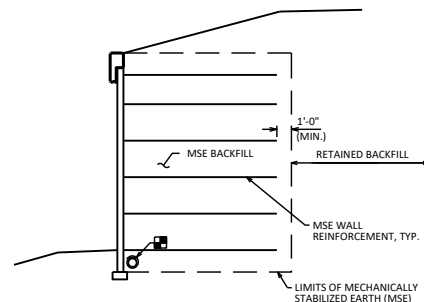
LEGEND

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

■ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. (SHOW DETAIL ON PLANS)



**TYPICAL SECTION
THRU RETAINING WALL**



**TYPICAL SECTION
THRU MSE RETAINING WALL**

STRUCTURE BACKFILL LIMITS AND NOTES 2



**BUREAU OF
STRUCTURES**

APPROVED: *Laura Shadewald*

DATE:
7-24