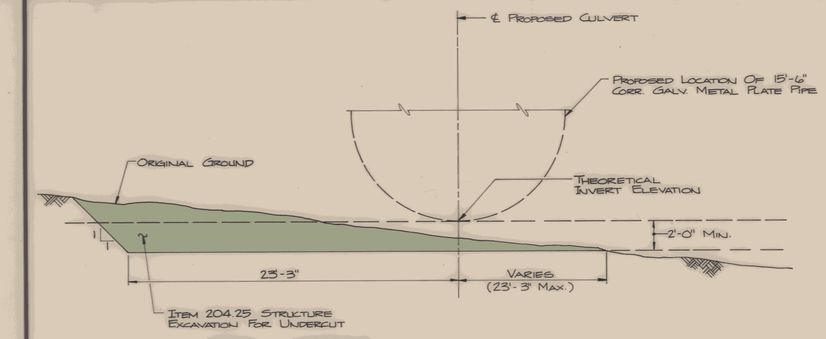
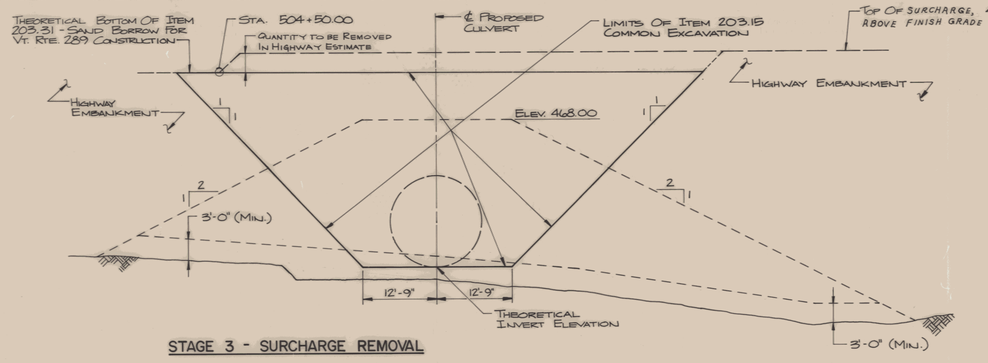
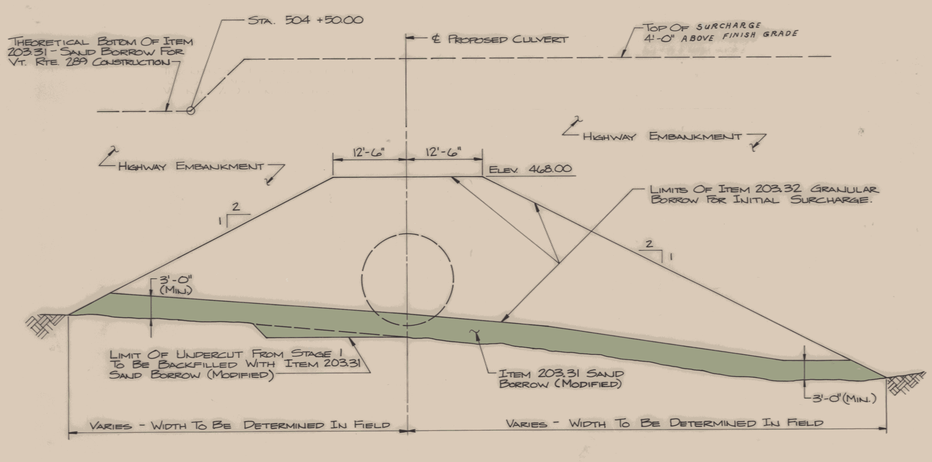


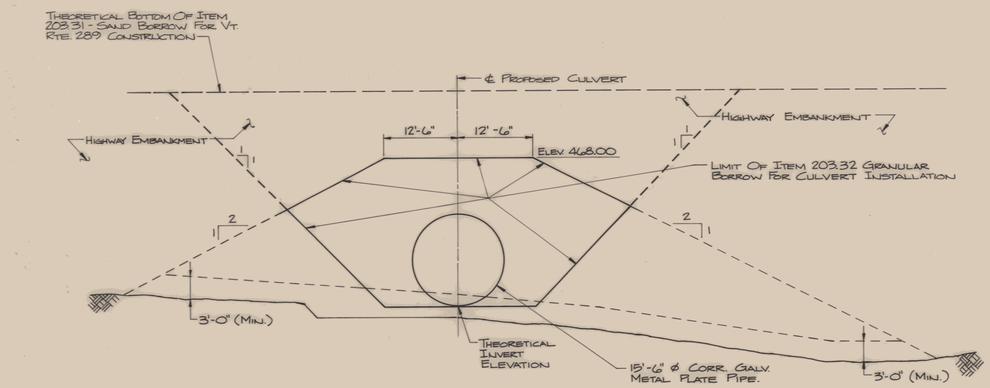

STAGE 1 - UNDERCUT




STAGE 3 - SURCHARGE REMOVAL




STAGE 2 - SURCHARGE CONSTRUCTION
(SURCHARGE TO REMAIN IN PLACE A MIN. OF 7 MONTHS)




STAGE 4 - CULVERT INSTALLATION

## SURCHARGE DETAILS

N.T.S.

CONSTRUCTION SEQUENCING

THE CONTRACTOR WILL BE REQUIRED TO SURCHARGE THE AREA WHERE THIS CULVERT IS TO BE LOCATED PRIOR TO INSTALLATION. THE FOLLOWING IS THE DIRECTED CONSTRUCTION SEQUENCING:

- IN AREAS ALONG THE CULVERT WHERE THE THEORETICAL INVERT ELEVATION (SEE TABLE A SHEET BR702) IS LESS THAN 2 FEET ABOVE THE ORIGINAL GROUND SURFACE, AN UNDERCUT WILL BE REQUIRED. THE LIMITS OF THE UNDERCUT WILL BE ESTABLISHED BY PROJECTING THE FINAL INVERT ELEVATIONS ALONG THE CULVERT TO A WIDTH OF 23'-3" ON BOTH SIDES OF THE CULVERT CENTERLINE. THE DEPTH OF THE UNDERCUT WILL BE DETERMINED BY PROJECTING DOWN 2 FEET VERTICALLY FROM THE THEORETICAL CULVERT INVERT. THE UNDERCUT AREAS WILL THEN BE BACKFILLED WITH SAND BORROW (MODIFIED) TO THE ORIGINAL GROUND SURFACE PRIOR TO SURCHARGING. SEE STAGE I DETAIL FOR UNDERCUT LIMITS.

- THE CONTRACTOR SHALL THEN CONSTRUCT A 3 FOOT (MIN.), MEASURED VERTICALLY FROM THE ORIGINAL GROUND SURFACE, LAYER OF SAND BORROW (MODIFIED). THE WIDTH WILL BE DETERMINED IN THE FIELD TO ACCOMMODATE THE ORIGINAL GROUND SURFACE. THE CONTRACTOR SHALL INSTALL PVDs AND INSTRUMENTATION IN CONFORMANCE WITH THE PVD DRAWINGS G-1 TO G-11. SEE STAGE II DETAIL FOR SURCHARGE CONSTRUCTION.

- THE CULVERT SURCHARGE AREA, SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE CONSTRUCTION OF THE HIGHWAY EMBANKMENTS ADJACENT TO THE CULVERT SURCHARGE AREA. EMBANKMENT CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE STAGE CONSTRUCTION SHOWN ON DRAWINGS G-1 TO G-11 OF THE PVD DRAWINGS. THE CULVERT SURCHARGE AREA SHALL BE CONSTRUCTED TO THE ELEVATION SHOWN ON PLAN SHEET G-9. GRANULAR BORROW MUST BE USED TO ELEVATION 468.00. SEE STAGE II DETAIL FOR SURCHARGE CONSTRUCTION AND DRAWING G-9.

- PRIOR TO INSTALLATION OF THE CULVERT, THE AREA SHALL BE SURCHARGED FOR A PERIOD OF NOT LESS THAN TWO (2) MONTHS OF A.O.B.E.. THE SURCHARGE PERIOD WILL BEGIN UPON COMPLETION OF THE PLACEMENT OF MATERIAL TO SUBGRADE ELEVATION AND AS OUTLINED ON THE PVD DRAWINGS G-1 TO G-11.

- AFTER THE SURCHARGE TIME FRAME HAS ELAPSED, EXCAVATION FOR THE INSTALLATION OF THE CULVERT MAY COMMENCE. RECOMMENDED LIMITS OF EXCAVATION ARE TO THE THEORETICAL INVERT ELEVATION OF THE CULVERT AND TO A BOTTOM WIDTH OF 12'-9" ON BOTH SIDES OF THE CULVERT CENTERLINE. THE EXCAVATION SIDE SLOPES SHALL BE NO STEEPER THAN A 1H:1V RATIO. THE EXCAVATED MATERIALS (GRANULAR BORROW & HIGHWAY EMBANKMENT) SHALL BE STORED SEPARATELY FOR USE DURING THE BACKFILLING OF THE CULVERT. SEE STAGE III DETAIL FOR SURCHARGE REMOVAL LIMITS.

- DURING THE INSTALLATION OF THE CULVERT, THE CONTRACTOR SHALL USE THE STORED GRANULAR BORROW (SEPARATE PAY ITEM FROM INITIAL SURCHARGING AND STORED HIGHWAY EMBANKMENT (NO SEPARATE PAY ITEM FROM INITIAL SURCHARGING) TO BACKFILL ADJACENT TO THE CULVERT AS REQUIRED. SEE STAGE IV DETAIL FOR BACKFILLING LIMITS.

- THE CONTRACTOR SHALL RECEIVE SEPARATE PAYMENT FOR THE UNDERCUT AND BACKFILL, THE INITIAL SURCHARGE CONSTRUCTION, THE EXCAVATION OF THE SURCHARGED MATERIAL AND THE WORK ASSOCIATED WITH THE INSTALLATION AND BACKFILLING OF THE CULVERT. THE PAYMENTS SHALL BE TO THE LIMITS AS ESTABLISHED ON THE PLANS AND SHALL BE AS FOLLOWS:

| | |
|---|---|
| UNDERCUT AND BACKFILL | - ITEM 204.25 STRUCTURE EXCAVATION<br>- ITEM 203.31 SAND BORROW (MODIFIED) (EQUAL QUANTITIES) |
| INITIAL SURCHARGING | - ITEM 203.32 GRANULAR BORROW<br>- ITEM 203.31 SAND BORROW (MODIFIED) |
| EXCAVATION OF SURCHARGE | - ITEM 203.15 COMMON EXCAVATION (PAY LIMIT TO 1:1 SIDE SLOPES) |
| BACKFILL OF CULVERT | - ITEM 203.32 GRANULAR BORROW |

SNOWMOBILE CULVERT MOVED TO STA.502+25

AS BUILT 6/9/94

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| TOWN OF ESSEX | Bridge No. 14-3 |
| | Log Sta. |
| HIGHWAY NO. VT. RTE. 289 | Surv. Sta. 504+85 |
| VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT | |
| SURCHARGE DETAILS | |
| Designed by PJB | Drawn by RFU |
| Checked by RJS date 10/12/90 | Bridge Design Supervisor MWO date 10/12/90 |
| PROJECT WILLISTON - COLCHESTER | PROJECT NO. PB033-1(2) |
| Bridge Sheet No. BR703 | Sheet 224 of 400 |

BRUNING 44-131 40151

BR-2