

**TYPICAL LONGITUDINAL SECTION**  
SCALE: 1/8" = 1'-0"

**HYDRAULIC DATA**

DRAINAGE AREA = 0.32 SQ. MI. DESIGN FLOW Q 50

Q <sub>10</sub> = 89 C.F.S.	Q <sub>10</sub> HEADWATER ELEVATION = 501.98
Q <sub>25</sub> = 112 C.F.S.	Q <sub>25</sub> HEADWATER ELEVATION = 502.61
Q <sub>50</sub> = 127 C.F.S.	Q <sub>50</sub> HEADWATER ELEVATION = 503.02
Q <sub>100</sub> = 150 C.F.S.	Q <sub>100</sub> HEADWATER ELEVATION = 503.69

TAILWATER DEPTH AT Q 50 = 3.22 FEET, ELEVATION 500.37

OUTLET VELOCITY AT Q 50 = 7.36 FEET PER SECOND

ORDINARY HIGHWATER DEPTH \_\_\_\_\_ FEET

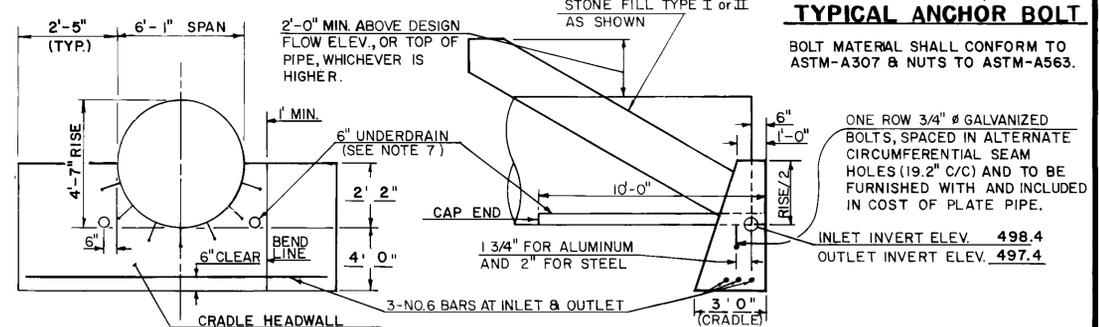
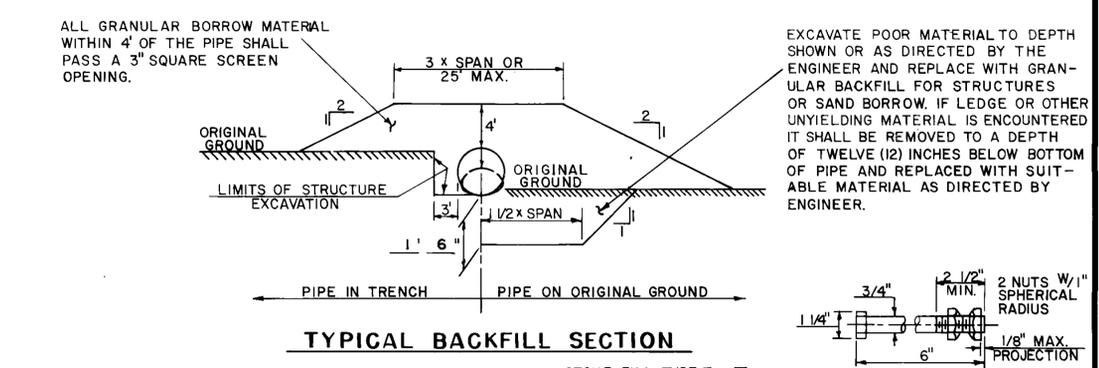
COMMENTS: \_\_\_\_\_

**DETAILS OF STRUCTURAL PLATE PIPE CULVERTS**

	STEEL	STEEL	ALUMINUM
CORRUGATIONS	3" x 1"		
SIZE OF PIPE OR PIPE ARCH	73" x 55" PCCSPA		
WATERWAY AREA (S.F.)	21.3		
PLATE THICKNESS (COATED)	0.109		
BOLT SIZE			
WEIGHT PER LINEAR FOOT			
TOTAL WEIGHT			
LENGTH	120.0 FT.		

PARE ENGINEERING CORPORATION  
Engineers - Planners - Landscape Architects  
8 Blackstone Valley Place, Lincoln, RI 02865  
401-334-4100

- NOTES**
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-25 LIVE LOADING.
  - UNLESS OTHERWISE INDICATED FOUR (4) BOLTS PER LINEAR FOOT FOR STEEL PLATES AND FIVE AND ONE THIRD (5 1/3) BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-449 BOLTS.
  - WHEN NORMAL CONSTRUCTION OR REGULAR ROADWAY TRAFFIC IS MAINTAINED OVER THE PIPE THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 3 FEET OF COMPACTED MATERIAL.
  - ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE, OR BITUMINOUS, OR ASPHALTIC PAINT.
  - PIPES SHALL BE FACTORY ELONGATED 5% (PIPE ARCHES SHALL NOT BE ELONGATED).
  - THE ENDS OF THE PIPE SHALL BE CUT SQUARE (NOT BEVELED TO MATCH SLOPES).
  - AT THE OUTLET END INCLUDE A 10 FOOT PIECE OF 6" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.07. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.

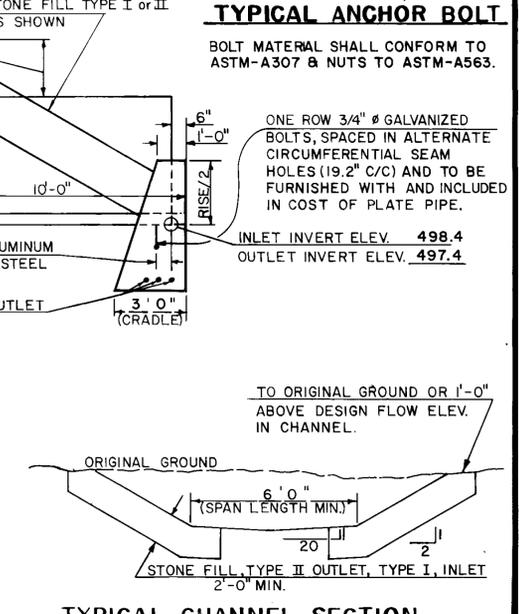


**REINFORCING STEEL SCHEDULE**

NO.	PIECES	SIZE	LENGTH	MARK	TYPE
6	6	12'-0"	HW 601	STR.	CUT TO FIT IN FIELD

**ESTIMATED QUANTITIES**

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAV.	CY	62	
203.32	GRANULAR BORROW	CY	428	
204.25	STRUCTURE EXCAVATION	CY	463	
204.30	GRANULAR BACKFILL FOR STRUCTURE	CY	116	
501.25	CONCRETE CLASS "B"	CY	9	
507.15	REINFORCING STEEL	LBS	108	



**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

TOWN OF **POWNA** Bridge No. 8A  
HIGHWAY NO. **ROUTE 346** Log Sta. \_\_\_\_\_  
Surv. Sta. 219+11

**73" x 55" STEEL PIPE ARCH**  
**CULVERT DETAILS**

Designed by R.T.P. Drawn by P.S.  
Checked by \_\_\_\_\_ Bridge Design Supervisor  
P.D.M. date 2-10-87 date \_\_\_\_\_

PROJECT **POWNA** PROJECT NO. **RSO107 (7)**  
Bridge Sheet No. \_\_\_\_\_ Sheet 130 of 319