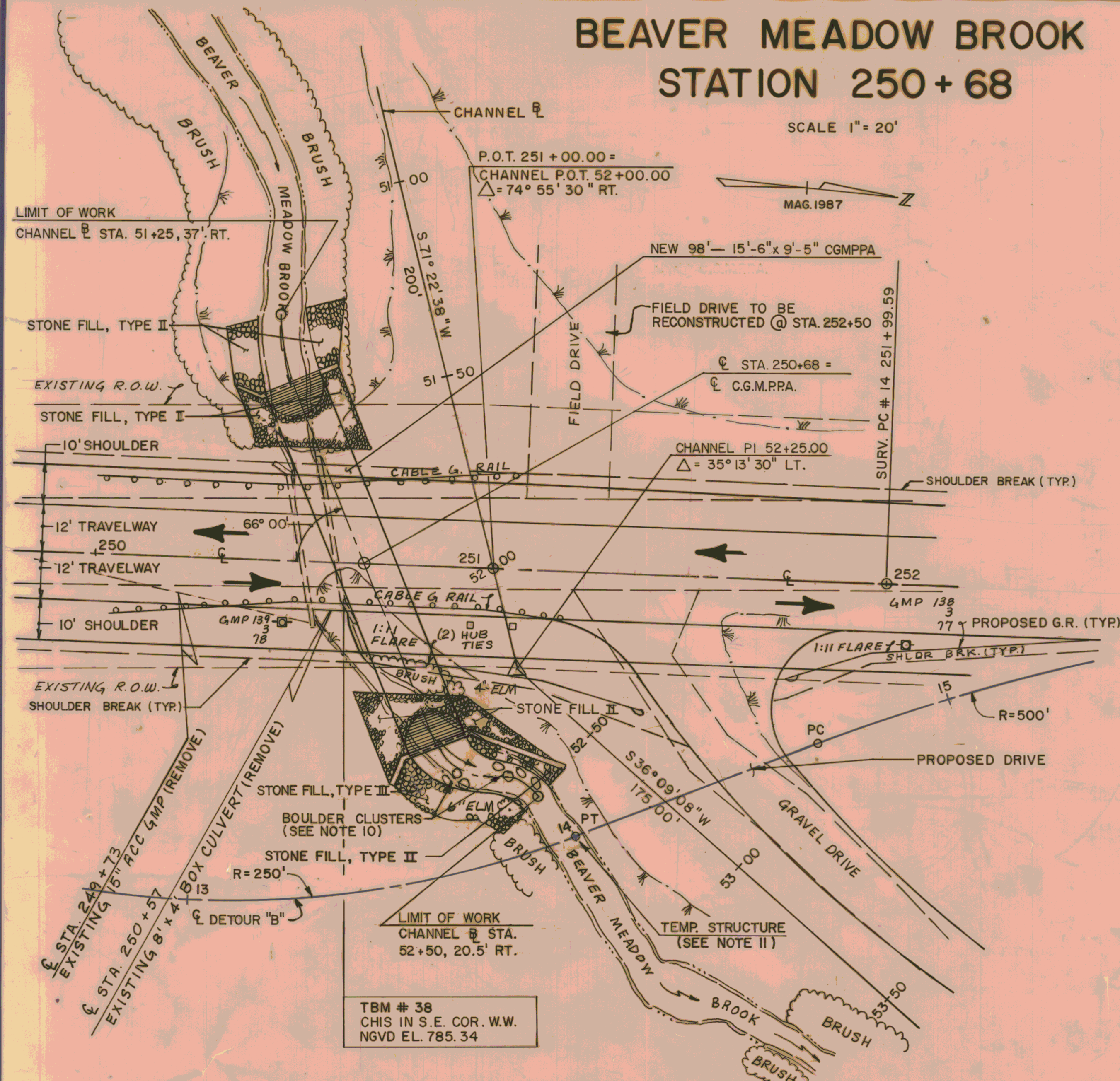
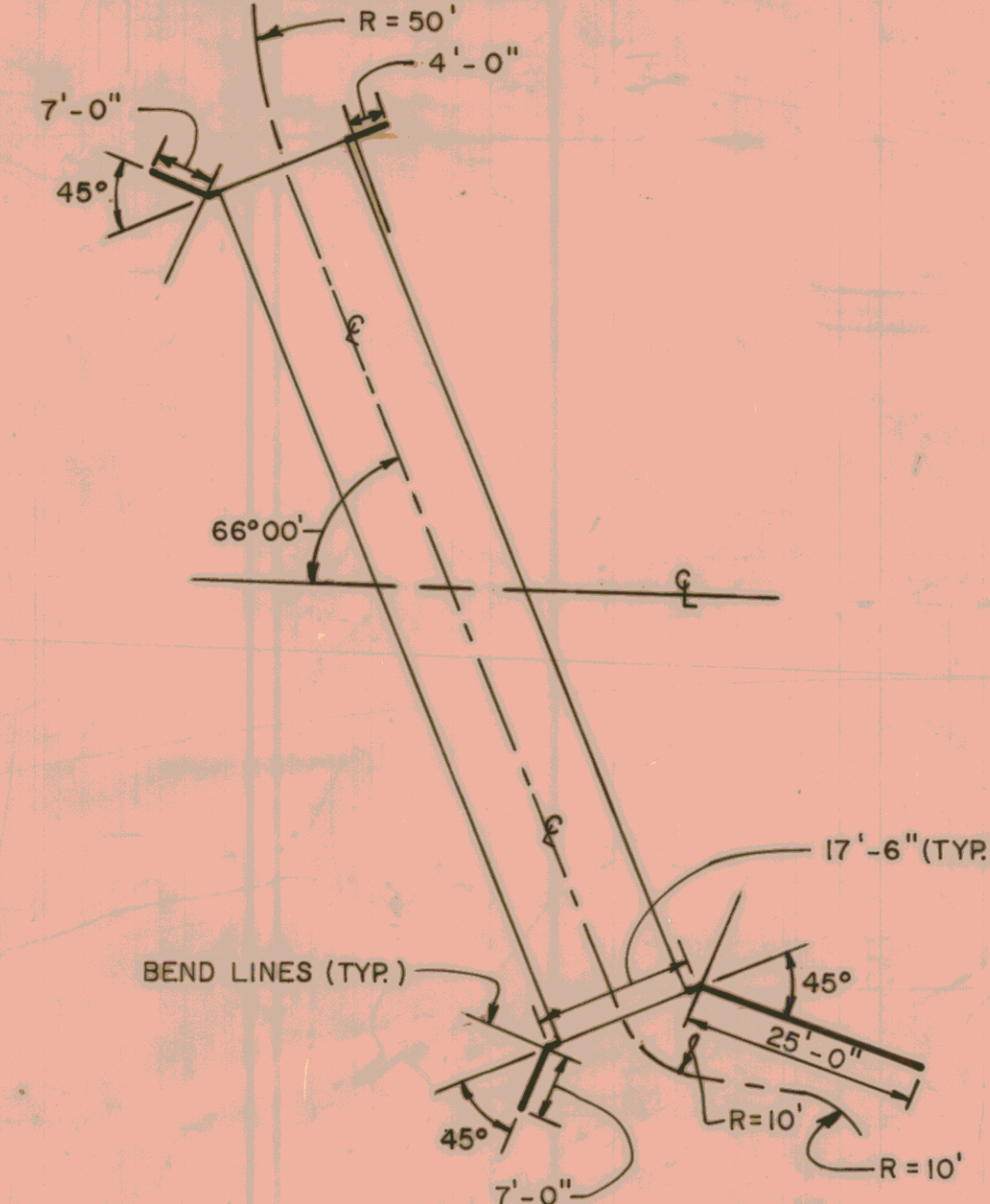


BEAVER MEADOW BROOK STATION 250+68

SCALE 1" = 20'

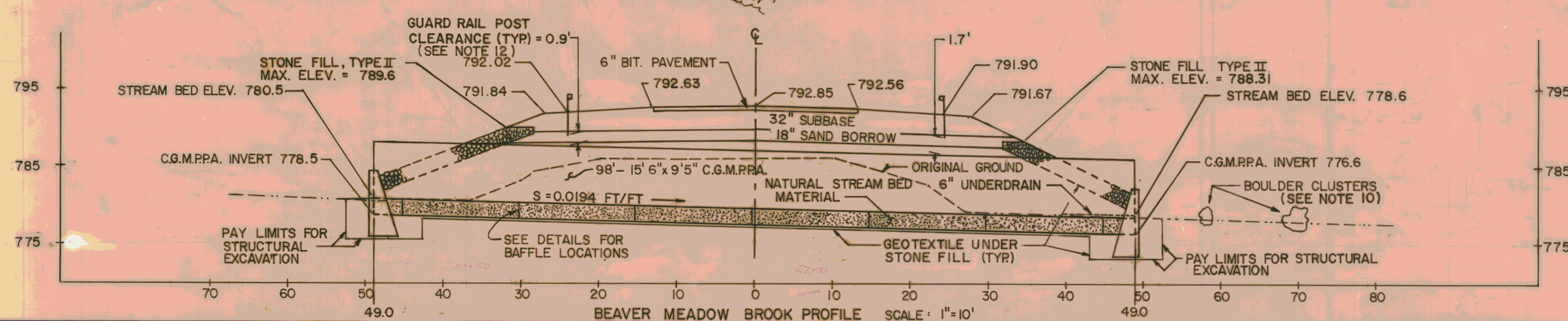


- NOTES CONT'D.
- INDIVIDUAL ROCKS WITHIN EACH BOULDER CLUSTER TO BE ANGULAR, 3-5' IN DIAMETER, AND OF IGNEOUS ORIGIN.
 - EACH CLUSTER TO CONSIST OF 3 TO 5 BOULDERS PLACED IN AN OPEN DIAMOND OR TRIANGULAR PATTERN IN THE AREA INDICATED ON THE PLANS.
 - EACH BOULDER WILL BE BURIED 1/3 OF THE HEIGHT, HEIGHT BEING ITS LARGEST DIMENSION.
 - ALL LOCATIONS, PLACEMENT AND MATERIALS FOR BOULDER CLUSTERS WILL BE APPROVED AND AGREED UPON BY THE ENGINEER AND THE CONTRACTOR PRIOR TO PLACEMENT.
 - TYPE AND SIZE OF TEMPORARY STRUCTURE TO BE DETERMINED BY THE CONTRACTOR AND APPROVED OF BY V.A.O.T. PRIOR TO PLACEMENT. TEMPORARY STRUCTURE WILL TRAVERSE BROOK NORMAL TO CHANNEL WITH A MINIMUM SPAN OF 30', MINIMUM WATERWAY AREA OF 45 SF, AND A MINIMUM SUPERSTRUCTURE ELEV. OF 781.0.



WING WALL DETAILS
N.T.S.

- ATTENTION SHOULD BE PAID BY THE CONTRACTOR IN INSTALLING (DRIVING) GUARD RAIL POSTS WITHIN LIMITS OF PROPOSED CULVERT. ADEQUATE POST CLEARANCE HAS BEEN SUPPLIED FOR THE MAX. DEPTH. FOR POST DETAILS, SEE V.A.O.T. STANDARD SHEET 6-1.



HYDRAULIC DATA

DRAINAGE AREA =	2.72	SQ. MI.	DESIGN FLOW Q 50	
Q ₁₀ =	400	C.F.S.	Q ₁₀ HEADWATER ELEVATION =	787.1
Q ₂₅ =	500	C.F.S.	Q ₂₅ HEADWATER ELEVATION =	788.1
Q ₅₀ =	650	C.F.S.	Q ₅₀ HEADWATER ELEVATION =	789.7
Q ₁₀₀ =	800	C.F.S.	Q ₁₀₀ HEADWATER ELEVATION =	791.7
TAILWATER DEPTH AT Q 50 =	3.5	FEET, ELEVATION		782.1
OUTLET VELOCITY AT Q 50 =	11.7	FEET PER SECOND		
ORDINARY HIGHWATER DEPTH	3.0	FEET		
COMMENTS:	OVERTOPPING FREQUENCY EXCEEDS Q ₁₀₀			

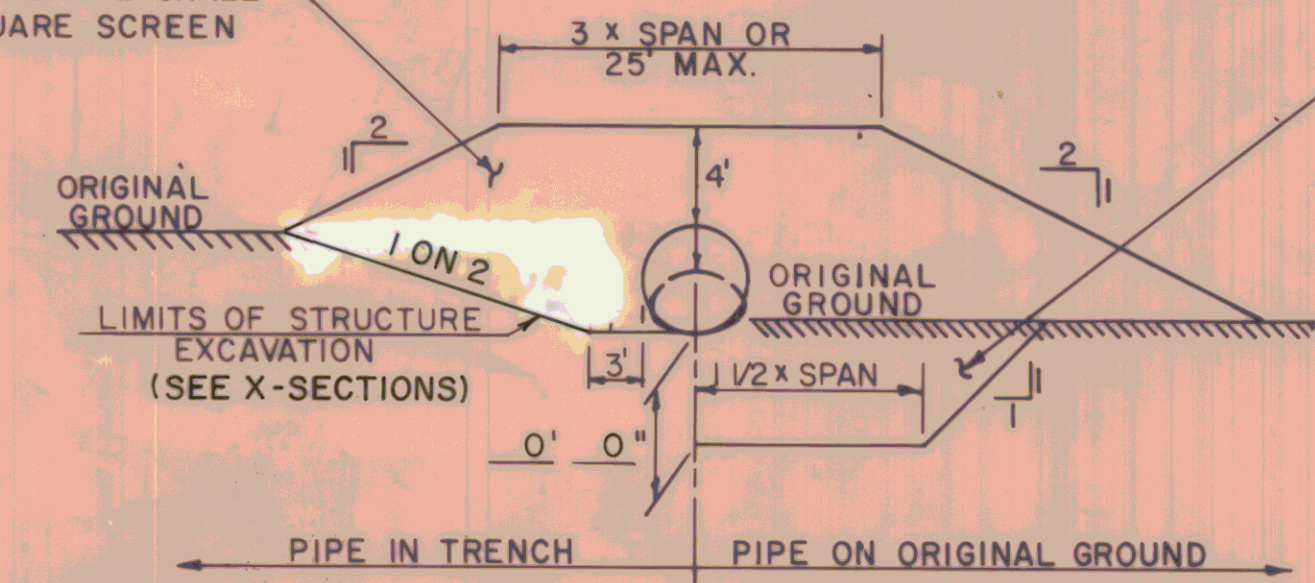
DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

	STEEL	STEEL	ALUMINUM
CORRUGATIONS	6" x 2"		
SIZE OF PIPE OR PIPE ARCH	15'-6" x 9'-5" CGMPPA		
WATERWAY AREA (S.F.)	89.95		
PLATE THICKNESS (COATED)	0.109		
BOLT SIZE	3/4" DIA.		
WEIGHT PER LINEAR FOOT	280 lbs./ft.		
TOTAL WEIGHT	27,440 lbs.		

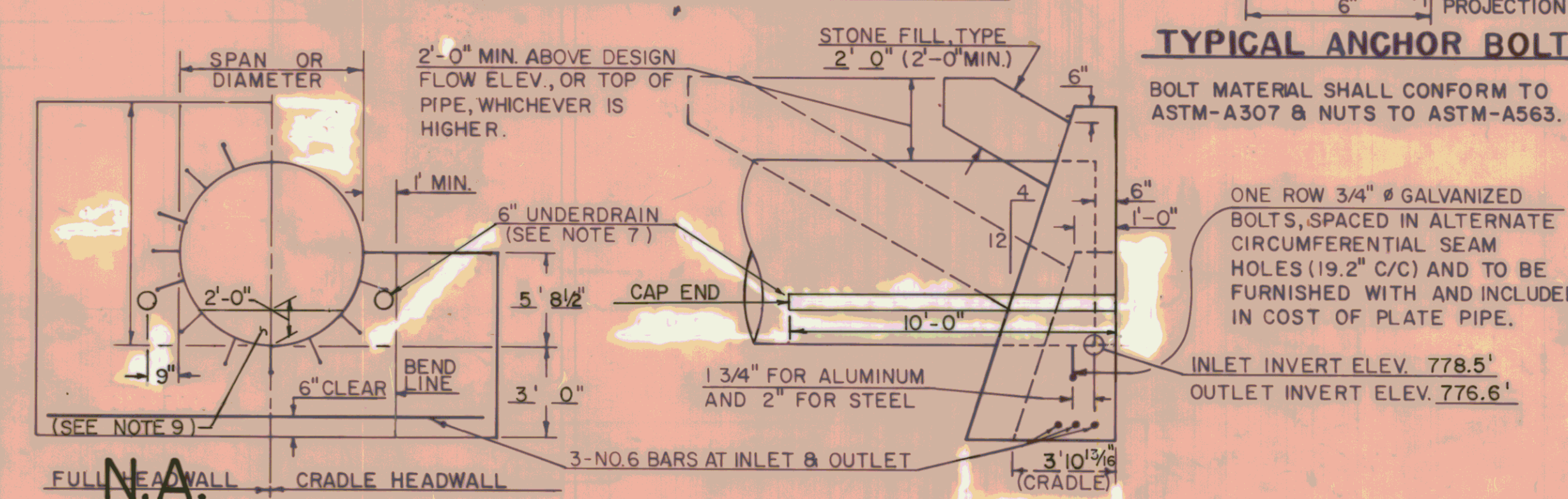
NOTES

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-20 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 711.01. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.
- PIPE IS TO BE FILLED WITH 2'-0" OF NATURAL STREAM BED MATERIAL.
- FILLED INVERT FOR C.G.M.P.P.A. TO BE NATURAL STREAM BED MATERIAL APPROVED OF AND PLACED AS DIRECTED BY ENGINEER.

ALL GRANULAR BORROW MATERIAL WITHIN 4' OF THE PIPE SHALL PASS A 3" SQUARE SCREEN OPENING.



TYPICAL BACKFILL SECTION



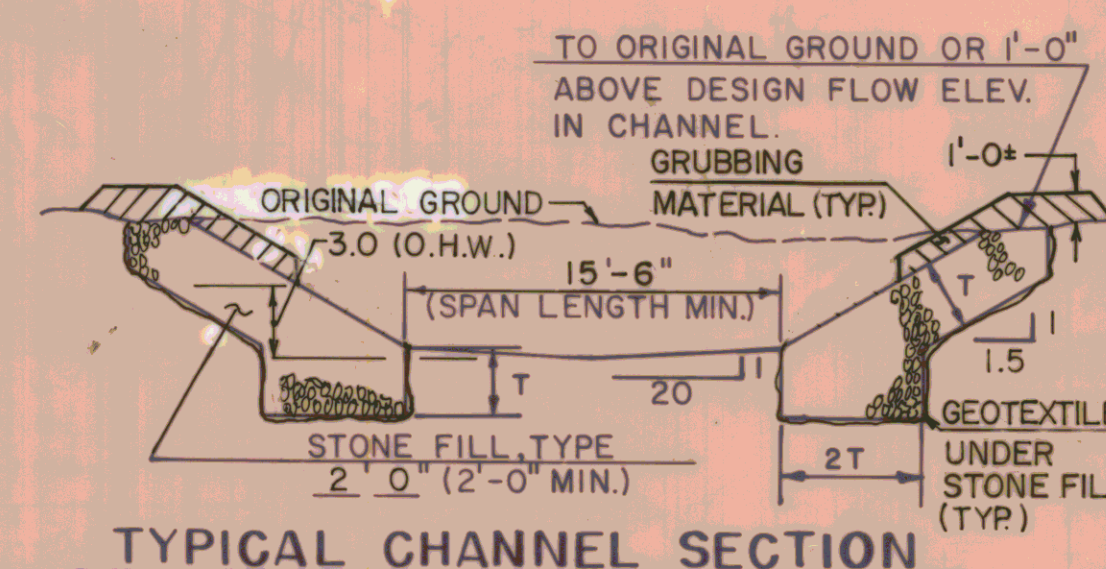
HEADWALL DETAILS

REINFORCING STEEL SCHEDULE

NO.	PIECES	SIZE	LENGTH	MARK	TYPE
203.16	3	6	28'-6"	5W601	STR.
203.25	3	6	49'-6"	5W602	STR.

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL
203.16	SOLID ROCK EXCAVATION	CY	36	
203.25	CHANNEL EXCAVATION OF EARTH	CY	61	
204.25	STRUCTURE EXCAVATION	CY	1233	
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY	80	
501.25	CONCRETE, CLASS B	CY	51	
506.60	STRUCTURAL STEEL (BAFFLES)	LBS.	6,556	
507.15	REINFORCING STEEL	LBS.	347	
511.16120	15'-6" x 9'-5" C.G.M.P.P.A. (0.109)	EACH	1	
613.11	STONE FILL, TYPE II	CY	115	
613.12	STONE FILL, TYPE III	CY	40	
649.31	GEOTEXTILE UNDER STONE FILL	SY	850	
651.26	HAY BALES FOR EROSION CONTROL	EACH	120	
203.02	GRANULAR BORROW (EST.)	CY	395	



TYPICAL CHANNEL SECTION

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF	MARSHFIELD	Bridge No.	
HIGHWAY NO.	U.S. RTE. 2	Log Sta.	
		Surv. Sta.	250+68
			BEAVER MEADOW BROOK - BR-120
			REV. @ STA. 250+68
Designed by	SMB	Drawn by	SJB
Checked by		Bridge Design Supervisor	
	date		date
PROJECT	U.S. ROUTE 2 - MARSHFIELD	PROJECT NO.	FEGC F028-3(28)
Bridge Sheet No.	2	Sheet	339 of 352

REV. 3/24/87