

NOTES

- GENERAL**
- DIMENSIONS ARE GIVEN IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - A PERMANENT LOW LEVEL CROSSING IS APPROPRIATE AS AN INEXPENSIVE CROSSING FOR USE ON TRAILS AND UNDEVELOPED ROAD ALLOWANCES WHERE THE DAILY TRAFFIC VOLUMES ARE LESS THAN 40 VEHICLES PER DAY. IT IS PERMANENT IN THE SENSE THAT IT SHOULD HAVE A USEFUL LIFE IN EXCESS OF 10 YEARS WITHOUT WASHING OUT OR REQUIRING MAJOR REPAIRS. ALL LOW LEVEL CROSSINGS ARE MEANT FOR LOW VOLUME, LOW SPEED TRAVEL AND MAY NOT BE OPEN YEAR ROUND DUE TO FLOODING, ICING, OR SEVERE WEATHER.
 - THIS DRAWING PROVIDES GENERAL INFORMATION ONLY. IT WILL BE SUPPLEMENTED WITH/OR SUPERSEDED BY DETAILS IN THE BRIDGE AUTHORIZATION AND WHERE NECESSARY BY SPECIAL PROVISIONS, DESIGN DRAWINGS, CULVERT ASSEMBLY DRAWINGS, AND ENVIRONMENTAL PERMITS OR LICENSES.
 - TO ENSURE FISH PASSAGE CONSULT WITH FISH & WILDLIFE DIVISION PRIOR TO FINALIZING DESIGN.
 - CULVERT ASSEMBLY AND GRANULAR MATERIAL SPECIFICATION TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF DWG. S-1618.
 - INSTALLATION OF LARGE STEEL PIPES SECTION 21 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - CONTACT THE ENGINEER IF ADDITIONAL DIRECTION IS REQUIRED.
- CONCRETE**
- AFTER PIPE HAS BEEN COMPLETELY BACKFILLED, CONCRETE SHOULDER TO BE POURED IN ONE CONTINUOUS POUR STARTING FROM THE CUT-OFF WALL.
 - ALL REINFORCING BARS TO HAVE A MINIMUM OF 50 mm COVER UNLESS SHOWN OTHERWISE.
 - ALL LAP SPICES TO BE MINIMUM OF 30 TIMES THE BAR DIAMETER. WELDING OF REINFORCEMENT IS NOT PERMITTED.
 - ALL REINFORCING STEEL SHALL BE GRADE 400 UNLESS NOTED OTHERWISE.
 - REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CSA STANDARD G30.12M "BILLET STEEL FOR CONCRETE REINFORCEMENT".
 - DIAMETERS OF ALL BENDS SHALL CONFORM TO THE RECOMMENDED SIZES DETAILED IN THE REINFORCING STEEL INSTITUTE OF ONTARIO MANUAL OF STANDARD PRACTICE AND METRIC SUPPLEMENT FOR DETAILING REINFORCED CONCRETE STRUCTURES.
 - REFER TO THE CURRENT VERSION OF B352 "REINFORCEMENT" SECTION 5 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - ALL CONCRETE SHALL BE CLASS "B", STRENGTH REQUIREMENT 25 MPa AT 28 DAYS.
 - CAST-IN-PLACE CONCRETE SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF B351 "CAST-IN-PLACE CONCRETE" SECTION 4 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS.
 - CONCRETE SLAB TO BE GIVEN A BROOM FINISH AT 45° TO THE CENTRELINE OF THE ROAD.
 - ALL OUTSIDE EDGES ARE TO BE SHAPED WITH A CONCRETE EDGER.
 - CONCRETE SLAB TO BE COVERED WITH A CURING MEMBRANE UPON COMPLETION OF POUR.
 - FORMS ARE TO BE LEFT IN PLACE FOR A MINIMUM OF 24 HOURS FOLLOWING POUR.
- HEAVY ROCK RIPRAP**
- HEAVY ROCK RIPRAP SHALL COVER THE AREA SHOWN ON THE DRAWING PROVIDED AND SHALL BE PLACED TO THE FOLLOWING MINIMUM THICKNESS:

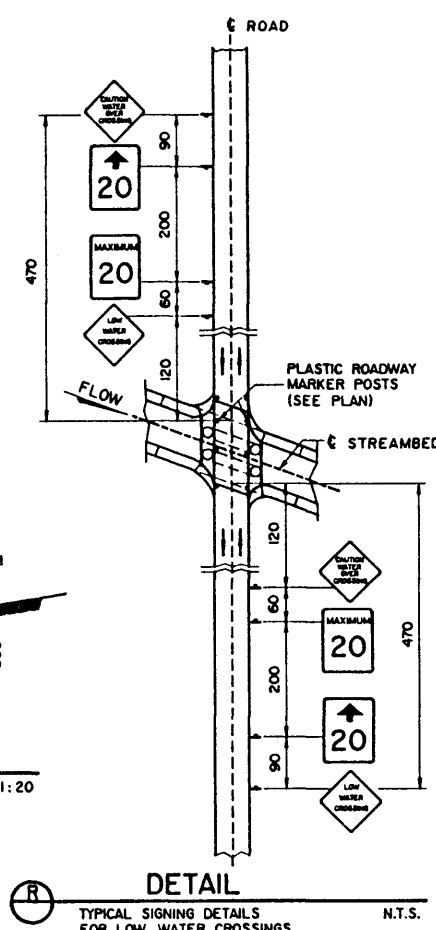
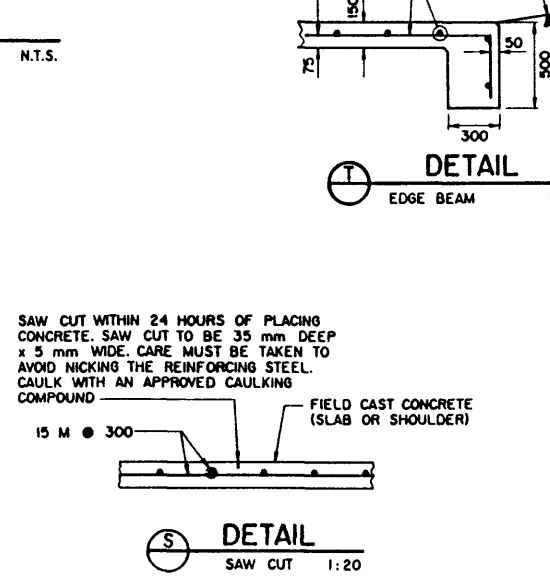
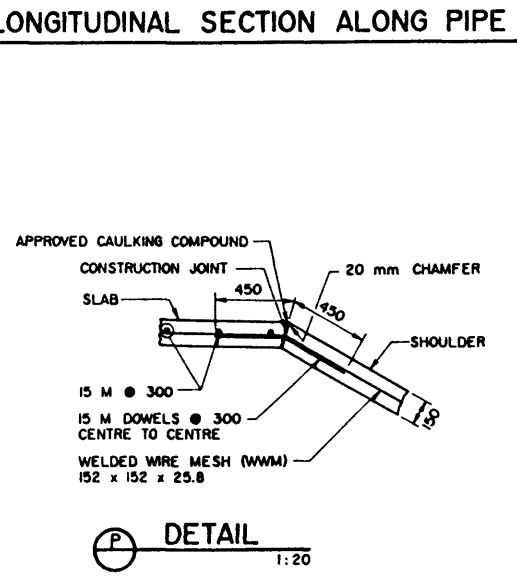
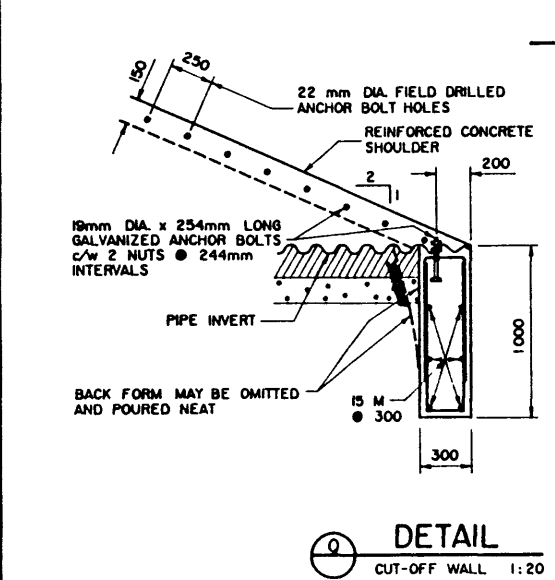
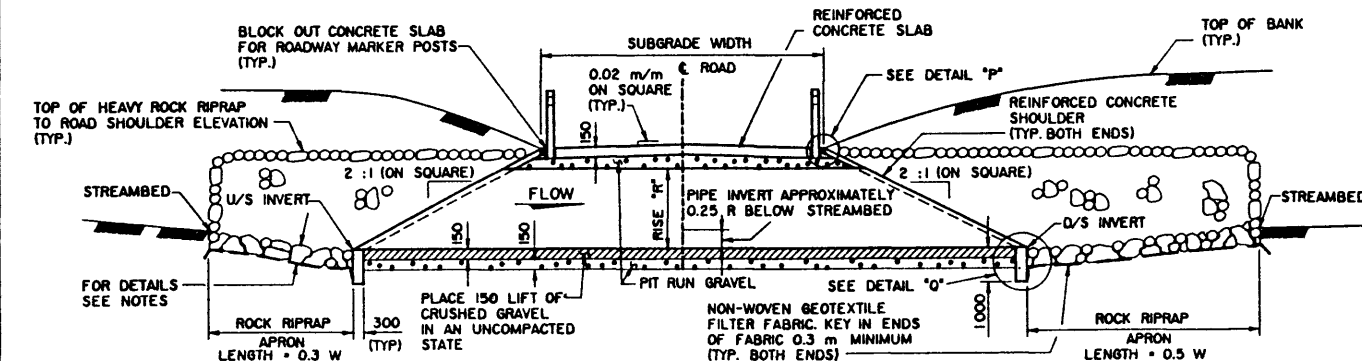
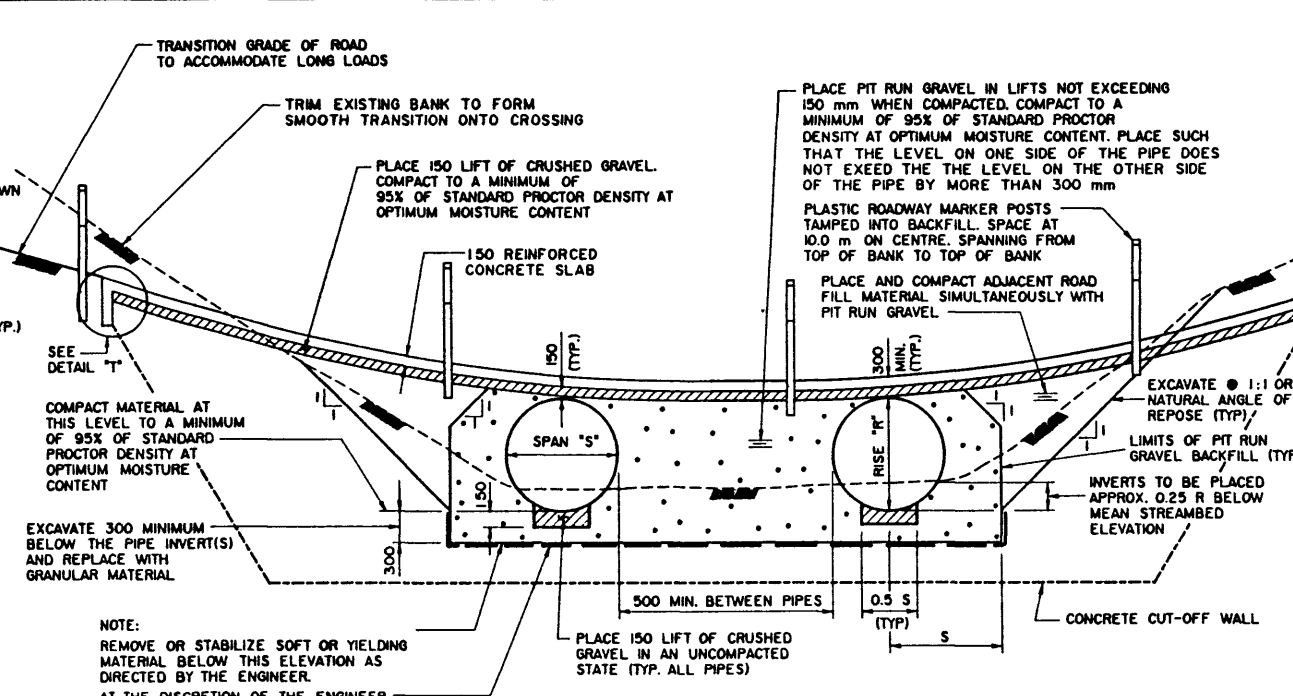
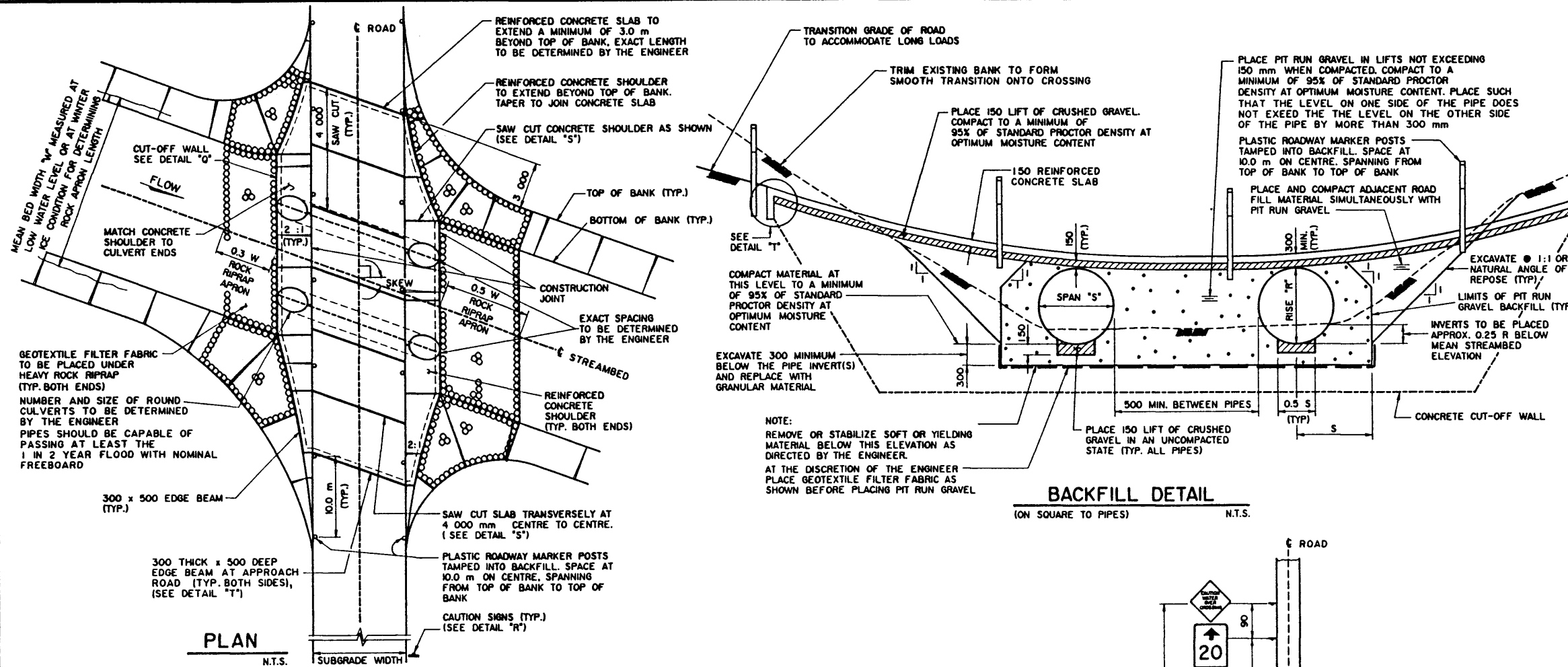
CLASS OF ROCK	1M	1	2	3
THICKNESS (mm)	300	450	800	1100
OUTLET VELOCITY (m/s)	<2.0	<3.0	<4.0	<4.7

- REFER TO THE CURRENT VERSION OF B354 "HEAVY ROCK RIPRAP" SECTION 10 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PLACE APPROVED NON-WOVEN GEOTEXTILE FILTER FABRIC UNDER HEAVY ROCK RIPRAP.

GRANULAR MATERIAL SHALL MEET THE FOLLOWING GRADATION SPECIFICATIONS:

PIT RUN GRAVEL DESIGNATION 6, CLASS 80		CRUSHED GRAVEL DESIGNATION 2, CLASS 40	
µm SIEVE SIZE	% BY WEIGHT PASSING	µm SIEVE SIZE	% BY WEIGHT PASSING
80 000	100%	40 000	100%
50 000	55 - 100	16 000	55 - 85
25 000	38 - 100	10 000	44 - 74
16 000	32 - 85	5 000	32 - 62
5 000	20 - 65	1 250	17 - 43
315	6 - 30	630	12 - 34
80	2 - 10	315	8 - 26
		160	5 - 18
		80	2 - 10

- FOR CRUSHED GRAVEL "DESIGNATION 2, CLASS 40" - 50% OR MORE OF THE MATERIAL RETAINED ON THE 5000 (#4) SIEVE SHALL HAVE ONE OR MORE CRUSHED FACES.



REV	DATE	REVISIONS	BY
DESIGNED	M.E.K.		
DRAWN	H.W.M.		
DATE	92-08-10	CHECKED	C.T.C.
DATE	92-10-03		

APPROVED
[Signature]
 EXECUTIVE DIRECTOR
 BRIDGE ENGINEERING
 DATE OCT 15, 1992

Alberta TRANSPORTATION AND UTILITIES
 REGIONAL TRANSPORTATION

PERMANENT LOW LEVEL CROSSING

DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY	FILE	SHEET	DRAWING
M.E.K.	H.W.M.	92-08-10	C.T.C.	92-10-03					1 of 1	S-1615