

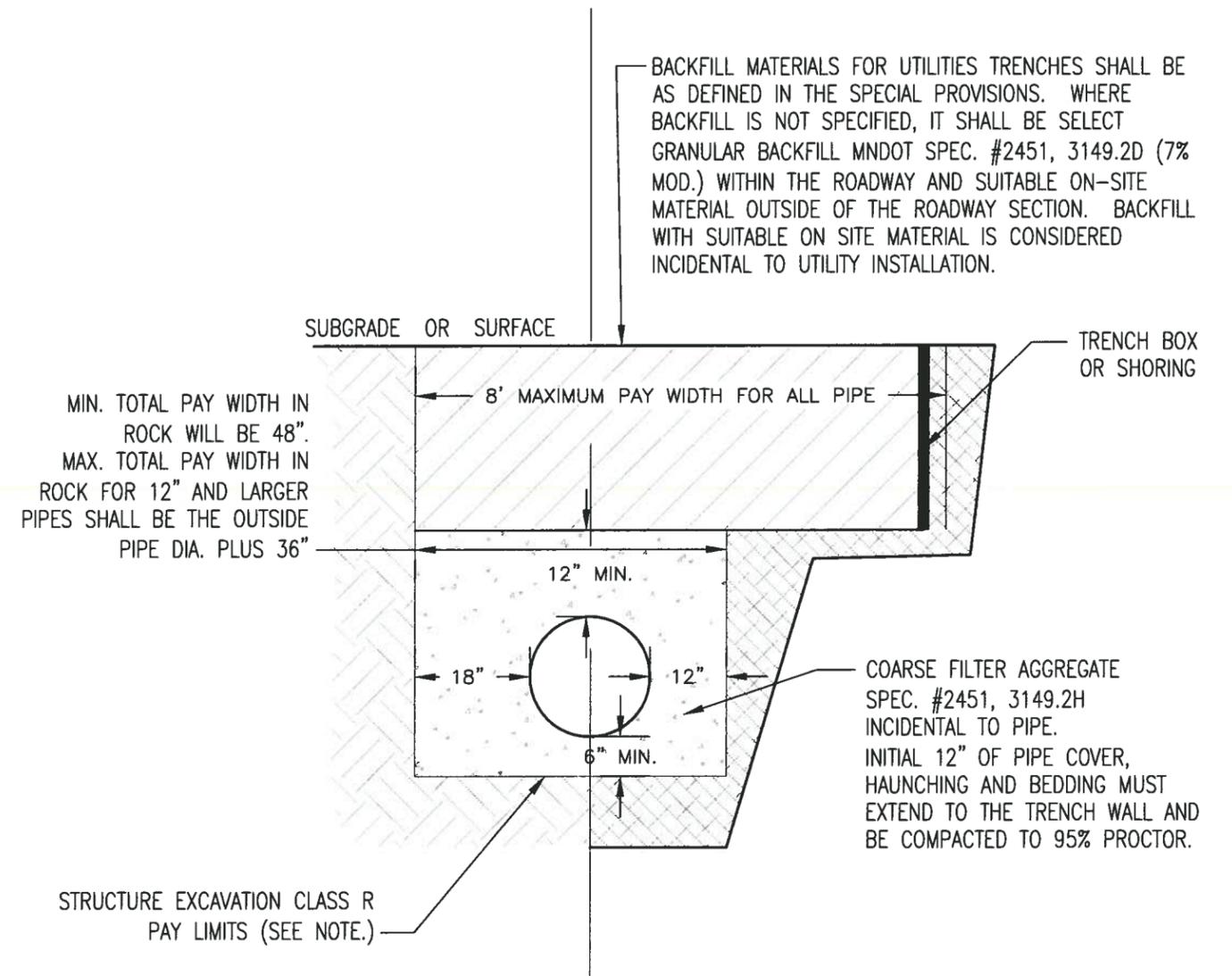


108TH AVE WEST CULVERT REPLACEMENT

1. REMOVE EXISTING CULVERT
2. PROVIDE +/- 85 L.F. 60" DIAMETER CMP (10 GAUGE) AT 2.71% SLOPE
3. PROVIDE END APRONS FOR BOTH INLET AND OUTLET - NOT INCLUDED IN CULVERT LENGTH.
4. PROVIDE 45 C.Y. OF CLASS IV RIPRAP AT INLET. PLACE 2.5' DEPTH OF RIPRAP ON GEOTEXTILE FABRIC TYPE VI.
5. PROVIDE 20 C.Y. OF CLASS IV RIPRAP AT THE SIDES AND ABOVE THE OUTLET END APRON. PLACE 2.5' DEPTH OF RIPRAP ON GEOTEXTILE FABRIC TYPE VI.
6. PROVIDE 45 C.Y. OF CLASS V RIPRAP BELOW THE OUTLET END APRON, PLACE 3' DEPTH OF RIPRAP ON GEOTEXTILE FABRIC TYPE VI.
7. PIPE BEDDING PER CITY SPECIFICATIONS - STANDARD DETAIL EX-3.
8. PROVIDE COHESIVE SOIL ANTI-SEEP PLUG 7.5' FROM END OF PIPE ON UPSTREAM END. ANTI-SEEP PLUG SHALL BE 5' IN LENGTH AND EXTEND TO THE EDGE OF THE PIPE TRENCH ON BOTH SIDES AND BELOW THE PIPE, AND EXTEND 5' ABOVE THE PIPE. MANUFACTURED METAL ANTI-SEEP COLLAR MAY BE USED AS AN EQUIVALENT.
9. THE ROAD SHALL BE RESTORED TO ITS EXISTING WIDTH AND SHALL INCLUDE 4" OF BITUMINOUS PAVEMENT (2 - 2" LIFTS), PLACED ON 2' COMPACTED DEPTH OF MNDOT CLASS 5 AGGREGATE, SPEC. 2211, PLACED OVER GEOTEXTILE FABRIC TYPE V.
10. EXCAVATED MATERIAL SHALL BE USED AS BACKFILL BELOW THE ROAD SECTION AND ABOVE THE PIPE BEDDING SECTION.
11. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY NOT RECEIVING PAVEMENT OR RIPRAP SHALL BE RESTORED USING EROSION CONTROL BLANKET CAT. 4 AND MNDOT SEED MIX 250.
12. CONTRACTOR SHALL PROVIDE A PLAN OF PUMPING OR BYPASSING THE CREEK FLOWS AROUND THE SITE DURING THE INSTALLATION OF THE NEW CULVERT.
13. CONTRACTOR SHALL PROVIDE EROSION CONTROL BMPs TO PREVENT SEDIMENT TRANSPORT FROM THE CONSTRUCTION SITE. MEASURES SHALL INCLUDE BUT NOT LIMITED TO BMPs TO PREVENT SEDIMENT TRANSPORT INTO THE STREAM AND TRACKING SOIL ON TO THE LOCAL ROADS
14. STREAM TO BE RE-ROUTED AT INLET TO ALIGN WITH INLET END APRON.

ROCK SECTION

UNDISTURBED GROUND SECTION



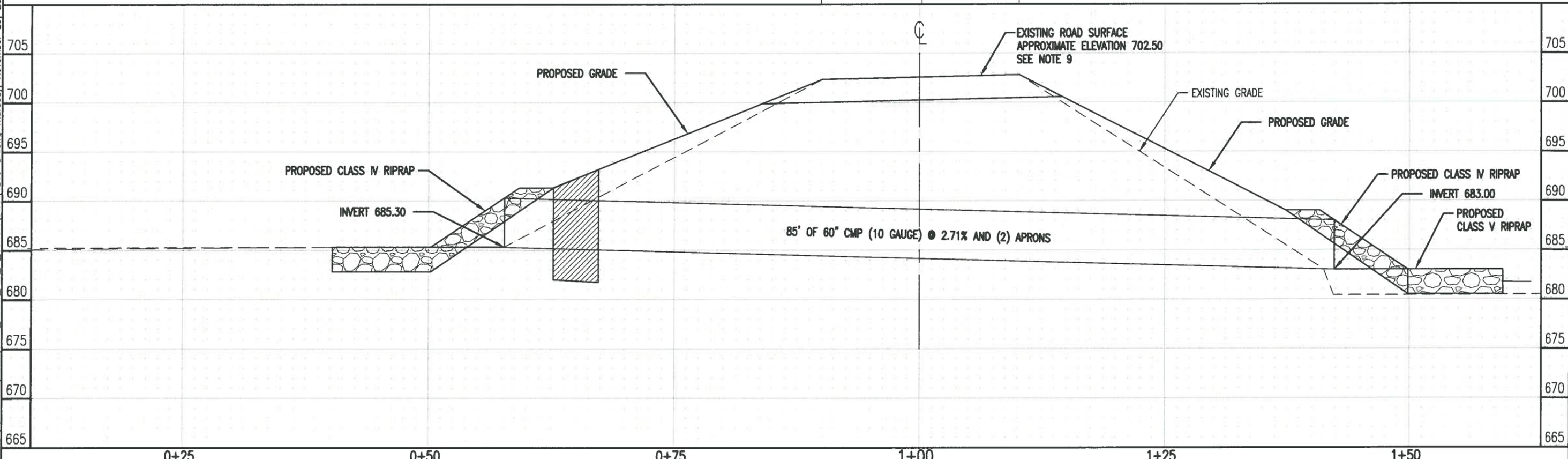
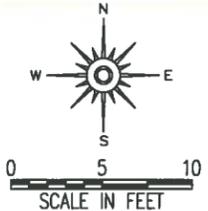
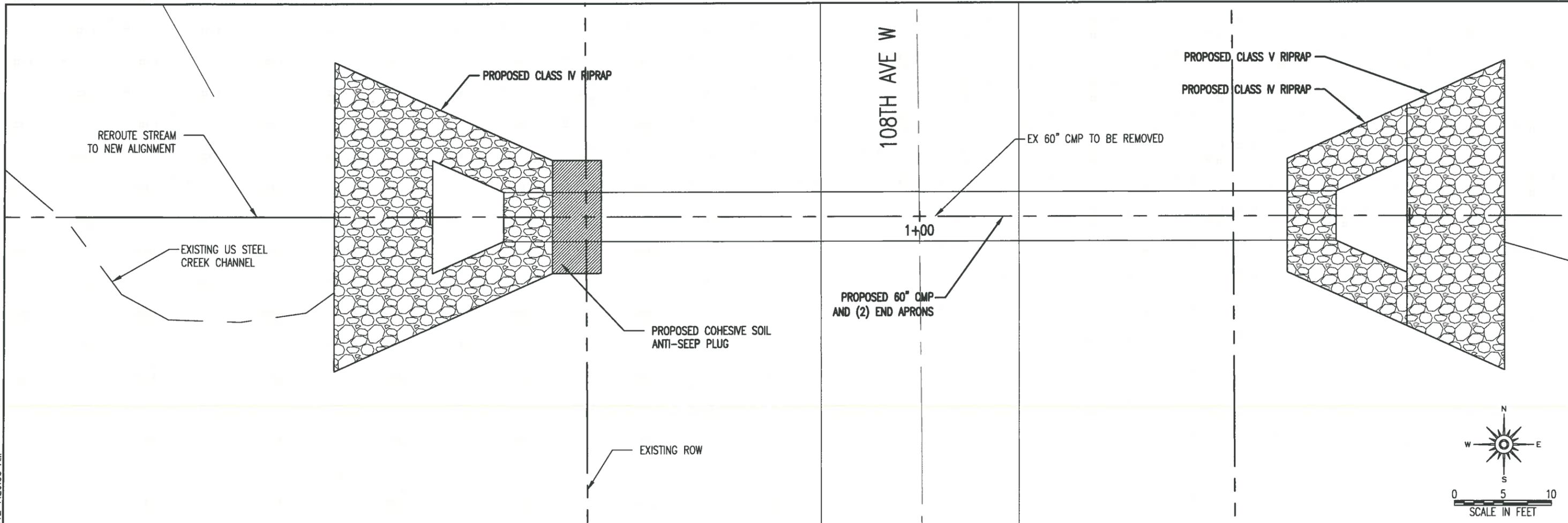
NOTES:

1. TRENCH STABILIZATION MATERIAL MAY BE USED IN AREAS AS DETERMINED BY THE ENGINEER.
2. A MIN. OF 1 CU. YD. OF STRUCTURE EXCAVATION, CLASS R, WILL BE PAID FOR EVERY 10' OF PIPE WHERE ROCK REMOVAL IS REQUIRED.
3. EXCESS EXCAVATION MATERIAL SHALL BE DISPOSED OF OFF PROJECT R.O.W. (INCIDENTAL)
4. WHERE UTILITIES ARE INSTALLED IN ROCK TRENCHES OUTSIDE OF THE ROADWAY, THE CONTRACTOR SHALL PROVIDE COMMON BORROW MATERIAL TO SUPPLEMENT SUITABLE ON SITE BACKFILL MATERIALS AS NECESSARY. COMMON BORROW MATERIAL IS INCIDENTAL TO STRUCTURE EXCAVATION, CLASS R. REFER TO SPECIFICATIONS FOR RESTRICTIONS ON COMMON BORROW MATERIALS.

EX-3 PVC AND CORRUGATED POLYETHYLENE SEWER PIPE BEDDING DETAIL

CERTIFIED BY: THOMAS A. JOHNSON	REG. NO.: 46744		108TH AVE W CULVERT REPLACEMENT	DRAWN BY: KLB
SIGNATURE: _____	DATE: _____		CITY OF DULUTH	NOTES
			CITY PROJECT NO.: 1260	STATE AID PROJECT NO.:
				SHEET NO. 2 OF 3

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CERTIFIED BY: <b>THOMAS A. JOHNSON</b>				REG. NO.: <b>46744</b>				<b>108TH AVE W CULVERT REPLACEMENT</b>				DRAWN BY: <b>KLB</b>					
SIGNATURE: _____				DATE: _____				CITY OF DULUTH				<b>PLAN &amp; PROFILE</b>					
CITY PROJECT NO.: <b>1260</b>						STATE AID PROJECT NO.:						SHEET NO. <b>3</b> OF <b>3</b>					