



**Public Works and
Government Services
Canada**

**Travaux publics et
Services gouvernementaux
Canada**

REAL PROPERTY SERVICES
Pacific Region

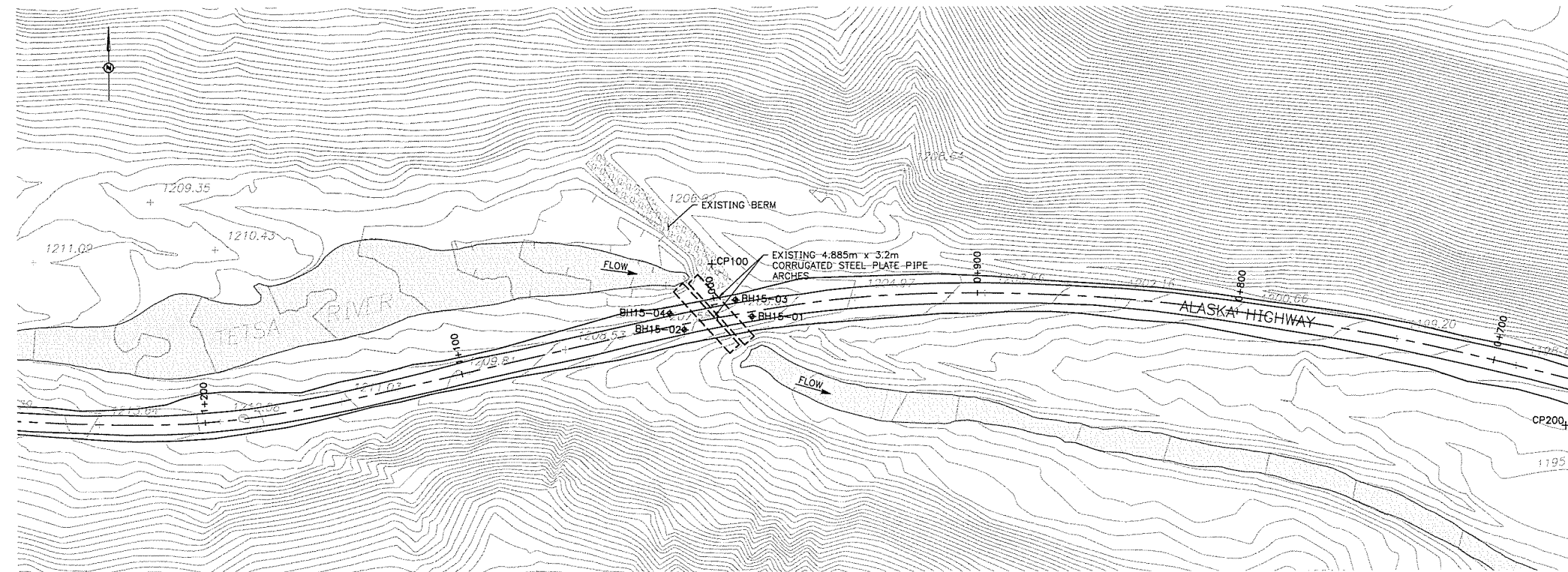
SERVICES IMMOBILIERS
Région de Pacifique

**NORTH TETSA CREEK REPLACEMENT
3000x3000 TWIN CONCRETE
BOX-BRIDGE CULVERT**

**km 595.3 ON THE ALASKA HIGHWAY
BRITISH COLUMBIA**

PROJECT No. R.017173.802

MARCH 16, 2016



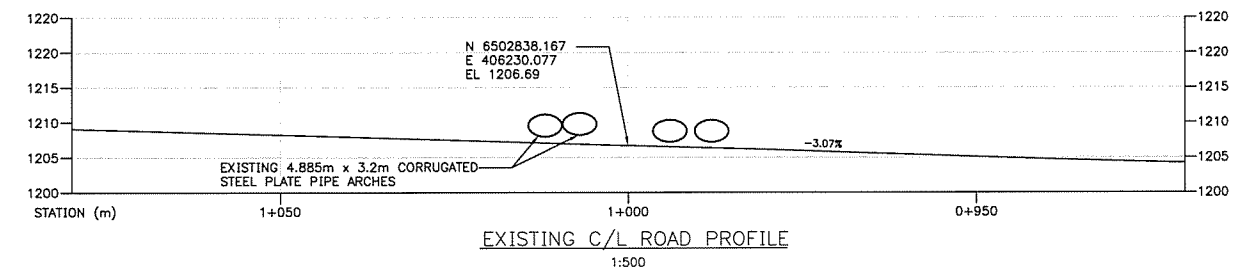
LEGEND:
 Borehole
 Control Point
 Existing Road
 Present Waterline
 Existing Riprap (May be Reused)

PLAN
1:1000

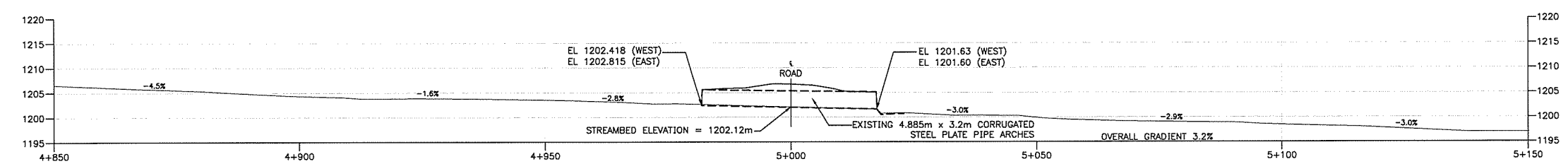
CONTROL POINTS:

	NORTHING	EASTING	ELEVATION
BCSCM 76195	6502706.606	405136.143	1255.199
BCSCM 87209	6502872.632	4707277.91	1183.760
CP100	6502858.683	406228.013	1205.833
CP200	6502796.486	406555.065	1196.605
BCSCM 59422000	6502840.027	407048.983	1188.236
BCSCM 60012000	6501603.231	402370.487	1295.810

(CONTRACTOR TO VERIFY CONTROL POINTS)



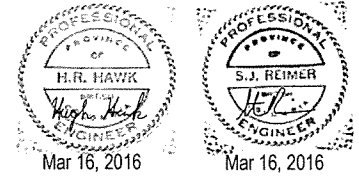
EXISTING C/L ROAD PROFILE
1:500



EXISTING CREEK PROFILE
1:500

- LIST OF DRAWINGS**
- 00 TITLE SHEET
 - 01 SITE PLAN AND PROFILES
 - 02 TEMPORARY ROAD DETOUR
 - 03 GENERAL ARRANGEMENT - PLAN
 - 04 GENERAL ARRANGEMENT - CULVERT PROFILES
 - 05 GENERAL ARRANGEMENT - BORHOLES BH15-01 AND BH15-02
 - 06 GENERAL ARRANGEMENT - BORHOLES BH15-03 AND BH15-04
- PWGSC STANDARD DRAWINGS (BOUND IN SPECIFICATIONS):
- SHEET 03A - STANDARD EMBANKMENT STRUCTURE TEMPLATE
 - SHEET 08 - TRANSITION FROM OLD TO NEW HIGHWAY
 - SHEET 09 - PRECAST CONCRETE BARRIER INSTALLATION
 - SHEET 10 - BENCHING FOR EARTH SLOPES
 - SHEET 23 - SILT FENCES

- GENERAL NOTES:**
1. DO NOT SCALE FROM DRAWING.
 2. SITE PLAN SURVEY WAS PERFORMED ON November 5, 2013 BY GENIVAR, AND CORRECTED BASED ON NEW SURVEY BY ALLNORTH.
 3. HYDROLOGICAL DATA:
 - Q100 FLOW: 39.0m³/s
 - DRAINAGE AREA: 4.3.0km²
 - Q100 STREAM VELOCITY: 3.7m/s
 4. GEOTECHNICAL INVESTIGATION REPORT '1419793-001-L-Rev0' BY GOLDERS ON February 20, 2015.
 5. STREAMBED COMPOSITION:
 - D50 = 400mm
 6. CONTOURS SHOWN AT 1.0m INTERVALS.



Revision/Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	Mar 2016

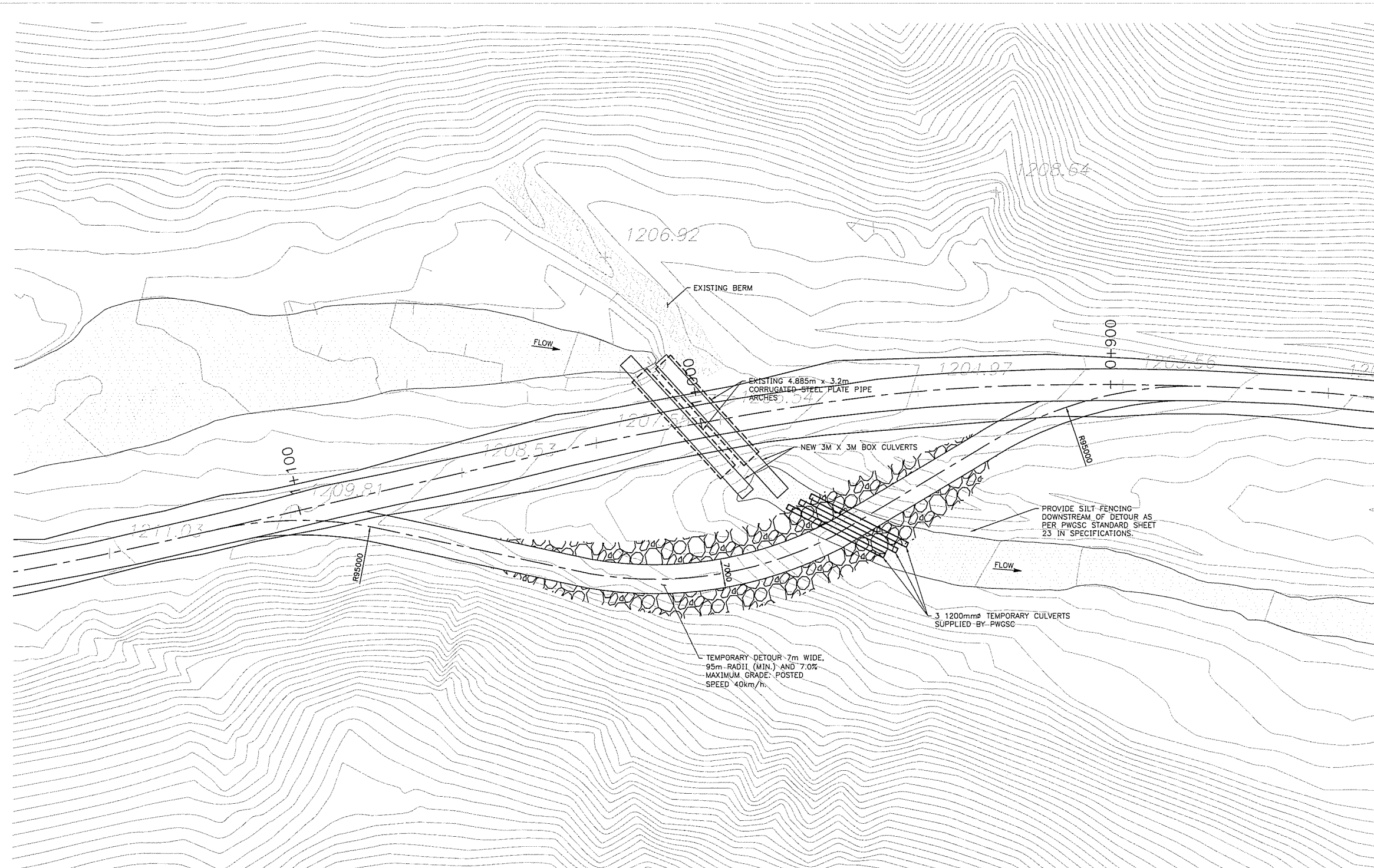
Project title/Titre du projet
 km 595.3 ON THE ALASKA HIGHWAY
 BRITISH COLUMBIA

**TETSA CREEK REPLACEMENT
 3000x3000 CONCRETE
 BOX-BRIDGE CULVERT**

Approved by/Approuvé par
 S. Reimer
 R. Trevillion
 PWGSC Project Manager/Administrateur de Projets TPSGC
 A. Taheri
 PWGSC, Architectural and Engineering Resources Manager/
 Ressources Architecturales et de Directeur d'ingénierie, TPSGC
 Client/client
 PWGSC
 Drawing title/Titre du dessin

SITE PLAN & PROFILES

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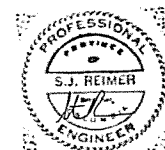
LEGEND:

- Borehole
- Control Point
- Existing Road
- Present Waterline
- Existing Riprap (May be Reused)
- New Riprap

PLAN
1:500

GENERAL NOTES:

1. DO NOT SCALE FROM DRAWING.
2. SITE PLAN SURVEY WAS PERFORMED ON November 5, 2013 BY GENIVAR.
3. HYDROLOGICAL DATA:
 - Q100 FLOW: 39.0m³/s
 - DRAINAGE AREA: 43.0km²
 - Q100 STREAM VELOCITY: 3.7m/s
4. GEOTECHNICAL INVESTIGATION REPORT '1419793-001-L-Rev0' BY GOLDERS ON February 20, 2015.
5. STREAMBED COMPOSITION:
 - D50 = 400mm
6. CONTOURS SHOWN AT 1m INTERVALS.
7. DETOUR SHOWN IS INDICATIVE ONLY. DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR
8. IF CONTRACTOR CHOOSES TO STAGE THE CULVERT REPLACEMENT, DETOUR CAN BE MOVED CLOSER TO THE CURRENT ROAD ALIGNMENT
9. CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF THE DETOUR WHILE IN OPERATION AND ALL MATERIALS SHALL BE REMOVED ONCE THE DETOUR IS DECOMMISSIONED.



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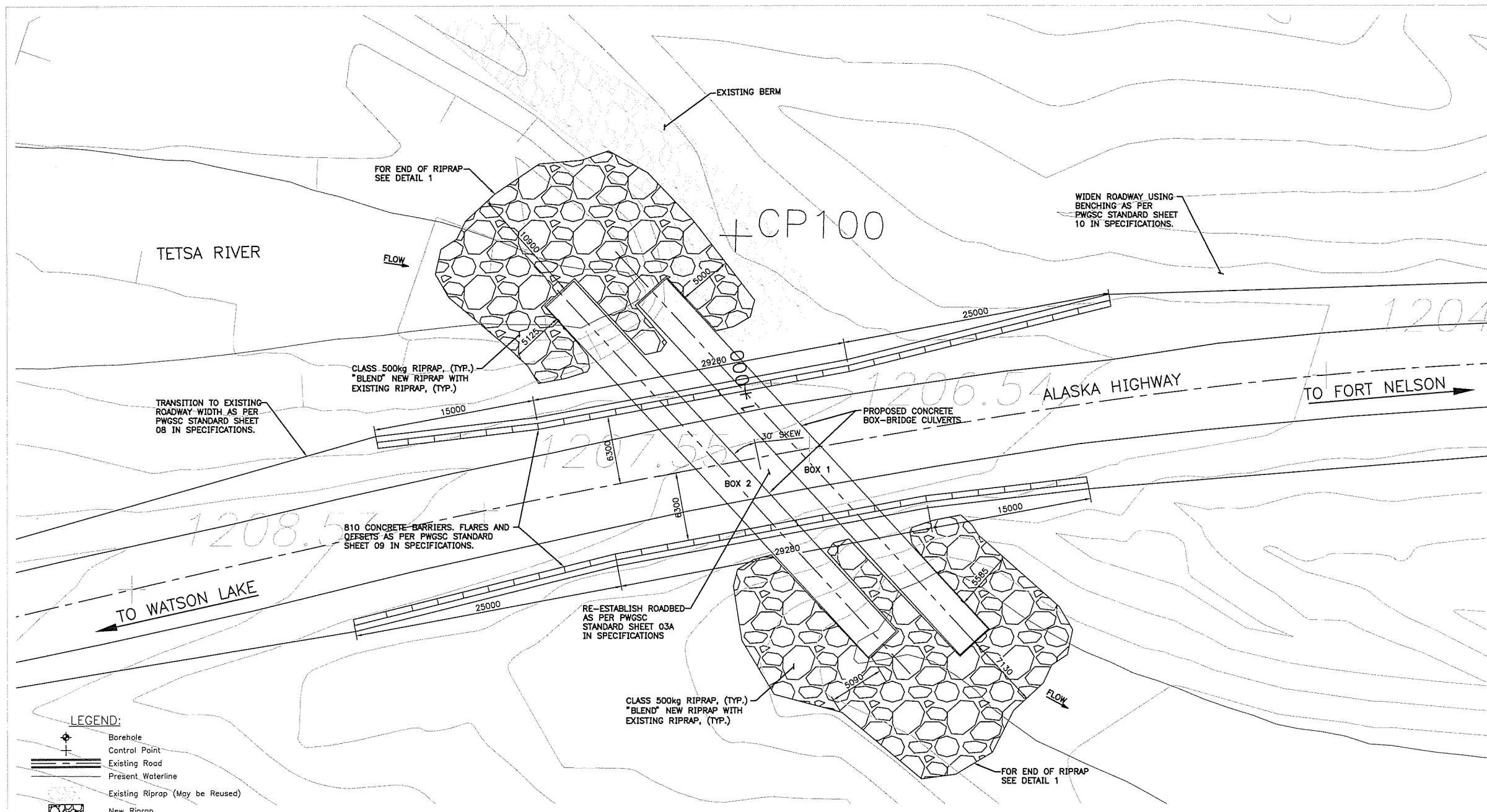
**TETSA CREEK REPLACEMENT
 3000x3000 CONCRETE
 BOX-BRIDGE CULVERT**

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 Designed by/Concepté par
 S. Reimer
 Drawn by/Dessiné par
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 PWGSC Project Manager/Administrateur de Projets TPSOC
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 Ressources Architecturales et de Directeur d'Ingénierie, TPSOC
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TEMPORARY ROAD DETOUR

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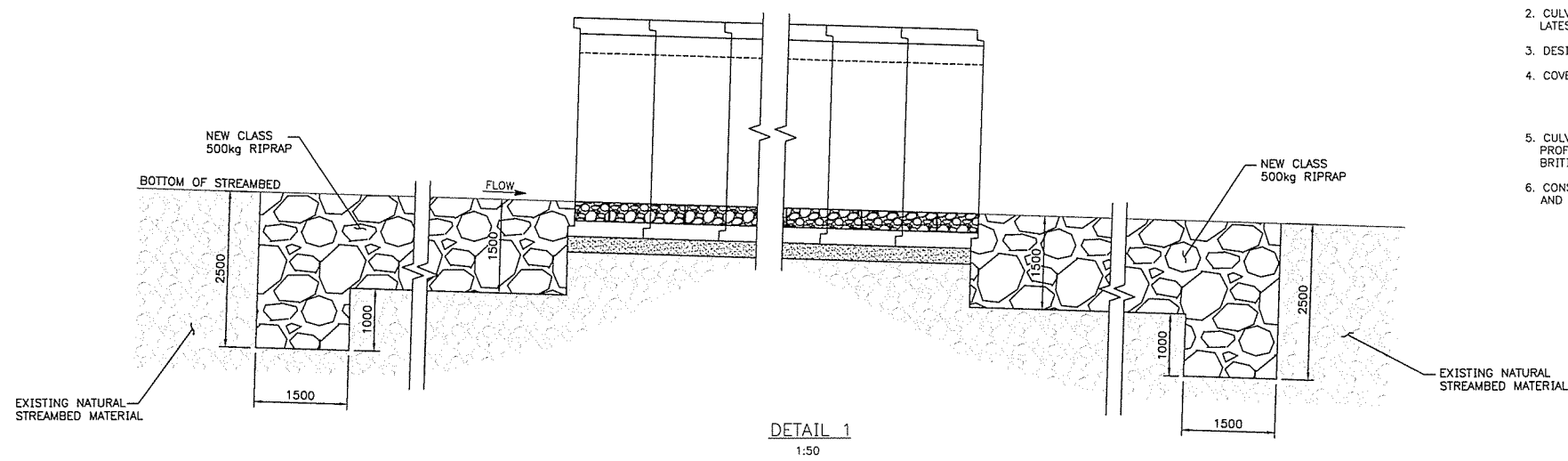




LEGEND:

	Borehole
	Control Point
	Existing Road
	Present Waterline
	Existing Riprap (May be Reused)
	New Riprap

PLAN
1:200



DETAIL 1
1:50

DESIGN BASIS

- DO NOT SCALE FROM DRAWING
- CULVERT DESIGN SHALL BE TO CHBDC CAN/CSA-S6-06 AND LATEST REVISIONS FOR A 75 YEAR DESIGN LIFE.
- DESIGN LOADING SHALL BE BCL625.
- COVER UNDER ROADWAY:
 - MAXIMUM: 2000mm
 - MINIMUM: 1300mm
- CULVERT SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.
- CONSTRUCTION SHALL CONFORM TO ASTM C1433M STANDARDS AND SUBSEQUENT REVISIONS.



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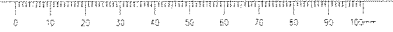
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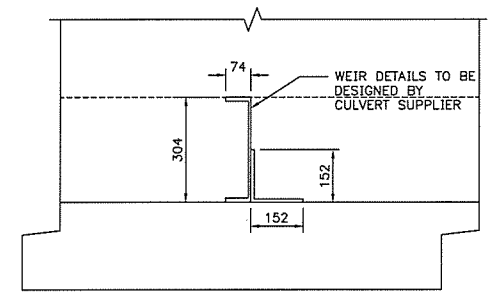
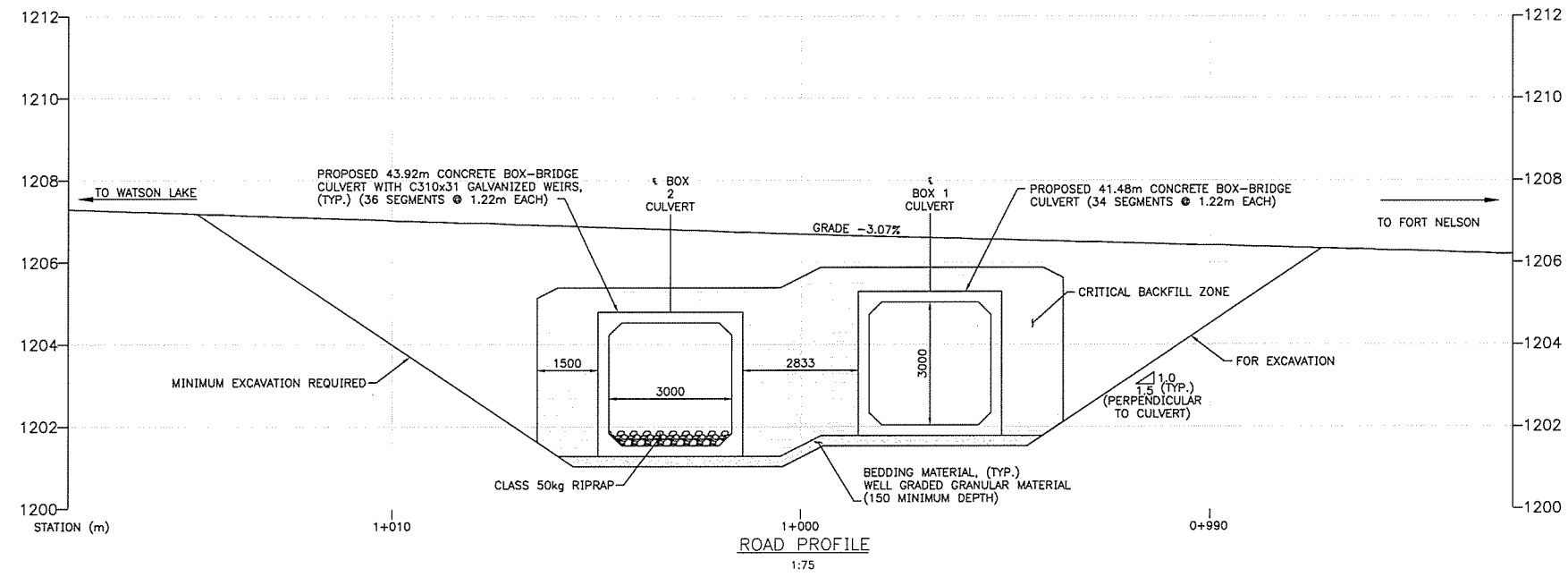
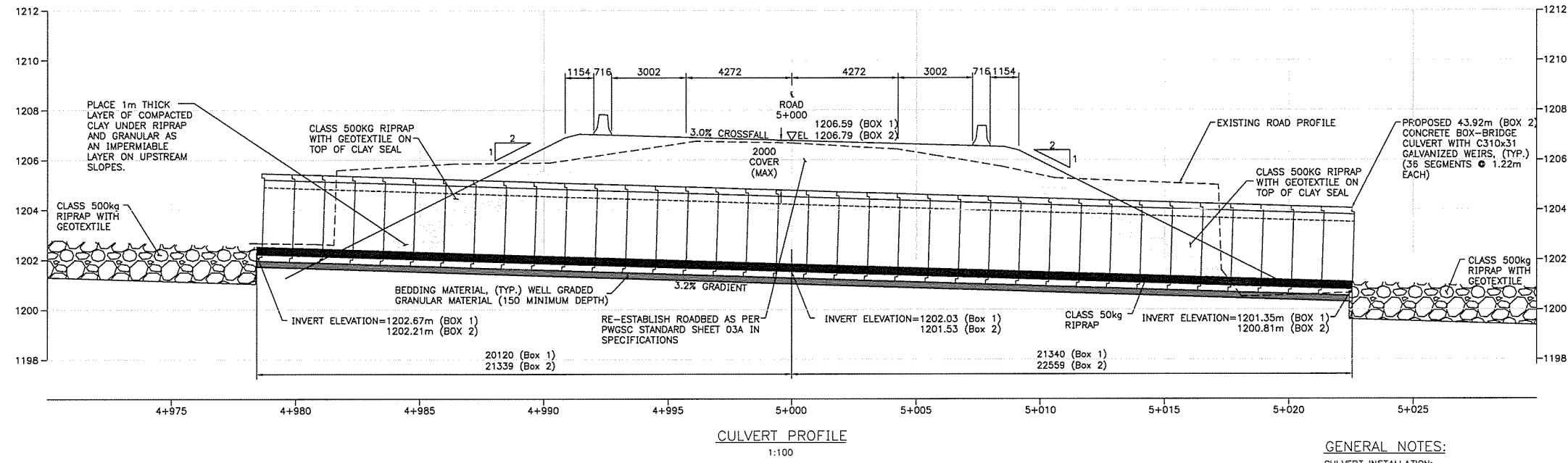
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 3000x3000 CONCRETE
 BOX-BRIDGE CULVERT**

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 Drawn by/Designé par
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 A. Taheri
 PWGSC Architectural and Engineering Resources Manager/
 Ressources Architectural et de Directeur d'Ingénierie, TP50C
 Client/client
 PWGSC
 Drawing title/Titre du dessin

**GENERAL ARRANGEMENT
 PLAN**

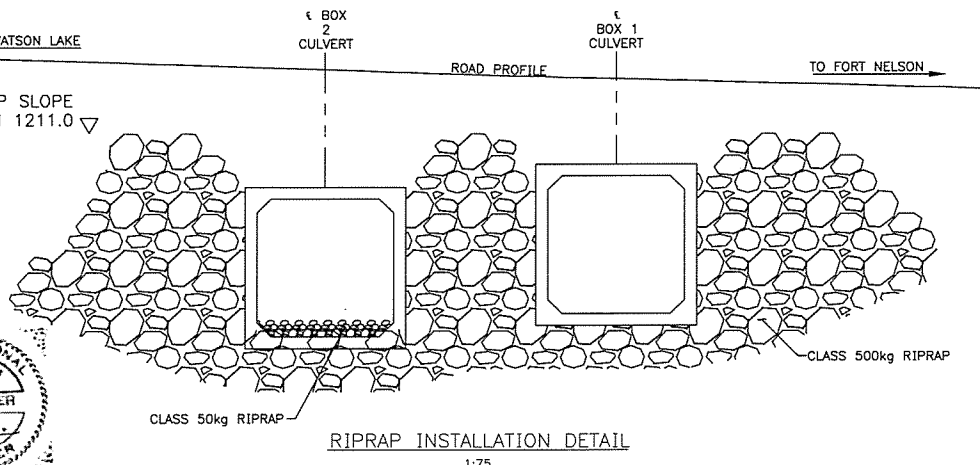
Project No./No. du projet R.017173.002	Sheet/Feuille C03 OF 6	Revision no./ La Révision no. 1
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PROFESSIONAL ENGINEER
 PROVINCE OF
 H.R. HAWK
 Mar 16, 2016

PROFESSIONAL ENGINEER
 S.J. REIMER
 Mar 16, 2016



GENERAL NOTES:

- CULVERT INSTALLATION:**
- DO NOT SCALE FROM DRAWING.
 - CONTRACTOR SHALL FOLLOW PRECASTER'S INSTALLATION REQUIREMENTS.
 - BACKFILL COMPACTION REQUIREMENTS:
 BEDDING MATERIAL: 98% SPD
 COMPACTED GRANULAR MATERIAL: 95% SPD
 WELL GRADED BACKFILL 1-1/2" MINUS MATERIAL REQUIRED
 FOR BACKFILL NO FROZEN OR DELETERIOUS MATERIAL SHALL BE PRESENT IN THE BACKFILL OR BEARING AREAS.
 - BACKFILL SHALL BE COMPLETED IN LIFTS OF 200. MAXIMUM DIFFERENTIAL FROM SIDE TO SIDE SHALL NOT EXCEED 400.
 - A 600 STRIP OF GEOTEXTILE SHALL BE PLACED TO FORM A CONTINUOUS BARRIER AROUND THE EXTERIOR OF ALL BURIED JOINTS. ALL JOINTS SHALL BE SEALED WITH ConSeal CS-231 OR APPROVED EQUIVALENT AS PER PRECASTER Installation Guideline.
 - ALL EXPOSED SOIL AREAS SHALL BE REVEGETATED USING RECLAMATION MIX SEED AND COVERED WITH STRAW IMMEDIATELY UPON COMPLETION OF CULVERT CONSTRUCTION.
 - ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.
5. ESTIMATED VOLUMES:
- | | |
|------------------------------|--------------------|
| EXCAVATION: | 2940m ³ |
| BEDDING MATERIAL: | 50m ³ |
| COMPACTED GRANULAR BACKFILL: | 3300m ³ |
6. RIPRAP SHALL BE HARD, DURABLE, ANGULAR ROCK AND IN ACCORDANCE WITH SPECIFICATION SECTION 31 37 00
- CLASS 50kg AVERAGE SIZE ROCK RIPRAP, MIN 550 THICK, WITH THE FOLLOWING ROCK GRADATION:
- | | MASS | DIAMETER |
|-----------------|-------|----------|
| 85% LARGER THAN | 5.0kg | 155φ |
| 50% LARGER THAN | 50kg | 330φ |
| 15% LARGER THAN | 150kg | 475φ |
- RIPRAP VOLUME: 50m³
- CLASS 500kg AVERAGE SIZE ROCK RIPRAP, 1500 THICK, WITH THE FOLLOWING ROCK GRADATION:
- | | MASS | DIAMETER |
|-----------------|--------|----------|
| 85% LARGER THAN | 50kg | 520φ |
| 50% LARGER THAN | 500kg | 1130φ |
| 15% LARGER THAN | 1500kg | 1630φ |
- RIPRAP VOLUME: 1750m³
- PLACE NON-WOVEN GEOTEXTILE, MINIMUM MULLEN BURST STRENGTH OF 1550kPa (Armtex 170 or APPROVED EQUIVALENT), UNDER CLASS 500kg RIPRAP
- TOTAL GEOTEXTILE: 1200m²
- EXISTING ROCK RIPRAP ON SITE MAY BE REUSED. IMPORT ROCK RIPRAP ONLY AS NEEDED TO COMPLETE CULVERT INSTALLATION.
- ENVIRONMENT MITIGATION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS
 - REFER TO PWGSC STANDARD ROAD CONSTRUCTION DRAWING 03A FOR TYPICAL ROAD SECTION.

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GENERAL ARRANGEMENT
CULVERT PROFILES

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