

Parks Canada  
Agency

L'Agence Parcs  
Canada

**KM 88 TO 91 AND KM 114 TO 128  
TRANS-CANADA HIGHWAY  
SLOPE REPROFILING**

**YOHO NATIONAL PARK  
BRITISH COLUMBIA**

PCA PROJECT No.



ISSUED FOR TENDER  
FEBRUARY 2016



C:\Vancouver\Transportation\331\Projects\13403095-600\_PCA\_88-91km\CADD\Sheets\201541-0001\_TO\_0003 - PROJECT LOCATION & KEY PLAN, DWG INDEX.dwg [201541-0002] February 10, 2016 - 1:51:05 pm (BY: BBAHMI, KHALIL)

**GENERAL:**

- ALL COORDINATES ARE IN YOHO LOCAL COORDINATES SYSTEM AND ALL ELEVATIONS ARE TO NAD 1983 SET AT 800 METRES. SEE DWG. 201541-0004 ESTABLISHMENT OF SURVEY MONUMENTS.
- ALL ELEVATIONS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- AZIMUTH IS MEASURED AS A POSITIVE ANGLE CLOCKWISE FROM NORTH.
- QUALITY OF CONSTRUCTION REQUIRED. PERFORMANCE LEVELS OF WORKMANSHIP, MANUFACTURING AND INDUSTRY STANDARDS, STRENGTH AND PHYSICAL REQUIREMENTS OF MATERIALS, CONFORMANCE TO CODES AND REGULATIONS, GUARANTEES AND OTHER PROJECT REQUIREMENTS ARE SPECIFIED IN THE SPECIFICATIONS.
- IF THE MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR GREATER QUANTITY, STRENGTH OR SIZE INDICATED, SPECIFIED, OR NOTED SHALL BE PROVIDED.
- PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. ANY CHANGES PROPOSED BY THE CONTRACTOR TO THE STRUCTURAL SYSTEMS SHALL BE SUBMITTED TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO BEGINNING THE WORK. WHERE APPLICABLE, DESIGN CHANGES SHALL BE SUBMITTED FOR APPROVAL AND DESIGN BY THE COMPANY REPRESENTATIVE. ALL DESIGN CHANGES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE WORKS AND ITS COMPONENT PARTS DURING CONSTRUCTION UNLESS SPECIFICALLY NOTED ON DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE THAT RESULT IF DESIGN LOADS ARE EXCEEDED, AND SHALL NOTIFY THE DEPARTMENTAL REPRESENTATIVE IF THE DESIGN LOAD IS EXCEEDED.
- ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR WITH THE CONSTRUCTION EQUIPMENT AND MATERIALS TO CONFORM TO THE DESIGN REQUIREMENTS AND SUIT THE CONTRACTORS MEANS AND METHODS.
- EXISTING SITE INFORMATION SHOWN ON THESE DRAWINGS IS FROM AS-BUILT REFERENCE DRAWINGS AND A SURVEY PERFORMED BY McELHANNEY CONSULTING SERVICES LTD. & ALTUS SURVEY. THIS INFORMATION HAS BEEN PRESUMED TO BE AN ACCURATE REPRESENTATION OF THE CONDITIONS AT THE SITE. WORK PERFORMED AT EACH SITE OR WITHIN THE PUBLIC RIGHT-OF-WAY SINCE THE DATE OF THE SURVEY MAY NOT BE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SIDE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO DEPARTMENTAL REPRESENTATIVE IMMEDIATELY.
- THE CONTRACTOR IS REQUIRED TO UNDERTAKE A PRE MOBILIZATION SUBSURFACE UTILITY INVESTIGATION TO LOCATE EXISTING UTILITIES & STRUCTURES TO PERFORM THE WORK. UNDERGROUND UTILITY LOCATIONS WERE IDENTIFIED THROUGH RECORDS PROVIDED BY BC ONE CALL. VERTICAL AND HORIZONTAL LOCATION AND SIZE OF UTILITIES MAY VARY FROM THE PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF EXISTING UTILITIES, STRUCTURES, AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATION OF ANY NECESSARY RELOCATIONS WITH PARKS CANADA AGENCY (PCA) AND THE OWNER.
- FINAL FACE TOLERANCE SHALL BE WITHIN 0.25 m FURTHER THAN THE HIGHWAY OR 0.25 m CLOSER TO THE HIGHWAY.
- EXISTING GRADE SHOWN IN PROFILE IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY AS NECESSARY TO PERFORM WORK
- REFER TO GEOTECHNICAL FACTUAL DATA REPORT (DECEMBER 2015) FOR ALL EXPLORATION DATA OBTAINED AS PART OF THIS CONTRACT.
- EXCAVATION LINES SHOWN ARE NOT INTENDED TO BE REPRESENTATIVE OF ANTICIPATED GROUND CONDITIONS OR AMOUNT OF OVERBREAK THAT MAY OCCUR DURING EXCAVATION. FOR AVAILABLE GEOLOGIC DATA, SEE THE GEOTECHNICAL DATA REPORT (DECEMBER 2015).

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL SAFETY REQUIREMENTS AND WITH EXERCISING APPROPRIATE PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF THE GENERAL PUBLIC, CONSTRUCTION EMPLOYEES, AND VEHICULAR TRAFFIC. THE CONTRACTOR SHALL INITIATE, INSTALL, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE LIGHTS, SIGNS, AND BARRICADES AS MAY BE NECESSARY FOR THE WORK INCLUDING BUT NOT LIMITED TO, AREAS OF OPEN EXCAVATIONS THROUGHOUT THE PROJECT.
- WHERE REFERENCE DRAWINGS ARE LISTED ON A DRAWING, THE REFERENCED DRAWINGS MUST BE READ IN CONJUNCTION WITH THAT DRAWING.
- THE DRAWINGS IN GENERAL ARE TO SCALE, BUT FIGURED DIMENSIONS AND COORDINATES SHALL ALWAYS BE FOLLOWED. DIMENSIONS AND ELEVATIONS SHALL NOT BE SCALED FROM DRAWINGS UNLESS OTHERWISE NOTED.
- UNLESS SPECIFIED DIFFERENTLY ALL FILL SHALL BE WELL GRADED WITH  $C_u > 4$  AND  $1 < C_c < 3$  FOR GRAVEL AND  $C_u > 6$  AND  $1 < C_c < 3$  FOR SANDS
- EXCAVATED MATERIAL SHALL BE STORED IN THE MOUNT VAUX STORAGE SITE. HOWEVER, OTHER STORAGE SITES MAY BE DESIGNATED AS CONSTRUCTION DEVELOPS.

**ROCK BLASTING**

- TRAFFIC HOLD TIMES AS PER SPECIFICATION 01 14 00 WORK RESTRICTIONS. CLAUSE 1.5.8.F & G
- PEAK PARTICLE VELOCITIES SHALL BE LESS THAN 50 mm/s AS MEASURED AT ANY CP RAIL INFRASTRUCTURE.
- ALL FLYROCK SHALL BE RETRIEVED FROM OUTSIDE OF THE WORK SITE AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL UNDERTAKE A PRE-CONSTRUCTION SURVEY WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO WORK AT ANY LOCATION.
- HORIZONTAL BLAST HOLES SHALL ONLY BE CONSIDERED FOR PIONEERING ACCESS ROADS AT THE DEPARTMENTAL REPRESENTATIVES WRITTEN ACCEPTANCE.
- THE CONTRACTOR SHOULD ANTICIPATE EXISTING CAMOUFLAGED ROCK BOLTS / ANCHORS MAY BE PRESENT IN ANY OF THESE ROCK FACES

**ENVIRONMENTAL NOTES:**

- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION ENVIRONMENTAL PROTECTION PLAN (EPP) TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND ACCEPTANCE PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE EPP SHALL DESCRIBE DETAILED, SITE-SPECIFIC ENVIRONMENTAL MITIGATION AND MANAGEMENT MEASURES, AS WELL AS ENVIRONMENTAL EMERGENCY AND SPILL RESPONSE PROCEDURES, CONSISTENT WITH PCA'S CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (EMP). AS PER THE EMP, THE INTENT OF THE EPP SHALL BE TO PROTECT EXISTING LAND, WATER, VEGETATION AND WILDLIFE VALUES IN THE PROJECT AREA, MINIMIZE ENVIRONMENTAL DISTURBANCE, AND PREVENT ANY ADVERSE ENVIRONMENTAL EFFECTS.
- THE CONTRACTOR SHALL RETAIN A QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) WITH PROFESSIONAL EXPERTISE AND EXPERIENCE ON CONSTRUCTION PROJECTS OF A SIMILAR NATURE AND SCOPE TO ASSIST IN THE DEVELOPMENT AND IMPLEMENTATION OF ITS EPP. THE QEP SHALL BE AVAILABLE TO DELIVER TECHNICAL, ENVIRONMENTAL ADVICE, GUIDANCE, TAILGATE TRAINING SESSIONS FOR CONSTRUCTION CREWS, AND OVERSIGHT MONITORING SERVICES TO THE CONTRACTOR THROUGHOUT THE CONTRACT TERM.
- AS PART OF ITS CONSTRUCTION ENVIRONMENTAL MANAGEMENT PROGRAM, PCA WILL RETAIN A QUALIFIED ENVIRONMENTAL MONITOR(S) TO MONITOR CONTRACTOR COMPLIANCE WITH RESPECT TO REGULATORY REQUIREMENTS AND WORK PRACTICES AND PROCEDURES SET OUT IN THE EMP AND EPP AND TO EVALUATE THE EFFECTIVENESS OF CONTRACTOR'S MITIGATION AND MANAGEMENT MEASURES, AND EMERGENCY RESPONSE PROCEDURES. THE CONTRACTOR IS ADVISED THAT THE ENVIRONMENTAL MONITOR WILL HAVE AUTHORITY TO MAKE DECISIONS REGARDING THE SELECTION AND USE OF ENVIRONMENTAL MITIGATION MEASURES AND TO DIRECT THAT CONSTRUCTION ACTIVITIES BE STOPPED IF THOSE ACTIVITIES POSE AN IMMEDIATE DETRIMENTAL RISK TO THE ENVIRONMENT AND/OR CONTRAVENE THE INTENT OF THE EMP, EPP, REGULATORY REQUIREMENTS, OR RTA ENVIRONMENTAL STANDARDS.
- PCA'S CONSTRUCTION EMP SETS OUT REQUIREMENTS TO BE FOLLOWED BY THE CONTRACTOR WITH RESPECT TO ISSUES INCLUDING, BUT NOT LIMITED TO:
  - ESTABLISHMENT OF ENVIRONMENTAL PROTECTION ZONES (EPZs)
  - PROTECTION OF SURFACE AND GROUNDWATER QUALITY
  - EROSION, AND SEDIMENT CONTROL
  - MATERIALS AND WASTE MANAGEMENT
  - WILDLIFE PROTECTION
  - CONTROL OF DUST, NOISE AND VIBRATION
  - MANAGEMENT OF HAZARDOUS SUBSTANCES
  - BLASTING MANAGEMENT
  - SPILL PREVENTION AND EMERGENCY RESPONSE.
  - CULTURAL RESOURCES
  - NATIONAL HISTORIC SITES
  - ARTIFACTS
- THROUGHOUT THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ALL MEMBERS OF THE CONSTRUCTION CREW WITH ON-SITE TRAINING REGARDING BUT NOT LIMITED TO, PCA, DEPARTMENTAL REPRESENTATIVE, ENVIRONMENTAL STANDARDS APPLICABLE FEDERAL AND PROVINCIAL REGULATORY REQUIREMENTS, SITE-SPECIFIC ENVIRONMENTAL VALUES, IMPLEMENTATION OF PROJECT-SPECIFIC ENVIRONMENTAL MITIGATION AND SPILL RESPONSE MEASURES, AND ENVIRONMENTAL MONITORING / REPORTING PROTOCOLS AND PROCEDURES.



**ISSUED FOR TENDER**

0	16/02/09	ISSUED FOR REVIEW	AF	AD	AF
Revision	Date/Date	Description/Description	DES	DWN	CHK

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
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 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL**  
 Drawn by/Dessine par  
**A. DEEPWELL**

Drawing title/Titre du dessin  
**GENERAL NOTES**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-0002</b>	<b>0</b>



C:\Vancouver\Transportation\331\Projects\13403095-600\_PCA\_88-91 km CA-DDI\Sheets\201541-0001 TO 0003 - PROJECT LOCATION & KEY PLAN, DWG INDEX.dwg [201541-0003] February 10, 2016 - 1:51:10 pm (BY: IBRAHIM, KHALIL)



**ISSUED FOR TENDER**

DRAWING INDEX	
DRAWING No.	DESCRIPTION
201541-0000	COVER PAGE
201541-0001	PROJECT LOCATION & KEY PLAN
201541-0002	GENERAL NOTES
201541-0003	DRAWING INDEX & LEGEND
201541-0004	ESTABLISHMENT OF SURVEY MONUMENTS
201541-1001	ROCK CUT CONSTRUCTION LAYOUT TYPICAL SECTIONS
201541-1002	ROCK CUT CONSTRUCTION LAYOUT TYPICAL SECTIONS
201541-1003	CONTROL LINE LAYOUT AND WORK POINT TABLES
201541-1004	CONTROL LINE LAYOUT AND WORK POINT TABLES
201541-1020	SHERBROOKE CREEK ROCK SLOPE PLAN, STA 88+580 TO 88+820
201541-1021	SHERBROOKE CREEK ROCK SLOPE PLAN, STA 88+820 TO 89+060
201541-1022	SHERBROOKE CREEK ROCK SLOPE OVERBURDEN REPROFILING
201541-1030	LOWER SHERBROOKE ROCK SLOPE PLAN, STA 89+195 TO 89+435
201541-1060	SPIRAL TUNNELS HILL ROCK SLOPE PLAN, STA 90+210 TO 90+360
201541-1061	SPIRAL TUNNELS HILL ROCK SLOPE PLAN, STA 90+360 TO 90+700
201541-1090	BIG TOPPLE ROCK SLOPE PLAN, STA 115+370 TO 115+600
201541-1100	LITTLE TOPPLE ROCK SLOPE PLAN, STA 115+675 TO 115+820
201541-1110	MT. VAUX ROCK SLOPE PLAN, STA 116+115 TO 116+475
201541-1111	MT. VAUX ROCK SLOPE PLAN, STA 116+475 TO 116+865
201541-2001	TYPICAL CROSS SECTIONS
201541-2002	ROCK SUPPORT TYPICAL DETAILS
201541-2003	CATCHMENT AND SLOPE DRAINAGE TYPICAL DETAILS
201541-2004	RESTORATION OR REMOVAL TYPICAL DETAILS
201541-2005	TYPICAL DETAILS SOIL SLOPE
201541-3002	MT. VAUX STORAGE SITE
201541-4020	SHERBROOKE CROSS SECTIONS
201541-4021	SHERBROOKE CROSS SECTIONS
201541-4022	SHERBROOKE CROSS SECTIONS
201541-4023	SHERBROOKE CROSS SECTIONS
201541-4024	SHERBROOKE CROSS SECTIONS
201541-4025	SHERBROOKE CROSS SECTIONS
201541-4026	SHERBROOKE CROSS SECTIONS
201541-4030	LOWER SHERBROOKE CROSS SECTIONS
201541-4031	LOWER SHERBROOKE CROSS SECTIONS
201541-4032	LOWER SHERBROOKE CROSS SECTIONS
201541-4060	SPIRAL TUNNEL HILL ROCK SLOPE CROSS SECTIONS
201541-4061	SPIRAL TUNNEL HILL ROCK SLOPE CROSS SECTIONS
201541-4062	SPIRAL TUNNEL HILL ROCK SLOPE CROSS SECTIONS
201541-4063	SPIRAL TUNNEL HILL ROCK SLOPE CROSS SECTIONS
201541-4064	SPIRAL TUNNEL HILL ROCK SLOPE CROSS SECTIONS
201541-4090	BIG TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4091	BIG TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4092	BIG TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4093	BIG TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4100	LITTLE TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4101	LITTLE TOPPLE ROCK SLOPE CROSS SECTIONS
201541-4110	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4111	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4112	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4113	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4114	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4115	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4116	MT. VAUX ROCK SLOPE CROSS SECTIONS
201541-4117	MT. VAUX ROCK SLOPE CROSS SECTIONS

**LEGEND**

**MISCELLANEOUS ABBREVIATIONS**

- BH - BORE HOLE
- BW - BACK OF SIDEWALK
- CB - CATCH BASIN
- C&G - CURB AND GUTTER
- C.I.P. - CAST IN PLACE
- CONCRETE
- CI - CULVERT INLET
- CO - CULVERT OUTLET
- DES - DESIGN
- EP - EDGE OF PAVEMENT
- EX - EXISTING
- LOG - LIP OF GUTTER
- LS - LIGHT STANDARD
- MH - MANHOLE
- PROP - PROPOSED
- PP - POWER POLE
- S - SANITARY
- ST - STORM
- W - WATER
- NB - NORTHBOUND
- SB - SOUTHBOUND
- EB - EASTBOUND
- WB - WESTBOUND
- N.I.C. - NOT IN CONTRACT

**ROAD CONSTRUCTION**

EXISTING	DESCRIPTION	PROPOSED
	TEST PIT & ID	TP2010-06
	BORE HOLE & ID	AH12-500
	CONTROL LINE AND STATIONING	67+500
	ALIGNMENT TIE POINTS & STATIONING	T.S. 55+325.101
-----	EDGE OF PAVEMENT GRAVEL ROAD	EP
-----	EDGE OF PAVED SHOULDER	
1012.14	SUBGRADE ELEVATION	
	THROUGH ROCK PAVING	
	CURB AND GUTTER	
	CONCRETE BARRIER	
	GUARD RAIL CW POSTS	
	DRAINAGE BARRIER	DB DB
	DRAINAGE SIDE DITCH	DIRECTION OF FLOW
	DRAINAGE MEDIAN DITCH	DIRECTION OF FLOW
	DAY LIGHT LINE	-----
	CANADIAN PACIFIC RAILWAY	
	EXISTING PAVEMENT	
	PAVEMENT REMOVAL	
	SURVEY GRID (NAD 83)	
	TREE LINE	
	UNDERGROUND TEL & MANHOLE	
	WATER LINE	
	CULVERT	CO --- CI
	RETAINING WALL	
	DITCH BLOCK	
	DITCH DAM	
	SMALL CSP CULVERT	
	CATCH BASIN AND 300 mm Ø PIPE	
	WILDLIFE FENCING	
	WILDERNESS ZONE BOUNDARY	WZB
	CONTROL POINT	CP 03.01
	GATE	
	BARRIER DRAIN AND 300 mm PIPE	BD OR BD
	RIP-RAP SPILLWAY	
	FOG LINE	FL
	LIMIT OF CLEAR & GRUB	-----
	ROCK CUT FACE	
	TREES FELLED BY OTHERS	-----

Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	AD	AF

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Designed by/Concept par  
**A. FRAPPELL**

Drawn by/Dessiné par  
**A. DEEPWELL**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**DRAWING INDEX & LEGEND**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-0003</b>	<b>0</b>





**ISSUED FOR TENDER**

1	16/03/14	ISSUED FOR TENDER	AF	AD	AF
Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK

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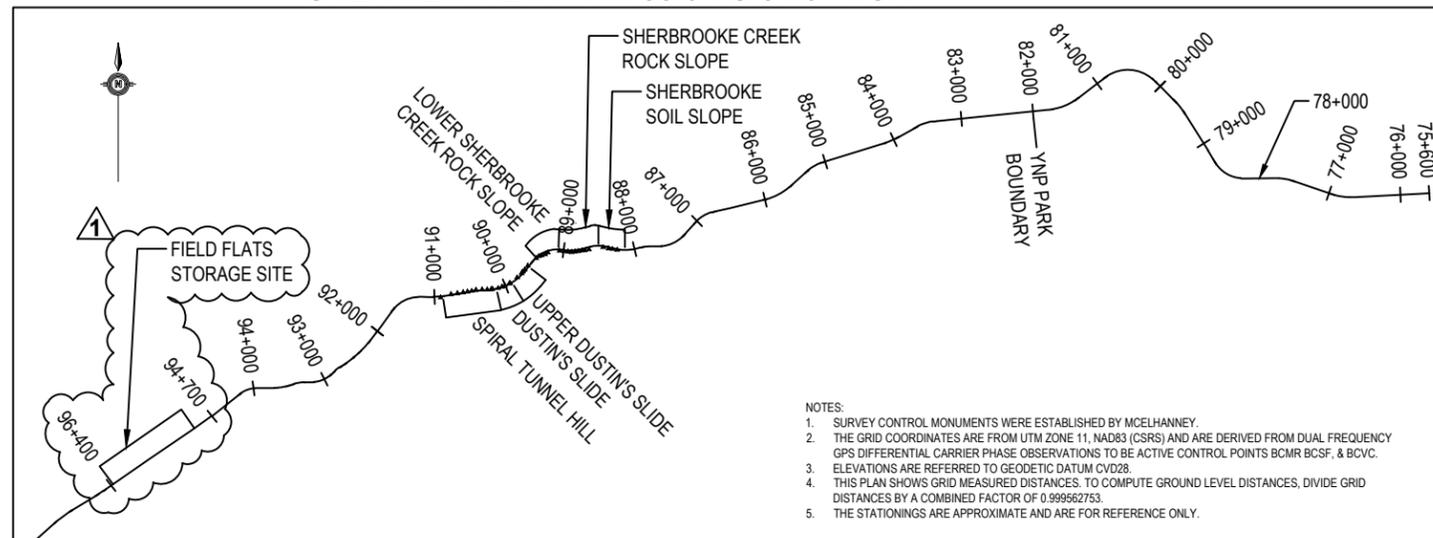
Drawing title/Titre du dessin  
**ESTABLISHMENT OF SURVEY  
 MONUMENTS**

Project No./No. du projet  
**201541-0004**  
 Sheet/Feuille  
**1**  
 Revision no./La Révision no.  
**1**

YOHO CONTROL MONUMENTS						
MONUMENT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION	LOCATION
1238	5698552.932	543722.045	1570.583	TH	88+242	SHERBROOKE SOIL SLOPE
1239	5698562.787	543654.634	1566.206	TH	88+310	SHERBROOKE SOIL SLOPE
1906	5698572.137	543599.649	1563.273	TH	88+365	SHERBROOKE SOIL SLOPE
1240	5698587.207	543525.981	1559.986	TH	88+442	SHERBROOKE SOIL SLOPE
2077	5698558.380	543329.171	1550.343	TH (3031)	88+651	SHERBROOKE CREEK ROCK SLOPE
2076	5698546.342	543273.142	1548.381	TH (3030)	88+709	SHERBROOKE CREEK ROCK SLOPE
2075	5698542.152	543234.137	1547.168	TH (3029)	88+747	SHERBROOKE CREEK ROCK SLOPE
2074	5698534.687	543183.637	1546.062	TH (3028)	88+797	SHERBROOKE CREEK ROCK SLOPE
2073	5698526.085	543133.986	1544.282	TH (3027)	88+846	SHERBROOKE CREEK ROCK SLOPE
2072	5698522.826	543086.518	1542.400	TH (3026)	88+892	SHERBROOKE CREEK ROCK SLOPE
2071	5698527.283	543037.585	1539.829	TH (3025)	88+939	SHERBROOKE CREEK ROCK SLOPE
2070	5698532.797	542986.168	1537.027	TH (3024)	88+990	SHERBROOKE CREEK ROCK SLOPE
2069	5698540.342	542920.379	1533.835	TH (3023)	89+057	SHERBROOKE CREEK ROCK SLOPE
2067	5698515.470	542757.464	1525.629	TH (3021)	89+230	LR. SHERBROOKE CREEK ROCK SLOPE
1947	5698492.143	542719.031	1523.624	TH	89+277	LR. SHERBROOKE CREEK ROCK SLOPE
2066	5698474.004	542670.840	1521.315	TH (3020)	89+331	LR. SHERBROOKE CREEK ROCK SLOPE
2065	5698465.427	542633.252	1520.140	TH (3019)	89+368	LR. SHERBROOKE CREEK ROCK SLOPE
2063	5698437.519	542597.113	1518.322	TH (3018)	89+415	LR. SHERBROOKE CREEK ROCK SLOPE
1241	5698331.528	542479.083	1510.731	TH	89+572	UPPER DUSTINS SLIDE
1242	5698276.149	542436.231	1506.898	TH	89+642	UPPER DUSTINS SLIDE
2285	5698249.926	542408.009	1502.271	TH (16804)	89+681	UPPER DUSTINS SLIDE
1243	5698229.454	542395.581	1505.238	TH	89+705	UPPER DUSTINS SLIDE
1244	5698169.437	542331.826	1501.248	TH	89+795	UPPER DUSTINS SLIDE
1245	5698091.860	542234.607	1495.528	TH	89+922	DUSTINS SLIDE
2167	5698085.821	542222.860	1494.864	TH (5002)	89+935	DUSTINS SLIDE
2168	5698055.816	542160.347	1491.570	TH (5003)	90+005	DUSTINS SLIDE
2169	5698040.130	542120.459	1489.539	TH (5004)	90+049	DUSTINS SLIDE
2170	5698020.733	542066.284	1487.158	TH (5005)	90+107	DUSTINS SLIDE
2318	5698010.525	541988.098	1483.633	TH	90+186	SPIRAL TUNNELS HILL
91	5698007.086	541970.471	1483.151	TH	90+204	SPIRAL TUNNELS HILL
1246	5698002.963	541915.470	1479.999	TH	90+260	SPIRAL TUNNELS HILL
1427	5698001.933	541844.889	1477.155	TH	90+330	SPIRAL TUNNELS HILL
1428	5697998.777	541760.879	1473.398	TH	90+414	SPIRAL TUNNELS HILL
92	5697982.390	541701.637	1471.195	TH SCRIBE	90+474	SPIRAL TUNNELS HILL
93	5697973.271	541642.516	1468.412	TH SCRIBE	90+534	SPIRAL TUNNELS HILL
94	5697963.102	541581.516	1465.381	TH SCRIBE	90+596	SPIRAL TUNNELS HILL
95	5697950.472	541502.569	1461.611	TH SCRIBE	90+676	SPIRAL TUNNELS HILL
96	5697937.355	541413.250	1457.938	TH SCRIBE	90+766	SPIRAL TUNNELS HILL
434	5697892.288	541267.434	1450.511	TH	90+916	SPIRAL TUNNELS HILL

Note: All coordinates are grid UTM Zone 11 NAD83

**OVERVIEW PLAN - KM 88.0 TO 91.0 - TCH**



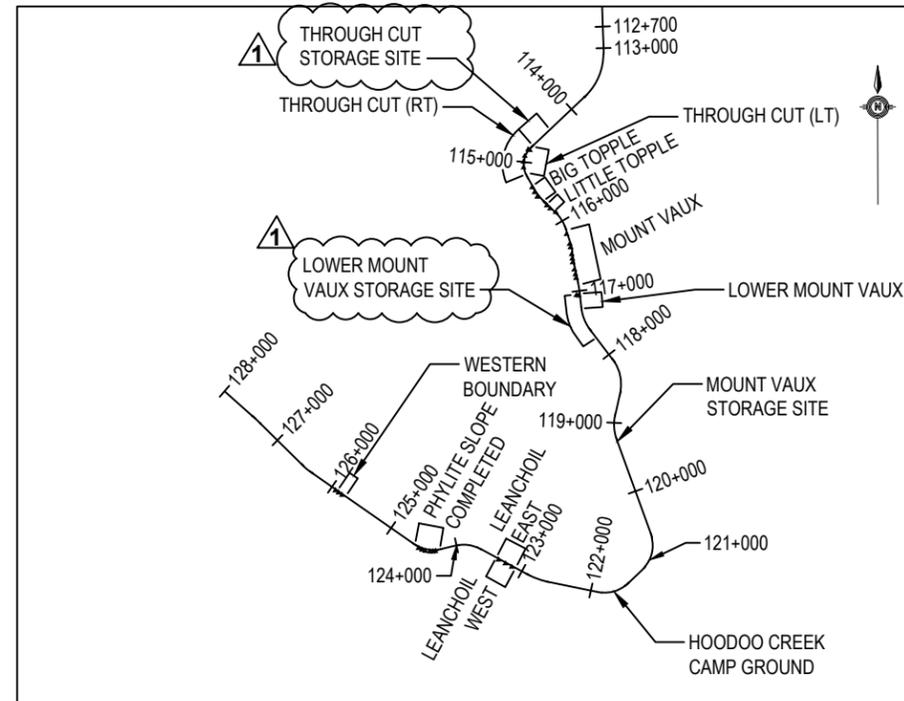
SCALE: 1:100,000

- NOTES:
1. SURVEY CONTROL MONUMENTS WERE ESTABLISHED BY MCELHANNEY.
  2. THE GRID COORDINATES ARE FROM UTM ZONE 11, NAD83 (CSRS) AND ARE DERIVED FROM DUAL FREQUENCY GPS DIFFERENTIAL CARRIER PHASE OBSERVATIONS TO BE ACTIVE CONTROL POINTS BCMR BCSE, & BCVC.
  3. ELEVATIONS ARE REFERRED TO GEODETIC DATUM CVD28.
  4. THIS PLAN SHOWS GRID MEASURED DISTANCES. TO COMPUTE GROUND LEVEL DISTANCES, DIVIDE GRID DISTANCES BY A COMBINED FACTOR OF 0.999562753.
  5. THE STATIONINGS ARE APPROXIMATE AND ARE FOR REFERENCE ONLY.

YOHO CONTROL MONUMENTS						
MONUMENT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION	LOCATION
149	5680157.726	528105.238	1140.175	BM 94C149	114+829	THROUGH CUT (LEFT + RIGHT)
1430	5680168.129	528082.030	1141.025	TH	114+830	THROUGH CUT (LEFT + RIGHT)
1429	5680076.821	528036.569	1143.032	TH	114+931	THROUGH CUT (LEFT + RIGHT)
1431	5679999.049	528018.868	1142.903	TH	115+009	THROUGH CUT (LEFT + RIGHT)
1432	5679917.960	528018.927	1141.624	TH	115+088	THROUGH CUT (LEFT + RIGHT)
2062	5679643.178	528139.551	1127.888	TH (3017)	115+385	BIG TOPPLE
1290	5679575.853	528173.935	1125.555	TH	115+459	BIG TOPPLE
2061	5679512.285	528211.408	1123.871	TH (3016)	115+531	BIG TOPPLE
1288	5679392.916	528343.000	1121.554	TH	115+706	LITTLE TOPPLE
2058	5679350.323	528388.683	1120.839	TH (3014)	115+768	LITTLE TOPPLE
1287	5679298.696	528465.629	1120.955	TH	115+860	LITTLE TOPPLE
2057	5678994.659	528616.017	1117.269	TH (3013)	116+205	MOUNT VAUX
1285	5678858.023	528660.999	1118.527	TH	116+349	MOUNT VAUX
2056	5678813.240	528673.905	1119.384	TH (3012)	116+397	MOUNT VAUX
2054	5678718.142	528688.519	1121.088	TH (3010)	116+495	MOUNT VAUX
1284	5678656.786	528695.611	1122.889	TH	116+556	MOUNT VAUX
2053	5678604.968	528703.269	1123.912	TH (3009)	116+608	MOUNT VAUX
2052	5678503.315	528724.230	1123.895	TH (3008)	116+711	MOUNT VAUX
2051	5678437.400	528738.989	1124.223	TH (3007)	116+779	MOUNT VAUX
2050	5678388.040	528749.716	1124.545	TH (3006)	116+829	MOUNT VAUX
1279	5678149.875	528754.327	1128.610	TH	117+068	LOWER MOUNT VAUX
112	5678143.846	528785.508	1129.471	BM 94C112	117+078	LOWER MOUNT VAUX
1445	5674385.013	527854.931	1124.245	TH	123+170	LEANCHOIL EAST
1441	5674431.972	527767.221	1126.431	TH	123+269	LEANCHOIL EAST
1439	5674483.948	527670.671	1127.681	TH	123+379	LEANCHOIL EAST
1282	5674602.825	526794.678	1131.887	TH	124+313	PHYLLITE SLOPE
2049	5674599.393	526760.758	1132.201	TH (3005)	124+349	PHYLLITE SLOPE
2048	5674599.276	526716.063	1132.089	TH (3004)	124+396	PHYLLITE SLOPE
2046	5674608.761	526652.076	1131.469	TH (3003)	124+463	PHYLLITE SLOPE
1281	5674623.527	526607.234	1130.695	TH	124+511	PHYLLITE SLOPE
2045	5674644.701	526561.865	1129.374	TH (3002)	124+561	PHYLLITE SLOPE
1442	5675382.273	525496.568	1115.219	TH	125+857	WESTERN BOUNDARY
1443	5675415.023	525449.552	1115.784	TH	125+914	WESTERN BOUNDARY
1444	5675445.284	525405.404	1116.304	TH	125+968	WESTERN BOUNDARY

Note: All coordinates are grid UTM Zone 11 NAD83

**OVERVIEW PLAN - KM 114.0 TO 128.0 - TCH**



SCALE: 1:100,000



C:\Vancouver\Transportation\31\Projects\13403095-600 PCA 88-91 km CA\DD\Sheets\201541-1003.PLAN.S.dwg [2015-01-10 10:52:03 AM] (BY: LBRAHIM, KHALIL)

CONTROL LINE DATA - km 88 - km 91								
SEGMENT #	RADIUS	LENGTH	LINE / CHORD BEARING	SPIRAL A	BC STATION	EC STATION	Δ / Θs	PI COORD.
L7		23.825	257° 00' 16"					
S13	Incurve	70.000		187.083	87+983.825	88+053.825	4° 00' 39"	
C7	500	162.554	270° 19' 44"		88+053.825	88+216.378	18° 37' 38"	N 5698533.466 E 543829.436
S14	Outcurve	70.000		187.083	88+216.378	88+286.378	4° 00' 39"	
L8		67.676	283° 39' 12"					
S1	Incurve	70.000		187.083	88+354.054	88+424.054	4° 00' 39"	
C1	500	183.961	269° 06' 09"		88+424.054	88+608.015	21° 04' 49"	N 5698624.596 E 543454.276
S2	Outcurve	70.000		187.083	88+608.015	88+678.015	4° 00' 39"	
L1		54.441	254° 33' 05"					
S3	Incurve	80.000		187.617	88+732.456	88+812.456	5° 12' 31"	
C2	440	92.275	265° 46' 05"		88+812.456	88+904.731	12° 00' 57"	N 5698532.248 E 543120.114
S4	Outcurve	80.000		187.617	88+904.731	88+984.731	5° 12' 31"	
L2		11.038	276° 59' 05"					
S5	Incurve	80.000		187.617	88+995.769	89+075.769	5° 12' 31"	
C3	440	374.845	247° 22' 13"		89+075.769	89+450.614	48° 48' 41"	N 5698584.397 E 542694.460
S6	Outcurve	80.000		187.617	89+450.614	89+530.614	5° 12' 31"	
L3		89.151	217° 45' 21"					
S7	Incurve	60.000		201.990	89+619.765	89+679.765	2° 31' 40"	
C4	680	506.049	241° 36' 11"		89+679.765	90+185.814	42° 38' 20"	N 5698022.841 E 542259.564
S8	Outcurve	60.000		201.990	90+185.814	90+245.814	2° 31' 40"	
L4		129.032	265° 27' 01"					
S9	Incurve	60.000		244.949	90+374.846	90+434.846	1° 43' 08"	
C5	1000	21.066	263° 07' 41"		90+434.846	90+455.912	1° 12' 25"	N 5697980.778 E 541730.962
S10	Outcurve	60.000		244.949	90+455.912	90+515.912	1° 43' 08"	
L5		329.474	260° 48' 20"					
S11	Incurve	60.000		244.949	90+845.386	90+905.386	1° 43' 08"	
C6	1000	111.253	265° 42' 42"		90+905.386	91+016.639	6° 22' 28"	N 5697898.348 E 541221.707
S12	Outcurve	60.000		244.949	91+016.639	91+076.639	1° 43' 08"	
L6		83.361	270° 37' 04"					

SHERBROOKE ROCK CUT CONSTRUCTION LAYOUT										
STATION	WORK POINT #1		WORK POINT #2		WORK POINT #3		WORK POINT #4		OFFSET	ELEVATION
	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION		
88+585.000	12.395m	1558.148m	-	-	11.517m	1554.627m	3.789m	1556.564m		
88+570.000	13.740m	1569.300m	-	-	12.431m	1554.046m	3.570m	1556.262m		
88+580.000	16.462m	1561.539m	14.337m	1553.017m	14.337m	1553.017m	3.312m	1555.774m		
88+590.000	17.630m	1562.678m	15.074m	1552.423m	14.176m	1552.423m	3.178m	1555.173m		
88+600.000	19.048m	1564.086m	16.019m	1551.939m	14.126m	1551.939m	3.128m	1554.689m		
88+610.000	19.141m	1565.651m	15.605m	1551.466m	13.827m	1551.466m	2.827m	1554.216m		
88+620.000	19.387m	1567.055m	15.376m	1550.969m	13.595m	1550.969m	2.595m	1553.719m		
88+630.000	19.656m	1567.911m	15.268m	1550.311m	13.424m	1550.311m	2.424m	1553.061m		
88+640.000	19.917m	1568.227m	15.300m	1549.708m	13.360m	1549.708m	2.360m	1552.458m		
88+650.000	20.119m	1567.992m	15.445m	1549.243m	13.340m	1549.243m	2.340m	1551.993m		
88+660.000	20.680m	1568.697m	15.670m	1548.601m	13.400m	1548.601m	2.400m	1551.351m		
88+670.000	21.518m	1570.258m	15.967m	1547.997m	13.324m	1547.997m	2.324m	1550.747m		
88+680.000	22.402m	1571.964m	16.334m	1547.627m	13.247m	1547.627m	2.247m	1550.377m		
88+690.000	22.956m	1572.849m	16.514m	1547.009m	13.248m	1547.009m	2.248m	1549.759m		
88+700.000	23.751m	1575.051m	16.694m	1546.745m	13.326m	1546.745m	2.326m	1549.495m		
88+710.000	24.908m	1578.351m	16.873m	1546.126m	13.403m	1546.126m	2.403m	1548.876m		
88+720.000	24.556m	1573.869m	17.520m	1545.649m	13.424m	1545.649m	2.424m	1548.399m		
88+730.000	24.195m	1569.342m	18.168m	1545.168m	13.351m	1545.168m	2.351m	1547.918m		
88+740.000	24.800m	1568.806m	18.812m	1544.790m	13.322m	1544.790m	2.322m	1547.540m		
88+750.000	25.103m	1568.342m	19.089m	1544.219m	13.386m	1544.219m	2.386m	1546.969m		
88+760.000	25.239m	1567.731m	19.297m	1543.898m	13.399m	1543.898m	2.399m	1546.648m		
88+770.000	25.526m	1567.306m	19.583m	1543.469m	13.443m	1543.469m	2.443m	1546.219m		
88+780.000	25.874m	1567.358m	19.835m	1543.136m	13.425m	1543.136m	2.425m	1545.886m		
88+790.000	26.210m	1567.804m	19.933m	1542.628m	13.295m	1542.628m	2.295m	1545.378m		
88+800.000	25.992m	1567.817m	19.604m	1542.196m	13.168m	1542.196m	2.168m	1544.946m		
88+810.000	25.541m	1567.675m	19.092m	1541.810m	12.932m	1541.810m	1.932m	1544.560m		
88+820.000	25.179m	1567.123m	18.799m	1541.534m	12.754m	1541.534m	1.754m	1544.284m		
88+830.000	24.649m	1566.448m	18.288m	1540.936m	12.658m	1540.936m	1.658m	1543.686m		
88+840.000	23.121m	1562.908m	17.566m	1540.591m	12.566m	1540.591m	1.566m	1543.341m		
88+850.000	21.234m	1556.415m	17.162m	1540.083m	12.402m	1540.083m	1.402m	1542.833m		
88+860.000	19.929m	1552.513m	16.762m	1539.813m	12.209m	1539.813m	1.209m	1542.563m		
88+870.000	19.933m	1550.867m	17.044m	1539.279m	12.033m	1539.279m	1.033m	1542.029m		
88+880.000	22.711m	1559.040m	17.698m	1538.934m	11.934m	1538.934m	0.934m	1541.684m		
88+890.000	23.058m	1568.328m	18.132m	1538.571m	11.835m	1538.571m	0.835m	1541.321m		
88+900.000	21.934m	1552.502m	18.348m	1538.117m	11.906m	1538.117m	0.906m	1540.867m		
88+910.000	21.746m	1550.589m	18.508m	1537.600m	11.864m	1537.600m	0.864m	1540.350m		
88+920.000	22.606m	1553.262m	18.610m	1537.231m	11.676m	1537.231m	0.676m	1539.981m		
88+930.000	22.148m	1551.215m	18.534m	1536.719m	11.659m	1536.719m	0.659m	1539.469m		
88+940.000	21.302m	1550.503m	17.787m	1536.404m	11.530m	1536.404m	0.530m	1539.154m		
88+950.000	20.224m	1549.173m	16.909m	1535.879m	11.544m	1535.879m	0.544m	1538.629m		
88+960.000	19.060m	1547.991m	15.929m	1535.431m	11.482m	1535.431m	0.482m	1538.181m		
88+970.000	18.685m	1547.082m	15.712m	1535.160m	11.448m	1535.160m	0.448m	1537.910m		
88+980.000	18.711m	1547.728m	15.453m	1534.659m	11.372m	1534.659m	0.372m	1537.409m		
88+990.000	18.333m	1547.011m	15.179m	1534.359m	11.250m	1534.359m	0.250m	1537.109m		
89+000.000	17.673m	1545.188m	14.838m	1533.821m	11.127m	1533.821m	0.127m	1536.571m		
89+010.000	16.734m	1542.354m	14.510m	1533.434m	11.123m	1533.434m	0.123m	1536.184m		
89+020.000	16.064m	1540.542m	14.221m	1533.150m	11.177m	1533.150m	0.177m	1535.900m		
89+030.000	15.769m	1539.791m	14.000m	1532.699m	11.203m	1532.699m	0.203m	1535.449m		
89+040.000	14.066m	1538.272m	12.607m	1532.417m	11.270m	1532.417m	0.270m	1535.167m		
89+050.000	12.653m	1537.418m	11.340m	1532.154m	11.340m	1532.154m	0.340m	1534.904m		
89+060.000	11.715m	1537.113m	-	-	10.447m	1532.029m	0.503m	1534.515m		
89+070.000	10.848m	1536.336m	-	-	9.740m	1531.891m	0.808m	1534.124m		
89+080.000	9.904m	1534.492m	-	-	9.248m	1531.860m	1.087m	1533.901m		
89+090.000	9.165m	1532.243m	-	-	8.987m	1531.529m	1.421m	1533.421m		
89+097.026	9.075m	1531.920m	-	-	8.942m	1531.389m	1.585m	1533.228m		

SHERBROOKE OVERBURDEN AREA		
STATION	WORK POINT #1	
	OFFSET	ELEVATION
88+692.945	60.649m	1,594.528m
88+692.323	63.311m	1,595.198m
88+687.989	66.619m	1,597.304m
88+686.214	71.900m	1,599.853m
88+683.418	76.758m	1,602.903m
88+680.189	80.898m	1,605.691m
88+677.782	80.898m	1,606.321m
88+675.157	86.570m	1,609.782m
88+666.239	89.258m	1,613.925m
88+663.534	88.879m	1,614.616m
88+661.988	88.369m	1,614.989m
88+660.207	81.665m	1,612.299m
88+659.582	79.830m	1,611.986m
88+654.152	68.751m	1,608.008m
88+652.045	64.320m	1,605.267m
88+650.317	56.225m	1,600.851m
88+647.805	49.954m	1,597.121m

LOWER SHERBROOKE ROCK CUT CONSTRUCTION LAYOUT										
STATION	WORK POINT #1		WORK POINT #2		WORK POINT #3		WORK POINT #4		OFFSET	ELEVATION
	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION		
89+195.000	17.285m	1534.746m	15.789m	1528.744m	12.387m	1529.595m				
89+200.000	18.765m	1536.263m	16.776m	1528.284m	12.467m	1529.361m				
89+210.000	21.592m	1539.381m	18.588m	1527.332m	12.338m	1528.894m				
89+220.000	23.007m	1541.775m	19.254m	1526.723m	12.440m	1528.427m				
89+230.000	23.574m	1541.604m	19.711m	1526.109m	12.311m	1527.959m			</	

C:\Vancouver\Transportation\331\Projects\134030395-600 PCA 88-91 km CA-DD\Sheets\201541-1004 SERIES - PLANS.dwg [201541-1004] February 10, 2016 - 1:52:14 pm (BY: IBRAHIM, KHALIL)

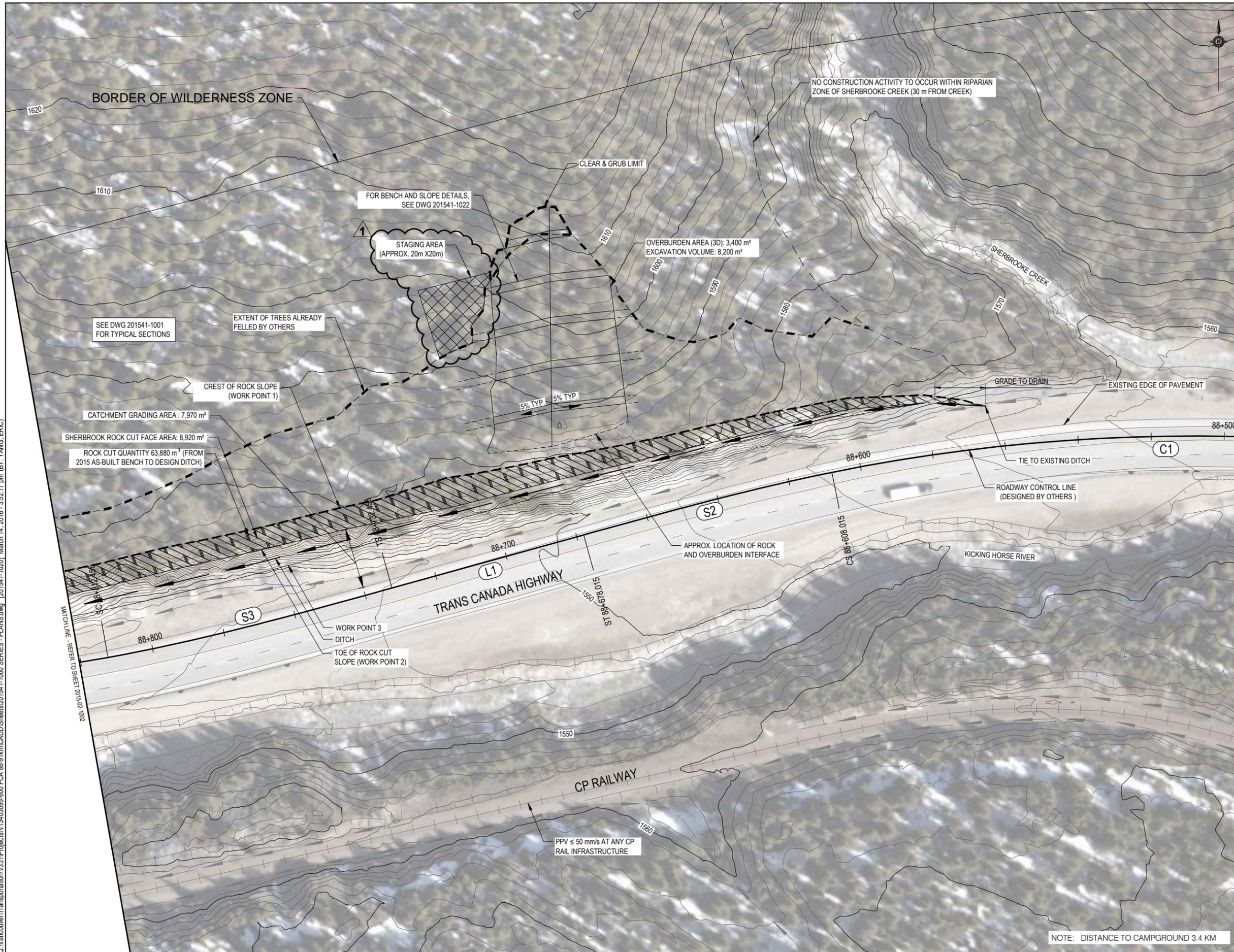
CONTROL LINE DATA - km 113 - km 118								
SEGMENT #	RADIUS	LENGTH	LINE / CHORD BEARING	SPIRAL A	BC STATION	EC STATION	Δ / Θs	PI COORD.
L9		405.038	226° 44' 16"					
S15	Incurve	60.000		244.949	114+205.038	114+265.038	1° 43' 08"	
C8	1000	69.917	230° 27' 35"		114+265.038	114+334.955	4° 00' 21"	N 5680519.812 E 528465.619
S16	Outcurve	60.000		244.949	114+334.955	114+394.955	1° 43' 08"	
L10		177.009	234° 10' 54"					
S17	Incurve	80.000		187.617	114+571.964	114+651.964	5° 12' 31"	
C9	440	554.627	192° 51' 42"		114+651.964	115+206.591	72° 13' 20"	N 5680110.506 E 527898.496
S18	Outcurve	80.000		187.617	115+206.591	115+286.591	5° 12' 31"	
L11		76.653	151° 32' 31"					
S19	Incurve	60.000		219.089	115+363.244	115+423.244	2° 08' 55"	
C10	800	203.964	142° 05' 22"		115+423.244	115+627.208	14° 36' 28"	N 5679523.912 E 528216.425
S20	Outcurve	60.000		219.089	115+627.208	115+687.208	2° 08' 55"	
L12		146.245	132° 38' 13"					
S21	Incurve	60.000		173.205	115+833.453	115+893.453	3° 26' 16"	
C11	500	197.028	147° 21' 49"		115+893.453	116+090.481	22° 34' 40"	N 5679204.904 E 528562.894
S22	Outcurve	60.000		173.205	116+090.481	116+150.481	3° 26' 16"	
L13		174.319	162° 05' 25"					
S23	Incurve	60.000		162.481	116+324.800	116+384.800	3° 54' 24"	
C12	440	29.710	167° 55' 52"		116+384.800	116+414.510	3° 52' 08"	N 5678813.958 E 528689.241
S24	Outcurve	60.000		162.481	116+414.510	116+474.510	3° 54' 24"	
L14		33.454	173° 46' 19"					
S25	Incurve	60.000		219.089	116+507.964	116+567.964	2° 08' 55"	
C13	800	26.486	170° 40' 30"		116+567.964	116+594.450	1° 53' 49"	N 5678633.241 E 528708.962
S26	Outcurve	60.000		219.089	116+594.450	116+654.450	2° 08' 55"	
L15		174.942	167° 34' 41"					
S27	Incurve	60.000		346.410	116+829.392	116+889.392	0° 51' 34"	
C14	2000	162.078	170° 45' 32"		116+889.392	117+051.471	4° 38' 36"	N 5678252.964 E 528792.725
S28	Outcurve	60.000		346.410	117+051.471	117+111.471	0° 51' 34"	
L16		106.428	173° 56' 24"					
S29	Incurve	60.000		189.737	117+217.898	117+277.898	2° 51' 53"	
C15	600	267.103	158° 19' 19"		117+277.898	117+545.001	25° 30' 23"	N 5677810.074 E 528839.744
S30	Outcurve	60.000		189.737	117+545.001	117+605.001	2° 51' 53"	
L17		394.999	142° 42' 14"					

BIG TOPPLE ROCK CUT CONSTRUCTION LAYOUT						
STATION	WORK POINT #1	WORK POINT #2	WORK POINT #3	OFFSET	ELEVATION	ELEVATION
115+350.000	-16.209m	1125.380m	-14.601m	1128.514m	-12.705m	1128.988m
115+360.000	-19.130m	1129.137m	-18.159m	1127.231m	-12.705m	1128.595m
115+370.000	-26.138m	1134.636m	-21.712m	1125.949m	-12.712m	1128.199m
115+380.000	-28.424m	1138.728m	-21.710m	1125.562m	-12.705m	1127.804m
115+390.000	-31.191m	1143.665m	-21.733m	1125.102m	-12.733m	1127.352m
115+400.000	-34.268m	1149.307m	-21.705m	1124.651m	-12.705m	1126.901m
115+410.000	-36.199m	1152.574m	-21.753m	1124.223m	-12.753m	1126.473m
115+420.000	-36.610m	1153.048m	-21.705m	1123.796m	-12.705m	1126.046m
115+430.000	-37.052m	1153.480m	-21.767m	1123.481m	-12.767m	1125.731m
115+440.000	-37.529m	1154.222m	-21.705m	1123.166m	-12.705m	1125.416m
115+450.000	-38.563m	1155.857m	-21.767m	1122.892m	-12.767m	1125.142m
115+460.000	-38.665m	1155.903m	-21.705m	1122.618m	-12.705m	1124.868m
115+470.000	-40.313m	1158.767m	-21.767m	1122.368m	-12.767m	1124.618m
115+480.000	-40.701m	1159.400m	-21.705m	1122.118m	-12.705m	1124.368m
115+490.000	-41.346m	1160.318m	-21.767m	1121.892m	-12.767m	1124.142m
115+500.000	-41.820m	1161.144m	-21.705m	1121.666m	-12.705m	1123.916m
115+510.000	-42.806m	1162.756m	-21.767m	1121.464m	-12.767m	1123.714m
115+520.000	-42.850m	1162.761m	-21.705m	1121.262m	-12.705m	1123.512m
115+530.000	-42.838m	1162.438m	-21.767m	1121.083m	-12.767m	1123.333m
115+540.000	-42.547m	1161.809m	-21.705m	1120.905m	-12.705m	1123.155m
115+550.000	-38.479m	1153.550m	-21.767m	1120.751m	-12.767m	1123.001m
115+560.000	-38.096m	1152.765m	-21.705m	1120.597m	-12.705m	1122.847m
115+570.000	-34.064m	1144.601m	-21.767m	1120.466m	-12.767m	1122.716m
115+580.000	-31.204m	1138.979m	-21.705m	1120.336m	-12.705m	1122.586m
115+590.000	-30.610m	1137.586m	-21.767m	1120.229m	-12.767m	1122.479m
115+595.000	-41.687m	1140.112m	-	-	-	-
115+600.000	-39.560m	1137.978m	-21.705m	1120.123m	-12.705m	1122.373m
115+610.000	-35.205m	1133.467m	-21.767m	1120.029m	-12.767m	1122.279m
115+620.000	-32.581m	1130.810m	-21.705m	1119.934m	-12.705m	1122.184m
115+630.000	-31.595m	1129.739m	-21.763m	1119.907m	-12.763m	1122.157m
115+640.000	-28.339m	1126.514m	-21.705m	1119.880m	-12.705m	1122.130m
115+650.000	-26.902m	1125.050m	-21.743m	1119.891m	-12.743m	1122.141m
115+660.000	-23.605m	1123.631m	-21.705m	1119.903m	-12.705m	1122.153m

LITTLE TOPPLE ROCK CUT CONSTRUCTION LAYOUT						
STATION	WORK POINT #1	WORK POINT #2	WORK POINT #3	OFFSET	ELEVATION	ELEVATION
115+660.000	-23.605m	1123.631m	-21.705m	1119.903m	-12.705m	1122.153m
115+670.000	-24.573m	1125.482m	-21.723m	1119.889m	-12.723m	1122.139m
115+680.000	-27.006m	1130.279m	-21.705m	1119.876m	-12.705m	1122.126m
115+690.000	-29.641m	1135.355m	-21.705m	1119.781m	-12.705m	1122.031m
115+700.000	-30.034m	1136.034m	-21.705m	1119.687m	-12.705m	1121.937m
115+710.000	-32.333m	1140.451m	-21.705m	1119.592m	-12.705m	1121.842m
115+720.000	-34.849m	1145.294m	-21.705m	1119.498m	-12.705m	1121.748m
115+730.000	-34.748m	1145.003m	-21.705m	1119.403m	-12.705m	1121.653m
115+740.000	-34.627m	1144.670m	-21.705m	1119.309m	-12.705m	1121.559m
115+750.000	-34.604m	1144.530m	-21.705m	1119.215m	-12.705m	1121.465m
115+760.000	-34.598m	1144.424m	-21.705m	1119.120m	-12.705m	1121.370m
115+770.000	-34.625m	1144.405m	-21.705m	1119.049m	-12.705m	1121.299m
115+780.000	-34.264m	1143.625m	-21.705m	1118.977m	-12.705m	1121.227m
115+790.000	-33.764m	1142.581m	-21.705m	1118.914m	-12.705m	1121.164m
115+800.000	-31.809m	1138.681m	-21.705m	1118.850m	-12.705m	1121.100m
115+810.000	-22.253m	1128.875m	-17.653m	1118.847m	-12.705m	1121.084m
115+820.000	-14.063m	1119.937m	-13.601m	1120.844m	-12.705m	1121.068m

MOUNT VAUX ROCK CUT CONSTRUCTION LAYOUT						
STATION	WORK POINT #1	WORK POINT #2	WORK POINT #3	OFFSET	ELEVATION	ELEVATION
116+120.000	-12.978m	1115.673m	-12.899m	1115.517m	-12.705m	1119.518m
116+130.000	-17.940m	1118.425m	-16.471m	1115.541m	-12.671m	1119.323m
116+140.000	-27.159m	1129.399m	-20.110m	1115.565m	-12.705m	1119.128m
116+150.000	-31.389m	1130.544m	-23.769m	1115.589m	-12.702m	1118.925m
116+155.000	-34.859m	1133.782m	-25.595m	1115.600m	-12.703m	1118.823m
116+160.000	-34.470m	1133.905m	-25.148m	1115.611m	-12.705m	1118.722m
116+170.000	-33.659m	1133.901m	-24.351m	1115.632m	-12.705m	1118.544m
116+180.000	-32.858m	1133.915m	-23.553m	1115.654m	-12.705m	1118.365m
116+190.000	-32.423m	1134.182m	-22.993m	1115.675m	-12.705m	1118.247m
116+200.000	-32.707m	1135.859m	-22.433m	1115.696m	-12.705m	1118.128m
116+210.000	-32.116m	1135.873m	-21.846m	1115.717m	-12.705m	1118.003m
116+220.000	-31.638m	1136.107m	-21.260m	1115.738m	-12.705m	1117.877m
116+230.000	-30.607m	1135.116m	-20.744m	1115.760m	-12.705m	1117.769m
116+240.000	-26.580m	1128.245m	-20.229m	1115.781m	-12.705m	1117.662m
116+250.000	-25.786m	1127.222m	-19.967m	1115.802m	-12.705m	1117.618m
116+260.000	-25.430m	1127.060m	-19.705m	1115.823m	-12.705m	1117.573m
116+270.000	-24.881m	1126.009m	-19.705m	1115.850m	-12.705m	1117.600m
116+280.000	-24.823m	1125.922m	-19.705m	1115.877m	-12.705m	1117.627m
116+290.000	-24.957m	1126.321m	-19.705m	1116.013m	-12.705m	1117.763m
116+300.000	-25.190m	1126.915m	-19.705m	1116.150m	-12.705m	1117.900m
116+310.000	-27.531m	1131.711m	-19.705m	1116.352m	-12.705m	1118.102m
116+320.000	-29.500m	1135.778m	-19.705m	1116.553m	-12.705m	1118.303m
116+330.000	-30.570m	1138.163m	-19.695m	1116.820m	-12.695m	1118.570m
116+340.000	-31.428m	1140.096m	-19.705m	1117.088m	-12.705m	1118.838m
116+350.000	-31.237m	1140.126m	-19.657m	1117.399m	-12.657m	1119.149m
116+360.000	-31.887m	1141.621m	-19.705m	1117.712m	-12.705m	1119.462m
116+370.000	-31.484m	1141.298m	-19.618m	1118.009m	-12.618m	1119.759m
116+380.000	-31.638m	1141.728m	-19.705m	1118.308m	-12.705m	1120.058m
116+390.000	-31.544m	1142.014m	-19.589m	1118.550m	-12.589m	1120.300m
116+400.000	-31.388m	1141.724m	-19.704m	1118.793m	-12.705m	1120.543m
116+410.000	-29.830m	1139.092m	-19.589m	1118.992m	-12.589m	1120.742m
116+420.000	-28.741m	1136.925m	-19.705m	1119.191m	-12.705m	1120.941m
116+430.000	-29.017m	1136.676m	-20.118m	1119.211m	-12.619m	1121.086m
116+440.000	-29.471m	1136.370m	-20.734m	1119.223m	-12.705m	1121.230m
116+450.000	-30.038m	1135.553m	-21.658m	1119.107m	-12.658m	1121.357m
116+455.000	-29.225m	1134.006m	-21.669m	1119.171m	-12.672m	1121.421m

C:\Vancouver\Transportation\331\Projects\134\03095-600\_PCA\_88-91km\CADD\Sheets\201541-1000 SERIES - PLANS.dwg [201541-1020] March 14, 2016 - 3:52:17 pm (BY: YANG, ERIC)



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE CREEK  
 ROCK SLOPE PLAN  
 STA 88+580 TO 88+820**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
201541-1020	1	1

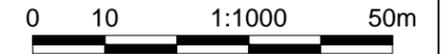


Q:\Vancouver\Transportation\331\Projects\13403095-600 PCA 88-91 km CADD\Sheets\201541-1000 SERIES - PLANS.dwg [201541-1021] February 10, 2016 - 1:52:37 pm (BY: IBRAHIM, KHALIL)



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE CREEK  
 ROCK SLOPE PLAN  
 STA 88+820 TO 89+060**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-1021</b>	<b>0</b>

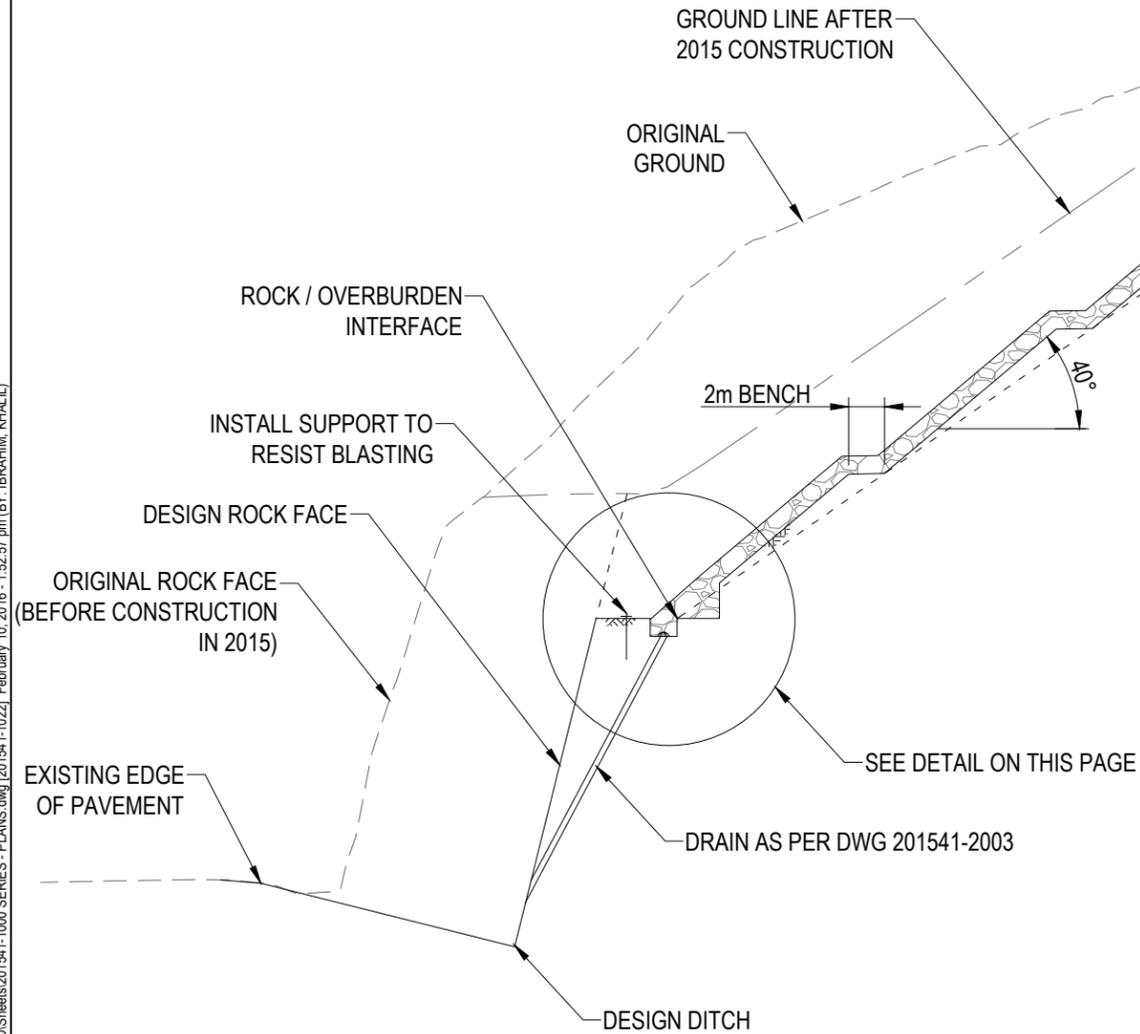


**CONSTRUCTION SEQUENCE**

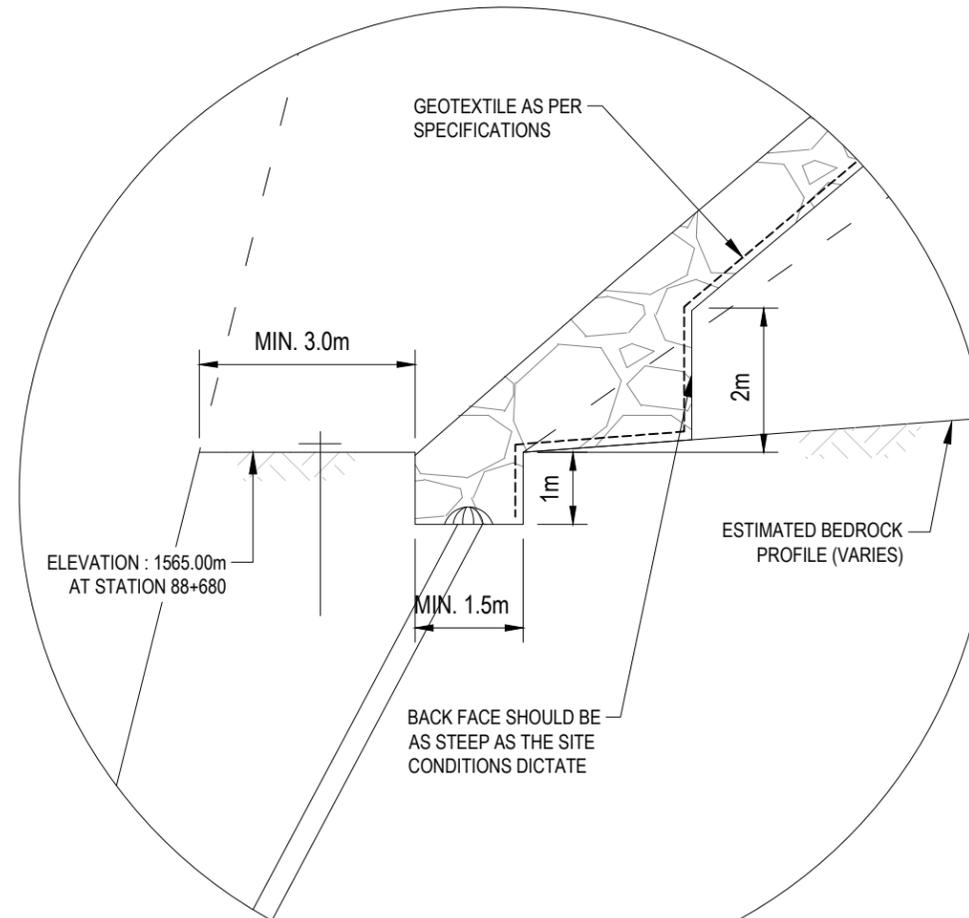
1. REMOVE INSTALLED ROCK BLANKET AND GEOTEXTILE
2. GRADE SLOPE AS SHOWN
3. INSTALL GEOTEXTILE AND ROCK BLANKET AS SHOWN
4. TIE FLANKS INTO EXISTING GROUND

TIE INTO EXISTING GROUND

Q:\Vancouver\Transportation\331\Projects\13403095-600 PCA 88-91 km CADD\Sheets\201541-1000 SERIES - PLANS.dwg [201541-1022] February 10, 2016 - 1:52:57 pm (BY: IBRAHIM, KHALIL)



**SHERBROOKE ROCK SLOPE OVERBURDEN REPROFILE**  
NTS



**SHERBROOKE ROCK / OVERBURDEN DETAIL**  
NTS

VOLUME OF EXCAVATION		INSTALL	
2280	m <sup>3</sup> rip rap	3400	m <sup>2</sup> geotextile
8200	m <sup>3</sup> overburden	3400	m <sup>3</sup> rock blanket
2280	m <sup>2</sup> geotextile		
130	m <sup>2</sup> clear & grub		

REUSE OF GEOTEXTILE AND RIP RAP IS ACCEPTABLE

**NOTE:**

- LOCAL STAGING AREA AND PIONEER ACCESS REQUIRED

**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

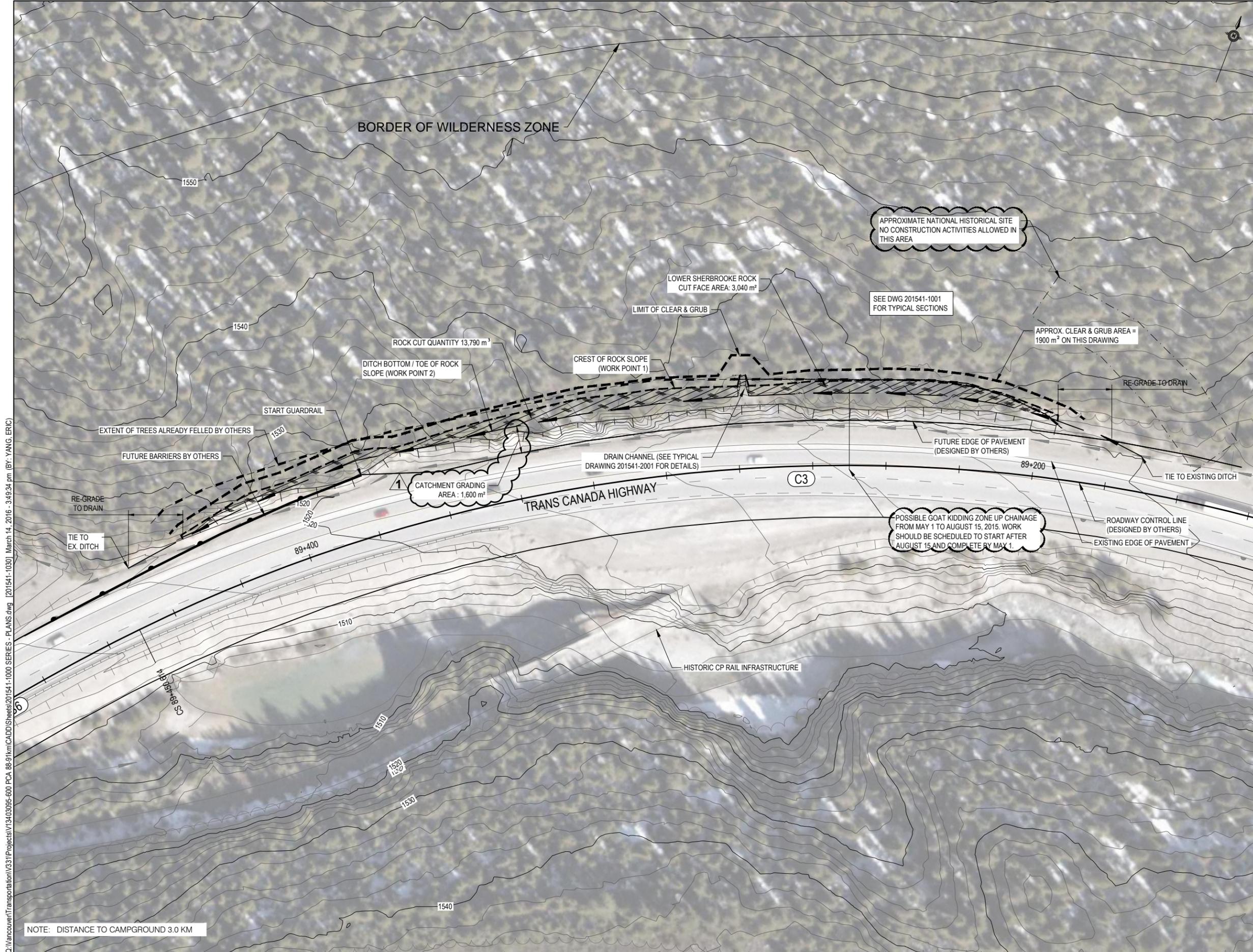
Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessiné par  
**T. TAKEDA**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 OVERBURDEN REPROFILING  
 (STA 88+640 TO 88+720)**



Q:\Vancouver\Transportation\3311\Projects\134\3095-600\_PCA\_88-91km\CADD\Sheets\201541-1000 SERIES - PLANS.dwg [201541-1030] March 14, 2016 - 3:49:34 pm (BY: YANG, ERIC)

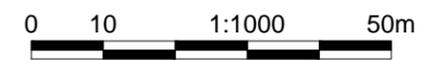


NOTE: DISTANCE TO CAMPGROUND 3.0 KM



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Drawing title/Titre du dessin  
**LOWER SHERBROOKE CREEK  
 ROCK SLOPE PLAN  
 STA 89+195 TO 89+435**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
201541-1030	1	1

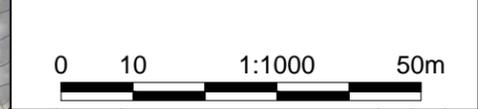


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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER		AF	TT
				AF	

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

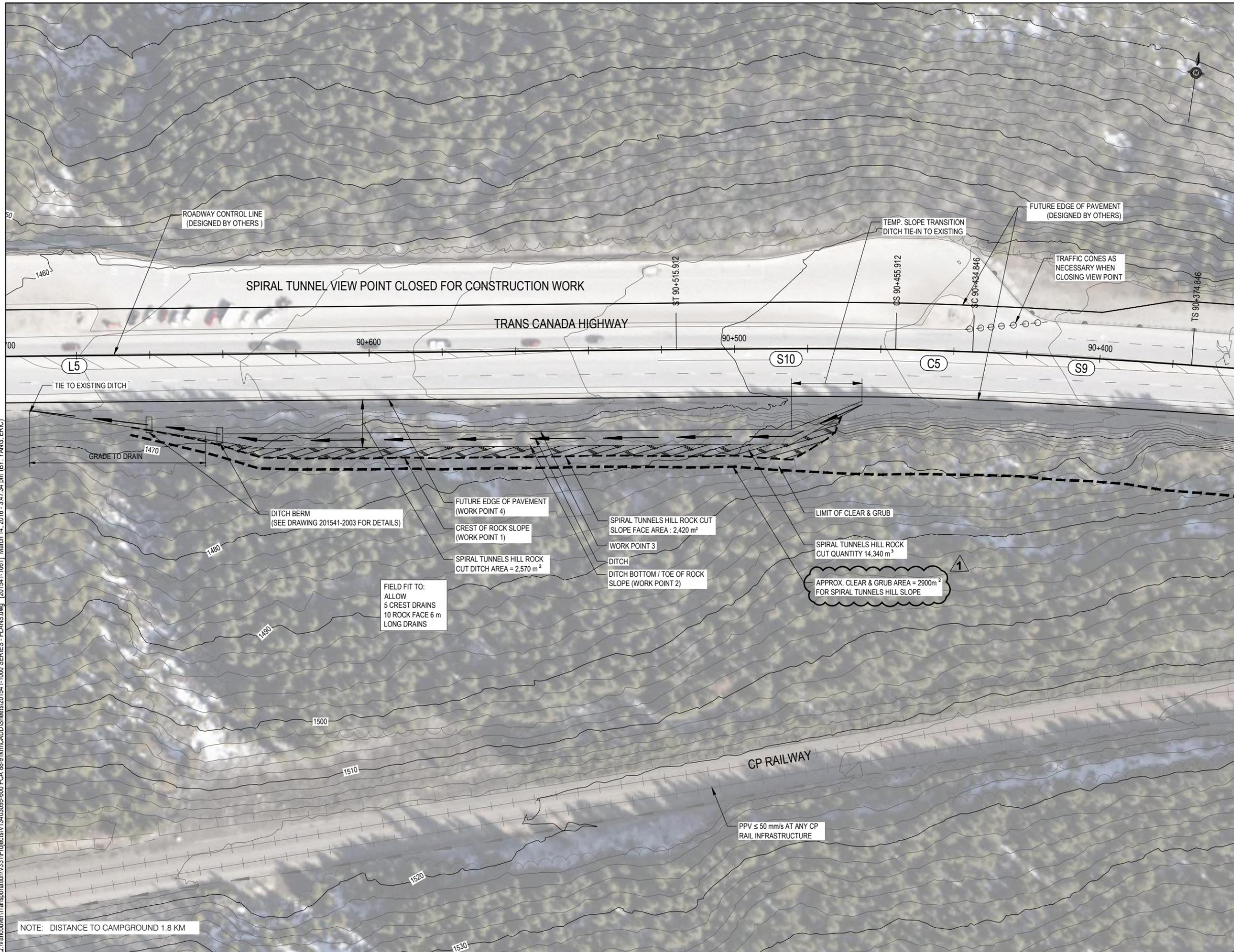
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL  
 ROCK SLOPE PLAN  
 STA 90+210 TO 90+360**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-1060</b>	<b>0</b>



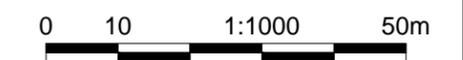
Q:\Vancouver\Transportation\331\Projects\134\3095-600 PCA 88-91km\CADD Sheets\201541-1000 SERIES - PLANS.dwg [201541-1061] March 14, 2016 - 3:47:34 pm (BY: YANG, ERIC)



NOTE: DISTANCE TO CAMPGROUND 1.8 KM

# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL  
 ROCK SLOPE PLAN  
 STA 90+360 TO 90+700**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	<b>201541-1061</b>	<b>1</b>





# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

Revision/	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

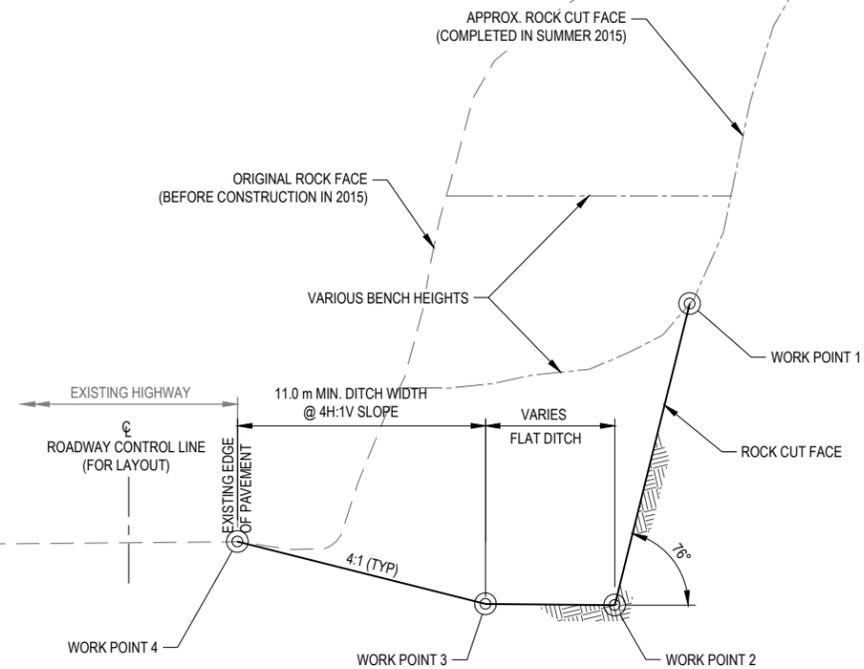
Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

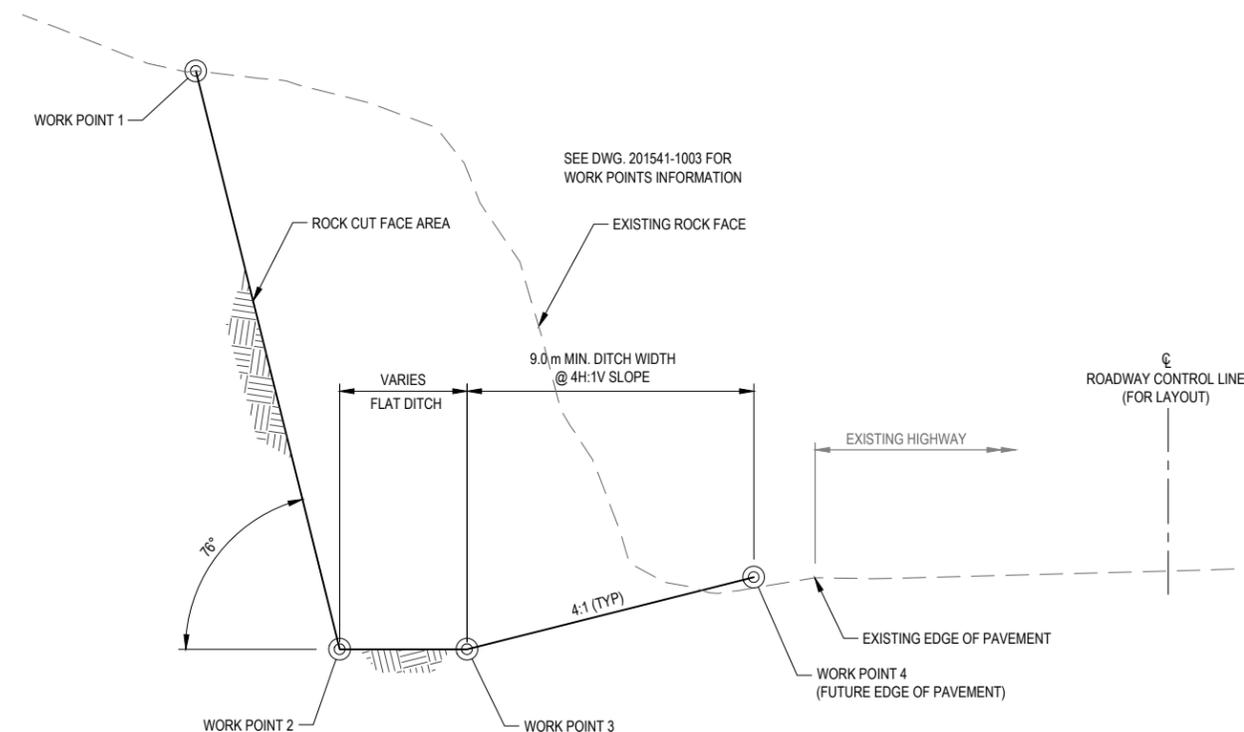
Drawing title/Titre du dessin  
**ROCK CUT CONSTRUCTION LAYOUT  
 TYPICAL SECTIONS**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-1001</b>	<b>0</b>

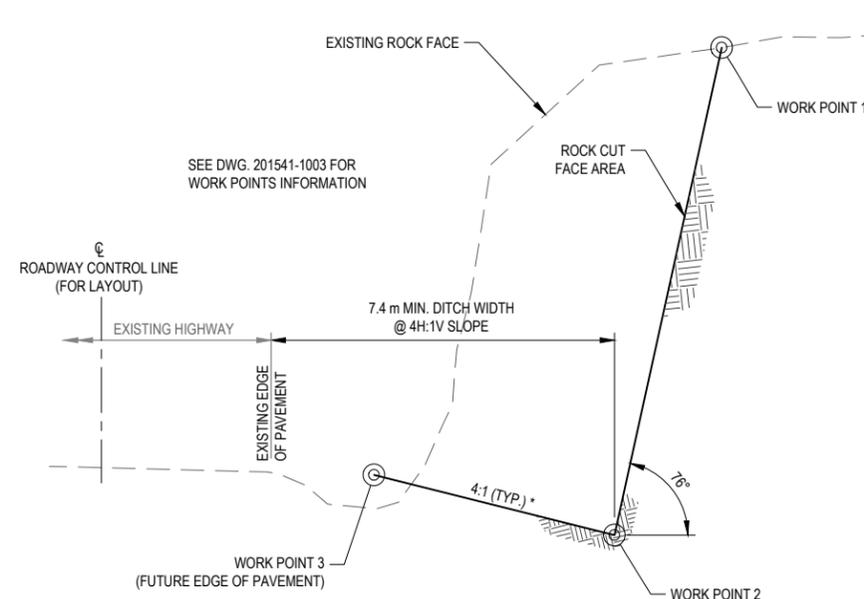
SEE DWG. 201541-1003 FOR  
 WORK POINT INFORMATION



**SHERBROOKE CREEK ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 89+097.13 TO 89+565**  
 NOT TO SCALE



**SPIRAL TUNNELS HILL ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 90+465 TO 90+645**  
 NOT TO SCALE



**LOWER SHERBROOKE CREEK ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 89+195 TO 89+430**  
 NOT TO SCALE

\* ROCK CATCHMENT AREA SLOPE TO BE 2:1 BETWEEN STA 89+380 TO 89+430

**GENERAL NOTES:**

1. FOR RE-PLANTING SPECIES OF TREES AND SPACING REFER TO SPECIFICATION.
2. LARGER TREES SAVED FROM STRIPPING WILL BE PLACED FOR HABITAT PURPOSES.
3. NO EQUIPMENT, PERSONNEL, OR MATERIAL WILL ENTER SHERBROOKE CREEK.
4. SILT FENCES OR OTHER SUITABLE CONTAINMENT MEASURES SHALL BE USED TO PROTECT CREEK DOWN RIDGE LINE.
5. NO WORK TO OCCUR WITHIN RIPARIAN ZONE OF CREEKS (30 m OFFSET FROM CREEK BOUNDARY).





# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

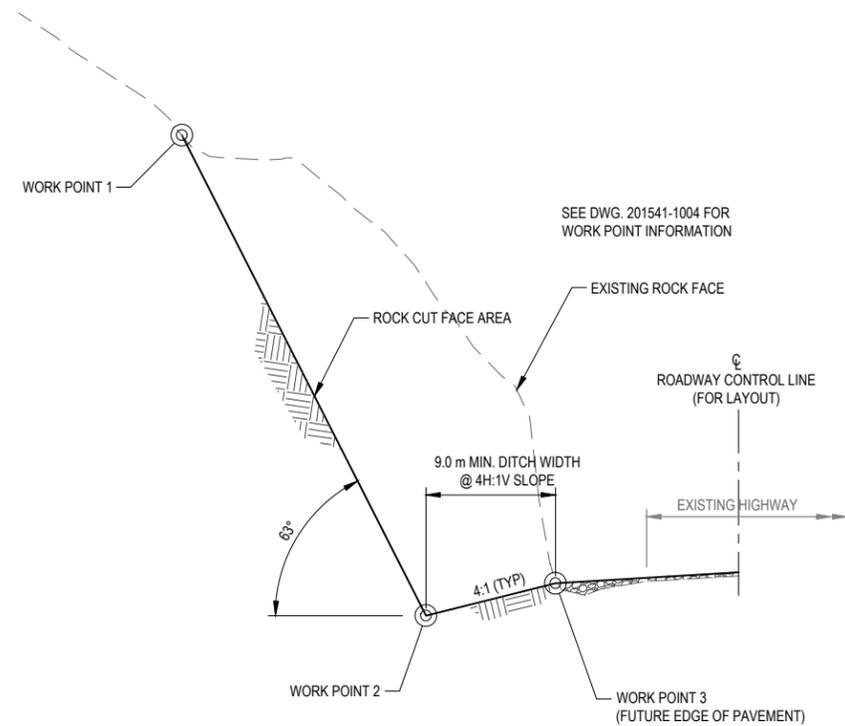
Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessine par  
**T. TAKEDA**

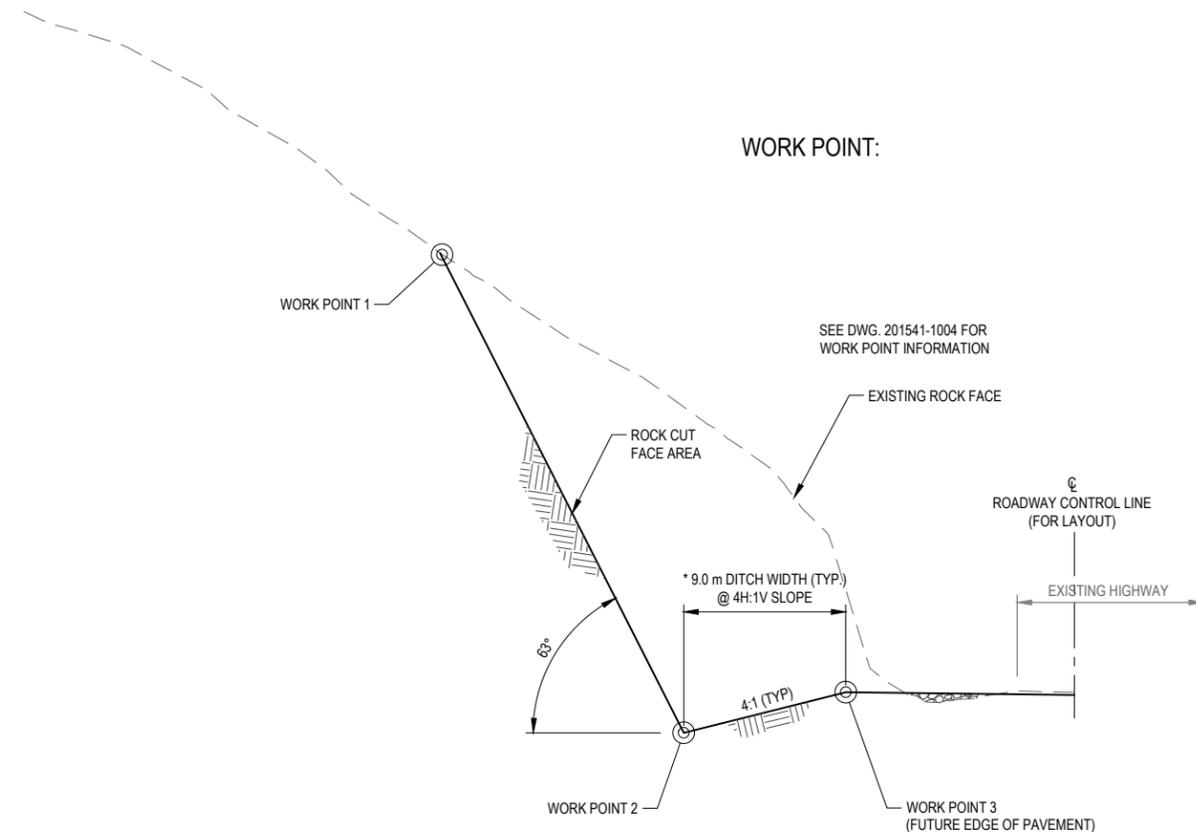
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**ROCK CUT CONSTRUCTION LAYOUT  
 TYPICAL SECTIONS**

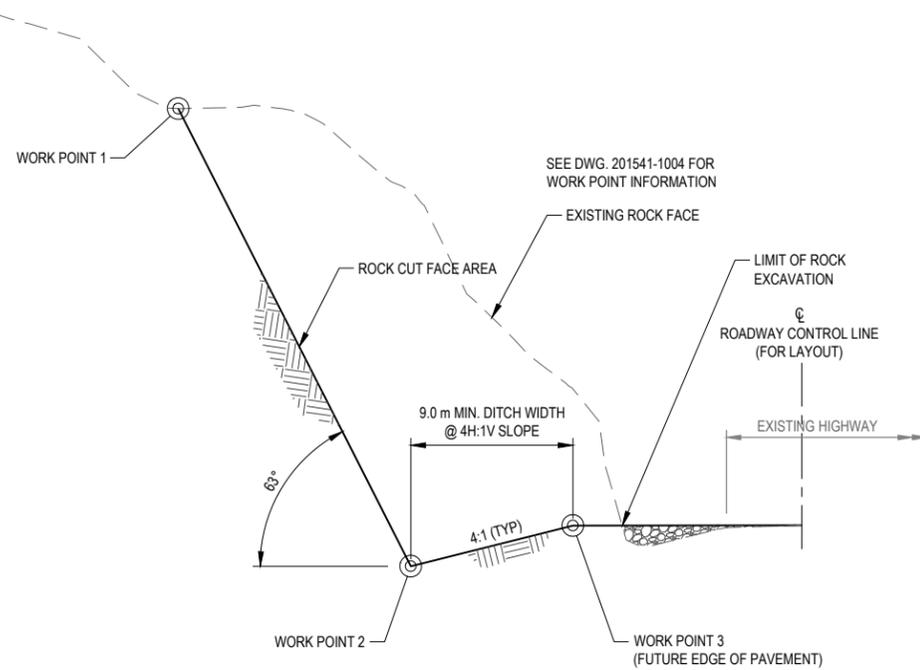
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-1002</b>	<b>0</b>



**BIG TOPPLE ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 115+370 TO 115+600**  
 NOT TO SCALE



**MOUNT VAUX ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 116+120 TO 116+475**  
 NOT TO SCALE



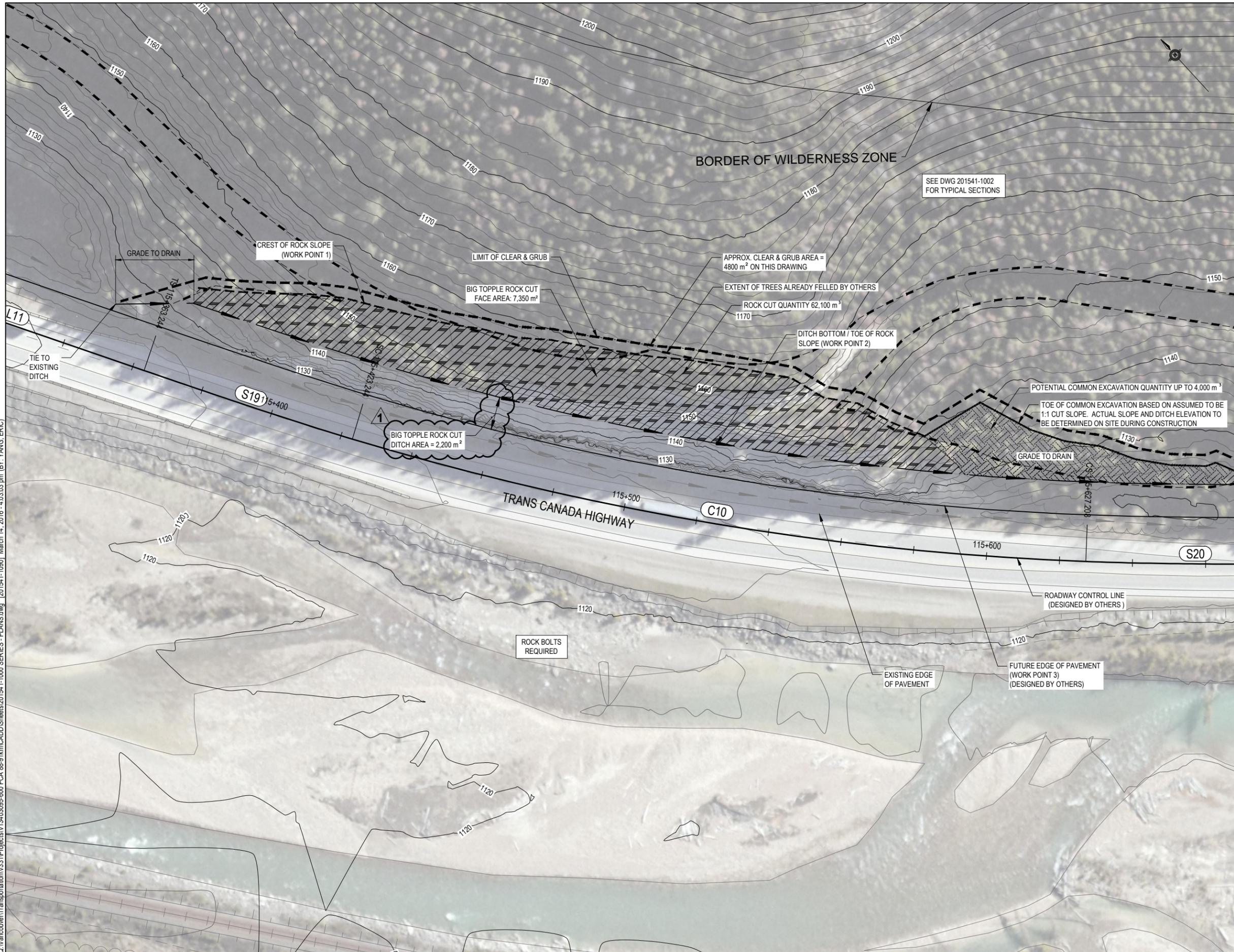
**LITTLE TOPPLE ROCK SLOPE CONSTRUCTION LAYOUT POINTS**  
**STA. 115+675 TO 115+820**  
 NOT TO SCALE

**GENERAL NOTES:**

1. ACCESS ROAD REMOVAL WILL OCCUR AT LOCATIONS WHERE THE OLD EXISTING HIGHWAY IS USED TO GET TO SLOPES (Eg. 115+050 TO 115+850 AND 116+150 TO 116+900).
2. FOR RE-PLANTING SPECIES OF TREES AND SPACING REFER TO SPECIFICATION.
3. LARGER TREES SAVED FROM STRIPPING WILL BE PLACED FOR HABITAT PURPOSES.
4. NO EQUIPMENT, PERSONNEL, OR MATERIAL WILL ENTER SHERBROOKE CREEK.
5. SILT FENCES OR OTHER SUITABLE CONTAINMENT MEASURES SHALL BE USED TO PROTECT CREEK DOWN RIDGE LINE.
6. NO WORK TO OCCUR WITHIN RIPARIAN ZONE OF CREEKS (30 m OFFSET FROM CREEK BOUNDARY).



C:\Vancouver\Transportation\331\Projects\134\3095-600 PCA 88-91km\CADD\Sheets\201541-1090 SERIES - PLANS.dwg [201541-1090] March 14, 2016 - 4:03:03 pm (BY: YANG, ERIC)



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

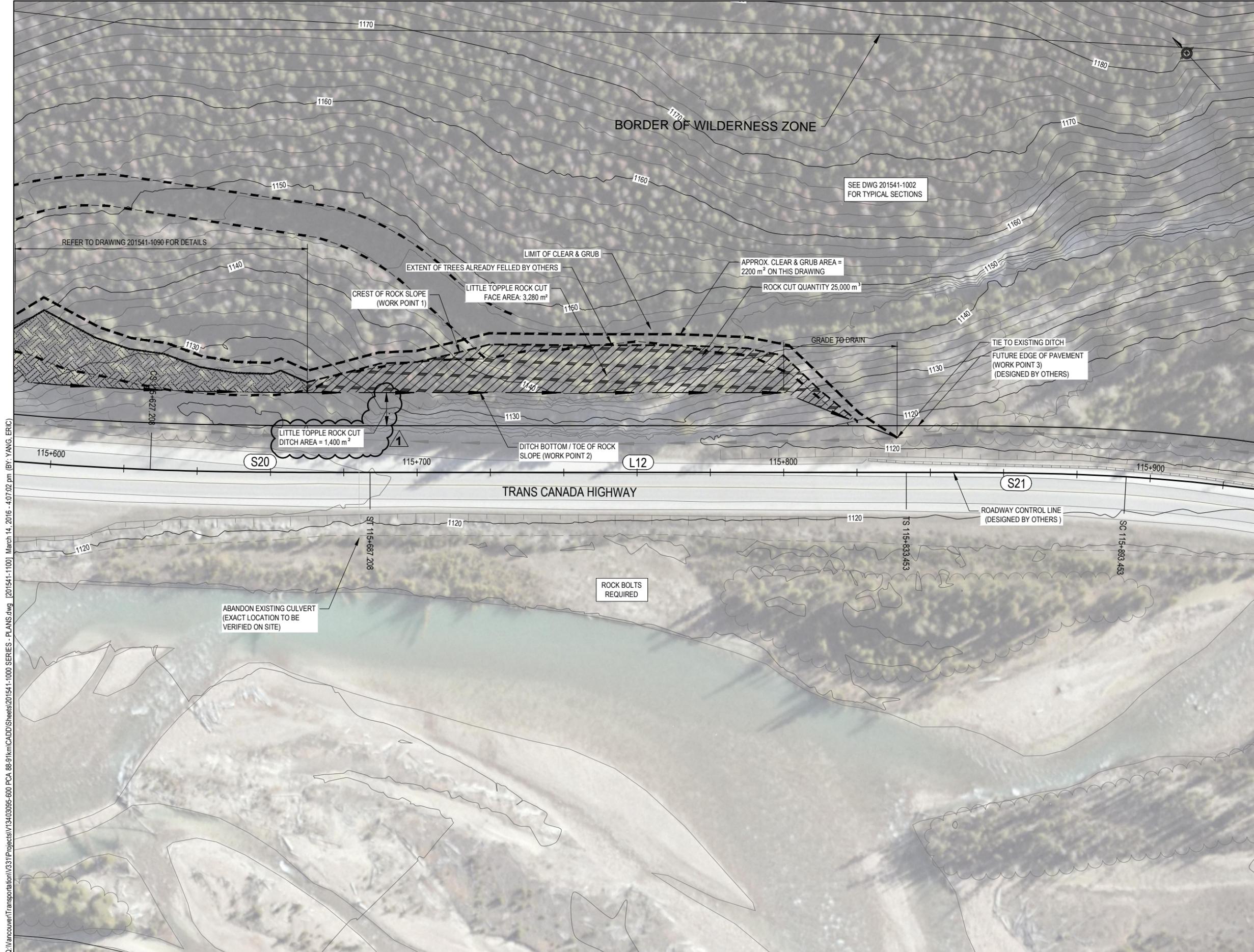
Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**BIG TOPPLE  
 ROCK SLOPE PLAN  
 STA 115+370 TO 115+600**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
201541-1090	1	1





# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
 YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

Designed by/Concept par  
 A. FRAPPELL / E. YANG

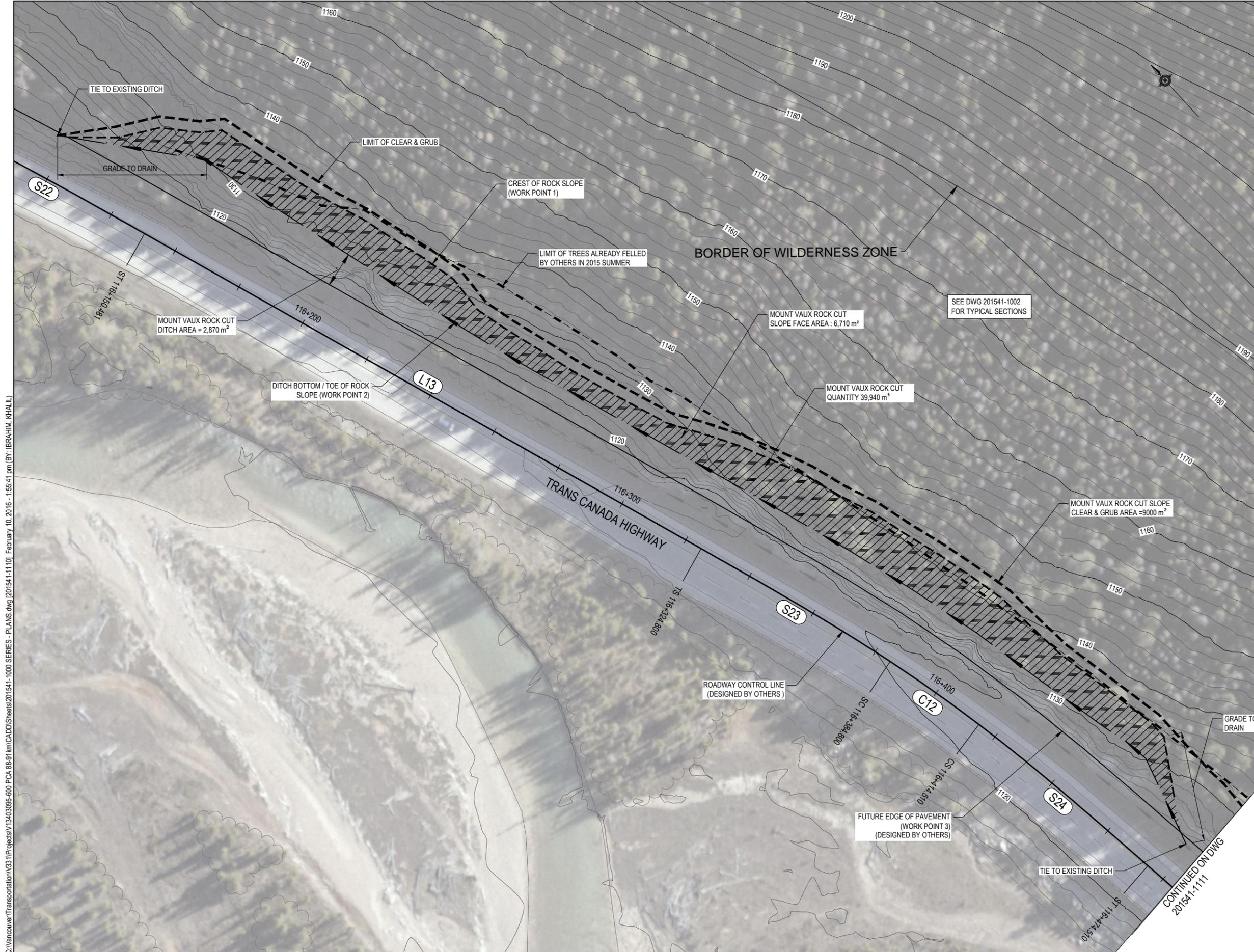
Drawn by/Dessiné par  
 T. TAKEDA

Drawing title/Titre du dessin  
**LITTLE TOPPLE  
 ROCK SLOPE PLAN  
 STA 115+675 TO 115+820**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
201541-1100	1	1

Q:\Vancouver\Transportation\331\Projects\134\3095-600 PCA 88-91km\CADD\Sheets\201541-1100 SERIES - PLANS.dwg [201541-1100] March 14, 2016 - 4:07:02 pm (BY: YANG, ERIC)





# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.




Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**

Drawing title/Titre du dessin  
**MOUNT VAUX  
 ROCK SLOPE PLAN  
 STA 116+115 TO 116+475**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
201541-1110	0	0

Q:\Vancouver\Transportation\331\Projects\13403095-600 PCA 88-91 km CADD\Sheets\201541-1000 SERIES - PLANS.dwg [201541-1110] February 10, 2016 - 1:55:41 pm (BY: IBRAHIM, KHALIL)



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PCA PROJECT No. TETRA TECH EBA No.

0 10 1:1000 50m

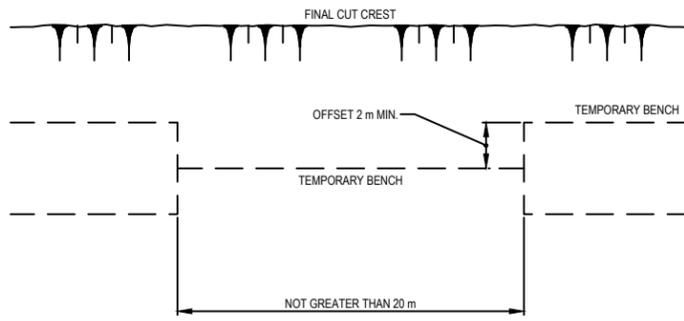
Revision/	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

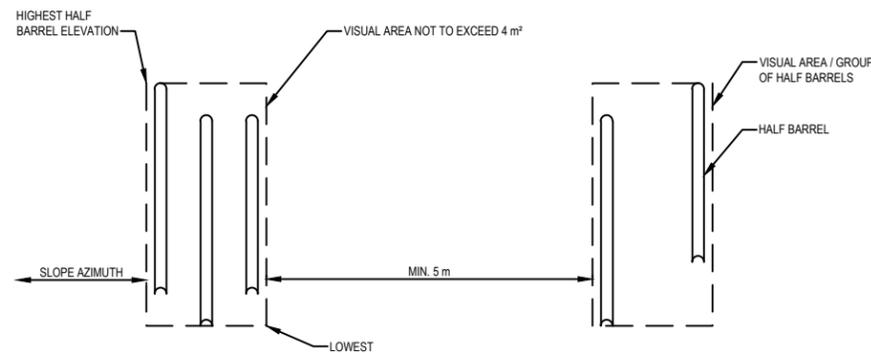
Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessine par  
**T. TAKEDA**

Drawing title/Titre du dessin  
**MOUNT VAUX  
 ROCK SLOPE PLAN  
 STA 116+475 TO 116+865**

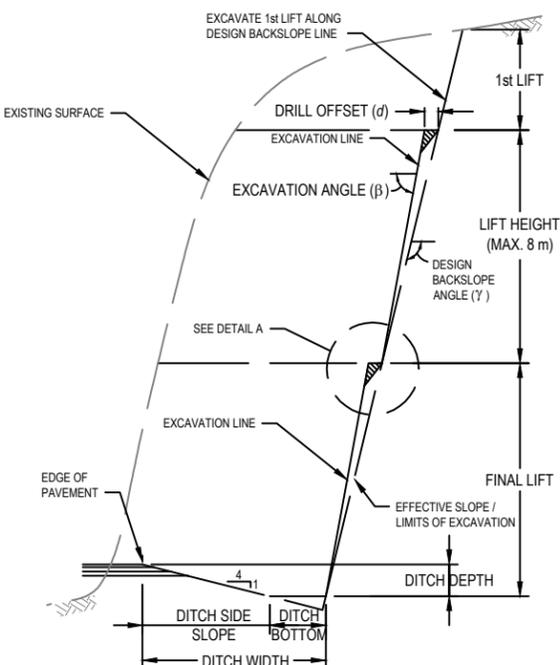




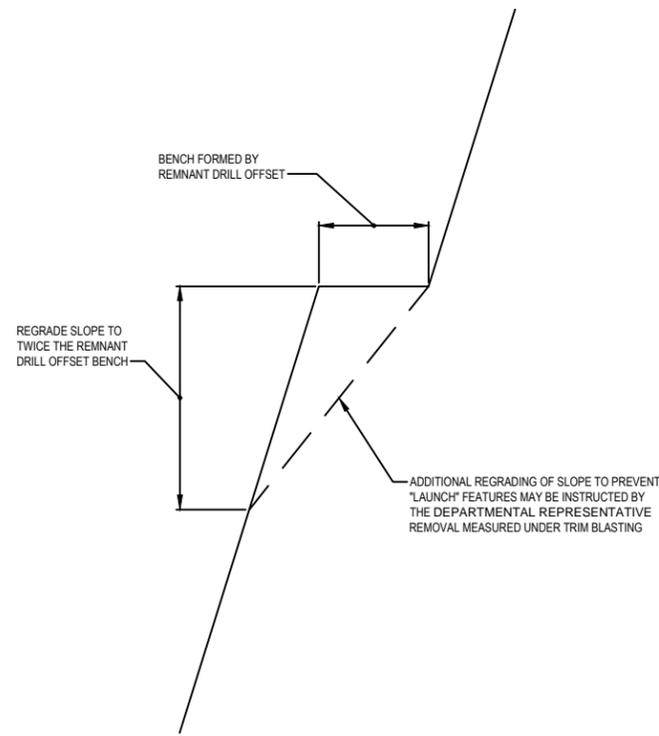
**OFFSET OF TEMPORARY BENCHES  
(ELEVATION VIEW)  
NOT TO SCALE**



**HALF BARREL OR DRILL HOLE ACCEPTABILITY  
(ELEVATION VIEW OF ROCK FACE)  
NOT TO SCALE**

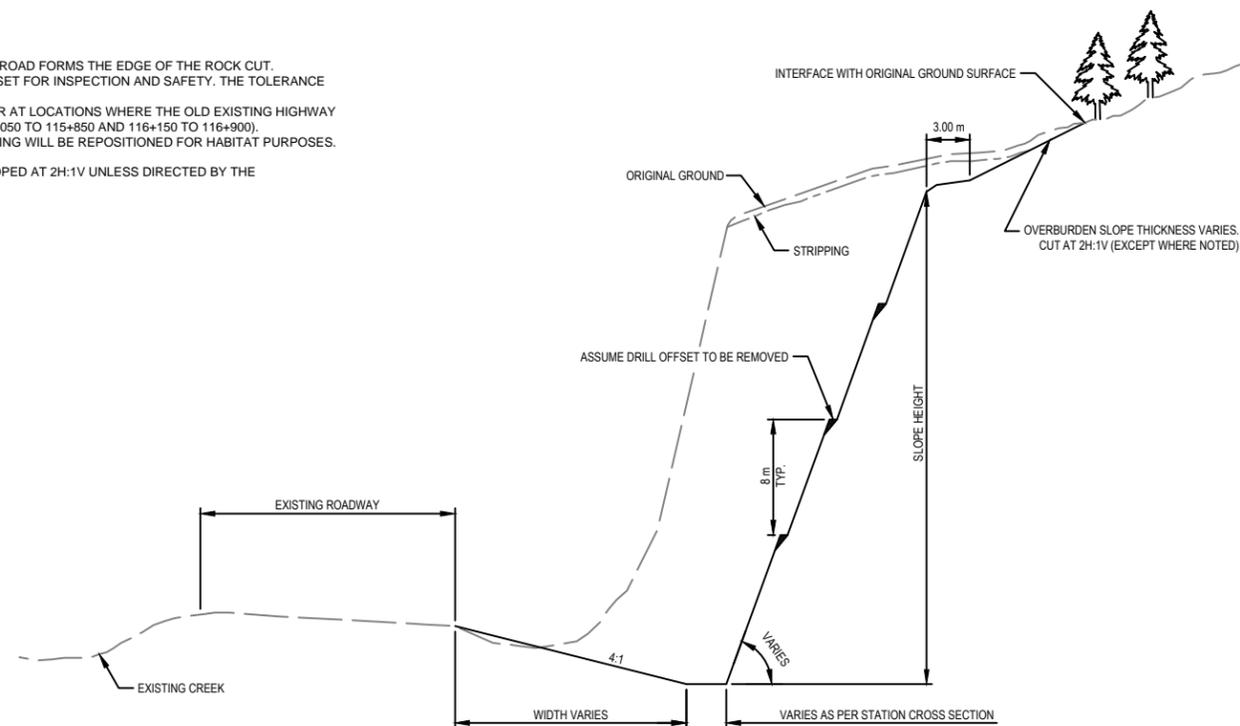


**CALCULATION OF BACKSLOPE EXCAVATION ANGLE  
NOT TO SCALE  
FOR INFORMATION PURPOSES**

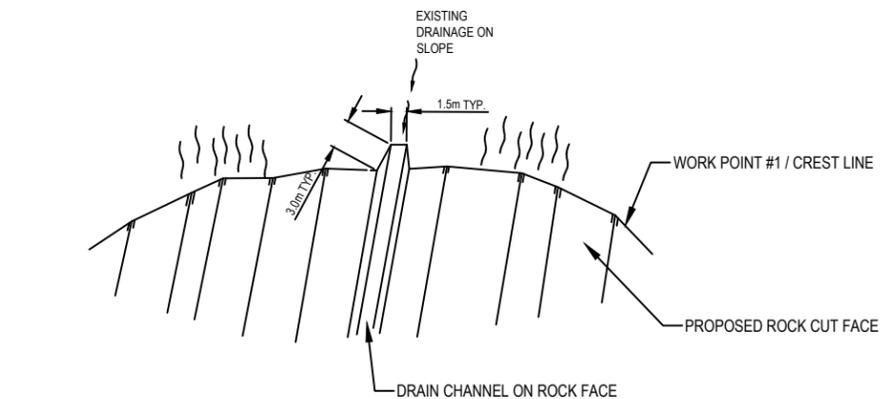


**DETAIL A: REMOVAL OF DRILL OFFSET BENCHES  
NOT TO SCALE**

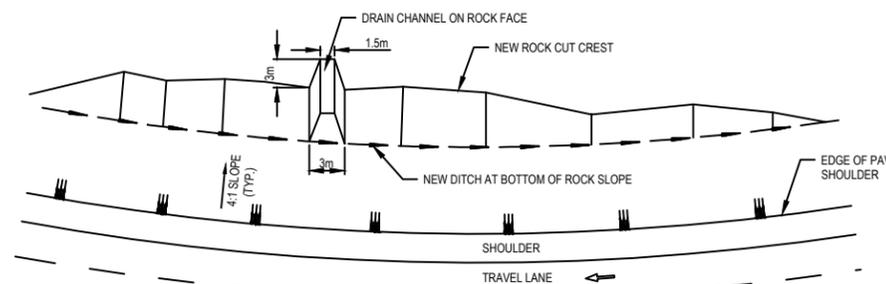
- GENERAL NOTES:**
1. THE OUTSIDE EDGE OF THE ACCESS ROAD FORMS THE EDGE OF THE ROCK CUT.
  2. THE 3 m SET BACK AT THE CREST IS SET FOR INSPECTION AND SAFETY. THE TOLERANCE ON THIS SET BACK IS ±0.5 m.
  3. ACCESS ROAD REMOVAL WILL OCCUR AT LOCATIONS WHERE THE OLD EXISTING HIGHWAY IS USED TO GET TO SLOPES (Eg. 115+050 TO 115+850 AND 116+150 TO 116+900).
  4. LARGER TREES SAVED FROM STRIPPING WILL BE REPOSITIONED FOR HABITAT PURPOSES.
  5. DRILL OFFSETS SHALL BE REMOVED.
  6. OVERBURDEN SLOPES SHALL BE SLOPED AT 2H:1V UNLESS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.



**TYPICAL SECTION - SOLID ROCK  
NOT TO SCALE**



**DRAIN CHANNEL ON ROCK FACE (3D VIEW)  
NOT TO SCALE**



**PLAN: DRAIN CHANNEL ON ROCK FACE  
NOT TO SCALE**

**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
TRANS-CANADA HIGHWAY  
SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessiné par  
**T. TAKEDA**

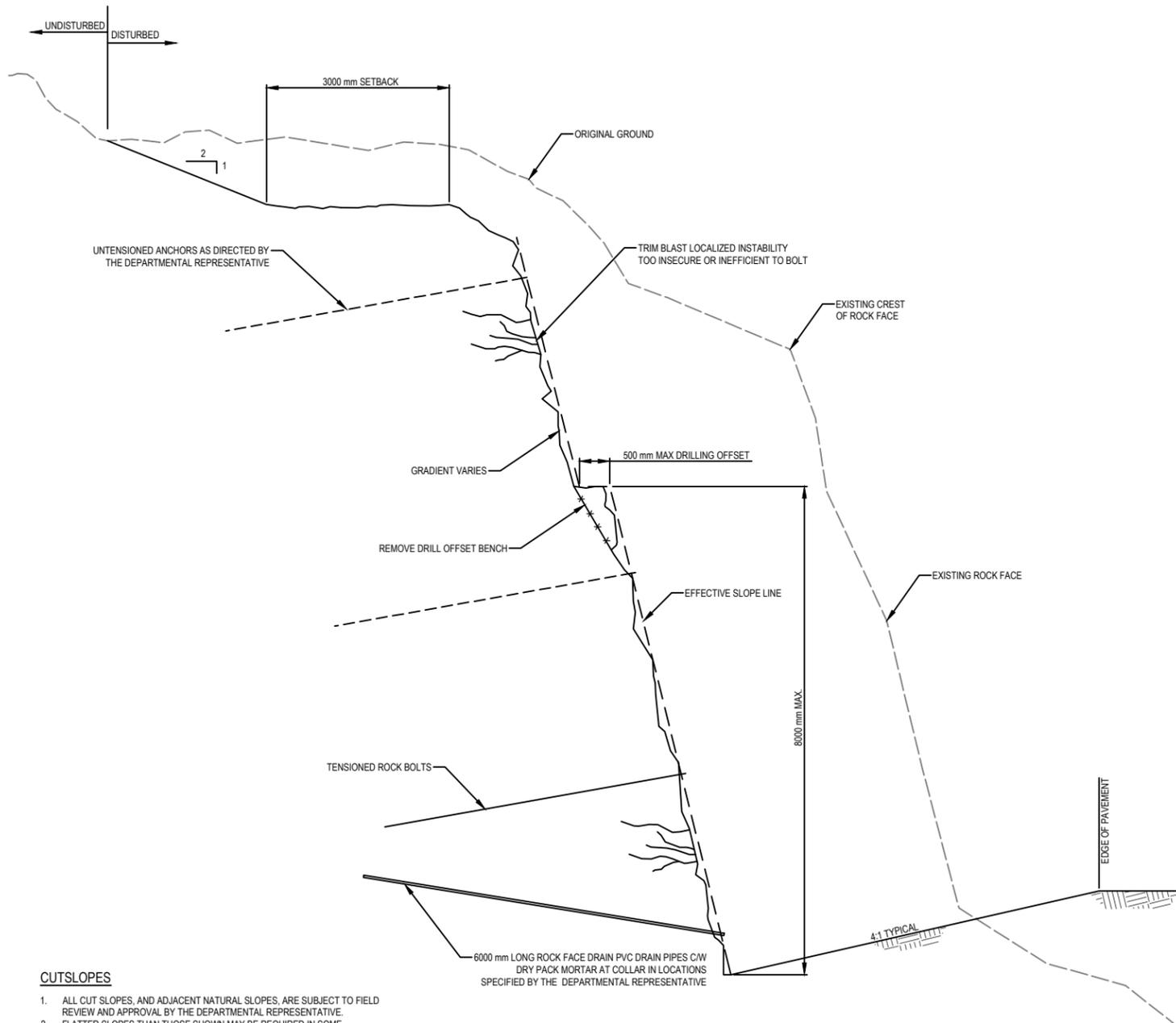
Client/client  
**PARKS CANADA AGENCY**  
 Drawing title/Titre du dessin  
**TYPICAL CROSS SECTION**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-2001</b>	<b>0</b>



**NOTES**

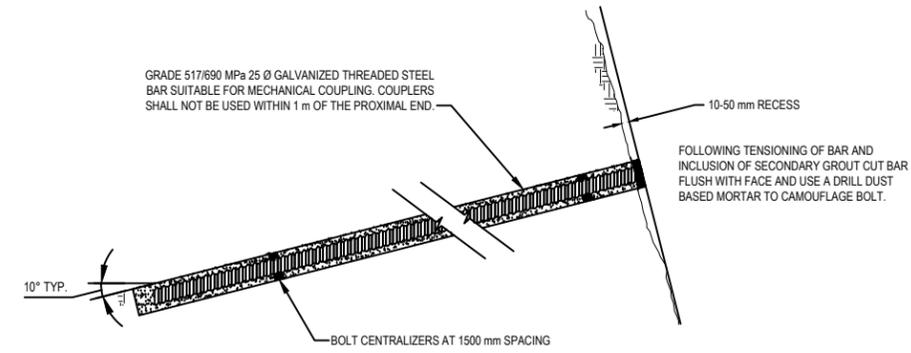
1. INSTALL ROCK SUPPORT AND MAKE SPECIFIED TREATMENTS AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
2. FIXED BOLT LENGTHS SHALL BE VERIFIED BY THE DEPARTMENTAL REPRESENTATIVE BASED ON SITE CONDITIONS AT EACH APPLICATION LOCATION.
3. ROCK SUPPORT INSTALLATION SHALL BE SEQUENCED WITH THE EXCAVATION.
4. ROCKFACE DRAINS SHALL BE AS PER BC MOTI STANDARD SPECIFICATION 208.



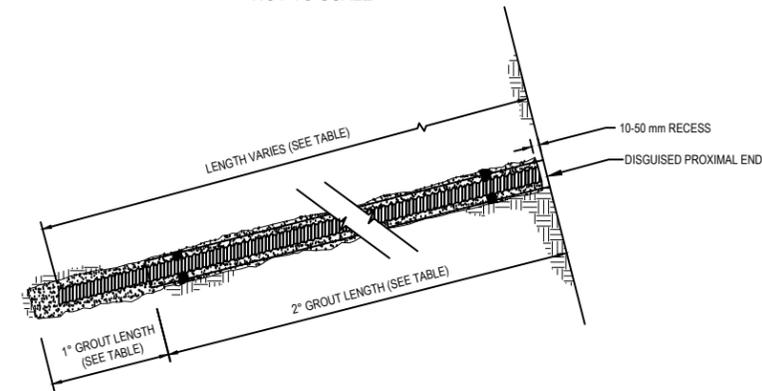
**TYPICAL SECTION - ROCK CUT > 3.0 m**  
NOT TO SCALE

**CUTSLOPES**

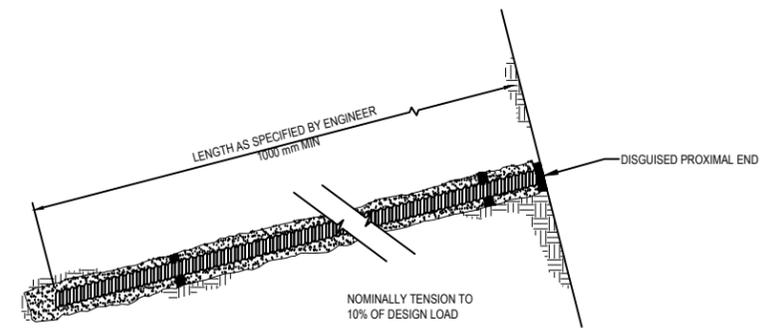
1. ALL CUT SLOPES, AND ADJACENT NATURAL SLOPES, ARE SUBJECT TO FIELD REVIEW AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE.
2. FLATTER SLOPES THAN THOSE SHOWN MAY BE REQUIRED IN SOME LOCATIONS FOR SLOPE STABILITY.
3. EMPLOY SCALING, HOARDING, AND/OR OTHER MEASURES AS REQUIRED FOR WORKER SAFETY.
4. SOME SLOPE LOCATIONS MAY REQUIRE HAND SCALING OR TRIM BLASTING.



**TYPICAL ANCHOR**  
NOT TO SCALE



**TENSIONED ROCK BOLT**  
NOT TO SCALE



**UNTENSIONED ROCK BOLT**  
NOT TO SCALE

ROCKBOLT LENGTH (m)	1° GROUT LENGTH (m)	2° GROUT LENGTH (m)	TENSION LOAD* (kN)
3	1.5	1.5	100
4	1.8	2.2	120
5	2.2	2.8	130
6	2.5	3.5	150

**ISSUED FOR TENDER**

- GENERAL NOTES:
1. THE 3 m SET BACK AT THE CREST IS SET FOR INSPECTION AND SAFETY. THE TOLERANCE ON THIS SET BACK IS ±0.5 m.
  2. LARGER TREES SAVED FROM STRIPPING WILL BE PLACED FOR HABITAT PURPOSES.
  3. LENGTH OF BAR LESS THAN 1 m SHALL NOT BE COUPLED TO FORM LONGER ANCHORS.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

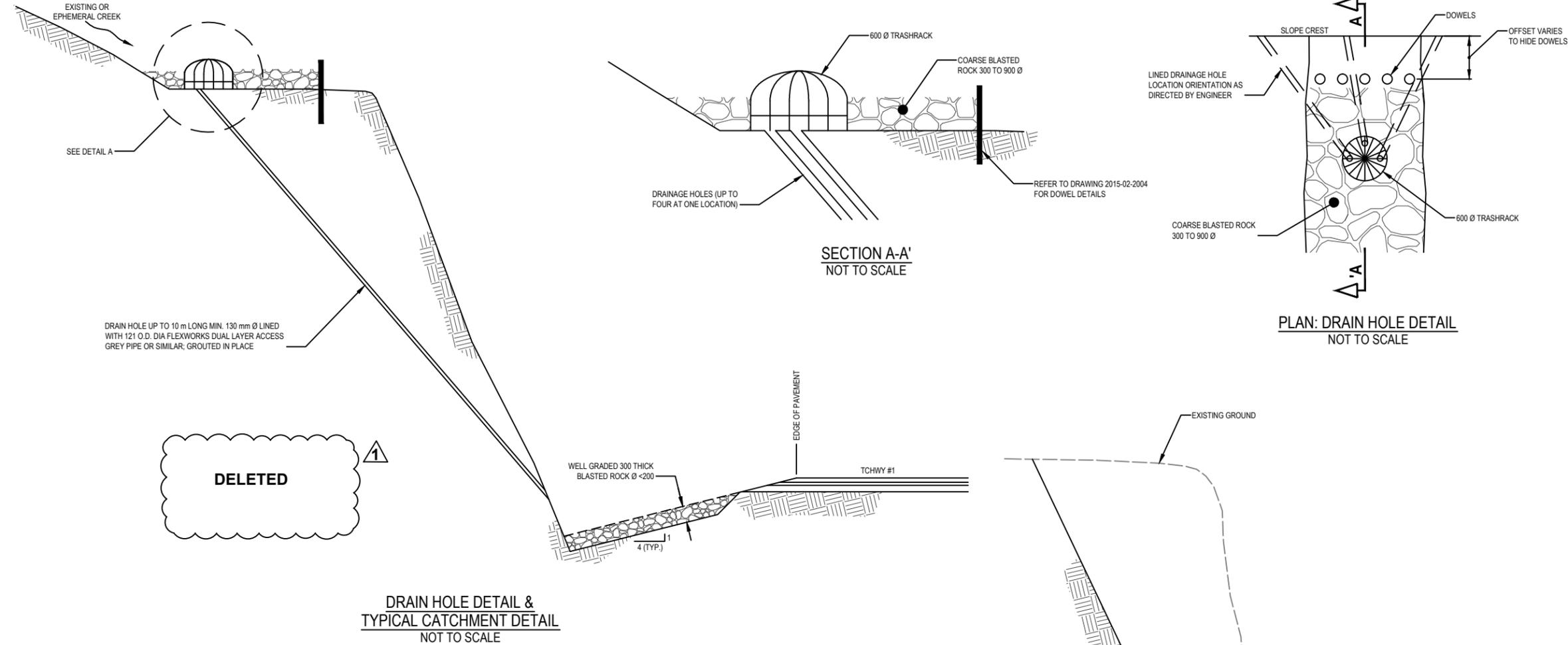
Drawing title/Titre du dessin  
**ROCK SUPPORT TYPICAL DETAILS**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
201541-2002		0

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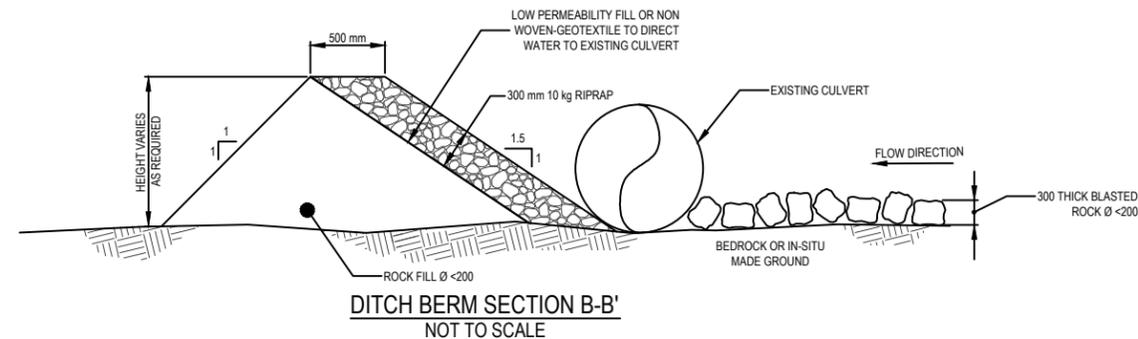
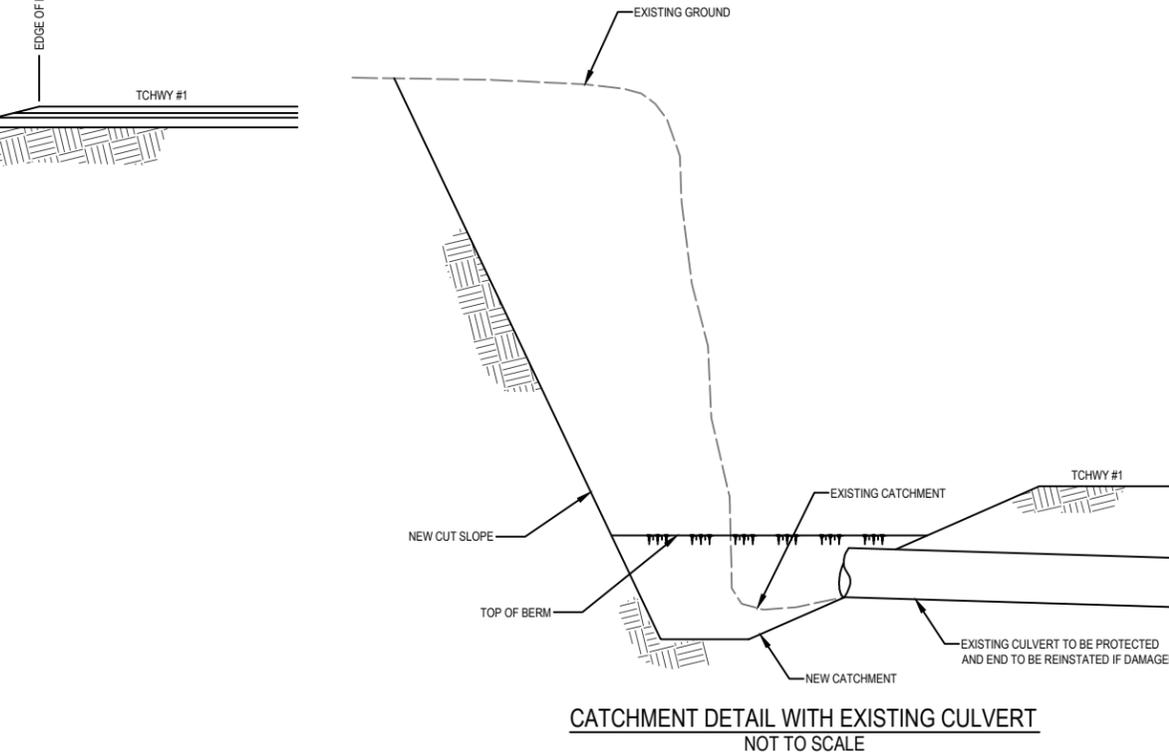
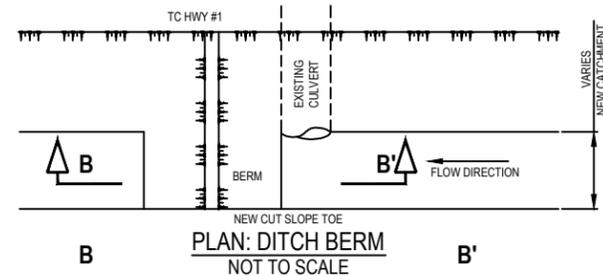


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**GENERAL NOTES:**

1. BLASTED ROCK TO BE PLACED IN CATCHMENT LOOSELY TAMPED WITH EXCAVATOR BUCKET.
2. AT LOCATIONS OF EXISTING CULVERTS, THESE SHOULD BE PROTECTED DURING COURSE OF THE WORK. IF DAMAGED ENDS SHOULD BE REPLACED AT THE LOCATIONS. A SWALE WILL BE CONSTRUCTED IN THE CATCHMENT TO ENSURE DRAINAGE.
3. AT LOCATIONS OF LOW CREEK FLOW, DRAIN HOLES WILL BE INSTALLED TO CONTROL FLOW OF WATER DOWN SLOPE AS DIRECTED BY THE DEPARTMENT REPRESENTATIVE.



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
1	16/03/14	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**CATCHMENT AND SLOPE DRAINAGE  
 TYPICAL DETAILS**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-2003</b>	<b>1</b>



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

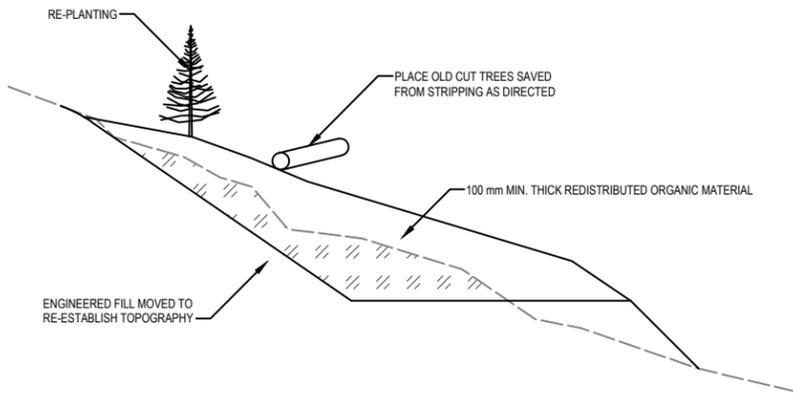
Client/client  
**PARKS CANADA AGENCY**

## RESTORATION OR REMOVAL TYPICAL DETAILS

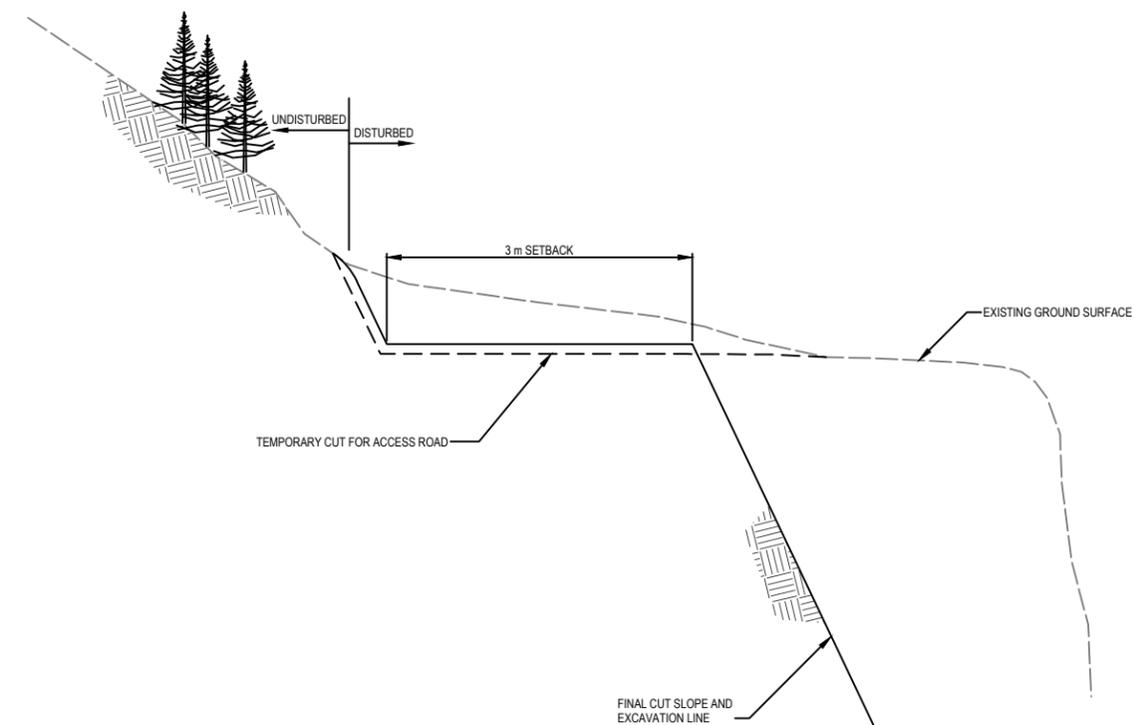
Project No./No. du projet  
**201541-2004**

Sheet/Feuille  
**0**

Revision no./La Révision no.  
**0**



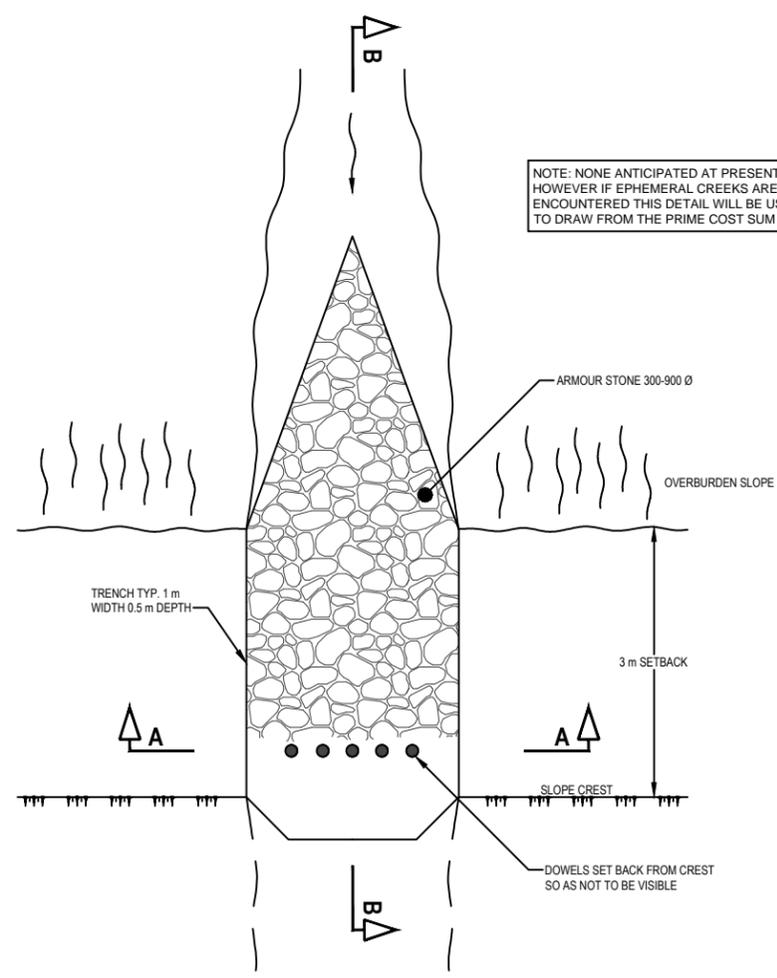
**ACCESS ROAD REMOVAL/RESTORATION  
 WHERE NOT FORMING CREST OF NEW CUT  
 NOT TO SCALE**



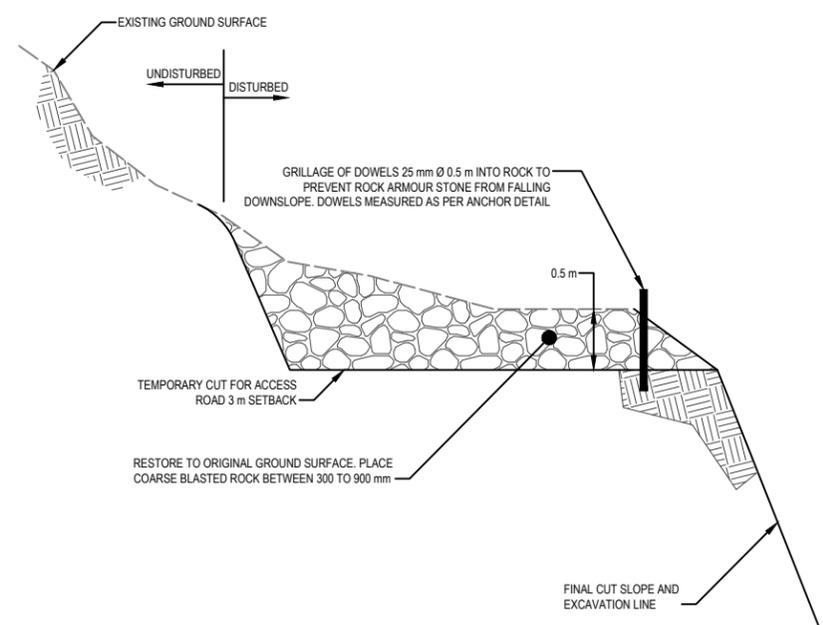
**TYPICAL ACCESS ROAD RESTORATION  
 WHERE FORMING CREST OF NEW CUT  
 NOT TO SCALE**

- GENERAL NOTES:**
1. THE OUTSIDE EDGE OF THE ACCESS ROAD FORMS THE EDGE OF THE ROCK CUT.
  2. THE 3 m SET BACK AT THE CREST IS SET FOR INSPECTION AND SAFETY THE TOLERANCE ON THIS SET BACK IS ±0.5 m.
  3. ACCESS ROAD REMOVAL WILL OCCUR AT LOCATION WHERE THE OLD EXISTING HIGHWAY IS USED TO GET TO SLOPES (Eg. 115+050 TO 115+850 AND 116+150 TO 116+900).
  4. FOR REPLANTING SPECIES OF TREES AND SPACING REFER TO SPECIFICATION.
  5. LARGER TREES SAVED FROM STRIPPING WILL BE REPOSITIONED FOR HABITAT PURPOSES.
  6. DRILL OFFSETS SHALL BE REMOVED.
  7. OVERBURDEN SLOPES SHALL BE SLOPED AT 2H:1V UNLESS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
  8. CRESTS BLENDING INTO NATURE SOIL SLOPES SHALL BE ROUNDED TO REDUCE EROSION.

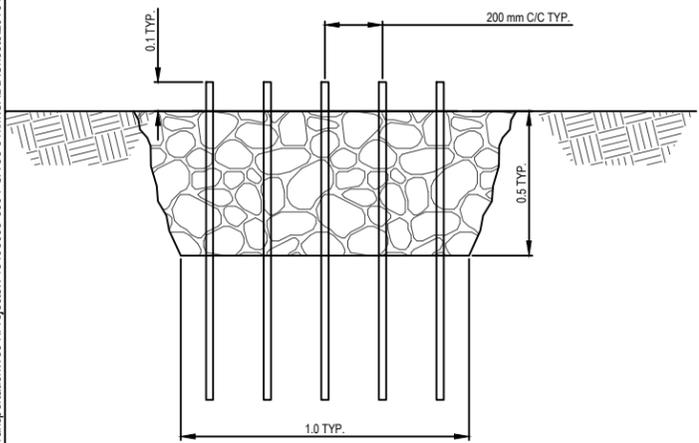
NOTE: NONE ANTICIPATED AT PRESENT, HOWEVER IF EPHEMERAL CREEKS ARE ENCOUNTERED THIS DETAIL WILL BE USED TO DRAW FROM THE PRIME COST SUM



**PLAN VIEW OF NATURAL CREEK  
 NOT TO SCALE**



**SECTION B-B TYPICAL ACCESS ROAD  
 RESTORATION AT CREEK CROSSINGS  
 NOT TO SCALE**



**SECTION A-A  
 NOT TO SCALE**

C:\Vancouver\Transportation\331\Projects\13403095-600 PCA 88-91 km CADD\Sheets\201541-2004 - TYPICAL DETAILS.dwg [201541-2004] February 10, 2016 - 1:56:38 pm (BY: IBRAHIM, KHALL)



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

Designed by/Concept par  
 A. FRAPPPELL / E. YANG

Drawn by/Dessiné par  
 T. TAKEDA

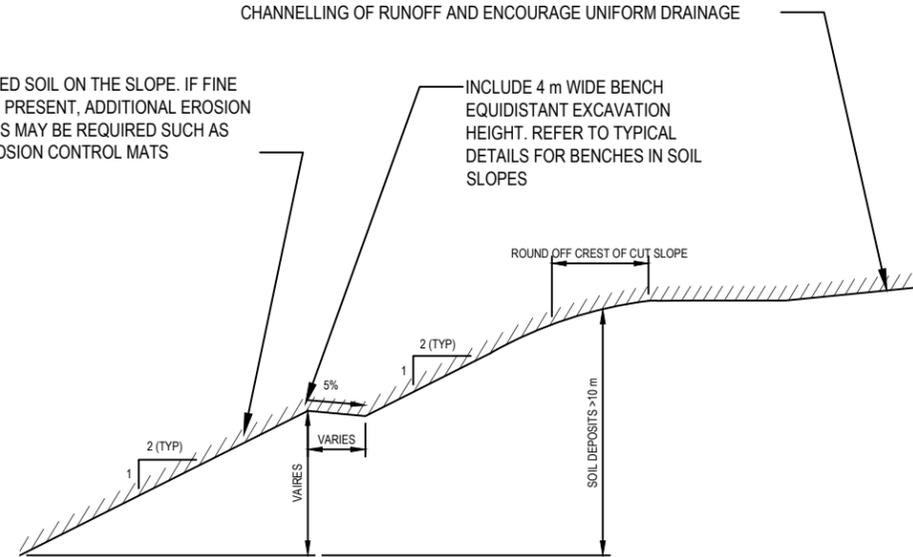
Client/client  
 PARKS CANADA AGENCY

Drawing title/Titre du dessin  
**TYPICAL DETAILS SOIL SLOPE**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	201541-2005	0

AS DIRECTED BY THE ON-SITE ENGINEER, IMPROVE DRAINAGE AND RUNOFF OF THE UPSLOPE AREA USING TECHNIQUES SUCH AS MICRO CONTOURING, CHECK DAMS, OR OTHER METHODS TO PREVENT CHANNELLING OF RUNOFF AND ENCOURAGE UNIFORM DRAINAGE

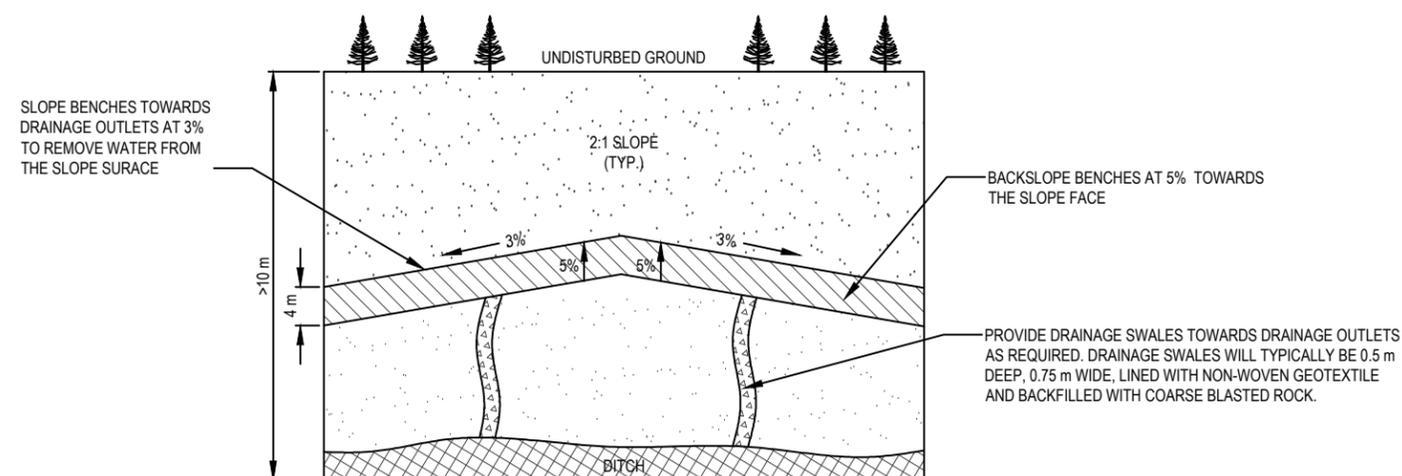
HYDROSEED EXPOSED SOIL ON THE SLOPE. IF FINE GRAINED SOILS ARE PRESENT, ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED SUCH AS ARMOURING OR EROSION CONTROL MATS



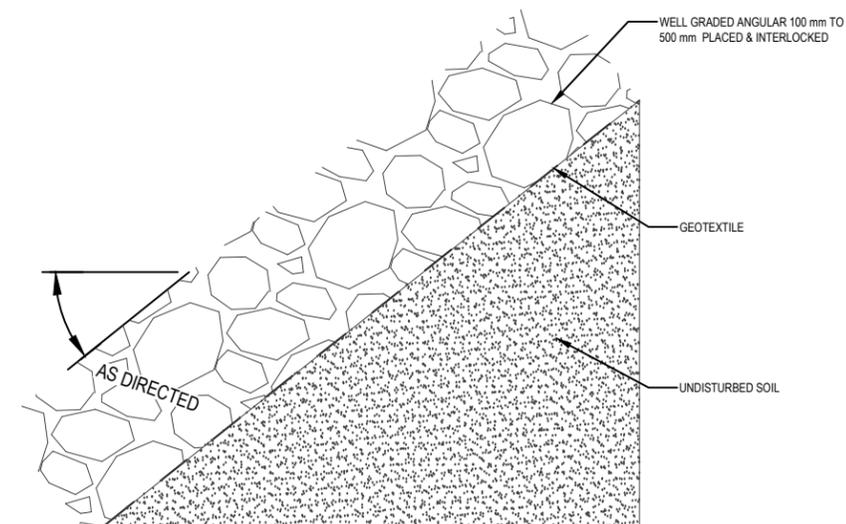
TYPICAL SOIL CUT SLOPE DETAILS GREATER THAN 10 m  
 NOT TO SCALE

NOTES

1. SITE-SPECIFIC DESIGN RECOMMENDATIONS MAY BE REQUIRED FOR AREAS WHERE SOIL COVER IS >1.5m IN THICKNESS AT THE TOP OF A BEDROCK SLOPE. AREAS WHERE PREVIOUS PROBLEMS WITH EROSION, RAVELLING, AND/OR SHALLOW SLIDING HAS BEEN OBSERVED, WHERE THE BEDROCK SURFACE UPSLOPE OF THE CUT IS >2H:1V OR AT THE DISCRETION OF THE ON-SITE ENGINEER



ELEVATION VIEW  
 NOT TO SCALE



ROCK BLANKET DETAIL  
 NOT TO SCALE





Q:\Vancouver\Transportation\331\Projects\134\03095-600 PCA 88-91km\CADD\Sheets\201541-4000 SERIES - CROSS SECTIONS.dwg [201541-4020] February 11, 2016 - 2:35:00 pm (BY: YANG, ERIC)



# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

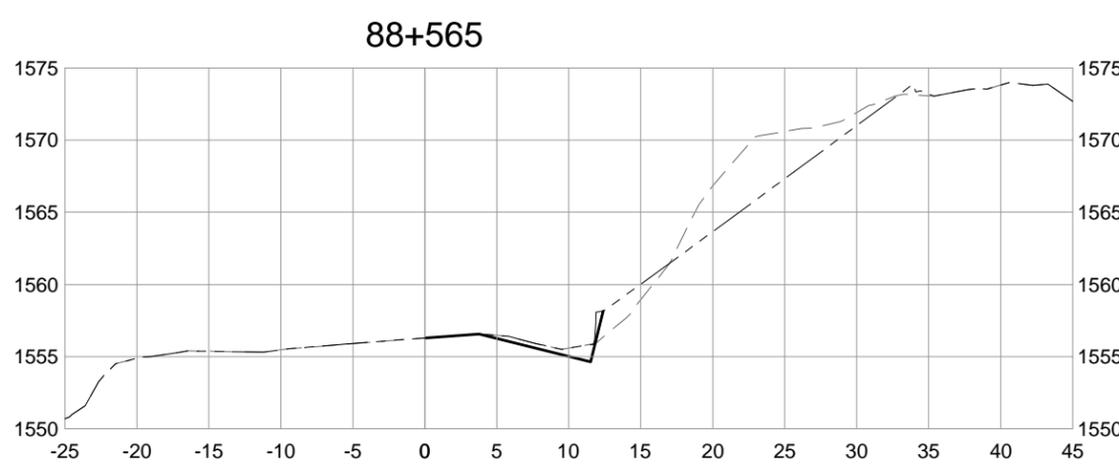
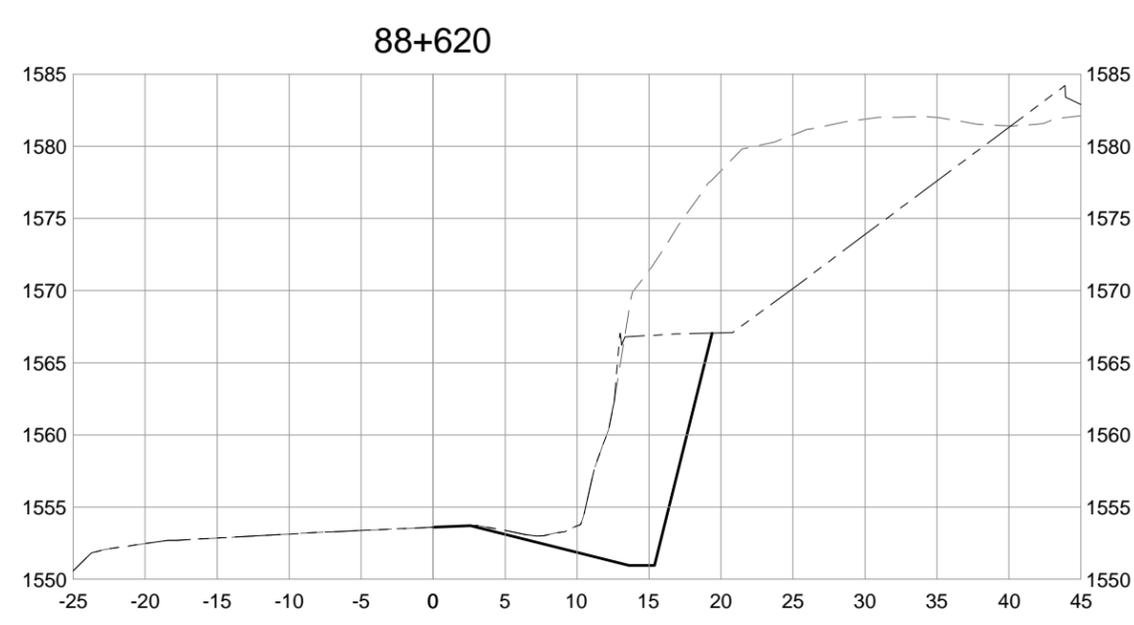
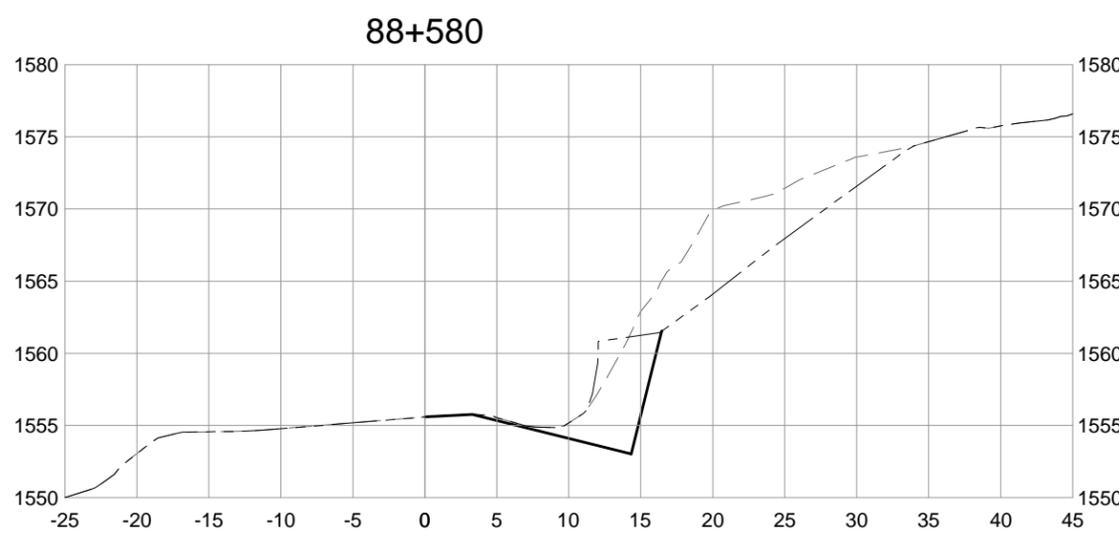
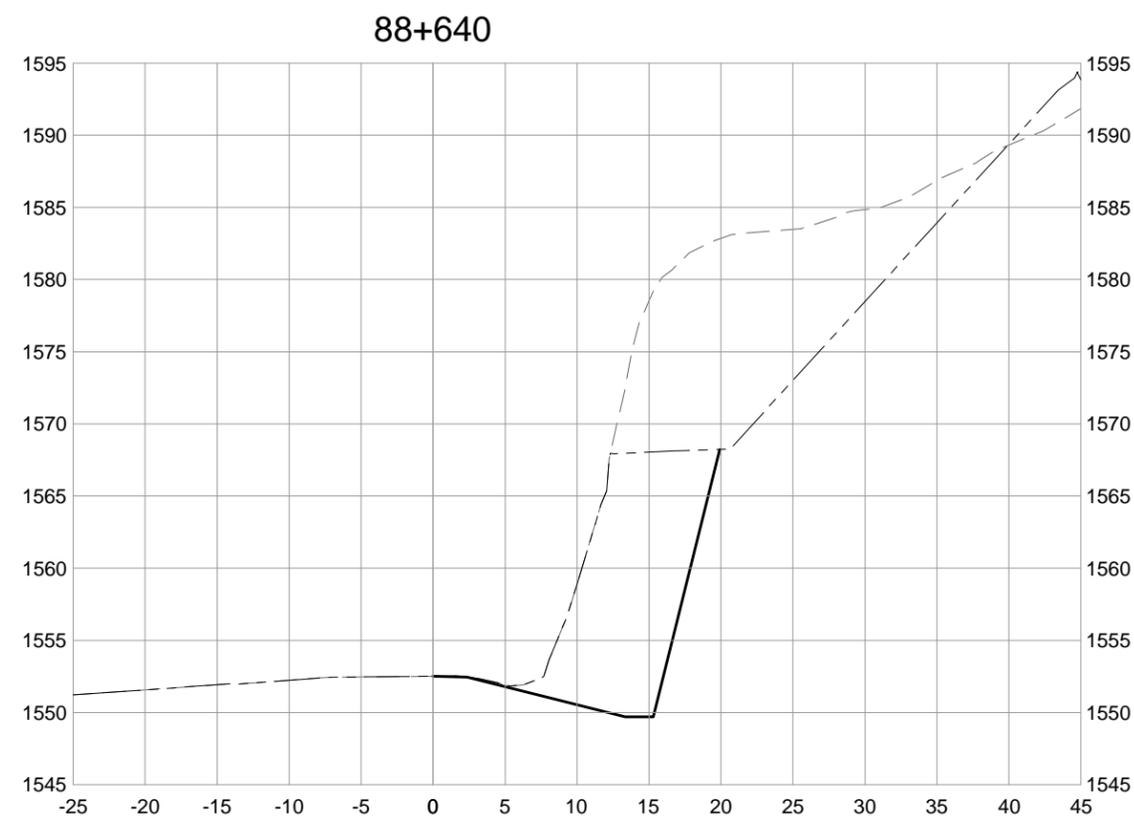
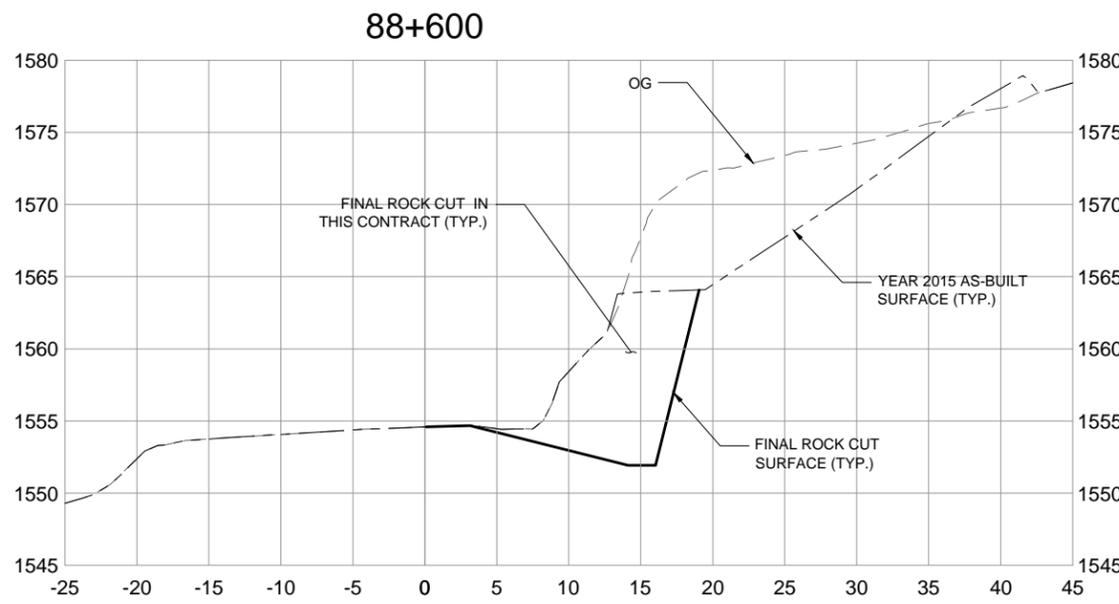
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+565 TO 88+640**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4020</b>	<b>0</b>

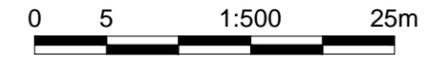


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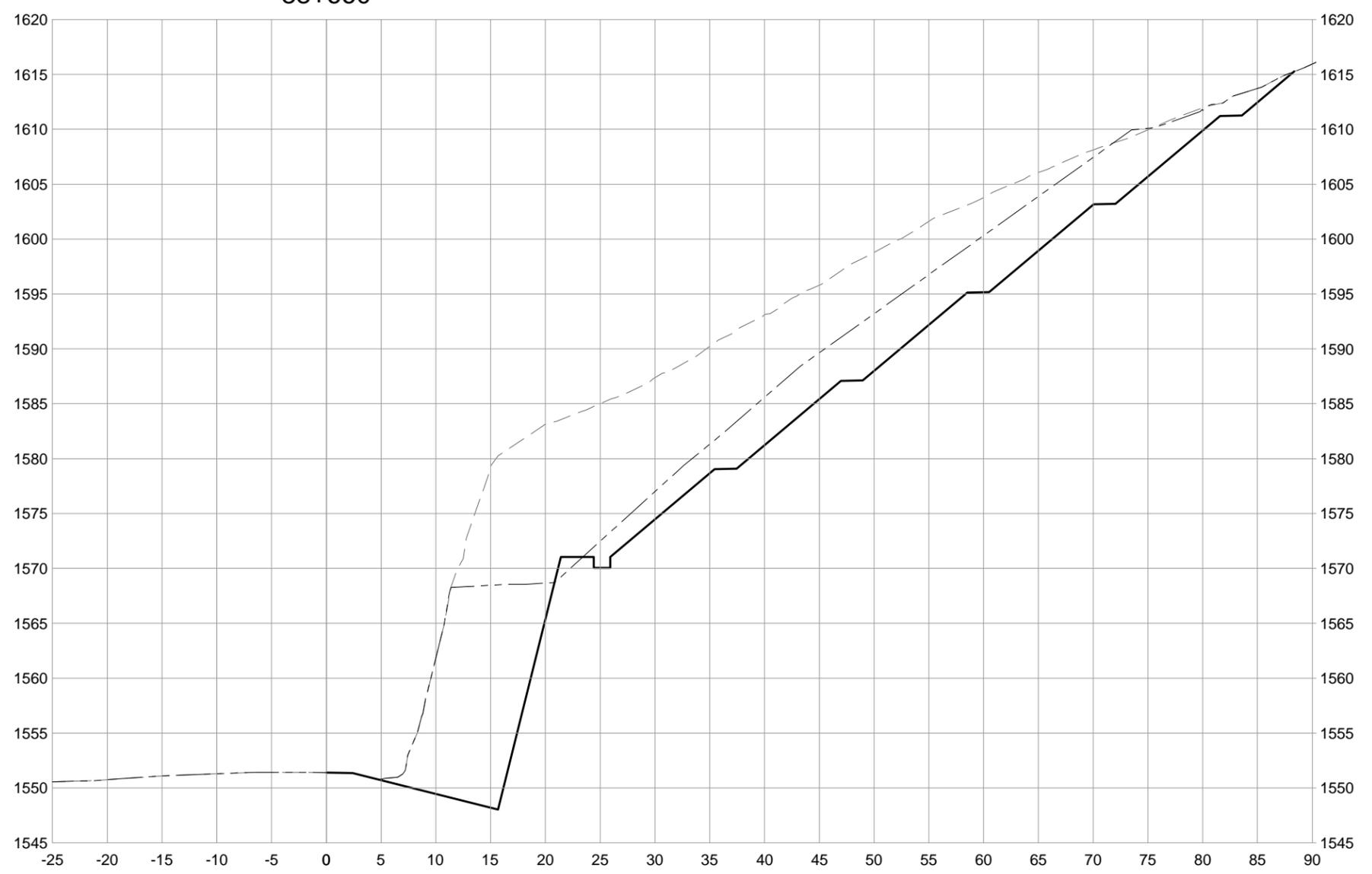


# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



88+660



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

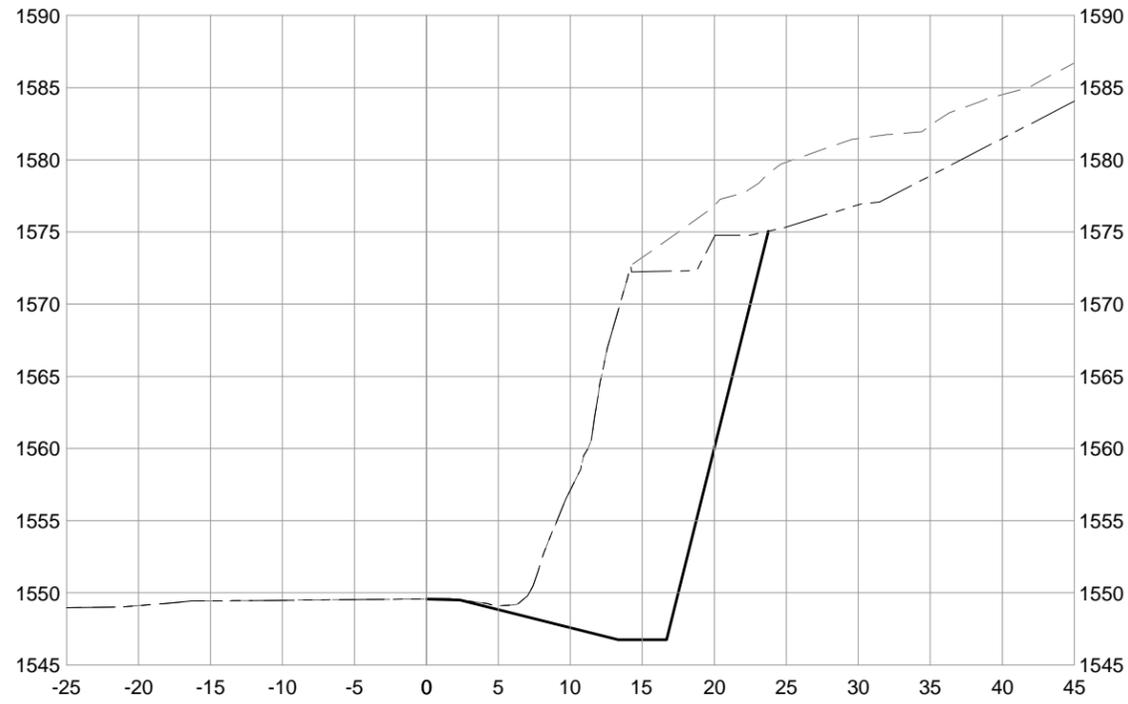
Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+660**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4021</b>	<b>0</b>

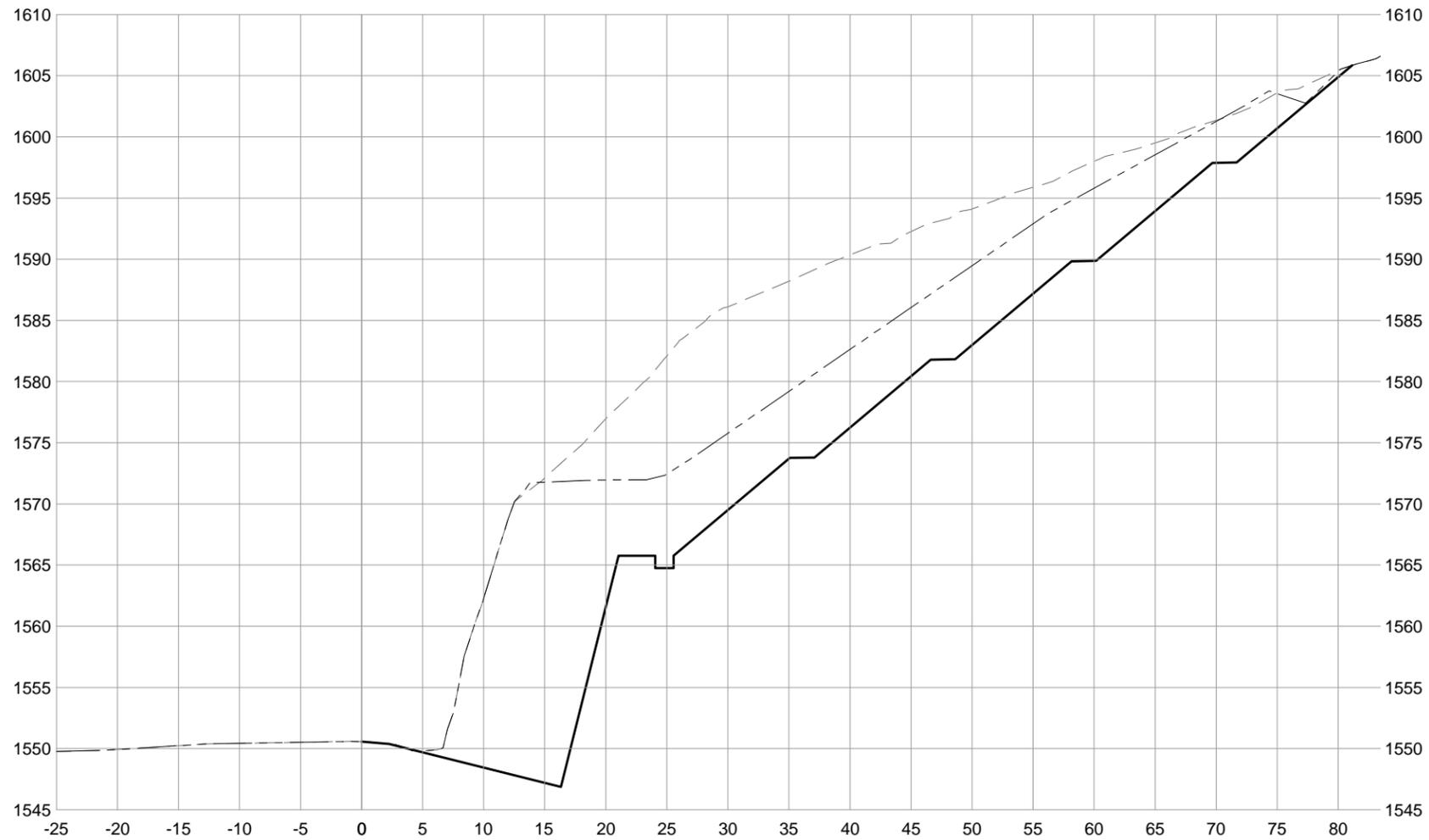


Q:\Vancouver\Transportation\3311\Projects\134\03095-600 PCA 88-91km\CADD\Sheets\201541-4000 SERIES - CROSS SECTIONS.dwg [201541-4022] February 11, 2016 - 2:36:18 pm (BY: YANG, ERIC)

88+700

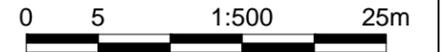


88+680



**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
 YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

Designed by/Concept par  
 A. FRAPPELL / E. YANG

Drawn by/Dessiné par  
 T. TAKEDA

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+680 TO 88+700**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4022</b>	<b>0</b>



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**ISSUED FOR TENDER**

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

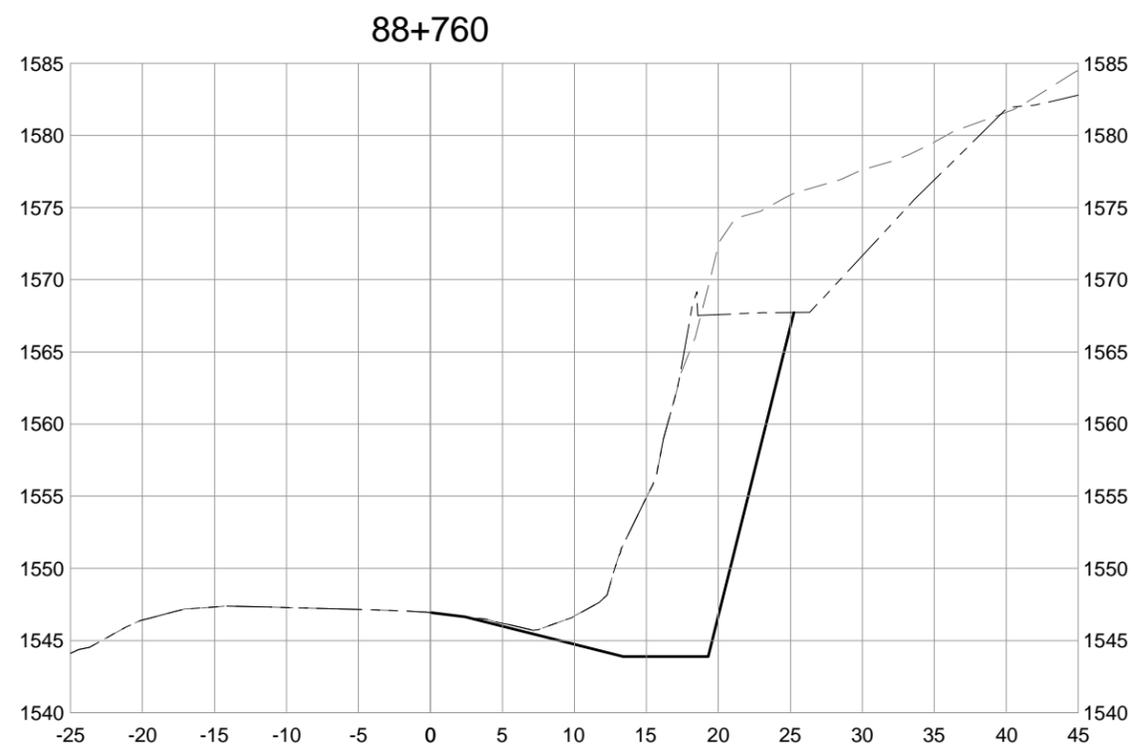
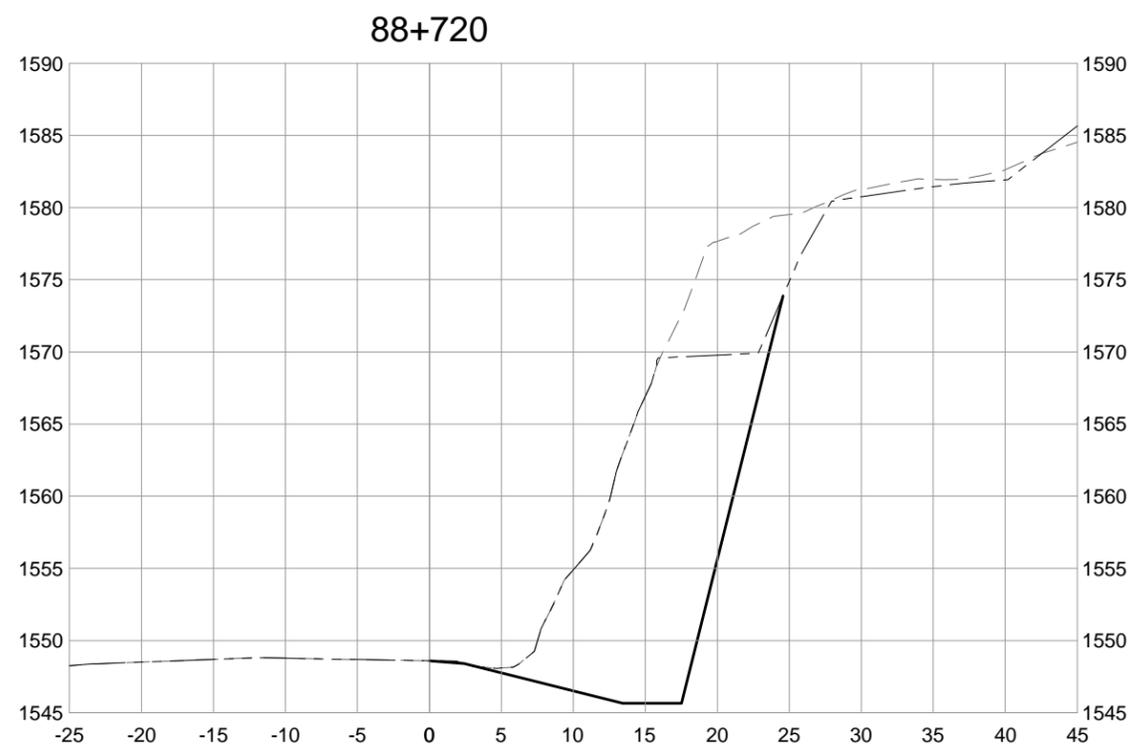
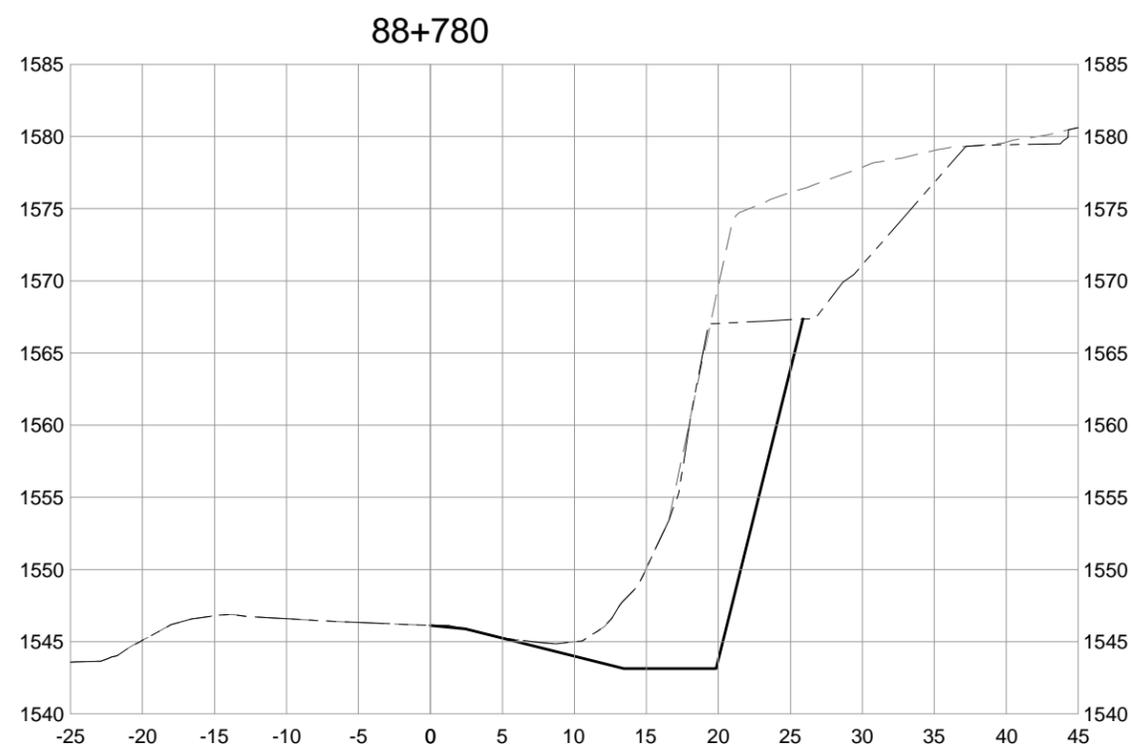
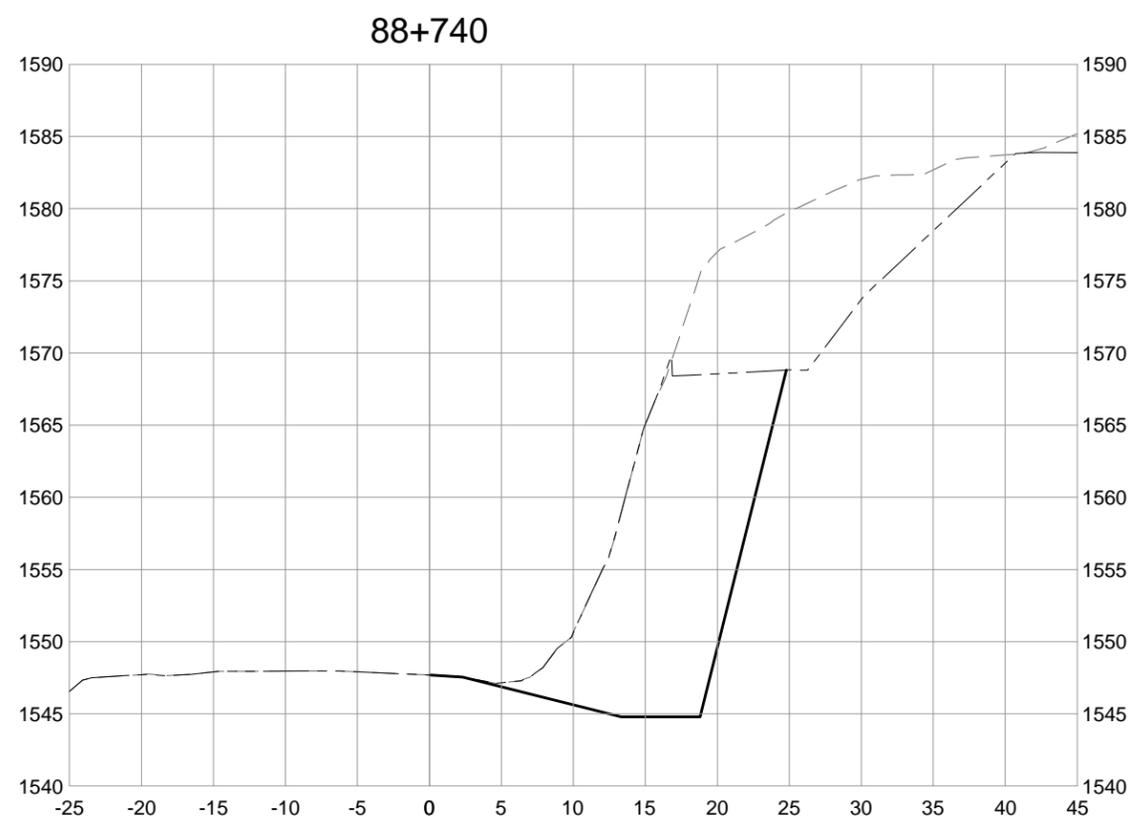
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+720 TO 88+780**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4023</b>	<b>0</b>

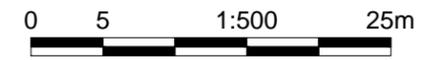


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**ISSUED FOR TENDER**

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

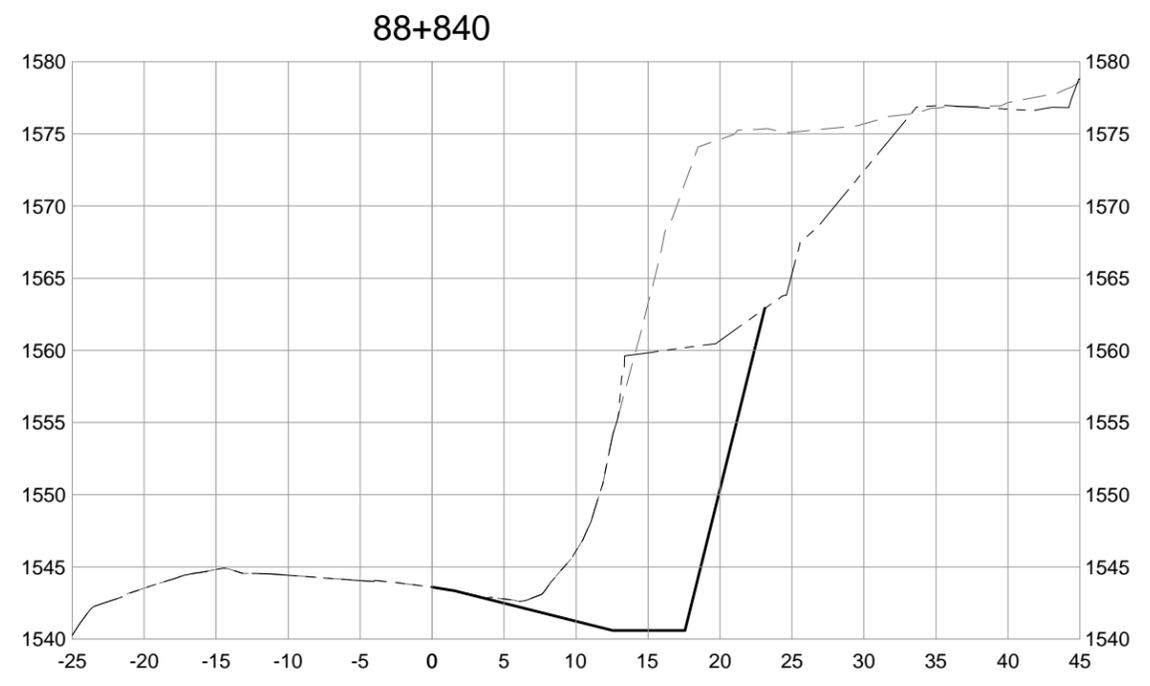
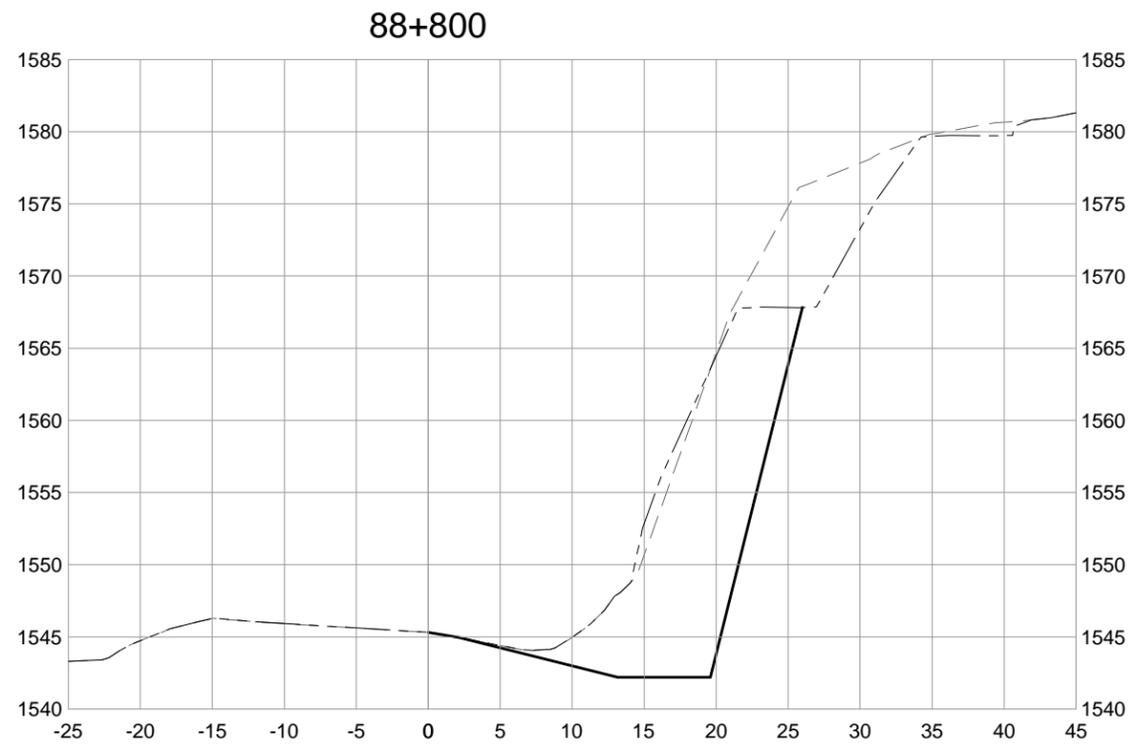
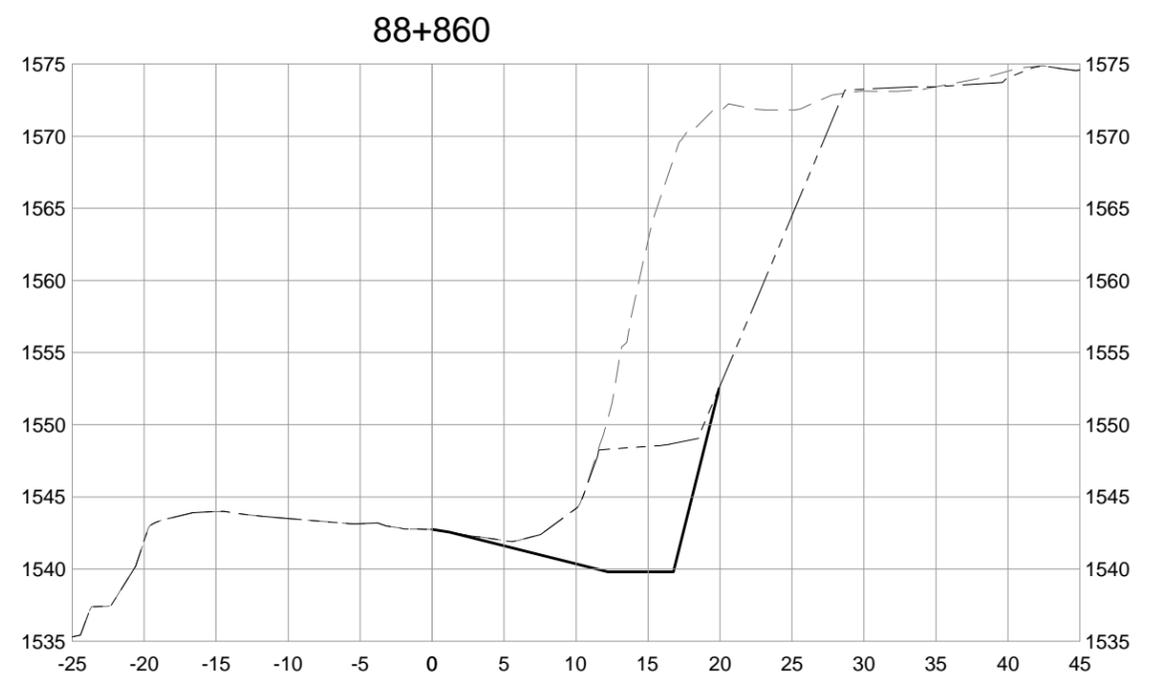
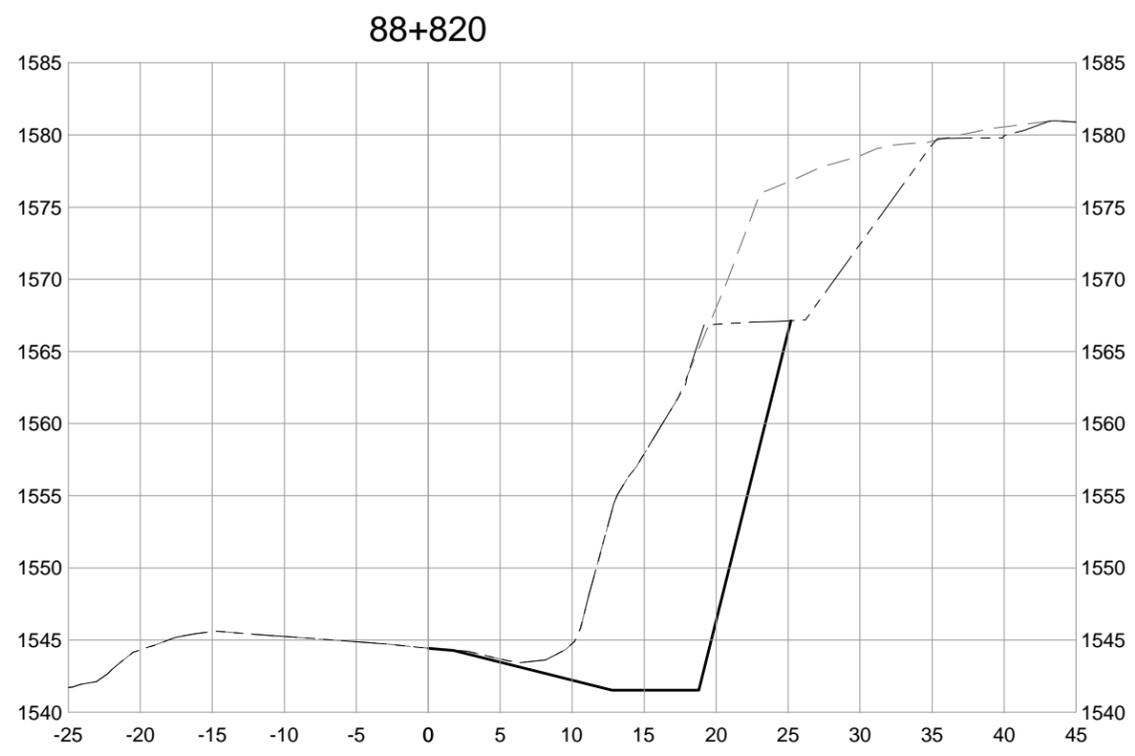
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+800 TO 88+860**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4024</b>	<b>0</b>



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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.

0 5 1:500 25m



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

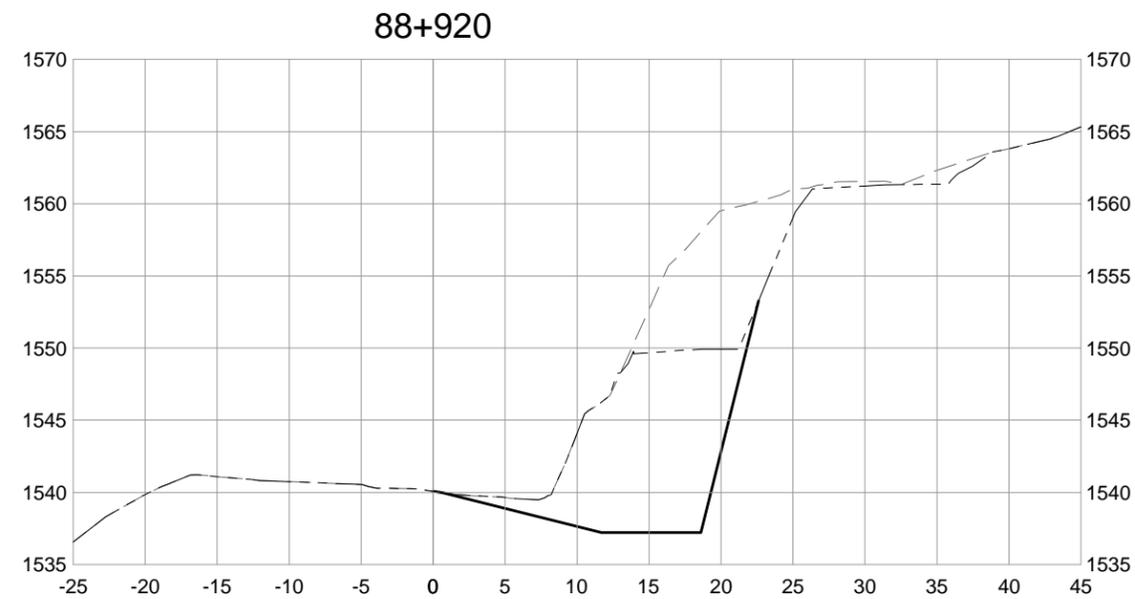
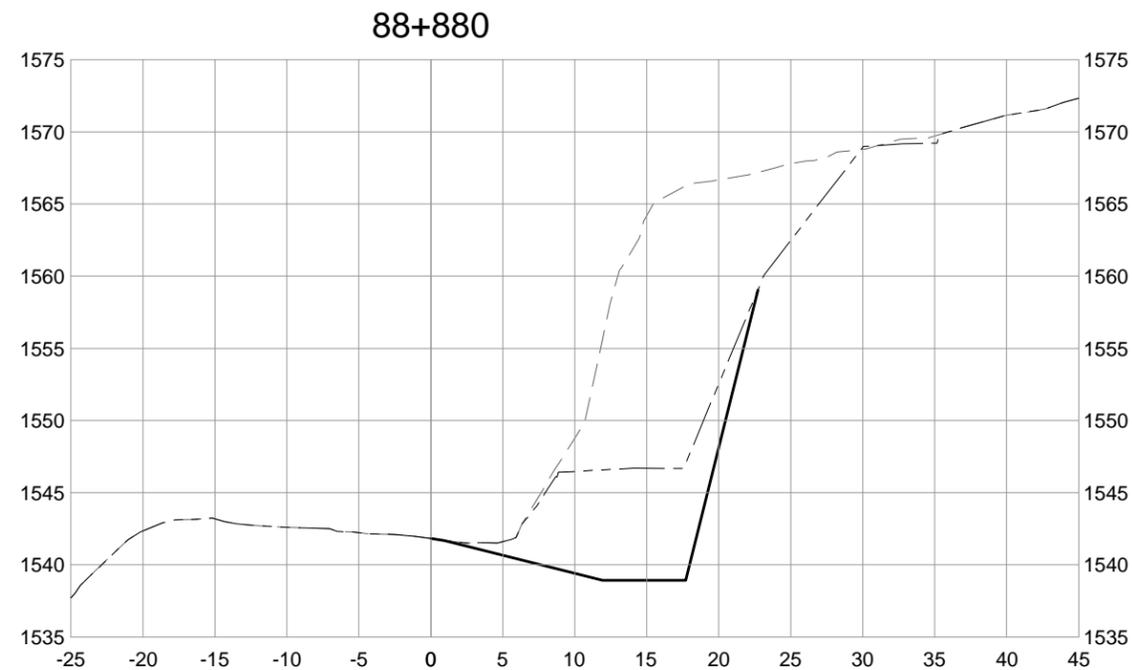
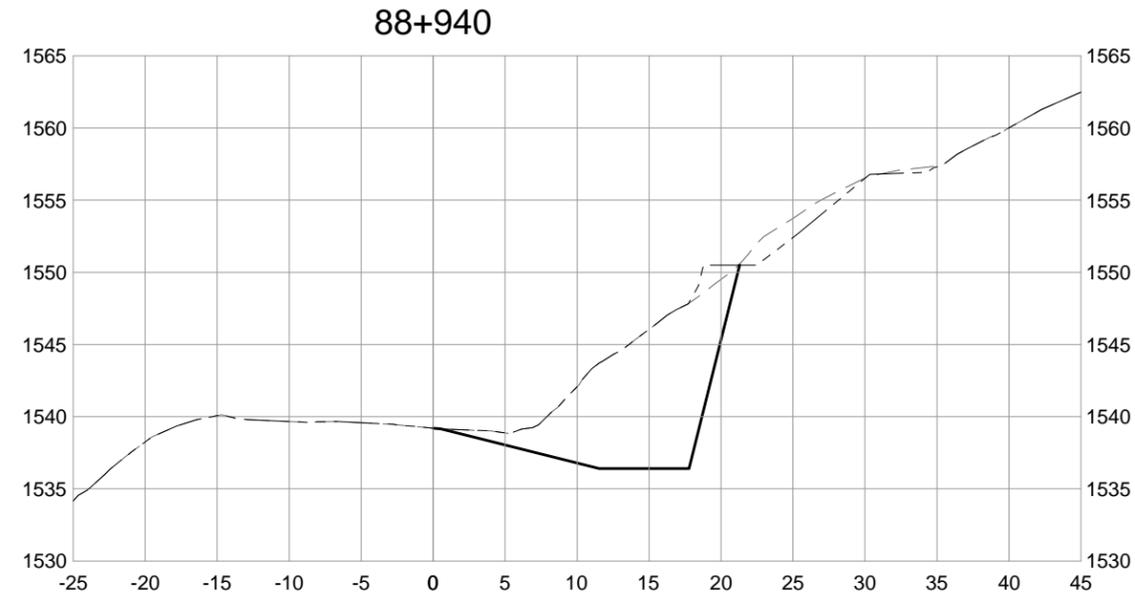
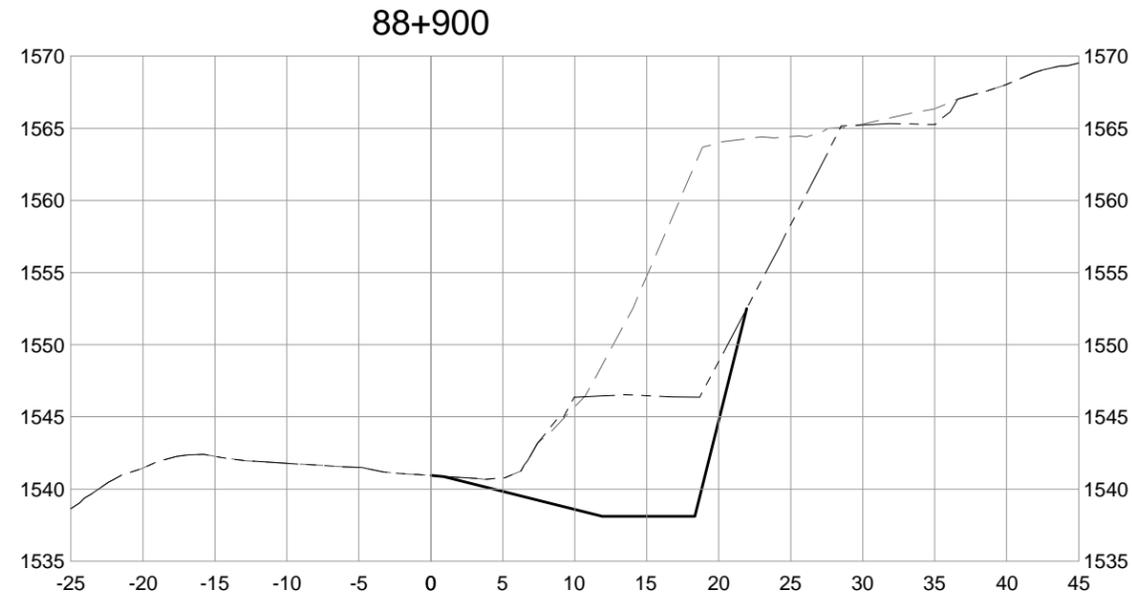
Designed by/Concept par  
 A. FRAPPELL / E. YANG

Drawn by/Dessine par  
 T. TAKEDA

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+880 TO 88+940**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
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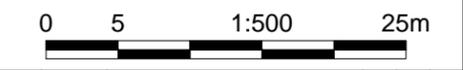


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**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

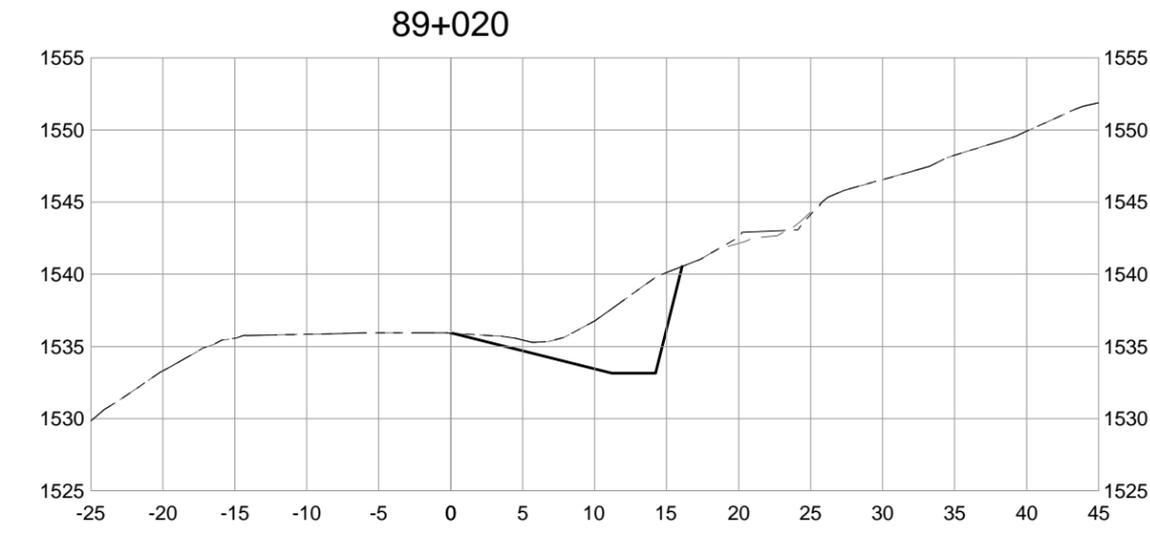
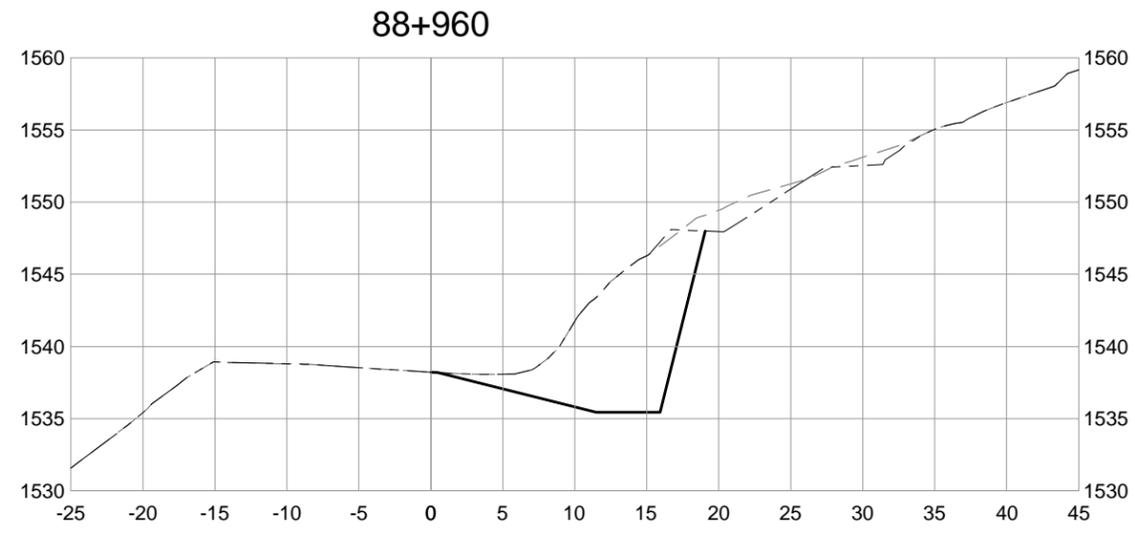
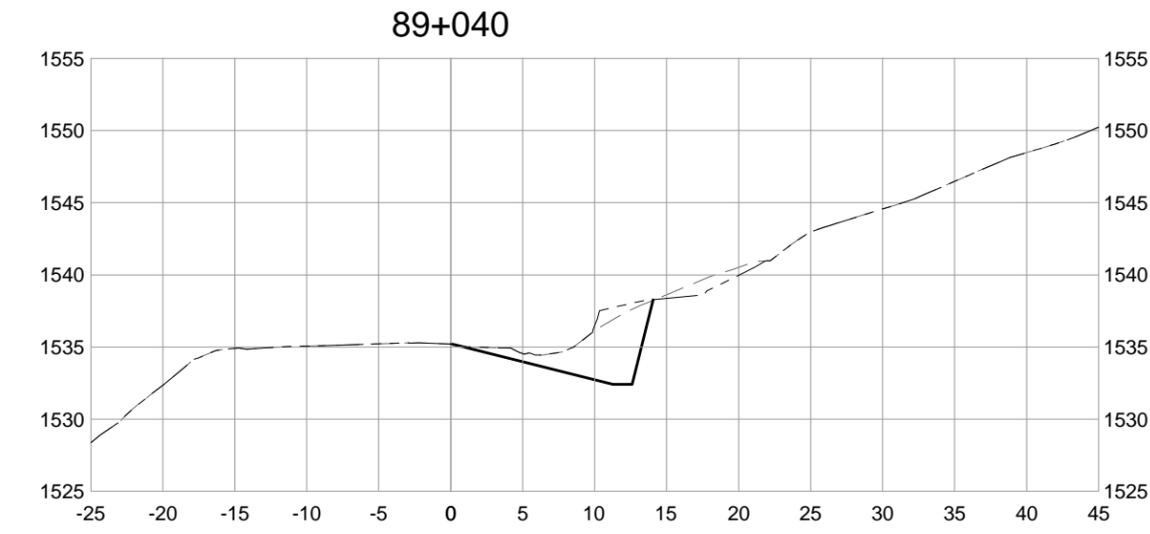
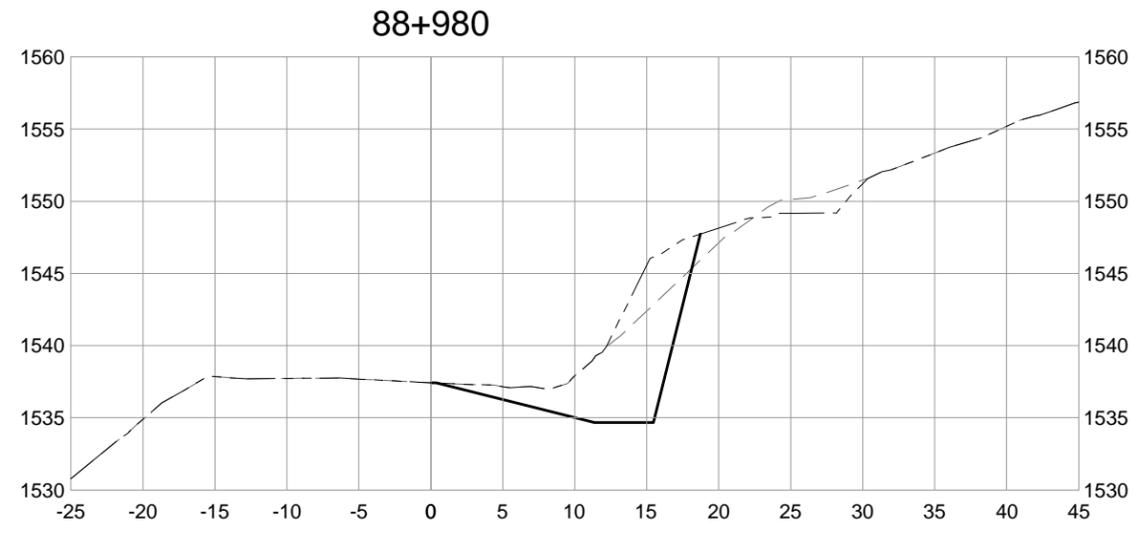
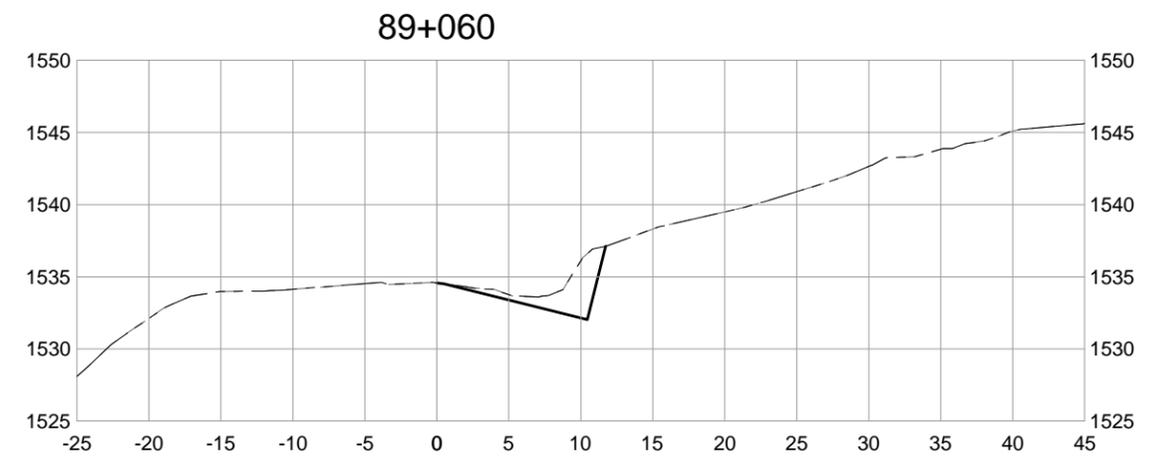
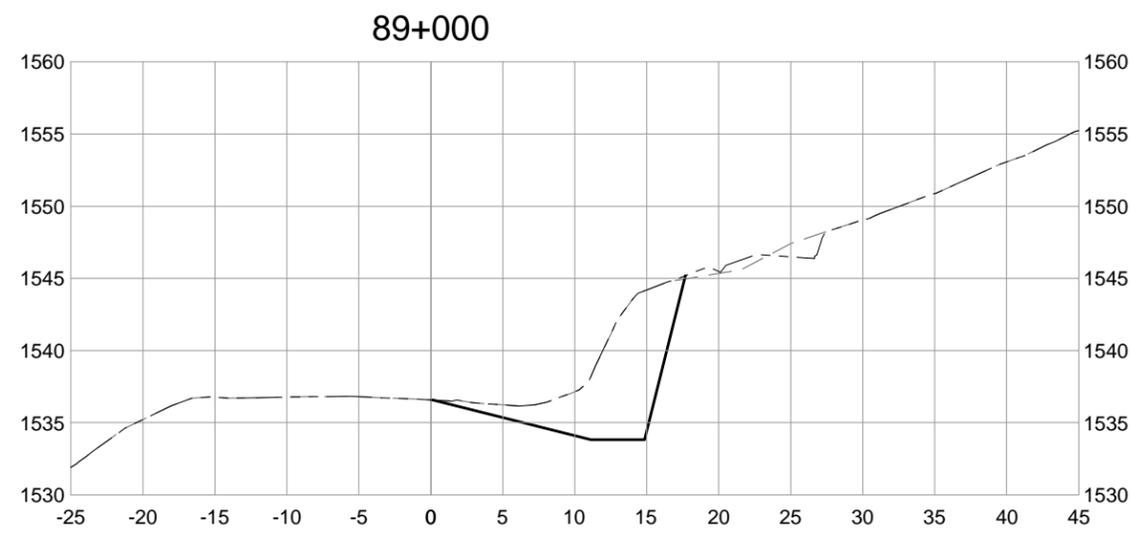
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

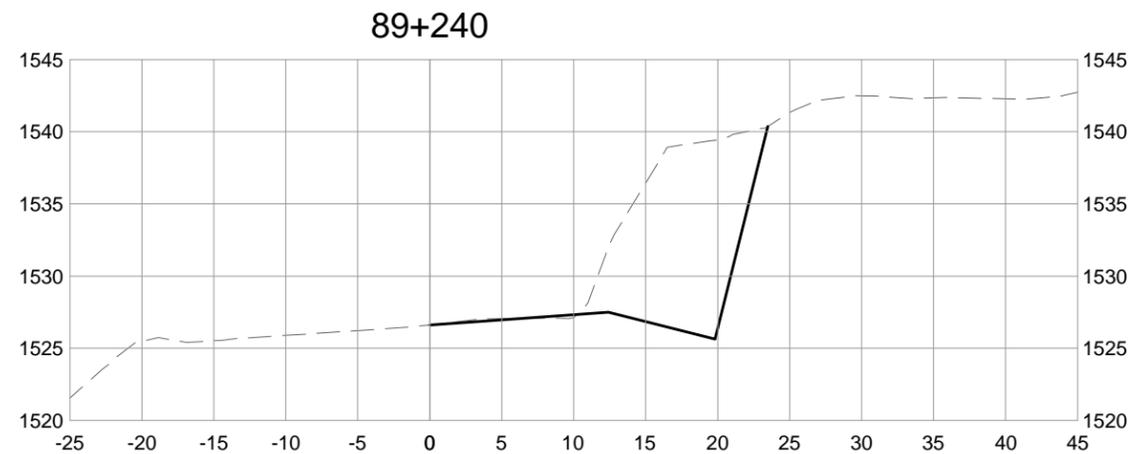
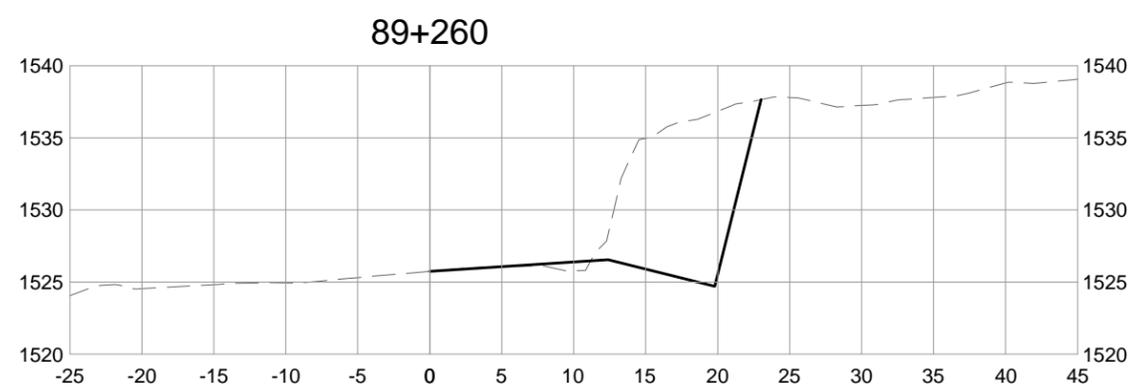
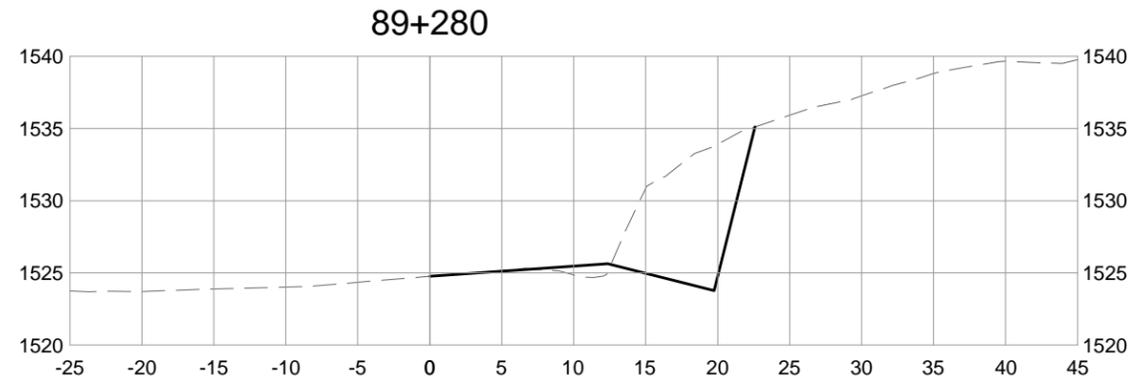
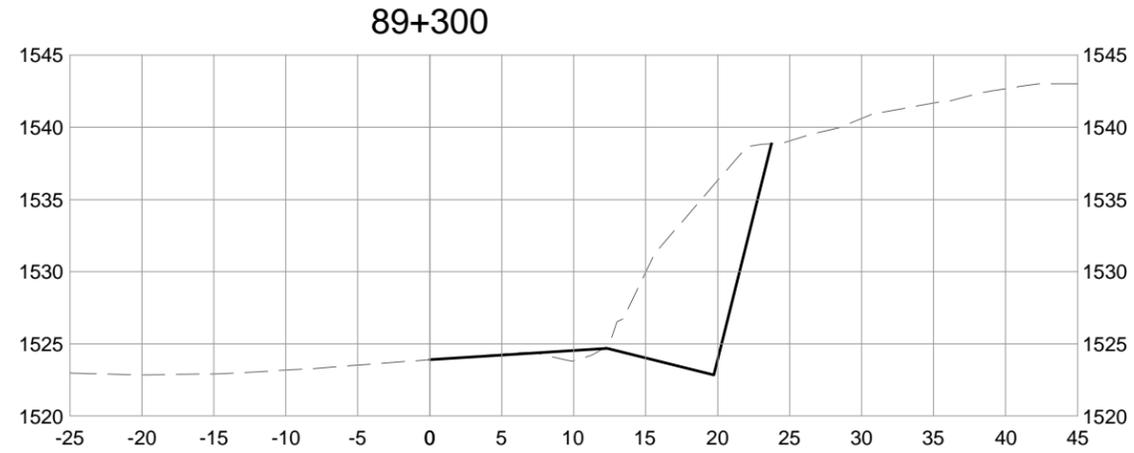
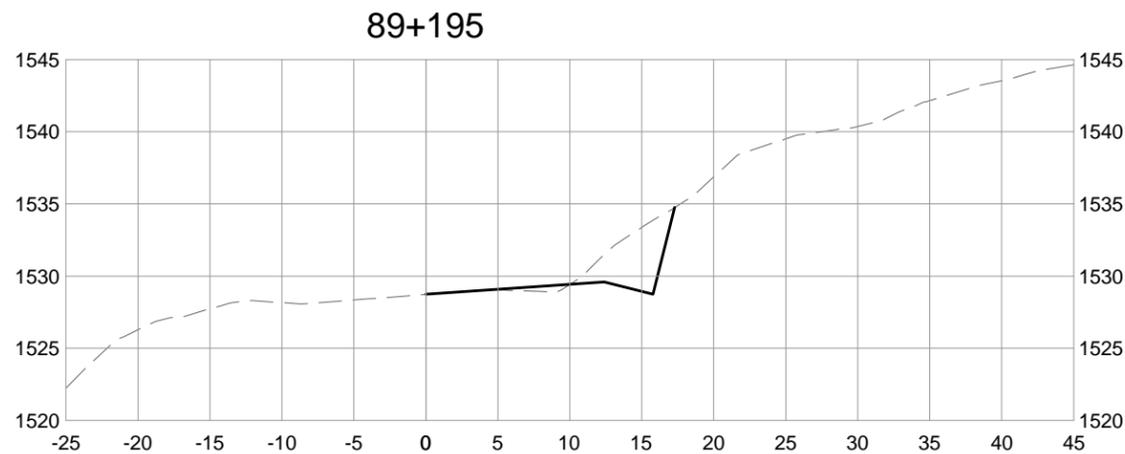
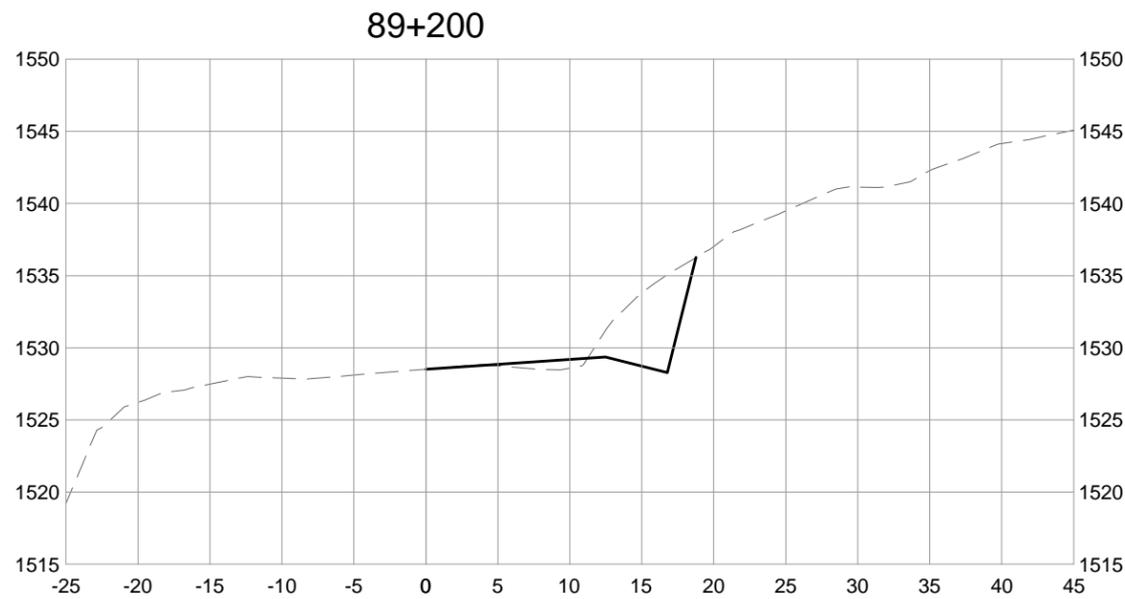
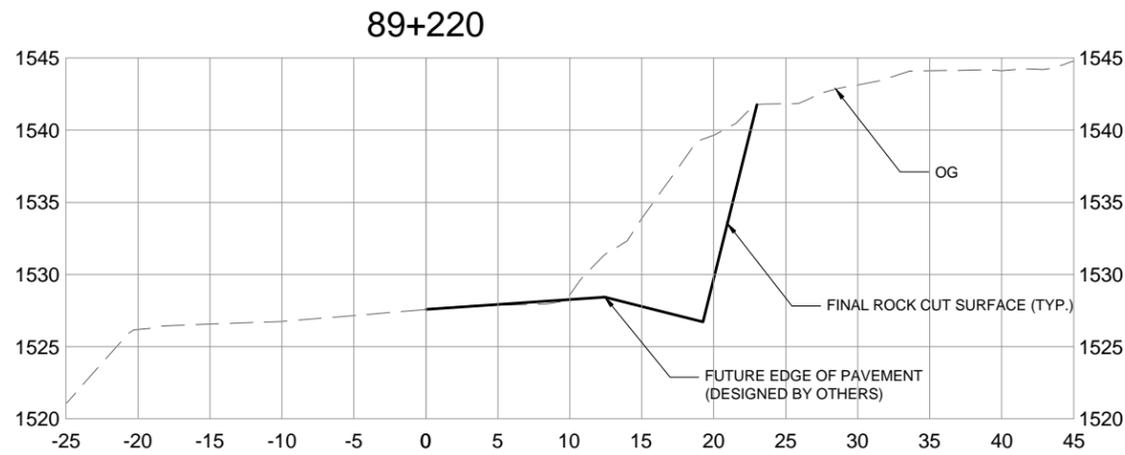
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SHERBROOKE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 88+960 TO 89+060**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4026</b>	<b>0</b>



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**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

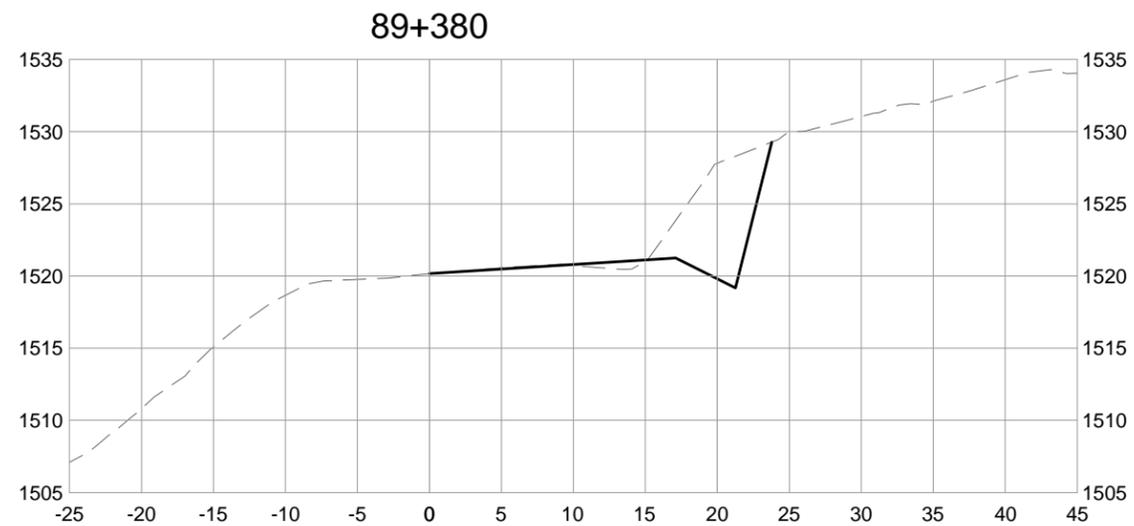
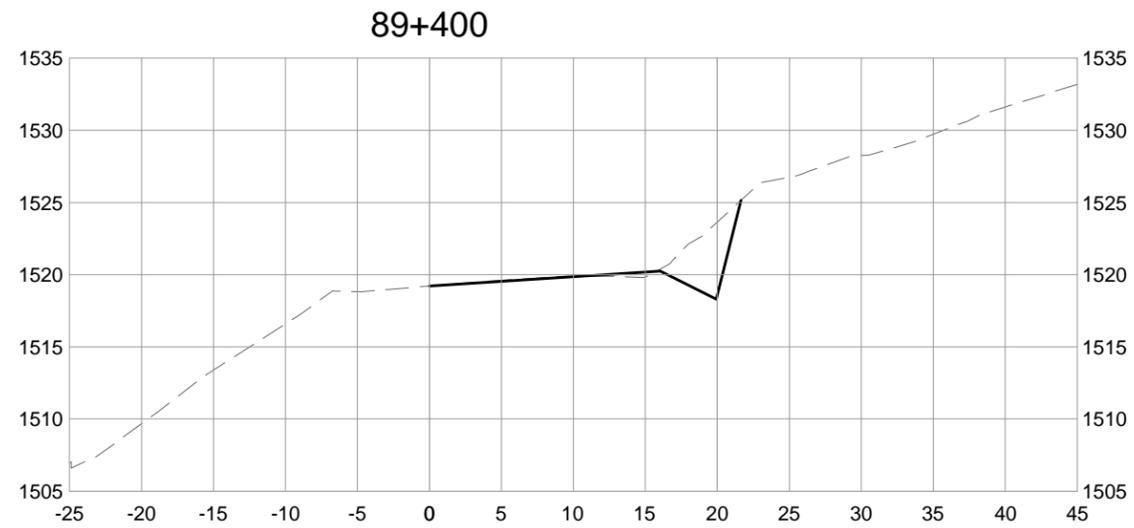
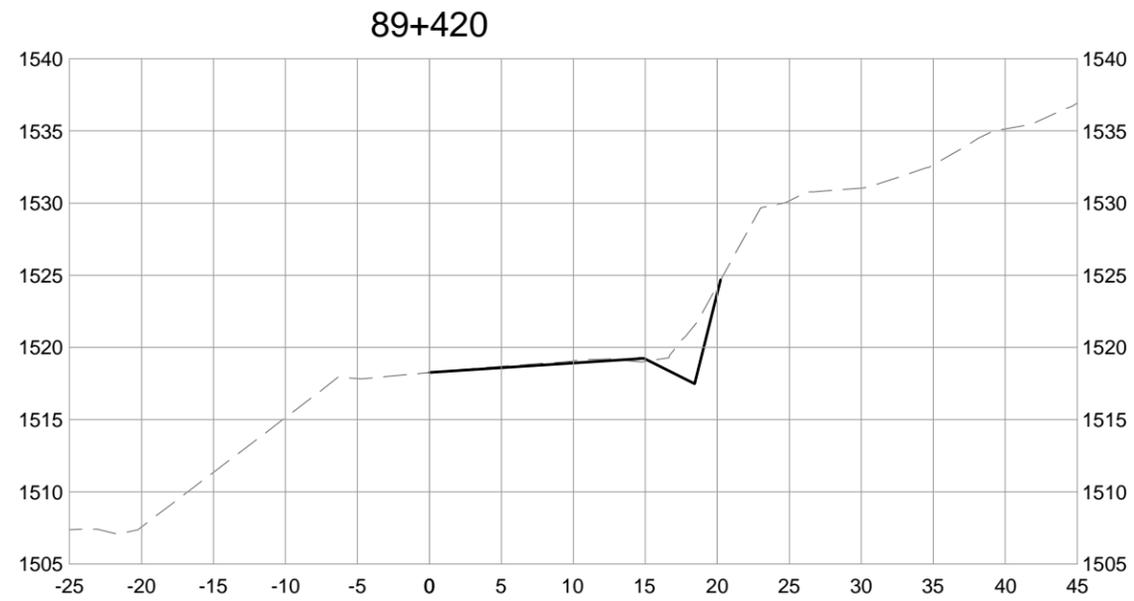
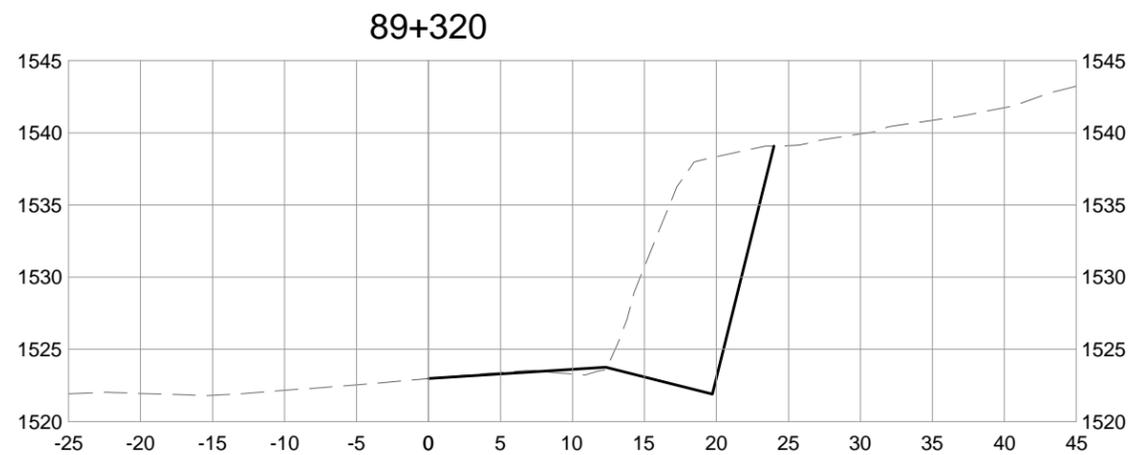
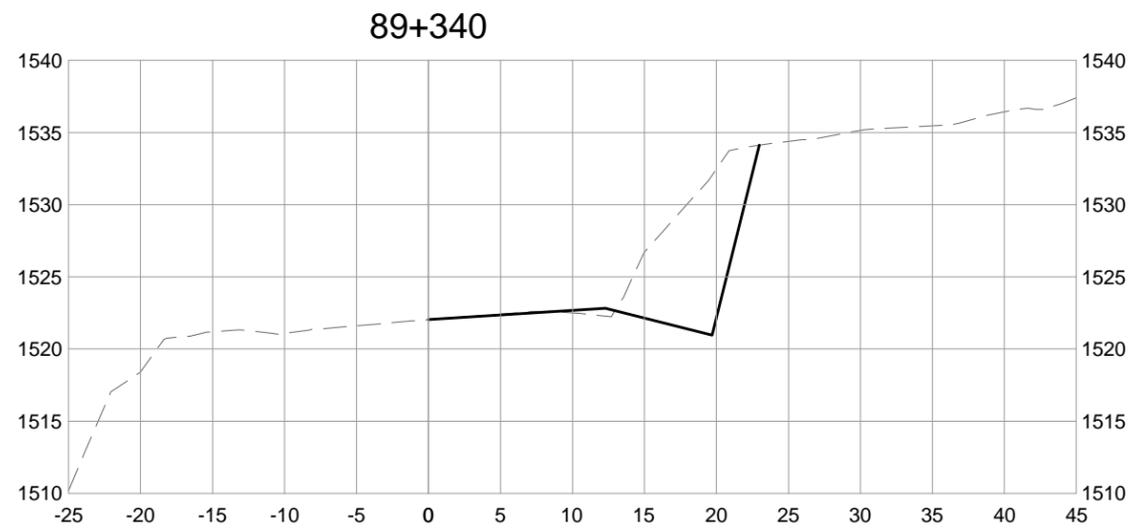
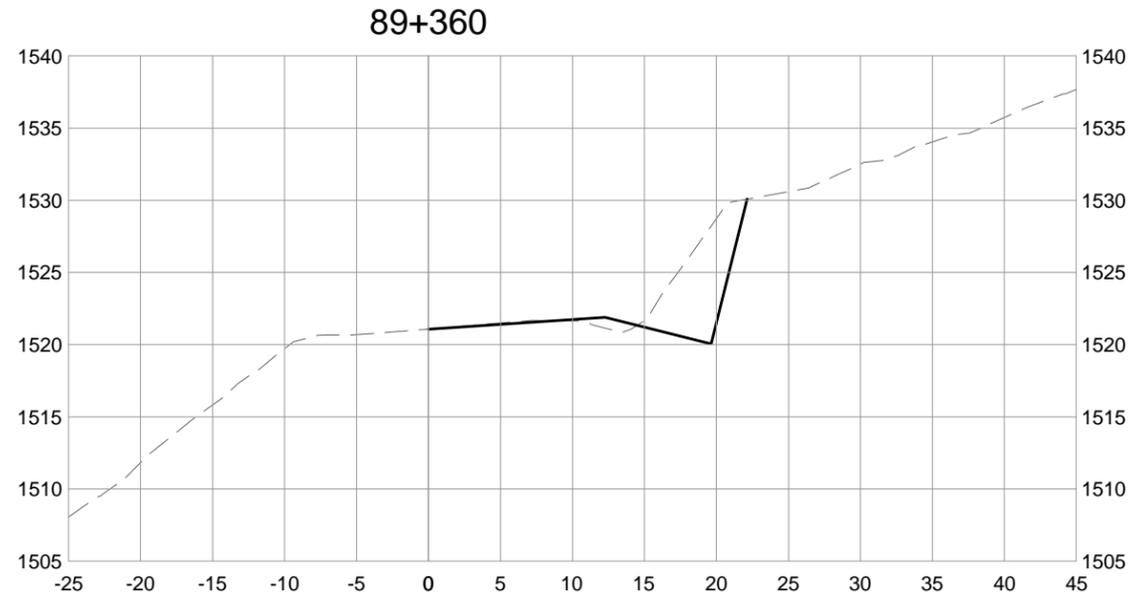
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**LOWER SHERBROOKE  
 ROCK SLOPE  
 CROSS SECTIONS  
 STA. 89+195 TO 89+300**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
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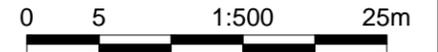


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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**LOWER SHERBROOKE  
 ROCK SLOPE  
 CROSS SECTIONS  
 STA. 89+320 TO 89+420**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4031</b>	<b>0</b>



Q:\Vancouver\Transportation\331\Projects\134\03095-600 PCA 88-9\km\CADD\Sheets\201541-4000 SERIES - CROSS SECTIONS.dwg [201541-4032] February 11, 2016 - 2:40:22 pm (BY: YANG, ERIC)



# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



0	16/02/09	ISSUED FOR TENDER	AF	TT	AF
Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

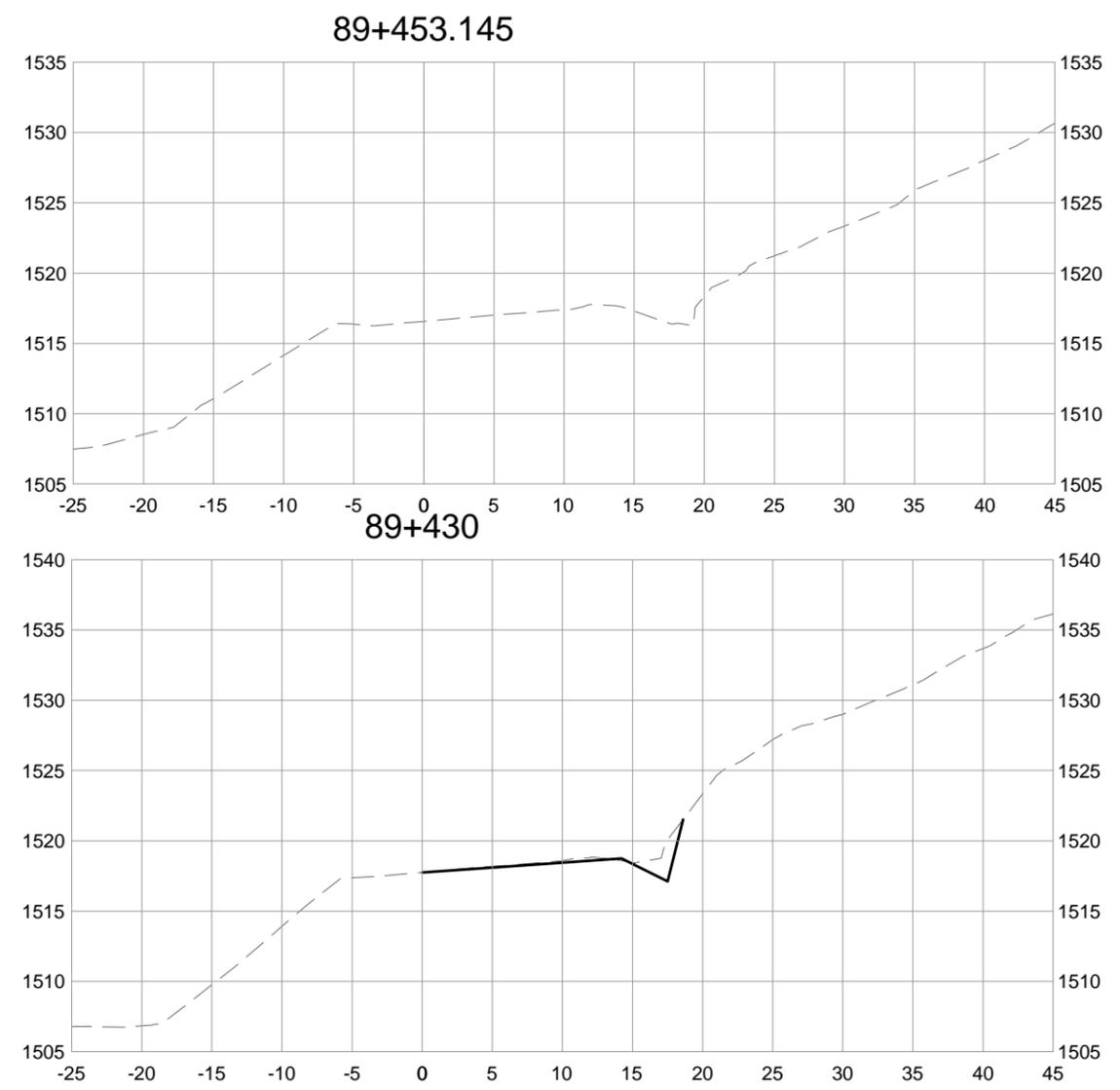
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

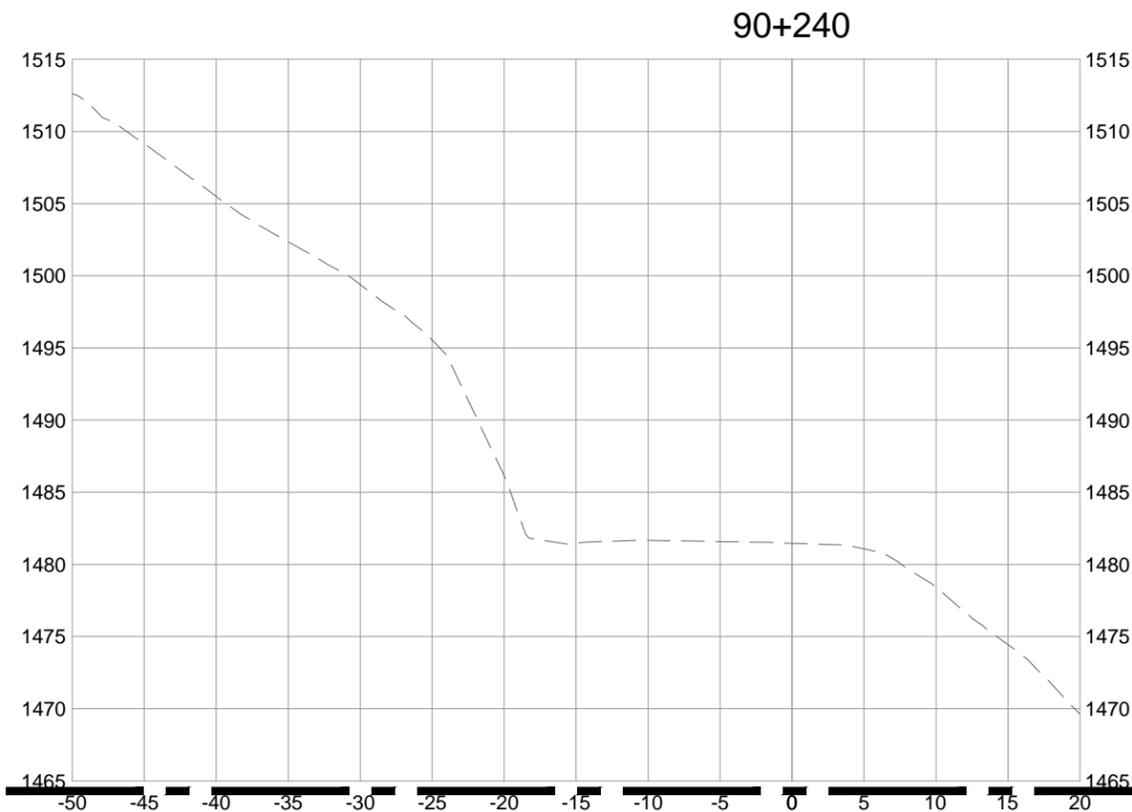
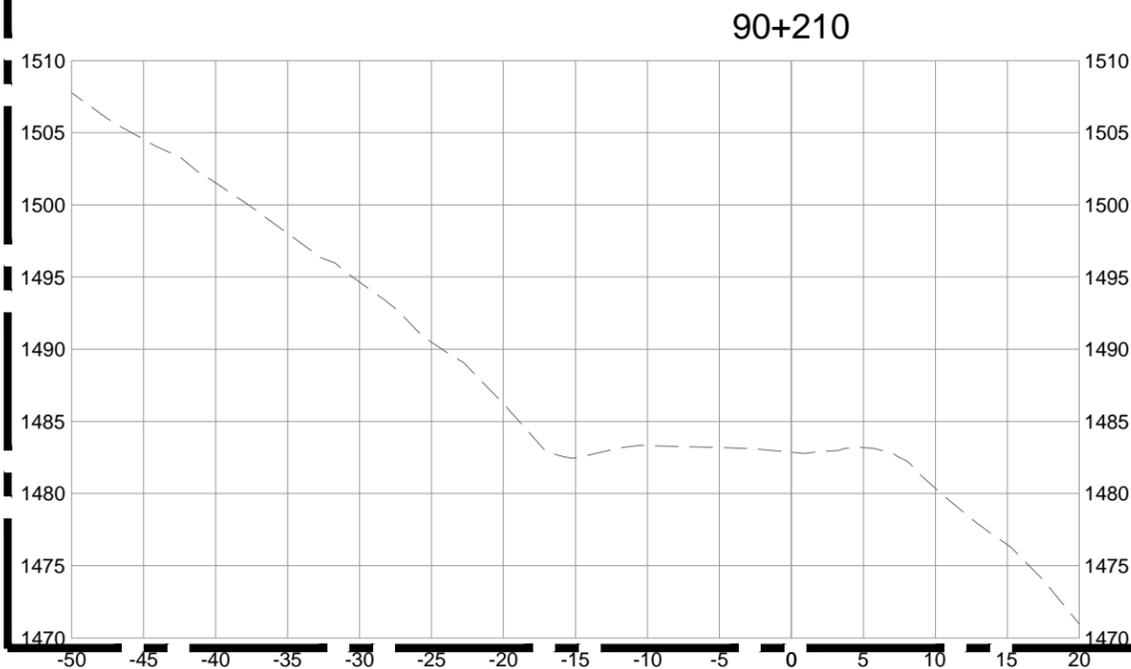
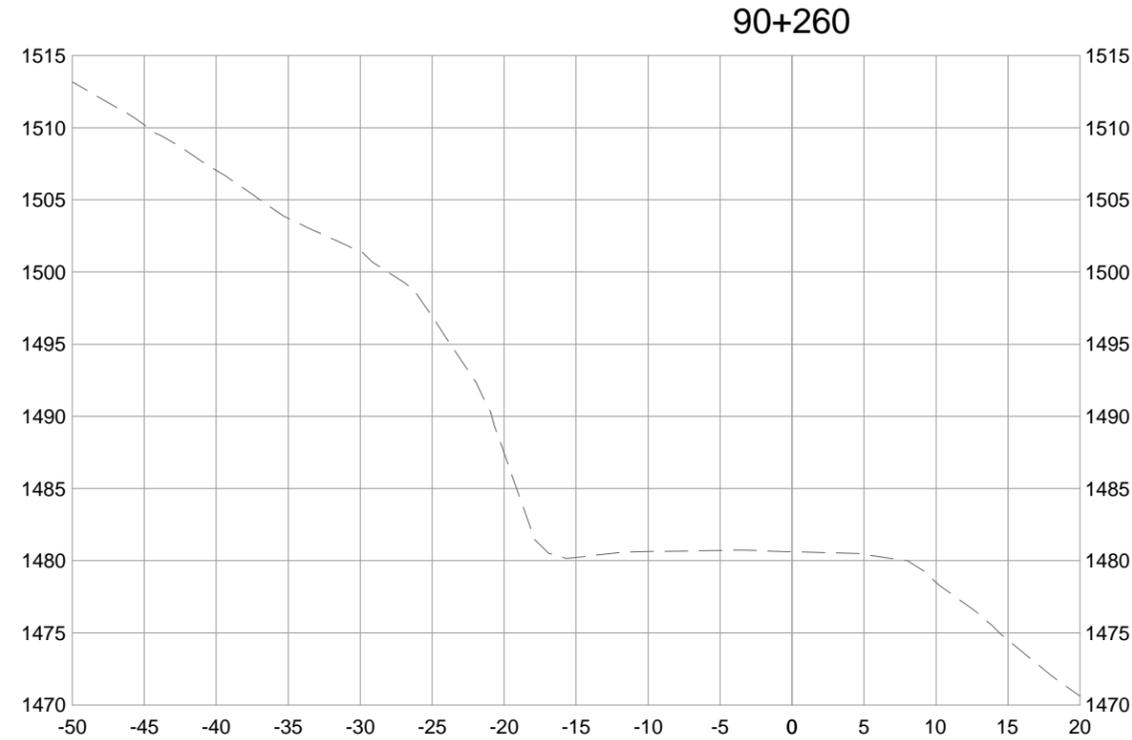
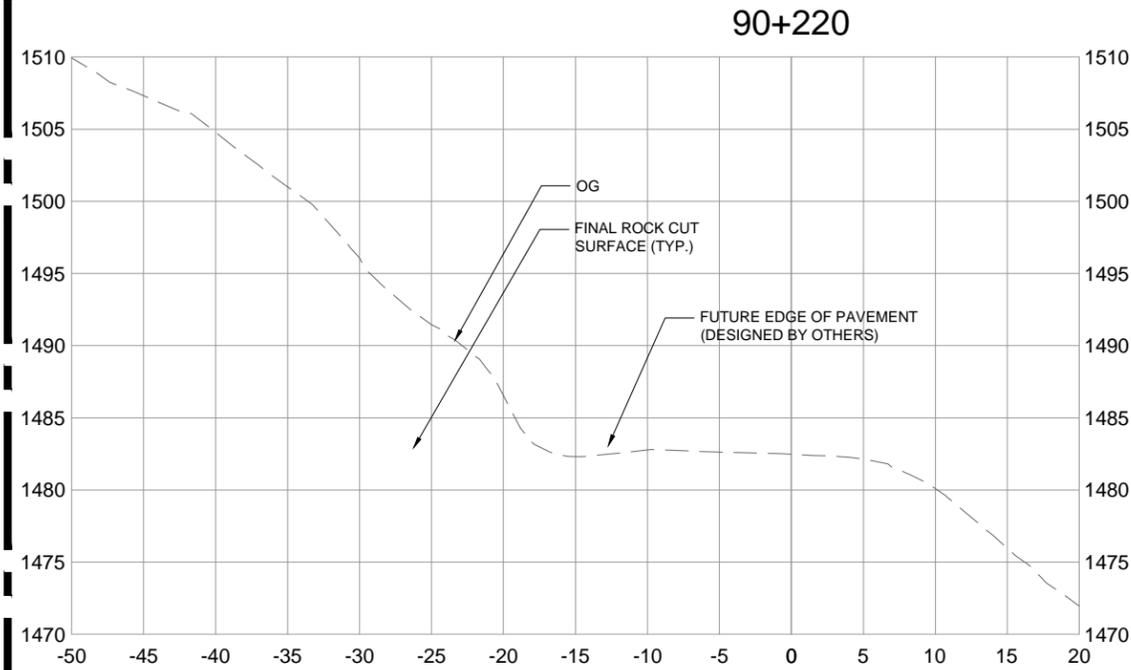
Drawing title/Titre du dessin  
**LOWER SHERBROOKE  
 ROCK SLOPE  
 CROSS SECTIONS  
 STA. 89+440 TO 89+453.145**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4032</b>	<b>0</b>



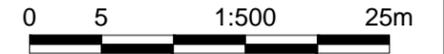
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**FUTURE WORK**  
(NOT IN BILL OF QUANTITIES)



**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL ROCK SLOPE  
 CROSS SECTIONS  
 STA. 90+210 TO 90+260**

Project No./No. du projet <b>201541-4060</b>	Sheet/Feuille <b>0</b>	Revision no./La Révision no. <b>0</b>
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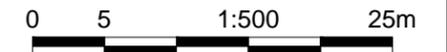


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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

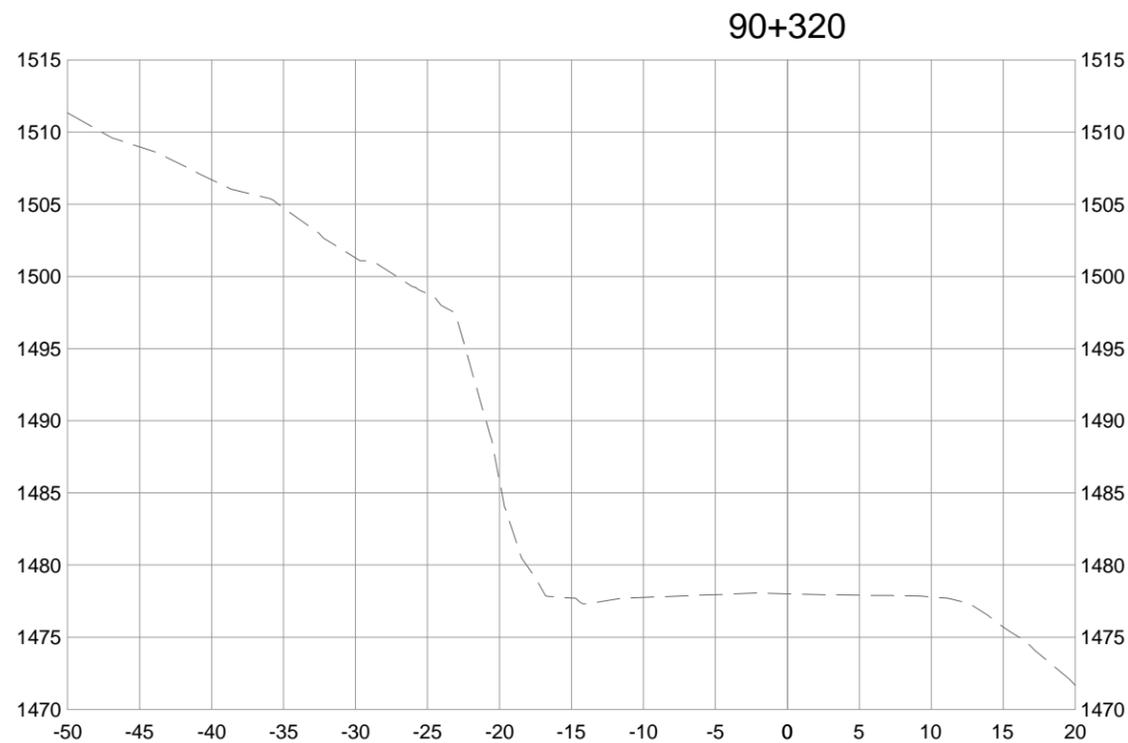
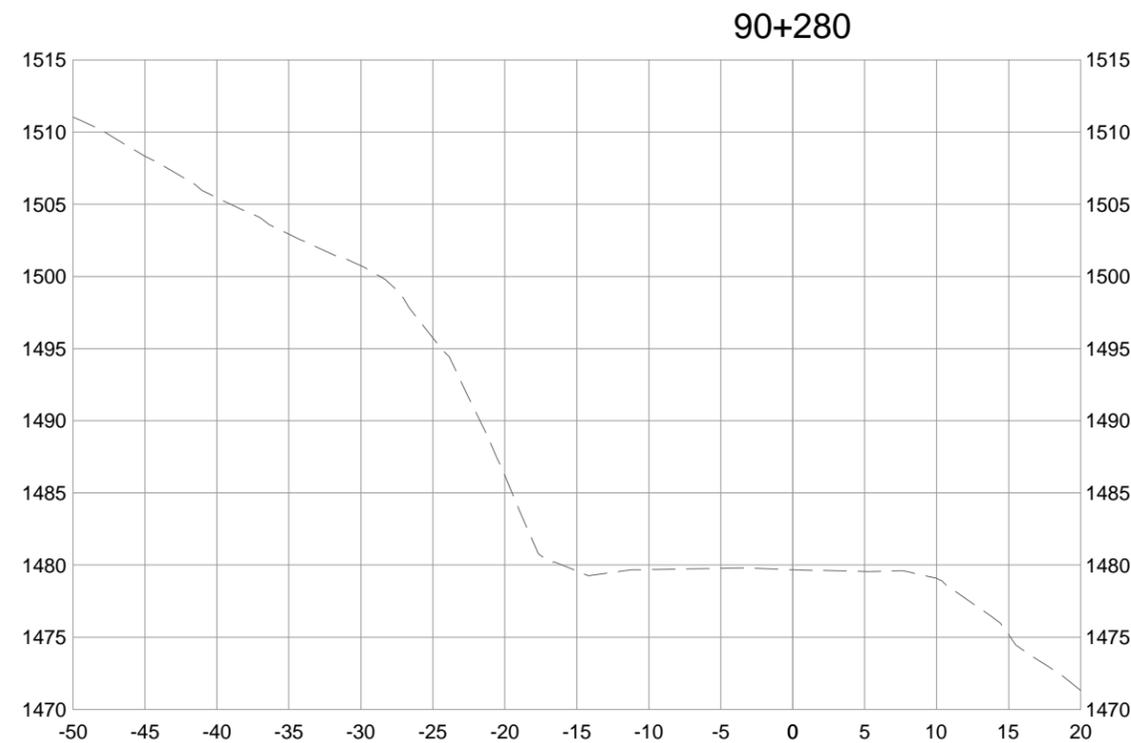
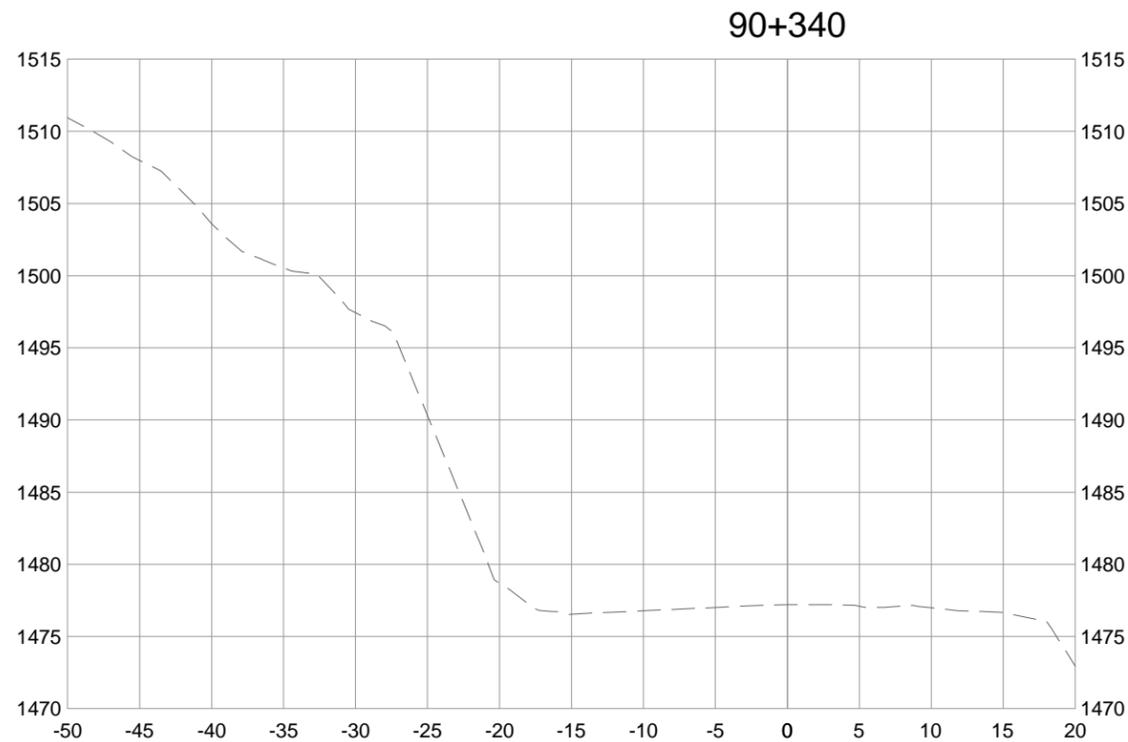
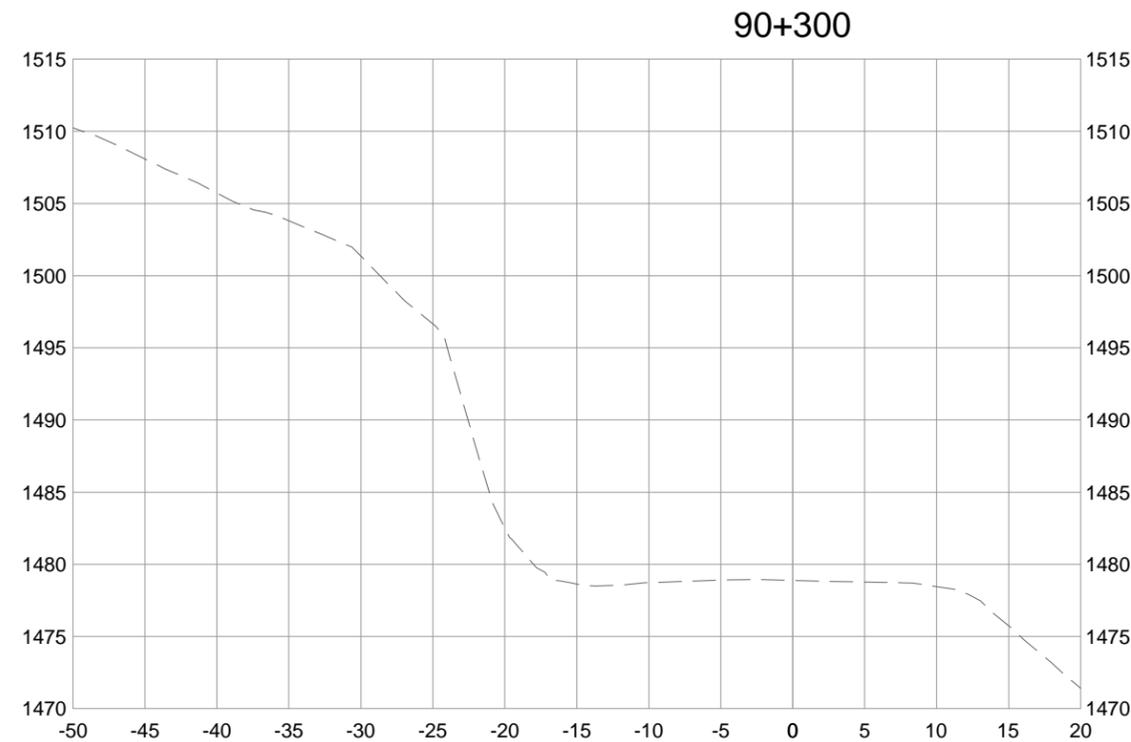
Drawn by/Dessine par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL ROCK SLOPE  
 CROSS SECTIONS  
 STA. 90+280 TO 90+340**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4061</b>	<b>0</b>

## FUTURE WORK (NOT IN BILL OF QUANTITIES)

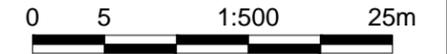


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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

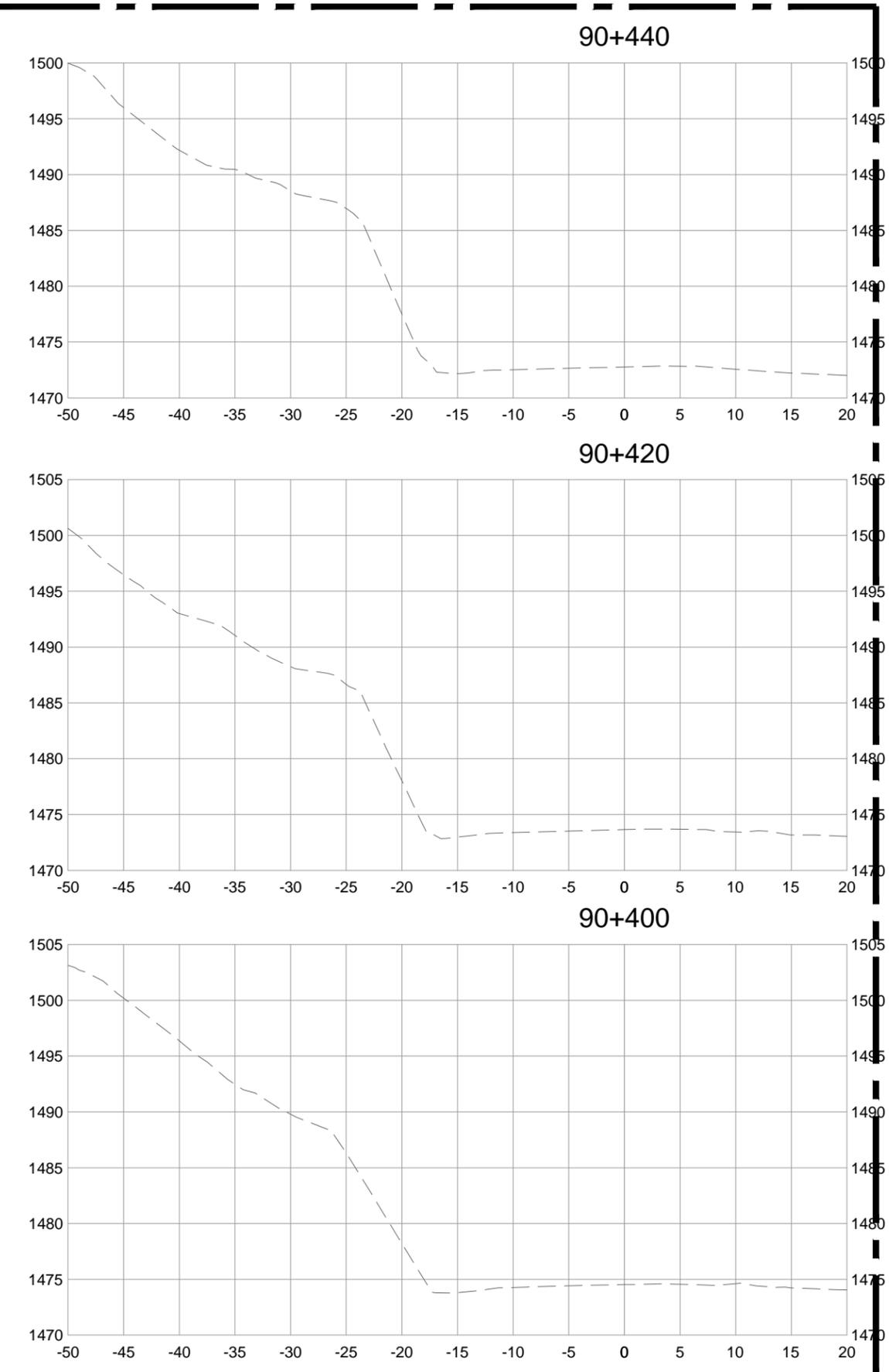
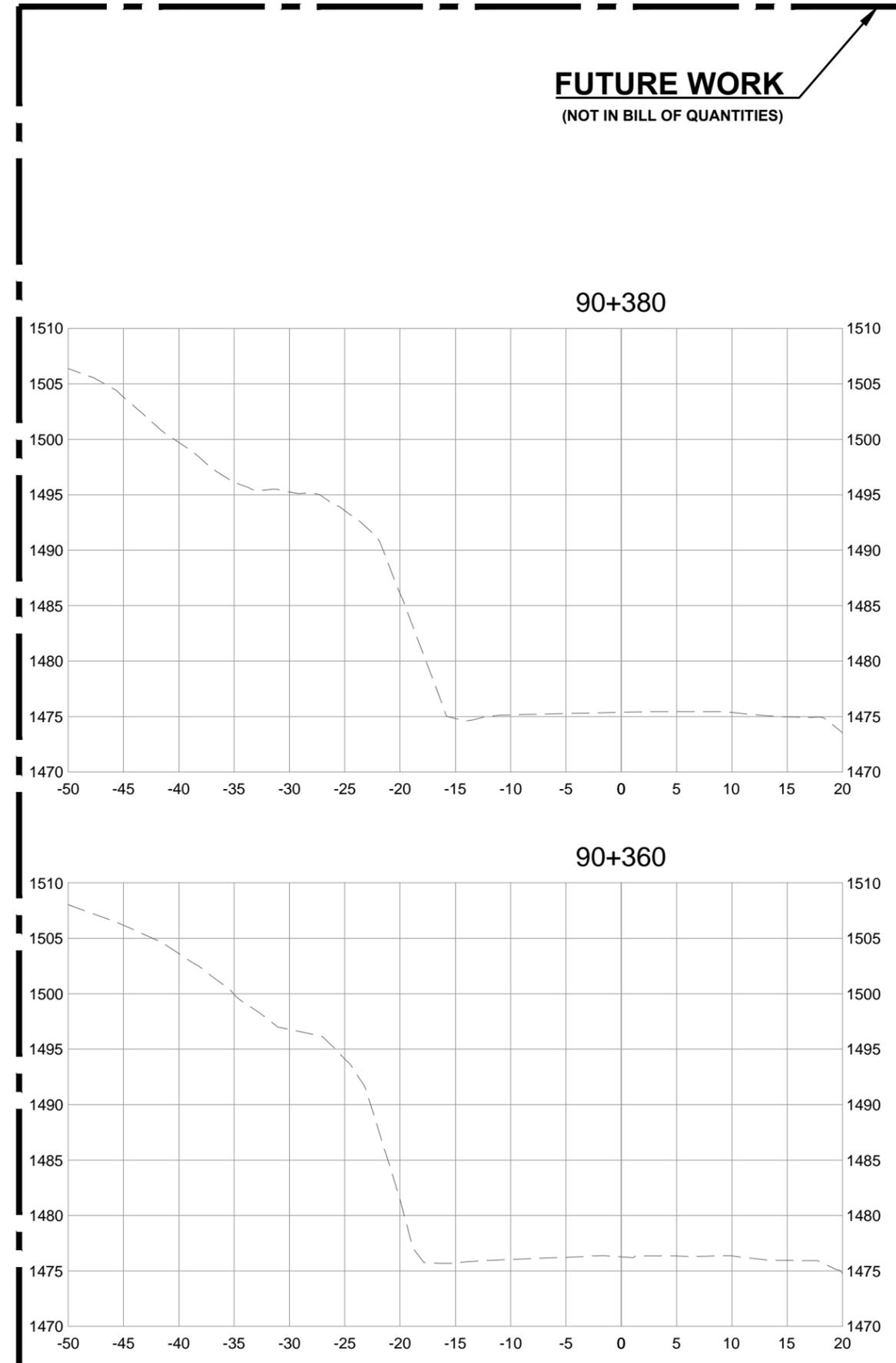
Designed by/Concept par  
 A. FRAPPELL / E. YANG

Drawn by/Dessine par  
 T. TAKEDA

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL ROCK SLOPE  
 CROSS SECTIONS  
 STA. 90+360 TO 90+440**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4062</b>	<b>0</b>



Q:\Vancouver\Transportation\331\Projects\134\03095-600 PCA 88-9\km\CADD\Sheets\20154-4000 SERIES - CROSS SECTIONS.dwg [201541-4063] February 11, 2016 - 2:20:40 pm (BY: YANG, ERIC)



**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

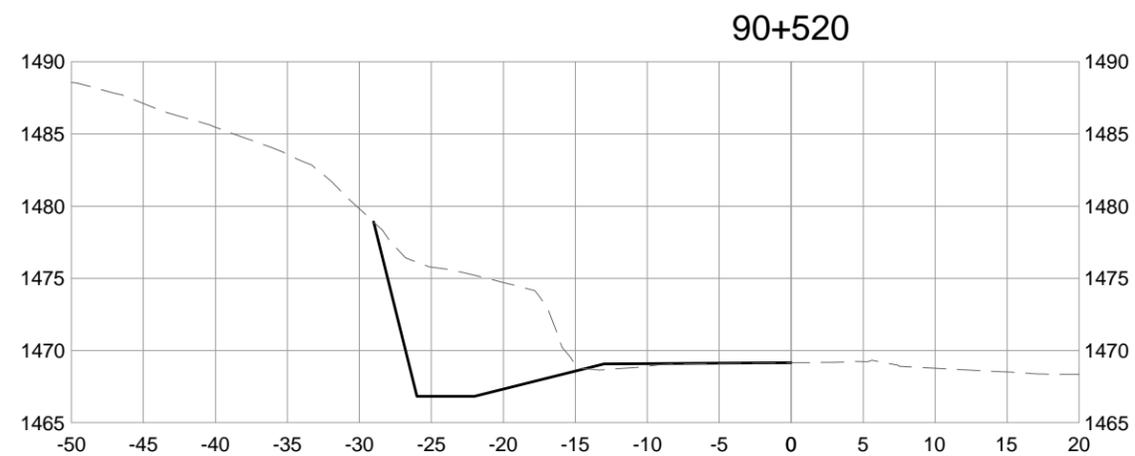
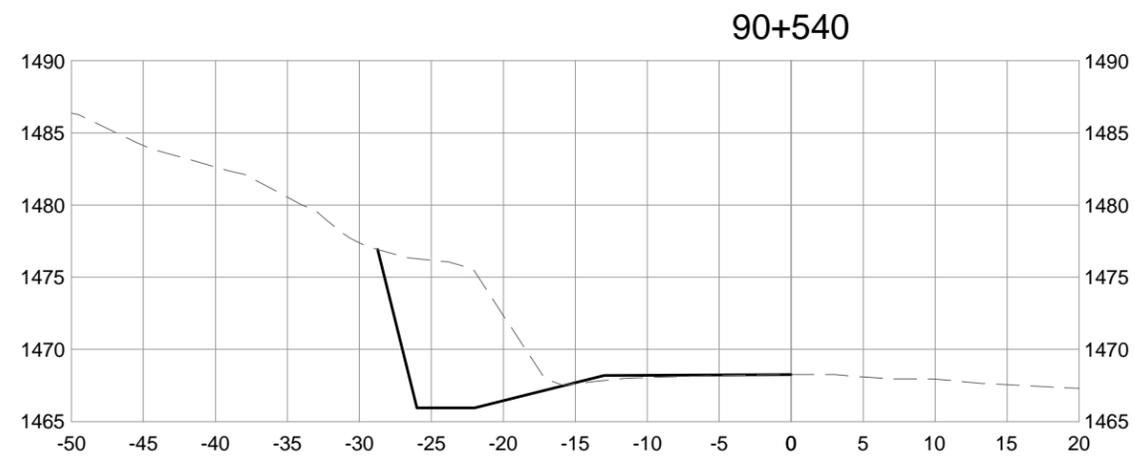
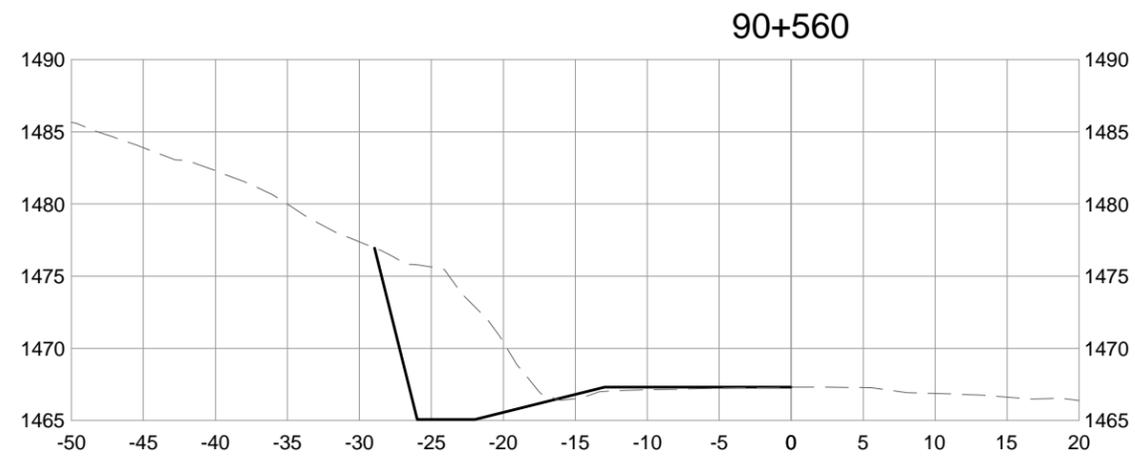
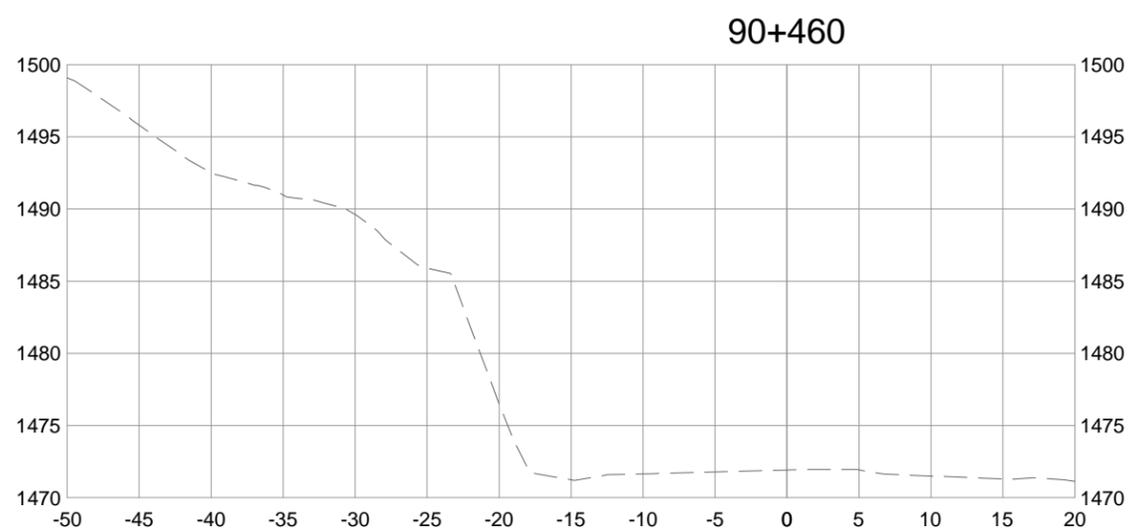
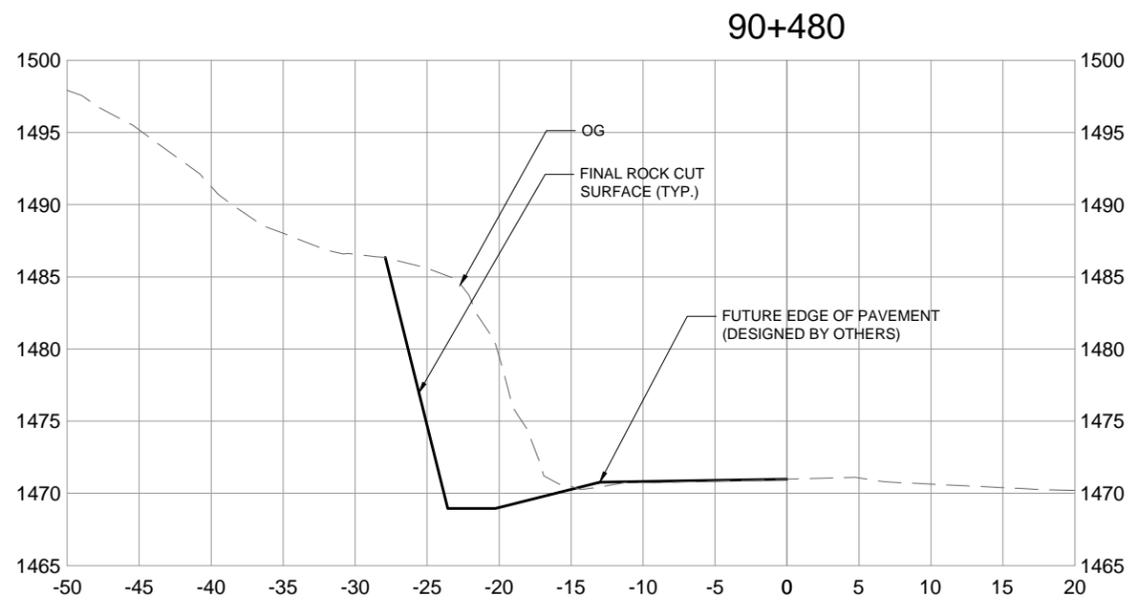
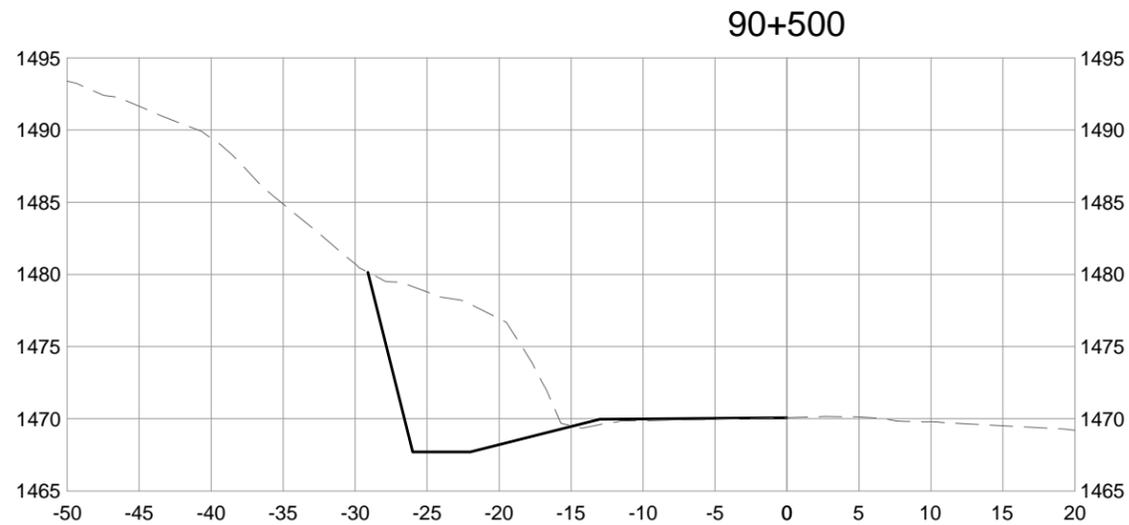
Designed by/Concept par  
 A. FRAPPELL / E. YANG

Drawn by/Dessiné par  
 T. TAKEDA

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**SPIRAL TUNNELS HILL ROCK SLOPE  
 CROSS SECTIONS  
 STA. 90+460 TO 90+560**

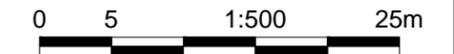
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4063</b>	<b>0</b>





# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
 YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

Designed by/Concept par  
 A. FRAPPELL / E. YANG

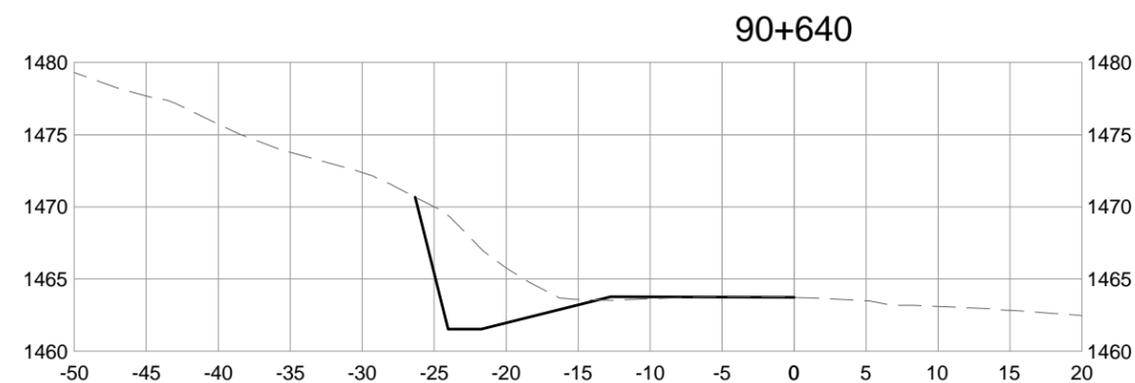
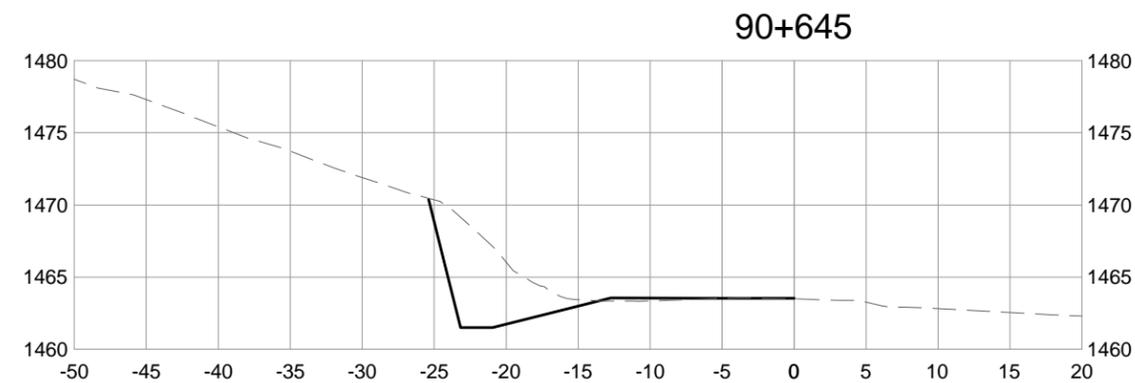
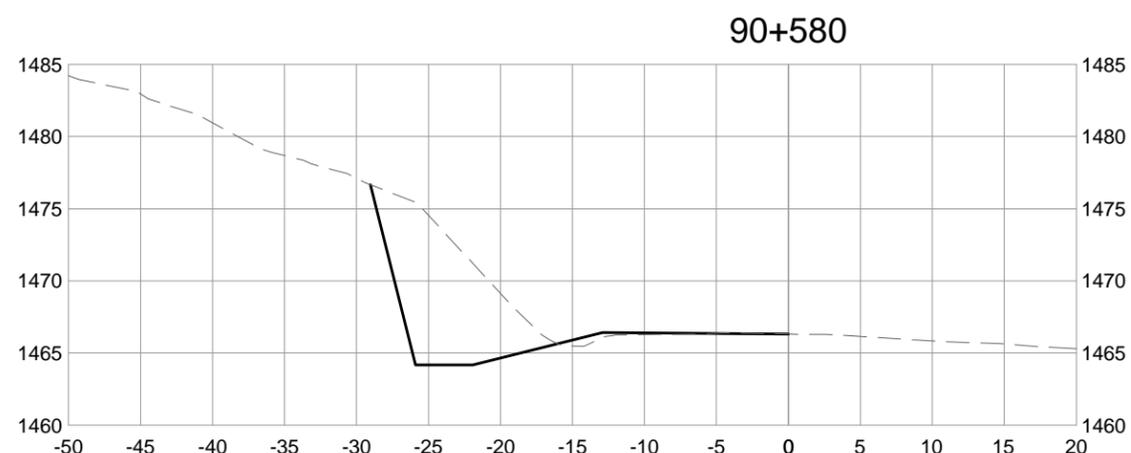
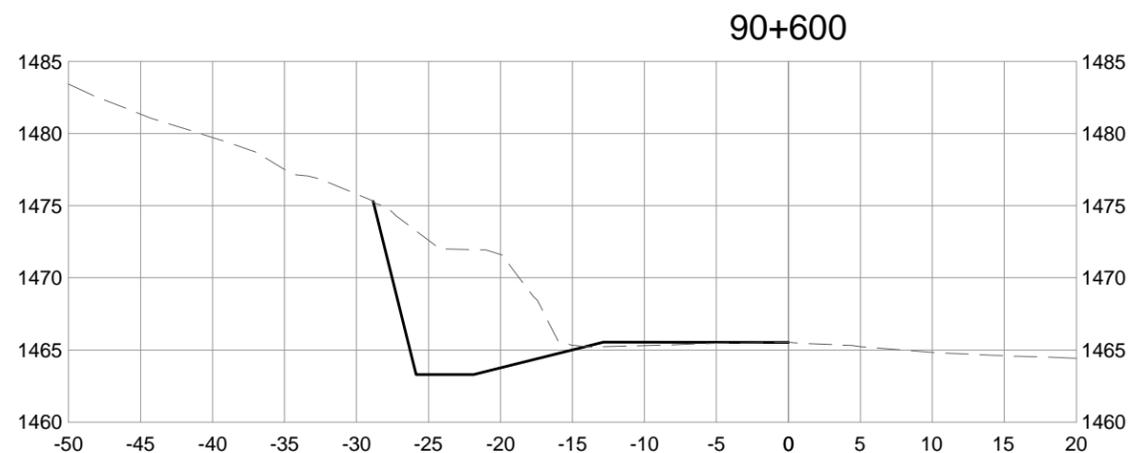
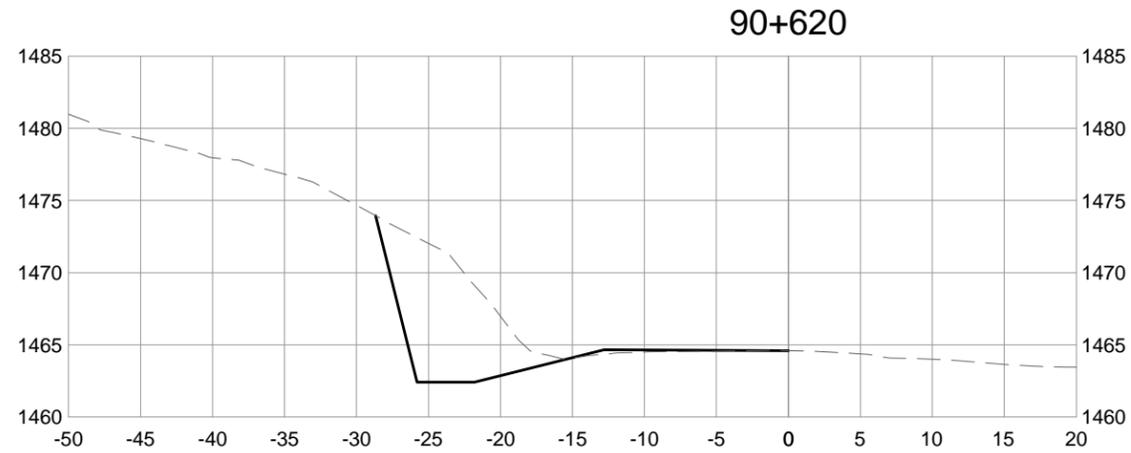
Drawn by/Dessiné par  
 T. TAKEDA

Client/client  
 PARKS CANADA AGENCY

Drawing title/Titre du dessin  
 SPIRAL TUNNELS HILL ROCK SLOPE  
 CROSS SECTIONS  
 STA. 90+580 TO 90+645

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	201541-4064	0

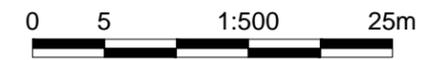
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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

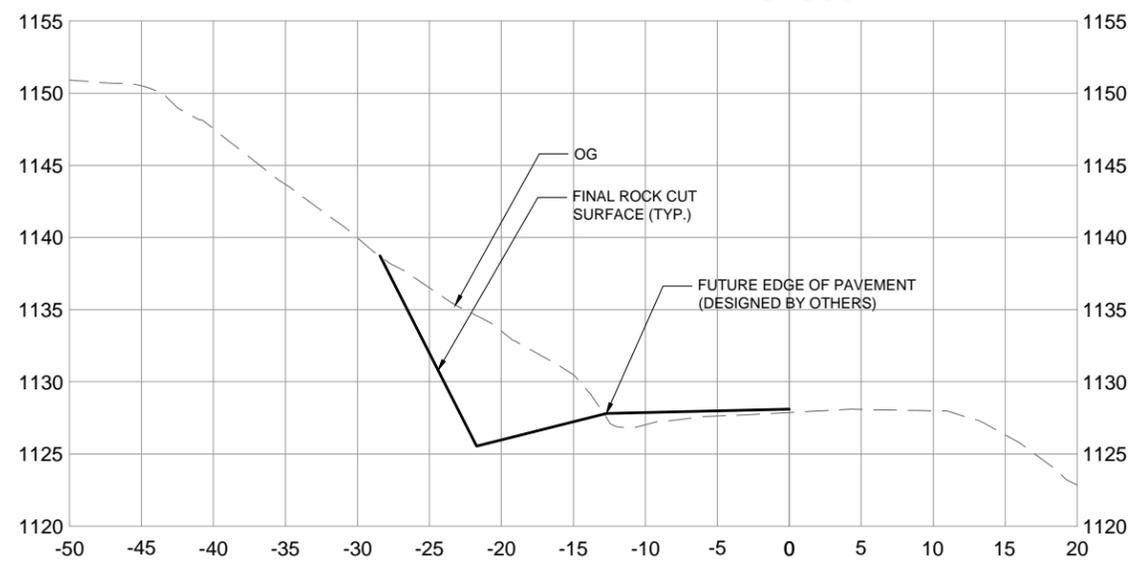
Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

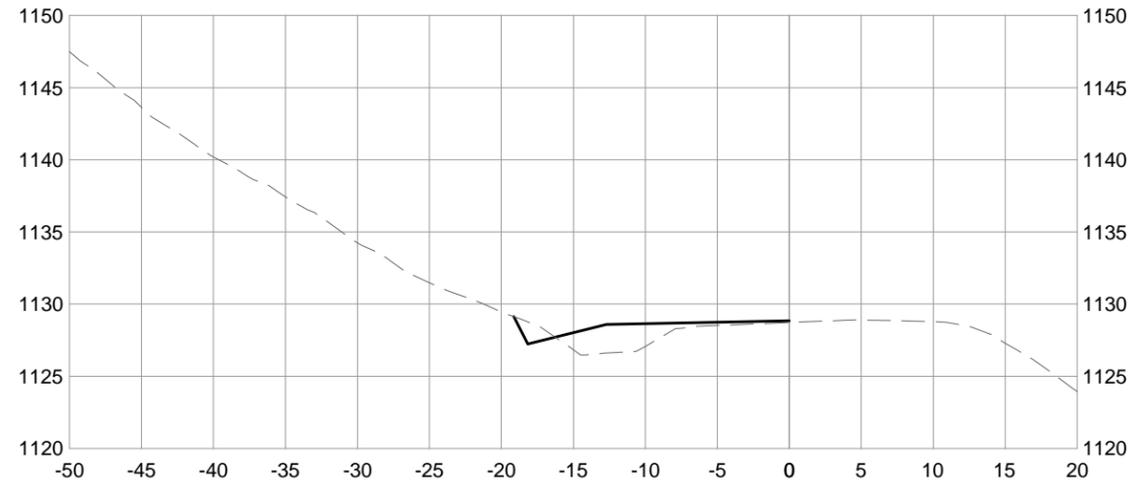
Drawing title/Titre du dessin  
**BIG TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+350 TO 115+420**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4090</b>	<b>0</b>

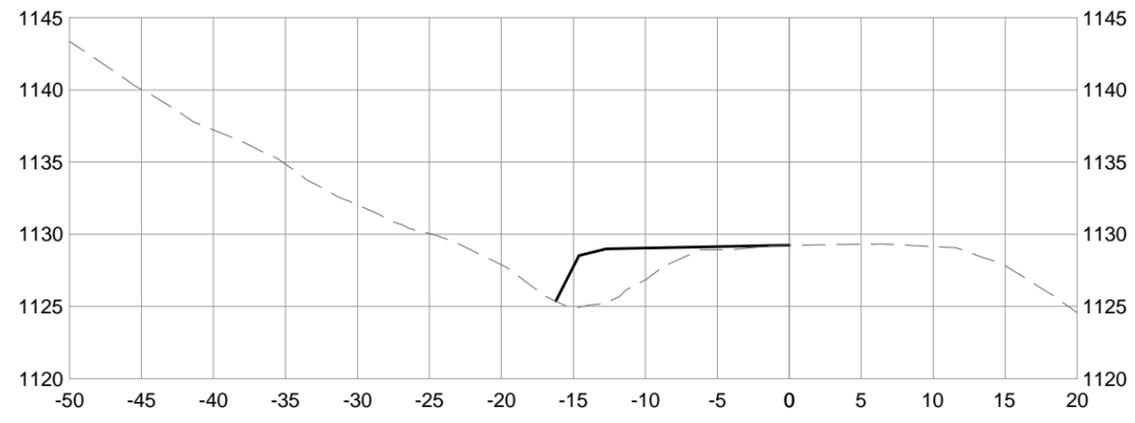
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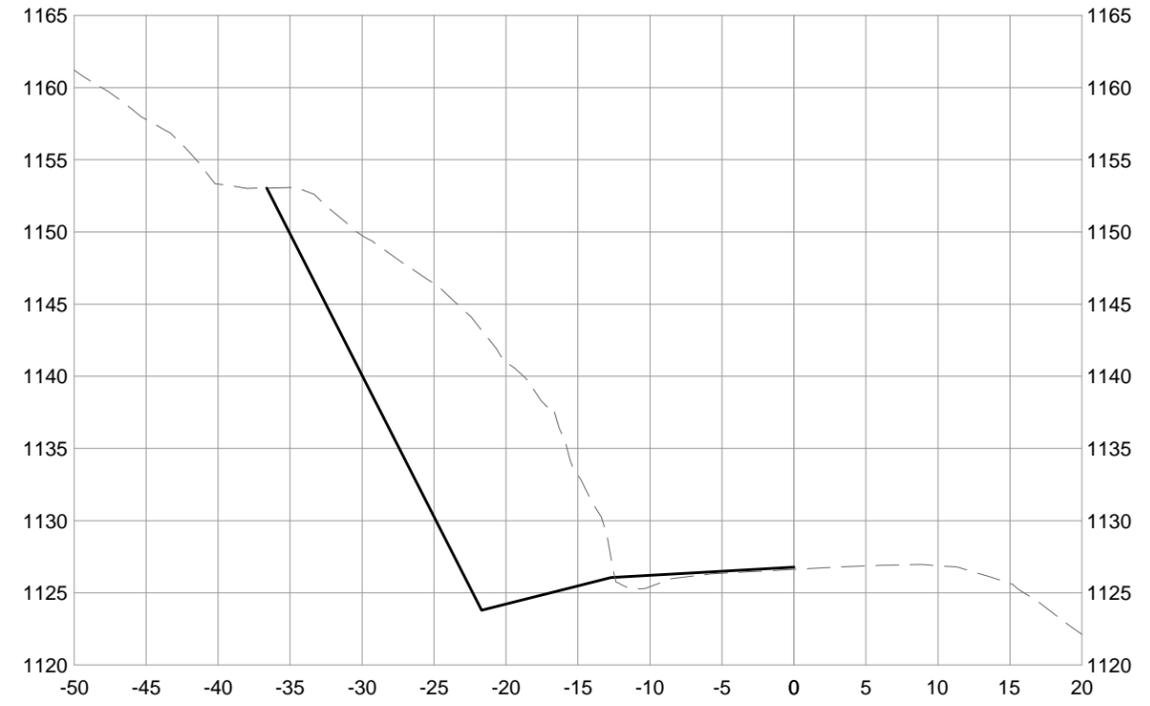
**115+360**



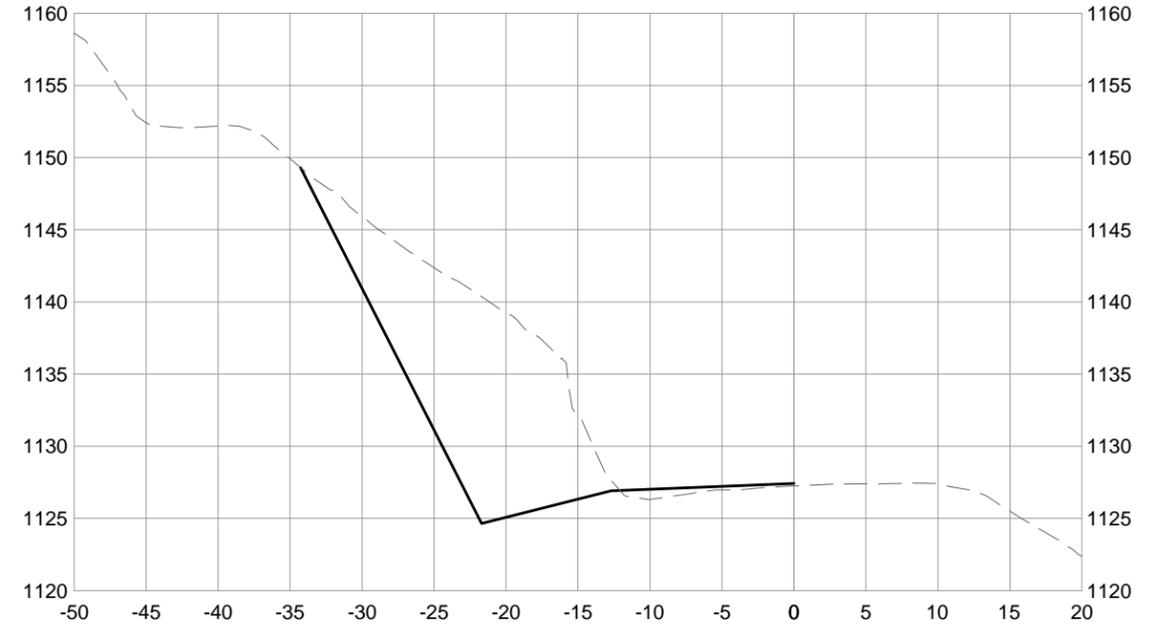
**115+350**



**115+420**



**115+400**



Q:\Vancouver\Transportation\331\Projects\154\03095-600 PCA 88-91km\CADD\Sheets\201541-4090 SERIES - CROSS SECTIONS.dwg [201541-4090] February 11, 2016 - 2:41:08 pm (BY: YANG, ERIC)

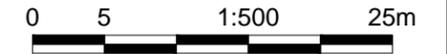


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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

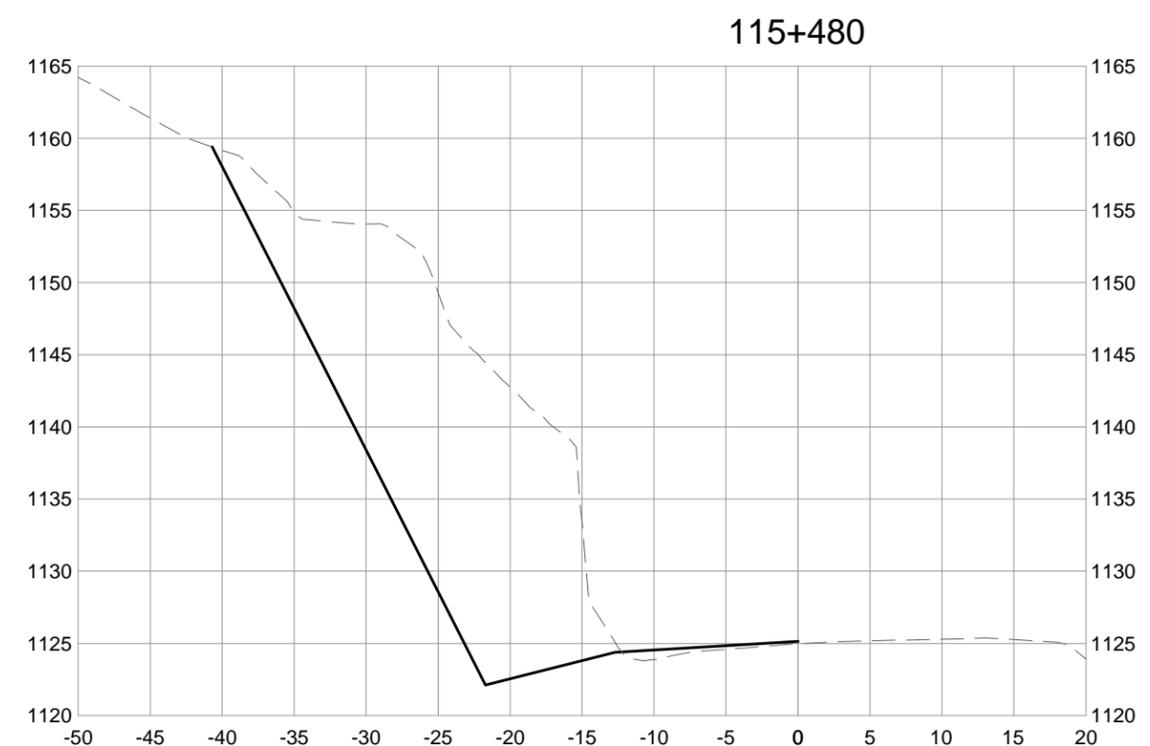
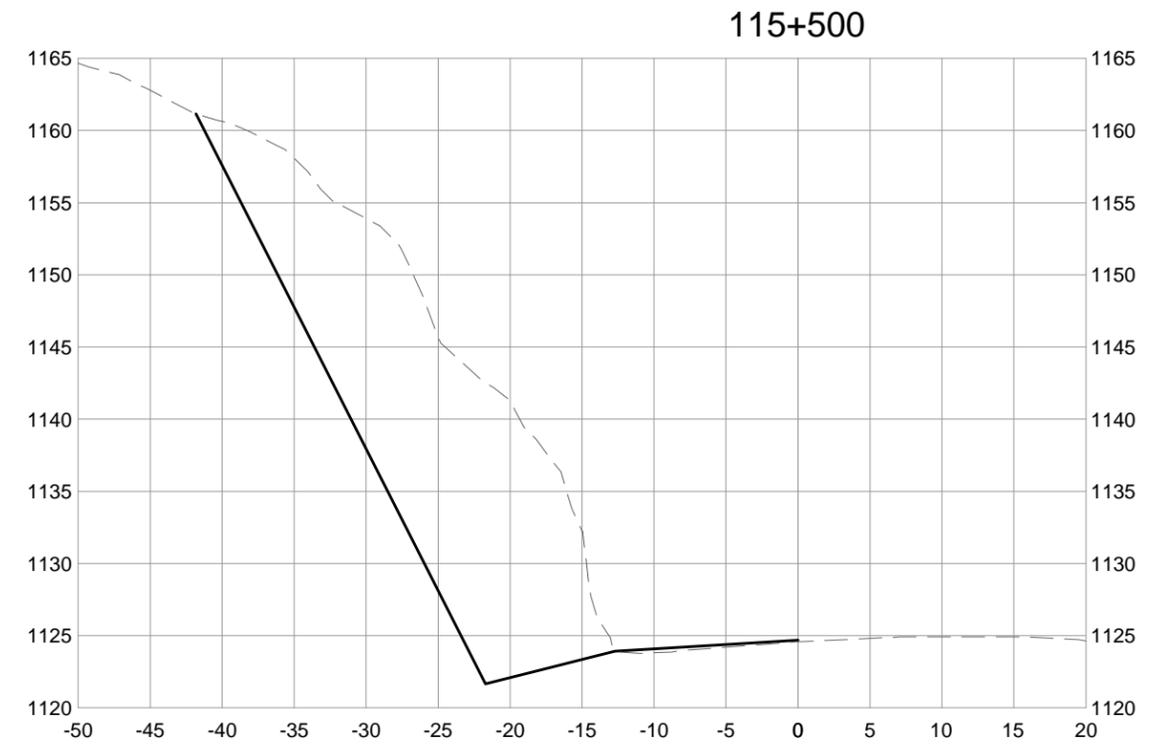
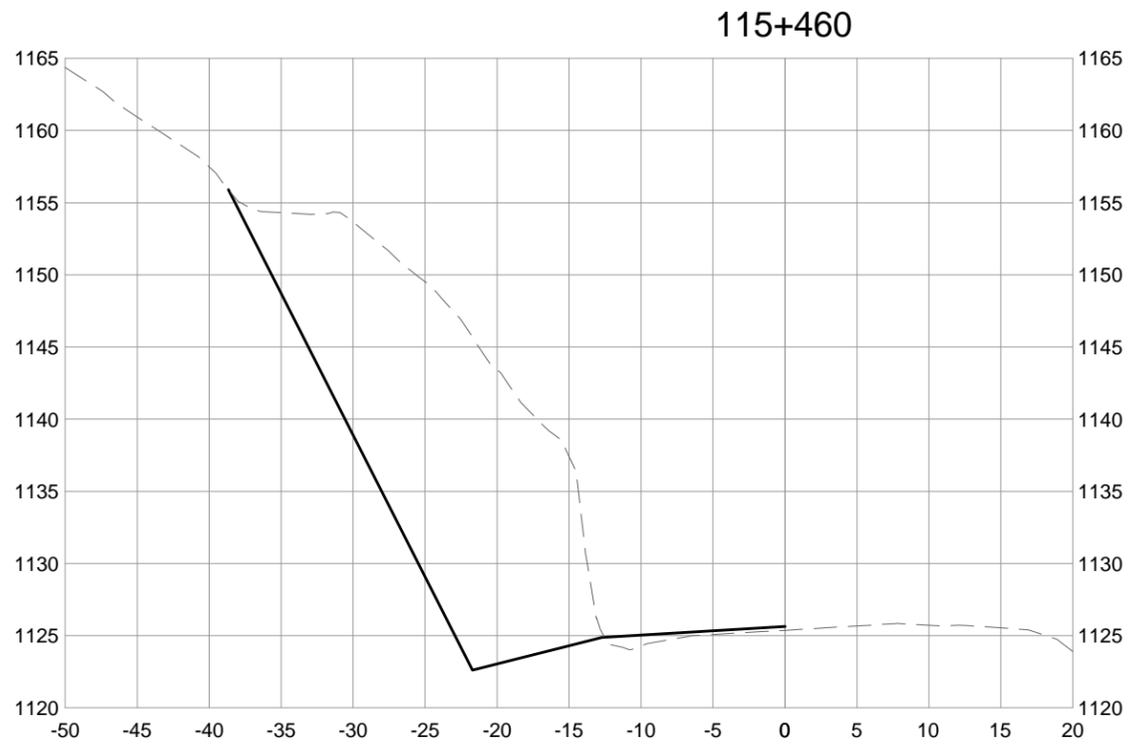
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**

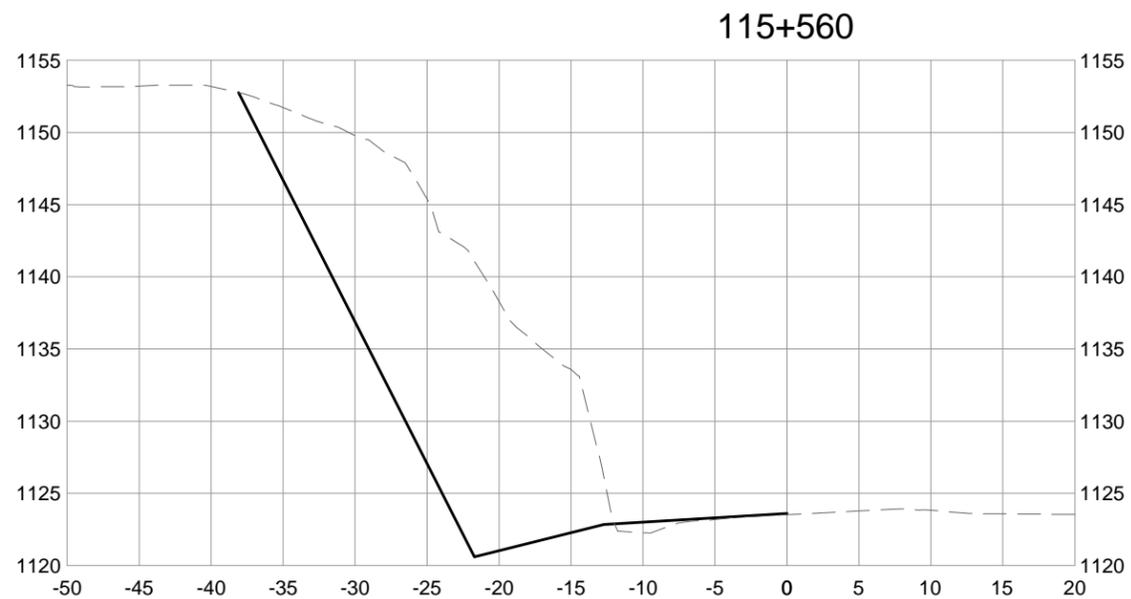
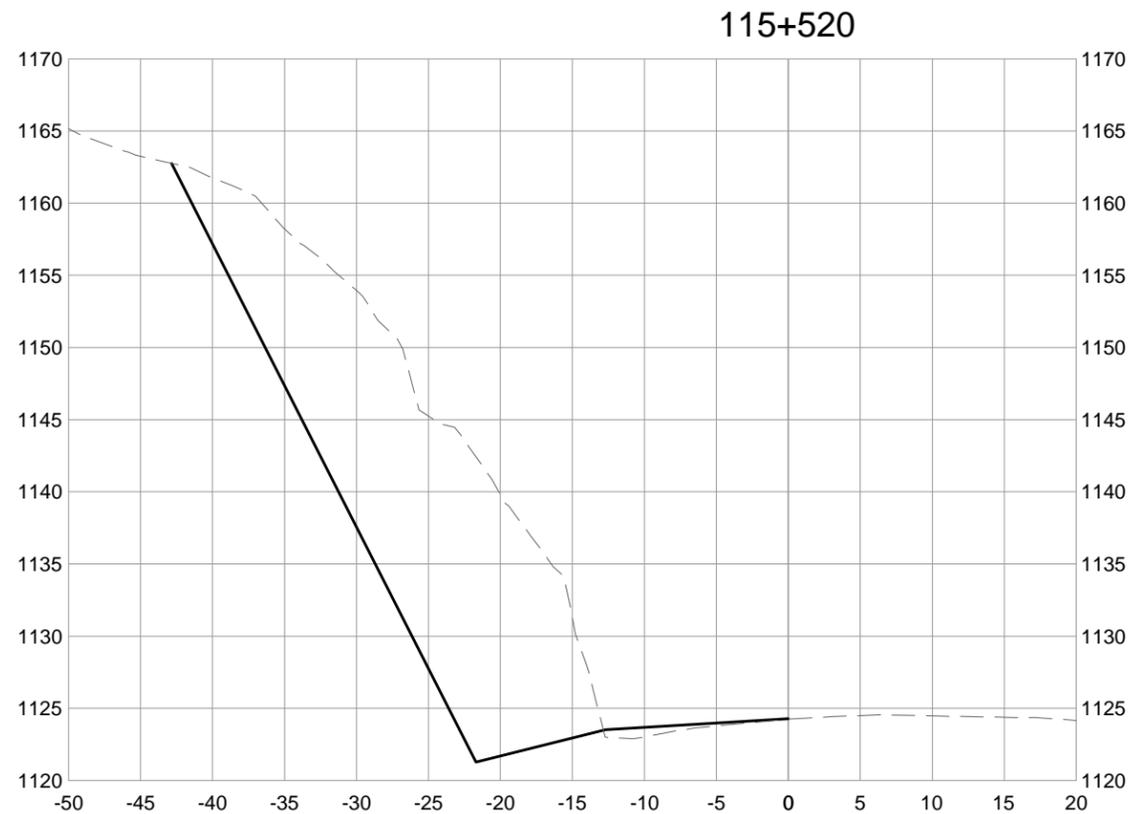
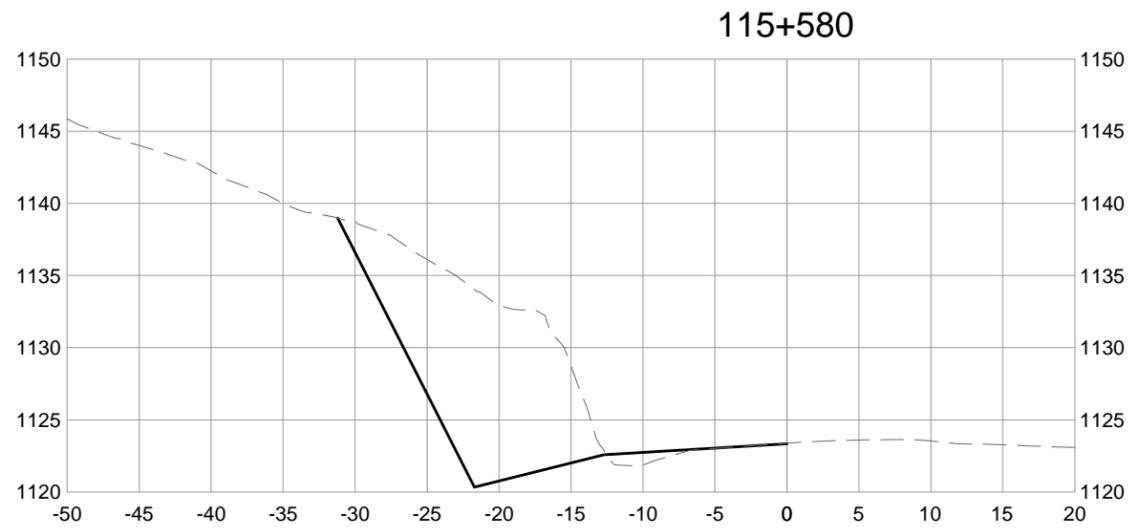
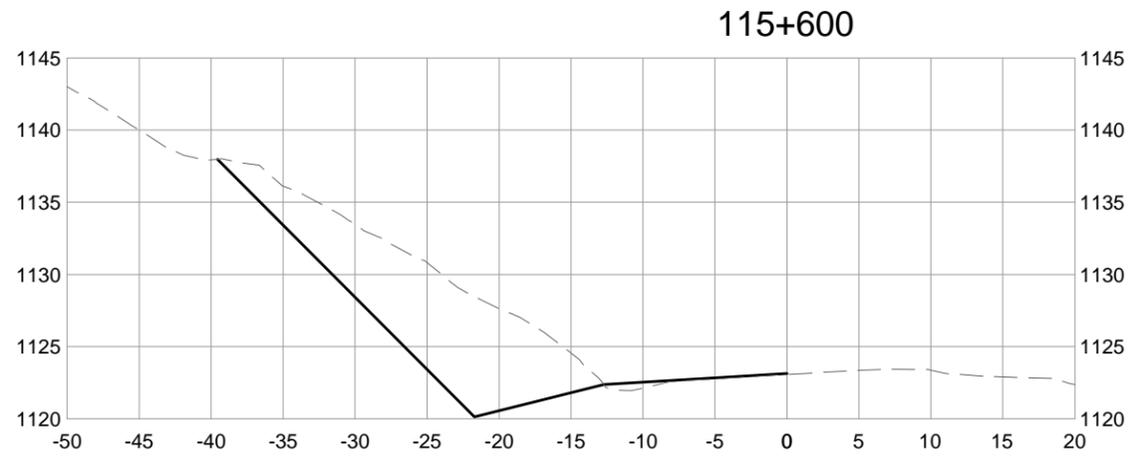
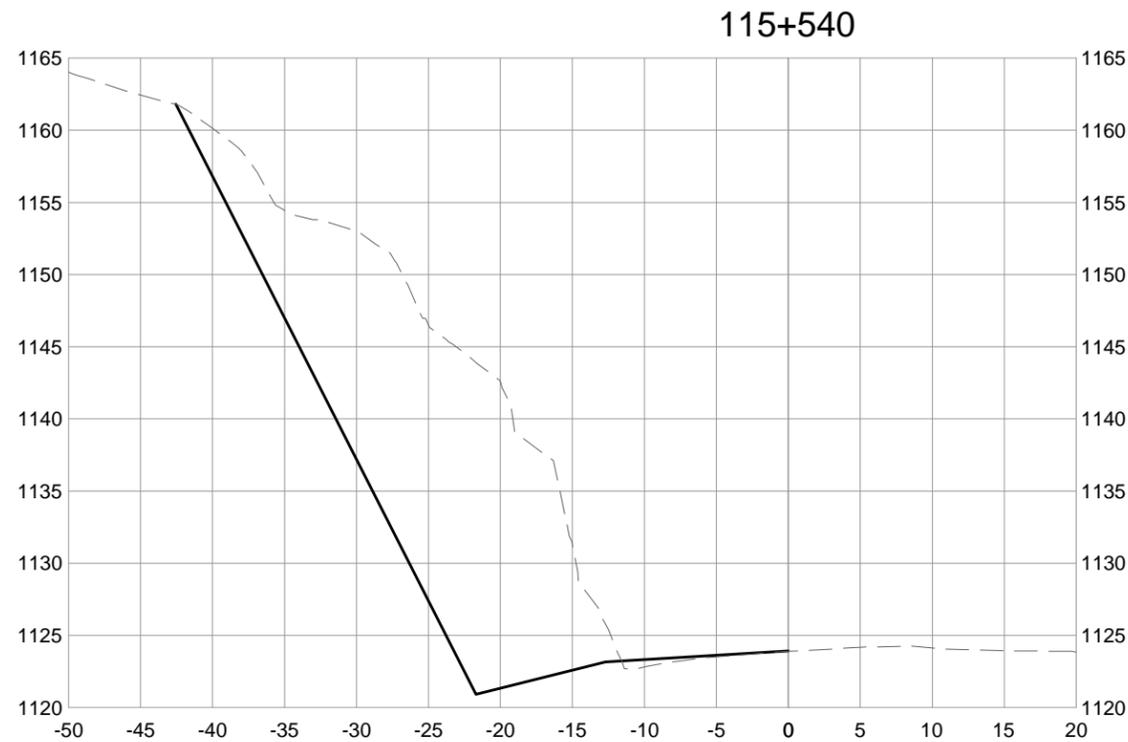
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**BIG TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+440 TO 115+500**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4091</b>	<b>0</b>

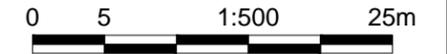


C:\Vancouver\Transportation\331\Projects\134\03095-600 PCA 88-9\km\CADD\Sheets\201541-4000 SERIES - CROSS SECTIONS.dwg [201541-4092] February 11, 2016 - 2:42:25 pm (BY: YANG, ERIC)



**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER		AF	TT AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**BIG TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+520 TO 115+600**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4092</b>	<b>0</b>

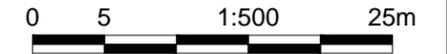


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# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.

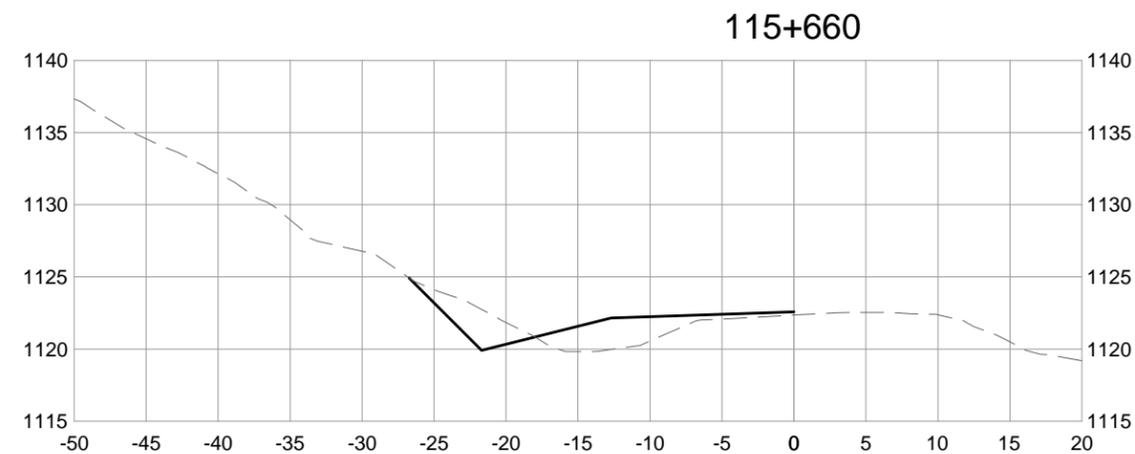
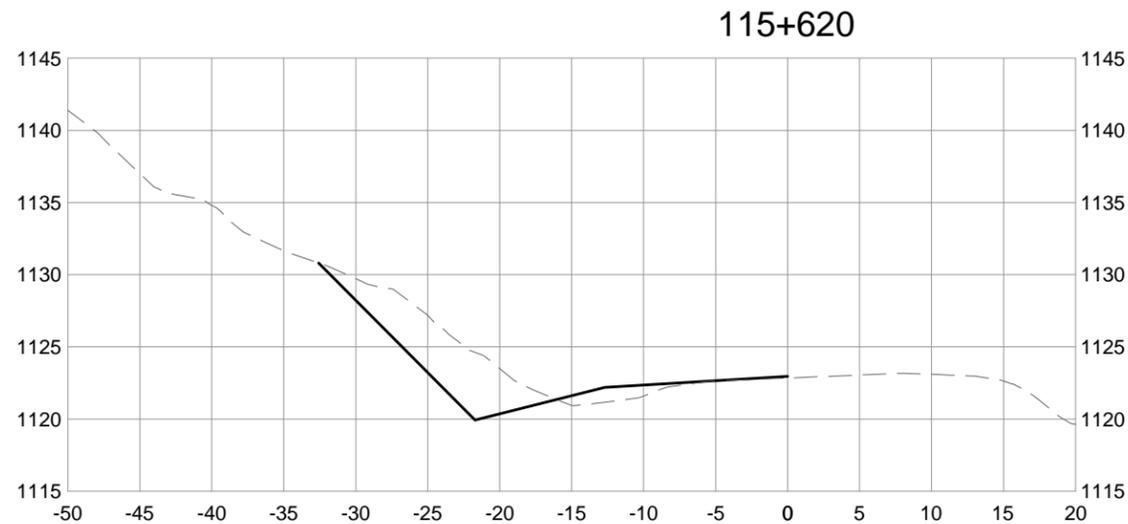
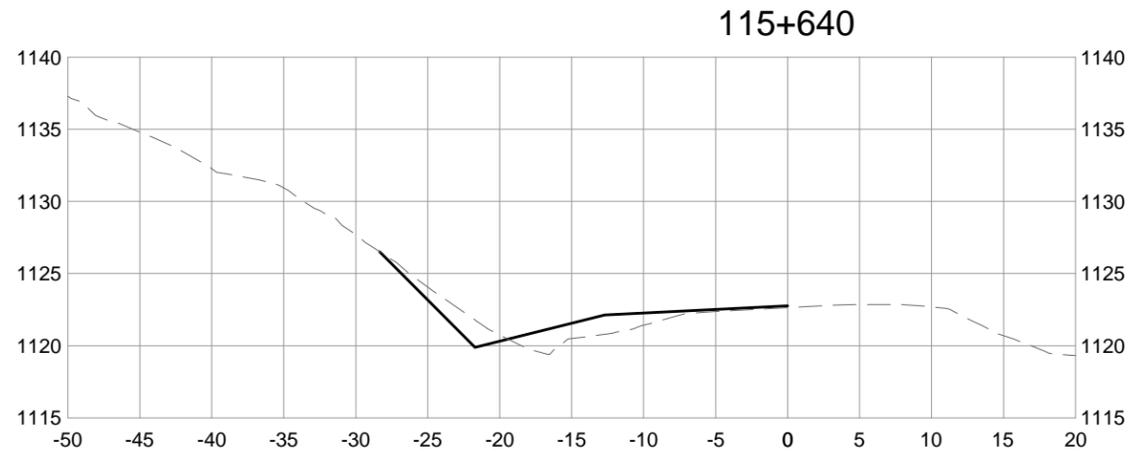


Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessine par  
**T. TAKEDA**



Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**BIG TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+620 TO 115+660**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4093</b>	<b>0</b>



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# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

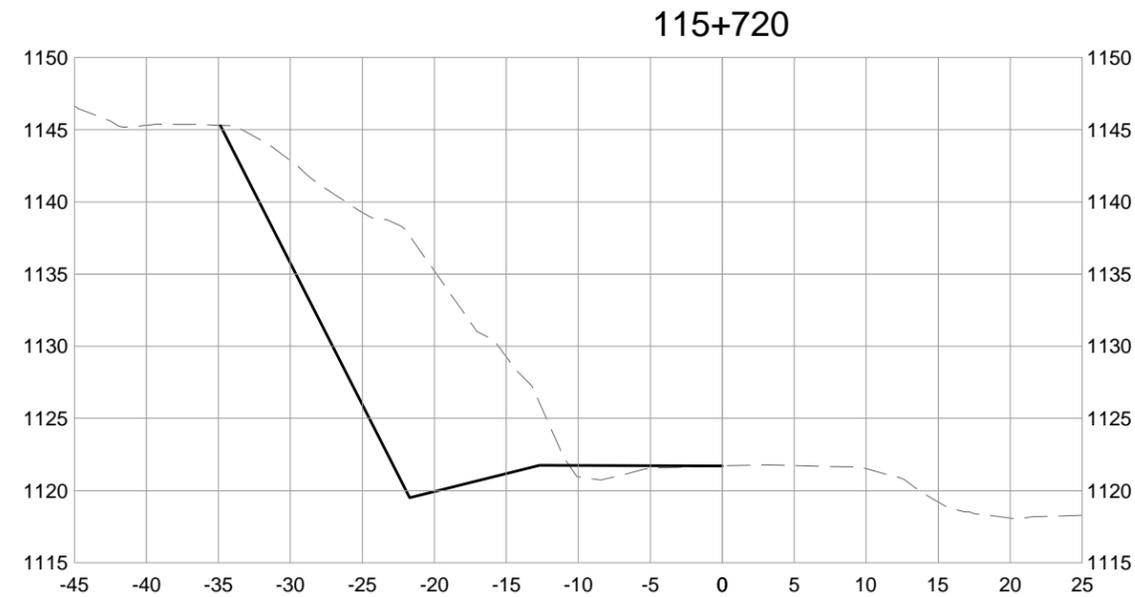
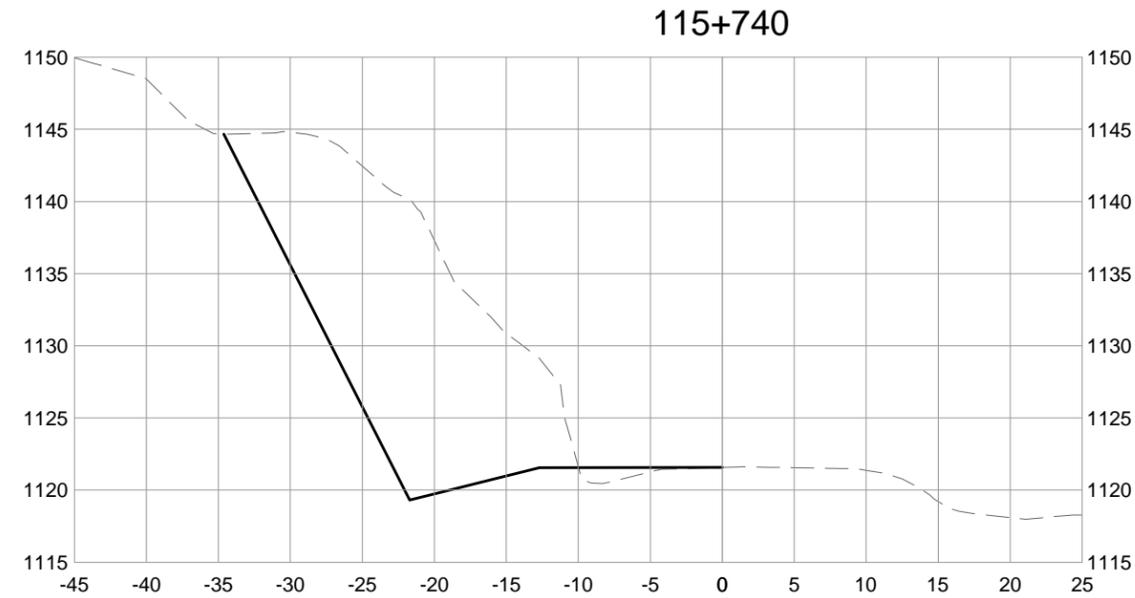
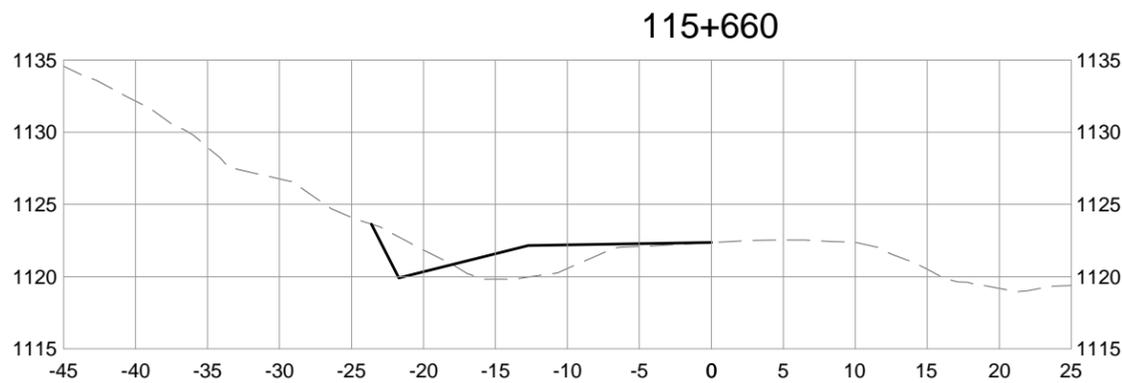
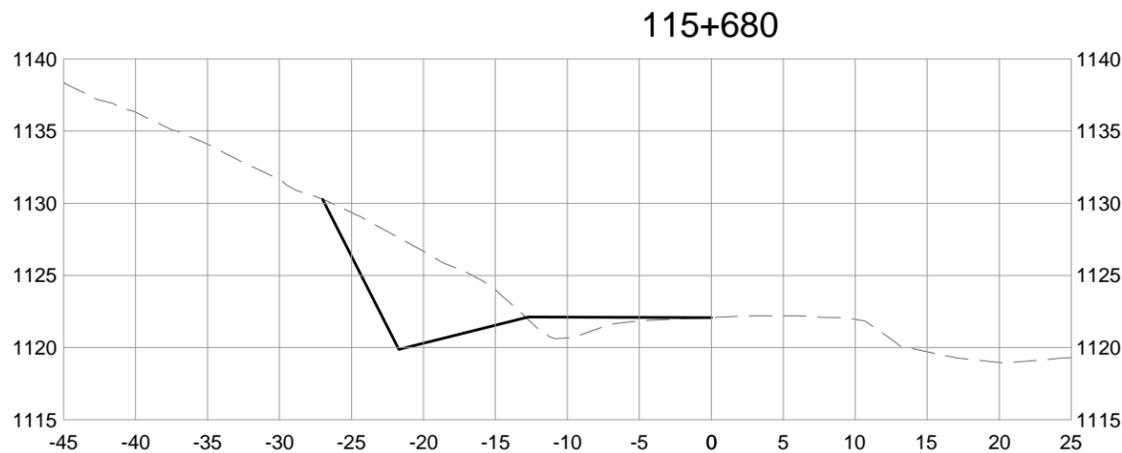
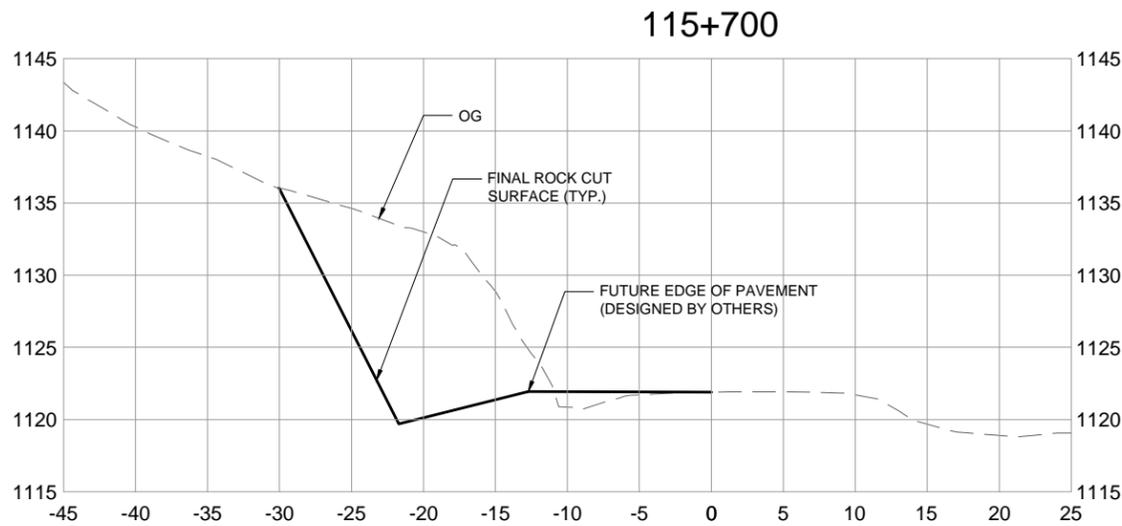
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**LITTLE TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+660 TO 115+740**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4100</b>	<b>0</b>

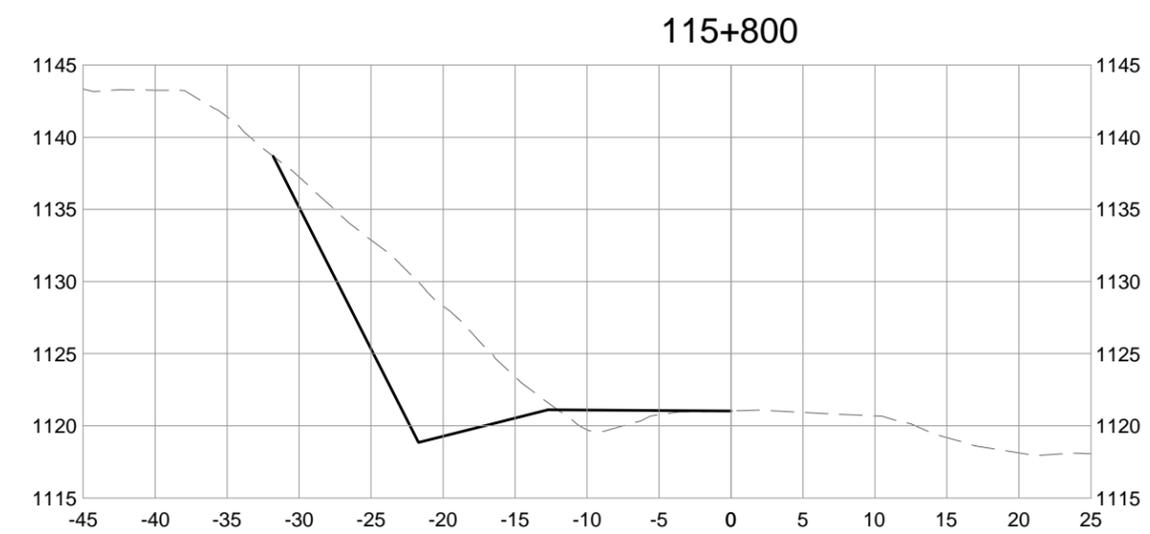
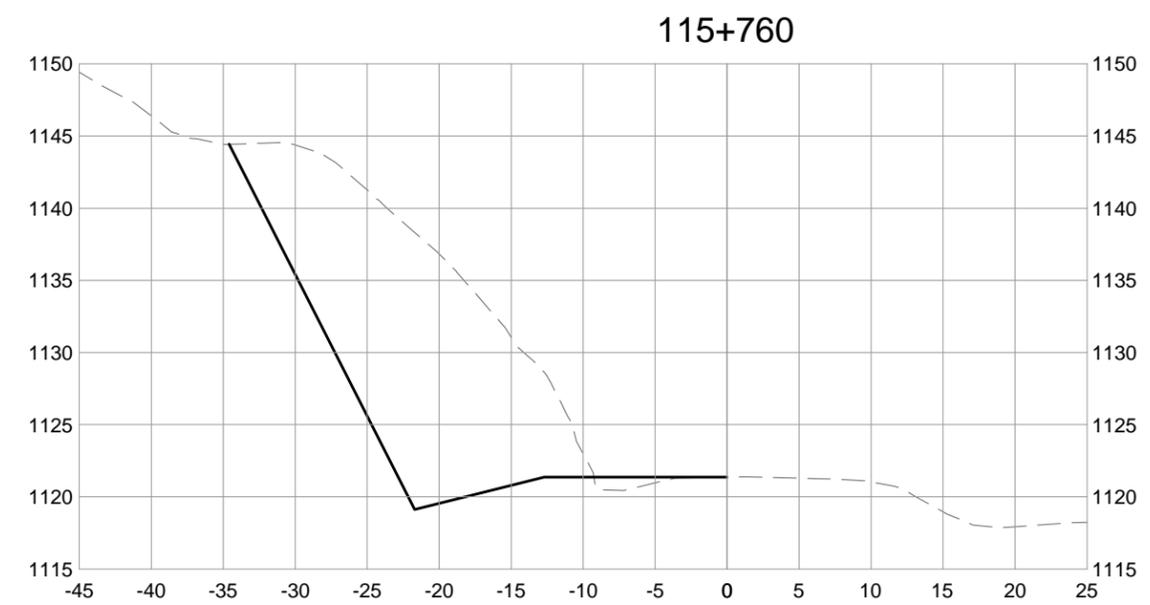
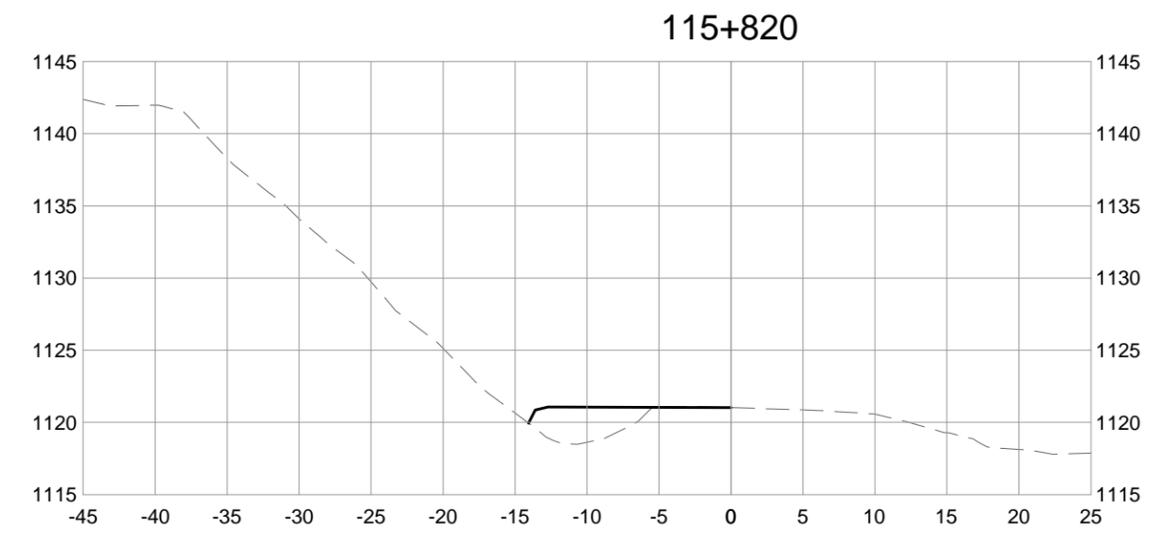
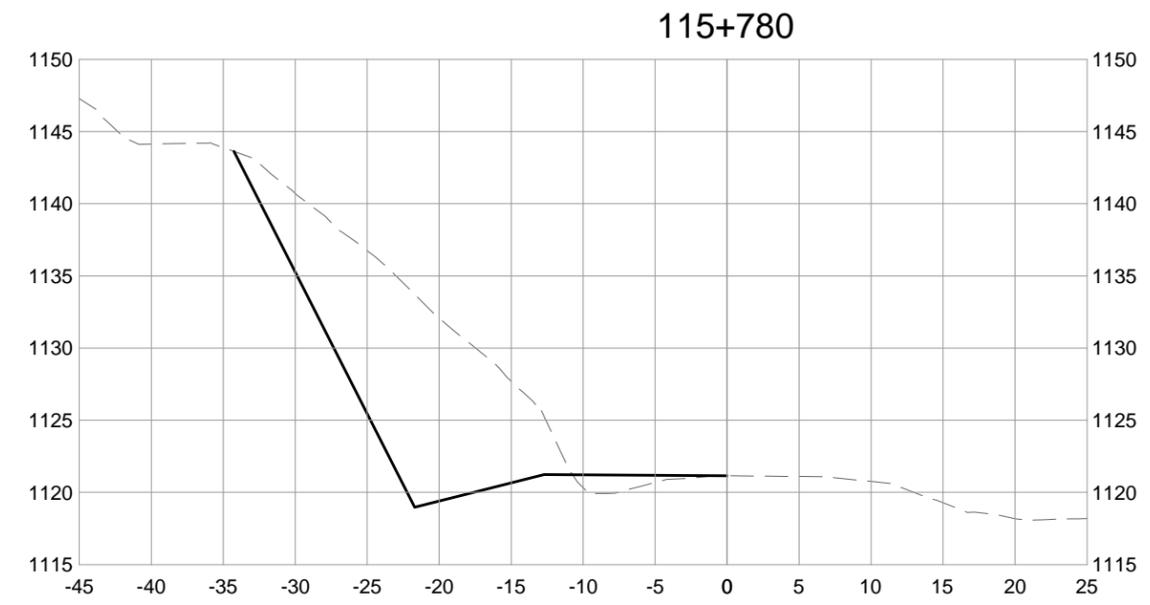
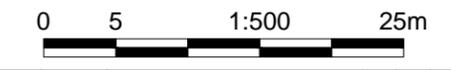


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# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER		AF	TT AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**LITTLE TOPPLE ROCK SLOPE  
 CROSS SECTIONS  
 STA. 115+760 TO 115+820**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4101</b>	<b>0</b>





**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

YOHO NATIONAL PARK  
 BRITISH COLUMBIA  
 KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING

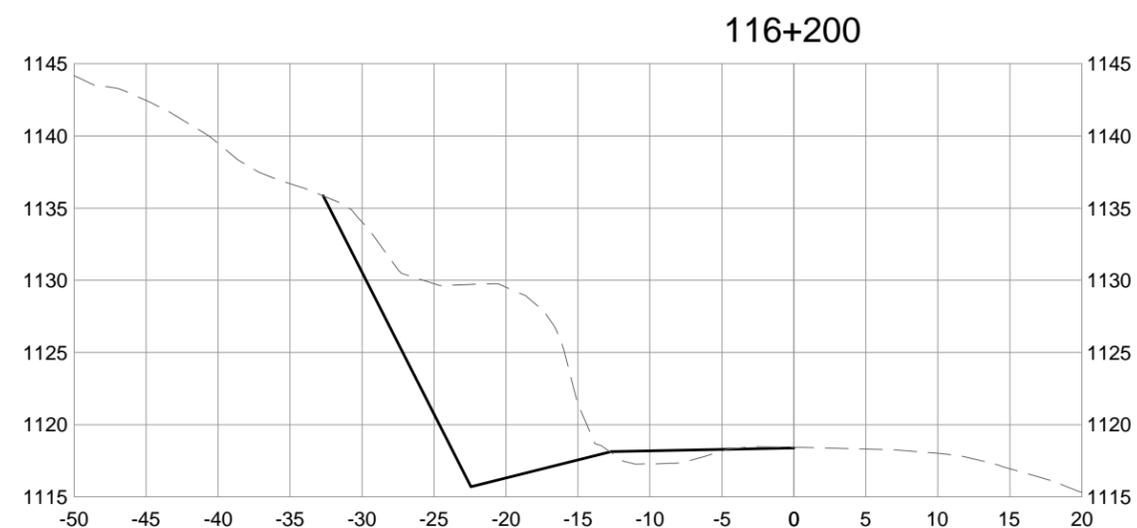
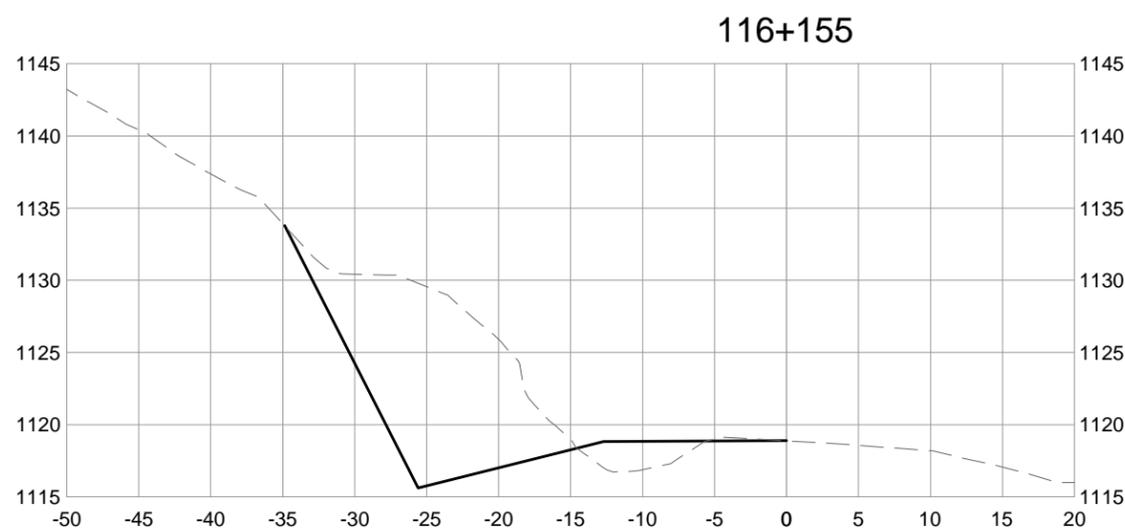
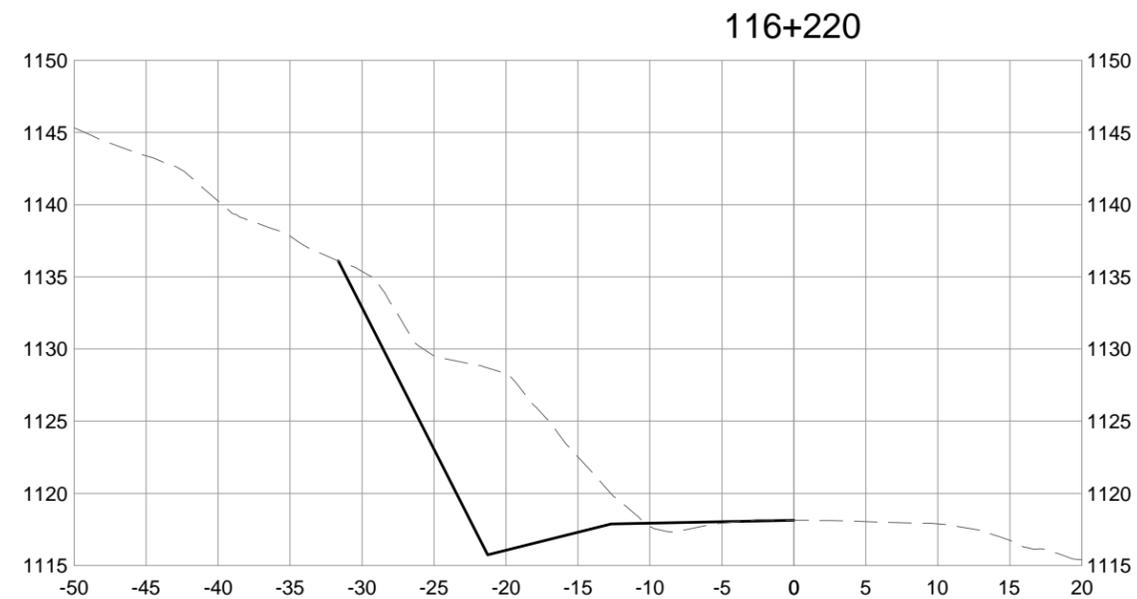
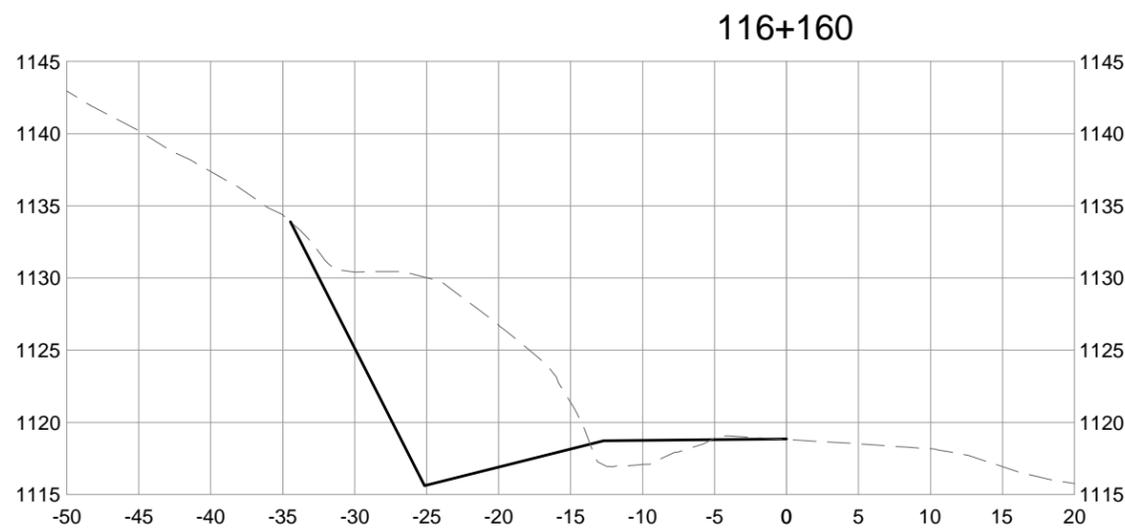
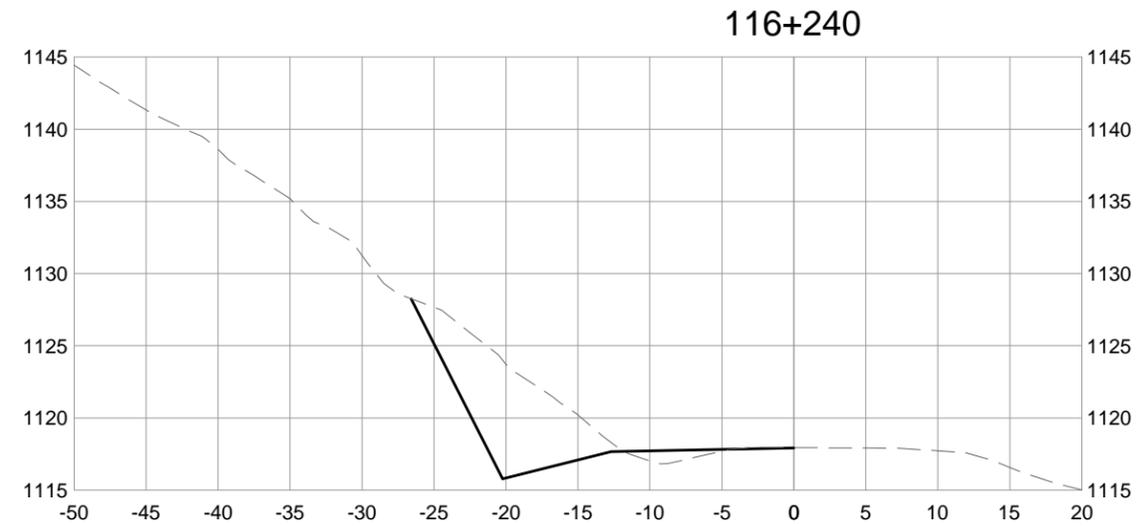
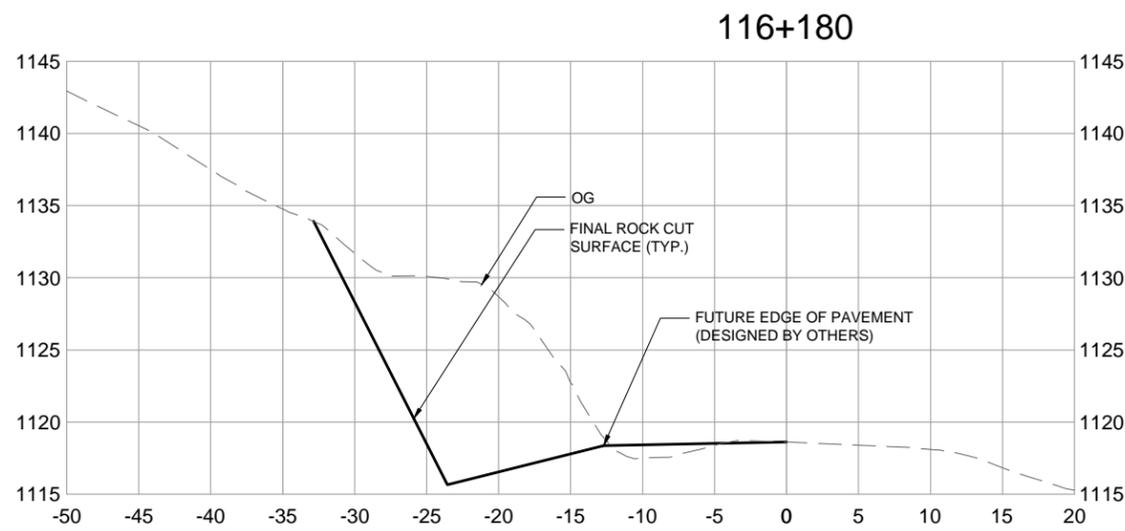
Designed by/Concept par  
 A. FRAPPELL / E. YANG

Drawn by/Dessiné par  
 T. TAKEDA

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+155 TO 116+240**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4110</b>	<b>0</b>



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C:\Vancouver\Transportation\331\Projects\134\03095-600 PCA 88-9\km\CADD\Sheets\201541-4000 SERIES - CROSS SECTIONS.dwg [201541-4111] February 11, 2016 - 2:22:54 pm (BY: YANG, ERIC)



# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

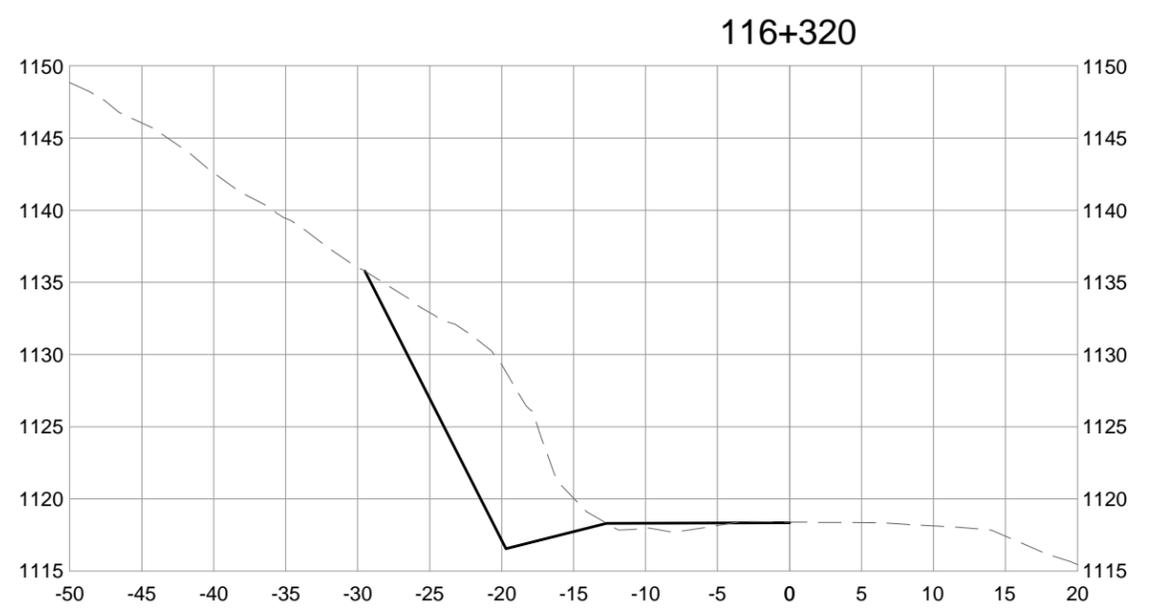
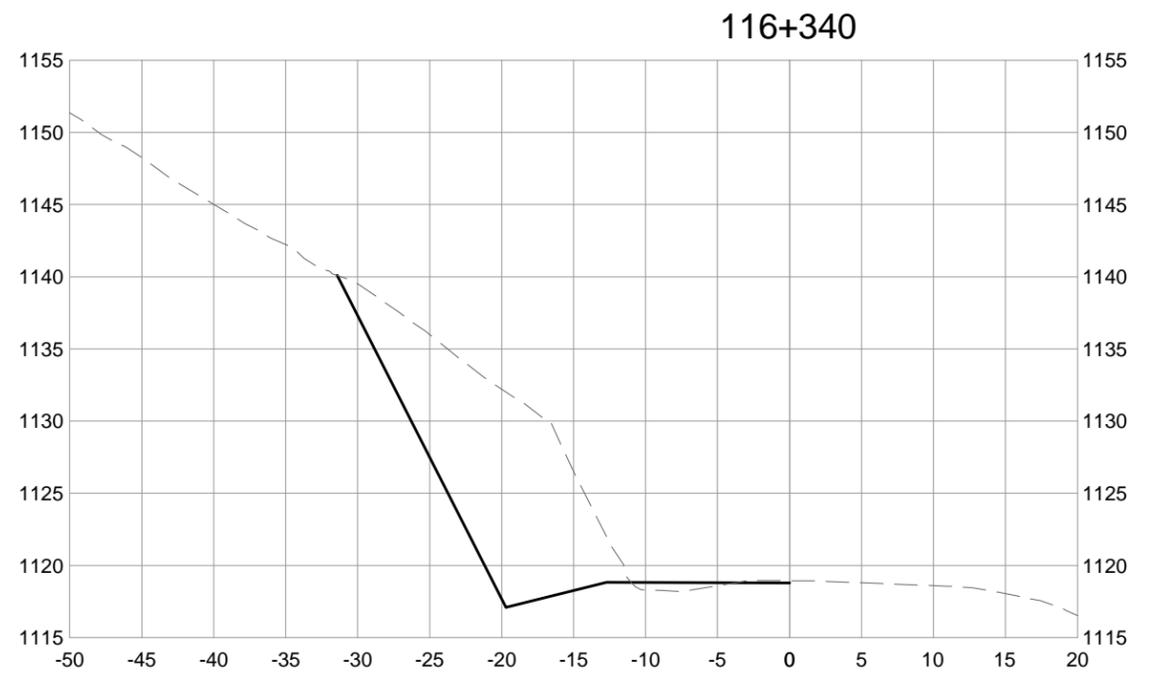
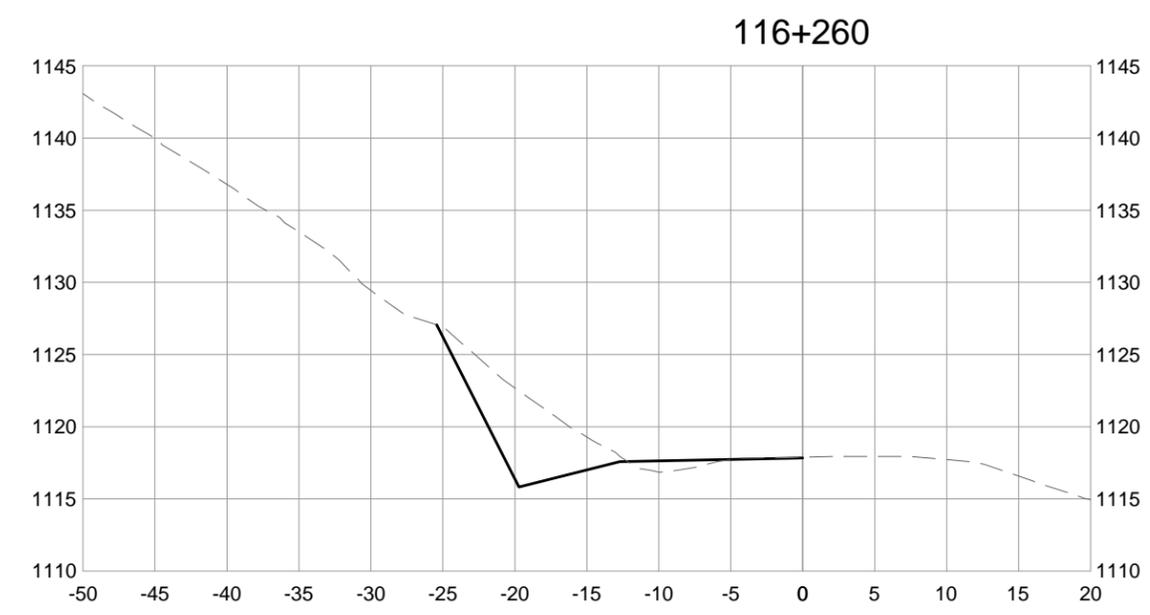
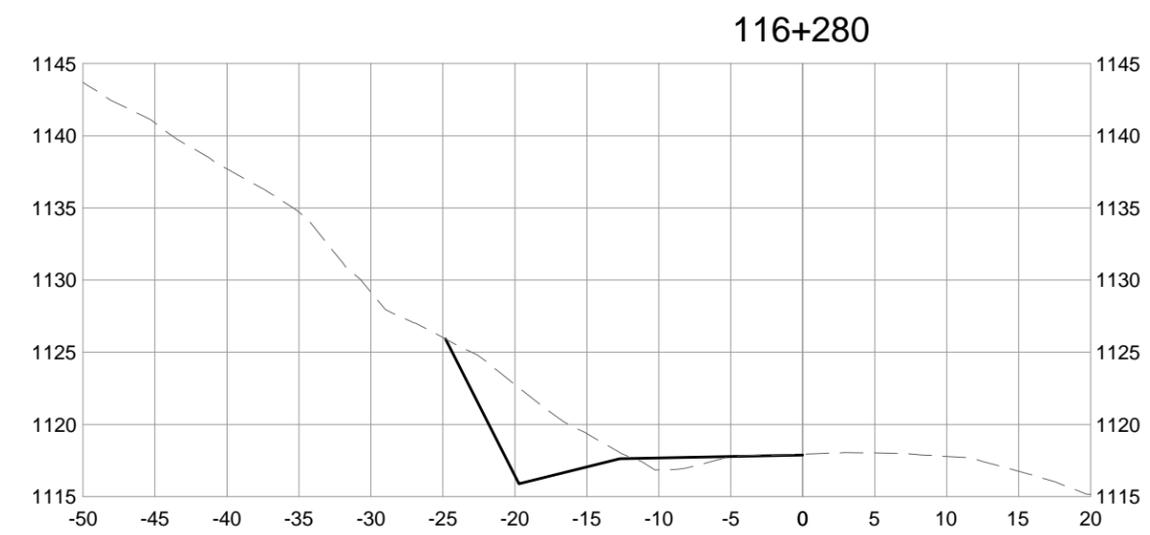
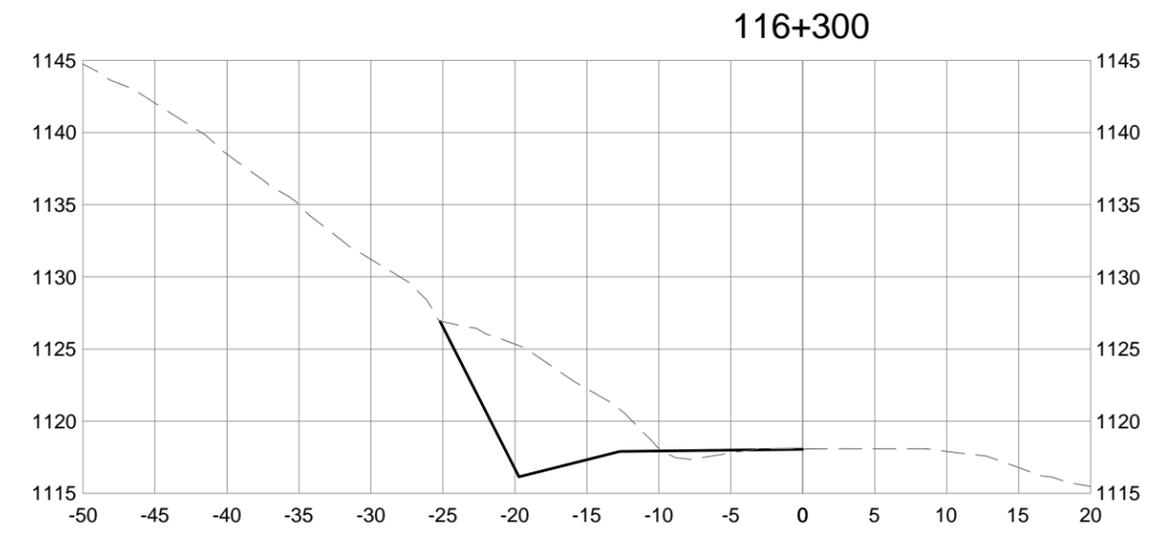
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+260 TO 116+340**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	<b>201541-4111</b>	<b>0</b>



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# ISSUED FOR TENDER

PCA PROJECT No.      TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

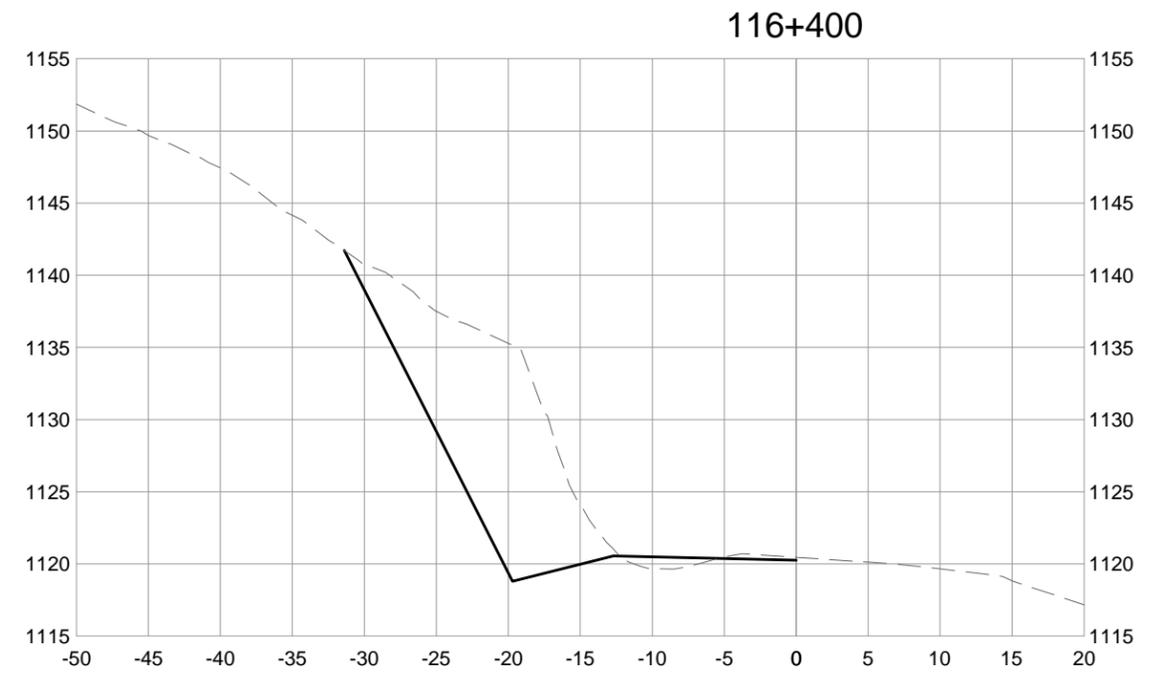
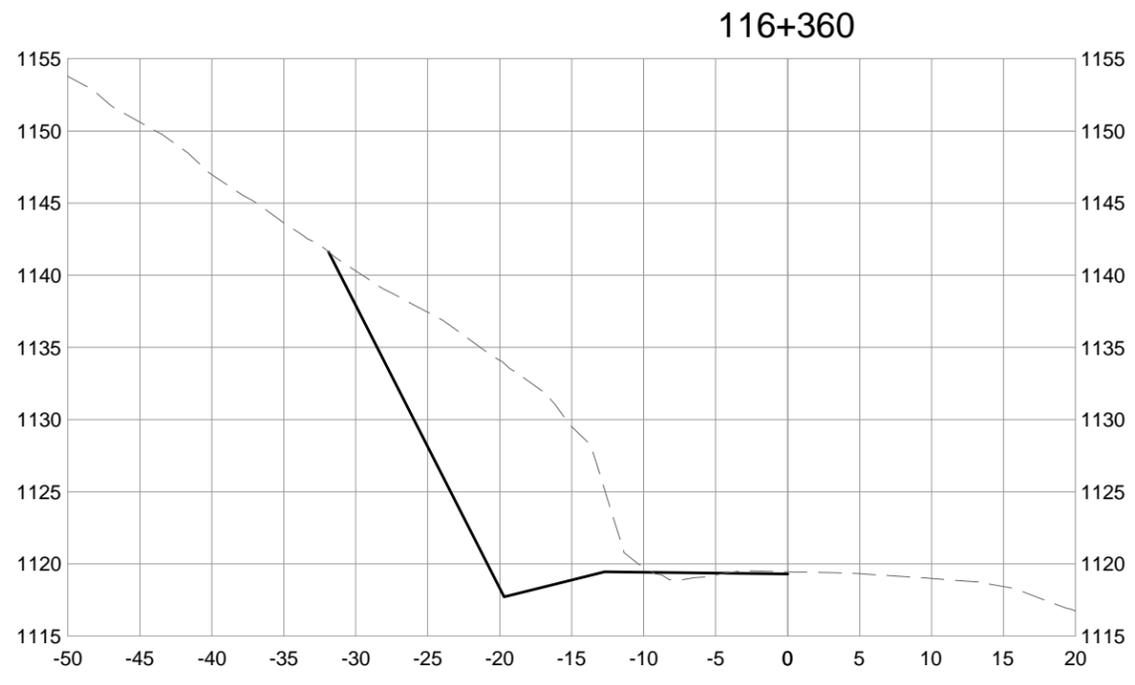
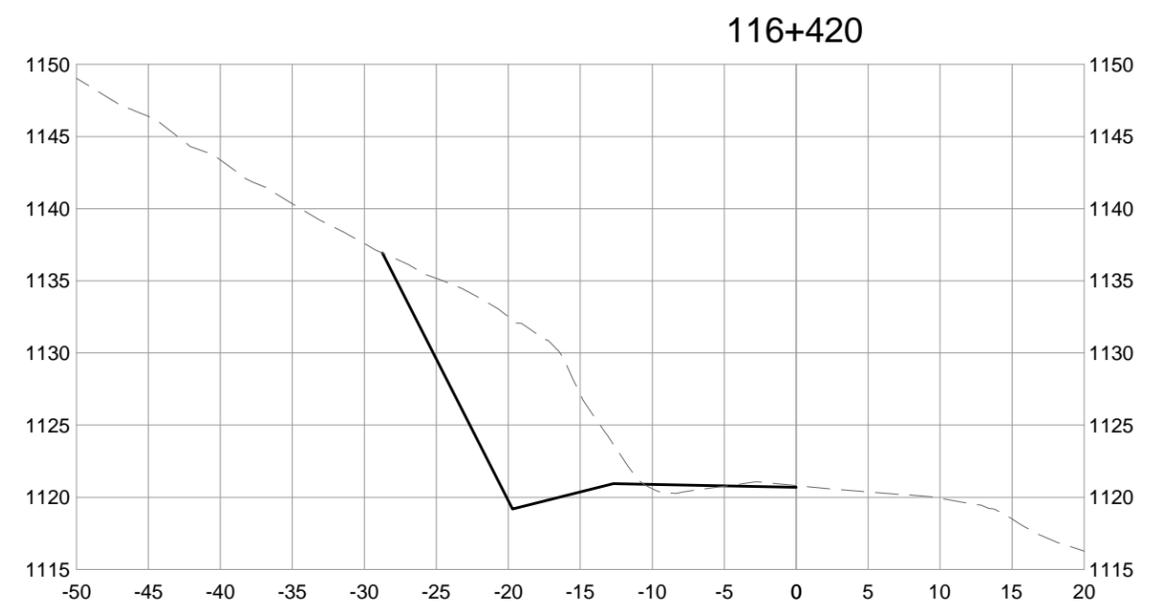
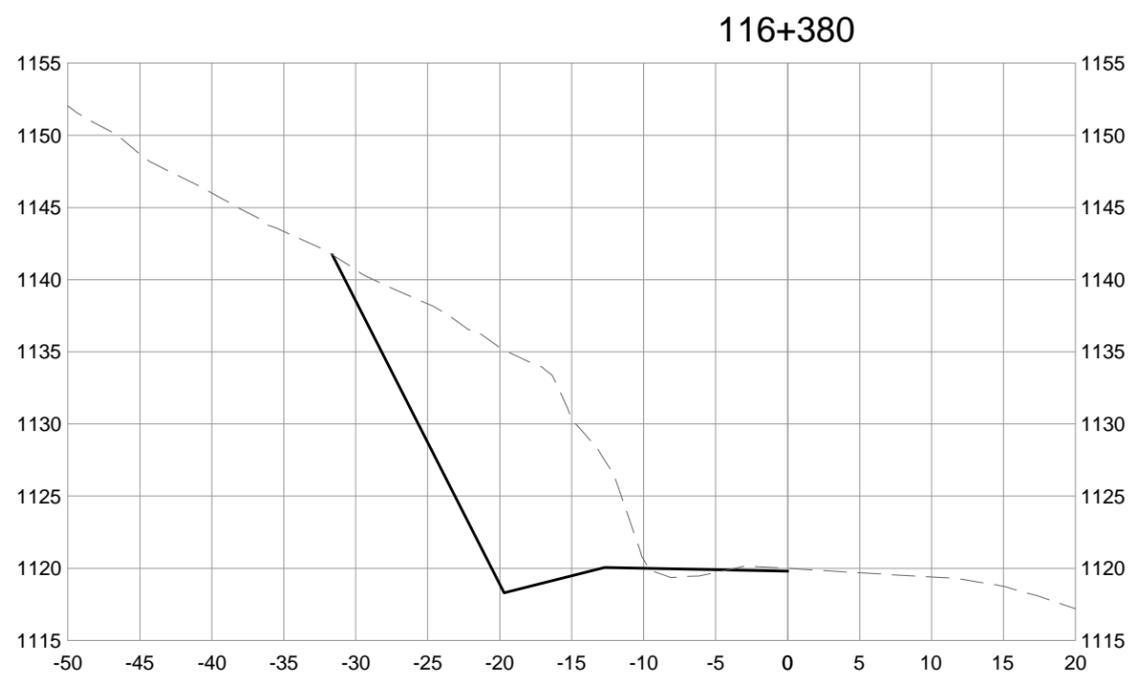
Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

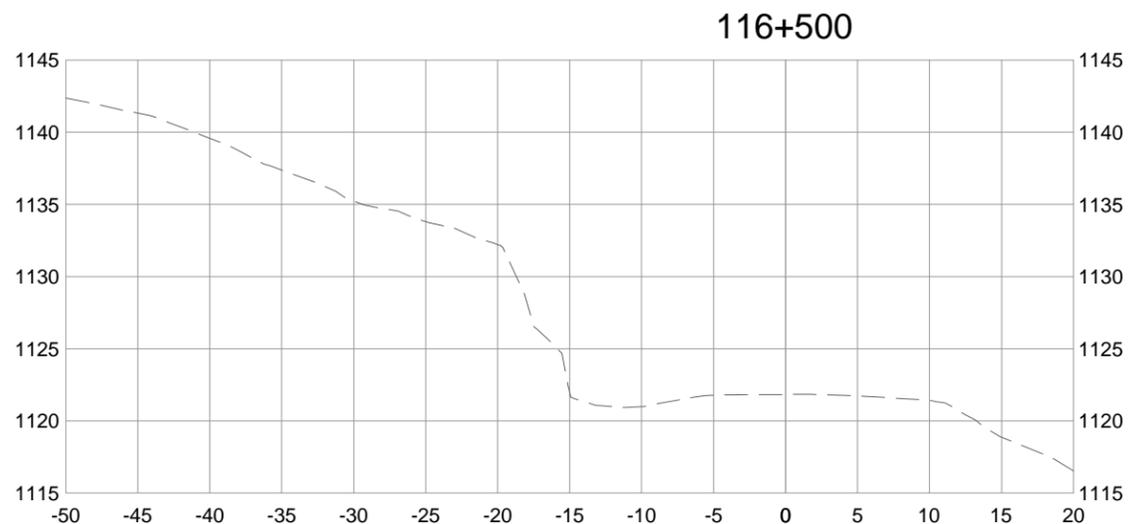
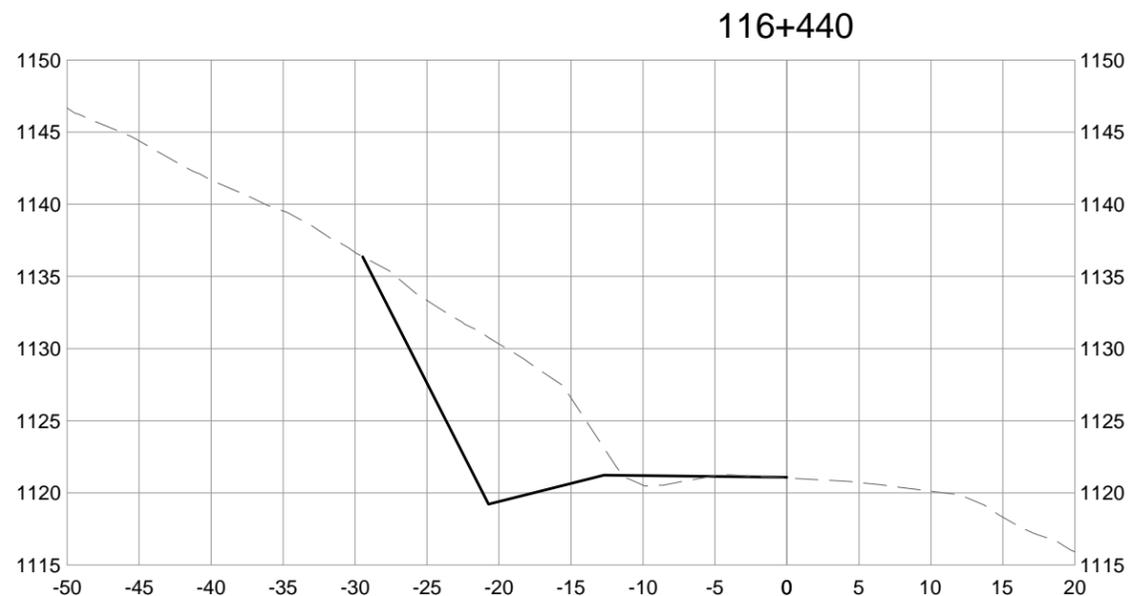
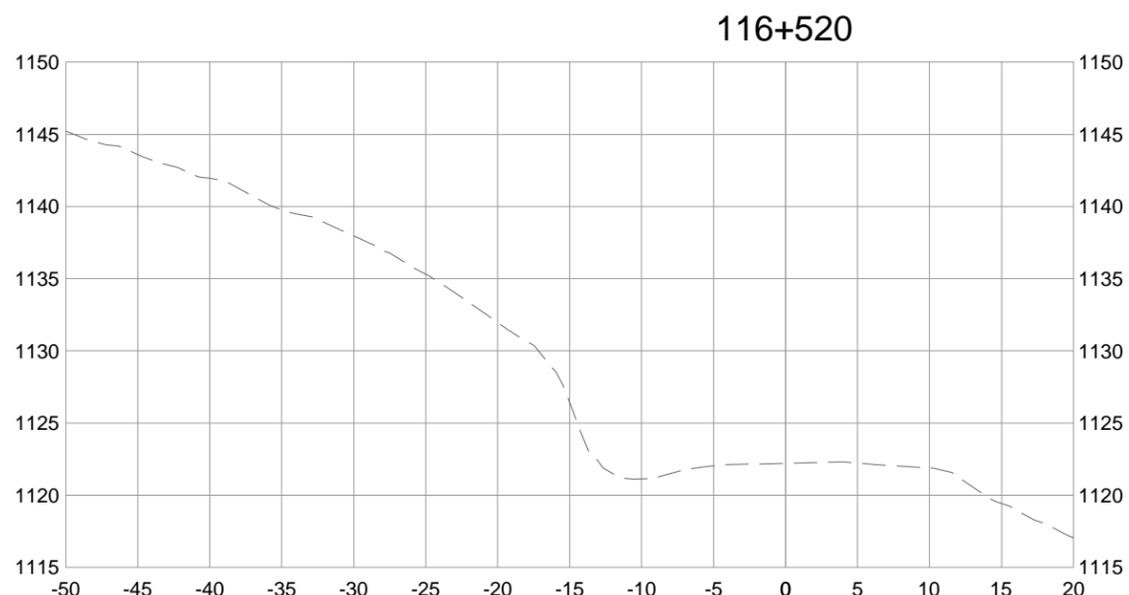
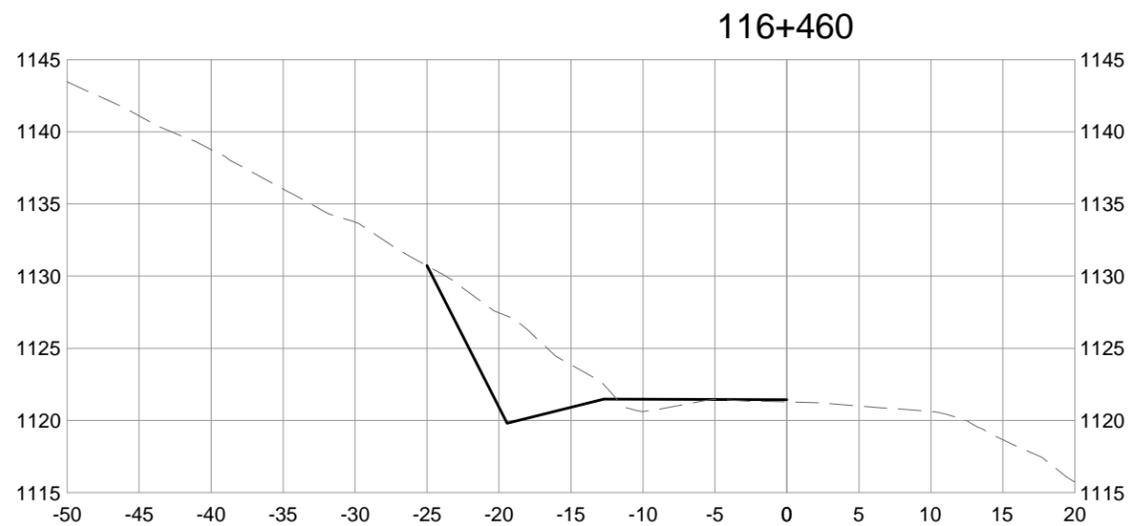
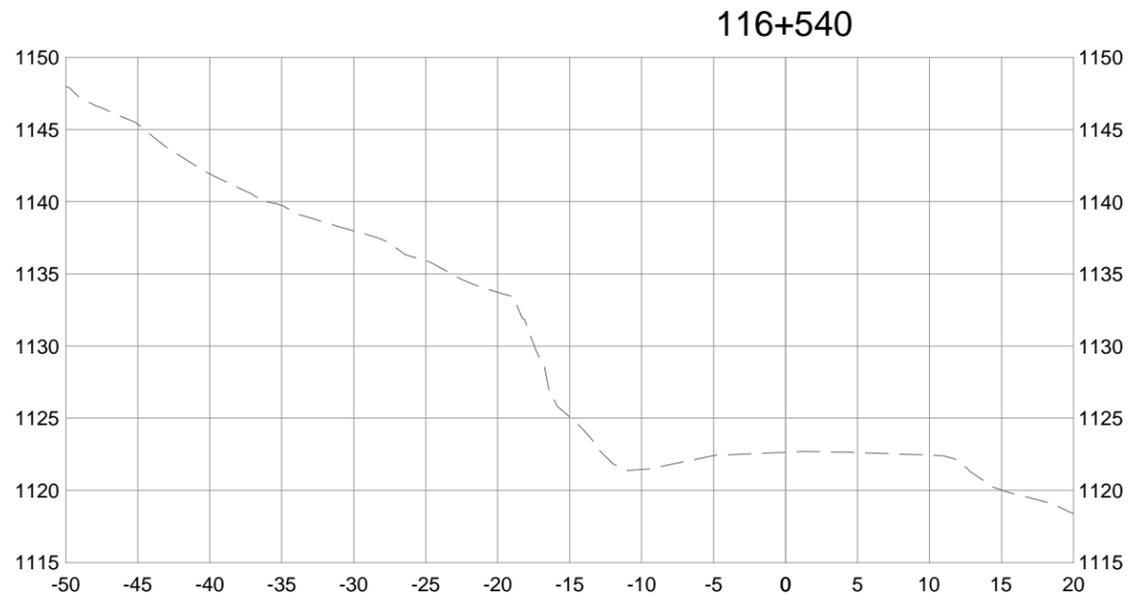
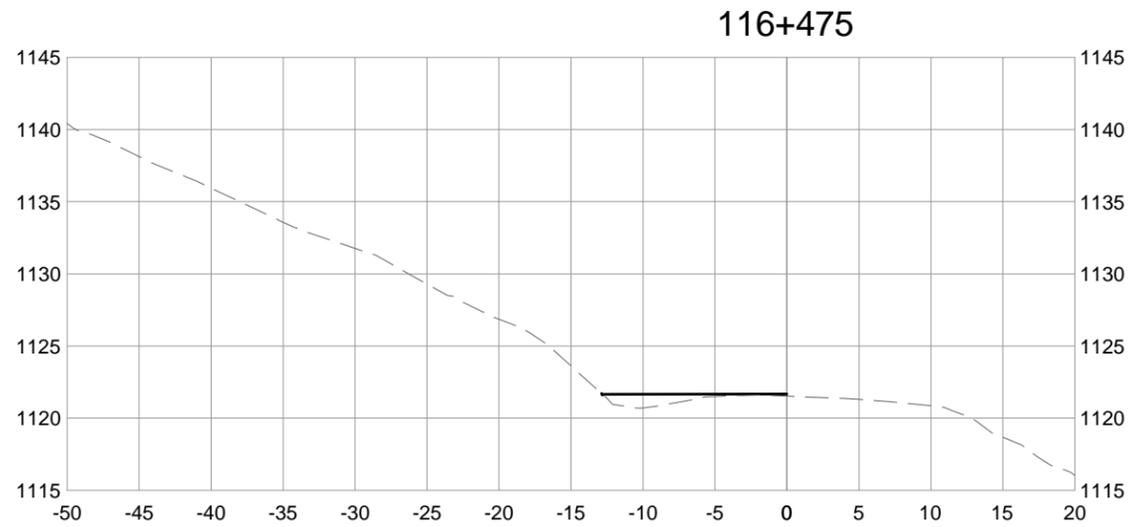
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+360 TO 116+420**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4112</b>	<b>0</b>

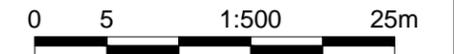


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**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER		AF	TT AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

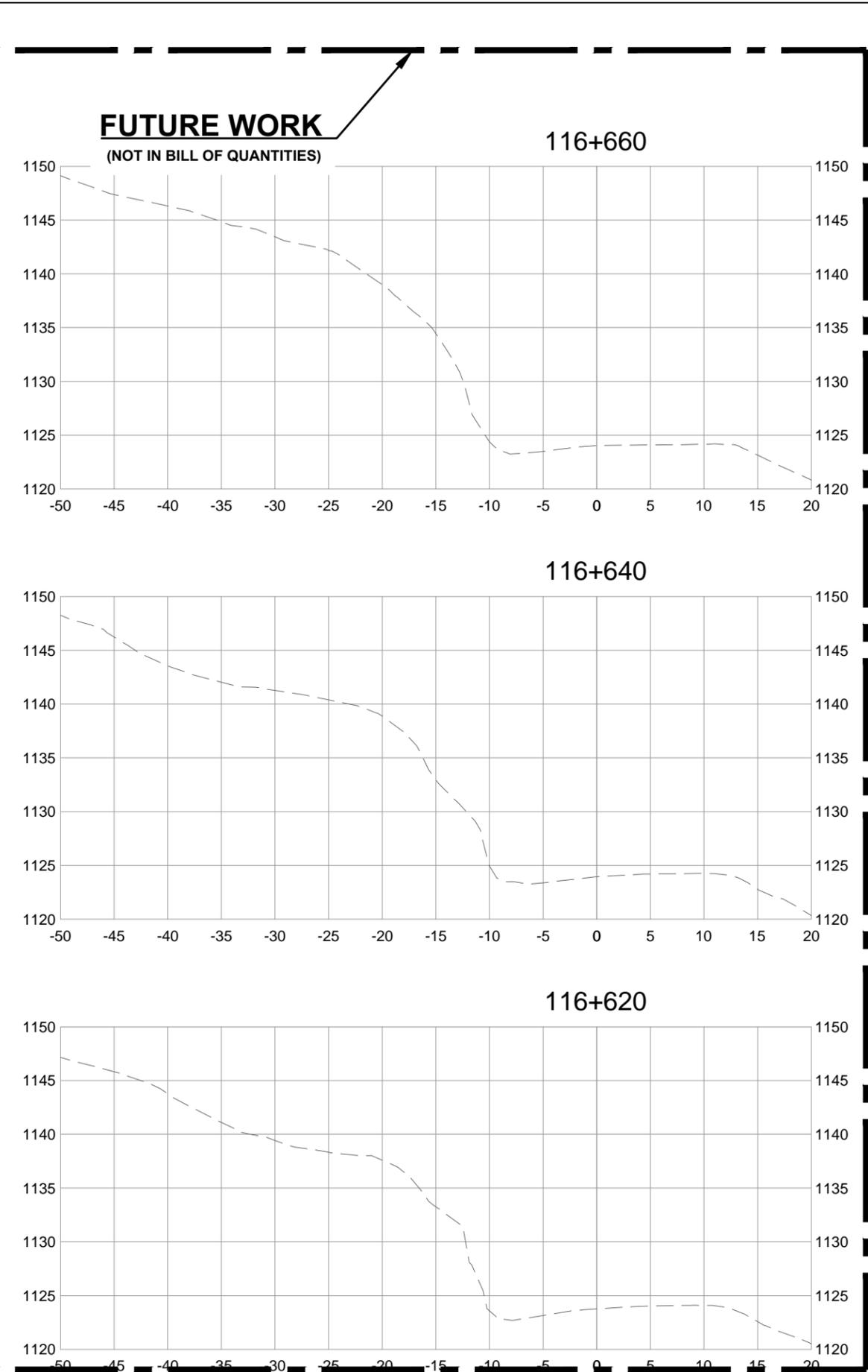
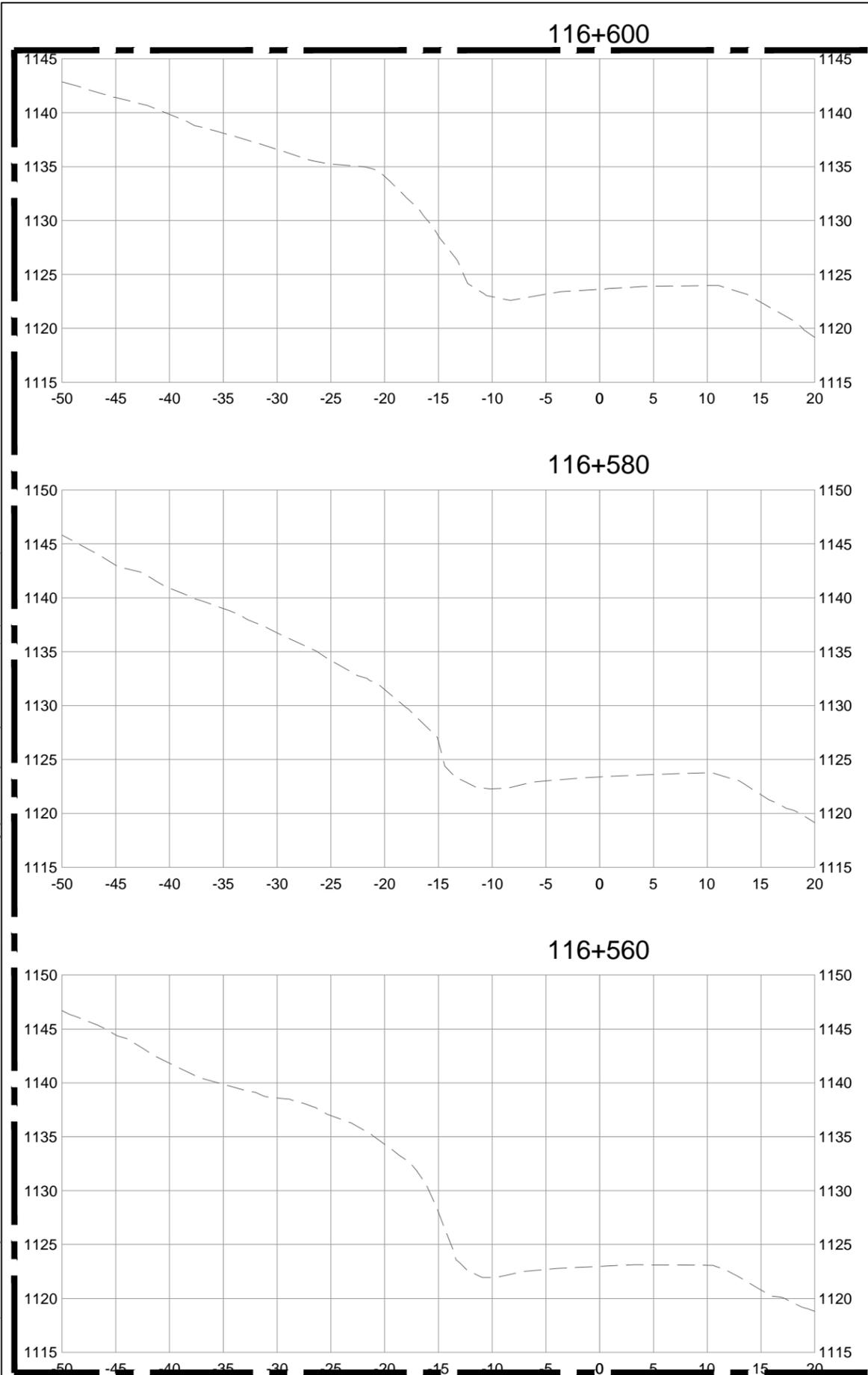
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+440 TO 116+540**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4113</b>	<b>0</b>



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Client/client  
 Parks Canada Agency  
 L'Agence Parcs Canada

**TETRA TECH EBA**

**ISSUED FOR TENDER**

PCA PROJECT No.      TETRA TECH EBA No.

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Revision/	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet

**YOHO NATIONAL PARK  
BRITISH COLUMBIA**

**KM 88 TO 91 AND KM 114 TO 128  
TRANS-CANADA HIGHWAY  
SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin

**MOUNT VAUX ROCK SLOPE  
CROSS SECTIONS  
STA. 116+560 TO 116+660**

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	<b>201541-4114</b>	<b>0</b>





# ISSUED FOR TENDER

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**

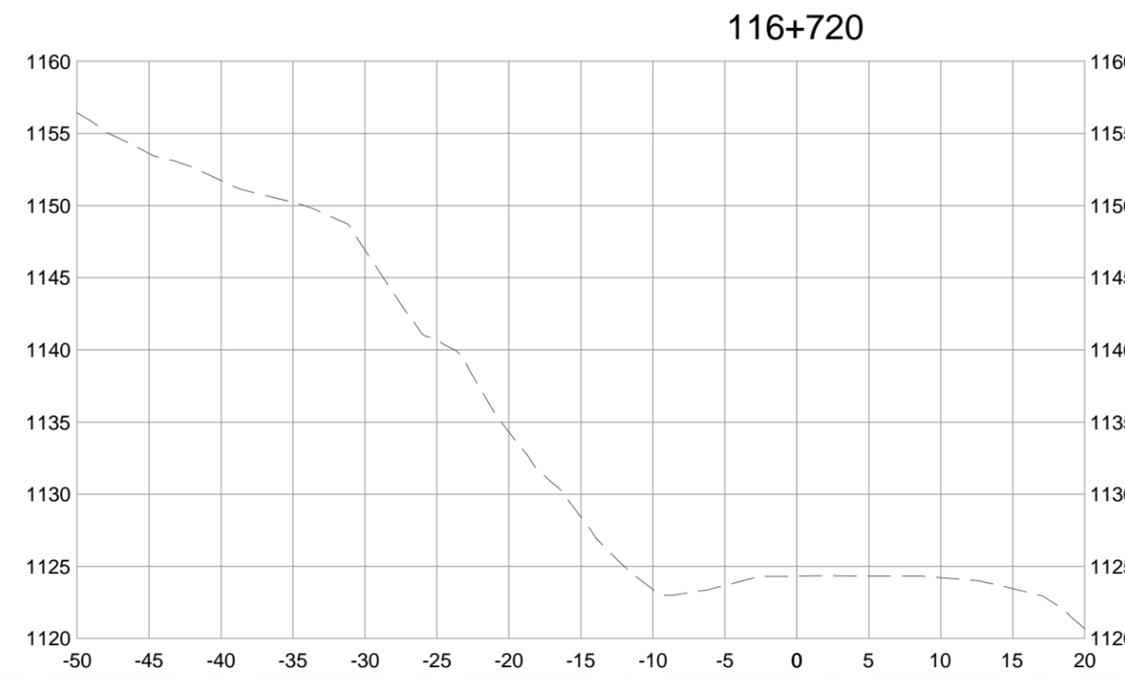
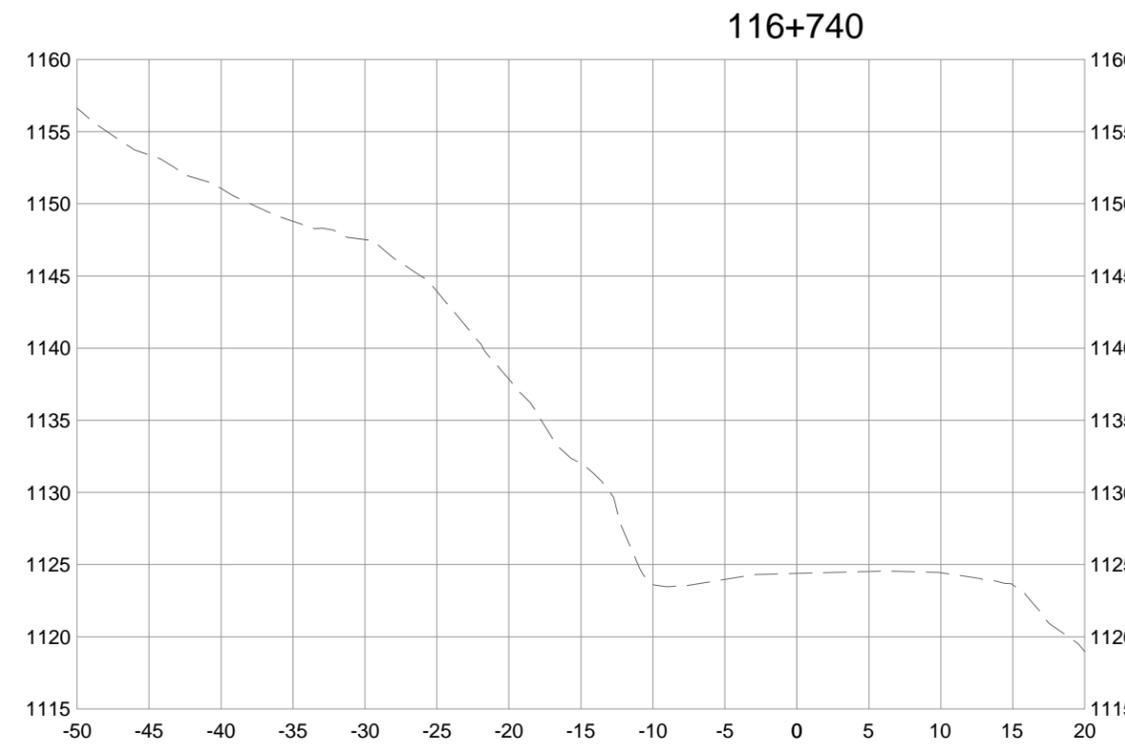
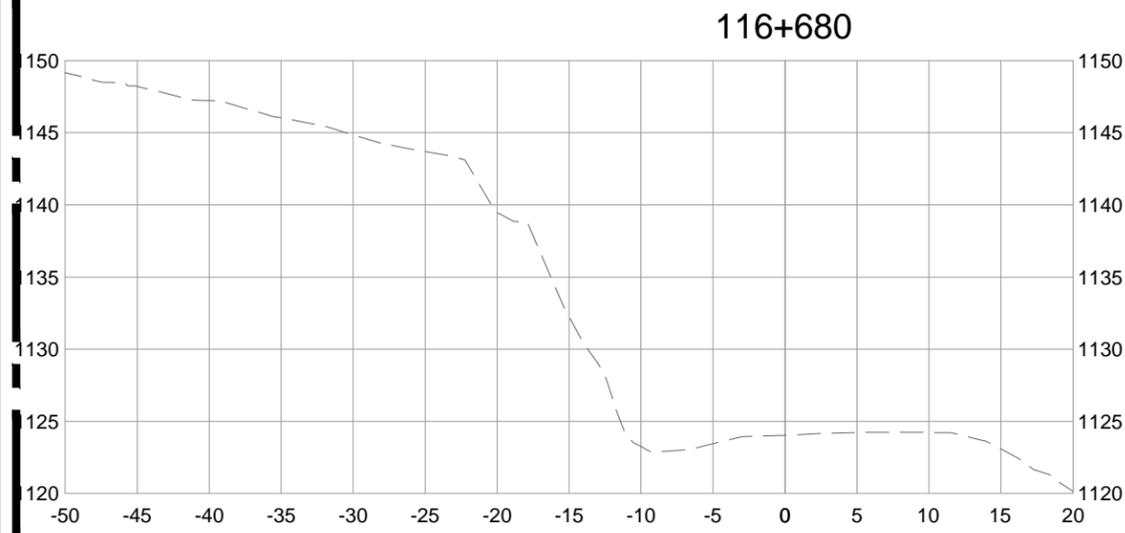
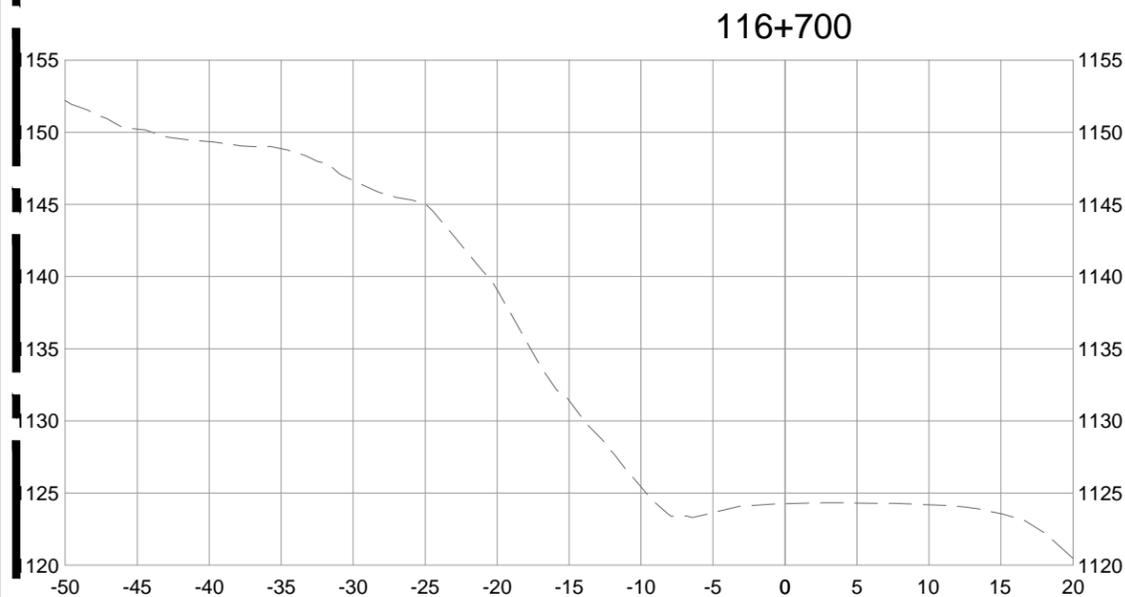
Drawn by/Dessiné par  
**T. TAKEDA**

Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+680 TO 116+740**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4115</b>	<b>0</b>

**FUTURE WORK**  
 (NOT IN BILL OF QUANTITIES)



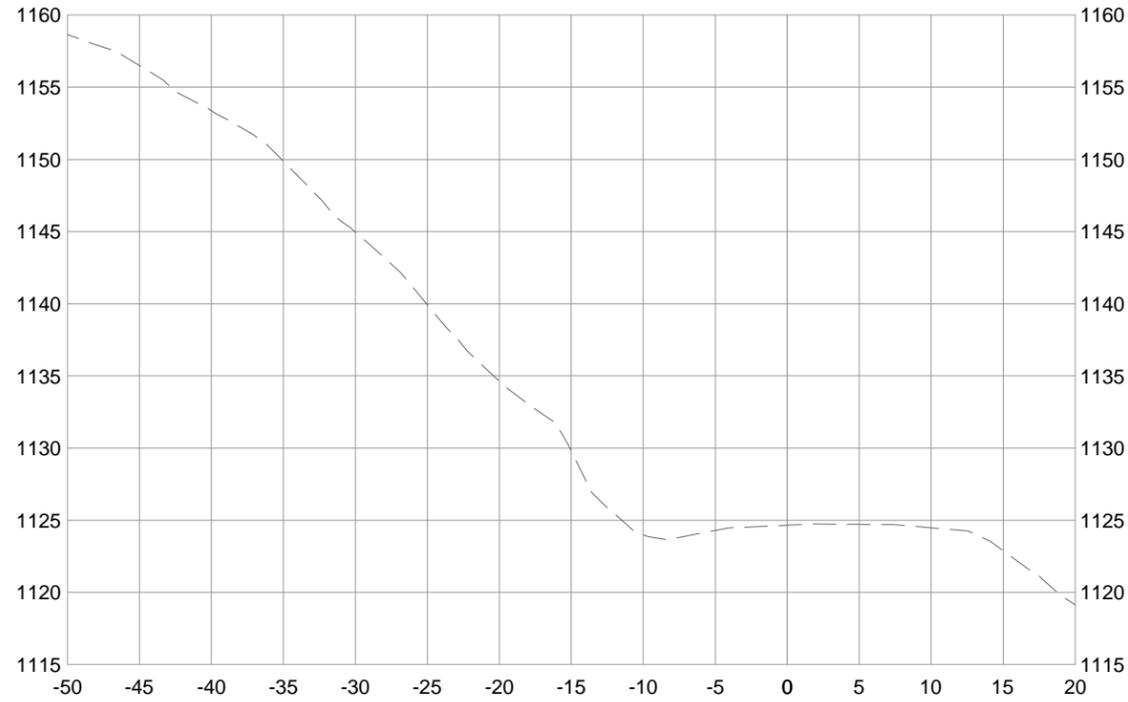
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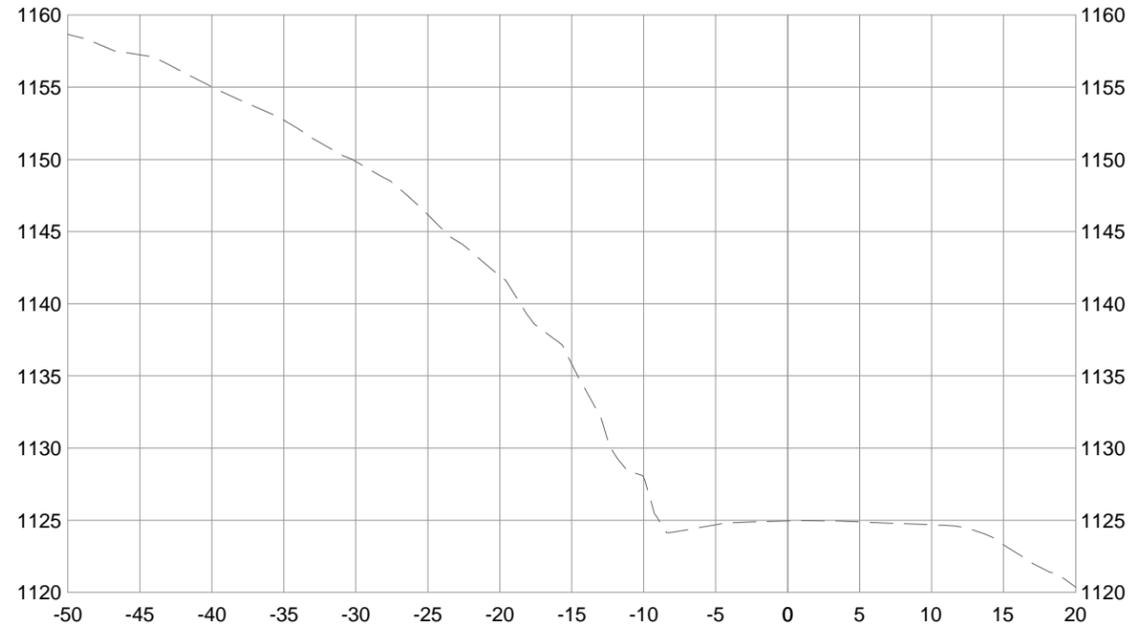
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**FUTURE WORK**  
(NOT IN BILL OF QUANTITIES)

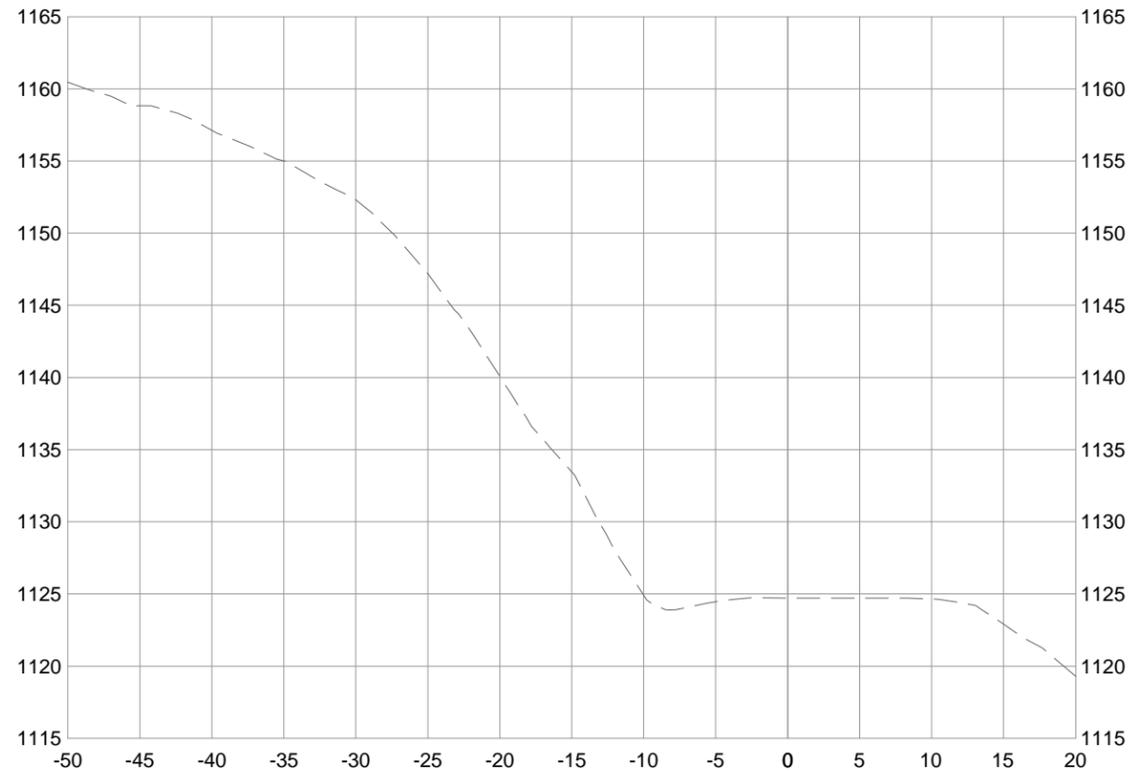
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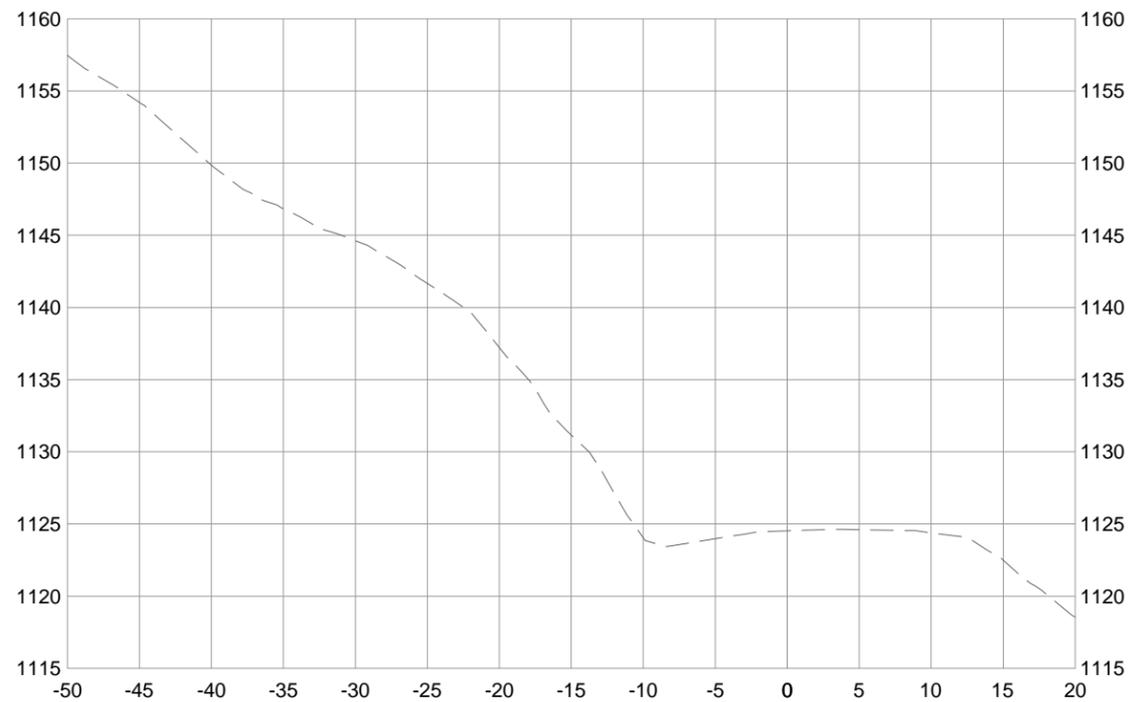
116+820



116+800



116+760



**ISSUED FOR TENDER**

PCA PROJECT No. TETRA TECH EBA No.



Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF

Project title/Titre du projet  
**YOHO NATIONAL PARK  
 BRITISH COLUMBIA**  
**KM 88 TO 91 AND KM 114 TO 128  
 TRANS-CANADA HIGHWAY  
 SLOPE REPROFILING**

Designed by/Concept par  
**A. FRAPPELL / E. YANG**  
 Drawn by/Dessiné par  
**T. TAKEDA**

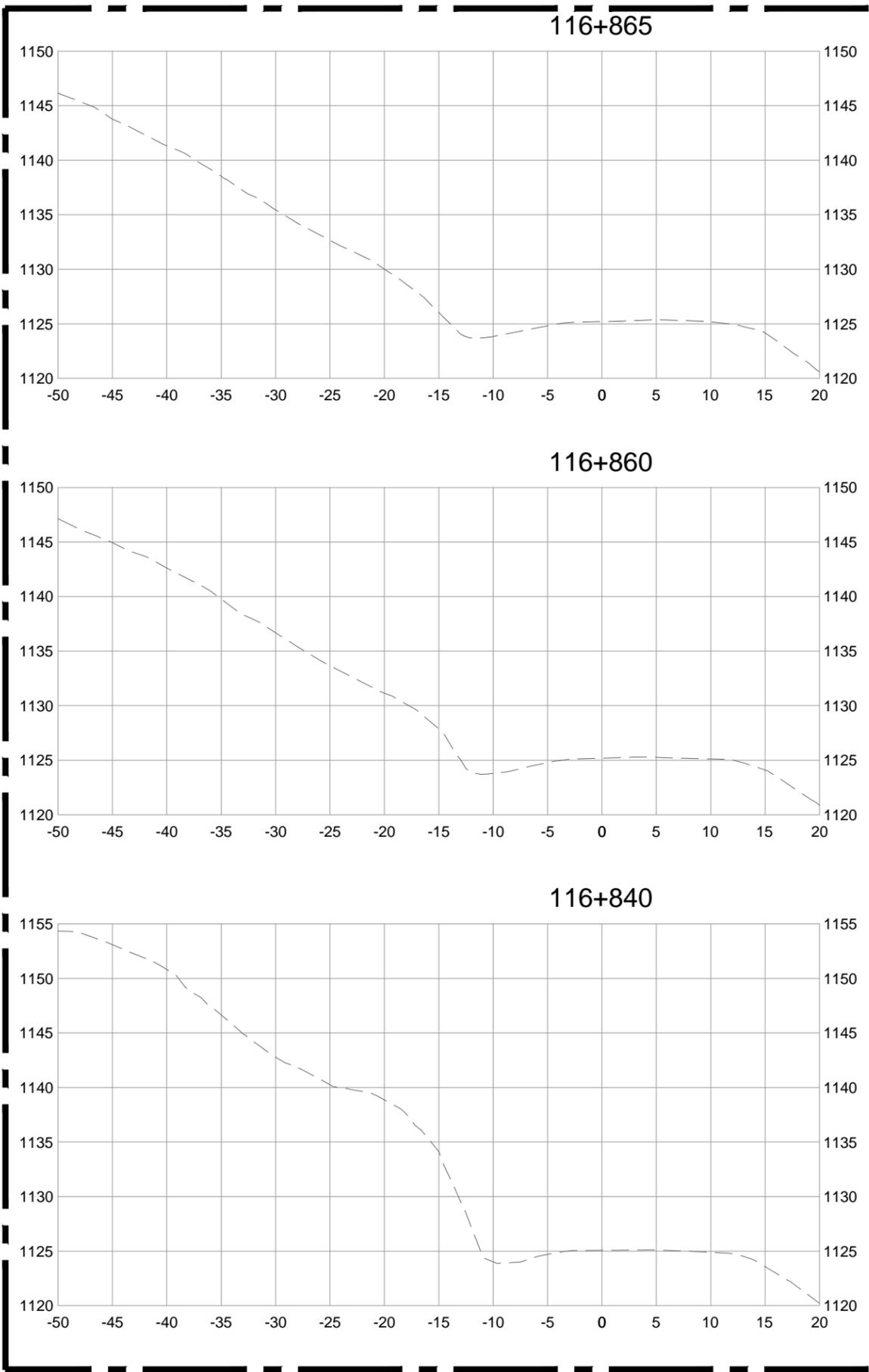
Client/client  
**PARKS CANADA AGENCY**

Drawing title/Titre du dessin  
**MOUNT VAUX ROCK SLOPE  
 CROSS SECTIONS  
 STA. 116+760 TO 116+820**

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
	<b>201541-4116</b>	<b>0</b>



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**FUTURE WORK**  
(NOT IN BILL OF QUANTITIES)

Client/client													
Parks Canada Agency	L'Agence Parcs Canada												
<h2>ISSUED FOR TENDER</h2>													
PCA PROJECT No.	TETRA TECH EBA No.												
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Revision/Revision	Date/Date	Description/Description	DES	DWN	CHK								
0	16/02/09	ISSUED FOR TENDER	AF	TT	AF								
Project title/Titre du projet													
YOHO NATIONAL PARK BRITISH COLUMBIA  KM 88 TO 91 AND KM 114 TO 128 TRANS-CANADA HIGHWAY SLOPE REPROFILING													
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A. FRAPPELL / E. YANG													
Drawn by/Dessine par													
T. TAKEDA													
Client/client													
<b>PARKS CANADA AGENCY</b>													
Drawing title/Titre du dessin													
<b>MOUNT VAUX ROCK SLOPE CROSS SECTIONS STA. 116+840 TO 116+865</b>													
Project No./No. du projet	Revision no./La Révision no.												
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