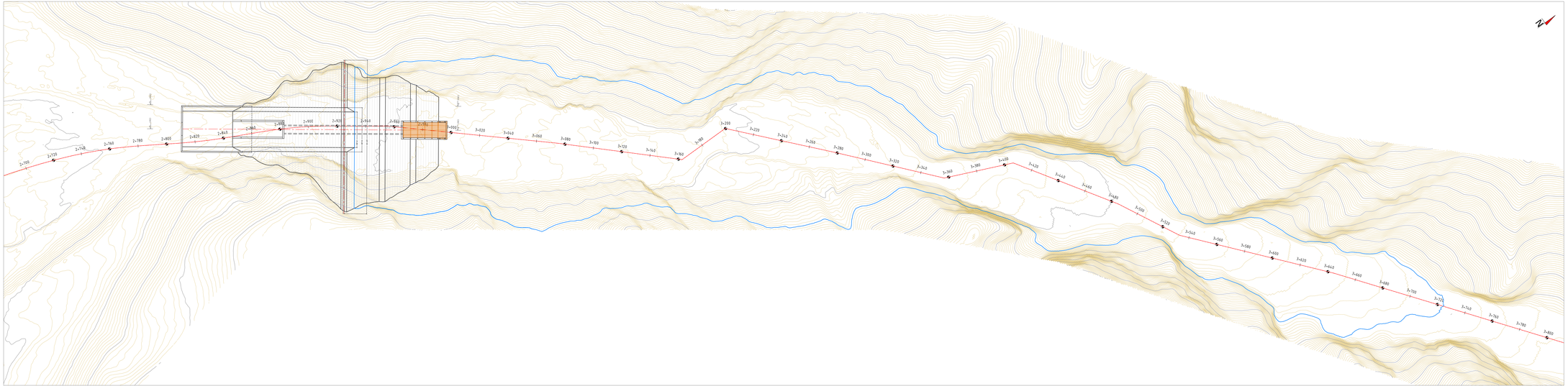


Town of CANMORE

Flood Mitigation Measures
Cougar Creek

OPTION ANALYSIS

PROJECT:

Flood Hazard Mitigation Measures - Cougar Creek

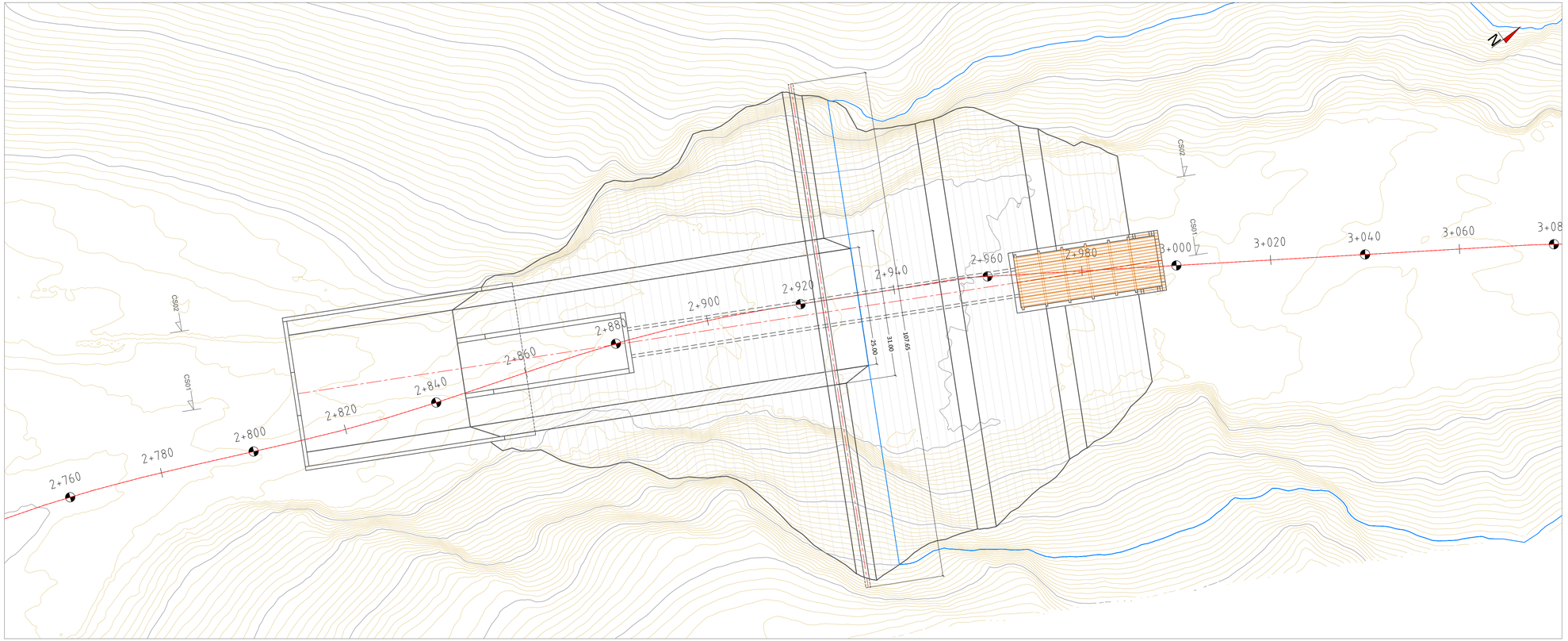
Town:	Town of Canmore
Province:	Alberta
CONTENT:	Overview Map Option A
ENGINEERING:	alpinfra SALZBURG - INNSBRUCK - WIEN
DRAWING/MAP NR.:	16494-OPT.A-001
SCALE:	1:1 000

		SIGN.	DATE/REVISION
WORKED OUT BY			
DRAWING:	Powell		2014/07/29
DESIGN:	Scheikl		2014/07
CHECKED:	Henle		2014/07/31

PROJECT MANAGER:

DATE/SIGNATURE Evette Kelly

ATTACH. NR.: DW-OPT.A-001



Town of CANMORE

Flood Mitigation Measures
Cougar Creek

OPTION ANALYSIS

PROJECT:

Flood Hazard Mitigation Measures - Cougar Creek

Town: Town of Canmore

Province: Alberta

CONTENT: Site Map

Flood Retention Dam 2+900

ENGINEERING:

alpinfra
SALZBURG - INNSBRUCK - WIEN

DRAWING/MAP NR.: 16494-OPT.A-010

SCALE: 1:500

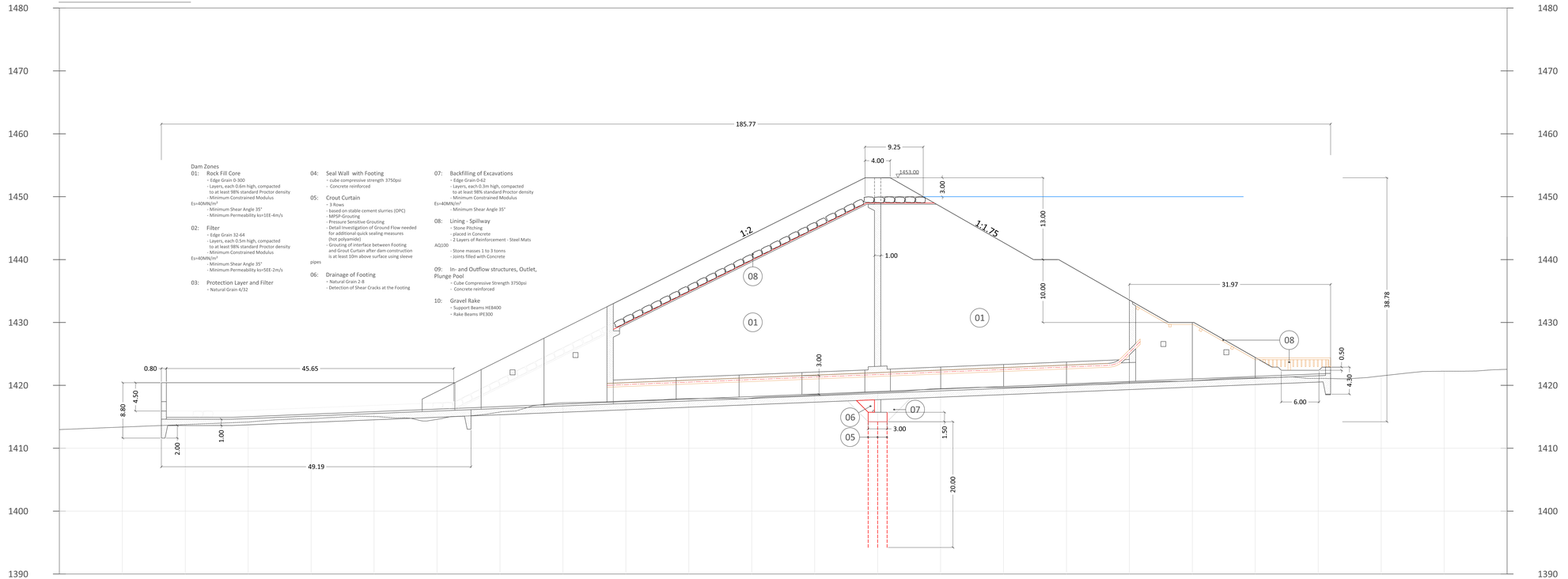
WORKED OUT BY		SIGN.	ISSUE/REVISION
DRAWING:	Powell		2014/07/31
DESIGN:	Scheikl		2014/07/31
CHECKED:	Scheikl		2014/07/31

PROJECT MANAGER:

DATE/SIGNITURE Exarte Andy

ATTACH. NR.: DW-OPT.A-010

Cross Section 01



Town of CANMORE

Flood Mitigation Measures
Cougar Creek

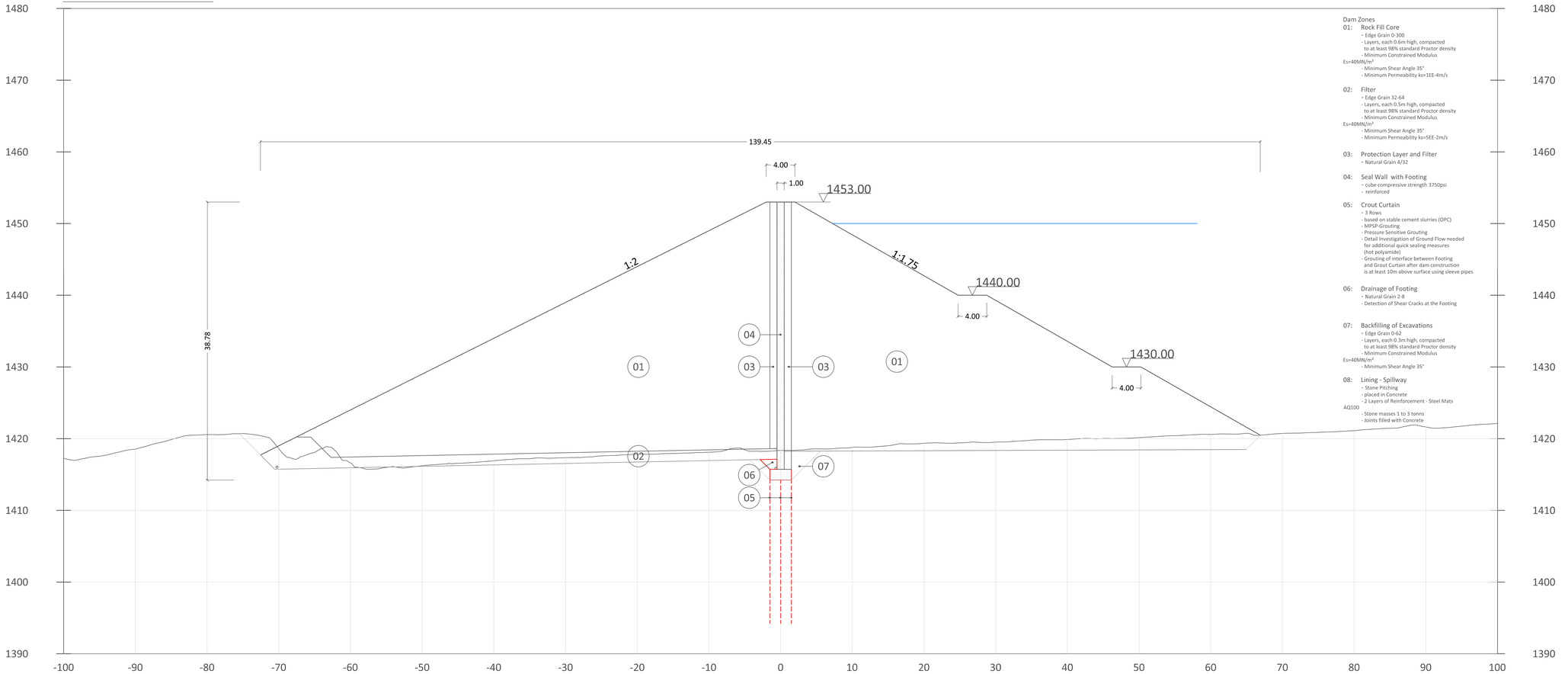
OPTION ANALYSIS

PROJECT:	Flood Hazard Mitigation Measures - Cougar Creek
Town:	Town of Canmore
Province:	Alberta
CONTENT:	Cross Section 01 Flood Retention 2+900
ENGINEERING:	alpinfra SALZBURG - INNSBRUCK - WIEN
DRAWING/MAP NR.:	16494-OPT.A-011
SCALE:	1:250

WORKED OUT BY		SIGN	ISSUE REVISION
DRAWING:	Powell		2014/07/29
DESIGN:	Scheikl		2014/07
CHECKED:	Henle		2014/07/31

PROJECT MANAGER:	ATTACH. NR.:
DATE/SIGNATURE Kravtz Andy	DW-OPT.A-011

Cross Section 02



Dam Zones

01: Rock Fill Core
- Edge Grain 0-300
- Layers, each 0.6m high, compacted to at least 98% standard Proctor density
- Minimum Constrained Modulus Es=40MN/m²
- Minimum Shear Angle 35°
- Minimum Permeability ks=1EE-4m/s

02: Filter
- Edge Grain 32-64
- Layers, each 0.5m high, compacted to at least 98% standard Proctor density
- Minimum Constrained Modulus Es=40MN/m²
- Minimum Shear Angle 35°
- Minimum Permeability ks=5EE-2m/s

03: Protection Layer and Filter
- Natural Grain 4/32

04: Seal Wall with Footing
- cube compressive strength 3750psi
- reinforced

05: Crout Curtain
- 3 Rows
- based on stable cement slurries (OPC)
- MPSP-Grouting
- Pressure Sensitive Grouting
- Detail Investigation of Ground Flow needed for additional quick sealing measures (hot polyamide)
- Grouting of interface between Footing and Grout Curtain after dam construction is at least 10m above surface using sleeve pipes

06: Drainage of Footing
- Natural Grain 2-8
- Detection of Shear Cracks at the Footing

07: Backfilling of Excavations
- Edge Grain 0-62
- Layers, each 0.3m high, compacted to at least 98% standard Proctor density
- Minimum Constrained Modulus Es=40MN/m²
- Minimum Shear Angle 35°

08: Lining - Spillway
- Stone Pitching
- placed in Concrete
- 2 Layers of Reinforcement - Steel Mats AQ100
- Stone masses 1 to 3 tonns
- Joints filled with Concrete

Town of CANMORE

Flood Mitigation Measures
Cougar Creek

OPTION ANALYSIS

PROJECT:
Flood Hazard Mitigation Measures - Cougar Creek

Town: Town of Canmore
Province: Alberta

CONTENT: Cross Section 02
Flood Retention Dam Stat. 2+900

ENGINEERING:
alpinfra
SALZBURG - INNSBRUCK - WIEN

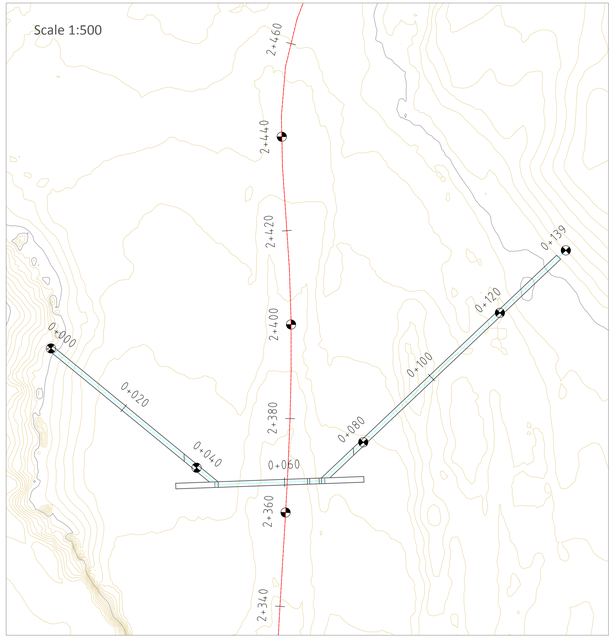
DRAWING/MAP NR.: 16494-OPT.A-012
SCALE: 1:250

WORKED OUT BY		SIGN.	ISSUE/REVISION
DRAWING:	Powell		2014/07/29
DESIGN:	Scheikl		2014/07
CHECKED:	Henle		2014/07/31

PROJECT MANAGER:
DATE/SIGNITURE Exarre Andy

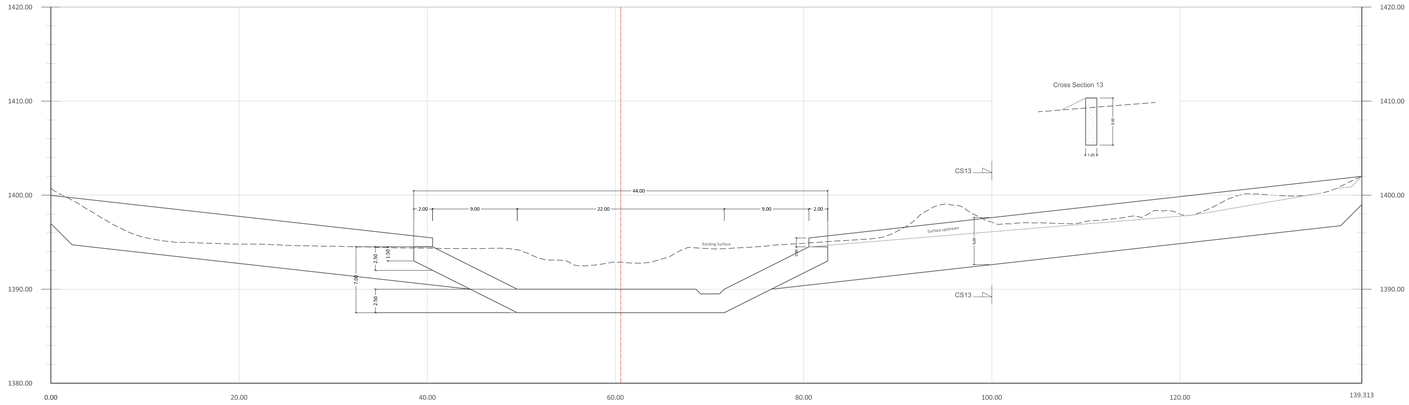
ATTACH. NR.: DW-OPT.A-012

Scale 1:500



Scale 1:250

Length-Section Diverting Structure - Stat. 2+365.85



Town of CANMORE

Flood Mitigation Measures
Cougar Creek

OPTION ANALYSIS

PROJECT:

Flood Hazard Mitigation Measures - Cougar Creek

Town: Town of Canmore

Province: Alberta

CONTENT: Cross Section 02
Option A - Diverting Structure

ENGINEERING:

alpinfra
SALZBURG - INNSBRUCK - WIEN

DRAWING/MAP NR.: 16494-OPT.A-013

SCALE: 1:250 (500)

WORKED OUT BY		SIGN.	ISSUE/REVISION
DRAWING:	Powell		2014/07/29
DESIGN:	Scheikl		2014/07
CHECKED:	Henle		2014/07/31

PROJECT MANAGER:

ATTACH. NR.: DW-OPT.A-013

DATE/SIGNATURE: Evarist Andri