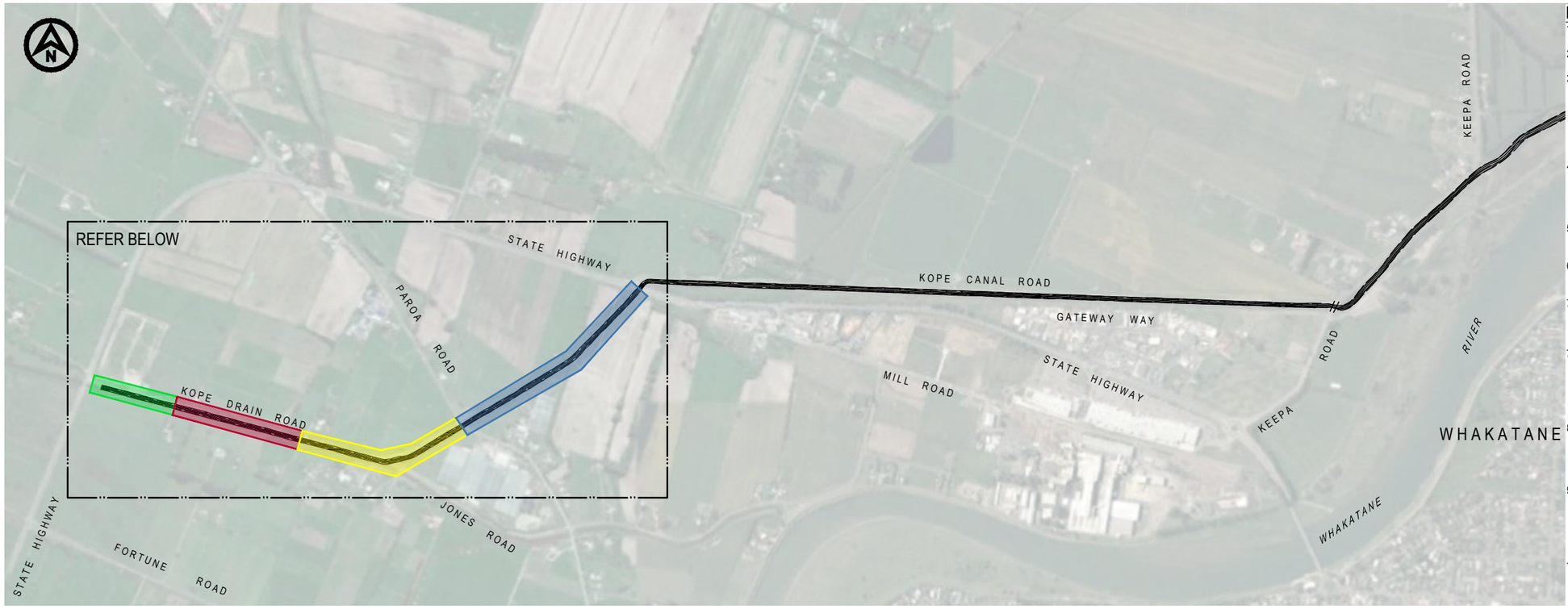
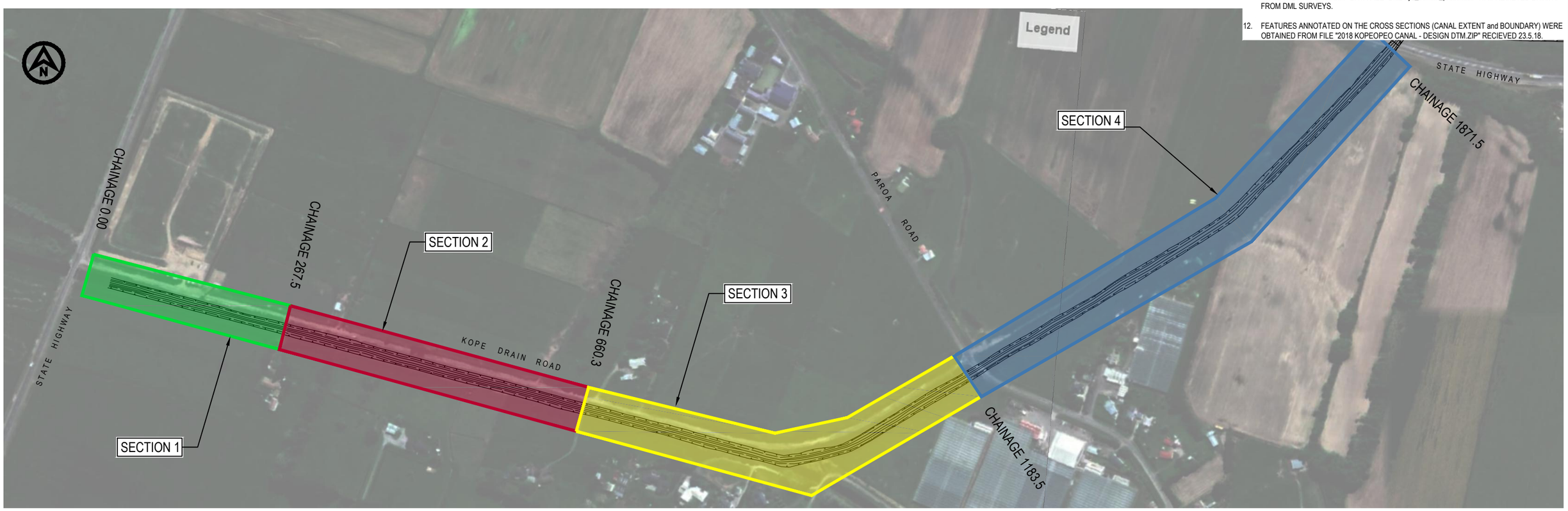
APPENDIX D

Hydrographic Survey Data



NOTES

1. ALL VOLUMES LISTED ON THE PLANS ARE IN SITU CUBIC METRES.
2. VOLUMES CALCULATED TO EXTENT OF SURVEY OR DESIGN DATA PROVIDED
3. CROSS SECTION CENTRELINE DATA AND PROJECT VOLUME (SECTION) BOUNDARIES BASED ON SPREADSHEET "TRUE CHAINAGES - MUD SURVEY WITH SECTIONS.XLS PROVIDED 28.05.2018 FROM BAY OF PLENTY REGIONAL COUNCIL. NOTE COORDINATES NOT IN PROJECT DATUM. CONTROL LINE LOCATED BY VISUAL OVERLAY USING CHAINAGES FROM "2018-04-27 DREDGING HISTORY MAP - KOPEOPEO PROJECT PDF" AND KNOW ROAD CROSSINGS.
4. TRUE CENTRELINE CHAINAGES DEVELOPED BY AUSDREDGE AS A CONTROL STRING LOCATED CENTRALLY WITHIN THE SITE BOUNDARY (OR EDGE OF CANAL). THE TRUE CENTRELINE CONTROL HAS BEEN USED AS THE BASIS FOR CROSS SECTION REFERENCING.
5. THE CONTRACTORS DESIGN "DTM_BOTTOM.DWG" WAS RECEIVED 24.05.2018 FROM ENVIRONZ.
6. THE COUNCIL DESIGN MODELS "KOPEOPEO_DESIGN SURFACE_TM.12DA" AND "KOPEOPEO_DESIGN SURFACE.DXF" WERE RECEIVED 25.05.2018 FROM DML SURVEYS.
7. THE PRE-DREDGE SURVEY "KOPEOPEO_PRE DREDGE SURFACE_TM.12DA" / "KOPEOPEO_PRE DREDGE SURFACE.DXF" WAS RECIEVED ON THE 25.05.2018 FROM DML SURVEYS.
7. THE POST-DREDGE SURVEY FOR SECTION 4 CH 1190 TO 1260 ONLY "KOPEOPEO_POST DREDGE SURFACE_TM.12DA" / "KOPEOPEO_POST DREDGE SURFACE.DXF" WAS RECIEVED ON THE 25.05.2018 FROM DML SURVEYS. NOTING: THE BOUNDARY PROVIDED WITHIN THE BASE DATA PACKAGE WAS MANUALLY ADDED TO THIS SURVEY TO PROVIDE FULL SURVEY COVERAGE.
8. THE POST-DREDGE SURVEY FOR SECTIONS 1, 2 AND 3 (PARTIAL) 4 FROM DML SURVEYS "KOPEOPEO_22JUNE18_SECTIONS 1 TO 3 AND DTM.12DA", KOPEOPEO_22JUNE18_SECTIONS 1 TO 3 AND DTM.DXF" RECIEVED 2.7.18 AND "1810_KOPEO_CHECK4_SECTION 4_22JUNE2018" RECIEVED 9.7.18.
9. THE DATA LABELED HAIL SET 1 WAS "OBTAINED BY PUSHING A PVC TUBE INTO THE MUD, WHEN RETRIEVED MOST SAMPLES CONTAINED A CLAY PLUG AND THEREFORE SHOULD BE A MUCH BETTER REPRESENTATION OF THE BOTTOM". DATA FILES "KOPE XS2 - XS32 MESH_2.dxf" USED TO GENERATE DTM AND "xs2-xs32_2.xls" USED TO PLOT CROSS SECTIONAL DATA AND POINTS RECIEVED 29.05.18.
10. THE DATA LABELED HAIL SET 2 WAS OBTAINED IN A SIMPLAR MANNER TO SET 1. DATA FILES "DML & HAIL1&2 BOTTOM PROBES" USED TO GENERATE DTM AND PLOT CROSS SECTIONAL DATA AND POINTS RECIEVED 30.05.18.
11. THE DATA LABELED DML PROBES WAS "OBTAINED ...BY PUSHING A STAFF INTO MUD UNTIL THEY HIT BOTTOM." DATA FILE "DML-xyz_bottom_probes.xls" WAS RECIEVED 29.05.18 FROM DML SURVEYS.
12. FEATURES ANNOTATED ON THE CROSS SECTIONS (CANAL EXTENT and BOUNDARY) WERE OBTAINED FROM FILE "2018 KOPEOPEO CANAL - DESIGN DTM.ZIP" RECIEVED 23.5.18.



REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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DESIGNED BY
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CHECKED BY
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PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE
0 75 150 225 300 375m
SCALE 1: 7,500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
SITE PLAN, NOTES AND VOLUME BOUNDARIES

SCALE: AS SHOWN
DRG NO. AD-0021-01-01
REV C

Volumes from tin "P1 PRE Dredge 180528" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 1")

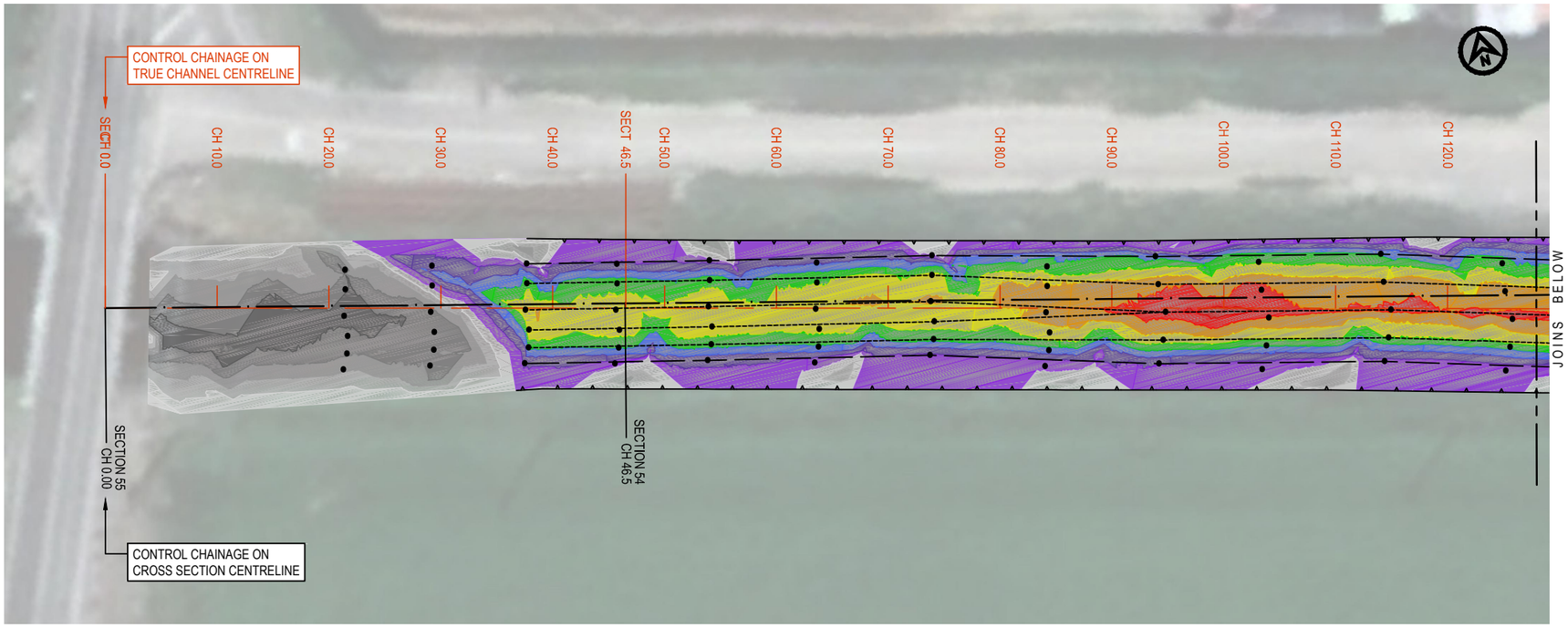
cut volumes are negative
fill volumes are positive

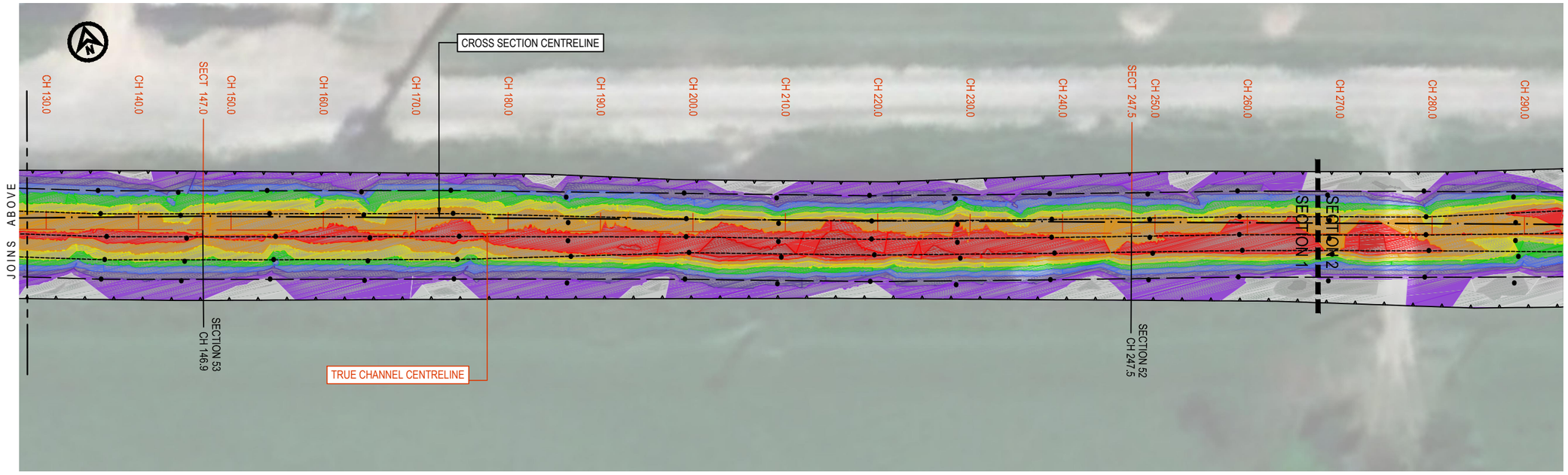
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Incremental Cut	Incremental Fill	Accumulative Balance
-65.000	0.000	-2468.279	0.000	-2468.279	0.000	-2468.279
0.000	65.000	0.000	266.464	-2468.279	266.464	-2201.815

NOTE: Totals are for the above depth ranges only

Total cut	-2468.279
Total fill	266.464
Total balance	-2201.815
ie excess of cut over fill	2201.815

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 1

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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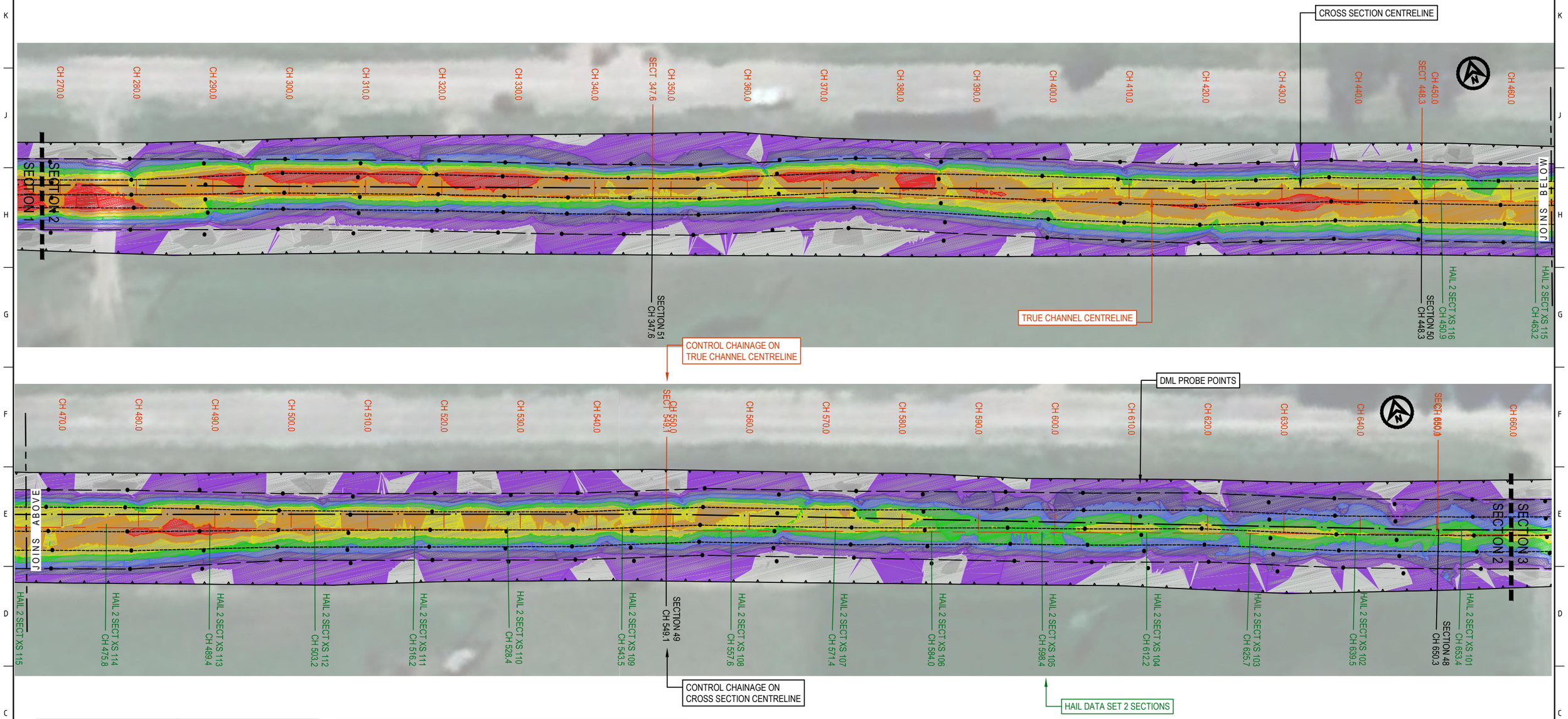
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 1

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-05-01	C



DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				

Volumes from tin "P1 PRE Dredge 180528" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 2")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Incremental Balance	Accumulative Cut	Accumulative Fill	Accumulative Balance
-65.000	0.000	-3259.447	0.000	-3259.447	0.000		-3259.447
0.000	65.000	0.000	86.223	-3259.447	86.223		-3173.224

NOTE: Totals are for the above depth ranges only

Total cut -3259.447
Total fill 86.223
Total balance -3173.224
ie excess of cut over fill 3173.224

SECTION 2

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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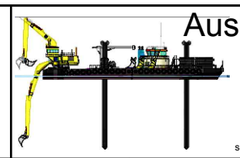
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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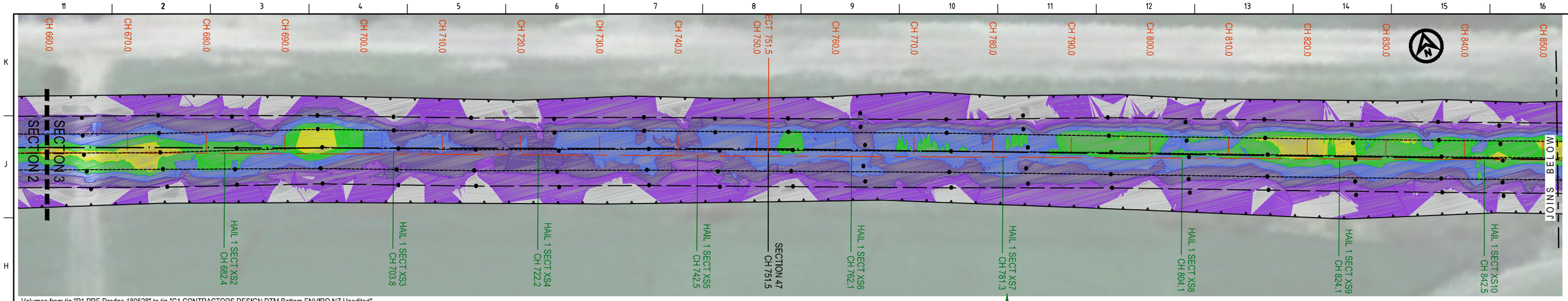
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 2

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-05-02	C



HAIL DATA SET 1 SECTIONS

Volumes from tin "P1 PRE Dredge 180528" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 3")

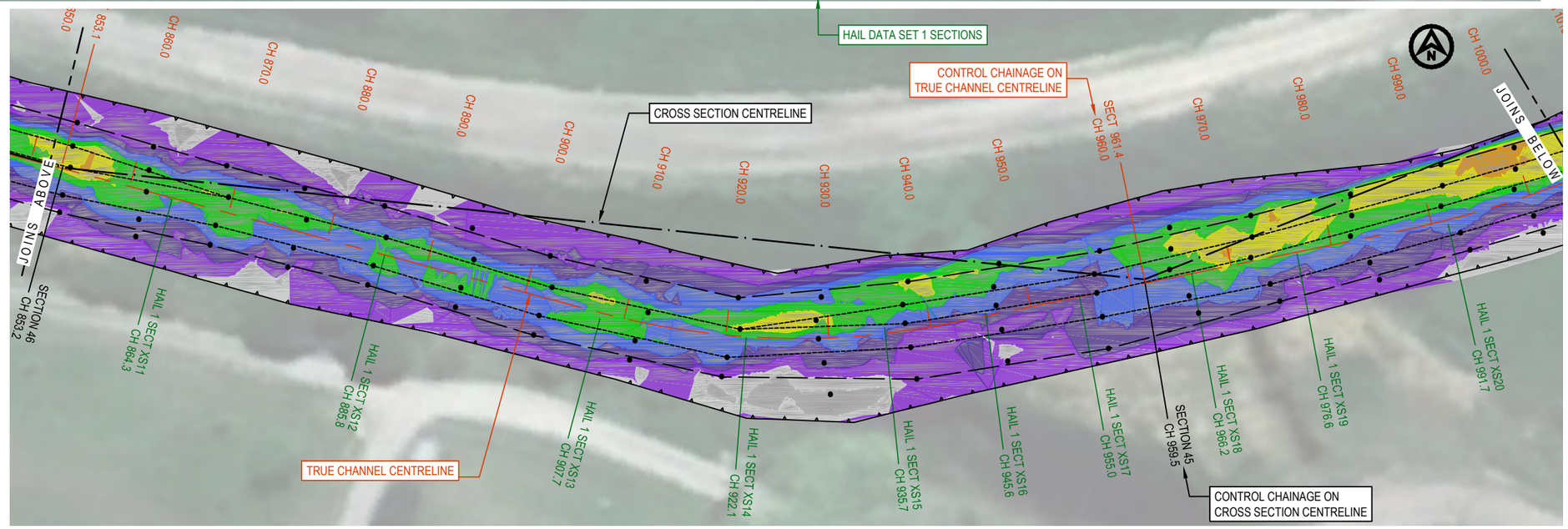
cut volumes are negative
fill volumes are positive

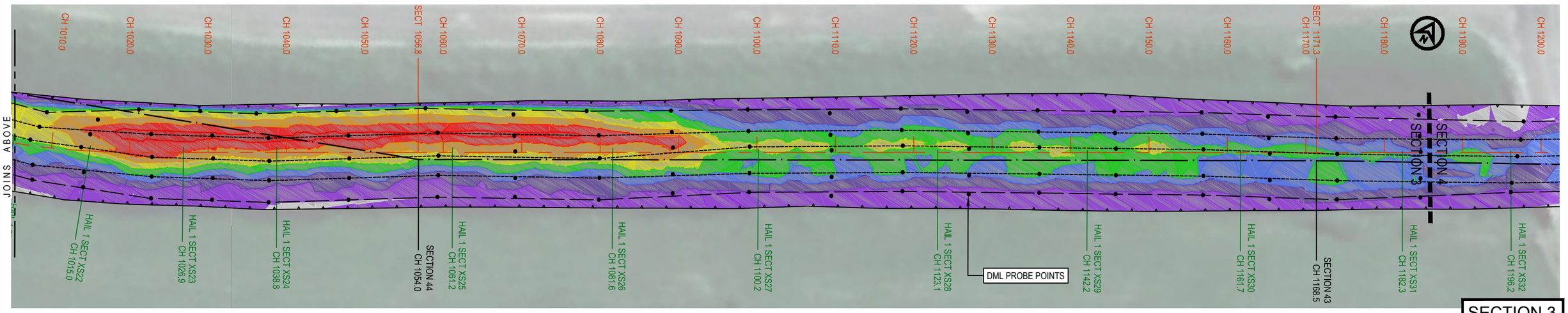
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance	
-65.000	0.000	-3575.262	0.000	-3575.262	0.000	-3575.262	
0.000	65.000	0.000	55.478	-3575.262	55.478	-3519.784	

NOTE: Totals are for the above depth ranges only

Total cut	-3575.262
Total fill	55.478
Total balance	-3519.784
ie excess of cut over fill	3519.784

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 3

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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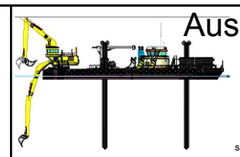
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DRAWN BY	
CHECKED BY	
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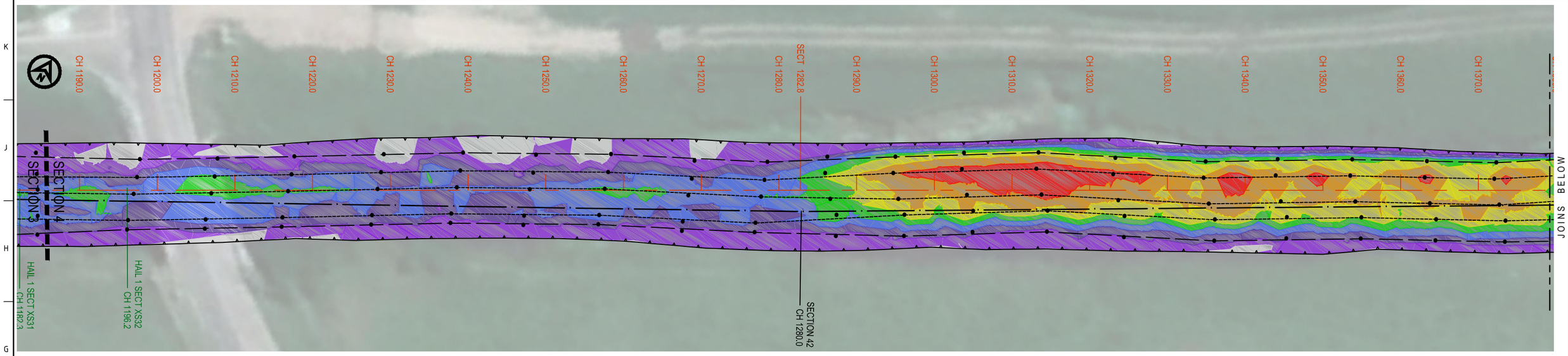
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

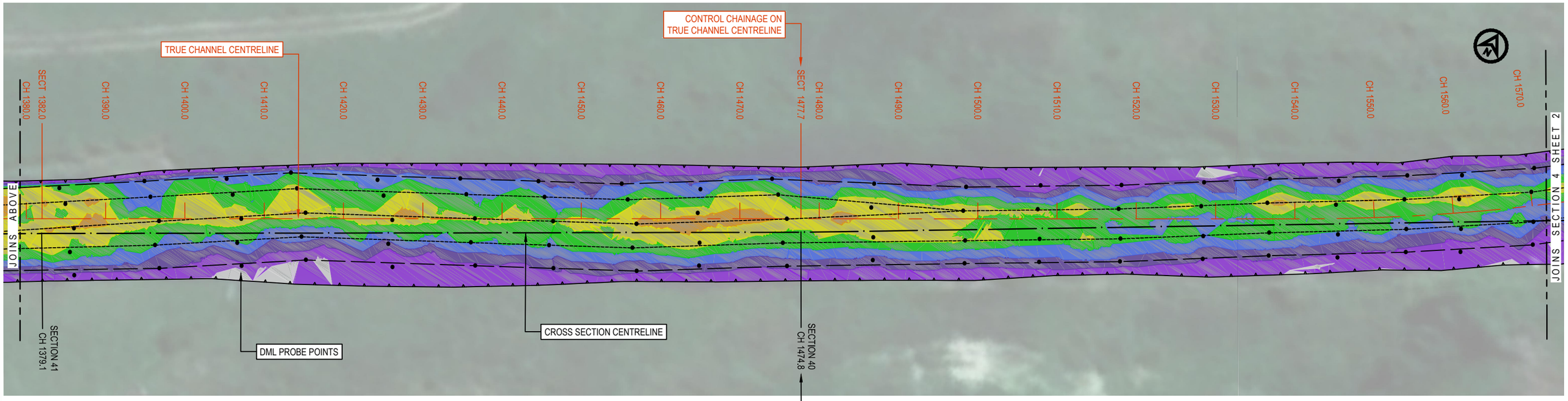
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 3

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-05-03	C





DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

Volumes from tin "P1 PRE Dredge 180528" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 4")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-65.000	0.000	-5228.830	0.000	-5228.830	0.000	-5228.830
0.000	65.000	0.000	33.035	-5228.830	33.035	-5195.795

NOTE: Totals are for the above depth ranges only

Total cut	-5228.830
Total fill	33.035
Total balance	-5195.795
ie excess of cut over fill	5195.795

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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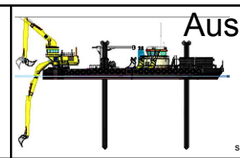
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DRAWN BY	
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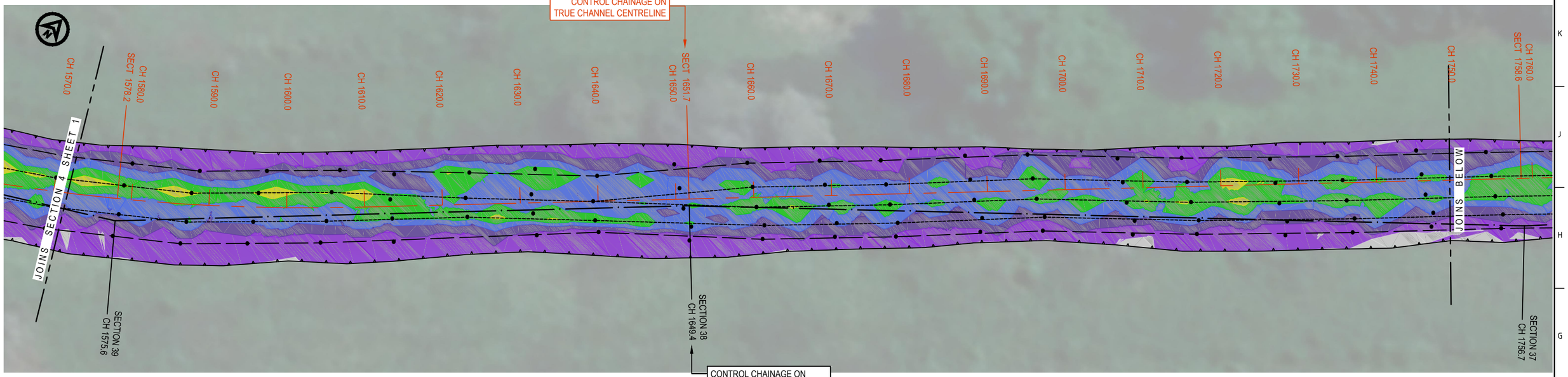
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

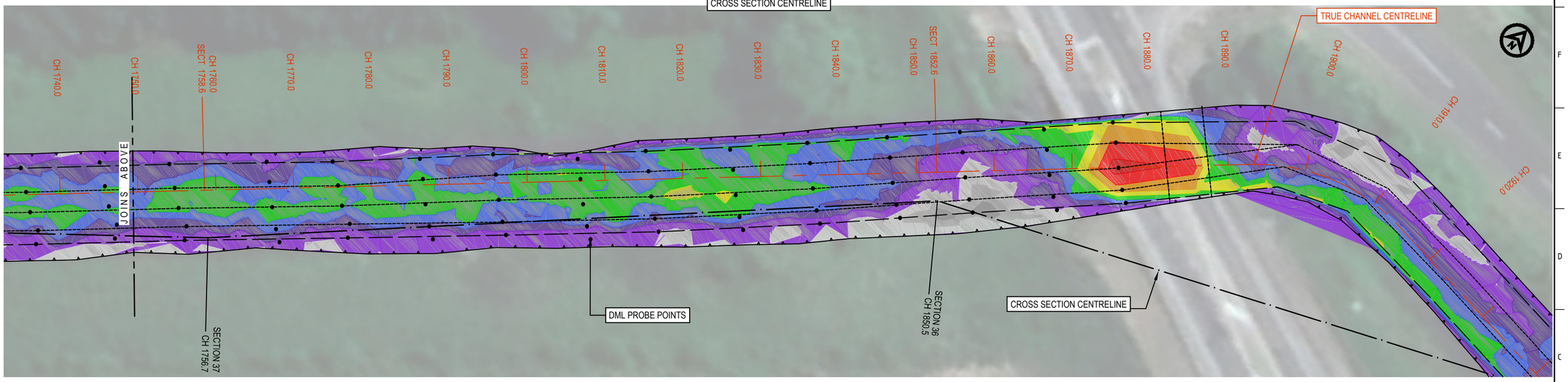
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-05-04A	C





DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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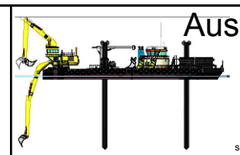
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-05-04B	C

Volumes from tin "SUPER Post Dregde FULL" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 1")

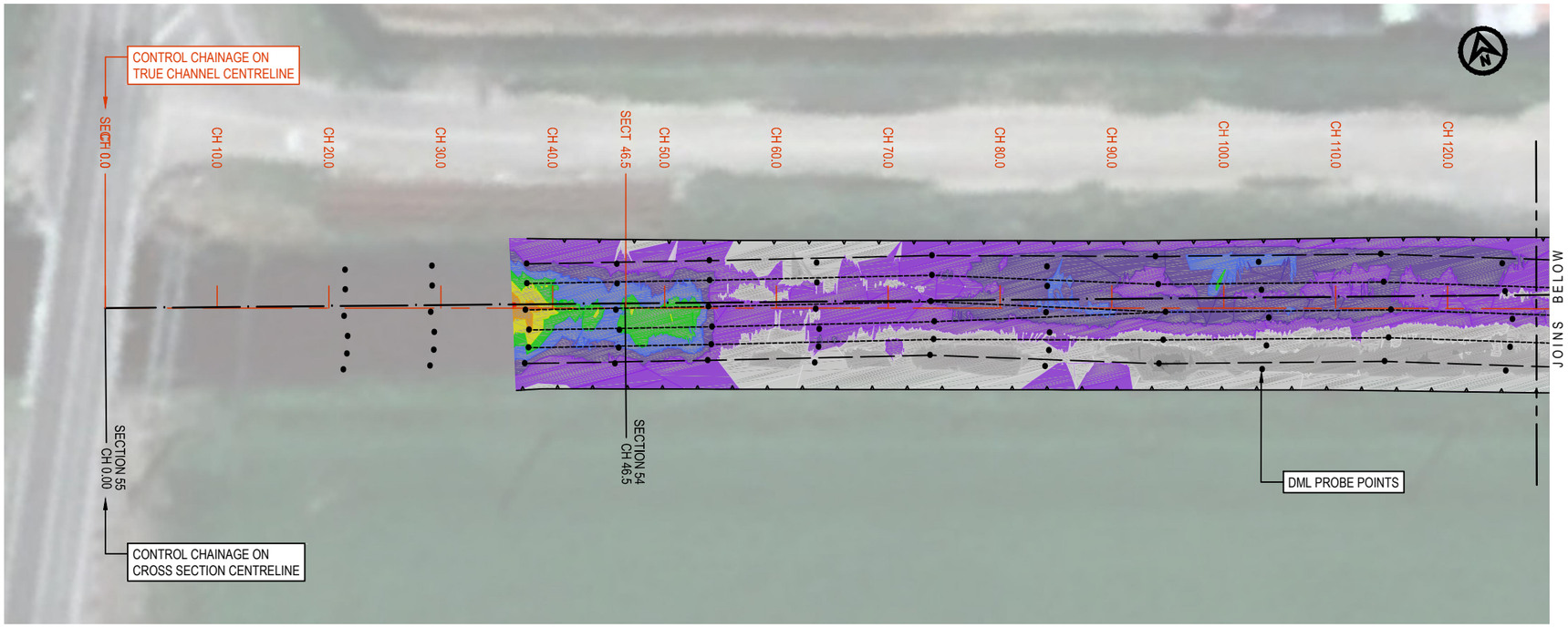
cut volumes are negative
fill volumes are positive

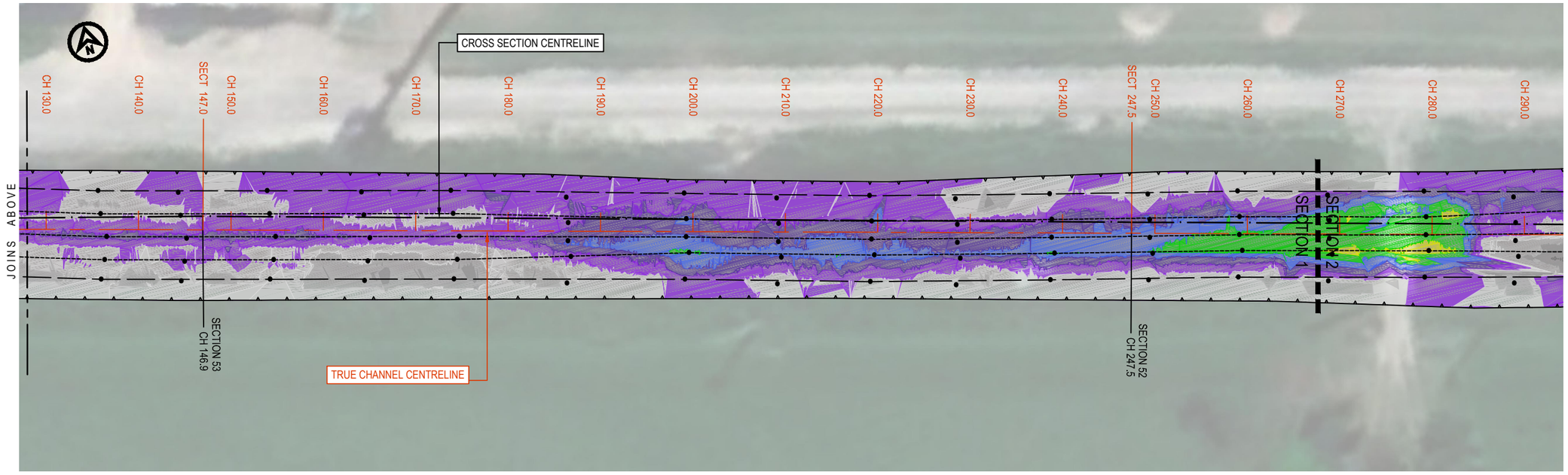
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-534.753	0.000	-534.753	0.000	-534.753
0.000	65.000	0.000	175.930	-534.753	175.930	-358.823

NOTE: Totals are for the above depth ranges only

Total cut	-534.753
Total fill	175.930
Total balance	-358.823
ie excess of cut over fill	358.823

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 1

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

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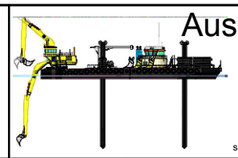
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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PROJ. DES. COORD
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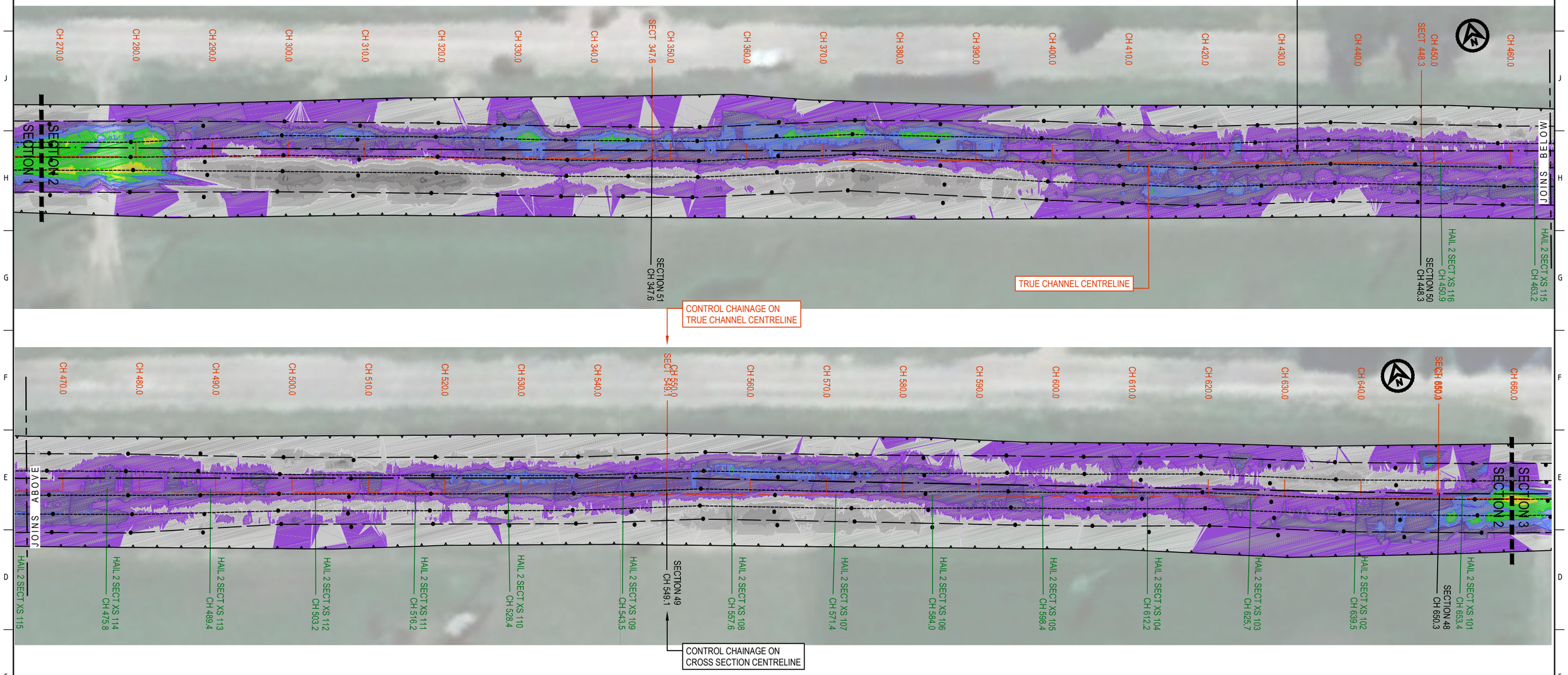
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
POST-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 1

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-06-01	C



DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

Volumes from tin "SUPER Post Dregde FULL" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 2")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-875.211	0.000	-875.211	0.000	-875.211
0.000	65.000	0.000	375.706	-875.211	375.706	-499.505

NOTE: Totals are for the above depth ranges only

Total cut	-875.211
Total fill	375.706
Total balance	-499.505
ie excess of cut over fill	499.505

SECTION 2

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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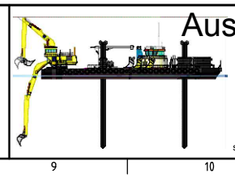
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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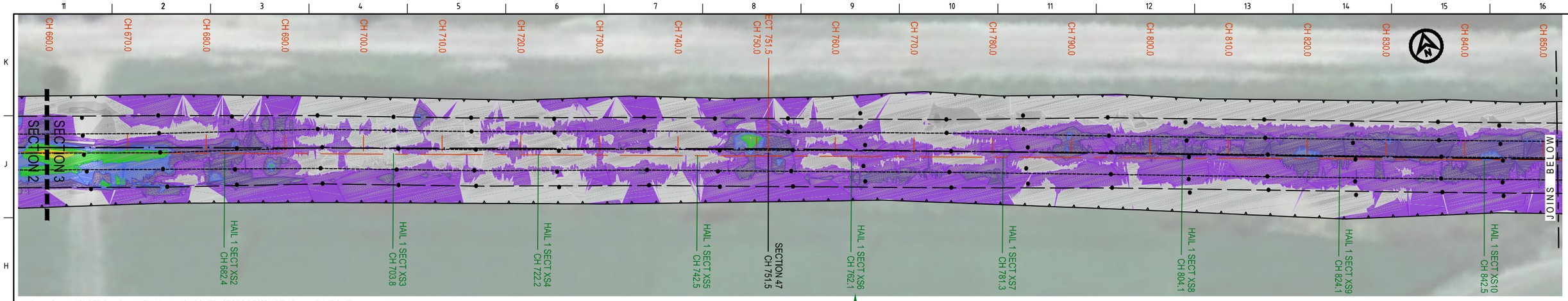
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
POST-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 2

SCALE: AS SHOWN
DRG NO.: AD-0021-06-02
REV: C



Volumes from tin "SUPER Post Dregde FULL" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 3")

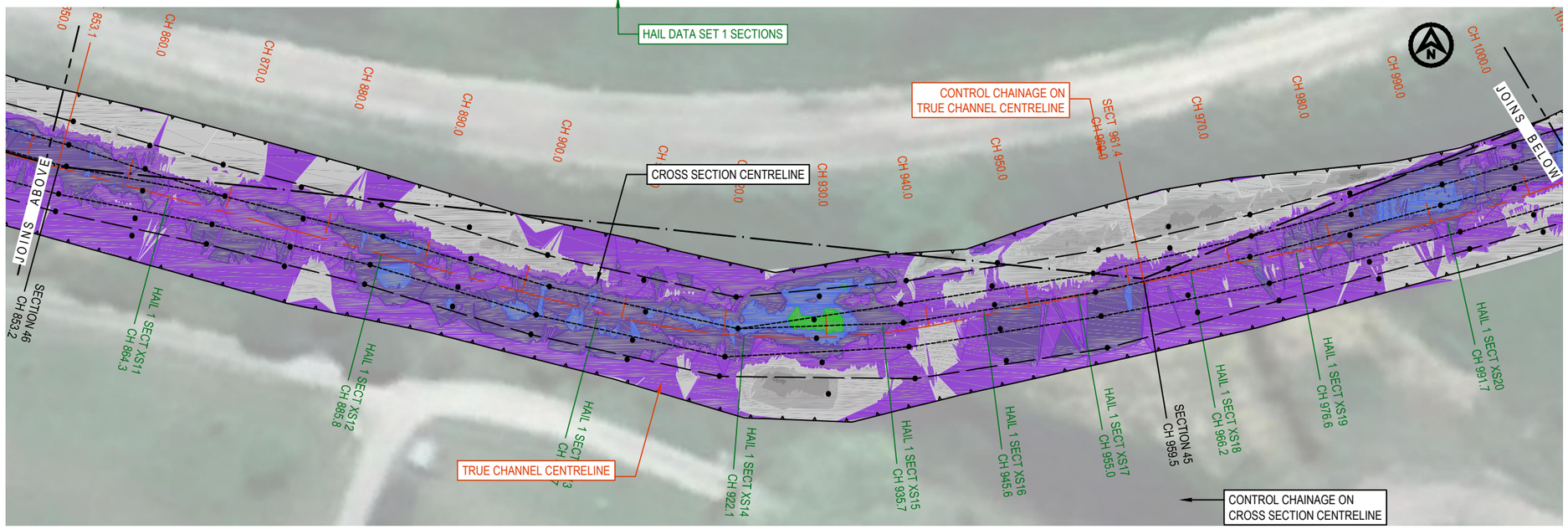
cut volumes are negative
fill volumes are positive

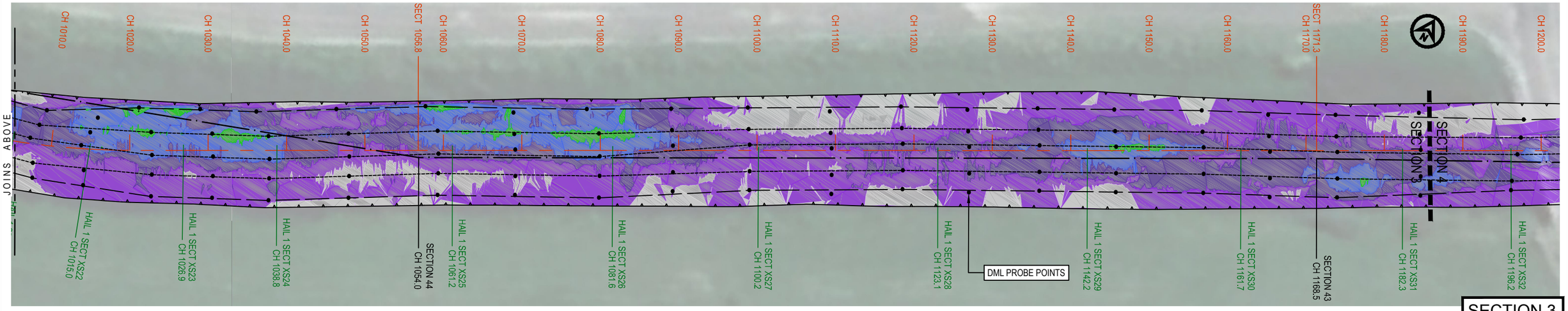
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-1235.689	0.000	-1235.689	0.000	-1235.689
0.000	65.000	0.000	205.718	-1235.689	205.718	-1029.972

NOTE: Totals are for the above depth ranges only

Total cut	-1235.689
Total fill	205.718
Total balance	-1029.972
ie excess of cut over fill	1029.972

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 3

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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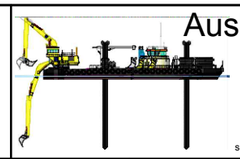
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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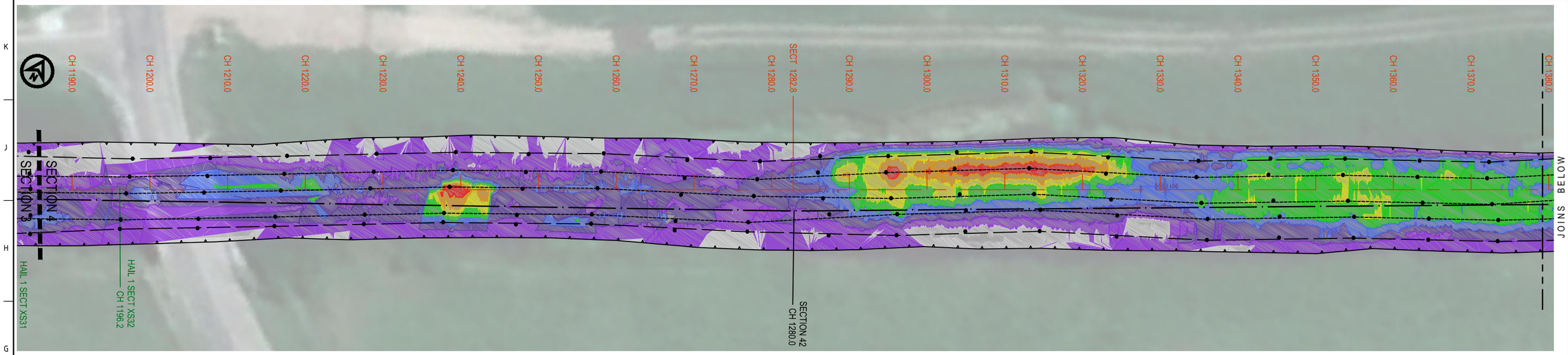
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

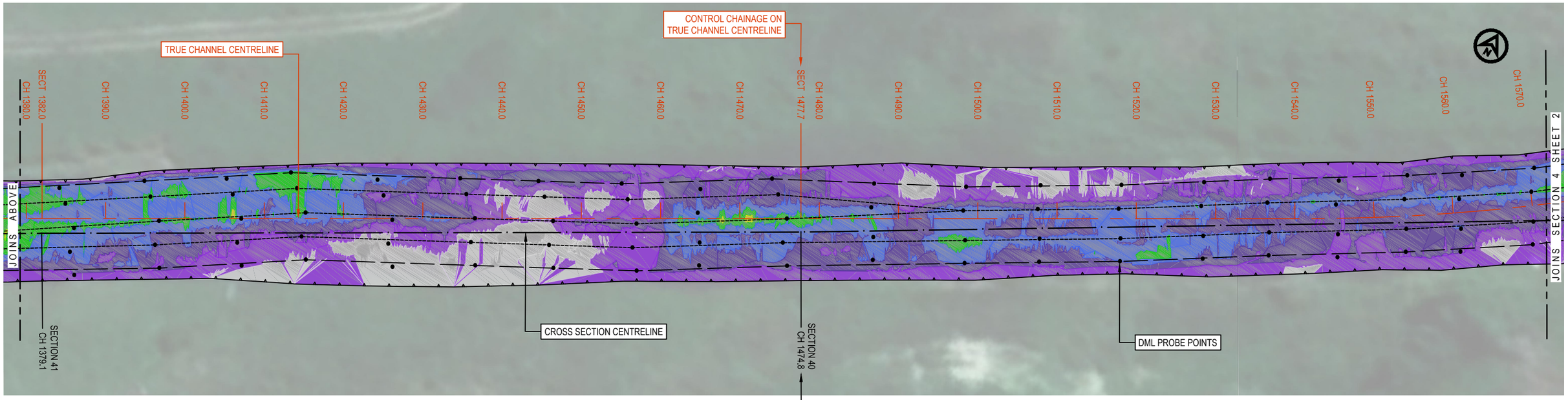
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
POST-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 3

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-06-03	C





DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

Volumes from tin "SUPER Post Dregde FULL" to tin "C1 CONTRACTORS DESIGN DTM Bottom ENVIRO NZ Unedited" - (with plan polygon "SECTION 4")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-2675.318	0.000	-2675.318	0.000	-2675.318
0.000	65.000	0.000	183.913	-2675.318	183.913	-2491.405

NOTE: Totals are for the above depth ranges only

Total cut	-2675.318
Total fill	183.913
Total balance	-2491.405
ie excess of cut over fill	2491.405

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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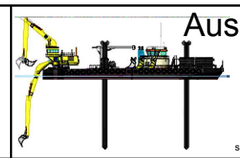
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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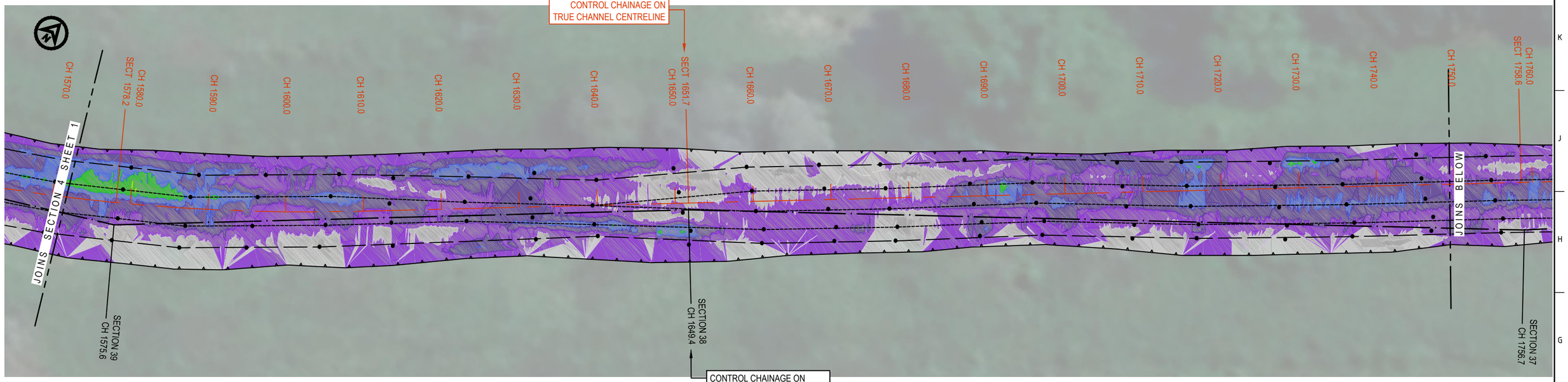
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

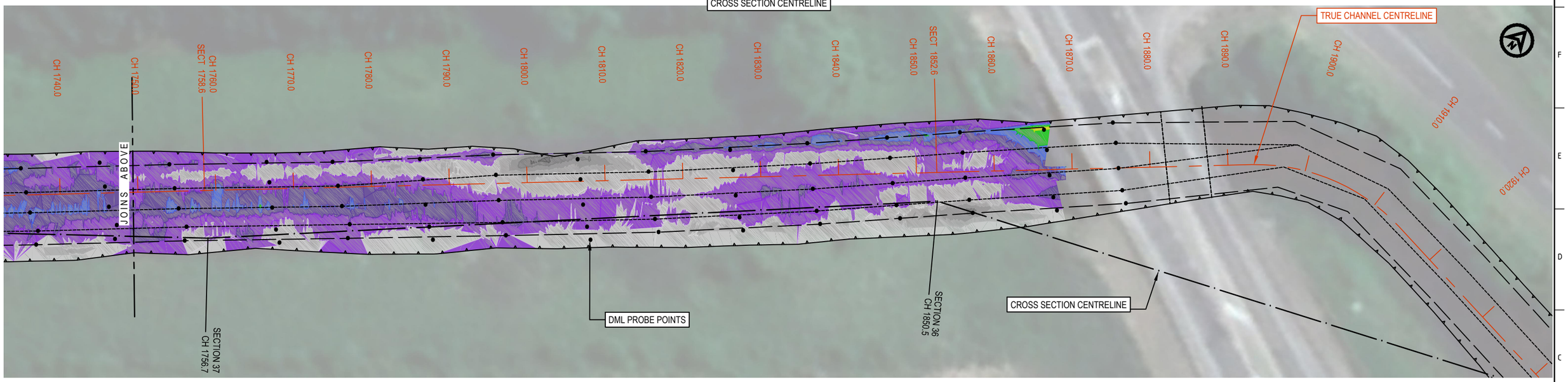
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
POST-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-06-04A	C





DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
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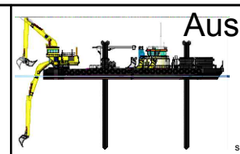
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
POST-DREDGE SURVEY to CONTRACTORS DESIGN
PROJECT AREA SECTION 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-06-04B	C

Volumes from tin "P1 PRE Dredge 180528" to tin "SUPER Post Dregde FULL" - (with plan polygon "SECTION 1")

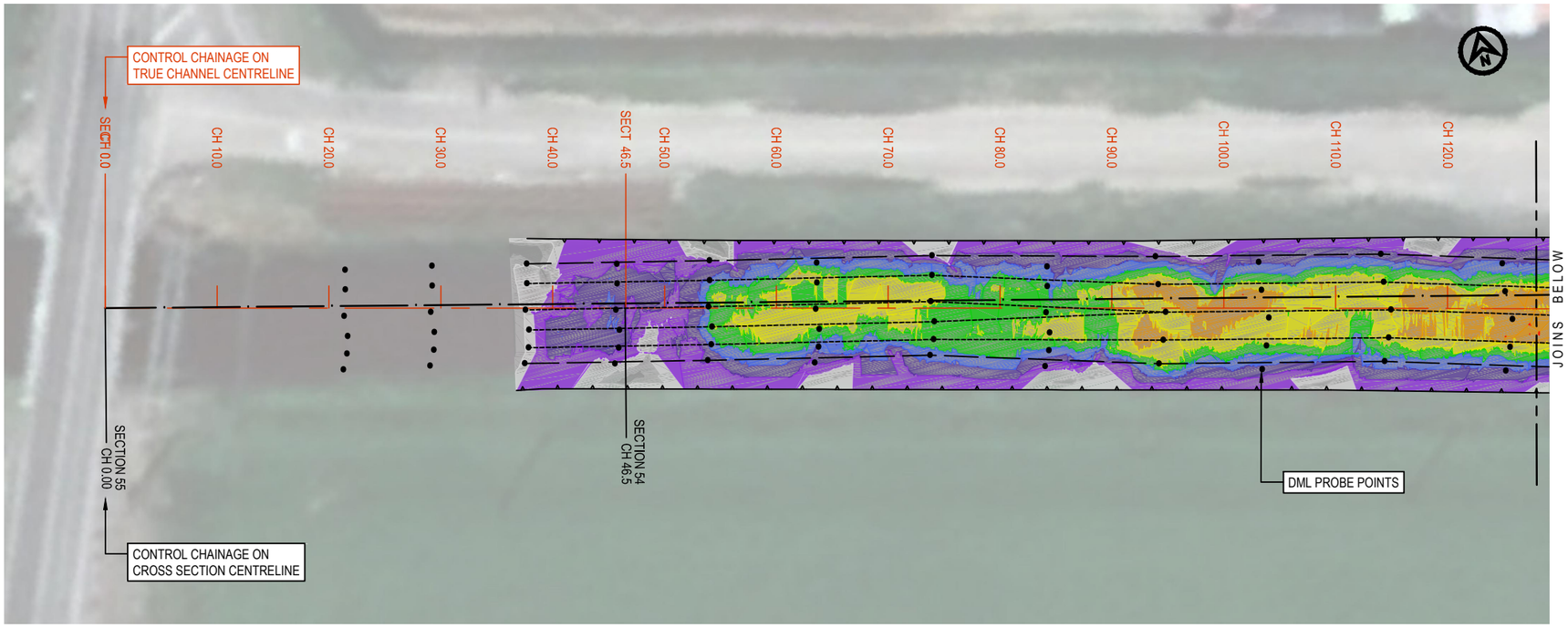
cut volumes are negative
fill volumes are positive

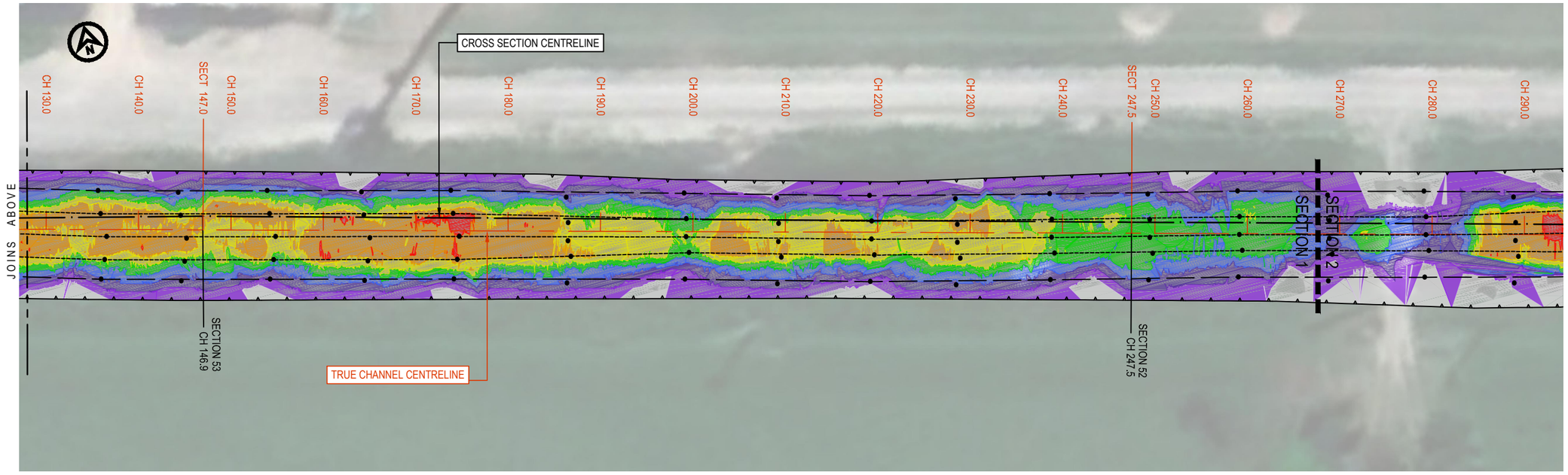
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-2092.323	0.000	-2092.323	0.000	-2092.323
0.000	65.000	0.000	29.810	-2092.323	29.810	-2062.513

NOTE: Totals are for the above depth ranges only

Total cut	-2092.323
Total fill	29.810
Total balance	-2062.513
ie excess of cut over fill	2062.513

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 1

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
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VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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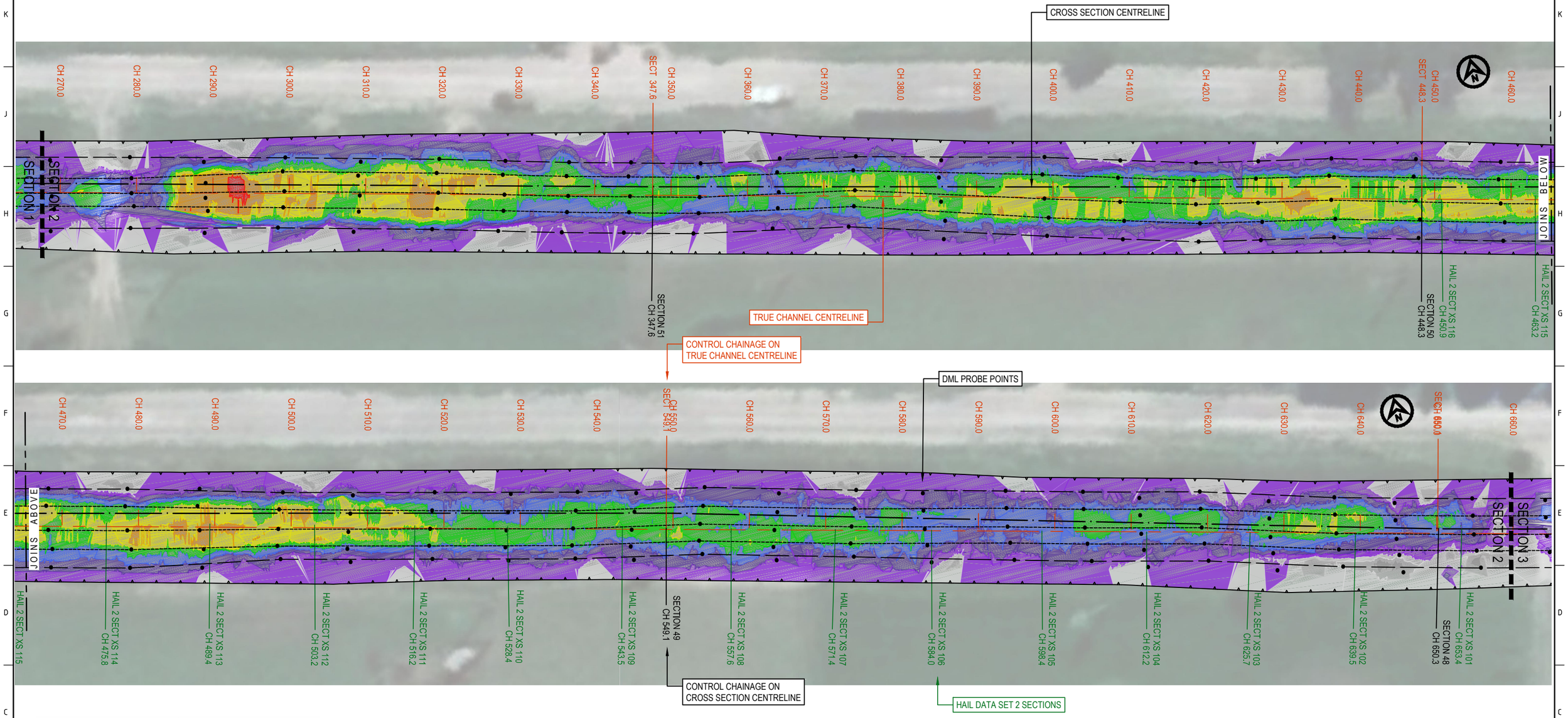
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DRDGE SURVEY to POST-DREDGE SURVEY
PROJECT AREA SECTION 1

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-08-01	C



DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

Volumes from tin "P1 PRE Dredge 180528" to tin "SUPER Post Dregde FULL" - (with plan polygon "SECTION 2")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-65.000	0.000	-2750.986	0.000	-2750.986	0.000	-2750.986
0.000	65.000	0.000	77.784	-2750.986	77.784	-2673.202

NOTE: Totals are for the above depth ranges only

Total cut	-2750.986
Total fill	77.784
Total balance	-2673.202
ie excess of cut over fill	2673.202

SECTION 2

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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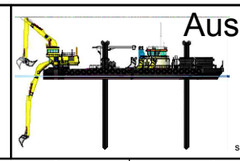
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS. -



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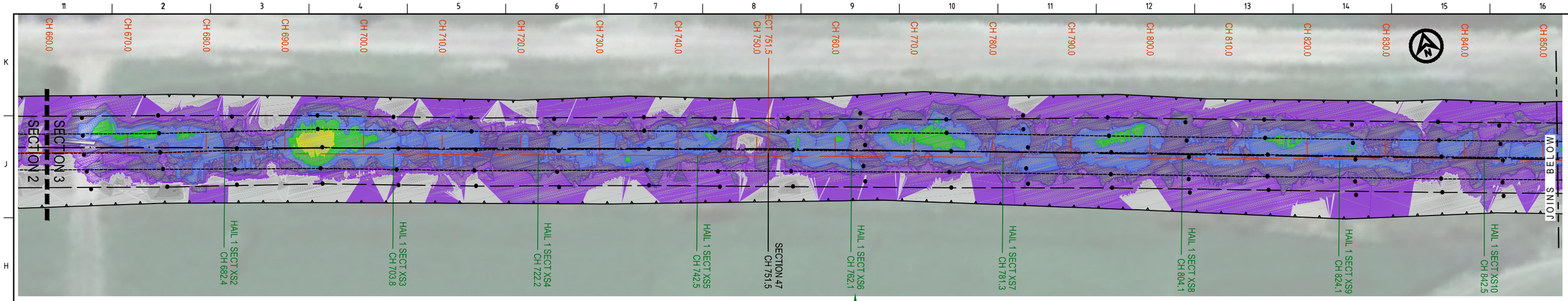
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DRDGE SURVEY to POST-DREDGE SURVEY
PROJECT AREA SECTION 2

SCALE: AS SHOWN
DRG NO.: AD-0021-08-02
REV: C



Volumes from tin "P1 PRE Dredge 180528" to tin "SUPER Post Dregde FULL" - (with plan polygon "SECTION 3")

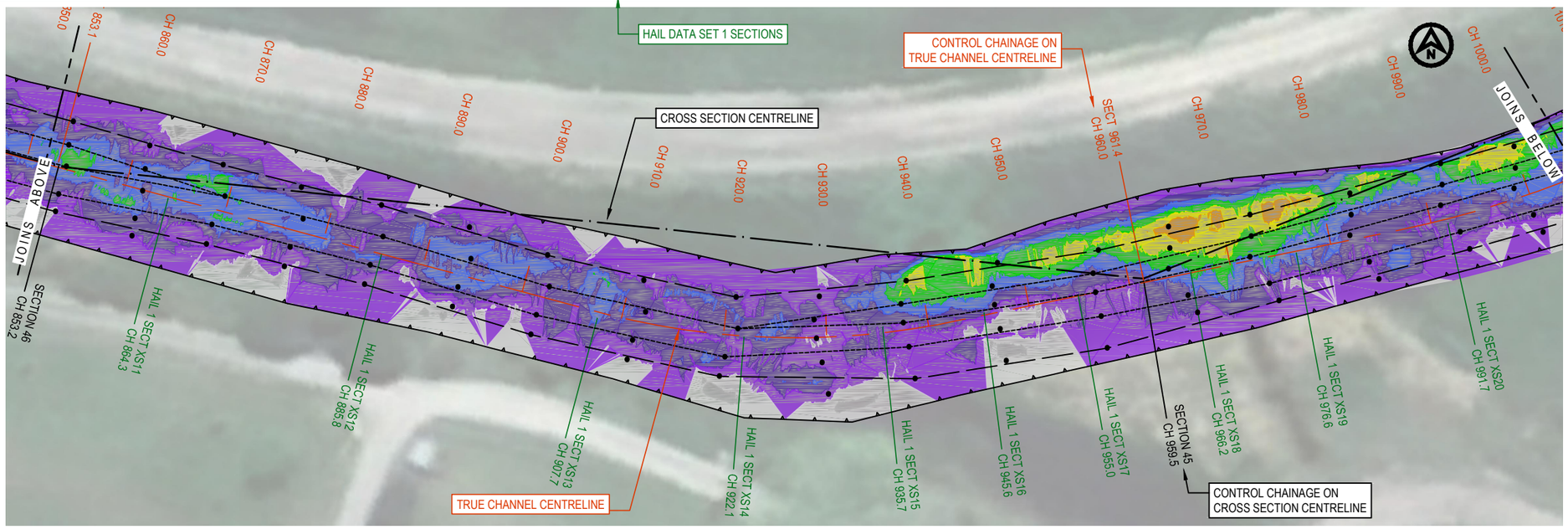
cut volumes are negative
fill volumes are positive

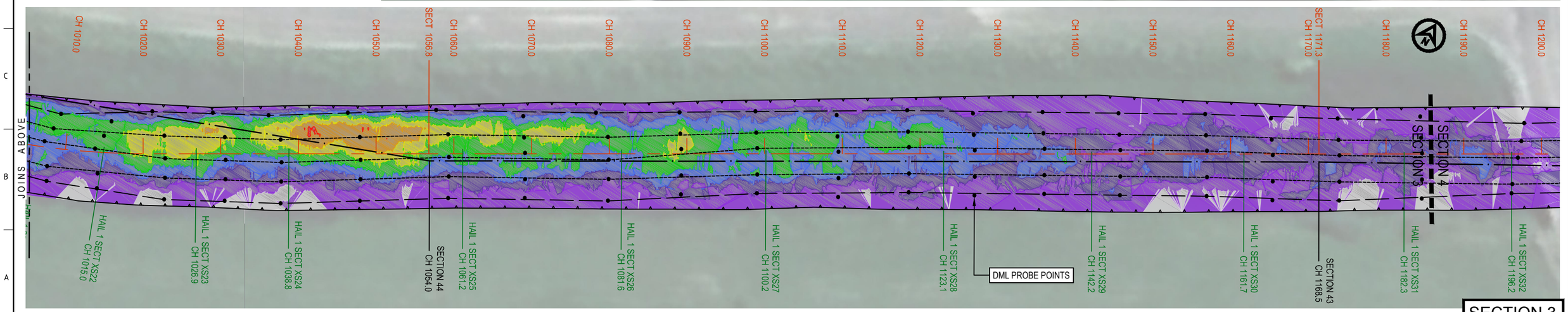
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-2551.468	0.000	-2551.468	0.000	-2551.468
0.000	65.000	0.000	63.022	-2551.468	63.022	-2488.446

NOTE: Totals are for the above depth ranges only

Total cut	-2551.468
Total fill	63.022
Total balance	-2488.446
ie excess of cut over fill	2488.446

DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				





SECTION 3

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

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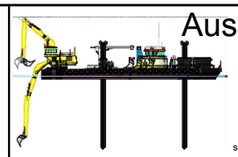
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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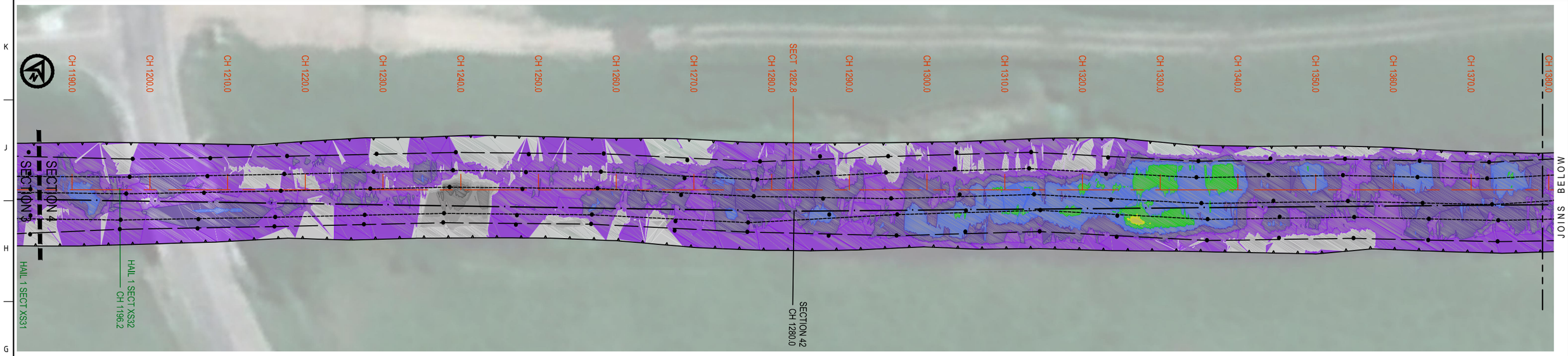
SITE APPR'D

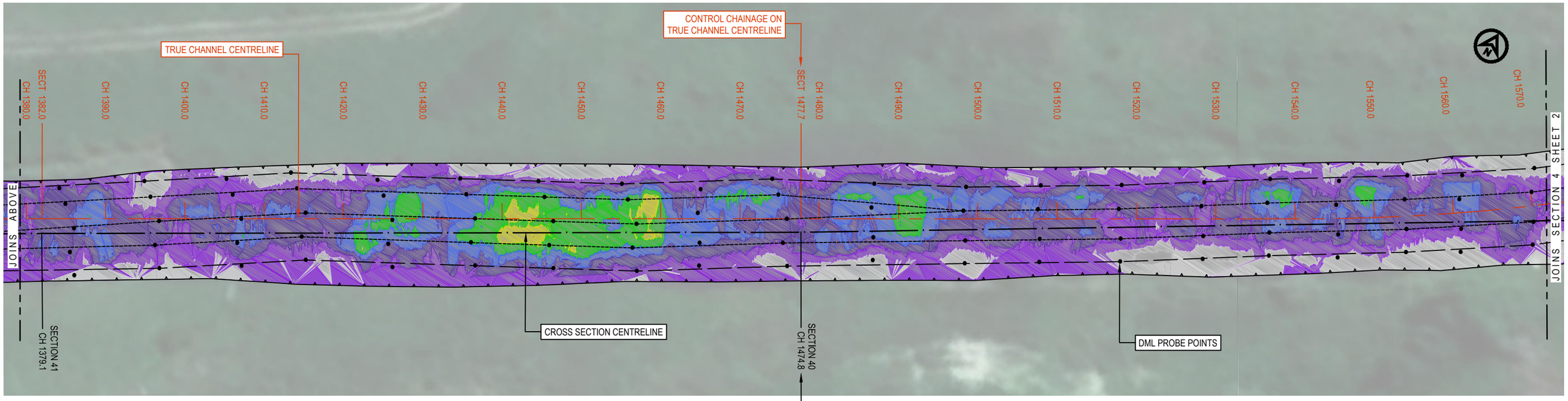
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DRDGE SURVEY to POST-DREDGE SURVEY
PROJECT AREA SECTION 3

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-08-03	C





DEPTHS			(CUT)				(FILL)
0	to	0.25		0	to	0.25	
0.25	to	0.5		0.25	to	0.5	
0.5	to	0.75		0.5	to	0.75	
0.75	to	1.0		0.75	to	1.0	
1.0	to	1.25		1.0	to	> 1.0	
1.25	to	1.5					
1.5	to	1.75					
1.75	to	2.0					
2.0	to	2.25					
2.25	to	2.5					
2.5	to	> 2.5					

Volumes from tin "P1 PRE Dredge 180528" to tin "SUPER Post Dregde FULL" - (with plan polygon "SECTION 4")

cut volumes are negative
fill volumes are positive

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Cut	Fill	Accumulative Balance
-65.000	0.000	-2726.641	0.000	-2726.641	0.000	-2726.641
0.000	65.000	0.000	121.855	-2726.641	121.855	-2604.786

NOTE: Totals are for the above depth ranges only

Total cut	-2726.641
Total fill	121.855
Total balance	-2604.786
ie excess of cut over fill	2604.786

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION	MC	SL	
		4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED			
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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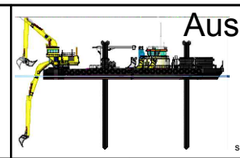
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY	
DRAWN BY	
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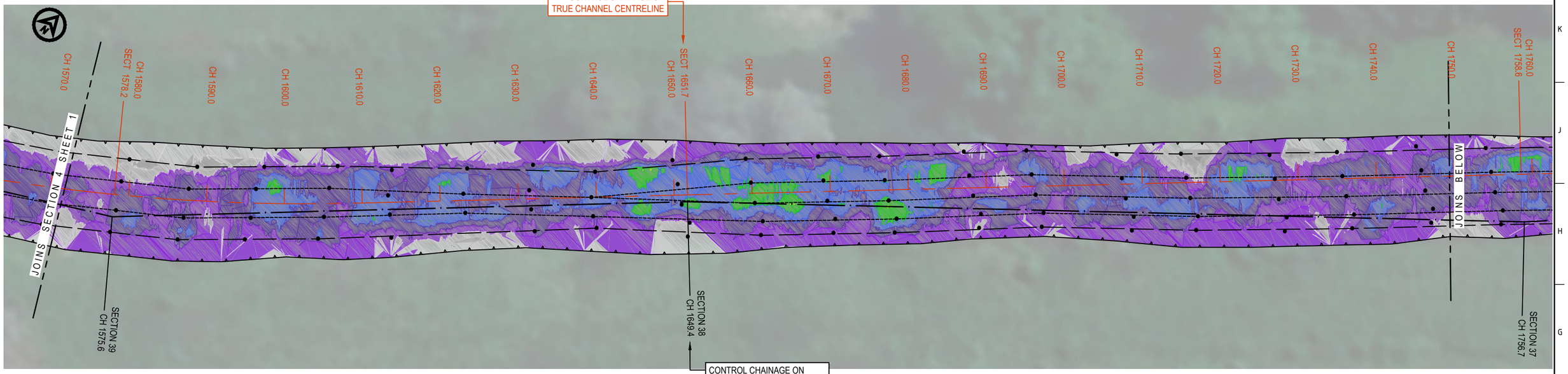
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

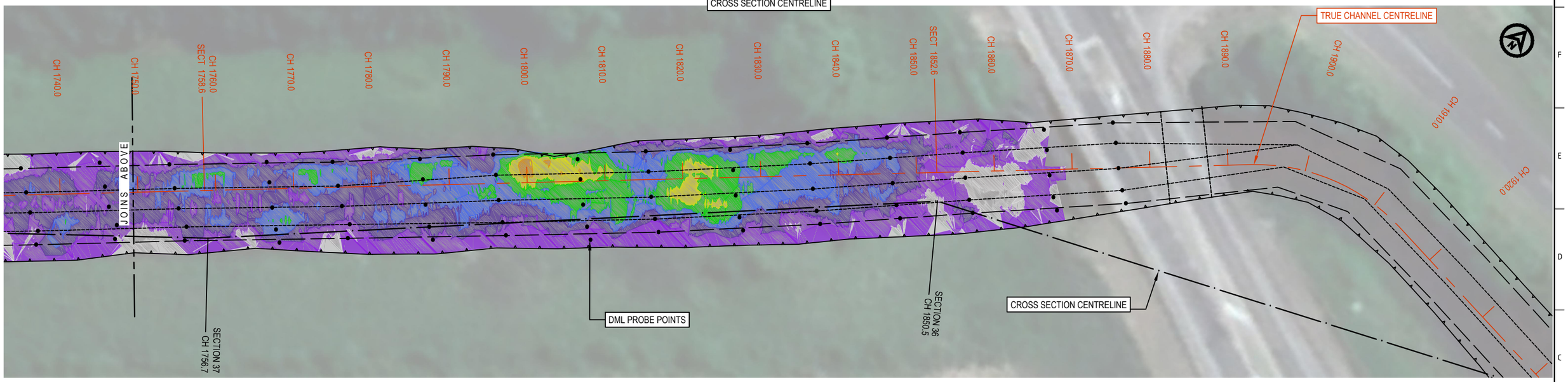
SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DRDGE SURVEY to POST-DREDGE SURVEY
PROJECT AREA SECTION 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-08-04A	C





DEPTHS (CUT)				(FILL)		
0	to	0.25		0	to	0.25
0.25	to	0.5		0.25	to	0.5
0.5	to	0.75		0.5	to	0.75
0.75	to	1.0		0.75	to	1.0
1.0	to	1.25		1.0	to	> 1.0
1.25	to	1.5				
1.5	to	1.75				
1.75	to	2.0				
2.0	to	2.25				
2.25	to	2.5				
2.5	to	> 2.5				

SECTION 4

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

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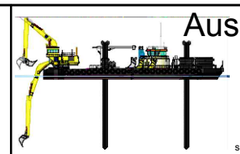
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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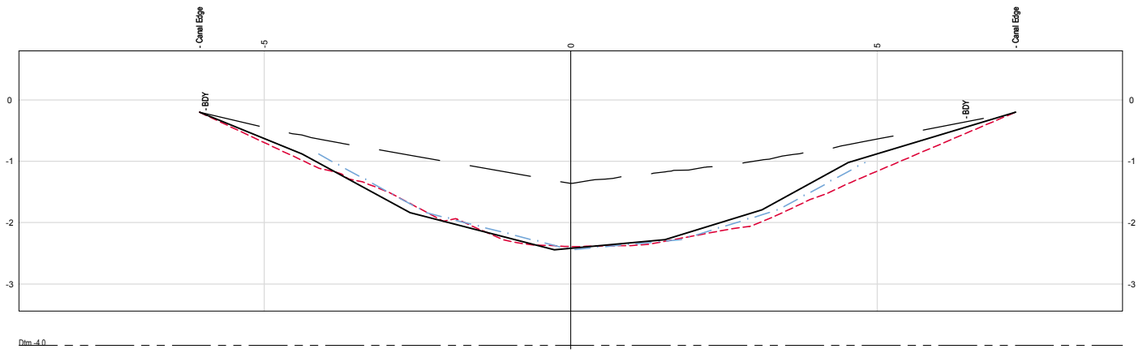
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

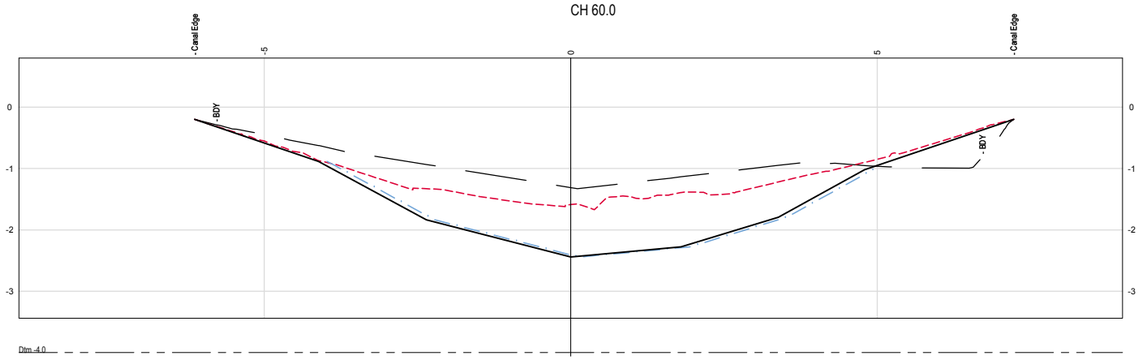
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
PRE-DRDGE SURVEY to POST-DREDGE SURVEY
PROJECT AREA SECTION 4

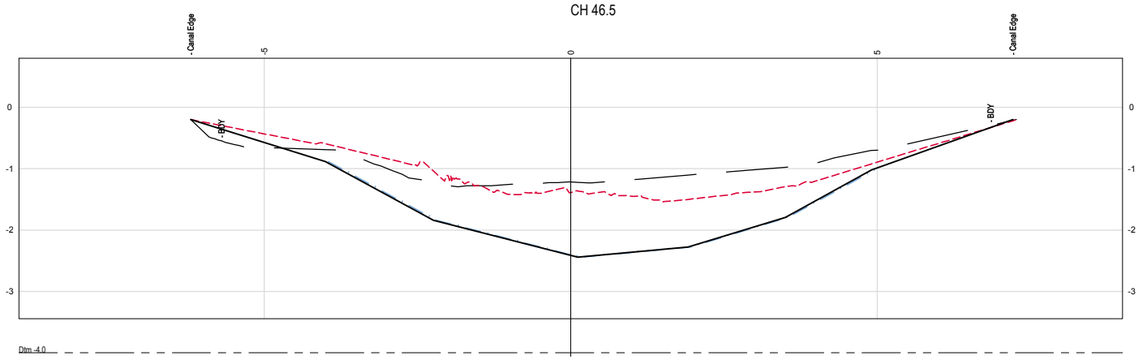
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-08-04B	C



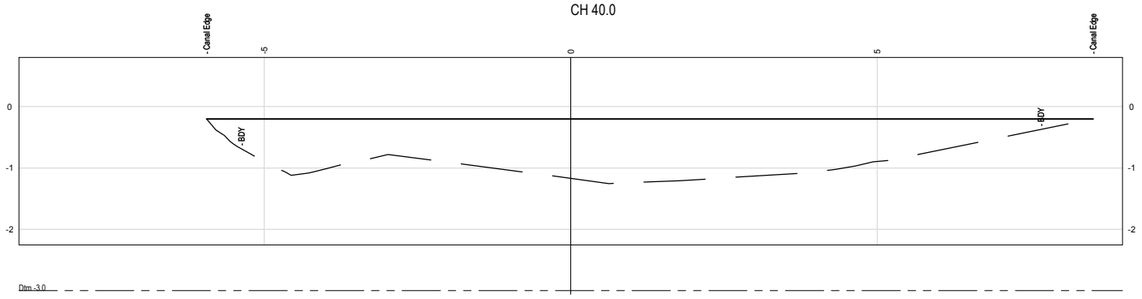
CH 60.0



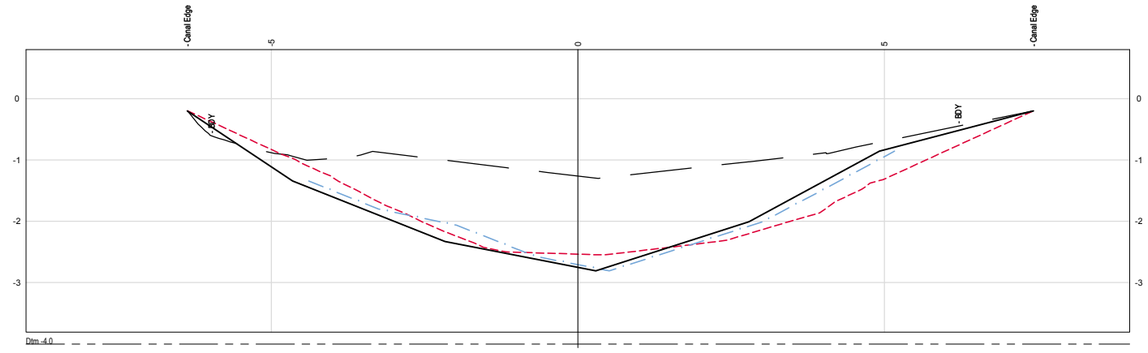
CH 46.5



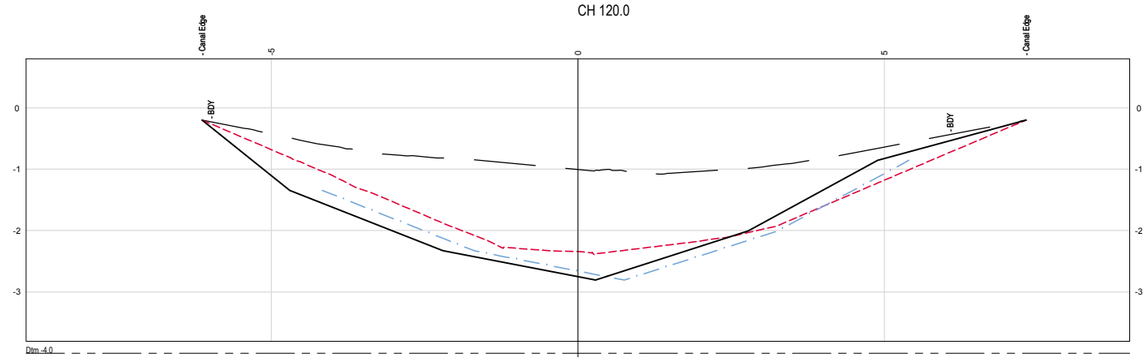
CH 40.0



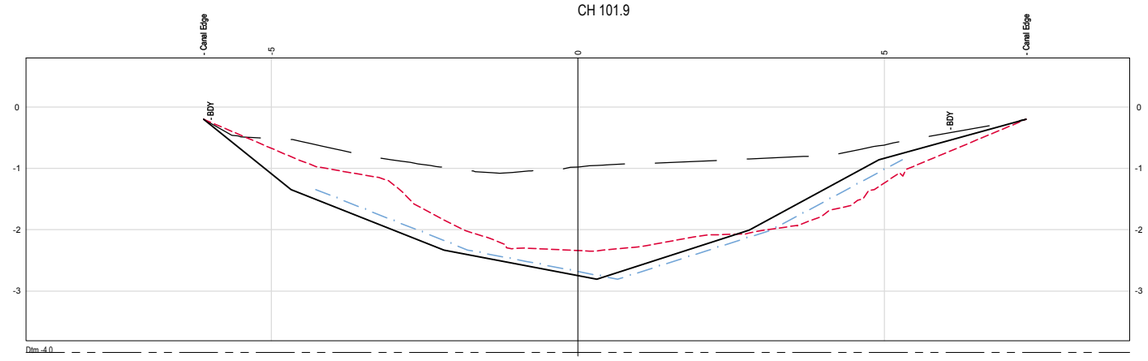
CH 20.0



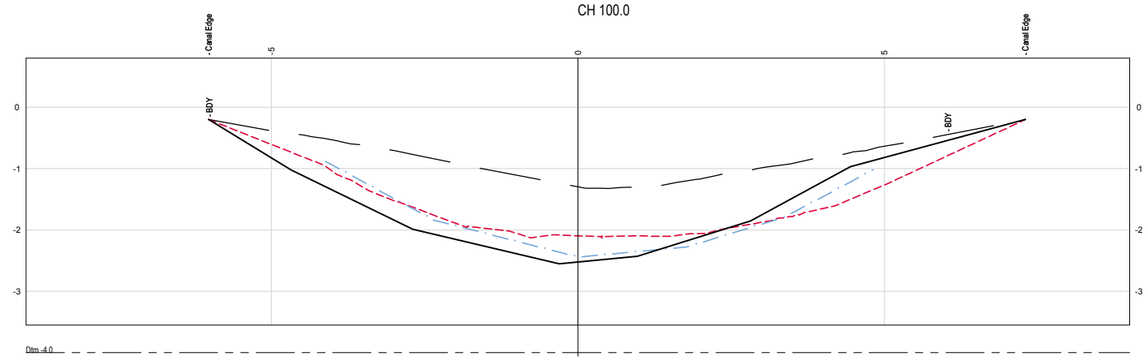
CH 120.0



CH 101.9



CH 100.0



CH 80.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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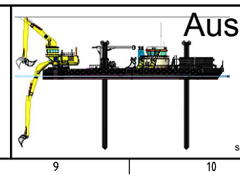
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY	
DRAWN BY	
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DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

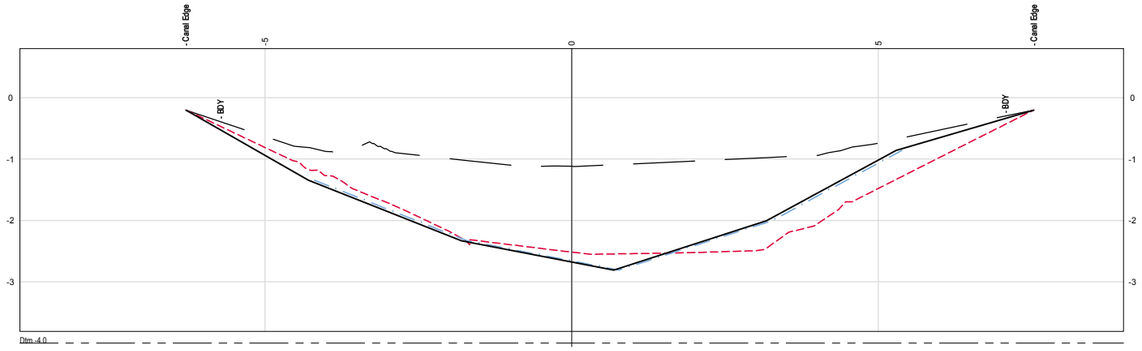
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

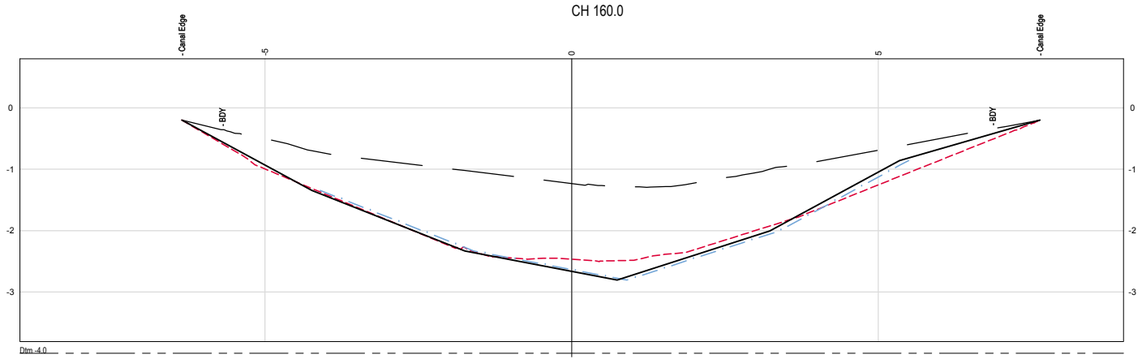
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 01

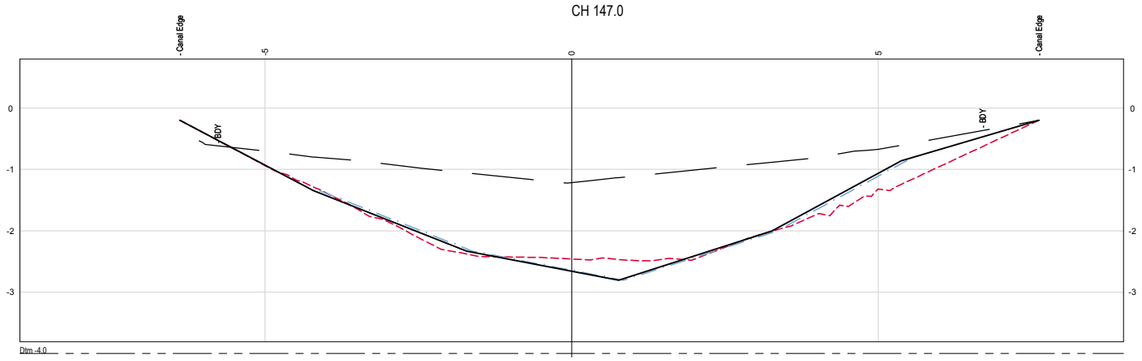
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-01	C



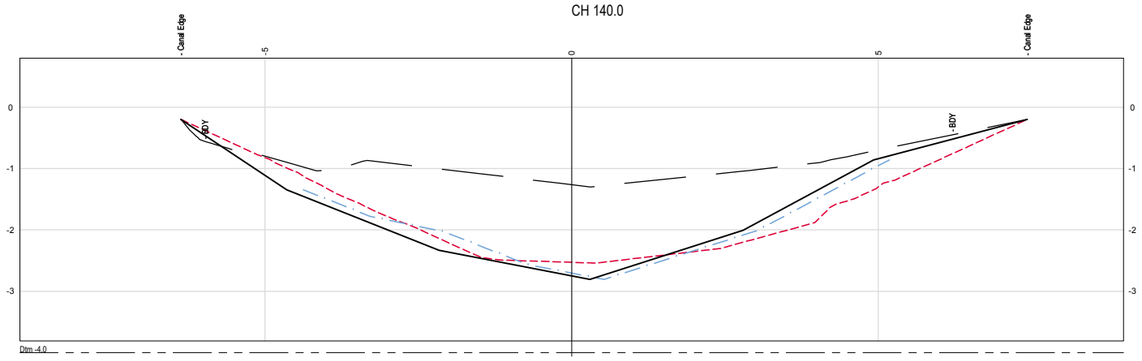
CH 160.0



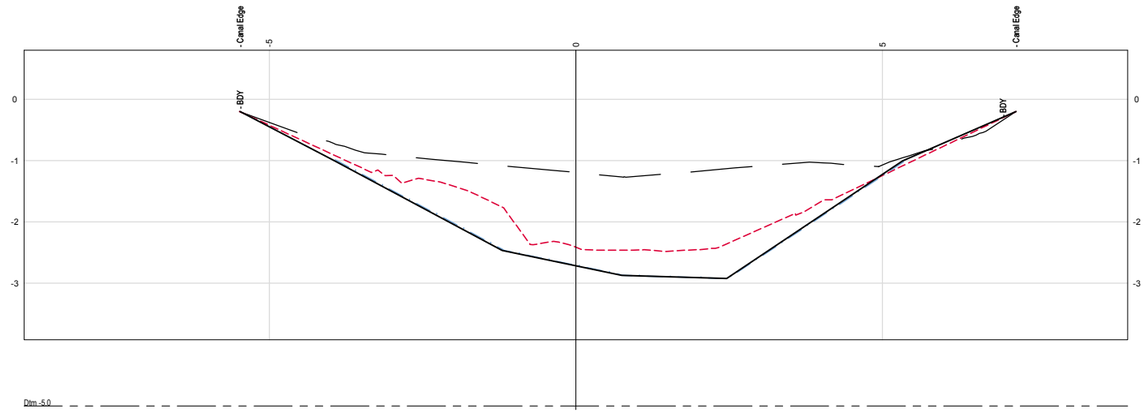
CH 147.0



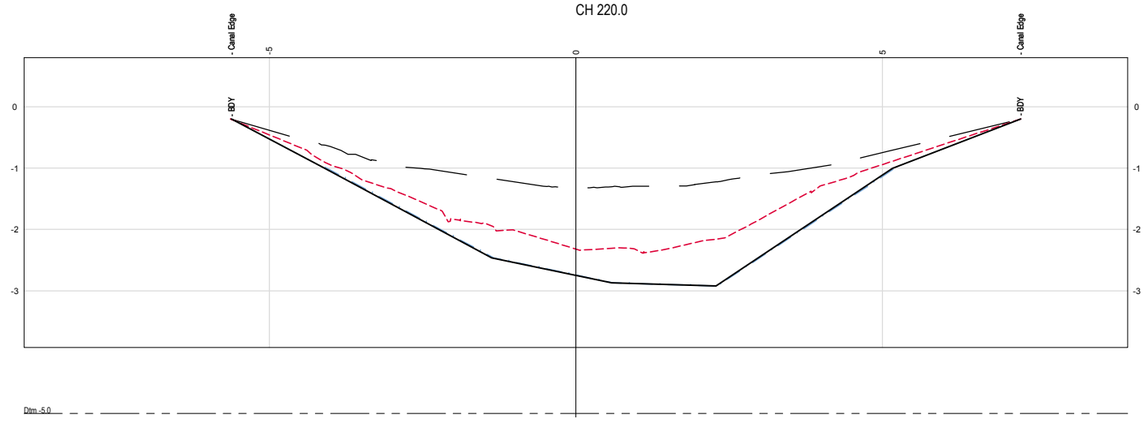
CH 140.0



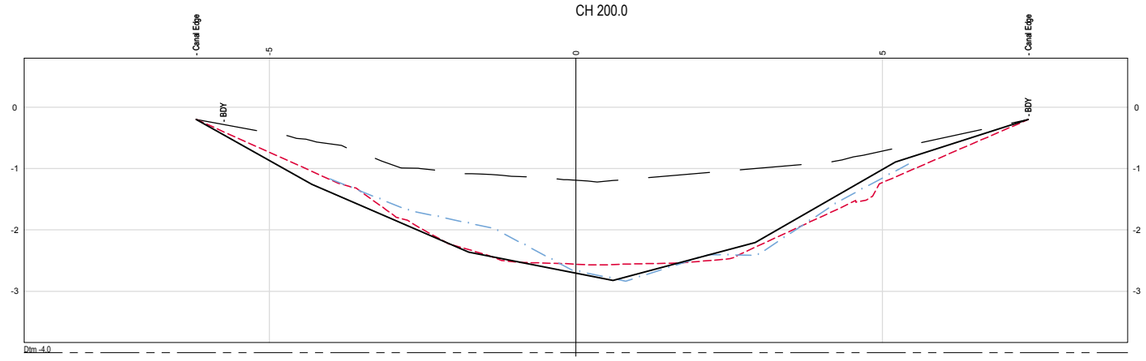
CH 120.2



CH 220.0



CH 200.0



CH 180.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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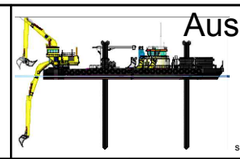
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



AusDredge
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Queensland, 4171
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s.lawley@ausdredge.com

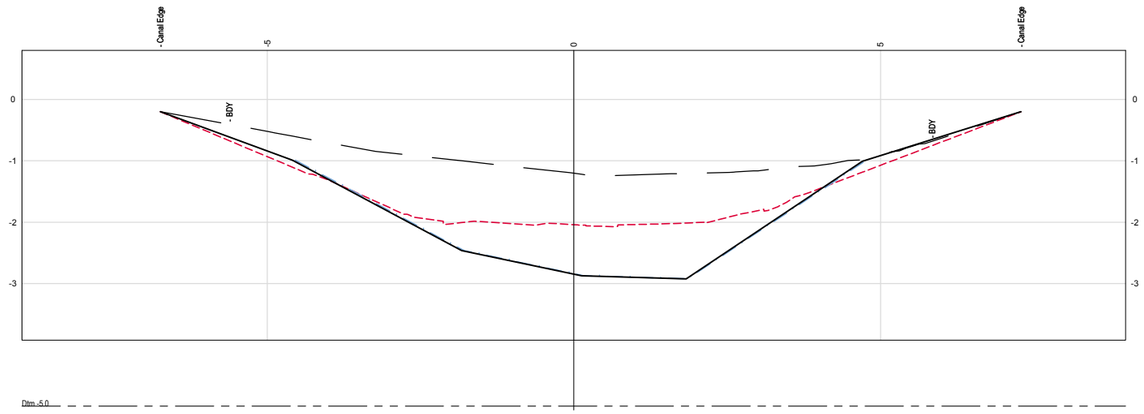
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE
H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

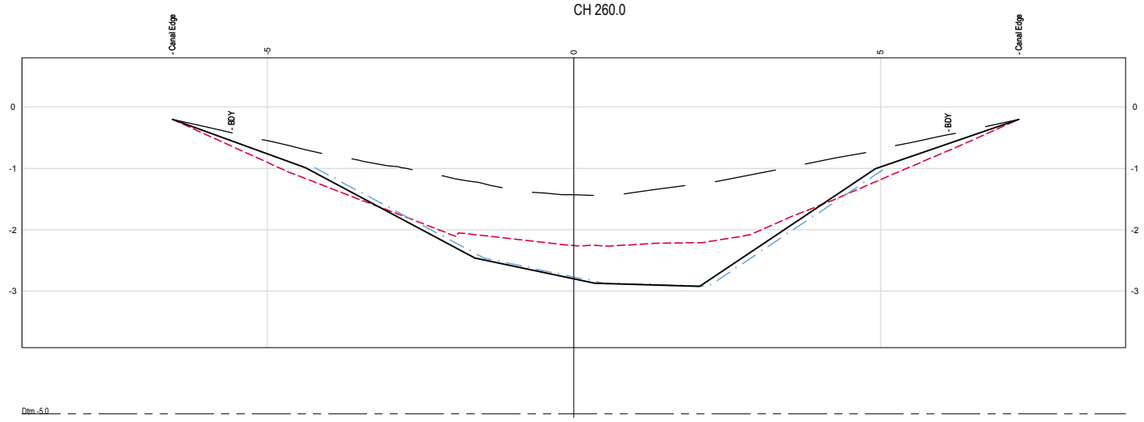
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 02

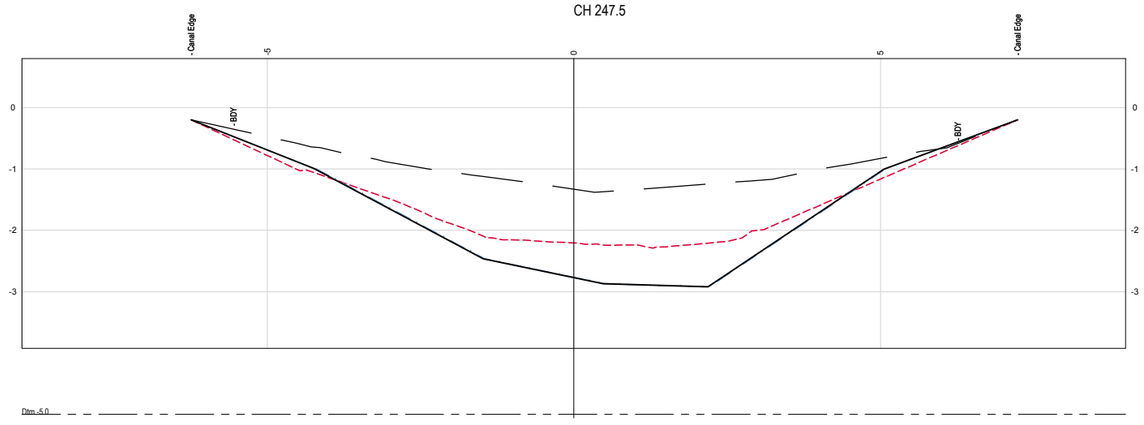
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-02	C



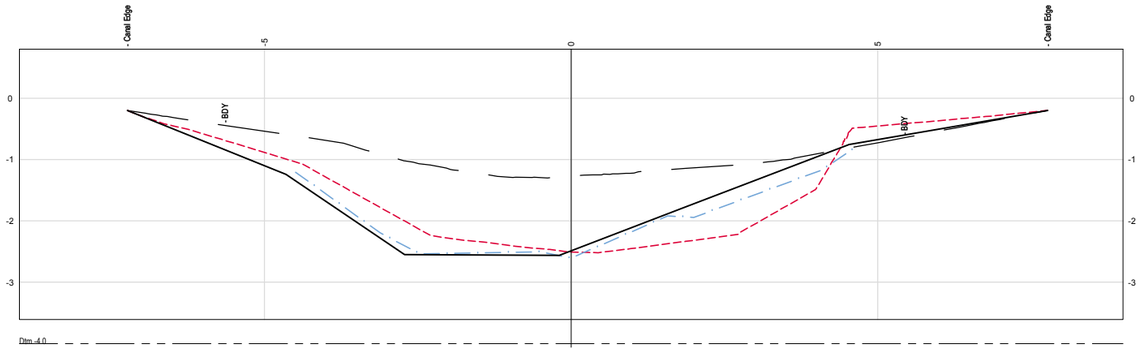
CH 260.0



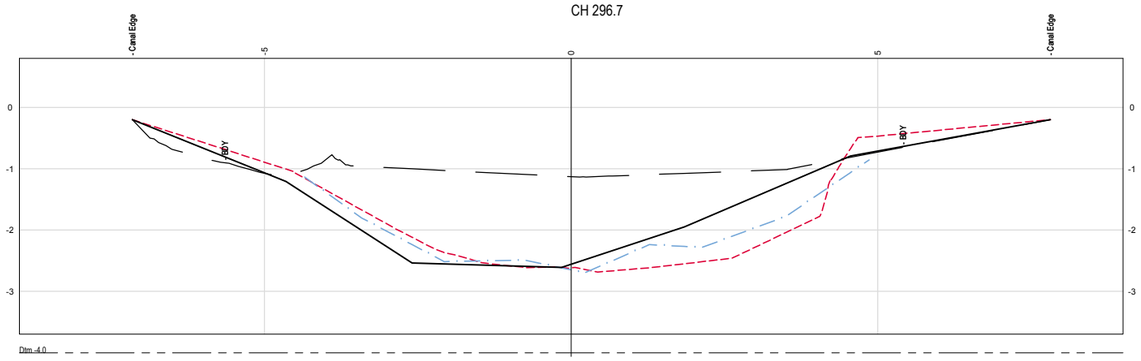
CH 247.5



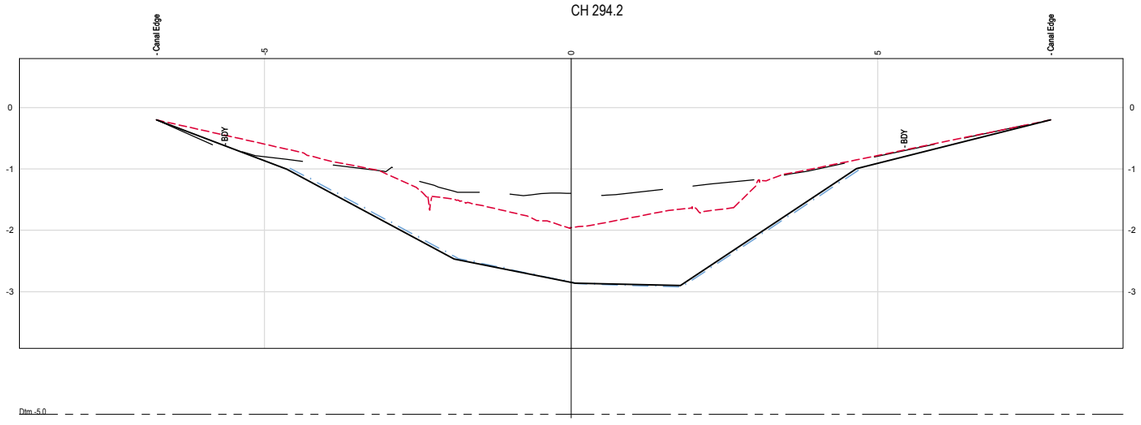
CH 240.0



CH 296.7



CH 294.2



CH 280.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION	MC	SL	
		4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED			
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

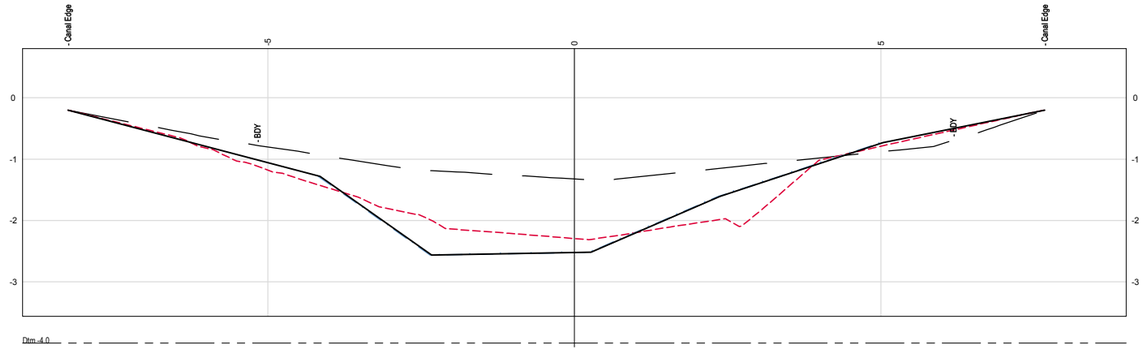
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

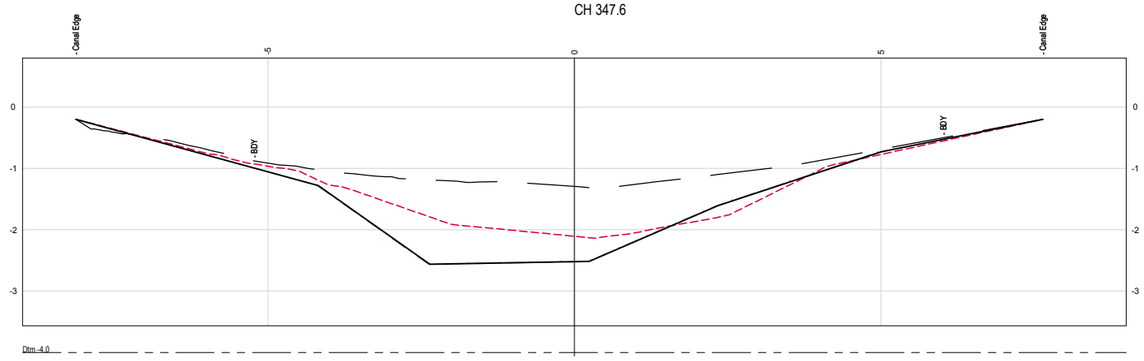
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 03

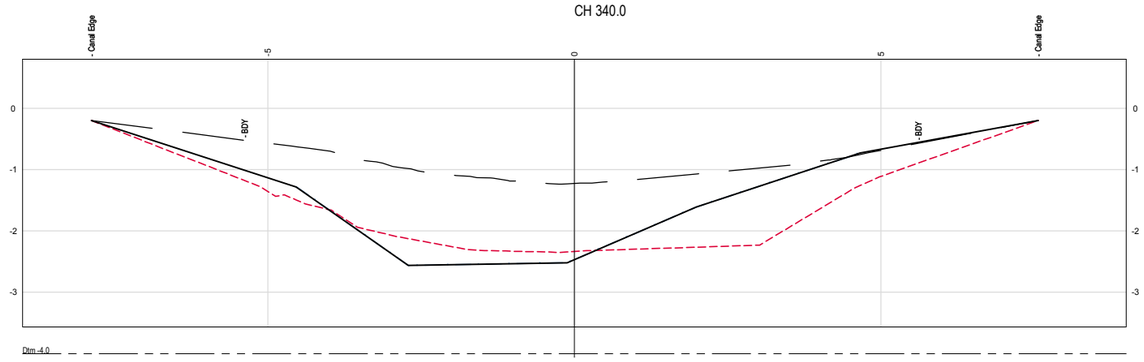
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-03	C



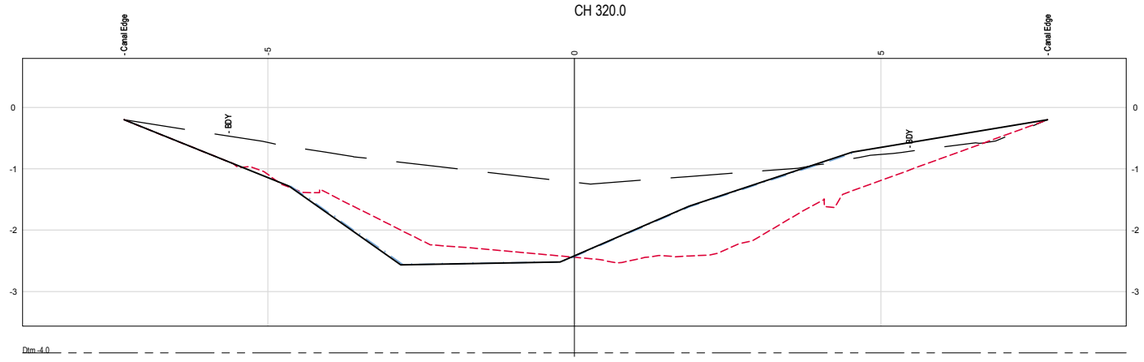
CH 347.6



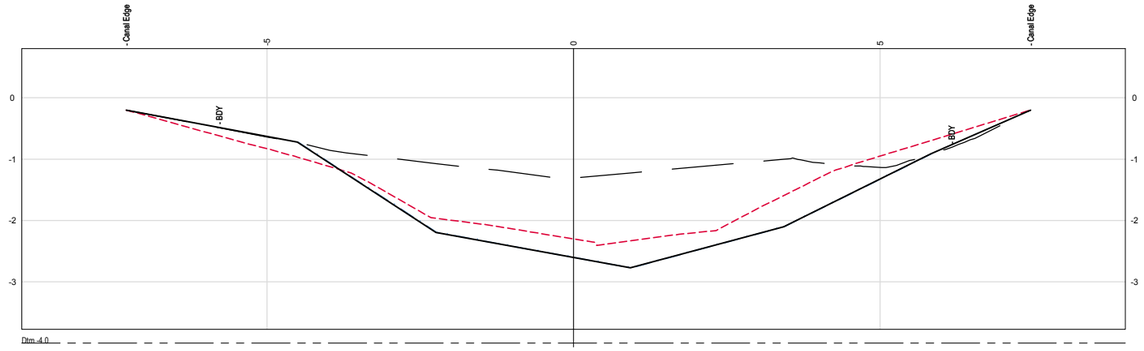
CH 340.0



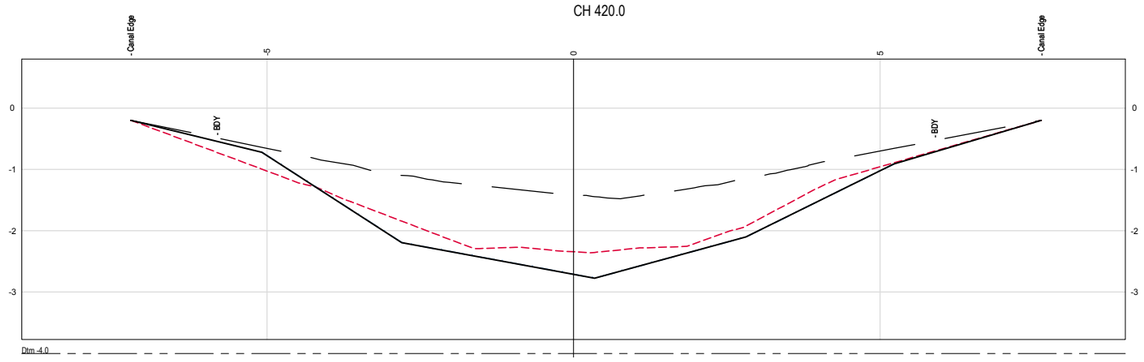
CH 320.0



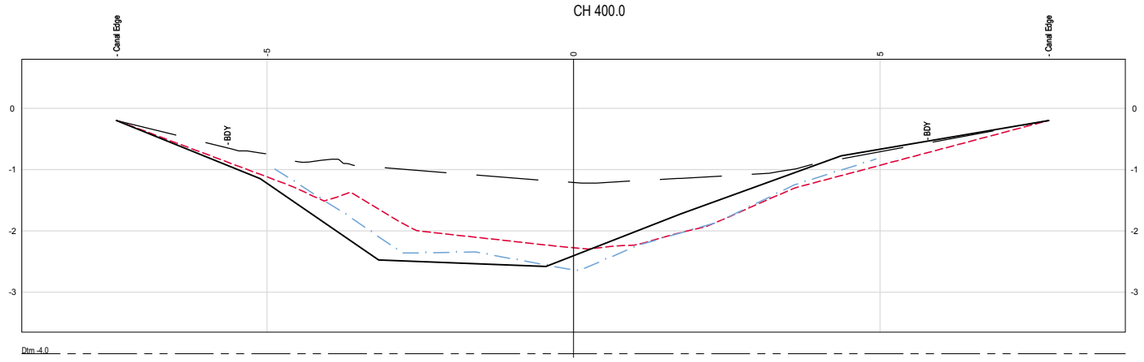
CH 300.0



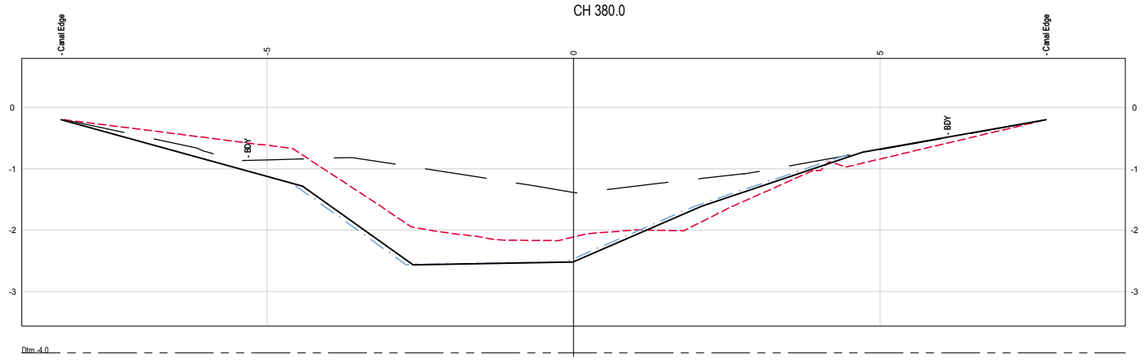
CH 420.0



CH 400.0



CH 380.0



CH 360.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
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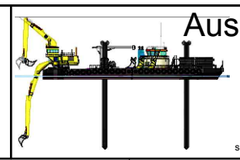
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

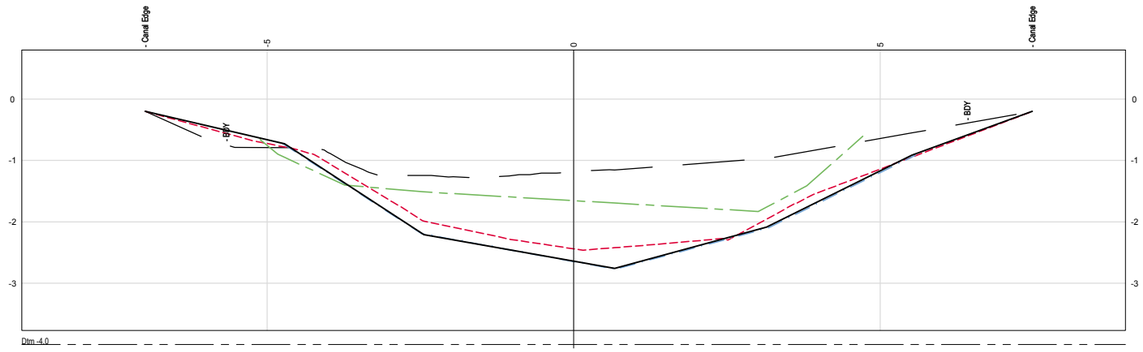
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE
H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

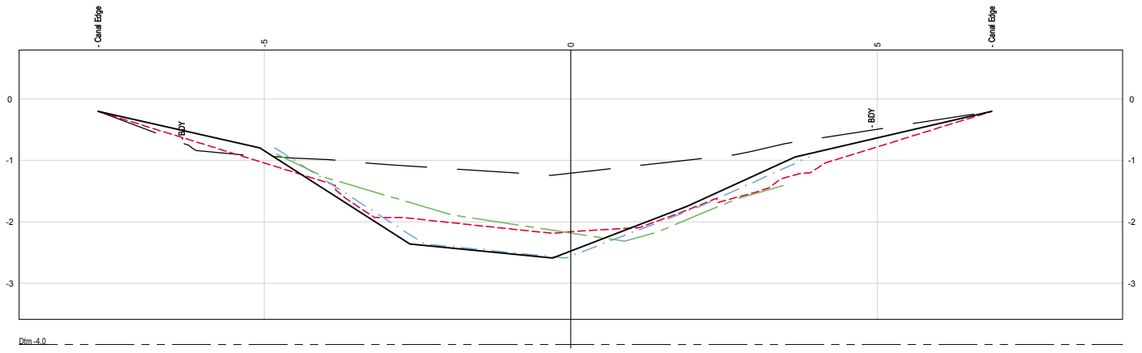
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 04

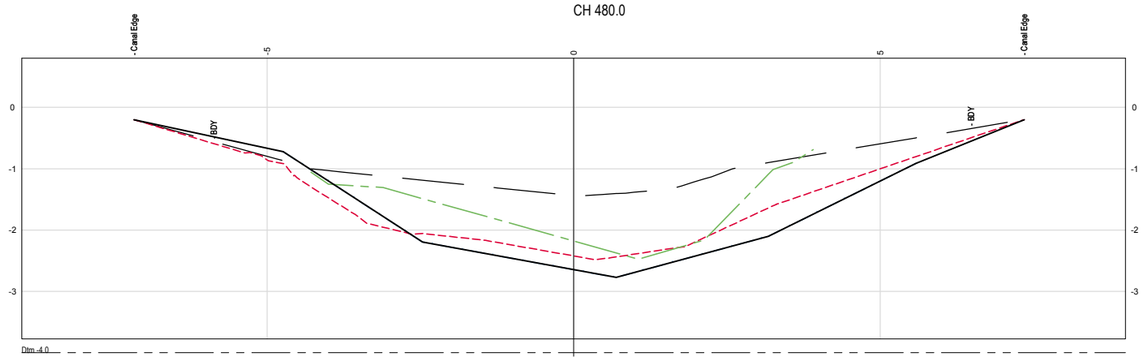
SCALE: AS SHOWN
DRG NO.: AD-0021-10-04
REV: C



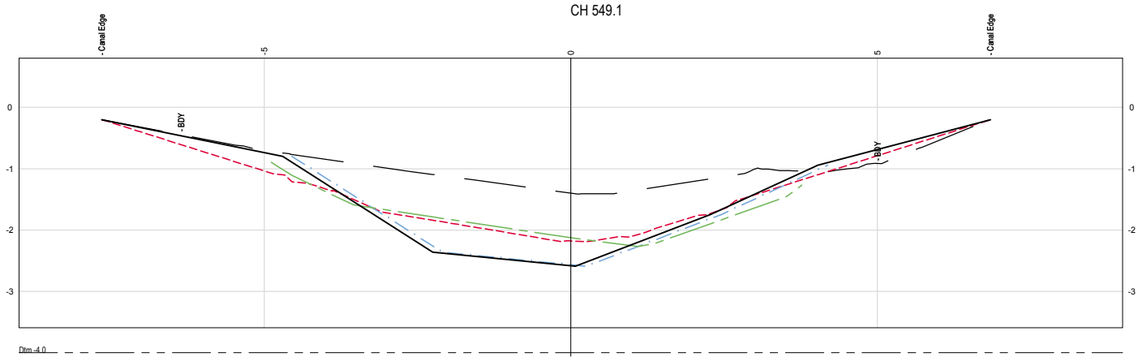
CH 480.0



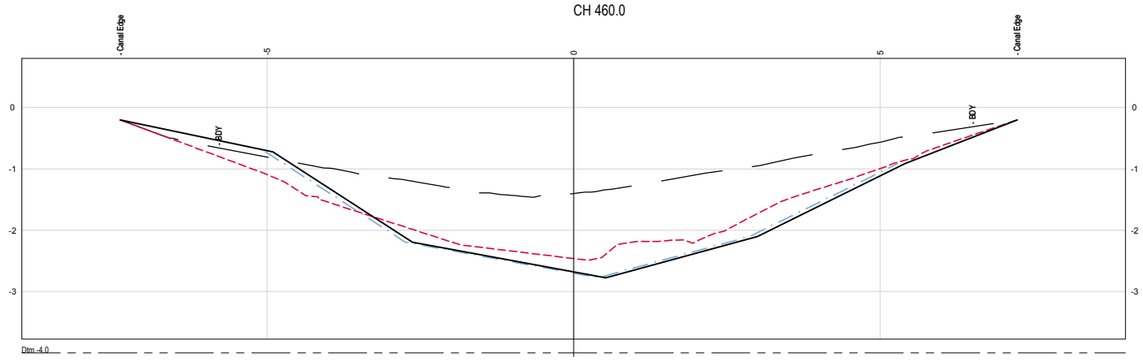
CH 549.1



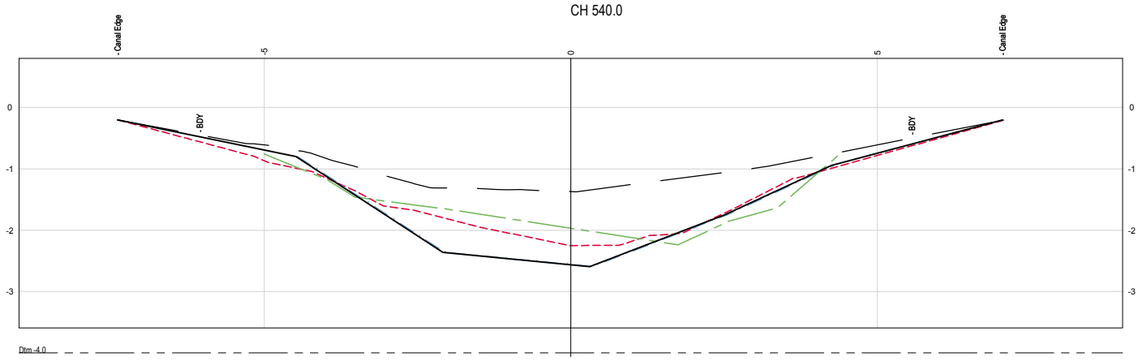
CH 460.0



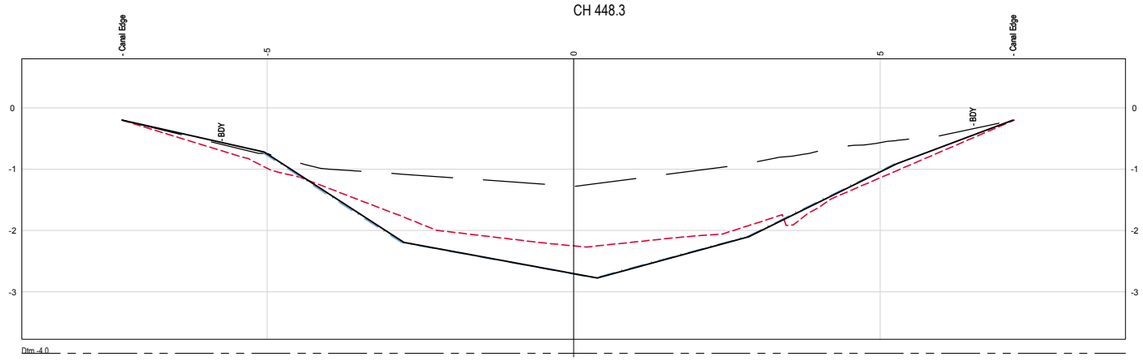
CH 540.0



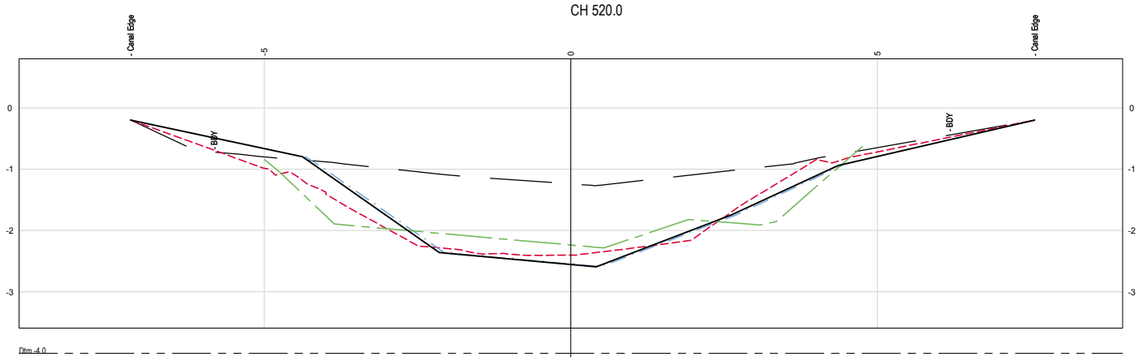
CH 448.3



CH 520.0



CH 440.0



CH 500.0

NOTE

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C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
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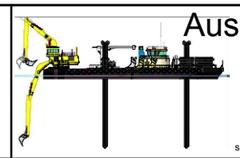
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY
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AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR

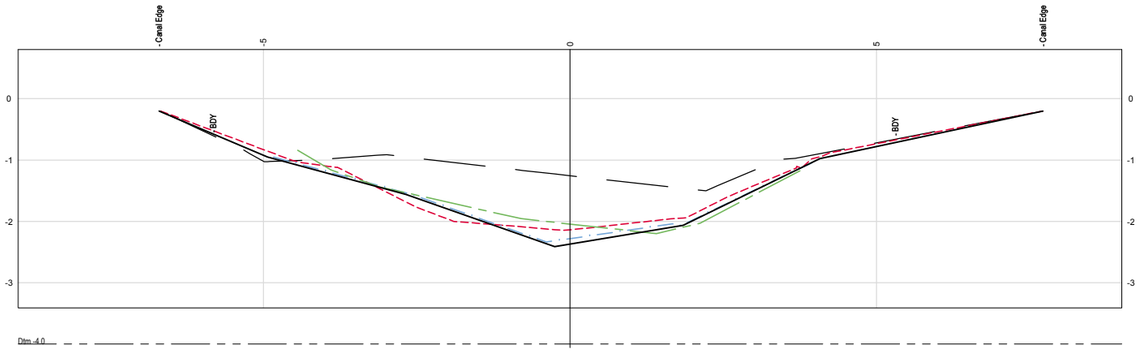
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

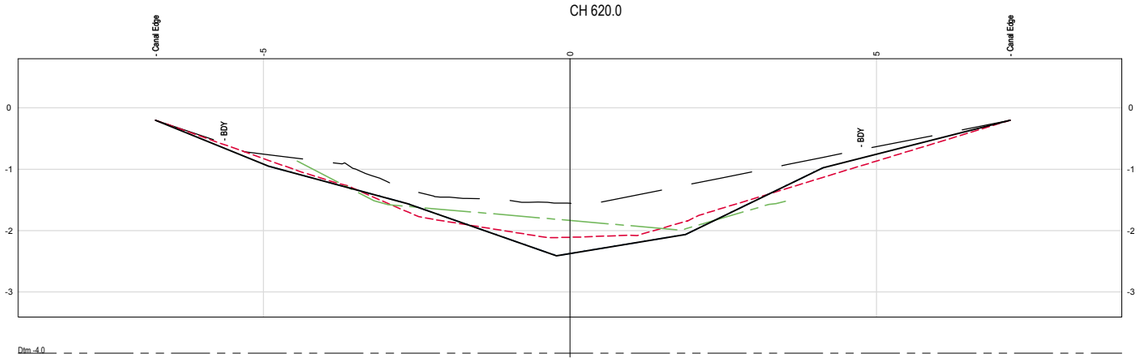
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 05

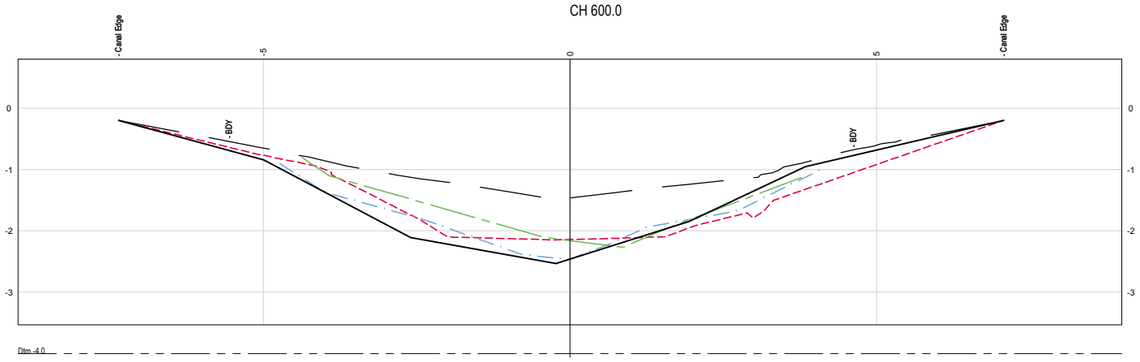
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-05	C



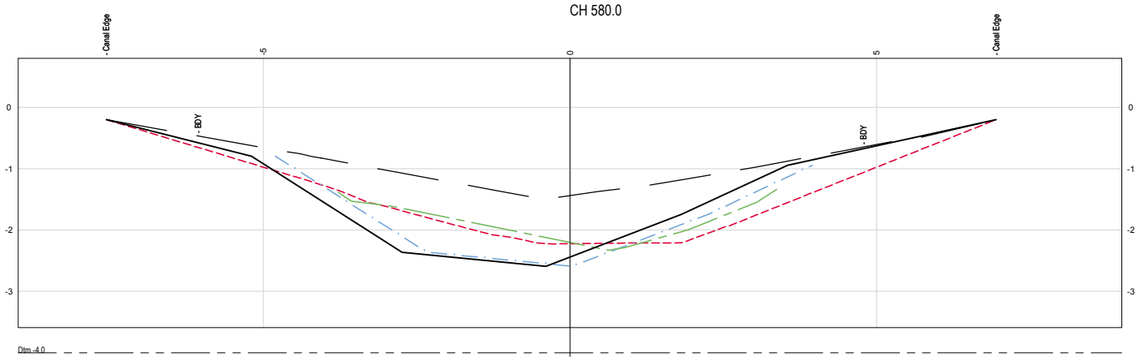
CH 620.0



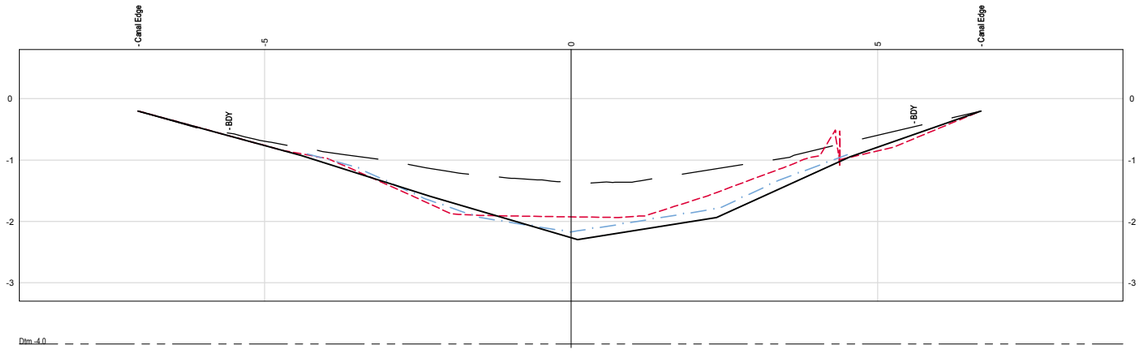
CH 600.0



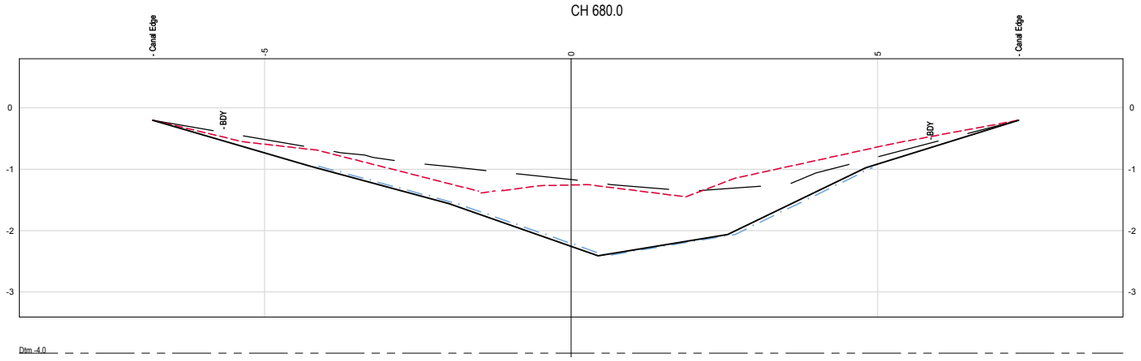
CH 580.0



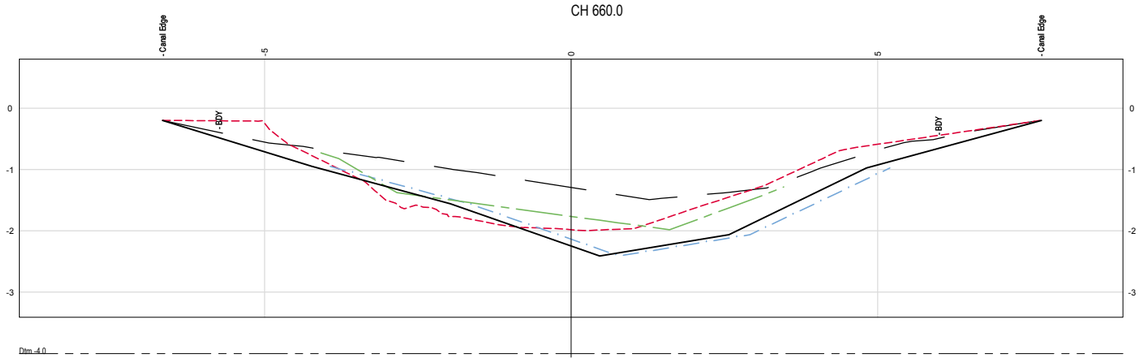
CH 560.0



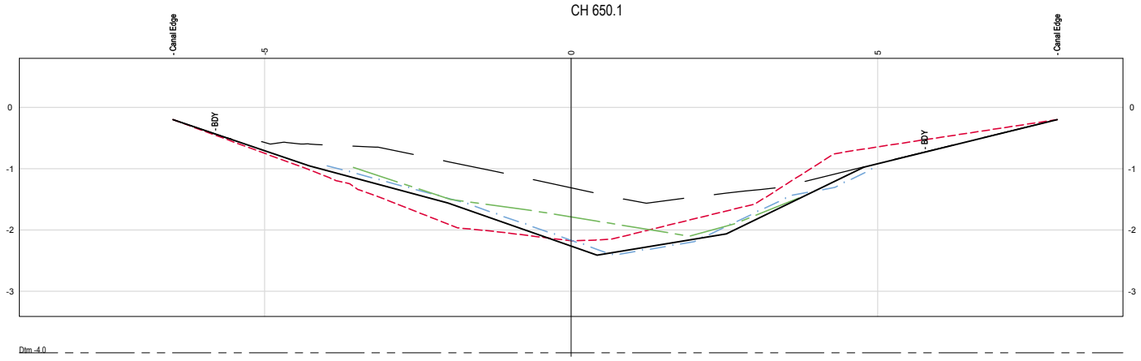
CH 680.0



CH 660.0



CH 650.1



CH 640.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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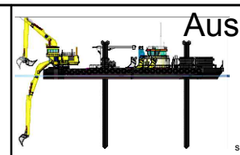
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

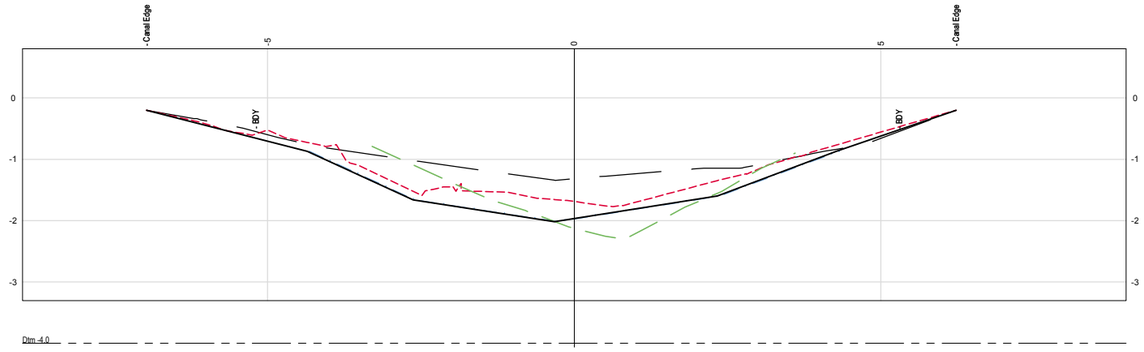
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

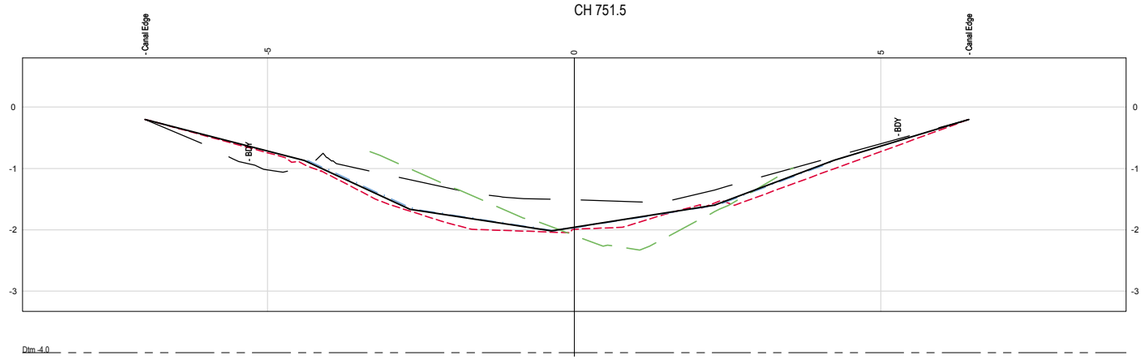
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 06

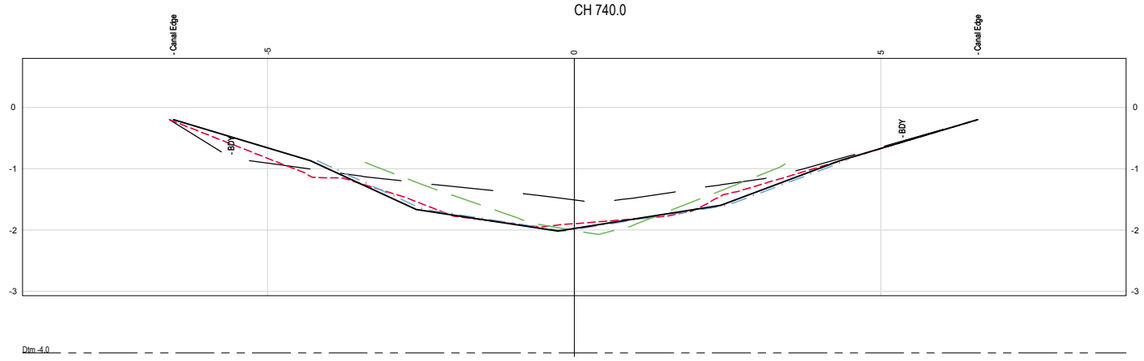
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-06	C



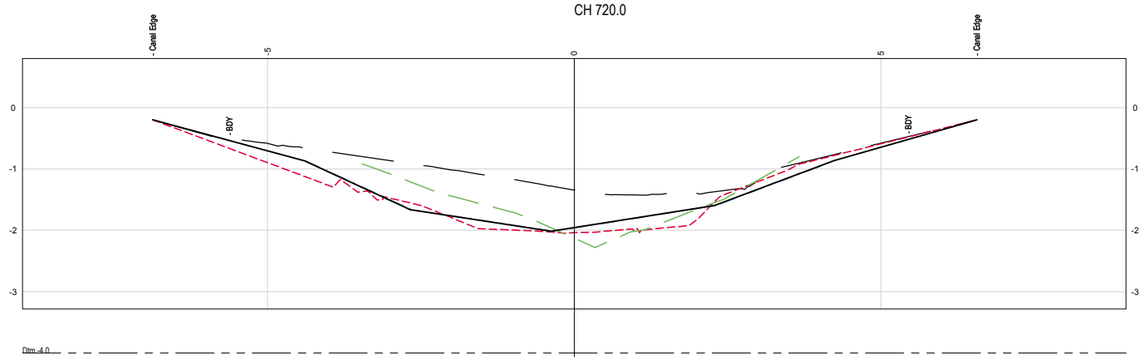
CH 751.5



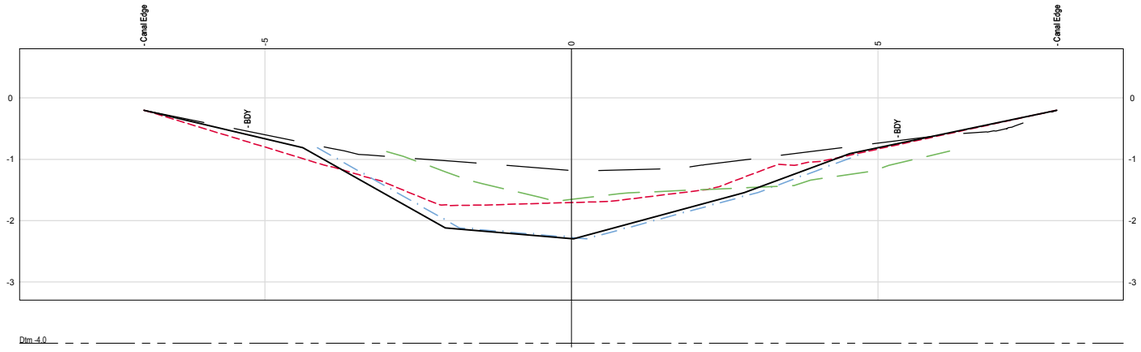
CH 740.0



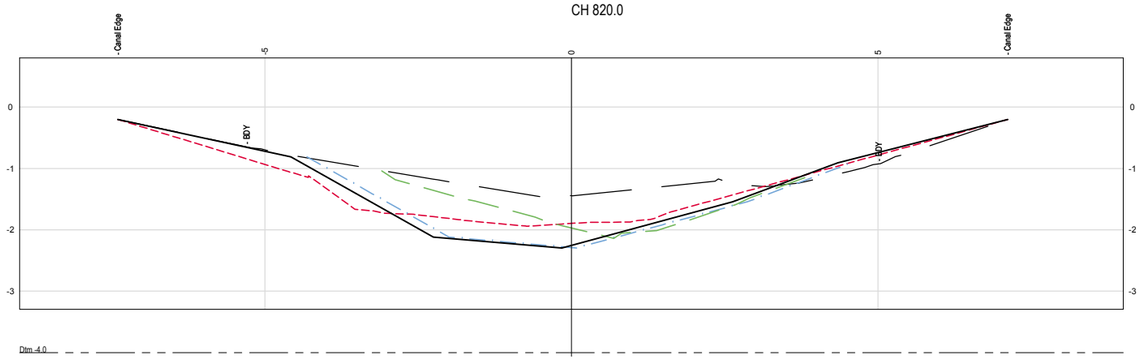
CH 720.0



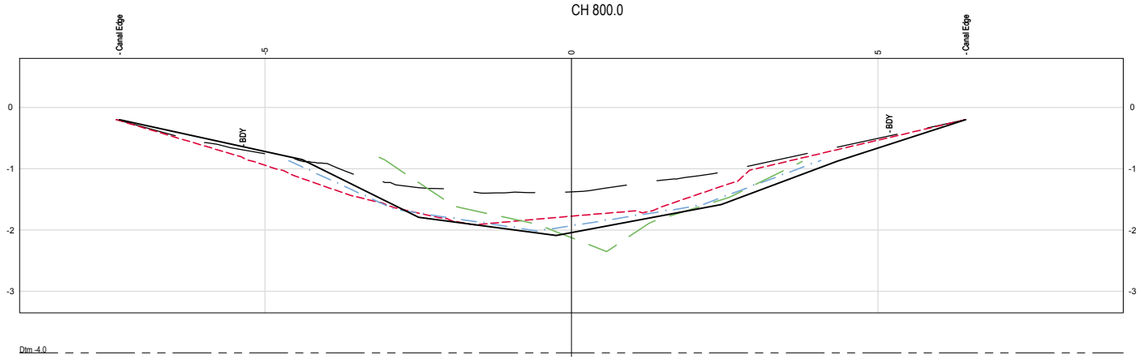
CH 700.0



CH 820.0



CH 800.0



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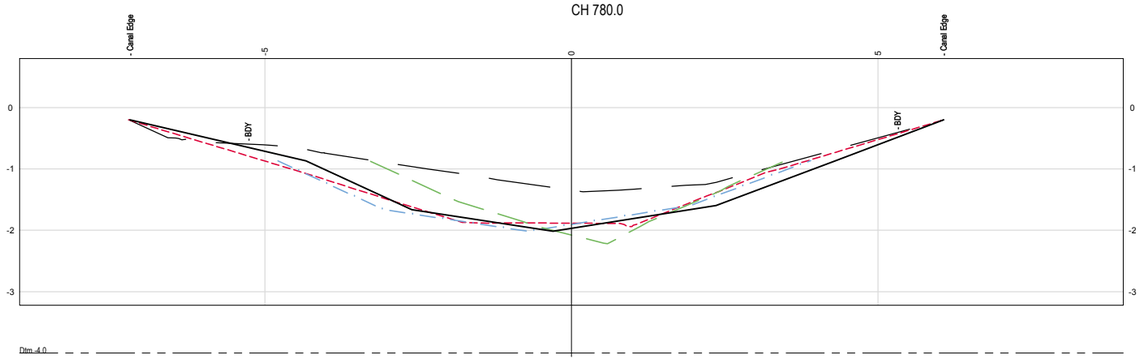

CH 760.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

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NOT TO BE USED FOR CONSTRUCTION

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A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
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- POST DREDGE B (Note 7)
- DML PROBES
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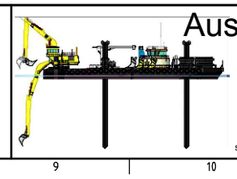
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

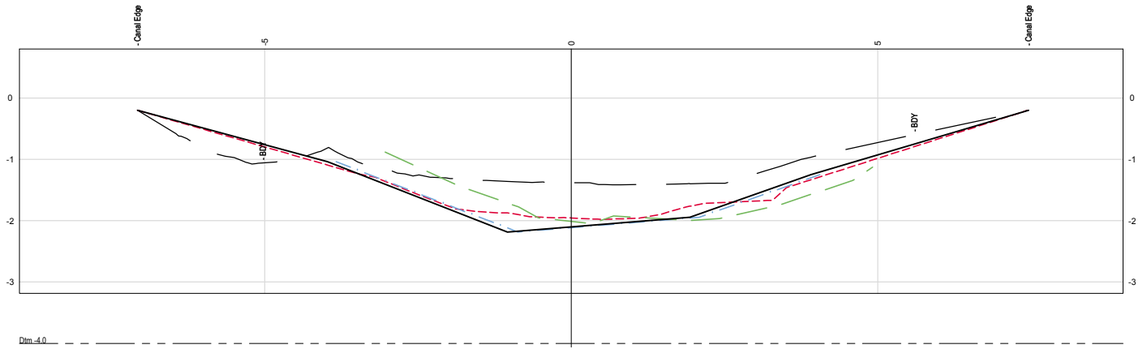
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

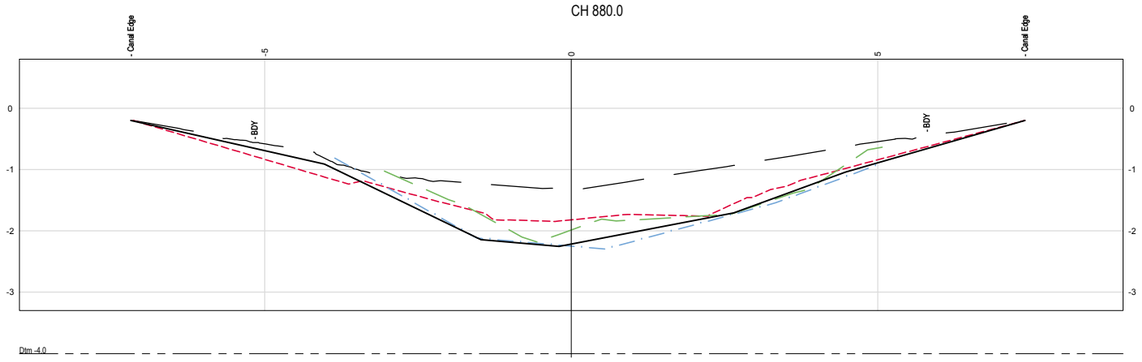
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 07

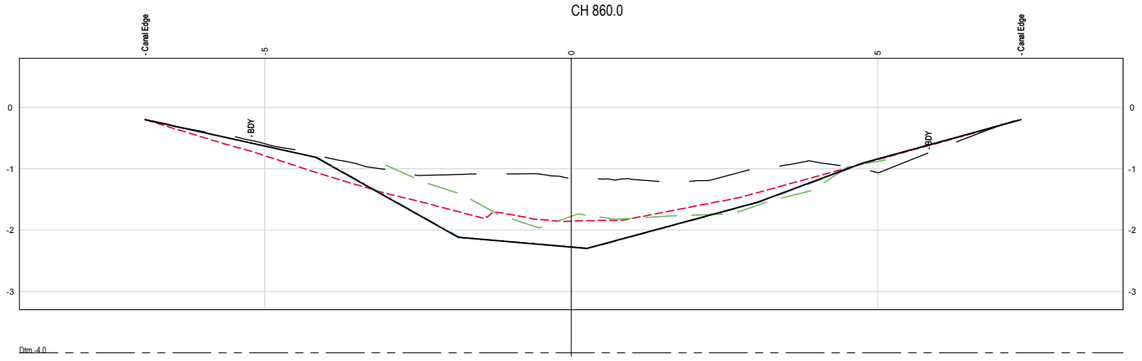
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-07	C



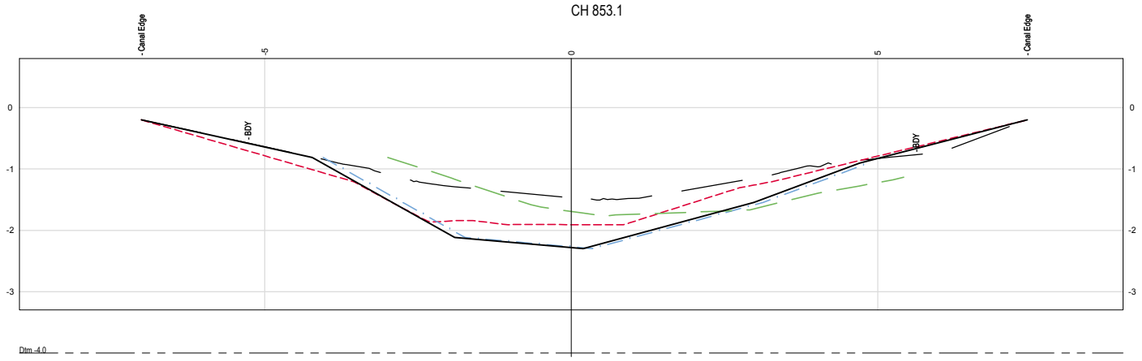
CH 880.0



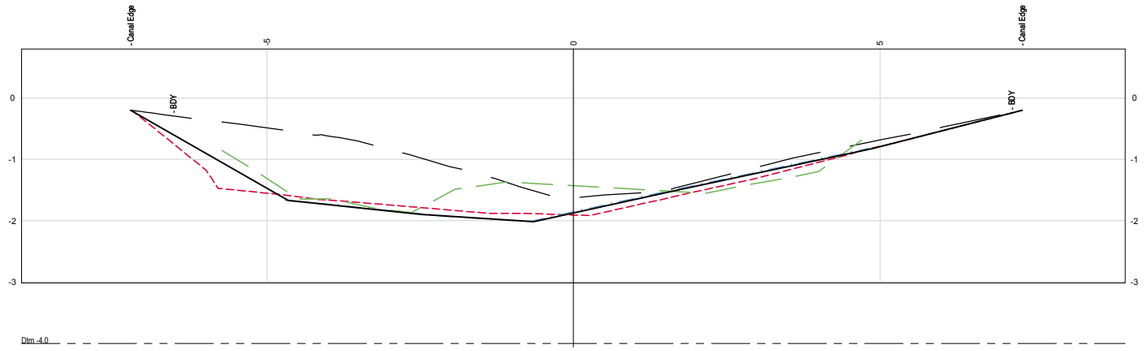
CH 860.0



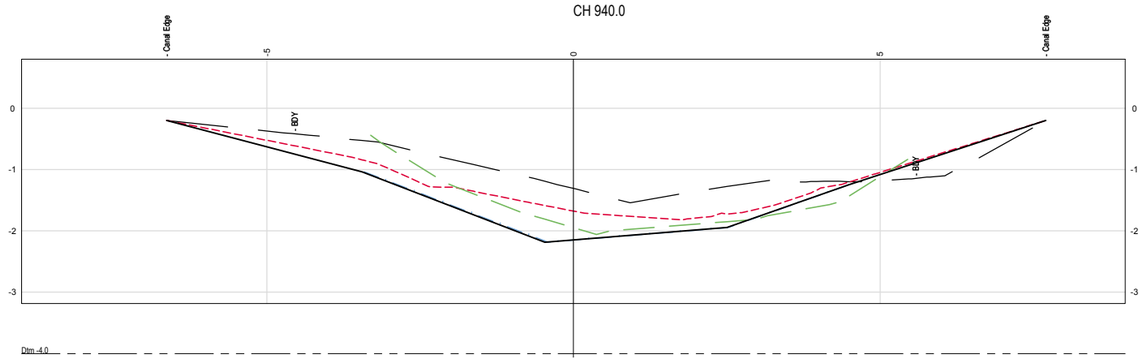
CH 853.1



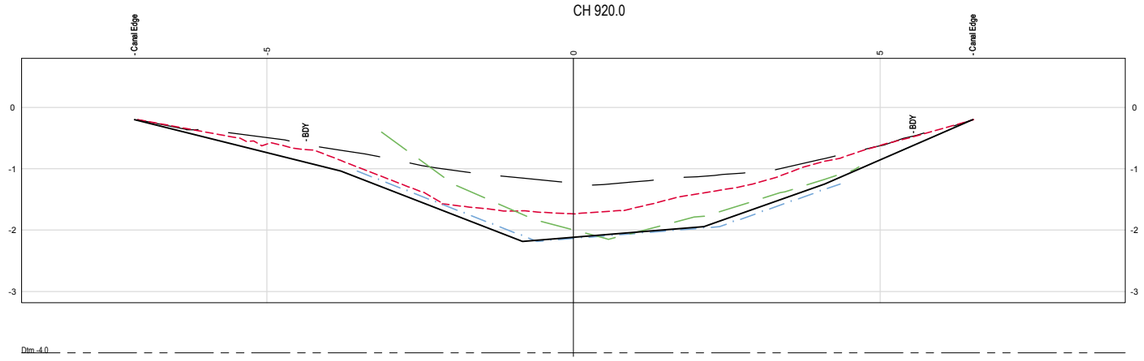
CH 840.0



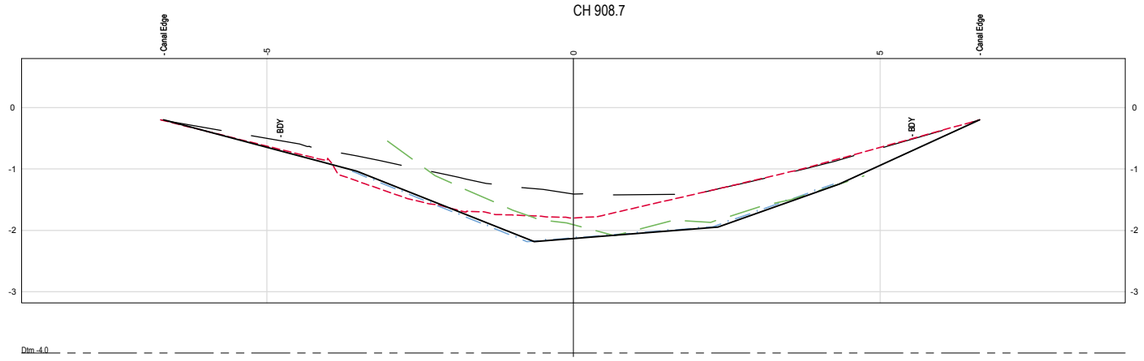
CH 940.0



CH 920.0



CH 908.7



CH 900.0

NOTE

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A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

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PREDREDGE SURVEY -
DESIGN -
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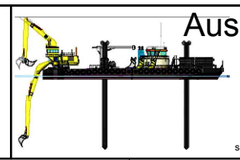

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PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

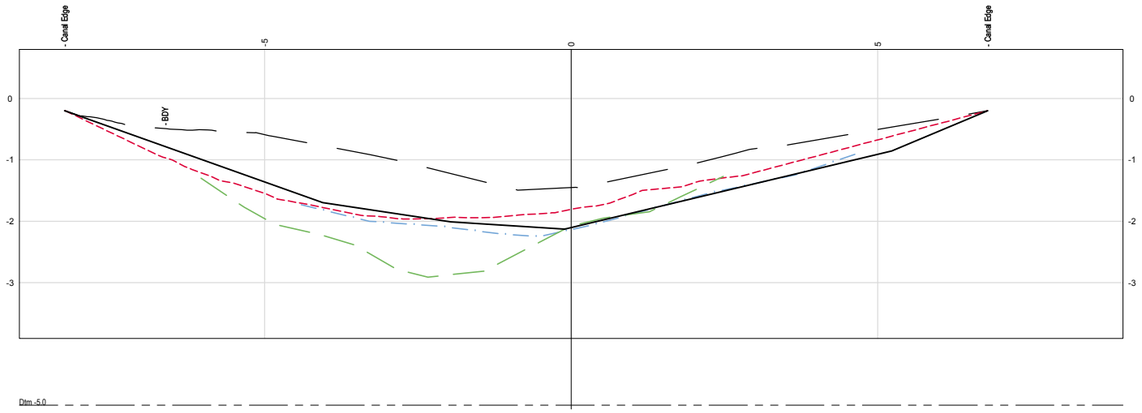
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

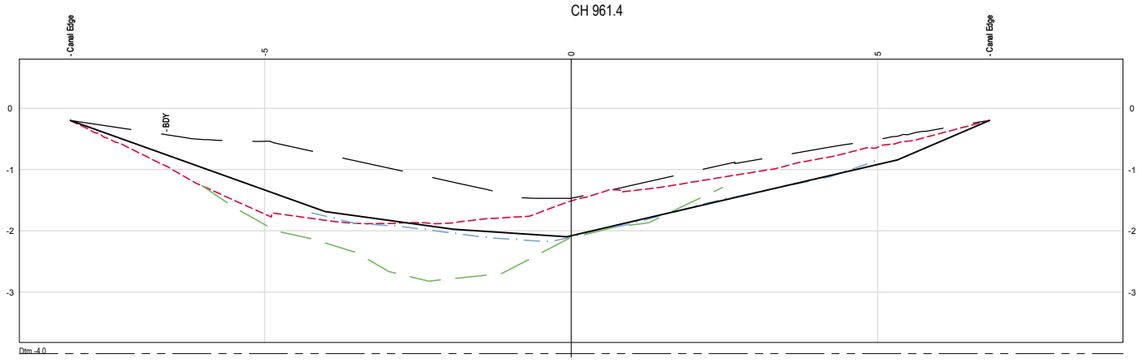
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 08

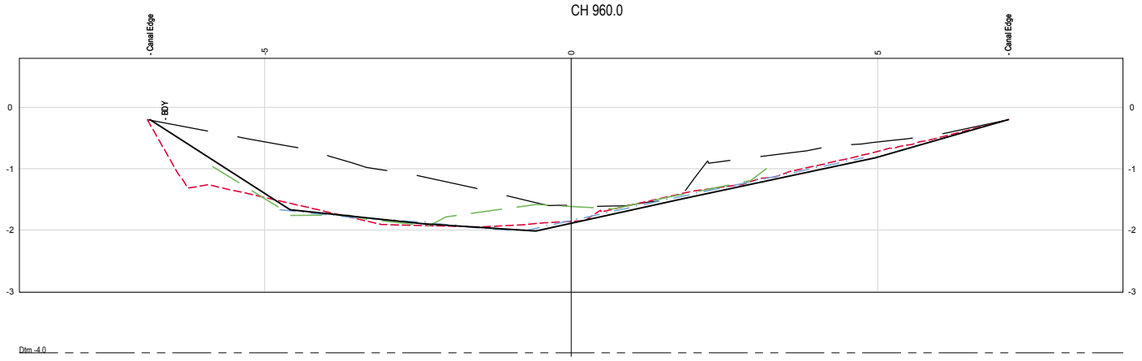
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-08	C



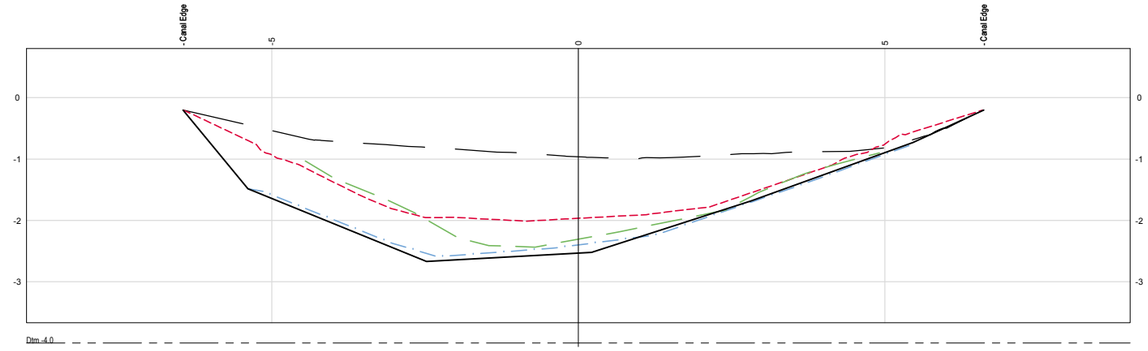
CH 961.4



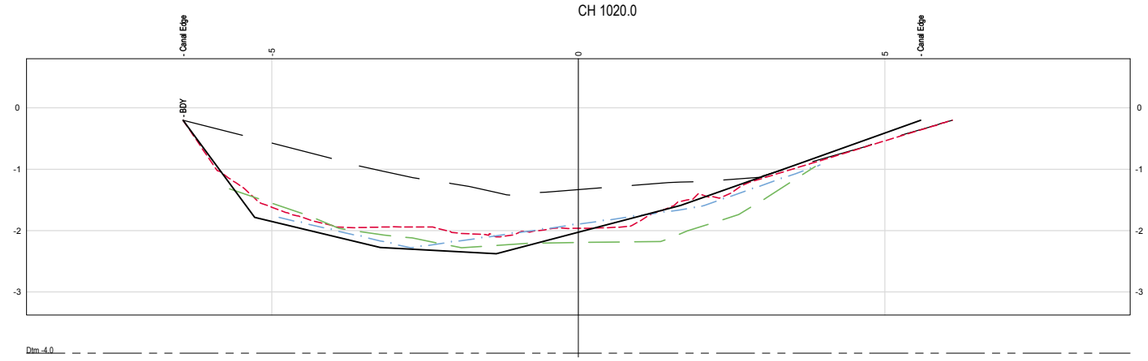
CH 960.0



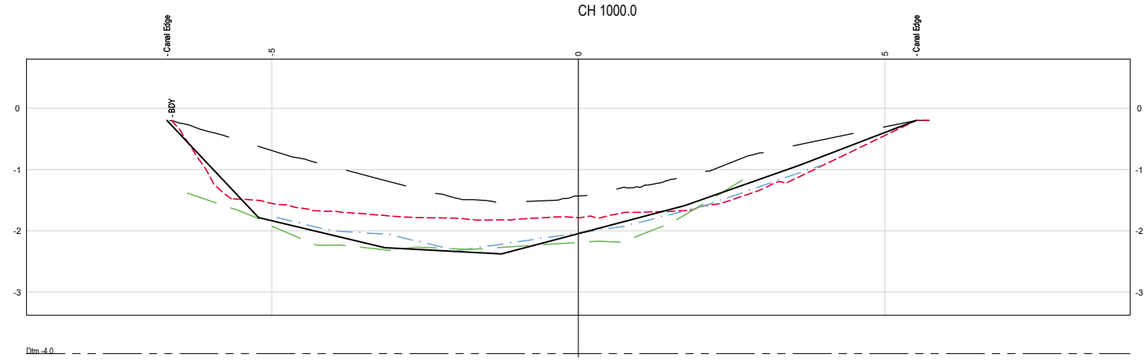
CH 943.4



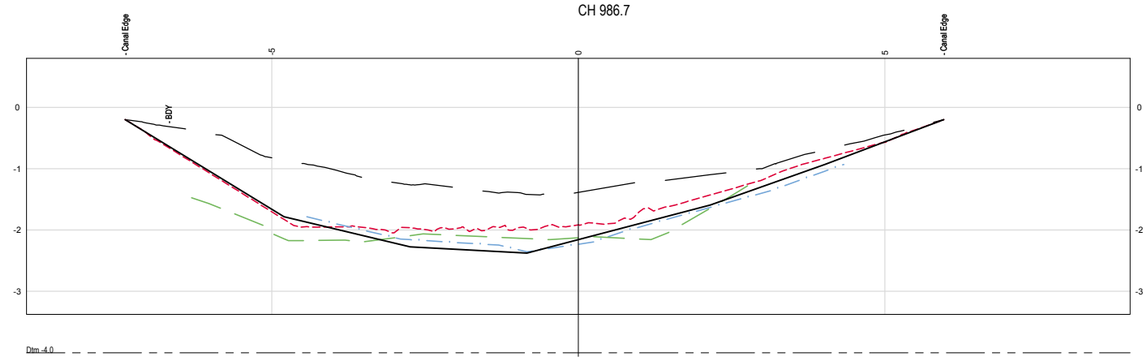
CH 1020.0



CH 1000.0



CH 986.7



CH 980.0

NOTE

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A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
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- POST DREDGE B (Note 7)
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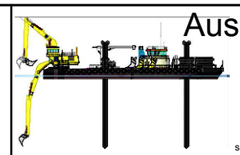
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DRAWN BY	
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DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

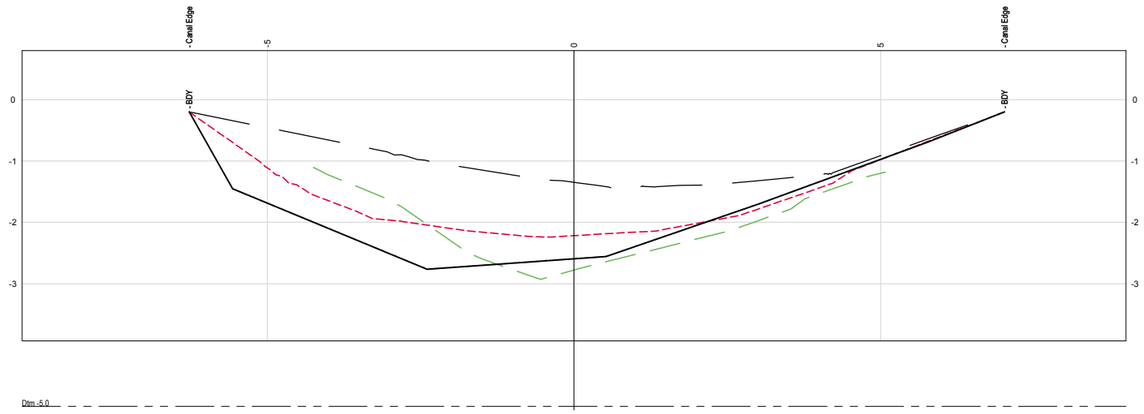
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

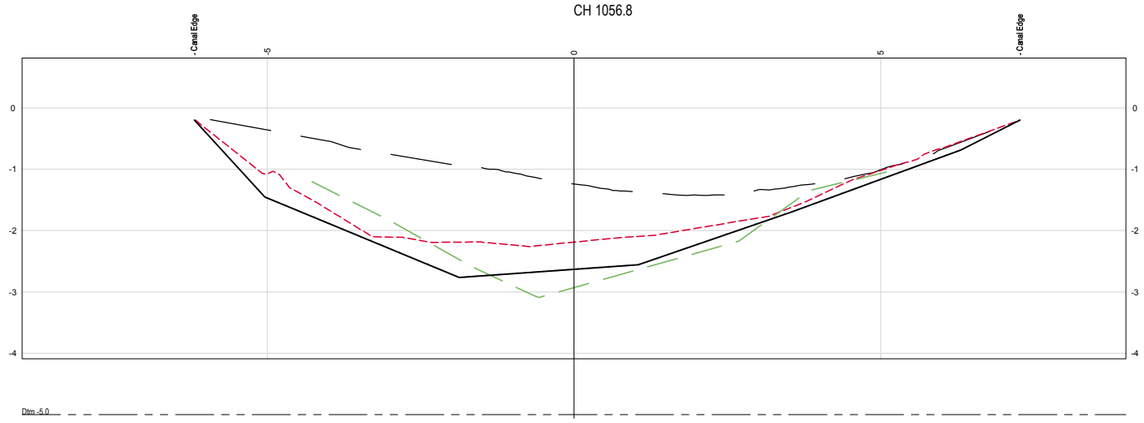
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 09

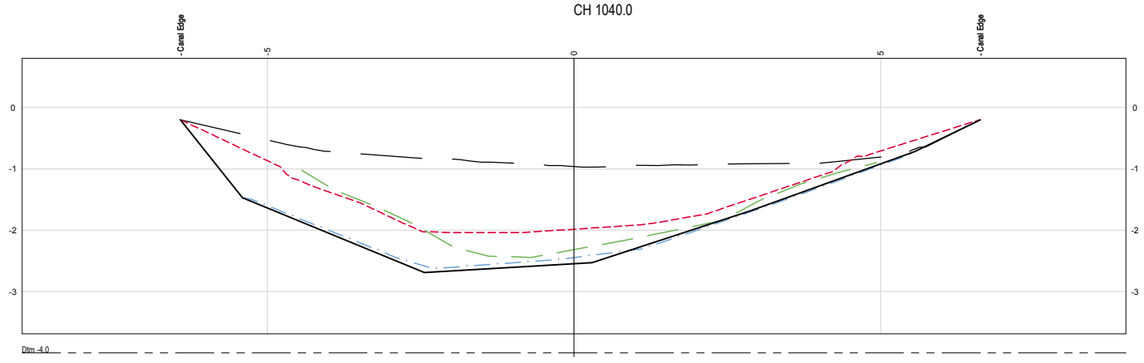
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-09	C



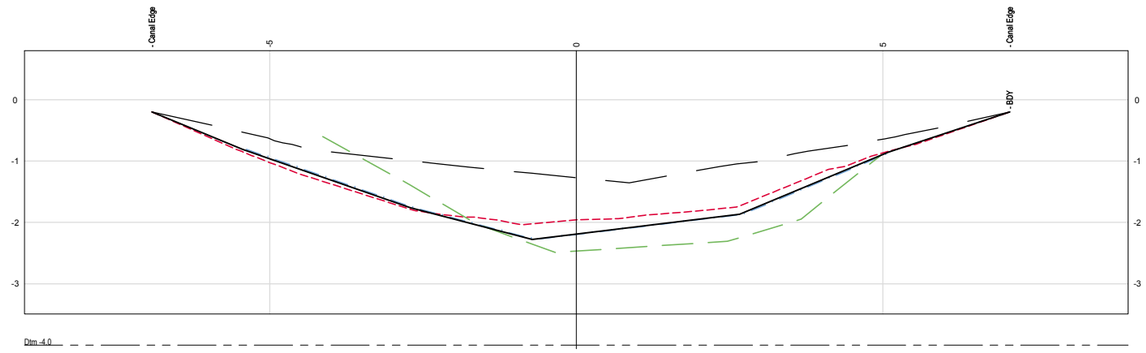
CH 1056.8



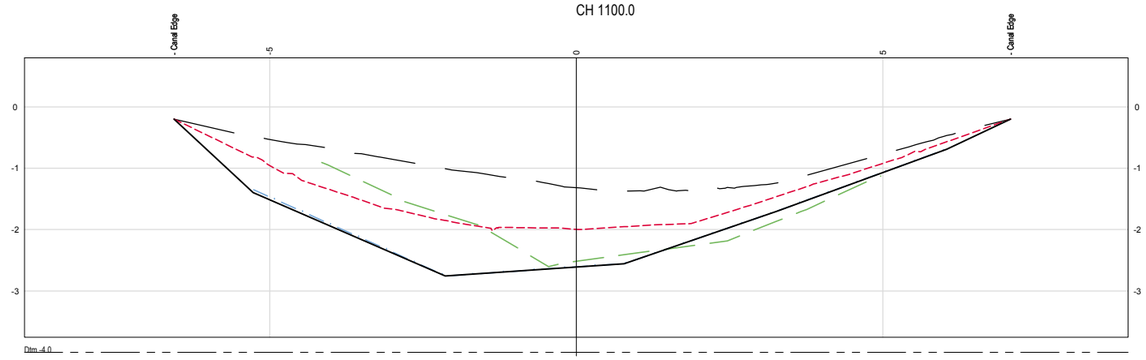
CH 1040.0



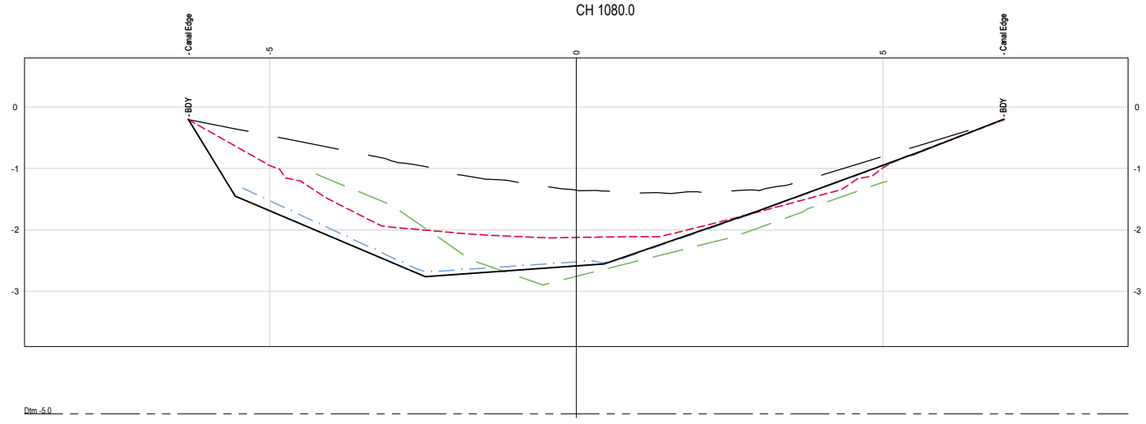
CH 1020.6



CH 1100.0



CH 1080.0



CH 1060.0

NOTE

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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
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B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION	MC	SL	
		4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED			
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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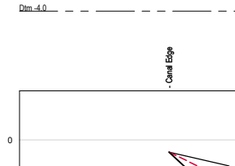
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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Queensland, 4171
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s.lawley@ausdredge.com

DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

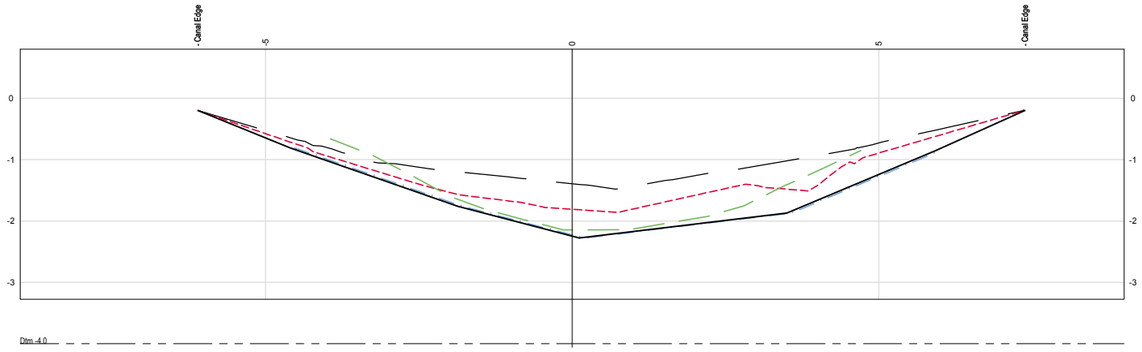
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

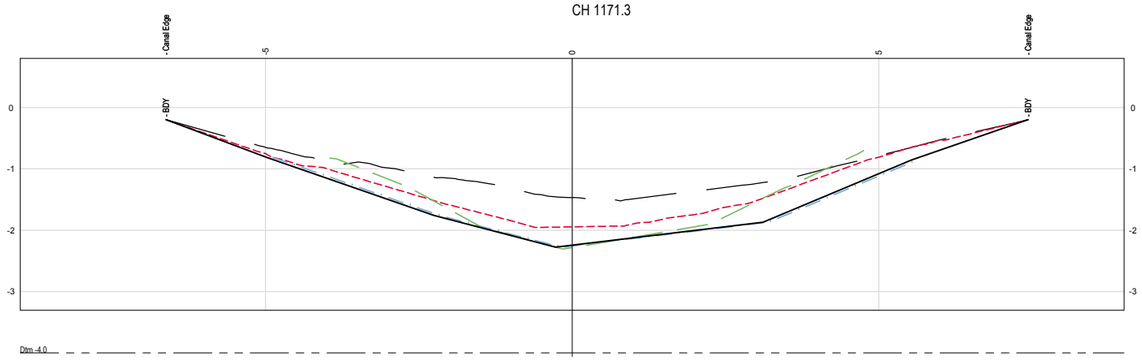
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 10

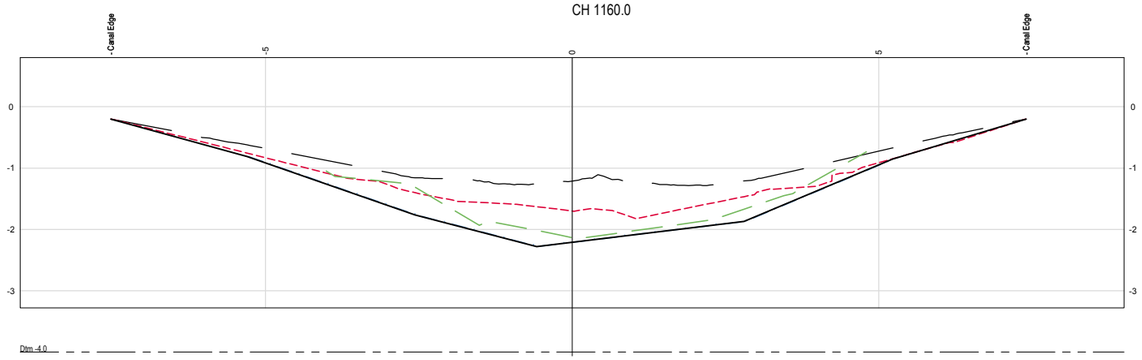
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-10	C



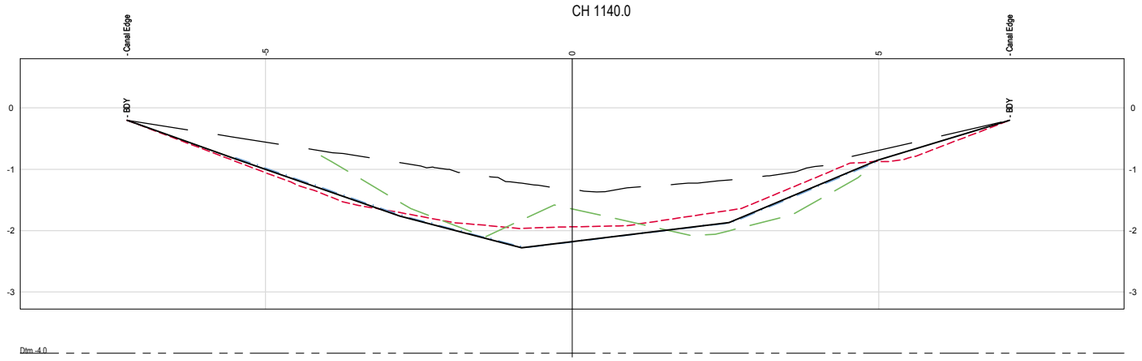
CH 1171.3



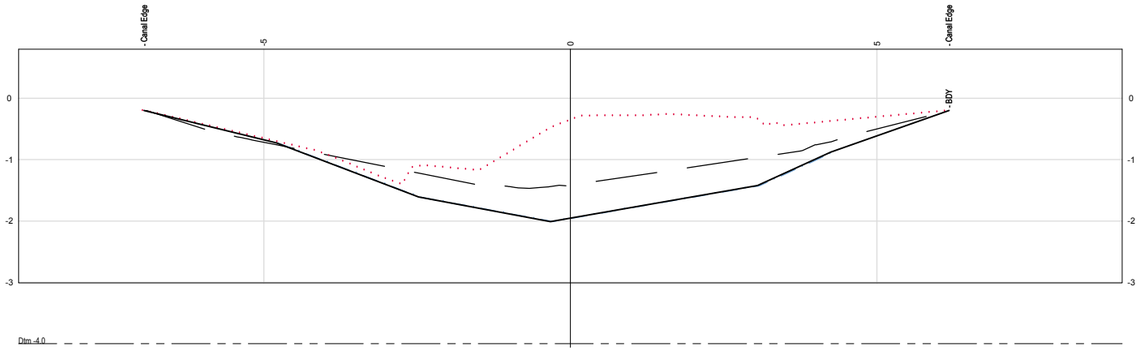
CH 1160.0



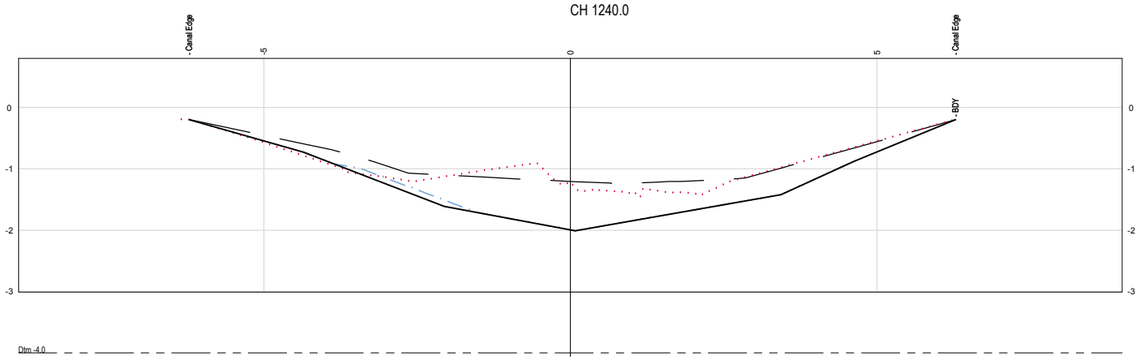
CH 1140.0



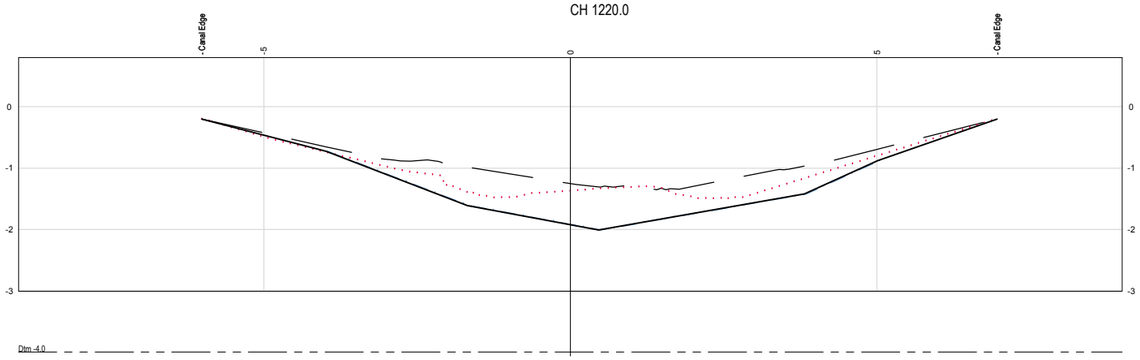
CH 1120.0



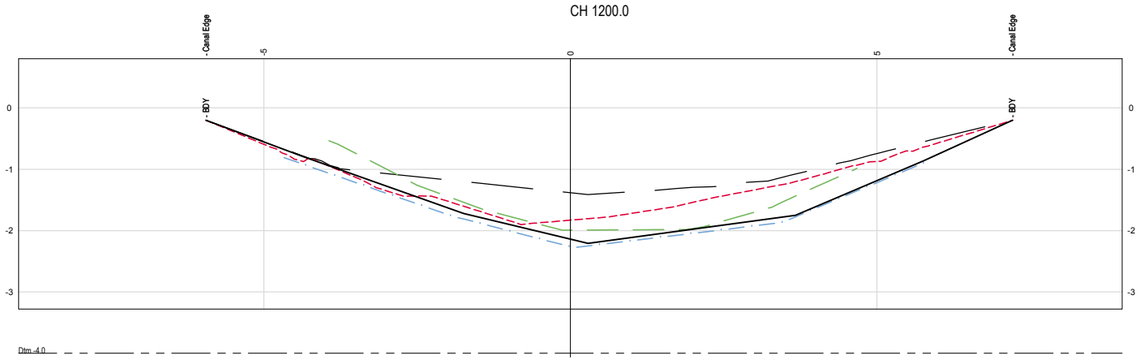
CH 1240.0



CH 1220.0



CH 1200.0



CH 1180.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
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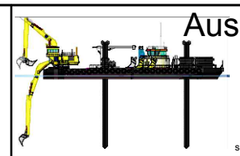
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

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DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

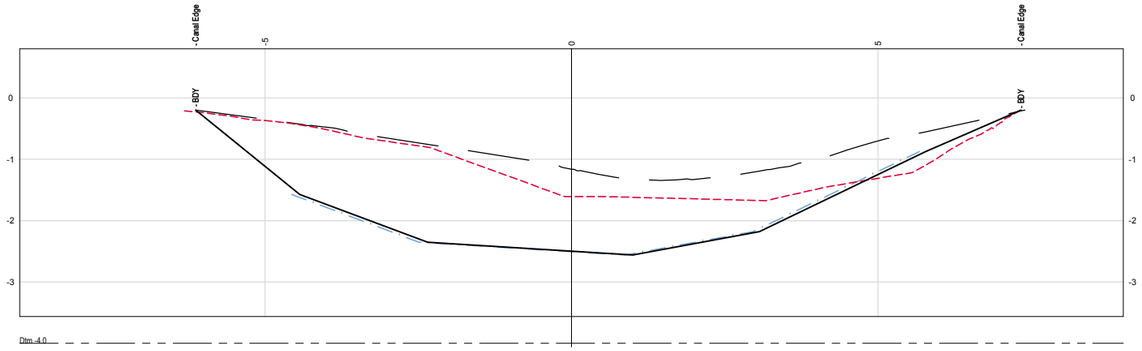
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

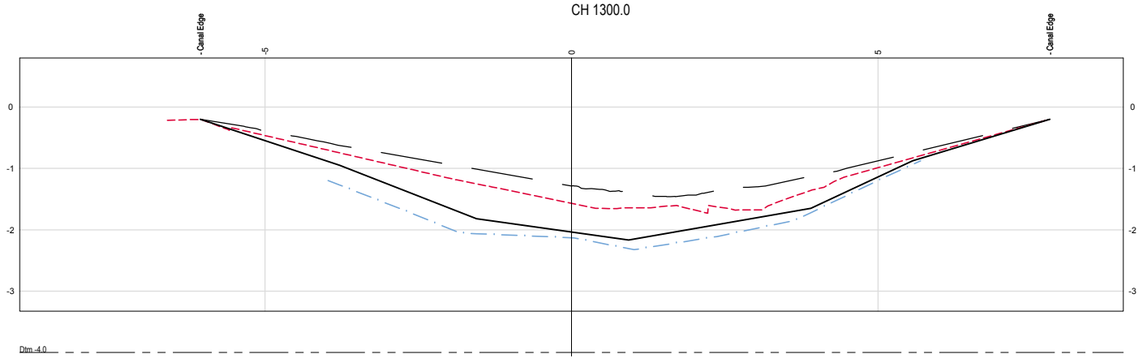
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 11

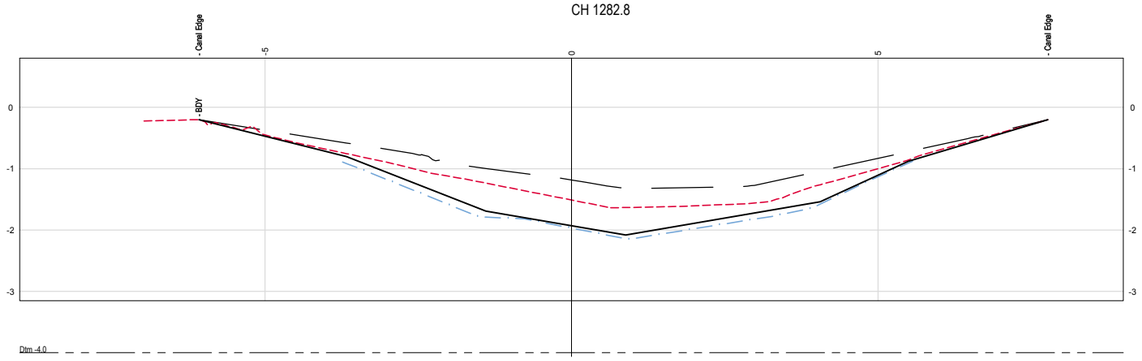
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-11	C



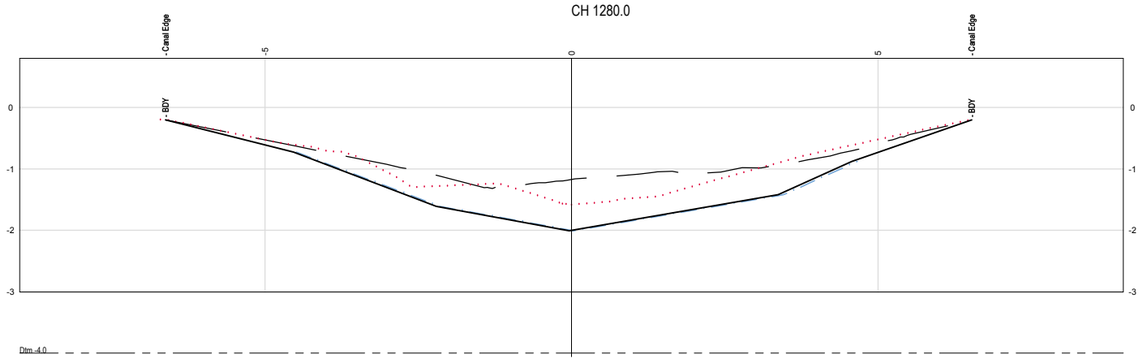
CH 1300.0



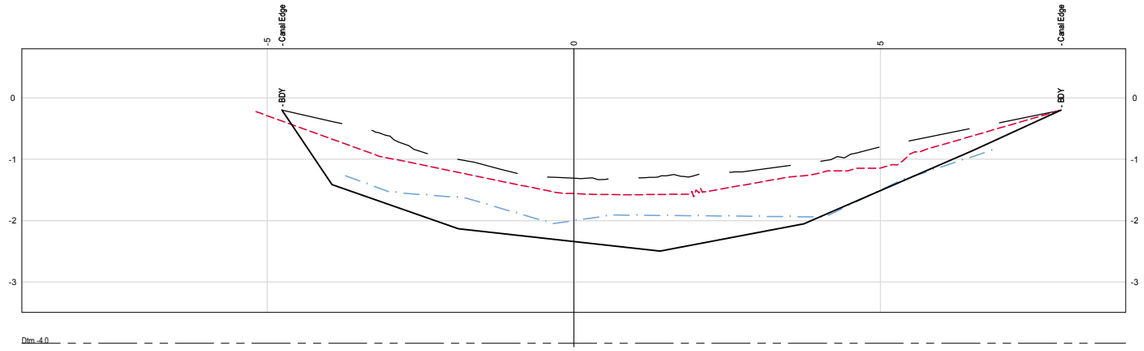
CH 1282.8



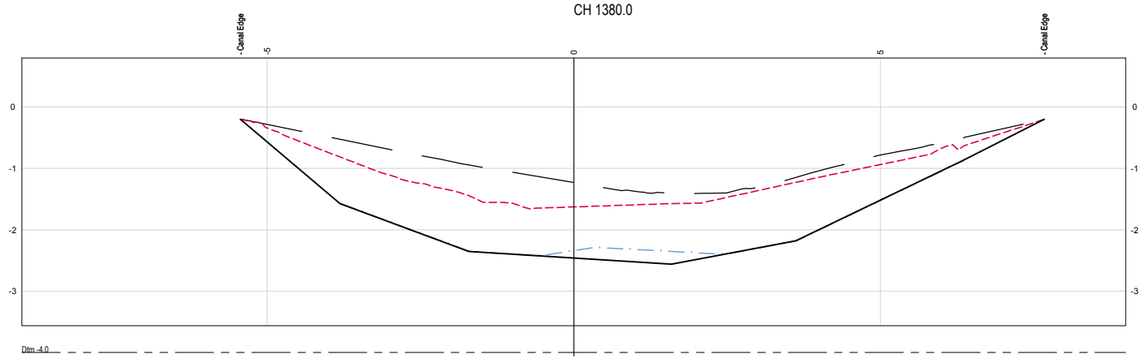
CH 1280.0



CH 1260.0



CH 1380.0



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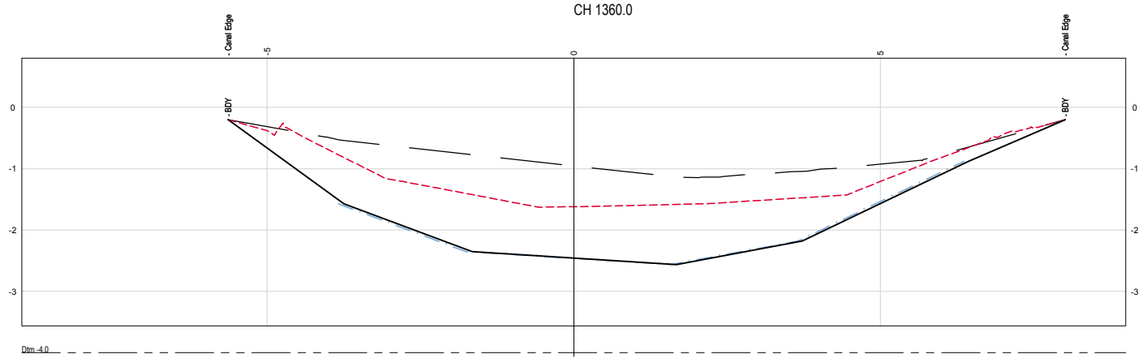
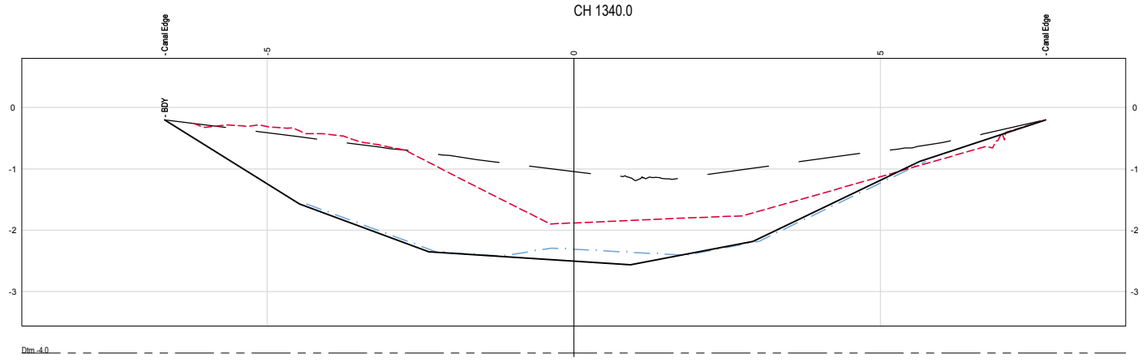


CH 1340.0



CH 1320.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

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B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
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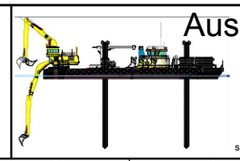
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

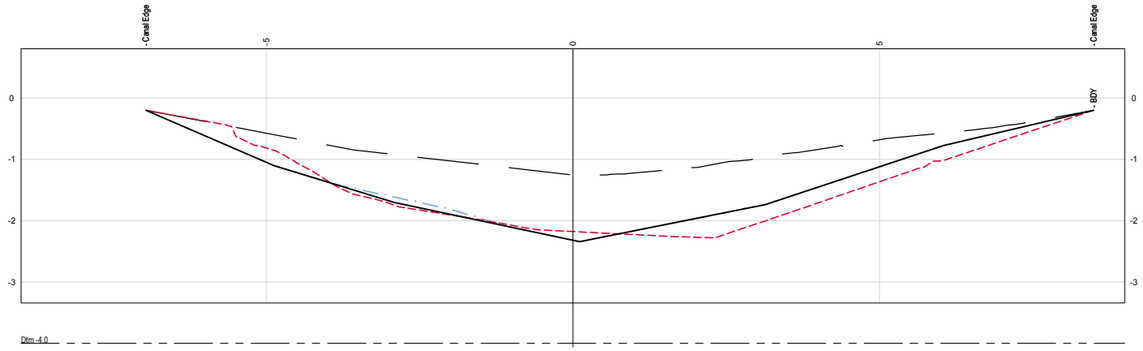
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

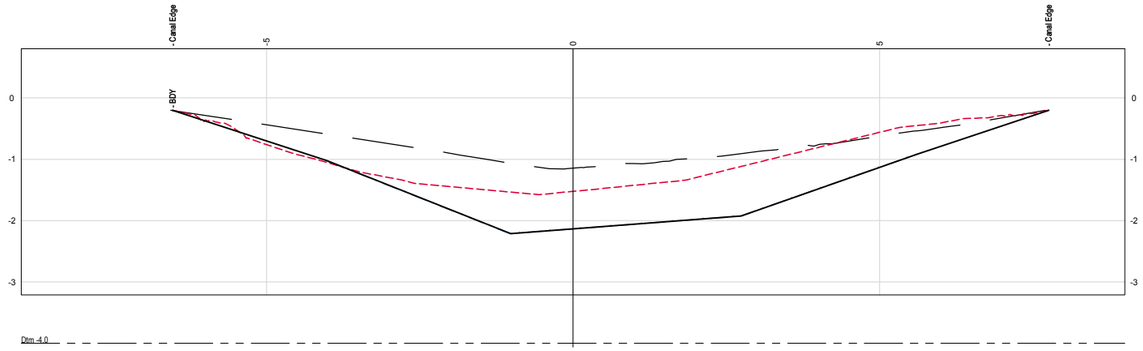
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 12

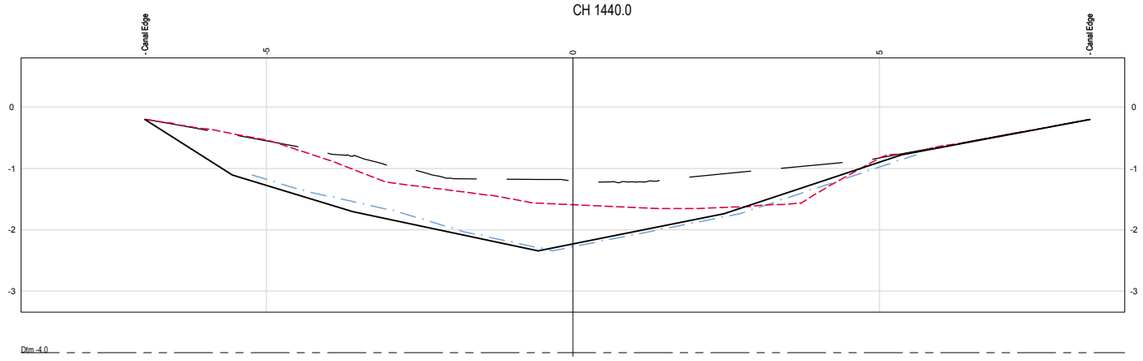
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-12	C



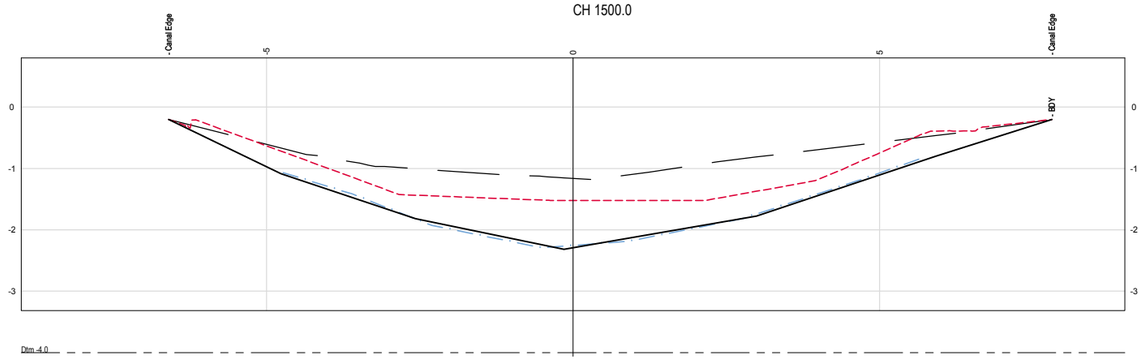
CH 1440.0



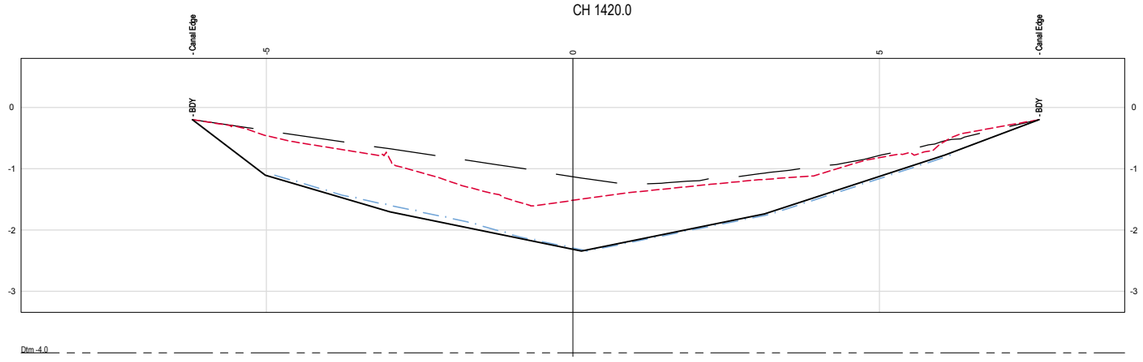
CH 1500.0



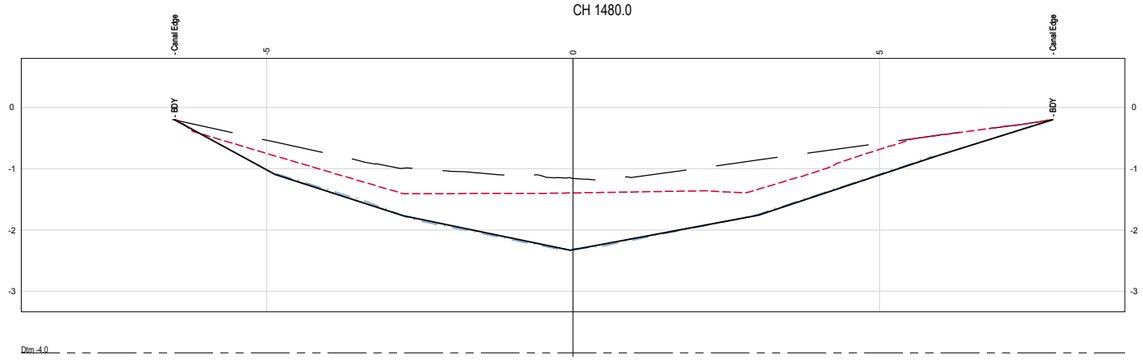
CH 1420.0



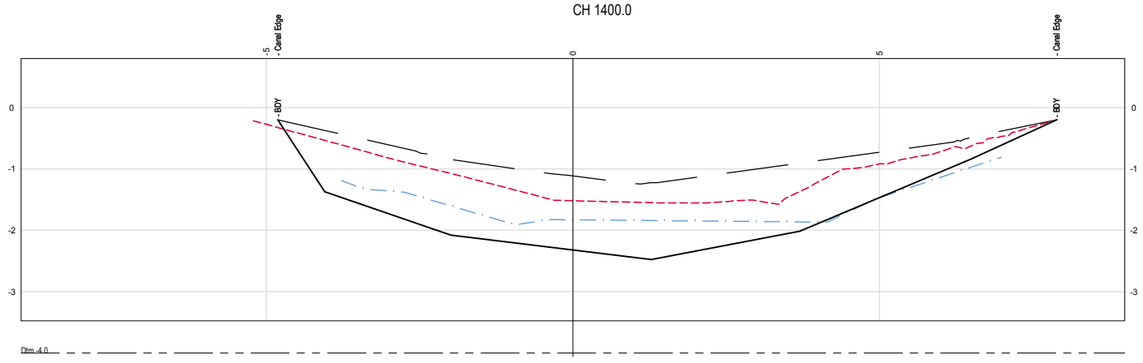
CH 1480.0



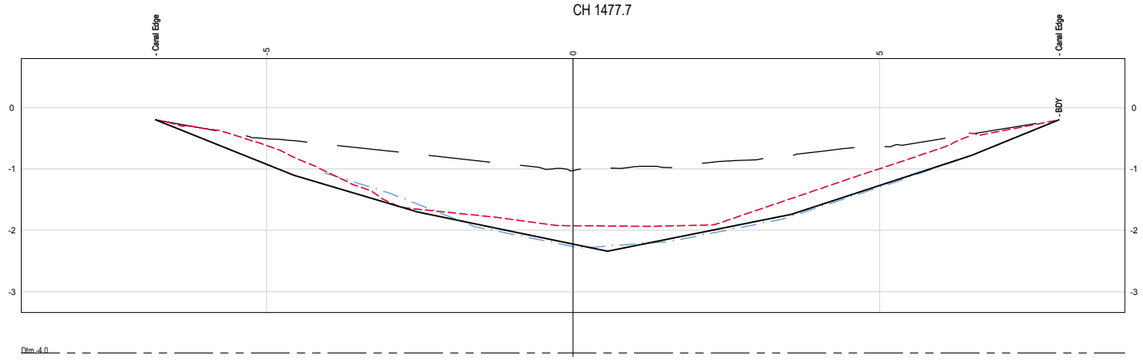
CH 1400.0



CH 1477.7



CH 1382.0



CH 1460.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

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B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
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- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
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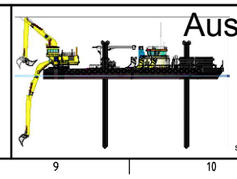
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY	
DRAWN BY	
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AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

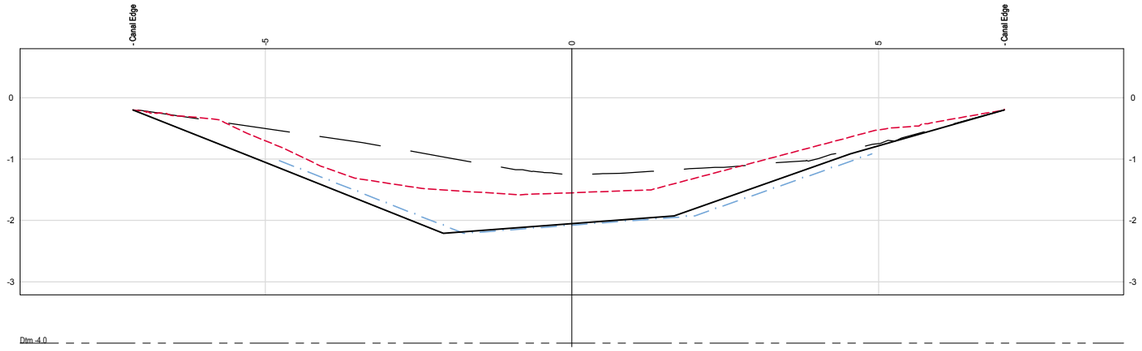
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

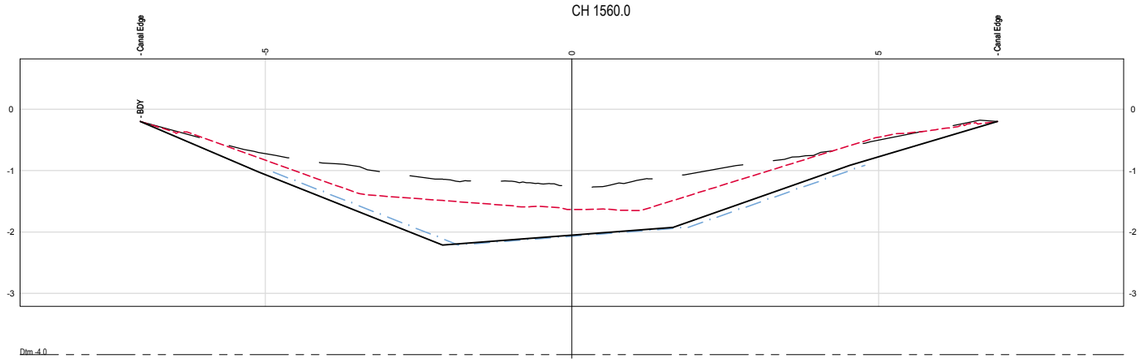
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 13

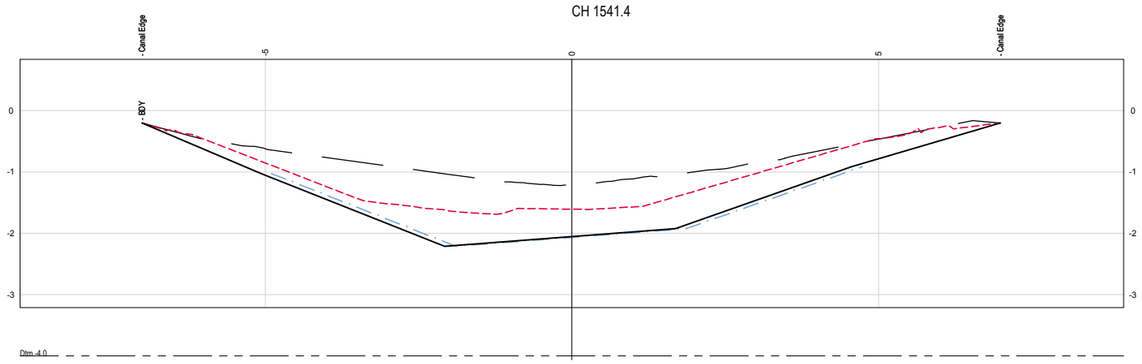
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-13	C



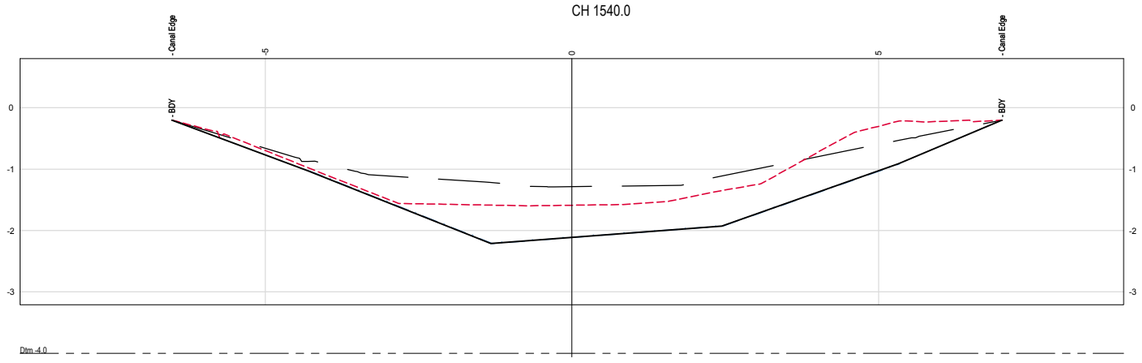
CH 1560.0



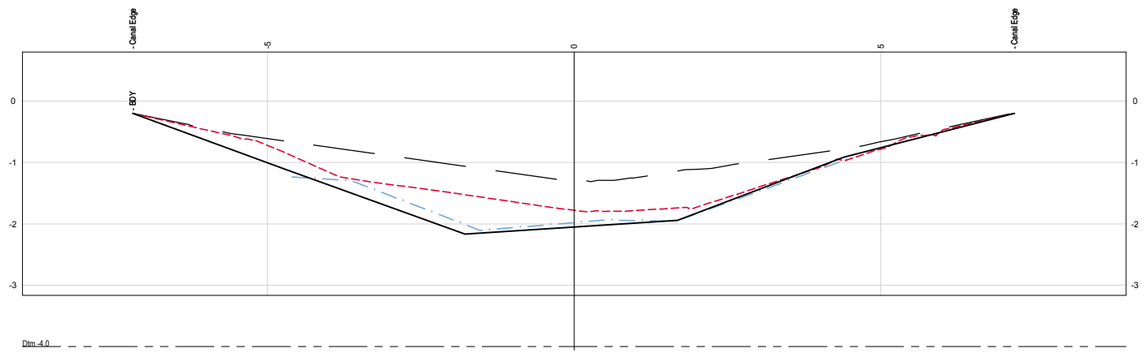
CH 1541.4



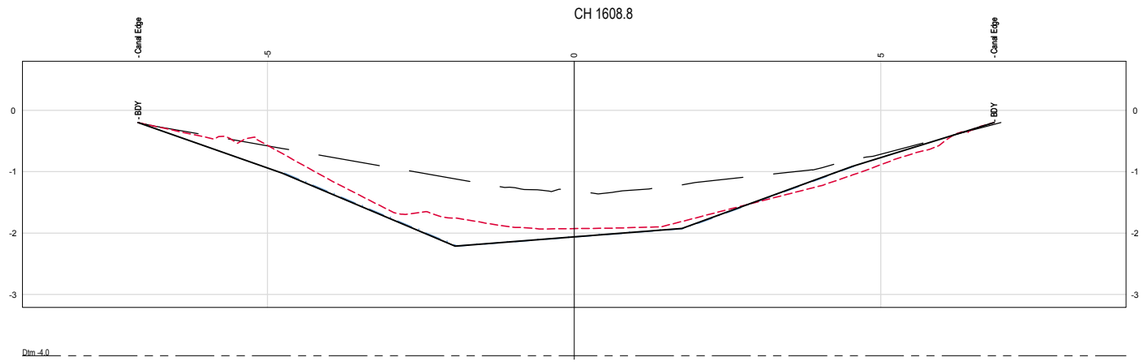
CH 1540.0



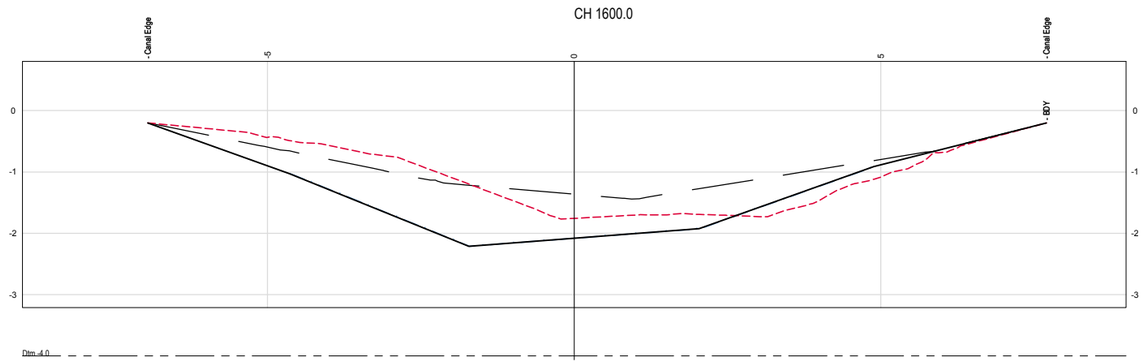
CH 1520.0



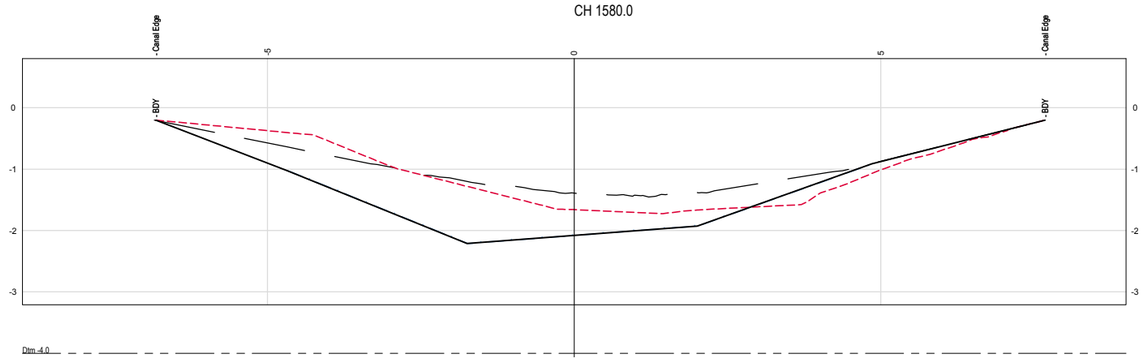
CH 1608.8



CH 1600.0



CH 1580.0



CH 1578.2

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND (REFER NOTES SHT 01)

- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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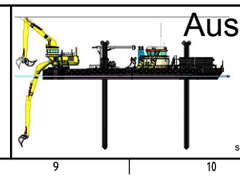
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

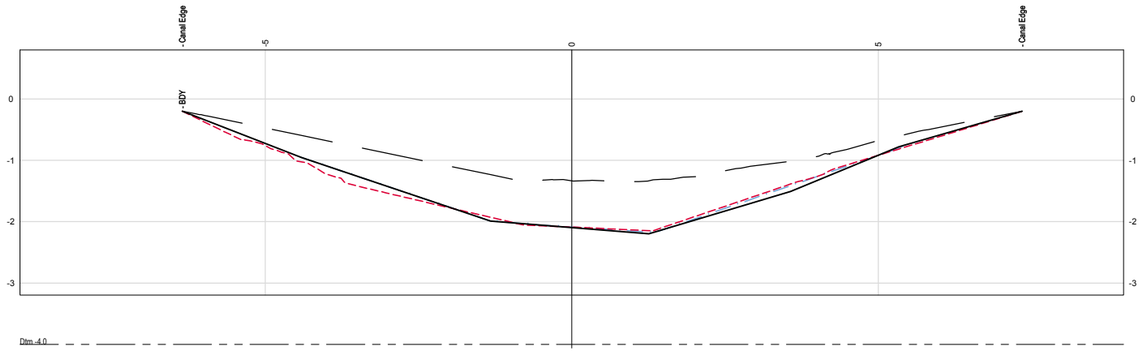
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

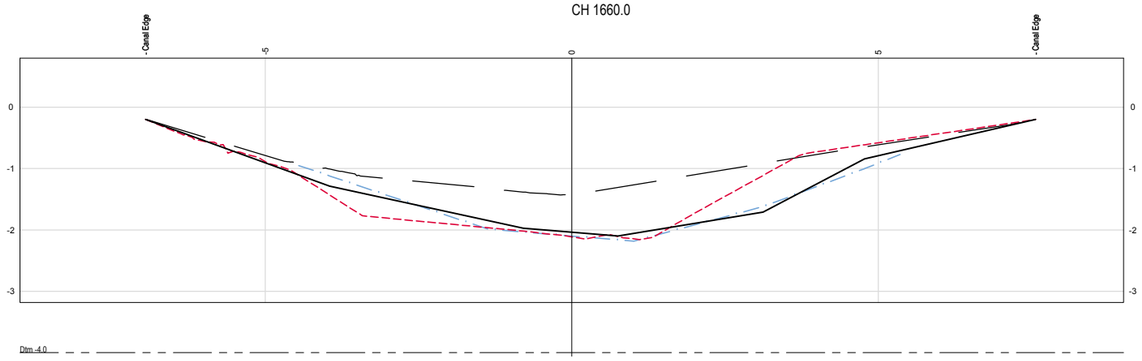
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 14

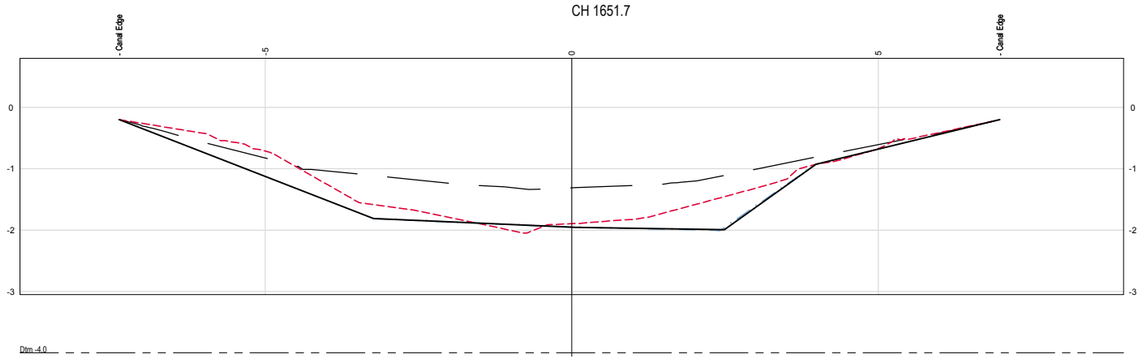
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-14	C



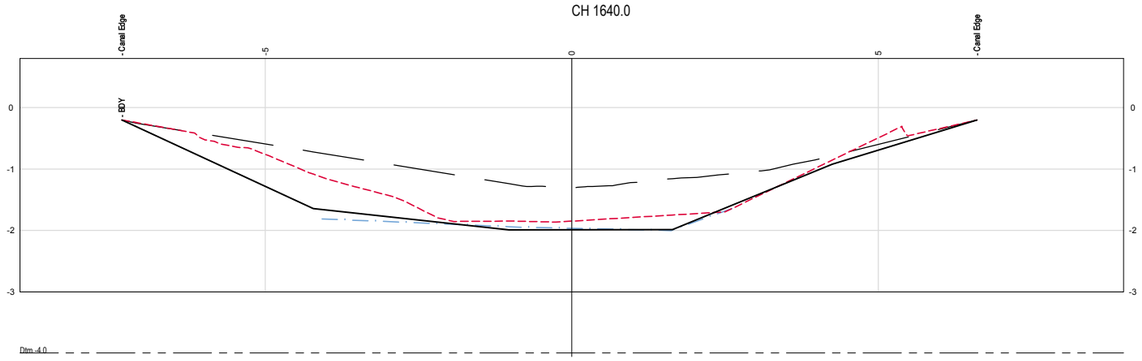
CH 1660.0



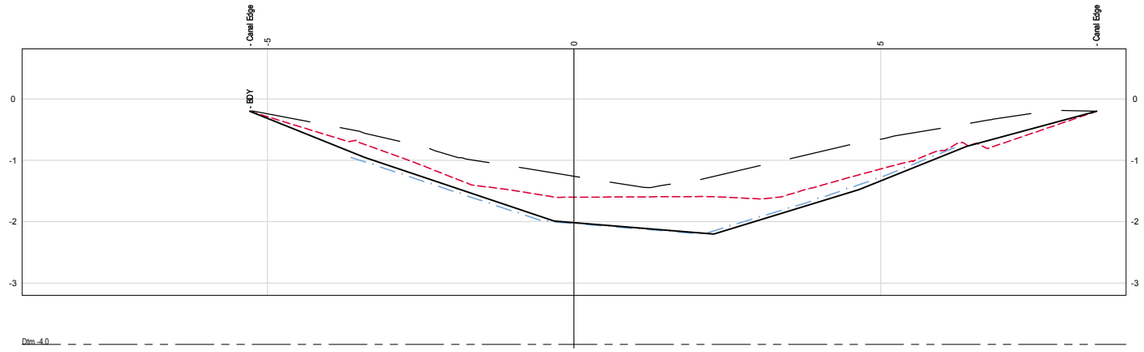
CH 1651.7



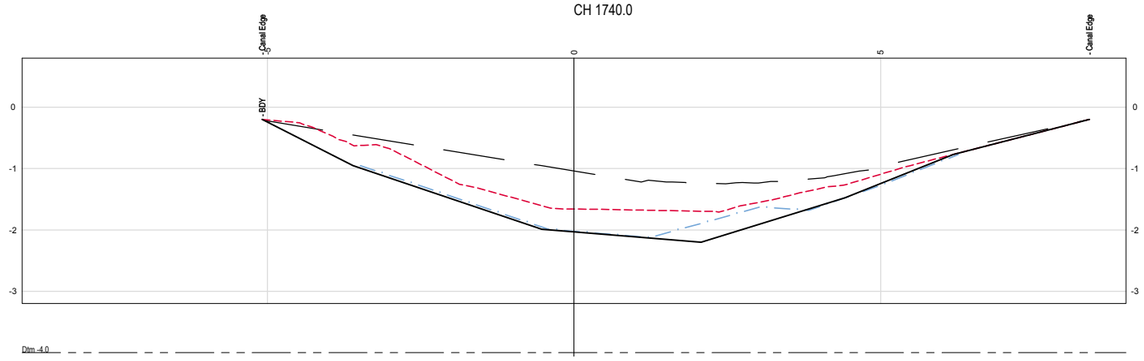
CH 1640.0



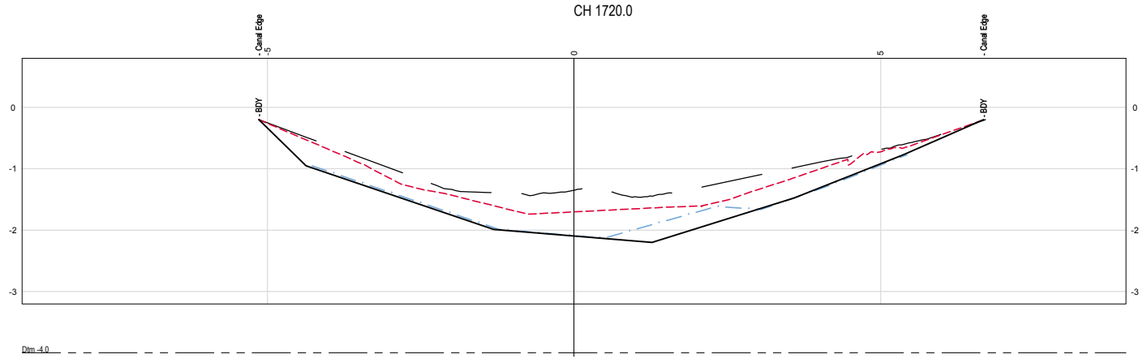
CH 1620.0



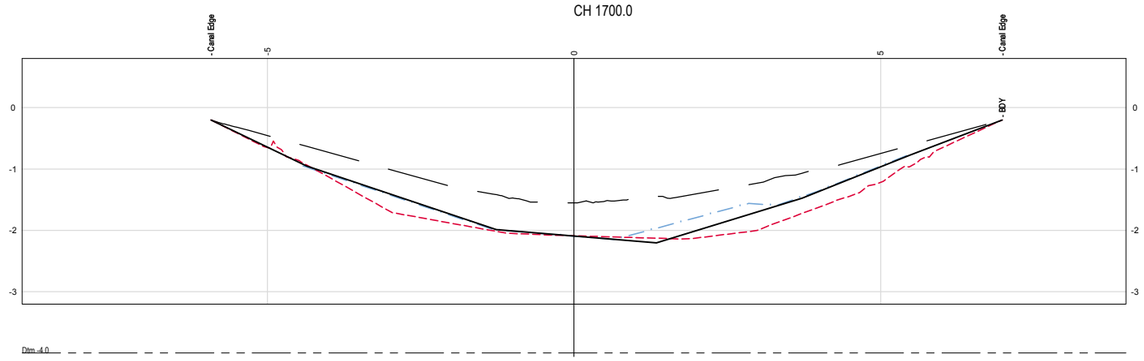
CH 1740.0



CH 1720.0



CH 1700.0



CH 1680.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION	MC	SL	
		4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED			
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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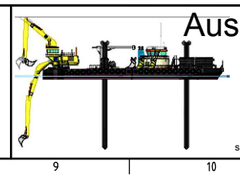
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

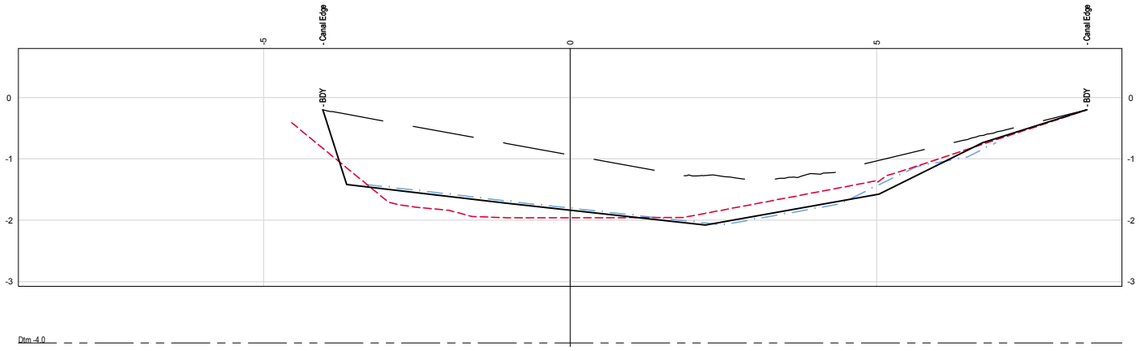
V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

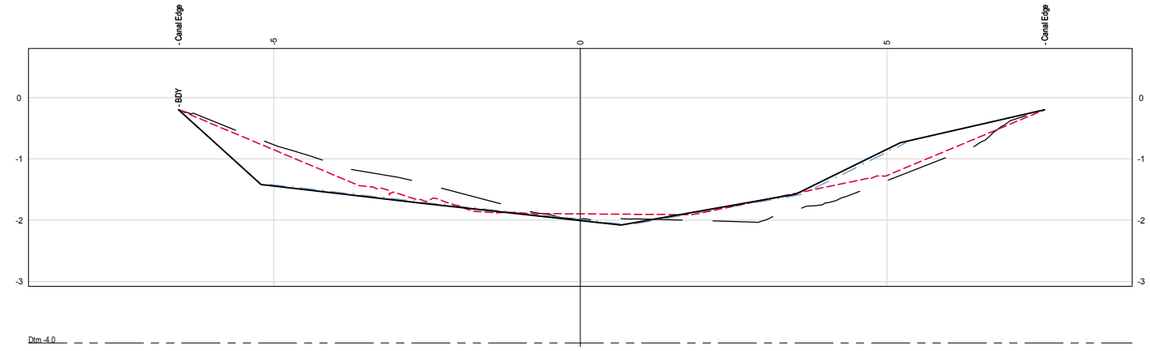
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 15

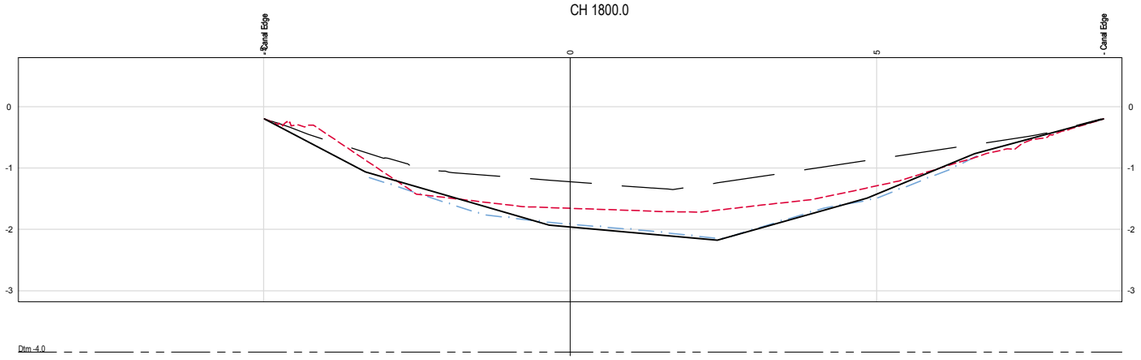
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-15	C



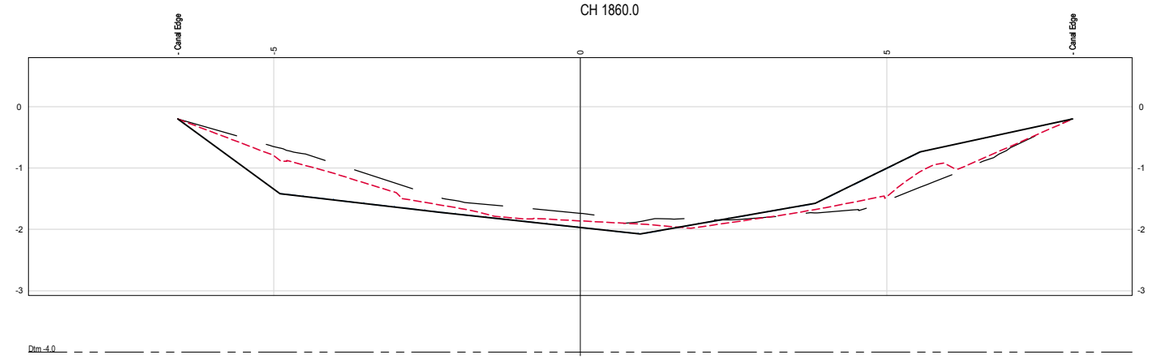
CH 1800.0



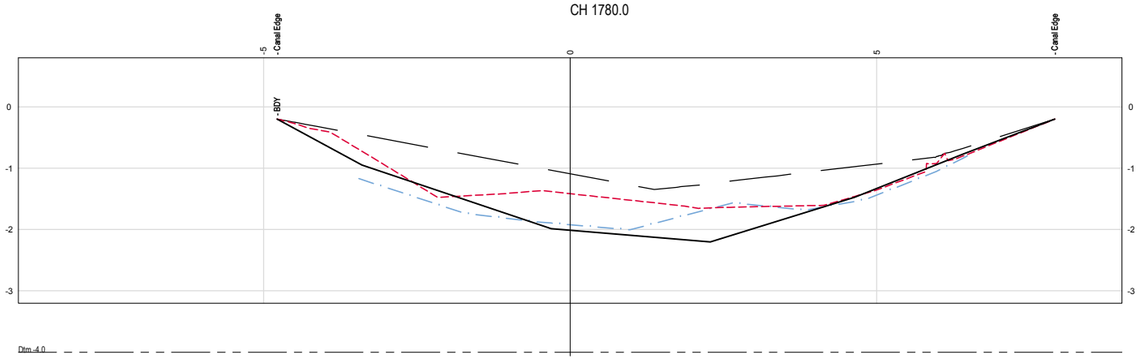
CH 1860.0



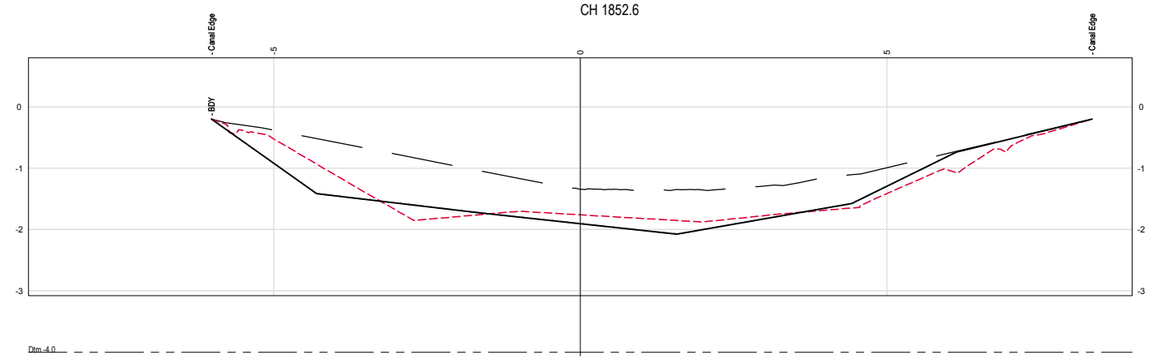
CH 1780.0



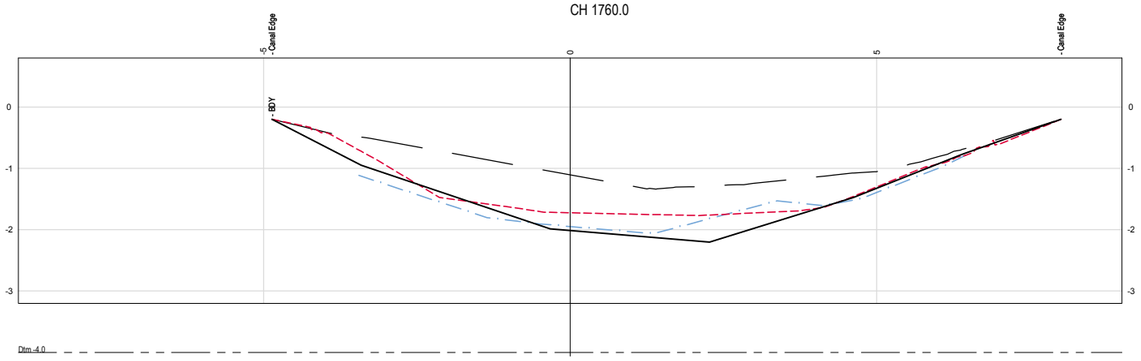
CH 1852.6



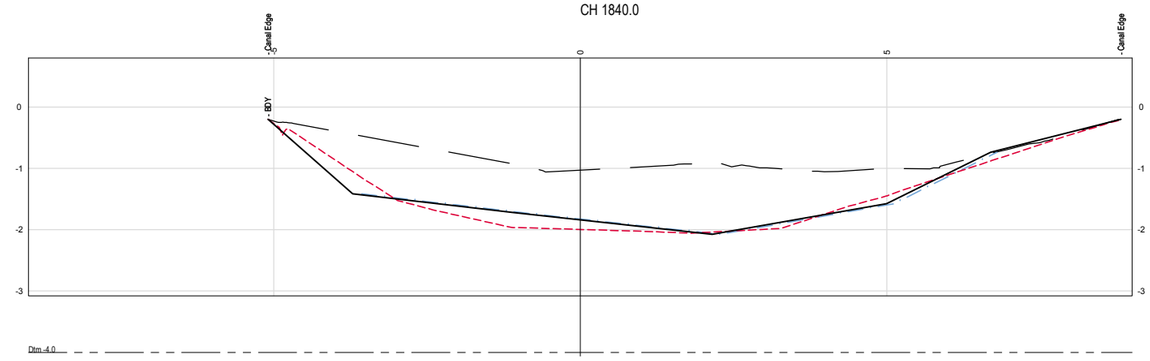
CH 1760.0



CH 1840.0



CH 1758.6



CH 1820.0

NOTE

1. CROSS SECTION REFERENCE CHANAGES BASED ON TRUE CENTRELINE

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	10.7.18	NEW POST DREDGE SURVEY FOR SECTION 4 (PARTIAL) INCLUDED	MC	SL	
B	9.7.18	NEW POST DREDGE SURVEY FOR SECTIONS 1 TO 3, SURVEY FOR SECTION 4 EXTENDED TO BOUNDARY. COUNCIL DESIGN DATA OMITTED	MC	SL	
A	29.5.18	ISSUED FOR INFORMATION	MC	SL	

CLIENT

LEGEND

(REFER NOTES SHT 01)
- PRE DREDGE
- POST DREDGE A (Note 8)
- POST DREDGE B (Note 7)
- DML PROBES
- HAIL SET 1 PROBES
- HAIL SET 2 PROBES
- CONTRACTORS DESIGN

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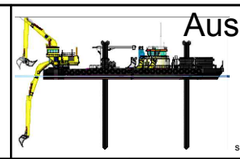
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DRAWN BY	
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DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR

V 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

H 0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
DATA COMPARISON AND VOLUMES
CROSS SECTIONS
SHEET 16

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-10-16	C

NOTES

1. ALL VOLUMES LISTED ON THE PLANS ARE IN SITU CUBIC METRES.
2. VOLUMES CALCULATED TO VOLUME BOUNDARY AS INDICATED ON THE PLANS.
3. CROSS SECTION CENTRELINE DATA AND PROJECT VOLUME (SECTION) BOUNDARIES BASED ON SPREADSHEET "TRUE CHAINAGES - MUD SURVEY WITH SECTIONS.XLS PROVIDED 28.05.2018 FROM BAY OF PLENTY REGIONAL COUNCIL. NOTE COORDINATES NOT IN PROJECT DATUM. CONTROL LINE LOCATED BY VISUAL OVERLAY USING CHAINAGES FROM "2018-04-27 DREDGING HISTORY MAP - KOPEOPEO PROJECT.PDF" AND KNOW ROAD CROSSINGS.
4. TRUE CENTRELINE CHAINAGES DEVELOPED BY AUSDREDGE AS A CONTROL STRING LOCATED CENTRALLY WITHIN THE SITE BOUNDARY (OR EDGE OF CANAL). THE TRUE CENTRELINE CONTROL HAS BEEN USED AS THE BASIS FOR CROSS SECTION REFERENCING.
5. THE PRE-DREDGE SURVEY "KOPEOPEO_PRE DREDGE SURFACE_TM.12DA" / "KOPEOPEO_PRE DREDGE SURFACE.DXF" WAS RECIEVED ON THE 25.05.2018 FROM DML SURVEYS. IT IS NOTED THAT THE PRE-DREDGE SURVEY EXTENDS TO THE COMMON BOUNDARY (BDY) AS PER NOTE 7.
6. THE PROGRESS SURVEYS FOR SECTION 5 CONSIST OF A COMBINED SET OF HYDRO SURVEYS WHICH HAVE BEEN USED IN THE FOLLOWING ORDER OF PRECEDENCE TO CREATE A FULL SECTION 5 PROGRESS SURVEY MODEL).
   - 6.1. 19.02.2019 - Kopeopeo Canal Depths_Section 5_Post Dredge_19Feb2019
   - 6.2. 30.11.2018 - 1810_Kopeopeo Canal_29 Nov 2018
   - 6.3. 26.10.2018 - 1810_Kopeopeo Canal_Section 5_Check survey_25 Oct 2018
   - 6.4. 12.10.2018 - DML Hydro Survey - Raw Data - Section 5

   REFER ALSO TO NOTE 10 BELOW:
7. FEATURE ANNOTATED ON THE CROSS SECTIONS (BDY) WAS OBTAINED FROM FILE "2016 KOPEOPEO CANAL - DESIGN DTM.ZIP" RECIEVED 23.5.18 AND HAS A NOMINAL RL -0.2. AND HAS BEEN ADOPTED AS THE TRANSVERSE SITE BOUNDARY.
8. 'KC' VALIDATION POINTS AS AS PER THE TABLES ON SHEETS 071 AND 072 PROVIDED AS FOLLOWS
   - 8.1. 15.10.2018 - KC058.5 to KC068 ROCK LEVELS ONLY (MUD SUPERSEDED)
   - 8.2. 19.02.2019 - KC points with RLS_19Feb19
9. THE DTM NOMINATED AS THE DESIGN IS A COMBINATION OF 3x 12D MODELS USED TO GENERATE A COMPLETE DESIGN FOR SECTION 5 THESE CONSIST OF:
   - 9.1. CH 1910 to 2620 "SECTION 5 200818.12da" PROVIDED 31.08.2018
   - 9.2. CH 2620 to 2800 "section 5 200918.12da" PROVIDED 30.11.2018
   - 9.3. CH 2800 to 2820 "34A-35.12da" PROVIDED 30.11.2018

   REFER ALSO TO NOTE 10 BELOW:
10. FOR THE PURPOSES THESE PLANS THE PROGRESS SURVEY AND DESIGN TERRAIN MODELS HAVE BEEN MANUALLY EXTENDED TO THE COMMON BOUNDARY (BDY) AS PER NOTE 7 ABOVE. THE AREAS WHICH HAVE BEEN EXTENDED ARE INDICATED ON THE CROSS SECTION PLANS 083.

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

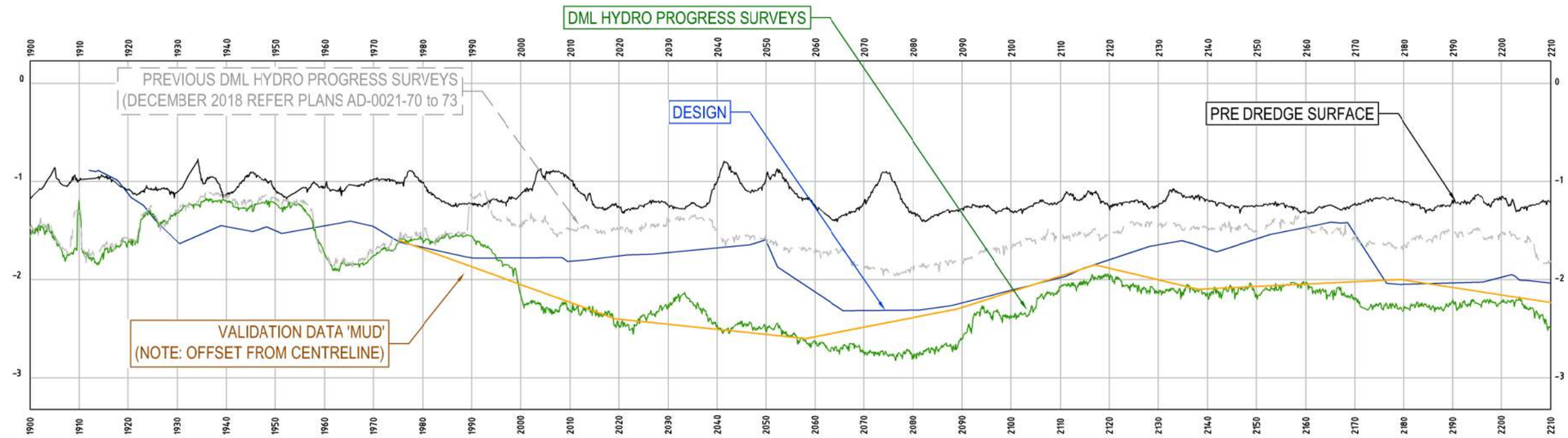
SCALE BAR
0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE
0 75 150 225 300 375m
SCALE 1: 7,500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
SITE PLAN, BOUNDARIES AND GENERAL NOTES

SCALE: AS SHOWN
DRG NO.: AD-0021-80-01
REV: B

NZTM			
Point ID	Northing	Easting	RL
KC058.5	5792261.00	1947145.61	-1.60
KC060	5792260.88	1947189.75	-2.40
KC061	5792257.43	1947228.55	-2.60
KC062	5792254.03	1947259.25	-2.30
KC063	5792258.99	1947287.65	-1.85
KC064	5792254.36	1947308.50	-2.10
KC065	5792250.42	1947349.62	-2.00
KC066	5792254.77	1947380.09	-2.23



SECTION 5

RADIUS 25 R

DATUM R.L. -5

						KC058 5				KC060				KC061				KC062				KC063		
CONTROL TRUE CENTRELINE																								
PROGRESS SURVEY (REFER SHT 080)	-1.57	-1.62	-1.20	-1.74	-1.59	-1.61	-2.15	-2.46	-2.47	-2.47	-2.62	-2.64	-2.76	-2.72	-2.38	-2.00	-2.00	-2.10	-2.15	-2.04	-2.30	-2.23	-2.49	
DESIGN (REFER SHT 080)		-1.12	-1.46	-1.45	-1.63	-1.67	-1.78	-1.77	-1.76	-1.68	-2.06	-2.12	-2.31	-2.26	-2.11	-1.85	-1.80	-1.63	-1.69	-1.47	-2.05	-1.98	-2.04	
PRE DREDGE 28.5.2018	-1.18	-1.08	-1.15	-1.06	-1.03	-1.01	-1.13	-1.25	-1.26	-1.00	-1.18	-1.24	-1.32	-1.30	-1.31	-1.11	-1.26	-1.15	-1.19	-1.31	-1.20	-1.18	-1.21	
CHAINAGE	1900.00	1920.00	1940.00	1960.00	1976.00	1960.00	2000.00	2019.00	2020.00	2040.00	2058.00	2060.00	2080.00	2088.00	2100.00	2117.00	2120.00	2137.00	2140.00	2160.00	2180.00	2200.00	2210.00	

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	12.03.2019	ISSUED FOR INFORMATION	MC	SL	

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DESIGN -
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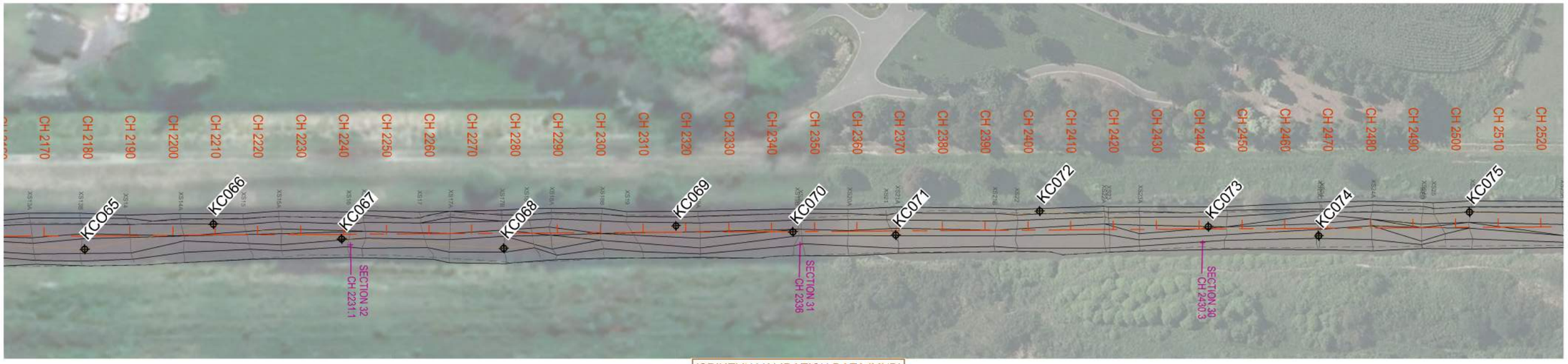
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1:25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

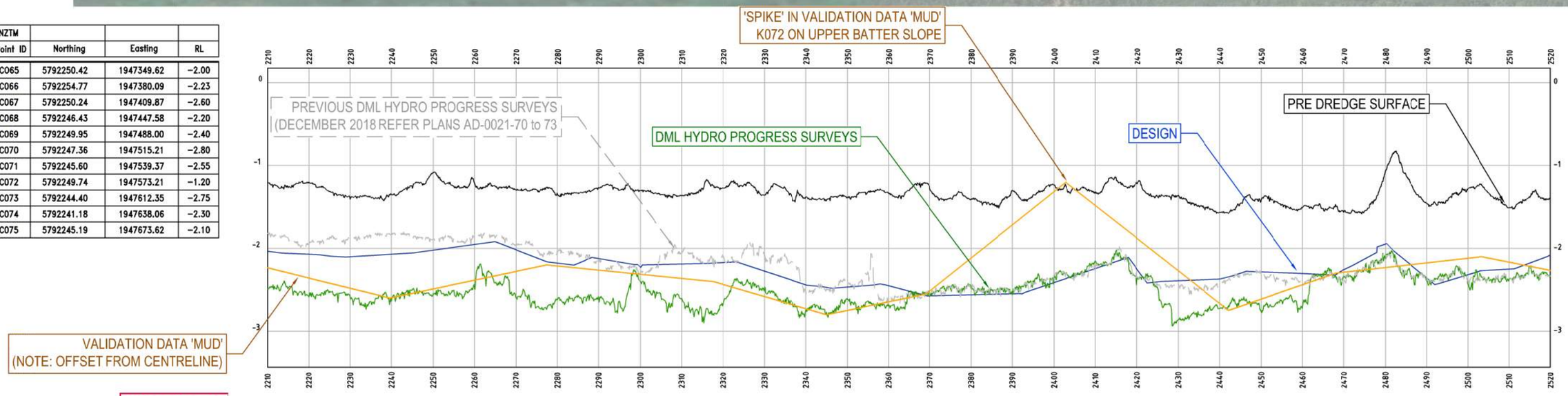
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 1
OF VALIDATION DATA PROJECT AREA SECTION 5

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-81-01	B



NZTM			
Point ID	Northing	Easting	RL
KC065	5792250.42	1947349.62	−2.00
KC066	5792254.77	1947380.09	−2.23
KC067	5792250.24	1947409.87	−2.60
KC068	5792246.43	1947447.58	−2.20
KC069	5792249.95	1947488.00	−2.40
KC070	5792247.36	1947515.21	−2.80
KC071	5792245.60	1947539.37	−2.55
KC072	5792249.74	1947573.21	−1.20
KC073	5792244.40	1947612.35	−2.75
KC074	5792241.18	1947638.06	−2.30
KC075	5792245.19	1947673.62	−2.10



SECTION 5

RADIUS

DATUM R.L. -5

	KC067	KC068	KC069	KC070	KC071	KC072	KC073	KC074	KC075
CONTROL TRUE CENTRELINE									
PROGRESS SURVEY (REFER SHT 080)	-2.49 -2.58 -2.63 -2.56	-2.46 -2.71 -2.62	-2.40 -2.78 -2.68	-2.75 -2.78	-2.69 -2.57 -2.49	-2.35 -2.29 -2.43	-2.72 -2.62 -2.71	-2.35 -2.12	-2.43 -2.30 -2.34
DESIGN (REFER SHT 080)	-2.04 -2.07 -2.07 -2.07	-1.95 -2.15 -2.18	-2.23 -2.18 -2.17	-2.44 -2.47	-2.45 -2.57 -2.56	-2.41 -2.36 -2.25	-2.37 -2.33 -2.30	-2.32 -1.95	-2.32 -2.27 -2.08
PRE DREDGE 28.5.2018	-1.21 -1.20 -1.35 -1.35	-1.21 -1.28 -1.34	-1.30 -1.27 -1.27	-1.38 -1.41	-1.34 -1.27 -1.41	-1.23 -1.27 -1.21	-1.57 -1.57 -1.54	-1.50 -1.48 -1.07	-1.28 -1.22 -1.39
CHAINAGE	2210.00 2220.00 2240.00 2240.50	2260.00 2277.00 2280.00	2300.00 2318.00 2320.00	2340.00 2345.00	2360.00 2370.00 2380.00	2400.00 2403.00 2420.00	2440.00 2443.00 2460.00	2468.00 2480.00	2500.00 2503.00 2520.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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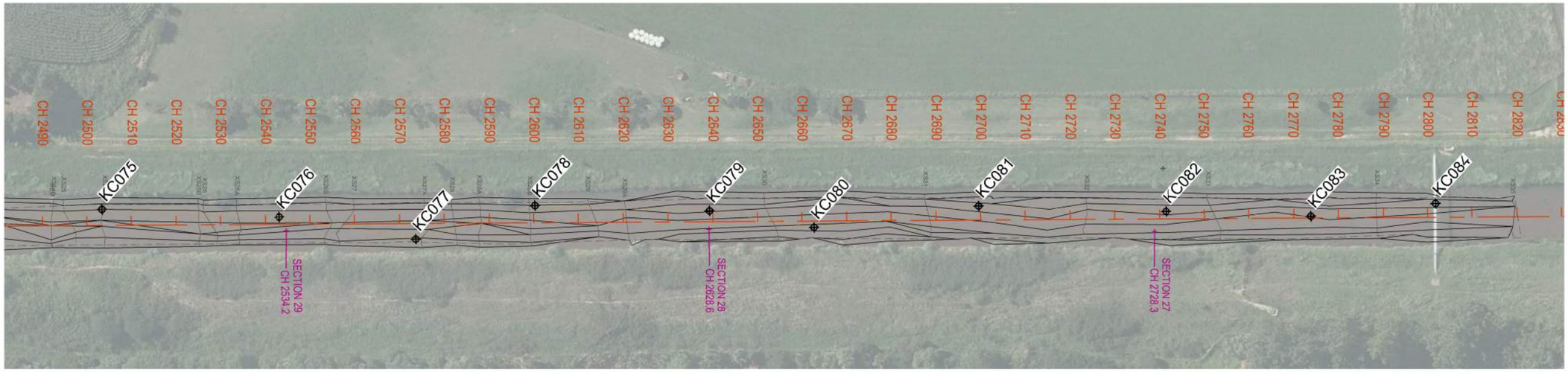
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1:25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

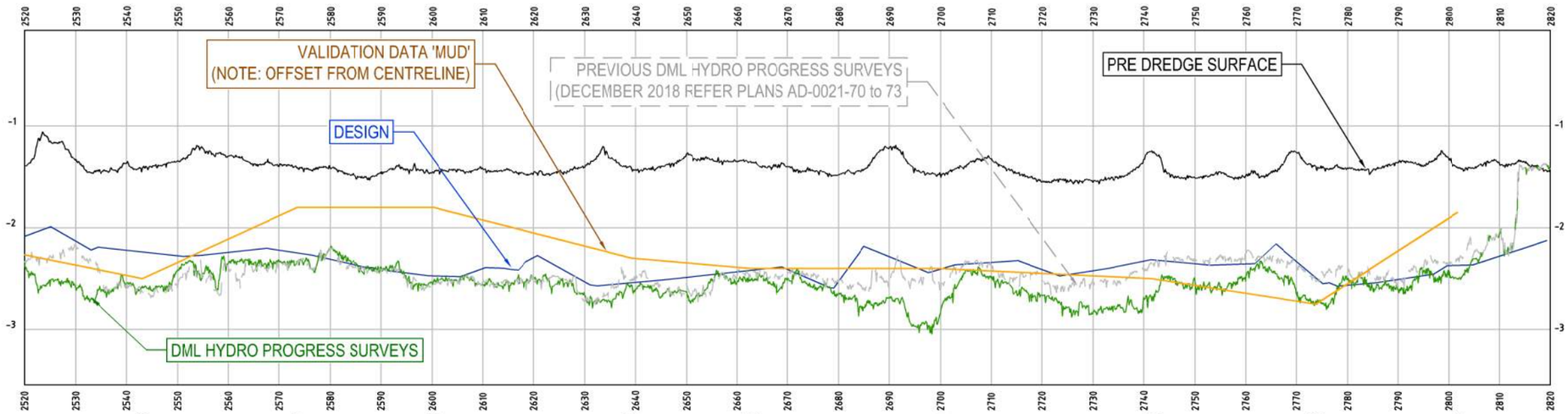
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 2
OF VALIDATION DATA PROJECT AREA SECTION 5

SCALE: AS SHOWN
DRG NO.: AD-0021-81-02
REV: B



NZTM			
Point ID	Northing	Easting	RL
KC075	5792245.19	1947673.62	−2.10
KC076	5792241.79	1947713.30	−2.50
KC077	5792235.54	1947743.51	−1.80
KC078	5792241.89	1947770.51	−1.80
KC079	5792239.04	1947809.38	−2.30
KC080	5792234.34	1947832.68	−2.40
KC081	5792237.53	1947869.7	−2.40
KC082	5792234.53	1947911.48	−2.50
KC083	5792232.08	1947943.73	−2.75
KC084	5792233.72	1947971.81	−1.85



SECTION 5

RADIUS

DATUM R.L. -5

	KC076	KC077	KC078	KC079	KC080	KC081	KC082	KC083	KC084
CONTROL TRUE CENTRELINE									
PROGRESS SURVEY (REFER SHT 080)	-2.34 -2.54 -2.58 -2.35	-2.37 -2.19	-2.55 -2.49	-2.60 -2.54 -2.50	-2.65 -2.84	-2.67 -2.69 -2.68	-2.51 -2.72	-2.51 -2.42 -2.49	-1.42
DESIGN (REFER SHT 080)	-2.08 -2.22 -2.24 -2.24	-2.24 -2.31	-2.47 -2.29	-2.54 -2.43 -2.42	-2.53 -2.41	-2.41 -2.33 -2.32	-2.36 -2.46	-2.56 -2.37 -2.37	
PRE DREDGE 28.5.2018	-1.39 -1.37 -1.44 -1.30	-1.40 -1.41	-1.45 -1.47	-1.43 -1.35 -1.35	-1.48 -1.49	-1.55 -1.33 -1.26	-1.49 -1.40	-1.41 -1.33 -1.38	-1.43
CHAINAGE	2520.00 2540.00 2543.00 2560.00	2573.00 2580.00	2600.00 2620.00	2640.00 2660.00 2662.00	2680.00 2700.00	2720.00 2740.00 2741.00	2760.00 2773.00	2780.00 2800.00 2801.00	2820.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
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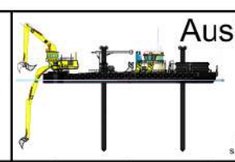
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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DESIGNED BY
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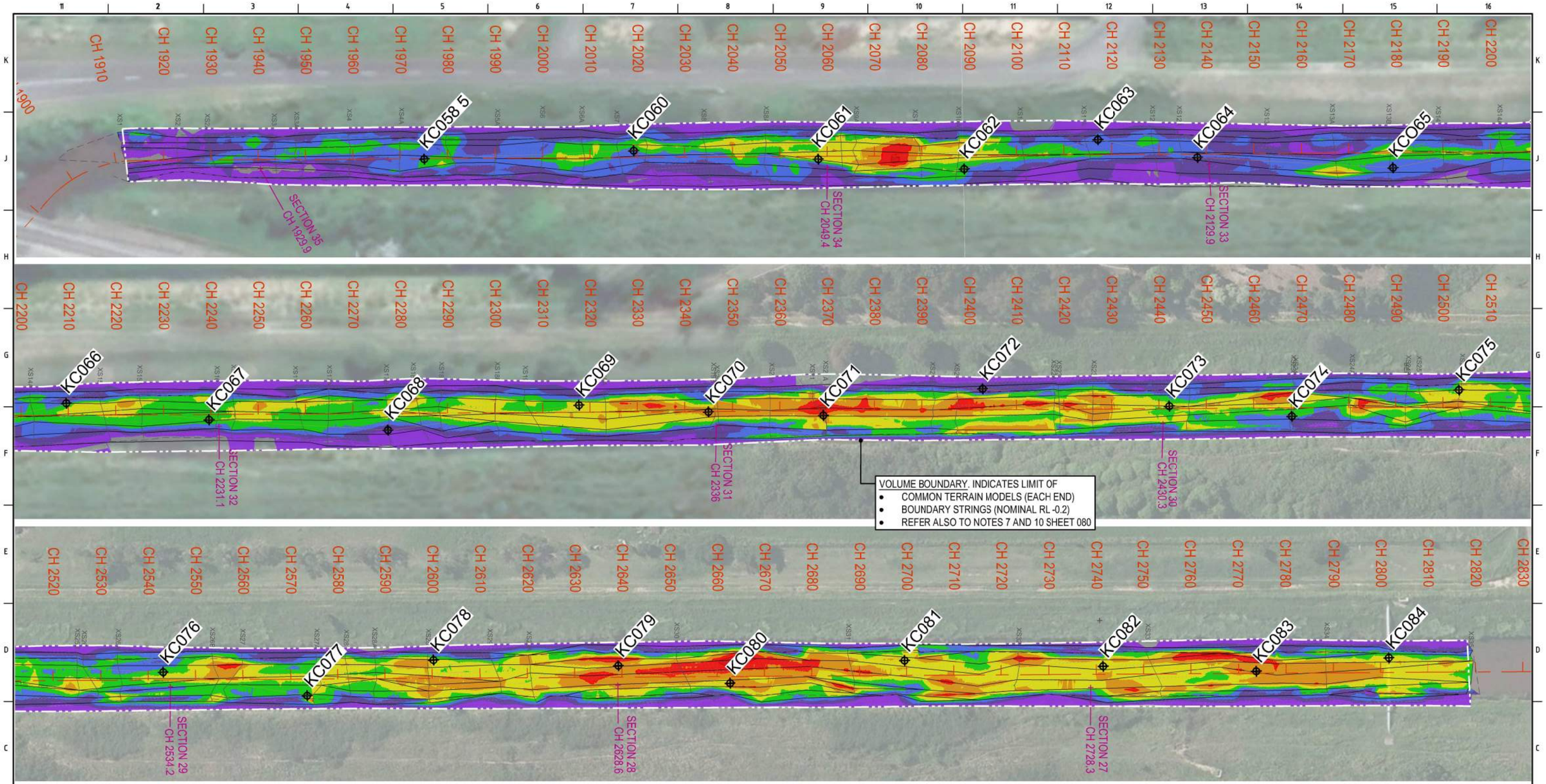
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1:25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 3
OF VALIDATION DATA PROJECT AREA SECTION 5

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-81-03	B



VOLUME BOUNDARY. INDICATES LIMIT OF
- COMMON TERRAIN MODELS (EACH END)
- BOUNDARY STRINGS (NOMINAL RL -0.2)
- REFER ALSO TO NOTES 7 AND 10 SHEET 080

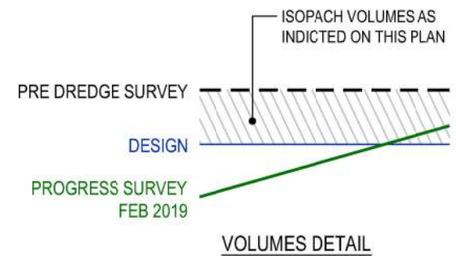
NZTM			
Point ID	Northing	Easting	RL
KC058.5	5792261.00	1947145.61	−1.60
KC060	5792260.88	1947189.75	−2.40
KC061	5792257.43	1947228.55	−2.60
KC062	5792254.03	1947259.25	−2.30
KC063	5792258.99	1947287.65	−1.85
KC064	5792254.36	1947308.50	−2.10
KC065	5792250.42	1947349.62	−2.00
KC066	5792254.77	1947380.09	−2.23
KC067	5792250.24	1947409.87	−2.60
KC068	5792246.43	1947447.58	−2.20
KC069	5792249.95	1947488.00	−2.40
KC070	5792247.36	1947515.21	−2.80
KC071	5792245.60	1947539.37	−2.55
KC072	5792249.74	1947573.21	−1.20
KC073	5792244.40	1947612.35	−2.75
KC074	5792241.18	1947638.06	−2.30
KC075	5792245.19	1947673.62	−2.10
KC076	5792241.79	1947713.30	−2.50
KC077	5792235.54	1947743.51	−1.80
KC078	5792241.89	1947770.51	−1.80
KC079	5792239.04	1947809.38	−2.30
KC080	5792234.34	1947832.68	−2.40
KC081	5792237.53	1947869.7	−2.40
KC082	5792234.53	1947911.48	−2.50
KC083	5792232.08	1947943.73	−2.75
KC084	5792233.72	1947971.81	−1.85

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Incremental Balance	Accumulative Cut	Accumulative Fill	Accumulative Balance
−0.200	0.000	−2169.681	0.000	−2169.681	0.000		−2169.681
−0.400	−0.200	−1755.750	0.000	−3925.430	0.000		−3925.430
−0.600	−0.400	−1311.925	0.000	−5237.356	0.000		−5237.356
−0.800	−0.600	−897.426	0.000	−6134.782	0.000		−6134.782
−1.000	−0.800	−469.546	0.000	−6604.328	0.000		−6604.328
−1.200	−1.000	−135.396	0.000	−6739.723	0.000		−6739.723
−1.400	−1.200	−15.966	0.000	−6755.689	0.000		−6755.689
−1.600	−1.400	−1.176	0.000	−6756.865	0.000		−6756.865
−1.800	−1.600	−0.000	0.000	−6756.866	0.000		−6756.866
−2.000	−1.800	0.000	0.000	−6756.866	0.000		−6756.866
−20.000	−2.000	0.000	0.000	−6756.866	0.000		−6756.866

NOTE: Totals are for the above depth ranges only

Total cut	−6756.866
Total fill	0.000
Total balance	−6756.866
ie excess of cut over fill	6756.866

Polygon plan area = 12175.824



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to −0.2	
−0.2 to −0.4	
−0.4 to −0.6	
−0.6 to −0.8	
−0.8 to −1.0	
−1.0 to −1.2	
−1.2 to −1.4	
−1.4 to −1.6	
−1.6 to −1.8	
−1.8 to −2.0	
−2.0 to −10	

PRE DREDGE → DEPTH TO → DESIGN

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	16.03.2019	ISSUED FOR INFORMATION	MC	SL	

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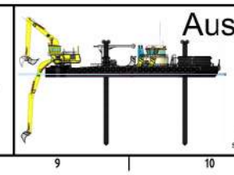

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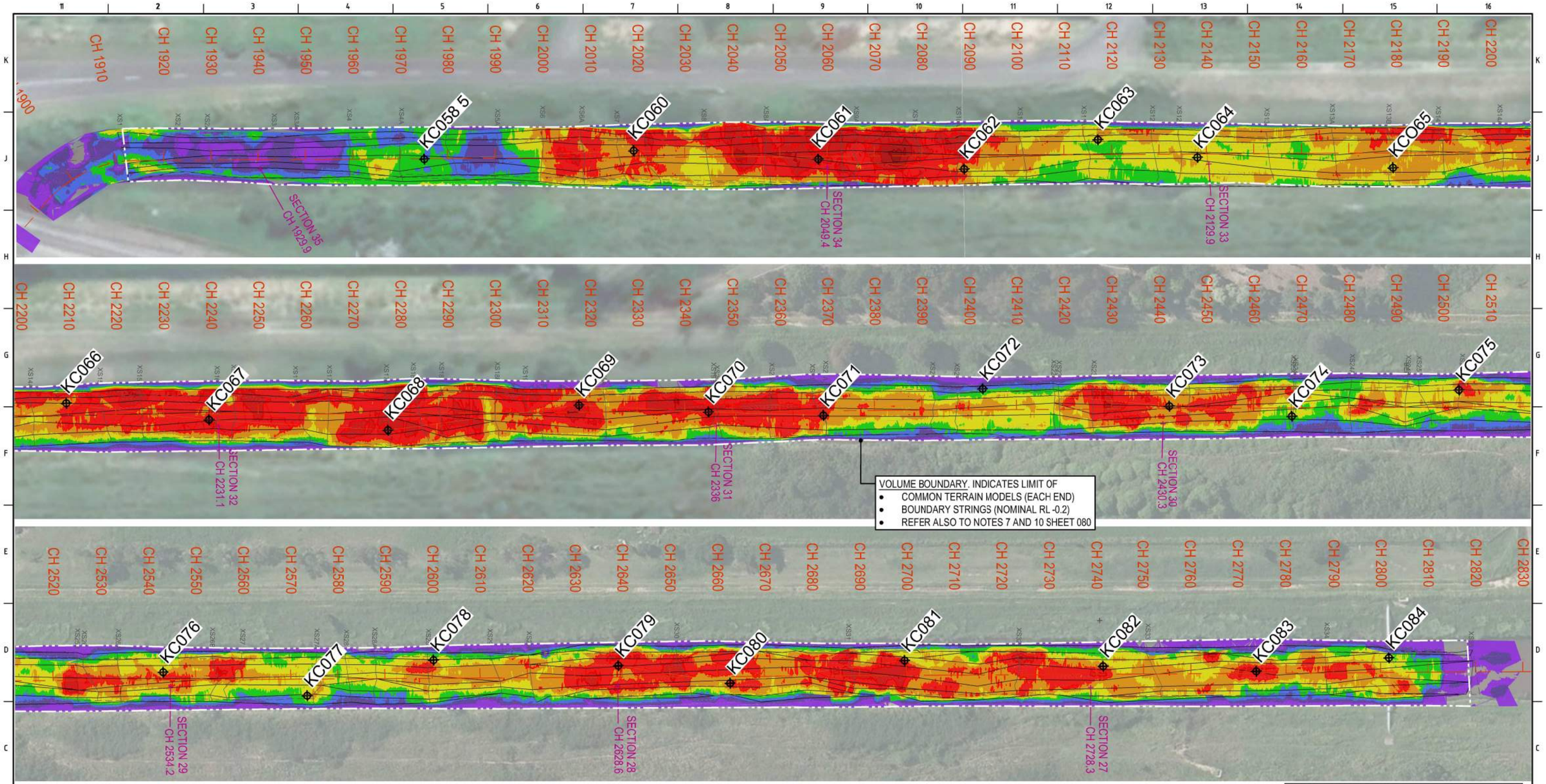
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 4 8 12 16 20
SCALE 1:400 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 1
PRE DREDGE TO DESIGN

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-82-01	B



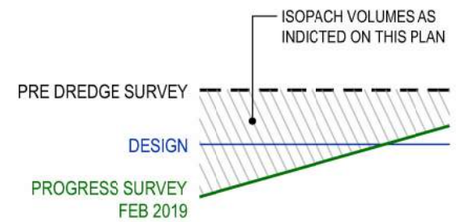
NZTM			
Point ID	Northing	Easting	RL
KC058.5	5792261.00	1947145.61	−1.60
KC060	5792260.88	1947189.75	−2.40
KC061	5792257.43	1947228.55	−2.60
KC062	5792254.03	1947259.25	−2.30
KC063	5792258.99	1947287.65	−1.85
KC064	5792254.36	1947308.50	−2.10
KC065	5792250.42	1947349.62	−2.00
KC066	5792254.77	1947380.09	−2.23
KC067	5792250.24	1947409.87	−2.60
KC068	5792246.43	1947447.58	−2.20
KC069	5792249.95	1947488.00	−2.40
KC070	5792247.36	1947515.21	−2.80
KC071	5792245.60	1947539.37	−2.55
KC072	5792249.74	1947573.21	−1.20
KC073	5792244.40	1947612.35	−2.75
KC074	5792241.18	1947638.06	−2.30
KC075	5792245.19	1947673.62	−2.10
KC076	5792241.79	1947713.30	−2.50
KC077	5792235.54	1947743.51	−1.80
KC078	5792241.89	1947770.51	−1.80
KC079	5792239.04	1947809.38	−2.30
KC080	5792234.34	1947832.68	−2.40
KC081	5792237.53	1947869.7	−2.40
KC082	5792234.53	1947911.48	−2.50
KC083	5792232.08	1947943.73	−2.75
KC084	5792233.72	1947971.81	−1.85

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
−0.200	0.000	−2318.531	0.000	−2318.531	0.000	−2318.531
−0.400	−0.200	−2131.906	0.000	−4450.437	0.000	−4450.437
−0.600	−0.400	−1943.493	0.000	−6393.931	0.000	−6393.931
−0.800	−0.600	−1708.331	0.000	−8102.261	0.000	−8102.261
−1.000	−0.800	−1325.931	0.000	−9428.192	0.000	−9428.192
−1.200	−1.000	−810.804	0.000	−10238.996	0.000	−10238.996
−1.400	−1.200	−316.676	0.000	−10555.672	0.000	−10555.672
−1.600	−1.400	−50.958	0.000	−10606.630	0.000	−10606.630
−1.800	−1.600	−3.830	0.000	−10610.460	0.000	−10610.460
−2.000	−1.800	−0.192	0.000	−10610.652	0.000	−10610.652
−20.000	−2.000	0.000	0.000	−10610.652	0.000	−10610.652

NOTE: Totals are for the above depth ranges only

Total cut	−10610.652
Total fill	0.000
Total balance	−10610.652
ie excess of cut over fill	10610.652

Polygon plan area = 12175.824



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to −0.2	
−0.2 to −0.4	
−0.4 to −0.6	
−0.6 to −0.8	
−0.8 to −1.0	
−1.0 to −1.2	
−1.2 to −1.4	
−1.4 to −1.6	
−1.6 to −1.8	
−1.8 to −2.0	
−2.0 to −10	

PRE DREDGE → DEPTH TO → PROGRESS SURVEY FEB 2019

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	16.03.2019	ISSUED FOR INFORMATION	MC	SL	

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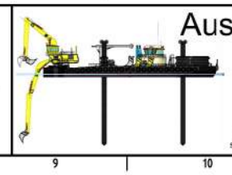
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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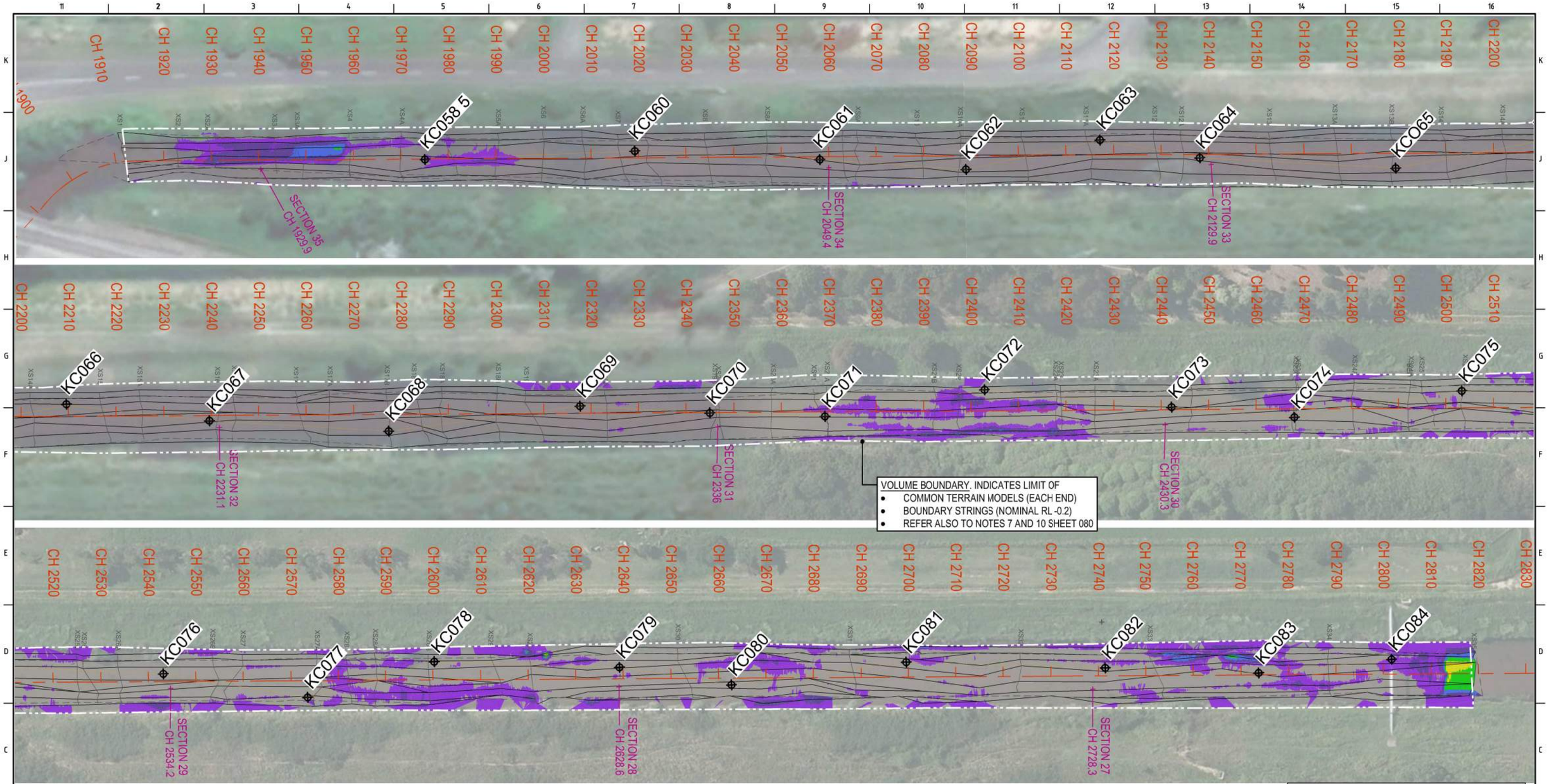
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 4 8 12 16 20
SCALE 1:400 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 2
PRE DREDGE TO PROGRESS SURVEY FEB 2019

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-82-02	B



VOLUME BOUNDARY. INDICATES LIMIT OF
- COMMON TERRAIN MODELS (EACH END)
- BOUNDARY STRINGS (NOMINAL RL -0.2)
- REFER ALSO TO NOTES 7 AND 10 SHEET 080

NZTM			
Point ID	Northing	Easting	RL
KC058.5	5792261.00	1947145.61	−1.60
KC060	5792260.88	1947189.75	−2.40
KC061	5792257.43	1947228.55	−2.60
KC062	5792254.03	1947259.25	−2.30
KC063	5792258.99	1947287.65	−1.85
KC064	5792254.36	1947308.50	−2.10
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KC066	5792254.77	1947380.09	−2.23
KC067	5792250.24	1947409.87	−2.60
KC068	5792246.43	1947447.58	−2.20
KC069	5792249.95	1947488.00	−2.40
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KC071	5792245.60	1947539.37	−2.55
KC072	5792249.74	1947573.21	−1.20
KC073	5792244.40	1947612.35	−2.75
KC074	5792241.18	1947638.06	−2.30
KC075	5792245.19	1947673.62	−2.10
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KC077	5792235.54	1947743.51	−1.80
KC078	5792241.89	1947770.51	−1.80
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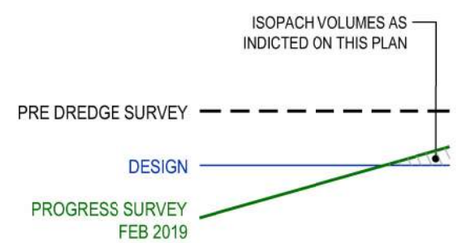
KC080	5792234.34	1947832.68	−2.40
KC081	5792237.53	1947869.7	−2.40
KC082	5792234.53	1947911.48	−2.50
KC083	5792232.08	1947943.73	−2.75
KC084	5792233.72	1947971.81	−1.85

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Incremental Balance	Accumulative Cut	Accumulative Fill	Accumulative Balance
−0.200	0.000	−178.578	0.000	−178.578	0.000	0.000	−178.578
−0.400	−0.200	−38.080	0.000	−216.658	0.000	0.000	−216.658
−0.600	−0.400	−11.911	0.000	−228.569	0.000	0.000	−228.569
−0.800	−0.600	−5.126	0.000	−233.695	0.000	0.000	−233.695
−1.000	−0.800	−0.621	0.000	−234.316	0.000	0.000	−234.316
−1.200	−1.000	−0.005	0.000	−234.321	0.000	0.000	−234.321
−1.400	−1.200	0.000	0.000	−234.321	0.000	0.000	−234.321
−1.600	−1.400	0.000	0.000	−234.321	0.000	0.000	−234.321
−1.800	−1.600	0.000	0.000	−234.321	0.000	0.000	−234.321
−2.000	−1.800	0.000	0.000	−234.321	0.000	0.000	−234.321
−20.000	−2.000	0.000	0.000	−234.321	0.000	0.000	−234.321

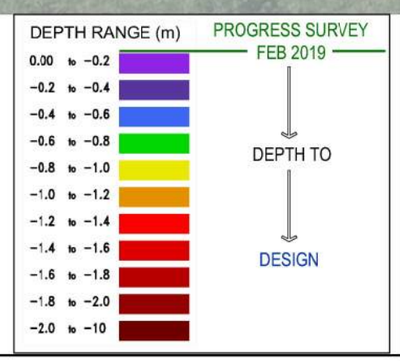
NOTE: Totals are for the above depth ranges only

Total cut	−234.321
Total fill	0.000
Total balance	−234.321
ie excess of cut over fill	234.321

Polygon plan area = 12175.824



VOLUMES DETAIL



REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	16.03.2019	ISSUED FOR INFORMATION	MC	SL	

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

CLIENT

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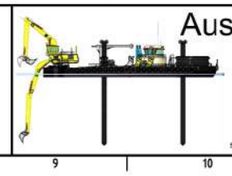
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

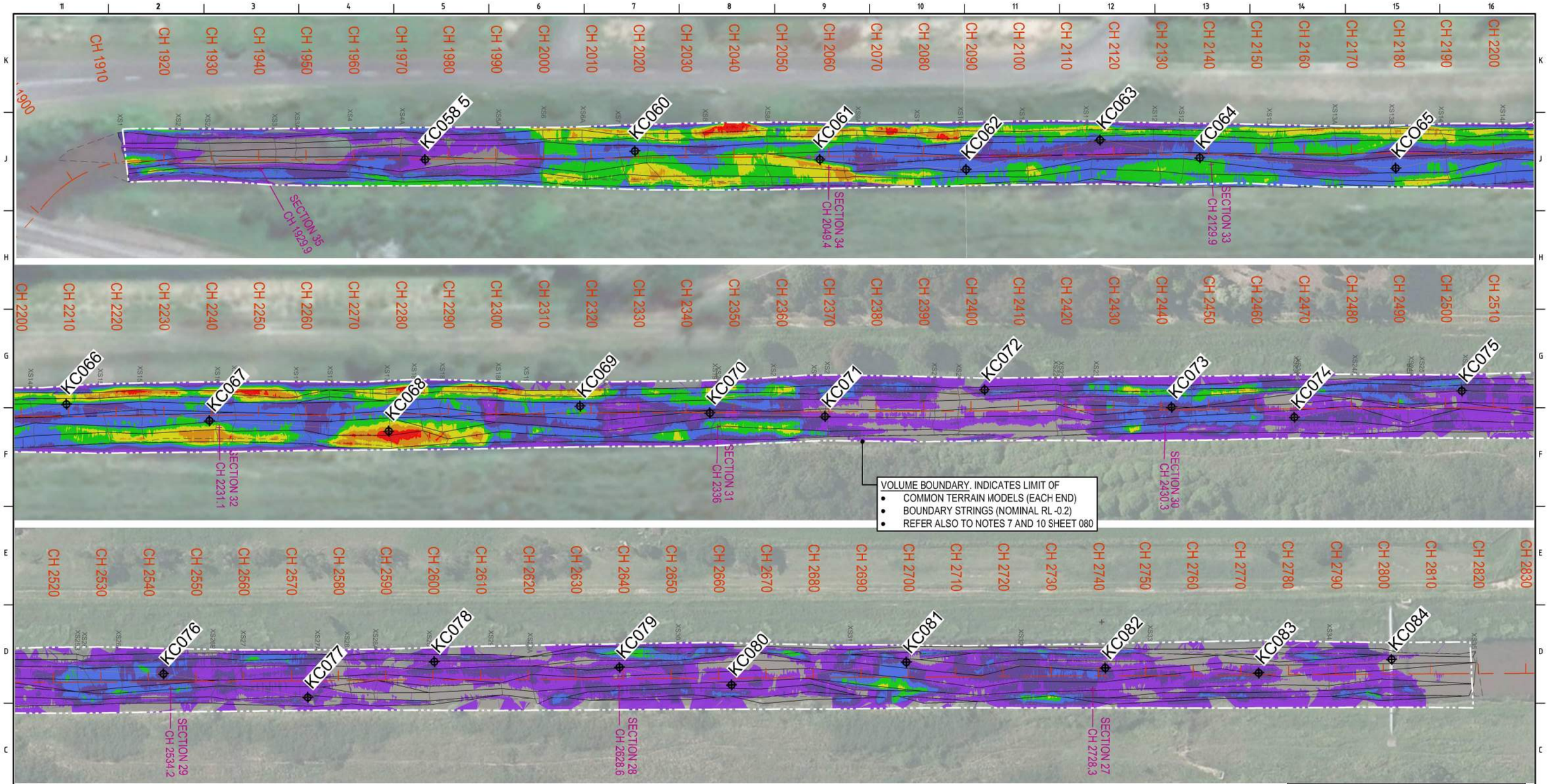
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 4 8 12 16 20
SCALE 1:400 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 3
PROGRESS SURVEY FEB 2019 TO DESIGN

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-82-03	B



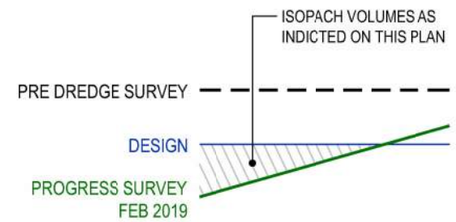
NZTM			
Point ID	Northing	Easting	RL
KC058.5	5792261.00	1947145.61	−1.60
KC060	5792260.88	1947189.75	−2.40
KC061	5792257.43	1947228.55	−2.60
KC062	5792254.03	1947259.25	−2.30
KC063	5792258.99	1947287.65	−1.85
KC064	5792254.36	1947308.50	−2.10
KC065	5792250.42	1947349.62	−2.00
KC066	5792254.77	1947380.09	−2.23
KC067	5792250.24	1947409.87	−2.60
KC068	5792246.43	1947447.58	−2.20
KC069	5792249.95	1947488.00	−2.40
KC070	5792247.36	1947515.21	−2.80
KC071	5792245.60	1947539.37	−2.55
KC072	5792249.74	1947573.21	−1.20
KC073	5792244.40	1947612.35	−2.75
KC074	5792241.18	1947638.06	−2.30
KC075	5792245.19	1947673.62	−2.10
KC076	5792241.79	1947713.30	−2.50
KC077	5792235.54	1947743.51	−1.80
KC078	5792241.89	1947770.51	−1.80
KC079	5792239.04	1947809.38	−2.30
KC080	5792234.34	1947832.68	−2.40
KC081	5792237.53	1947869.7	−2.40
KC082	5792234.53	1947911.48	−2.50
KC083	5792232.08	1947943.73	−2.75
KC084	5792233.72	1947971.81	−1.85

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
−0.200	0.000	−1740.866	0.000	−1740.866	0.000	−1740.866
−0.400	−0.200	−1187.485	0.000	−2928.351	0.000	−2928.351
−0.600	−0.400	−712.177	0.000	−3640.528	0.000	−3640.528
−0.800	−0.600	−315.898	0.000	−3956.426	0.000	−3956.426
−1.000	−0.800	−111.891	0.000	−4068.317	0.000	−4068.317
−1.200	−1.000	−25.778	0.000	−4094.095	0.000	−4094.095
−1.400	−1.200	−2.457	0.000	−4096.552	0.000	−4096.552
−1.600	−1.400	−0.004	0.000	−4096.556	0.000	−4096.556
−1.800	−1.600	0.000	0.000	−4096.556	0.000	−4096.556
−2.000	−1.800	0.000	0.000	−4096.556	0.000	−4096.556
−20.000	−2.000	0.000	0.000	−4096.556	0.000	−4096.556

NOTE: Totals are for the above depth ranges only

Total cut	−4096.556
Total fill	0.000
Total balance	−4096.556
ie excess of cut over fill	4096.556

Polygon plan area = 12175.824



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to −0.2	
−0.2 to −0.4	
−0.4 to −0.6	
−0.6 to −0.8	
−0.8 to −1.0	
−1.0 to −1.2	
−1.2 to −1.4	
−1.4 to −1.6	
−1.6 to −1.8	
−1.8 to −2.0	
−2.0 to −10	

DESIGN → DEPTH TO → PROGRESS SURVEY FEB 2019 (OVERDREDGE)

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	16.03.2019	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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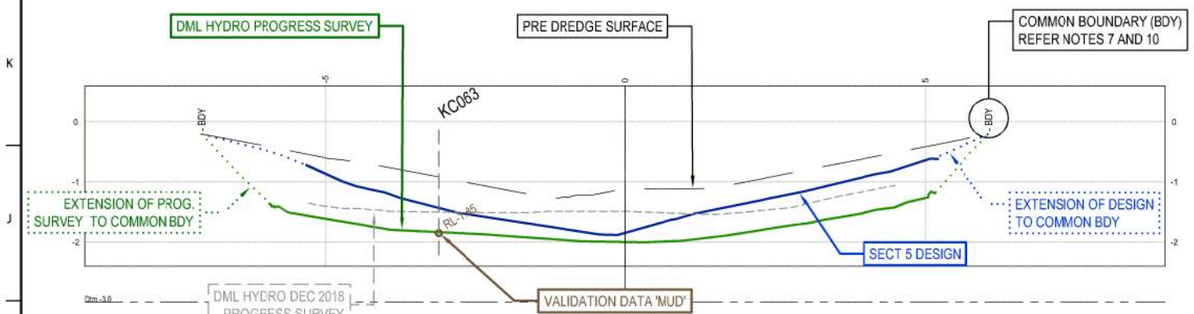
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

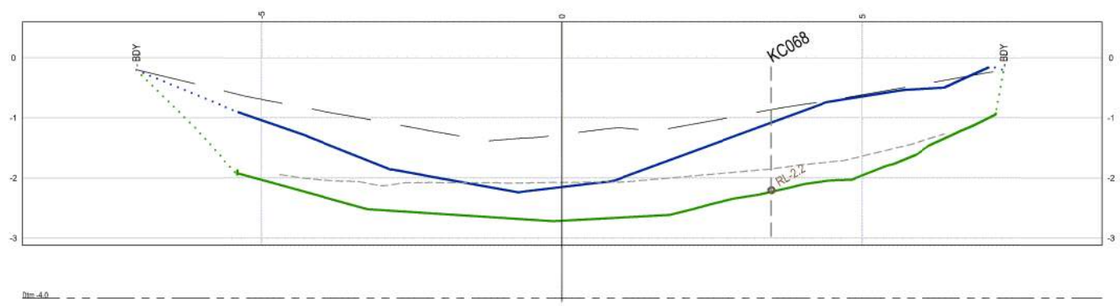
SCALE BAR
0 4 8 12 16 20
SCALE 1:400 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

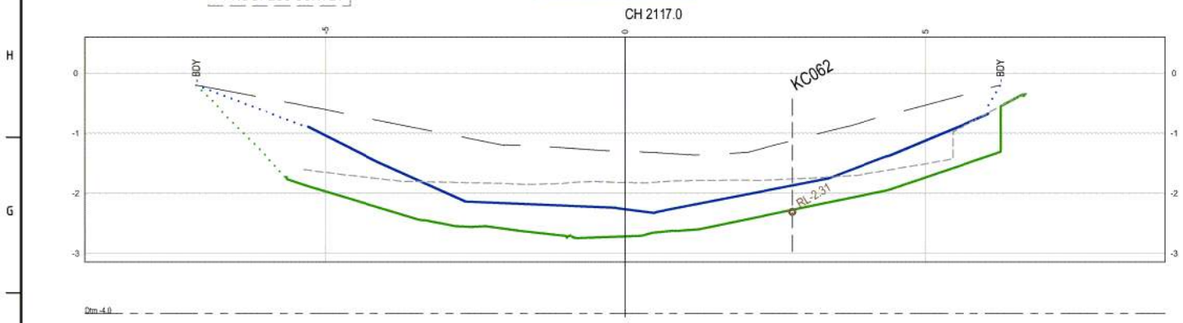
DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 4
DESIGN TO PROGRESS SURVEY FEB 2019

SCALE: AS SHOWN
DRG NO.: AD-0021-82-04
REV: B

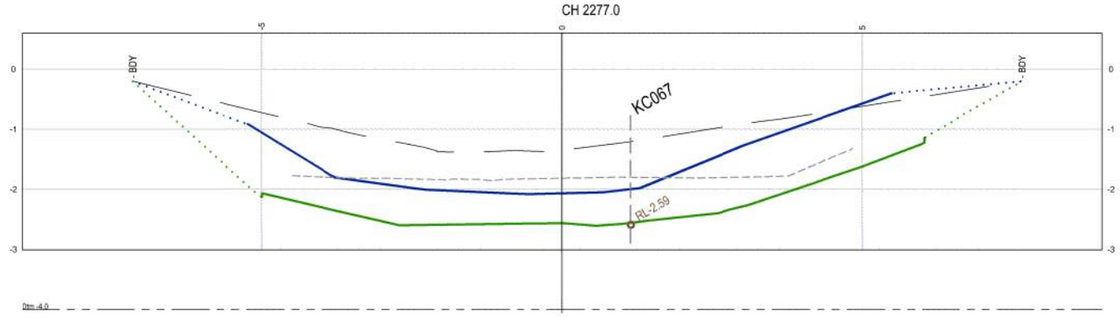




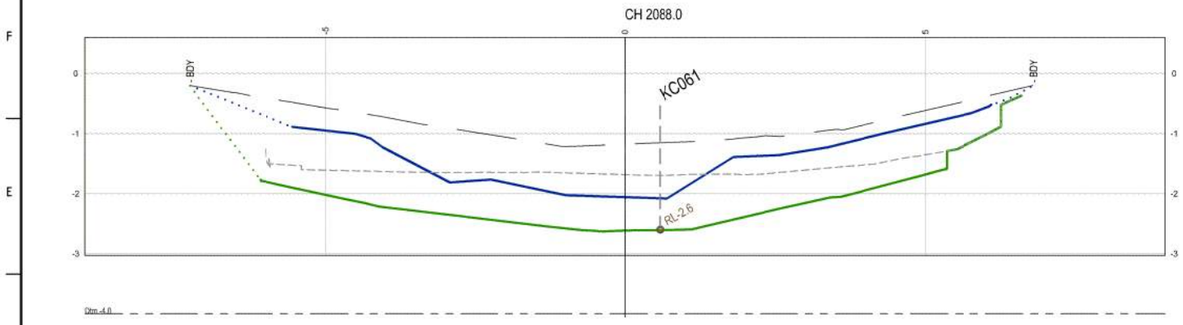
CH 2117.0



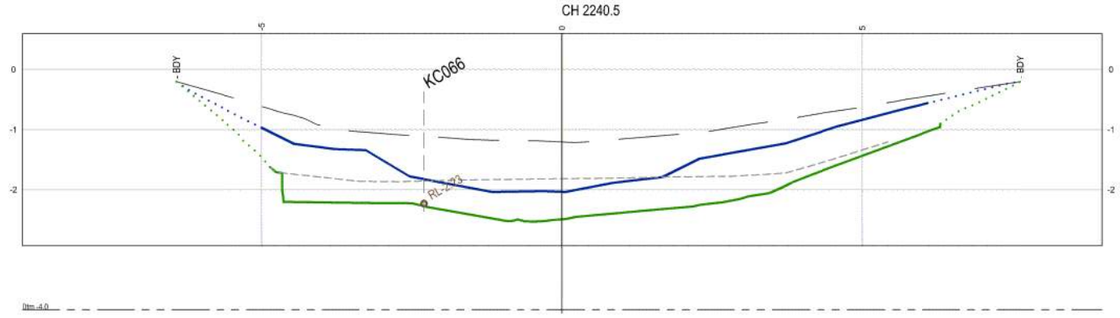
CH 2277.0



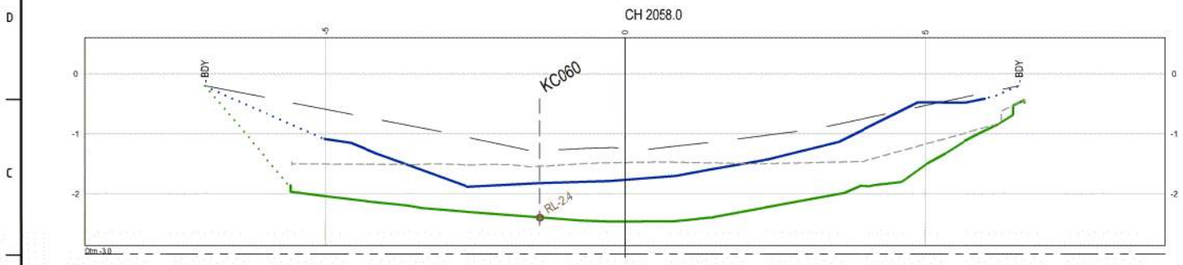
CH 2088.0



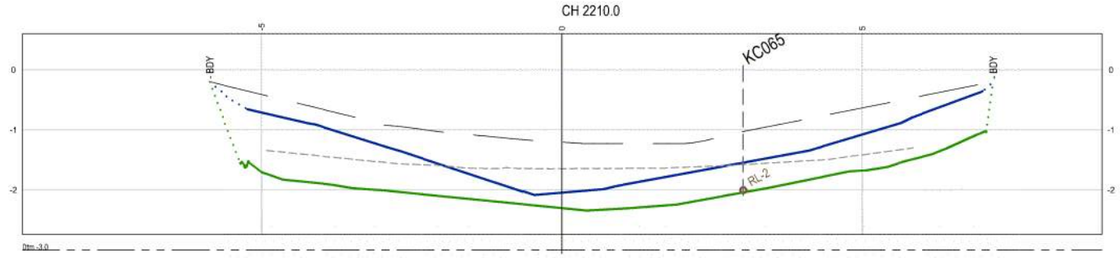
CH 2240.5



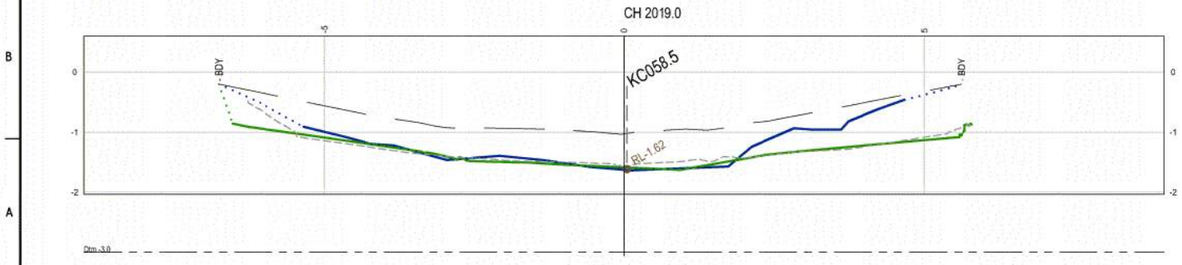
CH 2058.0



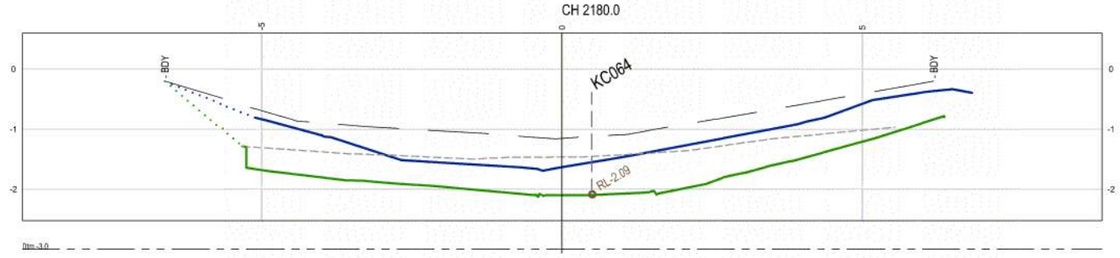
CH 2210.0



CH 2019.0



CH 2180.0



CH 1976.0

CH 2137.0

REFER SHEET 080 FOR SURVEY AND DESIGN NOTES

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

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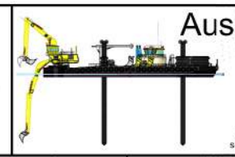
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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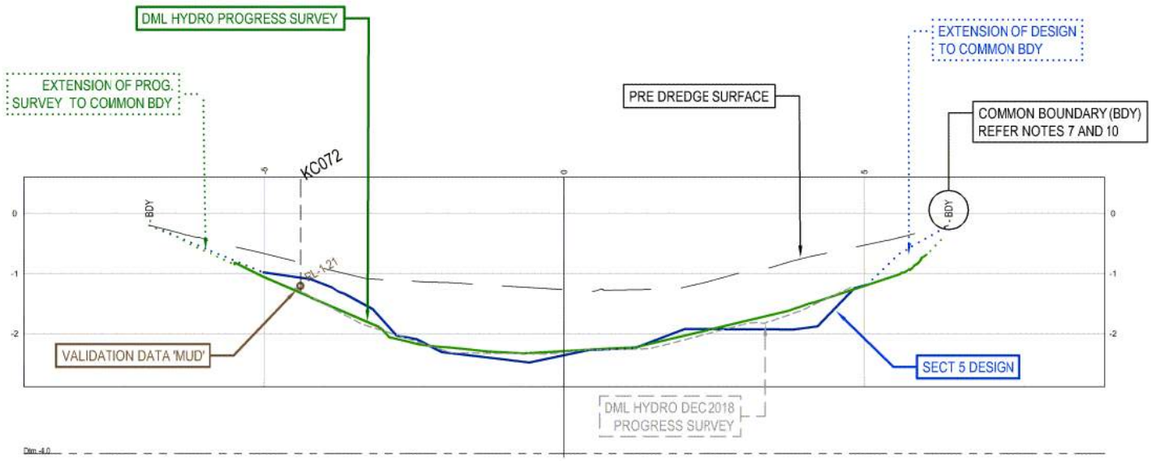
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

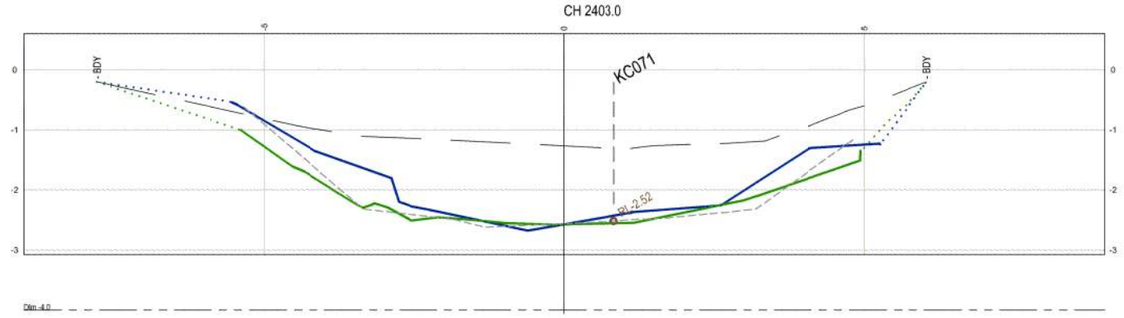
SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

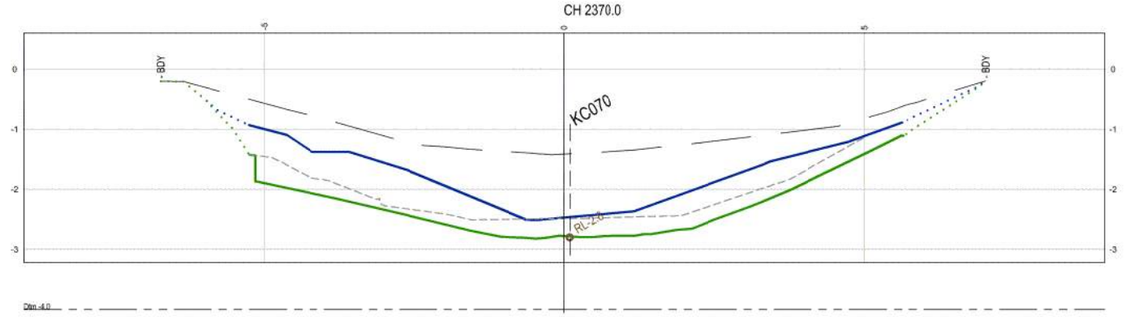
PROJECT
KOPEOPEO CANAL, WHAKATANE

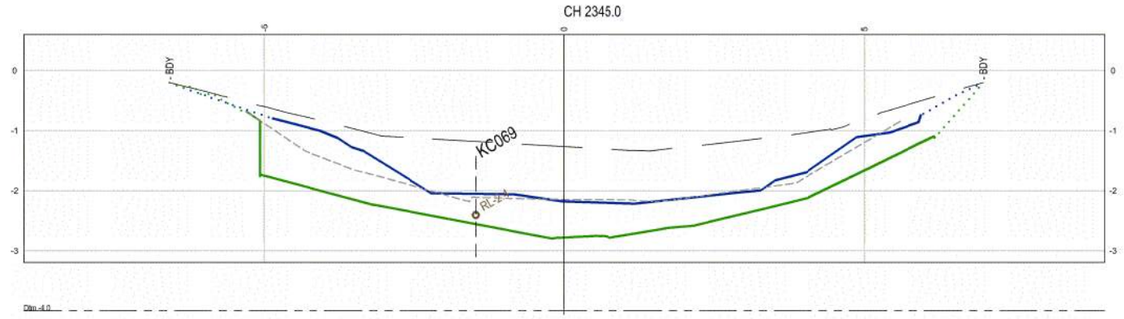
DRAWING TITLE
SECTION 5 CROSS SECTIONS
DESIGN COMPARISON
SHEET 1

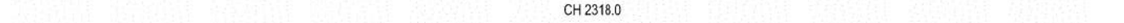
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-83-01	B

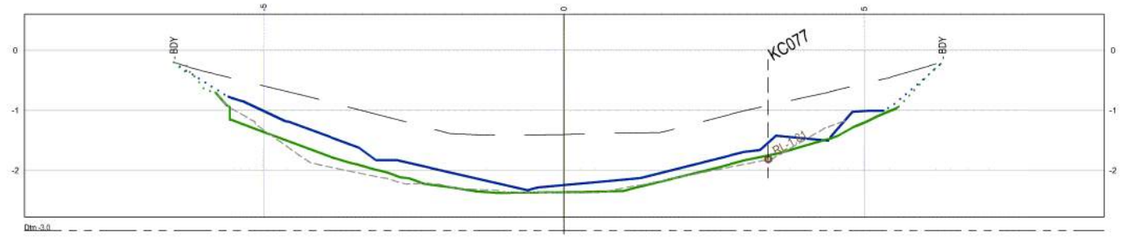


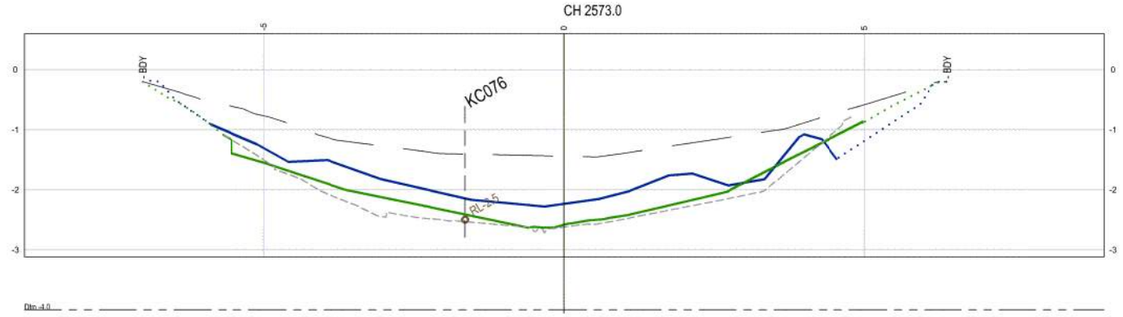


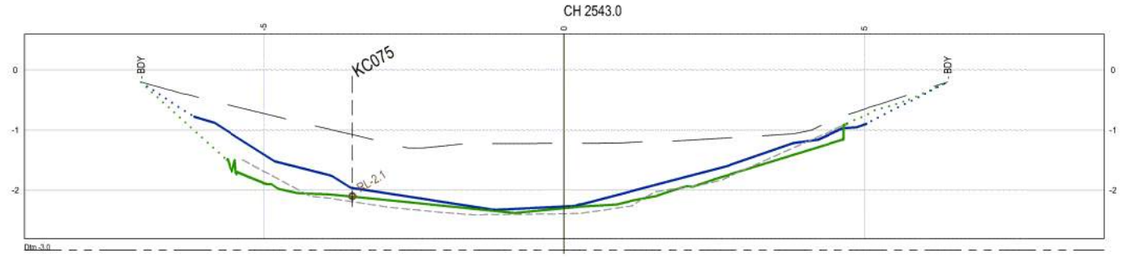


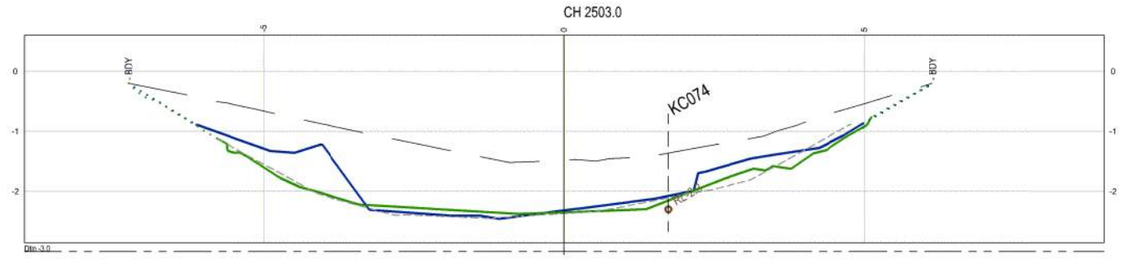


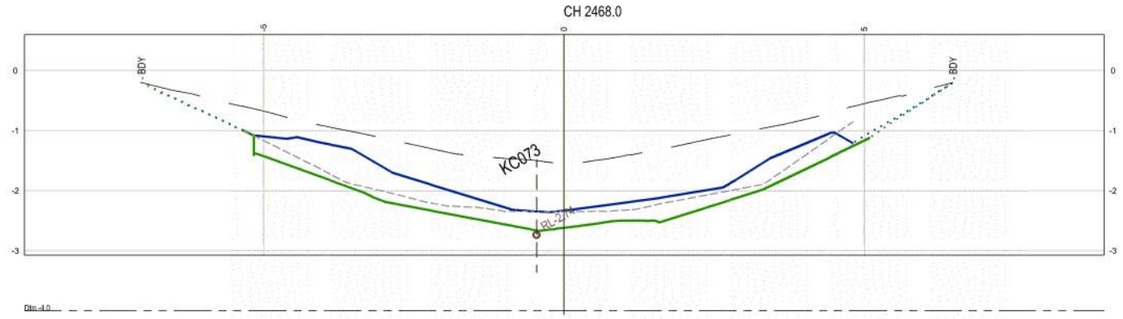


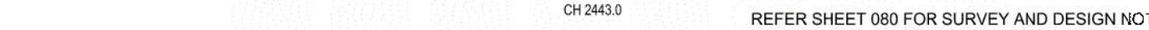












REFER SHEET 080 FOR SURVEY AND DESIGN NOTES

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A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
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PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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Ph +61 (0) 417 783 269
s.lawley@ausdredge.com

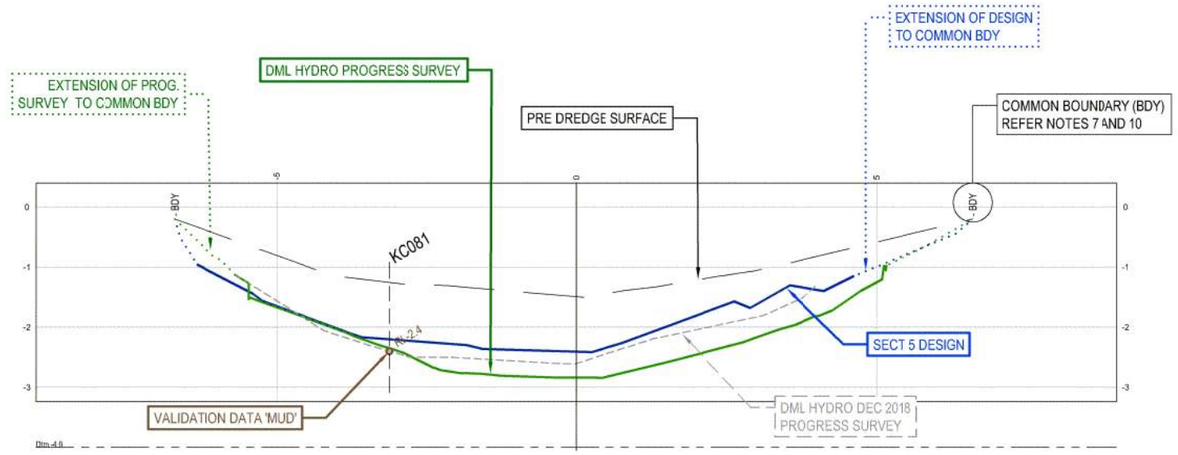
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

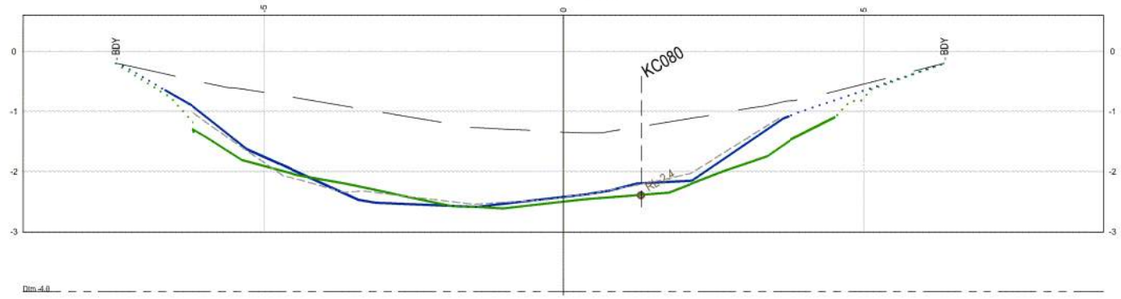
PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
SECTION 5 CROSS SECTIONS
DESIGN COMPARISON
SHEET 2

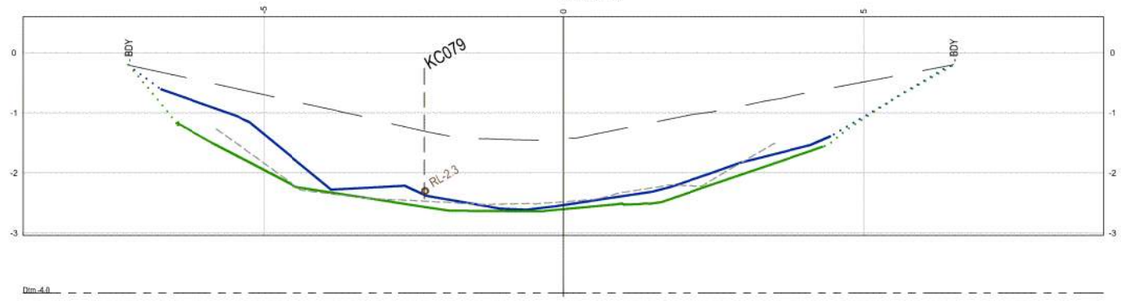
SCALE: AS SHOWN
DRG NO.: AD-0021-83-02
REV: B



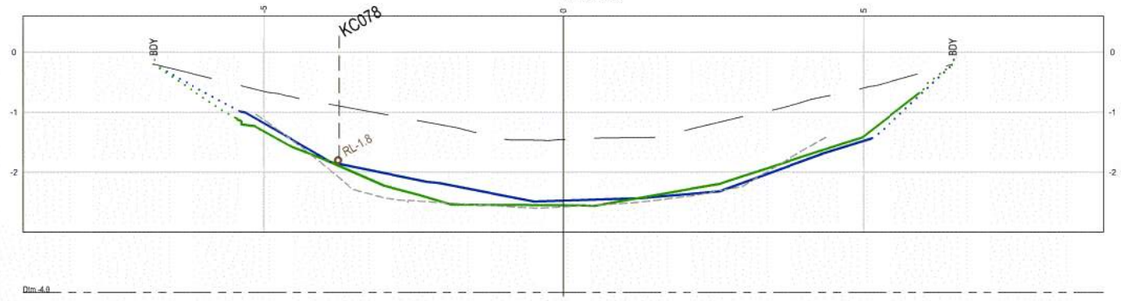
CH 2700.0



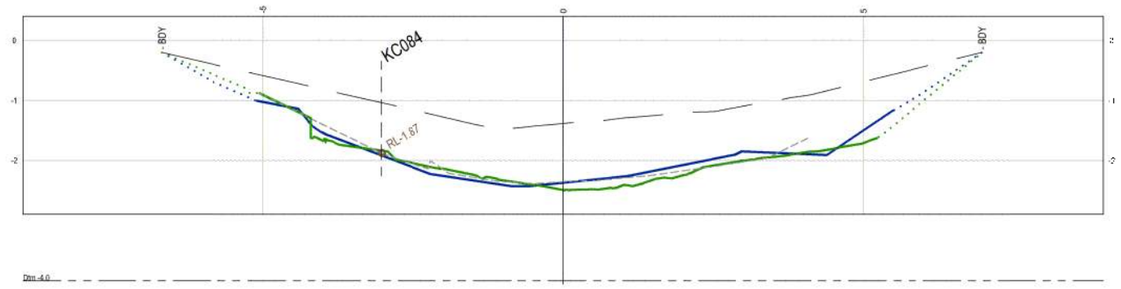
CH 2662.0



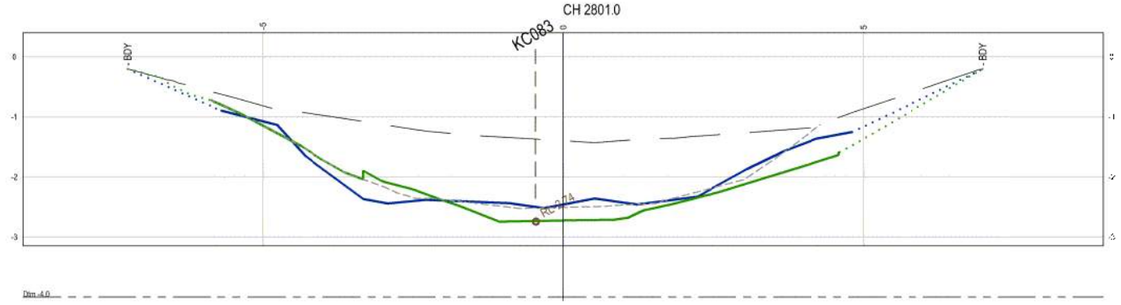
CH 2640.0



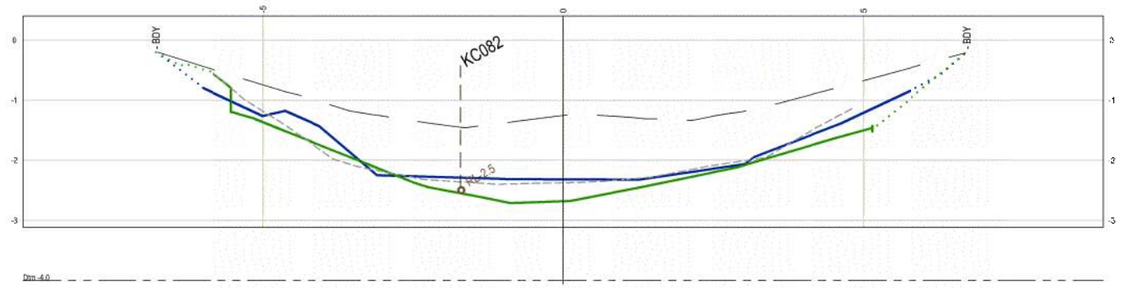
CH 2600.0



CH 2801.0



CH 2773.0



CH 2741.0

REFER SHEET 080 FOR SURVEY AND DESIGN NOTES

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	3.04.2019	FEB 2019 PROGRESS SURVEY AND DESIGN BOUNDARIES EXTENDED TO CAPTURE SITE VOLUMES. (NO EDITING REQD TO PRE-DREDGE SURVEY)	MC	SL	
A	18.03.2019	ISSUED FOR INFORMATION	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE

DRAWING TITLE
SECTION 5 CROSS SECTIONS
DESIGN COMPARISON
SHEET 3

SCALE: AS SHOWN
DRG NO.: AD-0021-83-03
REV: B

NOTES

1. ALL VOLUMES LISTED ON THE PLANS ARE IN SITU CUBIC METRES.
2. VOLUMES CALCULATED TO EXTENT BOUNDARY AS PER NOTE 5.
3. TRUE CENTRELINE CHAINAGES DEVELOPED BY AUSDREDGE AS A CONTROL STRING LOCATED CENTRALLY WITHIN THE SITE BOUNDARY (OR EDGE OF CANAL). THE TRUE CENTRELINE CONTROL HAS BEEN USED AS THE BASIS FOR CROSS SECTION REFERENCING.
4. THE PRE-DREDGE SURVEY "Kopeopeo Canal Depths_Section 6_Pre Dredge_19Feb2019" WAS RECEIVED ON THE 16.03.2019 FROM DML SURVEY - NOTING SURVEY FROM CH 2820 TO 2870 WAS NOT AVAILABLE. SURVEY IN THIS AREA HAS BEEN INTERPOLATED BETWEEN THE PROGRESS SURVEY FOR SECTION 5 (19.2.2019 "Kopeopeo Canal Depths_Section 5_Post Dredge_19Feb2019") AND THE SECTION 6 SURVEY AS NOTED ABOVE. WHERE THE SURVEY DID NOT EXTEND TO THE BOUNDARY (AS PER NOTE 5) THE POINTS WERE MANUALLY JOINED TO CLOSE THE SURVEY
5. BOUNDARY ANNOTATED ON THE CROSS SECTIONS (BDY) WAS OBTAINED FROM FILE "SECT6 DREDGE UPLOAD" RECEIVED 16.3.19.
6. 'KC' VALIDATION POINTS AS AS PER THE TABLES ON SHEETS XX PROVIDED AS FOLLOWS
   6.1. XX
7. THE DESIGN IS A 12D MODEL "SECT6 DTM.12da" RECEIVED 16.03.2019
8. THE PROGRESS SURVEY FOR SECTION 6 CONSISTS:
   8.1. "Kopu_Section6_7May19_xyz" RECEIVED 10.05.2019. WHERE THE SURVEY DID NOT EXTEND TO THE BOUNDARY (AS PER NOTE 5) THE POINTS WERE MANUALLY JOINED TO CLOSE THE SURVEY.

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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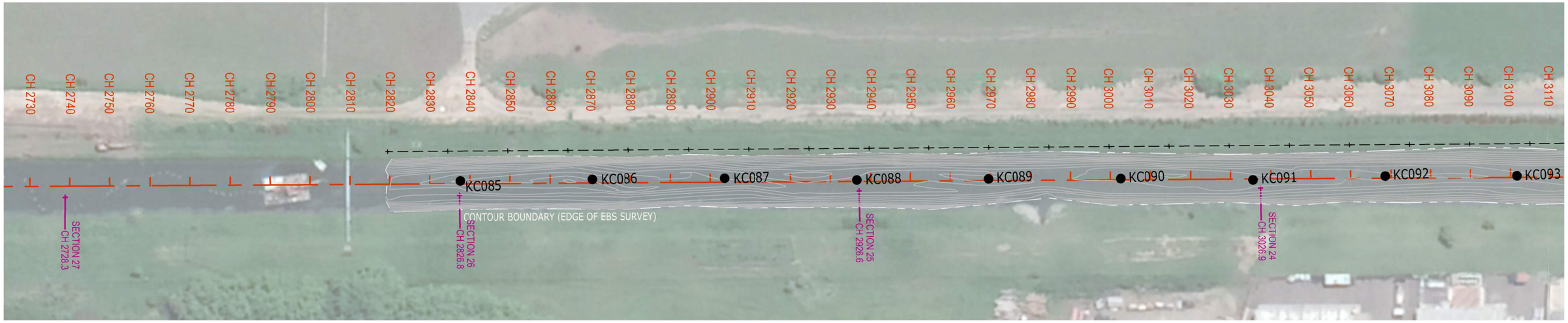
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE
0 75 150 225 300 375m
SCALE 1: 7,500 AT ORIGINAL SIZE

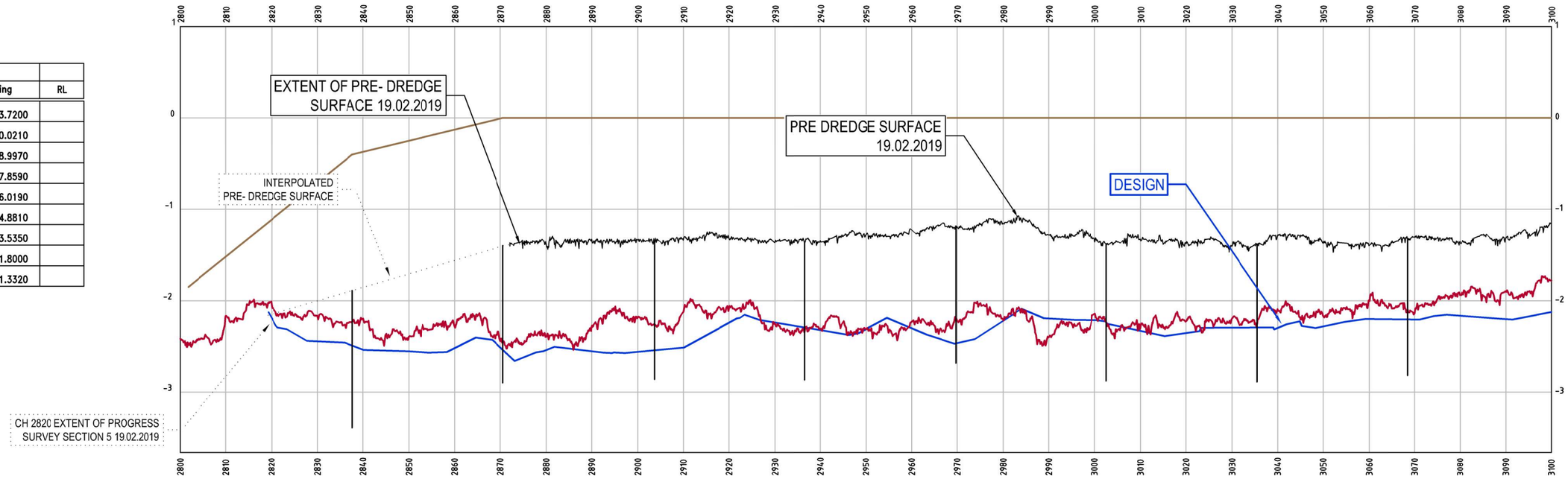
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
SITE PLAN, BOUNDARIES AND GENERAL NOTES

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-11-1	B



NZTM			
Point ID	Northing	Easting	RL
KC084	1947971.8100	5792233.7200	
KC085	1948007.5440	5792230.0210	
KC086	1948040.4780	5792228.9970	
KC087	1948073.4580	5792227.8590	
KC088	1948106.4160	5792226.0190	
KC089	1948139.3960	5792224.8810	
KC090	1948172.3700	5792223.5350	
KC091	1948205.3300	5792221.8000	
KC092	1948238.3330	5792221.3320	



RADIUS

DATUM R.L. -5

	KC084		KC085			KC086		KC087			KC088			KC089		KC090			KC091			KC092		
POST DREDGE 07.05.2019	-2.41	-2.47	-2.04	-2.24	-2.20	-2.28	-2.46	-2.39	-2.18	-2.26	-2.09	-2.34	-2.31	-2.23	-2.18	-2.21	-2.14	-2.25	-2.23	-2.24	-2.09	-1.99	-2.11	-1.94	-1.78
DESIGN (REFER SHT 01-1)			-2.18	-2.49	-2.54	-2.52	-2.53	-2.54	-2.56	-2.54	-2.24	-2.29	-2.32	-2.30	-2.47	-2.22	-2.21	-2.24	-2.35	-2.29	-2.30	-2.20	-2.20	-2.16	-2.12
PRE DREDGE 19.2.2019								-1.38	-1.33	-1.37	-1.31	-1.37	-1.34	-1.22	-1.20	-1.15	-1.33	-1.38	-1.37	-1.38	-1.29	-1.40	-1.33	-1.36	-1.15
CHAINAGE	2800.00	2801.60	2820.00	2837.60	2840.00	2860.00	2870.50	2880.00	2900.00	2903.50	2920.00	2936.60	2940.00	2960.00	2969.60	2980.00	3000.00	3002.70	3020.00	3035.60	3040.00	3060.00	3068.60	3080.00	3100.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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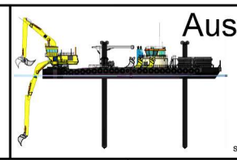
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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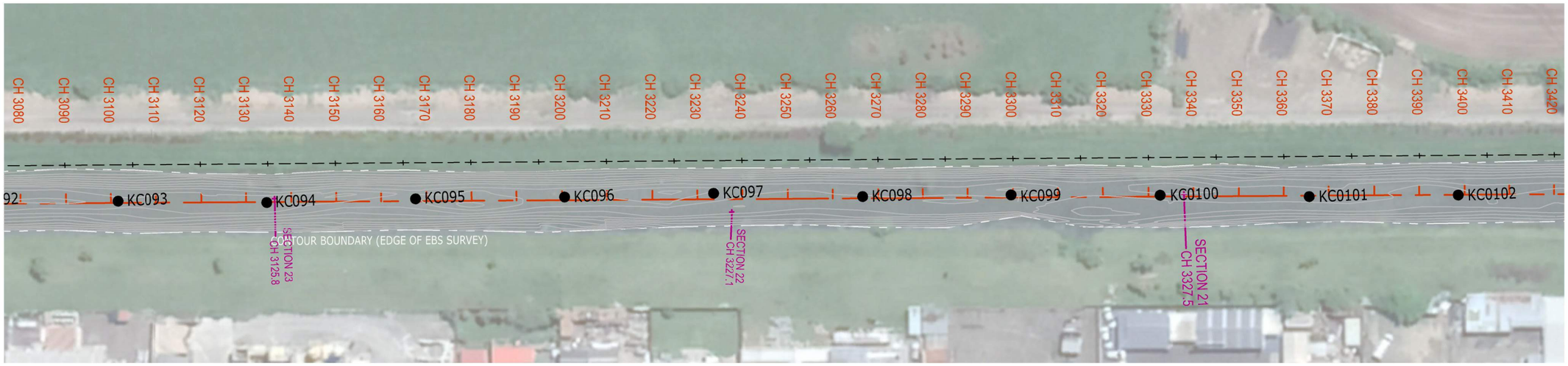
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

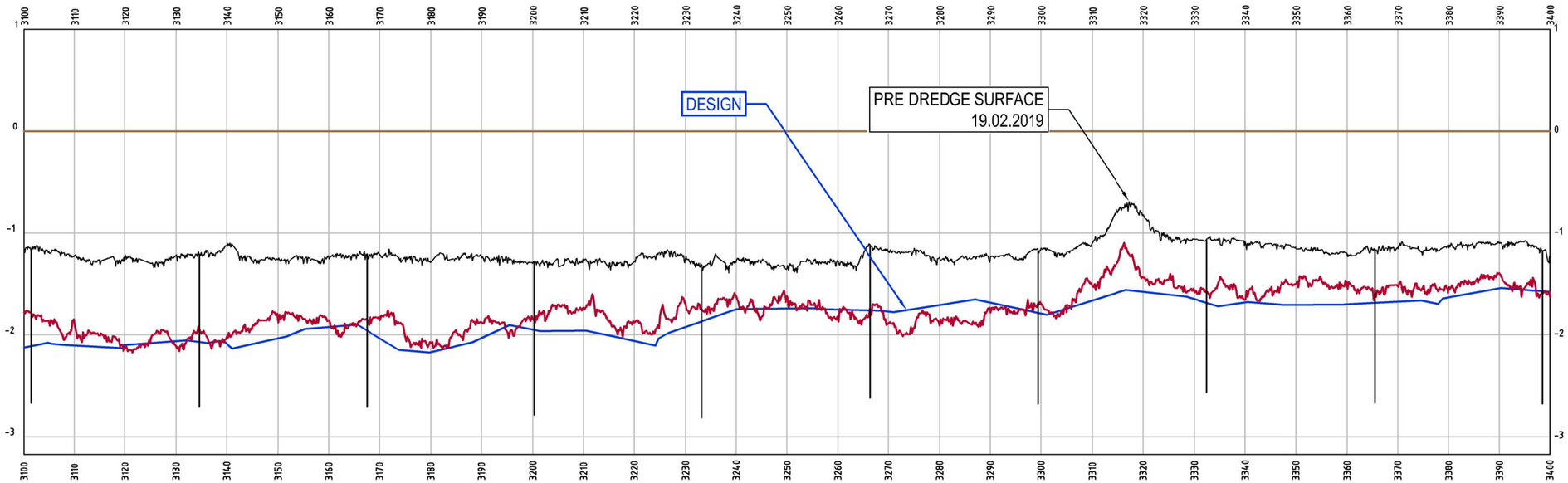
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 1
VALIDATION DATA SECTION 6

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-12-1	B



NZTM			
Point ID	Northing	Easting	RL
KC093	1948271.3070	5792219.9870	
KC094	1948304.2680	5792218.2580	
KC095	1948337.2660	5792217.6620	
KC096	1948370.2500	5792216.6400	
KC097	1948403.2480	5792216.0430	
KC098	1948436.1960	5792213.9120	
KC099	1948469.1790	5792212.8640	
KC100	1948502.1490	5792211.3860	
KC101	1948535.1100	5792209.6600	
KC102	1948568.0920	5792208.5810	



RADIUS	KC093		KC094		KC095		KC096		KC097		KC098		KC099		KC100		KC101		KC102	
DATUM R.L. -4																				
POST DREDGE 07.05.2019	-1.78	-1.81	-2.12	-1.95	-2.03	-1.86	-1.85	-2.08	-1.84	-1.84	-1.88	-1.77	-1.62	-1.83	-1.79	-1.90	-1.70	-1.69	-1.43	-1.58	-1.66	-1.51	-1.60	-1.56	-1.59	-1.61
DESIGN (REFER SHT 01-1)	-2.12	-2.11	-2.10	-2.07	-2.09	-1.92	-1.96	-2.17	-1.95	-1.95	-2.06	-1.86	-1.75	-1.75	-1.76	-1.71	-1.79	-1.79	-1.58	-1.69	-1.68	-1.70	-1.68	-1.63	-1.57	-1.58
PRE DREDGE 19.2.2019	-1.15	-1.14	-1.24	-1.22	-1.13	-1.24	-1.22	-1.29	-1.30	-1.29	-1.28	-1.34	-1.28	-1.27	-1.13	-1.24	-1.20	-1.15	-0.82	-1.06	-1.10	-1.20	-1.17	-1.13	-1.18	-1.22
CHAINAGE	3100.00	3101.60	3120.00	3134.60	3140.00	3160.00	3167.60	3180.00	3200.00	3200.60	3220.00	3233.60	3240.00	3260.00	3266.60	3280.00	3299.60	3300.00	3320.00	3332.60	3340.00	3360.00	3365.60	3380.00	3398.60	3400.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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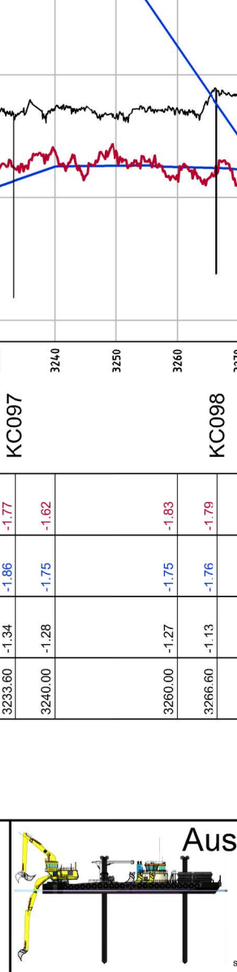
GEOTECHNICAL CONDITIONS –



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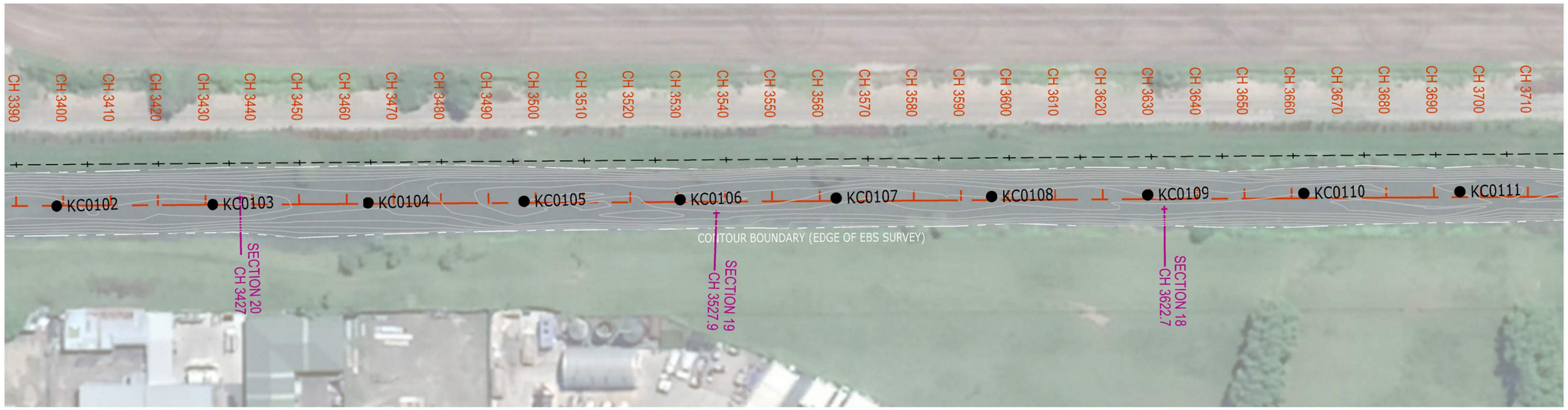
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

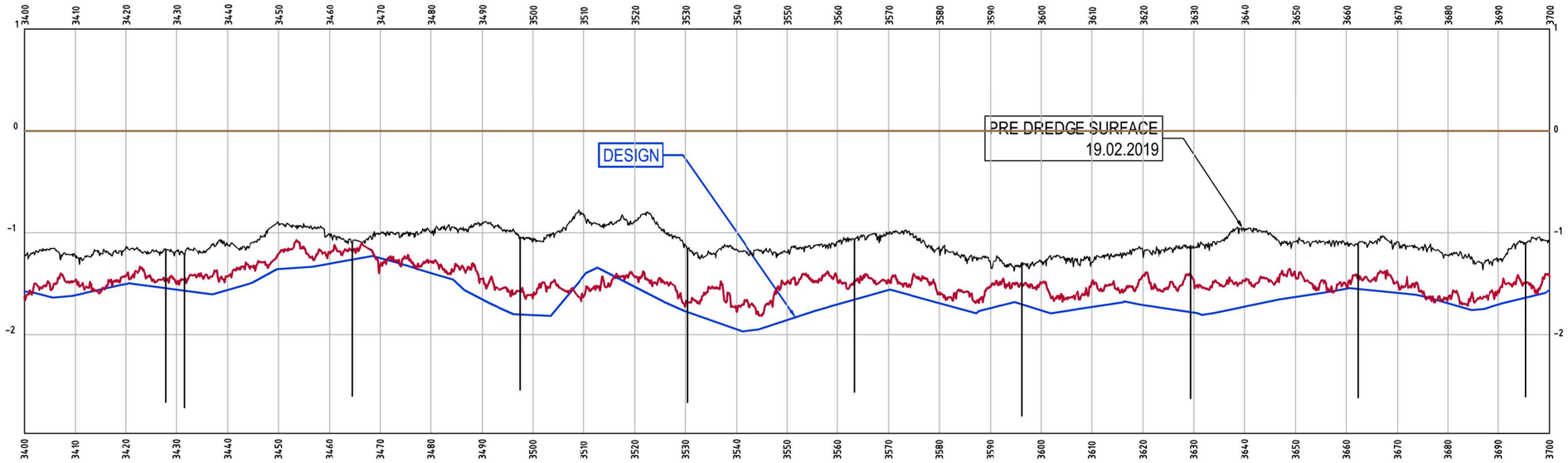
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 2
VALIDATION DATA SECTION 6

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-12-2	B



NZTM			
Point ID	Northing	Easting	RL
KC103	1948601.0750	5792207.5020	
KC104	1948634.0570	5792206.4230	
KC105	1948667.0390	5792205.3440	
KC106	1948700.0220	5792204.2650	
KC107	1948733.0040	5792203.1860	
KC108	1948765.9860	5792202.1070	
KC109	1948798.9690	5792201.0270	
KC110	1948831.9510	5792199.9480	
KC111	1948864.9330	5792198.8690	



RADIUS																															
DATUM R.L. -4		KC103	KC103			KC104			KC105			KC106			KC107			KC108			KC109			KC110			KC111		
POST DREDGE 07.05.2019	-1.61	-1.43	-1.45	-1.43	-1.20	-1.18	-1.28	-1.58	-1.64	-1.44	-1.68	-1.77	-1.46	-1.46	-1.60	-1.52	-1.49	-1.42	-1.43	-1.47	-1.52	-1.43	-1.66	-1.49	-1.42
DESIGN (REFER SHT 01-1)	-1.58	-1.51	-1.57	-1.56	-1.30	-1.26	-1.40	-1.80	-1.81	-1.53	-1.78	-1.95	-1.70	-1.65	-1.69	-1.71	-1.76	-1.71	-1.78	-1.73	-1.55	-1.55	-1.69	-1.64	-1.56
PRE DREDGE 19.2.2019	-1.22	-1.15	-1.23	-1.12	-1.01	-1.10	-0.99	-1.05	-1.08	-0.89	-1.15	-1.17	-1.09	-1.06	-1.15	-1.31	-1.28	-1.21	-1.15	-0.99	-1.11	-1.09	-1.22	-1.10	-1.09
CHAINAGE	3400.00	3420.00	3431.60	3440.00	3460.00	3464.60	3480.00	3497.60	3500.00	3520.00	3530.60	3540.00	3560.00	3563.60	3580.00	3596.60	3600.00	3620.00	3629.60	3640.00	3660.00	3662.60	3680.00	3695.60	3700.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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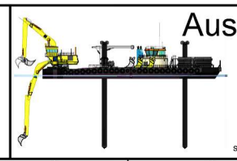
VERTICAL DATUM –
PREDREDGE SURVEY –
PREDREDGE SURVEY –
DESIGN –
GEOTECHNICAL CONDITIONS –



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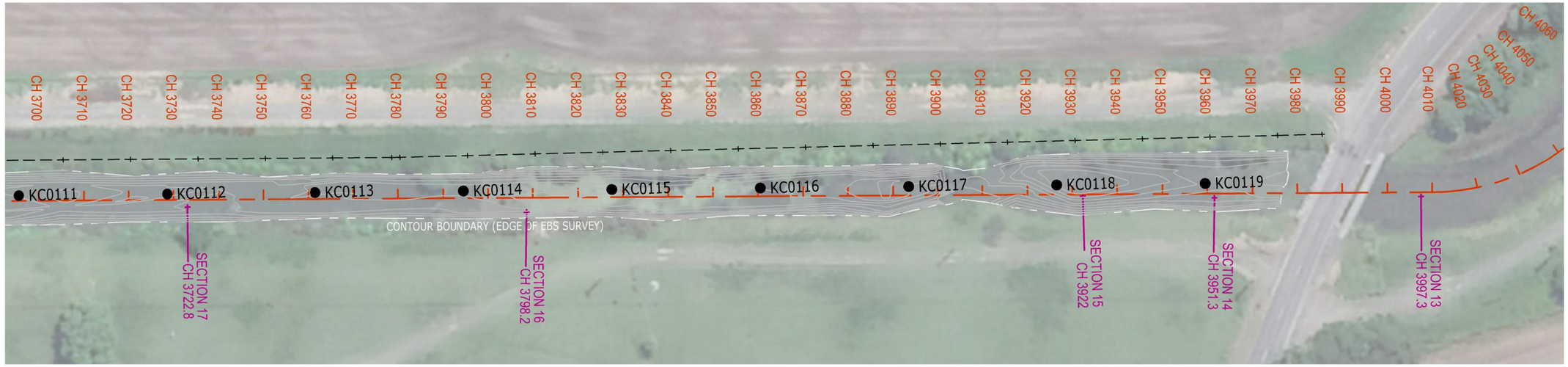
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

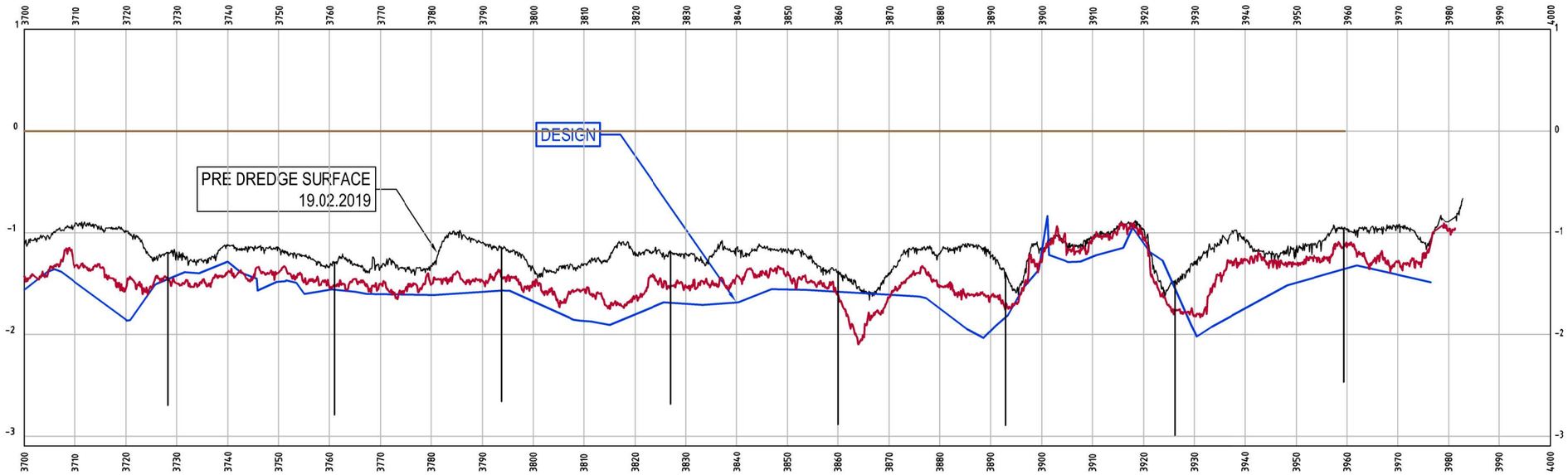
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 3
VALIDATION DATA SECTION 6

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-12-3	B



NZTM			
Point ID	Northing	Easting	RL
KC112	1948897.9160	5792197.7900	
KC113	1948930.8980	5792196.7110	
KC114	1948963.8800	5792195.6320	
KC115	1948996.8630	5792194.5530	
KC116	1949029.8450	5792193.4740	
KC117	1949062.8280	5792192.3950	
KC118	1949095.8100	5792191.3160	
KC119	1949128.7920	5792190.2370	



	KC112				KC113			KC114			KC115			KC116			KC117			KC118			KC119			
RADIUS																										
DATUM R.L. -4																										
POST DREDGE 07.05.2019	-1.42	-1.55	-1.46	-1.39	-1.52	-1.50	-1.51	-1.45	-1.50	-1.64	-1.52	-1.42	-1.61	-1.67	-1.53	-1.74	-1.29	-1.05	-1.76	-1.26	-1.11	-1.14	-0.97			
DESIGN (REFER SHT 01-1)	-1.56	-1.85	-1.45	-1.29	-1.56	-1.56	-1.61	-1.57	-1.67	-1.80	-1.69	-1.69	-1.58	-1.58	-1.74	-1.80	-1.19	-1.10	-1.59	-1.74	-1.35	-1.35				
PRE DREDGE 19.2.2019	-1.09	-0.98	-1.20	-1.13	-1.34	-1.29	-1.32	-1.15	-1.35	-1.21	-1.21	-1.15	-1.39	-1.41	-1.21	-1.48	-1.19	-0.96	-1.50	-1.08	-0.95	-0.96	-0.89			
CHAINAGE	3700.00	3720.00	3728.60	3740.00	3760.00	3761.60	3780.00	3794.60	3800.00	3820.00	3827.60	3840.00	3860.00	3860.60	3880.00	3893.60	3900.00	3920.00	3926.60	3940.00	3959.60	3960.00	3980.00	4000.00		

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 6

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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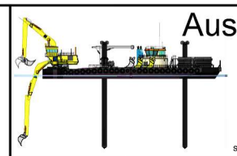
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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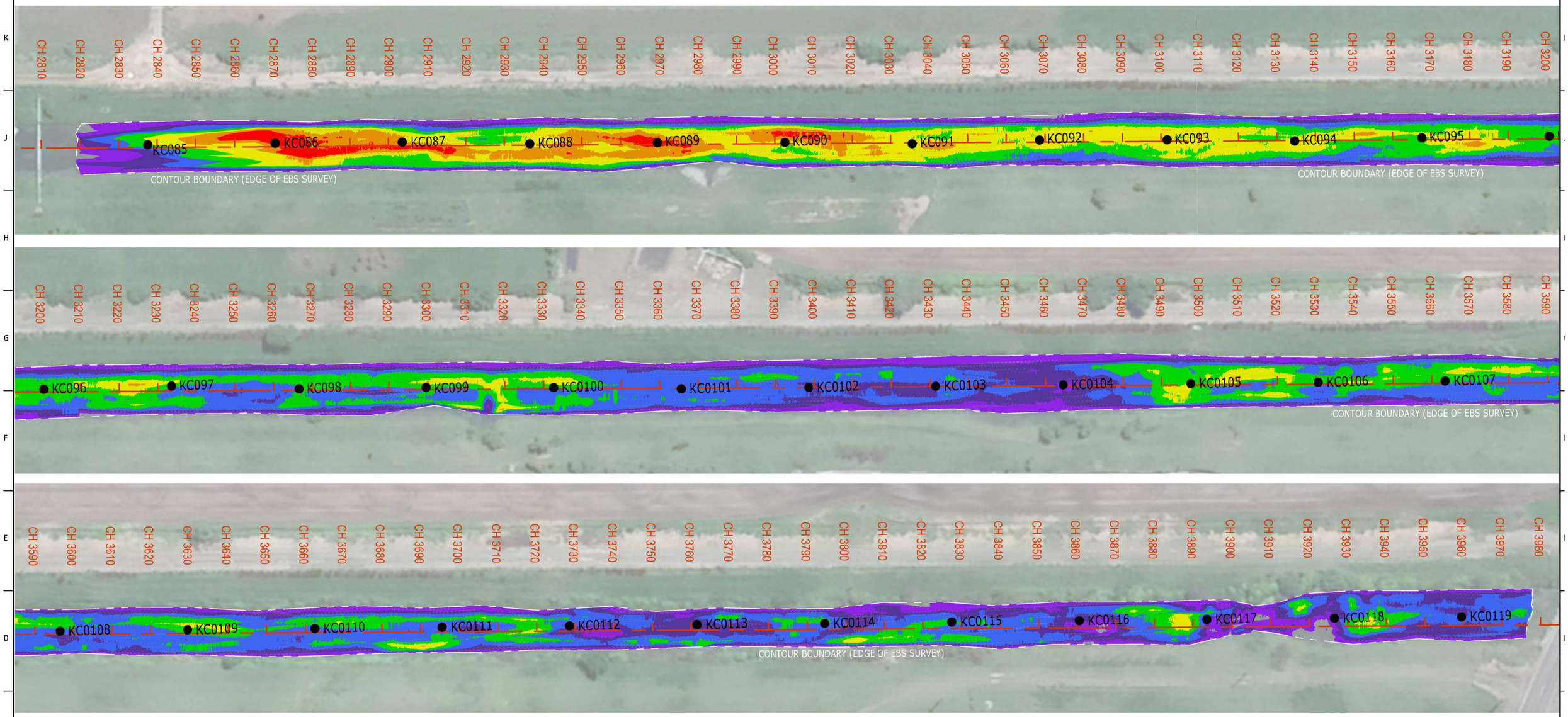
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 4
VALIDATION DATA SECTION 6

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-12-4	B



VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-0.200	0.000	-2666.185	0.000	-2666.185	0.000	-2666.185
-0.400	-0.200	-2233.122	0.000	-4899.308	0.000	-4899.308
-0.600	-0.400	-1547.988	0.000	-6447.296	0.000	-6447.296
-0.800	-0.600	-782.817	0.000	-7230.113	0.000	-7230.113
-1.000	-0.800	-301.310	0.000	-7531.423	0.000	-7531.423
-1.200	-1.000	-81.723	0.000	-7613.147	0.000	-7613.147
-1.400	-1.200	-9.326	0.000	-7622.473	0.000	-7622.473
-1.600	-1.400	-0.074	0.000	-7622.547	0.000	-7622.547
-1.800	-1.600	0.000	0.000	-7622.547	0.000	-7622.547
-2.000	-1.800	0.000	0.000	-7622.547	0.000	-7622.547
-20.000	-2.000	0.000	0.000	-7622.547	0.000	-7622.547

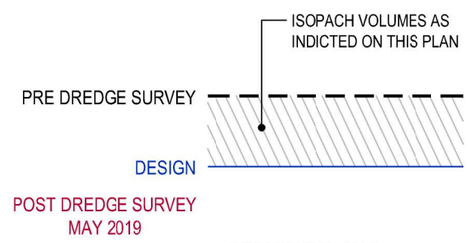
NOTE: Totals are for the above depth ranges only

Total cut	-7622.547
Total fill	0.000
Total balance	-7622.547
ie excess of cut over fill	7622.547

Polygon plan area = 14484.678

VOLUMES SUMMARY (REFER PLANS S6-13-01, 02, 03, 04)

Plan ref.	11	12	13 - 14		
PREDREDGE SURVEY to DESIGN DTM	7,622 m3				
PREDREDGE SURVEY to POST DREDGE SURVEY		5,616 m3			
POST DREDGE SURVEY to DESIGN DTM			2,212 m3		
POST DREDGE SURVEY to POST DREDGE SURVEY			170 m3	<OVERDREDGE	
	7,622 m3	5,616 m3	+ 2,042 m3	=	7,658 m3



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to -0.2	
-0.2 to -0.4	
-0.4 to -0.6	
-0.6 to -0.8	
-0.8 to -1.0	
-1.0 to -1.2	
-1.2 to -1.4	
-1.4 to -1.6	
-1.6 to -1.8	
-1.8 to -2.0	
-2.0 to -10	

PRE DREDGE ⇓ DEPTH TO ⇓ DESIGN

SECTION 6

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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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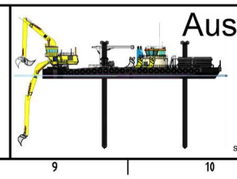
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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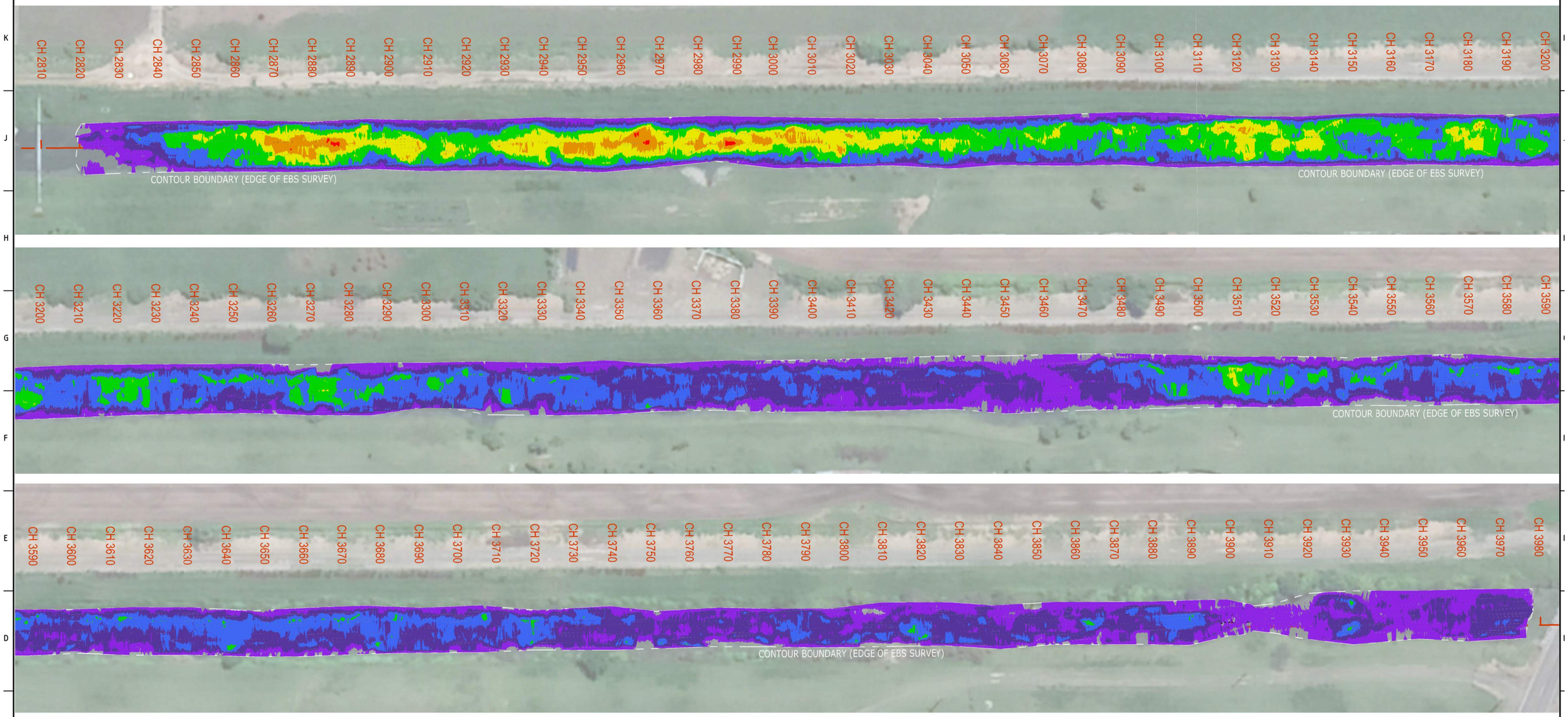
SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 1
PRE DREDGE TO DESIGN

SCALE: AS SHOWN
DRG NO.: AD-0021-S6-13-1
REV: B



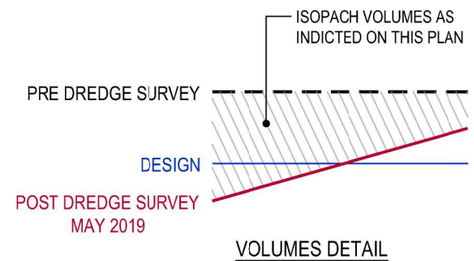
VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-0.200	0.000	-2475.401	0.000	-2475.401	0.000	-2475.401
-0.400	-0.200	-1740.871	0.000	-4216.272	0.000	-4216.272
-0.600	-0.400	-900.463	0.000	-5116.735	0.000	-5116.735
-0.800	-0.600	-372.159	0.000	-5488.895	0.000	-5488.895
-1.000	-0.800	-114.347	0.000	-5603.242	0.000	-5603.242
-1.200	-1.000	-13.110	0.000	-5616.353	0.000	-5616.353
-1.400	-1.200	-0.056	0.000	-5616.409	0.000	-5616.409
-1.600	-1.400	0.000	0.000	-5616.409	0.000	-5616.409
-1.800	-1.600	0.000	0.000	-5616.409	0.000	-5616.409
-2.000	-1.800	0.000	0.000	-5616.409	0.000	-5616.409
-20.000	-2.000	0.000	0.000	-5616.409	0.000	-5616.409

NOTE: Totals are for the above depth ranges only

Total cut	-5616.409
Total fill	0.000
Total balance	-5616.409
ie excess of cut over fill	5616.409

Polygon plan area = 14484.678



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to -0.2	
-0.2 to -0.4	
-0.4 to -0.6	
-0.6 to -0.8	
-0.8 to -1.0	
-1.0 to -1.2	
-1.2 to -1.4	
-1.4 to -1.6	
-1.6 to -1.8	
-1.8 to -2.0	
-2.0 to -10	

PRE DREDGE

DEPTH TO

POST DREDGE SURVEY MAY 2019

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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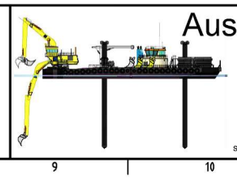
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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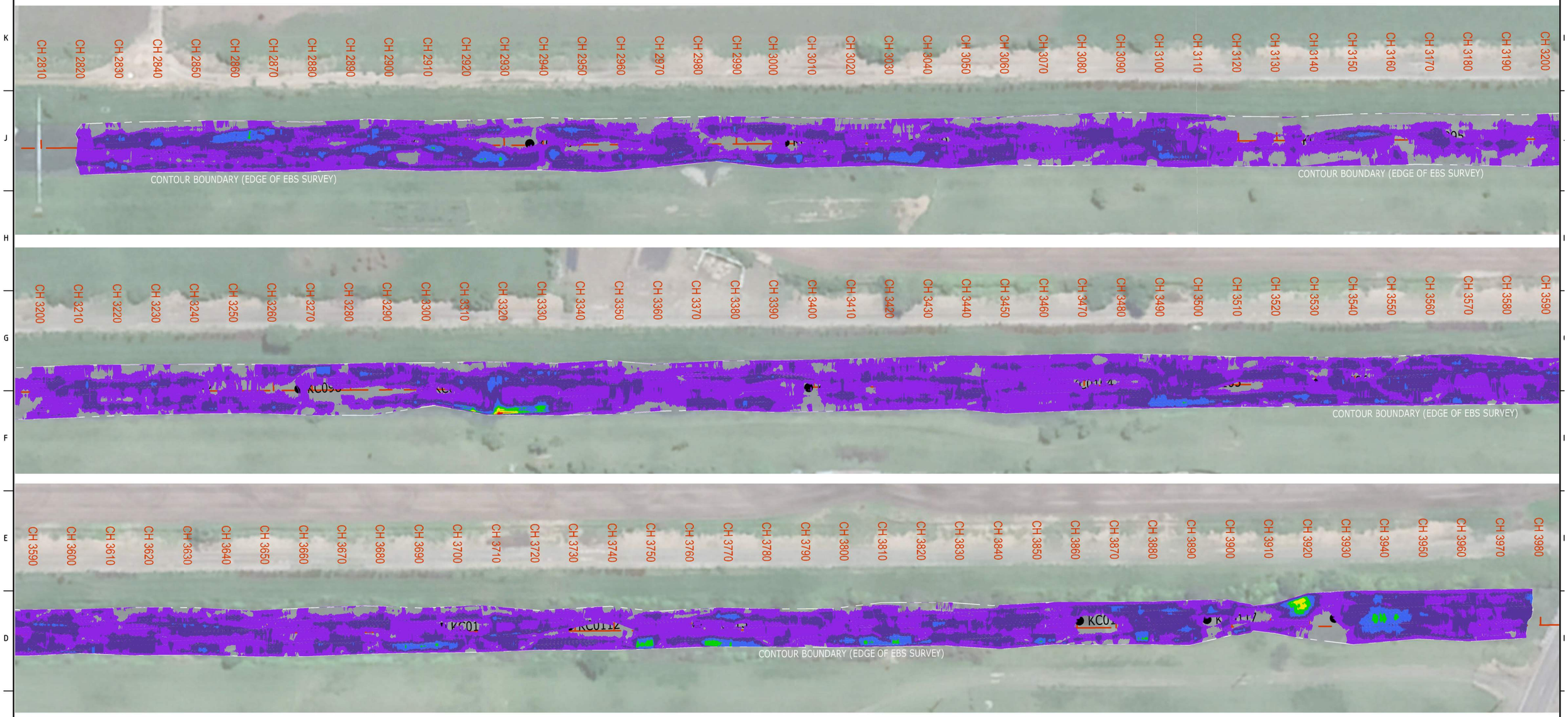
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 2
PRE DREDGE TO POST DREDGE SURVEY 07.05.2019

SCALE: AS SHOWN
DRG NO.: AD-0021-S6-13-2
REV: B



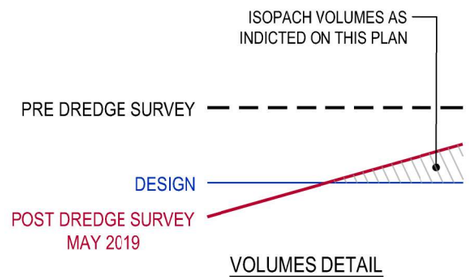
VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-0.200	0.000	-1752.201	0.000	-1752.201	0.000	-1752.201
-0.400	-0.200	-408.863	0.000	-2161.064	0.000	-2161.064
-0.600	-0.400	-45.424	0.000	-2206.488	0.000	-2206.488
-0.800	-0.600	-5.130	0.000	-2211.618	0.000	-2211.618
-1.000	-0.800	-0.941	0.000	-2212.560	0.000	-2212.560
-1.200	-1.000	-0.112	0.000	-2212.672	0.000	-2212.672
-1.400	-1.200	-0.002	0.000	-2212.674	0.000	-2212.674
-1.600	-1.400	0.000	0.000	-2212.674	0.000	-2212.674
-1.800	-1.600	0.000	0.000	-2212.674	0.000	-2212.674
-2.000	-1.800	0.000	0.000	-2212.674	0.000	-2212.674
-20.000	-2.000	0.000	0.000	-2212.674	0.000	-2212.674

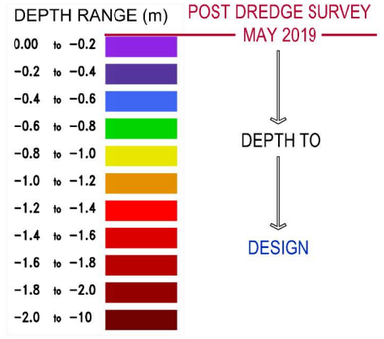
NOTE: Totals are for the above depth ranges only

Total cut	-2212.674
Total fill	0.000
Total balance	-2212.674
ie excess of cut over fill	2212.674

Polygon plan area = 14484.678



VOLUMES DETAIL



SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
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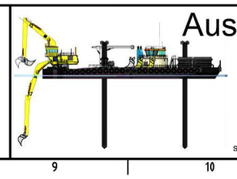
GEOTECHNICAL CONDITIONS -



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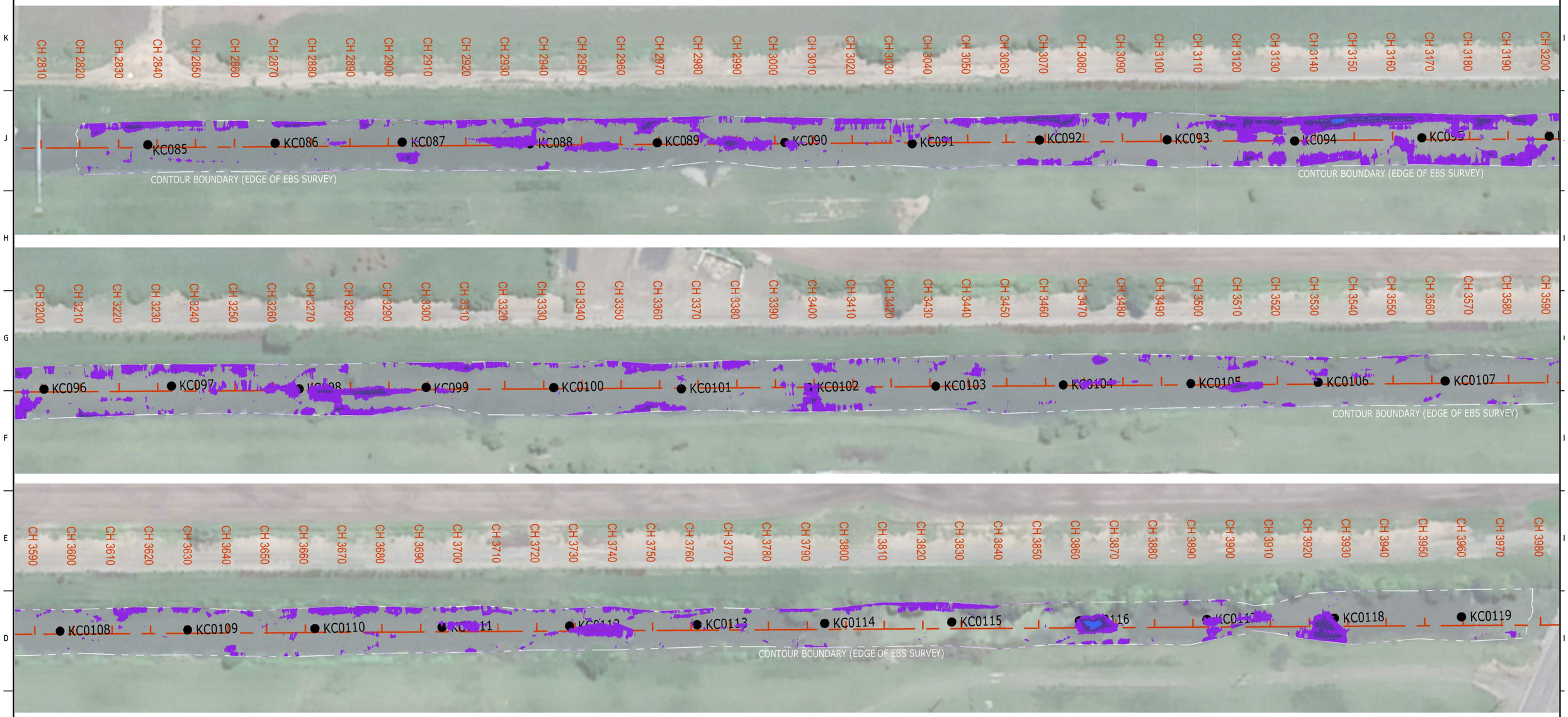
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 3
POST DREDGE SURVEY 07.05.2019 TO DESIGN

SCALE: AS SHOWN
DRG NO.: AD-0021-S6-13-3
REV: B



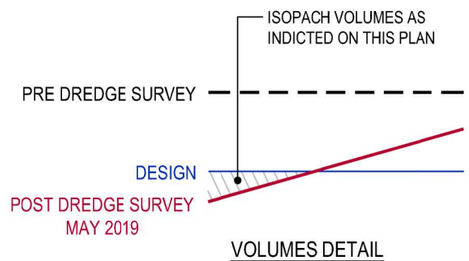
VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
-0.200	0.000	-156.099	0.000	-156.099	0.000	-156.099
-0.400	-0.200	-14.245	0.000	-170.344	0.000	-170.344
-0.600	-0.400	-0.619	0.000	-170.963	0.000	-170.963
-0.800	-0.600	-0.000	0.000	-170.963	0.000	-170.963
-1.000	-0.800	0.000	0.000	-170.963	0.000	-170.963
-1.200	-1.000	0.000	0.000	-170.963	0.000	-170.963
-1.400	-1.200	0.000	0.000	-170.963	0.000	-170.963
-1.600	-1.400	0.000	0.000	-170.963	0.000	-170.963
-1.800	-1.600	0.000	0.000	-170.963	0.000	-170.963
-2.000	-1.800	0.000	0.000	-170.963	0.000	-170.963
-20.000	-2.000	0.000	0.000	-170.963	0.000	-170.963

NOTE: Totals are for the above depth ranges only

Total cut	-170.963
Total fill	0.000
Total balance	-170.963
ie excess of cut over fill	170.963

Polygon plan area = 14484.678



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to -0.2	
-0.2 to -0.4	
-0.4 to -0.6	
-0.6 to -0.8	
-0.8 to -1.0	
-1.0 to -1.2	
-1.2 to -1.4	
-1.4 to -1.6	
-1.6 to -1.8	
-1.8 to -2.0	
-2.0 to -10	

DESIGN
DEPTH TO
POST DREDGE SURVEY MAY 2019
(OVERDREDGE)

SECTION 6

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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
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PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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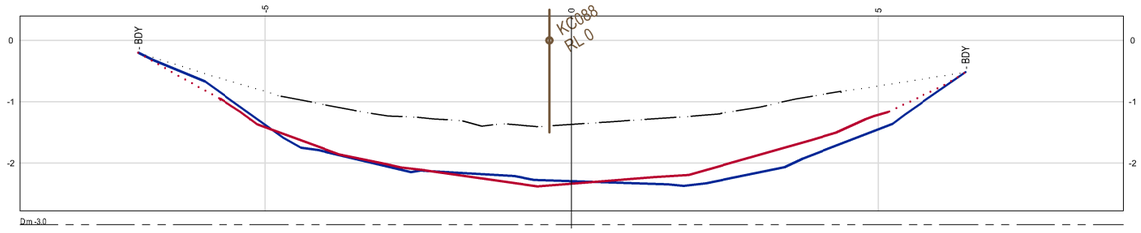
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

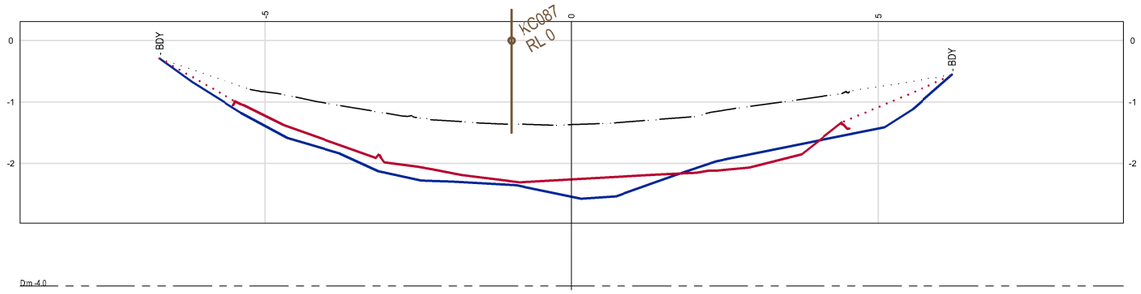
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 1
DESIGN TO POST DREDGE SURVEY 07.05.2019

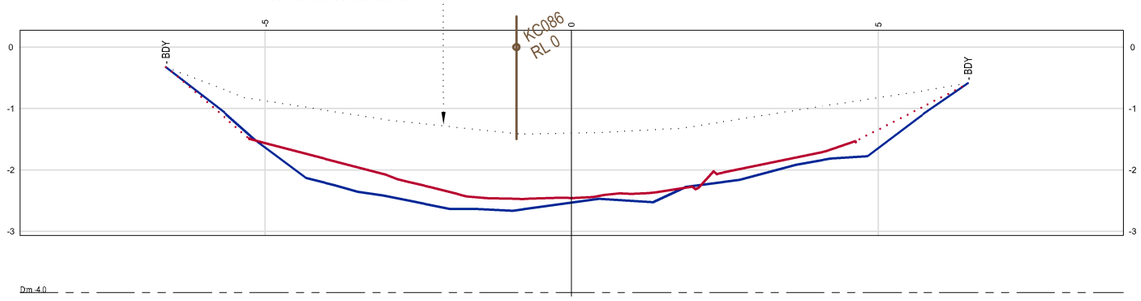
SCALE: AS SHOWN
DRG NO.
REV: B



CH 2936.6



CH 2903.5



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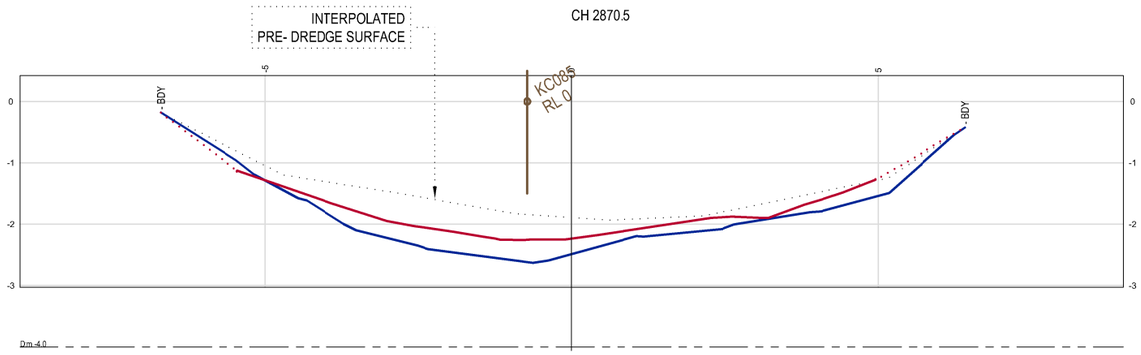

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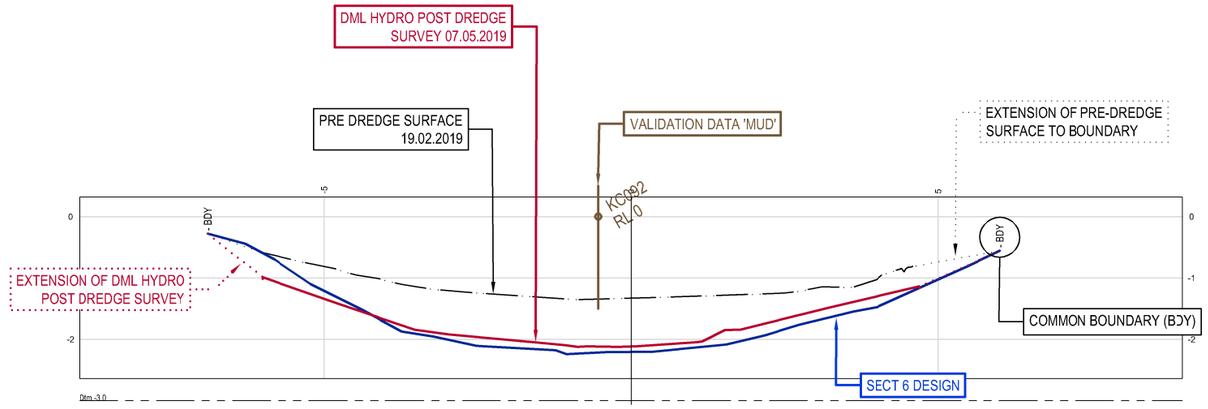

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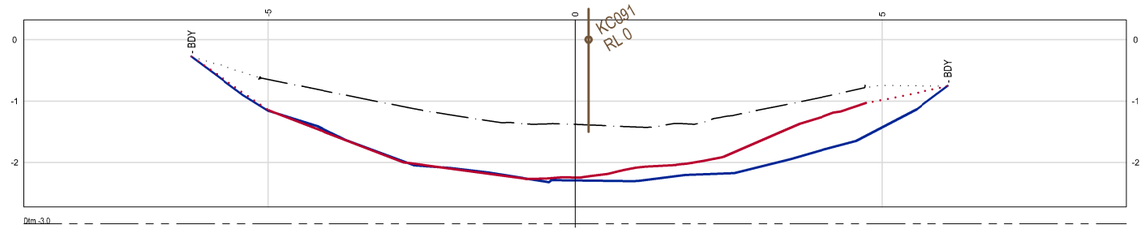

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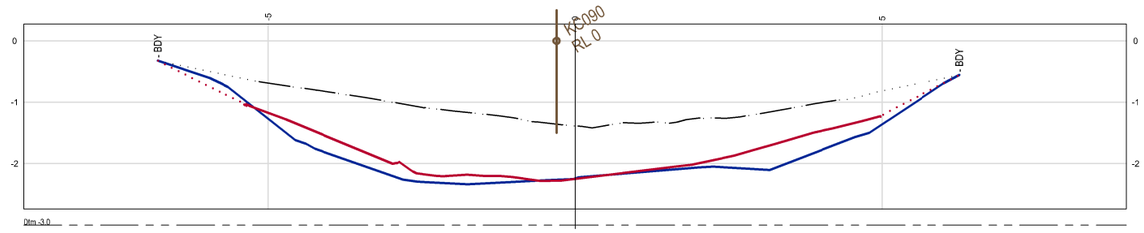

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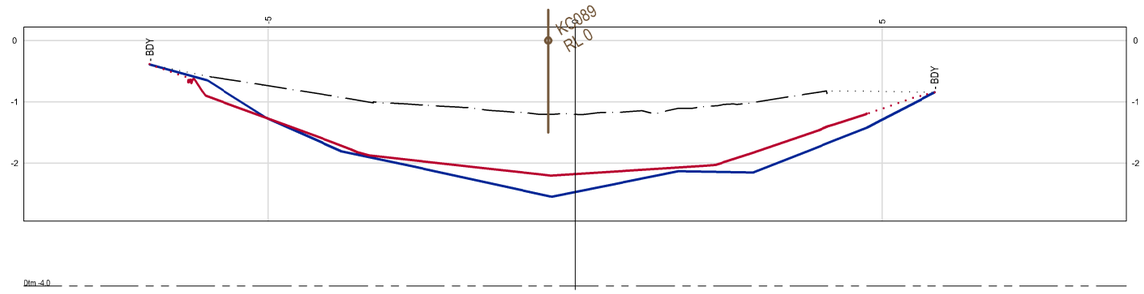

CH 2969.6

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED – PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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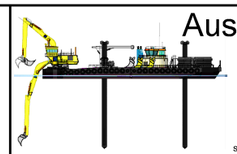
PREDREDGE SURVEY –
PREDREDGE SURVEY –
DESIGN –
GEOTECHNICAL CONDITIONS –



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s.lawley@ausdredge.com

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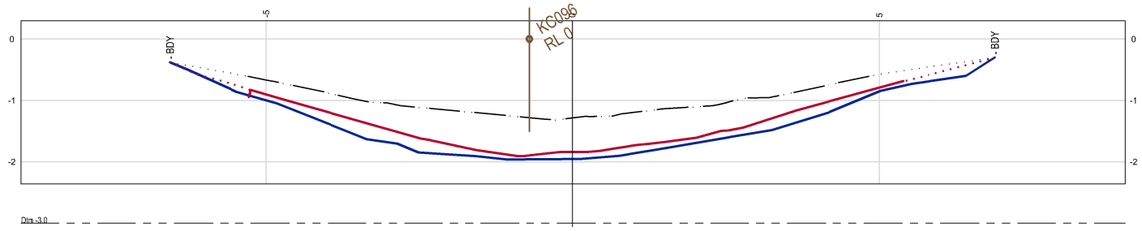
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1: 50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
SECTION 6 CROSS SECTIONS
DESIGN COMPARISON
SHEET 1

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-14-1	B



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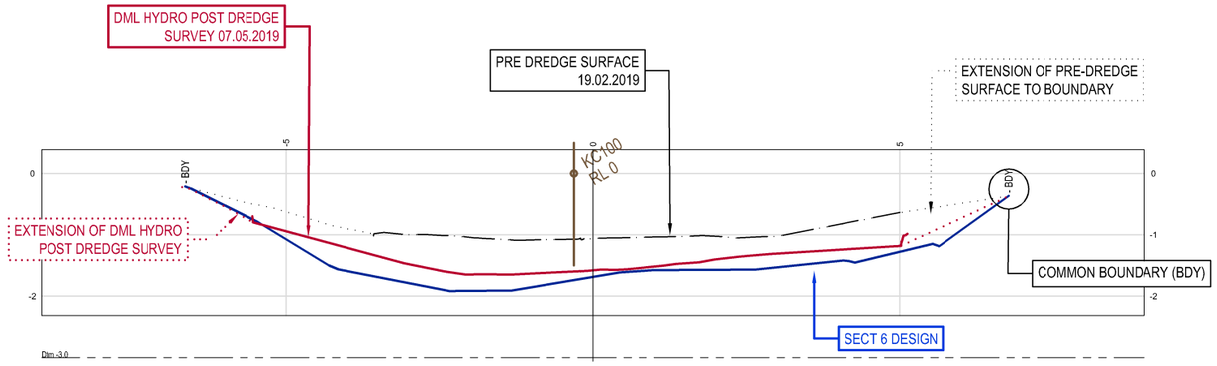

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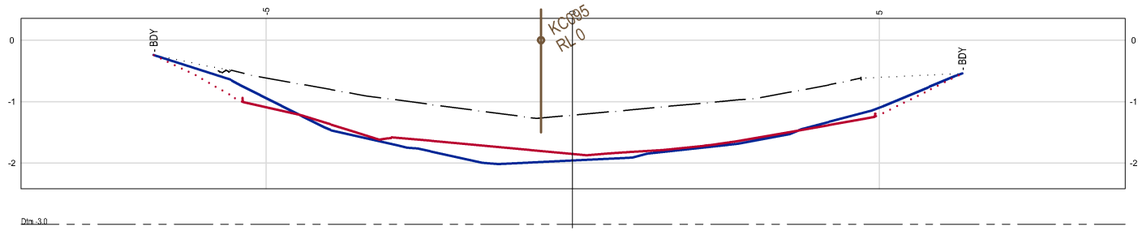

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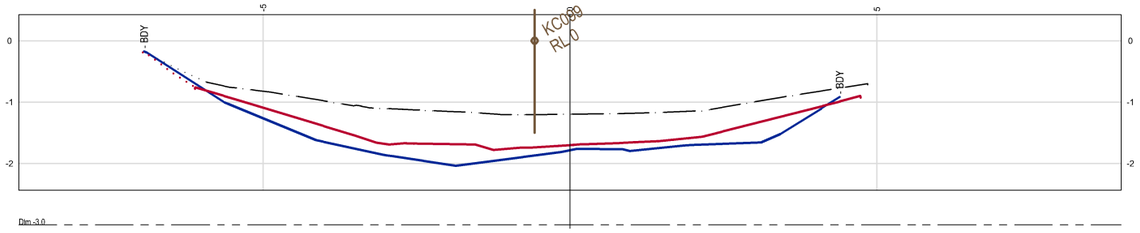

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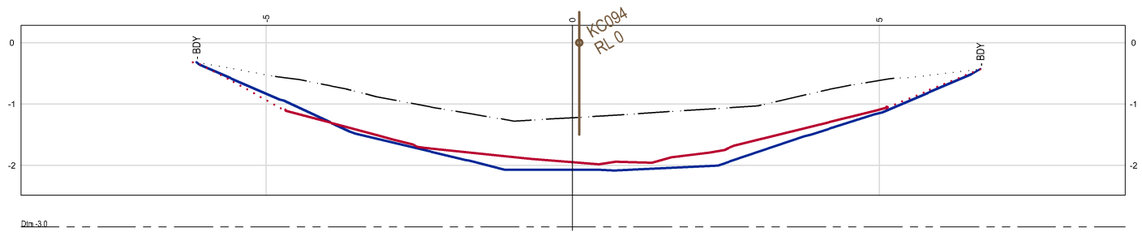

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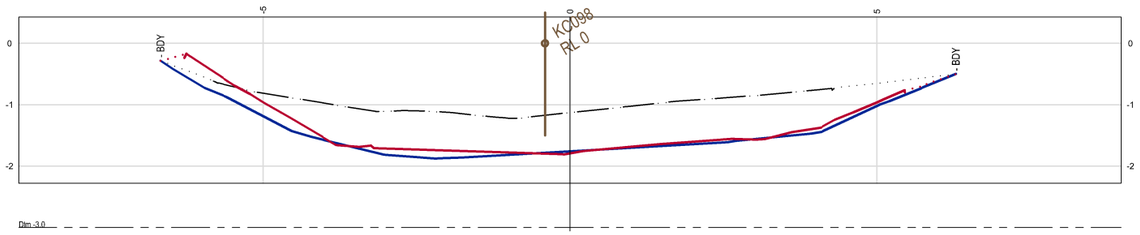

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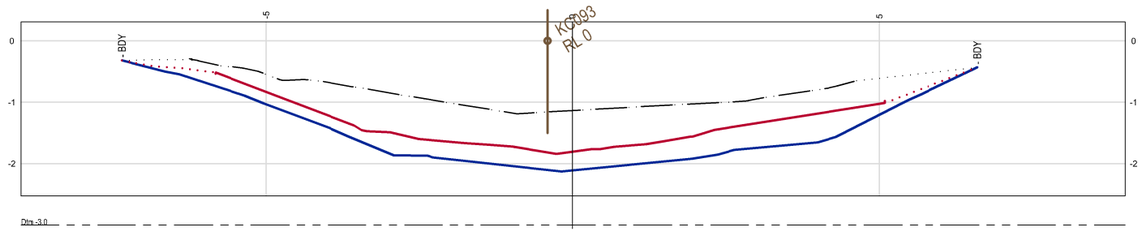

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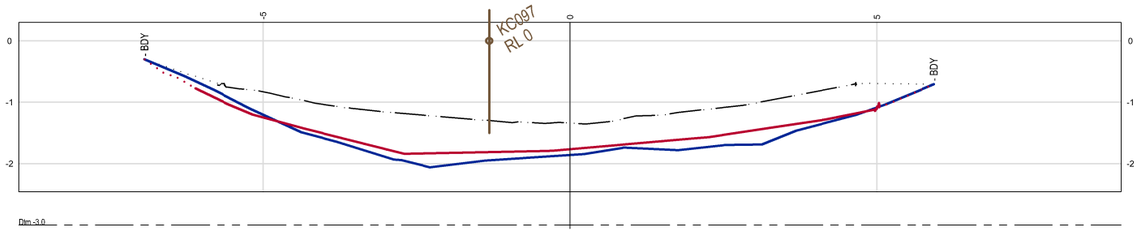

CH 3233.6

SECTION 6

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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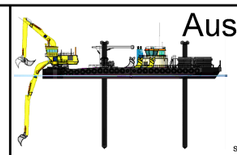
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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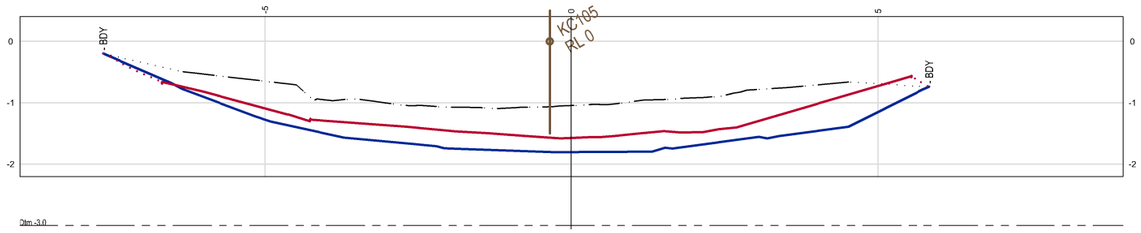
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1: 50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
SECTION 6 CROSS SECTIONS
DESIGN COMPARISON
SHEET 2

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-14-2	B



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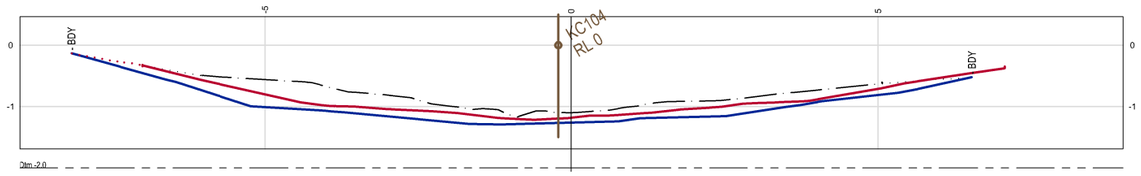

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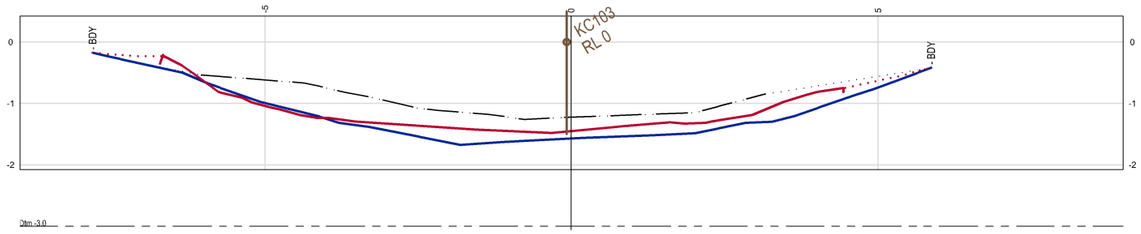

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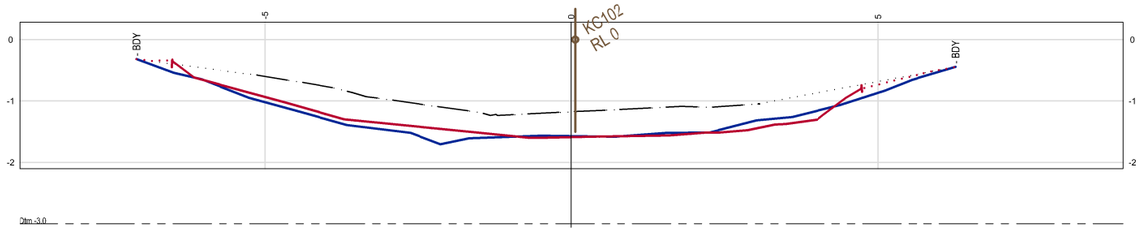

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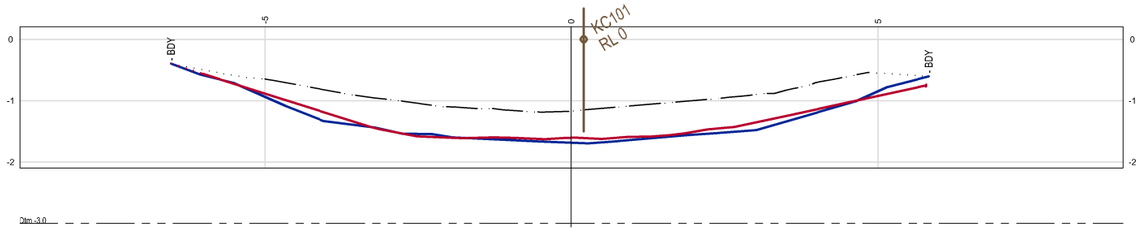

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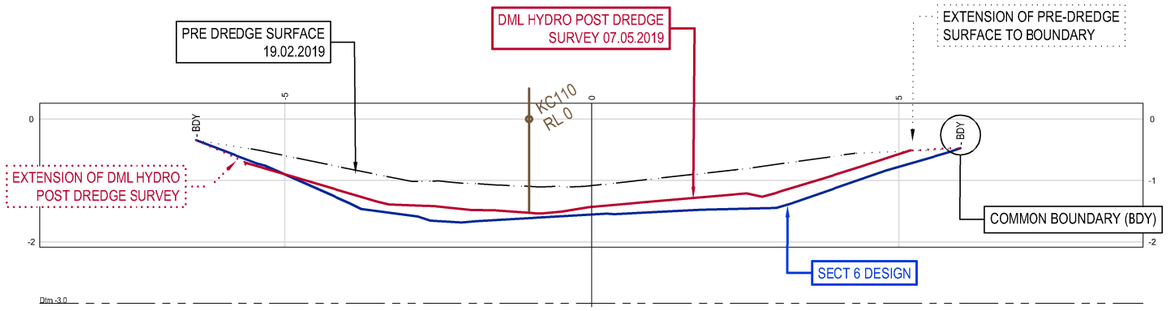

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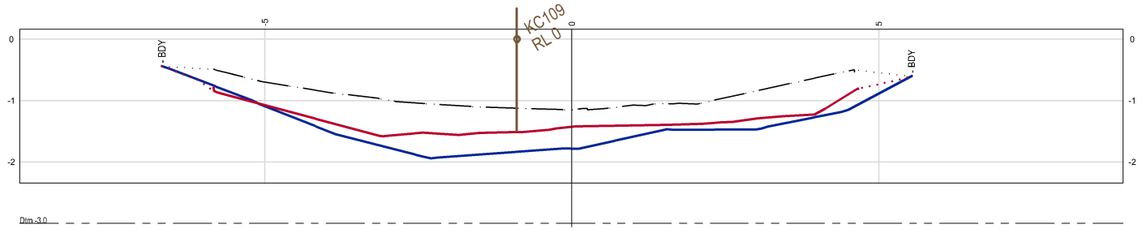

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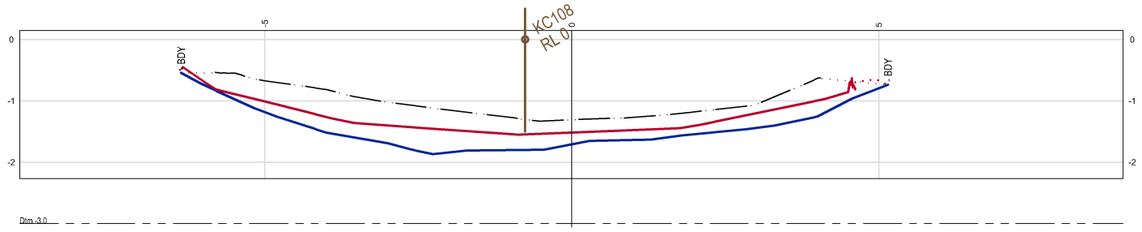

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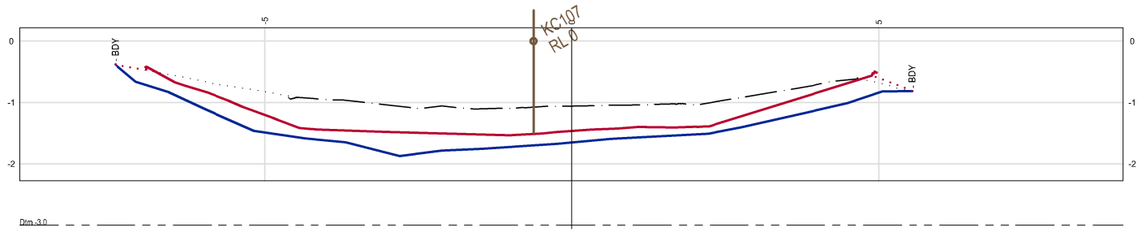

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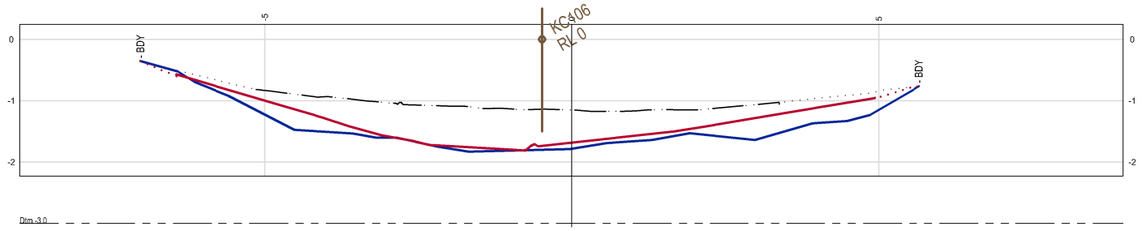

CH 3530.6

SECTION 6

ISSUED FOR INFORMATION
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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
A	16.04.2019	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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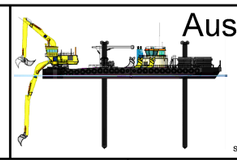
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

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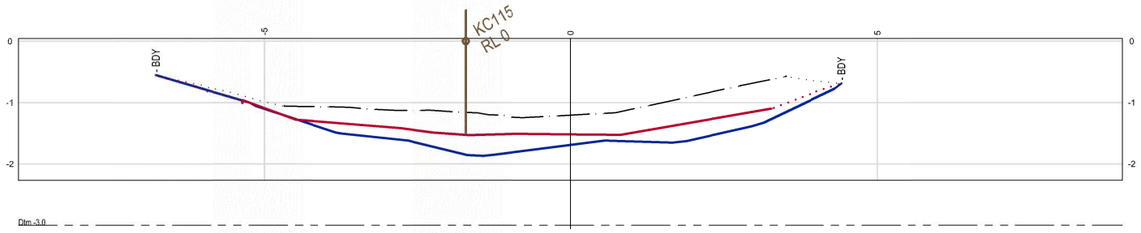
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1: 50 AT ORIGINAL SIZE

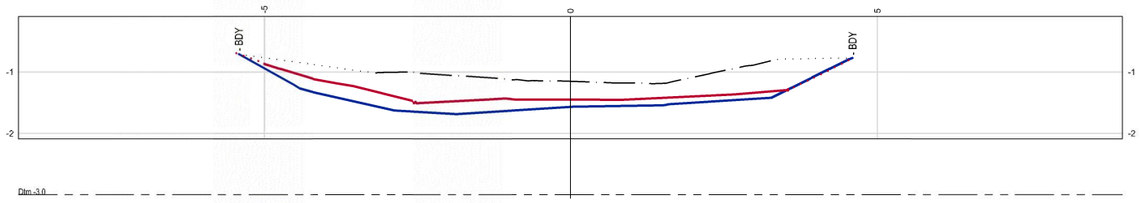
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
SECTION 6 CROSS SECTIONS
DESIGN COMPARISON
SHEET 3

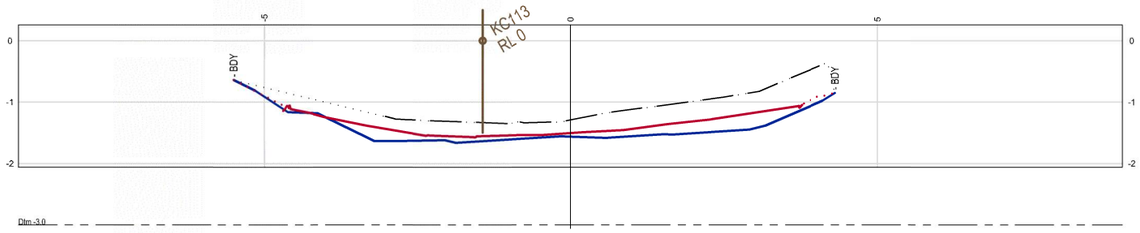
SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-14-3	B



CH 3827.6



CH 3794.6



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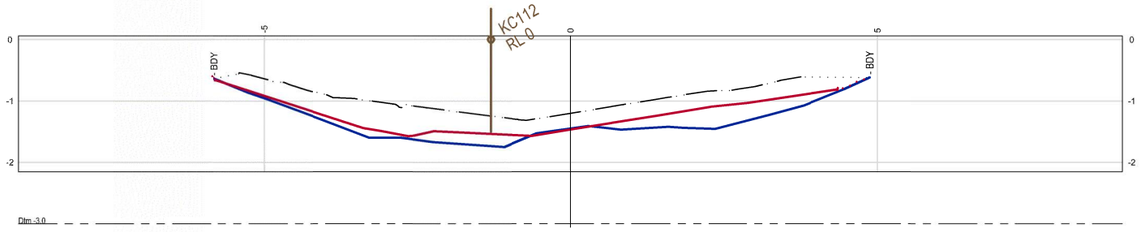

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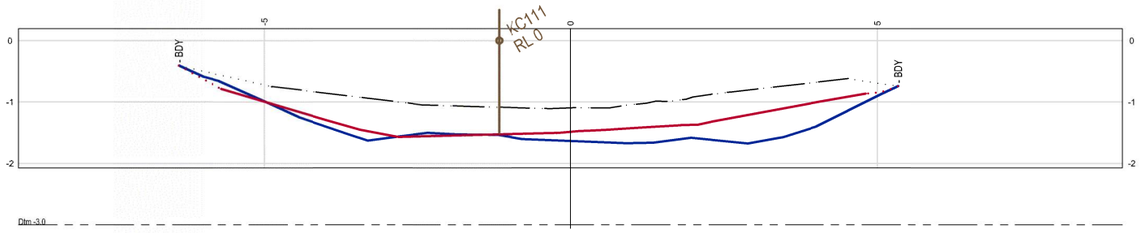

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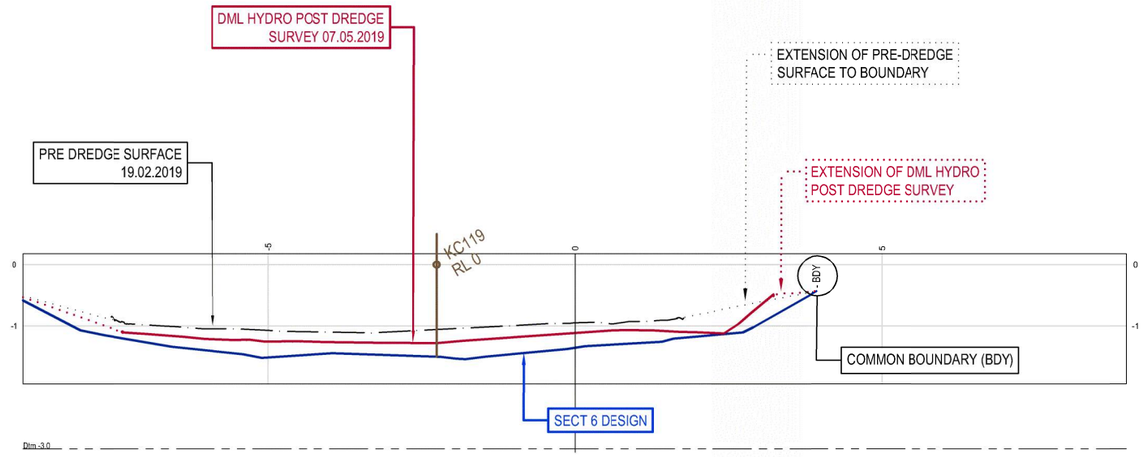

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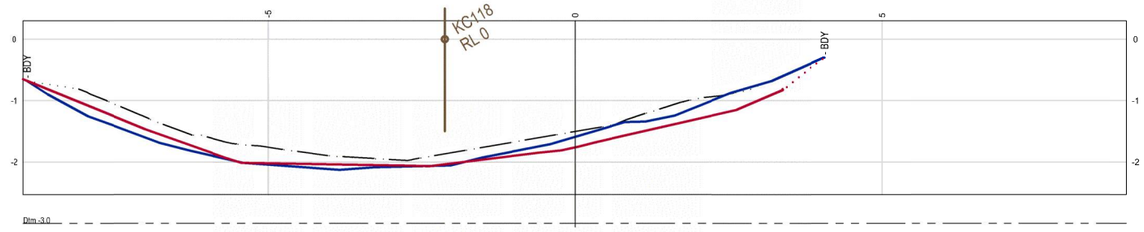

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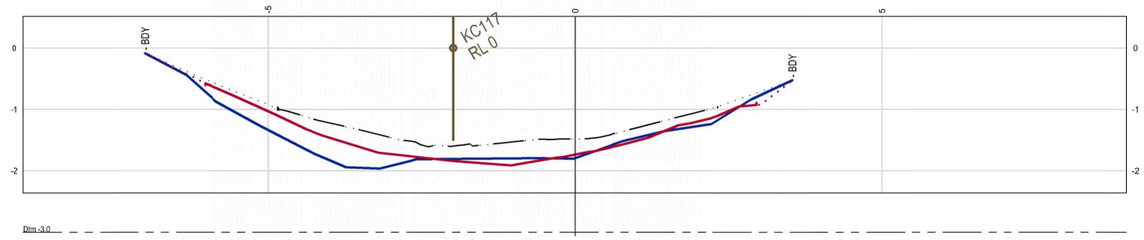

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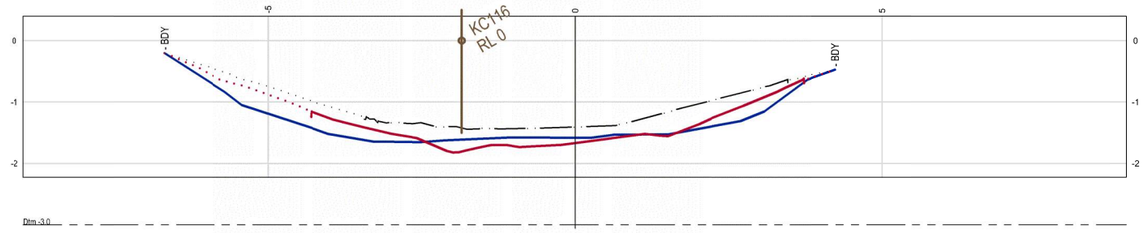

CH 3860.6

SECTION 6

ISSUED FOR INFORMATION
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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
B	14.05.2019	PROGRESS SURVEY 7.05.20169 ADDED - PLANS REVISED AND REISSUED	MC	SL	
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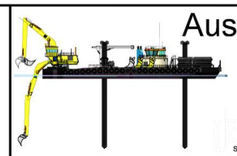

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DESIGNED BY	
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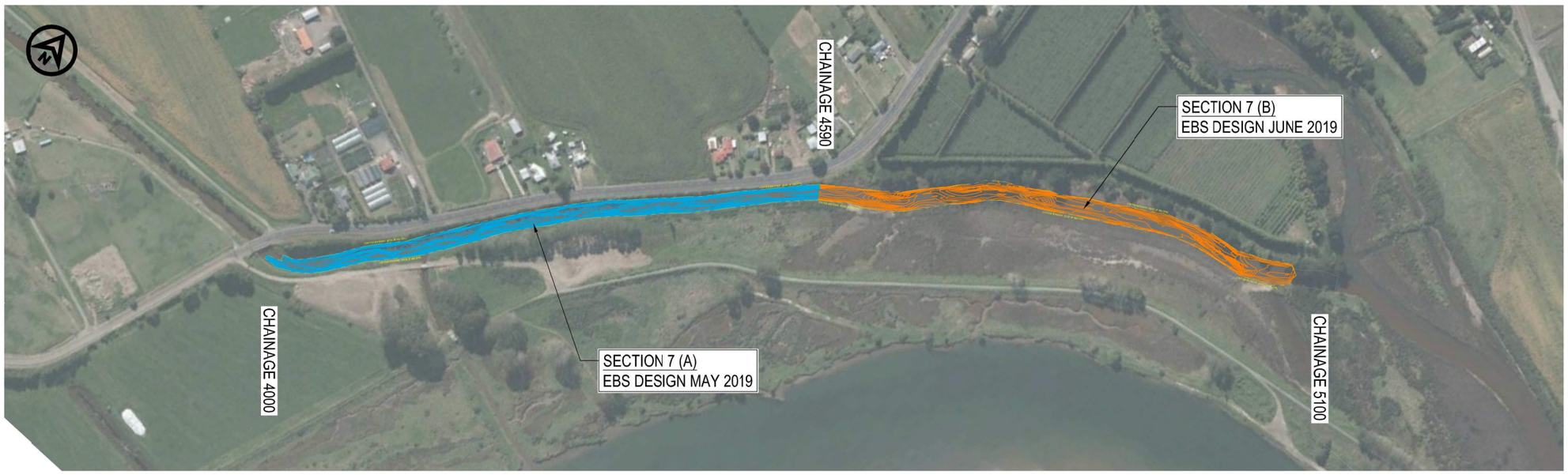
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1: 50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 6)

DRAWING TITLE
SECTION 6 CROSS SECTIONS
DESIGN COMPARISON
SHEET 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S6-14-4	B



NOTES

1. ALL VOLUMES LISTED ON THE PLANS ARE IN SITU CUBIC METRES.
2. VOLUMES CALCULATED TO EXTENT BOUNDARY AS PER NOTE 5.
3. TRUE CENTRELINE CHAINAGES DEVELOPED BY AUSDREDGE AS A CONTROL STRING LOCATED CENTRALLY WITHIN THE SITE BOUNDARY (OR EDGE OF CANAL). THE TRUE CENTRELINE CONTROL HAS BEEN USED AS THE BASIS FOR CROSS SECTION REFERENCING.
4. THE PRE-DREDGE SURVEY "Kopu_Section7_7May19_xyz" WAS RECEIVED ON THE 10.5.2019 FROM DML SURVEY. WHERE THE SURVEY DID NOT EXTEND TO THE BOUNDARY (AS PER NOTES 5 AND 6) THE POINTS WERE MANUALLY JOINED TO CLOSE THE SURVEY.
5. THE BOUNDARY BETWEEN CHAINAGES CH4000 and CH 4590 ANNOTATED ON THE CROSS SECTIONS (BDY) WAS OBTAINED FROM FILE "pt sect 7.12da" RECEIVED 14.5.19.
6. THE BOUNDARY BETWEEN CHAINAGES CH4590 and CH 5100 ANNOTATED ON THE CROSS SECTIONS (BDY) WAS OBTAINED FROM FILE "sect7therest280519.12da" RECEIVED 01.06.18.
7. 'KC' VALIDATION POINTS AS AS PER THE TABLES ON SHEETS WAS PROVIDED IN FILE "Section 6 and 7_coords NZTM.xls" RECEIVED 14.5.2019 AND CONFIRMED WITH 12D FILE "PTSECT7 KC.12DA" RECIEVED 15.5.2019
8. THE DESIGN BETWEEN CHAINAGES CH4000 and CH 4590 IS A 12D MODEL "pt sect 7.12da" RECEIVED 14.05.2019
9. THE DESIGN BETWEEN CHAINAGES CH4590 and CH 5100 IS A 12D MODEL "sect7therest280519.12da" RECEIVED 24.05.2019.
10. THE POST DREDGE SURVEY FOR SECTION 7 CONSISTS:
    10.1. "Kopeopeo_Section 7_23 July 2019.PTS RECEIVED 08.08.2019

NZTM			
Point ID	X	Y	RL
KC122	1949176.5523	5792178.2843	
KC123	1949205.3333	5792197.3261	
KC124	1949232.7819	5792218.2193	
KC125	1949257.3717	5792242.0222	
KC126	1949270.8270	5792272.9534	
KC127	1949304.7810	5792290.3910	
KC128	1949312.7698	5792321.5145	
KC129	1949336.8999	5792345.4142	
KC130	1949363.6775	5792367.1860	
KC131	1949374.5232	5792397.7737	
KC132	1949402.8744	5792417.3354	
KC133	1949429.1655	5792439.1338	
KC134	1949447.5076	5792466.9884	
KC135	1949477.9083	5792483.2726	
KC136	1949505.1874	5792503.8962	
KC137	1949521.6335	5792533.8658	
KC138	1949552.8640	5792549.9860	
KC139	1949570.0098	5792579.0649	
KC140	1949599.1440	5792595.7135	
KC141	1949631.1050	5792608.7256	
KC142	1949653.3826	5792634.5957	
KC143	1949684.2251	5792650.0696	
KC144	1949700.2660	5792678.5715	
KC145	1949728.5946	5792697.3391	
KC146	1949760.6521	5792709.7350	
KC147	1949784.3453	5792733.4631	
KC148	1949816.2033	5792744.5085	
KC149	1949849.2774	5792753.0070	
KC150	1949869.5696	5792780.1270	
KC151	1949903.2936	5792787.5261	
KC152	1949937.0236	5792791.6725	
KC153	1949967.4123	5792808.0111	
KC154	1950002.0403	5792808.1969	
KC155	1950032.0798	5792822.6476	

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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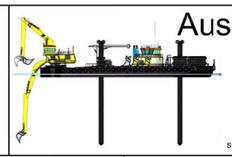
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

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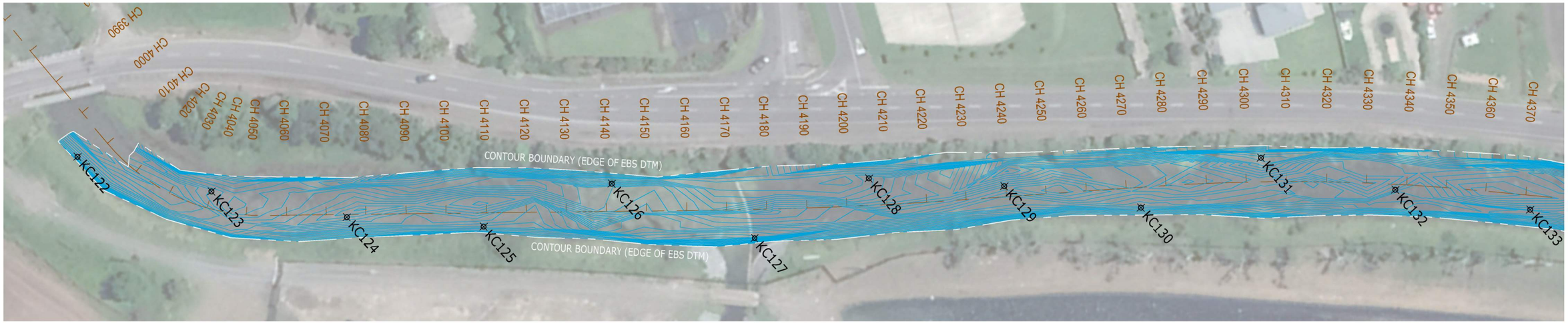
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

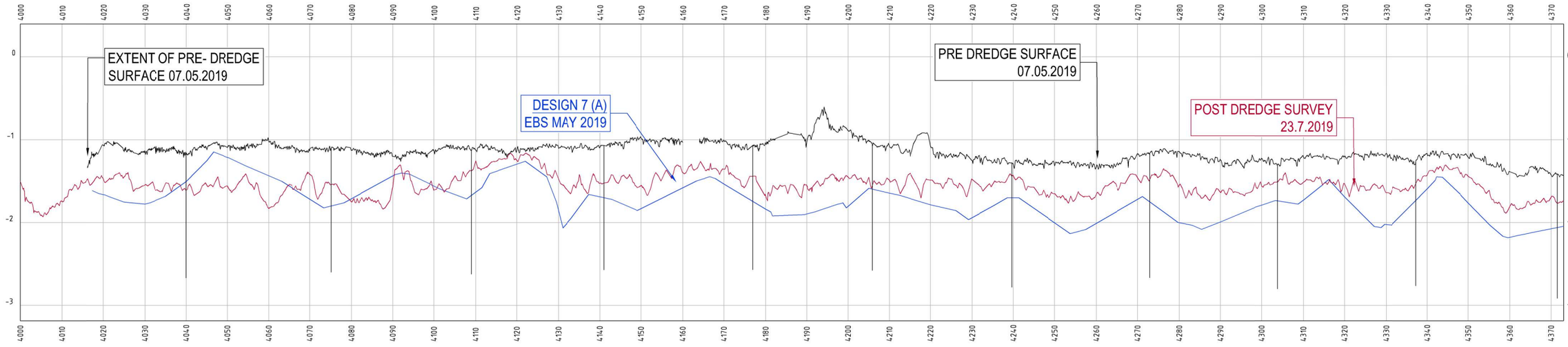
SCALE BAR
0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE
0 75 150 225 300 375m
SCALE 1: 7,500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SITE PLAN, BOUNDARIES AND GENERAL NOTES

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-21	C





RADIUS	KC122	KC123	KC124	KC125	KC126	KC127	KC128	KC129	KC130	KC131	KC132	KC133
DATUM R.L. -4												
POST DREDGE 23.07.2019	-1.50	-1.47	-1.61	-1.83	-1.75	-1.61	-1.25	-1.53	-1.40	-1.67	-1.45	-1.49
EBS DESIGN JUNE 2019												
EBS DESIGN MAY 2019		-1.66	-1.50	-1.44	-1.71	-1.56	-1.30	-1.69	-1.58	-1.84	-1.81	-1.79
PRE DREDGE 07.05.2019		-1.07	-1.18	-1.02	-1.13	-1.13	-1.13	-1.09		-1.04	-0.89	-1.08
CHAINAGE	4000.00	4020.00	4040.00	4060.00	4080.00	4100.00	4120.00	4140.00	4160.00	4180.00	4200.00	4220.00

RADIUS	KC134	KC135	KC136	KC137	KC138	KC139	KC140	KC141	KC142	KC143	KC144	KC145
DATUM R.L. -4												
POST DREDGE 23.07.2019	-1.44	-1.66	-1.55	-1.56	-1.53	-1.43	-1.80	-1.74				
EBS DESIGN JUNE 2019												
EBS DESIGN MAY 2019	-1.70	-2.01	-2.00	-1.79	-1.69	-1.59	-2.18	-2.05				
PRE DREDGE 07.05.2019	-1.30	-1.33	-1.14	-1.23	-1.20	-1.17	-1.39	-1.44				
CHAINAGE	4240.00	4260.00	4280.00	4300.00	4320.00	4340.00	4360.00	4373.00				

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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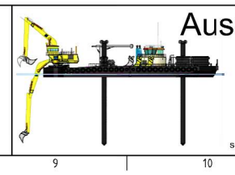
DESIGN -
GEOTECHNICAL CONDITIONS -



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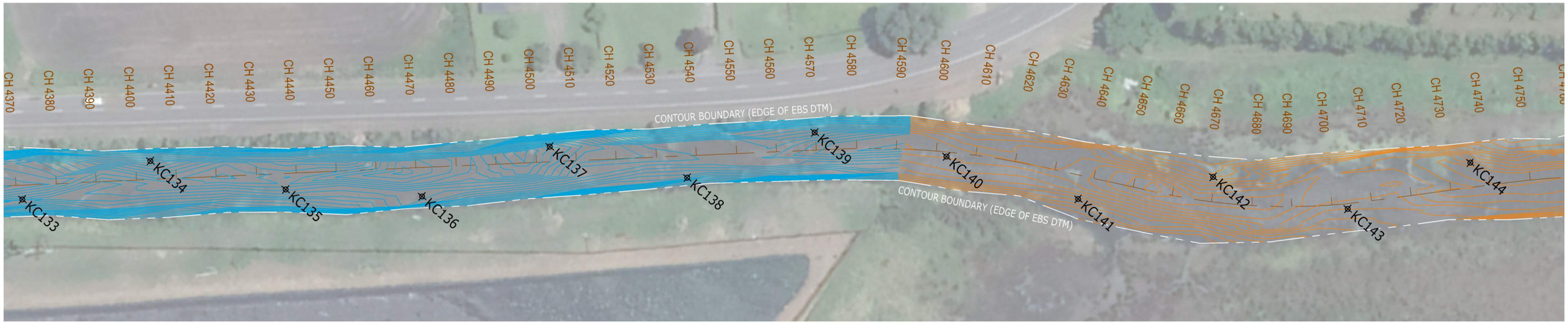
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

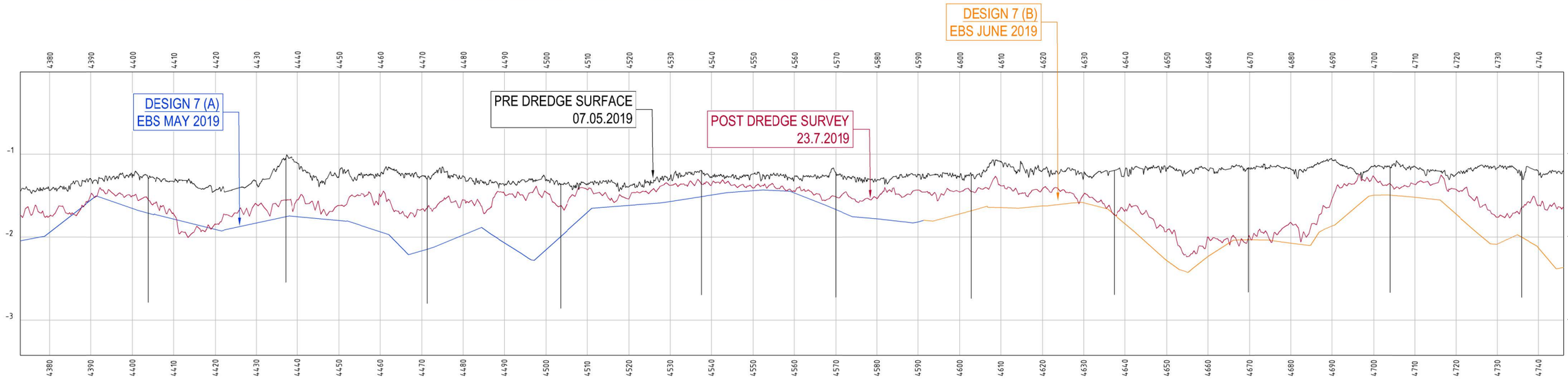
SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 1
VALIDATION DATA SECTION 7

SCALE: AS SHOWN
DRG NO.: AD-0021-S7-22-1
REV: C





		KC134	KC135	KC136	KC137	KC138	KC139	KC140	KC141	KC142	KC143	KC144	
RADIUS													
DATUM R.L. -5													
POST DREDGE 23.07.2019	-1.74	-1.75	-1.50	-1.84	-1.55	-1.50	-1.55	-1.46	-1.54	-1.37	-1.44	-1.54	-1.46	-1.42	-1.68	-2.00	-1.82	-1.27	-1.42	-1.62	-1.64
EBS DESIGN JUNE 2019													-1.72	-1.62	-1.84	-2.23	-2.07	-1.49	-1.72	-2.13	-2.37
EBS DESIGN MAY 2019	-2.05	-1.95	-1.65	-1.91	-1.75	-1.94	-1.97	-2.15	-1.62	-1.49	-1.47	-1.78									
PRE DREDGE 07.05.2019	-1.44	-1.44	-1.26	-1.43	-1.11	-1.26	-1.26	-1.31	-1.39	-1.27	-1.27	-1.31	-1.28	-1.19	-1.21	-1.19	-1.18	-1.15	-1.24	-1.22	-1.21
CHAINAGE	4373.00	4380.00	4400.00	4420.00	4440.00	4460.00	4480.00	4500.00	4520.00	4540.00	4560.00	4580.00	4600.00	4620.00	4640.00	4660.00	4680.00	4700.00	4720.00	4740.00	4746.00

CENTRELINE CONTROL KP01

SCALE 1: 500H
1:25V

SECTION 7

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C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
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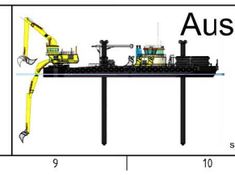
GEOTECHNICAL CONDITIONS -



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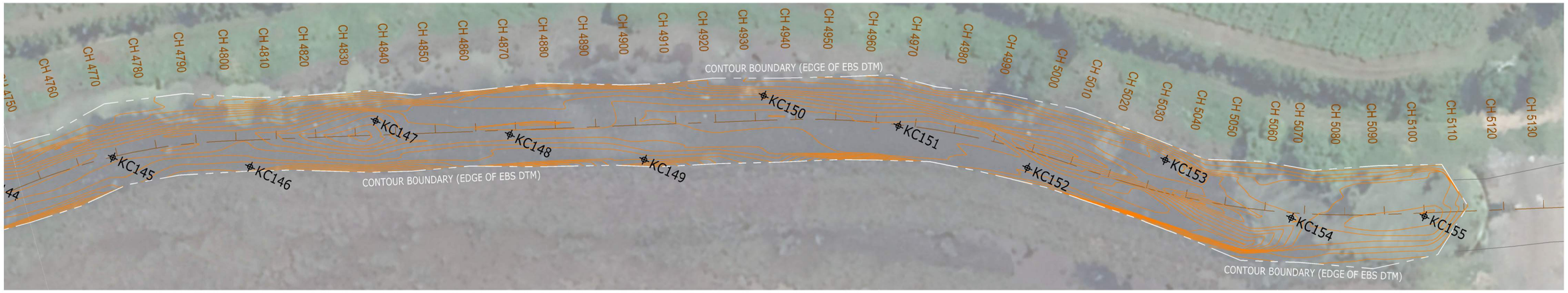
CLIENT APPR'D	
SITE APPR'D	

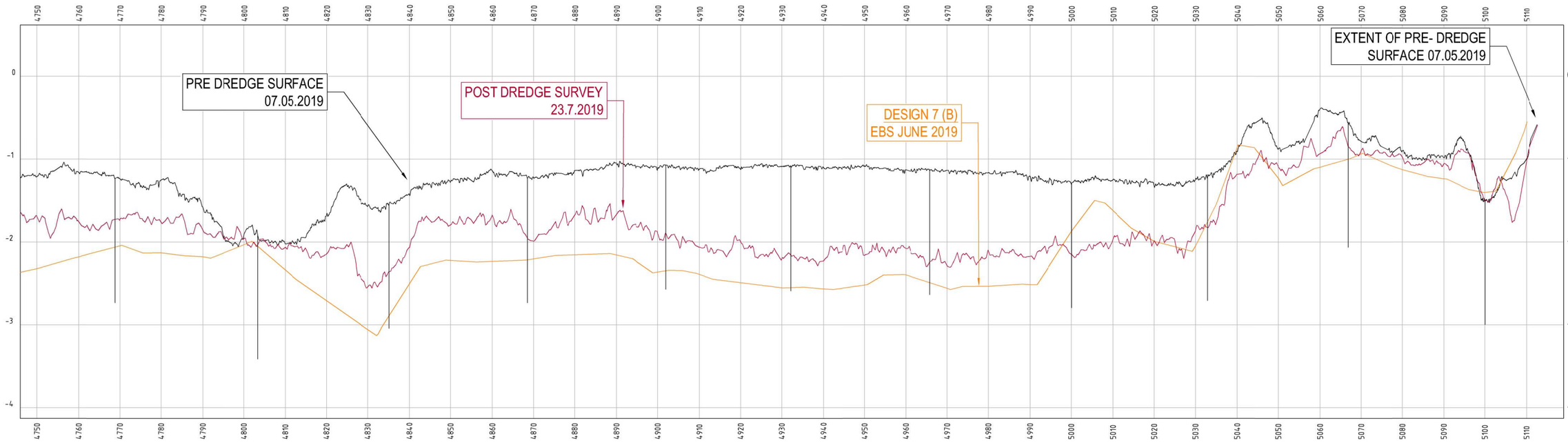
SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 2
VALIDATION DATA SECTION 7

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-22-2	C





RADIUS

DATUM R.L. -5

	KC145	KC146	KC147	KC148	KC149	KC150	KC151	KC152	KC153	KC154	KC155
POST DREDGE 23.07.2019	-1.64	-1.76	-1.76	-1.96	-2.15	-2.07	-1.68	-1.68	-1.90	-2.00	-2.23
EBS DESIGN JUNE 2019	-2.37	-2.18	-2.13	-2.03	-2.71	-2.51	-2.23	-2.15	-2.36	-2.49	-2.57
EBS DESIGN MAY 2019											
PRE DREDGE 07.05.2019	-1.21	-1.16	-1.25	-1.91	-1.68	-1.43	-1.14	-1.14	-1.12	-1.12	-1.10
CHAINAGE	4746.00	4760.00	4780.00	4800.00	4820.00	4840.00	4860.00	4880.00	4900.00	4920.00	4940.00

	KC152	KC153	KC154	KC155
POST DREDGE 23.07.2019	-2.08	-2.11	-2.15	-1.98	-1.18	-0.93	-0.98	-1.51
EBS DESIGN JUNE 2019	-2.40	-2.53	-1.87	-1.99	-0.86	-1.10	-1.13	-1.40
EBS DESIGN MAY 2019								
PRE DREDGE 07.05.2019	-1.13	-1.16	-1.30	-1.33	-0.91	-0.39	-0.90	-1.50
CHAINAGE	4960.00	4980.00	5000.00	5020.00	5040.00	5060.00	5080.00	5100.00

SECTION 7

ISSUED FOR INFORMATION
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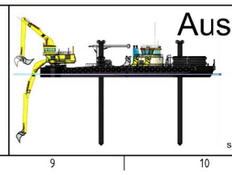

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DRAWN BY	
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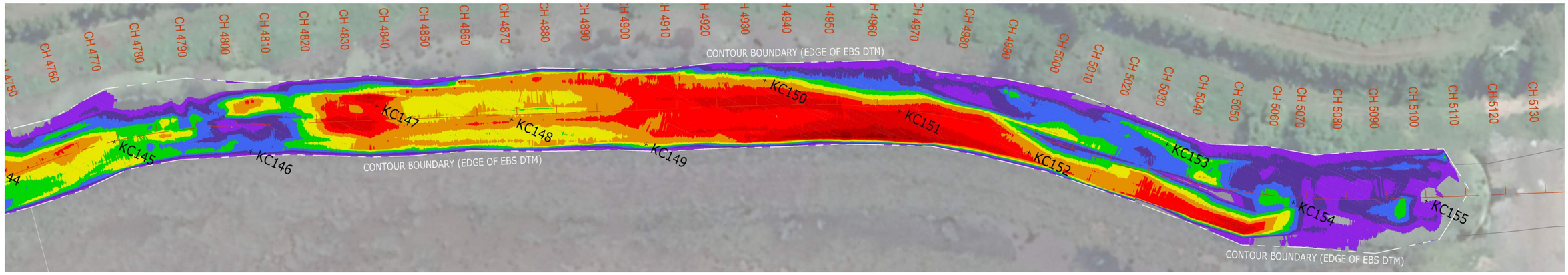
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

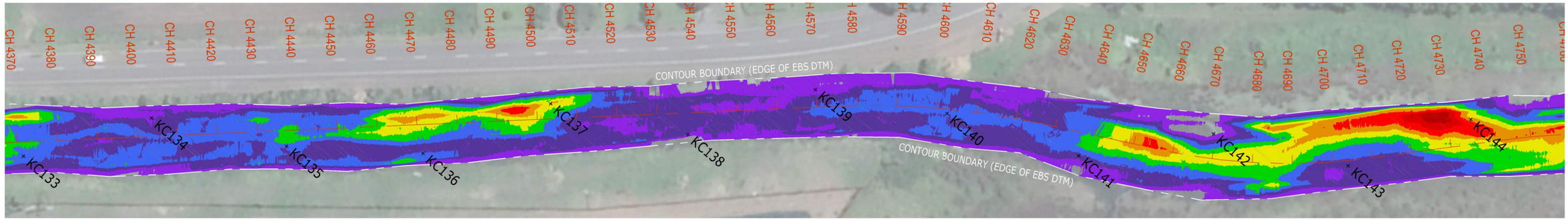
SCALE BAR
0 0.25 .5 .75 1 1.25
SCALE 1: 25 AT ORIGINAL SIZE
0 5 10 15 20 25
SCALE 1:500 AT ORIGINAL SIZE

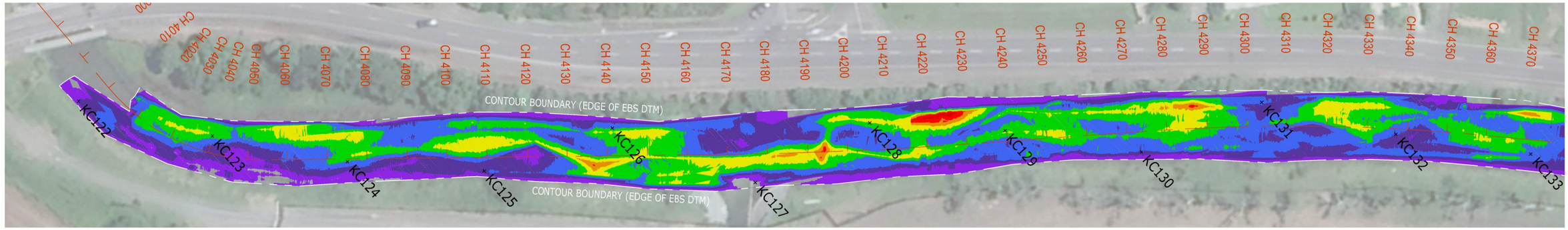
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
GENERAL ARRANGEMENT PLAN & SECTION SHEET 3
VALIDATION DATA SECTION 7

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-22-3	C







VOLUMES REPORT

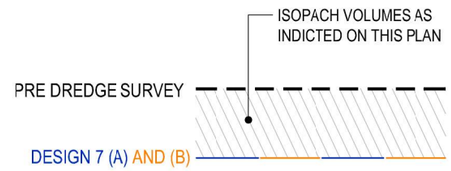
Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
0.000	65.000	0.000	69.627	0.000	69.627	69.627
−0.200	0.000	−3573.771	0.000	−3573.771	69.627	−3504.144
−0.400	−0.200	−2847.470	0.000	−6421.240	69.627	−6351.614
−0.600	−0.400	−1965.537	0.000	−8386.777	69.627	−8317.150
−0.800	−0.600	−1270.676	0.000	−9657.453	69.627	−9587.826
−1.000	−0.800	−770.207	0.000	−10427.660	69.627	−10358.033
−1.200	−1.000	−450.684	0.000	−10878.344	69.627	−10808.717
−1.400	−1.200	−197.833	0.000	−11076.177	69.627	−11006.550
−1.600	−1.400	−50.730	0.000	−11126.907	69.627	−11057.280
−1.800	−1.600	−9.598	0.000	−11136.506	69.627	−11066.879
−2.000	−1.800	−0.441	0.000	−11136.946	69.627	−11067.319
−20.000	−2.000	−0.002	0.000	−11136.948	69.627	−11067.321

NOTE: Totals are for the above depth ranges only

Total cut	−11136.948
Total fill	69.627
Total balance	−11067.321
ie excess of cut over fill	11067.321

Polygon plan area = 20081.416

Plan ref.	S7-13-1	S7-13-2	S7-13-3,4	
DESIGN DTM	69 m3			
PREDREDGE SURVEY to DESIGN DTM	11,136 m3	PREDREDGE SURVEY to POST DREDGE SURVEY: 6,543 m3	POST DREDGE SURVEY to DESIGN DTM: 4,949 m3	
		POST DREDGE SURVEY to PREDREDGE SURVEY: 79 m3	DESIGN DTM to POST DREDGE SURVEY: 341 m3	< OVERDREDGE
	11,136 m3	6,543 m3	+ 4,608 m3	= 11,151 m3



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to −0.2	
−0.2 to −0.4	
−0.4 to −0.6	
−0.6 to −0.8	
−0.8 to −1.0	
−1.0 to −1.2	
−1.2 to −1.4	
−1.4 to −1.6	
−1.6 to −1.8	
−1.8 to −2.0	
−2.0 to −10	

PRE DREDGE

DEPTH TO

DESIGN / DESIGN

SECTION 7

ISSUED FOR INFORMATION
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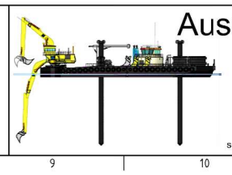
DESIGN -
GEOTECHNICAL CONDITIONS -



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s.lawley@ausdredge.com

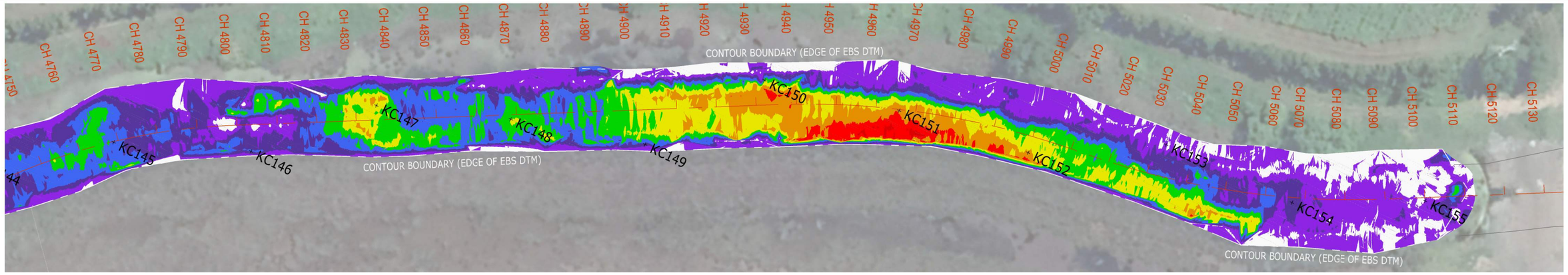
DESIGNED BY
DRAWN BY
CHECKED BY
DISCIP. ENGR
PROJ. DES. COORD
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

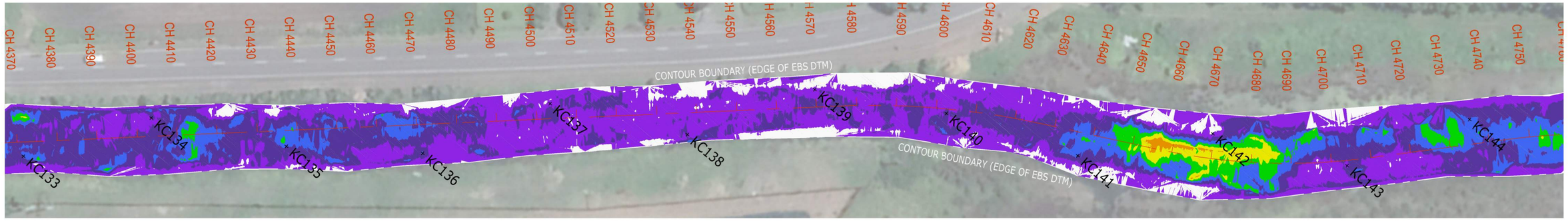
SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

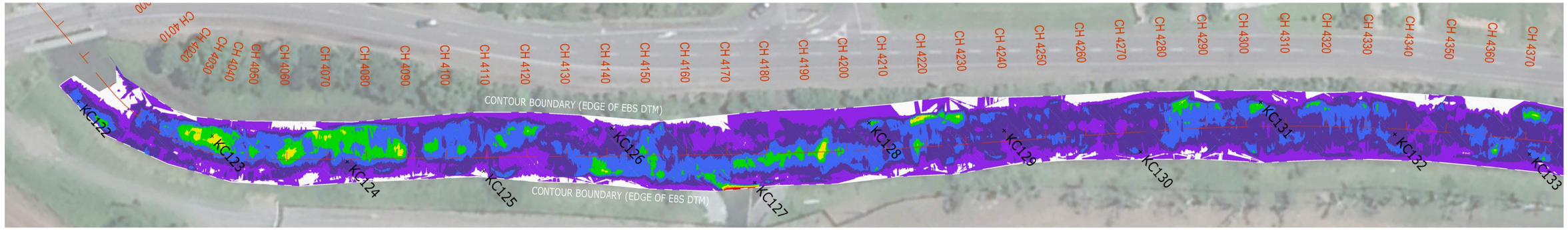
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 1
PRE DREDGE TO DESIGN

SCALE: AS SHOWN
DRG NO.: AD-0021-S7-23-1
REV: C





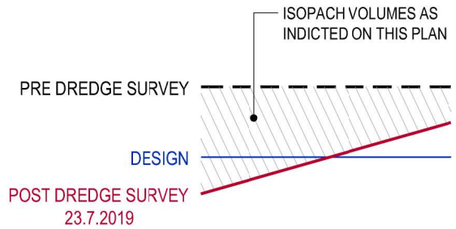


VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
0.000	65.000	0.000	79.790	0.000	79.790	79.790
-0.200	0.000	-3040.084	0.000	-3040.084	79.790	-2960.294
-0.400	-0.200	-1810.608	0.000	-4850.693	79.790	-4770.902
-0.600	-0.400	-934.012	0.000	-5784.704	79.790	-5704.914
-0.800	-0.600	-461.205	0.000	-6245.909	79.790	-6166.119
-1.000	-0.800	-215.091	0.000	-6461.001	79.790	-6381.211
-1.200	-1.000	-69.311	0.000	-6530.312	79.790	-6450.522
-1.400	-1.200	-12.810	0.000	-6543.122	79.790	-6463.332
-1.600	-1.400	-0.330	0.000	-6543.452	79.790	-6463.662
-1.800	-1.600	-0.000	0.000	-6543.452	79.790	-6463.662
-2.000	-1.800	0.000	0.000	-6543.452	79.790	-6463.662
-20.000	-2.000	0.000	0.000	-6543.452	79.790	-6463.662

NOTE: Totals are for the above depth ranges only

Total cut	-6543.452
Total fill	79.790
Total balance	-6463.662
ie excess of cut over fill	6463.662



VOLUMES DETAIL

DEPTH RANGE (m)

- 0.00 to -0.2
- -0.2 to -0.4
- -0.4 to -0.6
- -0.6 to -0.8
- -0.8 to -1.0
- -1.0 to -1.2
- -1.2 to -1.4
- -1.4 to -1.6
- -1.6 to -1.8
- -1.8 to -2.0
- -2.0 to -10

PRE DREDGE

DEPTH TO

POST DREDGE SURVEY 23.7.2019

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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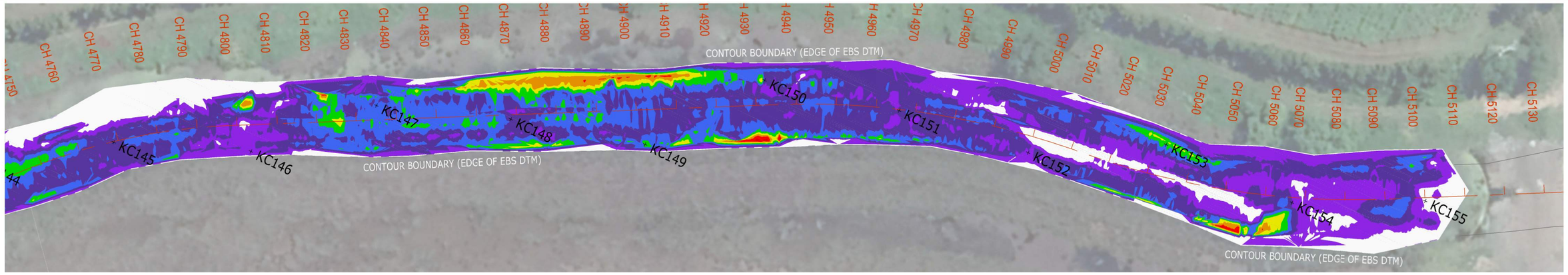
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

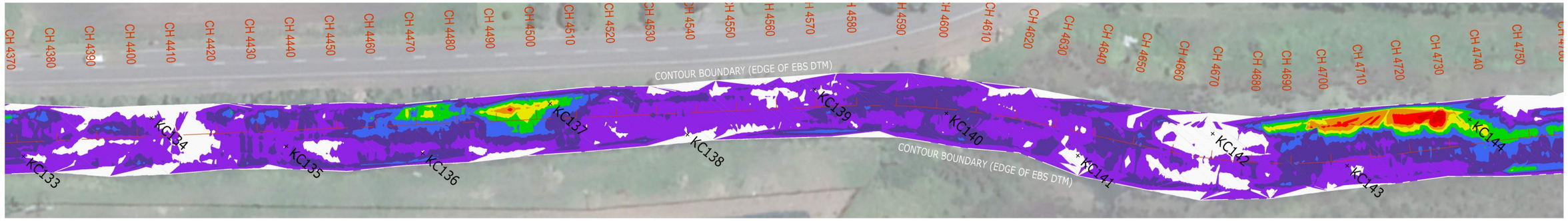
SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

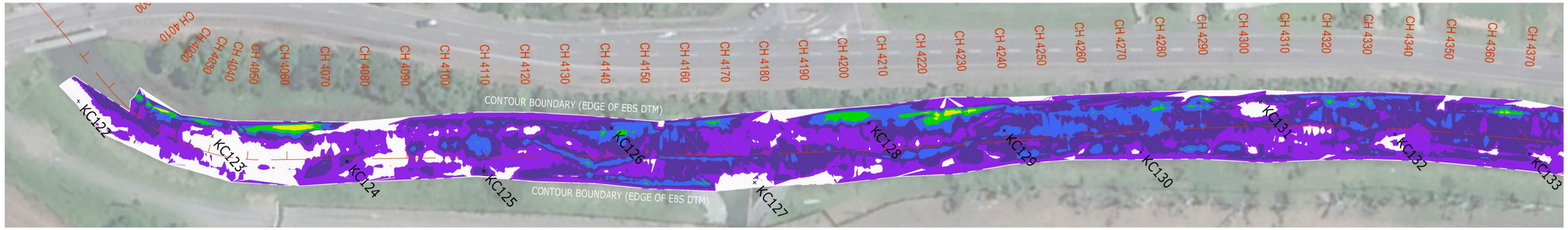
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 2
PRE DREDGE TO POST DREDGE SURVEY 07.05.2019

SCALE: AS SHOWN
DRG NO.: AD-0021-S7-23-2
REV: C





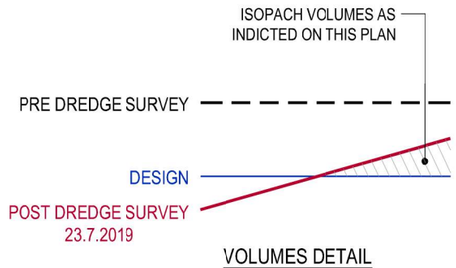


VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
0.000	65.000	0.000	0.000	0.000	341.926	341.926
−0.200	0.000	−2828.457	0.000	−2828.457	341.926	−2486.531
−0.400	−0.200	−1403.551	0.000	−4232.008	341.926	−3890.082
−0.600	−0.400	−444.995	0.000	−4677.003	341.926	−4335.077
−0.800	−0.600	−163.674	0.000	−4840.677	341.926	−4498.752
−1.000	−0.800	−74.887	0.000	−4915.564	341.926	−4573.638
−1.200	−1.000	−27.336	0.000	−4942.900	341.926	−4600.975
−1.400	−1.200	−5.520	0.000	−4948.420	341.926	−4606.494
−1.600	−1.400	−0.711	0.000	−4949.131	341.926	−4607.205
−1.800	−1.600	0.000	0.000	−4949.131	341.926	−4607.205
−2.000	−1.800	0.000	0.000	−4949.131	341.926	−4607.205
−20.000	−2.000	0.000	0.000	−4949.131	341.926	−4607.205

NOTE: Totals are for the above depth ranges only

Total cut	−4949.131
Total fill	0.000
Total balance	−4949.131
ie excess of cut over fill	−4949.131



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to −0.2	
−0.2 to −0.4	
−0.4 to −0.6	
−0.6 to −0.8	
−0.8 to −1.0	
−1.0 to −1.2	
−1.2 to −1.4	
−1.4 to −1.6	
−1.6 to −1.8	
−1.8 to −2.0	
−2.0 to −10	

POST DREDGE SURVEY 23.7.2019

DEPTH TO

DESIGN

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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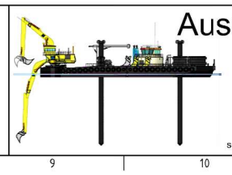
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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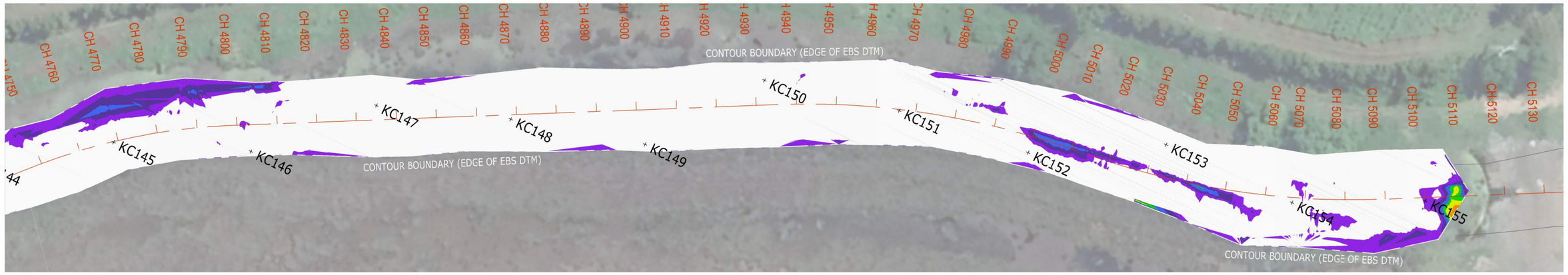
DRAWN BY	
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

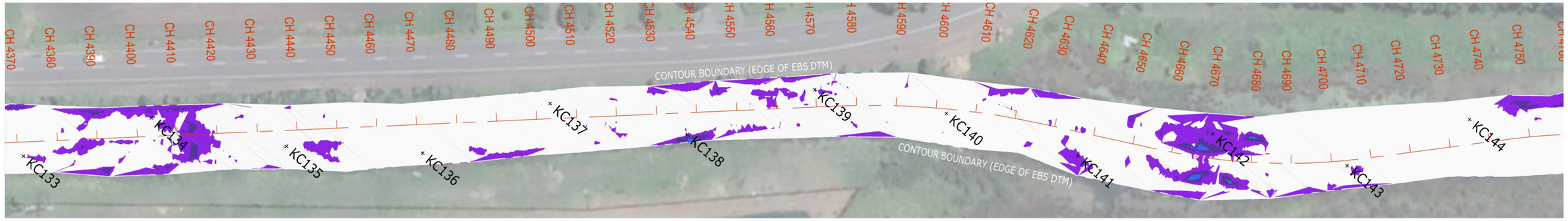
SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

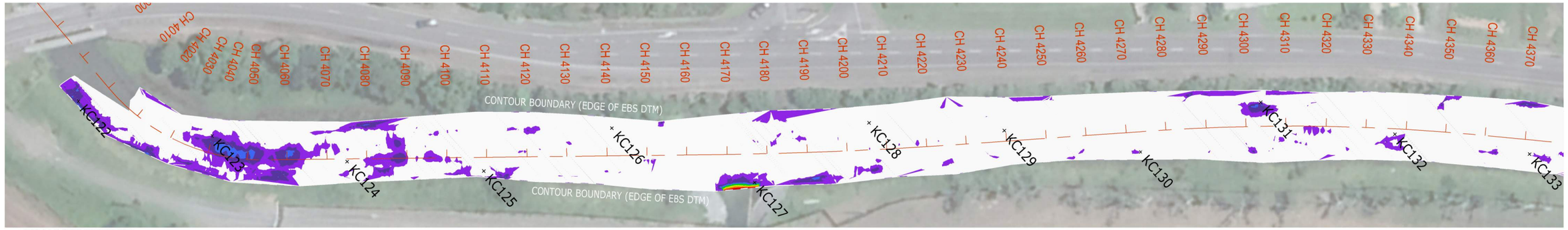
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 3
POST DREDGE SURVEY 07.05.2019 TO DESIGN

SCALE: AS SHOWN
DRG NO.: AD-0021-S7-23-3
REV: C





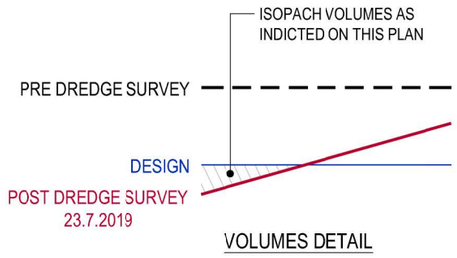


VOLUMES REPORT

Depth 1	Depth 2	Incremental Cut	Incremental Fill	Accumulative Cut	Accumulative Fill	Accumulative Balance
0.000	65.000	0.000	0.000	0.000	4949.131	4949.131
-0.200	0.000	-257.891	0.000	-257.891	4949.131	4691.240
-0.400	-0.200	-61.493	0.000	-319.384	4949.131	4629.748
-0.600	-0.400	-12.900	0.000	-332.284	4949.131	4616.847
-0.800	-0.600	-5.669	0.000	-337.953	4949.131	4611.179
-1.000	-0.800	-2.752	0.000	-340.705	4949.131	4608.426
-1.200	-1.000	-0.853	0.000	-341.558	4949.131	4607.574
-1.400	-1.200	-0.310	0.000	-341.867	4949.131	4607.264
-1.600	-1.400	-0.059	0.000	-341.926	4949.131	4607.206
-1.800	-1.600	-0.000	0.000	-341.926	4949.131	4607.205
-2.000	-1.800	0.000	0.000	-341.926	4949.131	4607.205
-20.000	-2.000	0.000	0.000	-341.926	4949.131	4607.205

NOTE: Totals are for the above depth ranges only

Total cut	-341.926
Total fill	
Total balance	-341.926
ie excess of fill over cut	-341.926



VOLUMES DETAIL

DEPTH RANGE (m)

0.00 to -0.2	
-0.2 to -0.4	
-0.4 to -0.6	
-0.6 to -0.8	
-0.8 to -1.0	
-1.0 to -1.2	
-1.2 to -1.4	
-1.4 to -1.6	
-1.6 to -1.8	
-1.8 to -2.0	
-2.0 to -10	

DESIGN

DEPTH TO

POST DREDGE SURVEY 23.7.2019

(OVERDREDGE)

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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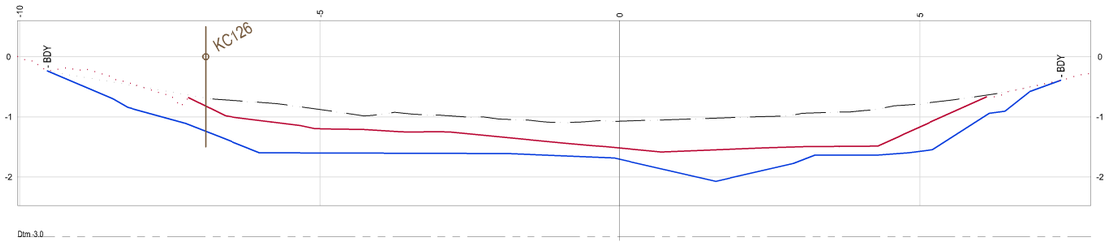
AREA / ENG. MGR
CLIENT APPR'D
SITE APPR'D

SCALE BAR
0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

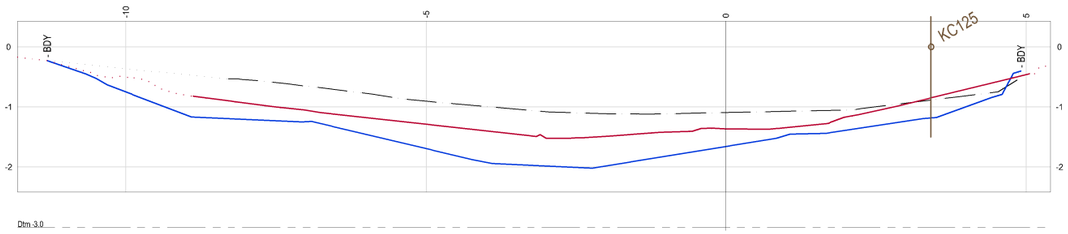
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
GEOTECHNICAL DATA MAPPING
VOLUMES PLAN SHEET 1
DESIGN TO POST DREDGE SURVEY 07.05.2019

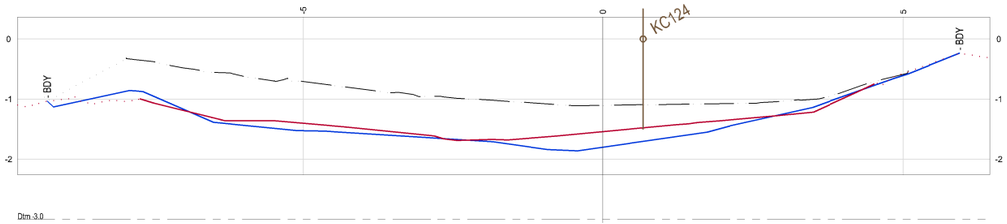
SCALE: AS SHOWN
DRG NO.: AD-0021-S7-14-3
REV: C



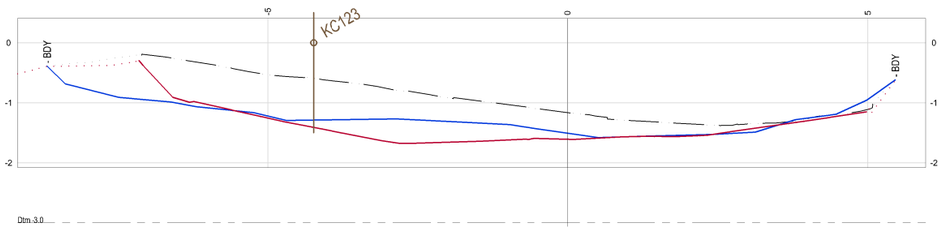
CH 4141.4



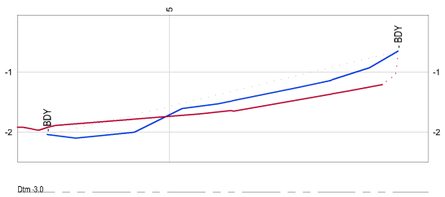
CH 4109.3



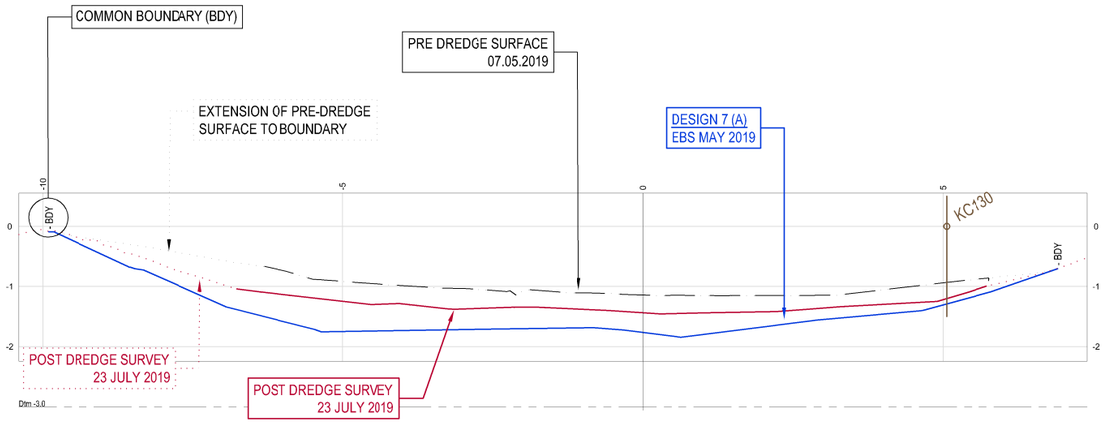
CH 4075.1



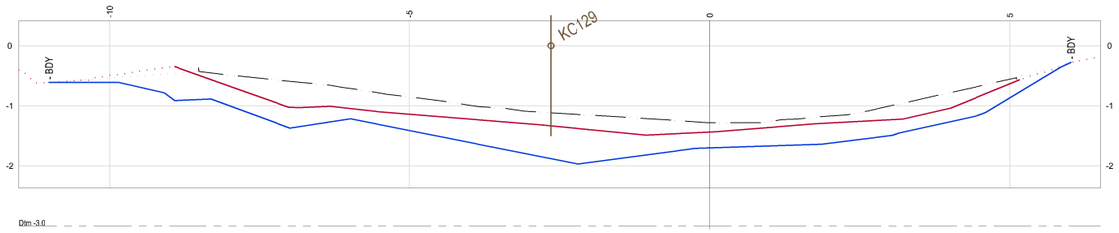
CH 4039.9



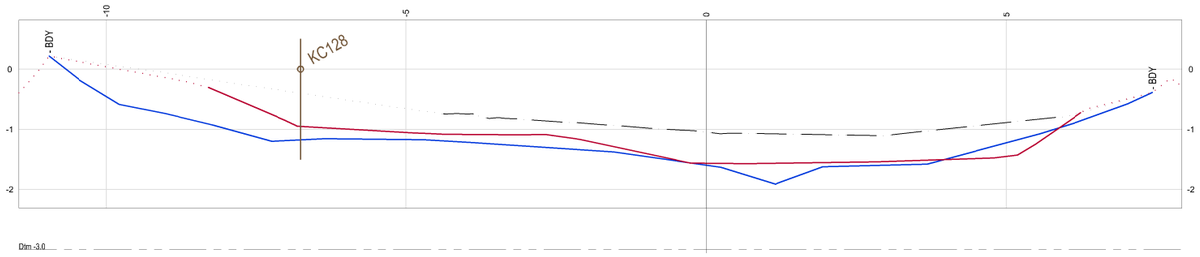
CH 4007.7



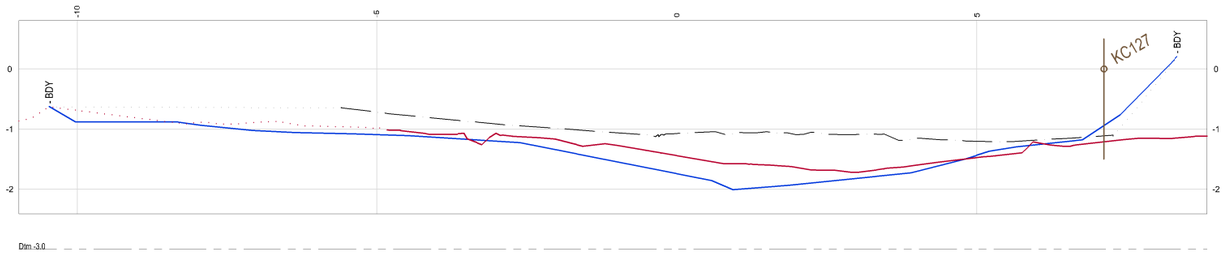
CH 4273.3



CH 4239.6



CH 4205.8



CH 4176.8

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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DRAWN BY	
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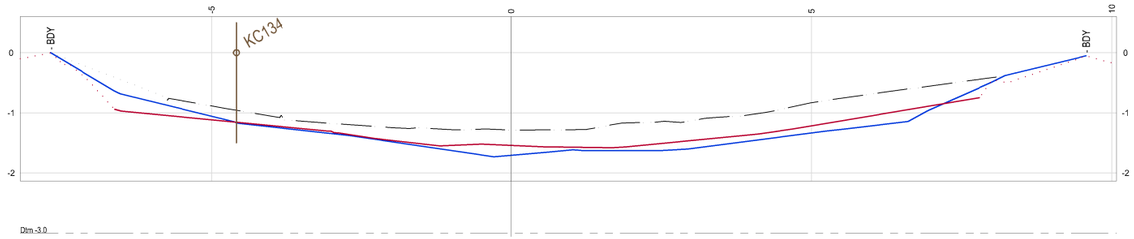
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

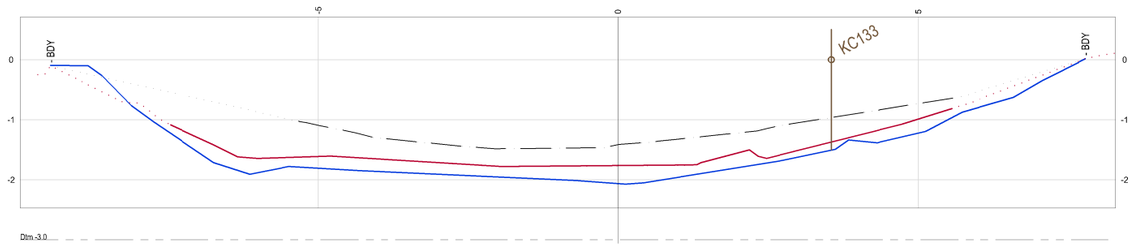
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 1

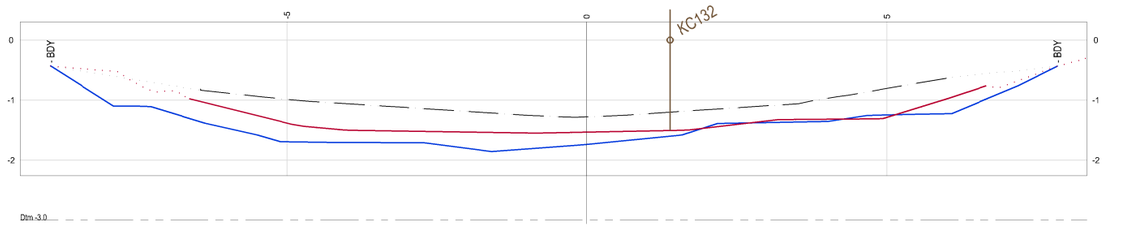
SCALE: AS SHOWN
DRG NO.: AD-0021-S7-24-1
REV: C



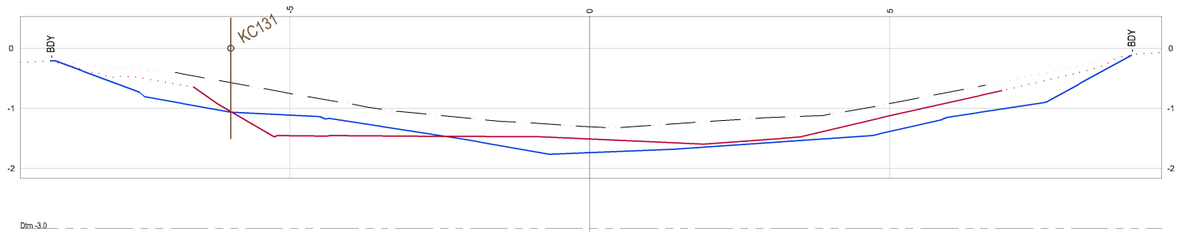
CH 4403.7



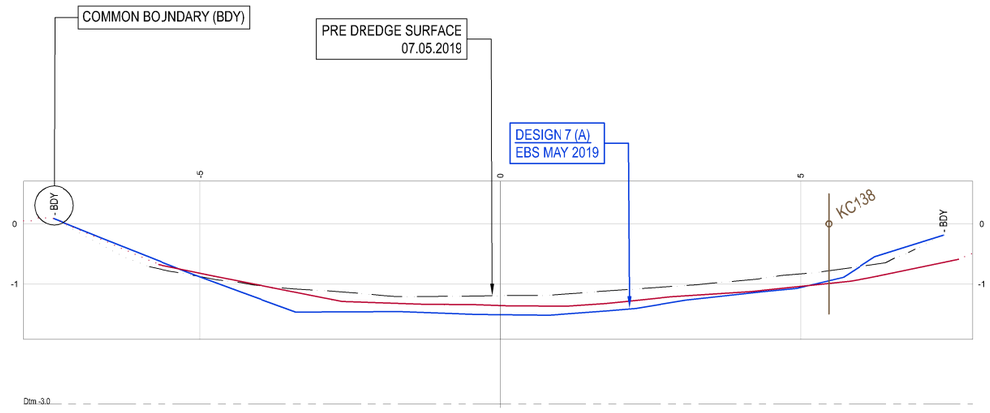
CH 4371.4



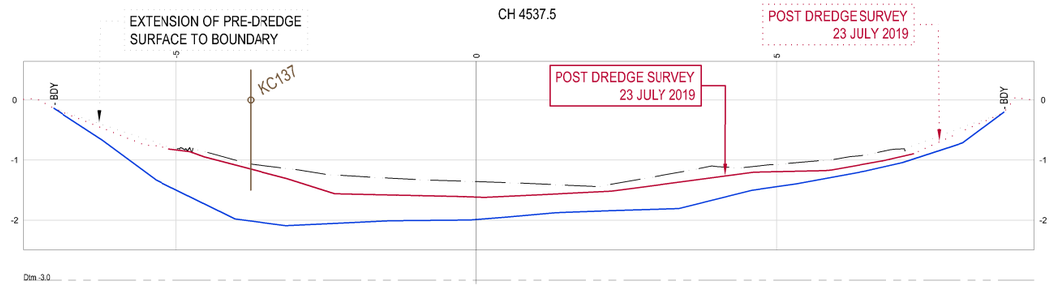
CH 4337.2



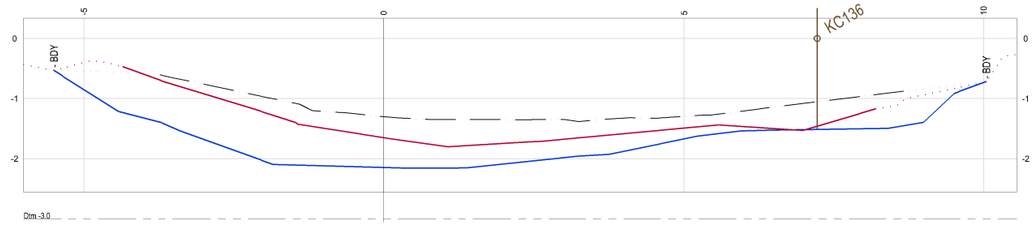
CH 4303.7



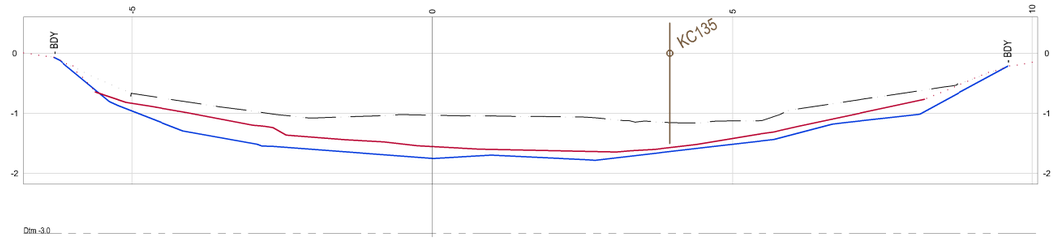
CH 4537.5



CH 4503.6



CH 4471.2



CH 4437.2

SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
B	01.06.19	ADDITIONAL DESIGN DTM PROVIDED. PLANS REVISED TO SUIT.	MC	SL	
A	16.05.19	ORIGINAL ISSUE FOR COMMENT AND REVIEW	MC	SL	

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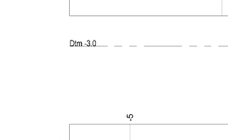
SURVEY / DESIGN REFERENCES
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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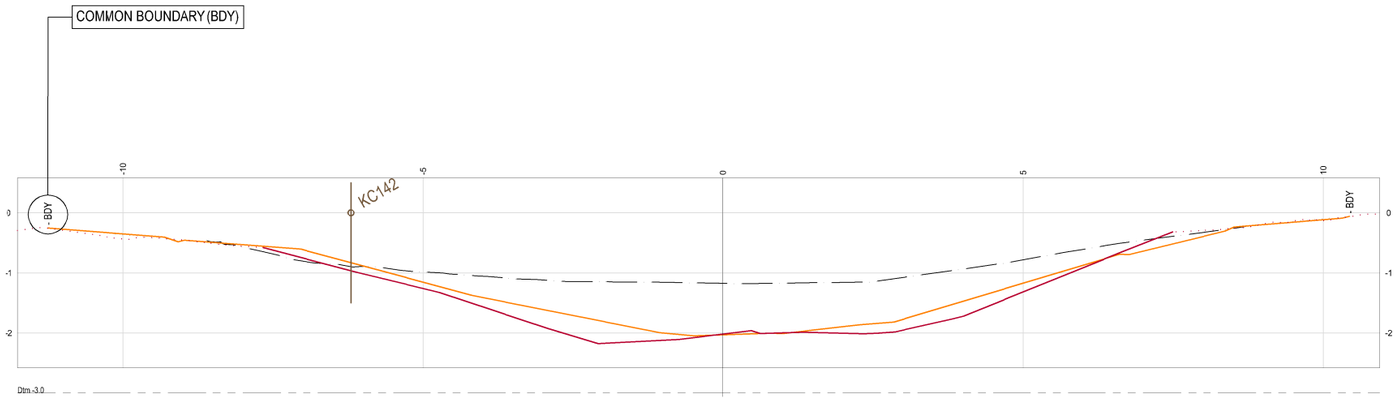
CHECKED BY	
DISCIP. ENGR	
PROJ. DES. COORD	
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

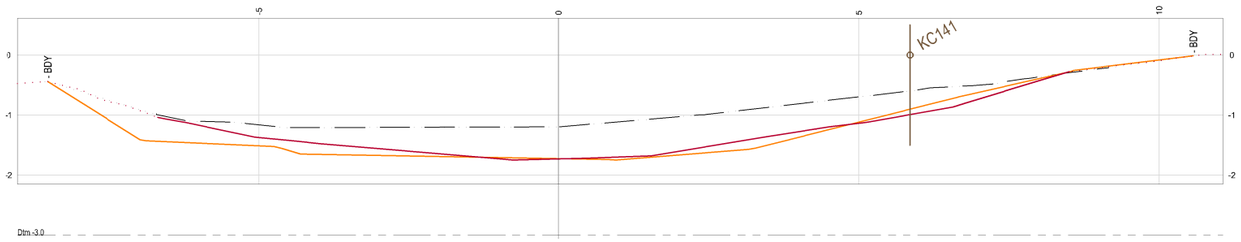
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 2

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-24-2	C



CH 4669.6



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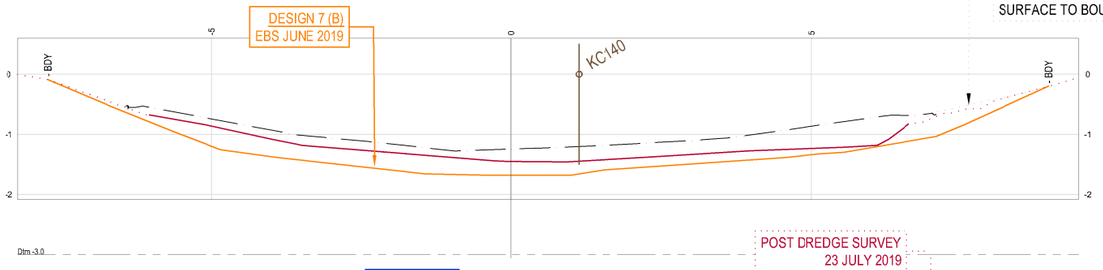
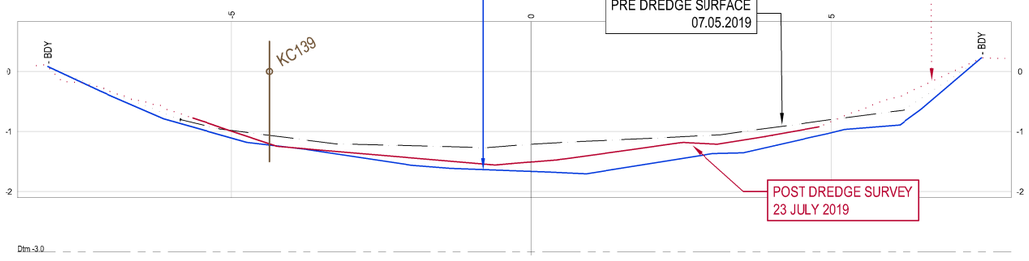


CH 4602.8



CH 4569.8

SECTION 7

ISSUED FOR INFORMATION
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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
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POSTDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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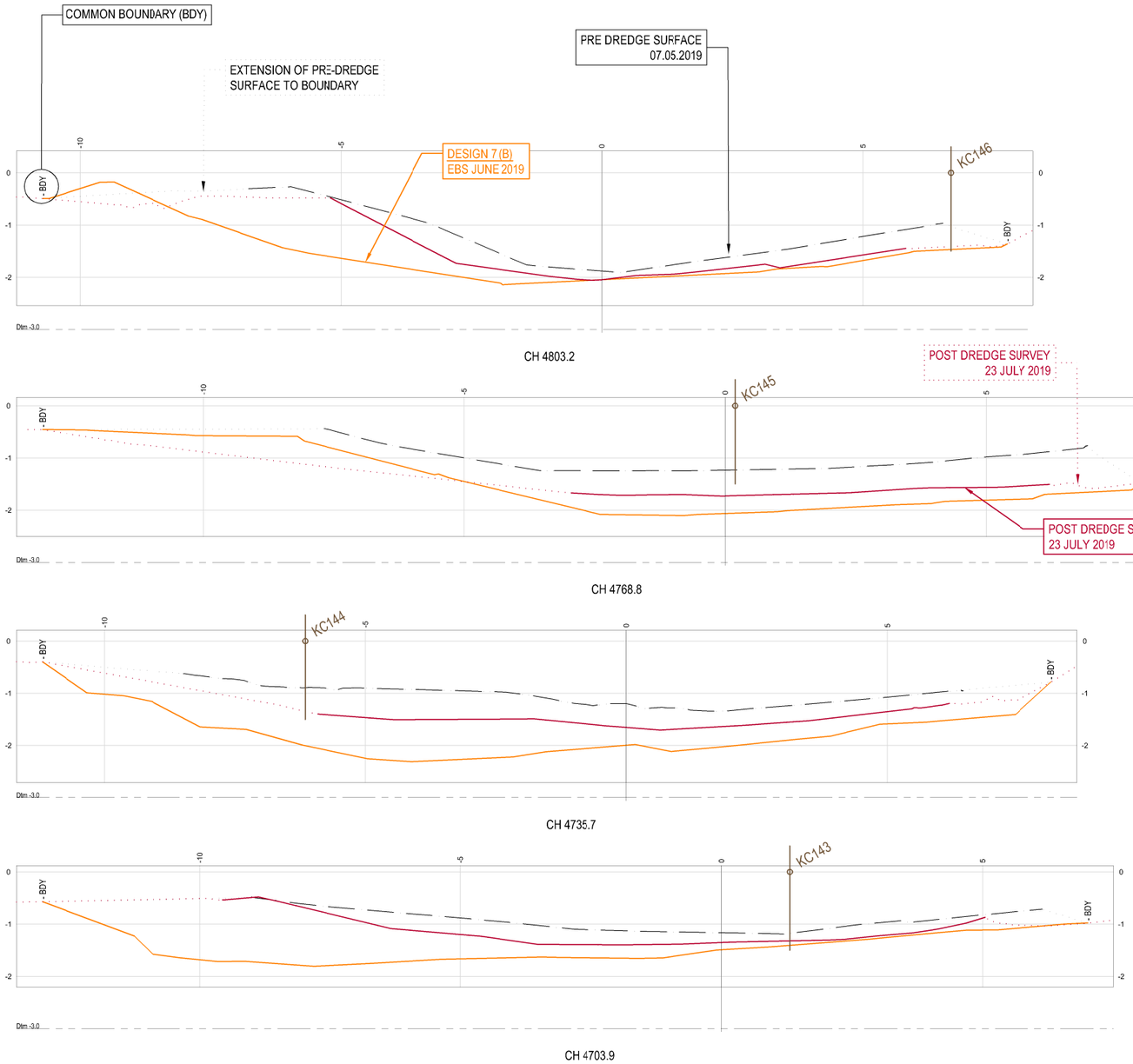
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1: 50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 3

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-24-3	C



SECTION 7

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
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PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -

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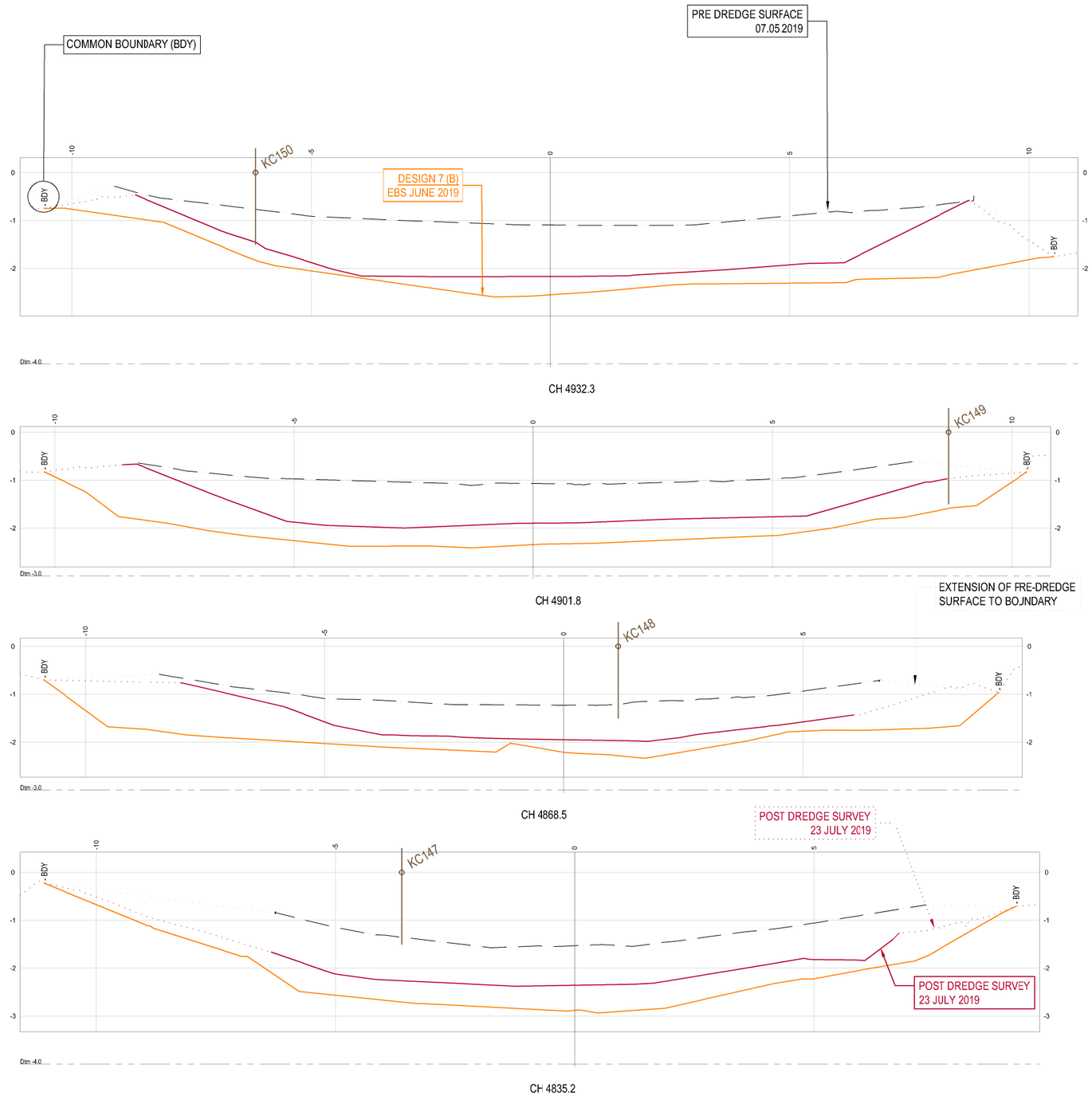
AREA / ENG. MGR	
CLIENT APPR'D	
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 4

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-24-4	C



SECTION 7

ISSUED FOR INFORMATION
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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
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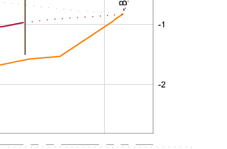
HORIZONTAL DATUM -
VERTICAL DATUM -
PREDREDGE SURVEY -
PREDREDGE SURVEY -
DESIGN -
GEOTECHNICAL CONDITIONS -



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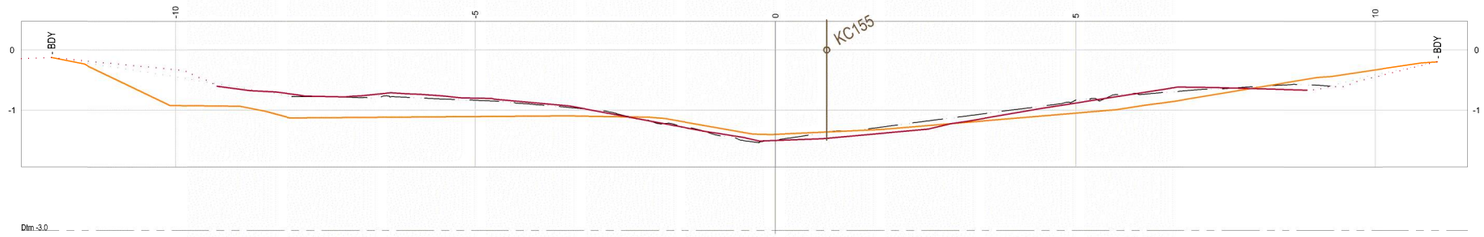
SITE APPR'D	

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

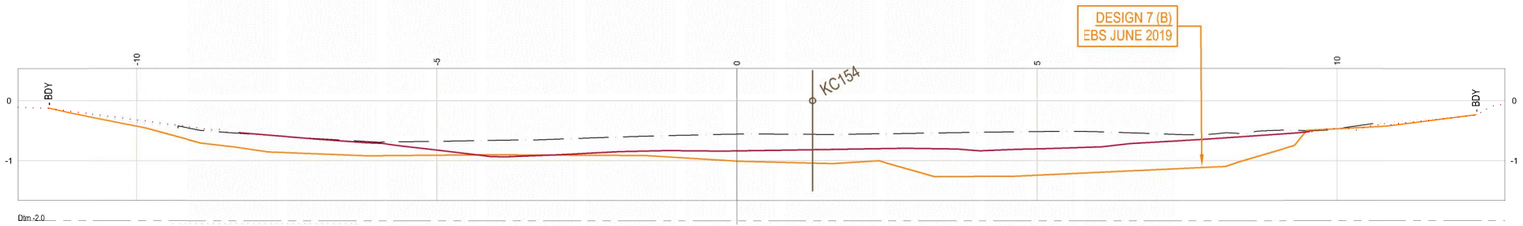
PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 5

SCALE	DRG NO.	REV
AS SHOWN	AD-0021-S7-24-5	C

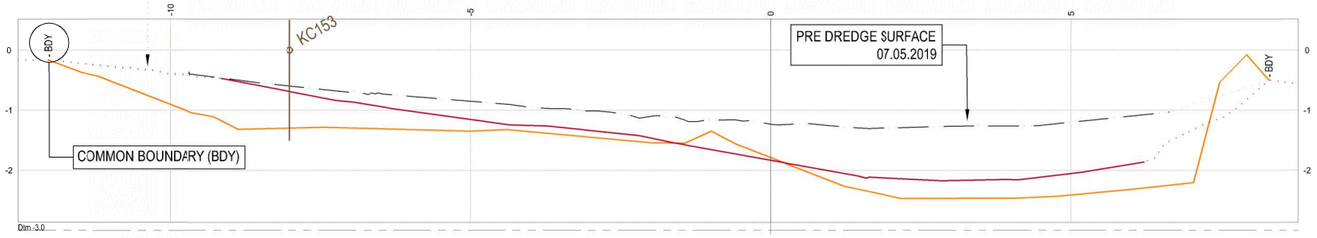


CH 5100.1

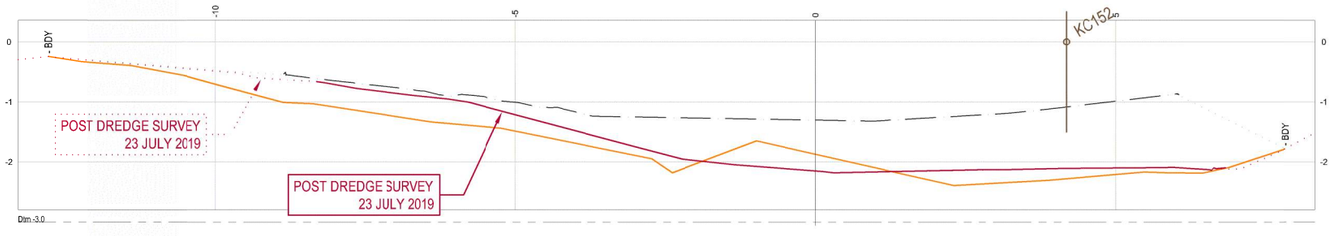


EXTENSION OF PRE-DREDGE SURFACE TO BOUNDARY

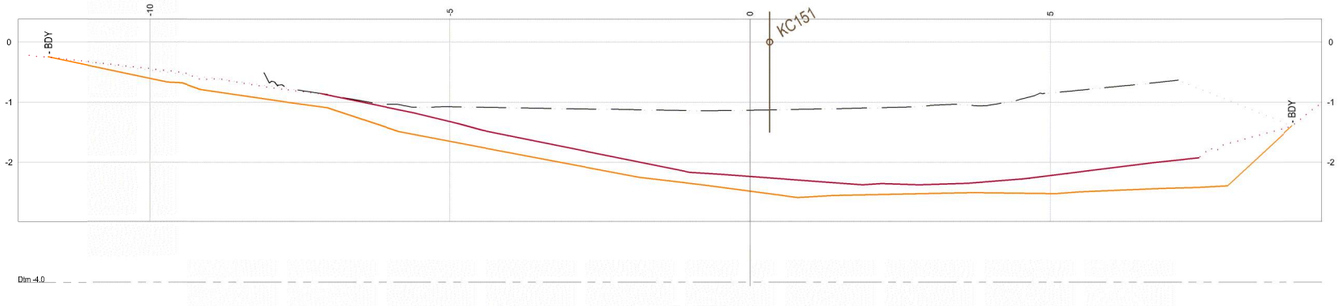
CH 5066.8



CH 5032.8



CH 5000.0



CH 4965.8

SECTION 7

ISSUED FOR INFORMATION
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REV	DATE	DESCRIPTION	BY	APP'D	REVIEWED
C	05.08.19	POST DREDGE SURVEY INCLUDED, PLANS REVISED	MC	SL	
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SITE APPR'D

SCALE BAR
0 0.5 1.0 1.5 2.0 2.5
SCALE 1:50 AT ORIGINAL SIZE

PROJECT
KOPEOPEO CANAL, WHAKATANE (SECTION 7)

DRAWING TITLE
SECTION 7 CROSS SECTIONS
DESIGN COMPARISON
SHEET 6

SCALE: AS SHOWN
DRG NO.: AD-0021-S7-24-6
REV: C