APPENDIX 7

Yorks Creek Realignment Conceptual Detailed Design Drawings

DATE: 5/09/2019 12:36:45 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2001.dwg

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ENGINEERING DRAWINGS FOR THE FEASIBILITY LEVEL DESIGN OF GLENDELL CONTINUED OPERATIONS PROJECT YORKS CREEK REALIGNMENT

DRAWING NUMBER	DRAWING TITLE
GCO-JGA-55.01.02.00-CV-2001	YORKS CREEK REALIGNMENT COVER SHEET, LOCALITY PLAN & DRAWING INDEX
GCO-JGA-55.01.02.00-CV-2002	YORKS CREEK REALIGNMENT GENERAL NOTES
GCO-JGA-55.01.02.00-CV-2003	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT AND SHEET LAYOUT
GCO-JGA-55.01.02.00-CV-2004	YORKS CREEK REALIGNMENT TYPICAL CROSS SECTIONS
GCO-JGA-55.01.02.00-CV-2005	YORKS CREEK REALIGNMENT TYPICAL DETAILS
GCO-JGA-55.01.02.00-CV-2011	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 1
GCO-JGA-55.01.02.00-CV-2012	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 2
GCO-JGA-55.01.02.00-CV-2013	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 3
GCO-JGA-55.01.02.00-CV-2014	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 4
GCO-JGA-55.01.02.00-CV-2015	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 5
GCO-JGA-55.01.02.00-CV-2016	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 6
GCO-JGA-55.01.02.00-CV-2017	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 7
GCO-JGA-55.01.02.00-CV-2021	YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN FLOODPLAIN AREA AND FINAL VOID LEVEE FLOOD PROTECTION
GCO-JGA-55.01.02.00-CV-2022	YORKS CREEK REALIGNMENT DETAILS FLOODPLAIN AREA AND FINAL VOID LEVEE FLOOD PROTECTION
GCO-JGA-55.01.02.00-CV-2031	YORKS CREEK REALIGNMENT PLAN AND DETAILS DOWNSTREAM STILLING POND AND ENERGY DISSIPATOR AT BOWMANS CREEK
GCO-JGA-55.01.02.00-CV-2032	YORKS CREEK REALIGNMENT PLAN AND DETAILS MIDSTREAM STILLING POND
GCO-JGA-55.01.02.00-CV-2033	YORKS CREEK REALIGNMENT PLAN AND DETAILS CREEK INTERFACE AT BRIDGE
GCO-JGA-55.01.02.00-CV-2034	YORKS CREEK REALIGNMENT PLAN AND DETAILS PLUGGING OF EXISTING CREEK
GCO-JGA-55.01.02.00-CV-2035	YORKS CREEK REALIGNMENT PLAN AND DETAILS UPSTREAM SEDIMENT POND
GCO-JGA-55.01.02.00-CV-2036	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION TAILING LINES MODIFICATIONS
GCO-JGA-55.01.02.00-CV-2041	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 1
GCO-JGA-55.01.02.00-CV-2042	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 2
GCO-JGA-55.01.02.00-CV-2043	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 3
GCO-JGA-55.01.02.00-CV-2044	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 4
GCO-JGA-55.01.02.00-CV-2045	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 5
GCO-JGA-55.01.02.00-CV-2046	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 6
GCO-JGA-55.01.02.00-CV-2047	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 7
GCO-JGA-55.01.02.00-CV-2048	YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 8
GCO-JGA-55.01.02.00-CV-2051	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 1
GCO-JGA-55.01.02.00-CV-2052	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 2
GCO-JGA-55.01.02.00-CV-2053	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 3
GCO-JGA-55.01.02.00-CV-2054	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 4
GCO-JGA-55.01.02.00-CV-2055	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 5
GCO-JGA-55.01.02.00-CV-2056	YORKS CREEK REALIGNMENT CROSS SECTION SHEET 6
GCO-JGA-55.01.02.00-CV-2071	YORKS CREEK REALIGNMENT REVEGETATION SCHEDULES AND TYPICAL CROSS SECTION
GCO-JGA-55.01.02.00-CV-2081	YORKS CREEK REALIGNMENT REVEGETATION PLAN

LOCALITY PLAN

IMAGERY SOURCE: GOOGLE 2018

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2001	

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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
COVER SHEET, LOCALITY PLAN & DRAWING INDEX

SCALE: N.T.S
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2001
REV: D

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LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2002.dwg

GENERAL NOTES

1. READ THESE NOTES IN CONJUNCTION WITH OTHER PROJECT DRAWINGS, SPECIFICATIONS AND WRITTEN INSTRUCTIONS. ALWAYS REFER TO SPECIFICATION FOR CLARIFICATION AND DETAILS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE REQUIREMENTS OF ALL STANDARDS REFERRED TO THEREIN.
3. ALL DIMENSIONS ON DETAILED DRAWINGS ARE IN METRES UNLESS NOTED OTHERWISE. REDUCED LEVEL, CO-ORDINATES, CHAINAGES AND TYPICAL CROSS SECTIONS ARE GIVEN IN METRES.

UTILITIES

1. UTILITIES SHOWN ARE INDICATIVE ONLY. CONTRACTOR MUST CONFIRM LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCING WORK. CONTRACTOR MUST ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL UTILITIES.
2. FOR UTILITIES COORDINATION AND RELOCATION DRAWINGS AND NOTES REFER TO RESPECTIVE SERVICE PROVIDER DESIGNS.
3. THE CONTRACTOR MUST FOLLOW ALL UTILITY AUTHORITIES "DUTY OF CARE" WHEN WORKING IN THE VICINITY OF THE SERVICES. ANY DAMAGE TO THE EXISTING SERVICES SHALL BE RECTIFIED AND VERIFIED WITH THE AUTHORITY REPRESENTATIVE AT THE CONTRACTORS EXPENSE.

GENERAL DRAINAGE

1. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING.
2. WHERE CONNECTION IS TO BE MADE TO AN EXISTING DRAINAGE STRUCTURE OR OPEN DRAIN THE POSITION AND LEVEL OF THE EXISTING DRAINAGE STRUCTURE SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.
3. EXISTING PIPES WHICH FORM NO PART OF THE PROPOSED DRAINAGE SYSTEM ARE TO BE REMOVED OR ABANDONED AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH THE SPECIFICATION.

DRAINAGE - SETOUT

1. SETTING OUT DIMENSIONS AND SIZES OF DRAINAGE STRUCTURES SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS.
2. THE LOCATION OF DESIGNED DRAINAGE STRUCTURES AND OPEN DRAINS SHALL BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION AND ANY CONFLICTS REFERRED TO BY THE PRINCIPAL.

CONSTRUCTION

1. CONSTRUCTION STAGING AND SEQUENCING NOT DOCUMENTED ON PLANS, HOWEVER THE CONSTRUCTION SEQUENCE TO BE PLANNED TO KEEP A CHANNEL ADJACENT TO AREAS OF FILL WHERE PRACTICAL.

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D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW		
C. WAYGOOD	C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
GENERAL NOTES

SCALE	GLENCORE DRAWING No	REV
N.T.S	GCO-JGA-55.01.02.00-CV-2002	D

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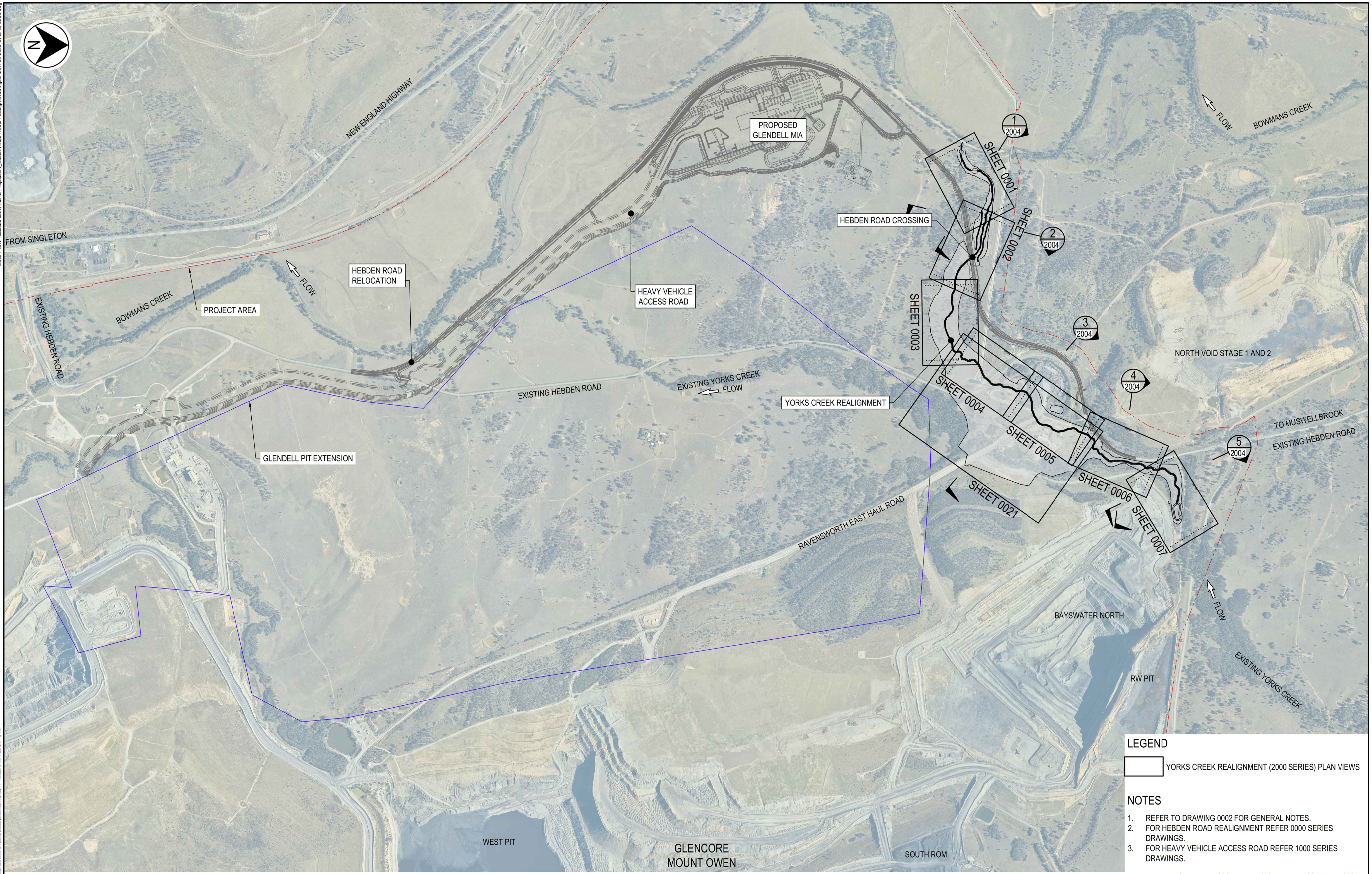

LEGEND

YORKS CREEK REALIGNMENT (2000 SERIES) PLAN VIEWS

NOTES

1. REFER TO DRAWING 0002 FOR GENERAL NOTES.
2. FOR HEBDEN ROAD REALIGNMENT REFER 0000 SERIES DRAWINGS.
3. FOR HEAVY VEHICLE ACCESS ROAD REFER 1000 SERIES DRAWINGS.

SCALE 1:8000 (A1)

160 80 0 200 400 600 800m

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REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2003	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

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S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
GENERAL ARRANGEMENT AND SHEET LAYOUT

SCALE	GLENCORE DRAWING No	REV
1:8000 @ A1	GCO-JGA-55.01.02.00-CV-2003	D

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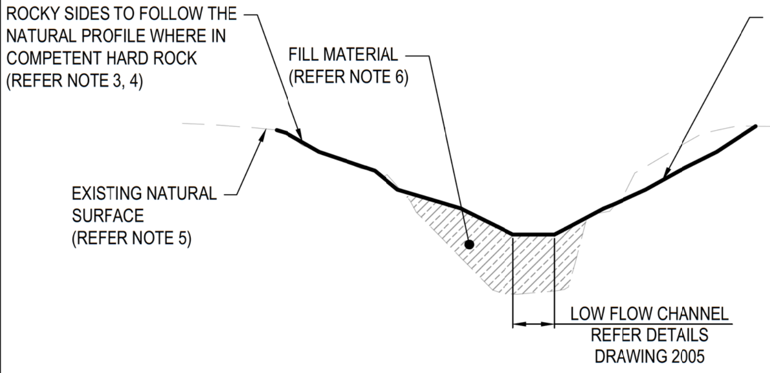
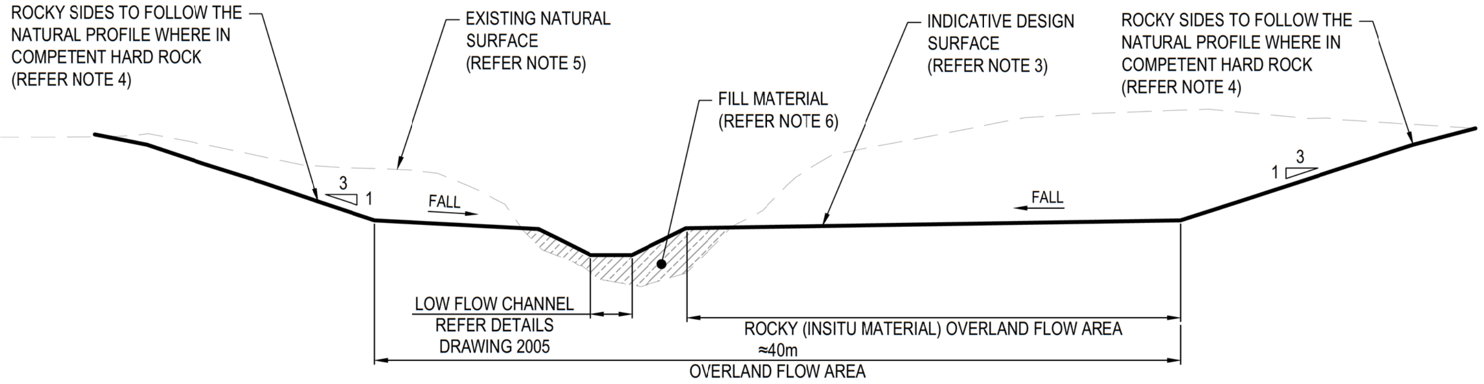
LOCATION: J:\IE\Projects\04_Eastern\IA201700\001 Design\Drawings\IA201700-2000-CI-DRG-2004.dwg



NARROW CUTTING, STEEP FORMATION

CROSS SECTIONAL PROFILE DESCRIBED. REFER LONGITUDINAL SECTIONS FOR CREEK INVERT GRADING.

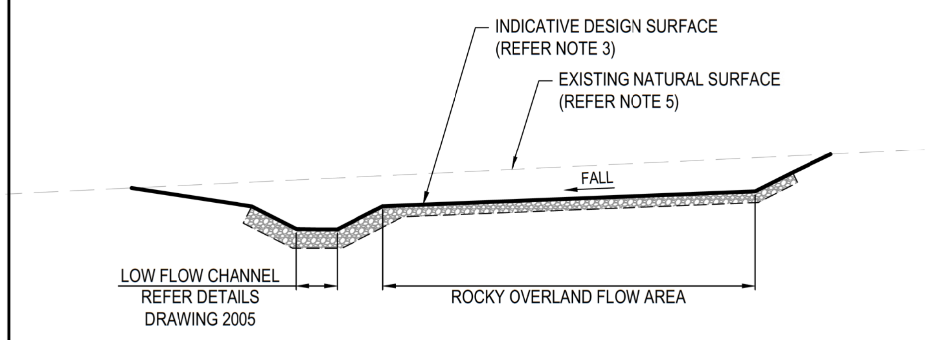
SECTION 4 / 2003
SCALE 1:200



WIDE CUTTING, FLAT FORMATION

CROSS SECTIONAL PROFILE DESCRIBED. REFER LONGITUDINAL SECTIONS FOR CREEK INVERT GRADING.

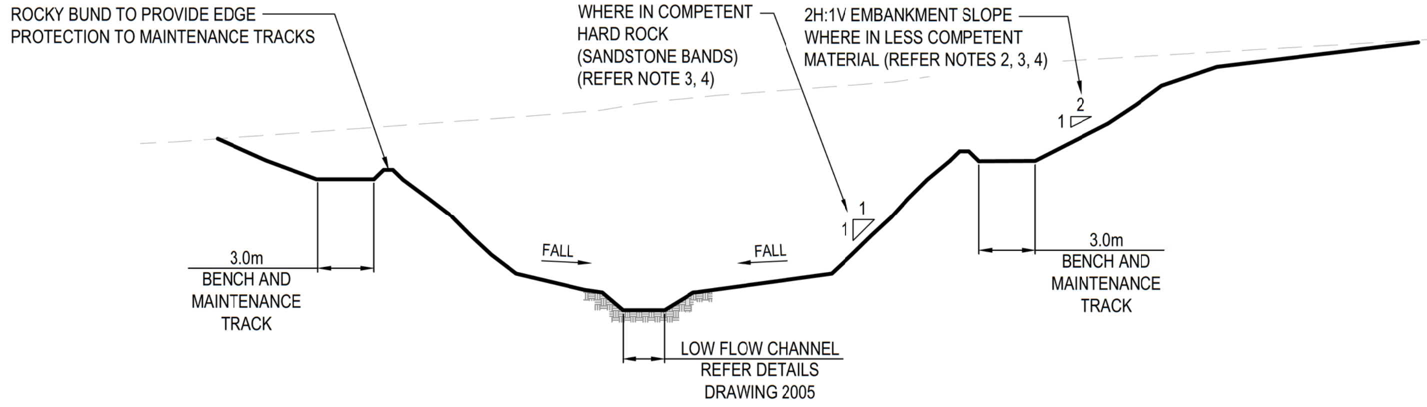
SECTION 5 / 2003
SCALE 1:200



NARROW CUTTING, FLAT FORMATION

CROSS SECTIONAL PROFILE DESCRIBED. REFER LONGITUDINAL SECTIONS FOR CREEK INVERT GRADING.

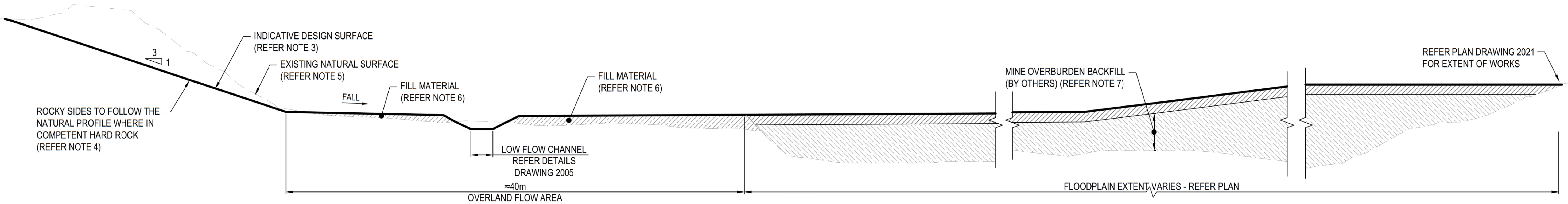
SECTION 1 / 2003
SCALE 1:200



WIDE CUTTING, STEEP FORMATION

CROSS SECTIONAL PROFILE DESCRIBED. REFER LONGITUDINAL SECTIONS FOR CREEK INVERT GRADING.

SECTION 2 / 2003
SCALE 1:200



WIDE CUT / FILL , FLAT FORMATION

CROSS SECTIONAL PROFILE DESCRIBED. REFER LONGITUDINAL SECTIONS FOR CREEK INVERT GRADING.

SECTION 3 / 2003
SCALE 1:200

NOTES

1. REFER TO DRAWING 0002 FOR GENERAL NOTES AND LEGEND.
2. WHERE CHANNEL IS IN NATURAL MATERIAL, EXCAVATE PROFILE. WHERE CHANNEL IS IN (OR PARTLY IN) FILL, OVER EXCAVATE TO 1.0m BELOW CHANNEL INVERT AND FILL (TO NOMINAL COMPACTION IF IN LOOSE MATERIAL).
3. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
4. DENOTES EXTENTS TO BE CONFIRMED BY ENGINEER ON SITE AFTER DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
5. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.
6. FILL MATERIAL TO BE TO BE SELECTED CLAYEY SANDS / SANDY CLAY PLACED IN LAYERS NOT EXCEEDING 300mm TO 95% PROCTER DENSITY AT 0 TO +3% OMC.
7. MINE OVERBURDEN TO COMPRISE:
   - 7.1. GENERAL MINE BACKFILL UP TO 5m BELOW FINAL SURFACE
   - 7.2. SELECTED MINE BACKFILL EXCLUDING BOULDERS >0.5m DIAMETER PLACED IN 1m LAYERS COMPACTED WITH AN IMPACT ROLLER AND
   - 7.3. UPPER 1m TO BE SELECTED CLAYEY SAND / SANDY CLAY WITH NOMINAL COMPACTION
8. REFER TYPICAL DETAILS DRAWINGS FOR LOW FLOW CHANNEL AND ROCK LINING SPECIFICATIONS.
9. ROCK IS HIGHLY VARIABLE, BUT EXPECTED TO BE LARGELY EXCAVATABLE - REFER DOUGLAS PARTNERS REPORT No. 91435.00.R.003. MORE COMPETENT SANDSTONE TO BE TYPICALLY STEEPER THAN MORE WEATHERED MUDSTONES AND CLAY STONES, BUT VARIABILITY OF MATERIAL SUGGESTS FINAL SLOPES MAY NEED TO BE CONFIRMED ON SITE DURING CONSTRUCTION.
10. EXPOSED CARBONACEOUS MATERIAL IN SIDE WALL AND INVERT TO BE PROTECTED AGAINST THE RISK OF COMBUSTION DURING A BUSHFIRE OR SPONTANEOUS COMBUSTION, BY CLADDING. THE CLADDING SPECIFICATION WILL BE FINALISED BASED ON THE LOCATION AND EXTENT OF EXPOSED MATERIAL AND COULD RANGE FROM OVER EXCAVATION AND BACKFILL WITH SUITABLE MATERIAL TO THE LIMITED APPLICATION OF SHOTCRETE OR SIMILAR, PROVIDED THE METHODOLOGY RESULTS IN A REASONABLY NATURAL FINAL APPEARANCE.
11. WOODY DEBRIS TO BE PLACED ON SIDESLOPES OF CREEK AS PER ENGINEERS INSTRUCTION, INLINE WITH REVEGETATION PLAN. REFER DRAWING 2071-2082 FOR REVEGETATION DETAILS.

NOT FOR CONSTRUCTION

SCALE 1:200 (A1) 4 3 2 1 0 4 8 12 16 20m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2004	

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PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT
TYPICAL CROSS SECTIONS

SCALE: 1:200 @ A1
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2004
REV: D

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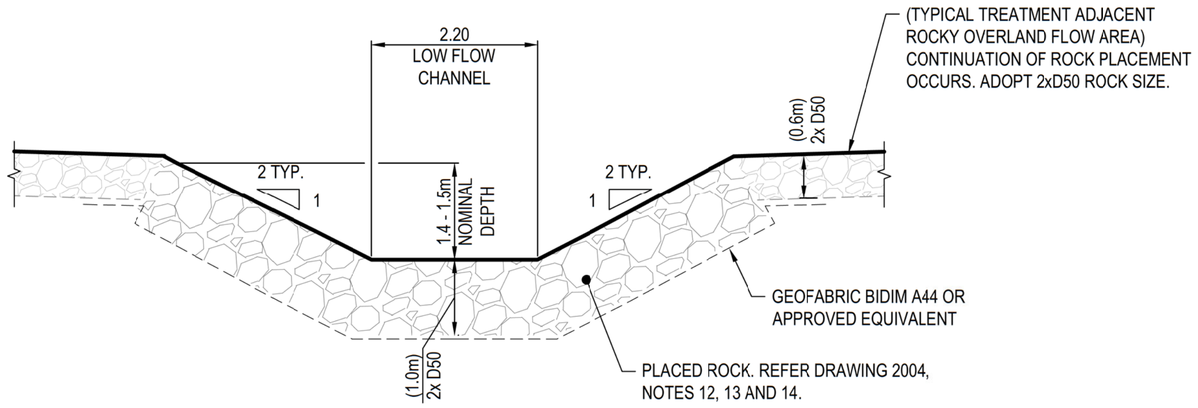
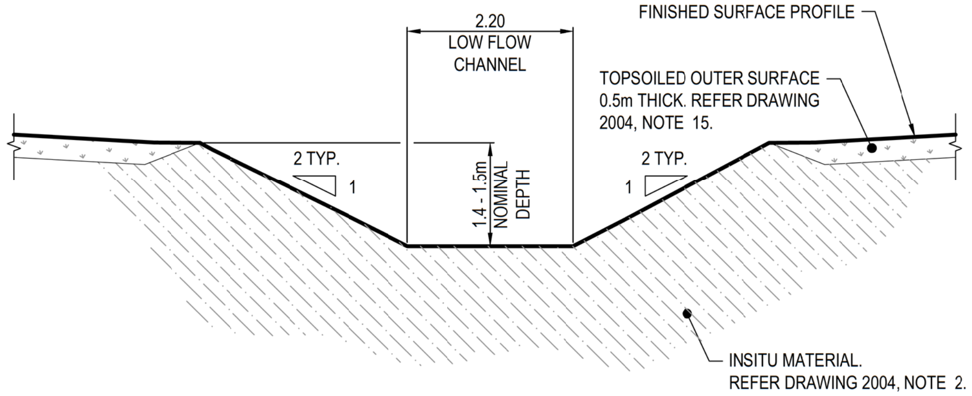
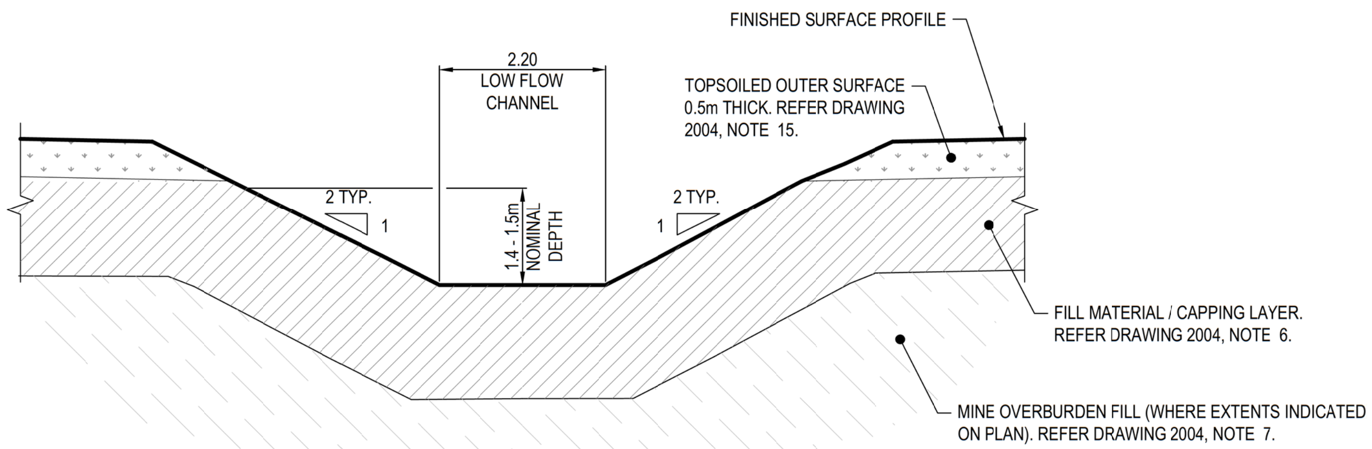


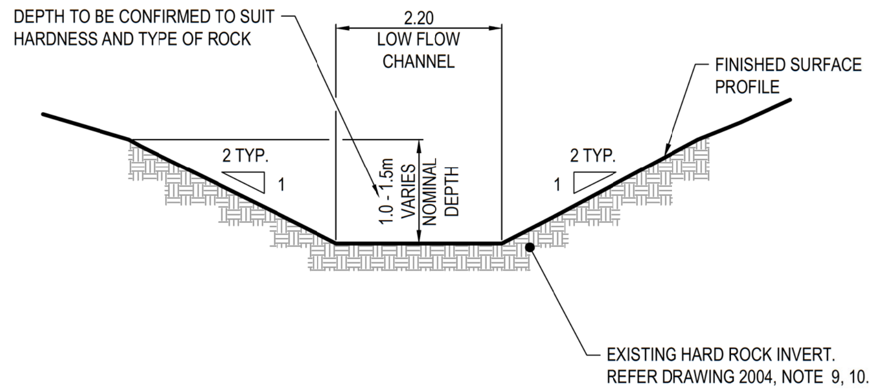
TYPICAL LOW FLOW CHANNEL DETAIL
TYPE C1
(PLACED ROCK)
SCALE 1:50
REFER LONGITUDINAL SECTIONS FOR
APPROXIMATE EXTENT OF CHANNEL TYPE



TYPICAL LOW FLOW CHANNEL DETAIL
TYPE C2
(INSITU MATERIAL)
SCALE 1:50
REFER LONGITUDINAL SECTIONS FOR
APPROXIMATE EXTENT OF CHANNEL TYPE



TYPICAL LOW FLOW CHANNEL DETAIL
TYPE C3
(INSITU MATERIAL IN FILL AREAS)
SCALE 1:50
REFER LONGITUDINAL SECTIONS FOR
APPROXIMATE EXTENT OF CHANNEL TYPE



TYPICAL LOW FLOW CHANNEL DETAIL
TYPE C4
(HARD ROCK INVERT)
SCALE 1:50
REFER LONGITUDINAL SECTIONS FOR
APPROXIMATE EXTENT OF CHANNEL TYPE

NOTES

1. REFER TO DRAWING 0002 FOR GENERAL NOTES AND LEGEND.
2. WHERE CHANNEL IS IN NATURAL MATERIAL, EXCAVATE PROFILE. WHERE CHANNEL IS IN FILL, OVER EXCAVATE TO 1.0m BELOW CHANNEL INVERT AND FILL (TO NOMINAL COMPACTION IF IN LOOSE MATERIAL).
3. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
4. DENOTES EXTENTS TO BE CONFIRMED BY ENGINEER ON SITE AFTER DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
5. NATURAL SURFACE DETERMINED BY LiDAR SURVEY (LEVEL OF ACCURACY TO BE DETERMINED).
6. FILL MATERIAL TO BE TO BE SELECTED CLAYEY SANDS / SANDY CLAY PLACED IN LAYERS NOT EXCEEDING 300mm TO 95% PROCTER DENSITY AT 0 TO +3% OMC.
7. MINE OVERBURDEN (BY OTHERS) TO COMPRISE:
   7.1. GENERAL MINE BACKFILL UP TO 5m BELOW FINAL SURFACE
   7.2. SELECTED MINE BACKFILL EXCLUDING BOULDERS >0.5m DIAMETER PLACED IN 1m LAYERS COMPACTED WITH AN IMPACT ROLLER AND
   7.3. UPPER 1m TO BE SELECTED CLAYEY SAND / SANDY CLAY WITH NOMINAL COMPACTION
8. REFER TYPICAL DETAILS DRAWINGS FOR LOW FLOW CHANNEL AND ROCK LINING SPECIFICATIONS.
9. ROCK IS HIGHLY VARIABLE, BUT EXPECTED TO BE LARGELY EXCAVATABLE - REFER DOUGLAS PARTNERS REPORT No. 91435.00.R.003. MORE COMPETENT SANDSTONE TO BE TYPICALLY STEEPER THAN MORE WEATHERED MUDSTONES AND CLAY STONES, BUT VARIABILITY OF MATERIAL SUGGESTS FINAL SLOPES MAY NEED TO BE CONFIRMED ON SITE DURING CONSTRUCTION.
10. EXPOSED CARBONACEOUS MATERIAL IN SIDEWALL AND INVERT TO BE OVEREXCAVATED BY 500mm AND COVERED WITH SUITABLE GRAVELLY SOIL - SUBJECT TO CONFIRMATION BY ENGINEER AFTER DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
11. WOODY DEBRIS TO BE PLACED ON SIDESLOPES OF CREEK AS PER ENGINEERS INSTRUCTION, INLINE WITH REVEGETATION PLAN. REFER DRAWING 2071-2082 FOR REVEGETATION DETAILS.
12. ALL ROCK SHALL CONSIST OF WELL GRADED, CLEAN, SOUND, HARD, TOUGH ANGULAR ROCK OF UNIFORM QUALITY WITH A CRUSHING STRENGTH OF NOT LESS THAN 25MPa AND FREE OF DEFINED CLEAVAGE PLANES.
13. ROCK SIZE D_{50} = 300mm FOR FLOODPLAIN, D_{50} = 500mm FOR LOW FLOW CHANNEL
14. ROCK IS TO BE PLACED ON GEOFABRIC BIDIM A44 OR APPROVED EQUIVALENT WHERE SHOWN.
15. UPPER MATERIAL THICKNESS TO BE CONFIRMED AT DETAILED DESIGN. TO BE PLACED AS PER NOTE BUT UPPER 0.3m TO BE LEFT LOOSE FOR REVEGETATION.

SCALE 1:50 (A1) 1 0.5 0 1 2 3 4 5m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2005	

CLIENT
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PROJECT No. IA201700
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Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
TYPICAL DETAILS

SCALE AS SHOWN
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2005
REV D

DATE: 5/09/2019 12:39:18 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2005.dwg

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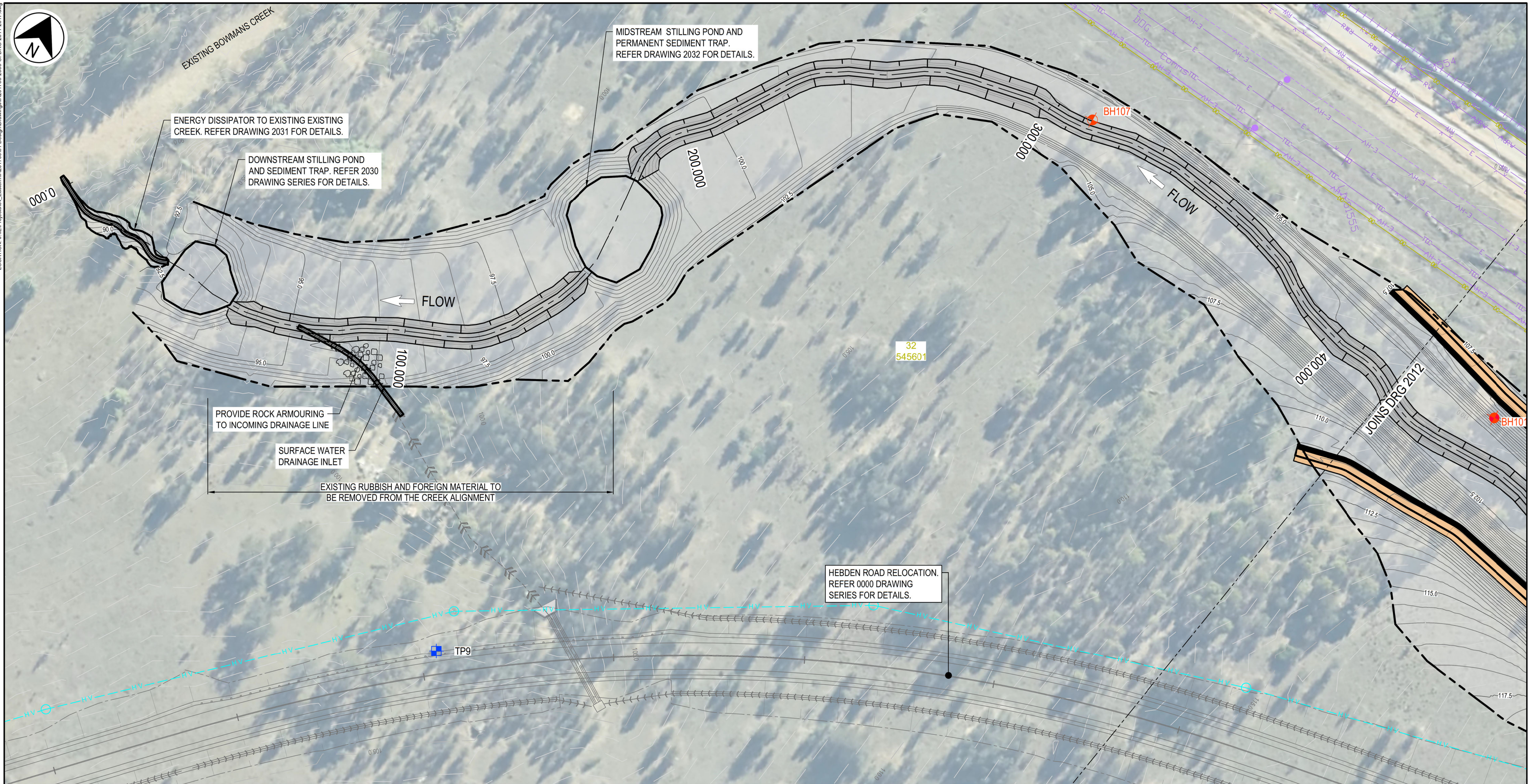


LEGEND

HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)

HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)

YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)

NOT FOR CONSTRUCTION

11 592404 — LOT & DP No, DIGITAL CADASTRE BOUNDARY

EXISTING ROAD, TRACK

PROJECT AREA

GLENDELL PIT EXTENSION

79.00 — EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA

EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA

79.00 — DESIGN CONTOUR MAJOR (2.5m INTERVAL)

DESIGN CONTOUR MINOR (0.5m INTERVAL)

TP103 — TEST PIT LOCATION AND REFERENCE NUMBER

BH101 — BOREHOLE LOCATION AND REFERENCE NUMBER

ROAD CULVERT DISHARGES / FLOW PATH

MINE OVERBURDEN EXTENTS

EXISTING POND, BASIN OR WATERBODY

INDICATIVE ACCESS TRACK / ROAD

INDICATIVE FLOOD BUND

EXISTING HV ABOVEGROUND POWERLINE

EXISTING OVERHEAD POWER >3.3kV

EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)

EXISTING UNDERGROUND POWER

EXISTING SEWER

EXISTING TELECOMMUNICATIONS LINE

EXISTING RAW WATER LINE

EXISTING DRAIN INVERT

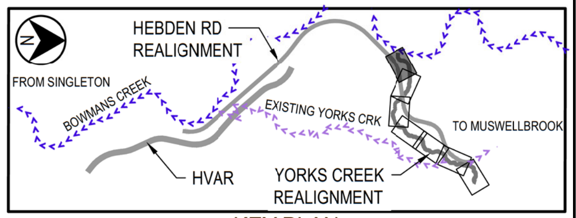
PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE

PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT

PROPOSED 33kV ABOVE GROUND POWER

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

CLIENT GLENCORE

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CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 1

SCALE 1:500 @ A1 — GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2011 — REV D

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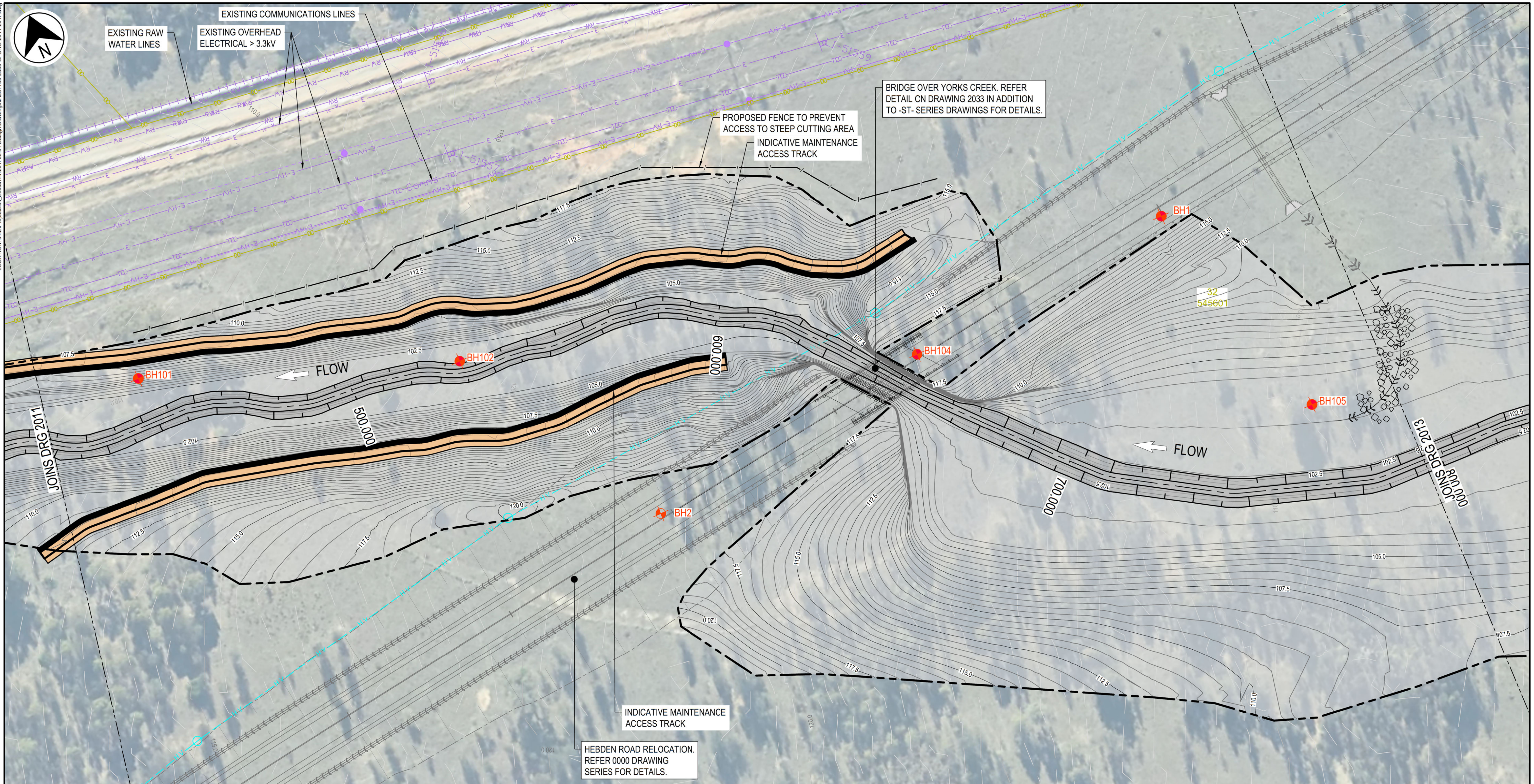
DATE: 5/09/2019 3:05:29 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg

DATE: 5/09/2019 3:06:38 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg



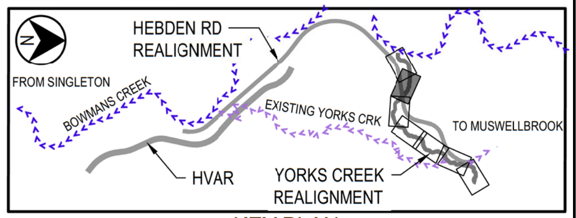
LEGEND

HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)	
HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)	
YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)	
11 592404	LOT & DP No, DIGITAL CADASTRE BOUNDARY
	EXISTING ROAD, TRACK
	PROJECT AREA
	GLENDELL PIT EXTENSION
79.00	EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA
	EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA
79.00	DESIGN CONTOUR MAJOR (2.5m INTERVAL)
	DESIGN CONTOUR MINOR (0.5m INTERVAL)
TP103	TEST PIT LOCATION AND REFERENCE NUMBER
BH101	BOREHOLE LOCATION AND REFERENCE NUMBER
	ROAD CULVERT DISHARGES / FLOW PATH
	MINE OVERBURDEN EXTENTS
	EXISTING POND, BASIN OR WATERBODY
	INDICATIVE ACCESS TRACK / ROAD
	INDICATIVE FLOOD BUND
E	EXISTING HV ABOVEGROUND POWERLINE
E-HV	EXISTING OVERHEAD POWER >3.3kV
	EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)
EU	EXISTING UNDERGROUND POWER
S	EXISTING SEWER
TC	EXISTING TELECOMMUNICATIONS LINE
RW	EXISTING RAW WATER LINE
	EXISTING DRAIN INVERT
HV	PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE
HV	PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT
33kV	PROPOSED 33kV ABOVE GROUND POWER

NOT FOR CONSTRUCTION

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

CLIENT
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Web: www.jacobs.com

CLIENT	MT OWEN PTY LIMITED
PROJECT	GLENDELL CONTINUED OPERATIONS PROJECT
DRAWN	S.HAIL
DESIGNED	C. WAYGOOD
DRAWING CHECK	C. DWYER
DESIGN REVIEW	C. DWYER
REVIEWED	J. MAGIN, DATE 05.09.19
APPROVED	D. ARMSTRONG, DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 2

SCALE	GLENCORE DRAWING No	REV
1:500 @ A1	GCO-JGA-55.01.02.00-CV-2012	D

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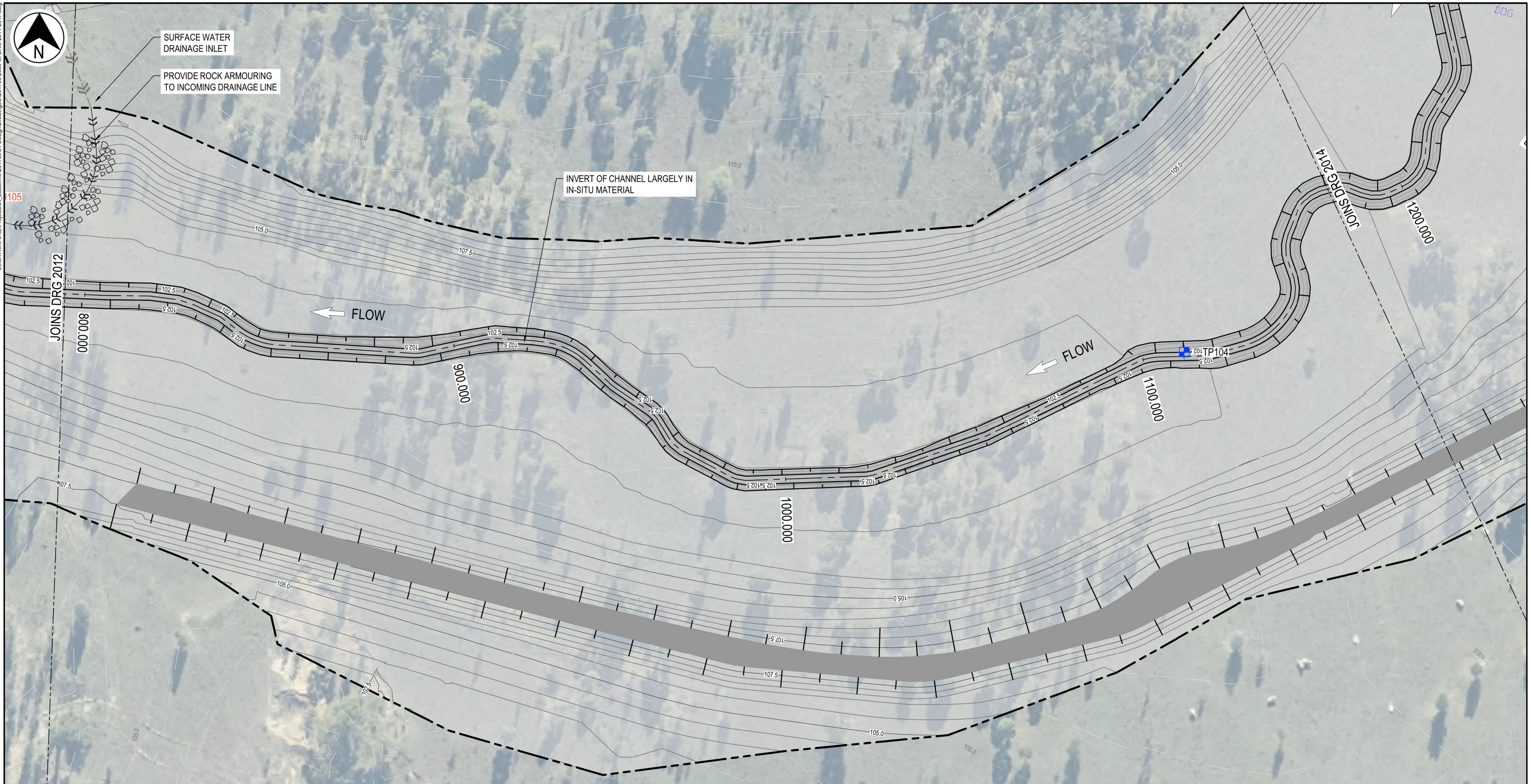


LEGEND

HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)

HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)

YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)

LOT & DP No, DIGITAL CADASTRE BOUNDARY

EXISTING ROAD, TRACK

PROJECT AREA

GLENDELL PIT EXTENSION

EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA

EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA

DESIGN CONTOUR MAJOR (2.5m INTERVAL)

DESIGN CONTOUR MINOR (0.5m INTERVAL)

TP103 TEST PIT LOCATION AND REFERENCE NUMBER

BH101 BOREHOLE LOCATION AND REFERENCE NUMBER

ROAD CULVERT DISHARGES / FLOW PATH

MINE OVERBURDEN EXTENTS

EXISTING POND, BASIN OR WATERBODY

INDICATIVE ACCESS TRACK / ROAD

INDICATIVE FLOOD BUND

EXISTING HV ABOVEGROUND POWERLINE

EXISTING OVERHEAD POWER >3.3kV

EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)

EXISTING UNDERGROUND POWER

EXISTING SEWER

EXISTING TELECOMMUNICATIONS LINE

EXISTING RAW WATER LINE

EXISTING DRAIN INVERT

PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE

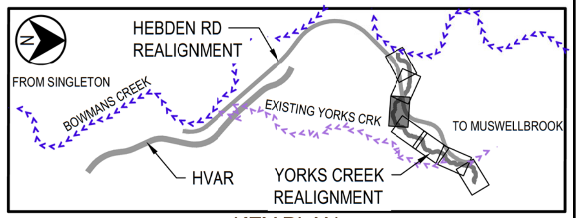
PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT

PROPOSED 33kV ABOVE GROUND POWER

NOT FOR CONSTRUCTION

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1)

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

CLIENT GLENCORE

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CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 3

SCALE 1:500 @ A1 | GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2013 | REV D

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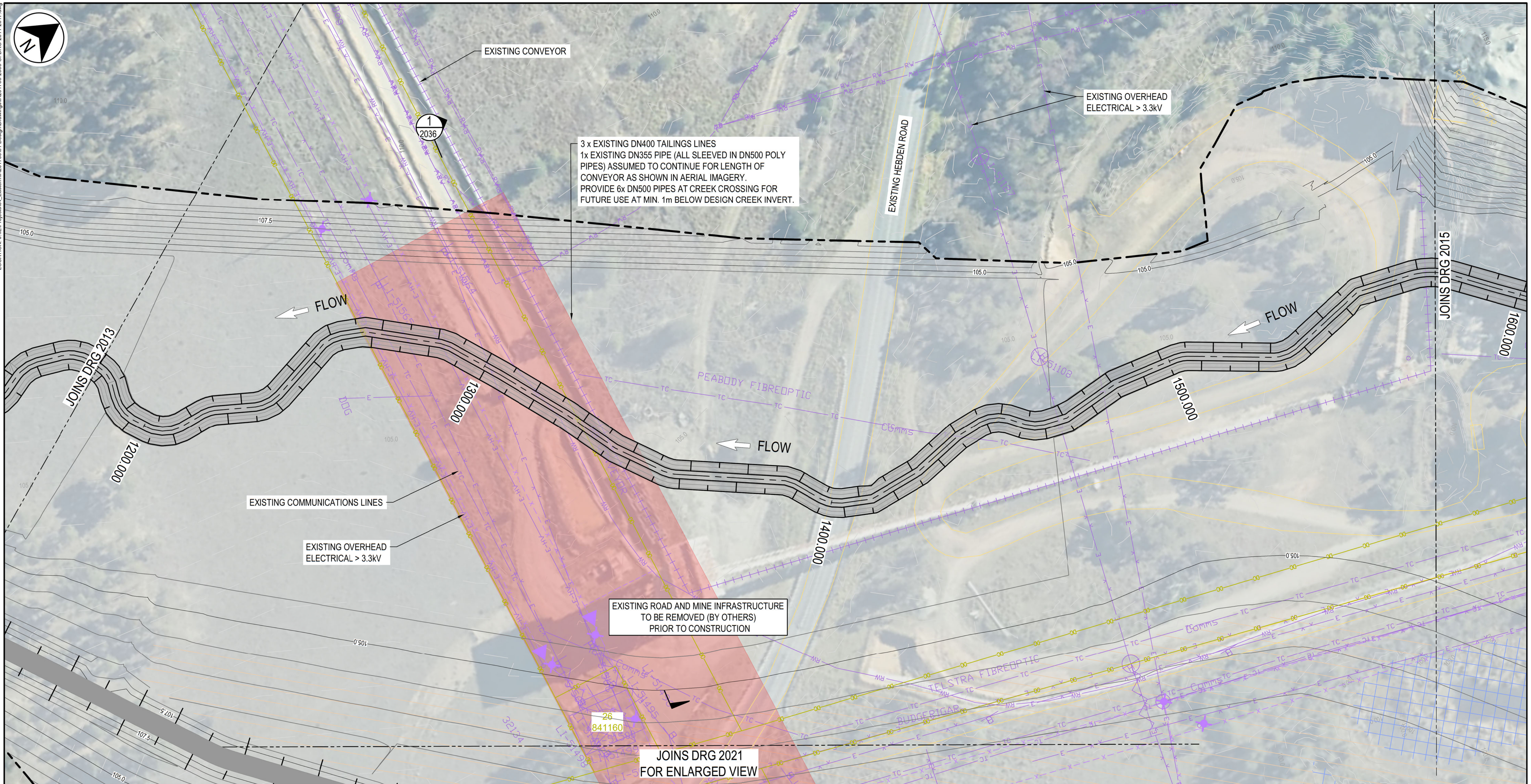
DATE: 5/09/2019 3:07:39 PM NAME: HAIL, SCOTT

DATE: 5/09/2019 3:08:36 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg



LEGEND

HEBDEN ROAD DESIGN
(REFER 0000 SERIES DRAWINGS)

HEAVY VEHICLE ACCESS ROAD
(REFER 1000 SERIES DRAWINGS)

YORKS CREEK REALIGNMENT
(REFER 2000 SERIES DRAWINGS)

NOT FOR CONSTRUCTION

11 / 592404 — LOT & DP No, DIGITAL CADASTRE BOUNDARY

EXISTING ROAD, TRACK

PROJECT AREA

GLENDELL PIT EXTENSION

79.00 — EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA

EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA

79.00 — DESIGN CONTOUR MAJOR (2.5m INTERVAL)

DESIGN CONTOUR MINOR (0.5m INTERVAL)

TP103 — TEST PIT LOCATION AND REFERENCE NUMBER

BH101 — BOREHOLE LOCATION AND REFERENCE NUMBER

ROAD CULVERT DISHARGES / FLOW PATH

MINE OVERBURDEN EXTENTS

EXISTING POND, BASIN OR WATERBODY

INDICATIVE ACCESS TRACK / ROAD

INDICATIVE FLOOD BUND

E — EXISTING HV ABOVEGROUND POWERLINE

E-HV — EXISTING OVERHEAD POWER >3.3kV

EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)

EU — EXISTING UNDERGROUND POWER

S — EXISTING SEWER

TC — EXISTING TELECOMMUNICATIONS LINE

RW — EXISTING RAW WATER LINE

EXISTING DRAIN INVERT

HV — PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE

HV — PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT

33kV — PROPOSED 33kV ABOVE GROUND POWER

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
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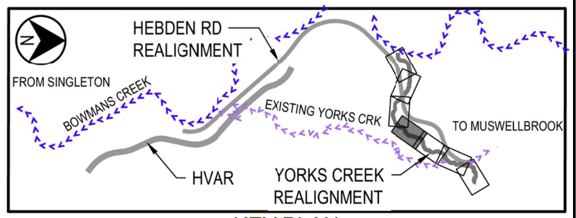

KEY PLAN

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

CLIENT: GLENCORE

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Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT
GENERAL ARRANGEMENT PLAN
SHEET 4

SCALE: 1:500 @ A1
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2014
REV: D

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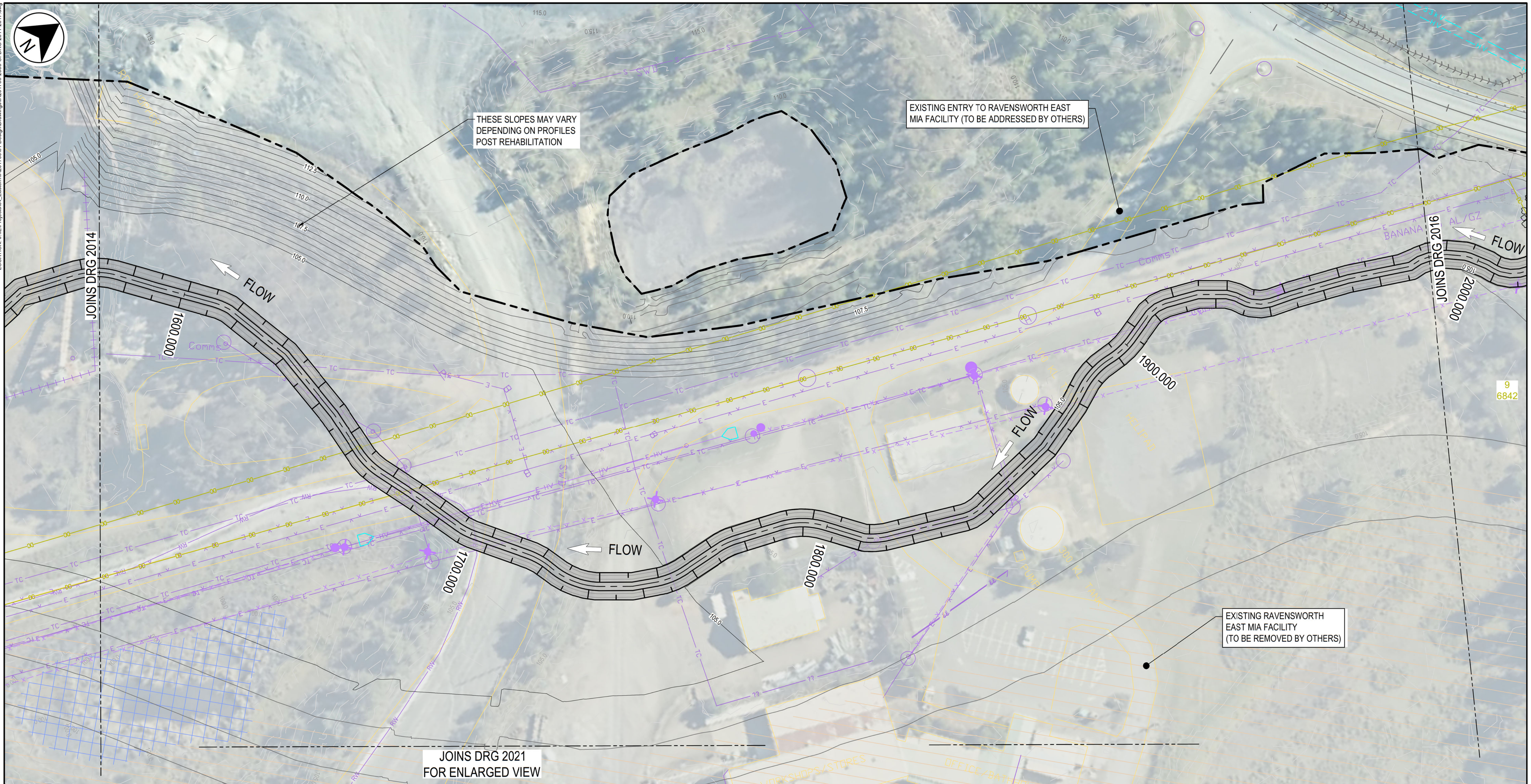
DATE: 5/09/2019 3:09:32 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg



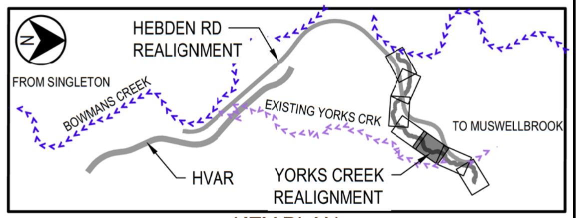
LEGEND

- HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)
- HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)
- YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)
- LOT & DP No, DIGITAL CADASTRE BOUNDARY
- EXISTING ROAD, TRACK
- PROJECT AREA
- GLENDELL PIT EXTENSION
- EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA
- EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA
- DESIGN CONTOUR MAJOR (2.5m INTERVAL)
- DESIGN CONTOUR MINOR (0.5m INTERVAL)
- TP103 TEST PIT LOCATION AND REFERENCE NUMBER
- BH101 BOREHOLE LOCATION AND REFERENCE NUMBER
- ROAD CULVERT DISHARGES / FLOW PATH
- MINE OVERBURDEN EXTENTS
- EXISTING POND, BASIN OR WATERBODY
- INDICATIVE ACCESS TRACK / ROAD
- INDICATIVE FLOOD BUND
- EXISTING HV ABOVEGROUND POWERLINE
- EXISTING OVERHEAD POWER >3.3kV
- EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)
- EXISTING UNDERGROUND POWER
- EXISTING SEWER
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING RAW WATER LINE
- EXISTING DRAIN INVERT
- PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE
- PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT
- PROPOSED 33kV ABOVE GROUND POWER

NOT FOR CONSTRUCTION

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSED3A_BOUNDARY_MGA55_REV2

CLIENT: GLENCORE

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Tel: +61 2 4979 2600
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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE: YORKS CREEK REALIGNMENT
GENERAL ARRANGEMENT PLAN
SHEET 5

SCALE: 1:500 @ A1 | GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2015 | REV: D

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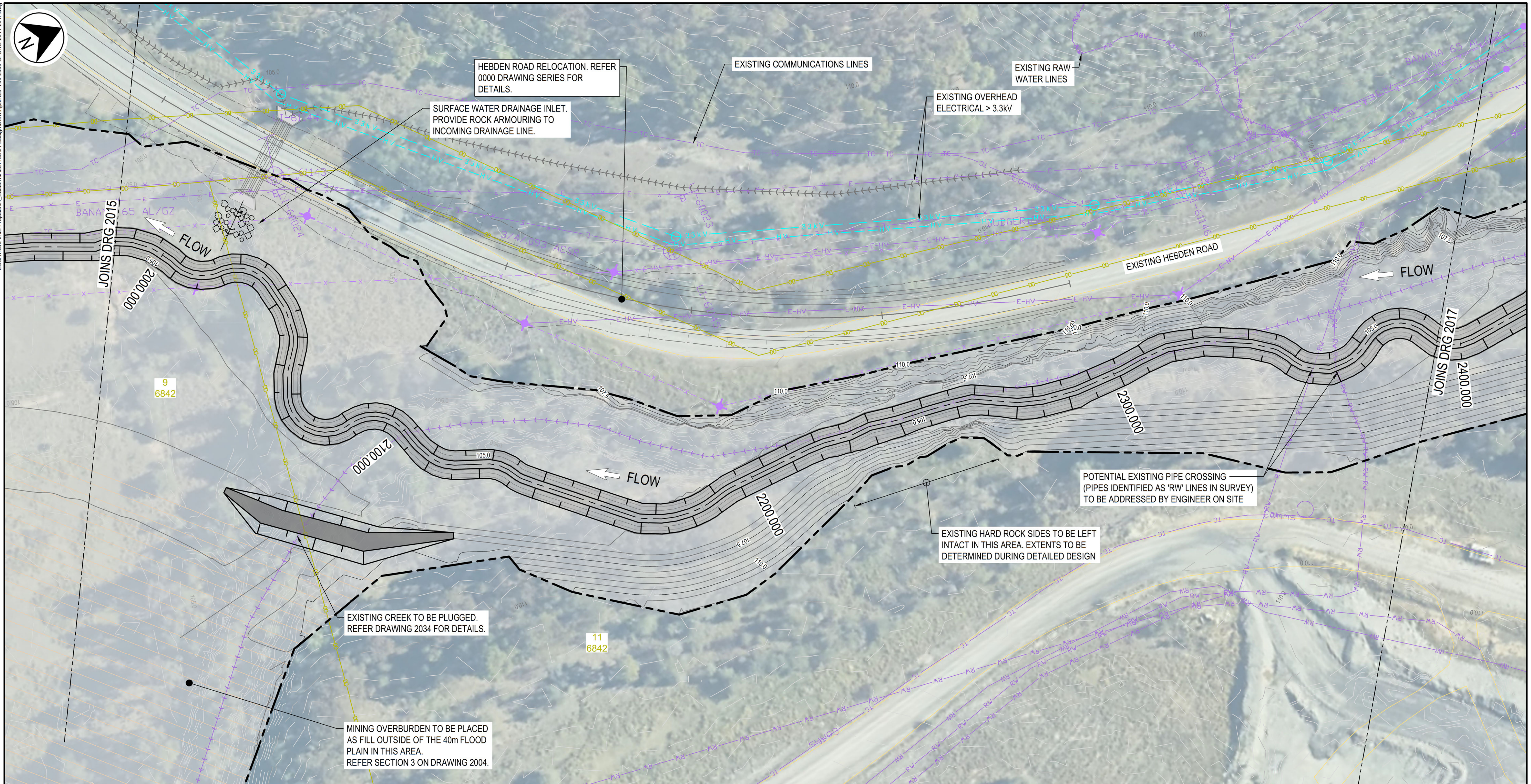
DATE: 5/09/2019 3:10:22 PM NAME: HAIL, SCOTT LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg



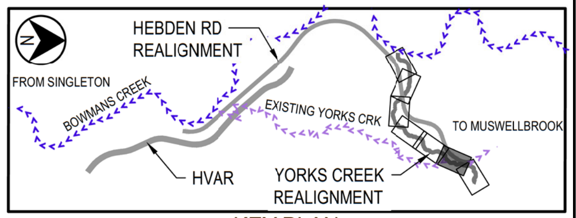
LEGEND

	HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)
	HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)
	YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)
11 592404	LOT & DP No, DIGITAL CADASTRE BOUNDARY
	EXISTING ROAD, TRACK
	PROJECT AREA
	GLENDELL PIT EXTENSION
79.00	EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA
	EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA
79.00	DESIGN CONTOUR MAJOR (2.5m INTERVAL)
	DESIGN CONTOUR MINOR (0.5m INTERVAL)
TP103	TEST PIT LOCATION AND REFERENCE NUMBER
BH101	BOREHOLE LOCATION AND REFERENCE NUMBER
	ROAD CULVERT DISHARGES / FLOW PATH
	MINE OVERBURDEN EXTENTS
	EXISTING POND, BASIN OR WATERBODY
	INDICATIVE ACCESS TRACK / ROAD
	INDICATIVE FLOOD BUND
E X	EXISTING HV ABOVEGROUND POWERLINE
E-HV	EXISTING OVERHEAD POWER >3.3kV
X	EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)
EU	EXISTING UNDERGROUND POWER
S	EXISTING SEWER
TC	EXISTING TELECOMMUNICATIONS LINE
RW RW	EXISTING RAW WATER LINE
	EXISTING DRAIN INVERT
HV	PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE
HV	PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT
33kV	PROPOSED 33kV ABOVE GROUND POWER

NOT FOR CONSTRUCTION

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1)

10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE

JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
	SWAMP CREEK DIG. BDYS (14.11.18)
	GLENDELL PIT EXTENTS (05.09.19)
	GLENDELL MIA LAYOUT (28.11.18)
	GLENDELL SERVICES MASTER (30.10.18)
	HEBDEN_ROAD_LIDAR_NOV_2018
IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSED3A_BOUNDARY_MGA55_REV2

CLIENT
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Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 6

SCALE: 1:500 @ A1
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2016
REV: D

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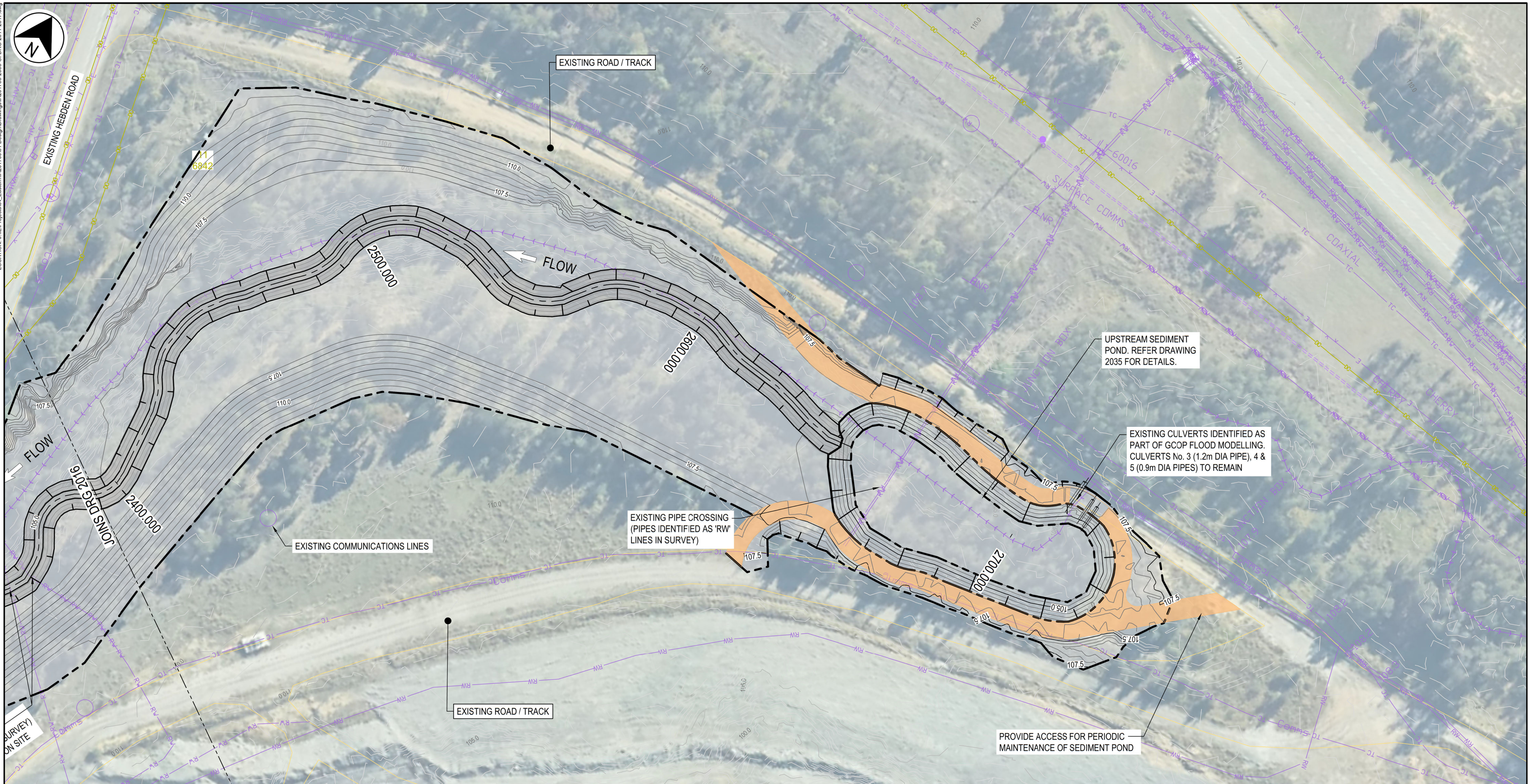


LEGEND

HEBDEN ROAD DESIGN (REFER 0000 SERIES DRAWINGS)

HEAVY VEHICLE ACCESS ROAD (REFER 1000 SERIES DRAWINGS)

YORKS CREEK REALIGNMENT (REFER 2000 SERIES DRAWINGS)

NOT FOR CONSTRUCTION

11 592404 — LOT & DP No, DIGITAL CADASTRE BOUNDARY

EXISTING ROAD, TRACK

PROJECT AREA

GLENDELL PIT EXTENSION

EXISTING SURFACE CONTOUR (5.0m INTERVAL) BASED ON LiDAR SURVEY DATA

EXISTING SURFACE CONTOUR (0.5m INTERVAL) BASED ON LiDAR SURVEY DATA

79.00 — DESIGN CONTOUR MAJOR (2.5m INTERVAL)

DESIGN CONTOUR MINOR (0.5m INTERVAL)

TP103 — TEST PIT LOCATION AND REFERENCE NUMBER

BH101 — BOREHOLE LOCATION AND REFERENCE NUMBER

ROAD CULVERT DISHARGES / FLOW PATH

MINE OVERBURDEN EXTENTS

EXISTING POND, BASIN OR WATERBODY

INDICATIVE ACCESS TRACK / ROAD

INDICATIVE FLOOD BUND

EXISTING HV ABOVEGROUND POWERLINE

EXISTING OVERHEAD POWER >3.3kV

EXISTING POWER (POSSIBLE DUPLICATION OF ABOVE)

EXISTING UNDERGROUND POWER

EXISTING SEWER

EXISTING TELECOMMUNICATIONS LINE

EXISTING RAW WATER LINE

EXISTING DRAIN INVERT

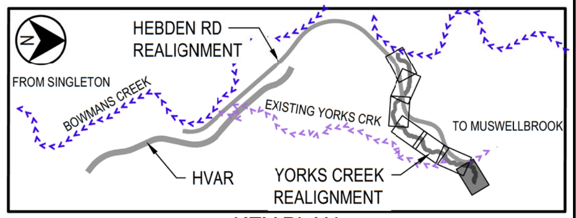
PROPOSED 11kV ABOVE GROUND PRIVATE ROUTE

PROPOSED 11kV ABOVE GROUND POWER ROUTE AND EASEMENT

PROPOSED 33kV ABOVE GROUND POWER

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. REFER TYPICAL SECTIONS AND DETAILS FOR CHANNEL DETAILS.
3. REFER SECTIONS FOR GRADES AND PROFILE.
4. UTILITIES SHOWN ARE INDICATIVE ONLY.



KEY PLAN

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2011-2017	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

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Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN: S.HAIL | DRAWING CHECK: C. DWYER | REVIEWED: J. MAGIN | APPROVED: D. ARMSTRONG
DESIGNED: C. WAYGOOD | DESIGN REVIEW: C. DWYER | DATE 05.09.19 | DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN SHEET 7

SCALE 1:500 @ A1 | GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2017 | REV D

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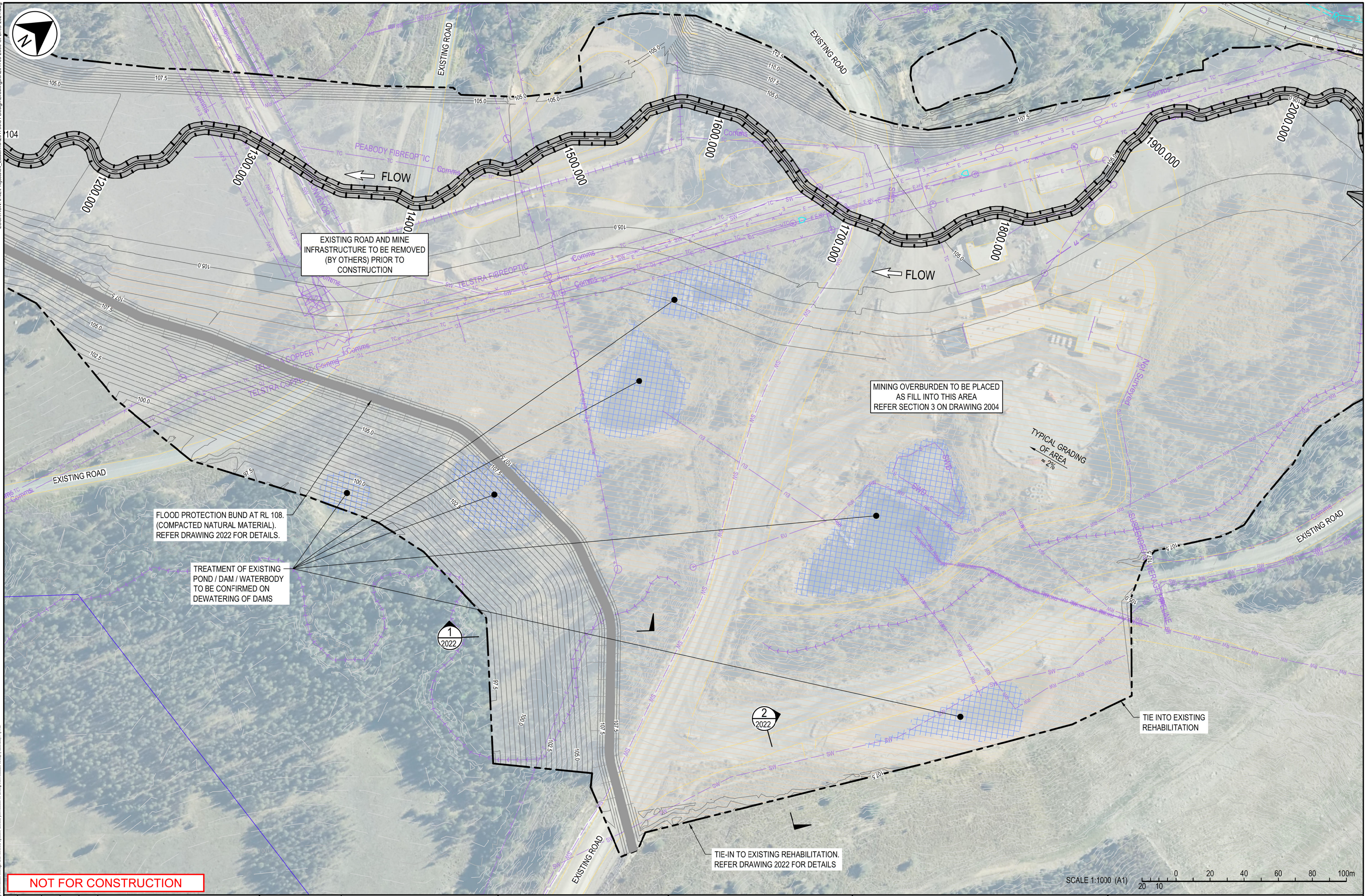
DATE: 5/09/2019 3:10:53 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2011-2017.dwg



DATE: 5/09/2019 3:00:02 PM NAME: HAIL, SCOTT

LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2021.dwg

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							GLENDELL PIT EXTENTS (05.09.19)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL SERVICES MASTER (30.10.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2021	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA56_REV2

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CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW		
C. WAYGOOD	C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT GENERAL ARRANGEMENT PLAN FLOODPLAIN AREA AND FINAL VOID LEVEE FLOOD PROTECTION

SCALE	GLENCORE DRAWING No	REV
1:1000 @ A1	GCO-JGA-55.01.02.00-CV-2021	D

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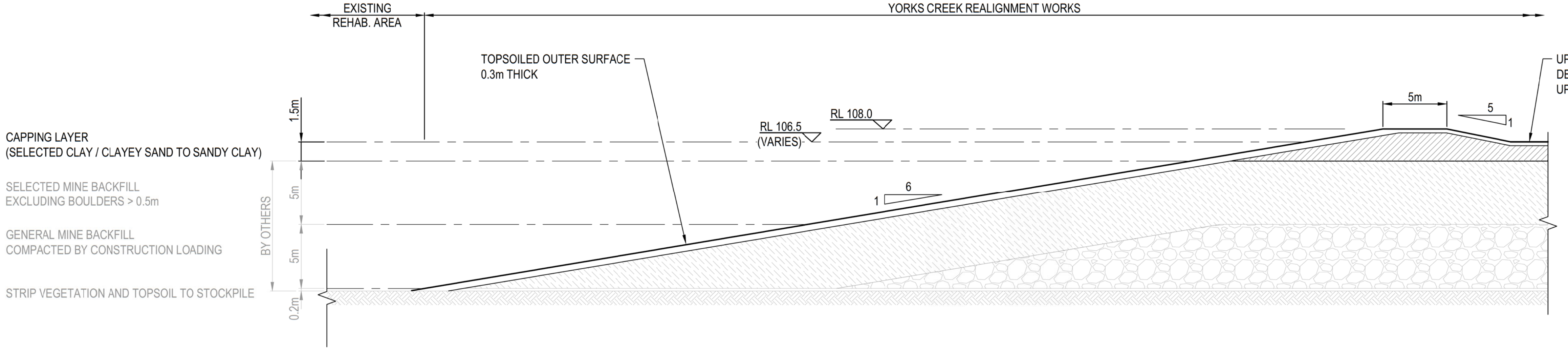
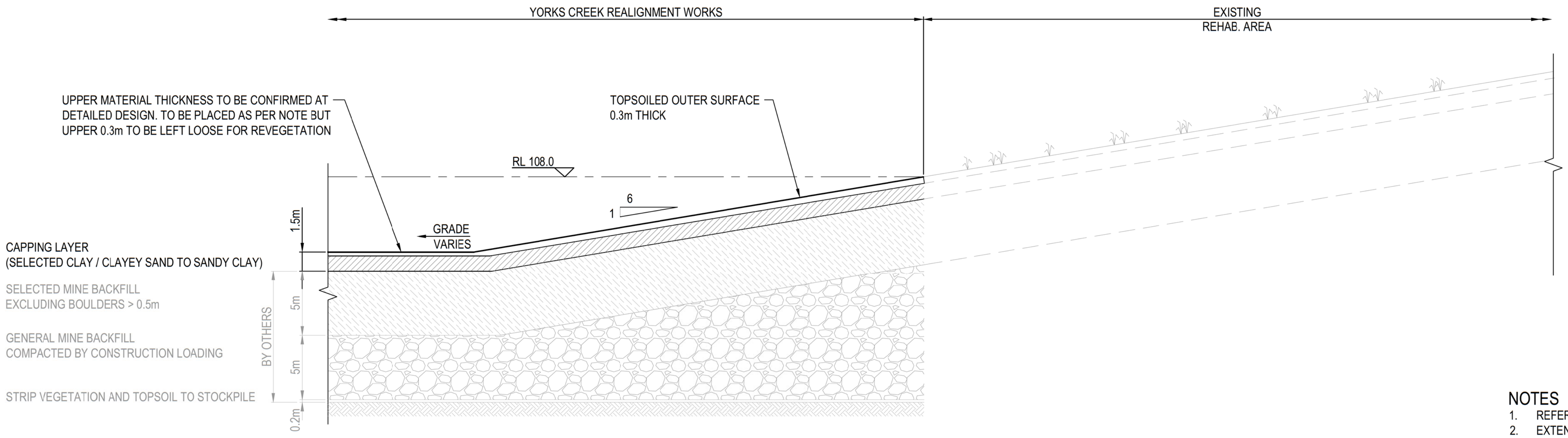
DATE: 5/09/2019 12:49:55 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2022.dwg



TYPICAL SECTION THROUGH FLOOD PROTECTION BUND

SECTION 1 / 2021
SCALE 1:200



TYPICAL SECTION AT TIE-IN TO EXISTING REHABILITATION AREA

SECTION 2 / 2021
SCALE 1:200

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL

SCALE 1:200 (A1) 4 3 2 1 0 4 8 12 16 20m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2022	

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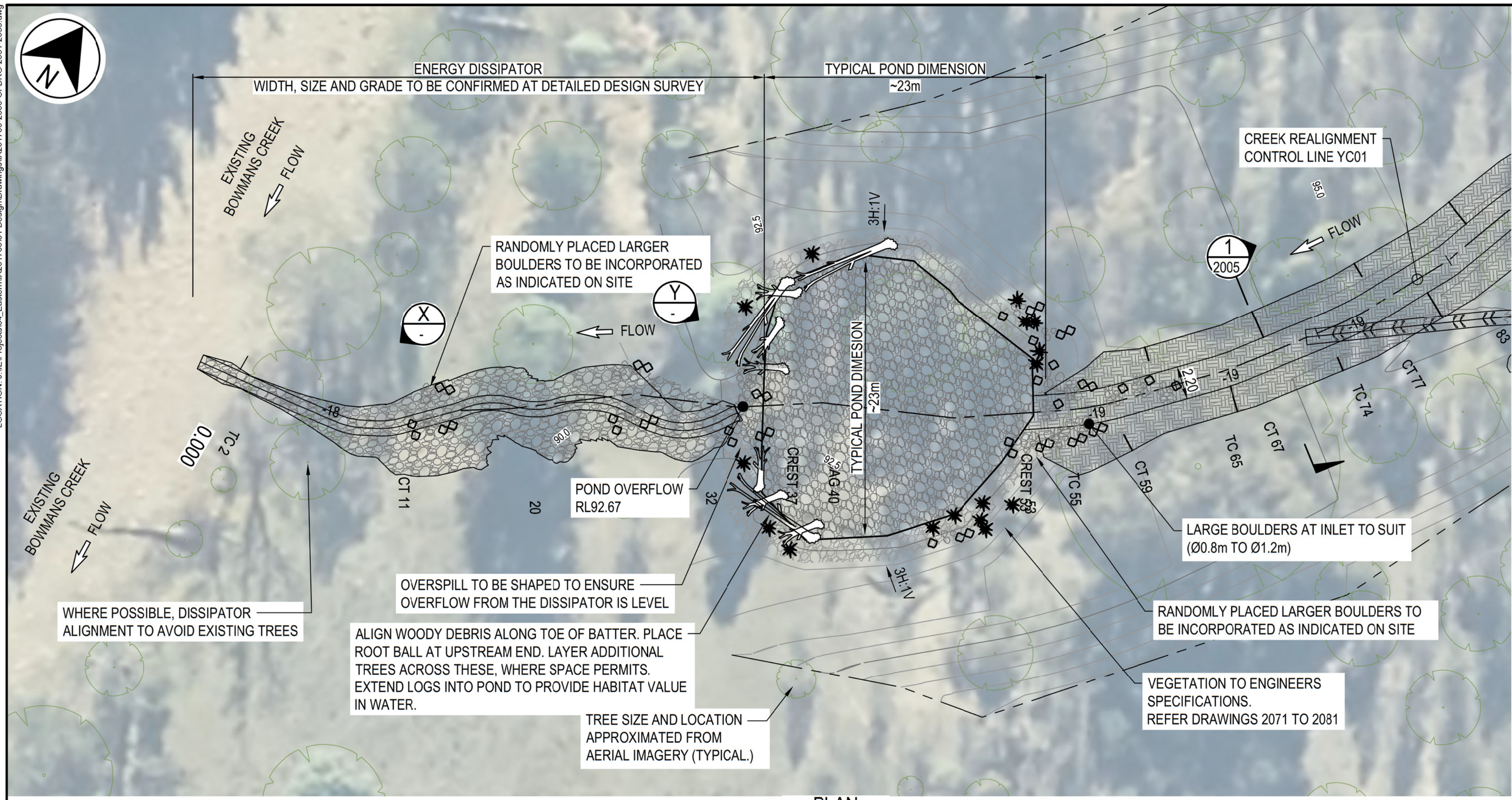
CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT
DETAILS FLOODPLAIN AREA
AND FINAL VOID LEVEE FLOOD PROTECTION

SCALE: AS SHOWN
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2022
REV: D

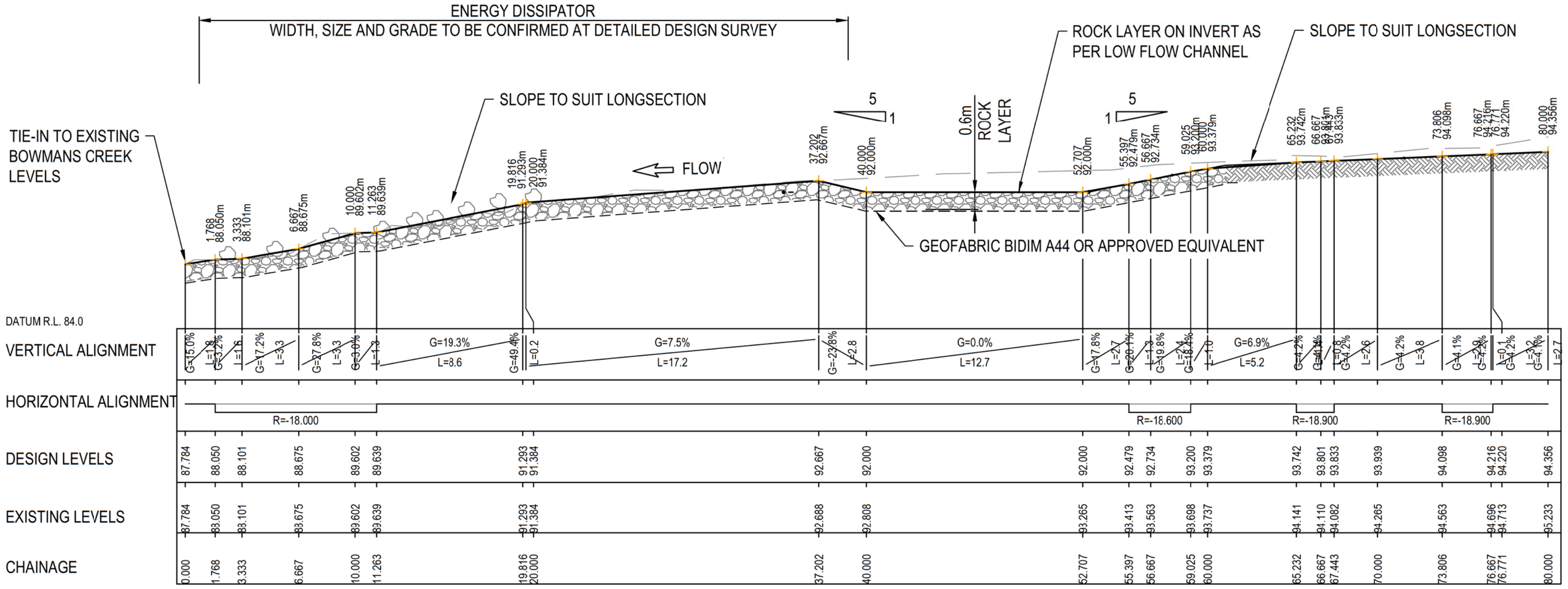
DATE: 5/09/2019 3:01:22 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2031-2035.dwg



PLAN
POND INLET
SCALE 1:200

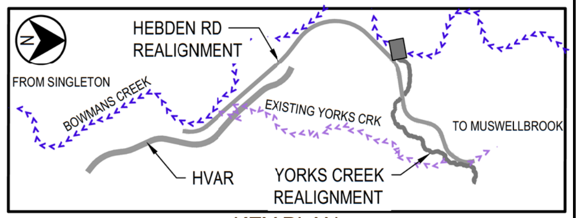
VIEW X
N.T.S
EXISTING CONDITIONS AT PROPOSED CONFLUENCE WITH BOWMANS CREEK

VIEW Y
N.T.S
EXISTING CONDITIONS AT POND LOCATION



LONGITUDINAL SECTION - YC01
SCALE H 1:200
SCALE V 1:200

NOTES
1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL



KEY PLAN

SCALE 1:200 (A1) 4 3 2 1 0 4 8 12 16 20m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2031-2035	

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED C. WAYGOOD	DESIGN REVIEW C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
PLAN AND DETAILS DOWNSTREAM STILLING POND AND ENERGY DISSIPATOR AT BOWMANS CREEK

SCALE AS SHOWN
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2031
REV D

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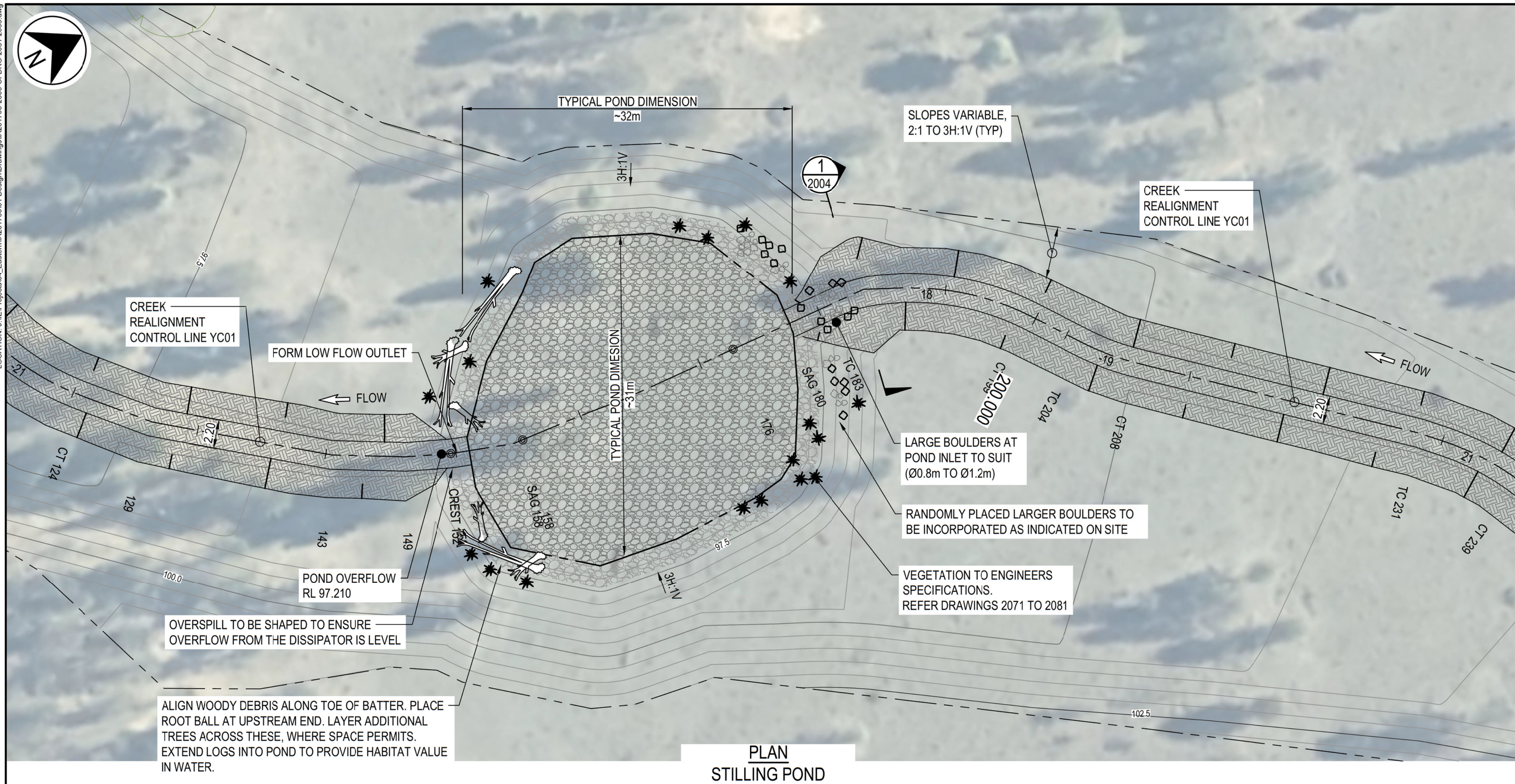
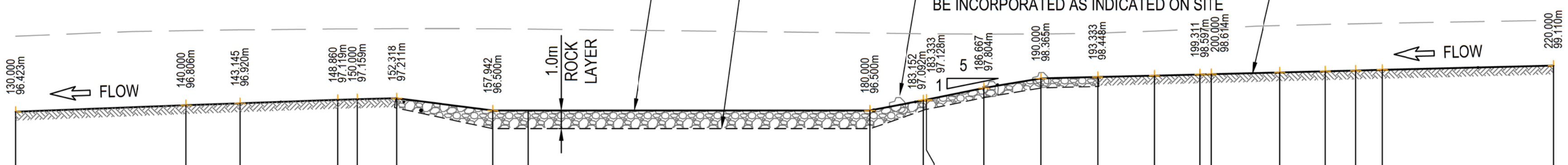


PLAN
STILLING POND
SCALE 1:200



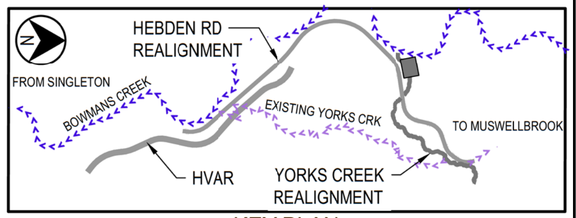
VERTICAL ALIGNMENT: G=3.8% L=10.0; G=3.5% L=5.7; G=-12.6% L=5.6; G=0.0% L=22.1; G=2.5% L=10.0

HORIZONTAL ALIGNMENT: R=18.000; R=-18.900

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
130.000	96.423	100.822
140.000	96.806	101.143
143.145	96.920	101.191
148.860	97.119	101.241
150.000	97.159	101.247
152.318	97.211	101.259
157.942	96.500	101.257
160.000	96.500	101.233
180.000	96.500	101.005
183.152	97.092	100.967
183.333	97.128	100.965
186.667	97.804	100.942
190.000	98.365	100.950
193.333	98.448	100.998
196.667	98.531	101.118
199.311	98.597	101.239
200.000	98.614	101.273
204.004	98.714	101.443
206.667	98.780	101.509
208.430	98.823	101.544
210.000	98.862	101.571
220.000	99.110	101.745

LONGITUDINAL SECTION - YC01
SCALE H 1:200
SCALE V 1:200

NOTES
1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL



KEY PLAN

SCALE 1:200 (A1) 4 3 2 1 0 4 8 12 16 20m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2031-2035	

CLIENT: GLENCORE

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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE:
YORKS CREEK REALIGNMENT
PLAN AND DETAILS
MIDSTREAM STILLING POND

SCALE: AS SHOWN
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2032
REV: D

DATE: 5/09/2019 3:01:31 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2031-2035.dwg

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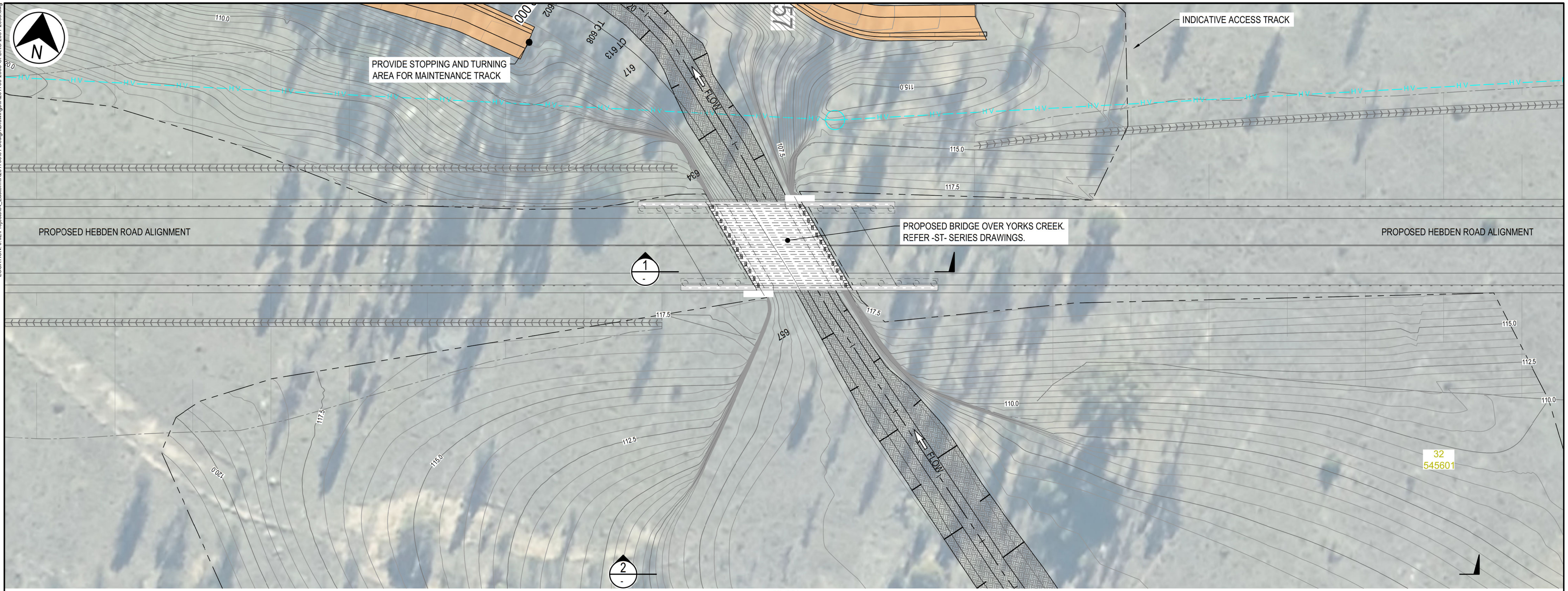
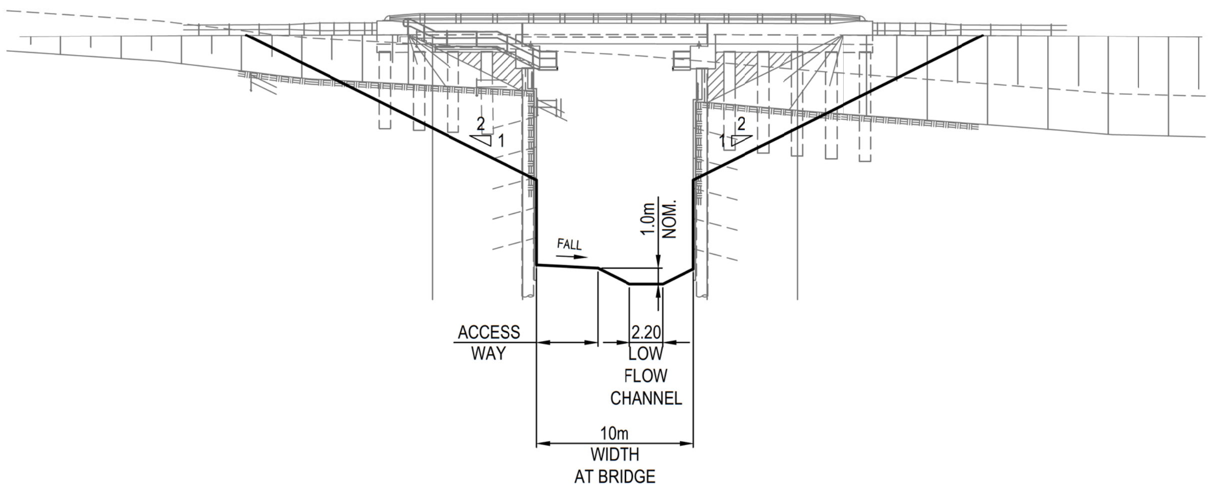
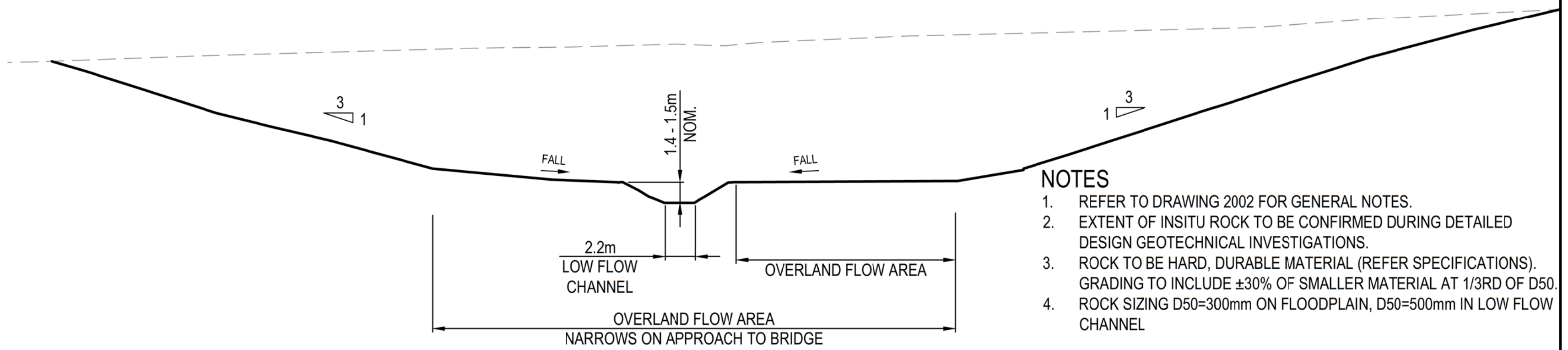


PLAN
CREEK INTERFACE AT BRIDGE
SCALE 1:250

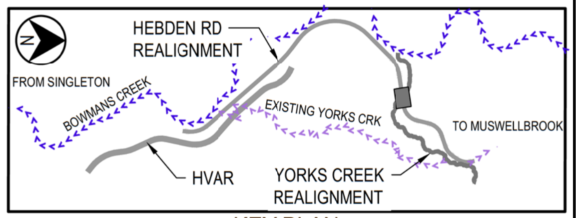


SECTION 1
SCALE 1:250



SECTION 2
SCALE 1:250

NOTES
1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL



KEY PLAN

SCALE 1:250 (A1) 5 4 3 2 1 0 5 10 15 20 25m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2031-2035	

CLIENT: GLENCORE

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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT
PLAN AND DETAILS
CREEK INTERFACE AT BRIDGE

SCALE: AS SHOWN
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2033
REV: D

DATE: 5/09/2019 3:01:53 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2031-2035.dwg

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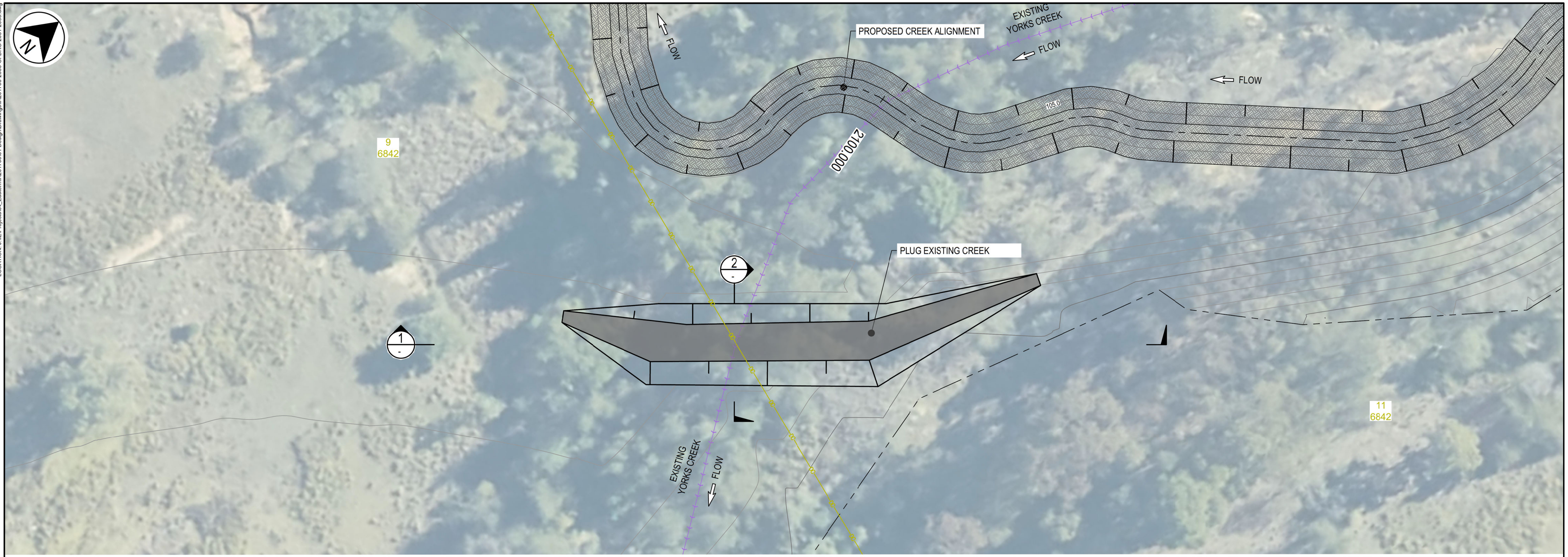
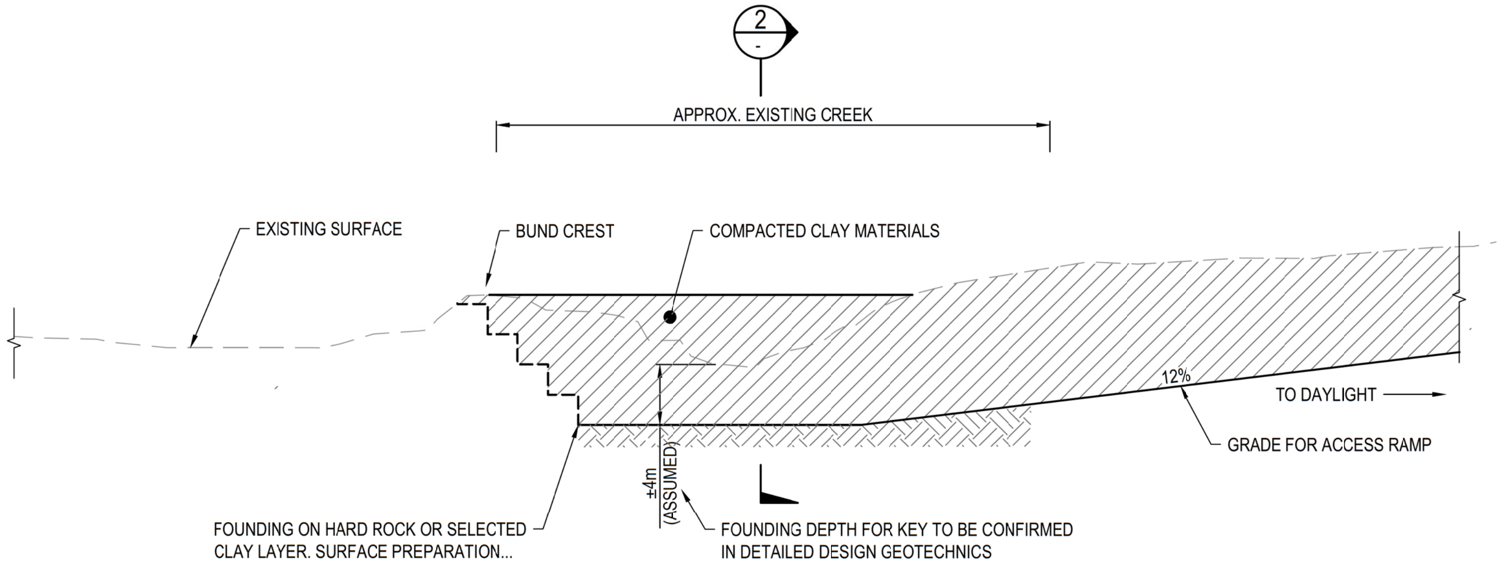
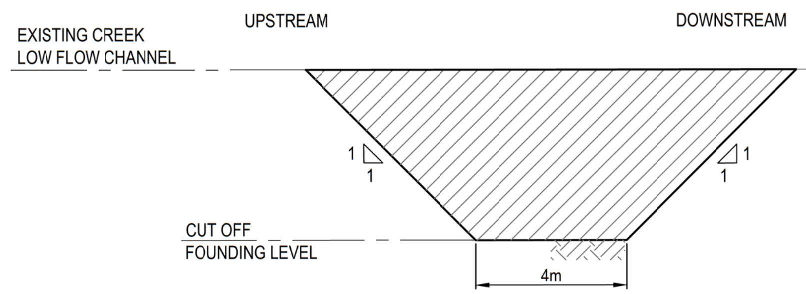
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2031-2035.dwg



PLUGGING OF EXISTING CREEK PLAN
SCALE 1:250



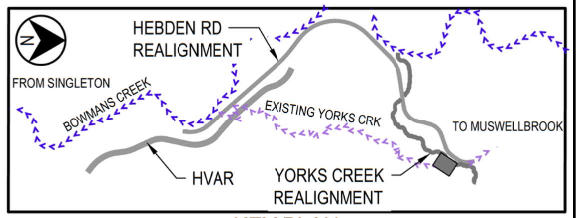
SECTION 1
SCALE 1:250



TYPICAL PLUG PROFILE
SECTION 2
SCALE 1:100

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL



KEY PLAN

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

SCALE 1:250 (A1) 5 4 3 2 1 0 5 10 15 20 25m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
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A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2031-2035	

CLIENT GLENCORE

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT PLAN AND DETAILS PLUGGING OF EXISTING CREEK

SCALE AS SHOWN | GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2034 | REV D

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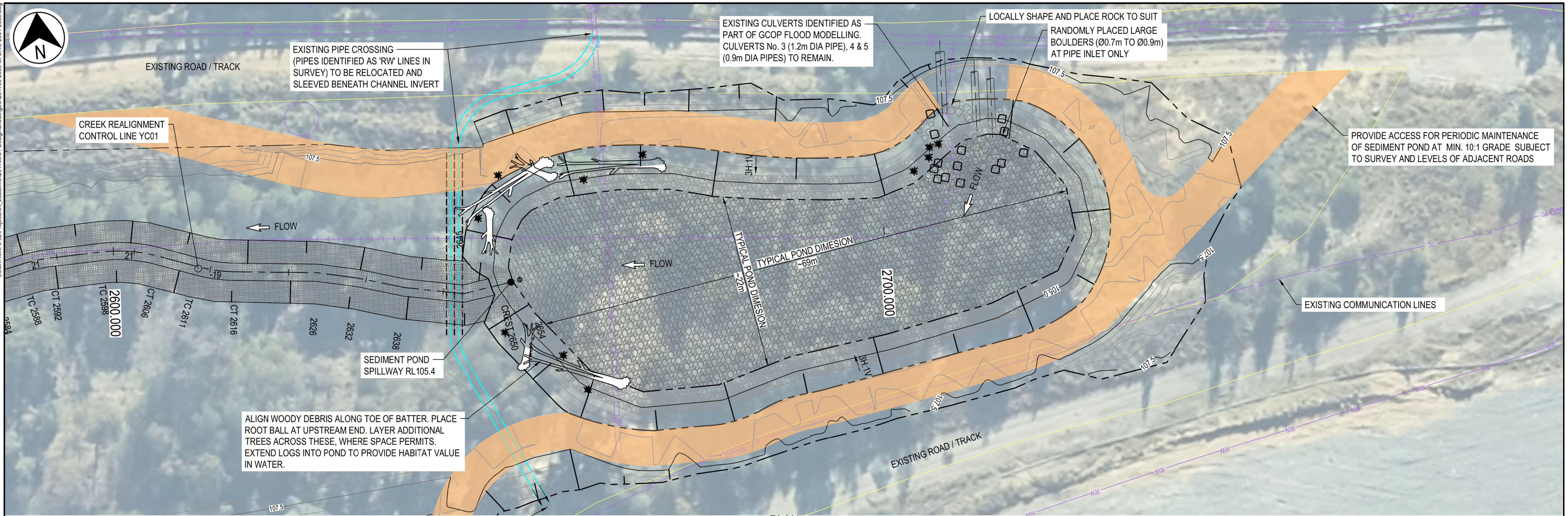
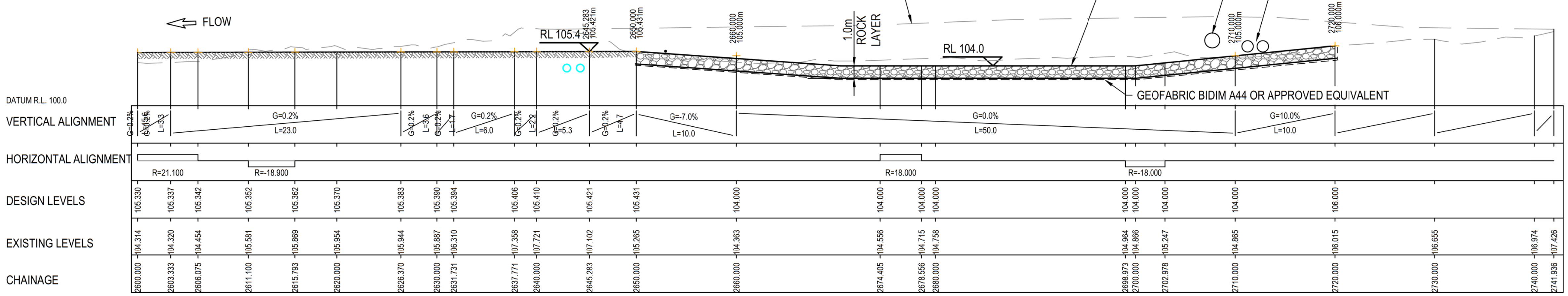


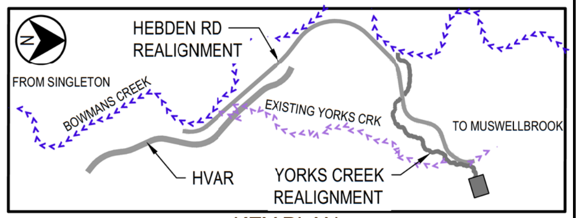
PLAN
UPSTREAM SEDIMENT POND
SCALE 1:250



LONGITUDINAL SECTION - YC01
SCALE H 1:250
SCALE V 1:250

NOTES

1. REFER TO DRAWING 2002 FOR GENERAL NOTES.
2. EXTENT OF INSITU ROCK TO BE CONFIRMED DURING DETAILED DESIGN GEOTECHNICAL INVESTIGATIONS.
3. ROCK TO BE HARD, DURABLE MATERIAL (REFER SPECIFICATIONS). GRADING TO INCLUDE ±30% OF SMALLER MATERIAL AT 1/3RD OF D50.
4. ROCK SIZING D50=300mm ON FLOODPLAIN, D50=500mm IN LOW FLOW CHANNEL



KEY PLAN

SCALE 1:250 (A1) 0 5 10 15 20 25m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2031-2035	

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED C. WAYGOOD	DESIGN REVIEW C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
PLAN AND DETAILS
UPSTREAM SEDIMENT POND

SCALE AS SHOWN | GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2035 | REV D

DATE: 5/09/2019 3:02:55 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2031-2035.dwg

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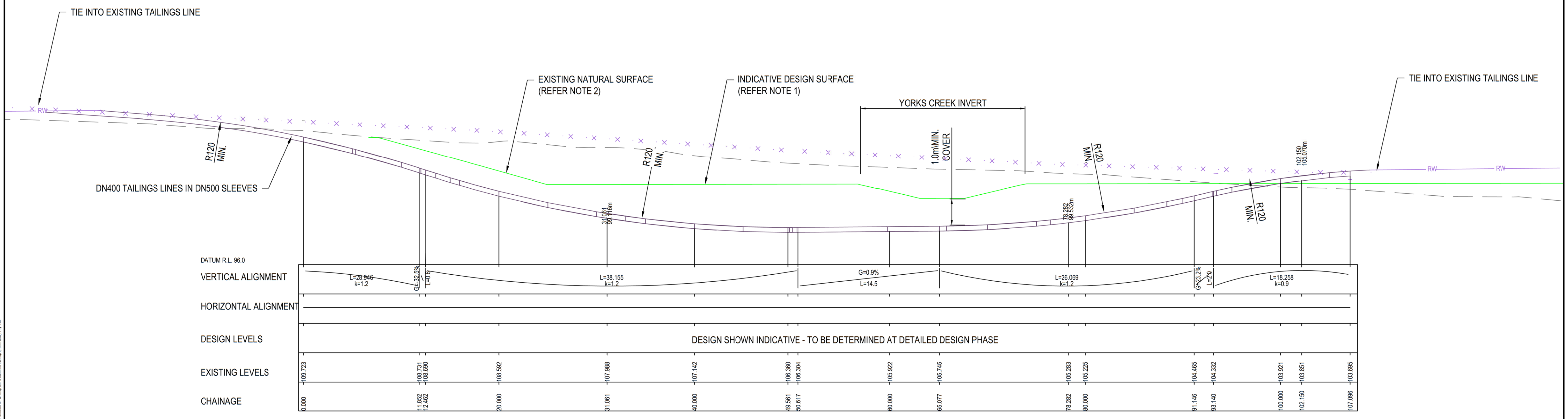
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2036.dwg



LONGITUDINAL SECTION - TAILINGS LINES MODIFICATION AT CREEK REALIGNMENT

SCALE H 1:200
SCALE V 1:200

SECTION 1/2014
SCALE 1:200

NOT FOR CONSTRUCTION

SCALE 1:200 (A1) 4 3 2 1 0 4 8 12 16 20m

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D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	-	-	-	-	NOT USED		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2036	

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
TAILING LINES MODIFICATIONS

SCALE 1:200
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2036
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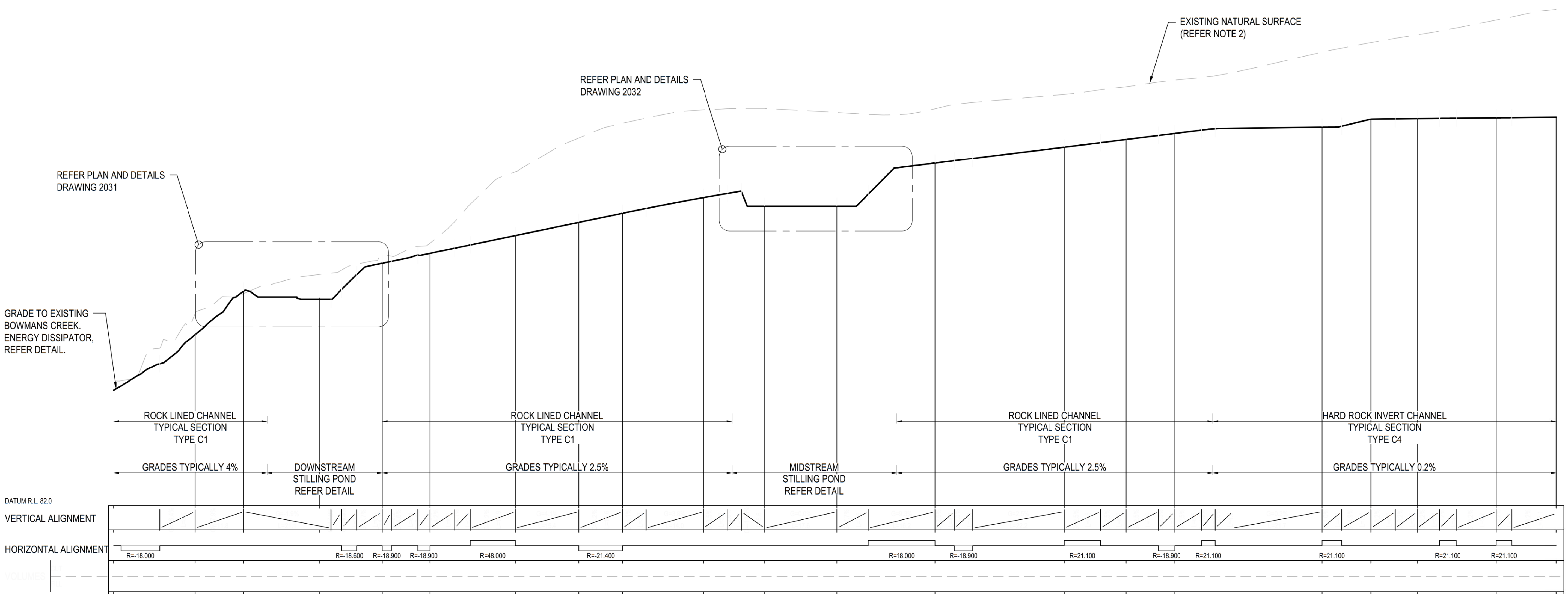
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



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31.611	92.391	92.271
50.000	92.050	93.199
65.232	93.742	94.141
76.771	94.220	94.713
97.483	95.080	98.170
112.881	95.718	99.822
123.512	96.160	100.537
143.145	96.920	101.191
157.942	96.500	101.257
175.511	96.500	101.059
199.311	98.597	101.239
230.640	99.376	101.930
245.645	99.750	102.300
257.464	100.044	102.628
271.472	100.291	102.984
293.159	100.346	103.980
305.008	100.739	104.445
316.266	100.762	104.819
335.475	100.801	105.533
350.000	100.830	106.060

LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
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A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 1

SCALE 1:500, 1:100
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2041
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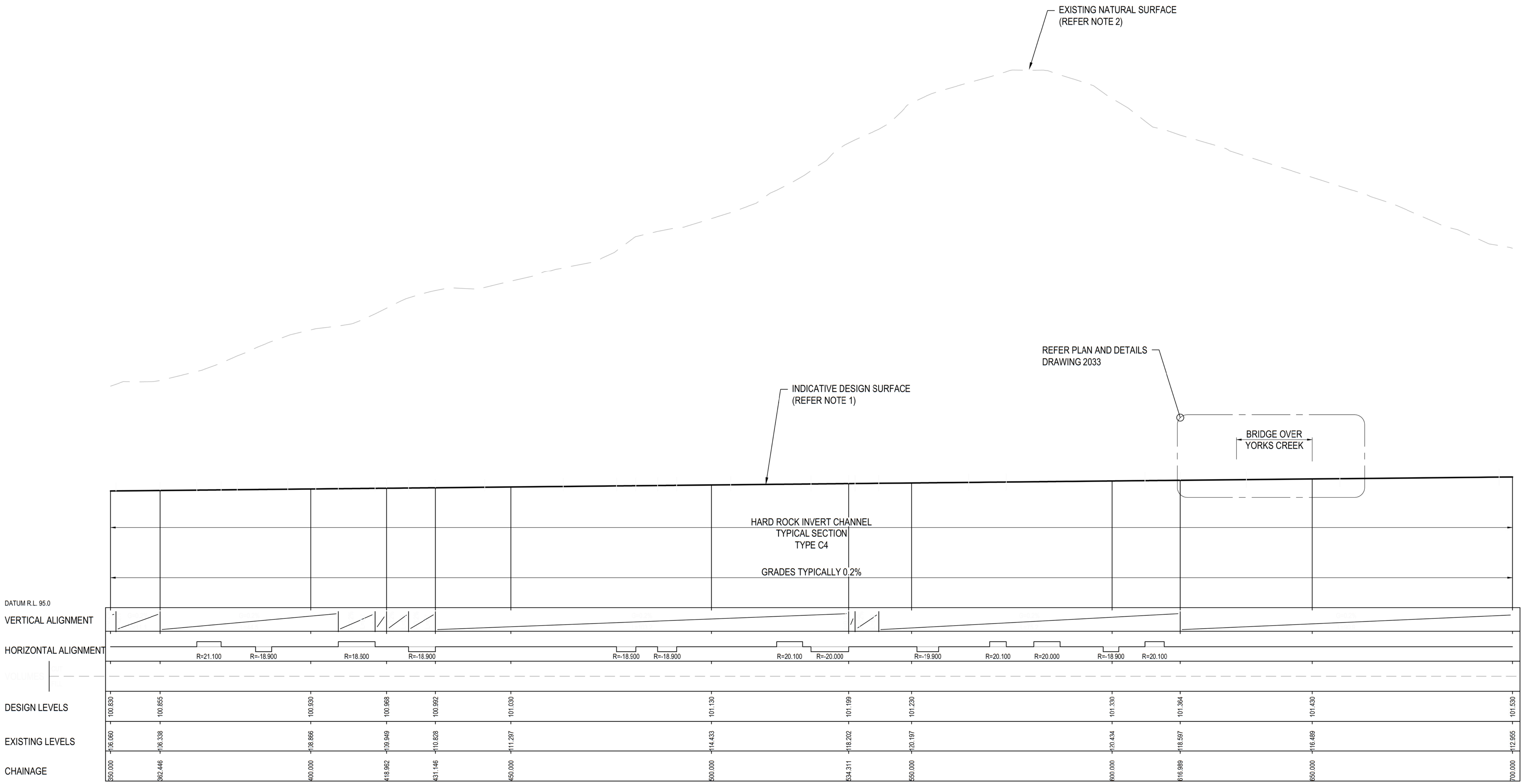
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
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B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 2

SCALE 1:500, 1:100
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2042
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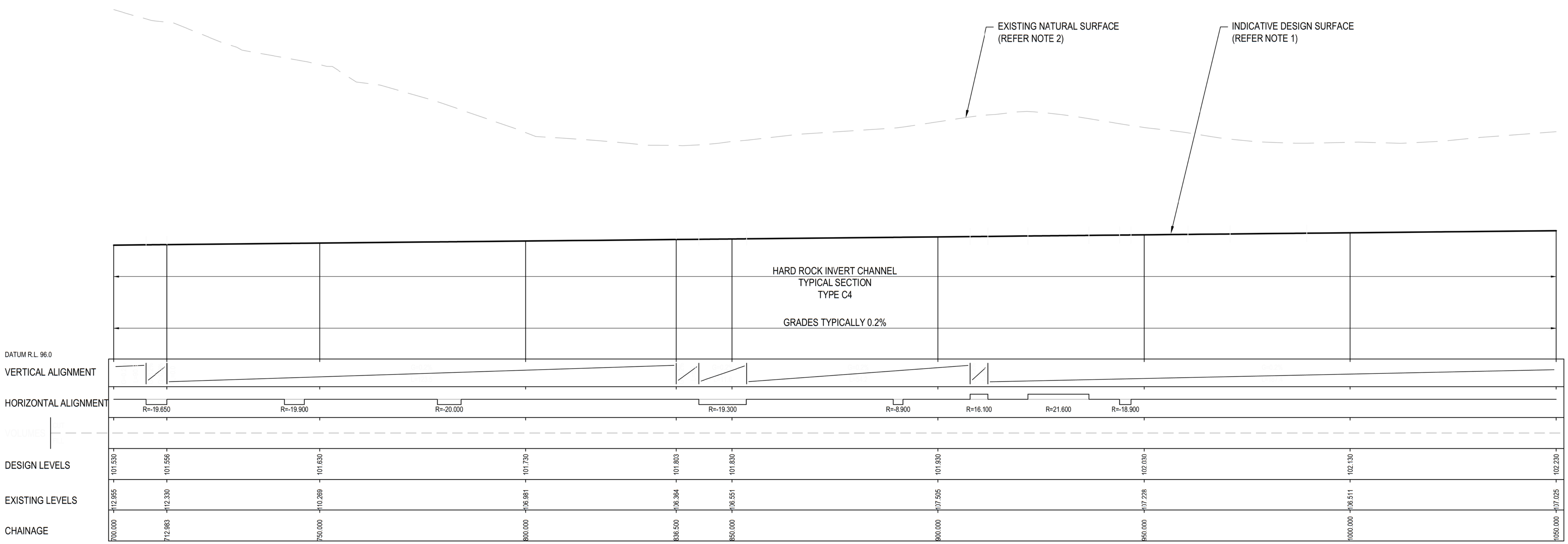
NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DESIGN LEVELS	101.530	101.556	101.630	101.730	101.803	101.830	101.930	102.030	102.130	102.230
EXISTING LEVELS	112.955	112.330	110.269	106.981	106.364	106.551	107.505	107.228	106.511	107.025
CHAINAGE	700.000	712.983	750.000	800.000	836.500	850.000	900.000	950.000	1000.000	1050.000

LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
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B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

CLIENT: GLENCORE

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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE: YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 3

SCALE: 1:500, 1:100
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2043
REV: D

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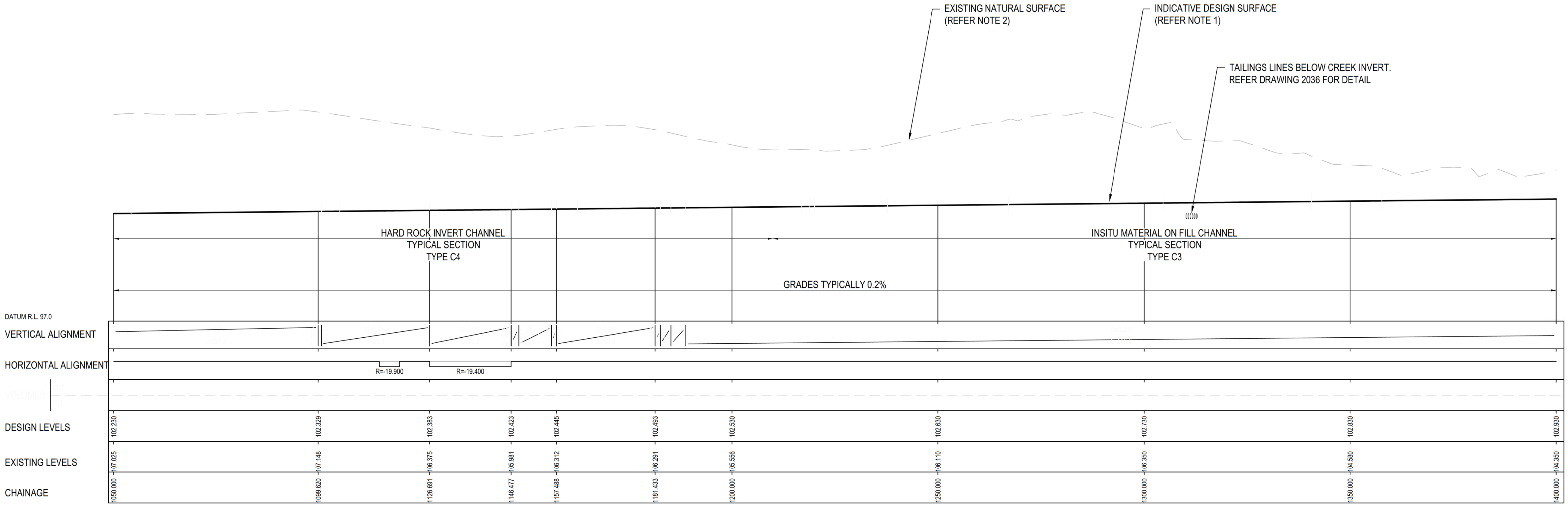
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

DATE: 5/09/2019 12:56:24 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
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B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

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CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 4

SCALE 1:500, 1:100

GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2044

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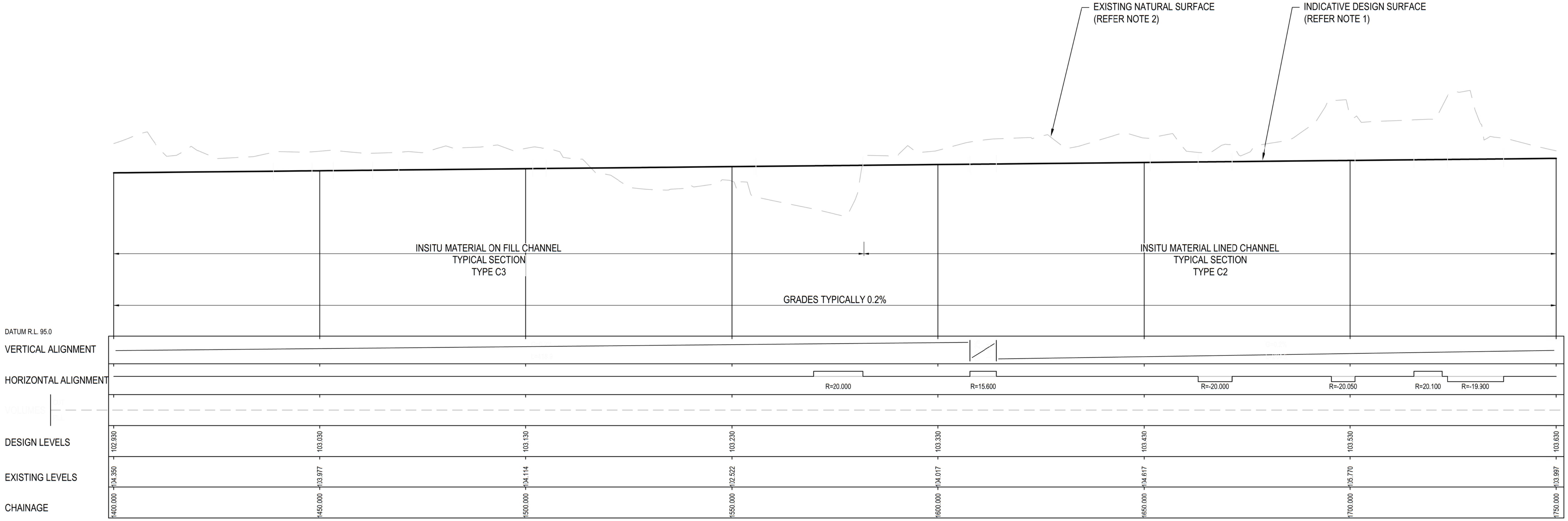
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

CLIENT
GLENCORE

JACOBS
ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
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NEWCASTLE WEST, NSW 2302
AUSTRALIA
PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 5

SCALE: 1:500, 1:100
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2045
REV: D

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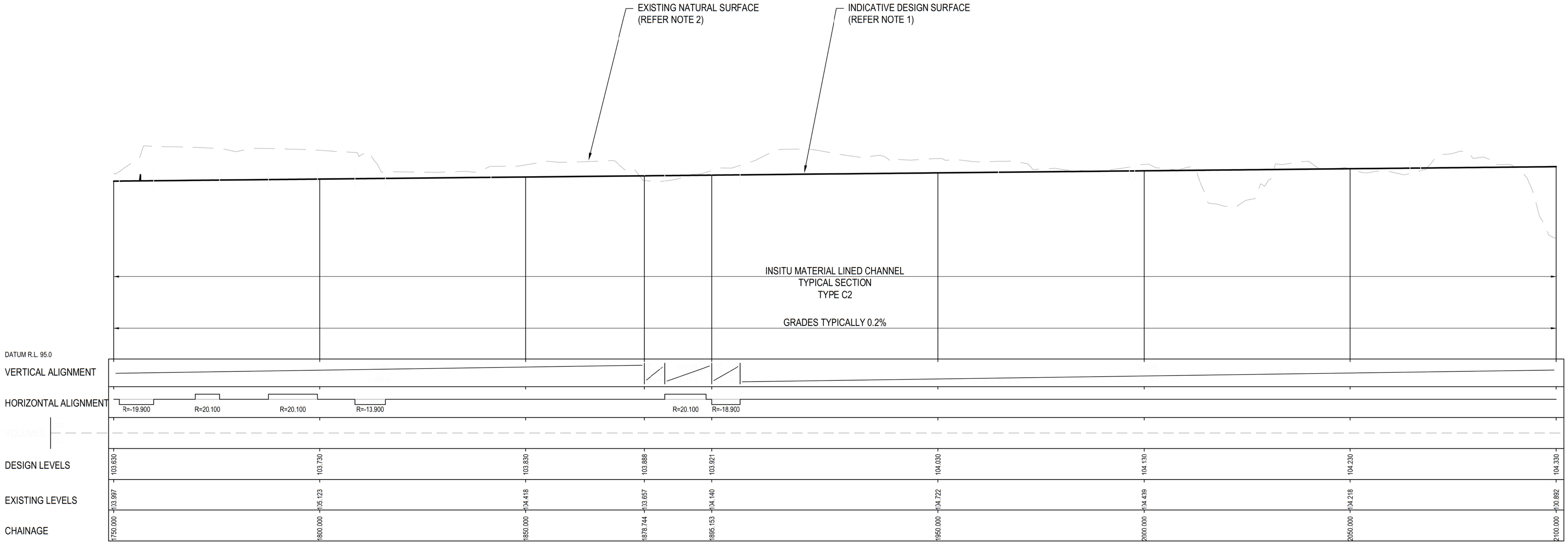
DATE: 5/09/2019 12:56:27 PM NAME: HAIL, SCOTT

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DESIGN LEVELS	103.630	103.730	103.830	103.888	103.921	104.030	104.130	104.230	104.330
EXISTING LEVELS	103.997	105.123	104.418	103.657	104.140	104.722	104.439	104.218	100.892
CHAINAGE	1750.000	1800.000	1850.000	1878.744	1895.153	1950.000	2000.000	2050.000	2100.000

LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

CLIENT GLENCORE

JACOBS

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
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NEWCASTLE WEST, NSW 2302
AUSTRALIA
PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

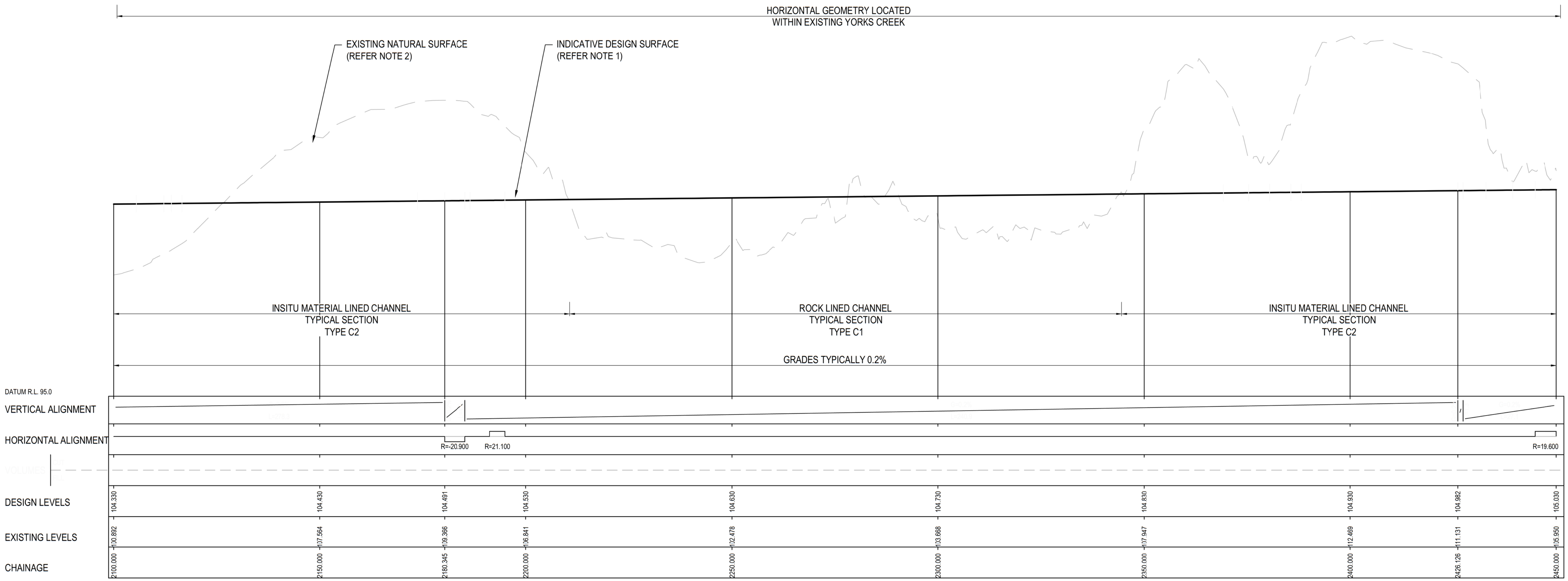
TITLE
YORKS CREEK REALIGNMENT LONGITUDINAL SECTION SHEET 6

SCALE 1:500, 1:100 | GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2046 | REV D

DATE: 5/09/2019 12:56:28 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



LONGITUDINAL SECTION - YC01
SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

CLIENT
GLENCORE

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Tel: +61 2 4979 2600
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Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 7

SCALE 1:500, 1:100
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2047
REV D

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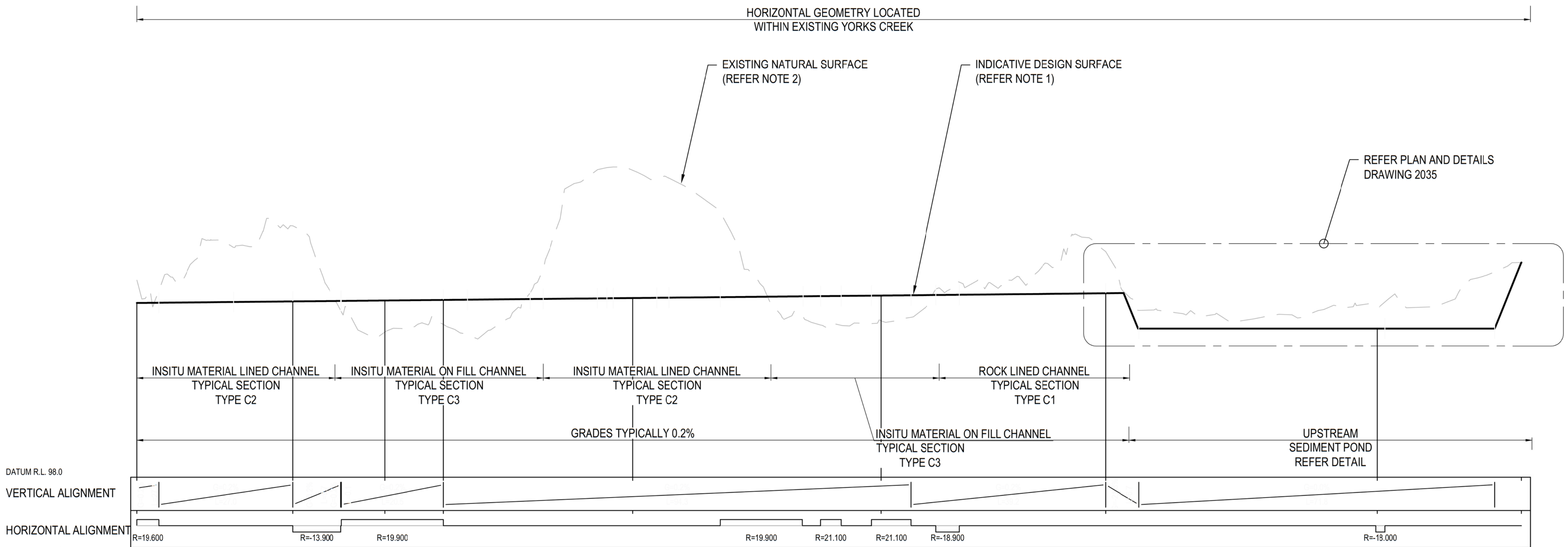
DATE: 5/09/2019 12:56:30 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2041-2048.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DESIGN LEVELS	105.030	105.093	105.130	105.154	105.230	105.330	105.421	104.000	
EXISTING LEVELS	105.950	108.134	103.859	104.168	110.369	104.314	107.102	104.829	106.658
CHAINAGE	2450.000	2481.502	2500.000	2511.784	2550.000	2600.000	2645.283	2700.000	2729.062

LONGITUDINAL SECTION - YC01

SCALE H 1:500
SCALE V 1:100

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

SCALE 1:100 (A1) 2 1 0 2 4 6 8 10m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2041-2048	

CLIENT
GLENCORE

JACOBS
ABN 37 001 024 095 and ACN 001 024 095
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AUSTRALIA
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Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
LONGITUDINAL SECTION
SHEET 8

SCALE 1:500, 1:100
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2048
REV D

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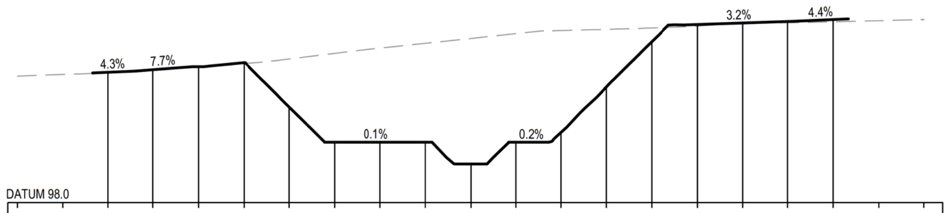
DATE: 5/09/2019 12:56:40 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

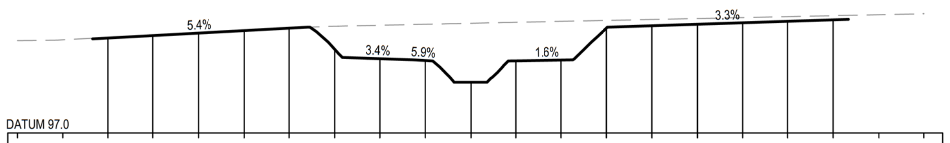
NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



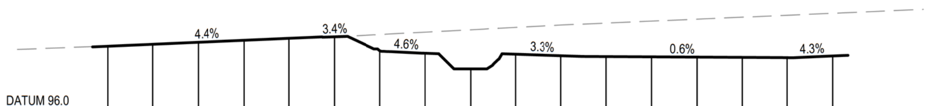
DESIGN LEVELS			106.634	106.802	107.000	107.272	104.329	102.007	102.003	102.000	100.563	102.000	102.644	105.670	108.662	109.793	109.890	109.987	110.116		
EXISTING LEVELS	106.377	106.486	106.596	106.745	106.976	107.206	107.509	107.882	108.226	108.546	108.866	109.186	109.394	109.469	109.561	109.683	109.853	109.902	109.971	110.043	110.114
DESIGN OFFSETS	-30.000	-27.000	-24.000	-21.000	-18.000	-15.000	-12.000	-9.000	-6.000	-3.000	0.000	3.000	6.000	9.000	12.000	15.000	18.000	21.000	24.000	27.000	30.000

400.000



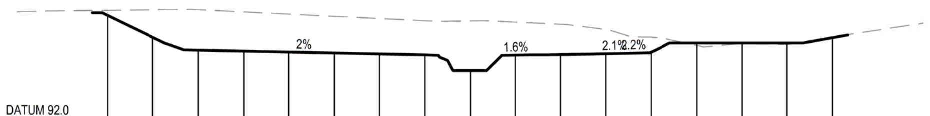
DESIGN LEVELS			103.285	103.448	103.610	103.773	103.936	102.540	101.914	101.792	100.363	101.774	101.825	103.936	104.096	104.194	104.292	104.390	104.488		
EXISTING LEVELS	103.105	103.165	103.319	103.473	103.626	103.777	103.926	104.062	104.127	104.192	104.257	104.321	104.384	104.446	104.509	104.572	104.634	104.697	104.76	104.822	104.885
DESIGN OFFSETS	-30.000	-27.000	-24.000	-21.000	-18.000	-15.000	-12.000	-9.000	-6.000	-3.000	0.000	3.000	6.000	9.000	12.000	15.000	18.000	21.000	24.000	27.000	30.000

300.000



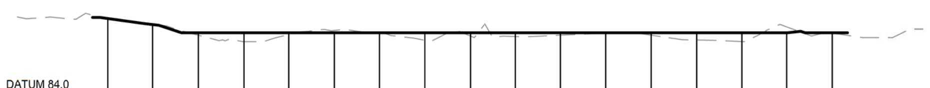
DESIGN LEVELS			100.179	100.311	100.444	100.576	100.709	100.805	99.897	99.713	98.677	99.648	99.548	99.491	99.473	99.456	99.439	99.421	99.533	
EXISTING LEVELS	99.964	100.083	100.201	100.319	100.438	100.556	100.675	100.8	100.958	101.115	101.273	101.431	101.588	101.719	101.849	101.979	102.109	102.239	102.369	102.499
DESIGN OFFSETS	-30.000	-27.000	-24.000	-21.000	-18.000	-15.000	-12.000	-9.000	-6.000	-3.000	0.000	3.000	6.000	9.000	12.000	15.000	18.000	21.000	24.000	27.000

200.000



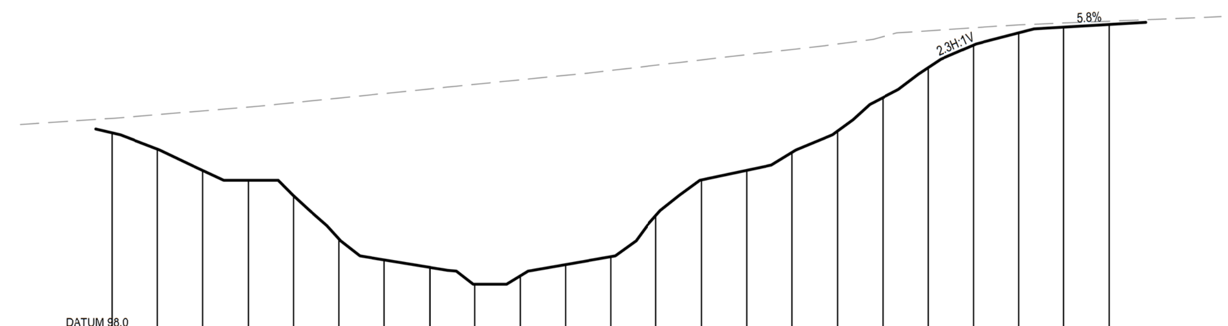
DESIGN LEVELS			98.826	97.372	96.524	96.463	96.402	96.341	96.281	96.219	95.184	96.199	96.236	96.294	96.402	97.000	97.000	97.000	97.353	
EXISTING LEVELS	99.07	99.128	99.163	99.198	99.203	99.058	98.912	98.766	98.621	98.475	98.464	98.387	98.243	97.893	97.39	96.835	96.967	96.926	97.411	97.861
DESIGN OFFSETS	-30.000	-27.000	-24.000	-21.000	-18.000	-15.000	-12.000	-9.000	-6.000	-3.000	0.000	3.000	6.000	9.000	12.000	15.000	18.000	21.000	24.000	27.000

100.000



DESIGN LEVELS			88.931	88.531	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	88.000	
EXISTING LEVELS	89.033	88.951	88.924	88.557	87.839	87.41	87.87	88.144	87.991	87.501	87.784	87.749	87.838	87.98	87.839	87.524	87.42	88.382	87.97	87.682
DESIGN OFFSETS	-30.000	-27.000	-24.000	-21.000	-18.000	-15.000	-12.000	-9.000	-6.000	-3.000	0.000	3.000	6.000	9.000	12.000	15.000	18.000	21.000	24.000	27.000

0.000



		111.128	110.057	108.639	108.000	106.980	104.121	102.735	102.246	101.130	101.682	102.422	102.948	105.679	108.022	108.655	109.842	111.243	113.455	115.432	116.924	117.737	118.116	118.290		
111.689	111.888	112.087	112.334	112.583	112.832	113.123	113.425	113.728	114.03	114.333	114.634	114.931	115.251	115.6	115.949	116.298	116.639	116.996	117.484	117.869	118.069	118.268	118.387	118.507	118.626	118.745
-31.000	-28.000	-25.000	-22.000	-19.000	-16.000	-13.000	-10.000	-7.000	-4.000	-1.000	2.000	5.000	8.000	11.000	14.000	17.000	20.000	23.000	26.000	29.000	32.000	35.000	38.000	41.000	44.000	47.000

500.000

SCALE 1:250 (A1)

5 4 3 2 1 0 5 10 15 20 25m

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	REV'D	APP'D	REVISION
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW
A	-	-	-	-	NOT USED

JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
IA201700-2000-CI-DRG-2051-2057	

CLIENT

GLENCORE

JACOBS

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
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NEWCASTLE WEST, NSW 2302
AUSTRALIA

PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED

PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW		
C. WAYGOOD	C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 1

SCALE	GLENCORE DRAWING No	REV
1:250 @ A1	GCO-JGA-55.01.02.00-CV-2051	D

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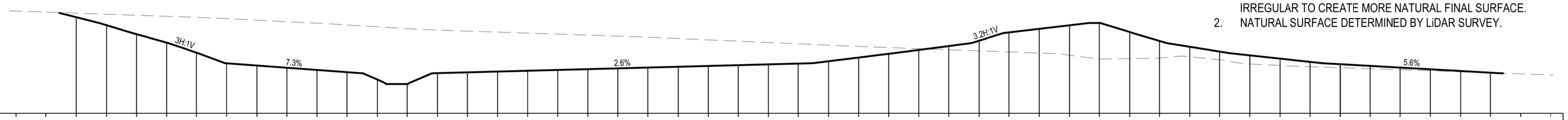
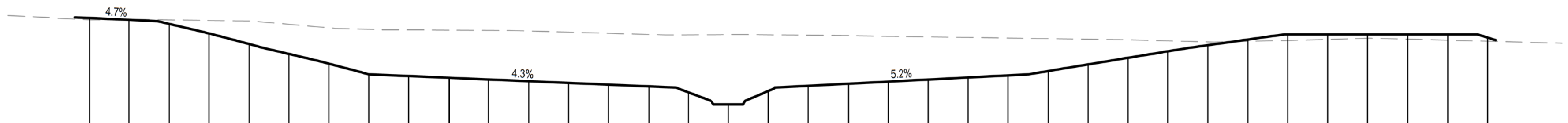
DATE: 5/09/2019 12:56:42 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

NOTES
1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-38.000		109.184
-35.000		109.08
-32.000	108.580	108.976
-29.000	107.782	108.872
-26.000	106.891	108.768
-23.000	106.046	108.664
-20.000	105.051	108.56
-17.000	103.987	108.44
-14.000	103.768	108.287
-11.000	103.549	108.134
-8.000	103.329	107.981
-5.000	103.110	107.808
-2.000	102.369	107.626
1.000	101.930	107.444
4.000	103.014	107.298
7.000	103.093	107.197
10.000	103.172	107.096
13.000	103.251	106.996
16.000	103.330	106.895
19.000	103.409	106.794
22.000	103.488	106.693
25.000	103.567	106.581
28.000	103.646	106.45
31.000	103.725	106.319
34.000	103.804	106.188
37.000	103.883	106.057
40.000	103.962	105.926
43.000	104.193	105.795
46.000	104.565	105.664
49.000	104.937	105.551
52.000	105.322	105.443
55.000	105.709	105.335
58.000	106.236	105.226
61.000	107.067	105.118
64.000	107.419	105.01
67.000	107.770	104.795
70.000	108.000	104.435
73.000	107.110	104.456
76.000	106.211	104.502
79.000	105.635	104.63
82.000	105.157	104.349
85.000	104.781	103.925
88.000	104.456	103.777
91.000	104.130	103.643
94.000	103.899	103.547
97.000	103.731	103.451
100.000	103.563	103.353
103.000	103.395	103.247
106.000	103.227	103.142
109.000	103.059	103.037
112.000		102.932
115.000		102.827

900.000



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
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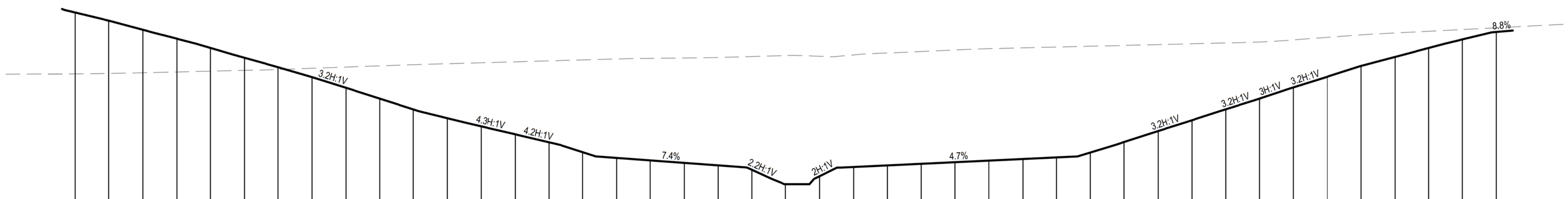
-51.000		108.26
-48.000	108.239	108.099
-45.000	108.099	108.119
-42.000	107.792	108.093
-39.000	107.072	108.05
-36.000	106.279	108.007
-33.000	105.533	107.764
-30.000	104.794	107.499
-27.000	104.000	107.383
-24.000	103.870	107.344
-21.000	103.739	107.326
-18.000	103.609	107.307
-15.000	103.479	107.255
-12.000	103.349	107.169
-9.000	103.219	107.083
-6.000	103.089	106.996
-3.000	102.639	106.967
0.000	101.730	106.981
3.000	102.747	106.969
6.000	103.132	106.939
9.000	103.289	106.907
12.000	103.446	106.862
15.000	103.604	106.817
18.000	103.761	106.772
21.000	103.918	106.726
24.000	104.241	106.681
27.000	104.741	106.636
30.000	105.238	106.591
33.000	105.731	106.514
36.000	106.191	106.435
39.000	106.612	106.48
42.000	107.000	106.548
45.000	107.000	106.615
48.000	107.000	106.709
51.000	107.000	106.643
54.000	107.000	106.566
57.000	106.759	106.49
60.000		106.411

800.000



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-70.000		111.295
-67.000		111.306
-64.000	116.761	111.318
-61.000	116.040	111.36
-58.000	115.231	111.416
-55.000	114.445	111.488
-52.000	113.621	111.56
-49.000	112.748	111.631
-46.000	111.908	111.703
-43.000	111.026	111.816
-40.000	110.087	111.924
-37.000	109.125	112.032
-34.000	108.165	112.136
-31.000	107.385	112.22
-28.000	106.662	112.305
-25.000	105.960	112.389
-22.000	105.249	112.473
-19.000	104.372	112.557
-16.000	103.864	112.641
-13.000	103.642	112.696
-10.000	103.421	112.732
-7.000	103.200	112.777
-4.000	102.811	112.862
-1.000	101.530	112.946
2.000	102.245	112.883
5.000	103.061	113.002
8.000	103.203	113.174
11.000	103.345	113.305
14.000	103.486	113.436
17.000	103.628	113.558
20.000	103.769	113.629
23.000	103.911	113.699
26.000	104.340	113.77
29.000	105.276	113.843
32.000	106.247	113.917
35.000	107.204	113.99
38.000	108.176	114.063
41.000	109.121	114.146
44.000	110.121	114.334
47.000	111.063	114.559
50.000	112.027	114.784
53.000	112.818	114.946
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65.000		115.564

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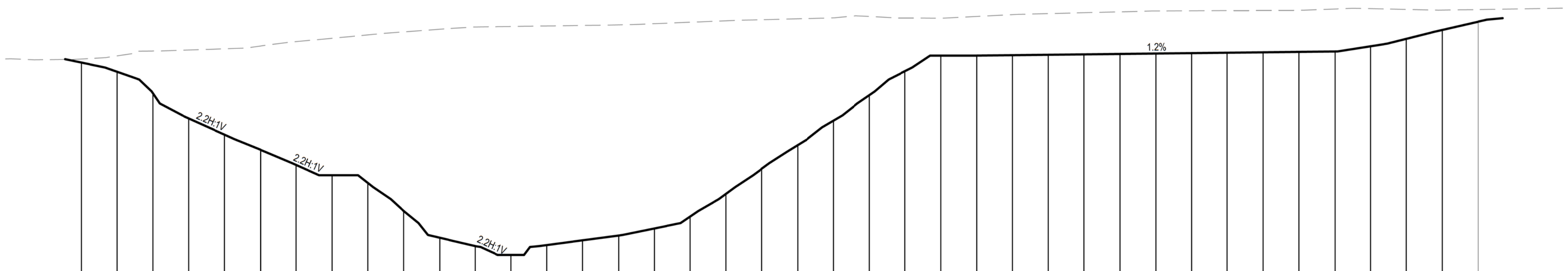

DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-42.000		117.73
-39.000		117.661
-36.000	117.417	117.716
-33.000	116.650	117.975
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-24.000	111.384	118.568
-21.000	110.132	118.799
-18.000	108.852	119.169
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-12.000	107.362	119.728
-9.000	105.007	119.985
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-3.000	102.063	120.391
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9.000	102.953	120.568
12.000	103.544	120.668
15.000	104.534	120.789
18.000	106.439	120.909
21.000	108.536	121
24.000	110.505	121.077
27.000	112.556	121.155
30.000	114.685	121.272
33.000	116.694	121.141
36.000	118.000	121.13
39.000	117.995	121.271
42.000	118.030	121.424
45.000	118.065	121.51
48.000	118.100	121.585
51.000	118.136	121.66
54.000	118.171	121.73
57.000	118.206	121.745
60.000	118.241	121.761
63.000	118.277	121.776
66.000	118.312	121.792
69.000	118.347	121.898
72.000	118.779	121.925
75.000	119.399	121.859
78.000	120.143	121.804
81.000	120.829	121.852
84.000		121.899

600.000

NOT FOR CONSTRUCTION

SCALE 1:250 (A1) 5 4 3 2 1 0 5 10 15 20 25m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2051-2057	

CLIENT: GLENCORE

JACOBS
ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
12 Stewart Avenue
NEWCASTLE WEST, NSW 2302
AUSTRALIA
PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE: YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 2

SCALE: 1:250 @ A1
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2052
REV: D

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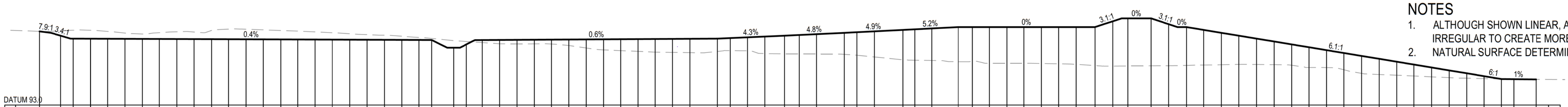
DATE: 5/09/2019 12:56:43 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-76.000		105.955
-71.854	105.753	105.753
-68.163	105.000	105.844
-66.000	104.498	105.952
-63.000	104.486	105.934
-60.000	104.475	105.748
-57.000	104.463	105.448
-54.000	104.451	105.292
-51.000	104.439	105.526
-48.000	104.428	105.68
-45.000	104.416	105.639
-42.000	104.404	105.917
-39.000	104.392	106.138
-36.000	104.381	106.121
-33.000	104.369	106.011
-30.000	104.357	105.902
-27.000	104.345	105.792
-24.000	104.334	105.664
-21.000	104.322	105.518
-18.000	104.310	105.342
-15.000	104.298	105.185
-12.000	104.287	105.081
-9.000	104.275	104.917
-6.000	104.263	104.704
-3.763	104.254	104.525
0.000	102.922	104.149
2.254	103.500	103.995
5.000	104.254	103.808
8.000	104.272	103.603
11.000	104.290	103.58
14.000	104.308	103.595
17.000	104.326	103.567
20.000	104.345	103.304
23.000	104.363	102.868
26.000	104.381	102.544
29.000	104.399	102.416
32.000	104.417	102.288
35.000	104.435	102.159
38.000	104.453	102.115
41.000	104.471	102.071
45.791	104.500	102.281
48.000	104.595	102.415
51.000	104.723	102.403
54.000	104.852	101.907
57.447	105.000	101.859
60.000	105.124	101.846
63.000	105.269	101.831
67.773	105.500	101.777
70.000	105.609	101.623
73.000	105.756	101.324
77.976	106.000	100.828
80.000	106.106	100.759
83.000	106.262	100.714
87.561	106.500	100.508
90.000	106.500	100.541
93.000	106.500	100.228
96.000	106.500	100.228
99.000	106.500	100.229
102.000	106.500	100.194
105.000	106.500	100.139
108.000	106.500	100.043
111.322	106.500	99.828
114.381	107.500	99.742
117.000	108.000	99.76
121.009	108.000	99.787
124.068	107.000	99.808
127.152	106.500	99.864
130.190	106.000	99.926
133.229	105.500	99.974
136.267	105.000	100.036
139.305	104.500	100.018
142.343	104.000	99.988
145.382	103.500	99.885
148.420	103.000	99.505
151.458	102.500	99.484
154.497	102.000	99.104
157.535	101.500	98.49
160.573	101.000	98.289
163.612	100.500	98.159
166.650	100.000	98.023
169.688	99.500	97.882
172.727	99.000	97.741
175.765	98.500	97.651
178.803	98.000	97.575
181.785	97.500	97.5
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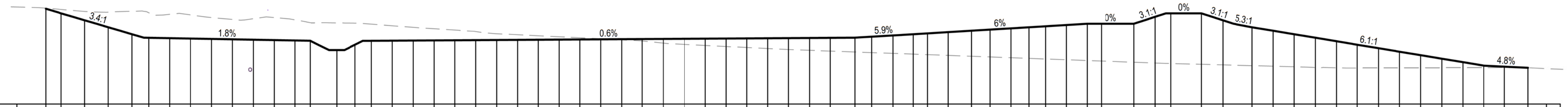

DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-46.000		109.075
-41.854	108.657	108.742
-39.628	108.000	108.556
-36.245	107.000	108.274
-32.862	106.000	108.161
-29.477	105.000	108.293
-27.000	104.486	108.08
-24.000	104.431	107.861
-21.000	104.376	107.777
-18.000	104.321	107.396
-15.000	104.266	107.119
-12.000	104.211	107.229
-9.000	104.156	107.393
-6.000	104.101	107.057
-3.776	104.061	106.666
0.000	102.722	106.63
2.656	103.500	106.595
5.000	104.064	106.454
8.000	104.082	106.219
11.000	104.101	105.984
14.000	104.120	105.789
17.000	104.139	105.598
20.000	104.158	105.382
23.000	104.177	105.077
26.000	104.195	104.932
29.000	104.214	104.786
32.000	104.233	104.641
35.000	104.252	104.496
38.000	104.271	104.35
41.000	104.290	104.205
44.000	104.308	104.043
47.000	104.327	103.731
50.000	104.346	103.548
53.000	104.365	103.398
56.000	104.384	103.247
59.000	104.403	103.097
62.000	104.421	102.947
65.000	104.440	102.808
68.000	104.459	102.698
71.000	104.478	102.588
74.526	104.500	102.459
77.000	104.647	102.369
80.000	104.825	102.259
82.949	105.000	102.151
85.000	105.123	102.075
88.000	105.303	101.965
91.290	105.500	101.845
94.000	105.662	101.746
97.000	105.842	101.636
99.632	106.000	101.539
102.000	106.142	101.452
105.000	106.321	101.342
107.993	106.500	101.233
110.000	106.500	101.159
114.672	106.500	100.988
117.748	107.500	100.875
120.000	108.000	100.805
124.410	108.000	100.689
127.486	107.000	100.608
131.694	106.000	100.498
134.726	105.500	100.418
137.758	105.000	100.338
140.790	104.500	100.22
143.822	104.000	100.192
146.854	103.500	100.163
149.886	103.000	100.172
152.918	102.500	100.18
155.950	102.000	100.189
158.982	101.500	100.197
162.014	101.000	100.205
165.046	100.500	100.211
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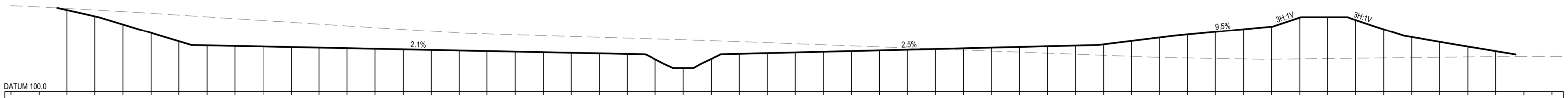
SCALE V 1:400



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-72.000		109.254
-69.000		109.105
-66.000	108.769	108.942
-63.000	108.094	108.774
-60.000	107.221	108.601
-57.000	106.310	108.422
-54.000	105.405	108.23
-51.000	104.966	108.037
-48.000	104.904	107.844
-45.000	104.842	107.652
-42.000	104.781	107.459
-39.000	104.719	107.267
-36.000	104.657	107.074
-33.000	104.595	106.881
-30.000	104.534	106.689
-27.000	104.472	106.496
-24.000	104.410	106.303
-21.000	104.348	106.189
-18.000	104.286	106.098
-15.000	104.225	106.007
-12.000	104.163	105.917
-9.000	104.101	105.826
-6.000	104.039	105.735
-3.000	103.463	105.644
0.000	102.530	105.556
3.000	103.505	105.456
6.000	104.049	105.356
9.000	104.123	105.249
12.000	104.198	105.136
15.000	104.272	105.023
18.000	104.346	104.911
21.000	104.420	104.798
24.000	104.495	104.686
27.000	104.569	104.573
30.000	104.643	104.461
33.000	104.717	104.348
36.000	104.792	104.236
39.000	104.866	104.123
42.000	104.940	104.011
45.000	105.071	103.898
48.000	105.438	103.785
51.000	105.806	103.673
54.000	106.134	103.614
57.000	106.419	103.563
60.000	106.704	103.512
63.000	106.989	103.479
66.000	107.962	103.514
69.000	108.000	103.549
72.000	107.701	103.584
75.000	106.699	103.619
78.000	105.854	103.653
81.000	105.341	103.688
84.000	104.834	103.723
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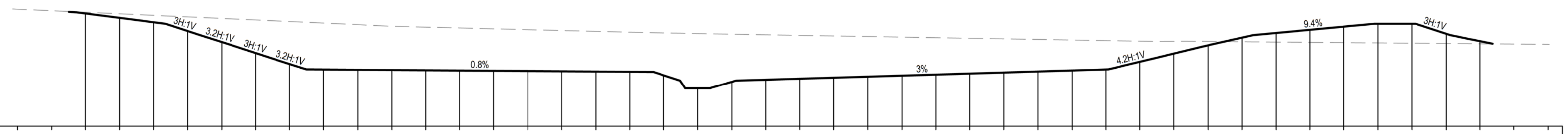
SCALE V 1:250



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-60.000		109.276
-57.000		109.141
-54.000	108.900	109.006
-51.000	108.517	108.871
-48.000	108.135	108.736
-45.000	107.362	108.601
-42.000	106.400	108.467
-39.000	105.430	108.332
-36.000	104.465	108.197
-33.000	103.988	108.062
-30.000	103.965	107.918
-27.000	103.942	107.785
-24.000	103.919	107.705
-21.000	103.895	107.63
-18.000	103.872	107.555
-15.000	103.849	107.48
-12.000	103.826	107.405
-9.000	103.803	107.33
-6.000	103.779	107.255
-3.000	103.471	107.196
0.000	102.330	107.138
3.000	102.890	107.085
6.000	103.079	107.033
9.000	103.170	106.982
12.000	103.262	106.93
15.000	103.353	106.879
18.000	103.445	106.827
21.000	103.536	106.776
24.000	103.628	106.724
27.000	103.719	106.673
30.000	103.810	106.621
33.000	103.902	106.57
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45.000	106.107	106.444
48.000	106.780	106.419
51.000	107.189	106.394
54.000	107.469	106.368
57.000	107.750	106.343
60.000	108.000	106.318
63.000	108.000	106.292
66.000	107.114	106.267
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75.000		106.191

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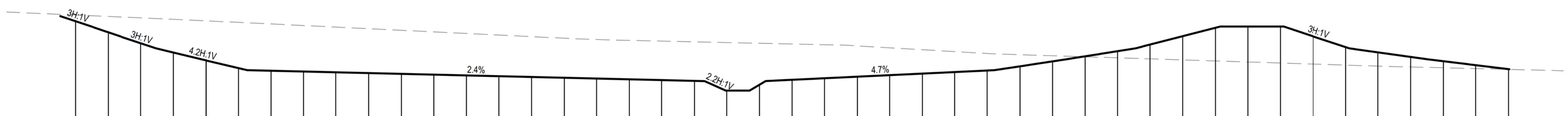
SCALE V 1:250



DESIGN OFFSETS	DESIGN LEVELS	EXISTING LEVELS
-67.000		109.317
-64.000		109.187
-61.000	108.493	109.057
-58.000	107.480	108.927
-55.000	106.470	108.797
-52.000	105.619	108.662
-49.000	104.902	108.524
-46.000	104.189	108.386
-43.000	103.948	108.24
-40.000	103.877	108.095
-37.000	103.806	107.949
-34.000	103.734	107.804
-31.000	103.663	107.658
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-19.000	103.379	107.076
-16.000	103.308	106.93
-13.000	103.236	106.809
-10.000	103.165	106.731
-7.000	103.094	106.665
-4.000	103.023	106.599
-1.000	102.130	106.533
2.000	102.667	106.467
5.000	103.114	106.401
8.000	103.257	106.335
11.000	103.399	106.224
14.000	103.541	106.051
17.000	103.684	105.877
20.000	103.826	105.703
23.000	103.968	105.53
26.000	104.354	105.417
29.000	104.810	105.322
32.000	105.273	105.227
35.000	105.743	105.132
38.000	106.350	105.037
41.000	107.121	104.942
44.000	107.886	104.847
47.000	108.000	104.752
50.000	108.000	104.657
53.000	107.104	104.562
56.000	106.111	104.467
59.000	105.632	104.372
62.000	105.217	104.293
65.000	104.825	104.22
68.000	104.459	104.147
71.000	104.093	104.074
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SCALE H 1:250
SCALE V 1:250

NOT FOR CONSTRUCTION

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SCALE 1:250 (A1) 5 4 3 2 1 0 5 10 15 20 25m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2051-2057	

CLIENT: GLENCORE

JACOBS

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
12 Stewart Avenue
NEWCASTLE WEST, NSW 2302
AUSTRALIA
PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: C. WAYGOOD	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE: YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 3

SCALE: AS SHOWN
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2053
REV: D

DATE: 5/09/2019 12:56:45 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.

DESIGN OFFSETS	EXISTING LEVELS	DESIGN LEVELS
-75.000	109.178	
-70.240	109.757	108.734
-64.744	109	109.000
-58.131	108.337	108.337
-52.733	107.411	107.000
-47.852	107.031	105.500
-43.000	106.144	105.445
-38.000	106.123	105.389
-33.000	106.098	105.332
-28.000	106.093	105.275
-23.000	106.105	105.219
-18.000	105.827	105.162
-13.000	105.576	105.106
-8.000	105.418	105.049
0.000	105.165	103.730
5.000	105.036	105.015
10.000	104.407	105.070
15.000	103.719	105.126
20.000	103.728	105.182
25.000	103.716	105.237
30.000	103.633	105.293
35.000	103.55	105.348
40.000	103.473	105.404
48.677	102.169	105.500
53.000	102.178	105.646
58.000	102.182	105.815
63.467	102.157	106.000
68.000	102.134	106.156
73.000	102.117	106.327
78.038	102.182	106.500
83.000	101.986	106.500
88.000	101.811	106.500
93.000	101.788	106.500
98.000	101.753	106.500
103.000	101.737	106.500
108.000	101.727	106.500
113.000	102.075	106.500
118.000	102.055	106.500
123.000	101.796	106.500
128.000	101.573	106.500
133.000	102.392	106.500
138.000	102.185	106.500
143.000	102.902	106.500
148.000	103.552	106.500
153.000	103.617	106.500
158.000	103.608	106.500
163.000	102.875	106.500
168.000	101.171	106.500
173.000	100.684	106.500
178.000	100.397	106.500
183.000	100.78	106.500
188.000	101.893	106.500
193.000	101.698	106.500
198.000	101.977	106.500
203.000	102.671	106.500
208.000	102.49	106.500
213.000	102.616	106.500
218.000	101.575	106.500
223.000	100.05	106.500
228.000	99.193	106.500
233.000	99.397	106.500
238.000	99.572	106.500
243.000	99.661	106.500
248.000	100.626	106.500
253.000	102.1	106.500
258.000	103.735	106.500
263.000	102.674	106.500
268.000	102.489	106.500
273.000	102.517	106.500
278.000	102.627	106.500
283.000	102.931	106.500
288.000	102.664	106.500
293.000	102.803	106.500
298.000	101.878	106.500
303.000	101.663	106.500
308.000	102.823	106.500
313.000	103.548	106.500
320.075	105.06	106.500
325.000	105.479	

1800.000

DESIGN OFFSETS	EXISTING LEVELS	DESIGN LEVELS
-83.000	108.05	
-78.772	108.363	109.000
-74.000	108.971	109.140
-69.000	110.454	109.287
-63.349	109.563	109.453
-58.117	108.653	108.000
-53.105	108.951	106.500
-49.000	108.122	105.454
-41.138	107.482	105.000
-37.000	107.236	104.982
-32.000	106.927	104.960
-27.000	106.654	104.937
-22.000	106.335	104.915
-17.000	106.014	104.893
-12.000	106.015	104.871
-7.000	106.278	104.849
0.000	106.433	103.524
5.000	105.72	104.728
10.000	104.001	104.759
15.000	103.929	104.790
20.000	103.847	104.821
25.000	103.792	104.852
30.000	103.669	104.882
35.000	103.477	104.913
40.000	103.371	104.944
45.000	103.61	104.975
49.104	103.158	105.000
54.000	103.303	105.205
61.032	102.991	105.500
66.000	103.159	105.686
74.372	102.835	106.000
79.000	102.767	106.180
87.229	102.797	106.500
92.000	102.643	106.500
97.000	102.819	106.500
102.000	103.073	106.500
107.000	102.697	106.500
112.000	102.741	106.500
117.000	102.738	106.500
122.000	102.524	106.500
127.000	102.844	106.500
132.000	103.315	106.500
137.000	103.33	106.500
142.000	103.01	106.500
147.000	102.315	106.500
152.000	102.204	106.500
157.000	101.357	106.500
162.000	101.078	106.500
167.000	101.224	106.500
172.000	100.623	106.500
177.000	100.826	106.500
182.000	100.417	106.500
187.000	100.652	106.500
192.000	99.738	106.500
197.000	100.338	106.500
202.000	99.583	106.500
207.000	98.599	106.500
212.000	98.5	106.500
217.000	98.396	106.500
222.000	98.351	106.500
227.000	98.33	106.500
232.000	98.353	106.500
237.000	98.431	106.500
242.000	98.707	106.500
247.000	98.317	106.500
251.473	98.323	106.500
256.725	98.341	108.000
262.559	98.386	108.000
267.811	98.221	106.500
272.000	98.075	106.456
276.303	98.237	106.000
281.151	98.643	105.500
286.016	99.308	105.000
290.893	99.863	104.500
295.757	99.739	104.000
300.599	98.726	103.500
305.443	98.021	103.000
310.301	97.44	102.500
315.159	97.217	102.000
320.018	97.341	101.500
324.877	97.416	101.000
329.740	97.492	100.500
334.594	97.49	100.000
339.453	97.442	99.500
344.315	97.5	99.000
349.179	97.527	98.500
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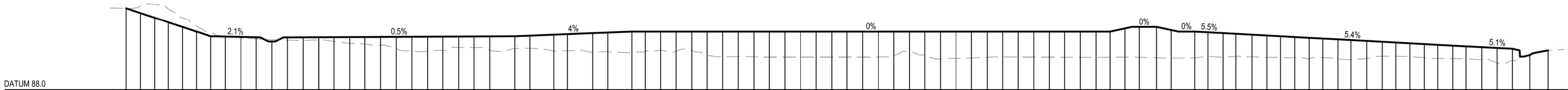
370.000	97.487	

1700.000



DESIGN OFFSETS	EXISTING LEVELS	DESIGN LEVELS
-51.000	114.274	
-46.886	114.028	114.028
-42.216	114.745	112.500
-37.708	115.278	111.000
-33.201	113.801	109.500
-28.693	110.967	108.000
-24.185	108.261	106.500
-19.677	106.075	105.000
-15.000	105.034	104.902
-10.000	104.537	104.798
-5.000	104.131	104.693
0.000	103.923	103.322
5.000	103.758	104.625
10.000	103.688	104.650
15.000	103.833	104.676
20.000	103.333	104.702
25.000	102.754	104.727
30.000	102.502	104.753
35.000	102.144	104.779
40.000	101.098	104.804
45.000	100.22	104.830
50.000	100.149	104.856
55.000	100.449	104.881
60.000	101.419	104.907
65.000	101.398	104.932
70.000	100.627	104.958
78.189	101.067	105.000
83.000	101.131	105.193
90.822	100.275	105.500
95.000	100.324	105.673
103.172	99.854	106.000
108.000	99.97	106.192
115.766	99.959	106.500
120.000	100.15	106.500
125.000	100.482	106.500
130.000	100.258	106.500
135.000	100.459	106.500
140.000	99.073	106.500
145.000	98.452	106.500
150.000	98.52	106.500
155.000	98.432	106.500
160.000	98.33	106.500
165.000	98.33	106.500
170.000	98.33	106.500
175.000	98.33	106.500
180.000	98.33	106.500
185.000	98.33	106.500
190.000	98.33	106.500
195.000	98.35	106.500
200.000	98.861	106.500
205.000	100.177	106.500
210.000	98.907	106.500
215.000	97.775	106.500
220.000	97.965	106.500
225.000	98.058	106.500
230.000	98.293	106.500
235.000	98.385	106.500
240.000	98.353	106.500
245.000	98.344	106.500
250.000	98.338	106.500
255.000	98.313	106.500
260.000	98.288	106.500
265.000	98.264	106.500
269.629	98.292	106.500
274.318	98.333	107.500
279.000	98.283	108.000
284.475	98.114	108.000
289.165	97.999	107.000
296.822	98.137	106.500
301.000	98.494	106.269
305.852	98.299	106.000
310.000	98.578	105.776
315.113	98.422	105.500
320.000	98.239	105.235
324.347	98.212	105.000
329.000	98.113	104.748
333.594	97.778	104.500
338.000	98.168	104.262
342.842	97.72	104.000
347.000	97.515	103.775
352.092	97.873	103.500
357.000	98.602	103.235
361.346	98.636	103.000
366.000	98.469	102.748
370.594	98.141	102.500
375.000	97.902	102.262
379.834	97.856	102.000
384.000	97.817	101.775
389.083	97.541	101.500
394.000	96.469	101.249
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410.372	100.459	100.459
415.000	99.625	

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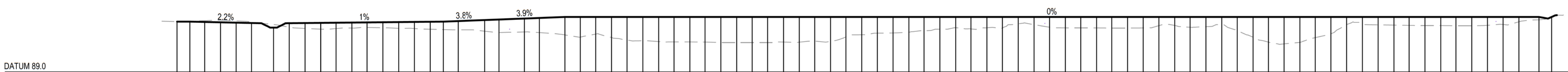

DESIGN OFFSETS	EXISTING LEVELS	DESIGN LEVELS
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-30.761	105	105.000
-26.737	105.112	105.000
-22.000	105.308	104.887
-17.000	105.503	104.787
-12.000	105.266	104.678
-7.000	104.903	104.569
0.000	104.078	103.122
5.000	103.264	104.511
10.000	102.842	104.561
15.000	102.613	104.610
20.000	102.809	104.660
25.000	102.95	104.710
30.000	103.15	104.759
35.000	103.07	104.809
40.000	102.878	104.858
45.000	102.809	104.908
50.000	102.58	104.957
54.311	102.479	105.000
59.000	102.407	105.178
67.472	101.967	105.500
72.000	101.504	105.678
80.221	101.722	106.000
85.000	101.503	106.185
93.126	100.758	106.500
98.000	100.083	106.500
103.000	101.032	106.500
108.000	99.97	106.500
113.000	98.915	106.500
118.000	98.641	106.500
123.000	98.528	106.500
128.000	98.53	106.500
133.000	98.493	106.500
138.000	98.33	106.500
143.000	98.33	106.500
148.000	98.33	106.500
153.000	98.33	106.500
158.000	98.33	106.500
163.000	98.498	106.500
168.000	98.466	106.500
173.000	98.819	106.500
178.000	98.732	106.500
183.000	100.126	106.500
188.000	100.819	106.500
193.000	101.329	106.500
198.000	101.396	106.500
203.000	101.611	106.500
208.000	102.128	106.500
213.000	102.601	106.500
218.000	103.073	106.500
223.000	102.676	106.500
228.000	103.054	106.500
233.000	102.359	106.500
238.000	104.315	106.500
243.000	104.054	106.500
248.000	103.238	106.500
253.000	103.026	106.500
258.000	103.007	106.500
263.000	102.988	106.500
268.000	102.973	106.500
273.000	102.964	106.500
278.000	102.99	106.500
283.000	103.741	106.500
288.000	103.787	106.500
293.000	103.222	106.500
298.000	103.388	106.500
303.000	104.045	106.500
308.000	102.168	106.500
313.000	100.05	106.500
318.000	98.477	106.500
323.000	97.907	106.500
328.000	98.382	106.500
333.000	99.9	106.500
338.000	101.148	106.500
343.000	104.032	106.500
348.000	104.375	106.500
353.000	103.969	106.500
358.000	103.886	106.500
363.000	103.802	106.500
368.000	103.752	106.500
373.000	103.739	106.500
378.000	103.726	106.500
383.000	103.713	106.500
388.000	103.816	106.500
393.000	104.095	106.500
398.000	104.971	106.500
404.461	105.575	106.500
408.493	106.5	106.500
413.000	106.019	

1500.000

NOT FOR CONSTRUCTION

SCALE 1:800 (A1) 16 8 0 20 40 60 80m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2051-2057	

CLIENT: GLENCORE

JACOBS

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
12 Stewart Avenue
NEWCASTLE WEST, NSW 2302
AUSTRALIA

PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE: YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 4

SCALE: 1:800 @ A1
GLENCORE DRAWING No: GCO-JGA-55.01.02.00-CV-2054
REV: D

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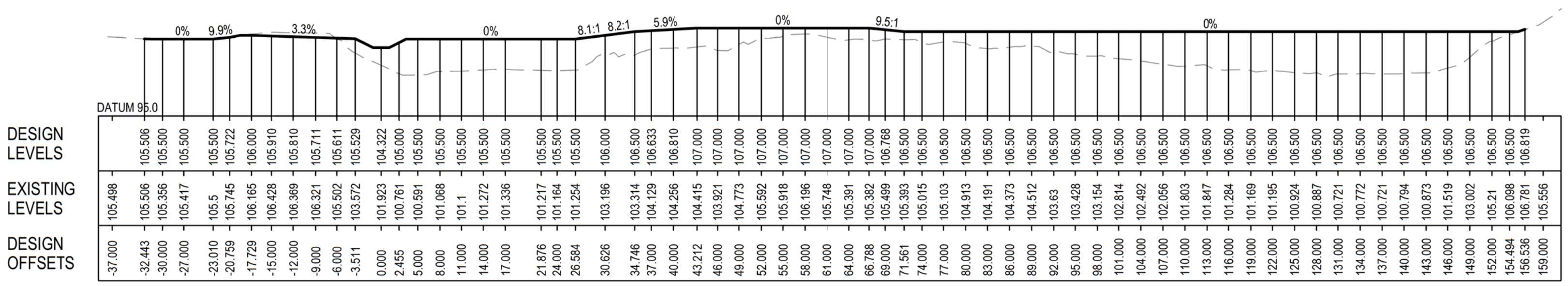
NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



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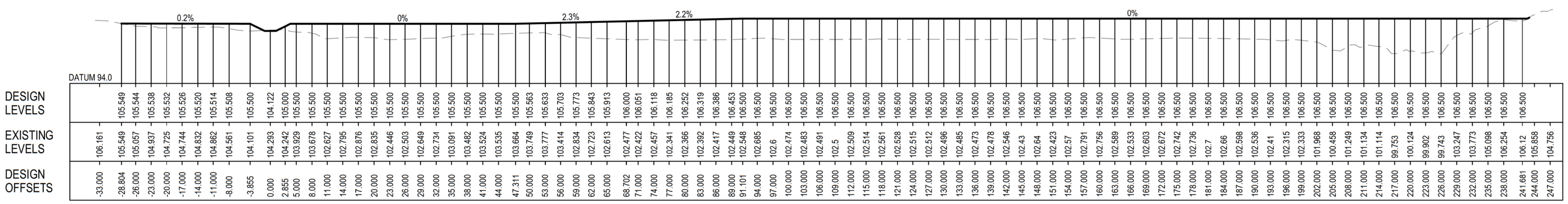

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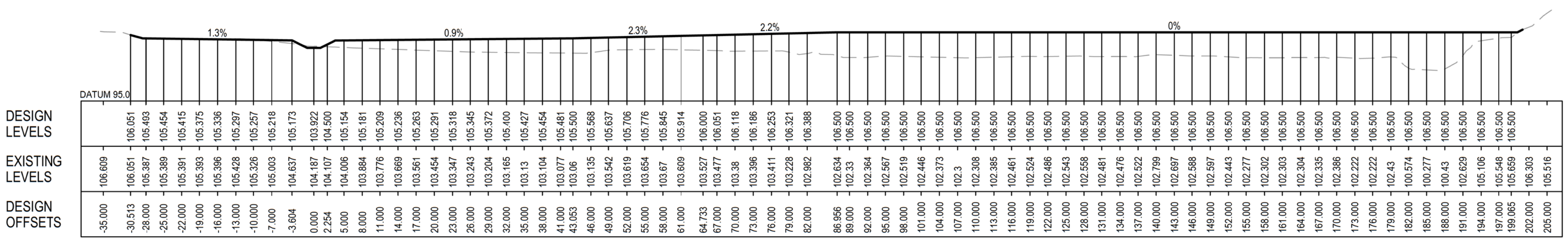

1900.000

NOT FOR CONSTRUCTION

SCALE 1:500 (A1) 10 8 6 4 2 0 10 20 30 40 50m

REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2051-2057	

CLIENT GLENCORE

JACOBS

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
12 Stewart Avenue
NEWCASTLE WEST, NSW 2302
AUSTRALIA

PROJECT No. IA201700
Tel: +61 2 4979 2600
Fax: +61 2 4979 2666
Web: www.jacobs.com

CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 5

SCALE 1:500 @ A1
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2055
REV D

DATE: 5/09/2019 12:56:47 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

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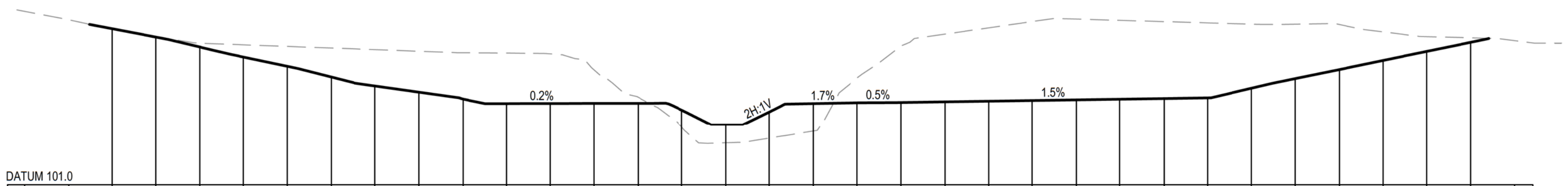
DATE: 5/09/2019 12:57:09 PM NAME: HAIL, SCOTT
LOCATION: J:\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2051-2057.dwg

NOTES

1. ALTHOUGH SHOWN LINEAR, ACTUAL EXCAVATIONS TO BE SLIGHTLY IRREGULAR TO CREATE MORE NATURAL FINAL SURFACE.
2. NATURAL SURFACE DETERMINED BY LiDAR SURVEY.



DATUM 101.0

DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
	112.921	-48.000
	112.341	-45.000
111.729	111.691	-42.000
111.160	111.195	-39.000
110.480	110.744	-36.000
109.788	110.628	-33.000
109.158	110.517	-30.000
108.423	110.407	-27.000
107.808	110.297	-24.000
107.385	110.186	-21.000
106.909	110.088	-18.000
106.600	110.061	-15.000
106.606	110.011	-12.000
106.612	108.915	-9.000
106.618	107.034	-6.000
106.140	104.937	-3.000
105.130	103.859	0.000
106.017	104.183	3.000
106.600	104.668	6.000
106.652	108.36	9.000
106.673	110.539	12.000
106.719	111.359	15.000
106.765	111.79	18.000
106.811	112.221	21.000
106.858	112.388	24.000
106.904	112.302	27.000
106.950	112.216	30.000
106.997	112.13	33.000
107.654	112.044	36.000
108.315	112.042	39.000
108.934	112.019	42.000
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	110.911	54.000

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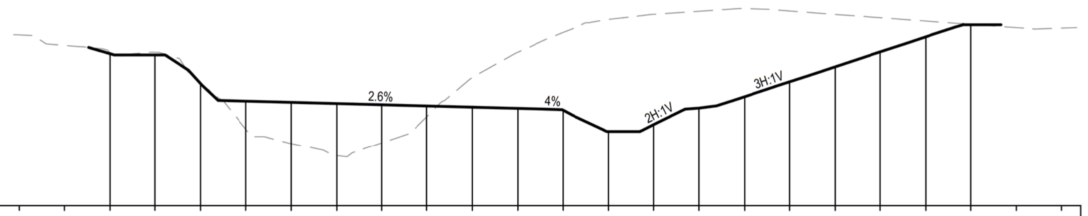

DATUM 100.0

DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
	111.335	-40.000
	110.631	-37.000
110.084	110.179	-34.000
110.000	110.174	-31.000
108.116	108.096	-28.000
106.951	105.096	-25.000
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106.792	103.319	-19.000
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106.634	105.922	-13.000
106.554	108.513	-10.000
106.475	110.187	-7.000
106.346	111.498	-4.000
104.930	112.36	-1.000
105.390	112.693	2.000
106.490	112.895	5.000
107.239	113.069	8.000
108.230	112.914	11.000
109.216	112.686	14.000
110.209	112.468	17.000
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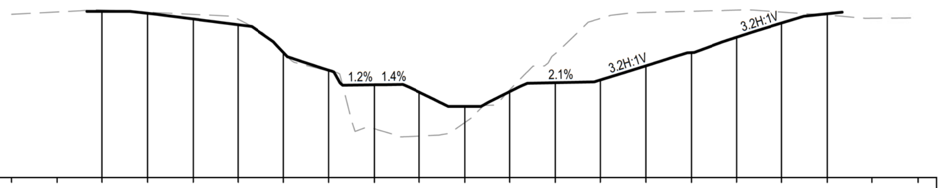
	112.166	29.000

2400.000



DATUM 100.0

DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
	110.808	-30.000
	110.962	-27.000
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110.869	110.947	-21.000
110.496	110.803	-18.000
110.115	110.477	-15.000
108.288	108.273	-12.000
107.113	107.067	-9.000
106.155	103.261	-6.000
105.665	102.777	-3.000
104.730	103.668	0.000
105.712	105.84	3.000
106.292	108.212	6.000
106.471	110.531	9.000
107.411	110.93	12.000
108.282	111.006	15.000
109.289	111.085	18.000
110.230	110.953	21.000
110.840	110.744	24.000
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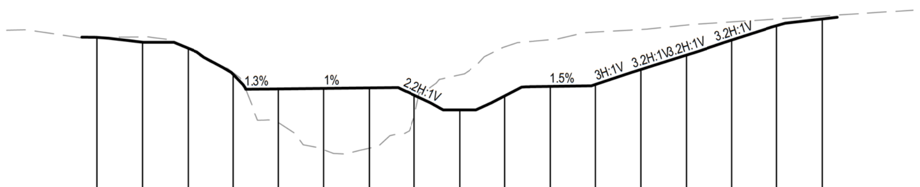

DATUM 99.0

DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
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109.004	109.348	-21.000
108.605	108.596	-18.000
106.877	106.992	-15.000
105.919	103.692	-12.000
105.950	101.891	-9.000
105.981	101.995	-6.000
105.495	104.142	-3.000
104.530	106.841	0.000
105.451	108.691	3.000
106.080	109.168	6.000
106.205	109.67	9.000
107.203	109.838	12.000
108.149	110.136	15.000
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110.530	110.728	24.000
	110.925	27.000

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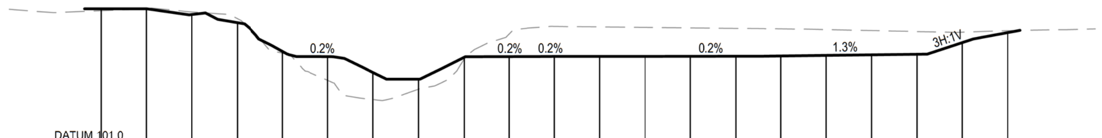

DATUM 101.0

DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
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107.177	107.064	-8.000
106.832	105.259	-5.000
105.773	103.984	-2.000
105.330	104.665	1.000
106.787	106.667	4.000
106.835	108.329	7.000
106.842	108.831	10.000
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106.843	108.766	16.000
106.846	108.734	19.000
106.851	108.703	22.000
106.870	108.671	25.000
106.910	108.624	28.000
106.950	108.558	31.000
106.990	108.493	34.000
107.756	108.447	37.000
108.421	108.552	40.000
	108.605	43.000

2600.000

SCALE 1:250 (A1)

5 4 3 2 1 0 5 10 15 20 25m

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REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
A	-	-	-	-	NOT USED	IA201700-2000-CI-DRG-2051-2057	

CLIENT

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CLIENT MT OWEN PTY LIMITED
PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED	DESIGN REVIEW	DATE 05.09.19	DATE 05.09.19
C. WAYGOOD	C. DWYER		

TITLE
YORKS CREEK REALIGNMENT
CROSS SECTION
SHEET 6

SCALE 1:250 @ A1
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2056
REV D

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TREATMENT TYPE A – POND AND CREEK FRINGES

Family name	Common name	Species name	Pot size	Density
Cyperaceae	Tall Sedge	Carex appressa	Refer notes 2, 3 and 4	
Juncaceae		Juncus usitatus		
		Juncus continuus		
		Juncus subsecundus		
Poaceae	Common Reed	Phragmites australis		
	Slender Bamboo Grass	Austrostipa verticillata		
	Weeping Grass	Microlaena stipoides		
	Australian Basket Grass	Oplismenus aemulus		

TREATMENT TYPE B – CREEK TERRACES AND ROCKY CUTTINGS

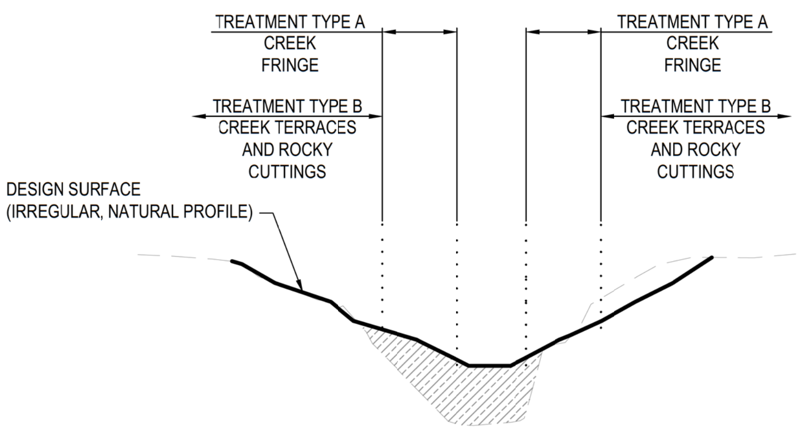
Family name	Common name	Species name	Composition	Density
Trees				
Casuarinaceae	Bulloak	Allocasuarina luehmannii	Refer notes 2, 3 and 4	
Casuarinaceae	Swamp Oak	Casuarina glauca	Refer notes 2, 3 and 4	
Groundcover				
Campanulaceae	Whiteroot	Lobelia purpurascens	Refer notes 2, 3 and 4	
Convolvulaceae	Kidney Weed	Dichondra repens		
Chenopodiaceae	Saltbush	Einadia hastata		
Fabaceae		Glycine tabacina Or Glycine clandestina		
Oxalidaceae	Native Oxalis	Oxalis perennans		
Poaceae	Slender Bamboo Grass	Austrostipa verticillata		
	Weeping Grass	Microlaena stipoides		
	Australian Basket Grass	Oplismenus aemulus		
Pteridaceae	Rock Fern	Cheilanthes sieberi		

TREATMENT TYPE C – RIPARIAN WOODLAND

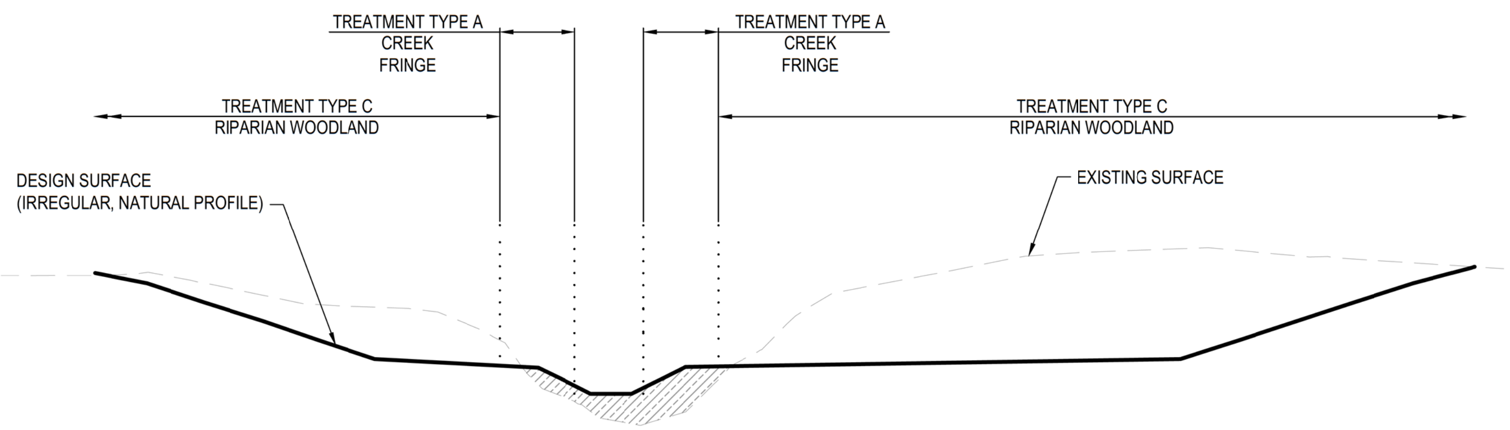
Family name	Common name	Species name	Composition	Density
Trees				
Casuarinaceae	Swamp Oak	Casuarina glauca	Refer notes 2, 3 and 4	
Myrtaceae	Rough-barked Apple	Angophora floribunda		
	Forest Red Gum	Eucalyptus tereticornis		
Shrubs				
Scrophulariaceae	Winter Apple	Eremophila debilis	Refer notes 2, 3 and 4	
Solanaceae	Forest Nightshade	Solanum prinophyllum		
Groundcover				
Campanulaceae	Whiteroot	Lobelia purpurascens	Refer notes 2, 3 and 4	
Convolvulaceae	Kidney Weed	Dichondra repens		
Chenopodiaceae	Saltbush	Einadia hastata		
Fabaceae		Glycine tabacina Or Glycine clandestina		
Oxalidaceae	Native Oxalis	Oxalis perennans		
Poaceae	Slender Bamboo Grass	Austrostipa verticillata		
	Weeping Grass	Microlaena stipoides		
	Australian Basket Grass	Oplismenus aemulus		
	Common Couch	Cynodon dactylon		
Pteridaceae	Rock Fern	Cheilanthes sieberi		

TREATMENT TYPE D – FLOOD PROTECTION LEVEE

Plant with stabilising grasses



TYPICAL CROSS SECTION
AT STEEP FORMATIONS
N.T.S.



TYPICAL CROSS SECTION
AT FLAT FORMATIONS
N.T.S.

NOTES

1. FOR REVEGETATION PLAN REFER TO DRAWING GCO-JGA-55.01.02.00-CV-2081.
2. ACTUAL PLANTING DENSITY AND SPECIES WILL BE DEPENDENT ON THE SUITABILITY AND PRACTICALITY OF PLANTING ON CUT ROCK FACES FOUND DURING EXCAVATION.
3. REVEGETATION MAY INVOLVE DIRECT SEEDING ALONG WITH A SUITABLE COVER CROP OR OTHER ORGANIC MATERIAL AS REQUIRED. A RANGE OF OTHER TECHNIQUES INCLUDING THE PLANTING OF TUBE STOCK MAY ALSO BE UTILISED WHERE APPROPRIATE.
4. THE SPECIES LISTED ARE A COMBINATION OF SPECIES THAT ARE KNOWN TO GERMINATE SUCCESSFULLY FROM SEED. DUE TO SEASONAL VARIABILITY, IT IS NOT REALISTIC, NOR APPROPRIATE FOR THE DIRECT SEEDING MIX OR TUBE STOCK COMPOSITION TO INCLUDE ALL OF THE SPECIES LISTED.

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B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		
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PROJECT GLENDELL CONTINUED OPERATIONS PROJECT

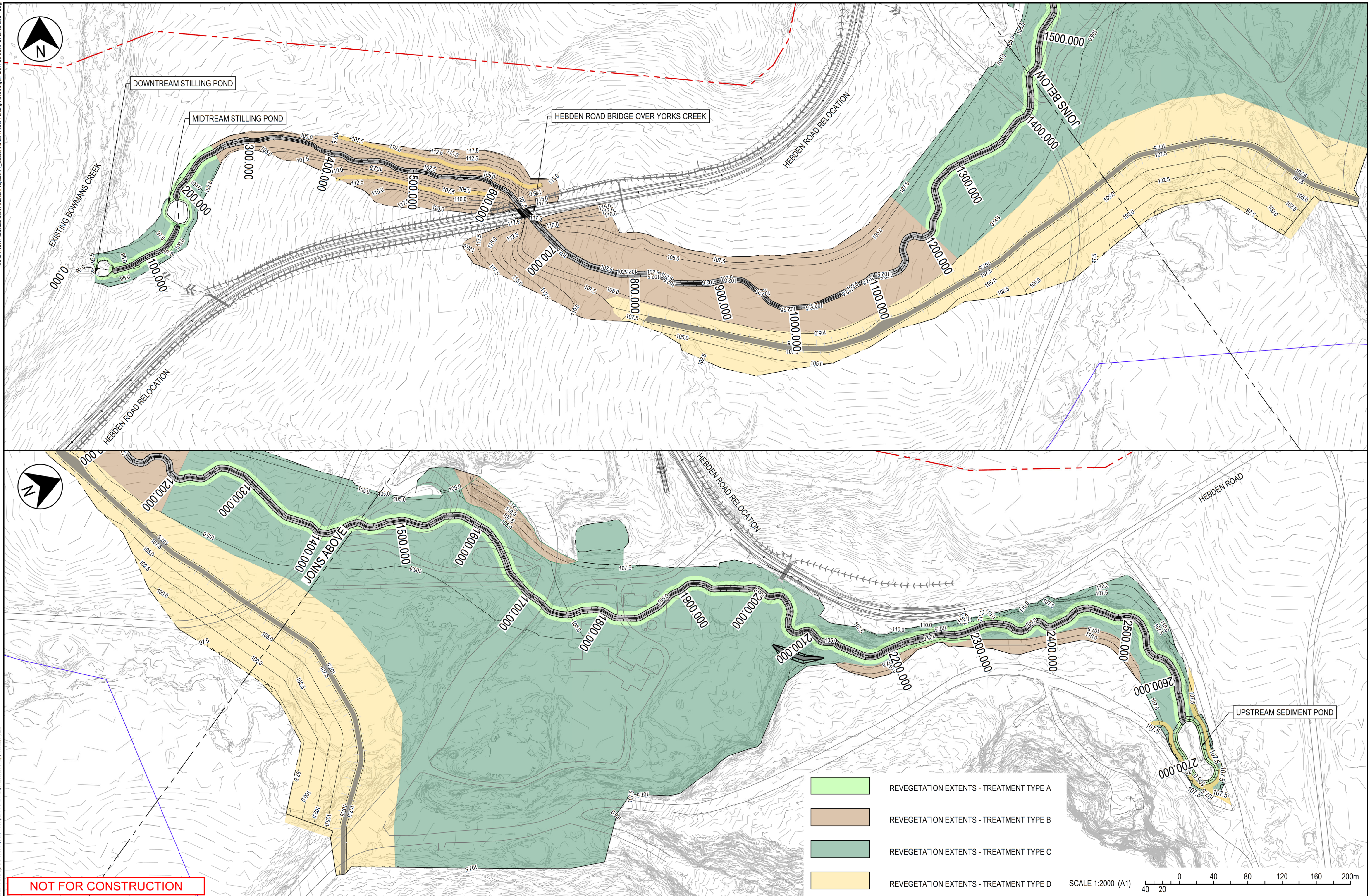
DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED B. HAYES	DESIGN REVIEW C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT
REVEGETATION SCHEDULES AND
TYPICAL CROSS SECTION

SCALE N.T.S
GLENCORE DRAWING No GCO-JGA-55.01.02.00-CV-2071
REV D

DATE: 5/09/2019 2:39:16 PM NAME: HAIL, SCOTT
LOCATION: \\Jacobs.com\ANZ\IE\Projects\04_Eastern\IA201700\01 Design\Drawings\IA201700-2000-CI-DRG-2071.dwg

DATE: 5/09/2019 1:21:05 PM NAME: HAIL, SCOTT



REV	DATE	DRAWN	REV'D	APP'D	REVISION	JACOBS DRAWING NUMBER	REFERENCE DRAWING TITLE
							SWAMP CREEK DIG. BDYS (14.11.18)
							SWAMP CREEK DIG. BDYS (14.11.18)
D	05.09.19	S.H	C.W	J.M	REVISED ISSUE FOR STUDY		GLENDELL PIT EXTENTS (14.11.18)
C	03.09.19	S.H	C.W	J.M	ISSUED FOR STUDY		GLENDELL MIA LAYOUT (28.11.18)
B	19.07.19	S.H	C.W	J.M	ISSUED FOR REVIEW		HEBDEN_ROAD_LIDAR_NOV_2018
A	28.06.19	S.H	C.W	J.M	PRELIMINARY ISSUE	IA201700-2000-CI-DRG-2081	UM4166_GCO_PROPOSEDDA_BOUNDARY_MGA55_REV2

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CLIENT: MT OWEN PTY LIMITED
PROJECT: GLENDELL CONTINUED OPERATIONS PROJECT

DRAWN	DRAWING CHECK	REVIEWED	APPROVED
S.HAIL	C. DWYER	J. MAGIN	D. ARMSTRONG
DESIGNED: B. HAYES	DESIGN REVIEW: C. DWYER	DATE 05.09.19	DATE 05.09.19

TITLE
YORKS CREEK REALIGNMENT REVEGETATION PLAN

SCALE	GLENCORE DRAWING No	REV
1:2000 @ A1	GCO-JGA-55.01.02.00-CV-2081	D