

# DETAILED DESIGN DRAWINGS

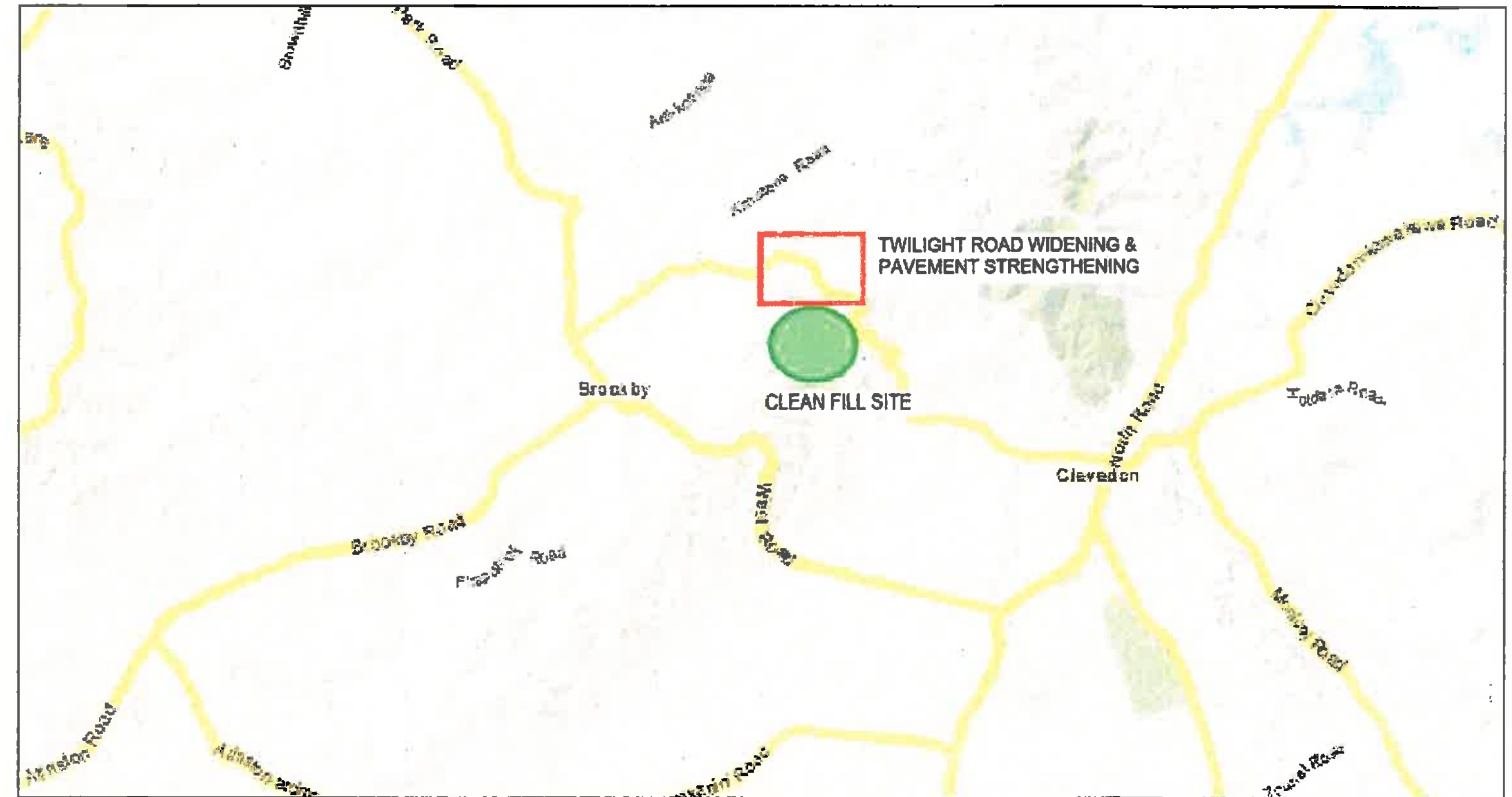
## TWILIGHT ROAD WIDENING (FROM #354 TO BROOKBY CLEAN FILL SITE)

Prepared for



22 APRIL 2016

**AECOM**



**LOCALITY PLAN**

**DRAWING INDEX**

60484182 Twilight Rd C000	INDEX PAGE & LOCATION PLAN / INDEX
60484182 Twilight Rd C0101	GENERAL ARRANGEMENT - INDEX SHEET
60484182 Twilight Rd C0102-C0106	GENERAL ARRANGEMENT SHEET 1 TO SHEET 5
60484182 Twilight Rd C0107-C0107	SIGHT LINES - BANK TRIMMING FOR SIGHT LINES
60484182 Twilight Rd C0111-C0118	CROSS-SECTIONS - SHEET 1 TO SHEET 8
60484182 Twilight Rd C0119	TYPICAL CROSS-SECTION OF PAVEMENT & ROAD WIDENING
60484182 Twilight Rd C0201	STORMWATER PLAN - INDEX SHEET
60484182 Twilight Rd C0202-C0205	STORMWATER PLANS SHEET 1 TO SHEET 4
60484182 Twilight Rd C0206	TYPICAL DETAILS - CATCHPITS & SUB-SOIL DRAINAGE



*D. Mitchell*

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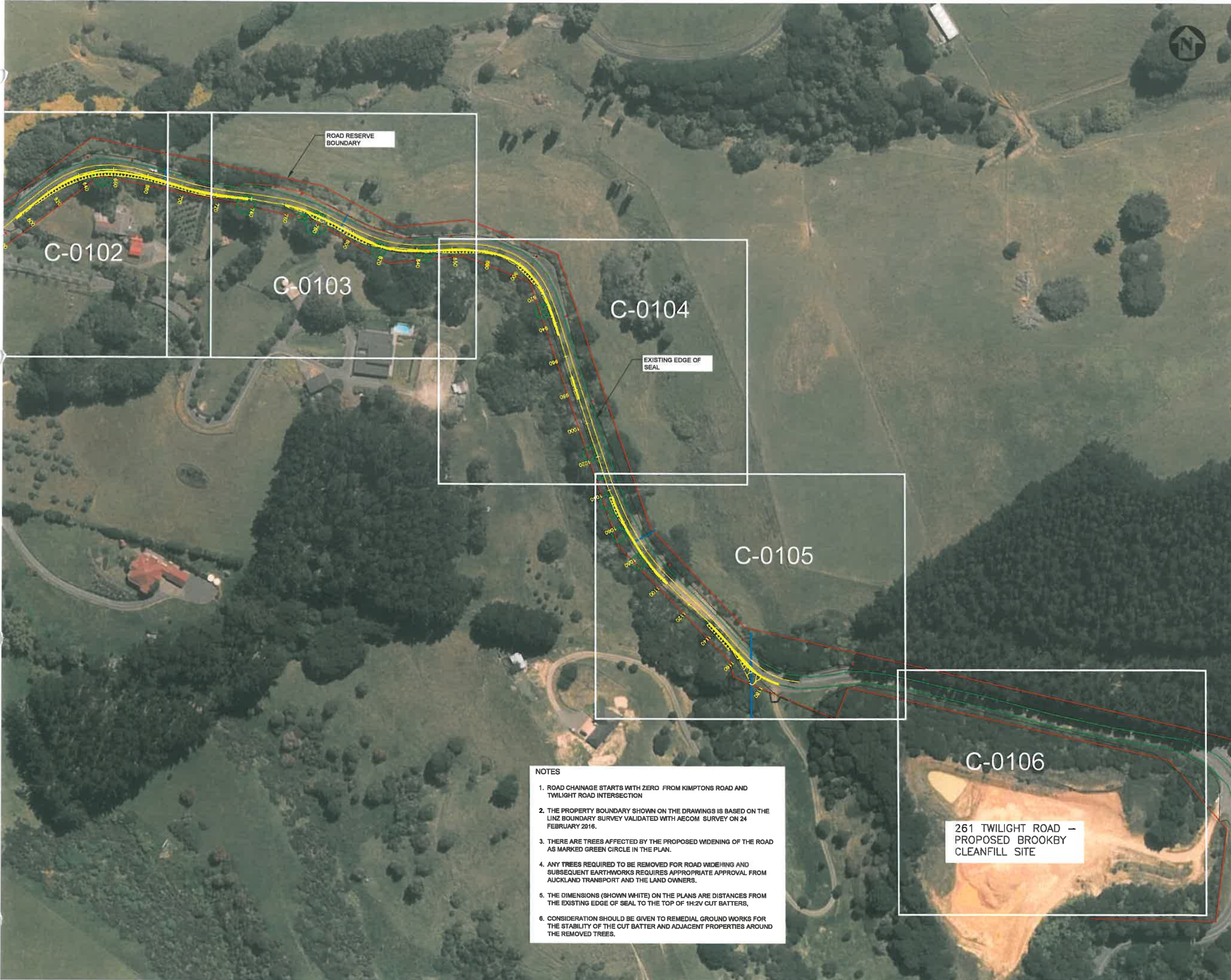
**ISSUE/REVISION**

IR	DATE	DESCRIPTION
A	12.02.16	DRAFT

**PROJECT NUMBER**  
 60484182

**SHEET TITLE**  
 OVERALL PLAN

**SHEET NUMBER**  
 60484182-SHT-10-1-CI-0101



- NOTES**
1. ROAD CHAINAGE STARTS WITH ZERO FROM KIMPTONS ROAD AND TWILIGHT ROAD INTERSECTION
  2. THE PROPERTY BOUNDARY SHOWN ON THE DRAWINGS IS BASED ON THE LINZ BOUNDARY SURVEY VALIDATED WITH AECOM SURVEY ON 24 FEBRUARY 2016.
  3. THERE ARE TREES AFFECTED BY THE PROPOSED WIDENING OF THE ROAD AS MARKED GREEN CIRCLE IN THE PLAN.
  4. ANY TREES REQUIRED TO BE REMOVED FOR ROAD WIDENING AND SUBSEQUENT EARTHWORKS REQUIRES APPROPRIATE APPROVAL FROM AUCKLAND TRANSPORT AND THE LAND OWNERS.
  5. THE DIMENSIONS (SHOWN WHITE) ON THE PLANS ARE DISTANCES FROM THE EXISTING EDGE OF SEAL TO THE TOP OF 1H:2V CUT BATTERS.
  6. CONSIDERATION SHOULD BE GIVEN TO REMEDIAL GROUND WORKS FOR THE STABILITY OF THE CUT BATTER AND ADJACENT PROPERTIES AROUND THE REMOVED TREES.





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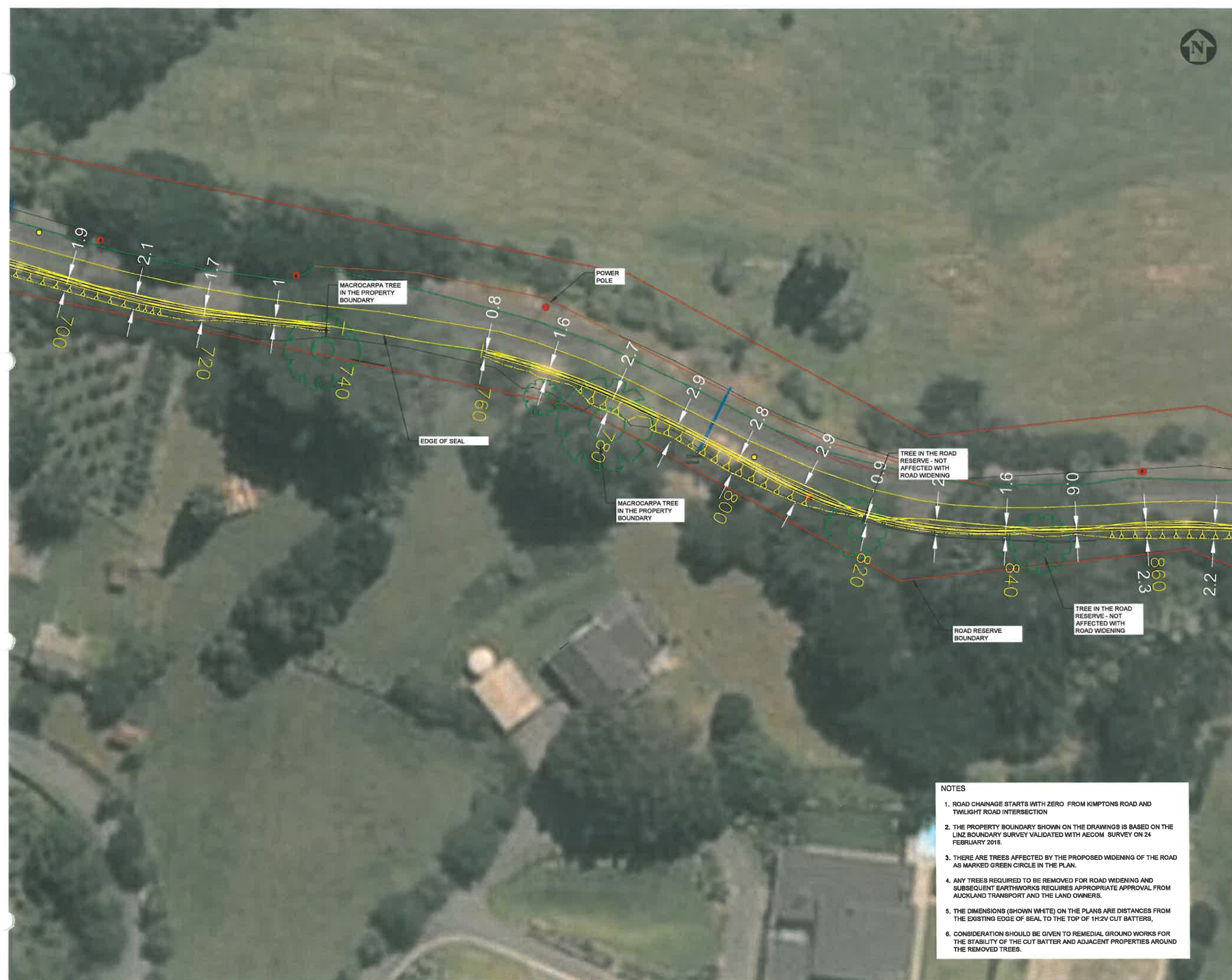
**SHEET TITLE**  
 PLAN  
 SHEET 1 OF 5

**SHEET NUMBER**  
 60484182-SHT-10-1-CI-0102





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**SHEET TITLE**  
PLAN  
SHEET 2 OF 5

**SHEET NUMBER**  
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**SHEET TITLE**  
 PLAN  
 SHEET 3 OF 5

**SHEET NUMBER**  
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ROAD RESERVE  
BOUNDARY

EXISTING EDGE OF  
SEAL

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PLAN  
SHEET 5 OF 5

**SHEET NUMBER**  
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I/R	DATE	DESCRIPTION

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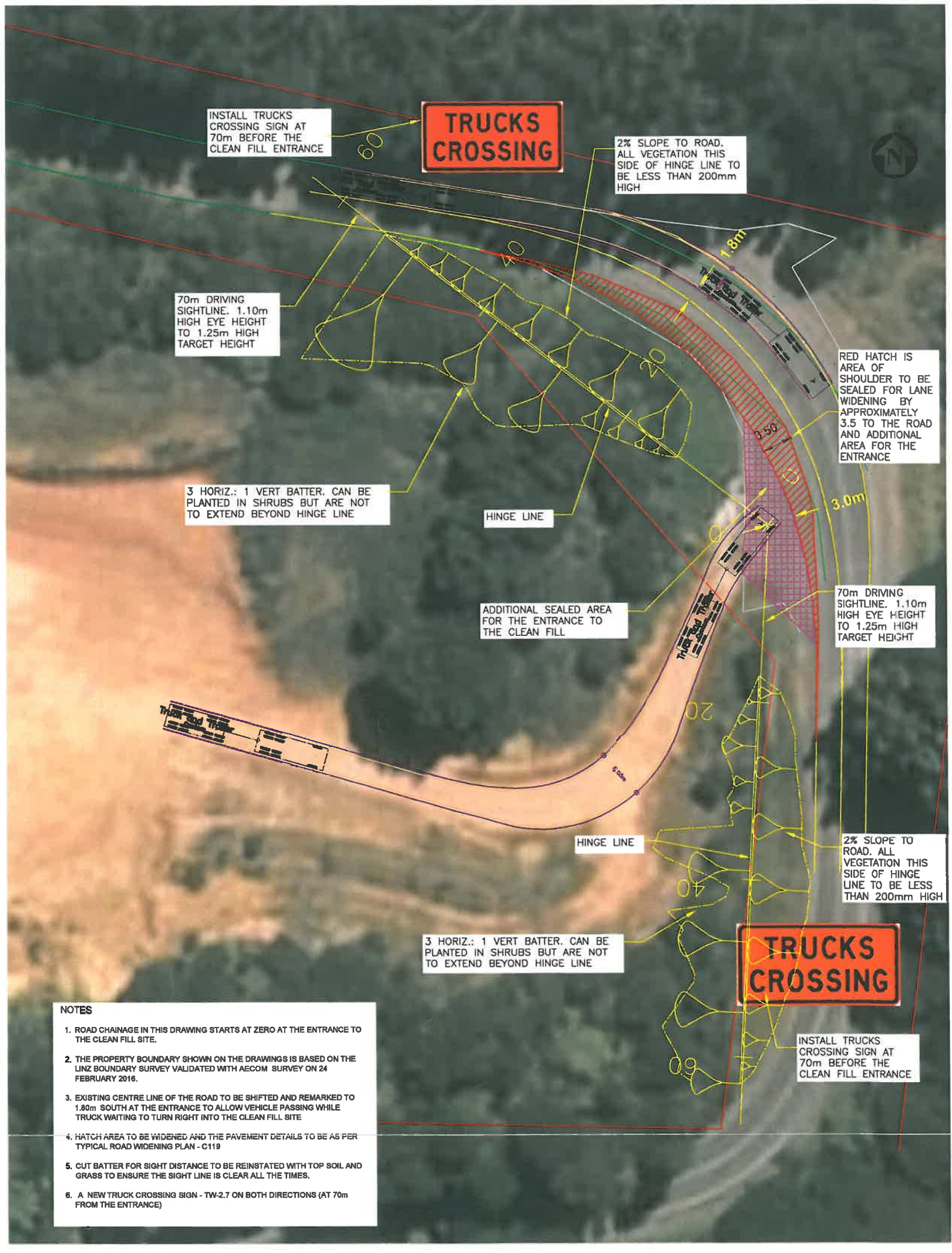
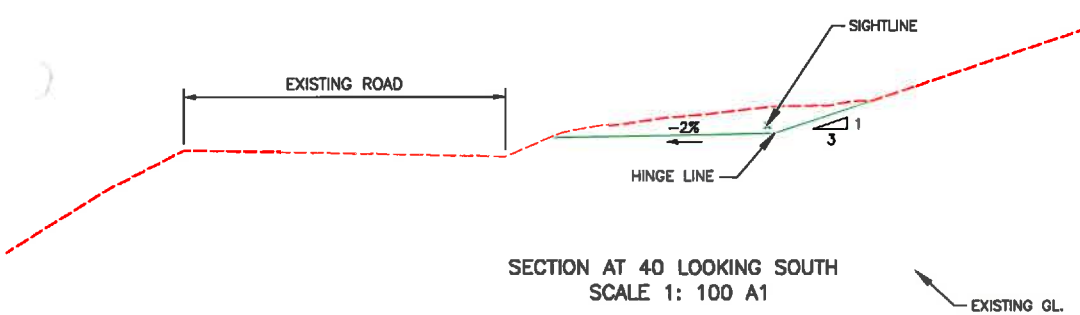
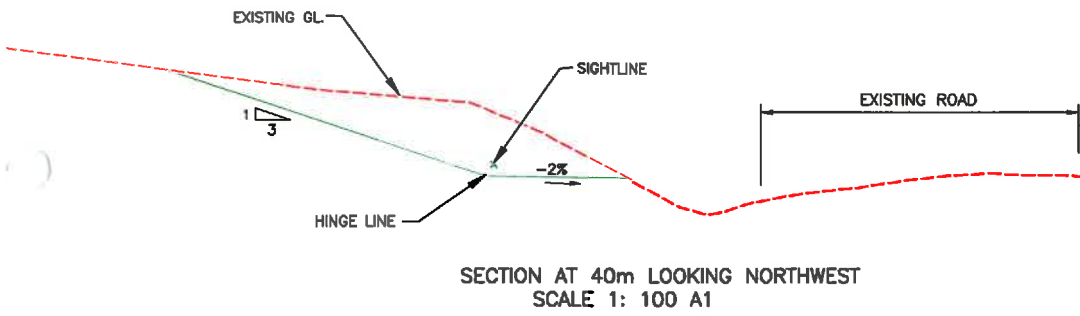
60484182

**SHEET TITLE**

SITE ENTRY  
BANK TRIMMING FOR SIGHTLINES

**SHEET NUMBER**

60484182-SHT-10-1-CI-0107



- NOTES**
- ROAD CHAINAGE IN THIS DRAWING STARTS AT ZERO AT THE ENTRANCE TO THE CLEAN FILL SITE.
  - THE PROPERTY BOUNDARY SHOWN ON THE DRAWINGS IS BASED ON THE LINZ BOUNDARY SURVEY VALIDATED WITH AECOM SURVEY ON 24 FEBRUARY 2016.
  - EXISTING CENTRE LINE OF THE ROAD TO BE SHIFTED AND REMARKED TO 1.80m SOUTH AT THE ENTRANCE TO ALLOW VEHICLE PASSING WHILE TRUCK WAITING TO TURN RIGHT INTO THE CLEAN FILL SITE
  - HATCH AREA TO BE WIDENED AND THE PAVEMENT DETAILS TO BE AS PER TYPICAL ROAD WIDENING PLAN - C119
  - CUT BATTER FOR SIGHT DISTANCE TO BE REINSTATED WITH TOP SOIL AND GRASS TO ENSURE THE SIGHT LINE IS CLEAR ALL THE TIMES.
  - A NEW TRUCK CROSSING SIGN - TW-2.7 ON BOTH DIRECTIONS (AT 70m FROM THE ENTRANCE)





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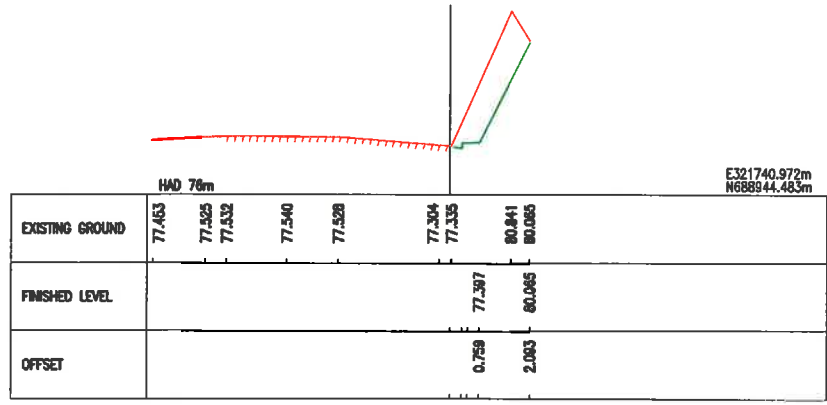
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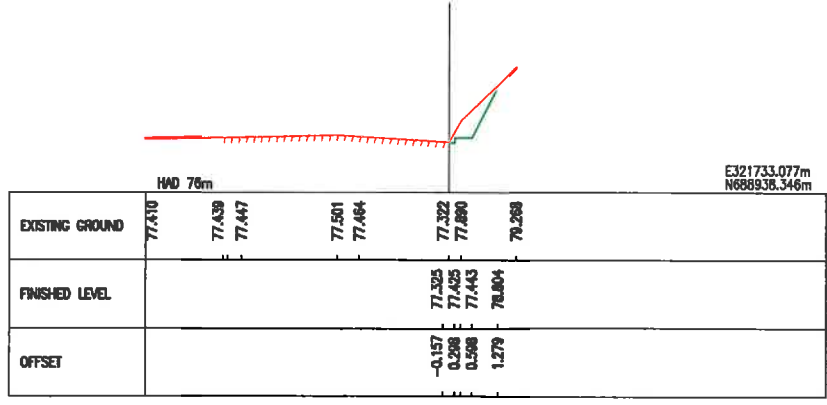
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CROSS SECTIONS  
SHEET 1 OF 7

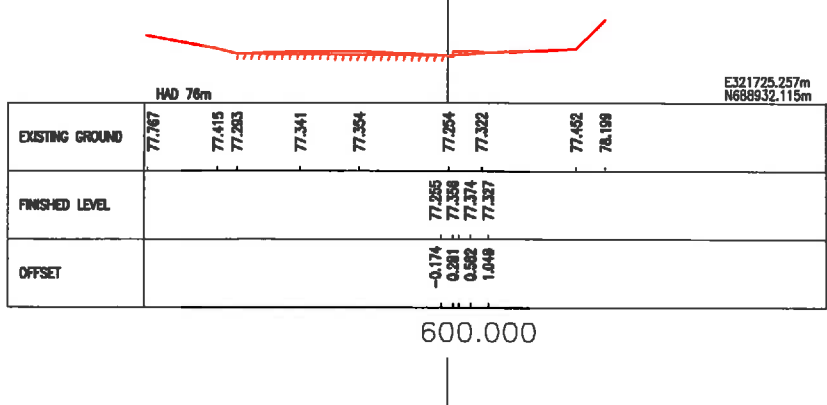
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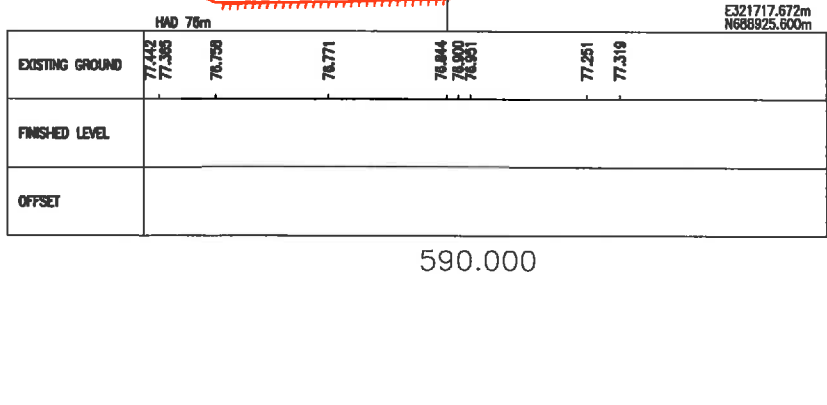
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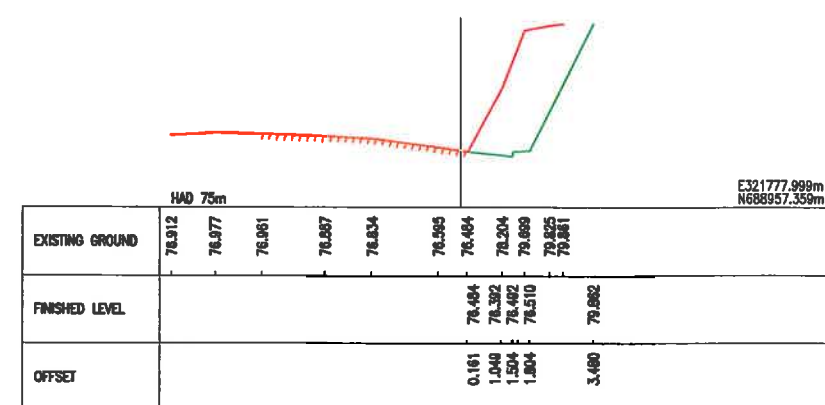
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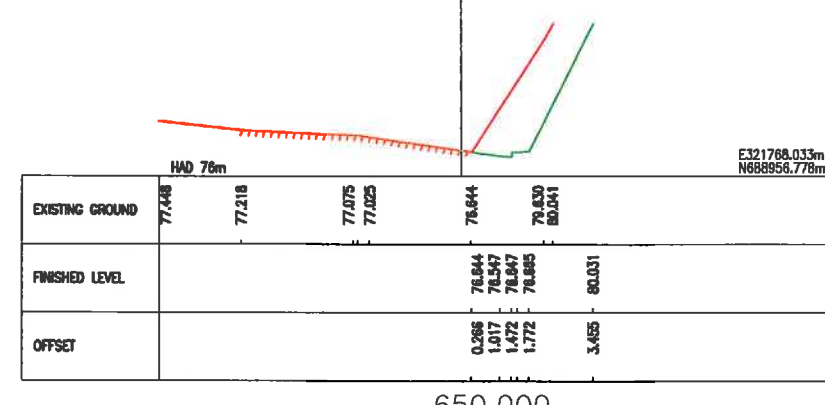
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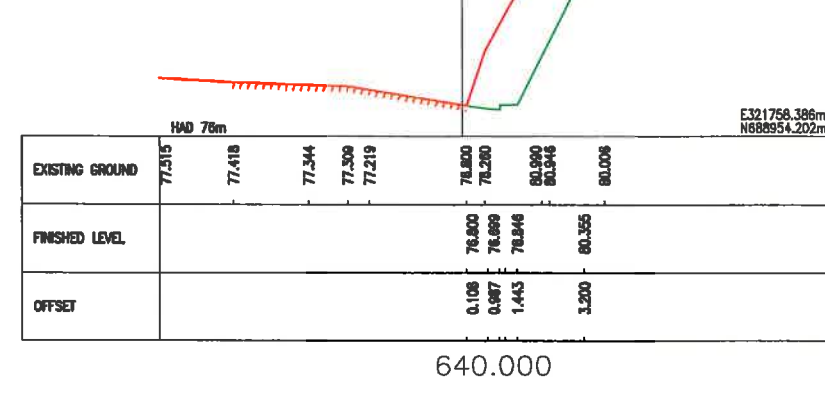
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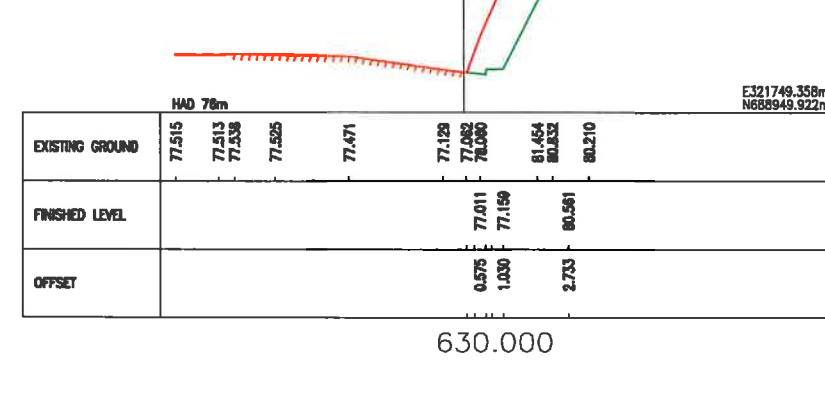
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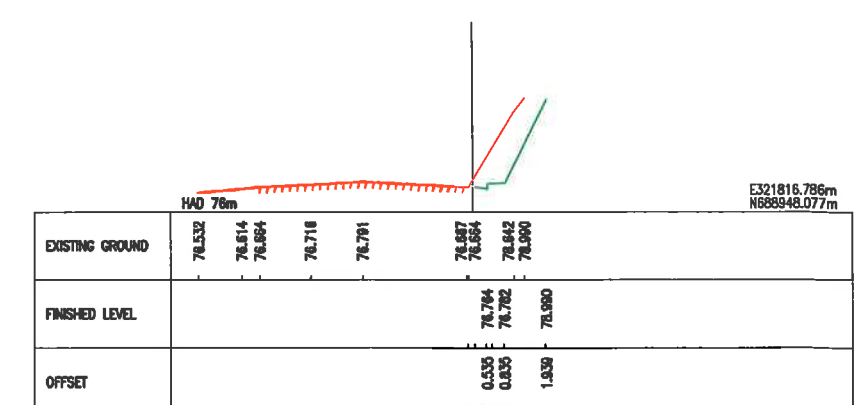
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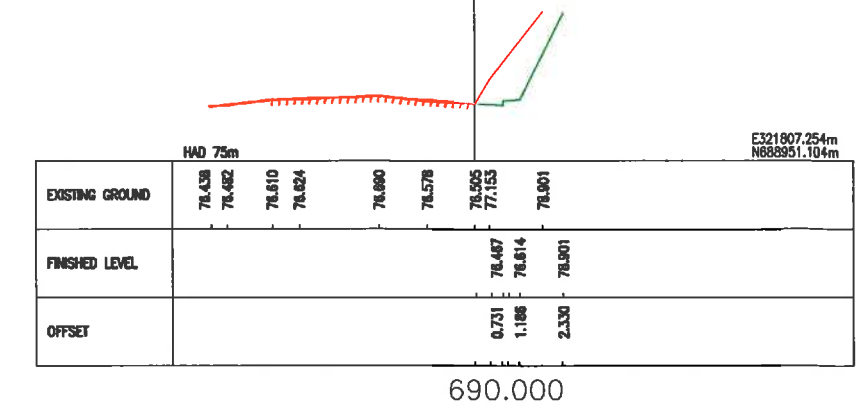
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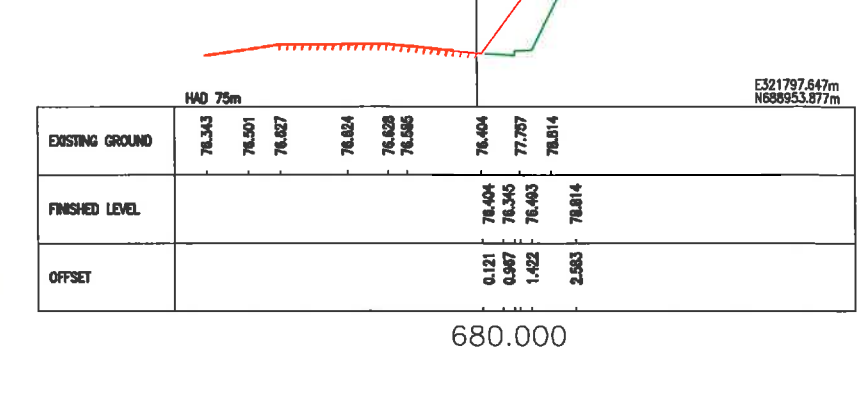
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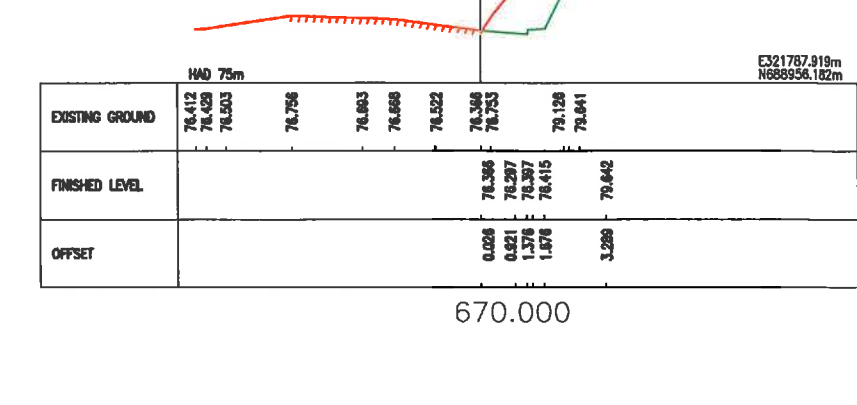
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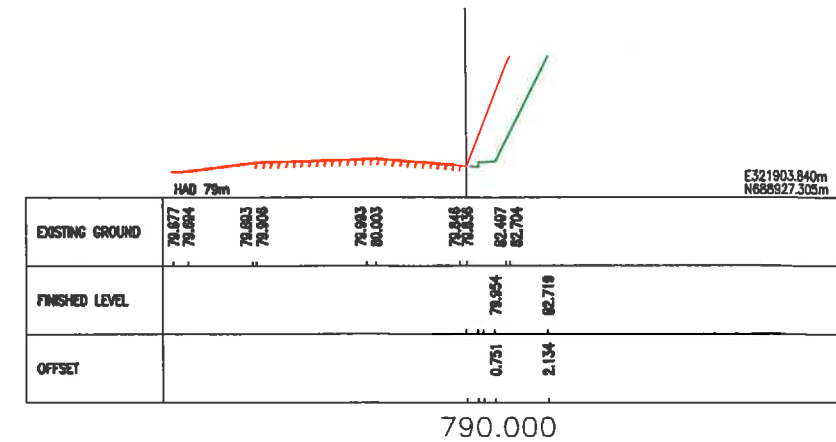
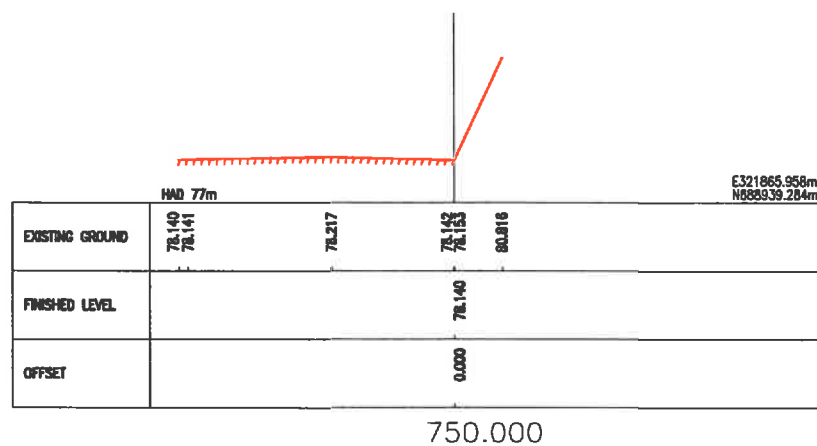
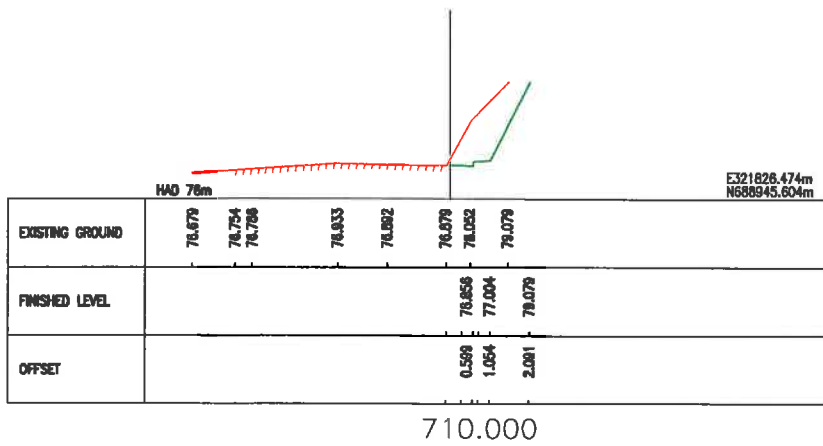
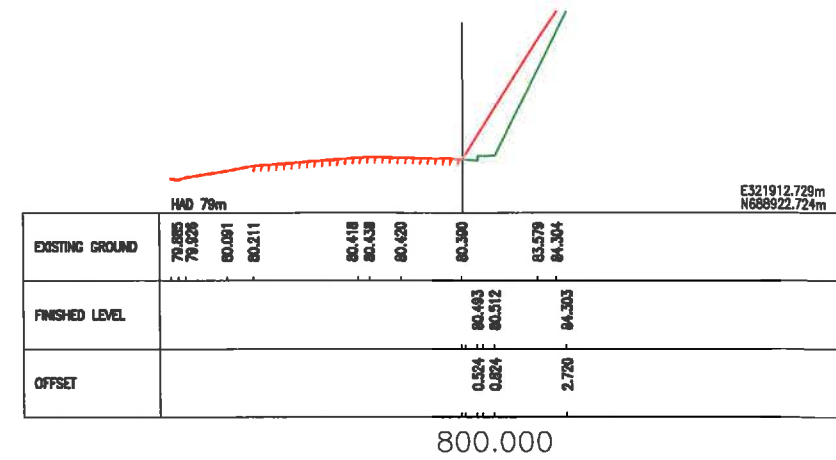
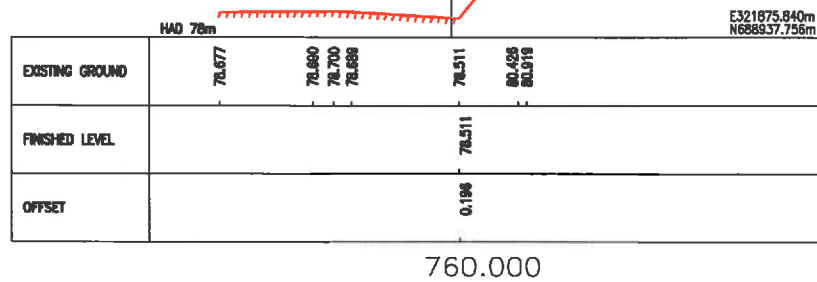
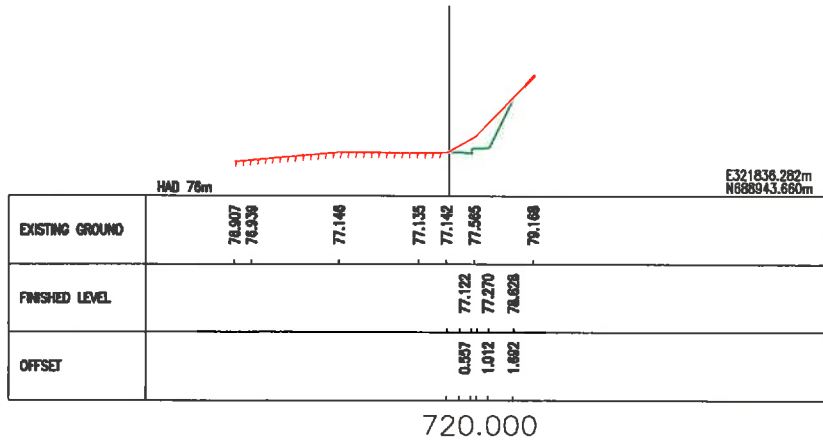
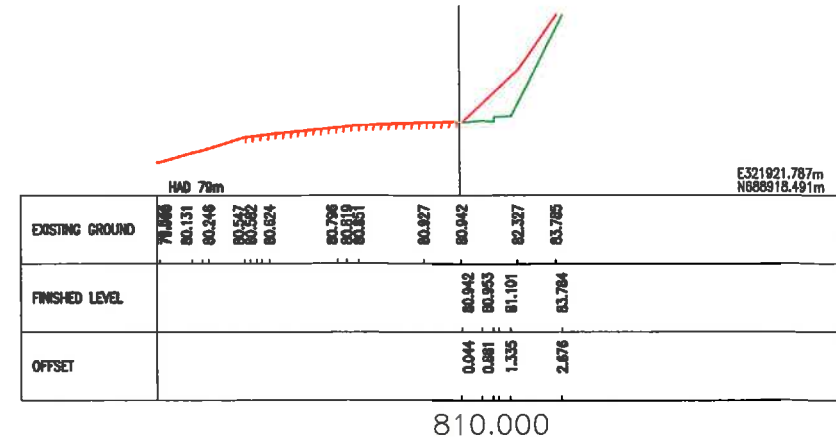
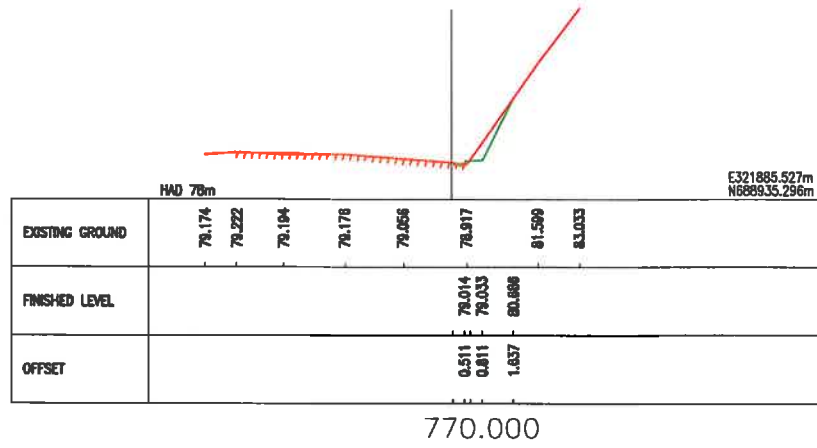
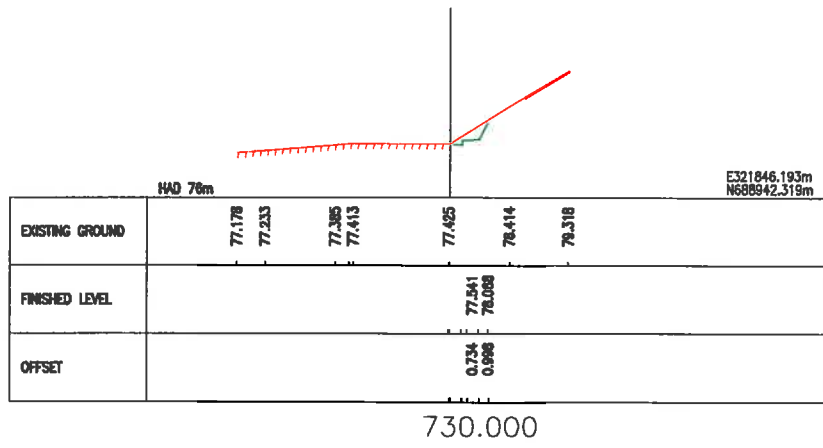
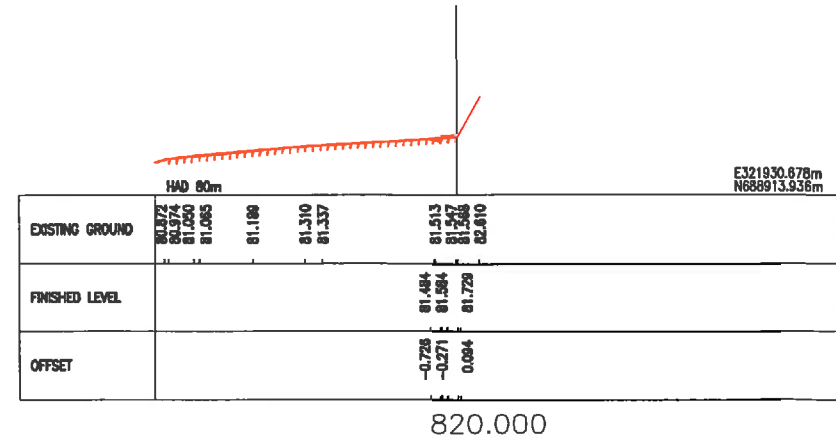
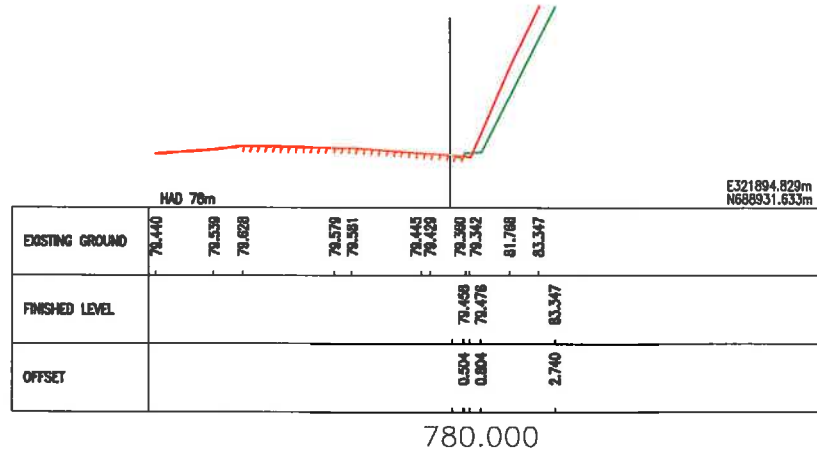
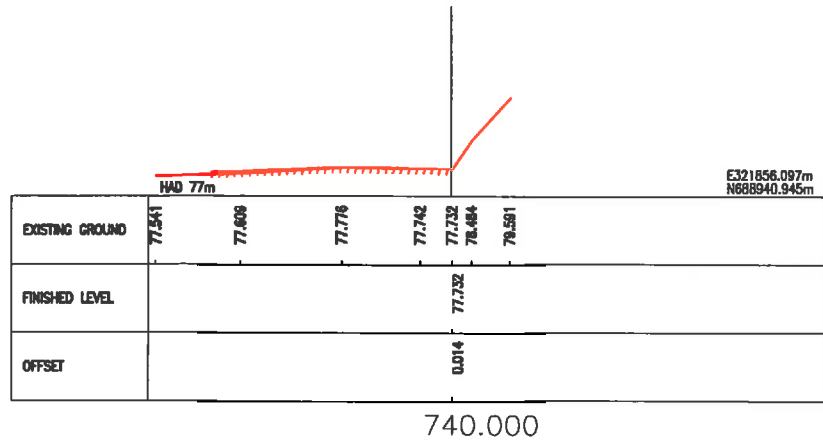
**ISSUE/REVISION**

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**PROJECT NUMBER**  
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**SHEET TITLE**  
 CROSS SECTIONS  
 SHEET 2 OF 7

**SHEET NUMBER**  
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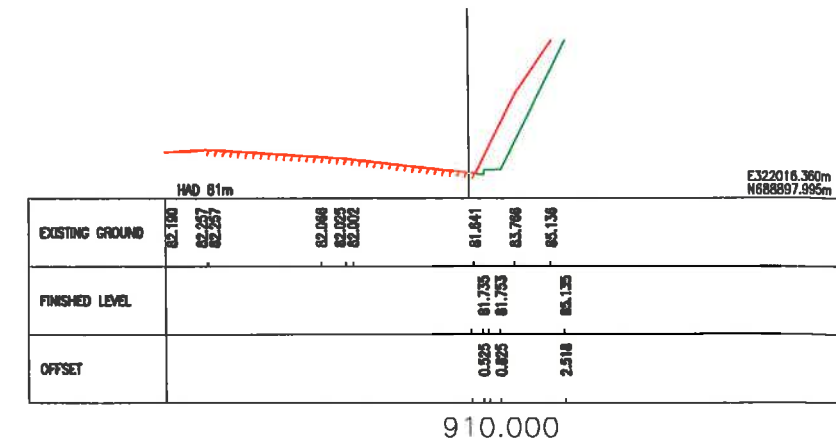
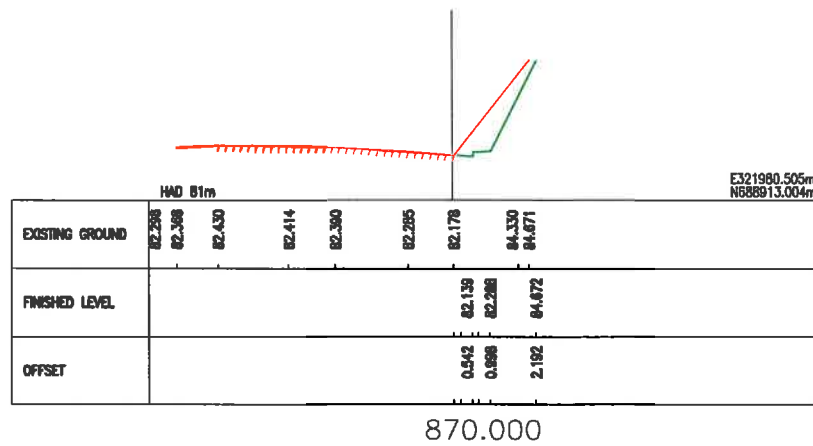
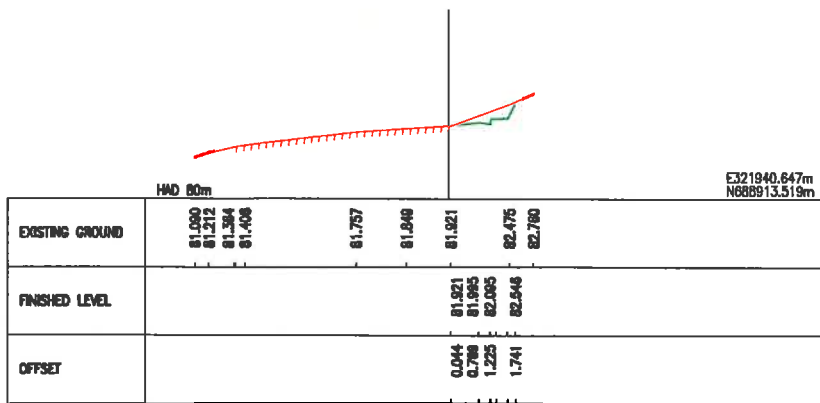
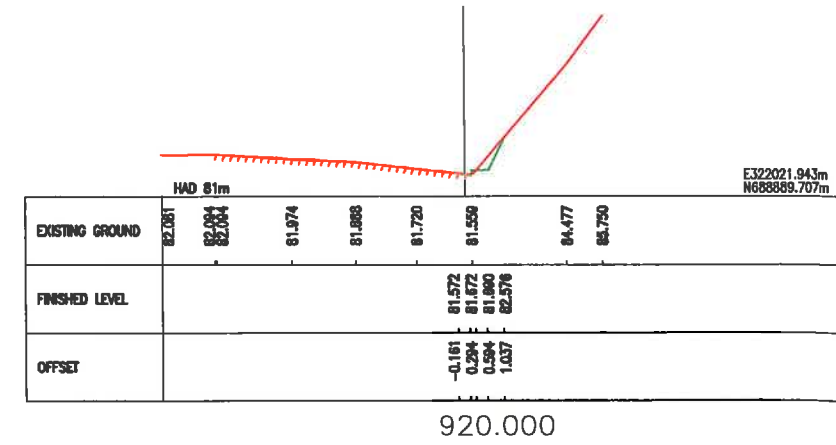
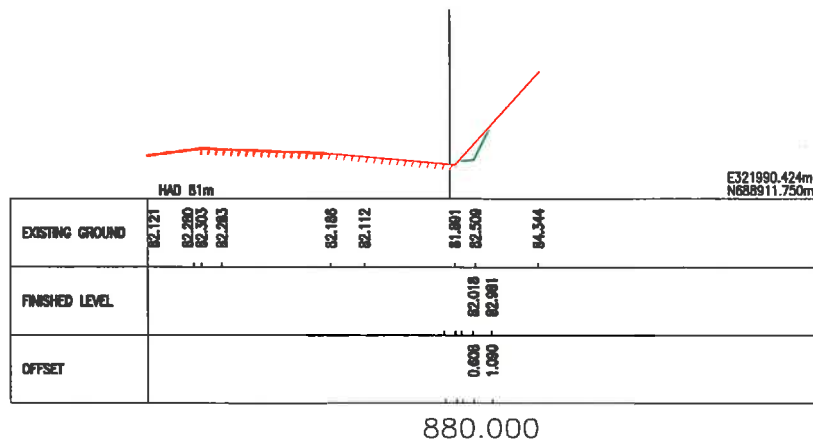
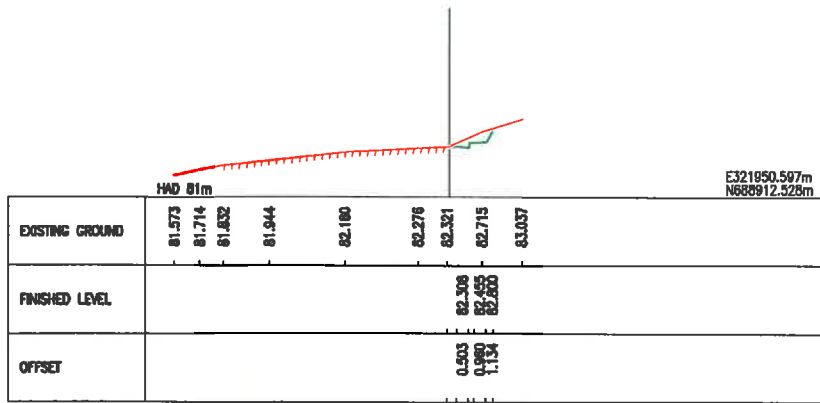
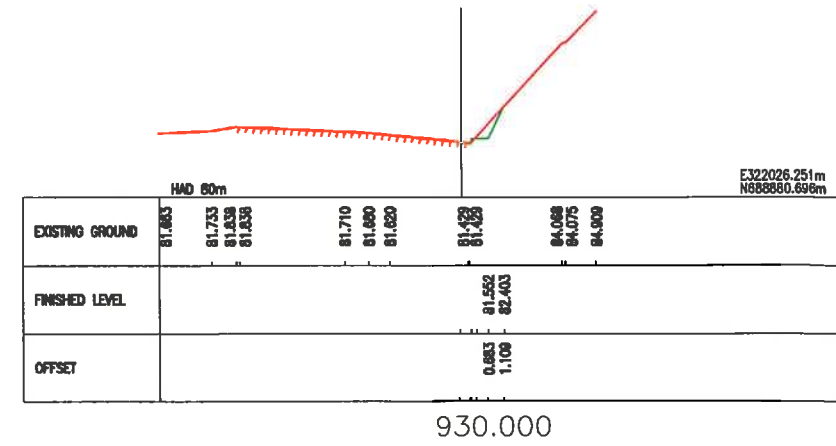
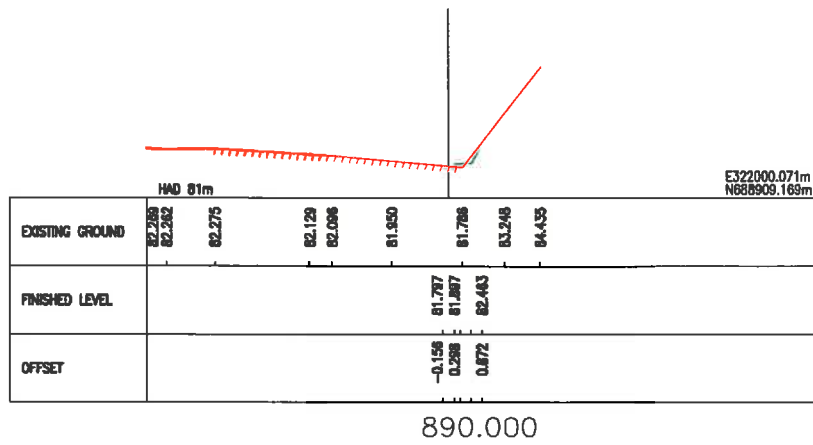
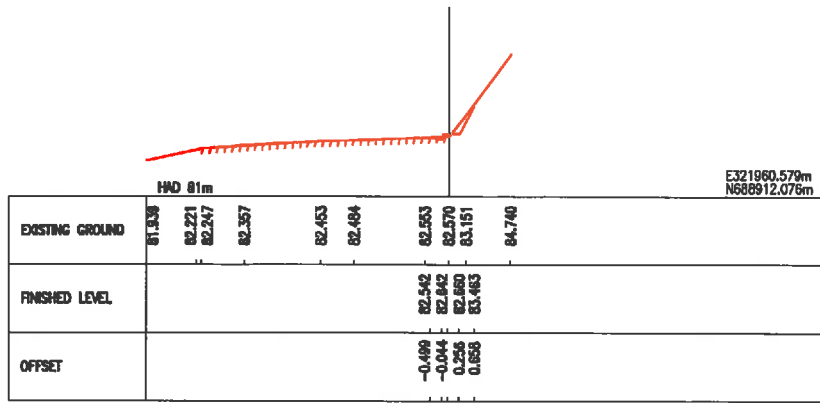
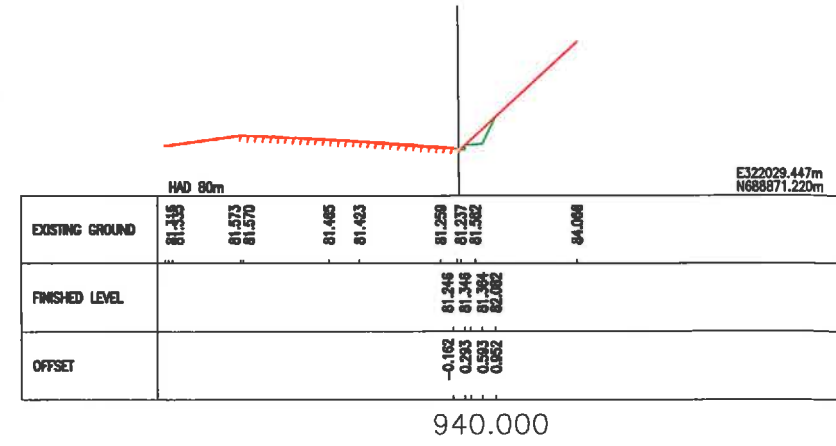
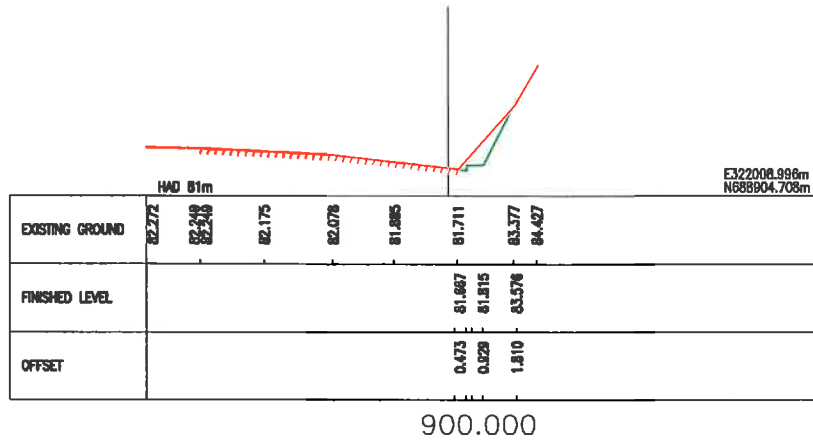
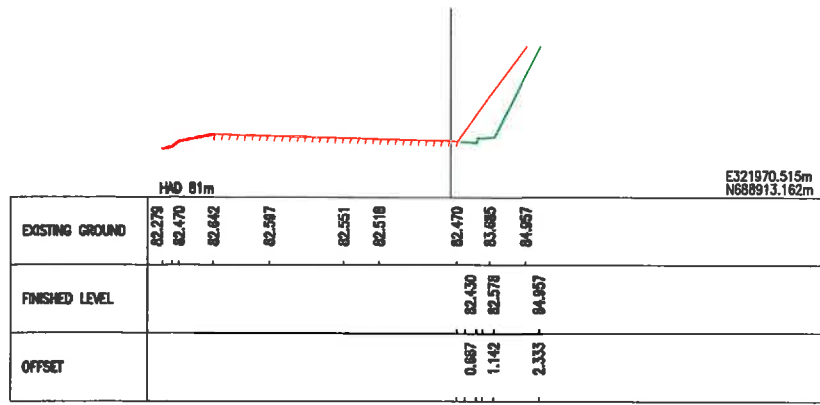
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**SHEET TITLE**

CROSS SECTIONS  
SHEET 3 OF 7

**SHEET NUMBER**

60484182-SHT-10-1-C-0113











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Development Engineering (South)

*J. Mitchell*

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**ISSUE/REVISION**

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I/R	DATE	DESCRIPTION

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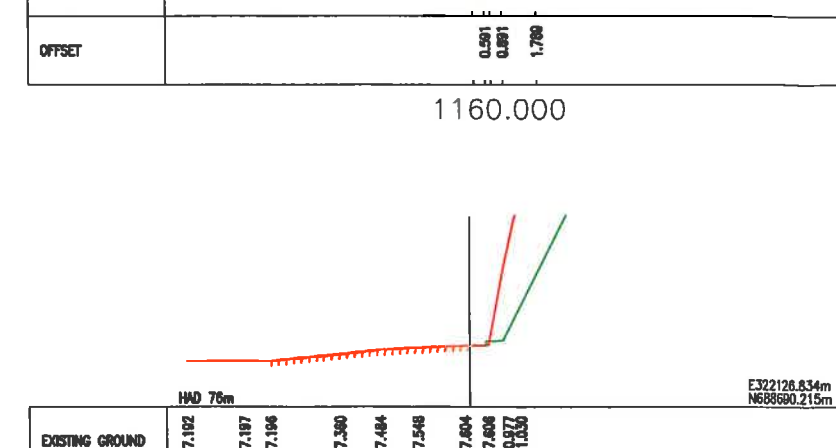
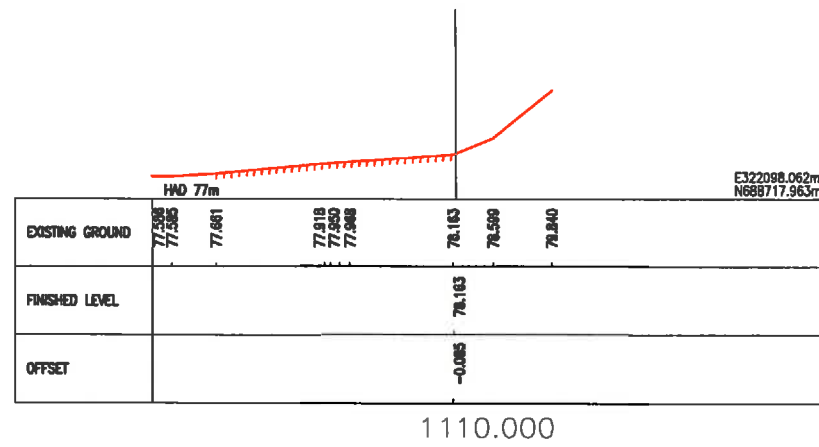
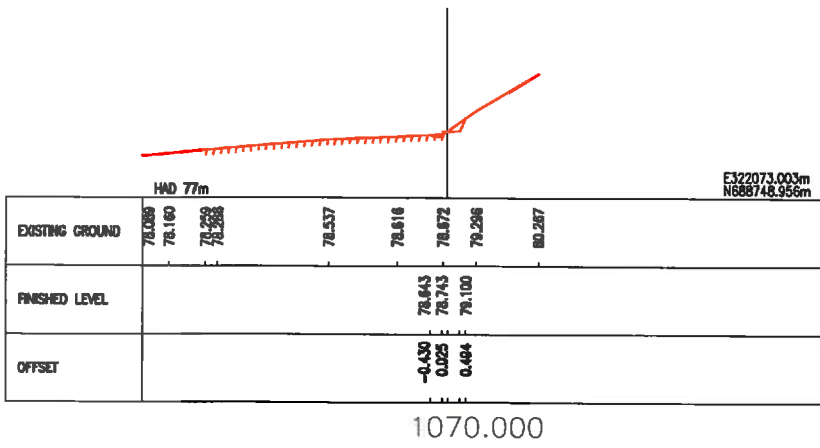
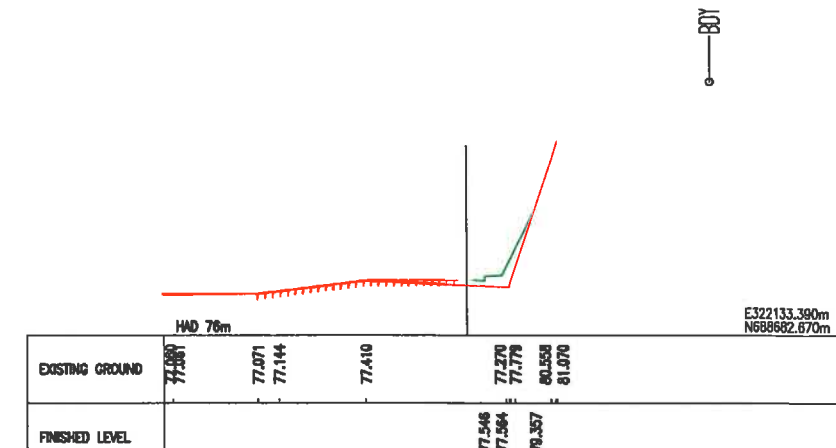
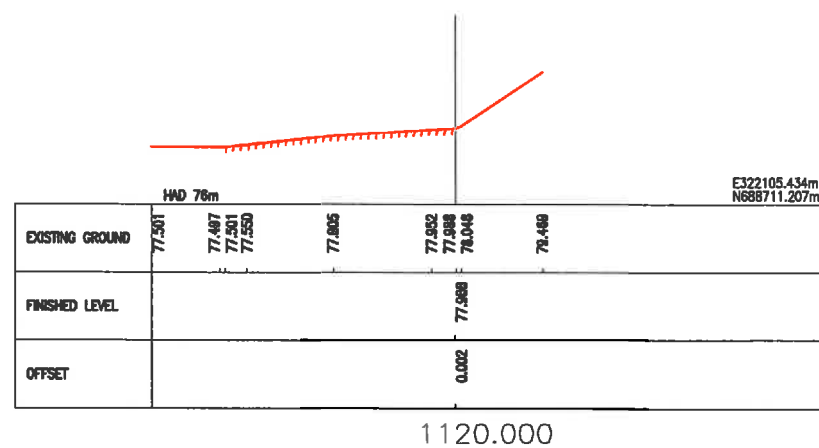
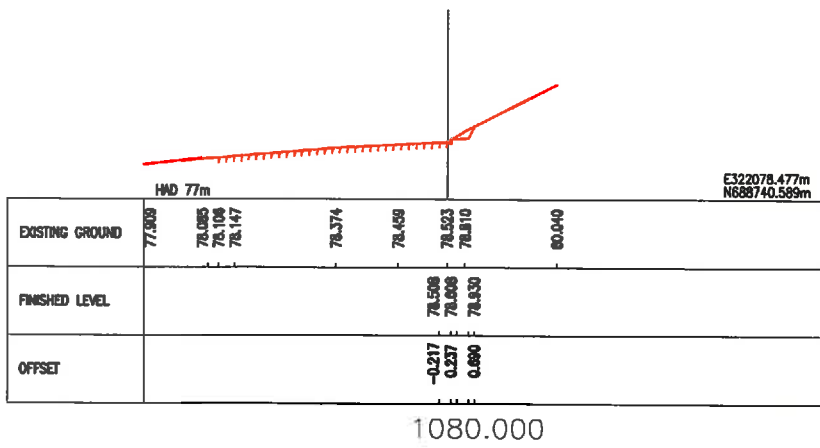
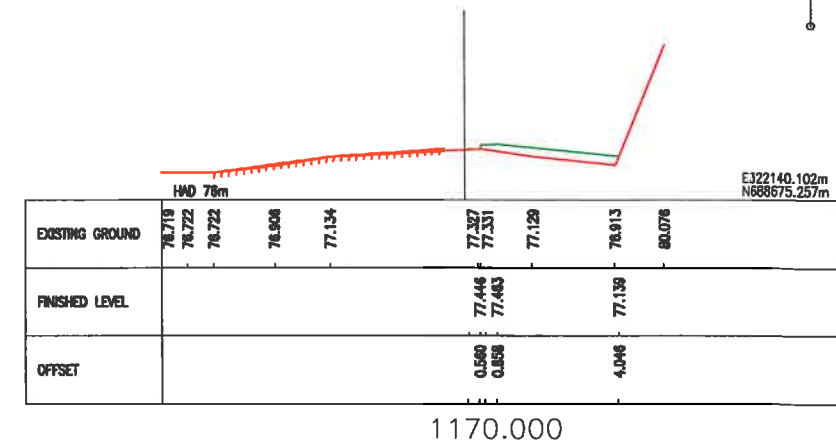
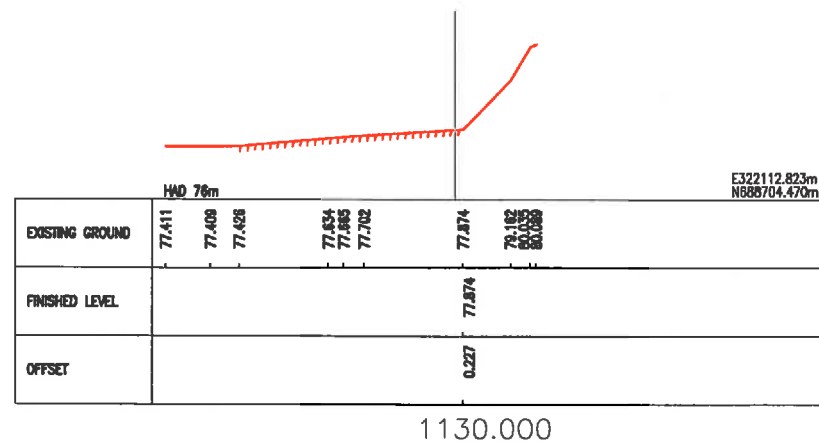
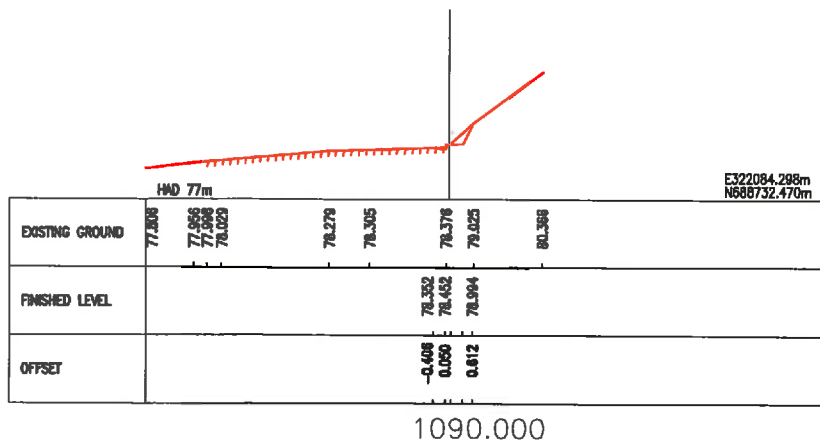
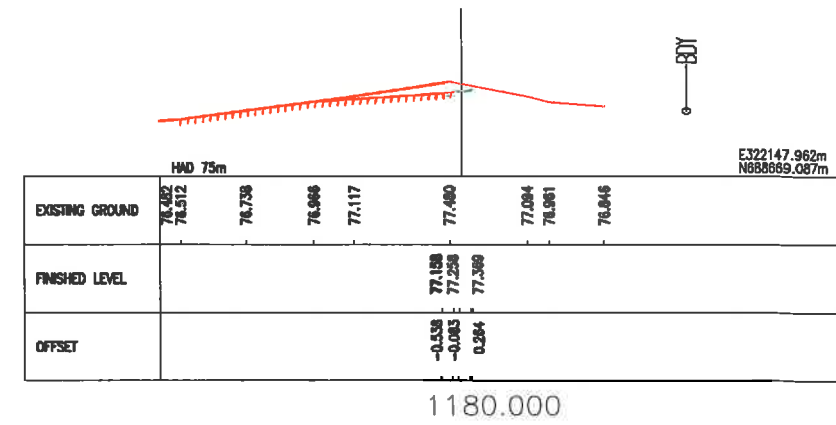
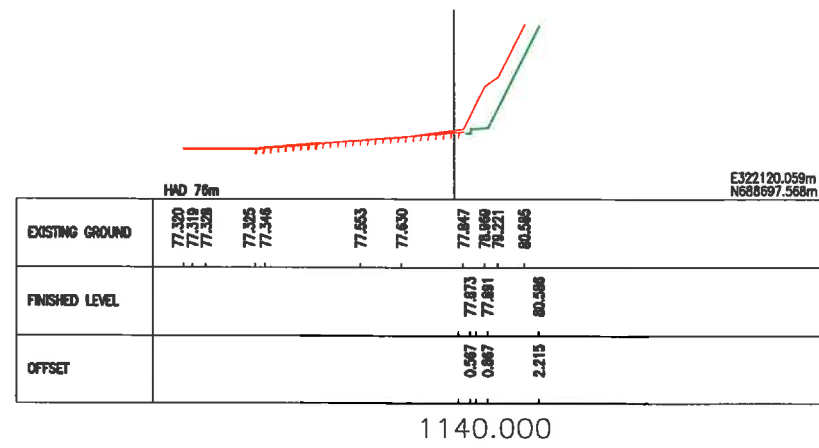
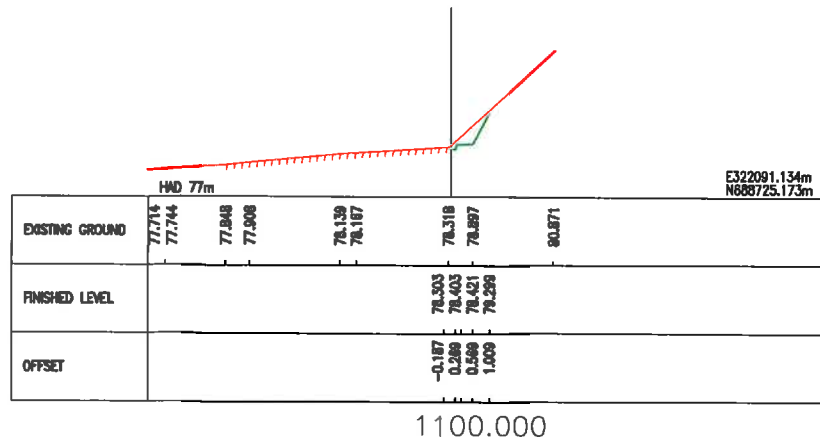
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**SHEET TITLE**

CROSS SECTIONS  
SHEET 5 OF 7

**SHEET NUMBER**

60484182-SHT-10-1-C-0115







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 Development Engineering (South)

*D. K. Mitchell*

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A	12.02.16	DRAFT
IR	DATE	DESCRIPTION

**PROJECT NUMBER**

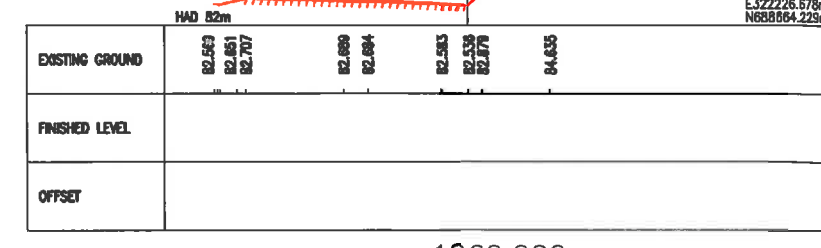
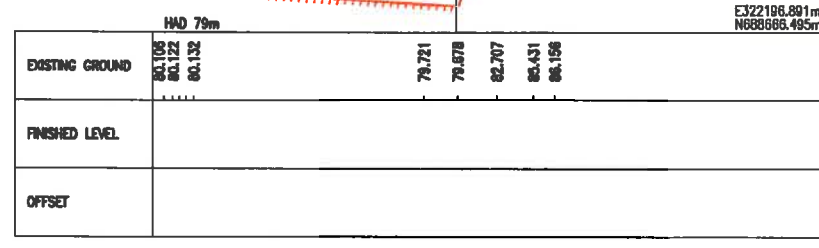
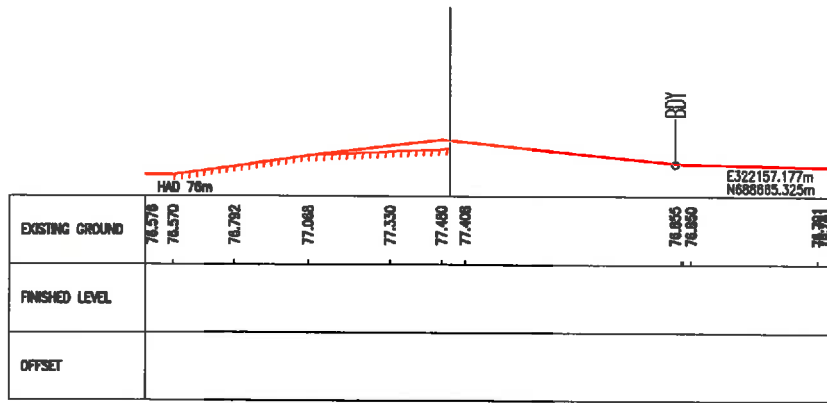
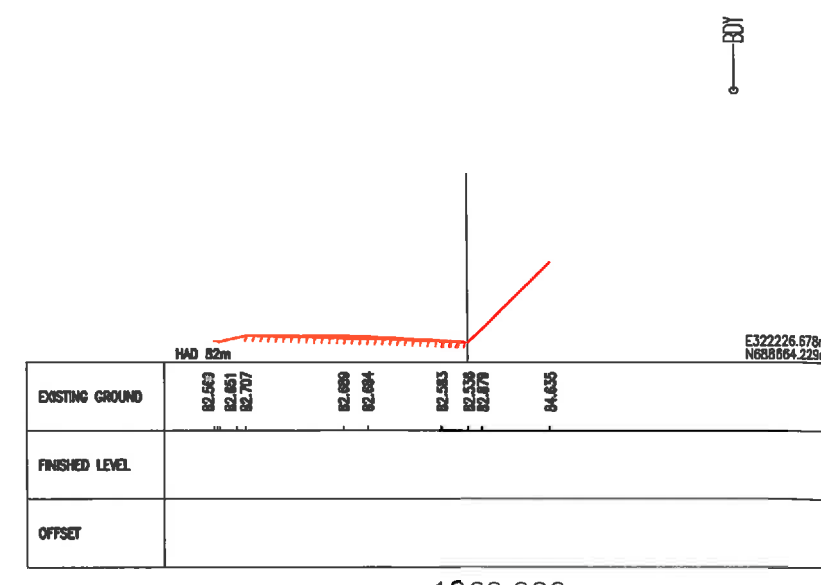
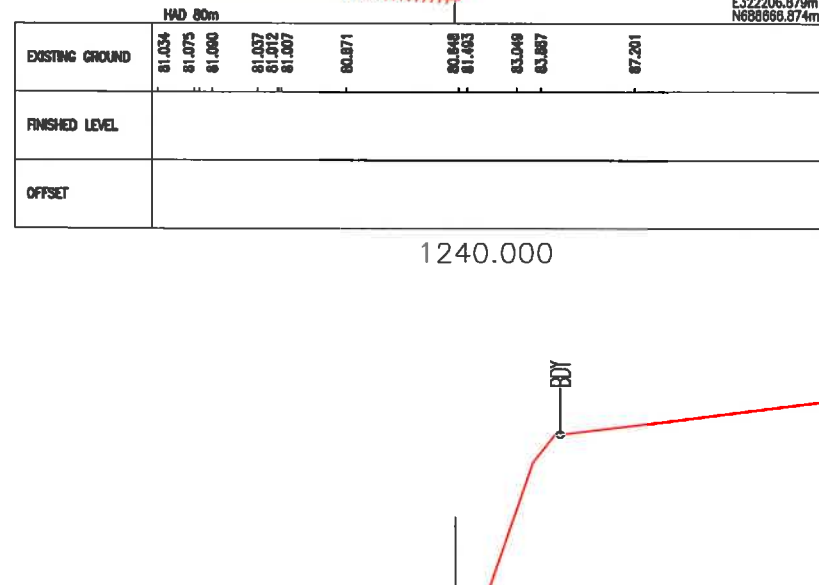
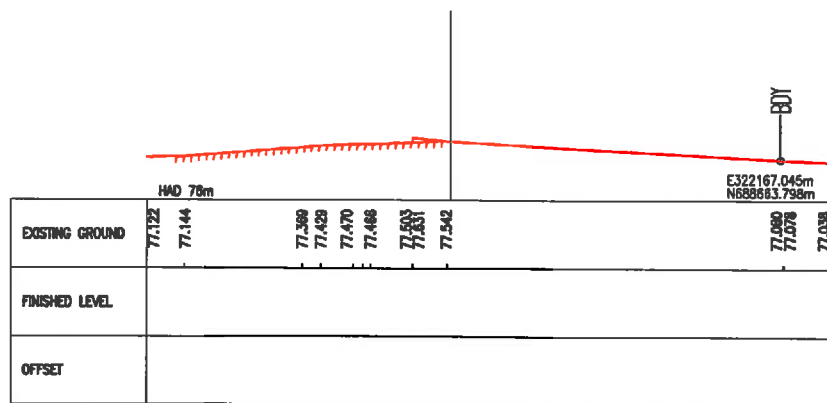
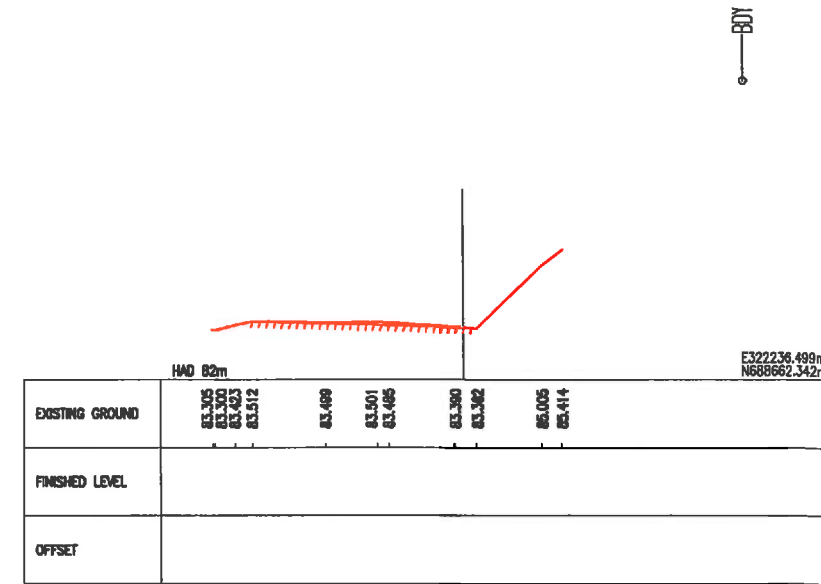
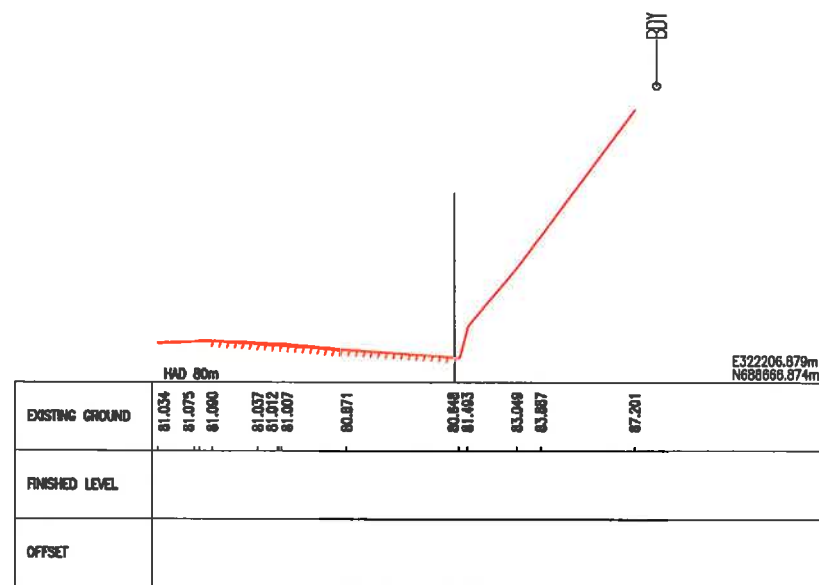
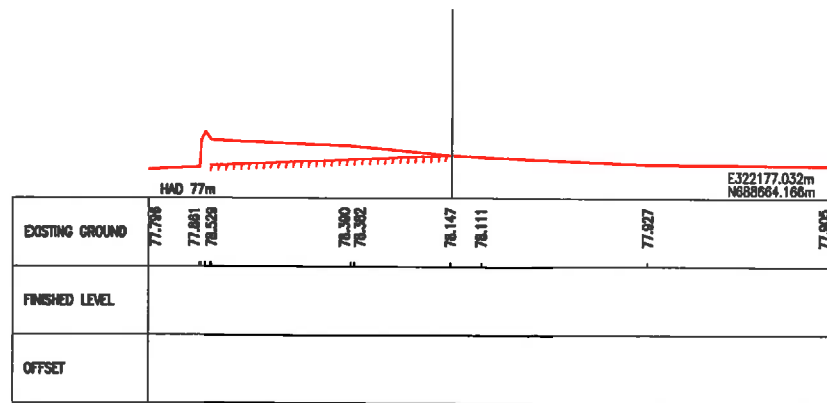
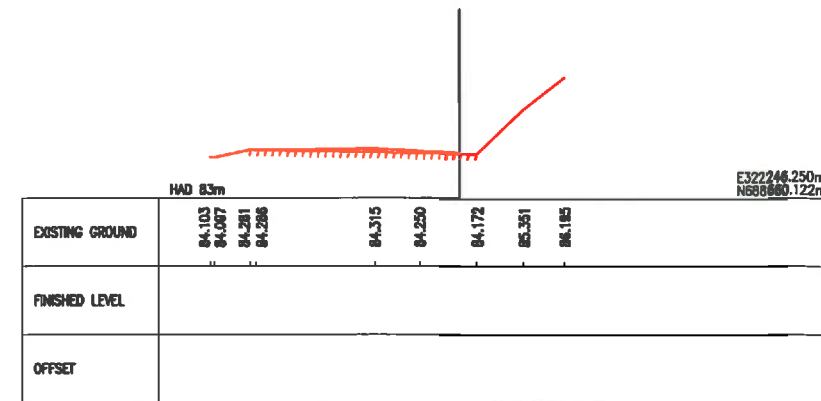
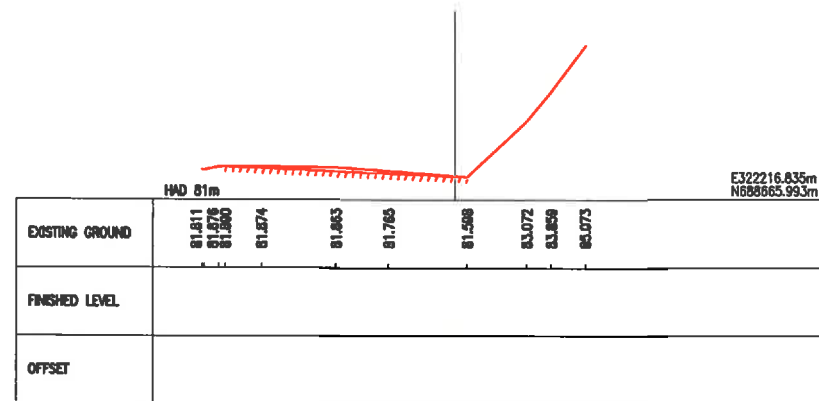
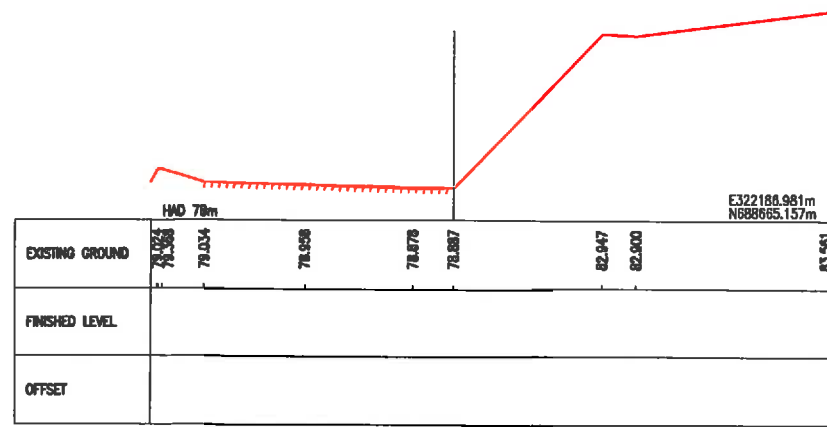
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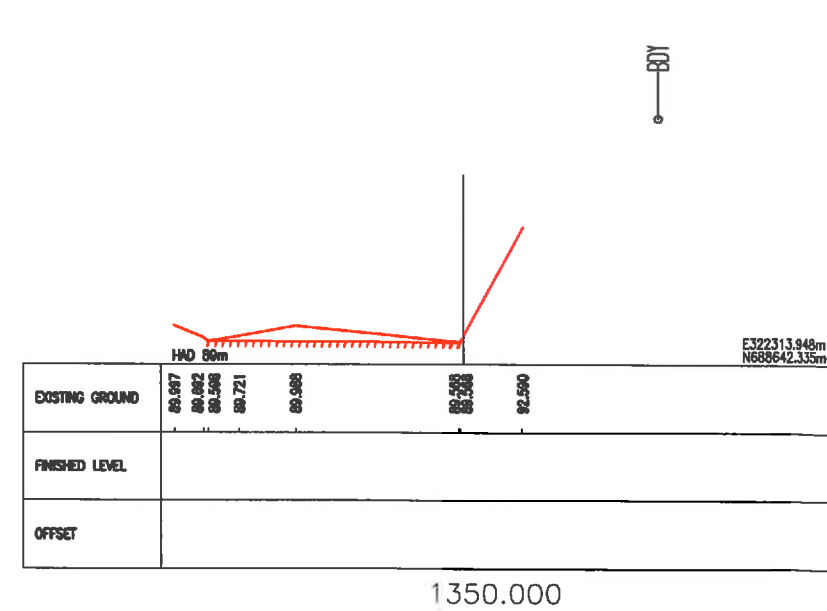
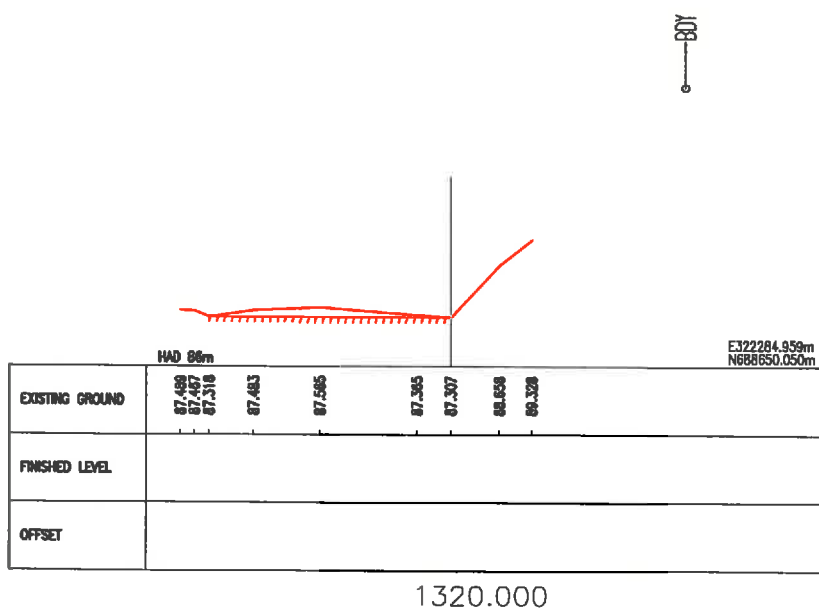
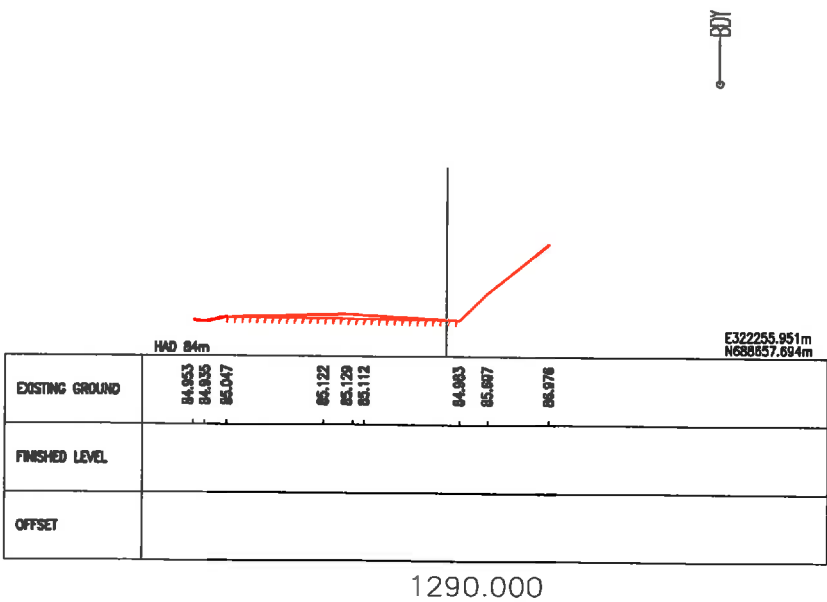
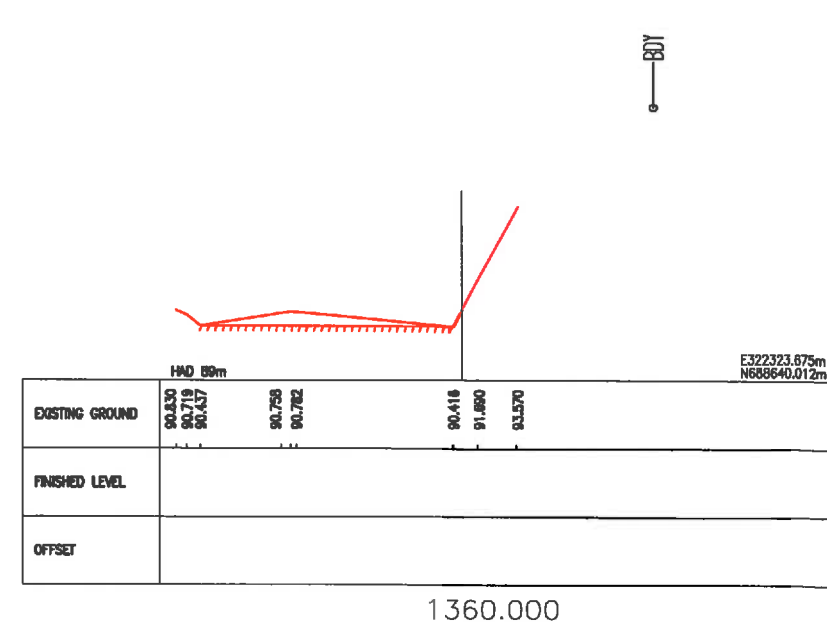
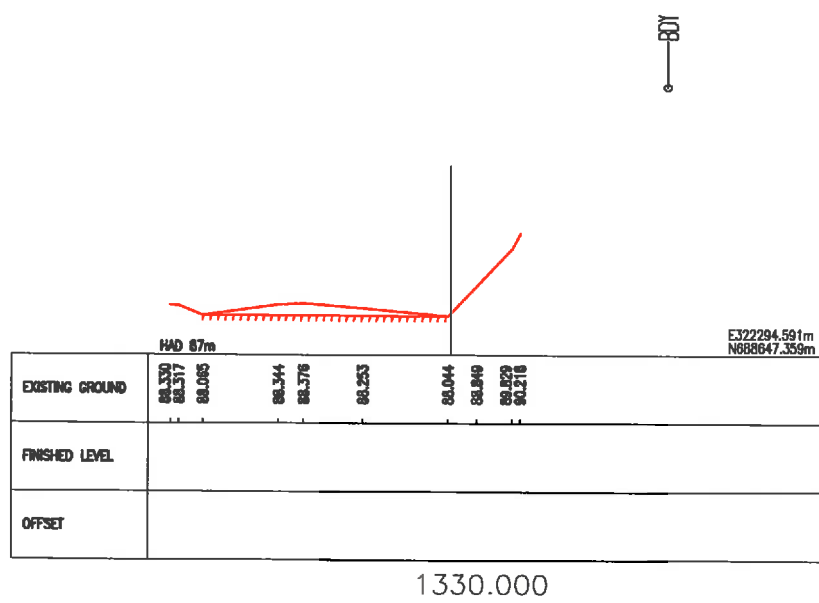
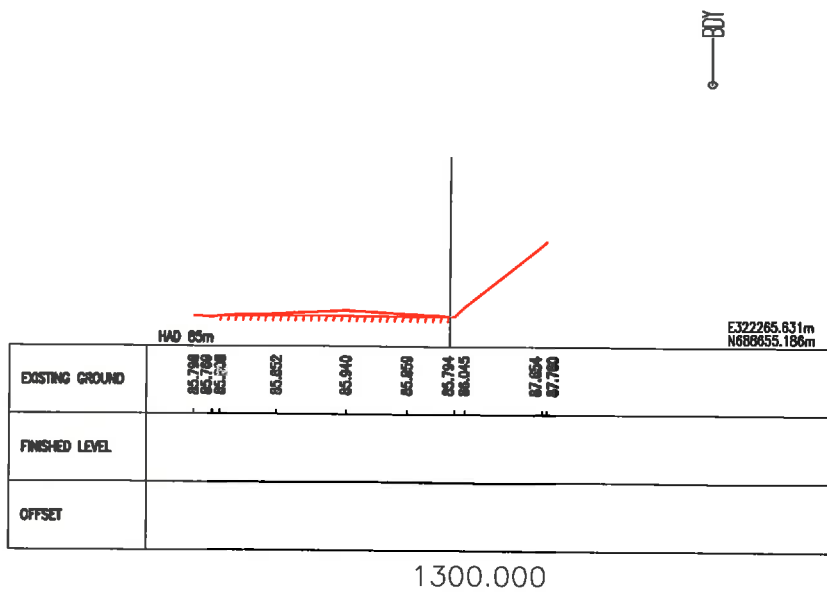
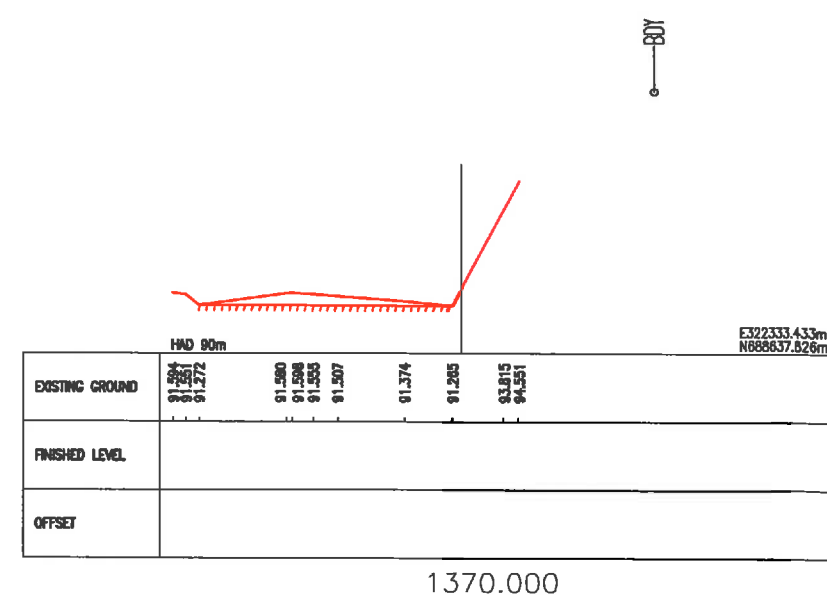
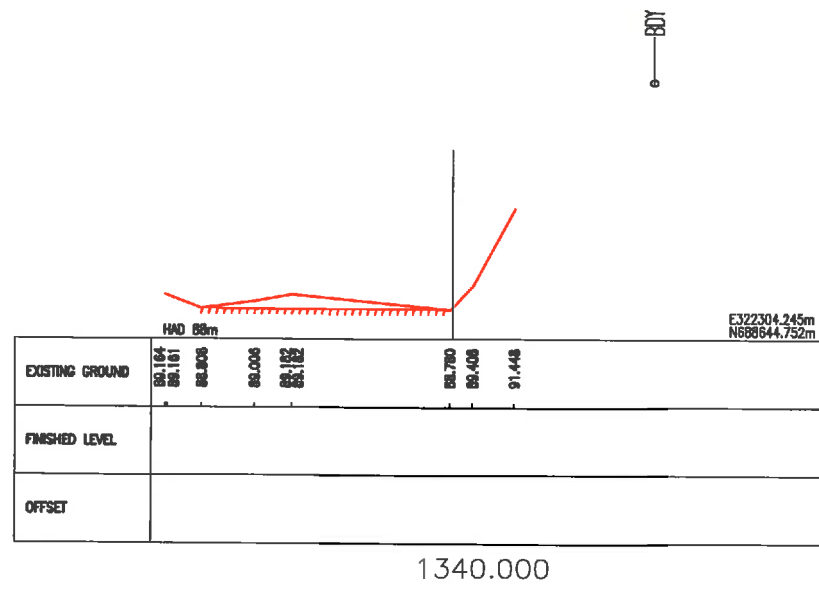
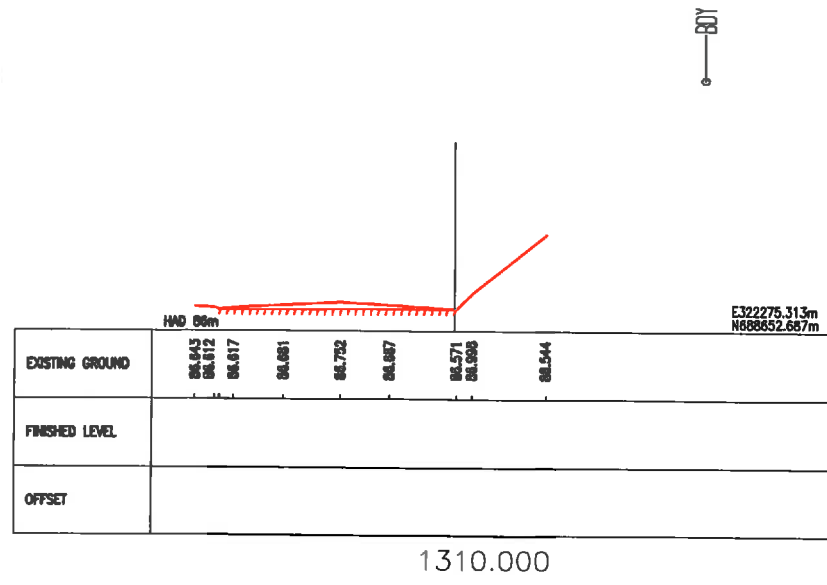
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 SHEET 6 OF 7

**SHEET NUMBER**

60484182-SHT-10-1-C-0116







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*D. Smith*

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**ISSUE/REVISION**

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IR	DATE	DESCRIPTION

**PROJECT NUMBER**  
60484182

**SHEET TITLE**  
CROSS SECTIONS  
SHEET 7 OF 7

**SHEET NUMBER**  
60484182-SHT-10-1-C-0117





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DESIGNER	CHECKED	APPROVED

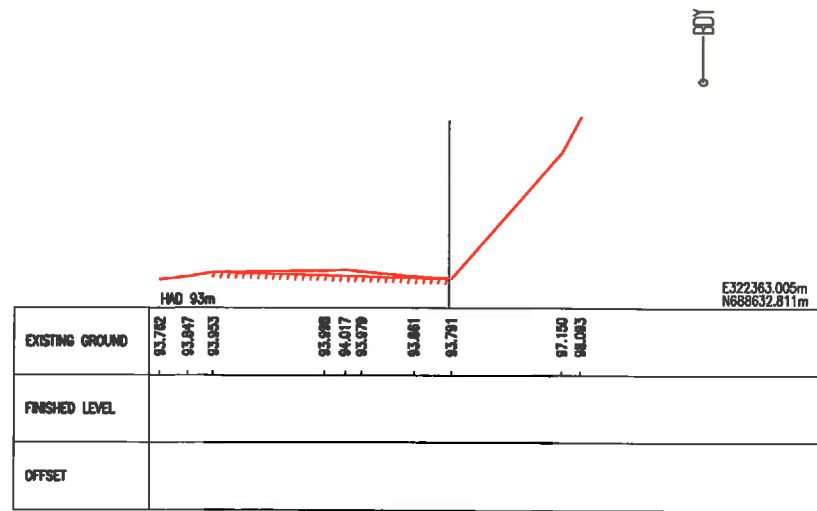
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A	12.02.16	DRAFT
IR	DATE	DESCRIPTION

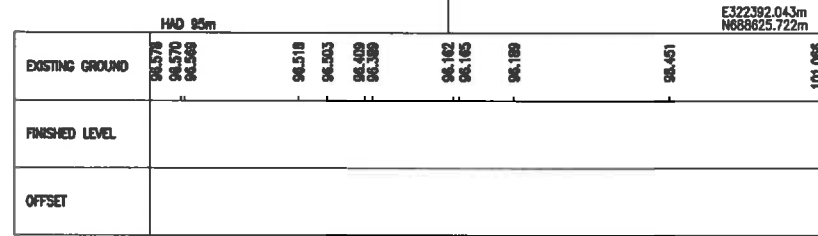
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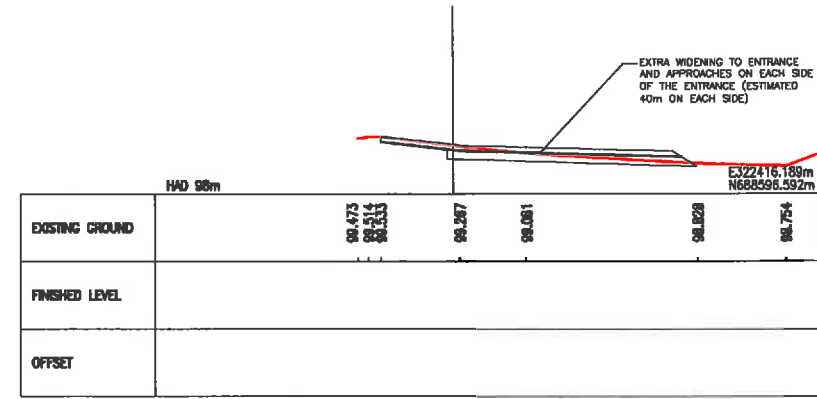
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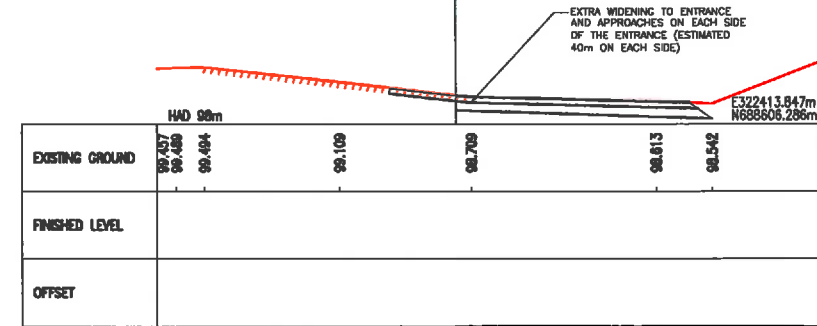
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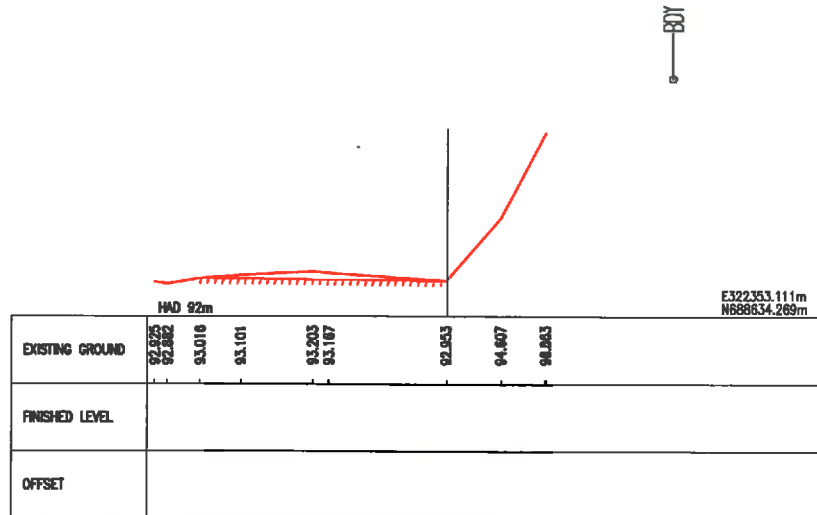
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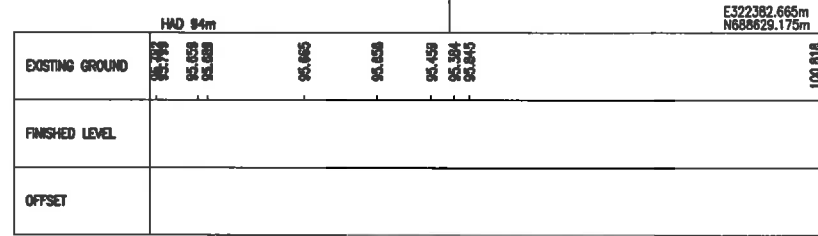
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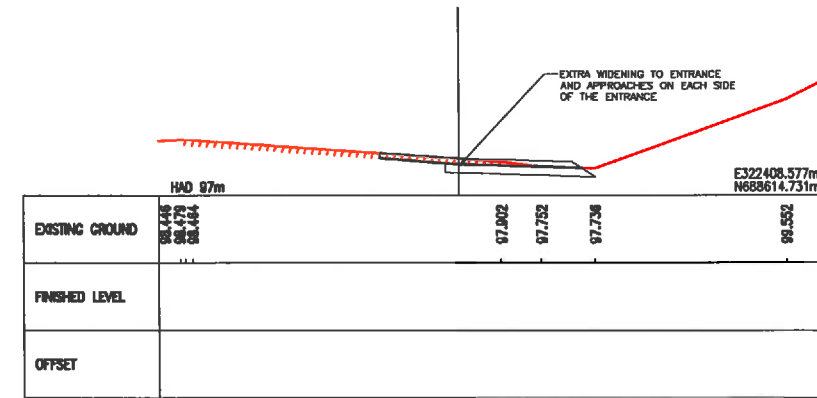
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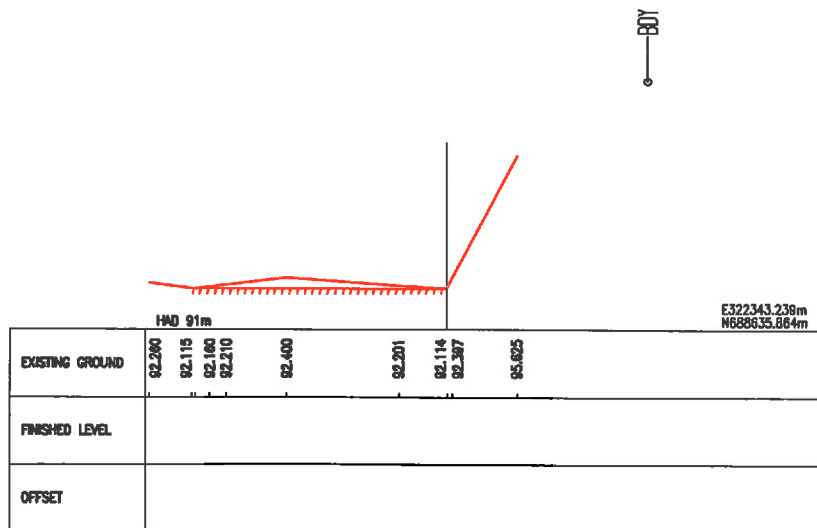
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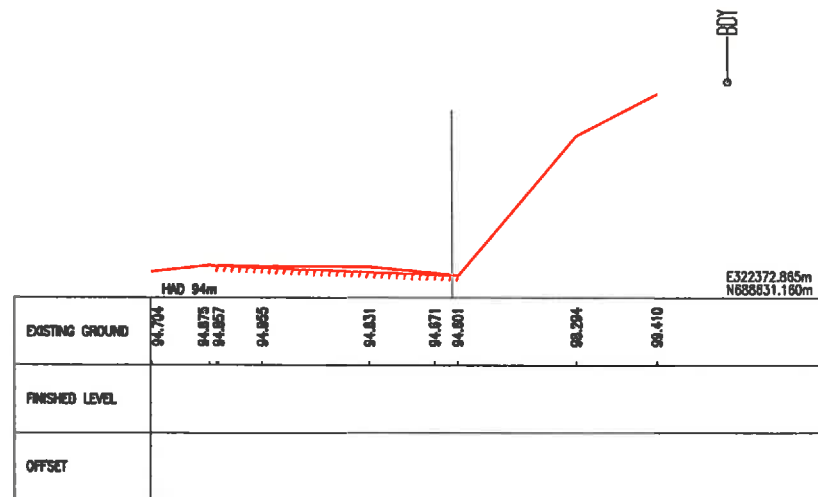
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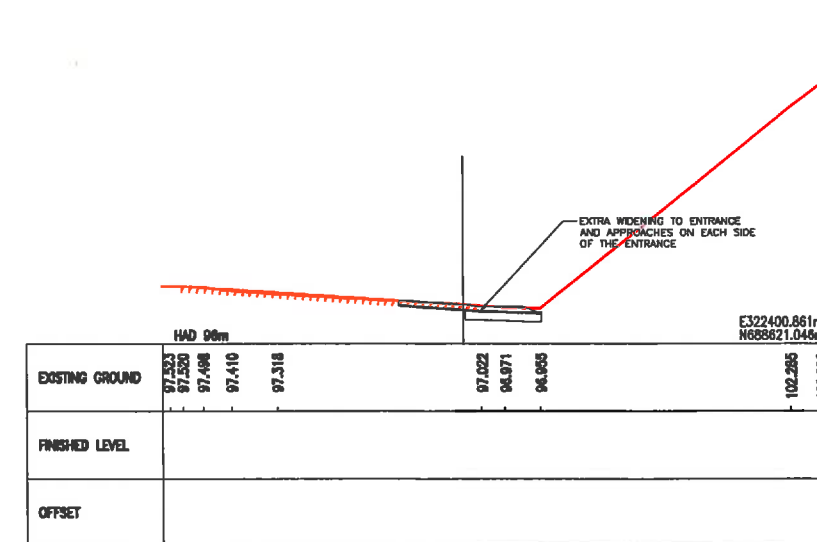
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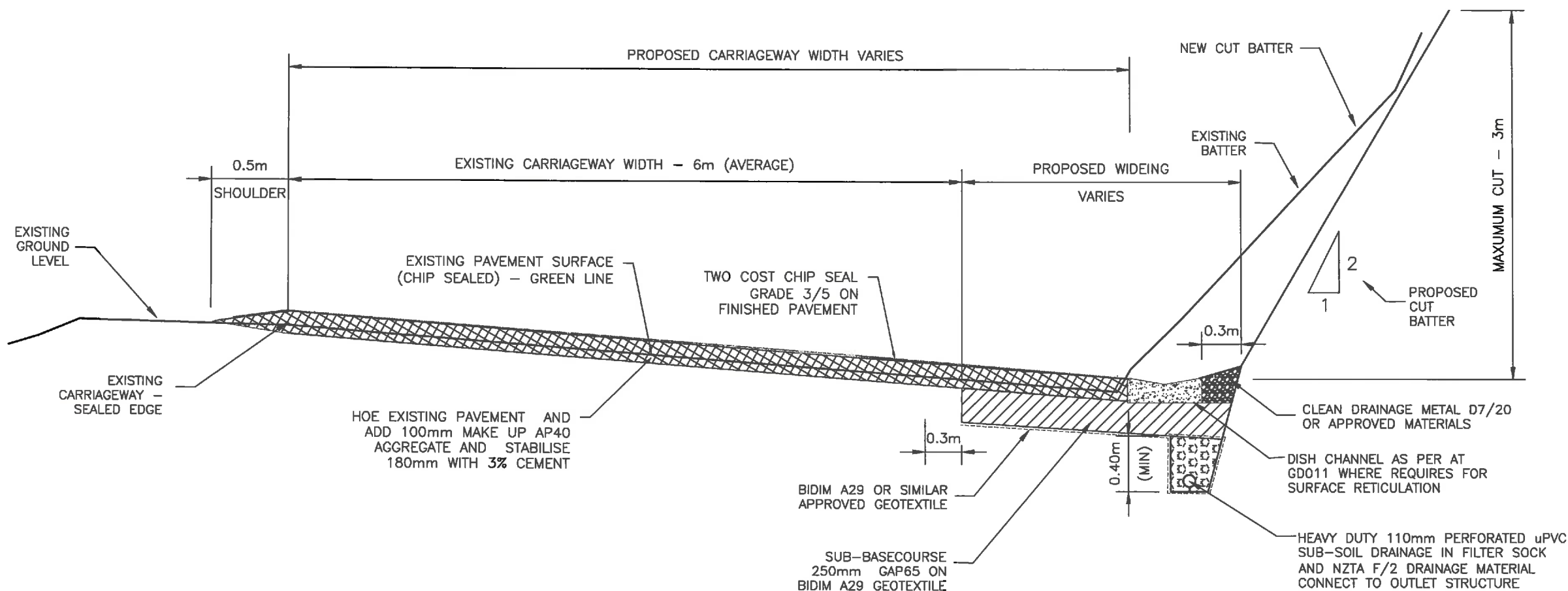


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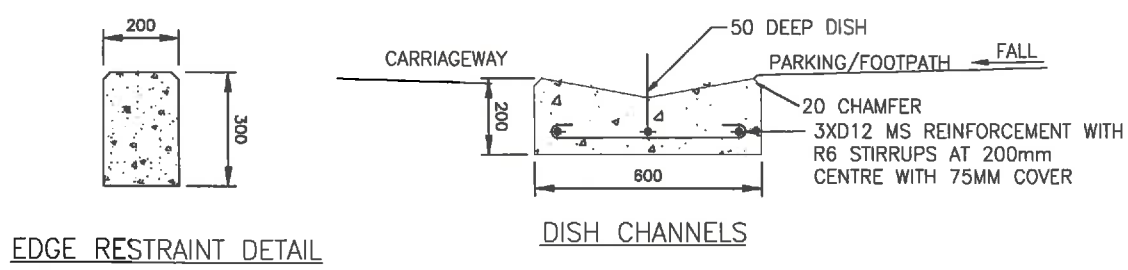


1440.000





- NOTE:**
1. ALL CUT BATTER SHOULD BE GRADED NO STEEPER THAN 2(V) ON 1(H) TO A MAXIMUM HEIGHT OF 3m AS PER GROUND CONSULTING LTD REPORT UNLESS APPROVED OTHERWISE BY A SUITABLY QUALIFIED ENGINEER.
  2. LARGE EXISTING TREES LOCATED AT THE TOP OF BATTERS SHOULD BE REMOVED AND REPLACED WITH SUITABLE VARIETIES. SOME MINOR WALL - GABION OR CRIB-WALL MAY BE REQUIRED AFTER REMOVAL OF THE TREES TO STABILISE THE DISTURBED SLOPE.
  3. ALL CUT BATTER WHEN FORMED SHOULD BE HYDRO-SEEDED
  4. CONCENTRATED SURFACE RUN-OFF SHOULD BE DIVERTED AWAY FROM THE CUT BATTERS.
  5. PROPOSED CARRAIEGWAY WIDEING IS AIMED ONLY INSIDE ADJACENT TO CUT BATTER AND WIDENING WIDTH WILL BE 0.5m (MINIMUM) AND 1.5m (MAXIMUM).
  6. WHERE NECESSARY SEAL EXTENSION / WIDENING WILL ALSO BE UNDERTAKEN OUTSIDE EDGE OF ROAD - SOULDER WIDEING USING SIMILAR PAVEMENT DESIGN CONFIGURATION.
  7. PAVEMENT CONFIGURATION CONSISTS OF GAP65 STABILISED SUBBASE COURSE AND AP40 BASECOURSE WITH ASPHALT CONCRETE SURFACING ON TWO COAT CHIP SEAL.
  8. THERE IS EXISTING TABLE DRAIN ALONG THE ROAD BUT BLOCKED AND FILLED WITH DEBRIS. A NEW SUBSOIL DRAINAGE WITH 600MM WIDE DISH CHANNEL - 50mm DEEP IS PROPOSED TO ACHIEVE BETTER DRAINAGE AND FULL PAVEMENT WIDTH.
  9. ALL AFFECTED POWER POLES ARE TO BE RELOCATED TO PROVIDE CLEARANCE FROM THE SEALED EDGE.
  10. TRAFFIC IMPROVEMENT SUCH AS INSTALLATION OF ADVANCE WARNING SIGN AND BARRIER WILL BE INSTALLED AS PER THE CONDITION OF THE CONSENT.



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A	12.02.16	DRAFT
I/R	DATE	DESCRIPTION

PROJECT NUMBER  
 60484182

SHEET TITLE  
 TYPICAL CARRIAGWAY WIDENING CROSS-SECTION

SHEET NUMBER  
 60484182-SHT-10-1-CI-0119



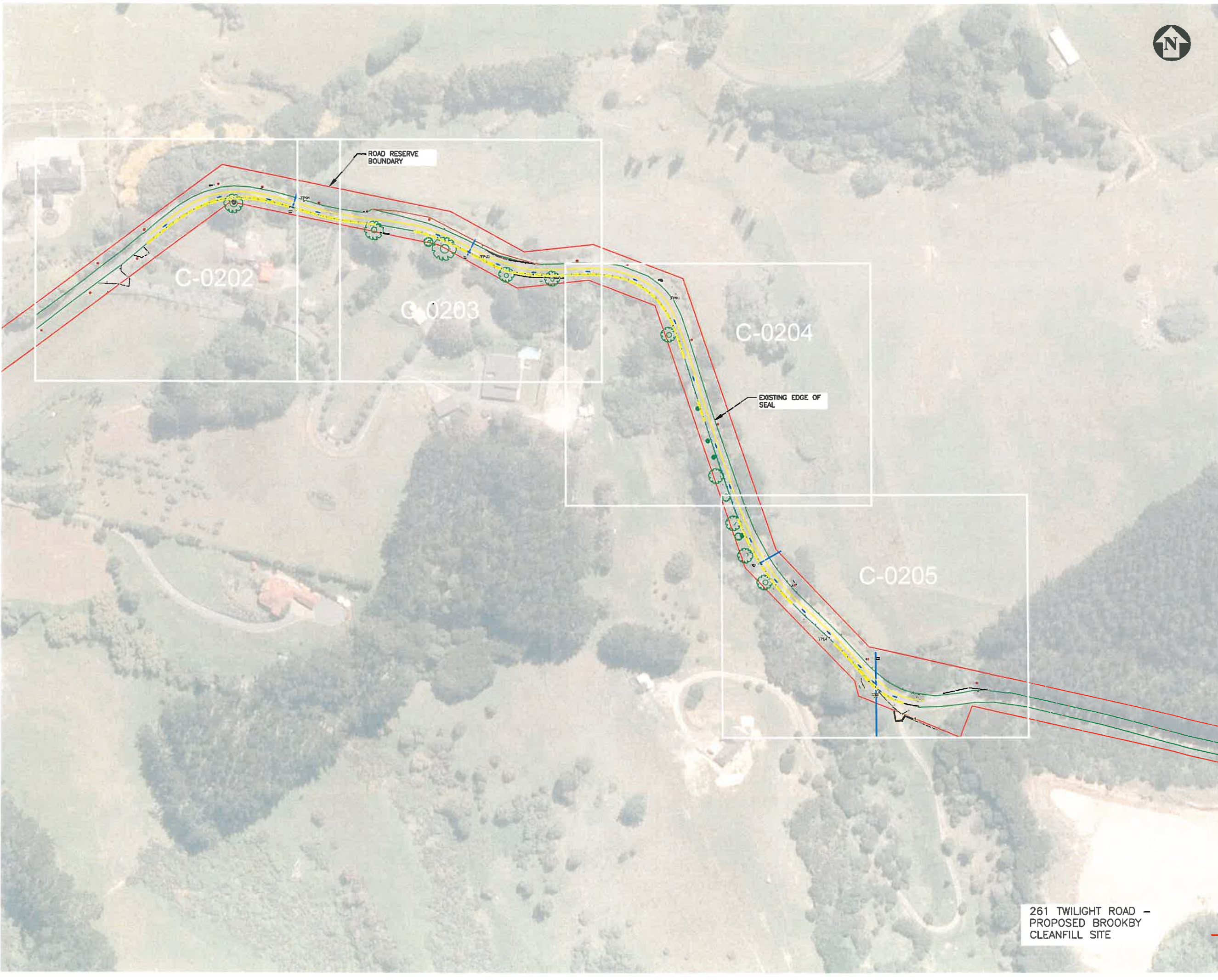


# AECOM

PROJECT  
**TWILIGHT ROAD  
WIDENING**



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A	12.02.16	DRAFT
IR	DATE	DESCRIPTION

**PROJECT NUMBER**

60484182

**SHEET TITLE**

OVERALL STORMWATER PLAN

**SHEET NUMBER**

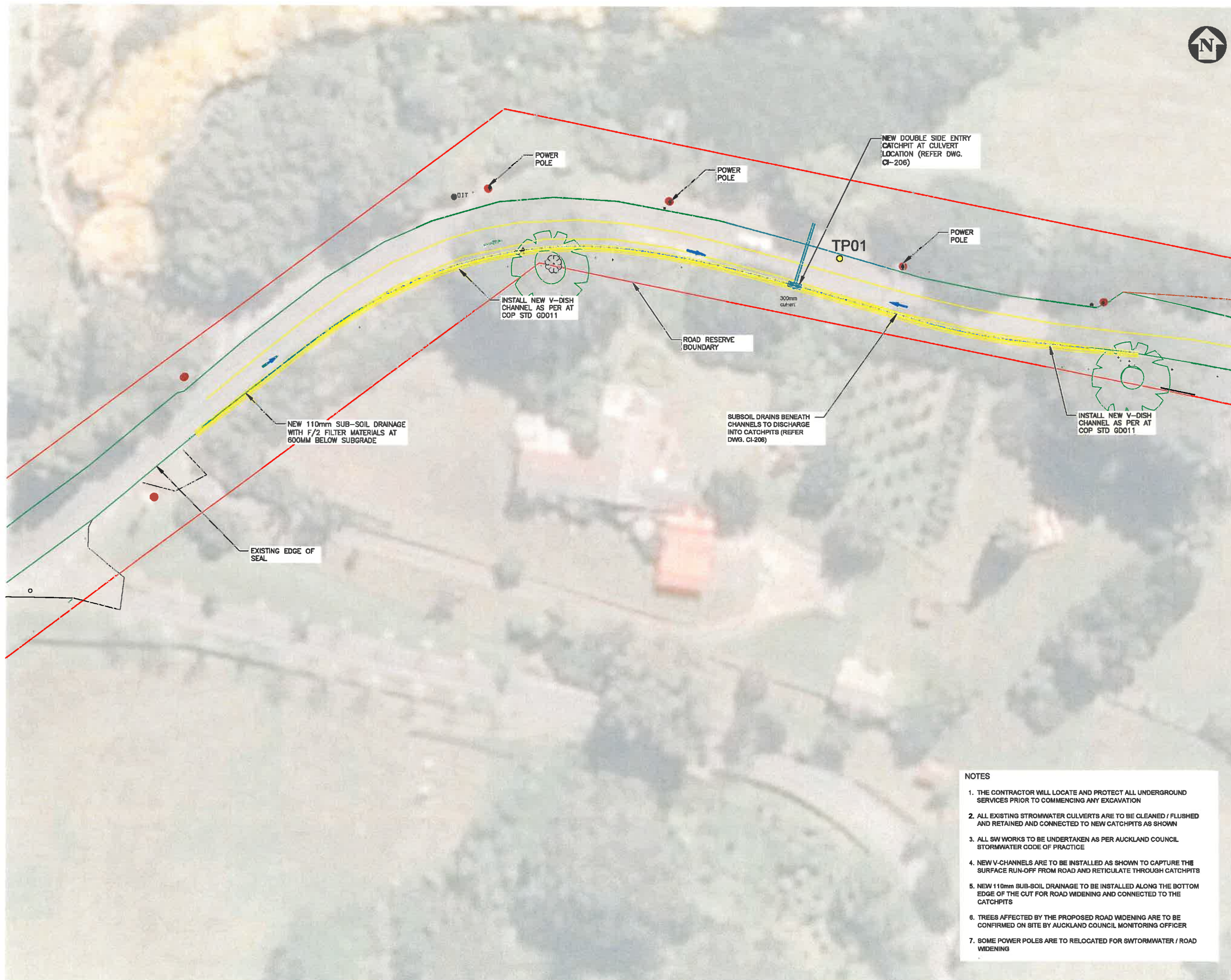
60484182-SHT-10-1-CI-0201

261 TWILIGHT ROAD -  
PROPOSED BROOKBY  
CLEANFILL SITE





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P50141  
1-2 SEP 2016/19/23  
APPROVAL  
Development Engineering (South)  
*D. K. White*



- NOTES**
1. THE CONTRACTOR WILL LOCATE AND PROTECT ALL UNDERGROUND SERVICES PRIOR TO COMMENCING ANY EXCAVATION
  2. ALL EXISTING STORMWATER CULVERTS ARE TO BE CLEANED / FLUSHED AND RETAINED AND CONNECTED TO NEW CATCHPITS AS SHOWN
  3. ALL SW WORKS TO BE UNDERTAKEN AS PER AUCKLAND COUNCIL STORMWATER CODE OF PRACTICE
  4. NEW V-CHANNELS ARE TO BE INSTALLED AS SHOWN TO CAPTURE THE SURFACE RUN-OFF FROM ROAD AND RETICULATE THROUGH CATCHPITS
  5. NEW 110mm SUB-SOIL DRAINAGE TO BE INSTALLED ALONG THE BOTTOM EDGE OF THE CUT FOR ROAD WIDENING AND CONNECTED TO THE CATCHPITS
  6. TREES AFFECTED BY THE PROPOSED ROAD WIDENING ARE TO BE CONFIRMED ON SITE BY AUCKLAND COUNCIL MONITORING OFFICER
  7. SOME POWER POLES ARE TO BE RELOCATED FOR SW/TORMWATER / ROAD WIDENING

**PROJECT QUALITY SYSTEMS** **AECOM**

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60484182

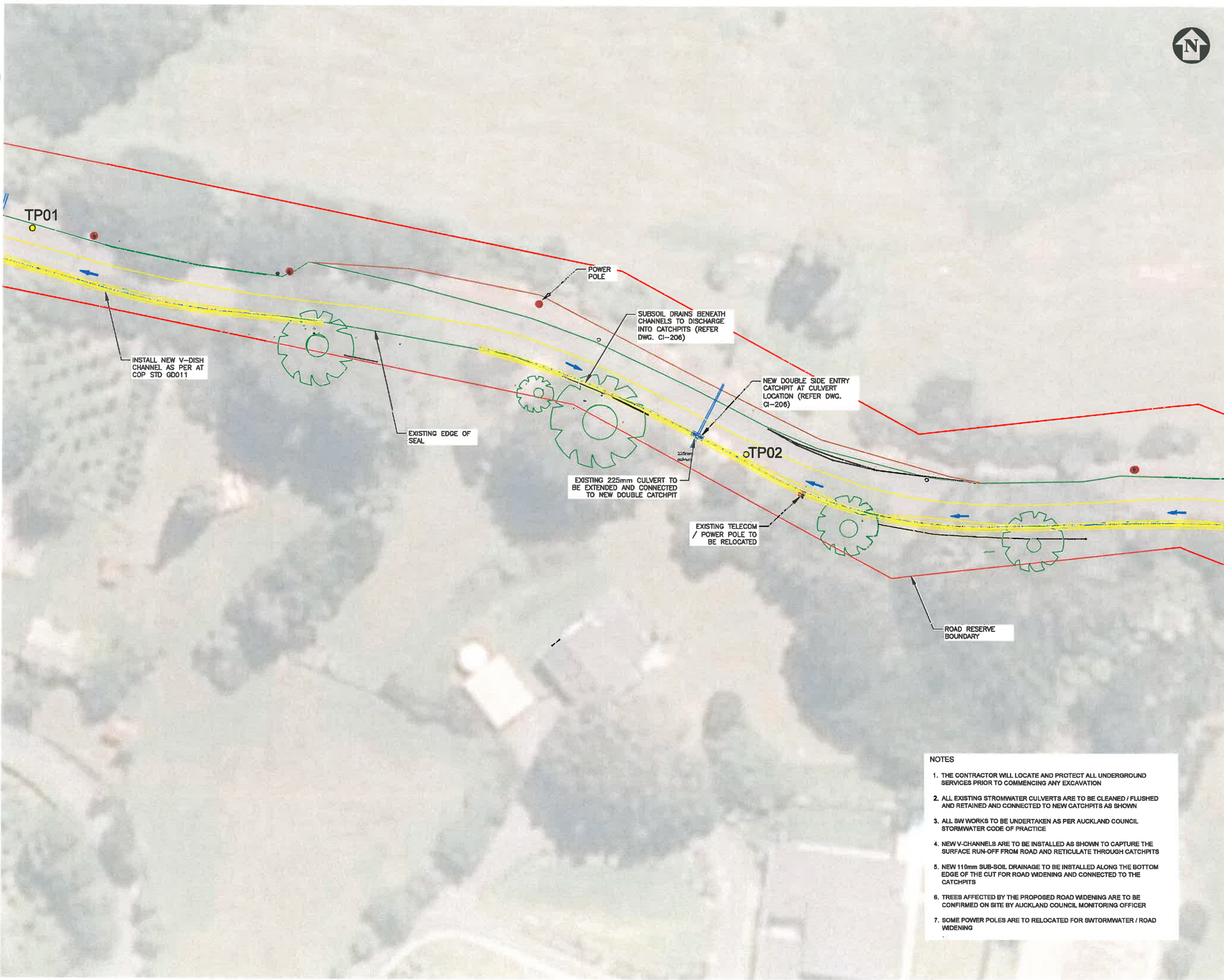
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PLAN  
SHEET 1 OF 5

**SHEET NUMBER**  
60484182-SHT-10-1-CI-0202





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 -2 SEP 2016<sup>20/12/3</sup>  
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  3. ALL SW WORKS TO BE UNDERTAKEN AS PER AUCKLAND COUNCIL STORMWATER CODE OF PRACTICE
  4. NEW V-CHANNELS ARE TO BE INSTALLED AS SHOWN TO CAPTURE THE SURFACE RUN-OFF FROM ROAD AND RETICULATE THROUGH CATCHPITS
  5. NEW 110mm SUB-SOIL DRAINAGE TO BE INSTALLED ALONG THE BOTTOM EDGE OF THE CUT FOR ROAD WIDENING AND CONNECTED TO THE CATCHPITS
  6. TREES AFFECTED BY THE PROPOSED ROAD WIDENING ARE TO BE CONFIRMED ON SITE BY AUCKLAND COUNCIL MONITORING OFFICER
  7. SOME POWER POLES ARE TO BE RELOCATED FOR SW/STORMWATER / ROAD WIDENING

**PROJECT NUMBER**  
60484182

**SHEET TITLE**  
PLAN  
SHEET 2 OF 5

**SHEET NUMBER**  
60484182-SHT-10-1-CI-0203





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Development Engineering (South)

*D. Mitchell*

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DATE / /

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Note: Examination of this drawing is not to be construed as approval or acceptance of the drawing contents and does not relieve the contractor of any of its obligations of the contract

**UNCONTROLLED**

**PROJECT MANAGEMENT INITIALS**

PH	IG	IG
DESIGNER	CHECKED	APPROVED

**ISSUE/REVISION**

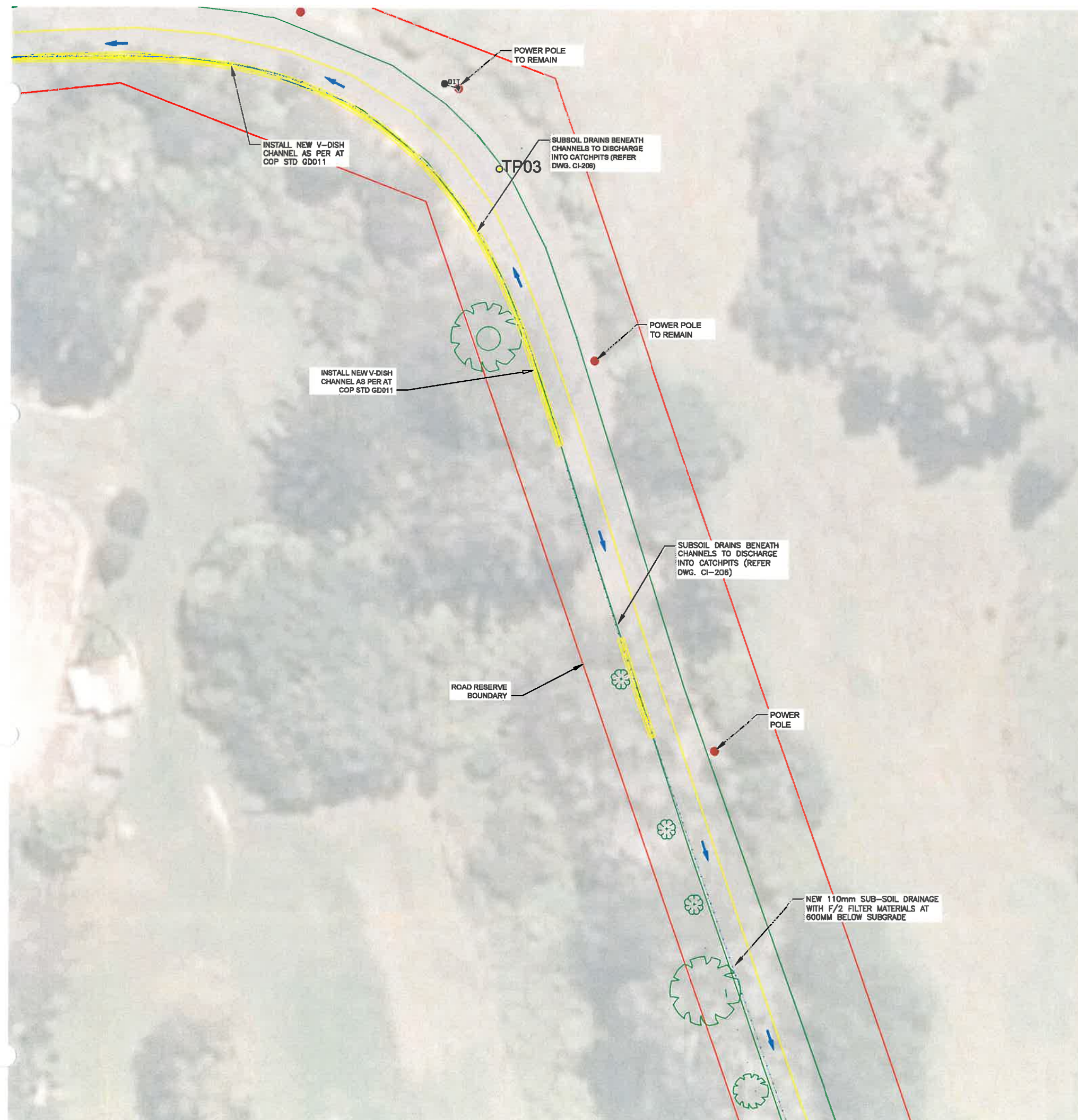
IR	DATE	DESCRIPTION
A	12.02.16	DRAFT

PROJECT NUMBER  
60484182

SHEET TITLE  
PLAN

SHEET 3 OF 5

SHEET NUMBER  
60484182-SHT-10-1-CI-0104



- NOTES**
1. THE CONTRACTOR WILL LOCATE AND PROTECT ALL UNDERGROUND SERVICES PRIOR TO COMMENCING ANY EXCAVATION
  2. ALL EXISTING STORMWATER CULVERTS ARE TO BE CLEANED / FLUSHED AND RETAINED AND CONNECTED TO NEW CATCHPITS AS SHOWN
  3. ALL SW WORKS TO BE UNDERTAKEN AS PER AUCKLAND COUNCIL STORMWATER CODE OF PRACTICE
  4. NEW V-CHANNELS ARE TO BE INSTALLED AS SHOWN TO CAPTURE THE SURFACE RUN-OFF FROM ROAD AND RETICULATE THROUGH CATCHPITS
  5. NEW 110mm SUB-SOIL DRAINAGE TO BE INSTALLED ALONG THE BOTTOM EDGE OF THE CUT FOR ROAD WIDENING AND CONNECTED TO THE CATCHPITS
  6. TREES AFFECTED BY THE PROPOSED ROAD WIDENING ARE TO BE CONFIRMED ON SITE BY AUCKLAND COUNCIL MONITORING OFFICER
  7. SOME POWER POLES ARE TO BE RELOCATED FOR SW/TORMWATER / ROAD WIDENING





*[Handwritten signature]*

**PROJECT QUALITY SYSTEMS** **AECOM**

PROCEED  PROCEED SUBJECT TO   
Notes and Comments marked on Drawing or attached

DO NOT PROCEED AMEND & RESUBMIT

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Note: Examination of this drawing is not to be construed as approval or acceptance of the drawing contents and does not relieve the contractor of any of its obligations of the contract.

**UNCONTROLLED**

**PROJECT MANAGEMENT INITIALS**

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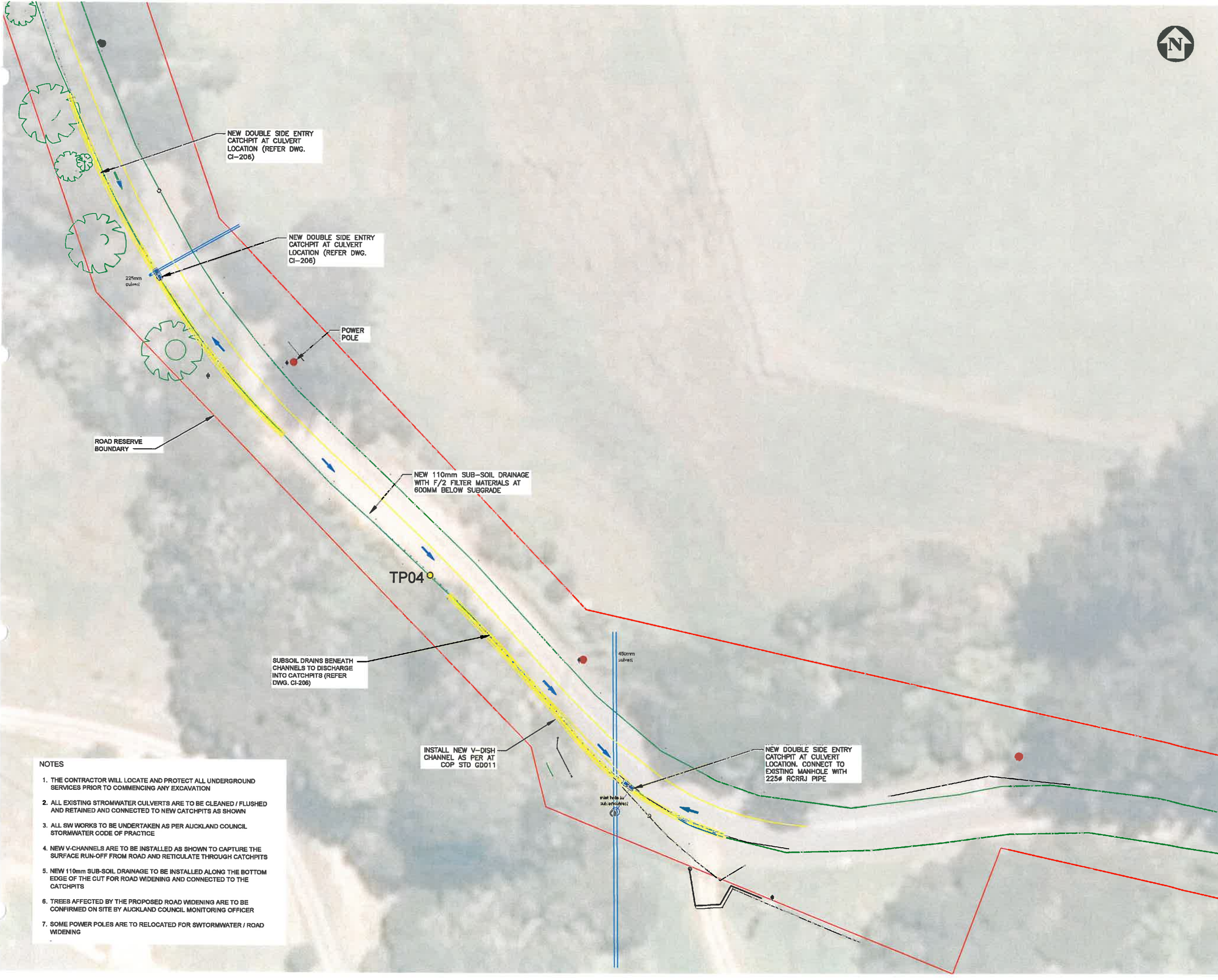
**ISSUE/REVISION**

NO	DATE	DESCRIPTION
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IR	DATE	DESCRIPTION

**PROJECT NUMBER**  
60484182

**SHEET TITLE**  
PLAN  
SHEET 4 OF 5

**SHEET NUMBER**  
60484182-SHT-10-1-CI-0205



- NOTES**
1. THE CONTRACTOR WILL LOCATE AND PROTECT ALL UNDERGROUND SERVICES PRIOR TO COMMENCING ANY EXCAVATION
  2. ALL EXISTING STORMWATER CULVERTS ARE TO BE CLEANED / FLUSHED AND RETAINED AND CONNECTED TO NEW CATCHPITS AS SHOWN
  3. ALL SW WORKS TO BE UNDERTAKEN AS PER AUCKLAND COUNCIL STORMWATER CODE OF PRACTICE
  4. NEW V-CHANNELS ARE TO BE INSTALLED AS SHOWN TO CAPTURE THE SURFACE RUN-OFF FROM ROAD AND RETICULATE THROUGH CATCHPITS
  5. NEW 110mm SUB-SOIL DRAINAGE TO BE INSTALLED ALONG THE BOTTOM EDGE OF THE CUT FOR ROAD WIDENING AND CONNECTED TO THE CATCHPITS
  6. TREES AFFECTED BY THE PROPOSED ROAD WIDENING ARE TO BE CONFIRMED ON SITE BY AUCKLAND COUNCIL MONITORING OFFICER
  7. SOME POWER POLES ARE TO BE RELOCATED FOR SWTORMWATER / ROAD WIDENING





**PROJECT QUALITY SYSTEMS** **AECOM**

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**DATE / /**

PER: \_\_\_\_\_  
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**UNCONTROLLED**

**PROJECT MANAGEMENT INITIALS**

PH	IG	IG
DESIGNER	CHECKED	APPROVED

**ISSUE/REVISION**

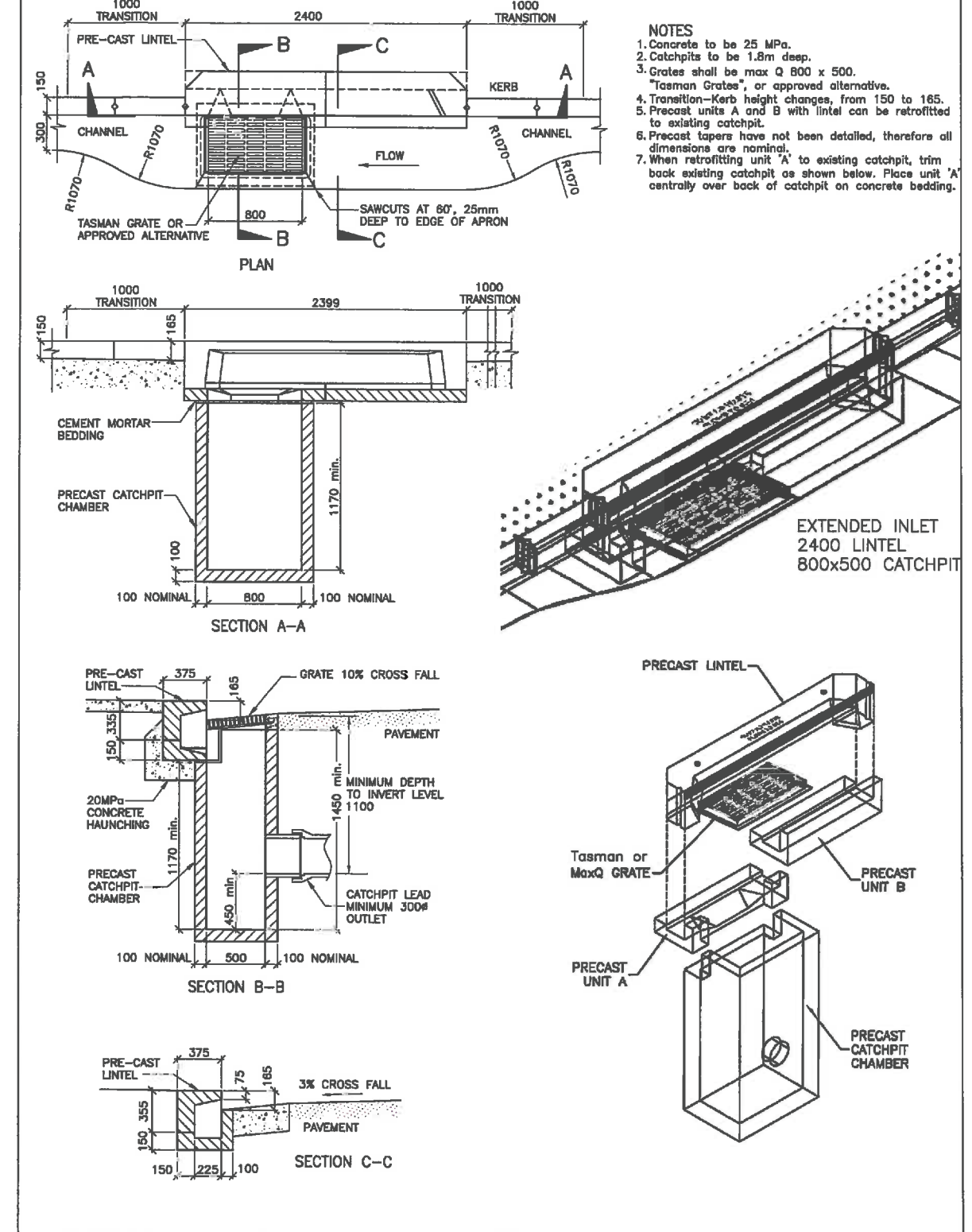
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UR	DATE	DESCRIPTION

PROJECT NUMBER  
60484182

SHEET TITLE  
CATCHPIT TYPICAL DETAIL

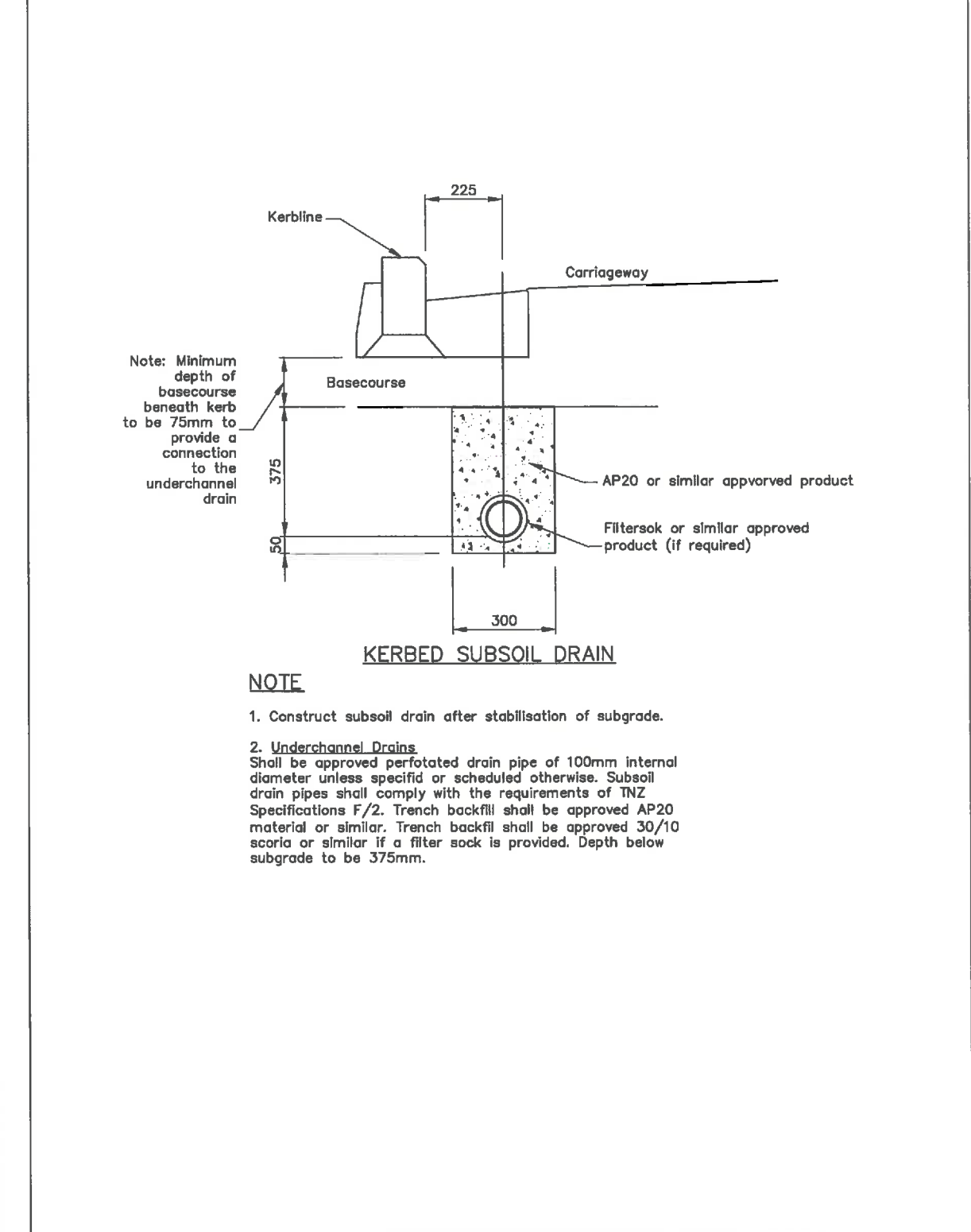
SHEET NUMBER  
60484182-SHT-10-1-CI-0206

### Drawing set for Chapter 17 - Road Drainage



- NOTES**
- Concrete to be 25 MPa.
  - Catchpits to be 1.8m deep.
  - Grates shall be max Q 800 x 500. "Tasman Grates", or approved alternative.
  - Transition-Kerb height changes, from 150 to 165.
  - Precast units A and B with lintel can be retrofitted to existing catchpit.
  - Precast tapers have not been detailed, therefore all dimensions are nominal.
  - When retrofitting unit 'A' to existing catchpit, trim back existing catchpit as shown below. Place unit 'A' centrally over back of catchpit on concrete bedding.

### Drawing set for Chapter 17 - Road Drainage



REVISION	BY	DATE	AUCKLAND TRANSPORT CODE OF PRACTICE	SCALE: N.T.S.
			TITLE: STREET CATCHPIT 800 x 500 No Half Syphon	DRAWING No. RD038
				VERSION

REVISION	BY	DATE	AUCKLAND TRANSPORT CODE OF PRACTICE	SCALE: N.T.S.
			TITLE: SUBSOIL DRAIN	DRAWING No. RD025
				VERSION