

DELEGATED REPORT**TO:** COORDINATOR PLANNING & BUILDING**FROM:** Supervisor Planning & Building**FILE:** OPW/25/0006**DATE:** 24 November 2025**APPLICATION DETAILS**

APPLICATION		PREMISES	
FILE NO:	OPW/25/0006	ADDRESS:	Country Road, Mareeba
APPLICANT:	Conmat No. 2 Pty Ltd	RPD:	Lot 200 on SP342245
LODGED BY:	ERSCON Consulting Engineers	AREA:	27.28 hectares
DATE LODGED:	29 August 2025	OWNER:	Conmat No. 2 Pty Ltd
TYPE OF APPROVAL:	Development Permit		
PROPOSED DEVELOPMENT:	Operational Works (Culvert Construction, Roadworks and Service Extensions)		
PLANNING SCHEME:	Mareeba Shire Council Planning Scheme 2016		
ZONE:	Rural residential zone		
LEVEL OF ASSESSMENT:	Code Assessment		

PREVIOUS APPLICATIONS & APPROVALS

N/A

DESCRIPTION OF PROPOSED DEVELOPMENT

- Operational Works (Culvert Construction, Roadworks and Service Extensions)

ASSESSMENT**State Planning Policy**

Separate assessment against the State Planning Policy (SPP) is not required because the Mareeba Shire Council Planning Scheme appropriately integrates all relevant aspects of the SPP.

Relevant Development Codes

The following Development Codes are considered to be applicable to the assessment of the application:

- 6.2.10 Rural residential zone code
- 9.4.4 Reconfiguring a lot code

9.4.5 Works, services and infrastructure code

The application did not include a planning report and assessment against the planning scheme. An officer assessment has found that the application satisfies the relevant acceptable solutions (or probable solutions/performance criteria where no acceptable solution applies) of the relevant codes set out below.

Relevant Codes	Comments
Rural residential zone code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.
Reconfiguring a lot code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.
Works, services and infrastructure code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.

Compliance with conditions of earlier related approval

N/A

FNQROC Regional Development Manual Checklist

Section	Assessment
DP1 - Development Principles	Complies
AP1 - Application Procedures	Complies
D1 - Road Geometry	Complies
D2 - Site Regrading	Complies
D3 - Road Pavements	Complies
D4 - Stormwater Drainage	Complies
D5 - Stormwater Quality Management	Complies
D6 - Water Reticulation	N/A
D7 - Sewerage System	N/A
D8 - Utilities	Complies
D9 - Landscaping	N/A

REFERRALS

Nil

Internal/External Consultation

Technical Services / Trinity Engineering

OFFICER'S RECOMMENDATION

1. That in relation to this operational works development application:

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and in accordance with the Planning Act 2016, the applicant be notified that the application for a development permit for the development specified in (A) is:

Approved by Council in accordance with the approved plans/documents listed in (B), subject to assessment manager conditions in (C), assessment manager's advice in (D), relevant period in (E), further permits in (F), and further approvals required from Council listed in (G);

And

The assessment manager does not consider that the assessment manager's decision conflicts with a relevant instrument.

(A) APPROVED DEVELOPMENT: Development Permit for Operational Works (Culvert Construction, Roadworks and Service Extensions)

(B) APPROVED PLANS:

Plan/Document Number	Plan/Document Title	Prepared by	Dated
Civil Drawings List			
160-012-C101 Rev A	COVER SHEET, LOCALITY PLAN AND DRAWINGS LIST	ERSCON	-
160-012-C102 Rev A	CGENERAL NOTES	ERSCON	30/10/2025
160-012-C103 Rev A	CULVERT PLAN	ERSCON	29/10/2025
160-012-C104 Rev A	COUNTRY ROAD LONGITUDINAL SECTION	ERSCON	28/10/2025
160-012-C105 Rev A	COUNTRY ROAD CROSS SECTIONS (SHEET 1 OF 3)	ERSCON	30/10/2025
160-012-C106 Rev A	COUNTRY ROAD CROSS SECTIONS (SHEET 2 OF 3)	ERSCON	30/10/2025
160-012-C107 Rev A	COUNTRY ROAD CROSS SECTIONS (SHEET 3 OF 3)	ERSCON	30/10/2025
160-012-C108 Rev A	TYPICAL ROAD CROSS SECTION AND DETAILS	ERSCON	30/10/2025
160-012-C109 Rev A	EROSION AND SEDIMENT CONTROL PLAN	ERSCON	30/10/2025
160-012-C110 Rev A	EROSION AND SEDIMENT CONTROL NOTES	ERSCON	30/10/2025

Structural Drawings List			
160-012-S101 Rev 3	WORKPLACE HEALTH AND SAFETY NOTES	ERSCON	21/08/2025
160-012-S102 Rev 3	STRUCTURAL ENGINEERING NOTES SHEET 1 OF 2	ERSCON	21/08/2025
160-012-S103 Rev 3	STRUCTURAL ENGINEERING NOTES SHEET 2 OF 2	ERSCON	21/08/2025
160-012-S110 Rev 4	CULVERT SITE PLAN	ERSCON	3/11/2025
160-012-S111 Rev 3	TYPICAL CULVERT SECTION A	ERSCON	21/08/2025
160-012-S112 Rev 3	CULVERT DETAILS SHEET 1 OF 2	ERSCON	21/08/2025
160-012-S113 Rev 3	CULVERTY DETAILS SHEET 2 OF 2	ERSCON	21/08/2025
160-012-S120 Rev 3	CULVERT PRECAST DECK PANELS P1-P6 & P9-P11	ERSCON	21/08/2025
160-012-S121 Rev 2	CULVERT PRECAST DECK PANEL P7	ERSCON	21/08/2025
160-012-S122 Rev 2	CULVERT PRECAST DECK PANEL P8	ERSCON	21/08/2025
160-012-S123 Rev 3	CULVERT PRECAST HEAD WALL W4	ERSCON	21/08/2025
160-012-S130 Rev 2	STORMWATER PIT	ERSCON	21/08/2025

(C) ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)

1. General

- 1.1 Development must be carried out substantially in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations:
 - found necessary by the Council's Delegated Officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements;
 - to ensure the works comply in all respects with the requirements and procedures of the FNQROC Development Manual, Queensland Urban Drainage Manual and good engineering practice; and
 - to ensure compliance with the following conditions of approval.
- 1.2 All operational works must be designed and constructed in accordance with the design guidelines and procedures as set out in the FNQROC Development Manual, prior to works acceptance.
- 1.2 'For Construction' Engineering Drawings, inclusive of any amendments required by Conditions of this Permit, must be certified as approved by a suitably qualified RPEQ Engineer and a copy submitted to Council, prior to the pre-start meeting.
- 1.6 Where any part of Council's existing infrastructure or land is damaged as a result of construction activities occurring on the land, including but not limited to; mobilisation of heavy construction equipment, stripping, grubbing and vegetation damage, notify Council immediately of the affected infrastructure or land and have it repaired, replaced or reinstated at no cost to Council, prior to Works Acceptance.
- 1.7 Runoff Generally

All reasonable and practicable measures must be taken to prevent pollution entering existing creeks, waterways or drainage lines, as a result of silt run-off, oil and grease spills from any machinery. Wastewater as a result of cleaning equipment must not be discharged directly or in-directly to any watercourses, stormwater systems or private properties (in accordance with the requirements of the Environmental Protection Act (1994), the FNQROC Development Manual and Best Practice Erosion & Sediment Control – IECA Australasia).

1.8 Earthworks Construction

All earthworks must be constructed in accordance with AS 3798: Guidelines on earthworks for commercial and residential developments. At the completion of works, RPEQ Certification of the works and test results are required to be provided to Council, prior to Works Acceptance.

1.9 Stormwater Drainage

Stormwater drainage as shown on the Approved Plan(s), must be constructed in accordance with the relevant design and specifications sections of the FNQROC Development Manual and the Queensland Urban Drainage Manual, prior to Works Acceptance.

All stormwater from the land must be directed to a lawful point of discharge as per the Approved Plan(s) such that it does not adversely affect surrounding properties or properties downstream from the development, in accordance with the Queensland Urban Drainage Manual.

- 1.10 Council's examination of the documents should not be taken to mean that the documents have been checked in detail and Council takes no responsibility for their accuracy. If during construction, inadequacies of the design are discovered, it is the responsibility of the Principal Consulting Engineer to resubmit amended plans to Council for approval and rectify works accordingly.

2. Pre-start Meeting

- 2.1 In addition to the requirements of Clause CP1.07 and CP1.08 of the FNQROC Development Manual; after documentation has been approved by Council, a pre-start meeting is to be held on site prior to the commencement of work. Part 1 of the **attached** pre-start meeting pro-forma is to be completed and returned prior to the meeting including clause 1.u 'Request for Meeting' together with the prescribed Construction Monitoring Fee as set out in Council's Schedule of Fees.

3. Inspections

- 3.1 Inspections are to be carried out as detailed in the FNQROC Manual unless advised otherwise at the pre-start meeting.

4. Construction Security Bond and Defects Liability Bond

- 4.1 In addition to Clauses CP1.06 and CP1.20 of the FNQROC Development Manual; the Construction Security Bond and Defects Liability Bond shall each be a minimum of \$1000 and Bank Guarantees shall have no termination date.

- 4.2 During the Defects Liability period, it is the responsibility of the developer to rectify any works found to be defective due to design faults and or found to exhibit faults attributed to the performance of the construction activities in terms of quality and conformance with design and specifications. The bond will be returned on satisfactory correction of any defective work and after expiration of the maintenance period. Failure to comply with a Council issued instruction to correct defective work may result in the call up of the bond to have the work completed.

5. Hours of Work

- 5.1 Work involving the operation of construction plant and equipment of any description, shall only be carried out on site during the following times:
- 7.00am to 6.00pm, Monday to Friday;
 - 7.00am to 1.00pm Saturdays;
 - No work is permitted on Sundays or Public Holidays.
- 5.2 No variation to the above working hours is allowed unless otherwise agreed in writing by Council.

6. Transportation of Soil

- 6.1 All soil transported to or from the site must be covered to prevent dust or spillage during transport. If soil is tracked or spilt onto the road pavement from works on the subject land, it must be removed no later than at the end of each working day. Sediment must not enter Council's stormwater drainage network.

(D) RELEVANT PERIOD

When approval lapses if development not started (s.85)

- Two (2) years (starting the day the approval takes effect).

(E) OTHER NECESSARY DEVELOPMENT PERMITS AND/OR COMPLIANCE PERMITS

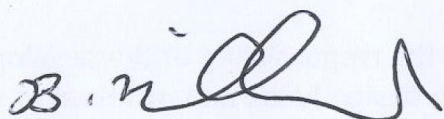
- Nil

DECISION BY DELEGATE

DECISION

Having considered the Officers report detailed above, I approve, as delegate of Council, the application subject to the conditions listed in the report.

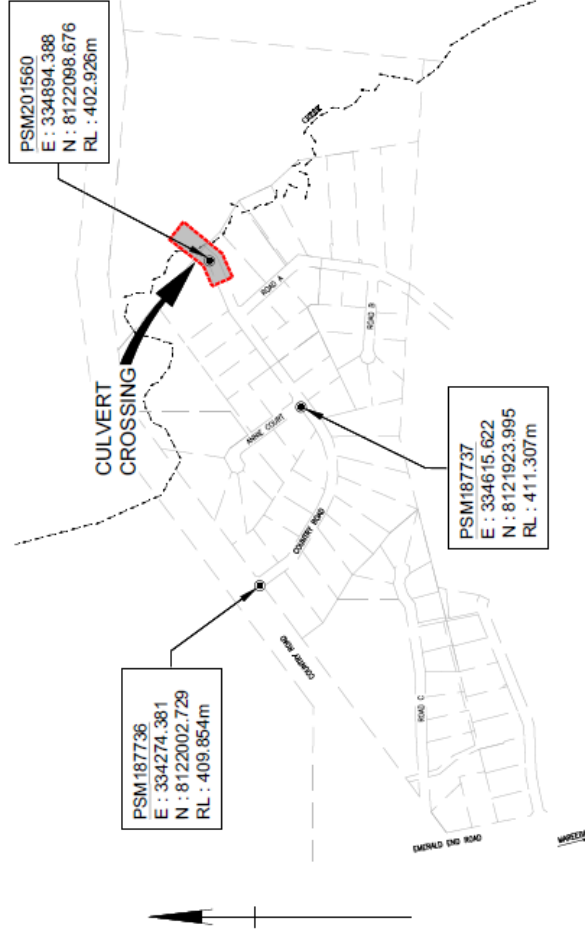
Dated the *24TH* day of *November* 2025

A handwritten signature in black ink, appearing to read 'B. Millard', with a stylized flourish at the end.

BRIAN MILLARD
COORDINATOR PLANNING & BUILDING

MAREEBA SHIRE
AS DELEGATE OF THE COUNCIL

CONMAT PTY. LTD. COUNTRY ROAD ESTATE COUNTRY ROAD CULVERT CROSSING



CIVIL DRAWINGS LIST

160-012-C101	COVER SHEET, LOCALITY PLAN AND DRAWINGS LIST
160-012-C102	GENERAL NOTES
160-012-C103	CULVERT PLAN
160-012-C104	COUNTRY ROAD LONGITUDINAL SECTION
160-012-C105	COUNTRY ROAD CROSS SECTIONS (SHEET 1 OF 3)
160-012-C106	COUNTRY ROAD CROSS SECTIONS (SHEET 2 OF 3)
160-012-C107	COUNTRY ROAD CROSS SECTIONS (SHEET 3 OF 3)
160-012-C108	TYPICAL ROAD CROSS SECTION AND DETAILS
160-012-C109	EROSION AND SEDIMENT CONTROL PLAN
160-012-C110	EROSION AND SEDIMENT CONTROL NOTES

STRUCTURAL DRAWINGS LIST

160-012-S101	WORKPLACE HEALTH AND SAFETY NOTES
160-012-S102	STRUCTURAL ENGINEERING NOTES SHEET 1 OF 2
160-012-S103	STRUCTURAL ENGINEERING NOTES SHEET 2 OF 2
160-012-S110	CULVERT SITE PLAN
160-012-S111	TYPICAL CULVERT SECTION A
160-012-S112	CULVERT DETAILS SHEET 1 OF 2
160-012-S113	CULVERT DETAILS SHEET 2 OF 2
160-012-S120	CULVERT PRECAST DECK PANELS P1-P6 & P9-P11
160-012-S121	CULVERT PRECAST DECK PANEL P7
160-012-S122	CULVERT PRECAST DECK PANEL P8
160-012-S123	CULVERT PRECAST HEAD WALL W4
160-012-S130	STORMWATER PIT

Client:

Prepared by:

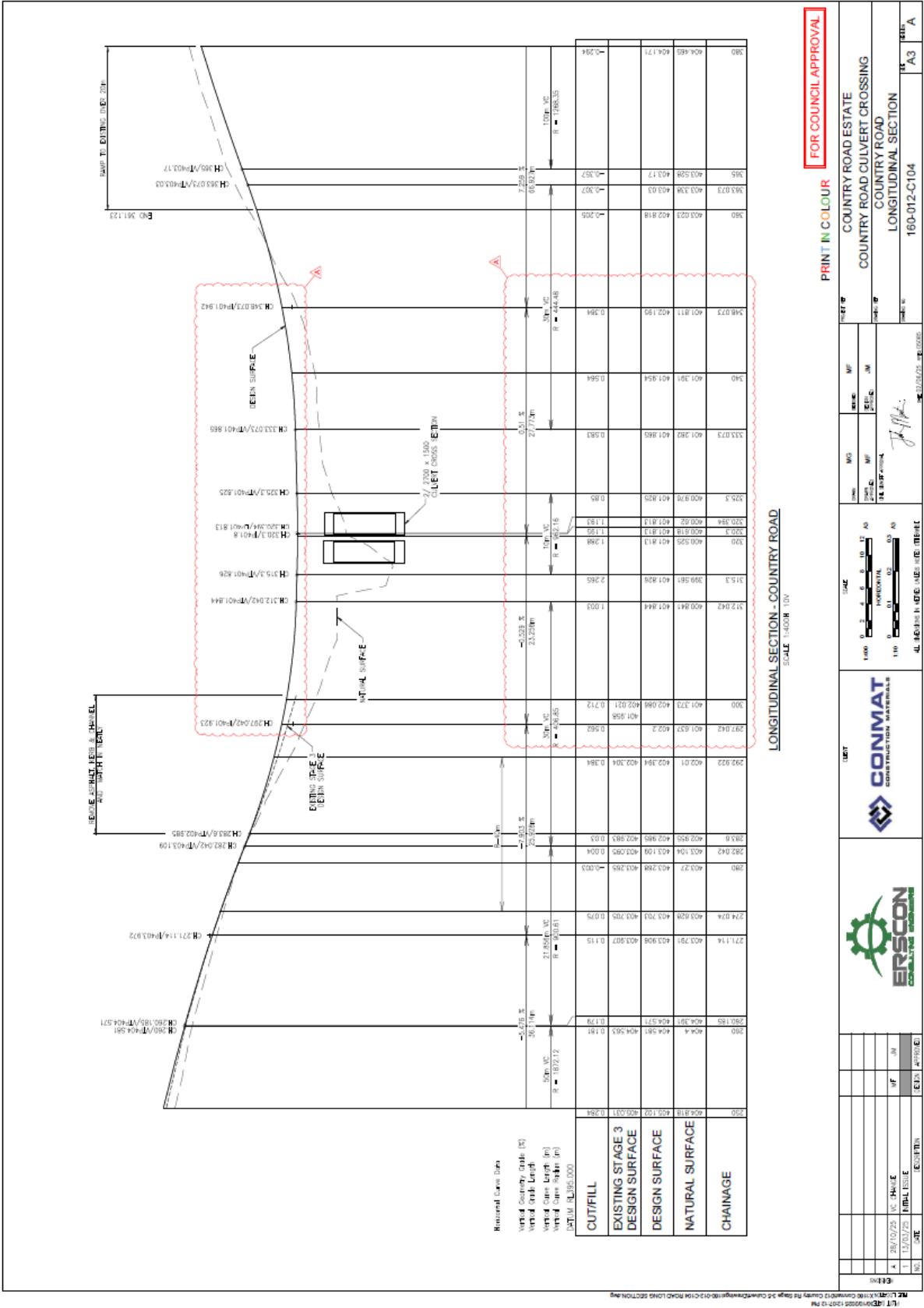


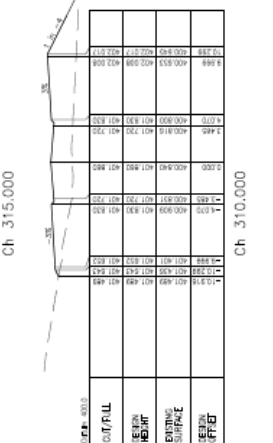
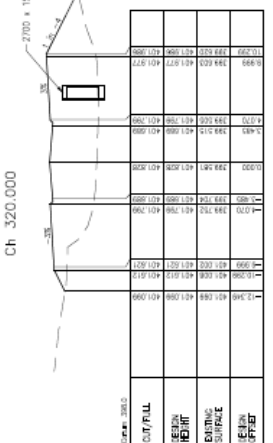
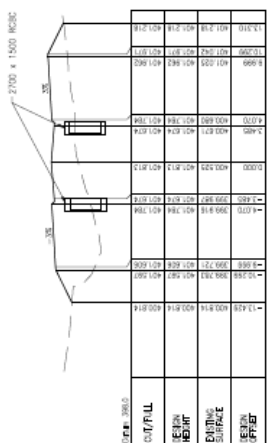
CONMAT
CONSTRUCTION MATERIALS

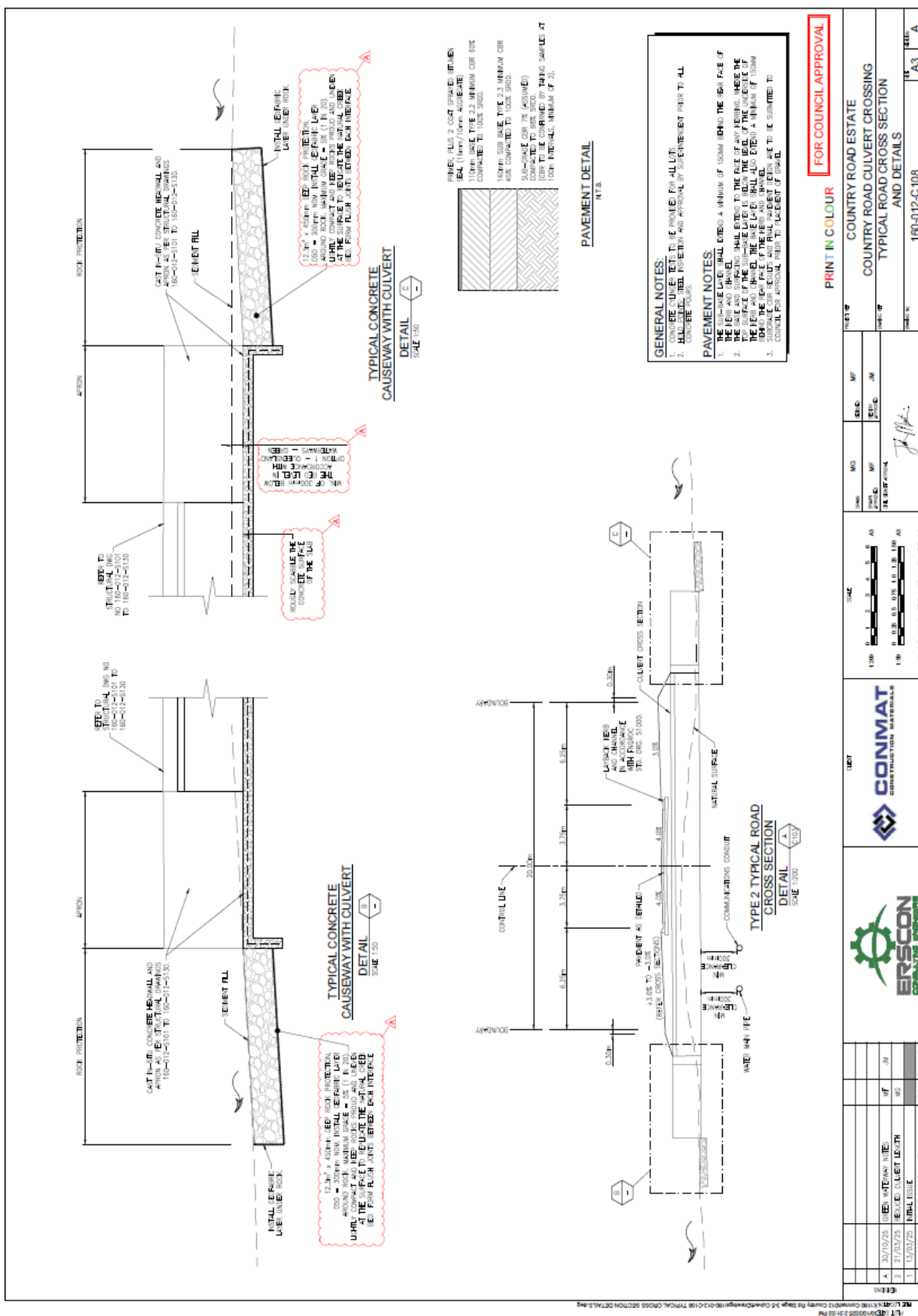


FOR COUNCIL APPROVAL

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E14. WHERE THE SUITABLE FOUNDING MATERIAL IS DEEPER THAN REQUIRED FOR THE FOOTING, THE EXCAVATION IS TO BE BACKFILLED WITH A WEAR MIX CONCRETE (M10) TO THE UNDERSIDE OF THE FOOTING BUT THIS IS TO BE CONFIRMED WITH THE ENGINEER BEFORE COMMENCING ANY BUILDING WORKS.

E15. **BACKFILLING** SHALL NOT TAKE PLACE UNTIL THE BASE SLAB AND THE CULVERT WALLS HAVE REACHED THEIR FULL 28 DAY CURE STRENGTH AND THE DECK PANELS HAVE BEEN PLACED WITH THE GROUT FILLING OF THE CONNECTION POINTS HAVING ATTAINED MIN. 40 MPa STRENGTH.

F. CONCRETE AND REINFORCEMENT NOTES

F1. ALL WORKMANSHIP AND MATERIALS SHALL BE GENERALLY IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES AND AS3100 BRIDGE DESIGN, AND STANDARDS MENTIONED WITHIN THOSE DOCUMENTS AS APPLICABLE; AND SHALL SATISFY THE MINIMUM REQUIREMENTS SET OUT IN THE FINISHED DEVELOPMENT MANUAL SPECIFICATION 'S7 CONCRETE WORKS'.

F2. ALL FORMWORK SHALL BE IN ACCORDANCE WITH AS 3610 FORMWORK FOR CONCRETE.

F3. MINIMUM COVER TO ALL REINFORCEMENT SHALL BE 50mm EXCEPT WHERE CAST AGAINST GROUND IT SHALL BE 30mm.

F4. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. ALL REDUCTION IN THICKNESS DUE TO FALLS OR TOPPING IS PERMITTED. REFER CIVIL DRAWINGS FOR CONFIRMATION OF ALL SLAB FALLS AND STEPS.

F5. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.

F6. WET CONCRETE TO BE UNIFORM, HOMOGENEOUS, COHESIVE AND ABLE TO WORK READILY INTO CORNERS AND AROUND REINFORCEMENT COMPLETELY FILLING FORMWORK WITHOUT SEGREGATION, EXCESS FREE WATER ON SURFACE, LOSS OF MATERIAL OR CONTAMINATION. CONCRETE TO HAVE GOOD DIMENSIONAL STABILITY AND ABLE TO RESIST PLASTIC SETTLEMENT CRACKING, THERMAL CRACKING AND SHRINKAGE CRACKING.

F7. USE CEMENTITIOUS MATERIALS LESS THAN SIX MONTHS OLD. USE BAGGED CEMENT IN ORDER OF RECEIPT.

F8. DO NOT ADD WATER TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT.

F9. CONSTRUCTION JOINTS SHALL BE LOCATED AND CONSTRUCTED AS PER THE DETAILS ON THE DRAWINGS.

F10. **CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:**
CONCRETE SPECIFICATION, U.N.O. ON DRAWINGS.

ELEMENT	GRADE	SUMP	MAX AGGREGATE SIZE
CULVERT BASE SLAB,	S50	80 +/-15	20 mm
APRON SLAB,			
WALLS, WINGWALLS,			
DECK SLAB PANEL			
AND HEADWALLS			

- MIN. CEMENTITIOUS MATERIAL CONTENT 450 kg/m³
- MAX. THE WATER / CEMENT RATIO 0.4
- CURE CONCRETE CONTINUOUSLY FOR AT LEAST 14 DAYS
- MIN. 32 MPa CONCRETE STRENGTH AT TIME OF STRIPPING AND CURING
- RECOMMENDATION: ADD PENETRON ADMIX-58 OR XYFEX ADMIX C-58 TO THE CONCRETE AT TIME OF BATCHING AS PER THE DRAWINGS SPECIFICATION AND STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

METHOD OF PLACEMENT BY PUMP.
PROJECT ASSIGNMENT IS NOT REQUIRED.

F11. PROVIDE A 10mm x 10mm CHAMFER TO EXPOSED EDGES ON CONCRETE UNO.

F12. NON-SHRINK GROUT SHALL BE PARCHEN CONIBEXTRA CB CEMENTITIOUS, OR APPROVED

DELIVERABLES

F31. **AT LEAST ONE WEEK PRIOR TO CONCRETE PLACEMENT SUBMIT DETAILS OF PROPOSED CONCRETE MIX DESIGN.** SEQUENCE AND TIMES FOR CONCRETE POURS, CONSTRUCTION JOINT LOCATIONS FOR ENGINEERS/INSPECTORS APPROVAL, NOMINATE FOR EACH MIX DESIGN THE TYPE AND PROPORTIONS OF CONSTITUENTS, AGGREGATE GRADINGS, ADDITIVES AND ADMIXTURES, MAXIMUM WATER CONTENT AND MAXIMUM WATER/CEMENT RATIO, TARGET SLUMP, TARGET CHARACTERISTIC STRENGTH (f_o) AND TARGET DRYING SHRINKAGE.

F32. USE READY MIXED CONCRETE MIXED BY BATCH PRODUCTION PROCESS DELIVERED IN AGITATING TRUCKS. FOR EACH BATCH SUPPLY A DOCKET LISTING INFORMATION REQUIRED BY AS1379 CLAUSE 1.8.3 AND FOLLOWING:

- SERIAL NUMBER OF IDENTIFICATION CERTIFICATES OF EACH BATCH
- NAME OF CONCRETE DELIVERY SUPERVISOR
- ELEMENT FOR WHICH CONCRETE WAS ORDERED AND WHERE IT WAS PLACED
- METHOD OF PLACEMENT AND CLIMATIC CONDITIONS DURING POUR
- PROJECT ASSESSMENT CARRIED OUT
- TOTAL AMOUNT OF WATER REQUIRED BY MIX DESIGN
- TOTAL AMOUNT OF WATER ADDED AT PLANT

F33. PROVIDE RECORD OF SLUMP TESTING TO SUPERINTENDENT.

F34. FORWARD CONCRETE PRODUCTION ASSESSMENT INFORMATION TO SUPERINTENDENT AS PER AS1379 CLAUSE 6.4 WHEN PRODUCTION ASSESSMENT IS UNDERTAKEN.

F35. REPORT DRYING SHRINKAGE TESTING RESULTS TO SUPERINTENDENT.

G. PRECAST CONCRETE ELEMENTS

G1. ALL PRECAST CONCRETE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3650 PRECAST CONCRETE ELEMENTS, AS 5100 BRIDGE DESIGN AND AS 3610 FORMWORK FOR CONCRETE AS APPLICABLE.

G2. **REINFORCEMENT OF PRECAST CONCRETE UNITS HAVE BEEN DESIGNED FOR 'IN-SERVICE' CONDITIONS ONLY. THE BUILDING CONTRACTOR IS RESPONSIBLE TO DESIGN A QUALIFIED CONTRACTOR E.G. REID CONSTRUCTION SYSTEMS TO DESIGN, DOCUMENT AND CERTIFY ANY ADDITIONAL REINFORCEMENT REQUIRED FOR LOADS DURING HANDLING, LIFTING AND TRANSPORTATION. ANY LIFTERS, BRACES ETC.**

G3. USE CAST IN FERRULES FOR STRUCTURAL FIXINGS, NOT MECHANICAL OR CHEMICAL ANCHORS

G4. ENSURE THAT PRECAST UNITS REMAIN UNCRACKED AND UNDAUNAGED DURING HANDLING, ERECTION AND INSTALLATION OPERATIONS. USE FORMWORK BOND BREAKERS AND STRONG BACKS AS REQUIRED. PROTECT UNITS FROM STAINING, DISCOLORATION AND OTHER DAMAGE.

G5. USE RIGID FORMWORK AND INTENSE COMPACTION, SUCH AS VIBRATING TABLES OR FORM VIBRATORS, TO AS 5100.

G6. PRECAST UNIT TOLERANCES TO BE TO AS3650 EXCEPT WHERE VARIED BY SPECIFICATION.

G7. CONTRACTOR TO PROVIDE COMPONENTS, MATERIALS, FASTENERS, BRACES, STRONGBACKS, SHIMS, JOINTING STRIPS, SEALANTS, FLASHING, GROUT AND MORTAR, BEARING PADS AND STRIPS, TIE-OFFS, DOWELS, CLIPS, FIXINGS etc AS REQUIRED.

G8. CAST UNITS WITH OUTER FACE OFF FORM.

G9. REMOVE TEMPORARY ATTACHMENTS AFTER ERECTION. MAKE GOOD AND SEAL.

G10. NON-SHRINK GROUT SHALL BE OF 28 DAY CHARACTERISTIC STRENGTH OF 40 MPa e.g. PARCHEN CONIBEXTRA CB CEMENTITIOUS, OR APPROVED EQUIVALENT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. SUBMIT PRODUCT DETAILS FOR APPROVAL.

FORMWORK

F13. RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH THE CONTRACTOR.

F14. FORMWORK TO BE DESIGNED AND CONSTRUCTED TO AS3610.

F15. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OF FORMWORK, WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINTS BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH A FLEXIBLE RUBBER STRIP.

F16. DO NOT STRIP FORMWORK PRIOR TO 36 HOURS AFTER PLACEMENT.

REINFORCEMENT

F17. STEEL REINFORCEMENT IS TO COMPLY WITH AS/NZS24671. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:

RL: STRUCTURAL GRADE 550 PLAIN ROLLED BAR TO AS/NZS24671

N: HOT ROLLED GRADE 500 DEFORMED (RIBBED) BAR DUCTILITY CLASS N TO AS/NZS24671

L: HOT ROLLED GRADE 500 DEFORMED BAR DUCTILITY CLASS L TO AS/NZS24671

SL: HARD DRAWN WIRE GRADE 500 SQUARE MESH DUCTILITY CLASS L TO AS/NZS24671

RL: HARD DRAWN WIRE GRADE 500 RECTANGULAR MESH DUCTILITY CLASS L TO AS/NZS24671

TM: HARD DRAWN STEEL GRADE 500 TRENCH MESH DUCTILITY CLASS L TO AS/NZS24671

W: HARD DRAWN STEEL REINFORCING WIRE TO AS/NZS24671

FOLLOWING ABBREVIATIONS APPLY TO DESCRIBE THE PLACEMENT OF REINFORCEMENT:

EW: EACH WAY FT: FAR FACE NF: NEAR FACE

BT: BOTTOM

F18. PROVIDE AAS (AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING STEEL LTD) CERTIFICATION OF COMPLIANCE WITH AS/NZS24671 FOR ALL REINFORCEMENT.

F19. PROVIDE DOCUMENTATION TO SHOW THAT REINFORCEMENT SUPPLIER AND MILL COMPLIES WITH AS/NZS24671.

F20. REINFORCEMENT MUST HAVE UNIQUE MARKS TO IDENTIFY SUPPLIER.

F21. DO NOT SPUD REINFORCEMENT OTHER THAN SHOWN ON THE DRAWINGS.

F22. DO NOT BEND OR STRAIN REINFORCEMENT IN A WAY THAT MAY CAUSE DAMAGE. BEND DIAMETERS TO BE TO AS3600. BARS TO BE BENT COLD UNO. DO NOT COOL HEATED BARS BY QUENCHING.

F23. WELDING OR SITE BENDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT APPROVAL OF THE ENGINEER.

F24. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION BEFORE CONCRETING (BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES AT 800 mm MAXIMUM CENTRES EACH WAY UNO.) TO PREVENT DISPLACEMENT OF REINFORCEMENT BY WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.

F25. FOR CONCRETE SURFACES WITH 82 EXPOSURE CLASSIFICATION OR GREATER, ONLY USE PROPRIETARY HIGH STRENGTH FIBRE REINFORCED CEMENT SPACER BLOCKS OR SUPPORTS.

F26. SECURELY TIE REINFORCEMENT WITH WIRE TIES. TURN ENDS OF THE WIRES INTO CONCRETE, CLEAN OF COVER ZONE.

CONCRETE TESTING

F27. TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED BEFORE PLACING CONCRETE FROM THAT DELIVERY. SLUMP MEASURED TO BE NO GREATER THAN TARGET SLUMP WITHIN TOLERANCES GIVEN IN AS1379 CLAUSE 5.2.3.

F28. CONCRETE TESTING RESULTS TO BE PROVIDED AT 1 SAMPLE PER 25m³ EACH SAMPLE TO COMPRISE FOUR CYLINDERS: TEST TWO AT 7 DAYS AND TWO AT 28 DAYS.

F29. CONCRETE TESTING TO BE BY AN APPROVED INDEPENDENT NATA REGISTERED LABORATORY.

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FOR COUNCIL APPROVAL

DATE	BY	FOR	REMARKS
22/07/2025	FOR COUNCIL APPROVAL		
22/07/2025	FOR COUNCIL APPROVAL		

COUNTRY ROAD ESTATE
COUNTRY ROAD CULVERT CROSSING
STRUCTURAL ENGINEERING NOTES
SHEET 2 OF 2

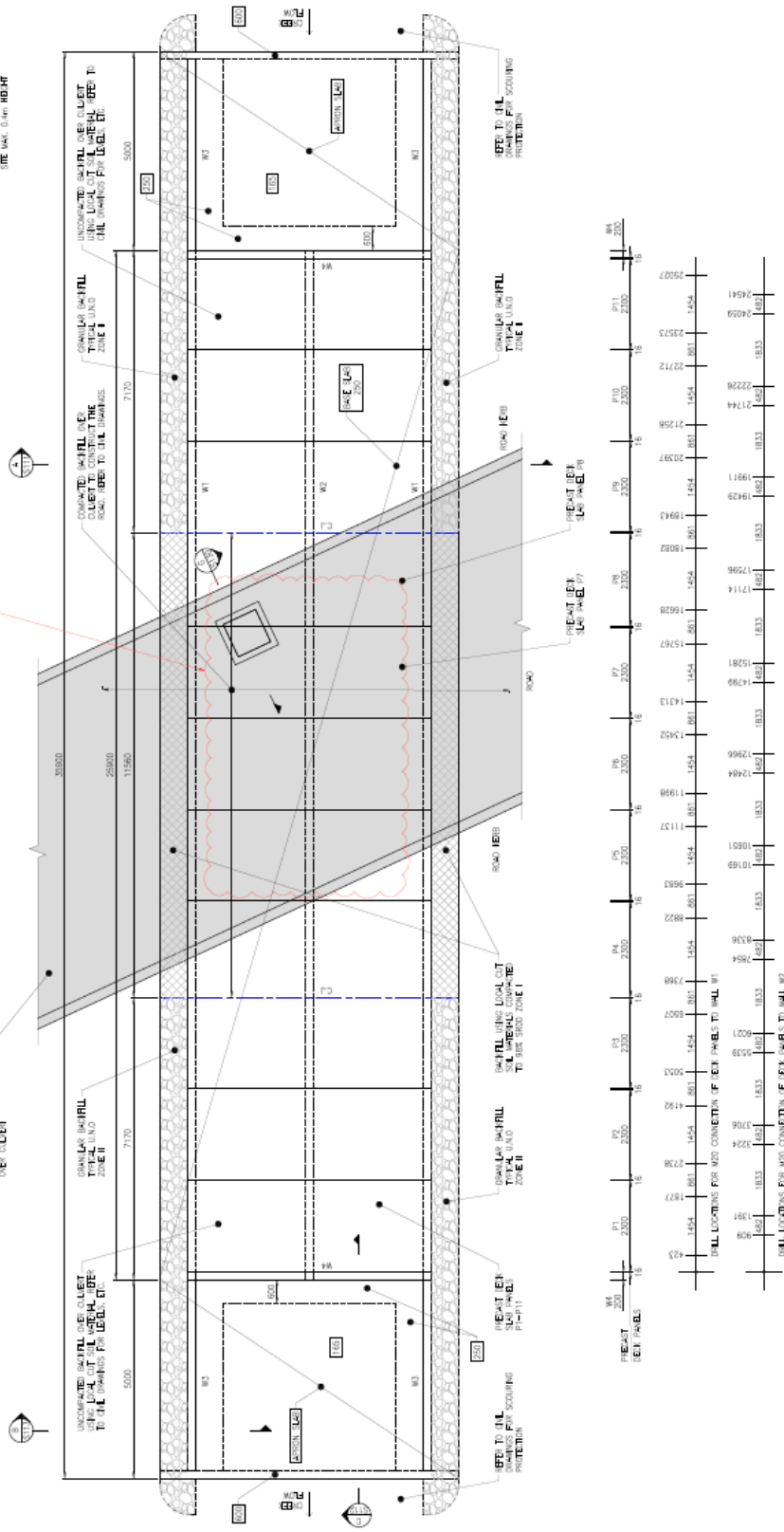
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15.1

15.2

FOR COUNCIL APPROVAL

- W1 - EXTERNAL WALL, 210 THICK
W2 - INTERMEDIATE WALL, 210 THICK
W3 - WING WALLS 210 THICK
VERTICAL EXTENT TO BE DETERMINED ON
SITE MAX. 2m REPAIRED HEIGHT
W4 - UPSTAND WALL
VERTICAL EXTENT TO BE DETERMINED ON
SITE MAX. 0.4m HEIGHT



CULVERT SITE PLAN
SCALE 1:50

PRINT IN COLOUR

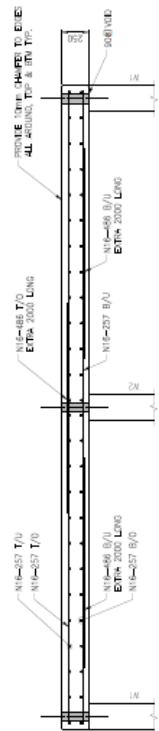
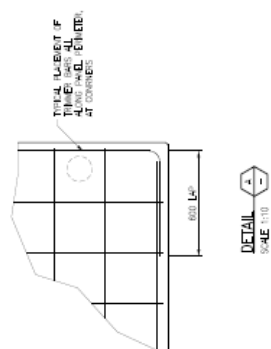
FOR COUNCIL APPROVAL

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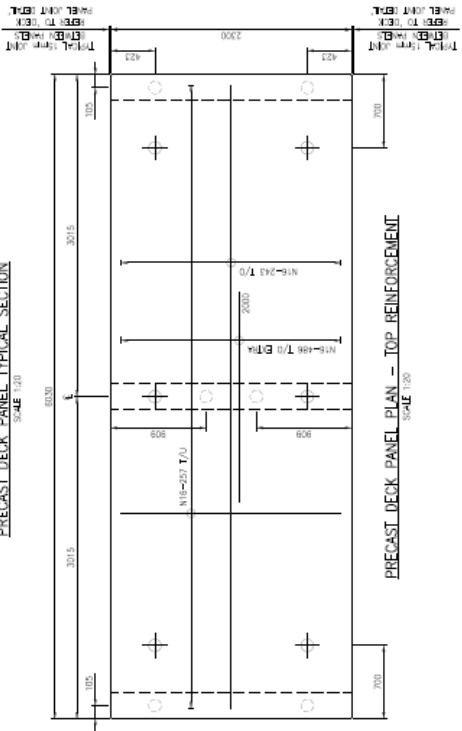
[illegible]

○ PROVIDE 90 DIA. VOID IN EACH SLAB PANELS. ADJUST
REINFORCEMENT AT VOID TO ENSURE MIN. 50mm COVER IS
MAINTAINED

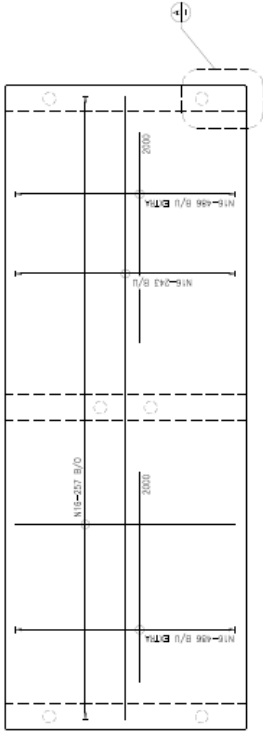
+ LIFTING INSET, INDICATE LOCATIONS SHOWN ONLY



PRECAST DECK PANEL TYPICAL SECTION



PRECAST DECK PANEL PLAN - TOP REINFORCEMENT



PRECAST DECK PANEL PLAN - BOTTOM REINFORCEMENT

[illegible]

