

YOUR REF: IH132900
OUR REF: OP 240017/2017 (857412)

4 June 2018

Jacobs Group (Australia) Pty Ltd
PO Box 1062
NORTH CAIRNS QLD 4870

Attention: Robert Carman

Dear Sir

**DECISION NOTICE FOR OPERATIONAL WORKS
- STAGE 6A & 6B OCEAN BREEZE ESTATE – BONNIE DOON**

Please find attached the relevant Decision Notice for the above Operational Works. Also find attached a 'Pre-Start' meeting template, which identifies the information that must be provided for Council approval, prior to the commencement of works.

The template also provides the Consulting Engineer with a format for conducting the meeting. An invitation to attend the meeting must be sent to Council's representative Neil Beck on telephone number 07 4099 9451, giving at least five (5) working days notification if possible.

In addition to the Decision Notice, Council provides the following 'Advice Statement' which relates to issues that are relevant to the proposed works:

1. The design of lighting and landscaping works are subject to separate agreement and must be submitted to Council, prior to the commencement of associated works; and
2. The Consulting Engineer is to present all contractors with a copy of this Decision Notice and the Council approved plans, prior to the commencement of works.

Should you require further information or assistance, please contact Neil Beck of Development Assessment and Coordination on telephone 07 4099 9451.

Yours faithfully

Paul Hoye
Manager Sustainable Communities

Att

Copy To: A/Manager Infrastructure – Peter Logan
Co-ordinator Water & Waster – Peter White
Co-ordinator Civil Works – Daryl Cheer

YOUR REF: IH132900
OUR REF: OP 2400/2017 (857412)

4 June 2018

**DECISION NOTICE FOR OPERATIONAL WORKS – STAGE 6A & 6B
OCEAN BREEZE ESTATE – BONNIE DOON**

PROPOSAL:

Operational Works (Engineering) excluding Lighting Works & Landscaping Works

TYPE OF DEVELOPMENT:

Operational Work

REAL PROPERTY DESCRIPTION:

Lot 901 on SP285536

REFERRAL AGENCY CONDITIONS:

None applicable

FURTHER DEVELOPMENT PERMITS OR APPROVALS REQUIRED:

None applicable

DECISION DATE:

4 June 2018

DECISION:

Approved subject to conditions

TYPE OF APPROVAL:

Development Permit

ASSESSMENT MANAGER CONDITIONS – STANDARD:

The standard conditions are shown in Appendix B and must be read in conjunction with any approved plans and project specific conditions identified below.

ASSESSMENT MANAGER CONDITIONS – PROJECT SPECIFIC:

1. General

- a. The conditions require amendments to the drawings. The revised drawings must be submitted “for construction” and must be certified as approved by a registered professional engineer of Queensland (RPEQ).
- b. An updated Statement of Compliance must be provided with the revised drawings required under the conditions of this approval.
Reference is made to FNQROC Development Manual (refer Appendix A of Application Procedures (AP1)).
- c. Materials shall be in accordance with the provisions of the FNQROC Development Manual. Where alternative materials are proposed details are to be provided to Council for consideration and approval prior to incorporation into the works.
- d. “For construction drawings” and/or product information and supplier warranties are required to be submitted for the following design elements:
 - i. FRP Packaged Sewerage pump station;
 - ii. Sewerage pump station controls, SCADA and telemetry; and
 - iii. Retaining walls;

This information must be provided prior to the pre-start meeting (or such other timeframe agreed with Council) and the elements are not approved unless confirmed by Council in writing.

2. ROL Conditions

- a. The response to development conditions by JACOBS is generally accepted as these responses are from the design engineer for this stage. However, Council has identified some potential non-conformances with the development when considered as a whole and seeks clarification from the developers project team to ensure any discrepancies are identified and measures put in place to address these. The applicant/developer is to review the development conditions for the estate and provide Council with an assessment of the compliance with the ROL approval with particular attention to intersection upgrades, landscaping requirements and contributions for connecting pathways etc. In particular, the assessment must provide further advice on the conditions identified below:
 - i. The applicant is to confirm that the requirements of condition 8a and 8b have been met and provide satisfactory evidence to support this. The information must be provided to Council prior to the first pre-start meeting for Stage 6A and 6B.
 - ii. The applicant is to confirm that the requirements of Condition 29b (costings and contribution to pathway to Junction Creek Bridge) have been met and provide satisfactory evidence to verify this. Confirmation must be provided prior to the first pre-start meeting for Stage 6A and 6B.

- iii. The applicant is to provide confirmation that the requirements of Condition 39 have been met for the Bonnie Doon Road upgrade component and the Cooya Beach Road/Bonny Doon Road intersection upgrade component.
- iv. The applicant/developer is to confirm how compliance with the requirements of 40 will be achieved.
 - In respect of Condition 40a, the Street tree planting plan is required to be submitted at the earliest opportunity.
 - In respect of Condition 40b, the applicant/developer is to confirm how the requirements of the buffer planting and fencing with reference to C&B Group advice dated 22 October 2004 will be achieved. Council notes the advice in the operational works submission that the Palm Road reserve is currently subject to a road license to cultivate cane; however, the submission does not advise what alternative delivery methodology is proposed by the developer to comply with this condition of the development approval. The applicant is to include details of the required fencing on the current plans noting the purpose of this fence is for safety.

3. Earthworks

- a. The applicant is to ensure that any earthworks undertaken as part of the works maintains a free draining surface with no ponding of standing water resulting. Any amendments proposed to the existing finished surface profiles are to be identified and reported to Council prior to being undertaken on site. Resultant amendments shall be recorded on as constructed drawings to be submitted at the completion of the project.
- b. The retaining walls are nominated as being designed by supplier. Therefore, this component of the works is not approved under this operational works approval and a separate approval will be required for the retaining wall element.

Advice note:

In principle Council accepts the retaining wall and nomination of future design detail. This condition establishes that a further step is required. Therefore, Prior to construction of the wall, the applicant is to provide design details and certification of the wall including appropriate structural forms (form 15) and any additional information required for structural elements (including a safety in design assessment if applicable).

4. Stormwater

- a. The applicant is to provide updated stormwater calculations prior to the pre-start meeting to confirm the following elements:
 - i. stormwater flow quantity and flow width at the western extent of Stage 6A. The assessment is to confirm the ability for the stormwater to be captured prior to the intersection adjacent lot 267 and comply with FNQROC/QUDM flow width limits at the intersection.
 - ii. If additional pits are required to capture on road flows, the applicant is to advise how this will be accommodated between Ch 470. 371 and Ch480 at the stage Boundary. (Based on the Stage 6B stormwater it appears an additional pit may

be required at the lot 268/269 Boundary). Confirmation of the stormwater infrastructure requirements in the current Stage 6a construction is required prior to the pre-start meeting.

- iii. Confirm how assessment of road flows of Barabal Drive have been calculated. The nomination of a flow entering Road 01 is noted; however, Council seeks clarification on the calculation of this flow. In particular, calculations to demonstrate the external road flows entering Stage 6B are able to be contained to this upper limit, (and/or implication if the flows exceed this external catchment inflow). Council Officers acknowledge the proposed regrade of 20 m of verge per Insert A on Drawing 0011 and the detail on drawing 0012. In addition to this information, Council seeks further advice that this treatment is able to address the excess on road flow and can achieve the reduced downstream flows. In this regard Council seeks an understanding of how much flow can exit across the verge noting the outletting flows would be at right angles to the road flow and there is no containment of the through road flow path.
 - iv. Confirm the external catchment extent behind lots 233 through to 238 noting the proposed earthworks on these lots are lower than the northern boundary levels and external runoff is not currently prevented from entering these lots. Alternatively, provide a bund detail or cut off drain detail in the road reserve to direct external flows east and west for this section of the site.
- b. The applicant is to clarify the quantum of stormwater flow in the northern road reserve to confirm the implication (if any) of the flows running against the proposed retaining wall foundations. Note the typical retaining wall details on drawing 0004 shows the land grading away from the base of the retaining wall, please provide confirmation that this can be achieved on the Northern Road reserve.
 - c. Additional grading and design levels are to be nominated on amended design plans for the outlet drain. The absence of grade information does not allow Council to confirm satisfactory operation of the drain, in particular sedimentation risk of the downstream drain. Council Officers note that the upstream pipe grades are very flat and any downstream level constraints may have a significant implication for the drainage system.

5. Sewer

- a. The sewerage master plan is to be updated to reflect the revised reticulation plans for Stage 6A and 6B. In particular, the master plan is to confirm how the north western portion of the site will be connected to the proposed reticulation for Stage 6A and 6B noting the revised grading of these lines.
- b. In addition, the master plan must confirm adequate capacity in the downstream system at the revised discharge point for the sewer rising main with the assessment to consider the implication of the proposed pump flow rates.
- c. Sewage Pump Station; the proposed FRP Packaged Sewage Pump Station is accepted in principle, however the applicant must provide Council with a copy of the "For Construction" drawings for the pump station prior to placing the order with the supplier. Council approval of the "For Construction" plans will be a holdpoint on this item.
- d. Details of the pump station switchboard, SCADA and telemetry are to be confirmed with Council's Water and Sewerage department prior to construction. All requirements to provide consistent operating systems are to be included in the works at no cost to Council. The requirements of the Douglas Shire Council

Specific Clauses of FNQROC (D7.25 Telemetry Systems) must be included in the documentation. The applicant is advised to confirm these requirements with Council's Water and Sewer Officers at the earliest opportunity to avoid project delays.

- e. A commissioning plan for the sewage pump station is to be provided to Council for approval prior to the commissioning works commencing. The methodology should be submitted a minimum of 3 weeks prior to the commissioning to enable council to review and approve.
- f. The drawings are to be updated to include details of the treatment of the joint between the sewerage manholes and the concrete access driveway to the pump station. Specification of the flexible joint material between the manhole surround and the concrete access slab is to be nominated on the amended drawings.
- g. Amended drawings are required for the overflow detail to confirm the location of the valve. Council is not permitted to have an open overflow that may allow storm water ingress or uncontrolled release of sewage.
- h. The applicant is to provide calculations of the overflow operation including hydraulic grade line based on downstream tail water level at the outlet. Note the outlet level in a sewage overflow scenario will not be the same as the hydraulic grade level for the stormwater minor flow system. The additional calculations are to confirm sufficient freeboard exists to all residential lots in the local sewage catchment in the event of a sewage overflow for the outlet at the proposed location and levels.
- i. The sewer rising main is to be relocated to the eastern side on Road 01 to avoid the footpath. Council's preference is for the road crossing (If required), to be in the vicinity of Chainage 170m. The revised rising main location is to be shown on amended drawings issued "for Construction". The drawings must be provided prior to the prestart meeting.

6. Water

- a. Include on the water reticulation plan the location of light pole footings and confirm the clearance between the footing and the water main. The revised drawing is to be endorsed by Council prior to commencement of water reticulation works.
- b. The minimum clearance between light pole footings and water mains are to be in accordance with WSA and verified and recorded by the consulting engineer during construction.
- c. 80mm conduits are to be supplied and installed under concrete footpaths for the purpose of future water service. The location of the conduit shall be at the opposite boundary to where the electrical pillar box is located.

7. Roads and Paths

- a. Noting the additional service in the road corridor with the sewer pressure main, the applicant is to update the typical road cross-section to show the location of all services in the verge to ensure the Contractor and Council are informed of clearances and potential conflicts.
- b. Pavement design details are to be confirmed prior to pavement construction. Details provided to Council shall include subgrade CBR results for each pavement

section, confirmation of traffic loadings adopted (as per FNQROC requirements) and final pavement design.

- c. In respect of the provisional pavement details, the applicant is to confirm CBR results from previous stages and provide this information on the drawings at the pre-start meeting.

8. Erosion and Sediment Control

- a. A copy of the Contractor's Erosion and Sediment Control (ESC) Plan is to be submitted to Council and endorsed by the Consulting Engineer, prior to commencement of any works. In particular, the ESC Plan must address the Institution of Engineers Australia Guidelines for Soil Erosion and Sediment Control and the Environment Protection (Water) Policy and Clauses CP1.05, CP1.13 and D5.10 of Council's FNQROC Development Manual.

9. Miscellaneous

- a. The applicant is to provide a street lighting plan prior to the pre-start meeting for civil construction to confirm any conflicts between light pole locations and other services.
- b. Prior to the pre-start meeting, the applicant must provide written evidence from Ergon and Telstra confirming arrangements have been made for the provision of services to the stage.
- c. The applicant is to provide written confirmation from a suitably qualified person to confirm that the acid sulphate report provided remains current. In particular, the applicant is to provide confirmation that the report complies with the current standards and is suitable for continued use for the proposed stage 6A and 6B Construction.
- d. CCTV inspections are to be reviewed by the supervising engineer and the Engineering Report and Certification by an RPEQ provided to Council prior to Works Acceptance as required under FNQROC Development Manual CP1.25 Project Documentation.

APPROVED PLANS AND SPECIFICATIONS:

Generally in accordance with the following drawings submitted by PDR Engineers subject to any alterations made by conditions of Development Permit for Operational Work OP 3546/2009.

Drawing No.	Title	Revision
IH132900-CI-DG-0001	LOCALITY PLAN AND DRAWING INDEX	C
IH132900-CI-DG-0002	GENERAL NOTES	B
IH132900-CI-DG-0003	GENERAL ARRANGEMENT	B
IH132900-CI-DG-0004	EARTHWORKS	B
IH132900-CI-DG-0005	MISCELLANEOUS SECTIONS AND DETAILS	B
IH132900-CI-DG-0006	ROAD LONGITUDINAL SECTIONS - SHEET 1	

	OF 2	A
IH132900-CI-DG-0007	ROAD LONGITUDINAL SECTIONS - SHEET 2 OF 2	B
IH132900-CI-DG-0008	ROAD CROSS SECTIONS - SHEET 1 OF 2	B
IH132900-CI-DG-0009	ROAD CROSS SECTIONS - SHEET 2 OF 2	A
IH132900-CI-DG-0010	INTERSECTION DETAILS	B
IH132900-CI-DG-0011	STORMWATER DRAINAGE	B
IH132900-CI-DG-0012	STORMWATER DRAINAGE DETAILS	B
IH132900-CI-DG-0013	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2	B
IH132900-CI-DG-0014	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 2	B
IH132900-CI-DG-0015	SEWERAGE	B
IH132900-CI-DG-0016	SEWAGE PUMP STATION DETAILS	B
IH132900-CI-DG-0017	SEWERAGE LONGITUDINAL SECTIONS - SHEET 1 OF 3	B
IH132900-CI-DG-0018	SEWERAGE LONGITUDINAL SECTIONS - SHEET 2 OF 3	B
IH132900-CI-DG-0019	SEWERAGE LONGITUDINAL SECTIONS - SHEET 3 OF 3	B
IH132900-CI-DG-0020	SEWER RISING MAIN LONGITUDINAL SECTION	B
IH132900-CI-DG-0021	WATER RETICULATION	B
IH132900-CI-DG-0022	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 1 - TOPSOIL STRIPPING	B
IH132900-CI-DG-0023	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS	B
IH132900-CI-DG-0024	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 3 - ROADWORKS	B
IH132900-CI-DG-0025	MASTER SERVICES PLAN	B
IH132900-CI-DG-0026	EARTHWORKS SPOIL PLAN	A

Note – The approved plans above will require amending to satisfy conditions of this Development Permit.

EROSION AND SEDIMENT CONTROL DRAWINGS

The following drawings must form the basis of the contractor's Erosion and Sediment Control Plan in accordance with the *FNQROC Development Manual*, Clause CP1.06.

Drawing Description	No	Rev
EROSION AND SEDIMENT CONTROL STRATEGY PHASE 1 - TOPSOIL STRIPPING	IH132900-CI-DG-0022	B
EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS	IH132900-CI-DG-0023	B
EROSION AND SEDIMENT CONTROL STRATEGY PHASE 3 - ROADWORKS	IH132900-CI-DG-0024	B

For information relating to the *Sustainable Planning Act 2009* log on to www.dsdip.qld.gov.au .
To access the *FNQROC Development Manual*, Local Laws and other applicable Policies log on to www.douglas.qld.gov.au .

RIGHTS OF APPEAL

Attached

End of Decision Notice

Att Appeal Rights
 Pre-Start Meeting Template
 Approved Drawings, Appendix A
 Standard Conditions, Appendix B

APPENDIX A - APPROVED DRAWINGS

OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B



LOCALITY PLAN
N.T.S.

DRAWING INDEX

DRAWING No.	DRAWING TITLE
IH132900-CI-DG-0001	LOCALITY PLAN AND DRAWING INDEX
IH132900-CI-DG-0002	GENERAL NOTES
IH132900-CI-DG-0003	GENERAL ARRANGEMENT
IH132900-CI-DG-0004	EARTHWORKS
IH132900-CI-DG-0005	MISCELLANEOUS SECTIONS AND DETAILS
IH132900-CI-DG-0006	ROAD LONGITUDINAL SECTIONS - SHEET 1 OF 2
IH132900-CI-DG-0007	ROAD LONGITUDINAL SECTIONS - SHEET 2 OF 2
IH132900-CI-DG-0008	ROAD CROSS SECTIONS - SHEET 1 OF 2
IH132900-CI-DG-0009	ROAD CROSS SECTIONS - SHEET 2 OF 2
IH132900-CI-DG-0010	INTERSECTION DETAILS
IH132900-CI-DG-0011	STORMWATER DRAINAGE
IH132900-CI-DG-0012	STORMWATER DRAINAGE DETAILS
IH132900-CI-DG-0013	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2
IH132900-CI-DG-0014	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 2
IH132900-CI-DG-0015	SEWERAGE
IH132900-CI-DG-0016	SEWAGE PUMP STATION DETAILS
IH132900-CI-DG-0017	SEWERAGE LONGITUDINAL SECTIONS - SHEET 1 OF 3
IH132900-CI-DG-0018	SEWERAGE LONGITUDINAL SECTIONS - SHEET 2 OF 3
IH132900-CI-DG-0019	SEWERAGE LONGITUDINAL SECTIONS - SHEET 3 OF 3
IH132900-CI-DG-0020	SEWER RISING MAIN LONGITUDINAL SECTION
IH132900-CI-DG-0021	WATER RETICULATION
IH132900-CI-DG-0022	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 1 - TOPSOIL STRIPPING
IH132900-CI-DG-0023	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS
IH132900-CI-DG-0024	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 3 - ROADWORKS
IH132900-CI-DG-0025	MASTER SERVICES PLAN
IH132900-CI-DG-0026	EARTHWORKS SPOIL PLAN

INSTITUTE OF PUBLIC WORKS ENGINEERING
AUSTRALIA STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
D-0040	SEDIMENT CONTROL DEVICES - SEDIMENT FENCE, ENTRY/EXIT SEDIMENT TRAP
D-0041	SEDIMENT CONTROL DEVICES - KERB AND FIELD INLETS, CHECK DAMS & STRAW BALE BARRIERS

FNQROC STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
S1000 - S1110	ROADWORKS AND DRAINAGE
S2000 - S2025	WATER
S3000 - S3015	SEWERAGE

SEQ CODE STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
SEQ-WAT-1205 & 1206	WATER PIPE THRUST AND ANCHOR BLOCK DETAILS

DATE: 08/02/2017 11:42:48 AM NAME: MURPHY, DINA LOCATION: C:\Users\murdina\OneDrive\Documents\Projects\IH132900\Drawings\CI-DG-0001.dwg

REV	DATE	BY	CHKD	APPV	DESCRIPTION
C	08/04/16	TMB	SJC	DAB	LOT LAYOUT REVISED
B	04/12/17	PNR	SJC	DAB	DISKING ADDED TO DRG INDEX
A	01/12/17	SMB	SJC	DAB	INITIAL ISSUE



CLIENT	JONPA PTY LTD	TITLE	LOCALITY PLAN AND DRAWING INDEX
PROJECT	OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	DRAWN	SMB
DESIGNED	SJC	CHECKED	D.MEYER
DATE	01/12/17	APPROVED	R.J. CARMAN
SCALE		DATE	01/12/17
PROJECT NO.		DRAWING NO.	IH132900-CI-DG-0001
		REV.	C

GENERAL ARRANGEMENT

GENERAL

- FOR TYPICAL CROSS SECTIONS AND CONTROL LINE SETOUT DETAILS REFER DG-0005.
- FOR KERB PROFILE DETAILS REFER FNQROC STD. DRG. S1000.
- FOR KERB RAMP DETAILS REFER FNQROC STD. DRG. S1016. KERB RAMP ARE TO ALIGN DIRECTIONALLY WITH THE RAMP ON THE OPPOSING SIDE OF THE ROAD.
- FOR STREET NAME POST DETAILS REFER FNQROC STD. DRG. S1040. THE SIGN SHALL HAVE A REFLECTIVE WHITE LEGEND ON A GREEN BACKGROUND.
- CONTRACTOR TO PROVIDE PUBLIC NOTIFICATION/SIGNS (REFER FNQROC DEVELOPMENT MANUAL CPI 11).
- CLEARED VEGETATION SHALL BE MULCHED ON SITE BY THE CONTRACTOR.
- FOR CONCRETE PATHWAY DETAILS REFER FNQROC STD. DRG. S1035.
- FOR JOIN TO EXISTING ROADS REFER DETAIL ON DG-0005.

EXISTING SERVICES

- EXISTING SERVICES ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBILITY IS TAKEN BY THE PRINCIPAL OR SUPERINTENDENT FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE PROPOSED WORKS AREA. METHODS FOR ACHIEVING THIS WILL INCLUDE BUT NOT BE LIMITED TO:
 - CAREFUL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULTATION WITH THE RELEVANT SERVICE AUTHORITIES.
 - COMPREHENSIVELY SCANNING THE AFFECTED AREAS WITH A CABLE DETECTOR AND MARKING ON THE GROUND THE POSITION OF ALL SERVICES.
 - HAND EXCAVATING TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE RELEVANT SERVICE AUTHORITY.
- THE CONTRACTOR IS TO BRING TO THE SUPERINTENDENT'S ATTENTION ANY DISCREPANCIES BETWEEN THE EXISTING SERVICES THUS IDENTIFIED AND DOCUMENTED SERVICES WHICH MIGHT AFFECT THE PROPOSED WORKS. APPROPRIATE MEASURES TO RESOLVE ANY CONFLICTS WILL BE DOCUMENTED BY THE SUPERINTENDENT.

EARTHWORKS

- ALL BATTERS TO ROAD FRONTAGES OF LOTS ARE 1 ON 4 OR FLATTER. ALL OTHER BATTERS ARE 1 ON 1 U.N.O.
- BATTERS TO BE ADJUSTED LOCALLY AROUND SEWER MANHOLES. REFER DG-0015 FOR DETAILS.
- UPON COMPLETION ALL BATTERS STEEPER THAN 1 IN 2 AND HIGHER THAN 1.5m SHALL REQUIRE CERTIFICATION AS TO THE STABILITY BY A GEOTECHNICAL ENGINEER.

INTERSECTION DETAILS

- ALL KERB SETOUT DETAILS REFER TO THE LIP OF KERB AND CHANNEL OR FACE OF KERB AS APPLICABLE.
- FOR KERB PROFILE DETAILS REFER FNQROC STD. DRG. S1000.

STORMWATER DRAINAGE

- FOR STANDARD STORMWATER DRAINAGE DETAILS REFER FNQROC STD. DRGS. S1045-S1100 INCLUSIVE.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- SUBSURFACE DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION. FLUSHING POINTS IN ACCORDANCE WITH FNQROC STD. DRG. S1095.
- ALL STORMWATER PIPES ARE TO BE CLASS 2 FJ, RCP'S U.N.O. CONCRETE PIPES BELOW RL 1.80 ARE TO HAVE SALT WATER COVER TO REINFORCEMENT.
- WHERE ANY PART OF THE STORMWATER PIT IS BELOW RL 1.80 THE CONCRETE GRADE AND COVER TO REINFORCEMENT SHALL BE IN ACCORDANCE WITH FNQROC STD DRGS S1050 & S1055.
- FOR BEDDING DIMENSIONS TO BLACKMAX PIPES REFER DG-0005.
- PRIOR TO COMMENCEMENT OF PIPEWORK, THE CONTRACTOR IS TO CONFIRM THE INVERT LEVEL OF DOWNSTREAM DRAINAGE TO ENSURE THE STORMWATER SYSTEM CAN DRAIN SATISFACTORILY. REFER ANY DISCREPANCY TO THE SUPERINTENDENT.
- CCTV INSPECTIONS ARE TO BE CONDUCTED FOR ALL NEW STORMWATER PIPES FOR COUNCIL ASSESSMENT.

SEWERAGE

- ALL SEWER PIPES SHALL BE uPVC CLASS 'S.N.S.' (U.N.O.)
- FOR STANDARD DETAILS OF SEWER MAINS, ETC. REFER FNQROC STD. DRGS. S3000 TO S3015 INCLUSIVE.
- MANHOLES ADJACENT ROAD BOUNDARIES SHALL BE ON A 1.5m ALIGNMENT U.N.O. MANHOLES ADJACENT SIDE AND REAR BOUNDARIES SHALL BE ON A 0.8m ALIGNMENT U.N.O.
- SEWER MANHOLES SHALL BE FINISHED 50mm MAX ABOVE FINISHED SURFACE LEVEL IN ALLOTMENTS AND FLUSH IN ROAD RESERVES.
- HOUSE DRAINS ARE TO EXTEND 1.5m CLEAR OF ANY EARTHWORKS BATTER THAT IS STEEPER THAN 1 ON 2. AN INSPECTION OPENING IS TO BE PROVIDED AT THE DOWNSTREAM END OF THE HOUSE DRAIN.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- THE INTERNAL SURFACES OF THE SEWER RISING MAIN DISCHARGE MANHOLE SHALL BE COATED WITH PEELABLE EMULSION 'EPIDEN 1311' OF WATYLL 'SIGMAGUARD CSP 75' (WHITE OR OFF WHITE). THE CONCRETE SURFACE SHALL BE SMOOTH AND FREE FROM HOLES AND LIGHTLY SANDBLASTED OR ACID ETCHED BEFORE PAINTING. THE CONCRETE SURFACE SHALL HAVE CURED FOR NOT LESS THAN 28 DAYS. THE PAINT SHALL BE APPLIED IN TWO COATS WITH A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 600 MICRONS.
- EXISTING LOTS TO BE REINSTATED AFTER CONSTRUCTION OF THE SEWER.
- ALL HOUSE CONNECTION BRANCHES ARE REQUIRED TO BE BROUGHT TO WITHIN A MAXIMUM OF 300mm OF THE FINISHED SURFACE LEVEL AND A GLUED CAP INSTALLED. THE RISER MUST BE CONNECTED TO A MARKER PEG WITH PLASTIC COATED WIRE. THE MARKER PEG IS TO BE OF HARDWOOD MATERIAL, PROTRUDING 20mm ABOVE THE GROUND AND SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE RISER IN ACCORDANCE WITH FNQROC DRAWING S3005.
- ALL VERTICAL DROPS SHALL BE CONSTRUCTED USING FIBREGLASS HEAVY DUTY DEEP SEWER DROPS.
- CONNECTIONS TO EXISTING COUNCIL MAINS TO BE MADE BY DOUGLAS SHIRE COUNCIL.
- CCTV INSPECTIONS ARE TO BE CONDUCTED FOR ALL NEW SEWERS FOR COUNCIL ASSESSMENT.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH FNQROC DESIGN MANUAL SPECIFICATION 95.

WATER

- ALL WATER MAINS ARE ON 2.8m ALIGNMENTS FROM BOUNDARY U.N.O.
- FOR STANDARD DETAILS REFER FNQROC STD. DRGS. S2000 TO S2035 INCLUSIVE.
- CONNECTIONS TO EXISTING COUNCIL MAINS TO BE MADE BY DOUGLAS SHIRE COUNCIL.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- PROVIDE 80mm uPVC CLASS 6 CONDUITS WITH 300mm COVER UNDER CONCRETE FOOTPATH FOR WATER SERVICES AS PER FNQROC STD. DRG. S2035. EXTEND CONDUITS 200mm PAST THE EDGE OF FOOTPATH. FINAL LOCATION OF CONDUITS TO BE CONFIRMED ONCE ERIGON PILLAR BOX LOCATIONS ARE AVAILABLE.
- PROVIDE A COMPRESSIBLE LAYER BETWEEN ALL EXISTING AND PROPOSED HYDRANT OR VALVE SURROUNDS WITHIN AREAS OF CONCRETE.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH FNQROC DESIGN MANUAL SPECIFICATION 95.

EROSION AND SEDIMENT CONTROL STRATEGY

- SEQUENCING OF CONTROL MEASURES
 - INSTALL STABLE POINT OF ENTRY
 - INSTALL SILT FENCES
 - PROTECT TOPSOIL STOCKPILES
 - CONSTRUCT TEMPORARY SEDIMENT BASINS
 - INSTALL STORMWATER PIPES
 - IMPLEMENT PROTECTION MEASURES TO STORMWATER PITS
 - REVEGETATE BARE AREAS UPON COMPLETION OF EARTHWORKS
 - THE SEDIMENT CONTROL STRUCTURES ARE TO BE CLEANED & MAINTAINED AFTER EVERY STORM EVENT. ERODED SOILS SHALL BE STOCKPILED AS DIRECTED.
- THE AMOUNT OF DISTURBANCE TO EXISTING VEGETATION BE KEPT TO A MINIMUM.
- EXACT LOCATION OF SEDIMENT CONTROL STRUCTURES TO BE DETERMINED ON SITE BY COUNCIL & SUPERINTENDENT.
- STOCKPILE LOCATIONS TO BE AGREED WITH COUNCIL & THE SUPERINTENDENT. STOCKPILES TO BE PROTECTED VIA DIVERSION DRAIN ON THE UPSLOPE & SILT FENCE ON THE DOWNSLOPE.
- RETURNS IN SILT FENCE TO BE AT 20m INTERVALS WHEN INSTALLED ALONG THE CONTOUR. SPACING IS TO DECREASE TO 5-10m DEPENDING ON SLOPE IF THE SILT FENCE IS INSTALLED AT AN ANGLE TO THE CONTOUR. THE RETURN SHALL CONSIST OF EITHER:
 - V-SHAPED SECTION EXTENDING AT LEAST 1.5m UP THE SLOPE. OR
 - SANDBAGS OR ROCK/AGGREGATE CHECK DAM A MINIMUM OF 1/3 AND MAXIMUM OF 1/2 FENCE HEIGHT, AND EXTENDING AT LEAST 1.5m UP THE SLOPE.
- STORMWATER PIPES TO HAVE PIT PROTECTION MEASURES AS DETAILED IN FNQROC DEVELOPMENT MANUAL.
- ALL SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH THE CONTRACTORS ESC PLAN.
- THE FOLLOWING REVEGETATION MEASURES ARE TO BE UNDERTAKEN IMMEDIATELY UPON COMPLETION OF EARTHWORKS.
 - CUT & FILL BATTERS 1 ON 4 OR STEEPER TO BE HYDROMULCHED.
 - VERGES & ALLOTMENTS TO BE GRASS SEED.
 - PLACE TURF STRIPS BEHIND ALL KERB LINES.
- REVEGETATION IS TO BE WATERED & MAINTAINED UNTIL GROWTH IS ESTABLISHED.
- CONTRACTOR TO PROVIDE DUST SUPPRESSION MEASURES AS REQUIRED.

11. SEDIMENT BASIN

- INLET PROTECTION TO MINIMIZE SCOUR & EVENLY DISTRIBUTE FLOW THROUGH BASIN.
- A MARKER PEG SHOULD BE INSTALLED TO SHOW THE STORAGE DEPTH. SEDIMENT SHALL BE REMOVED FROM BASIN WHEN 30% STORAGE DEPTH IS ENCROACHED & APPROPRIATELY DISPOSED ON SITE BY RESPRADING IN AREAS OF NON-EROSIVE FLOWS.

12. DESIGN CRITERIA FOR CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN TO BE IN ACCORDANCE WITH SECTION CPI.05 OF THE FNQROC DEVELOPMENT MANUAL.

SEDIMENT BASIN CALCS

EXPECTED LIFE OF EROSION CONTROL MEASURES 0-6 MONTHS.
DESIGN ARI = 10 YEAR, 6 HOUR STORM

SEDIMENT BASIN 1

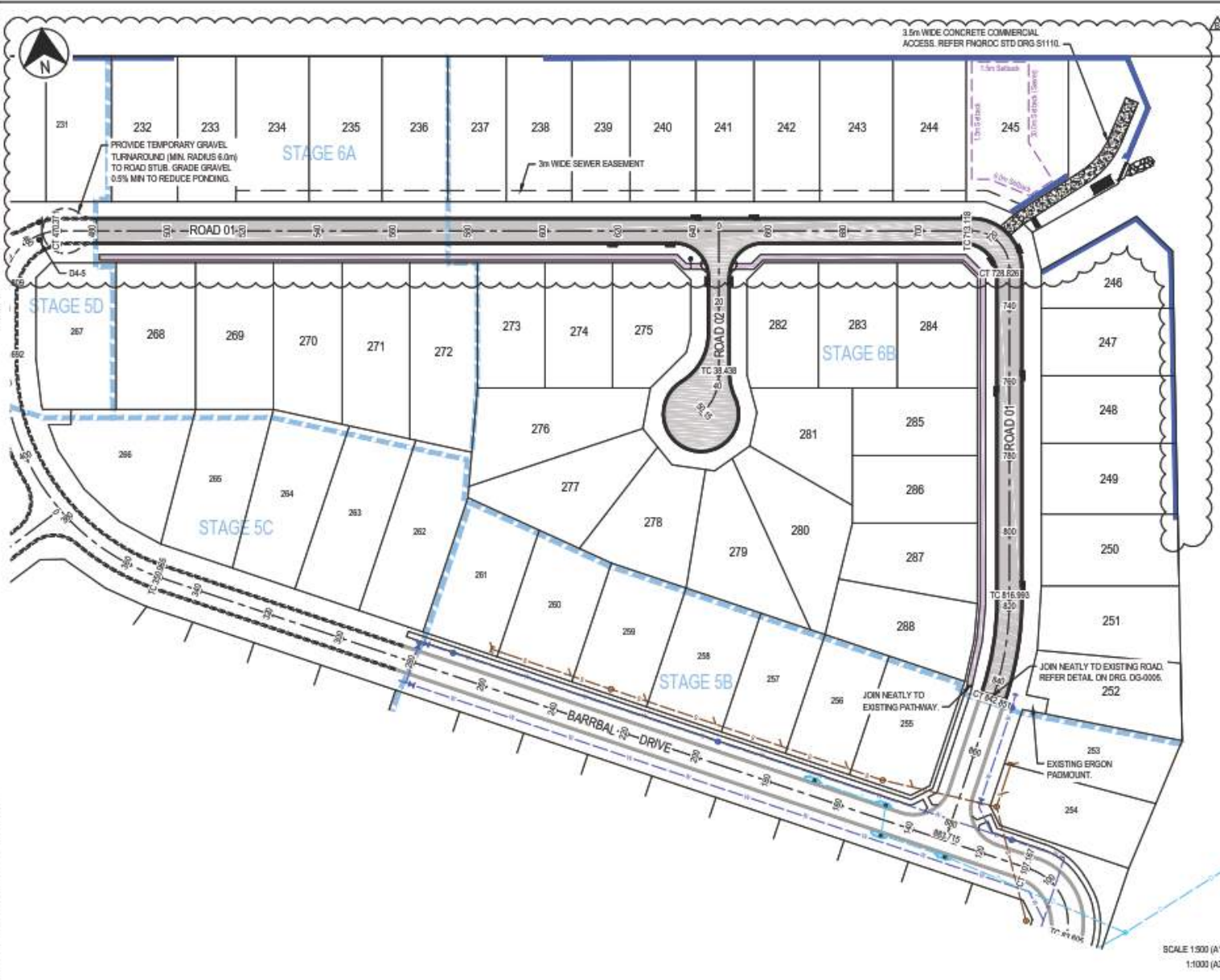
AREA = 0.70ha
I = 34.2mm/hr
C = 0.7
Q = 50L/s
TARGET PARTICLE SIZE = 0.05mm
SETTLING VELOCITY = 0.0019m/s
THEREFORE, BASIN AREA = 635m²m³/s
BASIN AREA = 29.6m²
LENGTH:WIDTH RATIO = 3:1
9.5m LONG X 3.2m WIDE X 0.82m DEEP

SEDIMENT BASIN 2

AREA = 2.96ha
I = 34.2mm/hr
C = 0.7
Q = 200L/s
TARGET PARTICLE SIZE = 0.05mm
SETTLING VELOCITY = 0.0019m/s
THEREFORE, BASIN AREA = 635m²m³/s
BASIN AREA = 125m²
LENGTH:WIDTH RATIO = 3:1
19.4m LONG X 6.5m WIDE X 0.82m DEEP

 										CLIENT: JONPA PTY LTD PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B		TITLE: GENERAL NOTES	
SHEET NO: 01 OF 01 DATE: 18/02/17 DRAWN: NADIA DODD BALL CHECKED: NADIA DODD BALL APPROVED: NADIA DODD BALL										DRAWN: NADIA DODD BALL CHECKED: NADIA DODD BALL APPROVED: NADIA DODD BALL		DATE: 18/02/17 SCALE: 1:1 SHEET NO: 01 OF 01	

DATE: 08/08/17 11:43:41 AM NAME: WARDEN HILL LOCATION: COOYA BEACH STAGES 5A-6B PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A-6B DRAWING NO: OP2417/2017



LEGEND

- ASPHALT SEALED PAVEMENT
- CONCRETE PATHWAY (1.5m WIDE U.N.D.)
- KERB RAMP
- STREET/PATHWAY SIGN
- STAGE BOUNDARY
- RETAINING WALL
- D4-5
- EASEMENT BOUNDARY
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER
- BUILDING LOCATION ENVELOPE

NOTE
FOR NOTES REFER DG-0002.



REV	DATE	BY	CHKD	APPD	DESCRIPTION
B	08/08/17	WAD	DNB		LOT LAYOUT REVISED, RETAINING WALL ADDED
A	01/12/17	WAD	DNB		FINAL ISSUE



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 Sydney NSW 2000
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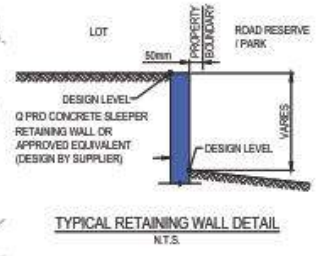
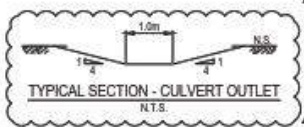
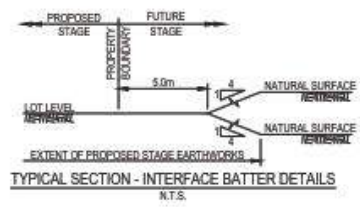
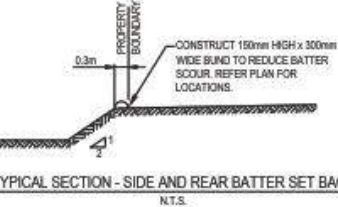
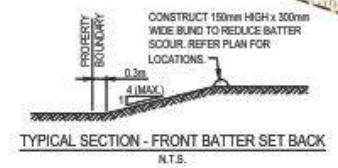
CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNER: DNW	DESIGNED BY: DNW	APPROVED: DANLEWAN	APPROVED: R.J. CARMAN
DATE: 08/08/17	DATE: 08/08/17	DATE: 01/12/17	DATE: 01/12/17

TITLE: GENERAL ARRANGEMENT		SCALE: 1:500 (A1)	PROJECT NO: IH132900-CL-DG-0003
			REV: B



- LEGEND**
- AREAS OF FILL
 - FINISHED SURFACE LEVEL
 - NATURAL SURFACE LEVEL
 - FALL OF LOTS
 - CONCRETE PATHWAY (1.5m WIDE U.N.D.)
 - BATTER
 - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.2m INTERVAL)
 - EXISTING SURFACE CONTOURS (0.25m INTERVAL)
 - RETAINING WALL, REFER DETAIL
 - BATTER BLIND
 - EASEMENT BOUNDARY
 - MINIMUM LEVEL OF LOT ABLE TO BE SERVICED BY SEWER
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - BUILDING LOCATION ENVELOPE

NOTE
FOR NOTES REFER DG-0002



SCALE 1:500 (A1)
1:1000 (A3)

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NO.	DATE	BY	CHKD	APPV	REVISION																																
1	11.12.17	SM	RUC	SM	INITIAL ISSUE																																
2					LOT LAYOUT & EARTHWORKS REVISED																																
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DESIGNED BY:	DESIGNED CHECK:	APPROVED:																																			
SM	RUC	D.McEWAN																																			
DATE: 01.12.17	DATE: 01.12.17	DATE: 01.12.17																																			

DATE: 18/03/11 08:48 AM NAME: WAF 030 FALL
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CONTROL LINE ROAD 01 SETOUT

CHAINAGE	COORDINATES		BEARING DEG MIN SEC	RADIUS OF CURVATURE	TANGENT LENGTH	ARC LENGTH
	EASTING	NORTHING				
0.000	9057.335	80368.785	23° 50' 4"	STRAIGHT	-	-
83.605	9091.620	80445.264	23° 50' 4"	-15.000	15.000	23.952
IP 95.386	9097.681	80456.985	-	-	-	-
107.167	9063.961	80465.046	293° 50' 6"	STRAIGHT	-	-
350.965	8860.955	80563.566	-	61.500	44.258	76.726
IP 389.328	8820.472	80581.451	-	61.500	-	-
427.692	8834.572	80625.519	5° 18' 58"	STRAIGHT	-	-
446.809	8826.343	80644.555	5° 18' 58"	15.000	15.000	23.952
IP 458.690	8827.733	80659.480	-	15.000	-	-
470.371	8842.669	80658.100	95° 18' 58"	STRAIGHT	-	-
713.118	9084.371	80635.610	95° 18' 58"	10.000	10.000	15.708
IP 720.972	9094.328	80634.983	-	10.000	-	-
728.826	9093.492	80634.726	185° 18' 58"	STRAIGHT	-	-
816.993	9085.233	80636.838	185° 18' 58"	80.000	13.042	25.857
IP 829.922	9084.034	80623.952	-	80.000	-	-
842.851	9078.754	80612.022	293° 50' 6"	STRAIGHT	-	-
130.913	9062.240	80474.642	293° 50' 6"	STRAIGHT	-	-

CONTROL LINE ROAD 02 SETOUT

CHAINAGE	COORDINATES		BEARING DEG MIN SEC	RADIUS OF CURVATURE	TANGENT LENGTH	ARC LENGTH
	EASTING	NORTHING				
0.000	9017.290	80641.852	185° 18' 58"	STRAIGHT	-	-
38.438	9013.729	80603.579	185° 18' 58"	13.449	6.257	11.712
IP 44.294	9013.149	80597.350	-	13.449	-	-
50.150	9008.011	80563.780	225° 12' 45"	STRAIGHT	-	-

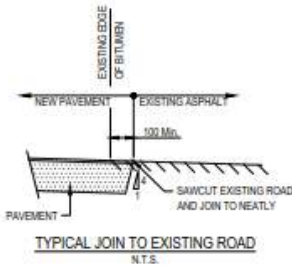
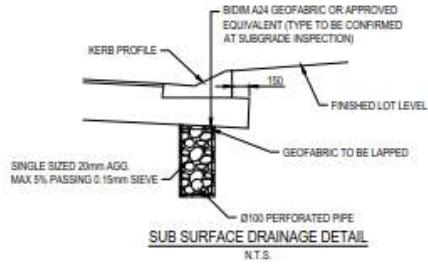
TABLE OF WIDTHS

ROAD	CARRIAGEWAY WIDTH (m)	VERGE WIDTH (m)		RESERVE WIDTH (m)
		LHS	RHS	
ROAD 01	6.50	4.50	5.25	16.25
CH 480 - 720	6.50	5.25	5.25	17
CH 720 - END	6.50	5.25	5.25	17
ROAD 02	5.50	4.75	4.75	15

PROVISIONAL PAVEMENT DETAILS

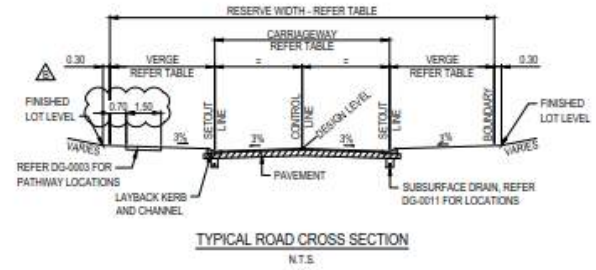
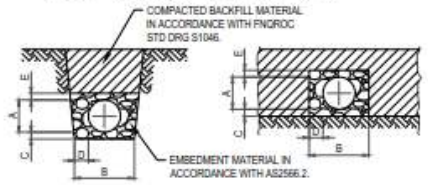
ROAD	SURFACING	SUBBASE CBR 45 (mm)	BASE CBR 60 (mm)
ROAD 01	30mm ASPHALT	100	100
ROAD 02	30mm ASPHALT	100	100

NOTES
 PROVISIONAL PAVEMENT DESIGN IS BASED ON AN ASSUMED SUBGRADE SOAKED CBR OF 10. THE CONTRACTOR IS TO CONFIRM SUBGRADE CBR DURING CONSTRUCTION AND THE PAVEMENT DESIGN MAY BE AMENDED ACCORDINGLY BY THE DOUGLAS SHIRE COUNCIL.



BLACKMAX PIPE BEDDING DIMENSIONS

DN	DIMENSIONS (mm)				
	A	B	C	D	E
225	299	560	100	150	150
300	364	645	100	150	150
375	428	730	100	200	150
450	514	915	100	200	150
525	600	1200	150	300	150
600	682	1285	150	300	150



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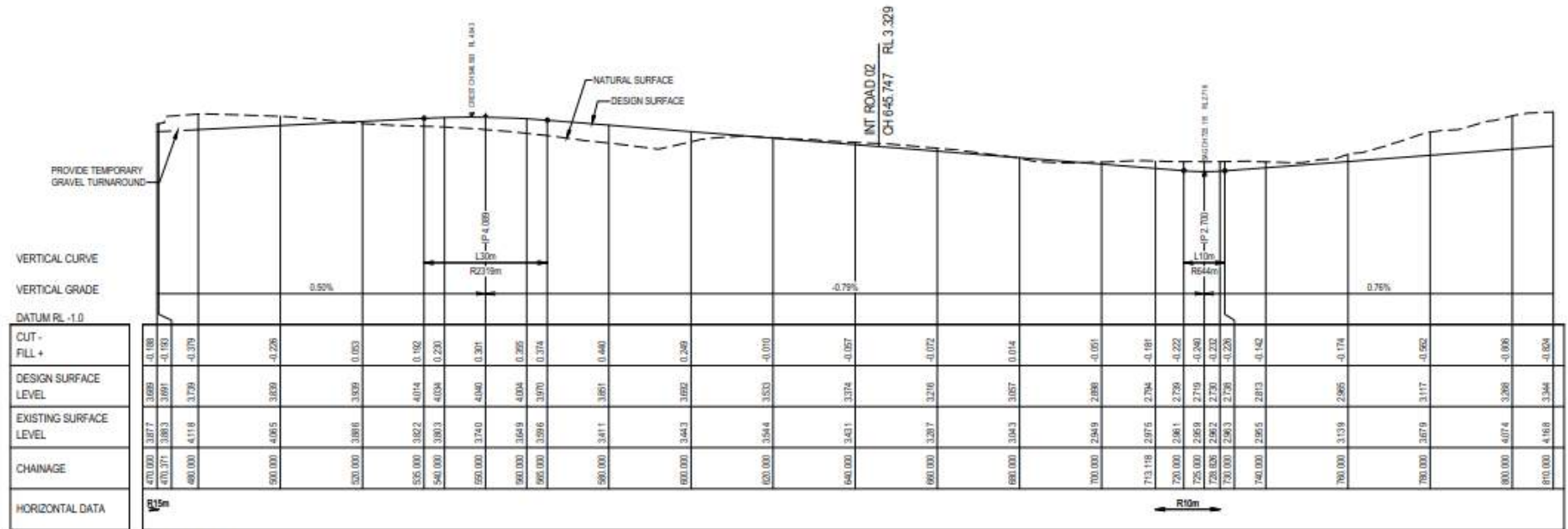
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A	01/12/17	WAF	WAF	INITIAL ISSUE



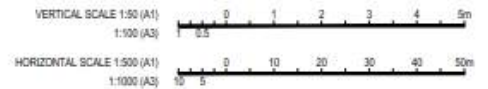
1800 100 000 000 and 000 000 000
 2000 South Australia Place
 2000 South Australia Place
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CLIENT		PROJECT	
JONPA PTY LTD		OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 5B	
DATE	ISSUED BY	DATE	ISSUED BY
01/12/17	WAF	01/12/17	WAF

TITLE		SCALE	
MISCELLANEOUS SECTIONS AND DETAILS		N.T.S.	
DATE	ISSUED BY	DATE	ISSUED BY
01/12/17	WAF	01/12/17	WAF



LONGITUDINAL SECTION ROAD 01
SCALE 1:500H
1:50V



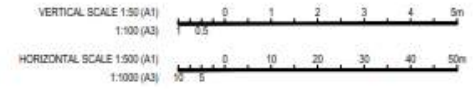
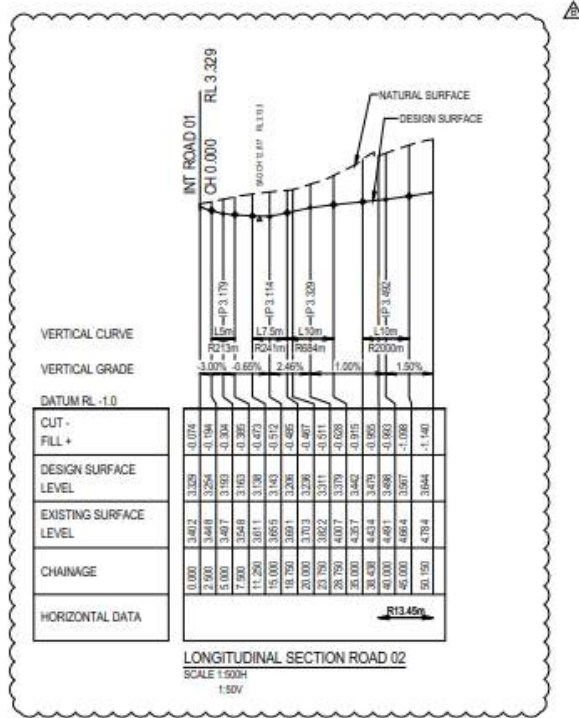
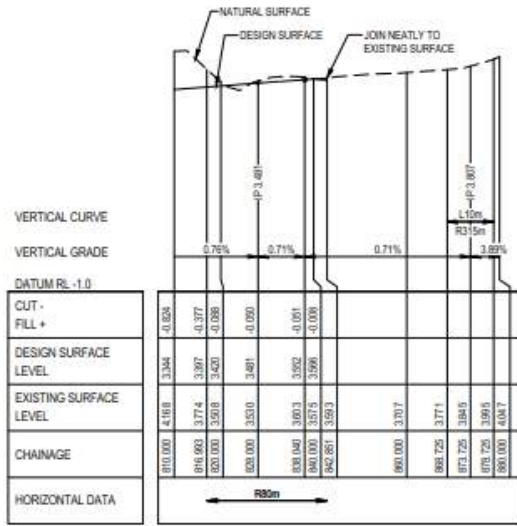
REV	DATE	BY	CHKD	APP'D	REVISION



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 Fax: +61 8 9439 8001
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CLIENT	JONPA PTY LTD	
PROJECT	OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DRAWN	DESIGNED/DRAWN	APPROVED
D.McEWAN	R.J.CARMAN	
DATE: 01/12/17	DATE: 01/12/17	

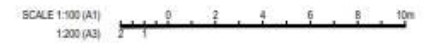
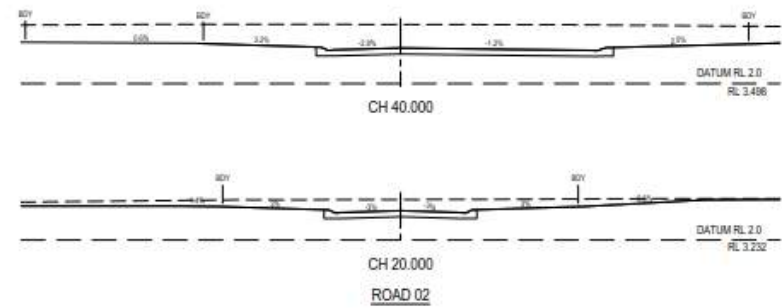
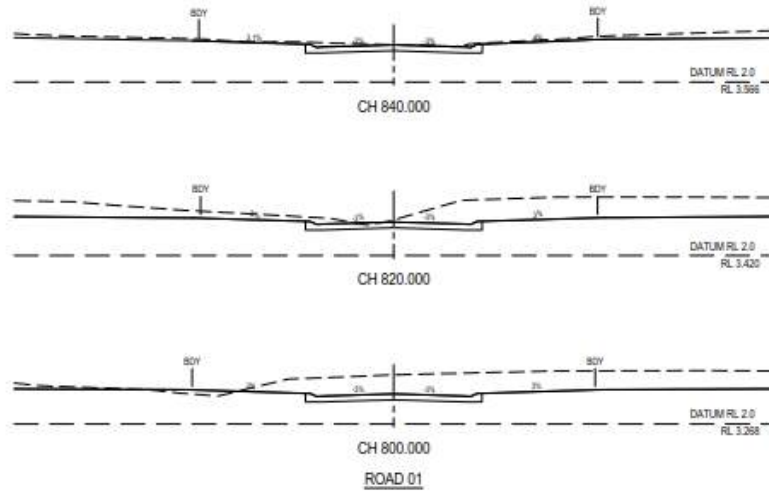
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SHEET	SHEET 1 OF 2	
SCALE	1:500 (A1)	1:1000 (A3)
PROJECT NO.	IH132900-CI-DG-0006	





CLIENT	JONPA PTY LTD
PROJECT	OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 6B
DRAWN	REVISED CHECK
CHECKED	DATE
DATE	DATE
DATE	DATE

ROAD LONGITUDINAL SECTIONS SHEET 2 OF 2	
SCALE	1:500 (A1) 1:1000 (A3)
PROJECT NO	IH132900-CI-DG-0007
DATE	11/01/17
DATE	11/01/17
DATE	11/01/17



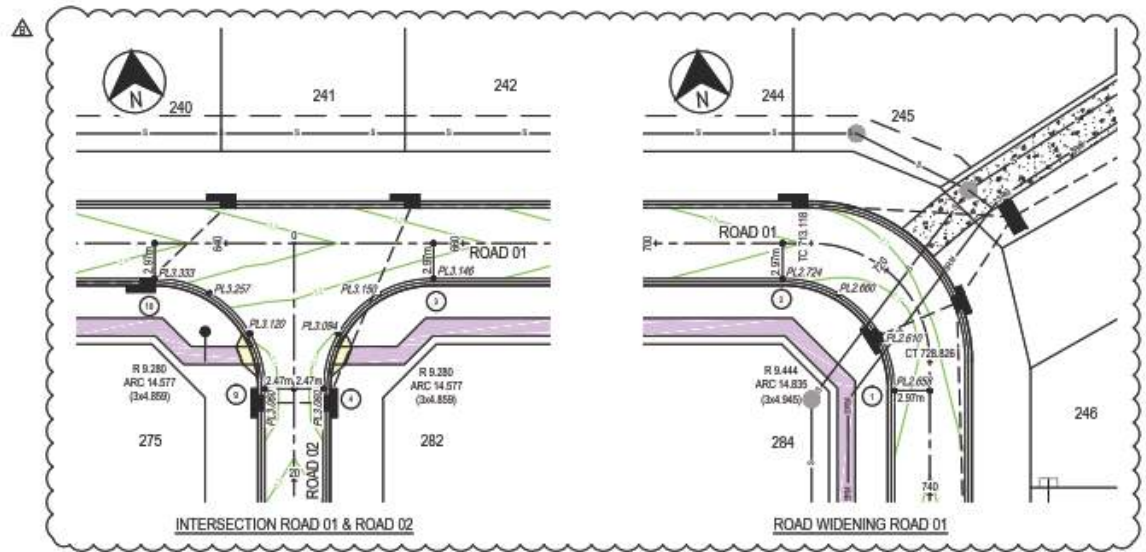
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CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNER: JCB	DESIGNED BY: D.MEYER	DATE: 18.12.17	APPROVED BY: R.J. CARMAN
DATE: 18.12.17	DATE: 18.12.17	DATE: 18.12.17	DATE: 18.12.17

TITLE: ROAD CROSS SECTIONS SHEET 2 OF 2		NO: 17/11/17	PROJECT: IH132900-CL-DG-0009	REV: A
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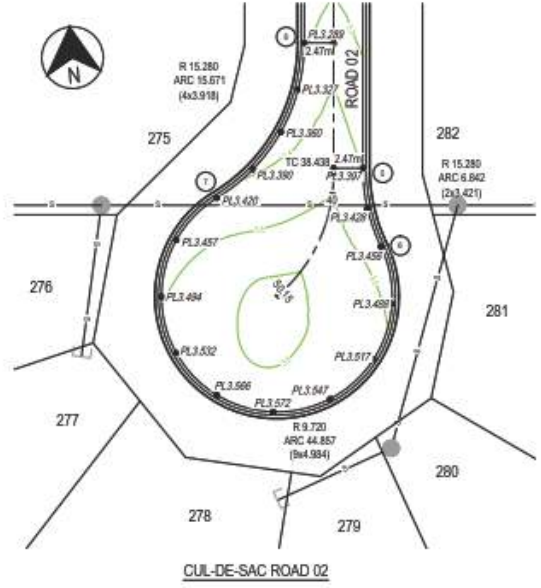
INTERSECTION SETOUT TABLE

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01	9080.221	80622.558
02	9081.692	80632.876
03	9028.715	80637.806
04	9018.615	80629.420
05	9016.238	80603.685
06	9017.125	80607.158
07	9003.762	80602.532
08	9012.297	80614.849
09	9013.696	80629.883
10	9005.316	80639.963

LEGEND

- PL 3.289 PAVEMENT LEVEL OF KERB LIP
- 1 SETOUT POINT
- ▬ LAYBACK KERBS AND CHANNEL
- OR ■ KERB INLET PIT
- - - PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED SEWER RISING MAIN
- DESIGN SURFACE CONTOURS (0.1m INTERVAL)
- STREET SIGN
- ▽ KERB RAMP
- ▬ CONCRETE PATHWAY (1.5m WIDE U.N.D.)

NOTE
FOR NOTES REFER DG-0002.



REV	DATE	BY	CHKD	APPV	REVISION	DRAWING NUMBER	REFERENCE DRAWING TITLE



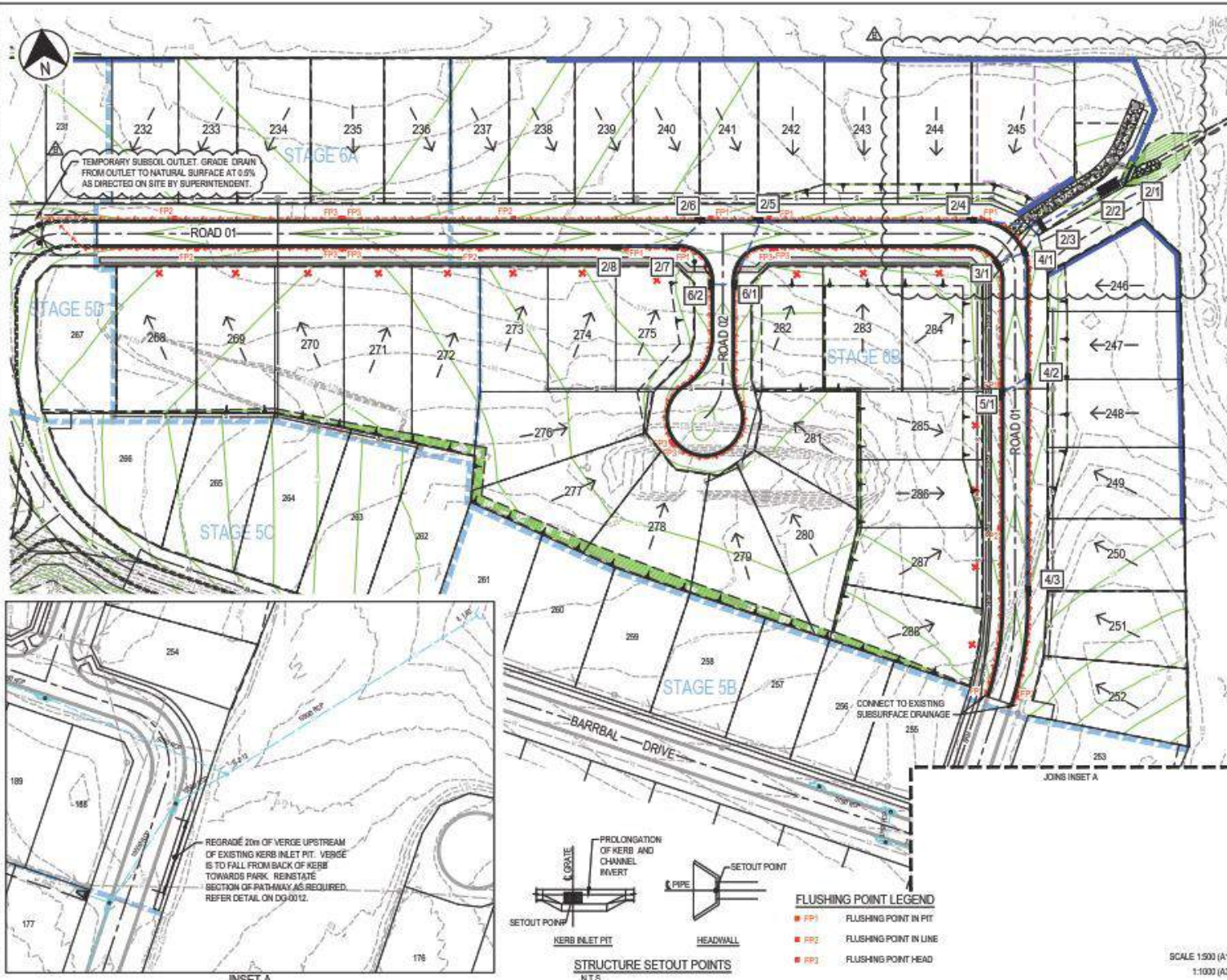
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 A subsidiary of Jacobs Group Limited
 Jacobs Group Limited Pty Ltd
 G/Level, 100 St Georges Quay
 Adelaide, SA 5000
 Australia
 Tel: +61 8 824 8888 Fax: +61 8 824 8887
 Email: info@jacobs.com.au

CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNED BY: SMD	DESIGNED CHECK: RJB	APPROVED BY: D.MCLEWAN	APPROVED BY: R.J.CARMAN
DRAWN BY: SMD	CHECKED BY: SMD	DATE: 01.12.17	SCALE: 1:200 (A1)

TITLE: INTERSECTION DETAILS		SCALE: 1:200 (A1)	PROJECT NO: IH132900-CL-DG-0010	REV: B
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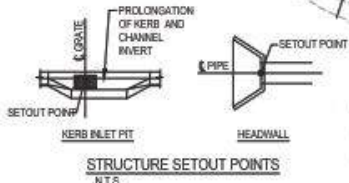
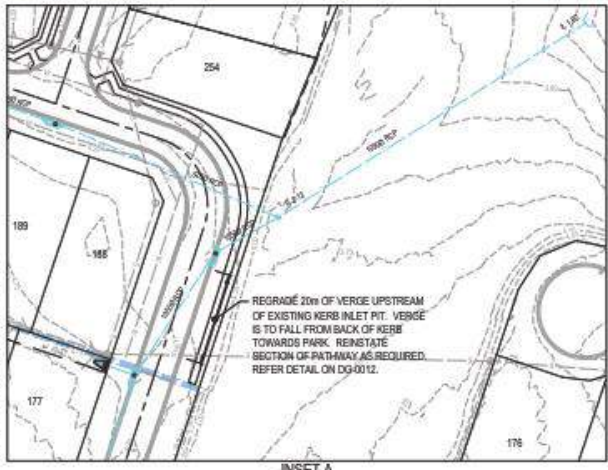
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DATE: 28/05/17 11:05 AM NAME: MARYBOROUGH DATE: 01/06/2017 10:00 AM PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 6A

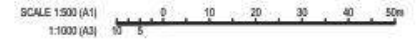


- LEGEND**
- 2/1 LINE NUMBER / STRUCTURE No.
 - STORMWATER DRAINAGE PIPE & MANHOLE
 - SUBSURFACE DRAINAGE
 - PROPOSED SEWER
 - PROPOSED SEWER RISING MAIN
 - KERB INLET PIT
 - HEADWALL
 - FALL OF LOTS
 - BATTER
 - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.2m INTERVAL)
 - EXISTING SURFACE CONTOURS (0.25m INTERVAL)
 - RETAINING WALL
 - GROUTED STONE PITCHING SCOUR PROTECTION (10m NOMINAL)
 - EASEMENT BOUNDARY
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - PROVIDE 3x1000 ØPVC ROOFWATER PIPES AS PER FNQRC STD DRG 1035

NOTE
FOR NOTES REFER DG-0002.



- FLUSHING POINT LEGEND**
- FLUSHING POINT IN PIT
 - FLUSHING POINT IN LINE
 - FLUSHING POINT HEAD

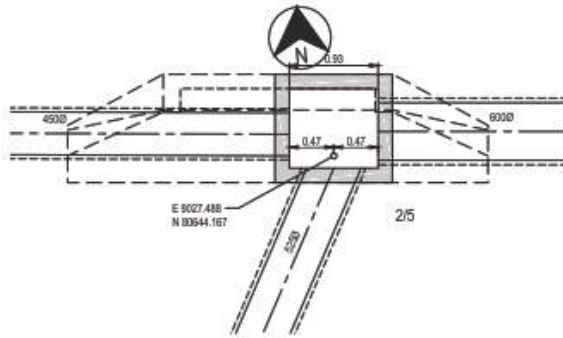


NO.	REVISED	DATE	BY	CHKD.	DESCRIPTION
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2					DETAILS

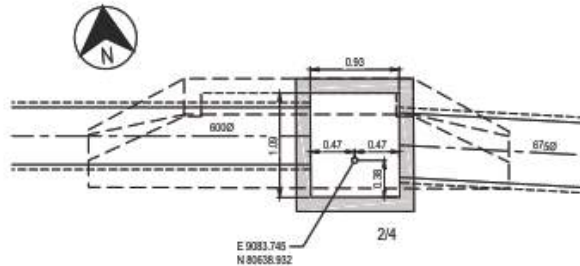


CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 6A	
DESIGNER: SWS	DRAWN BY: RJB	DATE: 01/12/17	DATE: 01/12/17
CHECKED BY: RJB	APPROVED BY: R.J. CARMAN		

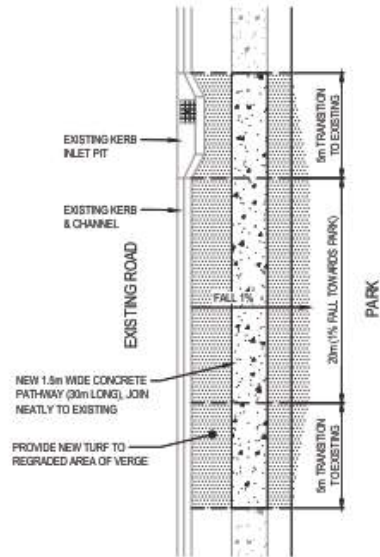
TITLE: STORMWATER DRAINAGE	
SCALE: 1:500 (A1)	PROJECT NO: IH132900-CL-DG-0011



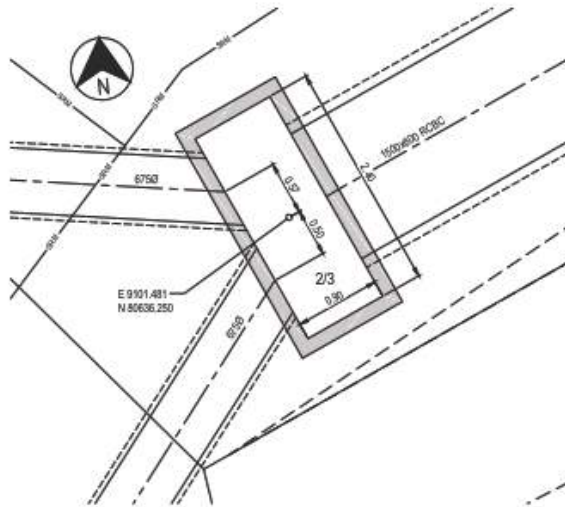
STORMWATER PIT 2/5 DETAIL
SCALE 1:25



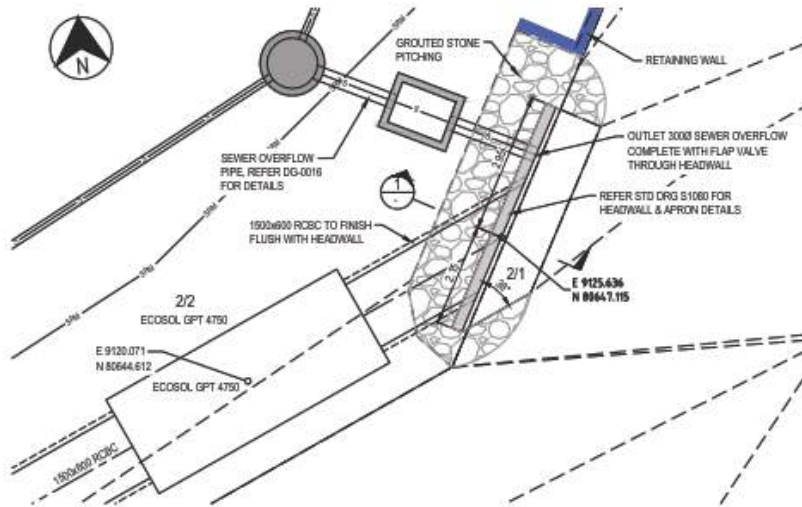
STORMWATER PIT 2/4 DETAIL
SCALE 1:25



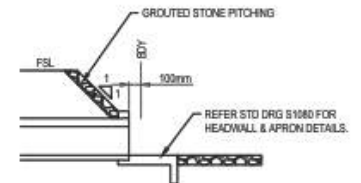
REGRADE EXISTING VERGE DETAIL
N.T.S.



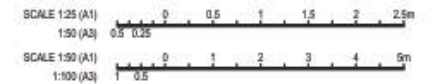
STORMWATER PIT 2/3 DETAIL
SCALE 1:25



STORMWATER PIT 2/1 DETAIL
SCALE 1:50



SECTION 1
SCALE 1:50

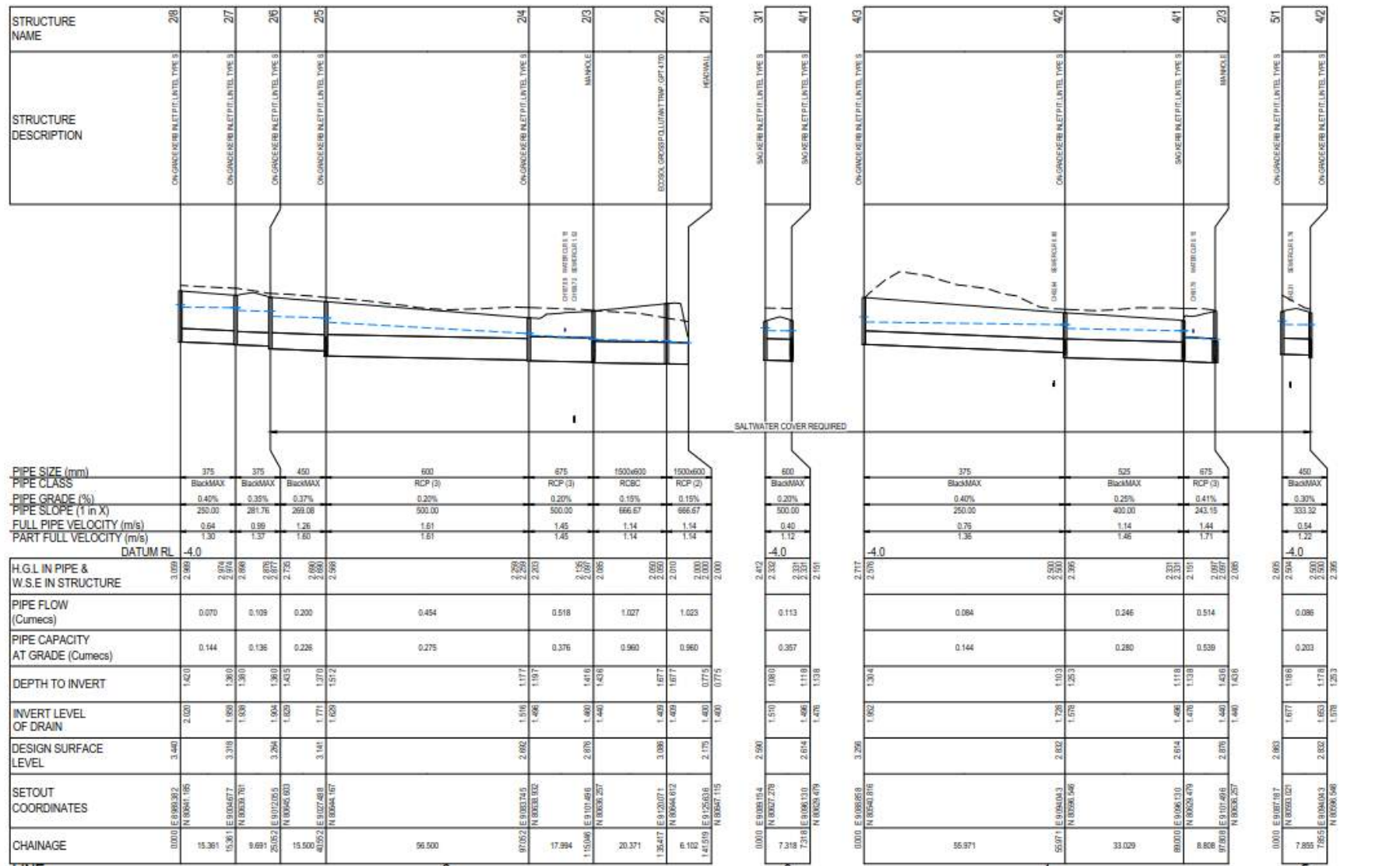


NO	DATE	ISSUED	REVISED	APPROVED	REVISION	DRAWING NUMBER	REFERENCE DRAWING TITLE



CLIENT JONPA PTY LTD		TITLE STORMWATER DRAINAGE DETAILS	
PROJECT OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B		DRAWN R.J. CARMAN	
DRAWN R.J. CARMAN	CHECKED D. MCKEOWN	DATE 01.12.17	APPROVED R.J. CARMAN
DESIGNED R.J. CARMAN	PROJECT/WORK R.J. CARMAN	DATE 01.12.17	DATE 01.12.17

SCALE AS SHOWN	REVISION NO. 1	REVISION IH132900-CL-DG-0012	NO. B
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LINE	2	3	4	5
PIPE SIZE (mm)	375	500	375	450
PIPE CLASS	BlackMAX	BlackMAX	BlackMAX	BlackMAX
PIPE GRADE (%)	0.40%	0.20%	0.40%	0.30%
PIPE SLOPE (1 in X)	250.00	500.00	250.00	333.32
FULL PIPE VELOCITY (m/s)	0.64	1.14	0.76	0.54
PART FULL VELOCITY (m/s)	1.30	1.45	1.36	1.22
DATUM RL	-4.0	-4.0	-4.0	-4.0
H.G.L. IN PIPE & W.S.E IN STRUCTURE	3.059 2.989	2.920 2.229 2.203	2.930 2.366	2.805 2.594 2.500 2.396
PIPE FLOW (Cumecs)	0.070	0.518	0.084	0.086
PIPE CAPACITY AT GRADE (Cumecs)	0.144	0.376	0.144	0.203
DEPTH TO INVERT	1.420	1.516 1.486 1.197	1.304	1.166 1.677
INVERT LEVEL OF DRAIN	2.000	1.516 1.486 1.470	1.662	1.677 1.662 1.378
DESIGN SURFACE LEVEL	3.440	2.682	3.296	2.682
SETOUT COORDINATES	0.000 E 0.980.362 N 80641.165	9752.2 E 0.983.145 N 80633.832	55.971 E 0.980.043 N 80626.046	0.000 E 0.987.817 N 80653.021
CHAINAGE	0.000 15.361 15.361 9.691 20.052 15.500 40.052	96.500 9752.2 17.994 1.500 20.371 1.3617 6.102 1.41219	55.971 33.029	0.000 7.895 7.895



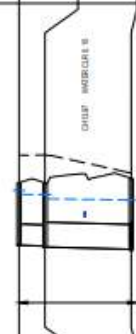
NO.	DATE	BY	CHK	DESC
1	18/04/2017	MF	DM	LOWY SECTIONS REVISED
2	18/04/2017	MF	DM	FINAL ISSUE



CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNER: MF	DESIGNED BY: DM	APPROVED BY: D. McEWAN	DATE: 18/04/17
CHECKED BY: DM	DATE: 18/04/17	APPROVED BY: R.J. CARMAN	DATE: 21/12/17

PROJECT: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2	
SCALE: 1:500 (A3)	PROJECT NO: IH132900-CI-DG-0013

STRUCTURE NAME	6/2	6/1	2/5
STRUCTURE DESCRIPTION	SAG INVERT INLET (PT/LINEL TYPE S)	SAG INVERT INLET (PT/LINEL TYPE S)	CONCRETE INVERT (PT/LINEL TYPE S)



PIPE SIZE (mm)	400	525
PIPE CLASS	BlackMAX	BlackMAX
PIPE GRADE (%)	0.30%	0.25%
PIPE SLOPE (1 in X)	333.33	400.00
FULL PIPE VELOCITY (m/s)	0.60	0.93
PART FULL VELOCITY (m/s)	1.26	1.41

DATUM RL	-3.0	
H.G.L IN PIPE & W.S.E IN STRUCTURE	2.884 2.880 2.883 2.884	2.600 2.600 2.600 2.598
PIPE FLOW (Cumecs)	0.086	0.201
PIPE CAPACITY AT GRADE (Cumecs)	0.203	0.280
DEPTH TO INVERT	1.313 1.313 1.329 1.349	1.692 1.692 1.692 1.692
INVERT LEVEL OF DRAIN	1.571 1.571 1.574 1.594	1.659 1.659 1.659 1.659
DESIGN SURFACE LEVEL	3.044 3.044 3.044 3.044	3.147 3.147 3.147 3.147
SETOUT COORDINATES	E 0013.206 N 8008.714	E 0118.792 N 8008.205
CHAINAGE	0.000 5.500	18.257 22.757

LINE 6



NO	DATE	BY	CHKD	APPV	REVISION
1	19/08/2017	MAFI	DCI	ALL	LONG SECTIONS REVISED
2	21/12/17	MAFI	DCI	ALL	NETAL ISSUE



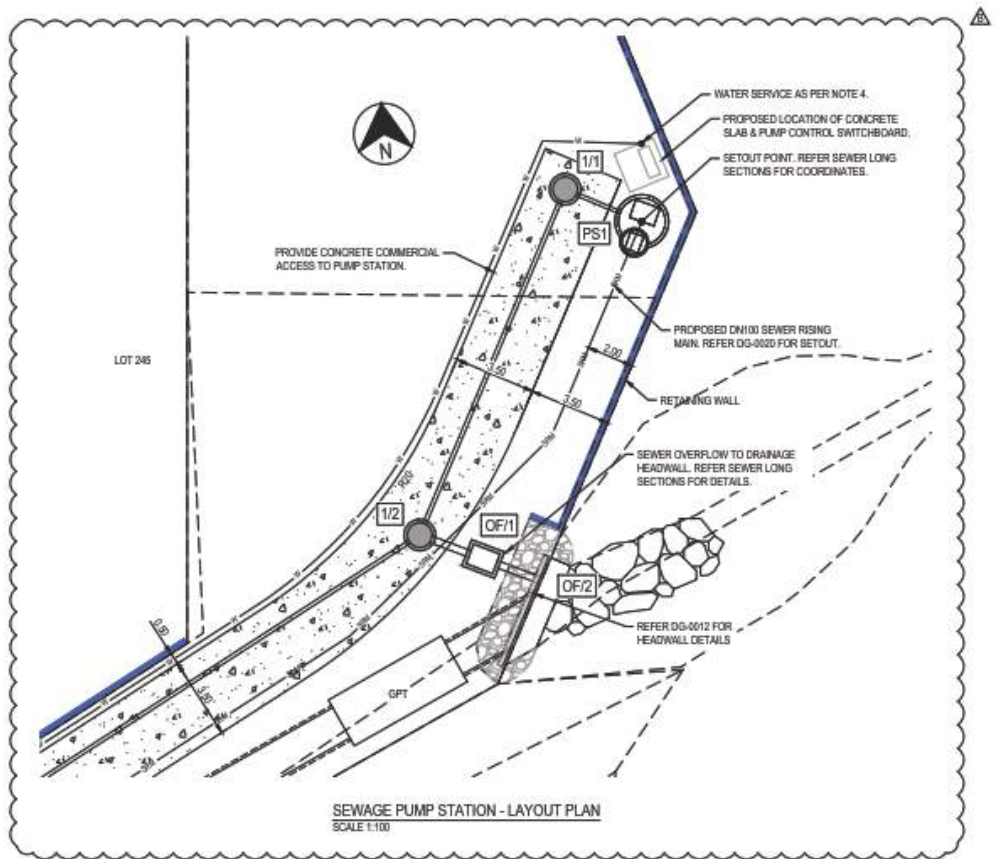
CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNER: MAFI	DESIGNER OFFICE: QLD	INTERVIEWER: D.MURPHY	APPROVER: R.J.CARMAN
DESIGN DATE: 19/08/2017	DESIGN REVISION: RUC	DATE: 21/12/17	DATE: 01/12/17

TITLE: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2		SCALE: 1:500 (A1)	PROJECT NO: IH132900-CI-DG-0014
			REV: B



<table border="1"> <tr> <td>NO.</td> <td>REVISION</td> <td>DATE</td> <td>BY</td> <td>CHKD.</td> <td>DESCRIPTION</td> </tr> <tr> <td>1</td> <td>ISSUED FOR PERMIT</td> <td>21/12/17</td> <td>SMC</td> <td>SMC</td> <td>SEWER LAYOUT REVISED</td> </tr> <tr> <td>2</td> <td>REVISED FOR PERMIT</td> <td>21/12/17</td> <td>SMC</td> <td>SMC</td> <td>REVISED ISSUES</td> </tr> </table>										NO.	REVISION	DATE	BY	CHKD.	DESCRIPTION	1	ISSUED FOR PERMIT	21/12/17	SMC	SMC	SEWER LAYOUT REVISED	2	REVISED FOR PERMIT	21/12/17	SMC	SMC	REVISED ISSUES						CLIENT: JONPA PTY LTD PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B		TITLE: SEWERAGE	
NO.	REVISION	DATE	BY	CHKD.	DESCRIPTION																															
1	ISSUED FOR PERMIT	21/12/17	SMC	SMC	SEWER LAYOUT REVISED																															
2	REVISED FOR PERMIT	21/12/17	SMC	SMC	REVISED ISSUES																															
DESIGNER: D.MCLEWAN DATE: 01/12/17		CHECKER: R.J.CARMAN DATE: 01/12/17		APPROVED: R.J.CARMAN DATE: 01/12/17		SCALE: 1:500 (A1)		DRAWING NO: JH132900-CI-DG-0015																												

DATE: 18/02/17 11:52:28 AM
 NAME: MARJORIE PULL
 LOCATION: C:\h:\proj\2017\01\Ocean Breeze\01-132900-CI-DG-0016-C001.DWG 73 m (243 ft) from origin
 SCALE: 1:100
 PROJECT: OCEAN BREEZE ESTATE - COOVA BEACH - STAGES 6A & 6B
 SHEET: CI-DG-0016



SEWAGE PUMP STATION - LAYOUT PLAN
SCALE 1:100

NOTES

- CONTRACTOR TO PROVIDE MULLALLY ENGINEERING (OR APPROVED EQUIVALENT) FRP PACKAGED PUMP STATION, COMPLETE WITH REINFORCED CONCRETE ROOF SLAB IN ACCORDANCE WITH FNQROC STD. DRG. S3025 AND THE SPECIFICATION. THE CONTRACTOR IS TO SUBMIT 'MULLALLY ENGINEERING' SHOP DRAWINGS AND BUOYANCY CALCULATIONS TO SUPERINTENDENT FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR TO CONFIRM WITH PACKAGED PUMP STATION SUPPLIER THE MAXIMUM SLAB THICKNESS/WEIGHT THAT CAN BEAR ONTO PUMP STATION.
- NO LADDER AND PLATFORM REQUIRED WITH NEW PUMP STATION - ACCESS TO BE UNDERTAKEN BY PERSONNEL TRAINED IN CONFINED SPACE TRAINING.
- CONTRACTOR TO PROVIDE CONCRETE PLINTH FOR SWITCHBOARD IN ACCORDANCE WITH FNQROC STD DRG S3020. SUPERINTENDENT TO CONFIRM LOCATION.
- CONTRACTOR TO PROVIDE 25mm WATER SERVICE COMPLETE WITH RP20. REFER FNQROC STD DRG S3038 FOR STANDARD ARRANGEMENT. SUPERINTENDENT TO CONFIRM LOCATION.
- DUTY POINT FOR PUMPS TO BE 4.35 L/S @ 7.07m HEAD.

PUMP STATION CONSTRUCTION LEVELS	
NOMINAL INTERNAL DIAMETER	1.83
FINISHED PUMP STATION LEVEL (A)	3.40
SEWER INLET LEVEL (D)	-0.722
PUMP STATION IL (B)	-1.862
OUTLET IL (E)	2.430

PUMP STATION CONTROL LEVELS	
PUMP STOP LEVEL	-1.522
DUTY PUMP START LEVEL	-1.222
STANDBY PUMP START LEVEL	-1.022
ALARM LEVEL	-0.722



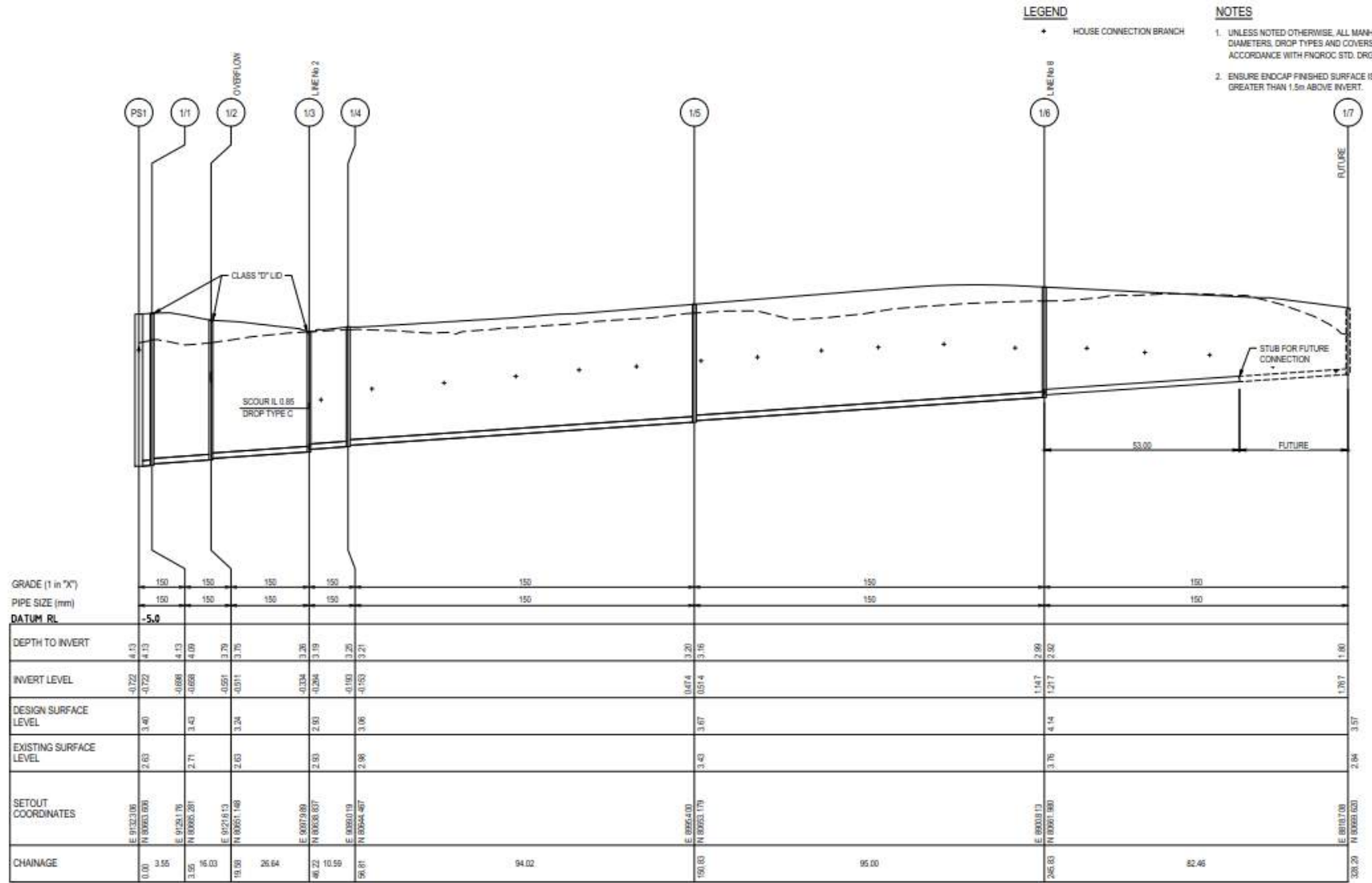
SI	18/02/17	144	RJC	DRG	PUMP STATION AND OVERFLOW REVISION
A	01/12/17	040	RJC	DRG	INITIAL ISSUE
DESIGNER	CHECKER	APPVED			



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 3 Level Street
 COOVA BEACH QLD 4285
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 Fax: +61 7 4384 9887
 www.jacobs.com

CLIENT		JONPA PTY LTD	
PROJECT			
OCEAN BREEZE ESTATE - COOVA BEACH - STAGES 6A & 6B			
DESIGN	DESIGNED BY	APPROVED	
PS1	RJC	D.MCKEAN	R.J.CARMAN
DATE	01.12.17	DATE	01.12.17

TITLE		SEWAGE PUMP STATION DETAILS	
SCALE	150/1	ISSUED BY	IH132900-CI-DG-0016
REV		B	



LEGEND

• HOUSE CONNECTION BRANCH

NOTES

- UNLESS NOTED OTHERWISE, ALL MANHOLE DIAMETERS, DROP TYPES AND COVERS TO BE IN ACCORDANCE WITH PNGROC STD. DRG. 53000.
- ENSURE ENDCAP FINISHED SURFACE IS NO GREATER THAN 1.5m ABOVE INVERT.

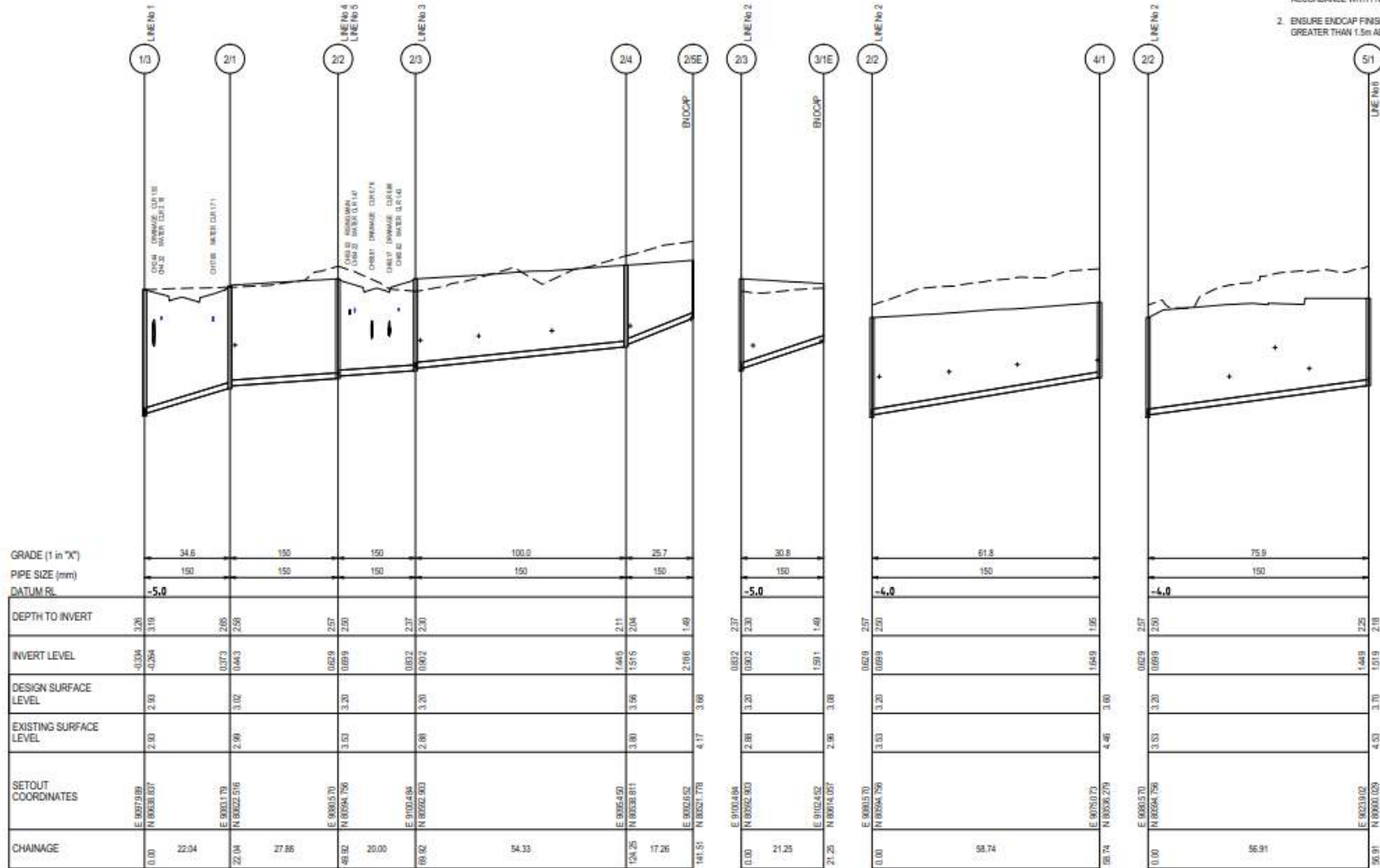


REV	DATE	BY	CHKD	DESCRIPTION
A	11/12/17	SAO	RLC	LONG SECTIONS REVISED
B	15/03/17	SAO	RLC	FINAL ISSUE



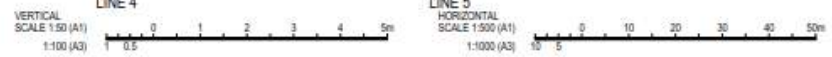
CLIENT: JONPA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B	
DESIGNER: SAO	DRAWING CHECKER: RJC	DATE: 15/03/17	APPROVED: R.J. CARMAN

SHEET: SEWERAGE LONGITUDINAL SECTIONS	
SHEET 1 OF 3	
SCALE: 1:500 (A1)	PROJECT NO: IH132900-CH-DG-0017

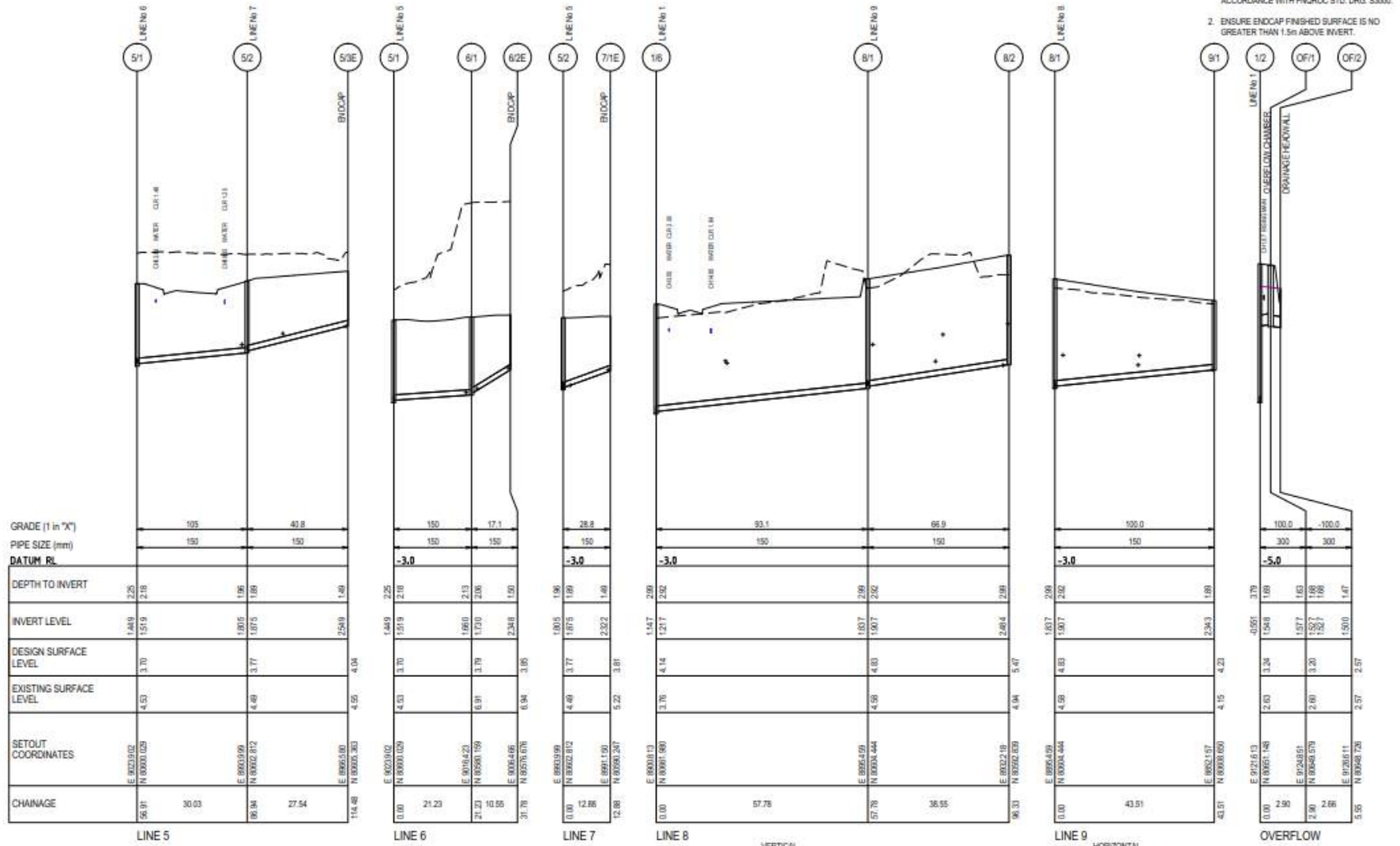


GRADE (1 in "X")	34.6	150	150	100.0	25.7	30.8	81.8	75.9	
PIPE SIZE (mm)	150	150	150	150	150	150	150	150	
DATUM RL	-5.0								
DEPTH TO INVERT	3.26	3.19	2.57	2.50	2.11	2.04	1.95	2.18	
INVERT LEVEL	-0.324	-0.254	0.029	0.099	1.645	1.516	1.648	1.449	
DESIGN SURFACE LEVEL	2.93	3.02	3.20	3.20	3.56	3.80	3.60	3.70	
EXISTING SURFACE LEVEL	2.93	2.98	3.53	3.20	3.80	4.17	4.46	4.53	
SETOUT COORDINATES	E: 9067.9189 N: 87638.837	E: 9061.170 N: 87622.516	E: 9060.570 N: 87694.756	E: 9102.484 N: 87622.903	E: 9065.450 N: 87638.811	E: 9062.452 N: 87614.057	E: 9060.570 N: 87694.756	E: 9060.570 N: 87694.756	E: 90219.02 N: 87600.029
CHAINAGE	0.00	22.34	22.04	27.55	48.92	20.00	68.92	54.33	124.25
CHAINAGE	144.51	144.51	144.51	144.51	144.51	144.51	144.51	144.51	144.51

- LEGEND**
- + HOUSE CONNECTION BRANCH
- NOTES**
- UNLESS NOTED OTHERWISE, ALL MANHOLE DIAMETERS, DROP TYPES AND COVERS TO BE IN ACCORDANCE WITH PNOROC STD. DRG. S3000.
 - ENSURE ENDCAP FINISHED SURFACE IS NO GREATER THAN 1.5m ABOVE INVERT.



				CLIENT: JONPA PTY LTD PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B		SHEET: SEWERAGE LONGITUDINAL SECTIONS SHEET 2 OF 3	
DATE: 18 NOV 15 DRAWN BY: JAC CHECKED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC	DATE: 18 NOV 15 DESIGNED BY: JAC APPROVED BY: JAC



NO.	DATE	BY	CHKD	APPD	DESCRIPTION
1	18/03/17	JACOB	MARJORIE PALL		LONG SECTIONS REVISED
2	18/03/17	JACOB	MARJORIE PALL		INITIAL ISSUE

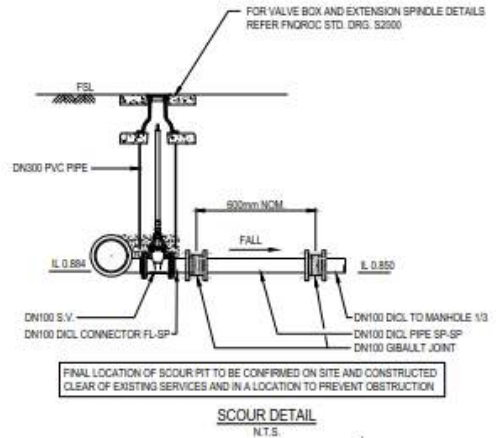


JACOBS
 4001 ST. JOE AVENUE, SUITE 200, DENVER, CO 80202
 TEL: 303.733.4000
 WWW.JACOBS.COM

CLIENT	JONPA PTY LTD
PROJECT	OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B
DESIGNER	JACOB
ENGINEER	RJB
DATE	18/03/17
APPROVED	D.McKEWAN
DATE	18/03/17
APPROVED	R.J.CARMAN
DATE	08/03/17

SHEET		1504.159(V)
PROJECT		IH132900-CH-DG-0019
SHEET		3 OF 3

DATE: 16/07/2017 11:05:49 AM
 MAKE: JACOBS
 LOCATION: C:\Users\jacobson\Documents\Projects\2017\2017-07-16\2017-07-16\2017-07-16.dwg
 DRAWING: 1112

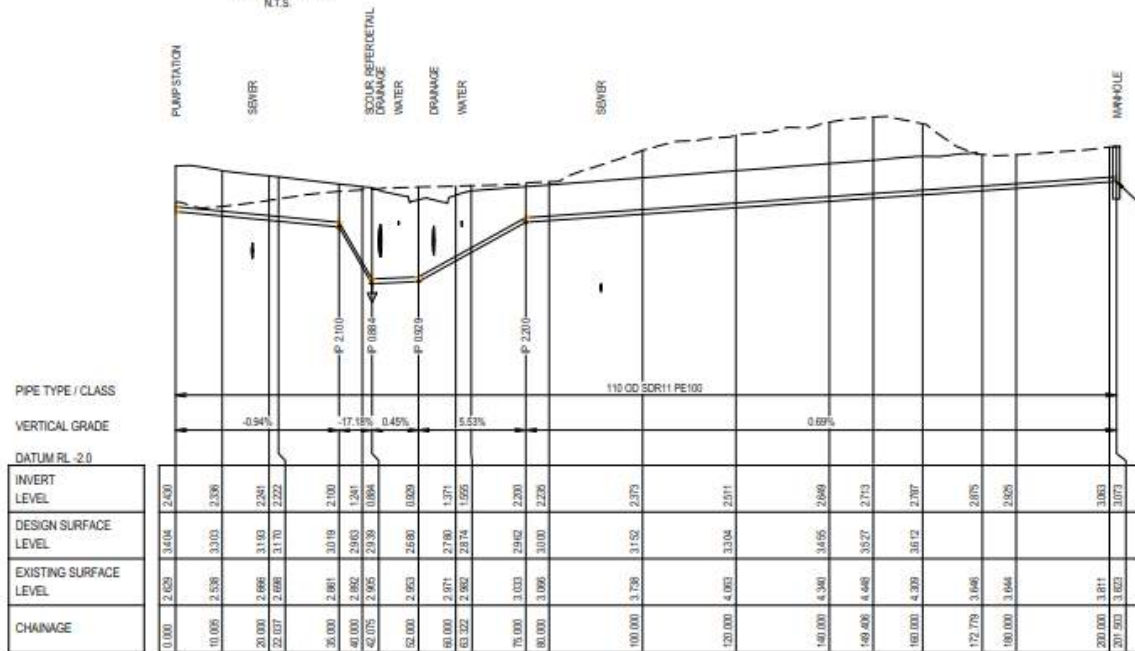


STANDARD DRAWING REFERENCE

1. MARKER POSTS ARE TO BE PROVIDED AT ALL HORIZONTAL CHANGES IN DIRECTION AND VERTICALS IN ACCORDANCE WITH FNQROC STD DRG S2011.
2. THRUST BLOCKS ARE TO BE PROVIDED TO ALL HORIZONTAL AND VERTICAL BENDS IN ACCORDANCE WITH SEQ-WAT-1205 & 1206.

SEWER RISING MAIN SETOUT

CHAINAGE	COORDINATES		BEARING DEG MIN SEC
	EASTING	NORTHING	
0.000	8132.306	80693.606	208° 9' 11"
10.005	8127.585	80654.785	230° 39' 11"
22.037	8118.280	80647.166	242° 28' 28"
42.075	8100.511	80637.866	222° 13' 20"
63.322	8086.233	80622.162	189° 18' 58"
149.406	8078.257	80536.446	190° 32' 25"
172.775	8073.962	80513.469	203° 50' 6"
201.553	8062.374	80487.195	203° 50' 6"



NEW MANHOLE ON EXISTING SEWER. REFER FNQROC STD DRG S3000 FOR RISING MAIN DISCHARGE TO MANHOLE DETAIL. ALL INTERNAL SURFACES SHALL BE COATED WITH PEEL-LESS EMULSION "EPICEN 1511" OF WATTS. "SIGMA GUARD CSP 70" (WHITE OR OFF WHITE). THE CONCRETE SURFACE SHALL BE SMOOTH AND FREE FROM HOLES AND LIGHTLY SANDBLASTED OR ACID ETCHED BEFORE PAINTING. THE CONCRETE SURFACE SHALL HAVE CURED FOR NOT LESS THAN 28 DAYS. THE PAINT SHALL BE APPLIED IN TWO COATS WITH A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 600 MICRONS.

LONGITUDINAL SECTION SEWER RISING MAIN
SCALE 1:50H



NO.	DATE	BY	CHK	DESC
1	16/07/2017	JAC	JAC	LONG SECTION REVISION
2	16/07/2017	JAC	JAC	REVAL ISSUE

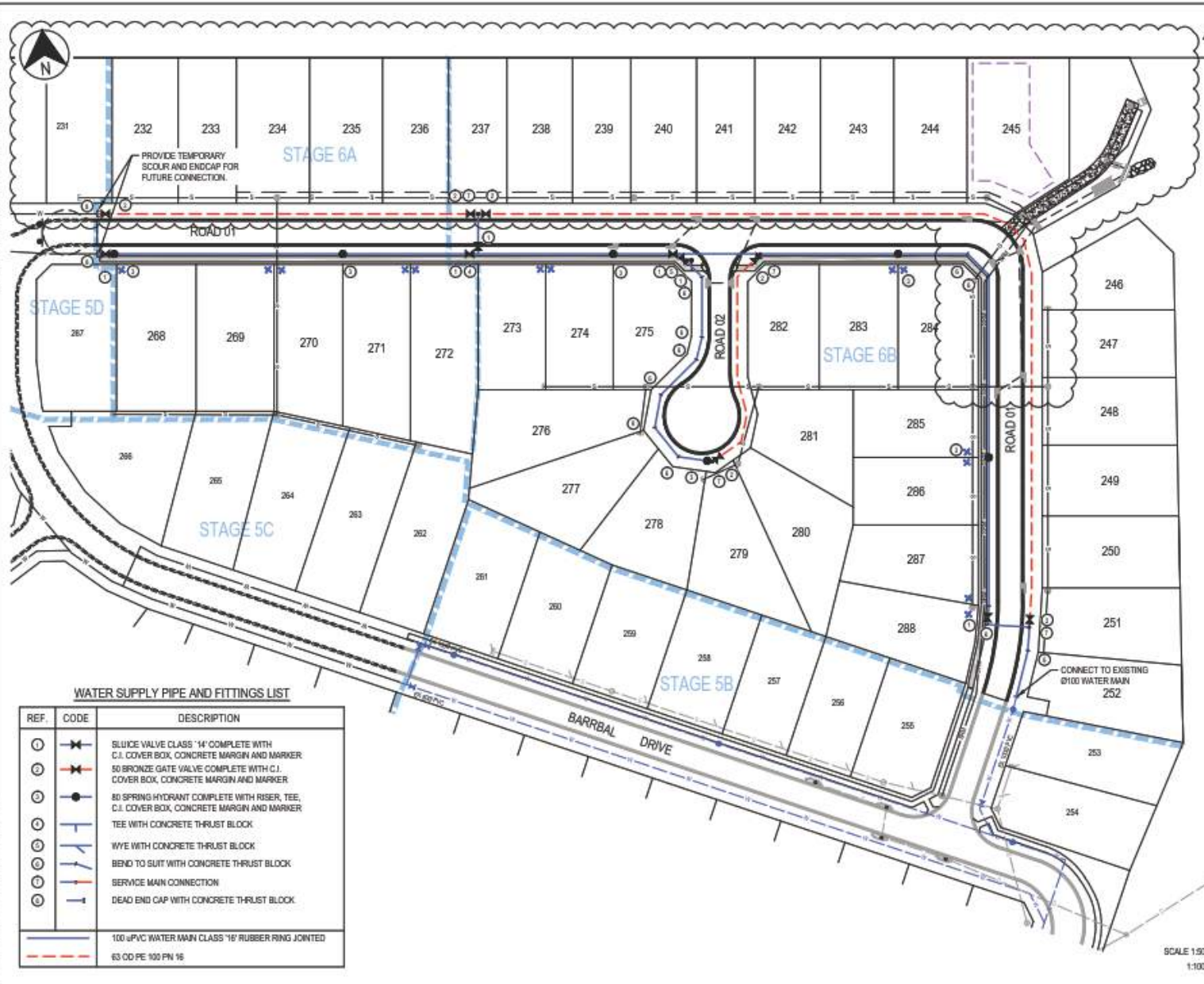


CLIENT: JONRA PTY LTD		PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 5B	
DESIGNED BY: JAC	CHECKED BY: JAC	APPROVED BY: D McEWAN	APPROVED BY: R J CARMAN
DATE: 01.12.17	DATE: 01.12.17	SCALE: 1:50H (A1)	

PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 5B		SCALE: 1:50H (A1)	
DRAWING NO: JH132900-CI-DG-0020		DATE: 01.12.17	

DATE: 08/02/17 11:52:40 NAME: WATERSUPPLY PLAN LOCATION: Clear Springs East and D.M.A. upgrade (stage 5A to 5C) 2017 - 0001

DATE: 08/02/17 11:52:40 NAME: WATERSUPPLY PLAN LOCATION: Clear Springs East and D.M.A. upgrade (stage 5A to 5C) 2017 - 0001



- LEGEND**
- STAGE BOUNDARY
 - EASEMENT BOUNDARY
 - ✕ FUTURE WATER SERVICE LOCATION (REFER NOTE 5 ON DG-0002)
 - PROPOSED STORMWATER
 - PROPOSED SEWER
 - SRM PROPOSED SEWER RISING MAIN
 - EXISTING WATER
 - BUILDING LOCATION ENVELOPE

NOTE
FOR NOTES REFER DG-0002

WATER SUPPLY PIPE AND FITTINGS LIST

REF.	CODE	DESCRIPTION
1	✕	SLUICE VALVE CLASS 14' COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
2	✕	50 BRONZE GATE VALVE COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
3	●	80 SPRING HYDRANT COMPLETE WITH RISER, TEE, C.I. COVER BOX, CONCRETE MARGIN AND MARKER
4	+	TEE WITH CONCRETE THRUST BLOCK
5	+	WYE WITH CONCRETE THRUST BLOCK
6	+	BEND TO SUIT WITH CONCRETE THRUST BLOCK
7	+	SERVICE MAIN CONNECTION
8	+	DEAD END CAP WITH CONCRETE THRUST BLOCK
---		100 uPVC WATER MAIN CLASS 16' RUBBER RING JOINTED
---		63 OD PE 100 PN 16



								JONPA PTY LTD PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 5B SHEET: WATER RETICULATION			
DESIGNER: [Name] CHECKED: [Name]		DRAWN: [Name] DATE: 08/12/17		PROJECT MANAGER: [Name]		APPROVED: [Name] DATE: 08/12/17		SCALE: 1:500 (A1)		SHEET NO: IH132900-CI-DG-0021	



DATE: 28 MAR 2017 10:54 AM NAME: WARDEN FALL LOCATION: Ocean breeze estate 3d Marine Reserve area (lots 1 to 288) (1:1000) (A1) (A2) (A3) (A4) (A5) (A6) (A7) (A8) (A9) (A10) (A11) (A12) (A13) (A14) (A15) (A16) (A17) (A18) (A19) (A20) (A21) (A22) (A23) (A24) (A25) (A26) (A27) (A28) (A29) (A30) (A31) (A32) (A33) (A34) (A35) (A36) (A37) (A38) (A39) (A40) (A41) (A42) (A43) (A44) (A45) (A46) (A47) (A48) (A49) (A50) (A51) (A52) (A53) (A54) (A55) (A56) (A57) (A58) (A59) (A60) (A61) (A62) (A63) (A64) (A65) (A66) (A67) (A68) (A69) (A70) (A71) (A72) (A73) (A74) (A75) (A76) (A77) (A78) (A79) (A80) (A81) (A82) (A83) (A84) (A85) (A86) (A87) (A88) (A89) (A90) (A91) (A92) (A93) (A94) (A95) (A96) (A97) (A98) (A99) (A100) (A101) (A102) (A103) (A104) (A105) (A106) (A107) (A108) (A109) (A110) (A111) (A112) (A113) (A114) (A115) (A116) (A117) (A118) (A119) (A120) (A121) (A122) (A123) (A124) (A125) (A126) (A127) (A128) (A129) (A130) (A131) (A132) (A133) (A134) (A135) (A136) (A137) (A138) (A139) (A140) (A141) (A142) (A143) (A144) (A145) (A146) (A147) (A148) (A149) (A150) (A151) (A152) (A153) (A154) (A155) (A156) (A157) (A158) (A159) (A160) (A161) (A162) (A163) (A164) (A165) (A166) (A167) (A168) (A169) (A170) (A171) (A172) (A173) (A174) (A175) (A176) (A177) (A178) (A179) (A180) (A181) (A182) (A183) (A184) (A185) (A186) (A187) (A188) (A189) (A190) (A191) (A192) (A193) (A194) (A195) (A196) (A197) (A198) (A199) (A200) (A201) (A202) (A203) (A204) (A205) (A206) (A207) (A208) (A209) (A210) (A211) (A212) (A213) (A214) (A215) (A216) (A217) (A218) (A219) (A220) (A221) (A222) (A223) (A224) (A225) (A226) (A227) (A228) (A229) (A230) (A231) (A232) (A233) (A234) (A235) (A236) (A237) (A238) (A239) (A240) (A241) (A242) (A243) (A244) (A245) (A246) (A247) (A248) (A249) (A250) (A251) (A252) (A253) (A254) (A255) (A256) (A257) (A258) (A259) (A260) (A261) (A262) (A263) (A264) (A265) (A266) (A267) (A268) (A269) (A270) (A271) (A272) (A273) (A274) (A275) (A276) (A277) (A278) (A279) (A280) (A281) (A282) (A283) (A284) (A285) (A286) (A287) (A288)

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NO.	DATE	BY	DESCRIPTION
01	28 MAR 2017	RAC	LOT LAYOUT & EARTHWORKS REVISED
02	28 MAR 2017	SPB	DETAILS
03	28 MAR 2017	SPB	DETAILS
04	28 MAR 2017	SPB	DETAILS



CLIENT	JONPA PTY LTD
PROJECT	OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B
DRAWN	DR
CHECKED	RJB
DATE	28 MAR 2017
APPROVED	RJC
DATE	28 MAR 2017

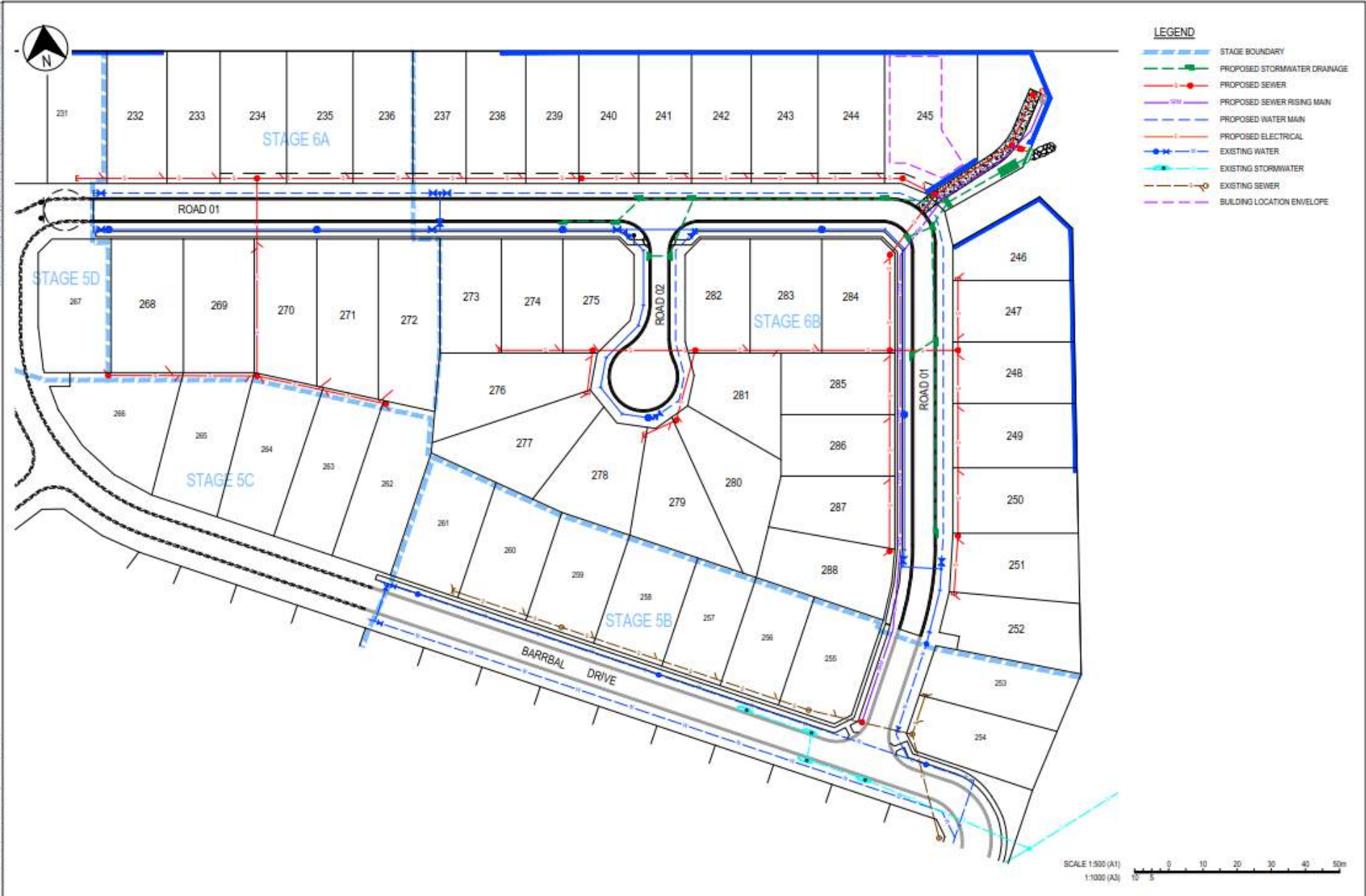
TITLE	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS
SCALE	1:500 (A1)
PROJECT NO.	IH132900-CI-DG-0023
DATE	28 MAR 2017



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DATE: 19/02/17 11:52 AM NAME: WARRFORD WALL LOCATION: C:\Users\jcarman\OneDrive\Documents\Projects\IH132900-CI-DG-0025 Master_SPS.dwg

DATE: 19/02/17 11:52 AM NAME: WARRFORD WALL LOCATION: C:\Users\jcarman\OneDrive\Documents\Projects\IH132900-CI-DG-0025 Master_SPS.dwg



- LEGEND**
- STAGE BOUNDARY
 - PROPOSED STORMWATER DRAINAGE
 - PROPOSED SEWER
 - PROPOSED SEWER RISING MAIN
 - PROPOSED WATER MAIN
 - PROPOSED ELECTRICAL
 - EXISTING WATER
 - EXISTING STORMWATER
 - EXISTING SEWER
 - BUILDING LOCATION ENVELOPE

SCALE 1:500 (A1)
1:1000 (A2)

								CLIENT: JONPA PTY LTD PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 5A & 5B		TITLE: MASTER SERVICES PLAN	
SHEET NO: 155/01				DATE: 08/12/17				DRAWN BY: D.MEYER		CHECKED BY: R.J.CARMAN	
PROJECT NO: IH132900-CI-DG-0025				SCALE: 1:500 (A1)				DATE: 08/12/17		SHEET NO: B	

DATE: 08/12/17 11:04 AM NAME: MARIKOPU HILL
 LOCATION: C:\Users\mari\OneDrive\Documents\Projects\IH132900-CL-DG-0026\Drawings\Earthworks\Earthworks_Spoil_Plan.dwg
 PROJECT: OCEAN BREEZE ESTATE - COOYA BEACH - STAGES 6A & 6B
 DRAWING: EARTHWORKS SPOIL PLAN
 SCALE: 1:1000 (A3)
 SHEET: 1/1
 PROJECT NO: IH132900-CL-DG-0026
 SHEET NO: A



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NO.	DATE	BY	CHKD.	APPD.	REVISION																		
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DRAWN: SAS CHECKED: RJB DATE: 08/12/17		DESIGNED: D.MEYER DATE: 08/12/17		APPROVED: R.J. CARMAN DATE: 08/12/17		SCALE: 1:1000 (A1) PROJECT NO: IH132900-CL-DG-0026		SHEET: A															

APPENDIX B: STANDARD CONDITIONS

General

1. The proposed works are permitted subject to any alterations:
 - a. found necessary by Chief Executive Officer at the time of examination of Engineering drawings or during construction of the works because of particular engineering requirements and.
 - b. to ensure the works comply in all respects with the requirements of the *FNQROC Development Manual* and good engineering practice; and
 - c. to comply with project specific conditions and the following standard conditions of approval.

All works must be carried out in accordance with the approved plans, conditions and specifications, to the requirements and satisfaction of the Chief Executive Officer.

2. The conditions of any Reconfiguration of Lot or Material Change of Use permits applicable to the subject lot or lots shall be complied with in conjunction with this development permit.
3. 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.
4. Notwithstanding any approval given to engineering documents, where a discrepancy occurs between these documents and Council's standards, then Council's standards shall apply. All works must be performed in accordance with Council standards and Local Laws and other statutory requirements.
5. If in fact there are errors, omissions or insufficient detail on the plans for the purpose of construction, these deficiencies shall be made good during construction and Council reserves the right to withhold approval of construction until such deficiencies are made good to its satisfaction.
6. Work and or Technical Documents identified within these Development Approval Conditions require Council approval prior to granting Early Plan Sealing or Plan Sealing of a Subdivision Plan or the issue of a Works Acceptance Certificate, whichever occurs first.

Timing of Effect

7. The conditions of this development permit must be effected prior to the approval and dating of the survey plan, except where specified otherwise in these conditions of approval, or at Council's discretion.

Easement Documentation

8. Easement documents are to be submitted to Council's solicitors for checking in accordance with the conditions of the Reconfiguration Development Permit. Contact Council for current nominated solicitors details.

Portable Long Service Leave Notification

9. As per the QLeave – Building and Construction Industry Authority Guidelines, if the works are over \$150 000, Council must sight a copy of the receipted Portable Long Service Notification and Payment form prior to commencement of work.

Construction Security Bond

10. Lodgement of Construction Security Bond as per the *FNQROC Development Manual*, Section CP1.07, (ie, five (5) per cent of the value of the works) is required, prior to commencement of work. The bond shall be in favour of Council and in the format of cash or an unconditional bank guarantee, which must cover all aspects of the construction and have no termination date.

Third Party Agreement

11. The developer must obtain written agreement from third parties and/or Referral Agencies for any works proposed on adjacent properties. The agreement(s) must be provided prior to the associated works commencing on site. All agreements must be available for Council scrutiny, upon request.

Commencement of Works

12. Council is to receive written Notice of Intention to Commence Works and all matters relevant to the Pre-Start meeting are to be attended to in accordance with Section CP1.07, CP1.08 and Section CP1.09, of the *FNQROC Development Manual*.

Hours of Work

13. Work involving the operation of construction plant and equipment of any description, shall only be carried out on site during the following times:
 - a. 7:00 am to 6:00 pm, Monday to Friday;
 - b. 7:00 am to 1:00 pm, Saturdays; and
 - c. no work is permitted on Sundays or Public Holidays.

Any variations to the above working hours must be authorised by the Chief Executive Officer, prior to the commencement of such works.

Public Notification of the Works

14. The developer or the nominated representative must provide:
 - a. Public notification of the development in local newspapers in accordance with Section CP1.11 of the *FNQROC Development Manual*.
 - b. Signage identifying the location of the project, general allotment layout, contact numbers (including out-of-office hours emergency numbers) must be provided at all entrance points to the development. All signage must be appropriately positioned, prior to the commencement of any works on the site.

Site Inspections

15. Council requires a number of major inspections to be completed as Witness and Hold Points for Consulting Engineers and Council officers during the construction of the works. Inspections undertaken during construction shall be in accordance with Section CP1.16 (Inspection and Testing) of the *FNQROC Development Manual*. These Witness and Hold points are to be included in the contractors Inspection and Test Plan (ITP) and be made available for inspection, prior to the commencement of any works on the site.

Soil and Water Management

16. All works must be in accordance with Section CP1.13 and D5 of the *FNQROC Development Manual*, and must comply with the following:
- a. A copy of the contractor's Erosion and Sediment Control (ESC) Plan is to be submitted to Council and endorsed by the Consulting Engineer, prior to commencement of any works. In particular, the ESC Plan must address the Institution of Engineers' Australia *Guidelines for Soil Erosion and Sediment Control and the Environment Protection (Water) Policy* and Clauses CP1.06, CP1.13 and D5.10 of Council's *FNQROC Development Manual*. The ESC Plan must be relevant to all phases of the construction and be updated where necessary as works progress.
 - b. Any dewatering activities will require approval from Council's Environmental Protection Unit, telephone number 07 4099 9475 and a valid permit obtained prior to commencement.
 - c. During the construction period, the Consulting Engineer shall randomly audit and inspect ESC measures for compliance with the Engineer endorsed contractor's ESC Plan, derived from the Engineer's ESC Strategy (As per *FNQROC Development Manual* CP1 Appendix A).
 - d. It is the contractor's responsibility to ensure that the ESC Plan is updated and amended to reflect any changes in the construction methodology. All such amendments shall be approved by the Engineer and presented to Council.
 - e. The developer shall be held responsible for any rectification works required to clean up dust, pollutants and sediments that may leave the site as a result of construction activities.
 - f. The developer or their representative shall be responsible for communicating with third parties affected by any dust, pollutants or sediment leaving the site as a result of any construction activity that is associated with the project site.

Street Lighting

17. The provision of street lighting is to be in accordance with the *FNQROC Development Manual* D8 and designed to comply with the Road Lighting Standard AS/NZS 1158, a compliance certificate that has been certified by an appropriate Registered Professional Engineer of Queensland (RPEQ) must be provided to demonstrate the lighting design complies to the requirements of the Road Lighting Standard AS/NZS 1158. New street lighting is to be erected as a Rate 2 public lighting installation, Rate 1 will only be considered where an overhead electricity reticulation exists:
- a. Lighting columns, luminaires and lamps are to be of a type specified in Ergon Energy's *Lighting Construction Manual*, unless approved otherwise by Council.
 - b. The applicable lighting category for roads associated with this project having a road hierarchy of residential access and above is identified in Table D8.1 of the *FNQROC Development Manual*.
 - c. Local Area Traffic Management (LATM) devices including roundabouts, must be provided with an illumination of not less than 3.5 Lux as specified in the Road Lighting Standard AS/NZS 1158.
 - d. Street lighting located adjacent to the development frontage must be located behind the kerb (usually a minimum of 820 mm from the invert of the kerb) and spaced to meet the required lighting category for the road.

Infrastructure Plans for Utility Services

18. Approved infrastructure plans for gas, electrical and telecommunications services must be endorsed by Council, prior to the commencement of associated works.

Landscaping General

19. Landscaping shall be provided in accordance with Part D9 and Part S8 of the *FNQROC Development Manual*, unless approved otherwise by Council.
20. The landscaping works must be constructed in accordance with the approved plans and conditions. The developer must seek approval in writing from the Council for any changes to the plan or the landscaping works on the site. This approval must be obtained prior to commencement of these works on site.
21. The landscape must be maintained in good order by the developer for at least three (3) months during the Works Acceptance period, and generally timed to coincide with the Final Works Acceptance Inspection, when all landscaping works must be in a condition suitable for Council to commence regular maintenance.

Trees

22. Any trees must be planted and staked in accordance with the *FNQROC Development Manual* drawing S4210, with root barriers installed such that they are just visible at the finished surface level. Note that where footpaths are to be provided, a root barrier must also be provided between the tree and the path. Root barriers must be installed and appropriate topsoil, level of compaction and drainage provided, as specified by the manufacturer.
23. Street tree planting locations must be in compliance with *FNQROC Development Manual* D9.07.6 'Alignment and placement of Street Trees'. Trees shall be positioned a minimum of:
 - a. 7.5 metres from streetlights;
 - b. two (2) metres from the inlet or outlet of stormwater pipes;
 - c. three (3) metres from any driveways;
 - d. ten (10) metres back from the apex of both boundaries of a corner lot;
 - e. 0.8 metres – one (1) metres from the back of kerbs.
24. All trees must be watered directly after planting and prior to laying mulch. The mulch must be left clear of the trunk and be laid in accordance with *FNQROC Development Manual* drawing S4210 and S8.14, at a radius of 0.5 metre around the base of the tree and out to the back of kerb.
25. All trees must be of good vigour and health and must not be root-bound at the time of planting. They should be approximately 1.5 metres – two (2) metres tall with well-established root and branch formation. Trees should have a clear dominant central leader.
26. A joint site inspection is to be held with Council officers and developer's representative to assess the general condition of any existing trees and shrubs within six (6) metres of any property boundary abutting the road reserve, or other Council land. If any dead, dying or dangerous trees are identified during the meeting, with the landowner's consent, they are to be removed to the satisfaction of Council officers, prior to the sealing of plans for the associated lot.
27. Any trees identified on drawings to be retained, are to be protected in accordance with approved plans. This must include, but is not limited to, the erection and continued maintenance of suitable

physical barrier(s) placed around the tree to protect the tree and the root system. Additional protection of tree trunks by the fixing of timber planks using wire loops is also required unless approved otherwise by Council. Any damage caused to nominated trees as a result of construction activity, will require inspection by Council and will require a specified number of suitable replacements trees of suitable maturity to be provided to replace the loss in amenity.

Verges

28. All verges are to be covered full-width with topsoil (AS 4419/Soils for Landscaping and Garden Use) to a depth of not less than 40 mm, lightly compacted and grassed in accordance with Council's Guidelines and Specifications.
29. Any island beds or any shrub beds must have a permanent irrigation system installed, which must be connected to the Douglas Water Network. An Application for a Water Service Connection must be presented to Douglas Water & Waste to facilitate the connection, and must include the installation of a flow meter and associated valves.
30. All water reticulation, including permanent irrigation systems, are to be identified in as-constructed plans which must be submitted to Council for approval prior to the Works Acceptance (On Maintenance) meeting for landscaping.

Structures and Retaining Walls

31. Separate building certification and/or structural certification is required for any works to alter existing structures, provide new structures or construct retaining walls that are over 900 mm high. Certification by a suitably qualified engineer must be provided, prior to opening the work site to the public.

The Location of Stormwater Quality Interception Devices (SQIDs)

32. Council must approve the location of any SQIDs prior to installation. They shall be positioned to allow for economic and efficient maintenance operations, and will require a reinforced concrete hard standing area to be provided from the edge of the carriageway to the SQID location. Vehicular access from the public road reserve to the SQID must remain unrestricted.

Sewer and Water

33. All water and sewerage works must be in accordance with Sections D6 and D7 of the *FNQROC Development Manual*, and must comply with the following:
 - a. Douglas Shire Council requires a minimum of five (5) working days notice of intention to commence water and sewerage related works. The notice shall be given to the Senior Plumbing Inspector at Douglas Shire Council either in writing, by telephone 07 4099 9479, fax 07 4098 2902 or email to enquiries@douglas.qld.gov.au prior to the commencement of works.
 - b. The developer shall be responsible for confirming the location of all existing sewer, water and utility service infrastructure prior to the commencement of works on site. Any permits necessary to alter/interfere with such services must be obtained prior to the commencement of work and be available for Council inspection if required.
 - c. Any works over or within the zone of influence of Council's existing water and sewerage infrastructure must be approved by Douglas Shire Council prior to the commencement of the proposed works. Unless otherwise approved in writing, existing infrastructure impacted by the development shall be subject to the maintenance period provisions contained in this Decision Notice.

Construction works shall include any works that may impact on existing infrastructure such as, but not limited to, mobilisation of heavy earthmoving equipment, stripping and grubbing, site filling, stockpiling of materials and installation of erosion and sediment control measures.

- d. All testing and acceptance of water and sewerage works shall be in accordance with CP1 Construction Procedures of the *FNQROC Development Manual*. Works are to be certified as acceptable by Douglas Water & Waste, and any operating manuals etc be provided to Council, prior to making an application for the acceptance of the works.

Sewer

34. Douglas Water & Waste must be contacted to perform any direct connection to live sewer mains. Unless otherwise approved in writing, separate applications for approval on the prescribed forms shall be made to Douglas Water & Waste for each connection together with payment of the relevant fee. All connections are to be provided subject to the terms and conditions of Douglas Shire Council's 'Application for Plumbing Works'.
 - a. Amended drawings in accordance with these conditions must be approved prior to the pre-start meeting.
 - b. The Inspection and Test Plan (ITP) must be approved prior to the pre-start meeting. At project completion the completed and validated ITP must be submitted and approved prior to the issue of a Works Acceptance Certificate.
 - c. Where retaining walls are located within the zone of influence of a sewer the footings must be 1000 mm clear of the sewer and designed in accordance with the *Queensland Development Code*. Full design details and structural certification must be approved prior to commencement of works.
 - d. Minimum clearances between sewer mains and other services must be in accordance with the *Sewerage Code of Australia*. Clearances must be included on the long-section drawing.
 - e. Where a manhole is located in a batter, a flat area of 1.5 metres radius from the centre of the manhole must be provided. Where the manhole is located along a side or rear boundary and is on the 0.8 metre standard alignment then the flat area must be on at least three (3) sides.
 - f. Where an easement is required the property connection branch must be extended at least one (1) metre from the easement boundary.
 - g. House drains are to extend one (1) metre past the end of the driveway on hatchet blocks and 1.5 metres beyond the top of batters. An I.O. is to be provided at the downstream end of the house drain within one (1) metre of the boundary to delineate the end of the property connection branch.
 - h. As-constructed sewerage drawings must be approved prior to granting of Early Plan Sealing or Issue of a Works Acceptance Certificate whichever occurs first. The as-constructed submission is to include the 'Statement of Compliance – As-constructed Documentation' and must be the final issue.

Water

35. Douglas Shire Council must be contacted to perform any direct connection to live water mains whether being as a permanent connection, a connection for irrigation purposes or for construction water. Unless otherwise approved in writing, separate applications on the prescribed forms shall be made to Douglas Shire Council for connections, together with payment of the relevant fee. All

connections are to be provided subject to the terms and conditions of Douglas Shire Council's 'Application for a Water Service Connection'.

- a. Amended drawings in accordance with these conditions must be approved prior to the pre-start meeting.
- b. The Inspection and Test Plan (ITP) must be approved prior to the pre-start meeting. At project completion the completed and validated ITP must be submitted and approved prior to the issue of a Works Acceptance Certificate.
- c. Minimum clearances between water mains and other services must be in accordance with the *Water Supply Code of Australia* in particular the minimum clearance between water mains and sewer mains must be 500 mm with the sewer under the water main.
- d. As-constructed water drawings must be approved prior to Issue of a Works Acceptance Certificate. The as-constructed submission is to include the 'Statement of Compliance – As-constructed Documentation' and must be the final issue.

Roads and Footpaths

36. All works are to be designed and constructed in accordance with AS 1428.1-2001: '*Design for access and mobility*' – General requirements for access – New building work, and associated standard AS/NZS 1428.4 2002, '*Design for Access and Mobility*' – Tactile Indicators. The design is required to provide equal access for people with disability and include the provision of suitable ramps and landing areas and the installation of Tactile Ground Surface Indicators (TGSIs) where required.

Cultural Heritage

37. The *Aboriginal Cultural Heritage Act 2003* (the Act) seeks to protect artefacts and cultural sites that are of significance to Aboriginal people. The Act requires anyone carrying out an activity to exercise a Duty of Care. Guidelines have been produced to enable assessment of sites under the Act. These are available from Department of Environment Heritage Protection and can be downloaded from their website at www.ehp.qld.gov.au. The work identified in the project documentation is likely to require assessment of the site under the Act.