

From: [Euan Bruce](#)
To: [Enquiries](#)
Cc: [Daniel Lamond](#); info@nathanverri.com; [Euan Bruce](#); [Kel Bruce](#)
Subject: Nathan Verri - 24 Mudlo Street, Port Douglas - Application for Operational Works Permit - Response to IR
Date: Friday, 24 August 2018 4:23:29 PM
Attachments: [Response to IR.pdf](#)
[Mudlo St Civil Rev D Signed 180823.pdf](#)
[Statement of Compliance.pdf](#)
[Design Report.pdf](#)

To: Chief Executive Officer, Douglas Shire Council
Attn: Paul Hoye - Manager Sustainable Communities

Re Council Ref: OP 2694/2018(864598)

Dear Paul

We are forwarding the following amended documents:

- K-3649-LTR-003; Response to IR
- Drawings K-3649 Sheet C01D and Sheet C02D
- Statement of Compliance
- Design Report

The amendment(s) were necessary to account for a level discrepancy between the Operational Works Drawings and the Building Drawings as detailed on the attached letter (K-3649-LTR-003; Response to IR).

Regards

Euan Bruce
KFB Engineers

Unit 1, Bohemia Business Centre, 38 - 42 Pease St, Cairns Q 4870 | PO Box 927, Cairns Q 4870
P: 07 40320492 | M: 0408 772 105 | F: 07 40320092 | E: ewan@kfbeng.com.au

----- Forwarded Message -----

From: "Euan Bruce" <ewan@kfbeng.com.au>
To: "Enquiries" <Enquiries@douglas.qld.gov.au>
Cc: "Daniel Lamond" <Daniel.Lamond@douglas.qld.gov.au>; "Nathan Verri" <info@nathanverri.com>; "Euan Bruce" <ewan@kfbeng.com.au>; "Kel Bruce" <kel@kfbeng.com.au>
Sent: 03-Aug-18 5:24:34 PM
Subject: Nathan Verri - 24 Mudlo Street, Port Douglas - Application for Operational Works Permit - Response to IR

To: Chief Executive Officer, Douglas Shire Council

Attn: Paul Hoye - Manager Sustainable Communities

Re: Council Ref: OP 2694/2018 (864598)

Dear Paul,

We are forwarding our Response to Councils Information Request dated 18 July 2018.

Please contact the undersigned if you have any questions.

Regards

Euan Bruce
KFB Engineers

Unit 1, Bohemia Business Centre, 38 - 42 Pease St, Cairns Q 4870 | PO Box 927, Cairns Q 4870
P: 07 40320492 | M: 0408 772 105 | F: 07 40320092 | E: euan@kfbeng.com.au

Our Ref: K-3649-LTR-003
Your Ref: OP2694/2018
Date: 24/08/18

Chief Executive Officer
Douglas Shire Council
PO Box 723
MOSSMAN QLD 4873
By email; enquiries@douglas.qld.gov.au

Attention: Paul Hoyer – Manager Sustainable Communities

Dear Sir,

N D Verri
Mudlo Villas, Lot 60 PTD20911, 24 Mudlo Street, Port Douglas
Application for Operational Works

Response to Information Request (IR)

General

This letter replaces our letter dated 02/08/2018 and is made necessary due to clarification required of level datums used for the Operational Works Drawings and the Building Application Drawings.

SFL 5.00, on Nathan Verri Plans Project Number 24MDLST Sheets 00A to 13A, = RL 4.27 AHD.

Response to Information Request (IR)

We are responding to all of the information requested in your Information Request (IR) dated 18 July 2018 and have numbered the responses to accord with the numbers of the IR.

1. We confirm that the engineering details on attached Drawings K-3649 Sheet C01/D “General Arrangement, Driveways and Pathway” and K-3649 Sheet C02 D “Water / Sewerage Reticulation and Existing Services”, represent the design information made available for review under the Application for Operational Works Permit (OPW).

To match altered details in the amended drawings we have re-issued:

- K-3649-LTR-003; Response to Information Request (IR),
- Drawings K-3649 Sheet C01/D and Sheet C02//D
- “FNQROC Statement of Compliance”,
- “Design Report”.

To clarify the dividing line between “Operational Work” and “Building Work” for this particular Application we have adopted the assumption that work within Lot 60 is Building Work and work within the road reserves is Operational Work.

Work within Lot 60 is detailed on Nathan Verri Plans, Project Number 24MDLST, Sheets 00 to 13 (incl.), dated 05/02/18. These plans detail the Building project nominated in the DA Form 2 – Building work details, and for which a Building Permit is in the process of being applied for/issued.

2. Existing and finished levels within the Operational Works area are detailed on Drawing K-3649 Sheet C01/D.
3. The minimum floor level (= 4.27 AHD) was assessed on
 - the basis of a storm tide level at Port Douglas of 2.4 AHD and interpreted against “Flood and Storm Tide Inundation Overlay map Sheet – FST-019”, and
 - advice from the Douglas Shire Council that the Q100 for the area was RL 3.00 AHD.

The SFL (structural floor level) adopted for the lower level of the units is shown as 5.00 on Nathan Verri Plans, 24MDLST Sheets 04 A and 05 A. RL 5.00 == RL 4.27 AHD.

4. We have worked on the assumption that work within Lot 60 is Building Work and work within the road reserves is covered by the OPW.

Thus demolition, removal of the pool, existing buildings, existing driveways within 24 Mudlo Street and site reinstatement has not been included in the OPW.

Demolition of the existing gravel driveways and restoration of the verge on Beryl and Mudlo Streets has been included in the OPW.

Nathan Verri Plans , 24MDLST Sheets 00 A, 01 A and 02 A, detail site preparation within Lot 60.

5. The dimensions shown on Drawing K-3649 Sheet C02 C detail a separation distance of 0.688m between the water and sewer mains (assuming 150 uPVC gravity sewer and 63mm OD water main).

Refer FNQROC Std Dwg S3015C - *Minimum separation to water mains must be at least 150mm.*

6. The design of the sewer main resulted from consultation with Council officers including the adoption of a Type C inlet.

Refer: DSC email to Gilboy Hydraulic Solutions, 30 Jan 2017.

7. We have amended the water main size to be 63mm OD (50mm dia HDPE water main class 12 solvent weld jointed).

The Statement of Compliance did not identify the 40mm dia main as a departure from the standard because preliminary approval to its use in this particular instance had been advised by Council and on that basis it is acceptable.

8. The sewer detail provided on drawing K-3649 Sheet C02 D complies with the requirements of FNQROC and preliminary advices received from Council included the recommendation that a manhole was not required at the end-of-line.
Refer: DSC email to Gilboay Hydraulic Solutions , 30 Jan 2017.
9. Drawing K-3649 Sheet C01 D has been amended to provide a complete cut out of the kerb in the crossover construction.
10. The driveway width has been dimensioned (3.0m) on drawing K-3649 Sheet C01 D. The grading(s) adopted for the design of the three driveways has been chosen to minimise verge re-shaping, enable retention of existing trees/palms and result in a satisfactory landscape outcome.
11. Drawing K-3649 Sheet C01 D has been amended to detail the removal of the disused driveways and restoration of the verge.
12. Drawing K-3649 Sheet C01 D has been amended to detail a 2.5% crossfall on the Beryl Street footpath.
13. Levels have been detailed on Drawing K-3649 Sheet C01 D so as to provide appropriate mobility access at the Mudlo St/ Beryl St pathway intersection.
14. We have amended the design report, and the priced schedule of Operational Work, to include all the Operational (external work within road reserves) work .

Yours faithfully



Euan Bruce RPEQ No. 0491

Attach:

1. Drawings:
K-3649 Sheet C01 C and K-3649 Sheet C02 C
2. Contents
3. FNQROC – Statement of Compliance
4. Design Report
5. K-3649- Specification

FNQROC DEVELOPMENT MANUAL

Council Douglas Shire Council
(INSERT COUNCIL NAME)

STATEMENT OF COMPLIANCE OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of Development Mudlo Villas

Location of Development Lot 60 on PTD2911; 24 Mudlo St., Port Douglas

Applicant N D Verri PO Box 1334, Mossman Qld 4873

Designer KFB Engineers, ABN 28 351 246 509

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, **except** as noted below.

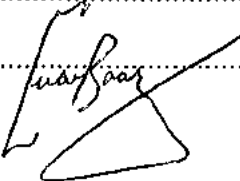
Compliance with the requirements of the Operational Works Design Guidelines	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	
Geotechnical requirements	
Geometric Road Design	
Pavements	
Structures / Bridges	
Subsurface Drainage	
Stormwater Drainage	
Site Re-grading	
Erosion Control and Stormwater Management	
Pest Plant Management	NA
Cycleway / Pathways	NA

Landscaping	
Water Source and Disinfection/Treatment Infrastructure (if applicable)	NA
Water Reticulation, Pump Stations and water storages	water reticulation only - Refer Attachment (A)
Sewer Reticulation and Pump Stations	sewerage reticulation only - Refer Attachment (A)
Electrical Reticulation and Street Lighting	submitted by other consultant
Public Transport	NA
Associated Documentation/ Specification	
Priced Schedule of Quantities	
Referral Agency Conditions	
Supporting Information (AP1.08)	
Other	

Conscientiously believing the above statements to be true and correct, signed on behalf of:

Designer KFB Engineers RPEQ No 0491

Name in Full Euan Fraser BRUCE

Signature  Date 24 August 2018

STATEMENT OF COMPLIANCE
OPERATIONAL WORKS DESIGN

ATTACHMENT (A)

Reference KFB Engineers Drawings: JOB NO K-3649, Sheet C01 D and Sheet C02 D

1. Water reticulation

**Water Main 50 mm Dia HDPE Class 12 Solvent Weld Jointed
Located on standard alignment (2.8m).**

2. Sewerage Reticulation

**Sewer Main 150mm Dia uPVC (Class SN8 RRJ) and
100mm Dia House Connection Branch(s)
Located on non-standard alignment (3.6m) to facilitate
connection into existing sewer manhole.**

N D VERRI**UNIT (3) DEVELOPMENT – LOT 60 on PTD 20911****24 MUDLO STREET, PORT DOUGLAS****APPLICATION FOR OPERATIONAL WORKS PERMIT****DESIGN REPORT****1.0 GENERAL – TOWN PLANNING APPROVALS**

1. Douglas Shire Council Decision Notice SEDA CA1594/2016 (796692)
22 November 2016
Approved Reconfiguration of a lot (1) & Material Change of Use for Multi-Unit Housing.
2. Douglas Shire Council Decision Notice CA1594_2016 (823042) 2 August 2017
Approved Request for Permissible Change.

2.0 OPERATIONAL WORKS

1. Reference KFB Engineers Drawings:
K-3649 Sheet C01 D, “General Arrangement, Driveways and Pathway” and
K-3649 Sheet C02 D, “Water/ Sewerage Reticulation and Existing Services”
The above drawings details Operational Work as follows:

Condition 5. Water Supply & Sewerage Works – External**a) Water Supply**

Design detail: 50mm dia (63 OD) HPDE class 12 solvent weld jointed water main, connected to existing 100mm main in Mudlo Street, detailed on 2.8m alignment (from property boundary) on Beryl Street frontage. Location approved by Council. Water reticulation is to be constructed in accordance with FNQROC Std Dwgs No’s S2000C, S2016B, S2020C, S2038A and FNQROC Specification S5.

b) Sewerage Works

Refer: Email DSC to Gilboy Hydraulic Solutions, 30 Jan 2017

...I spoke to Peter White we would prefer if can you in the design keep 150mm main as shallow as possible with a drop entry into existing manhole and a 150mm clear-out below surface at end of drain not an extra manhole.

Design detail: 150mm dia uPVC sewer main (Class SN8 RRJ), connected into sewer manhole, via Inlet Type C, at east end of Lot 60 . Alignment of 6.2m from invert of existing kerbing. Design grade 1:100.

Sewerage reticulation is to be constructed in accordance with FNQROC Std Dwgs No's S3005D, S3015C and FNQROC Specification S6.

Condition 6. Vehicle Parking

Refer CivilWalker Report (attached) 125-004-001L2, 10 May 2018

a) Report confirms that

- garaged car parking for the units complies with AS/NZS 2890.1, and
- visitor car parking is available on the street, and service vehicles will collect waste from wheelie bins placed on the verge.

Condition 9. External Work

a) Residential access crossovers and driveways to be in accordance with FNQROC Std Dwg No S1015D and widths of crossovers and driveways to be as detailed on drawing K-3649 Sheet C01 C.

b) 600mm garden beds to be constructed along the external edge of the perimeter fences on the Mudlo Street and Beryl Street road reserves.

Detail of planting(s) as shown on Landscape drawing.

c) 1.5m wide concrete footpath in accordance with FNQROC Std Dwg No S1035D constructed on a 0.7m alignment on the Beryl Street frontage. Design crossfall 2.5% (max.).

Intersection of Beryl Street pathway with Mudlo Street pathway to be designed so as to provide appropriate mobility access.

Condition 18. – Minimum fill and Floor Levels

a) The minimum floor level for each unit is nominated as 4.27 AHD and the location of Sewerage House Connection branches also detailed.

The SFL (structural floor level) adopted for the ground floor level of the units is RL 5.0 AHD. Refer Nathan Verri Plans, 24MDLST, Sheets 04A and 05A.

Condition 23. Boundary Fence Height

Refer CivilWalker Report (attached) 125-004-001L2, 10 May 2018.

As the proposed boundary fence does not meet the standard requirements for pedestrian safety sight lines it is proposed to introduce convex mirrors at each driveway (refer Note 2. on dwg K-3649 Sheet C01 C) on the boundary line so that appropriate visibility is provided.



.....Euan Bruce RPEQ 0491

24 August 2018

Attach:

1. Appendix 1: Priced Schedule of Operational Works
2. Civil Walker Report 125-004-001L2, 10 May 2018

APPENDIX 1: Priced Schedule of Operational Works

	\$
1. <u>Site work</u>	
Demolish existing gravel driveways. topsoil & regrass verge	1200
2. <u>Water reticulation</u>	
2.1 54m x 50mm dia HDPE class 12	2700
2.2 connect to existing main	1000
3. <u>Sewer Reticulation</u>	
3.1 42m x 150 dia uPVC class SN8 RRJ	4200
3.2 3 x house connection branches	2400
3.3 Connect to existing manhole	1000
4. <u>Crossovers</u>	
4.1 3 x crossovers	3600
4.2 Construct 3 driveways	11500
5. <u>Beryl St pathway</u>	
5.1 34m x 1.5m concrete footpath	5610
6. <u>Grade, Trim Verge</u>	
6.1 480 m ²	2400
7. <u>Mirrors</u>	
4.1 3 x convex mirrors. Supply and Fix	<u>1500</u>
Sub Total	37,110
GST	<u>3,711</u>
<u>TOTAL</u>	<u>\$39,821</u>

Ref: 125-004-001L2

10 May 2018

Nathan Verri
PO Box 1334
Mossman Qld 4873
via email: info@nathanverri.com.au

Dear Nathan

**24 Mudlo Street, Port Douglas
Development Approval (Council Ref: SEDA CA1594/2016)
Commentary on Assessment Manager Conditions 6 and 22**

We refer to the abovementioned project and in particular Assessment Manager Condition 6 "Vehicle Parking" and Condition 22 "Boundary Fence Height" of Council's Development Approval (SEDA CA1594/2016) dated 23 November 2016.

Assessment Manager Condition 6

Assessment Manager Condition 6 "Vehicle Parking" requires the following:

The car parking layout must comply with the Australian Standard AS/NZS 2890.1 2004 Parking Facilities – Off-Street Car Parking and be constructed in accordance with Austroads and good engineering design. In addition, all parking, driveway and vehicular manoeuvring areas must be imperviously sealed, drained and line marked.

It is noted that car parking within the development is limited to on site parking for residents only and this has been provided in the form of a lockable garage for one (1) vehicle and a car port in front of the garage providing space for an additional two (2) vehicles at each of the villas.

The garaged car park for each villa is certified by the building certifier under the building approval mechanism. The carport is 5.51m wide and provides ample width for two parking spaces, which are required to be a minimum of 2.4m wide for domestic car parking (user Class 1A) at 90 degrees in accordance with AS/NZS 2890.1. The length provided for these parks is 5.527m, which is greater than the minimum required 5.4m.

The parking area is to be constructed from concrete and will therefore be appropriately sealed. The driveway will fall from the building line to the boundary line and will therefore drain across the concrete surface to the verge and into the road kerb and channel. This is typical practice for residential dwellings.

It is considered unreasonable to line mark the car parks on the villa driveways. This practice is typically adopted for visitor car parks or service vehicle areas within higher density developments where there are shared facilities, which is not applicable in this instance. Each villa is a single residential dwelling, with a single access driveway. Visitors will park on the street and service vehicles will collect waste from wheelie bins placed on the verge.

Assessment Manager Condition 22

Assessment Manager Condition 22 “Boundary Fence Height” requires the following:

Advice is to be sought by an RPEQ certified traffic engineer or equivalent pertaining to the perimeter fence height at the corner of Mudlo and Beryl Street. The advice is to determine whether the fence needs to be truncated or lowered.

We have reviewed the project drawings and considered the boundary fence to determine whether the fence needs to be truncated or lowered.

From a traffic engineering perspective, access driveways need to be located / constructed so that there is adequate entering site distance to oncoming traffic for a vehicle entering the frontage road and also adequate sight distance to pedestrians. Assessment of each of these components has been undertaken, with details provided below. We note that reference is regularly made to AS/NZS 2890.1. This document is the Australian / New Zealand Standard for Parking Facilities - Part 1: Off-Street Car Parking.

Entering Site Distance

Section 3.2.4 of AS/NZS 2890.1 requires that access driveways are to be located such that the sight distance along the frontage road (Beryl Street in this instance) available to drivers leaving a domestic driveway is at least that shown in Figure 3.2 of AS/NZS 2890.1. Figure 3.2 of AS/NZS 2890.1 (note that extracts from Australian Standards cannot be included in this correspondence due to copyright law) identifies that for a road speed of 50km/h, the required site distance along Beryl Street from a domestic driveway is 40m.

A sight distance of 67m is available from the properties eastern boundary to the Davidson Street intersection and therefore this sight distance requirement is met. Reference is made to Figure 1 below.

A sight distance of 57m is available from the properties western boundary to the Mudlo Street intersection. Sight distance does not apply to any of the proposed development driveways that are located closer than 40m to this intersection, because any vehicle coming from that direction will have had to have stopped to turn into Beryl Street. It will therefore not be travelling at speed and it is considered that sight distance to the west is met.



Figure 1 – Available Sight Distance

Site Distance to Pedestrians

Figure 3.3 within AS/NZS 2890.1 provides sight distance requirements for pedestrians. Clear site lines are required at the front property boundary to allow adequate visibility between vehicles leaving a domestic driveway and pedestrians on the footpath. The required site lines are represented by a line 2.5m down the line of driveway and 2m along the property boundary as shown in Figure 2 below.

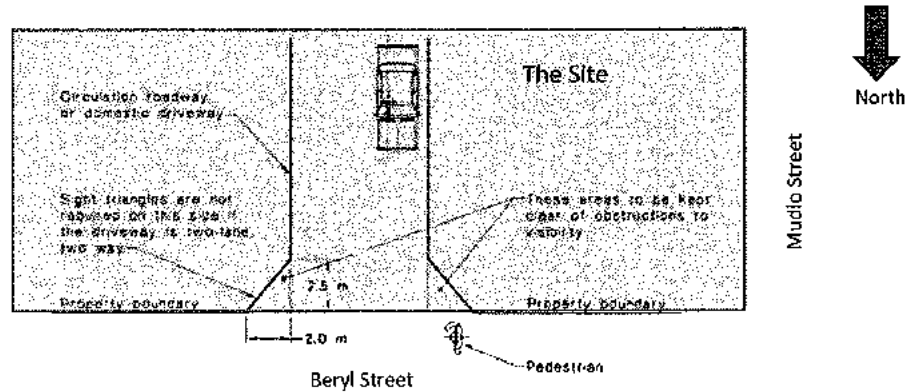


Figure 2 – Pedestrian Safety Sight Lines

It is understood that the proposed boundary fence will not meet these requirements and therefore convex mirrors are proposed to be installed on driveways at the property boundary interface to provide the required visibility.

In summary, it is considered that the proposed boundary fence is not required to be lowered or truncated to meet the requirements of entering site distance. The road verge is 9m wide and appropriate sight distance is available at the kerb line both westward and eastward.

The proposed boundary fence does not meet the standard requirements for pedestrian safety sight lines, however the applicant proposes to introduce convex mirrors at each driveway on the boundary line so that appropriate visibility is provided. These mirrors shall be safety mirrors manufactured for outdoor use, of an industrial quality unbreakable acrylic, have crystal clear viewing, have weather-proof fibre-glass backing and be appropriate for traffic / blind spot outdoor applications.

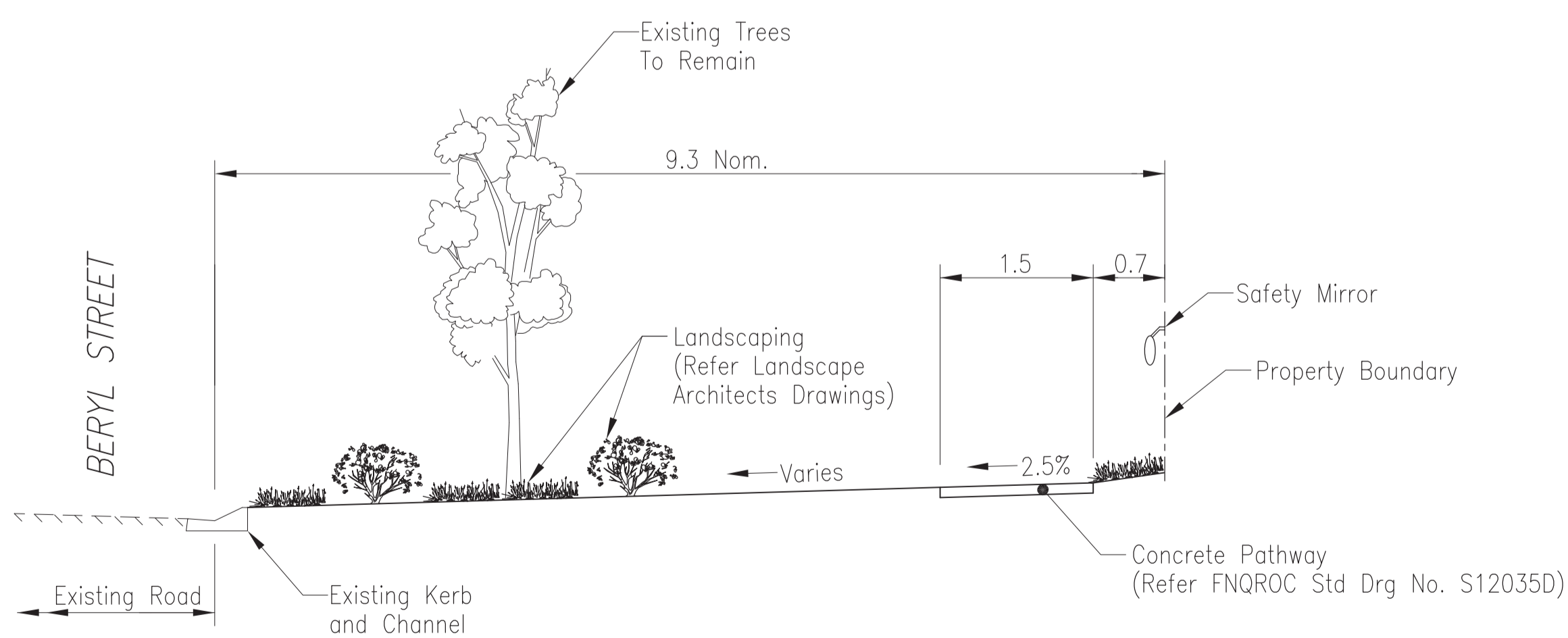
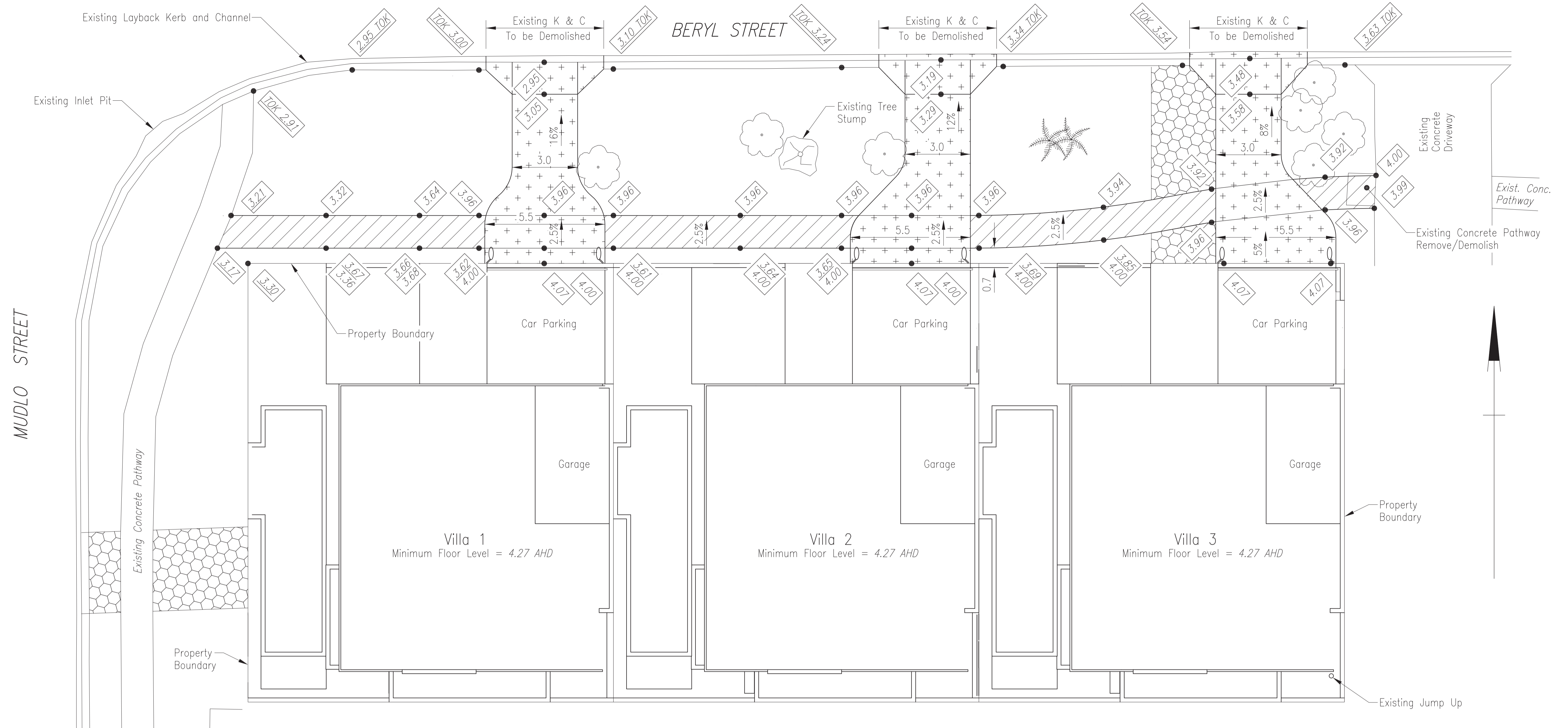
An example mirror for this type of application is available for viewing at the below link. The 300mm diameter option is considered appropriate with a viewing distance of up to 9.0m.

<http://convexmirrors.com.au/index.php/component/jshopping/product/view/15/34?Itemid=0>

We trust the above satisfies your requirements with regard to Assessment Manager Conditions 6 and 22, however, if you have any queries, please do not hesitate to contact me.

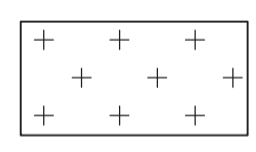
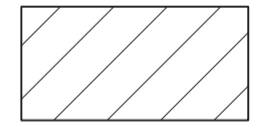
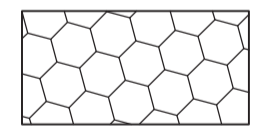

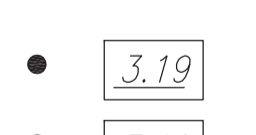
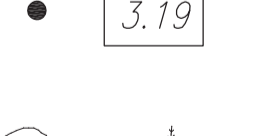

Yours faithfully
Civil Walker

Daryl Walker
BE(Hons) ME DipPM MIEAust RPEQ (No. 19806)
Director / Principal Engineer
cc. KFB Engineers – Mr Kel Bruce



TYPICAL SECTION ALONG BERYL STREET
Not to Scale

LEGEND

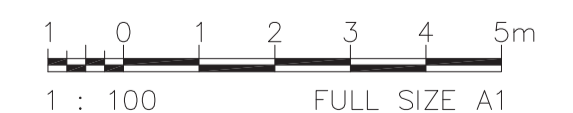
-  Residential Access Crossover
(Refer FNQROC Std Drg No. S1015D and Nathan Verri Plan 24MDLST Sheet 00A)
-  Concrete Pathway
(Refer FNQROC Std Drg No. S1035D)
-  Topsoil and Regrass Existing Gravel Driveway
-  300mm Diameter Safety Mirror Attached to Property Boundary Wall/Fence Eith Side of Garage Entrance
-  Existing Surface Level
-  Design Surface Level
-  Existing Tree/Palm to Remain
(Unless Required to be Removed to Construct the Works)
Refer Note 4

NOTES

1. The Location of Services Shown are Given for Guidance Only. Locations May Not be Accurately Represented and Other Services May Exist on Site. It is the Responsibility of the Contractor to Verify the Position of all Services Within the Verge.
2. Safety Mirrors to be Installed in Accordance with the Manufacturers Specifications. Mirrors to be Located to Achieve Minimum Sight Lines as Detailed within Figure 3.3 of Australian and New Zealand Standard AS/NZS2890.1: Parking Facilities Part 1 Off-Street Car Parking.
3. Nathan Verri Plans, Project Number 24MDLST, Sheets 00A to 13A Detail Building Work Within Lot 60 (24 Mudlo Street).
4. SFL 5.00 on Nathan Verri Plans, Project Number 24MDLST = RL 4.27 AHD
5. Locally Mound Up to Existing Tree Trunks to Retain Trees in Verge, Where Possible.

KFB Engineers Civil & Structural
 1/38-42 Pease St | PO Box 927, Cairns Q 4870
 P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

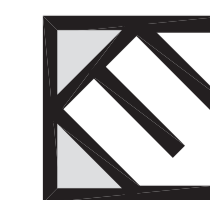
Date: 23/8/18
 Job No: K-3649
 Signed: RPEQ 5711



D	23/08/18	Pathway Amended	TWV	EB
C	03/08/18	Response to Council Information Request	TWV	KB
B	16/05/18	Water and Sewer Added	TWV	KB
A	04/05/18	For Construction	TWV	KB
No.	DATE	ISSUE / REVISIONS	DRN	CHKD
DRAWING FILE:		XREF FILE:		

NATHAN VERRI
 Mudlo Villas
 24 Mudlo Street, Port Douglas

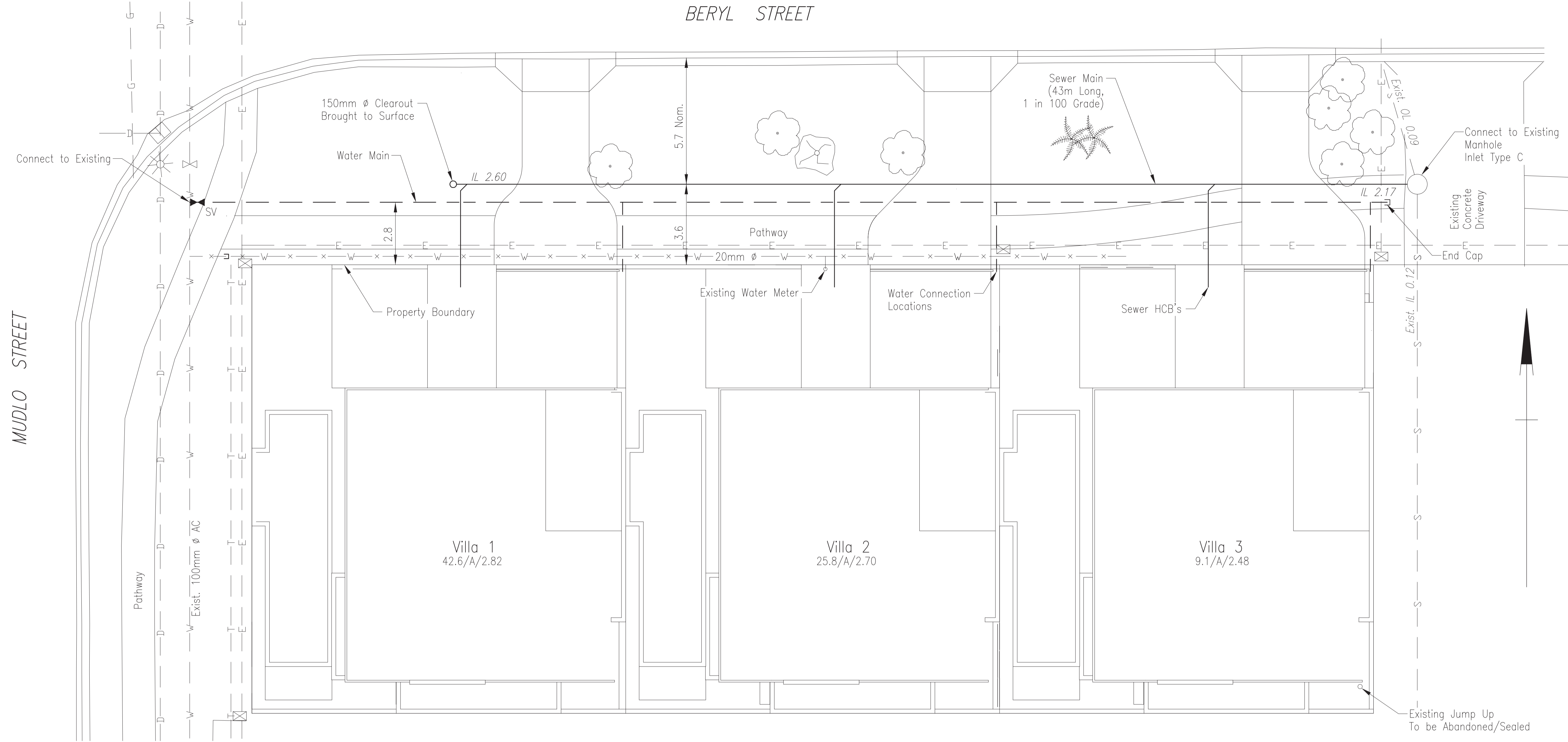
**GENERAL ARRANGEMENT
 DRIVEWAYS AND PATHWAY**



KFB ENGINEERS
 ABN 73 618 014 261

Civil & Structural
 1/38-42 Pease St, Cairns | PO Box 927, Cairns Q 4870
 P: 07 40320492 | F: 07 40320092
 E: email@kfbeng.com.au

JOB No: **K-3649**
 SHEET: **C01** | **D**
 SCALE: 1 : 100 (@A1)

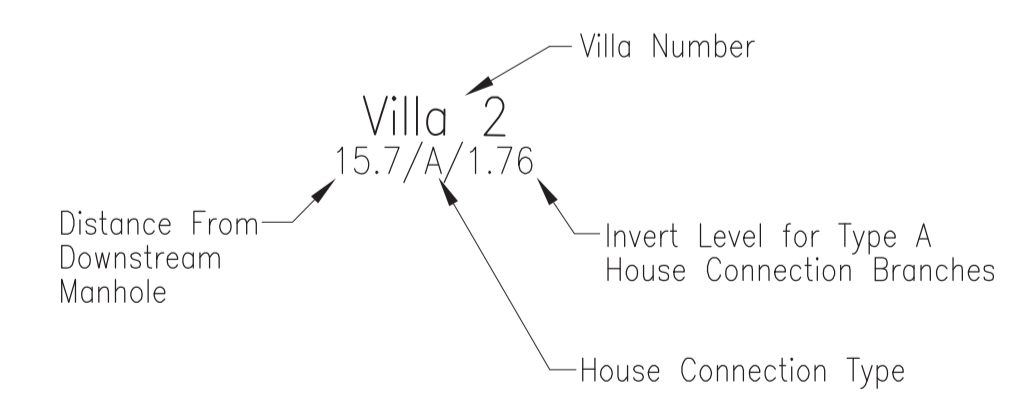


LEGEND

- E — Existing Under Ground Electricity Cable
- T — Existing Under Ground Telecommunications Cable
- G — Existing Under Ground Gas Main
- D — Existing Under Ground Storm Water Pipe
- S — Existing Under Ground Sewer Main
- W — Existing Under Ground Water Main
- x-W-x- Existing Under Ground Water Main To be Abandoned
- ⊗ Existing Water Valve
- ⊠ Existing Electricity Box
- ☀ Existing Light Pole
- 🌳 Existing Tree/Palm
- 150mm Dia. uPVC Sewer Main (Class SN8 RRJ) and 100mm Dia House Connection Branch
- 50mm Dia HDPE Water Main Class 12 Solvent Weld Jointed
- ⬇ SV Sluice Valve

NOTES

1. The Location of Services Shown are Given for Guidance Only. Locations May Not be Accurately Represented and Other Services May Exist on Site. It is the Responsibility of the Contractor to Verify the Position of all Services Within the Verge.
2. Water Reticulation to be Constructed in Accordance with FNQROC Std Drg No's S2000C, S2016B, S2020C, S2038A and FNQROC Specification S5.
3. Sewerage Reticulation to be Constructed in Accordance with FNQROC Std Drg No's S3000C, S3005D, S3015C and FNQROC Specification S6.



KFB Engineers Civil & Structural
 1/38-42 Pease St | PO Box 927, Cairns Q 4870
 P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 23/8/18
 Job No: K-3649 Signed: RPEQ 5711

D	23/08/18	Pathway Amended	TWV	EB
C	03/08/18	Response to Council Information Request	TWV	KB
B	16/05/18	Water and Sewer Added	TWV	KB
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No.	DATE	ISSUE / REVISIONS	DRN	CHKD

DRAWING FILE: XREF FILE:

NATHAN VERRI
 Mudlo Villas
 24 Mudlo Street, Port Douglas

**WATER / SEWERAGE
 RETICULATION AND
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