

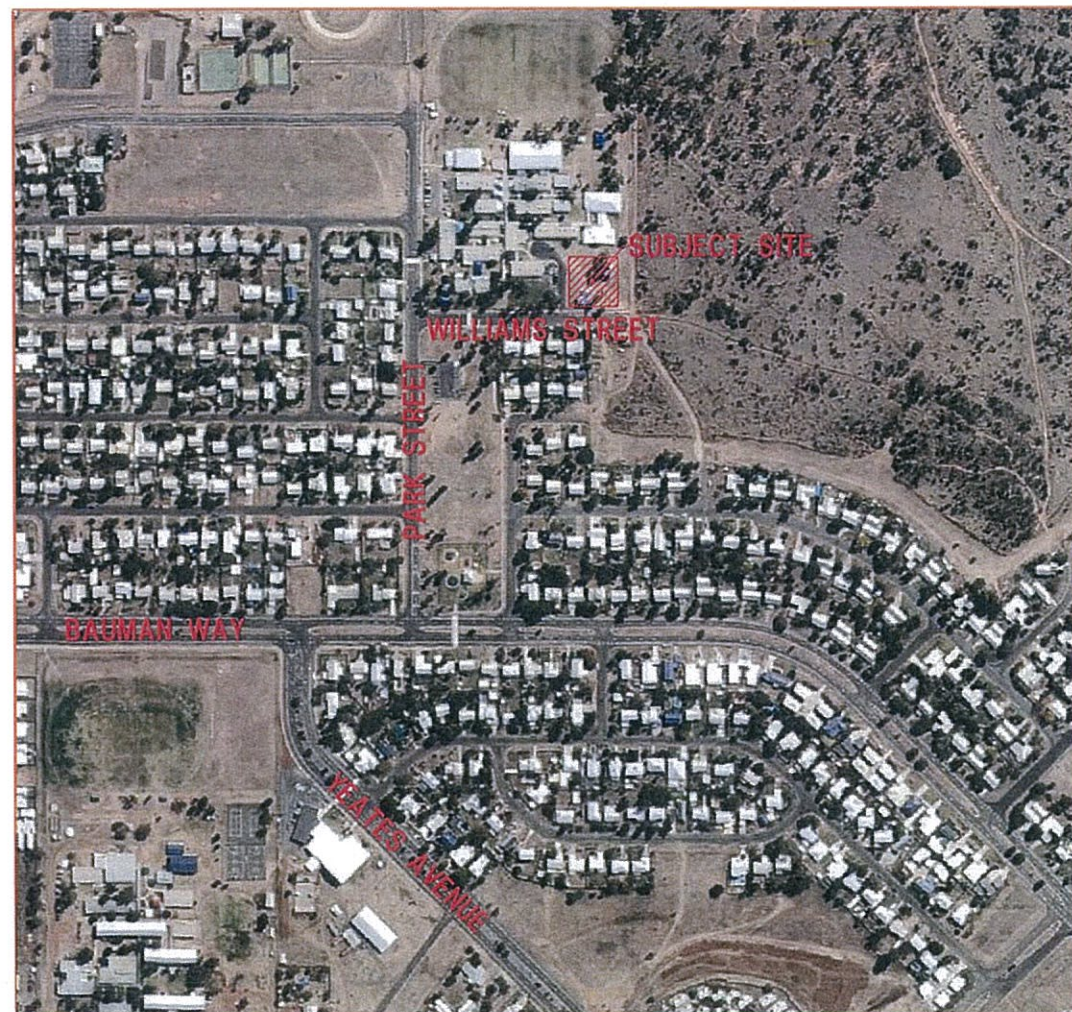
J.M. KELLY PROJECT BUILDERS PROPOSED KINDERGARTEN BLACKWATER NORTH STATE SCHOOL BLACKWATER, QLD CONTRACT NO. R13172

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

14 FEB 2014

MEDQ

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DWG NO.	DWG TITLE	
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LOCALITY PLAN
Not to Scale

ROCKHAMPTON
P.O. Box 1580
238 Quay Street,
Rockhampton Q 4700

Telephone (07) 4931 0777
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E-Mail: Rockhampton@brownconsulting.com.au

BROWN

Smart Consulting

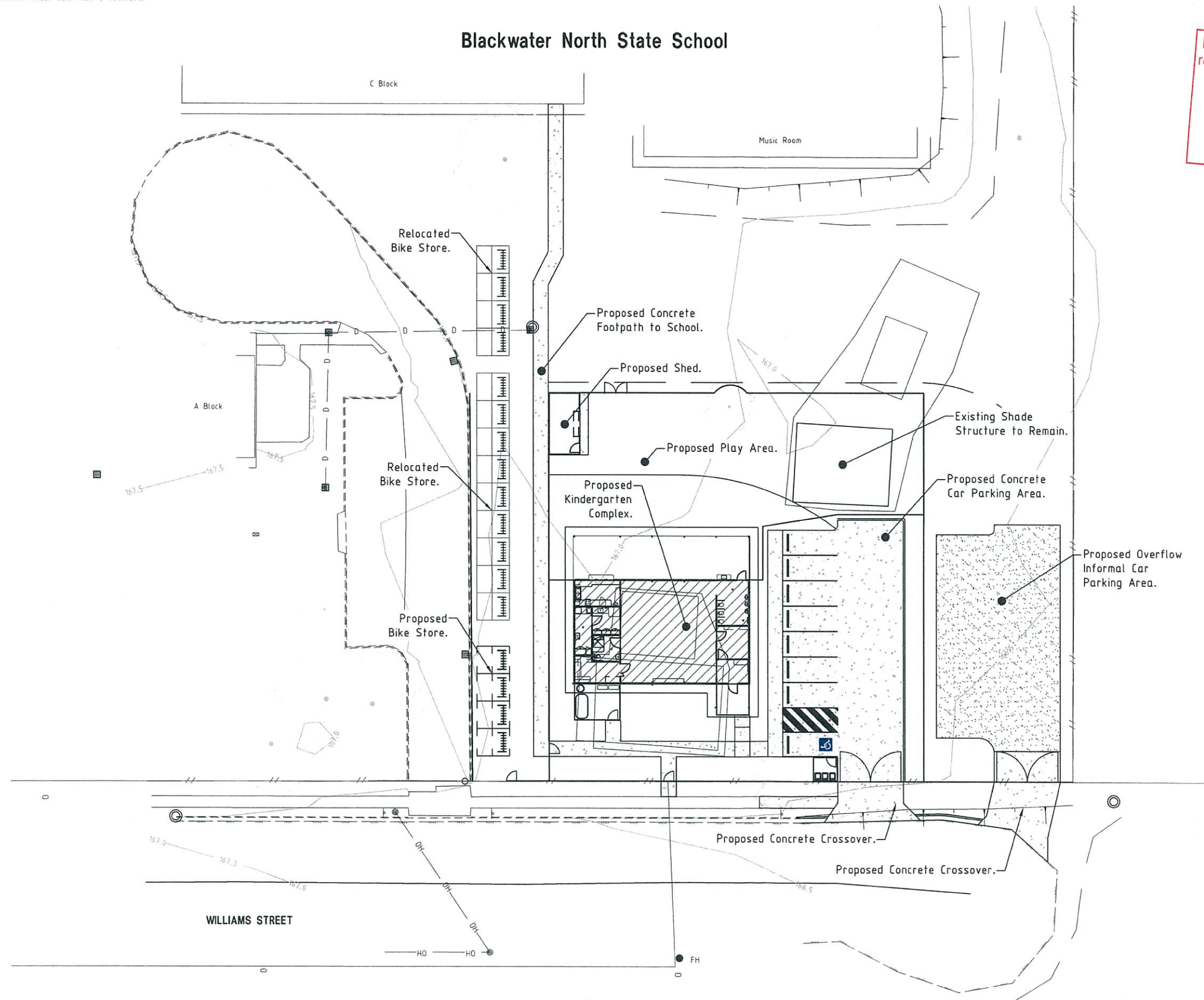
INCORPORATING GRAHAM SCOTT & ASSOCIATES

Blackwater North State School

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

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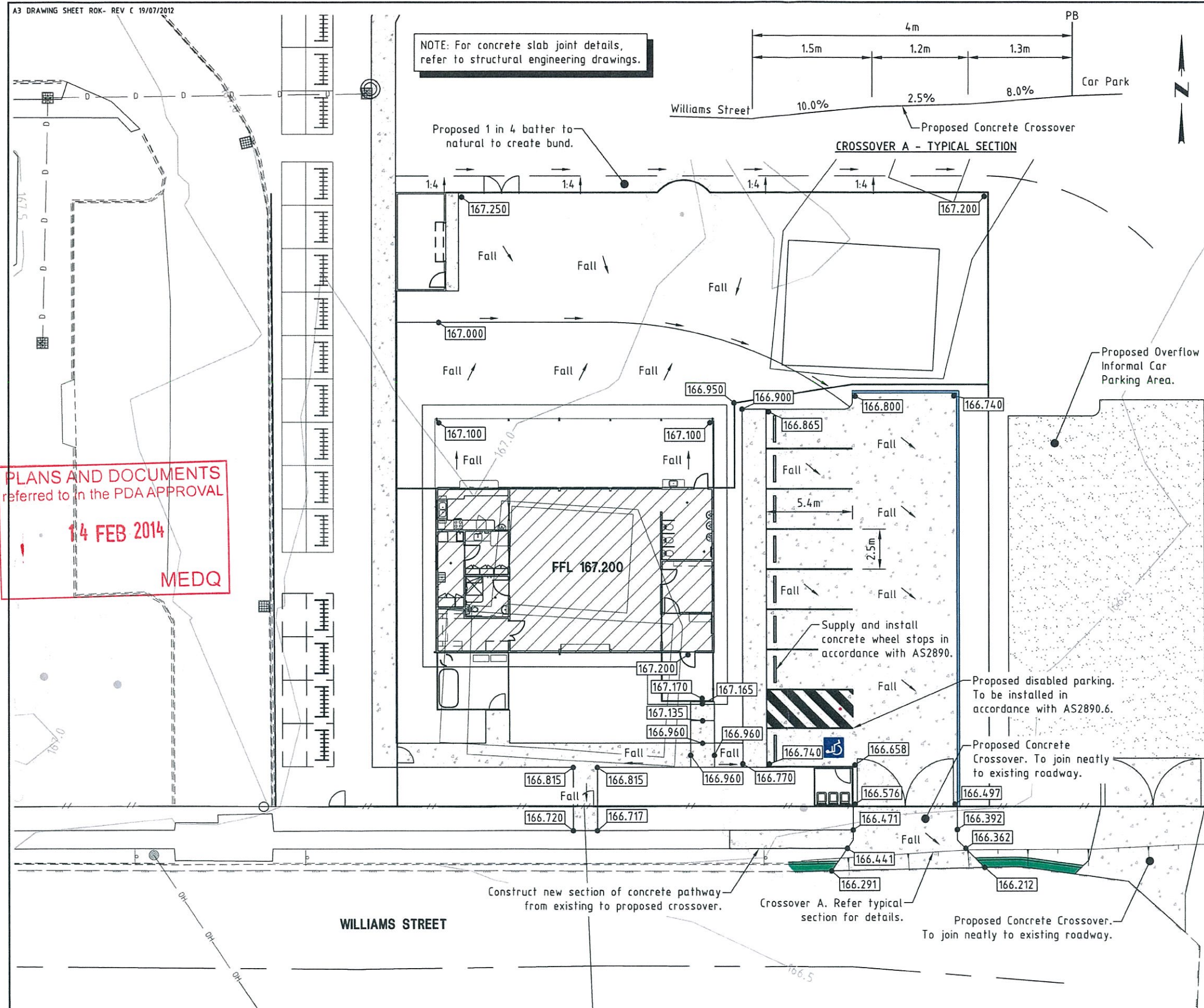
LEGEND

- Existing Bitumen Edge
- Existing Fence
- Existing Electrical Line
- Existing Top of Batter
- Existing Toe of Batter
- Existing Kerb and Channel
- Proposed Concrete Area
- Proposed Building
- Existing Contours

Drawing File: R13172-102.DWG Date/Time: 11.11.13/4:20 P.M.

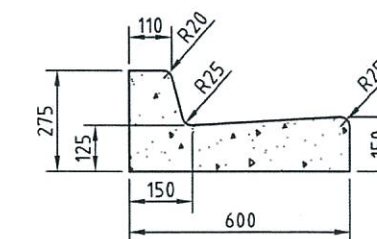
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DESIGN CHECK DRAWN CHECK 	SCALE 0 1.0 4.0m 1:200 (A1) 0 2.0 8.0m 1:400 (A3) DO NOT SCALE PHYSICALLY OR ELECTRONICALLY	DATUM PSM 35584 PROJECT No. R13172	SURVEYOR: Brazier Motti Ph (07) 1300 267 878 APPROVED Graham Scott RPEO 2412 Jeff Davey RPEO 8386 FOR & ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD	CLIENT J.M. KELLY PROJECT BUILDERS PROJECT PROPOSED KINDERGARTEN BLACKWATER NORTH STATE SCHOOL BLACKWATER, QLD	BROWN Smart Consulting	CONSULT AUSTRALIA Brown Consulting (QLD) Pty Ltd Incorporating Graham Scott & Associates 238 Quay Street, Rockhampton QLD Australia 4700 Telephone (07) 4931 0777 Facsimile (07) 4921 4866 Brisbane Gold Coast Melbourne Sydney Singapore Sunshine Coast Rockhampton	DRAWING TITLE SITE PLAN DRAWING NUMBER R13172-102 ISSUE A
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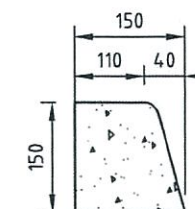
	Existing Bitumen Edge
	Existing Fence
	Existing Electrical Line
	Existing Top of Batter
	Existing Toe of Batter
	Existing Kerb and Channel
	Proposed Concrete Area
	Proposed Building
	Proposed Top of Batter
	Proposed Toe of Batter
	Proposed Fall Direction
	Proposed Surface Levels
	Proposed Barrier Kerb
	Proposed Barrier Kerb and Channel
	Existing Contours

1. All batters within lots to be 1 on 4 max.
2. For details of Erosion Control measures refer Dwg R13172/106.
3. The contractor shall establish the extent and location of all existing services within or adjacent to the works area. All services shall be protected against accidental damage during construction of the works. The contractor shall be responsible for all costs incurred by damage to existing services
4. Where work abuts existing, all work shall be neat, smooth, workmanlike and to the Superintendents Satisfaction.



— BARRIER KERB & CHANNEL CMDG TYPE 1

Scale 1:20 (A3)



BARRIER KERB CMDG TYPE 3

Scale 1:10 (A3)

Drawing File: R13172-103.DWG Date/Time: 11.11.13/4:21 P.M.

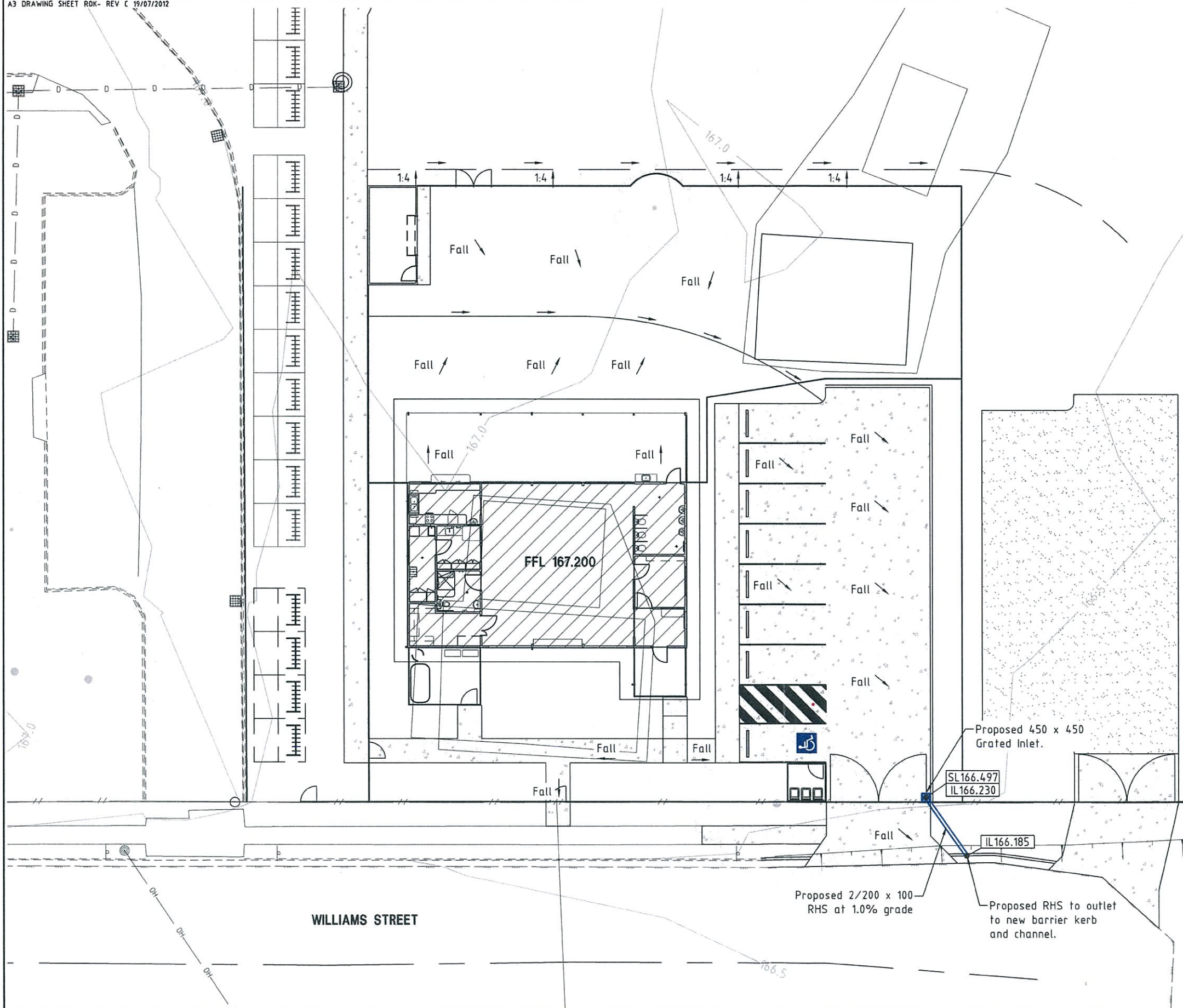
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| | Existing Bitumen Edge |
| | Existing Fence |
| | Existing Electrical Line |
| | Existing Top of Batter |
| | Existing Toe of Batter |
| | Existing Kerb and Channel |
| | Proposed Concrete Area |
| | Proposed Building |
| | Proposed Top of Batter |
| | Proposed Toe of Batter |
| | Proposed Fall Direction |
| | Proposed Surface Levels |
| | Existing Contours |

1. All batters within lots to be 1 on 4 max.
2. For details of Erosion Control measures refer Dwg R13172/106.
3. The contractor shall establish the extent and location of all existing services within or adjacent to the works area. All services shall be protected against accidental damage during construction of the works. The contractor shall be responsible for all costs incurred by damage to existing services
4. Where work abuts existing, all work shall be neat, smooth, workmanlike and to the Superintendents Satisfaction.

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CALCULATIONS				REVISIONS				DATE				AMENDMENT DETAILS				DESIGN CHECK				SCALE				DATUM				SURVEYOR: Brazier Motti				CLIENT							
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LEGEND

	Existing Bitumen Edge
	Existing Fence
	Existing Electrical Line
	Existing Top of Batter
	Existing Toe of Batter
	Existing Kerb and Channel
	Proposed Concrete Area
	Proposed Building
	Proposed Top of Batter
	Proposed Toe of Batter
	Proposed Fall Direction
	Proposed Surface Levels
	Proposed Invert Levels
	Proposed Stormwater Line
	Proposed Stormwater Inlet
	Existing Contours

NOTES

1. All batters within lots to be 1 on 4 max.
2. For details of Erosion Control measures refer Dwg R13172/106.
3. The contractor shall establish the extent and location of all existing services within or adjacent to the works area. All services shall be protected against accidental damage during construction of the works. The contractor shall be responsible for all costs incurred by damage to existing services.
4. Where work abuts existing, all work shall be neat, smooth, workmanlike and to the Superintendent's Satisfaction.

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

14 FEB 2014

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Drawing File: R13172-105.DWG Date/Time: 11.11.13/4:21 P.M.

FIRST ISSUE A 1 11/13 FOR APPROVAL	CALCS RLS MD 11/13	DESIGN CHECK DRAWN CHECK 	SCALE 0 0.625 2.5 1:125 (A1) 0 1.25 5.0m 1:250 (A3)	DATUM PSM 35584 PROJECT No. R13172	SURVEYOR: Brazier Motti Ph (07) 1300 267 878 APPROVED FOR & ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD	CLIENT J.M. KELLY PROJECT BUILDERS PROJECT PROPOSED KINDERGARTEN BLACKWATER NORTH STATE SCHOOL BLACKWATER, QLD	 Brown Consulting (QLD) Pty Ltd Incorporating Graham Scott & Associates 238 Quay Street, Rockhampton QLD Australia 4705 Telephone (07) 4931 0777 Facsimile (07) 4921 4865 Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Rockhampton	DRAWING TITLE STORMWATER PLAN DRAWING NUMBER R13172-105 ISSUE A
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NOTE: For internal landscaping and erosion and sediment control measures, refer to Architects plans.



LEGEND

	Existing Bitumen Edge
	Existing Fence
	Existing Electrical Line
	Existing Top of Batter
	Existing Toe of Batter
	Existing Kerb and Channel
	Proposed Concrete Area
	Proposed Building
	Proposed Top of Batter
	Proposed Toe of Batter
	Proposed Turfing Area
	Proposed Landscaping Area
	Refer Landscape Architect/Designers Plans
	Existing Contours

NOTES

1. Typical Erosion Control measures to remain in place until construction is completed and vegetation established.
2. Refer to C.M.D.G. Standard Drawings for Construction Details.
3. All erosion control measures are to be confirmed onsite by the Superintendent.
4. All soil erosion and sedimentation control measures to be checked, maintained and corrected where necessary, after rain events.
5. The entire construction site is to be a restricted area.
6. Stockpiles to be accessed from the uphill side with silt fences to be constructed on the downhill side for erosion control.
7. These controls are considered the base minimum required by the Superintendent.

PLANS AND DOCUMENTS referred to in the PDA APPROVAL

14 FEB 2014

Drawing File: R13172-106.DWG Date/Time: 11.11.13/4:21 P.M.

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REVISIONS									DRAWN CHECK			DO NOT SCALE PHYSICALLY OR ELECTRONICALLY			PROJECT No. R13172			APPROVED			Graham Scott RPEO 2412 Jeff Davey RPEO 8386														

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A3 DRAWING SHEET ROK- REV C 19/07/2012

GENERAL

1.0 Existing Services

The Builder shall establish the extent and location of all existing services within the works area. All services shall be protected against accidental damage during the construction of the works. The Builder shall be responsible for all costs incurred due to damage to existing services.

2.0 As-Constructed Information

The Builder shall provide levels and dimension information suitable to confirm to the satisfaction of the Superintendent that the works have been constructed to the levels and dimension shown on the drawing. The Builder shall provide all as-constructed information necessary for the preparation of the as-constructed plans. The minimum information requirements are as follows:

- Road and Drainage
- Longitudinal section of the road with levels of the control line at a minimum of 25m centres;
- Typical cross sections of all roads to demonstrate the constructed width and crossfall at the start and end of control line, at a minimum of 75m spacing and at where there is a change of road width or crossfall;
- Locations of manholes, gully pits and culverts;
- Invert levels of inlet and outlet pipes at manholes and gully pits on layout plan;
- Invert levels of culverts and inlets and outlets;
- Top of manhole and gully pit levels at the centre point on layout plan.
- Indicate actual pipe sizes, classes and grades on the layout plan;
- Typical cross sections of stormwater overflow paths to demonstrate the constructed width and crossfall at the start and end of control line, at a minimum of 10m spacing;
- Locations of all services including where they cross the roads (e.g. electricity, water, sewer, Telstra, drainage pipes).
- Location of all street lighting poles, electricity service turrets and electrical conduits (including size and number);
- All dimensions shall be provided in metres correct to 2 decimal places. All levels shall be on Australian Height Datum (AHD) in metres correct to 3 decimal places;
- The test results for the depth of each pavement layer. Test results and the level correlation sheet for the subgrade and base are to be submitted to the Engineer prior to the council inspection;
- Quality assurance testing results for the pavement and asphalt;
- The "AS Constructed" information for roadworks and drainage shall be provided within fourteen (14) days on completion of roadworks and drainage.

3.0 Inspections

A minimum of 24 hours notice of all required inspections shall be given by the Builder to the Superintendent. The Principal requires inspections at the following stages of construction..

Roadworks and Stormwater Drainage

- At subgrade level
- Base course prior to priming
- All stormwater drains prior to backfilling
- Any works requiring placement of reinforcing steel.

Check levels and testing results will be required prior to inspections where applicable.

EARTHWORKS AND ROADWORKS

1.0 Earthworks

1.1 Topsoil

The Builder shall strip topsoil from the whole of the earthworks area including any areas of allotment fill to a depth of 50mm or as directed by the Superintendent and stockpile it in the nominated stockpile area prior to commencing bulk earthworks. The Builder shall be required to carry out temporary stabilising measures to minimise the transportation of airborne material that may cause nuisance to neighbouring properties.

1.2 Pavement Box

The Builder shall initially construct the earthworks to the level of the underside of the pavement box as shown on the Drawings. The footpaths shall be excavated and or filled to the levels shown on the Drawings.

1.3 Bulk Filling

1.3.1 Roads

Prior to any filling the area to be filled shall be proof rolled by four passes of a 10 tonne minimum static mass roller. The final pass shall be treated as test rolling in accordance with testing Clause 5.4 of AS 3798 - 1996 with inspection carried out by the approved geotechnical testing authority or the Superintendent. The cost of proof and test rolling shall be deemed to be included in the contract lump sum. Filling shall be placed in layers of not more than 200mm loose thickness and compacted to a minimum standard maximum dry density as determined by AS 1289, E1.1 and specified in this specification. Test frequency shall be as stated in the Quality Assurance Testing Table A. At all times during bulk earthworks the Builder shall ensure that the works are kept in a state so as not to allow ponding on the works or erosion from the works in the event of rain. The moisture content of the fill shall be maintained as close as is practical to optimum moisture content during the compaction of the fill.

1.3.2 Building Pads

The Builder shall be required to provide certification that fill placed on the building pad has been supervised in accordance with level 1 as defined by AS3798 - 1996. Certification shall state that fill is similar to that defined in Section 6.1.2 of AS2870.1 - 1996 and can thus be classified as "Controlled Fill".

The testing strategy shall be developed in accordance with Section 8 of AS3798 - 1996 and requires approval from the Superintendent prior to commencement of filling. Every field density test shall be identified by location and level.

Payment for geotechnical testing associated with allotment filling certification shall be deemed to be included in the Tendered price for allotment filling.

1.4 Dust Control

The Builder shall ensure that dust resulting from the earthworks operations is kept to a minimum by the application of water to the works area or by other approved methods as directed by the Superintendent during all periods of construction.

1.5 Water for Construction Purposes

The Principal shall not supply water for use in construction of the works. The Builder shall make his own arrangements for obtaining water for these purposes. Water can be purchased from Rockhampton Regional Council with prior consent.

1.6 Replacement of Unsound Material

If during proof rolling of the fill areas or in the construction of cuts, unsound or unsuitable material is encountered which in the opinion of the Superintendent is not suitable for inclusion in the fill, the Builder shall excavate and remove to spoil as directed on site such unsuitable material. The Builder shall then replace the unsound material with suitable material drawn from the cutting operation on site.

1.7 Replacement of Topsoil

At the completion of the bulk earthworks, roadworks and services installation and following approval of the finished surface of footpaths and other filled areas, the Builder shall lightly fine up the fill surface and replaces the stockpiled topsoil in the areas nominated by the Superintendent.

The finished surface of the topsoil shall be lightly static rolled and watered to produce an even surface suitable for seeding and fertilising.

3.0 Pavement

3.1 Pavement Material

The pavement material shall be well graded and contain no organic matter. All pavement material must be approved by the Engineer prior to placement. Test results shall be made available to prove compliance with this specification. The base course material shall be MR Type 2.1 and the Sub-Base course material shall be MR Type 2.3.

3.2 No paving material shall be placed in an area until all service conduits, drainage pipes, water and sewerage road crossing have been completed, tested and backfilled unless approved by the Superintendent.

3.3 The minimum compaction test requirements shall be as follows:

Building Pads	95%
Standard	
Subgrade	100%
Standard	
Sub_base	100%
Standard	
Base	100%
Standard	

3.4 After compaction of the subgrade is completed, the subgrade shall be proof rolled in the presence of the Engineer if required and any areas of unsuitable material shall be removed as directed.

3.5 The tolerance requirements on the finished surface level of roads and kerb and channel shall be as follows:

Subgrade Surface+0mm to -25mm
Pavement Thickness+20mm to -10mm
Wearing Course Thickness+10mm to -0mm
Finished Road a) Horizontal Alignment±50mm
Vertical/geometric tolerance ii) Primary tolerance±15mm iii) Deviation from 3m straight edge5mm iv) Crossfall±0.5% v) Rate of change of crossfall±0.02% per metre
Kerb and channel desirable minimum grade0.3%Kerb and channel absolute minimum grade0.25%Kerb and channel maximum ponding depth5mm

3.6 Asphalt Surfacing

The asphaltic concrete paving mix shall be AC10 in accordance with AS2150-1995 and AS2734-1984 or an approved equivalent. The asphalt works shall be constructed in accordance with the relevant Drawings and/or Local Authority standards.

4.0 Concrete Work

4.1 Concrete work not specifically covered in this Job Specification shall be constructed in accordance with the relevant Drawings and/or Local Authority standards.

4.2 All cast insitu concrete work shall be carried out in accordance with the relevant Australian Standards.

4.3 All concrete work shall be Class N32 unless otherwise specified.

5.0 Junction with Existing Roads

Where work under this Contract abuts the existing road the connection thereto shall be neat, smooth and workmanlike and to the Engineer's satisfaction. The grading and levels at such junctions as shown on the Drawings are indicative only and shall be changed to suit the actual conditions if and as may be directed by the Engineer during construction and to Council's satisfaction.

6.0 Testing

6.1 In general testing will be required to be carried out in accordance with the attached Table A.

STORMWATER DRAINAGE

1.0 Pipes

All pipes shall be precast concrete pipe manufactured to comply with AS4058:1992 or fibre reinforced concrete pipes to comply with AS4139:2003. All precast concrete pipes shall be Class 2 unless noted otherwise on the drawings. All pipes shall have flush joints and be installed with external rubber bands unless noted otherwise on the drainage.

All polyvinyl chloride (uPVC) pipes and fittings to comply with AS 1254, AS/NZS 1260, AS 1273, AS/NZS 1477, AS/NZS 2179.2 and AS 2032.

All pipes installed shall be new and free from any damage or cracks.

2.0 Excavation and Backfilling

The pipe trenches shall be excavated to allow a minimum 100mm of approved bedding to the bottom and all side and top of the pipe. All bedding, surrounds, and backfill material shall be compacted in maximum 150mm layers and a minimum 95% maximum dry density as determined by AS 1289 E.1.1 or density index of minimum 70% as determined by AS 1289 E.G.1. All backfill under road pavements shall have a minimum of 97% maximum dry density as determined by AS 1289 E.1.1.

3.0 Laying and Jointing

Pipe laying shall begin at the down stream end of the line with the grooved ends of the pipe facing upstream. The end of the pipe shall be cleaned prior to the installation of the external rubber band. Lifting holes in pipes shall be securely plugged with manufacturer plugs or dry pack mortar prior to backfilling. All drainage lines shall be constructed with a tolerance of ± 15mm in line and level from the alignment shown on the drawings over any 30m length. All pipes must fall in the required direction.

Drawing File: R13172-107.DWG Date/Time: 11.11.13/4:22 P.M.

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I		I		I	
J		J		J	
K		K		K	
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M		M		M	
N		N		N	
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P		P		P	
Q		Q		Q	
R		R		R	
S		S		S	
T		T		T	
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DATE 11/13	SCALE FOR APPROVAL	DESIGN CHECK 	DATE 11/13	SCALE FOR APPROVAL	DESIGN CHECK
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A		A		A	
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X		X		X	
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DATE 11/13	SCALE FOR APPROVAL	DESIGN CHECK 	DATE 11/13	SCALE FOR APPROVAL	DESIGN CHECK
AMENDMENT DETAILS		AMENDMENT DETAILS		AMENDMENT DETAILS	
A		A		A	
B		B		B	
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4.0 Concrete Work

4.1 Concrete work, side drains, seepage drains, and other items not specifically covered in this Jobs Specification shall be constructed in accordance with the relevant drawings and/or attached specification. Side drains and seepage drains shall be constructed where shown on the drawings or where directed by the Superintendent.

4.2 All cast insitu concrete work shall be carried out in accordance with the relevant Australian Standards. Notwithstanding anything to the contrary, no separate payment will be made for reinforcing steel and the cost shall be deemed to be included in the various concrete items.

All concrete work shall be Class N32 unless otherwise specified.

5.0 Inlets

All road gullies shall be Precast concrete Pits or approved equivalent and shall be installed in accordance with the manufacturers' specifications. Any insitu concrete work shall comply with AS3600.

All field gullies shall be installed in accordance with the drawings and the manufacturers' specifications. Any insitu concrete work shall comply with AS3600.

6.0 Kerb and Channel

All kerb and channel shall be installed with an approved slip form extruder to the satisfaction of the Superintendent. The kerb and channel profile and other kerb only profiles shall comply with the drawings. The extruded profile shall have tooled joints at maximum 5.0m centres. All kerb and channel shall be subjected to a water test within 24 hours of placement and any section ponding greater than 5mm 20 minutes after testing shall be rectified in an approved manner and the cost shall be borne by the Builder. All water testing shall be in the presence of the Engineer.

QUALITY ASSURANCE TESTING
TABLE A:

Subgrade
Field density 1 test per 75m of roadway or as nominated by the Engineer.
Soaked CBR1 on each representative sample as directed by the Engineer.
Preparation:
Inspection and approval by Engineer prior to commencement of paving.
Survey levels:
Provided by Builder at design chainages prior to joint Council and Engineer inspection.

Sub-Base

Particle size distribution
1 No required of compacted sample if requested.

Distribution
Sample if requested.

Atterberg limits
1 No required of compacted sample if requested.

Soaked CBR1
1 per source.

Field Density
1 test per 75m of roadway or as nominated by the Engineer.

Confirmation of insitu compacted depth by level survey
Provided by the Builder at design chainages prior to Inspection by Engineer.

Base

Particle size distribution

1 No required of compacted sample if requested.

Atterberg limits
1 No required of compacted sample if requested.

Soaked CBR
1 per source.

Field Density

1 test per 75m of roadway or as nominated by the Engineer.

Confirmation of insitu compacted depth by level survey
Provided by the Builder at design chainages prior to inspection by Engineer.

Building Pad

Compaction field density test with Level 1 supervision as defined in AS 3798-1990
Testing frequency as determined by AS 3798-1990 Section 8, but generally 1 per 200mm layer of 200m3 by approval of Engineer.

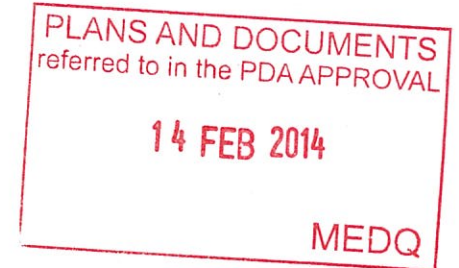
Asphalt tests by manufacturer
Aggregate grading
Bitumen content
Compacted density
Maximum density
Stability
Flow
Stiffness
Voids in Aggregate
Voids filled
1 series of tests per 1000m3 laid.

Stormwater

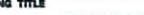
Sand bedding, alignment and level
Inspection and approval by Superintendent of bedding and laying of stormwater pipe. Levels supplied by Builder and approved by Superintendent.

Trench Backfill
1 field density test per section of trench. As-Constructed survey information to the approved of the Superintendent.

Provide control joints at 6.0 meters centers max location to be confirmed on site.
refer to structural drawings for footings, concrete, masonry notes & bsa detail.



Drawing File: R13172-108.DWG Date/Time: 11.11.13/4:23 P.M.

REV	CALC	ISSUED	DATE	AMENDMENT DETAILS		DESIGN CHECK	SCALE	DATUM	SURVEYOR: Brazier Motthi	CLIENT	 BROWN <i>Smart Consulting</i>	 CONSULT AUSTRALIA Brown Consulting (QLD) Pty Ltd Incorporating Graham Scott & Associates 238 Quay Street, Rockhampton QLD Australia 4700 Telephone (07) 4931 0777 Facsimile (07) 4921 4866 Brisbane Gold Coast Melbourne Sydney Singapore Sunshine Coast Rockhampton	DRAWING TITLE
1	RLS	MD	11/13	FOR APPROVAL			PSM 35584	Ph (07) 1300 267 878	J.M. KELLY PROJECT BUILDERS	GENERAL NOTES SHEET 2 OF 2			
A	RLS	MD	11/13				PROJECT No. R13172	APPROVED  Graham Scott RPEO 2412 Jeff Davey RPEO 8386	PROJECT PROPOSED KINDERGARTEN BLACKWATER NORTH STATE SCHOOL BLACKWATER, QLD	DRAWING NUMBER			
							DO NOT SCALE PHYSICALLY OR ELECTRONICALLY	FOR & ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD		R13172-108			
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