

# ROADWORKS - PARKING CARLIN RESERVE, TWEED HEADS PROPOSED PARKING BAY



APPROVALS ON BEHALF OF COUNCIL	
DESIGN MANAGER .....	PROJECT CLIENT .....
DATE: .....	DATE: .....



LOCALITY SKETCH

## INDEX

DESCRIPTION	DWG NO.	ISSUE
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## LEGEND

ISSUE A, B, C, etc. = PRELIMINARY APPROVALS / TENDER DRAWINGS (NOT FOR CONSTRUCTION)  
ISSUE 1, 2, 3, etc. = CONSTRUCTION ISSUE DRAWINGS

THE WORK WAS PERFORMED IN ACCORDANCE WITH THE DESIGN DRAWINGS.		
THE WORK PERFORMED HAS CHANGED FROM THE DESIGN DRAWINGS. REFER TO THE RED LINE CHANGES NOTED ON THE DRAWING SET.		
GANGER'S NAME	GANGER'S SIGNATURE	DATE
SUPERVISOR'S NAME	SUPERVISOR'S SIGNATURE	DATE

Project No  
**ROA117**

**PRELIMINARY**  
NOT FOR CONSTRUCTION

**GENERAL**

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT TWEED SHIRE COUNCIL (TSC) DEVELOPMENT DESIGN SPECIFICATIONS AND STANDARD DRAWINGS.
2. THIS NOTE AND THE FOLLOWING NOTES FORM AN INTEGRAL PART OF THIS DRAWING SET.
3. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
4. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWINGS.
5. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, TOGETHER WITH THE REQUIREMENTS OF ALL APPLICABLE CODES OF PRACTICE, AUSTRALIAN STANDARDS AND STATUTORY AUTHORITIES.
6. SURVEY DATA HAS BEEN COMPILED FROM FIELD PICK-UPS AND OFFICE RECORDS. THE PROJECT MANAGER SHOULD ENSURE THAT SUFFICIENT DATA IS SHOWN TO ENABLE CONSTRUCTION WITHOUT DISTURBANCE TO FEATURES THAT ARE NOT SHOWN ON THE DRAWINGS.
7. SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE VISIBLE ON THE SITE, FROM INFORMATION RECEIVED FROM RELEVANT AUTHORITIES AND FROM HISTORICAL RECORDS HELD BY TWEED SHIRE COUNCIL.
8. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATION OF ALL SERVICES (DIAL BEFORE YOU DIG 1100).
9. THE TITLE BOUNDARIES SHOWN HEREON WERE NOT FIELD INVESTIGATED OR MARKED AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSIONS ONLY.
10. THE ORIGIN OF CO-ORDINATES IS MGA.
11. THE DATUM FOR LEVELS IS AHD.

**SITE WORKS**

1. ALL SOILS CONTAINING ORGANIC MATTER (E.G. ROOTS, GRASS ETC.) MUST BE STRIPPED FROM THE CONSTRUCTION SITE PRIOR TO FILLING/BUILDING WORKS AND MUST NOT BE USED AS FILL MATERIAL.
2. CUT SLOPES MUST BE LIMITED TO 1½:1 (HORIZONTAL:VERTICAL). THE SLOPE SHOULD THEN BE GRASSED OR PAVED TO PREVENT SCOUR AND EROSION DAMAGE.
3. FILL PLATFORMS (FOR BUILDING WORKS) SHOULD EXTEND AT LEAST 1.0m BEYOND A LIMIT OF SUCH WORKS IF APPLICABLE. REFER TO THE DESIGN ENGINEER FOR POSSIBLE PIERCING OF ANY ADJACENT PERIMETER FOOTING. FILL BATTERS AT 2:1 (HORIZONTAL:VERTICAL) SLOPE, OR LESS, MUST BE FORMED TO THE NATURAL GROUND, AND ANTI-SCOUR AND EROSION MEASURES TAKEN. A SLOPE STEEPER THAN 2:1 WILL REQUIRE RETAINING.
4. EXTENT OF ANY EARTHWORKS (CUT OR FILL) SHOULD NOT ENCRDACH ANY CLOSE THAT 600mm TO ANF ADJACENT PROPERTY BOUNDARY.
5. ALL OVERSIZED MATERIAL, WHICH MAY IMPEDE COMPACTION, MUST BE REMOVED FROM THE FILL PLATFORM.
6. FILL IS TO BE UNIFORMLY COMPACTED IN UP TO 200-300mm HORIZONTAL LAYERS AND MUST ACHIEVE A MINIMUM STANDARD OF COMPACTION OF GREATER THAN 95% STANDARD COMPACTION TO AS 1289 FOR COHESIVE SOILS, OR A DENSITY INDEX OF GREATER THAN 65% FOR COHESIONLESS SOILS. BENCHING OF THE NATURAL GROUND WILL BE REQUIRED ON SLOPING GROUND PRIOR TO COMMENCEMENT OF FILL OPERATIONS.
7. CLAYS OF HIGH PLASTICITY OR HIGH IN-SITU MOISTURE CONTENT ARE NOT TO BE USED AS FILL.
8. AN IMPORTED GRANULAR FILL WITH A PLASTICITY INDEX PREFERABLY LESS THAN 15%, WITH NO EXCESSIVE OVERSIZED MATERIAL, MAY BE USED.
9. FIELD DENSITY TESTS, OR EQUIVALENT, SHOULD BE CARRIED OUT TO VERIFY THAT THE STANDARD OF COMPACTION IS ACHIEVED. FIELD DENSITY TESTS ARE TO BE TAKEN OVER THE FULL DEPTH OF THE LAYER OR FROM THE BOTTOM OF THE LAYER.

**RESTORATION OF SURFACES**

1. THE CONSTRUCTOR SHALL CLEAN PAVEMENTS, LAWNS AND OTHER IMPROVED AREAS AND LEAVE THEM IN THE SAME ORDER AS THEY WERE AT THE COMMENCEMENT OF THE WORKS. THE CONSTRUCTOR SHALL RESTORE ANY FENCING REMOVED DURING CONSTRUCTION AND SHALL RESTORE LAWNS WITH TURF CUT AND SET ASIDE FROM THE ORIGINAL SURFACE AND WITH IMPORTED TURF FROM A SOURCE APPROVED BY THE CONSTRUCTION ENGINEER. (WSA 02 2002 PART 3, SECTION 25).
2. IMMEDIATELY AFTER BACKFILLING OF A TRENCH EXCAVATED THROUGH A PAVEMENT HAS BEEN COMPLETED, THE CONSTRUCTOR SHALL TEMPORARILY RESTORE THE PAVEMENT. WHERE THE TRENCH CROSSES BITUMEN OR CONCRETE PAVEMENT, THE SURFACE IS TO BE PROTECTED FROM DETERIORATION. A PRE-MIXED ASPHALTIC MATERIAL MAY BE USED FOR SUCH TEMPORARY RESTORATION. THE CONSTRUCTOR SHALL MAINTAIN THE TEMPORARY RESTORATION UNTIL FINAL RESTORATION IS CARRIED OUT. FINAL RESTORATION OF THE PAVEMENT SHALL BE CARRIED OUT TO RESTORE THE PAVEMENT AND ITS SUB-BASE TO NO LESS THAN THE ORIGINAL CONDITION. FINAL RESTORATION MAY INCLUDE, IF REQUIRED BY THE CONSTRUCTION ENGINEER, THE REMOVAL OF TEMPORARY RESTORATION.
3. IN OTHER THAN ROADWAYS, THE CONSTRUCTOR SHALL PLACE THE BACKFILL SUFFICIENTLY HIGH TO COMPENSATE FOR EXPECTED SETTLEMENT AND FURTHER BACKFILLING SHALL BE CARRIED OUT OR THE ORIGINAL BACKFILL TRIMMED AT THE END OF THE DEFECTS LIABILITY PERIOD IN ORDER THAT THE SURFACE OF THE COMPLETED TRENCH MAY THEN CONFORM WITH THE ADJACENT SURFACE. SURPLUS MATERIAL SHALL BE REMOVED AND DISPOSED OF TO AREAS ARRANGED BY THE CONSTRUCTOR. WHERE DRY WEATHER CONDITIONS HAVE PERSISTED AFTER THE ORIGINAL BACKFILLING, INCLUDING DURING THE DEFECTS LIABILITY PERIOD, THE CONSTRUCTOR SHALL TAKE ALL NECESSARY STEPS TO CONSOLIDATE THE TRENCH BEFORE REMOVING SURPLUS MATERIALS FROM THE SITE.
4. IN LOCATIONS WHERE, IN THE OPINION OF THE CONSTRUCTION ENGINEER, SURPLUS MATERIAL LEFT IN THE VICINITY OF THE TRENCH WOULD NOT BE OBJECTIONABLE, THE SURPLUS MATERIAL MAY BE DISPOSED BY SPREADING NEATLY IN THE VICINITY OF THE TRENCH TO THE SATISFACTION OF THE CONSTRUCTION ENGINEER IN SUCH A WAY AS TO AVOID FUTURE EROSION OF THE BACKFILL AND ADJACENT GROUND SURFACES. THE CONSTRUCTOR SHALL MAINTAIN THE BACKFILL AND ADJACENT GROUND UNTIL THE EXPIRY OF THE DEFECTS LIABILITY PERIOD.
5. WHERE, WITHIN PUBLIC OR PRIVATE PROPERTY, THE REASONABLE CONVENIENCE OF PERSONS WILL REQUIRE SUCH, THE CONSTRUCTION ENGINEER MAY ORDER THE CONSTRUCTOR TO LEVEL TRENCHES AT THE TIME OF BACKFILLING. THE CONSTRUCTOR SHALL MAKE GOOD ANY SUBSEQUENT SETTLEMENT, AS REQUIRED BY PLACING ADDITIONAL FILL.
6. THE CONSTRUCTOR SHALL IMMEDIATELY RESTORE ANY DAMAGED OR DISTURBED PRIVATE PROPERTY AND SERVICES.
7. SHOULD THE CONSTRUCTOR ELECT TO TUNNEL UNDER PAVING, KERB AND GUTTER OR OTHER IMPROVED SURFACES IN LIEU OF TRENCHING, BACKFILLING SHALL BE SO CARRIED OUT AS TO RESTORE FULL SUPPORT TO THOSE SURFACES. THE CONSTRUCTOR SHALL REMAIN RESPONSIBLE FOR THE REPAIR OF THE IMPROVED SURFACES, IF SUBSEQUENTLY DAMAGED DUE TO SUBSIDENCE OF THE BACKFILL, UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. THE CONSTRUCTOR SHALL PROVIDE NOTICE TO AFFECTED PROPERTY OWNERS OF ANY PENDING WORKS.

**EXISTING SERVICES**

1. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF EXISTING SERVICES PRIOR TO COMMENCING WITH THE WORKS.
2. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY EXISTING SERVICES DAMAGED DURING CONSTRUCTION WITH NEW SERVICES OF EQUIVALENT TYPE AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LIASING WITH TELECOMMUNICATIONS AND ELECTRICAL SUPPLY AUTHORITIES WITH SUPPLY AND FITMENT OF REPLACEMENT TELECOMMUNICATIONS AND ELECTRICITY PITS AND/OR LIDS TO SUIT HIS WORKS PROGRAM
4. WHEN CONSTRUCTING OR WORKING NEAR EXISTING PRESSURE MAINS IT SHOULD BE EXPECTED THAT THERE ARE CONCRETE THRUST BLOCKS LOCATED AT BENDS OR OTHER FITTINGS ON THE EXISTING MAIN. IT IS VERY IMPORTANT NOT TO DISTURB THE BEARING SOIL BEHIND THE THRUST BLOCK TO AVOID FAILURE OF THE EXISTING PRESSURE MAIN. IF EXCAVATION AROUND EXISTING THRUST BLOCKS CAN NOT BE AVOIDED THEN THE EXISTING PRESSURE MAIN SHALL BE TAKEN OFF LINE DURING THE EXCAVATION WORKS.

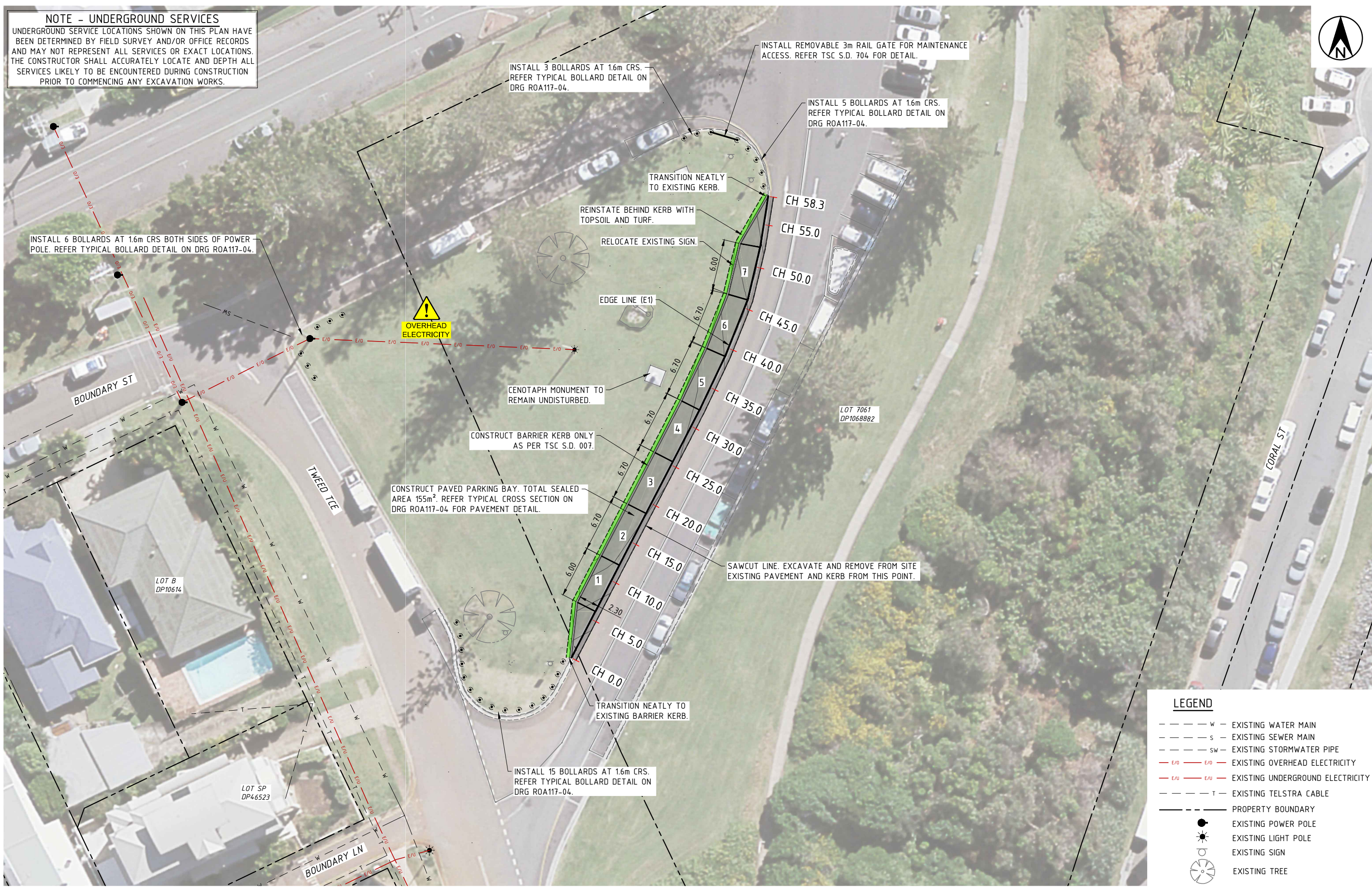
**CONCRETE NOTES**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH A.S.3600, CURRENT EDITION WITH AMENDMENTS
2. CONCRETE QUALITY (UNLESS OTHERWISE SHOWN) SHALL BE AS FOLLOWS
  - COURSE AGGREGATE - MAXIMUM SIZE 20mm
  - CEMENT - TYPE "A" PORTLAND CEMENT.
  - CONCRETE SHALL HAVE THE FOLLOWING SLUMP DURING PLACEMENT
    - BEAMS ,SLABS AND FOOTINGS 80mm
    - COLUMNS AND WALLS 80mm
3. SLAB JOINTS SHALL BE PLACED AS FOLLOWS
  - FOOTPATHS - AS PER TWEED SHIRE COUNCIL STANDARD DRAWING NUMBER S.D.014
  - SLABS AND WALLS - REFER TO SLAB JOINTING PLAN WITHIN THIS DRAWING SET
  - SLAB SAWN JOINTS SHALL BE CUT WITHIN 24 HOURS OF SLAB POURING IN A NEAT AND STRAIGHT CUT.
4. ALL SPLATTER TO SURROUNDING SURFACES SHALL BE CLEANED UP IMMEDIATELY
5. COVER TO REINFORCEMENT SHALL BE OBTAINED BY THE USE OF PLASTIC BAR CHAIRS WITH MAXIMUM SPACING OF 800mm IN ANY DIRECTION
6. ALL CONCRETE SHALL BE COMPACTED USING HIGH FREQUENCY VIBRATORS.
7. CURING OF CONCRETE SURFACES SHALL COMMENCE IMMEDIATELY AFTER SURFACES ARE FINISHED AND SHALL CONTINUE TO CURE FOR A MINIMUM OF 7 DAYS
8. SLABS WITH SPECIFIC ROUGH FINISHES SHALL BE KEPT FREE OF BLEED WATER AND FLOATED TO PREVENT THE FORMATION OF PLASTIC SHRINKAGE CRACKS.

<p style="text-align: center;"><b>PRELIMINARY</b> NOT FOR CONSTRUCTION</p>						<p><b>DESIGN UNIT</b></p> <p>COUNCIL OFFICES TUMBULGUM ROAD, MURWILLUMBAH NSW 2484.</p> <p>PHONE 02 66702400 FAX 02 66727513 WEBSITE www.tweed.nsw.gov.au</p>				DESIGN ENGINEER ..... DATE .....		PROJECT: <b>ROADWORKS - PARKING CARLIN RESERVE, TWEED HEADS PROPOSED PARKING BAY</b>		PROJECT NUMBER: <b>ROA117</b>	
		A		ORIGINAL ISSUE		N.R.				20.04.16		PLAN TITLE: <b>NOTES</b>		DRAWING NUMBER <b>ROA117-02</b>	
ISSUE		AMENDMENT DETAILS		DRAWN		CHECK		DATE		# USE FIGURED DIMENSIONS ONLY. DO NOT SCALE.					

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**NOTE - UNDERGROUND SERVICES**  
 UNDERGROUND SERVICE LOCATIONS SHOWN ON THIS PLAN HAVE BEEN DETERMINED BY FIELD SURVEY AND/OR OFFICE RECORDS AND MAY NOT REPRESENT ALL SERVICES OR EXACT LOCATIONS. THE CONSTRUCTOR SHALL ACCURATELY LOCATE AND DEPTH ALL SERVICES LIKELY TO BE ENCOUNTERED DURING CONSTRUCTION PRIOR TO COMMENCING ANY EXCAVATION WORKS.



**LEGEND**

- W --- EXISTING WATER MAIN
- S --- EXISTING SEWER MAIN
- SW --- EXISTING STORMWATER PIPE
- E/O- -E/O- EXISTING OVERHEAD ELECTRICITY
- E/U- -E/U- EXISTING UNDERGROUND ELECTRICITY
- T --- EXISTING TELSTRA CABLE
- --- PROPERTY BOUNDARY
- EXISTING POWER POLE
- ⊙ EXISTING LIGHT POLE
- ⊙ EXISTING SIGN
- ⊙ EXISTING TREE

<b>PRELIMINARY</b>			
NOT FOR CONSTRUCTION			
A	ORIGINAL ISSUE	N.R.	20.04.16
ISSUE	AMENDMENT DETAILS	DRAWN	CHECK DATE

SCALE: A1 SHEET 1:200, A3 SHEET 1:400

# USE FIGURED DIMENSIONS ONLY. DO NOT SCALE.

**DESIGN UNIT**

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 TUMBULGUM ROAD,  
 MURWILLUMBAH NSW 2484.

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 FAX 02 66727513  
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DESIGNED	N.R.	20.04.16	DATE	.....
DRAWN	N.R.	20.04.16	COORDS ADOPTED	TS 6632
CHECKED			EASTING	554031.919
HORIZONTAL DATUM	MGA		NORTHING	6884357.615
VERTICAL DATUM	AHD		R.L.	31.697

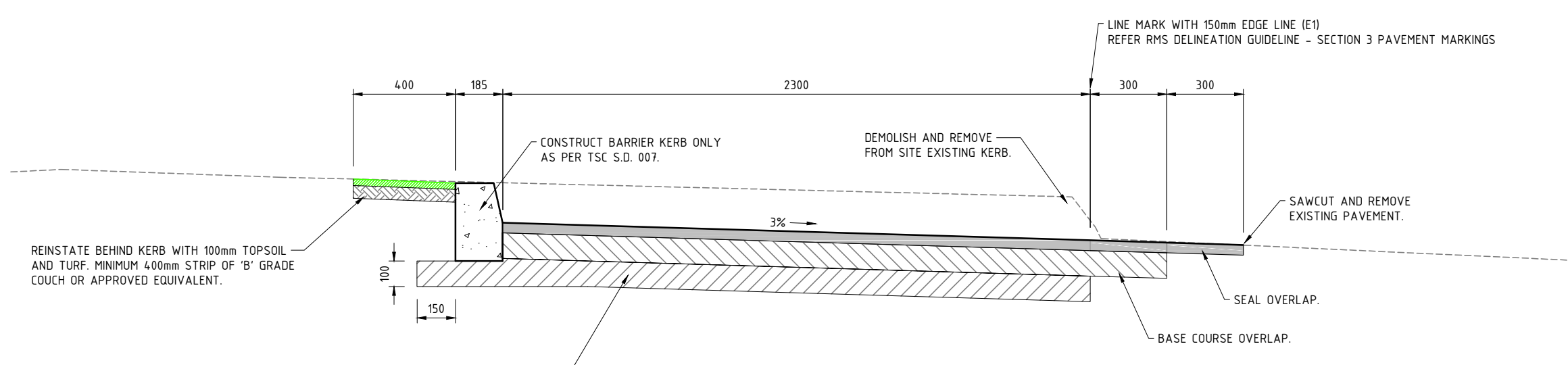
PROJECT: **ROADWORKS - PARKING CARLIN RESERVE, TWEED HEADS PROPOSED PARKING BAY**

PLAN TITLE: **SITE PLAN**

PROJECT NUMBER: **ROA117**

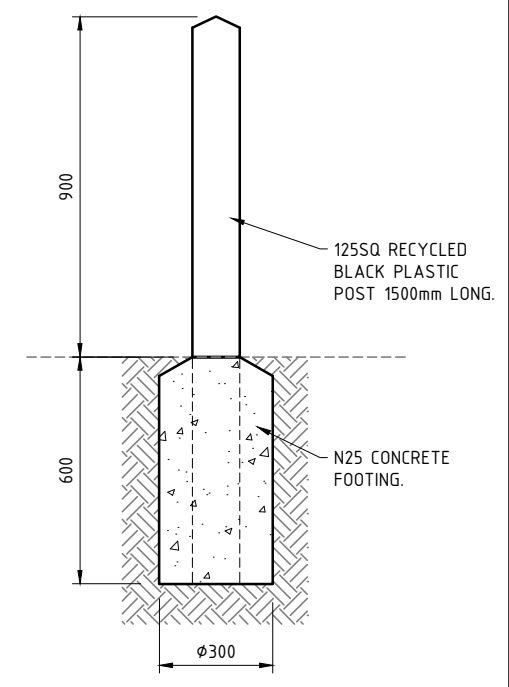
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<b>ROA117-03</b>	<b>A</b>

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- PARKING BAY PAVEMENT DETAIL:**
1. SAWCUT AND REMOVE EXISTING PAVEMENT AND BOX OUT TO 240mm BELOW FINISHED DESIGN LEVELS.
  2. TRIM AND COMPACT SUBGRADE.
  3. PLACE AND COMPACT 100mm SUB-BASE TYPE 2.3 (CBR45)
  4. PLACE AND COMPACT 100mm BASE TYPE 2.1 (CBR80)
  5. APPLY 10mm PRIMER SEAL
  6. APPLY 30mm AC SEAL (AC10)

**TYPICAL CROSS SECTION**  
A3 SCALE: 1:20



**TYPICAL BOLLARD DETAIL**  
A3 SCALE: 1:20

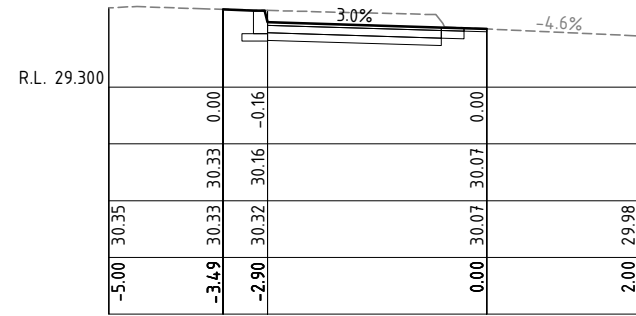
- BOLLARD NOTES:**
1. BOLLARDS TO BE INSTALLED MIN. 500mm BEHIND BACK OF KERB.
  2. RECYCLED PLASTIC POSTS 125x125x1500 (BLACK) WITH POINTED TOP SUPPLIED BY REPLAS OR APPROVED EQUIVALENT.

CHAINAGE	0.0	5.0	10.0	11.6	15.0	20.0	24.7	25.0	30.0	34.3	35.0	4.00	4.50	50.0	52.3	55.0	56.3
EXISTING SURFACE	29.821	29.919	30.026	30.060	30.071	30.088	30.107	30.105	30.071	30.035	29.960	29.890	29.818	29.789	29.763	29.733	
DESIGN CL SURFACE	29.821	29.924	30.027	30.060	30.072	30.090	30.107	30.105	30.073	30.046	30.036	29.964	29.893	29.822	29.789	29.764	29.732
CUT/FILL	+0.000	+0.005	+0.001	+0.001	+0.001	+0.002	+0.000	+0.000	+0.002	+0.001	+0.004	+0.003	+0.004	+0.001	+0.001	-0.001	
DATUM R.L. 29.0 I.P. 29.821      I.P. 30.060      I.P. 30.107      I.P. 30.046      I.P. 29.789 2.06%      0.36%      -0.64%      -1.42%      -0.96%																	

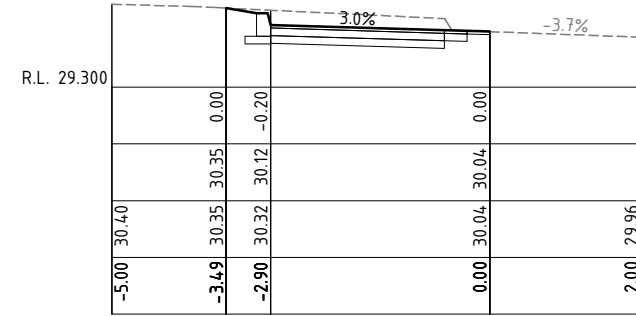
**LONGITUDINAL SECTION - SAWCUT LINE**  
A3 SCALE: 1:200H 1:20V

<p><b>PRELIMINARY</b> NOT FOR CONSTRUCTION</p>	<p>SCALE: A1 SHEET 1:10, A3 SHEET 1:20</p>		<p><b>DESIGN UNIT</b></p> <p>COUNCIL OFFICES TUMBULGUM ROAD, MURWILLUMBAH NSW 2484.</p> <p>PHONE 02 66702400 FAX 02 66727513 WEBSITE www.tweed.nsw.gov.au</p>	<p><b>TWEED</b> SHIRE COUNCIL</p>	<p>DESIGN ENGINEER ..... DATE .....</p>		<p>PROJECT: <b>ROADWORKS - PARKING CARLIN RESERVE, TWEED HEADS PROPOSED PARKING BAY</b></p>		<p>PROJECT NUMBER: <b>ROA117</b></p>		
	<p>SCALE: A1 SHEET 1:100, A3 SHEET 1:200</p>				<p>DESIGNED N.R. 20.04.16 DRAWN N.R. 20.04.16 CHECKED ..... HORIZONTAL DATUM MGA VERTICAL DATUM AHD</p>		<p>COORDS ADOPTED TS 6632 EASTING 554031.919 NORTHING 6884357.615 R.L. 31.697</p>		<p>PLAN TITLE: <b>TYPICAL DETAILS AND LONGITUDINAL SECTION</b></p>		<p>DRAWING NUMBER <b>ROA117-04</b>      ISSUE <b>A</b></p>
<p>ISSUE AMENDMENT DETAILS</p>		<p>DRAWN CHECK DATE</p>		<p># USE FIGURED DIMENSIONS ONLY. DO NOT SCALE.</p>		<p>ACAD FILE No: G:\_AAA DESIGN PROJECTS\ROA\ROA117 Carlin Reserve Parking Bay\Drawings\A_SKEETCH DRAWINGS\ROA117_Design.dwg</p>					

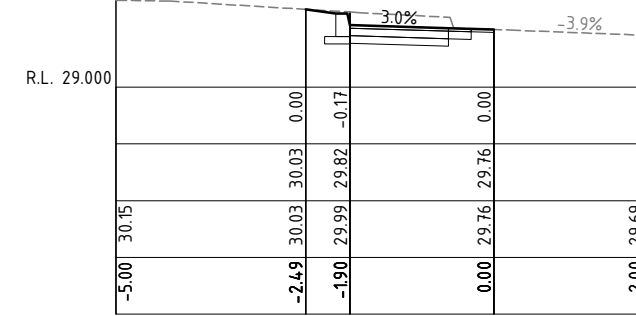
PARKING BAY PAVEMENT DETAIL:  
 SAWCUT AND REMOVE EXISTING PAVEMENT AND BOX OUT TO 240mm BELOW FINISHED DESIGN LEVELS.  
 TRIM AND COMPACT SUBGRADE.  
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 APPLY 10mm PRIMER SEAL  
 APPLY 30mm AC10



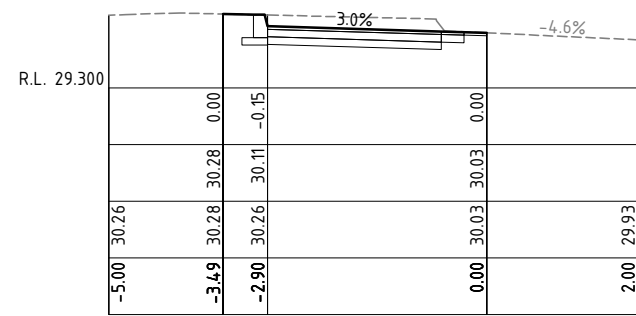
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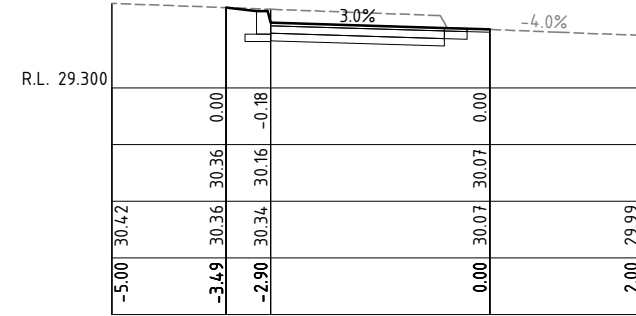
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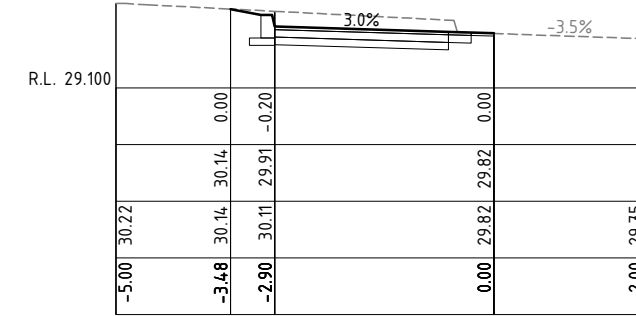
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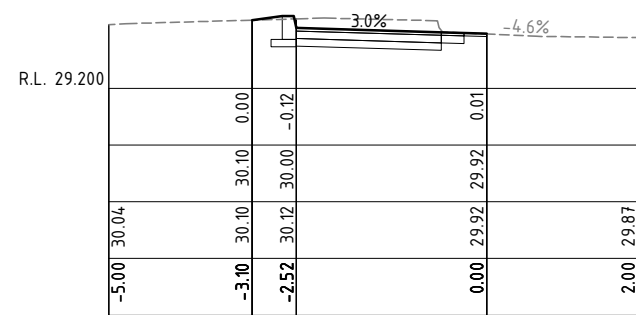
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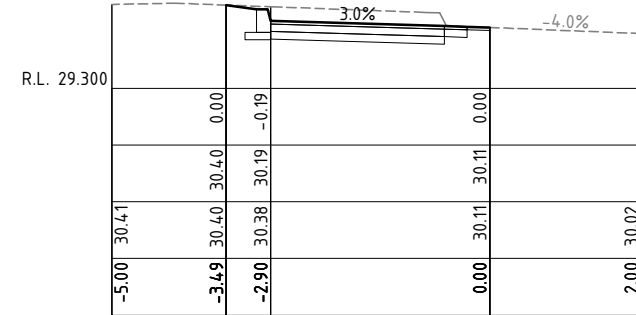
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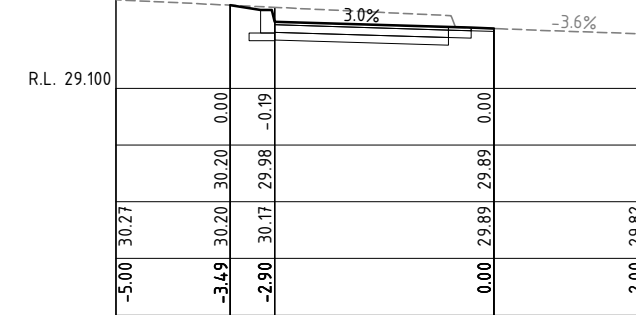
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CH 5.000



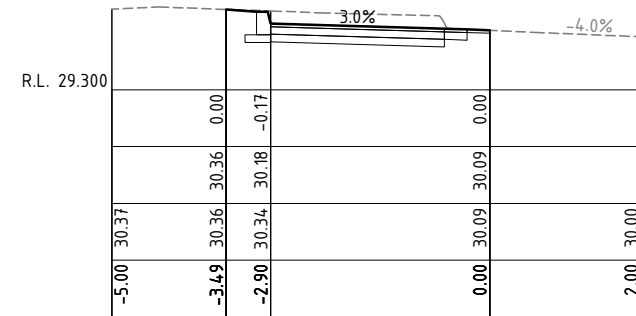
CH 25.000



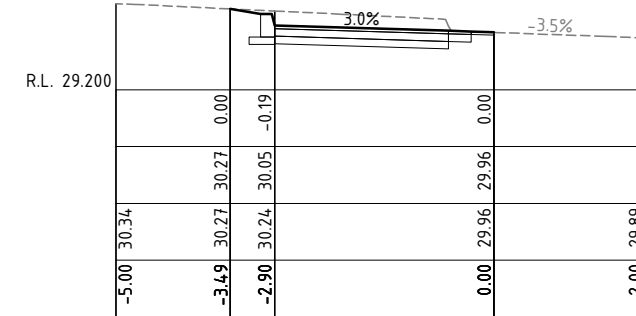
CH 45.000

R.L. 29.000					
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	-5.00				
	29.79				
	2.00				
	29.80				

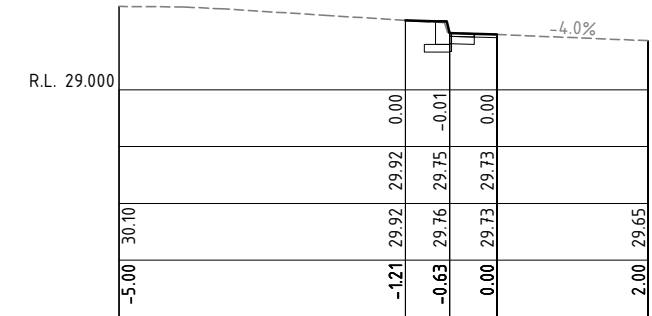
CH 0.000



CH 20.000



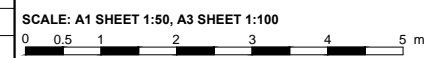
CH 40.000



CH 58.300

CROSS SECTIONS  
 A3 SCALE: 1:100

**PRELIMINARY**  
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**DESIGN UNIT**

COUNCIL OFFICES  
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PROJECT: **ROADWORKS - PARKING**  
**CARLIN RESERVE, TWEED HEADS**  
**PROPOSED PARKING BAY**

PROJECT NUMBER:  
**ROA117**

PLAN TITLE:  
**CROSS SECTIONS**

DRAWING NUMBER  
**ROA117-05**

ISSUE  
**A**

**EROSION AND SEDIMENT CONTROL PLANS**

PROGRESSIVE *ERSED* PLANS SHALL BE DEVELOPED AND IMPLEMENTED AS REQUIRED BY THE SITE SUPERVISOR BASED ON THIS PLAN AND FOLLOWING PRINCIPLES AND STANDARD SITE CONTROL MEASURES.

**MINIMISE EXTENT AND DURATION OF DISTURBANCE**

- CONSTRUCTION WORKS TO BE MANAGED SUCH THAT AREAS OUTSIDE SCOPE OF WORKS REMAIN UNDISTURBED WHERE POSSIBLE.
- MINIMISE EXTENT OF DISTURBANCE WITHIN CONSTRUCTION SITE AT ANY ONE TIME BY STAGING THE WORKS (EG. RIP EXISTING BITUMEN IN SECTIONS, MOVING ON TO NEW SECTIONS FOLLOWING COMPLETION OF PREVIOUS STAGE).
- MINIMISE DISTURBANCE OF VEGETATION ALONG THE ROAD VERGE WITH SPECIAL EMPHASIS ON MANAGEMENT OF CONSTRUCTION ACTIVITIES ADJACENT TO TO WATERCOURSES (E.G. MAINTAIN GRASSY BUFFER WHERE POSSIBLE).

**CONTROL STORMWATER FLOWS ONTO, THROUGH AND FROM THE SITE**

- SEPARATE 'CLEAN' RUN-ON WATER FROM 'DIRTY' (E.G. TURBID) CONSTRUCTION AREA RUNOFF (MAINTAIN CLEAN WATER PASSAGE THROUGH CULVERT CROSSING THROUGHOUT CONSTRUCTION WORKS).
- CONSTRUCT PERMANENT DRAINAGE STRUCTURES EARLY IN THE PROJECT INCLUDING:
  - KERB ON DOWN SLOPE SIDE OF ROAD
  - CULVERTS, HEADWALLS AND ASSOCIATED INLET AND OUTLET PROTECTION (E.G. DISSIPATORS)
- MAXIMISE THE SHEET FLOW OF TURBID CONSTRUCTION RUNOFF INTO EXISTING SPOON DRAIN (ON UP SLOPE SIDE OF ROAD) BY MAINTAINING IN-FALL DRAINAGE WHERE POSSIBLE AND INTO NEW GUTTERS AS CONSTRUCTED.

**USE EROSION CONTROL MEASURES TO PREVENT ON-SITE DAMAGE**

- THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
- SITE STOCKPILES OF SOIL MATERIAL IN LOW-HAZARD AREAS CLEAR OF WATERCOURSES. ADDITIONAL PROTECTION TO BE AFFORDED WITH TEMPORARY VEGETATION, DIVERSION BANKS AND SEDIMENT CONTROL MEASURES, IF REQUIRED. SEED STOCKPILES WITH ANNUAL GRASS IF THEY ARE TO BE STORED LONGER THAN 10 DAYS.
- CONSTRUCT A RANGE OF EROSION CONTROLS WITHIN THE VARIOUS ROAD SUB-CATCHMENTS TO COMPLEMENT AND INCREASE THE EFFECTIVENESS AND EFFICIENCY OF SEDIMENT CONTROLS IN THE LOWER AREAS.

**USE SEDIMENT CONTROL MEASURES TO PREVENT OFF-SITE DAMAGE**

- THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
- CONSTRUCT CONTROL MEASURES AS CLOSE TO THE POTENTIAL SOURCE OF SEDIMENT AS POSSIBLE.
- CONTROL THE DEPOSITION OF MUD AND SOIL MATERIAL ONTO LOCAL ROADS.

**STABILISE DISTURBED AREAS QUICKLY**

- ALL BATTER STABILISATION AND REINSTATEMENT WORKS ADJACENT TO NEW CONSTRUCTION SHALL BE CARRIED OUT AS SOON AS POSSIBLE AFTER COMPLETION OF CONSTRUCTION WORKS.
- ALL DISTURBED VERGES AND FILL BATTERS TO BE STABILISED BY REVEGETATING WITH APPROPRIATE SPECIES (E.G. ANNUAL GRASS SEED SUCH AS ANNUAL RYEGRASS OR JAPANESE MILLET, OR TURF) AS SOON AS PRACTICAL AFTER REINSTATEMENT.
- ENSURE THE SUCCESS OF THE LATER REVEGETATION PROGRAM BY UTILISING A GOOD TOPSOIL MANAGEMENT PROGRAM
- CONTROL DUST THROUGH PROGRESSIVE REVEGETATION TECHNIQUES, WATER TANKERS ETC.

**INSPECT AND MAINTAIN CONTROL MEASURES**

- ENSURE THE PROGRESSIVE AND CONTINUAL IMPLEMENTATION AND MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROLS (E.G. SEDIMENT FENCES, DIVERSION BANKS, DIVERSION DRAINS, SEDIMENT TRAPS).
- INITIATE A PROGRAM TO ENSURE REGULAR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. SEDIMENT CLEANED FROM STRUCTURES (E.G. SCRAPE AWAY ACCUMULATED SEDIMENT UPSTREAM OF CHECK DAMS AND REPLACE/REPAIR AS NECESSARY) TO MAINTAIN FUNCTIONALITY.
- ARRANGE REGULAR INSPECTIONS BY AN ENVIRONMENTAL SCIENTIST TO REVIEW AND UPDATE CONTROL MEASURES. ADDITIONAL INSPECTIONS WILL BE CONDUCTED DURING AND/OR IMMEDIATELY FOLLOWING SIGNIFICANT RAINFALL EVENTS TO MONITOR THE FUNCTIONING OF CONTROLS.
- ALL EROSION AND SEDIMENT CONTROLS TO BE MAINTAINED IN PLACE UNTIL ALL WORKS ARE COMPLETED AND DISTURBED AREAS HAVE STABILISED.

EXTRACT FROM LANDCOM (2004). MANAGING URBAN STORMWATER: SOIL AND CONSTRUCTION. VOLUME 2D MAIN ROADS CONSTRUCTION. 2008

This sediment and erosion control plan contains Council's minimum requirements for environmental protection; however, it is still the principal contractor's responsibility to ensure that the works and mitigation strategies are performed in a manner that complies with all relevant environmental legislation, including any development approval requirements.

**EROSION & SEDIMENTATION CONTROL COMMENTARY**

- MONITOR 7 DAY RAIN FORECAST TO DETERMINE TIMING OF WORK.
- AVOID WORK IN WET WEATHER, ESPECIALLY WITHIN THE ROAD SURFACE.
- LIMIT AREAS OF DISTURBANCE & MAINTAIN GRASSED AREAS WHERE POSSIBLE. ENSURE GUTTERS, PATHWAYS & ROADS ARE SWEEP CLEAN PRIOR TO RAIN OR AT THE END OF SHIFT. HARD SURFACES CLEAN OF SOIL WILL REDUCE EROSION & SEDIMENTATION CONTROLS & THEREFORE TRIP HAZARDS TO PEDESTRIANS & ROAD HAZARDS ETC.
- ENSURE THAT TURF IS REPLACED AS SOON AS POSSIBLE AFTER WORKS TO AID IN SOIL STABILISATION.
- REMOVE ESC MEASURES WHEN SITE IS CONSIDERED STABILISED E.G. ESTABLISHED TURF ON EXCAVATED AREAS, REPLACE PAVEMENT ETC.
- ARRANGE REGULAR INSPECTIONS TO REVIEW & UPDATE CONTROL MEASURES.

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE: A1 SHEET 1:500, A3 SHEET 1:1000  
0 5 10 20 30 40 50m

**DESIGN UNIT**

COUNCIL OFFICES  
TUMBULGUM ROAD,  
MURWILLUMBAH NSW 2484.

PHONE 02 66702400  
FAX 02 66727513  
WEBSITE www.tweed.nsw.gov.au



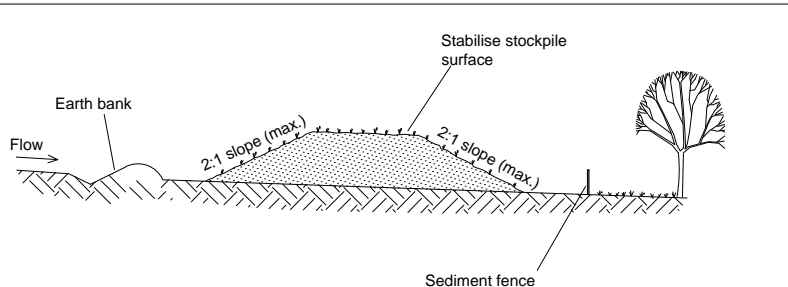
DESIGNED	N.R.	20.04.16	COORDS ADOPTED	TS 6632
CHECKED			EASTING	554031.919
HORIZONTAL DATUM	MGA		NORTHING	6884357.615
VERTICAL DATUM	AHD		R.L.	31.697

PROJECT: **ROADWORKS - PARKING CARLIN RESERVE, TWEED HEADS PROPOSED PARKING BAY**

PLAN TITLE: **EROSION AND SEDIMENT CONTROL PLAN**

PROJECT NUMBER: **ROA117**

DRAWING NUMBER: **ROA117-06**  
ISSUE: **A**

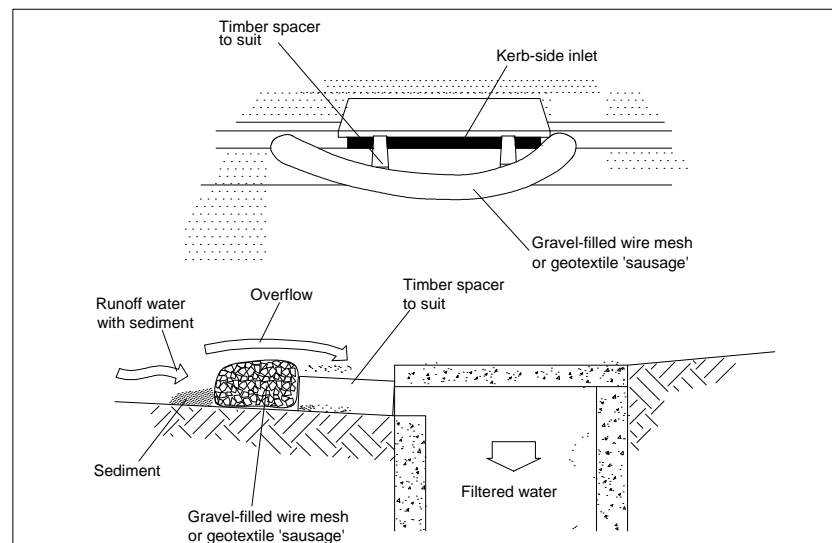


**Construction Notes**

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

**STOCKPILES**

SD 4-1



NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

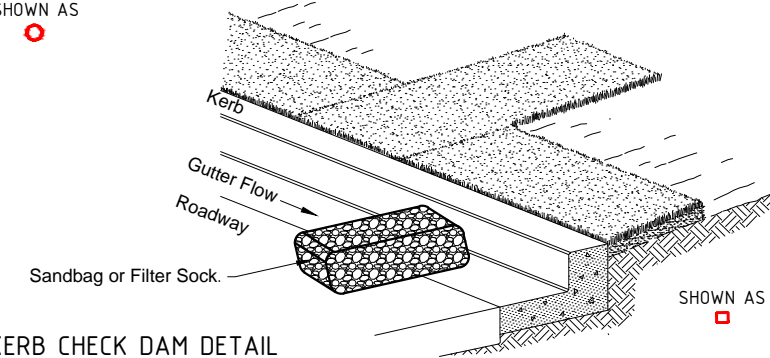
**Construction Notes**

- Install filters to kerb inlets only at sag points.
- Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
- Form an elliptical cross-section about 150 mm high x 400 mm wide.
- Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
- Form a seal with the kerb to prevent sediment bypassing the filter.
- Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

**MESH AND GRAVEL INLET FILTER**

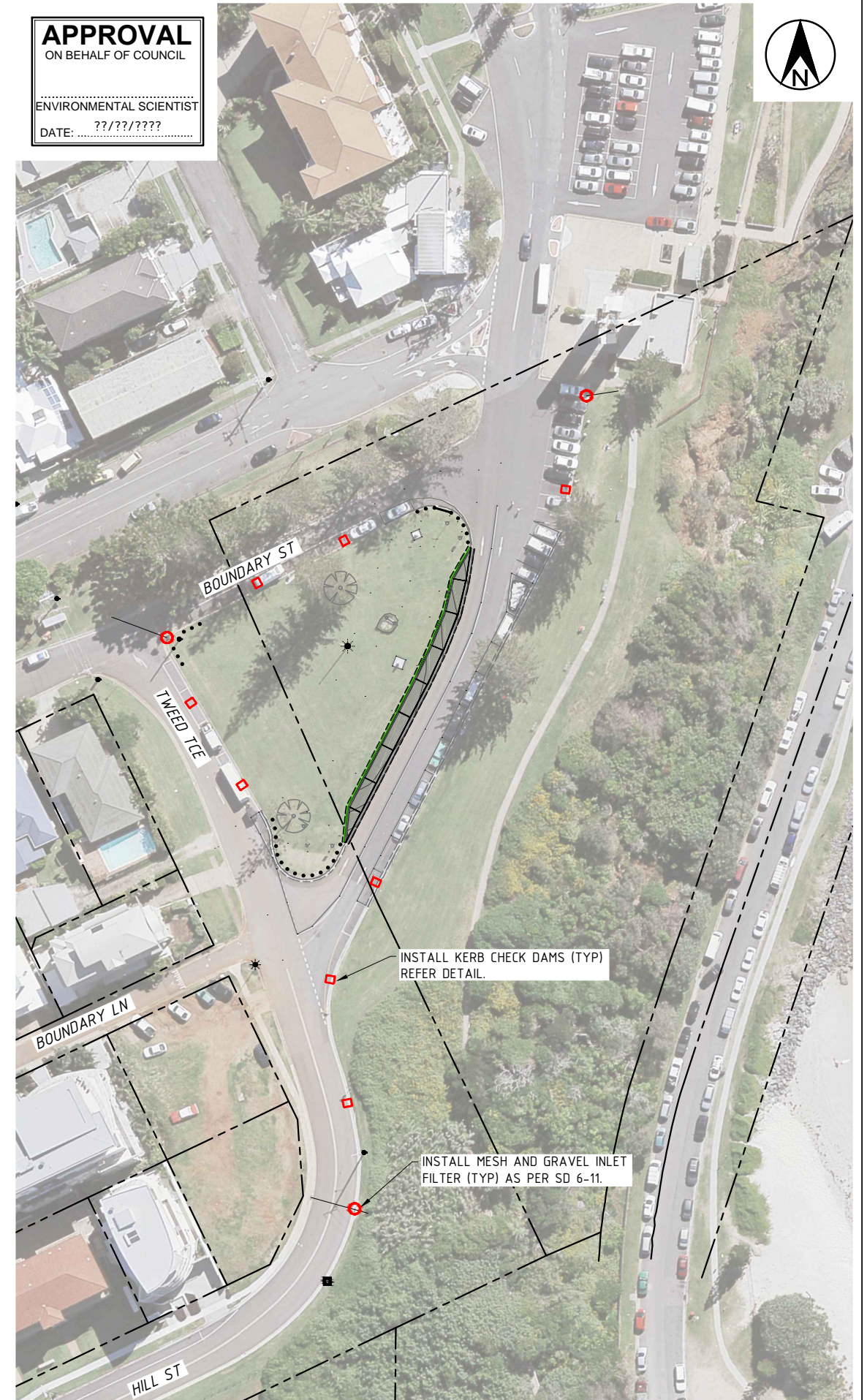
SD 6-11

SHOWN AS



**KERB CHECK DAM DETAIL**

SHOWN AS



**APPROVAL**  
ON BEHALF OF COUNCIL  
.....  
ENVIRONMENTAL SCIENTIST  
DATE: ???/??/????

INSTALL KERB CHECK DAMS (TYP) REFER DETAIL.

INSTALL MESH AND GRAVEL INLET FILTER (TYP) AS PER SD 6-11.