PREFACE

THESE STANDARD DRAWINGS ARE PART OF A SERIES OF DOCUMENTS FORMING THE CITY PLAN 2015 AND TITLED LAND DEVELOPMENT GUIDELINES (LDG). THE SERIES INCLUDES:
• DESIGN REQUIREMENTS - SECTIONS 1 TO 9
• STANDARD SPECIFICATIONS
• THE LDG STANDARD DRAWINGS

THE OBJECTIVE OF THESE STANDARD DRAWINGS IS TO PROVIDE DEFAULT CONSTRUCTION DETAILS OF MUNICIPAL INFRASTRUCTURE ASSETS BUILT FOR OR ON BEHALF OF, OR TO BE CONTRIBUTED TO, THE CITY OF GOLD COAST (THE CITY).

FORWARD

THE DRAWINGS INCLUDE THOSE PRODUCED BY THE CITY OF GOLD COAST AND BY THE INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA, QUEENSLAND (IPWEA). THE IPWEA DRAWINGS INCLUDED IN THE CITY OF GOLD COAST LDG HAVE BEEN DEVELOPED TO SATISFY THE NEEDS OF COUNCILS IN THE SOUTHEAST QUEENSLAND REGION, PROVIDING UNIFORMITY AND EASE OF USE BY CONTRACTORS.

THE DOCUMENT INCLUDES COPIES OF THE CITY OF GOLD COAST STANDARD DRAWINGS AND REFERENCES TO IPWEA DRAWINGS.

IN THE EVENT OF CONFLICT BETWEEN THE REQUIREMENTS OF THE LDG STANDARD DRAWINGS AND THE OTHER DOCUMENTS IN THIS SERIES, PRIORITY IS TO BE APPLIED AS FOLLOWS:
• DESIGN REQUIREMENTS - SECTIONS 1 TO 9
• STANDARD SPECIFICATIONS
• THESE LDG STANDARD DRAWINGS
• IPWEA STANDARD DRAWINGS

SCOPE

THIS DOCUMENT INCLUDES TECHNICAL DETAILS FOR THE FOLLOWING CATEGORIES OF MUNICIPAL INFRASTRUCTURE.
• ROADS
• STORMWATER DRAINAGE
• BEACHES AND WATERWAYS
• OPEN SPACE

DISCLAIMER

THIS DOCUMENT HAS BEEN CREATED FOR USE IN THE CONSTRUCTION OF MUNICIPAL INFRASTRUCTURE ASSETS BUILT FOR, OR ON BEHALF OF, OR TO BE CONTRIBUTED TO, THE CITY OF GOLD COAST.

THE CITY DOES NOT GUARANTEE, NOR MAKE ANY REPRESENTATIONS AS TO THE COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. THE CITY ALSO DOES NOT ACCEPT RESPONSIBILITY FOR ANY LOSS OR DAMAGE OCCURRING AS A RESULT OF THE USE OF ANY PART OF THIS DOCUMENT.
# Roadworks

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**City of Gold Coast**

2015 Edition

**Standard Drawings**

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2. STREET LIGHTING TO L.D.G DESIGN REQUIREMENT - STREET LIGHTING - OBJECTIVES.
3. TRAFFIC VOLUMES BASED ON 10 V.P.D. PER SINGLE DWELLING LOT.
4. TRAFFIC VOLUMES ARE TO BE USED AS A GUIDE IN THE DESIGN OF GEOMETRIC LAYOUT. REFER TO L.D.G DESIGN REQUIREMENTS - PAVEMENTS FOR PAVEMENT REQUIREMENTS.
5. DELINEATE BIKE LINES WITH SIGNAGE AND PAVEMENT MARKINGS IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
6. ALONG POTENTIAL BUS ROUTES PROVIDE FOR BUS STOPS AT 400m INTERVALS WITH A 3.3m WIDE SECTION ADDITIONAL TO MOVING LANES AND BIKE LINES WITHOUT COMPROMISE TO VEHICLE WIDTH COMPLIANT WITH TRANSLINK PUBLIC TRANSPORT INFRASTRUCTURE MANUAL. PROVIDE THESE ROUTES TO A MINIMUM COLLECTOR STANDARD.
7. DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

LEGEND

CENTERLINE OF ROAD
N.K.L.
DIVIDING LINE (PAINTED)
P.S.L.
PARKING SPACE LINE (PAINTED)
SUB-SURFACE DRAINAGE REFER TO EWD A. STD
Dwg No - RS-140, RS-141 & RS-142
BARRIER K & C TYPE BT (OR ROLL OVER K & C TYPE M3)

CITY OF GOLD COAST

THIS DRAWING IS NOT TO BE AMENDED WITHOUT REFERENCE TO STANDARDS COMMITTEE

CONTROLLING DOCUMENT

DRAWN BY

DO NOT SCALE

TAKE FIGURED DIMENSIONS ONLY

STANDARD DRAWINGS

TYPICAL CROSS SECTIONS
COLLECTOR STREETS
PLAN 1 OF 2

2015 EDITION
NOTES
1. FOR STREET HIERARCHY AND DESIGN PRINCIPLES REFER TO THE LAND DEVELOPMENT GUIDELINES (L.D.G) DESIGN REQUIREMENTS – TRANSPORT NETWORK STANDARDS.

2. THESE TYPICAL SECTIONS ARE COUNCIL’S MINIMUM REQUIREMENT ONLY AND MAY VARY WITH PEDESTRIAN/BIKEWAY/PARKING AND GENERAL NETWORK PLANNING (i.e. THE CITY’S TRANSPORT STRATEGY 2031).


4. STREET LIGHTING TO L.D.G DESIGN REQUIREMENT – STREET LIGHTING – OBJECTIVES.

5. TRAFFIC VOLUMES BASED ON 10 V.P.D. PER SINGLE DWELLING LOT.

6. TRAFFIC VOLUMES ARE TO BE USED AS A GUIDE IN THE DESIGN OF GEOMETRIC LAYOUT, REFER TO L.D.G DESIGN REQUIREMENTS – PAVEMENTS FOR PAVEMENT REQUIREMENTS.

7. INSTALL GUARDRAIL IN ACCORDANCE WITH QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS REQUIREMENTS.

8. DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
**LEGEND AND GUIDELINE NOTES**

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<td>WATER OR SEWERAGE</td>
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**NOTES**

1. MINIMUM ROAD VERGES MAY REQUIRE WIDENING TO ACCOMMODATE SERVICES, EARTHWORKS BATTERS, BATTER MAINTENANCE ZONES AND TO ACHIEVE CLEAR ZONES. THIS PARTICULARLY APPLIES TO RURAL ROADS AND URBAN ROADS WITH ELECTRICITY SUPPLY POLES.

2. WHEN WIDER ROAD VERGES ARE REQUIRED THEN INCREASE SEPARATION DIMENSION MARKED *

3. LOCATE E.S.P'S AND RIGID STREET LIGHT POLES BEYOND THE CLEAR ZONE. WIDER ROAD VERGES ARE REQUIRED FOR RURAL SUB-ARTERIAL AND RURAL ARTERIAL ROADS, WHICH HAVE E.S.P'S.

4. DESIGN AND INSTALL STREET LIGHT POLES IN ACCORDANCE WITH AS/NZS 1158.

5. PROVIDE CLEAR ZONES TO STREET TREES.

---

**STANDARD DRAWING**

**PUBLIC UTILITY PLANT CORRIDOR ALLOCATIONS IN PUBLIC ROAD VERGES**

**DRAWN BY**: INFRASTRUCTURE DELIVERY BRANCH

**DRAWN BY**: DAVID BRABY

**APPROVED**: MARK ASH

**ISSUE**: 2018 EDITION

**STANDARD DRAWING NO**: 02-005
NOTES
1. PAINT FOR KERB NUMBERING SHALL COMPLY WITH THE FOLLOWING:
   - BACKGROUND PAINT: 1% GOLDEN YELLOW IN ACCORDANCE WITH AS 2700.
   - TYPE: WATERBORNE PAINT IN ACCORDANCE WITH AS4494.3.
   - DROP ON BEADS: GLASS BEADS TO BE APPLIED TO BACKGROUND PAINT IN ACCORDANCE WITH AS2009.
   - CHARACTER PAINT: COLOUR: NO LIGHTER THAN NO. 64 CHARCOAL IN ACCORDANCE WITH AS2700.
   - TYPE: TWO PART HIGH BUILD RECOATABLE EPOXY.
2. TEMPLATE CHARACTERS FONT STYLE TO BE FRUTIGER, ARIAL OR SIMILAR.
3. THE KERB NUMBERS ARE TO BE PAINTED ON THE KERBS AT THE APPROACH SIDE OF DRIVEWAYS OR WHERE THERE IS NO DRIVEWAY, AT THE CENTRE OF THE PROJECTION OF THE LOT BOUNDARIES.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
NOTES

1. MATERIALS - ALL POSTS ARE TO COMPLY WITH QUEENSLAND DEPARTMENT OF MAIN ROADS
   STANDARD SPECIFICATION (MRTS14). (TIMBER POSTS ARE NOT ACCEPTABLE TO CITY OF GOLD COAST).

2. POST SPACING - POSTS ARE TO BE ERECTED IN ACCORDANCE WITH THE MANUAL OF UNIFORM
   TRAFFIC CONTROL DEVICES.

3. POST ALIGNMENT - THE INSIDE EDGE OF POST IS TO BE SET IN LINE WITH THE EDGE OF THE
   ROAD SHOULDER.

4. Delineators - ARE TO COMPLY WITH THE REQUIREMENTS OF MRTS14, SECTION 10.2.4 AND
   ARE TO BE LOCATED WITH A FACEING TRAFFIC ON THE LEFT SIDE AND WITH A WHITE FACEING
   TRAFFIC ON THE RIGHT SIDE.

5. Crests - Post spacing is to be arranged such that a minimum of two pairs are
   visible at all times from a driver’s eye height of 1.15m.

6. Fog Areas - Post spacing is to be reduced to 60m, with posts in pairs.

7. Floodways - Post spacing to be 25m in pairs. The posts shall be tubular steel.

8. Long Low Embankments - The inside face of post is to be located generally 600
   beyond edge of the road shoulder but no more than 150 beyond end of any culvert. Post height to be increased to allow for slope.

9. Bridges and Culverts - (a) If a structure is greater than or equal to 5m in
   length, locate four posts one at each corner of the structure. (b) If a
   structure is less than 5m in length, locate two posts one at each left hand
   approach of the structure.

    Control Devices.

11. Dimensions are in millimetres unless shown otherwise.
LOCATE MARKER DISCS DIRECTLY OVER SERVICE CONDUITS.

SERVICE MARKERS

W = WATER SERVICE
WM = WATER MAIN
E = ELECTRICAL SERVICE
T = TELECOMMUNICATION SERVICE
I = IRRIGATION SERVICE
G = GAS
S = SEWERAGE MAIN

TYPICAL BRASS SERVICE MARKER DISCS

NOTES

1. WATER SERVICE CONDUITS ARE TO BE PVC-U CLASS PN12 AS FOLLOWS:
   (a) #100 FOR RESIDENTIAL PRECINCTS AND
   (b) #150 FOR INDUSTRIAL AND COMMERCIAL PRECINCTS.
   LOCATIONS SHALL BE AS SHOWN ON THE APPROVED ENGINEERING DRAWINGS AND TO GOLD COAST WATER
   REQUIREMENTS. TEMPORARY POLYSTYRENE OR EQUIVALENT PLUGS OR STOPPERS ARE TO BE INSERTED AT THE
   ENDS OF CONDUITS.

2. ELECTRICAL RETICULATION SERVICE CONDUITS ARE TO BE PROVIDED AND INSTALLED IN THE LOCATIONS
   SHOWN ON THE APPROVED ELECTRICAL RETICULATION DRAWINGS IN ACCORDANCE WITH ENERGY
   SPECIFICATION-[C/D].

3. TELECOMMUNICATION SERVICE CONDUITS ARE TO BE PROVIDED AND INSTALLED IN APPROVED [R.D.] JOINT
   USE TRENCHES IN ACCORDANCE WITH THE REQUIREMENTS OF TELSTRA, [OR OTHER TELCO CARRIERS.]

4. GAS RETICULATION SERVICE CONDUITS ARE TO BE PROVIDED AND INSTALLED IN THE LOCATIONS SHOWN ON
   THE APPROVED GAS RETICULATION DRAWINGS.

5. THE LOCATION OF ALL UTILITY SERVICE CONDUITS IS TO BE INDICATED BY BRASS SERVICE CONDUIT MARKER
   DISCS (AS DETAILED) POSITIONED IN THE KERB & CHANNEL DIRECTLY ABOVE THE CONDUIT.

6. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

TYPICAL CROSS SECTION SERVICE CONDUIT

COMPACTED MINIMUM 98% Rav 45 PAVEMENT MATERIAL (CLASS 2 TO STANDARD SPECIFICATION UNBOUND PAVEMENTS)
UTILITY SERVICE CONDUIT COMBINATIONS AS REQUIRED.
APPROVED TRENCH BACKFILL MATERIAL REFER STANDARD SPECIFICATION UNDERGROUND SERVICE CONDUITS.

* PAVEMENT LAYERS VARY

SECTION B-B

STANDARD DRAWINGS

NEW ROADS
SERVICE CONDUIT CROSSINGS

DRAWN BY:
CITY OF GOLD COAST
RANDALL SCOTT 11/10/15

APPROVED BY:
MANAGER RESIDENTIAL BRANCH
MARK ASH 11/10/15

ISSUED:
2015 EDITION

02-601
NOTES

1. TUNNEL BORING TECHNIQUES ARE THE PREFERRED METHOD FOR ROAD CROSSING Services CONDUITS IN EXISTING ROADWAYS.
2. AC TO AC JOINT - SAW CUT EXISTING AC WHERE SHOWN OR AS AGREED ON SITE TO PROVIDE CLEAN CUT SEAL WITH APPROVED BITUMEN EMISSION CRACK SEALANT.
3. SPRAYED SEAL TO AC JOINT - SPRAY SEAL TO EXTEND 300 BEYOND JOINT.
4. PAVEMENT MATERIAL AND COMPACTION TO COMPLY TO CITY OF GOLD COASTS CQC STANDARD SPECIFICATION.
5. APPLY BITUMEN EMISSION TACK COAT TO ALL NEWLY EXPOSED ASPHALT AND VERTICAL GRAVEL SURFACES. APPLY SUITABLE PRIMER SEAL PRIOR TO PLACING ASPHALT SURFACING, WHEN EXPOSED GRANULAR OR CONCRETE PAVEMENT EXISTS.
6. WHERE THE TRENCH HAS BEEN CONSTRUCTED LONGITUDINALLY IN THE ROAD, THEN THE FINAL ASPHALT REPAIR WIDTH IS TO TERMINATE 50MM CLEAR OF THE LINEMARKING TO ALLOW FOR THE BITUMEN EMISSION JOINT SEAL.
7. REINDEXATION OF SURFACE ADJACENT TO THE KERB OR ROAD PAVEMENT EDGE TO EXTEND FULLY TO THE KERB LINE OR EDGE OF PAVEMENT.
8. LOCATE ALL SAW CUTS/JOINTS AWAY FROM EXISTING WHEEL PATHS.
9. VARIOUS CUT/JOINTS AS SHOWN ON THE DRAWINGS, IS NOT TO EXCEED 5MM.
10. ASPHALT SURFACE REPAIRS ARE TO BE UNDERTAKEN WITHIN 24 HOURS UNLESS APPROVED OTHERWISE BY CQC.
11. LEAN MIX CONCRETE / FLOWABLE FILL - 85kg CEMENT / m³
12. CONCRETE TO SUIT RMS REQUIREMENTS, BENCHING TO BE BACKFILLED WITH LEAN MIX CONCRETE.
13. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
14. HIGHER ORDER ROAD PAVEMENT DESIGN TO BE IN ACCORDANCE WITH THE LATEST CQC PAVEMENT DESIGN GUIDELINES AND RPD CERTIFIED.

LEGEND

Φ SAW CUT EXIST. ASPHALT SURFACE 150mm WIDER THAN TRENCH 150mm NOM. DEPTH
Ο APPLY POLYMER MODIFIED BITUMEN (PMB) JOINT SEAL
D VARIES 100 - 150mm (SUBJECT TO RELEVANT SERVICE AUTHORITY APPROVAL).
NOTES

1. DATE PLATE MATERIAL TO BE CAST BRASS.
2. FIGURES FOR THE DATE TO BE ARIAL FONT OR SIMILAR.
3. CITY OF GOLD COAST LOGO TO COMPLY WITH THE CITY’S CORPORATE BRANDING GUIDE. CONTACT CORPORATE COMMUNICATIONS FOR RELEVANT APPROVAL PRIOR TO CASTING OF DATE PLATE.
4. TOP SURFACE OF LETTERS, FIGURES AND BORDER TO BE POLISHED.
5. BACKGROUND TO HAVE A MATT FINISH.
6. DATE PLATE TO BE CAST INTO THE OUTSIDE FACE OF THE LEFT HAND WING AT ABUTMENT A.
7. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
NOTES

1. GHOST MEDIAN ISLAND ONLY TO BE USED ON EXISTING INTERSECTIONS. WHEN APPROVED BY CITY OF GOLD COAST (THE CITY), WHERE THE ROAD WIDTH DOES NOT ALLOW THE USE OF FULLY KERBED MEDIAN, BUT WHERE A PHYSICAL BARRIER IS REQUIRED FOR EFFECTIVE DELINEATION.

2. LINEMARKING SIGNAGE AND RAISED RETRO-REFLECTIVE PAVEMENT MARKERS (RRPM'S) LOCATION AND TYPE TO BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."

3. MATERIAL OF DELINEATOR BARS TO BE APPROVED BY THE CITY'S TRAFFIC MANAGEMENT OPERATIONS BRANCH.

4. THE LENGTH OF DELINEATOR BARS (200mm TO 1200mm) TO BE DETERMINED BY THE WIDTH OF THE ISLAND.

5. ISLAND AND BARRIER LINE LENGTH VARIES ACCORDING TO KERB RADIUS, ROAD WIDTH AND SIGHT DISTANCE. REFER APPROPRIATE APPROVED DESIGN DRAWINGS.

6. SETBACK DISTANCE DEPENDS ON VEHICLE TURNING TEMPLATE REQUIREMENTS.

7. AFFIX DELINEATOR BARS AND RRPM'S TO PAVEMENT WITH 2 PART URETHANE BASED MATERIAL IN ACCORDANCE WITH SECT. OF MAIN ROADS STANDARD SPECIFICATION MR511.45 AND INSTALL IN ACCORDANCE WITH "GUIDE TO PAVEMENT MARKINGS."

8. TYPE OF LINE MARKING DEPENDS ON GIVE WAY OR STOP SIGN TREATMENT.

9. DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.

STANDARD DRAWINGS

GHOST MEDIAN ISLAND USING DELINEATOR BARS AND RRPM'S

02-604

2015 EDITION
# DRAINAGE

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**2017 EDITION**

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## CAPTURE CHARTS - BARRIER KERB

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## CAPTURE CHARTS - ROLL TOP KERB

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1. ROLL TOP KERB NOT CONSTRUCTED ON NEW CITY ASSETS. ROLL TOP KERB CAPTURE CHARTS RETAINED FOR ANALYSIS OF EXISTING DRAINAGE SYSTEM PERFORMANCE.
2. LDG - LAND DEVELOPMENT GUIDELINES (GOLD COAST CITY).
3. DTM - DEPARTMENT OF TRANSPORT AND MAIN ROADS (QUEENSLAND).
4. IPWEA - INSTITUTE OF PUBLIC WORK ENGINEERING AUSTRALASIA.
NEW STANDARD DRAWING

PIPE DIAMETER FOR INDUSTRIAL ALLOTMENTS TO BE SIZED IN ACCORDANCE WITH COUNCIL STORMWATER DRAINAGE GUIDELINES

900 x 600 FIELD INLET

A 450 WIDE CONCRETE APRON SURROUND SHALL BE PROVIDED WHERE FIELD INLETS ARE LOCATED IN G6-6C:6. PARKS.

FRAME DETAIL

600 x 600 FIELD INLET

M16 NUT WELDED TO FRAME TO SUIT LOCK DOWN BOLTS

FRAME DETAIL

GENERAL FIELD INLET PIT LOCATION DETAIL

FIELD INLET DRAINAGE PIT NOTES

1. USE GRADE N25 CONCRETE
2. FIELD INLET GRADE AND FRAME MUST:
   - BE A PRODUCT APPROVED BY THE CITY
   - BE MANUFACTURED TO AS 3996 - ACCESS COVERS AND GRATES
   - BE LOAD CLASS B WHEN LOCATED WITHIN PRIVATE PROPERTY WITH NO VEHICLE ACCESS
   - BE LOAD CLASS D WHEN LOCATED WITHIN ROAD RESERVES AND PUBLIC LAND
   - HAVE HINGES FOR OPENING AND CLOSING OF THE GRATE
   - HAVE TWO GRADE 316 STAINLESS STEEL ANTI-THEFT LOCK DOWN BOLTS TO LOCK GRATE TO FRAME
   - BE BICYCLE TYRE PENTRATION RESISTANT IN ALL DIRECTIONS
   - BE FABRICATED STEEL AND HOT-DIP GALVANISED AFTER FABRICATION
3. PIT SIZE AND DEPTH REQUIREMENTS ARE:
   - 0-1m DEPTH = 600 x 600 INLET
   - 1.5m DEPTH = 900 x 600 INLET
   - 1.5m OR GREATER = 50D MANHOLE WITH 600 x 600 NOMINAL GRATE SET INTO AN APPROVED ROOF SLAB.
4. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

STANDARD DRAWING
FIELD INLET AND INTER-ALLOTMENT DRAINAGE PIT

CITY OF GOLD COAST

THIS DRAWING IS NOT TO BE AMENDED WITHOUT REFERENCE TO STANDARDS COMMITTEE

CONTROLLING DOCUMENT

DO NOT SCALE TAKE FIGURED DIMENSIONS ONLY

DRAWN BY INFRASTRUCTURE DELIVERY BRANCH

PASSED - EXEC COORDINATION ASSET MANAGEMENT

APPROVED - MANAGER CITY ASSETS

MARK ASH

2018 EDITION
NEW STANDARD DRAWING

DETAIL A: LANDSCAPED SURFACE

- ACCESS COVER
- DETAIL B: ASPHALT SURFACE
- ROOF SLAB (CONVERSION SLAB)
- 150 WALL
- N32 CONCRETE BENCHING (IF SHOWN ON PROJECT DRAWINGS)
- TRENCH DRAIN
- CONSTRUCTION JOINT
- BASE SLAB (TO BE Poured FIRST)

TYPICAL SECTION 1050 Dia

- ACCESS COVER
- ROOF SLAB (CONVERSION SLAB)
- 150 WALL
- N32 CONCRETE BENCHING (IF SHOWN ON PROJECT DRAWINGS)
- TRENCH DRAIN
- CONSTRUCTION JOINT
- BASE SLAB (TO BE Poured FIRST)

TYPICAL SECTION 1200 Dia, 1350 Dia, 1500 Dia
(INCLUDES EXTENDED ACCESS CHAMBER)

DETAIL B: ASPHALT SURFACE

- ROOF SLAB (CONVERSION SLAB)
- 150 WALL
- N32 CONCRETE BENCHING (IF SHOWN ON PROJECT DRAWINGS)
- TRENCH DRAIN
- CONSTRUCTION JOINT
- BASE SLAB (TO BE Poured FIRST)

DETAIL - ACCESS COVER FRAME

- 225 WALL (240 THICK WALL ON 1500 Dia EXTENDED ACCESS CHAMBERS)
- N32 CONCRETE BENCHING (IF SHOWN ON PROJECT DRAWINGS)
- TRENCH DRAIN
- CONSTRUCTION JOINT
- BASE SLAB (TO BE Poured FIRST)

LECT - ACCESS COVER

- RAISED PATTERN 25x25x3mm HIGH
- LIFTING KEYHOLES (MINIMUM OF 2)

DETAIL A: LANDSCAPED SURFACE

- 4-N16 EQUALLY SPACED INTO GROUT N16 INTO ROOF SLAB WITH EPOXY GROUT
- HOOP BAR DIAMETER = 780 Dia. 80 LONG LAPPED SPLICE WELD (2 x 6mm FW)
- CONCRETE UPSTAND
- 4-N16 @ 6/5 BOLTS (160 CONC)
- 4-N16 (ISOL COVER, SIDE AND TOP)
- 24 DIA HOLE x 120 DEEP CAST (OR DRILLED) INTO ROOF SLAB AT 4 EQUALLY SPACED LOCATIONS

NOTES

1. DESIGN LIFE OF ACCESS CHAMBER CONCRETE WORKS IS 100 YEARS
2. SPECIAL CLASS CONCRETE TO BE IN ACCORDANCE WITH QUEENSLAND TRANSPORT AND MAIN ROADS SPECIFICATION MRTS70 - CONCRETE
3. UNREINFORCED CONCRETE IN BASE AND WALLS TO BE 532/20
4. UPSTAND CONCRETE TO BE 550/20
5. DESIGN IS SUITABLE FOR EXPOSURE CLASSIFICATION B1
6. FINISH ALL EXPOSED CONCRETE EDGES WITH 15 X 15 CAMBERS
7. DEPTH OF ACCESS CHAMBER NOT TO EXCEED 3 METRES FOR UNREINFORCED BASE SLAB AND WALL DESIGN
8. PROJECT DESIGN REQUIRED FOR ACCESS CHAMBERS EXCEEDING 3 METRES DEPTH AND/OR WHERE WATER TABLE IS ABOVE THE BASE LEVEL AND/OR WHERE EXPOSURE CLASSIFICATION IS MORE AGGRESSIVE THAN B1
9. FLOOR OF ACCESS CHAMBER TO HAVE A 30 MINIMUM FALL BETWEEN UPSTREAM AND DOWNSTREAM FACES
10. REFER TO GC DRAWINGS 03-102 AND 03-103 FOR ROOF SLAB DETAILS
11. PRECAST UNITS MAY BE USED PROVIDED THEY CONFORM TO AS 5100/2016 AND ARE APPROVED FOR USE BY THE CITY (MANAGER CITY ASSETS)
12. TRENCH DRAIN ON UPSTREAM SIDE OF ACCESS CHAMBER
   - REQUIRED TO REMOVE GROUNDWATER THAT HAS ENTERED PIPE TRENCH
   - NOT TO BE INSTALLED LOWER THAN 300 ABOVE THE NORMAL GROUNDWATER LEVEL
   - THIS WILL PREVENT THE TRENCH DRAIN FROM LOWERING THE NATURAL GROUNDWATER
   - TO BE 1000 LONG PERFORATED PLASTIC DRAINAGE PIPE WITH FILTER SOCK AND END CAP
   (100 DIAMETER, CORRUGATED, STIFFNESS CLASS SN20, PRE-FITTED WITH RTA GEOTEXTILE FILTER SOCK CONFORMING TO NSW ROADS AND MARITIME SERVICES SPECIFICATION)
13. ACCESS COVERS AND FRAMES
   - TO BE LOAD CLASS D IN ACCORDANCE WITH AS 3996
   - TO HAVE THE WORD "STORMWATER" CAST INTO THE TOP SURFACE WITH LETTERS 40 HIGH, 25 WIDE AND 3 HIGH
   - TO INCORPORATE A FACILITY FOR BOLTING THE COVER TO THE FRAME AND THE FRAME TO THE CONCRETE UPSTAND. BOLT DOWN COVERS ARE SPECIFIED ON THE PROJECT DRAWINGS
   - TO BE A PRODUCT APPROVED FOR USE BY THE CITY (MANAGER CITY ASSETS)
14. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE

STANDARD DRAWING

STORMWATER ACCESS CHAMBER
1050 Dia TO 1500 Dia

2018 EDITION
STEEL TO 1050 Dia M.H.

NOTES
1. DESIGN LIFE OF ACCESS CHAMBER CONCRETE WORKS IS 100 YEARS.
2. SPECIAL CLASS CONCRETE TO BE IN ACCORDANCE WITH QUEENSLAND TRANSPORT AND MAIN ROADS SPECIFICATION MR61570 - CONCRETE.
3. ROOF SLAB AND UPSTAND CONCRETE TO BE 550/20.
4. COVER TO REINFORCING STEEL TO BE 40 MM FOR STANDARD FORMWORK AND COMPACTON.
5. DESIGN IS SUITABLE FOR EXPOSURE CLASSIFICATION B1.
6. DESIGN TRAFFIC LOAD = A/4.
7. REINFORCING STEEL TO BE IN ACCORDANCE WITH AS/NZS 4671.
8. FINISH ALL EXPOSED CONCRETE EDGES WITH 15 X 15 CAMPHERS.
9. ROOF SLAB DIAMETERS SUITABLE FOR ACCESS CHAMBER WALLS THICKNESSES SHOWN ON GC DRAWING B3-101.
10. PROJECT DESIGN REQUIRED WHERE EXPOSURE CLASSIFICATION IS MORE AGGRESSIVE THAN B1.
11. PRECAST UNITS MAY BE USED PROVIDED THEY CONFORM TO AS 5100 AND ARE APPROVED FOR USE BY THE CITY MANAGER CITY ASSETS.
12. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

STEEL TO 1200 Dia M.H.

STEEL TO 1350 Dia M.H.

STEEL TO 1500 Dia M.H.

* 100 CRS
** 150 CRS
NOTES
1. DESIGN LIFE OF ACCESS CHAMBER CONCRETE ELEMENTS IS 100 YEARS.
2. SPECIAL CLASS CONCRETE TO BE IN ACCORDANCE WITH QUEENSLAND TRANSPORT AND MAIN ROADS SPECIFICATION HRTS70 - CONCRETE.
3. UNREINFORCED CONCRETE IN BASE AND WALLS TO BE S32/20.
4. ROOF SLAB AND UPSTAND CONCRETE TO BE S50/20.
5. COVER TO REINFORCING STEEL TO BE 40 mm FOR STANDARD FORMWORK AND COMPACTATION.
6. DESIGN IS SUITABLE FOR EXPOSURE CLASSIFICATION B1.
7. DESIGN TRAFFIC LOAD - W7.
8. REINFORCING STEEL TO BE IN ACCORDANCE WITH AS/NZS 4671.
9. FINISH ALL EXPOSED CONCRETE EDGES WITH 15 x 15 CHAMFERS.
10. DEPTH OF ACCESS CHAMBER NOT TO EXCEED 2.5 METRES FOR UNREINFORCED BASE SLAB AND WALL DESIGN.
11. PROJECT DESIGN REQUIRED FOR ACCESS CHAMBERS EXCEEDING 2.5 METRES DEPTH AND/OR WHERE WATER TABLE IS ABOVE THE BASE SLAB LEVEL AND/OR WHERE EXPOSURE CLASSIFICATION IS MORE AGGRESSIVE THAN B1.
12. FLOOR OF ACCESS CHAMBER TO HAVE A 30 MINIMUM FALL BETWEEN UPSTREAM AND DOWNSTREAM FACES.
13. PRECAST UNITS MAY BE USED PROVIDED THEY CONFORM TO AS 5100 AND ARE APPROVED FOR USE BY THE CITY MANAGER CITY ASSETS.
14. TRENCH DRAIN ON UPSTREAM SIDE OF ACCESS CHAMBER:
   - REQUIRED TO REMOVE GROUNDWATER THAT HAS ENTERED PIPE TRENCH.
   - NOT TO BE INSTALLED LOWER THAN 300 ABOVE THE NORMAL GROUNDWATER LEVEL (THIS WILL PREVENT THE TRENCH DRAIN FROM LOWERING THE NATURAL GROUNDWATER).
   - TO BE 1000 LONG PERFORATED PLASTIC DRAINE管道 WITH FILTER Sock AND END CAP (100 DIAMETER, CORRUGATED, STIFFNESS CLASS SN20, PRE-FITTED WITH RTA GEOTEXTILE FILTER Sock CONFORMING TO NSW ROADS AND MARITIME SERVICES SPECIFICATION).
15. REFER TO GC DRAWING 03-101 FOR ACCESS COVER AND FRAME DETAILS.
16. REFER TO GC DRAWING 03-101 FOR UPSTAND DETAILS IN ASPHALT SURFACED PAVEMENTS AND LANDSCAPED SURFACES.
17. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

TYPICAL SECTION

1200 SQUARE ROOF SLAB
200 THICK SLAB

1500 SQUARE ROOF SLAB
200 THICK SLAB

1800 SQUARE ROOF SLAB
225 THICK SLAB

STORMWATER ACCESS CHAMBERS
1200, 1500 AND 1800 SQUARE

STANDARD DRAWING

03-104

2018 EDITION
NOTES

1. REFER TO STANDARD STORMWATER DRAINAGE SPECIFICATION FOR GRADING, COMPACTION AND SPECIFICATION FOR BACKFILL, OVERLAY ZONE, HAUNCH ZONE AND BED ZONE MATERIALS.

2. ALL MATERIAL IN THE 'ZONES' TO BE COMPACTED OVER THE FULL WIDTH OF THE TRENCH.

3. IN AREAS OF POOR GROUND CONDITIONS OR HIGH WATER TABLES, ALTERNATIVE BEDDING REQUIREMENTS MAY BE REQUIRED AS DIRECTED BY THE SUPERINTENDENT.

4. FOR TRENCH WIDTH, BED AND HAUNCH ZONE DEPTHS, REFER TO A.S. 3725, PIPES ARE TO BE DESIGNED AND INSTALLED TO THE REQUIREMENTS OF AS 3725 WITH RESPECT TO THEIR STRENGTH CLASS FOR ALL CONSTRUCTION LOADS, DEAD LOADS AND IN SERVICE LOADS.

5. FOR SPACING OF MULTIPLE CELL PIPES greater than 600mm DIA. REFER QUEENSLAND MAIN ROADS DEPARTMENT - ROAD DRAINAGE DESIGN MANUAL.

6. ALTERNATIVE BEDDING IN EXISTING SAND AREAS MAY BE APPROVED ON APPLICATION.

7. DIMENSIONS ARE IN MILLIEMETRES UNLESS SHOWN OTHERWISE.

**TABLE OF BEDDING AND HAUNCH MATERIAL DETAILS**

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<th>A.S. SIÈZE (MM)</th>
<th>CRUSHED ROCK NOM SIZE 10MM (STANDARD BEDDING)</th>
<th>CRUSHED ROCK NOM SIZE 20MM (ADDITIONAL BEDDING)</th>
<th>CRUSHED ROCK NOM SIZE 30MM (ADDITIONAL BEDDING)</th>
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<td>100</td>
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</tr>
<tr>
<td>2.36</td>
<td>2-8</td>
<td></td>
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</tbody>
</table>

**STANDARD DRAWINGS**

EXCAVATION & BEDDING OF CONCRETE STORMWATER PIPES

**DRAWN BY**

CITY OF GOLD COAST

**APPROVED- ENGINEER - MUNICIPAL BRANCH**

DATE: 7/11/15

ISSUED: 2016 EDITION
NOTES

1. PRECAST HEADWALLS SHALL BE PROPRIETARY PRODUCTS APPROVED BY THE CITY OF GOLD COAST.

2. IN FILL LOCATIONS PRIOR TO PLACING THE BED ZONE MATERIAL THE FILL SHALL BE COMPACTED TO THE STANDARD SPECIFIED IN STORMWATER DRAINAGE SPECIFICATION.

3. THE BED ZONE MATERIAL UNDER THE PIPE SHALL BE CONTINUED TO THE END OF THE HEADWALL APRON; MINIMUM THICKNESS 50mm.

4. TRANSITION UNIFORMIY FROM CONCRETE APRON TO OPEN CHANNEL OVER 5m TO 10m.

5. PROVIDE DOWNSTREAM Siltation devices AND/OR ROCK SCOUR PROTECTION AS DIRECTED BY THE SUPERINTENDENT.

6. FOR ENDS TO PIPE CULVERTS REFER TO MAIN ROADS STANDARD DRAWING Nos. 1304, 1305, AND 1306.

7. FOR RCBC ENDS AND BASE SLAB DETAILS REFER TO MAIN ROADS STANDARD DRAWING Nos. 1309, 1313, 1316, 1317, 1318, 1319, AND 1320.

8. ALL PIPE AND RCBC ENDS SHALL HAVE HEADWALLS, WINGWALLS AND APFRINS.

9. ALL HEADWALLS TO HAVE FENCING WHERE INTERFACING(where vertical drop exceeds 900mm).
NOTES

1. CONCRETE BULKHEADS TO BE LOCATED AT MAXIMUM INTERVALS OF 10m WHERE PPE GRADES EXCEED 15%.

2. WHERE SPECIFIED SCOUR BULKHEADS TO EXTEND TO 150 BELOW TOP OF THE TRENCH.

3. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

PLACE 200 SB. X 200 HIGH OF 30mm CRUSHED ROCK WRAPPED IN GEOFABRIC IMMEDIATELY UPSTREAM OF WEEPHOLES.

BACKFILL OF TRENCH REFER CITY OF GOLD COAST STD. DWG. NO. 03-201

CONCRETE GRADE NZ5

FINISHED SURFACE LEVEL

300 300

30

I1 TRENCH

PROVIDE Ø50 WEEPHOLES

SECTION A-A

PLAN

STANDARD DRAWINGS

SCOUR PROTECTION BULKHEAD

03-203

2015 EDITION
NOTES
1. PIPE DETAILS ARE AS FOLLOWS: (a) 375 TO 750 DIA. - FRP CLASS 2, 'SUPERTITE' JOINTS (b) GREATER THAN 750 DIA. - RCP CLASS 2, SWC & RRJ. HDPE MAY BE SUBSTITUTED AS DIRECTED BY THE SUPERINTENDENT.

2. MARKER POST TO COMPLY WITH THE FOLLOWING: (a) MINIMUM Ø150 UPVC PIPE INFILLED WITH CONCRETE (b) PAINTED APPROVED YELLOW (c) EXTEND 1.0m ABOVE MEAN HIGH WATER LEVEL (MHHW) (d) A BAND OF APPROVED YELLOW REFLECTIVE TAPE TO BE PLACED AROUND EXPOSED TOP OF PIPE (NOMINAL 25 WIDTH).

3. MINIMUM COVER TO REINFORCEMENT TO BE 50.

4. ALL CONCRETE TO BE GRADE 540 FIBREMESH. (POLYPROPYLENE FIBRES TO BE ADDED) AT NOT LESS THAN 0.903kg/m³.

5. ALL CONCRETE EDGES TO HAVE MIN 25 RADIUS, NO SQUARE EDGES PERMITTED.

6. PIER/CRADEL TO BE DESIGNED, CERTIFIED BY RFEO AND APPROVED BY CITY OF GOLD COAST.

7. DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE ShOWN.

ELEVATION

SECTION A-A

PLAN

PIER/CRADEL ELEVATIONS

INDICATIVE ONLY

STANDARD DRAWINGS
TYPICAL REPLACEMENT
STORMWATER OUTLET
BEACH PROFILE - NEW WORKS

2015 EDITION
2.5% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

2.5% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

3% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

3% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

NOTES
1. THESE CHARTS ARE TO BE USED FOR STANDARD PWEAD INLET GULLY DWG. NO. DS-500.
2. A 10% BLOCKAGE FACTOR HAS BEEN APPLIED TO THIS CHART (REFER DWG 5.16.2).
3. EXTRAPOLATION BEYOND THE LIMITS OF THE CHARTS SHOULD NOT BE TAKEN.
4. THE DATA IN THIS CHART WAS PRODUCED BY THE URBAN WATER RESOURCES CENTRE, UNIVERSITY OF SOUTH AUSTRALIA (REPORT JULY 2001).
5. TESTING DATA WAS BASED ON CROSSFALLS OF 1 IN 30 AND 1 IN 40.
6. GULLY INLET FREEBOARD REQUIREMENTS:

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<th>LONGITUDINAL</th>
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<tbody>
<tr>
<td>GRADE</td>
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<tr>
<td>&lt;3.3%</td>
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<td>&gt;3.3%</td>
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LEGEND

-%. KERB AND CHANNEL

LONGITUDINAL SLOPE (L) (BASED ON ACTUAL DATA)

EXTRAPOLATED DATA

STANDARD DRAWINGS

HYDRAULIC CAPTURE CHARTS
BARRIER KERB AND CHANNEL
LIP IN LINE, 2400 Lintel.

STANDARD DRAWINGS NO.
03-501

ISSUE
2015 EDITION
2.5% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

2.5% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

3% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

3% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

NOTES
1. THESE CHARTS ARE TO BE USED FOR STANDARD PWEAR INLET GULLY DWG No. DS-650.
2. A 10% BLOCKAGE FACTOR HAS BEEN APPLIED TO THIS CHART (REFER DUM 5.10.2).
3. EXTRAPOLATION BEYOND THE LIMITS OF THE CHARTS SHOULD NOT BE UNDERTAKEN.
5. TESTING DATA WAS BASED ON CROSSFALLS OF 1 IN 30 AND 1 IN 40.
6. GULLY INLET FREEBOARD REQUIREMENTS:

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<tbody>
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<tr>
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<td>150mm</td>
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<tr>
<td>&gt;3.0%</td>
<td>150mm</td>
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</tbody>
</table>

LEGEND

---

STANDARD DRAWINGS
HYDRAULIC CAPTURE CHARTS
BARRIER KERB AND CHANNEL
LIP IN LINE, 4800 LINTER

STANDARD DRAWING No. 03-503
ISSUE 2015 EDITION
1. These charts are to be used for standard IPWEA inlet gully DWG No. 05-560.

2. No blockage factor has been applied to this chart. Capture results ignore grate capture (refer DWDM 5.10.2).

3. Extrapolation beyond the limits of the charts should not be undertaken.

4. The data in this chart was produced by the Urban Water Resources Centre, University of South Australia (Report July 2001).

5. The results were obtained using a chamber water level 155mm below channel invert.

STANDARD DRAWINGS

HYDRAULIC CAPTURE CHARTS
BARRIER KERB AND CHANNEL
SAG, ALL LINTELS

DRAWN BY
CITY OF GOLD COAST

FACED: EXEC COORDINATION, Asset Systems & Transport
NAME: RANDALL SCOTT
17/10/13

APPROVED: BRIDGE ENGINES BRANCH
NAME: MARK ASH
17/10/13

NO. AMENDMENT APPROVED DATE ISSUED

2016 EDITION

03-504
NOTES
1. THESE CHARTS ARE TO BE USED FOR STANDARD PWEAR INLET GULLY DWG. NO. DS-550.
2. A 10% BLOCKAGE FACTOR HAS BEEN APPLIED TO THIS CHART (REFER BUM 5.10.2).
3. EXTRAPOLATION BEYOND THE LIMITS OF THE CHARTS SHOULD NOT BE UNDERTAKEN.
4. THE DATA IN THIS CHART WAS PRODUCED BY THE URBAN WATER RESOURCES CENTRE, UNIVERSITY OF SOUTH AUSTRALIA (REPORT JULY 2001).
5. TESTING DATA WAS BASED ON CROSSFALLS OF 1 IN 30 AND 1 IN 40.
6. GULLY INLET FREEBOARD REQUIREMENTS:

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<thead>
<tr>
<th>LONGITUDINAL GRADE</th>
<th>LINTEL (mm)</th>
</tr>
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<tr>
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<td>2500</td>
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<tr>
<td>3500</td>
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<tr>
<td>4800</td>
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KERB AND CHANNEL LONGITUDINAL SLOPE (JS) BASED ON ACTUAL DATA EXTRAPOLATED DATA

LEGEND

2.5% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE
2.5% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE
3% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE
3% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE
2.5% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

2.5% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

3% ROAD CROSSFALL - TRANSVERSE LOAD BAR GRATE

3% ROAD CROSSFALL - LONGITUDINAL LOAD BAR GRATE

NOTES
1. THESE CHARTS ARE TO BE USED FOR STANDARD PWEAR INLET GULLY DWG. NO. DS-050.
2. A 10% BLOCKAGE FACTOR HAS BEEN APPLIED TO THIS CHART (REFER BDMM 5.10.2).
4. THE DATA IN THIS CHART WAS PRODUCED BY THE URBAN WATER RESOURCES CENTRE, UNIVERSITY OF SOUTH AUSTRALIA (REPORT JULY 2001).
5. TESTING DATA WAS BASED ON CROSSFALLS OF 1 IN 30 AND 1 IN 40.
6. GULLY INLET FREEBOARD REQUIREMENTS:

<table>
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<th>LONGITUDINAL SLOPE</th>
<th>GRADE</th>
<th>LINTEL</th>
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<tr>
<td>&lt;3.0%</td>
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<tr>
<td></td>
<td>150mm</td>
<td>350mm</td>
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</tbody>
</table>

LEGEND
--- % KERB AND CHANNEL
--- --- LONGITUDINAL SLOPE (1:5) BASED ON ACTUAL DATA
--- --- EXTRAPOLATED DATA

STANDARD DRAWINGS
HYDRAULIC CAPTURE CHARTS
ROLL TOP KERB AND CHANNEL
LIP IN LINE, 4800 LINTEL
2015 EDITION
1. THESE CHARTS ARE TO BE USED FOR STANDARD IPWEA INLET GULLY
   DWG. No. 05-560.

2. NO BLOCKAGE FACTOR HAS BEEN APPLIED TO THIS CHART. CAPTURE RESULTS IGNORE
   GRATE CAPTURE (REFER GUIDM 5.10.2).

3. EXTRAPOLATION BEYOND THE LIMITS OF THE CHARTS SHOULD NOT BE UNDERTAKEN.

4. THE DATA IN THIS CHART WAS PRODUCED BY THE URBAN WATER RESOURCES CENTRE,
   UNIVERSITY OF SOUTH AUSTRALIA (REPORT JULY 2001).

5. THE RESULTS WERE OBTAINED USING A CHAMBER WATER LEVEL 150mm BELOW
   CHANNEL INVERT.
# BEACHES AND WATERWAYS

## GENERAL

<table>
<thead>
<tr>
<th>TITLE</th>
<th>DRAWING No.</th>
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<tbody>
<tr>
<td>INTRODUCTORY NOTES</td>
<td>01-001</td>
</tr>
<tr>
<td>INDEX - BEACHES AND WATERWAYS</td>
<td>04-000</td>
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</table>

## BEACHES AND WATERWAYS

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<thead>
<tr>
<th>TITLE</th>
<th>DRAWING No.</th>
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<tbody>
<tr>
<td>FORESHORE SEAWALL TYPE 1 (CLAY AND SHALE)</td>
<td>04-001</td>
</tr>
<tr>
<td>FORESHORE SEAWALL TYPE 2 (GEOTEXTILE)</td>
<td>04-002</td>
</tr>
<tr>
<td>DUNE PROTECTION FENCE</td>
<td>04-003</td>
</tr>
<tr>
<td>WATERWAY DEVELOPMENT - CROSS SECTION</td>
<td>04-004</td>
</tr>
<tr>
<td>CONCRETE BOAT RAMP - RESIDENTIAL USE ONLY</td>
<td>04-005</td>
</tr>
</tbody>
</table>
NOTES

1. THE TYPE 1 WALL, INCORPORATING A CLAY/SHALE LAYER, SHALL BE USED EXCEPT WHERE THE CERTIFYING ENGINEER DIRECTS THE USE OF THE TYPE 2 WALL AS DETAILED ON CITY OF GOLD COAST STDS. DWG. No. 04-002.

2. CROSS SECTION PROFILES ARE BASED ON COORDINATOR GENERAL'S DEPARTMENT DRAWINGS.

3. ALL SAND TO BE SIEVED THROUGH A 50mm SIEVE PRIOR TO BACKFILLING.

4. SAND SHALL BE WASHED INTO WALL TO FILL THE Voids BETWEEN BOULDERS AT THE CONCLUSION OF THE ROCK WORK. ANY EXCESS SAND FROM EXCAVATIONS SHOULD BE PLACED SEAWARD OF THE WALL.

5. BOULDERS SHALL BE SOUND IgNEOUS OR METAMORPHIC ROCKS CLEAN AND FREE OF TOPSOIL AND ORGANIC MATTER AS FOLLOWS:
   - SIZE 15 TO 4 TONE
   - 50% OVER 3 TONE

6. ROCK FILL SHALL BE OF SOUND IgNEOUS OR METAMORPHIC ROCKS CLEAN AND FREE OF TOPSOIL AND ANY ORGANIC MATTER AS FOLLOWS:
   - SIZE 50 - 305KG
   - 50% OVER 270KG

7. THE AREA BEHIND THE LEADING EDGE OF THE SEAWALL (IE LANDWARD) IS SUBJECT TO WAVE OVERTOPPING.

8. THE FORESHORE SEAWALL LINE 'A' IS AS SHOWN ON THE 'FORESHORE SEAWALL LINE AND BUILDING SETBACK LINE FROM OCEAN BEACHES - OVERLAY MAP 12' - REFERRED TO IN THE CITY PLAN 2015.

9. ALL BUILDINGS AND OTHER STRUCTURES SHALL BE SET BACK 8.1m MINIM FROM THE FORESHORE SEAWALL LINE 'A' (A-LINE).

10. VEHICULAR ACCESS IS TO BE PROVIDED FOR CONSTRUCTION VEHICLES DURING EMERGENCIES.

11. BASEMENTS ARE NOT TO PROTRUCE INTO THE CLAY/SHALE LAYER. THE BASEMENT ROOF SHALL BE DESIGNED TO WITHSTAND ALL LOADS GENERATED DURING THE MAINTENANCE OF THE WALL, INCLUDING WALL CONSTRUCTION TRAFFIC.

12. DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
NOTES

1. TYPE 2 WALL SHALL ONLY BE USED WHERE SITE CONDITIONS PRECLUDE THE USE OF THE TYPE 1 WALL (STD DWG NO 04-001) AS DETERMINED BY THE CERTIFYING ENGINEER.

2. CROSS SECTION PROFILES ARE BASED ON COORDINATOR GENERAL'S DEPARTMENT DRAWINGS.

3. ALL SAND TO BE SIEVED THROUGH A 50mm SIEVE PRIOR TO BACKFILLING.

4. SAND SHALL BE WASHED INTO WALL TO FILL THE VOIDS BETWEEN BOULDERS AT THE CONCLUSION OF THE ROCK WORK. ANY EXCESS SAND FROM EXCAVATIONS SHOULD BE PLACED SEAWARD OF THE WALL.

5. BOULDERS SHALL BE SOUND IGNEOUS OR METAMORPHIC ROCKS CLEAN AND FREE OF TOPSOIL AND ORGANIC MATTER AS FOLLOWS:
   - SIZE 1.5 TO 4 TONNE
   - 50% OVER 3 TONNE

6. ROCK FILL SHALL BE OF SOUND IGNEOUS OR METAMORPHIC ROCKS CLEAN AND FREE OF TOPSOIL AND ORGANIC MATTER AS FOLLOWS:
   - SIZE 90 - 360KG
   - 50% OVER 270KG.

7. FOR TYPE 2 WALL, THE GEOTEXTILE SHALL COMPLY WITH THE FOLLOWING MINIMUM REQUIREMENTS:
   - UNIT WEIGHT TO AS 3706.1
   - 1000 g/m² [min]
   - GRAB TENSILE STRENGTH TO AS 2001.2.3.2
   - 1000 N (min) IN ANY DIRECTION OF GEOTEXTILE
   - TRAPEZOIDAL TEAR RESISTANCE ASTM D1117
   - 600 N (in any direction)
   - WATER PERMEABILITY (10cm HEAD)
   - 30 LITRES/m²/SECOND (min)

8. THE AREA BEHIND THE LEADING EDGE OF THE SEAWALL (ie LANDWARD) IS SUBJECT TO WAVE OVERTopping.

9. THE FORESHORE SEAWALL LINE 'A' IS AS SHOWN ON THE 'FORESHORE SEAWALL LINE AND BUILDING SETBACK LINE FROM OCEAN BEACHES - OVERLAY MAP 12' - REFERRED TO IN THE CITY PLAN 2015.

10. ALL BUILDINGS AND OTHER STRUCTURES SHALL BE SET BACK 8.1m MIN FROM THE FORESHORE SEAWALL LINE 'A' (A-LINE).

11. VEHICULAR ACCESS IS TO BE PROVIDED FOR CONSTRUCTION VEHICLES DURING EMERGENCIES.

12. BASEMENTS ARE NOT TO PROTRUDE INTO THE ROCK FILL LAYER. THE BASEMENT ROOF SHALL BE DESIGNED TO WITHSTAND ALL LOADS GENERATED DURING THE MAINTENANCE OF THE WALL INCLUDING WALL CONSTRUCTION TRAFFIC.

13. JOIN GEOTEXTILE IN ORDER TO RETAIN ADEQUATE FILTER FUNCTION.

14. DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
30 wide galvanised strap

150x150x1500 wide galvanised hinged joint fencing mesh, 2.8mm wire, strained tight and stapled to each post.

Knitted green shade fabric stapled to posts as indicated and clipped to hinged joint wire using ringlock fasteners.

See detail 2 for alternative post setting in shallow sand.

ELEVATION

30 x 400 galvanised punch strapping

Location of flat-head galvanised nails

Concrete block grade N25 Ø350 - Ø400

Alternative post setting in shallow sand (600 mm)

Detail 1

Detail 2

NOTES
1. Staples shall be located at 90° to the timber grain.
2. Knitted green shade fabric shall be located and stapled on the seaward side of the fence.
3. All dimensions are in millimetres unless shown otherwise.
NOTES

1. Applicants can undertake a waterfront search to determine the location of the waterway regulation line (b) and waterway building setback distance (d). Contact Gold Coast Waterways Authority for quay line (a) details.

2. Waterfront and side fences within the setback area are to be a minimum of 50% transparent.

3. No structure or building with the exception of pontoon/jetty and open fencing (see note 2 for type) is permitted within the area between the waterway regulation line (b) and the recommended maintenance setback (c). Note: Where the waterfront building setback is not in the waterway/flood conveyance area, side fencing may be solid but must still comply with the coastal erosion hazard overlay code.

4. Revetment walls to be certified by an RPEQ. Re-certification of wall required for any additional buildings or structures within the setback area.

5. Buildings or structures within the building setback area must be assessed against the coastal erosion hazard overlay code and comply with any existing relevant conditions of underlying development approval.

6. To comply with AS3962, ensure that top of floating pontoon/jetty pile is above designated flood level.

7. Buildings and structures must be structurally independent of revetment wall.

STANDARD DRAWINGS

WATERFRONT DEVELOPMENT CROSS SECTION

04-004

2015 EDITION
PREFACE

These standard drawings are part of a series of documents forming the City Plan 2015 and titled Land Development Guidelines (LDG). The series includes:

- Design Requirements - Sections 1 to 9
- Standard Specifications
- The LDG standard drawings

The objective of these standard drawings is to provide default construction details of municipal infrastructure assets built for or on behalf of, or to be contributed to, the City of Gold Coast (the City).

FORWARD

The drawings include those produced by the City of Gold Coast and by the Institute of Public Works Engineering Australia, Queensland (IPWEA). The IPWEA drawings included in the City of Gold Coast LDG have been developed to satisfy the needs of councils in the South East Queensland region, providing uniformity and ease of use by contractors.

The document includes copies of the City of Gold Coast standard drawings and references to IPWEA drawings.

In the event of conflict between the requirements of the LDG standard drawings and the other documents in this series, priority is to be applied as follows:

- Design Requirements - Sections 1 to 9
- Standard Specifications
- These LDG standard drawings
- IPWEA standard drawings

SCOPE

This document includes technical details for the following categories of municipal infrastructure:

- Roads
- Stormwater drainage
- Beaches and waterways
- Open space

DISCLAIMER

This document has been created for use in the construction of municipal infrastructure assets built for, or on behalf of, or to be contributed to, the City of Gold Coast.

The City does not guarantee, nor make any representations as to the completeness of the information contained herein. The City also does not accept responsibility for any loss or damage occurring as a result of the use of any part of this document.
# OPEN SPACE INFRASTRUCTURE

## GENERAL

<table>
<thead>
<tr>
<th>TITLE</th>
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<tbody>
<tr>
<td>INTRODUCTORY NOTES</td>
<td>01-001</td>
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<tr>
<td>INDEX - OPEN SPACE INFRASTRUCTURE - PLAN 1 OF 3</td>
<td>05-000(1)</td>
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<td>INDEX - OPEN SPACE INFRASTRUCTURE - PLAN 2 OF 3</td>
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<td>INDEX - OPEN SPACE INFRASTRUCTURE - PLAN 3 OF 3</td>
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<td>INDEX - OPEN SPACE INFRASTRUCTURE - PLAN 4 OF 4</td>
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## PLANTING

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<td>TREE AND SHRUB PLANTING DETAIL</td>
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<tr>
<td>STREET TREE PLANTING DETAIL - MULCH &amp; CULTIVATION</td>
<td>05-102</td>
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<tr>
<td>STREET PLANTING SETOUT GUIDELINES FOR ROADWORKS</td>
<td>05-103</td>
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<tr>
<td>PLANTING MEDIA PROFILES - TURF &amp; GARDEN</td>
<td>05-104</td>
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<tr>
<td>PLANTING - MINIMUM SETBACKS ROAD VERGES, ROUNDBOUMTS &amp; MEDIAN STRIPS</td>
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<tr>
<td>TREE MULCHING MAINTENANCE DETAIL</td>
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## GENERAL OPEN SPACE INFRASTRUCTURE

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<tr>
<td>DOG OFF LEASH AREAS - WATER TAP AND BUBBLER WITH DOG BOWL</td>
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<td>DOG OFF LEASH AREAS - MAINTENANCE TAP</td>
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<td>DOG OFF LEASH AREAS - LAYOUT</td>
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<td>DOG OFF LEASH AREAS - FENCE DETAILS</td>
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<td>DOG OFF LEASH AREAS - GATE DETAILS</td>
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<td>DRAINAGE - FIELD INLET PIT WITH GRATE</td>
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<td>CRICKET FACILITIES - PITCH PLANS AND SECTION</td>
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<td>BOLLARD - REMOVABLE</td>
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<td>PEDESTRIAN BARRIER GALVANISED - TUBULAR FENCING</td>
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<tr>
<td>CHAIN WIRE FENCING - 1.8m HIGH</td>
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<td>LOW PROFILE LOG BARRIER FENCING - 0.5m HIGH</td>
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<td>PARK GATE</td>
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<td>PARK GATE LOCK BOX</td>
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<tr>
<td>DOUBLE STAINLESS STEEL BBQ - GENERAL ARRANGEMENT</td>
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<td>DOUBLE STAINLESS STEEL BBQ - ELECTRICAL DETAILS</td>
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<tr>
<td>RPZ DEVICE FOR PARK IRRIGATION SYSTEMS - INSTALLATION DETAIL</td>
<td>05-019</td>
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<tr>
<td>BIKEWAY PATH TERMINAL TREATMENT</td>
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<td>BIKEWAY PATH TERMINAL TREATMENT BOLLARDS</td>
<td>05-021</td>
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<tr>
<td>BOLLARDS OVERHEAD VIEW</td>
<td>05-022</td>
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<tr>
<td>BOLLARDS INSTALLATION ON PATHWAYS</td>
<td>05-023</td>
</tr>
<tr>
<td>PATH / ROADWALK TRANSITION</td>
<td>05-024</td>
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## PARK FURNITURE

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**PLAN 1 OF 4**

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**CITY OF GOLD COAST**

**DRAWN BY**

**PASSED**

COORDINATOR OPEN SPACE ARBETS

**APPROVED**

MANAGER PUBLIC & RECREATIONAL SERVICES

**AMENDMENT**

**APPROVED DATE**

**JUBILATED**

**2018 EDITION**

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**THIS DRAWING IS NOT TO BE AMENDED WITHOUT REFERENCE TO STANDARDS COMMITTEE**

**CONTROLLED DOCUMENT**

**DO NOT SCALE**

**TAKE FIGURED DIMENSIONS ONLY**

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**CITY OF GOLD COAST**

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**PLANNING AND BUILDING SERVICES**

- CITY OF GOLD COAST

**DRAWING NO.**

- 05-000(1)

**CONTRIBUTING DEPARTMENTS**

- OPEN SPACE INFRASTRUCTURE

**AMENDMENT NUMBER**

- 05-000(1)

**AMENDMENT DATE**

- 11/11/15

**ISSUED DATE**

- 11/11/15

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# OPEN SPACE INFRASTRUCTURE

## NATURAL AREAS FENCING

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<td>PEDESTRIAN BARRIER GALVANISED WELDED POOL FENCING-ROLL TOP WIRE</td>
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## NOTE

THIS SET OF NATURAL AREAS RECREATION TRAILS STANDARD DRAWINGS IS NOT DESIGNED TO BE USED AS A STAND ALONE DOCUMENT AND MUST BE READ IN CONJUNCTION WITH GOLD COAST CITY COUNCIL RECREATION TRAIL DESIGN GUIDELINE NOVEMBER 2022 AND THE NATURAL AREAS MANAGEMENT UNIT - WALKING TRACK CONSTRUCTION GUIDELINE.

## PLAYGROUNDS AND EXERCISE

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GENERAL NOTES
ENSURE MOWN HEIGHT OF GRASS (TURF) FINISHES FLUSH WITH PAVEMENT AREA. ENSURE GARDEN AREAS (MULCH) FINISH 25mm BELOW ADJACENT S.F.S.'S OF PAVEMENT AREA.

ENSURE TAPS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH APPROVED DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES. WHERE APPLICABLE, INCORPORATE TAPS AS PART OF INTEGRATED PICNIC SETTING NODES.

ENSURE TAPS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.

INSTALL DOUBLE W CONCRETE SOAKAGE TRENCH WITH CLASS 'D' (TRUCK LOADING) LDS. DO NOT INSTALL SOAKAGE TRENCHES IN VEHICULAR TRAFFIC AREAS.

ALL DIMENSIONS IN MILLIMETRES (M.M.).

FIXTURES/FITTINGS/METAL WORK
ALL FIXTURES/FITTINGS UNLESS SPECIFIED ARE TO BE HOT DIPPED GALVANISED. SPECIFY STAINLESS STEEL FIXINGS IN VICINITY OF SALTWATER/SPRAY - ENSURE SEPARATION BETWEEN VARIOUS METALS TO PREVENT METAL CORROSION.

CONCRETE WORKS
ALL CONCRETE TO BE GRADE N25/30 BROOM FINISHED 125mm MIN THICKNESS. ALL CONCRETE WORKS TO BE REINFORCED MIN SL72. ENSURE MIN TOP COVER OF 50mm.

FOR SLIP RESISTANCE REQUIREMENTS REFER "REFERENCE SPECIFICATION FOR CIVIL ENGINEERING WORK" - 5156 ROADWORKS.

TIMBER NOTES
ALL TIMBER TO BE ROUGH SAWN F2; HARDWOOD OF SINGLE SPECIES.

ALL EXPOSED EDGES TO RECEIVE MIN 5mm WIDE ARRIS.

PRIOR TO INSTALLATION, ALL CUTS, EDGES, JOINTS TO RECEIVE LIBERAL COATINGS WITH AN APPROVED TIMBER PRESERVATIVE, SUCH AS TANACOAT, SIKKENS OR EQUIVALENT. TIMBER FINISHES AS SPECIFIED - WHERE NO FINISH SPECIFIED, ALL TIMBER TO RECEIVE 3 NO COATS OF CLEAR APPROVED TIMBER PRESERVATIVE.

STANDARD DRAWING
DOG OFF LEASH AREAS
WATER TAP & BUBBLER WITH DOG BOWL

SECTION

THIS DRAWING IS NOT TO BE AMENDED WITHOUT REFERENCE TO STANDARDS COMMITTEE

CONTROLLED DOCUMENT

DO NOT SCALE TAKE FIGURED DIMENSIONS ONLY

STANDARD DRAWING NO.

05-002

ISSUE

2015 EDITION

SIGNATURE

CITY OF GOLD COAST
PARKS & COMMUNITY SPACE ASSETS

REVIEWED:
CAMERON TAYLOR
11/10/13

APPROVED:
BOB JACOBS
11/10/13

DRAWN:
BRIDGETTA BOSCO
2/10/13

NOTES:
1. THIS DRAWING HAS BEEN SOURCED FROM BRISBANE CITY COUNCIL, STANDARD DRAWINGS 2011. SERIES 76 - PARKS
MAINTENANCE TAP - SECTION

GENERAL NOTES

ENSURE TAPS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.

ENSURE TAPS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.

ALL DIMENSIONS IN MILLI METRES (MM). (0).

TIMBER NOTES

ALL TIMBER TO BE ROUGH SAWN #27 HARDWOOD OF SINGLE SPECIES.

ALL EXPOSED EDGES TO RECEIVE MIN 5MM WIDE AIRS.

PRIOR TO INSTALLATION, ALL CUTS, EDGES, JOINTS TO RECEIVE LIBERAL COATINGS WITH AN APPROVED TIMBER PRESERVATIVE, SUCH AS TANACOAT, SIKKENS OR EQUIVALENT. TIMBER FINISHES AS SPECIFIED - WHERE NO FINISH SPECIFIED, ALL TIMBER TO RECEIVE 3 NO COATS OF CLEAR APPROVED TIMBER PRESERVATIVE.

FIGURES/FITTINGS/METAL WORK

ALL FIGURES/FITTINGS UNLESS SPECIFIED ARE TO BE HOT DIPPED GALVANISED, SPECIFY STAINLESS STEEL FIXINGS IN VICINITY OF SALT WATER/SPRAY – ENSURE SEPARATION BETWEEN VARIOUS METALS TO PREVENT METAL CORROSION.

WHERE POSSIBLE ALL FIXINGS TO BE TAMPER/VANDAL PROOF TO MINIMUM DAMAGE OR THEFT.

STANDARD DRAWING

DOG OFF LEASH AREAS MAINTENANCE TAP

STANDARD DRAWING NO.

05-003

2015 EDITION
NOTES:

DOG OFF LEASH (DOL) AREAS

LOCATE DOL AREAS WITHIN PARKS SO AS NOT TO CONFLICT WITH ESTABLISHED PARK NODE OR ACTIVITY AREAS. CONSULT OPEN SPACE DESIGN OFFICERS OR LANDSCAPE ARCHITECTS.

ENSURE ADEQUATE LANDSCAPE SURROUNDING TO ACTIVITY AREAS, NODES OR ADJACENT RESIDENTIAL PROPERTIES. COMBINATION OF LANDFORM, MOUNDING OR TREE PLANTING WILL ENHANCE VISUAL AMENITY AND SCREEN DOL AREAS.

POSITION ENTRY AND MAINTENANCE GATES AT HIGH POINTS IN LANDFORM TO PREVENT ENTRY AREAS BECOMING WATERLOGGED AND SATURATED. MORE THAN ONE ACCESS POINT IS RECOMMENDED.

ENSURE OVERALL SITE FOR THE DOL AREA HAS GOOD SITE DRAINAGE TO MINIMIZE SURFACE WATER FLOODING AND THE CREATION OF AREAS WHICH WILL BE DIFFICULT TO MAINTAIN DUE TO WATER FLOODING.

DESIGN AND LOCATE THE ENTRANCE TO DOL TO MINIMIZE POSSIBILITIES OF DOGS ESCAPING AND RUNNING INTO PLAYGROUNDS, BIKE PATHS, SPORTS FIELDS, CAR PARKS OR UPON ROAD.

PROVIDE HARD PAVEMENT SURFACE THROUGH ENTRY GATE THRESHOLD. THESE AREAS HAVE A TENDENCY TO BECOME WET AND MUDY TO DUE TO CONSTANT WEAR, WHERE APPROPRIATE CONNECT WITH ACCESSIBLE PATH IF TRAVEL TO EXISTING PARK PEDESTRIAN NETWORK.

CONFIGURATION OF THE DOL AREA SHOULD BE SUCH TO MAXIMIZE RUN LENGTHS FOR EXISTING DOGS, ACTUAL SIZE REQUIRE VERIFICATION WITH OPEN SPACE DESIGN OFFICERS OR LANDSCAPE ARCHITECTS.

PROVIDE MEETING PLACES FOR DOG OWNERS. PROVIDE BENCH SEATING ON PLANTINGS TO THE EDGES OF THE DOL AREAS WHERE POSSIBLE LOCATE BENEATH EXISTING VEGETATION RETAINED WITHIN ENCLOSURE OR PLANT SHADE TREES.

PROVISION OF SHADE IS ESSENTIAL, WHERE POSSIBLE LOCATE DOL AREA TO UTILISE EXISTING SITE TREES, OR WHERE NOT POSSIBLE UNEAR A PROGRAM OF PLANTING OPEN CANOPY SHADE TREES ADJACENT TO SEATING AREAS.

POSITION DOG REFUSE BIN OUTSIDE ENCLOSURE BUT AT A MAXIMUM DISTANCE OF 2.5M FROM THE ENTRY. THIS REDUCES THE RISK FOR GARBAGE COLLECTION STAFF IF REQUIRED TO ENTER THE ENCLOSURE.

INCORPORATE SIGNAGE AT ENTRY POINTS, FIXING SIGNS TO FENCE IF POSSIBLE TO REDUCE VISUAL IMPACT OF NUMEROUS SIGNS.

ENSURE PROVISION OF MAINTENANCE GATES TO ALLOW ACCESS FOR FIELD STAFF.

ENSURE FENCINGFollowS LANDFORM CHANGES, MINIMIZE FENCE PANEL STEPPING TO TAKE UP LANDFORM CHANGES PREFERABLY RE-COUNTOUR GROUND TO ALLOW FENCE RAILS TO FOLLOW PROFILE, HENCE REMOVING STEPPING PANELS.

ALL DIMENSIONS IN MILLICENT METRES UNLESS OTHERWISE NOTED.

PARKS MAINTENANCE

DOUBLE GATE FOR TRACTOR ACCESS
REFER TO CITY OF GOLD COAST
STD DWG No. 05-206

INTEGRATION OF EXISTING TREES OR
THE PLANTING OF NEW TREES TO
PROVIDE SHADE AND NODIES FOR
SEATING BENCHES TO ENABLE DOG
OWNERS TO MEET.

SECONDARY ENTRANCE
REFER TO CITY OF GOLD COAST
STD DWG No. 05-006

DOG OFF LEASH FENCE
REFER TO CITY OF GOLD COAST
STD DWG No. 05-003

INTRODUCTION TO DOL AREAS

STANDARD DRAWING

CITY OF GOLD COAST

SUMMARY

DRAWN BY
CAMERON TAYLOR
11/11/15

APPROVED - MANAGER PARKS & RECREATIONAL SERVICES
RON JACOBS
11/11/15

ELEVATION TOLERANCE 1/1000

2015 EDITION

STANDARD DRAWING NO. 05-004

ISSUE
GENERAL NOTES

ENSURE MOWN HEIGHT OF GRASS (TURF) FINISHES FLUSH WITH MAINTENANCE EDGE.

ENSURE PARK ELEMENTS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.

ENSURE PARK ELEMENTS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.

ALL DIMENSIONS IN MILLIMETRES (UNLESS OTHERWISE NOTED).

SPECIFICATIONS

STANDARD IS NOT FOR USE IN A MARINE ENVIRONMENT. THE MARINE ENVIRONMENT COULD EXTEND UP TO 1M FROM THE FORESHORE.

FOR NON-MARINE ENVIRONMENT, SUPPLY AND INSTALL 900-1200MM HIGH GALVANISED FENCE POST WITH TOP AND BOTTOM RAIL. ALL POSTS, RAILS AND FITTINGS TO BE GALVANISED STEEL TUBE TO AS 1653 THEN POWDER COATED.

WHERE STANDARD IS REQUIRED FOR USE WITH MARINE ENVIRONMENT, THE FOLLOWING PROTECTION TREATMENT FOR STEELWORK IS REQUIRED:
- HOT DIP GALVANISING: 600 MICRONS MIN;
- SWEET ABRASIVE BLAST;
- FIRST COAT: EPOXY PRIMER 75 MICRONS MIN;
- SECOND COAT: TWO PACK ACRYLIC OR POLYURETHANE GLOSS 75 MICRONS MIN.

ALL CHAIN WIRE AND TIE WIRE (BOTH MARINE AND NON-MARINE APPLICATIONS) TO BE PVC COATED.

REFER CITY OF GOLD COAST STD DWG No. 05-006 FOR SINGLE AND DOUBLE GATE REQUIREMENTS.

OTHER SPECIFICATIONS:
- GATE, CORNER AND END POSTS (CAPPED) - 40NB (48.3 OD, 3.2 THICK) RAILS AND BRACES - 40NB (48.3 OD, 3.2 THICK)
- CHAIN WIRE - 50MM NOMINAL MESH WITH 2.5MM PVC COATED WIRE.
- CABLES & STRINGERS - PVC COATED 3.15MM PANELS - MAXIMUM 2400MM

ALL POSTS ARE TO BE CONCRETE INTO GROUND 300MM X 600MM DEEP.

ANY GAPS BELOW FENCE OF MORE THAN 100MM ARE TO BE COVERED WITH INSTALLATION OF A BOTTOM STRINGER LINE, PVC COATED WITH AN IN LINE TENSIONER.

FIXTURES/FITTINGS/METAL WORK NOTES

ALL FIXTURES/FITTINGS UNLESS SPECIFIED ARE TO BE HOT DIPPED GALVANISED.

GRIND SMOOTH EDGES & WELDS PRIOR TO H.D.G. OR APPLIED FINISHES.

ALL WELDS TO BE CONTINUOUS, GROUND OFF SMOOTH & FLUSH.
GENERAL NOTES
ENSURE GATES ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH THE DETAILED LANDSCAPE PLANS.
ENSURE PARK ELEMENTS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.
ALL DIMENSIONS IN MILLIMETRES (MM).

SPECIFICATIONS
SINGLE GATE - SUPPLY AND INSTALL ONE 900-1200mm HIGH x 1000mm WIDE - ALL PIPE TO BE MEDIUM GALVANISED.
GATE TO BE SELF-CLOSING AND TACK WELDED. FITTINGS TO BE BOLTED TO POSTS. GATES TO INCLUDE LATCH.
DOUBLE GATE - SUPPLY AND INSTALL ONE 900-1200mm HIGH x 4000mm WIDE. ALL PIPE TO BE MEDIUM GALVANISED AND DOUBLE LEAF GATE INCLUDES TWO MEDIUM GALVANISED GATE POSTS CHAIN TO BE JOINED BY LOOP LATCH.
ALL CHAIN WIRE AND TIE WIRE TO BE PVC COATED OR MEDIUM GALVANISED.

OTHER SPECIFICATIONS:
GATE POSTS (CAPPED) - 50NB (60.3 O.D., 3.6 THICK)
GATE FRAME/FRAME - 25NB
CHAIN WIRE - 50mm NOMINAL MESH WITH 5.5mm PVC COATED WIRE OR MEDIUM GALVANISED.
CABLES & STRINGERS - PVC COATED 3.0mm
PANELS - MAXIMUM 2400mm

ALL POSTS ARE TO BE CONCRETED INTO GROUND 300mm x 50mm DEEP. CONCRETE TO BE GRADE N25.
MAX. GAPS OF 50mm UNDER ALL GATES.

FIXTURES/FITTINGS/METAL WORK NOTES
ALL FIXTURES/FITTINGS UNLESS SPECIFIED ARE TO BE HOT DIPPED GALVANISED.
GRIND SMOOTH EDGES & WELDS PRIOR TO H.D.G. OR APPLIED FINISHES.
ALL WELDS TO BE CONTINUOUS, GROUND OFF SMOOTH & FLUSH.

PROVIDE BRACING ON GATE
GALV. STEEL END CAP

D' LATCH WITH 100mm OPENING IN CHAIN WIRE TO ALLOW OPERATION OF GATES FROM BOTH SIDES
FOR FENCING AND POSTS REFER SPECIFICATIONS

CLEAN CONCRETE SLURRY FROM POST IMMEDIATELY AT INSTALLATION.
PACK AUGER HOLE WITH N25 NO FINES CONCRETE TO WITHIN 50mm OF GROUND SURFACE. ENSURE 100mm MIN. CONCRETE COVER TO SIDES AND BOTTOM OF FOOTING. ANGLE TOP OF FOOTING AWAY FROM POST.

GALV. STEEL END CAP
GATE HINGES
FOR FENCING AND POSTS REFER SPECIFICATIONS
PROVIDE BRACING ON GATE

CLEAN CONCRETE SLURRY FROM POST IMMEDIATELY AT INSTALLATION.

INSIDE GATE OPENING 50mm CLEAN SITE TOP SOIL OVER FOOTING TO ALLOW FOR GRASS COVER. ENSURE SOIL IS FREE OF ROCKS, STICKS ETC. ANGLE TOP OF FOOTING AWAY FROM POST.
PARK AUGER HOLE WITH N25 NO FINES CONCRETE TO WITHIN 50mm OF GROUND SURFACE. ENSURE 100mm MIN. CONCRETE COVER TO SIDES AND BOTTOM OF FOOTING. ANGLE TOP OF FOOTING AWAY FROM POST.

DOUBLE GATE SECTION

SINGLE GATE SECTION
GENERAL NOTES
FOR LANDSCAPING AND TURF AREAS ONLY

ENSURE DOWN HEIGHT OF GRASS (TURF) AREAS FINISHES FLUSH WITH GRATE.

ENSURE GARDEN AREAS (MULCH) FINISH 25MM BELOW GRATE.

MULCH SHOULD NOT BE USED ON STEEP SLOPES ADJACENT TO GRATES OR WHERE PONDING COULD CAUSE THE MULCH TO FLOAT AND BLOCK THE INLET GRATE.

ENSURE EVEN GRADE FALLS MIN. 150 TO PAVEMENT AREAS TOWARDS GRATE.

ENSURE DRAINS ARE LOCATED IN ACCORDANCE WITH DETAILED LANDSCAPE PLANS, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.

FIELD INLET AND CONNECTION TO STORMWATER LINE TO HYDRAULIC ENGINEERS SPECIFICATION.

INLET PITS ONLY TO BE USED TO DRAIN LOW AREAS IN LANDSCAPED AND TURF AREAS, NOT SUITABLE FOR ROADS, CAR PARKS, KERB AND CHANNEL AND EXTENSIVE PAVEMENT AREAS.

DIMENSIONS IN MILLIMETRES (U.K.O.).

TYPE A - SECTION

WASHED NOM. 40-75mm GRAVEL/CORBLE
DRAINAGE LAYER 100mm DEPTH TO TOP OF DRAIN, DO NOT COVER GRATE. IN HIGH USE AREAS USE NOM. 20mm GRAVEL/CORBLE.

TYPE B - SECTION

110mm D.H.P.E. STORMWATER PIPE CONNECT INTO STORMWATER SYSTEM WITH APPROVED CONNECTION, ENSURE MIN. 1:100 FALL TO CONNECTION.
**PITCH SPECIFICATION**

BOWLERS' RUN-UP TO HAVE A MAXIMUM LONGITUDINAL GRADE OF 1:25 FOR A MINIMUM LENGTH OF 5m BEFORE THE PITCH.

BOWLERS' RUN UP REQUIRES COMPACTION OF SUB-GRADE TO 100% STANDARD M.O.D.

ENSURE TURF FINISHES FLUSH WITH CONCRETE PITCH ONCE DOWN AND ROLLED BY TURF ROLLER.

THE PITCH IS 20.12m LONG BETWEEN CENTRE LINE OF STUMPS, AND 1520m WIDTH EACH SIDE OF THE CENTRE STUMP.

FOR JUNIORS PITCH LENGTH MAY BE 19.20m OR 18.30m LONG.

INTERNATIONAL FIELD: 64m TO 68m RADIUS (REQUIRING AN AREA OF 15ha APPROXIMATELY)

PENNANT FIELD: 40m RADIUS FROM CENTRE OF PITCH.

JUNIOR FIELD: 40m TO 50m RADIUS.

FIELD TO FALL AWAY FROM PITCH IN ALL DIRECTIONS AT GRADE OF 1:100 TO PREVENT SOFT SPOTS NEAR PITCH.

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**TOPSOIL & TURFING NOTES**

**PREPARATION** - REMOVE ANY EXISTING TURF, WEEDS, RUBBISH STONES OR DEBRIS FROM AREA TO BE TURFED.

CULTIVATE EXISTING SUB-GRADE TO 100mm DEPTH.

**TOPSOIL - ALL TOPSOIL SHALL COMPLY WITH AS 4419 'SOILS FOR LANDSCAPING AND GARDEN USE'. TOPSOIL SHALL BE A SOIL BLEND WITH MAX. 30% SCREENED COMPOSTED ORGANIC MATTER, HYDRAULIC CONDUCTIVITY 15-30 m/hr, pH RANGE TO BE 5-6.5. AFTER APPROVAL OF THE PROPOSED TOPSOIL, DEPOSIT AND SPREAD TOPSOIL TO ACHIEVE 100mm THICKNESS TO ALL DISTURBED AREAS FOR TURFING AFTER SLAB CONSTRUCTION.

**TURFING** - TURF SHALL BE *CYDONIA DACTYLOIDES* (GREENLEAF COUCH) UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT. TURF SHALL BE A GRADE, TYPICAL OF THE SPECIES, FREE FROM ALL PESTS, DISEASES, WEEDS AND OTHER PLANT MATTER. TURF SHALL BE GUARANTEED FREE FROM NUT GRASS, CYPERUS ROTUNDUS. TURF SHALL BE TREATED TO A MINIMUM 25mm THICK IN LONG 300mm WIDE STRIPS.

LAYING - LAY PIECES OF TURF IN STRAIGHT LINES RUNNING PERPENDICULAR TO THE SLOPE, WITH CROSS-JOINTS STAGGERED, AND CLOSE BUTTING. LAY TURF WITH AN EVEN GRADIENT, FREE FROM LUMPS AND DEPRESSIONS AND NOT ABLE TO POND WATER. ENSURE THAT NEW TURF FINISHES FLUSH WITH EXISTING TURF. TAMP DOWN WELL AND ELEVATE ANY JOINTS WITH TOP DRESSING. TOP DRESSING IS TO BE PUMPED TO 50mm AND COMPACTED TO AS 4419. SPREAD SAND EVENLY OVER SURFACE OF GRASS IN LAYERS OF NOT MORE THAN 10mm. DO NOT BURY GRASS.

TOP DRESSING - WHEN TURFED AREAS HAVE BEEN COMPLETELY ESTABLISHED AND IMMEDIATELY AFTER THE CLOSING 50mm LAYER OF TOP DRESSING TO AS 4419. DO NOT TOP DRESS DURING WINTER MONTHS UNLESS DIRECTED BY SUPERINTENDENT OR CITY OF GOLD COAST OFFICER.

PROTECTION - ALL TURF SHALL BE PROTECTED FROM TRAMPLING BY THE ERECTION OF BARRIERS.

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**CONCRETE NOTES**

ALL WORKMANSHIP & MATERIALS SHALL COMPLY WITH THE CURRENT AUSTRALIAN STANDARDS IN PARTICULAR AS 3500; AS 1428 & ANY REQUIREMENTS OF THE RELEVANT AUTHORITIES.

**PITCH SLAB TO BE 100mm THICK N25 GRADE NORMAL CLASS CONCRETE.**

**SL92 MESH SUPPORTED BY 50mm BAR CHAIRS. MESH TO OVERLAP 200mm. ENSURE MIN. TOP COVER 50mm.**

**HARD DRAWN STEEL REINFORCING FABRIC GRADE 0500L TO AS 4671.**

REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AND NOT NECESSARILY IN POSITION.

ALL CONCRETE SHALL BE PLACED USING A MECHANICAL VIBRATION PROCESS.

ENSURE EVEN GRADE FALLS MIN. 150 TO FINISHED PITCH SURFACE.

APPLY BROOM FINISH TO CONCRETE PITCH SURFACE.

**CONCRETE PITCH MUST BE FLUSH WITH ADJACENT GRASS SURFACES.**

**PITCHES TO HAVE MAX. 38mm LONGITUDINAL FALL AND MIN. 150 CROSSFALL.**

**CONTRACTION JOINTS [E2] @ 30000 M/C AS LOCATED. JOINT TO BE SEEN CUT 6mm WIDE x 40mm DEEP WITHIN 4-6 HRS OF PLACEMENT.**

**PLACE MESH CENTRALLY OVER JOINT & CUT EVERY SECOND BAR OVER JOINT.**

**EXPANSION JOINTS [E2] - 12mm ROUND DOWEL WITH EXPANSION CAP AT 12000 MAX. M/C ALONG PITCH LENGTH AND 4500mm M/C ALONG PITCH WIDTH. JOINT TO BE FULL DEPTH 10mm THICK CLOSED CELL CROSS-LINKED POLYETHYLENE FOAM 158-150kg/m².**

**SEAL SURFACE OF JOINT WITH 10mm DEEP POLYETHYLENE SEALANT FOR FLUSH FINISH.**

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**SITE NOTES**

ALL PROPRIETARY FIXINGS SHALL BE INSTALLED TO MANUFACTURERS SPECIFICATIONS.

DURING CONSTRUCTION THE CONTRACTOR SHALL ENSURE THAT ALL STRUCTURES AND PAVING ARE MAINTAINED IN A SAFE AND STABLE CONDITION. WORKPLACE HEALTH AND SAFETY REGULATION MUST BE ADHERED TO ON ALL SITES.

SITE TO BE LEFT IN THE STATE OF DELIVERY MATERIAL TO BE REMOVED BY THE CONTRACTOR OR AS DIRECTED BY SUPERINTENDENT.

CONTRACTOR MUST NOTIFY CITY OF GOLD COAST COUNCIL OFFICER IN CHARGE 48 HOURS PRIOR TO COMMENCEMENT OF WORK ON SITE, TO INSPECT THE CONCRETE SLAB AND FALL INSPECTION.

WHERE APPLICABLE - INCOGNITO SITE FURNITURE TO PERIMETER OF FIELD. ENSURE PARK ELEMENTS ARE LOCATED IN ACCORDANCE WITH DETAILED LANDSCAPE PLANS & SUBDIVISION AND DEVELOPMENT GUIDELINES.

CONTACT ELECTRICAL DESIGN COORDINATOR IN RELATION TO ANY REQUIRED ELECTRICAL LIGHTING CONNECTIONS.

ALL DIMENSIONS IN MILLIMETRES (U.N.O.).

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**STANDARD DRAWING**

**CRICKET FACILITIES**

**PITCH SPECIFICATION AND NOTES**

**05-009**

**2015 EDITION**
GENERAL NOTES
ENSURE BOLLARD MARKERS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.

ENSURE BOLLARDS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.

ALL DIMENSIONS IN MILLIMETRES (U.N.O.).

FIXTURES/FITTINGS/METAL WORK
ALL FIXTURES/FITTINGS UNLESS SPECIFIED ARE TO BE HOT DIPPED GALVANISED OR STAINLESS STEEL.

GRIND SMOOTH EDGES & WELDS PRIOR TO H.D.G. OR APPLIED FINISHES. ALL WELDS TO BE CONTINUOUS, GROUND OFF SMOOTH & FLUSH.

WHERE POSSIBLE ALL FIXINGS TO BE TAMPER/VANDAL PROOF TO MINIMISE DAMAGE OR THEFT.

CONCRETE WORKS
AT A MINIMUM ALL CONCRETE TO BE GRADE N25 BROOM FINISHED 125mm MIN. THICKNESS.

ALL CONCRETE WORKS TO BE REINFORCED MIN SL72 MESH.

ENSURE MIN TOP COVER OF 50mm FOR SLIP RESISTANCE REQUIREMENTS REFER SPECIFICATION 5/50 ROADWORKS.

ALL PATHWAY/PAVEMENT AREAS TO HAVE 150 MINIMUM CROSS-FALL.

REMOVABLE STEEL BOLLARD - SECTION

SLEEVE INTO GROUND 450mm x 115mm
O.D. GAL PIPE WITH 200mm x 200mm x 8mm HOT DIPPED GAL PLATE WITH KEY HOLE FOR FLAP

STEEL BOLLARD SLEEVE - SECTION

TOP ELEVATION

HINGE ELEVATION
GENERAL PURPOSE

GALVANISED TUBULAR HANDRAIL

NOTES:
1. GATE AND END POSTS TO BE CONTINUOUS LENGTHS 50 NB (60.3 OD 3.6 THICK) GALVANISED STEEL TUBE (AS 1163 REFER)
2. INTERMEDIATE POSTS TO BE CONTINUOUS LENGTHS 60 NB (48.3 OD 3.0 THICK) GALVANISED STEEL TUBE (AS 1163 REFER)
3. RAILS TO BE 60 NB (48.3 OD 3.0 THICK) GALVANISED STEEL TUBE (AS 1163 REFER)
4. STANDARD COUPLINGS MAY BE USED PROVIDED THEY ARE SPOT WELDED TO POSTS OR RAILS.
5. ALL WELDS TO BE 6 E.F.W. (CONTINUOUS FILLER WELDS) TO AS 1554.1 WITH COLD GALVANISING TREATMENT TO COMPLETED WELDS.
6. CHAIN WIRE TO BE 950 or 1200 HIGH x 3.15 THICK x 50 MESH HEAVY GALVANISED AND/OR PVC COATED IN ACCORDANCE WITH AS 2423.
7. ALL CONCRETE TO BE GRADE N25

8. CHAIN WIRE TO BE FIXED USING 1.5 THICK HEAVY GALVANISED WIRE TO POSTS AT 2 LOCATIONS AND CONTINUOUSLY LACED TO RAILS.
9. POSTS TO BE SET VERTICALLY AND ACCURATELY ALIGNED IN CONCRETE GRADE N25.
10. GALVANISED TUBULAR HANDRAILS TO BE 85° AT ENDS IN SITUATIONS OF POSSIBLE VEHICLE IMPACT.
11. ALL GALVANISING IS TO BE IN ACCORDANCE WITH AS/NZS 4680.
12. THESE FENCES SHALL NOT BE USED WITHIN 5 METRES OF THE EDGE OF A MOVING TRAFFIC LANE.
13. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
14. CLEAN CONCRETE FROM POST IMMEDIATELY FROM INSTALLATION.
15. 50mm IS THE MAXIMUM GAP REQUIRED FOR DOG OFF LEASH AREA AND 100mm FOR ALL OTHER FENCING.
16. ANY GAP BELOW THE FENCE GREATER THAN 50mm IN THE DOG OFF LEASH OPTION, IS TO HAVE AND EXTRA BOTTOM RAIL INSTALLED.
NOTES:

1. GATE POSTS TO BE CONTINUOUS LENGTHS GALVANISED STEEL TUBE TO AS 1725.
2. CORNER AND END POSTS TO BE CONTINUOUS LENGTHS 50 NB (60.3 O/D, 2.3 THICK) GALVANISED STEEL TUBE. (AS.1163 REFERS)
3. INTERMEDIATE POSTS TO BE CONTINUOUS LENGTHS 40 NB (48.3 O/D, 2.3 THICK) GALVANISED STEEL TUBE. (AS.1163 REFERS)
4. STANDARD COUPLINGS MAY BE USED FOR ALL CONNECTIONS.
5. GALVANISED STEEL END CAPS TO BE PROVIDED TO ALL POSTS.
6. CORNER POSTS ARE TO BE ADOPTED AT CHANGE IN DIRECTION.
7. 1800 CHAIN WIRE TO BE HEAVY GALVANISED 3.15 THICK x 50 MESH TO AS.2423. BARB TOP. KNUCKLED BOTTOM.
8. RAIL BRACING TO BE 32 NB (42.2 O/D, 2 THICK) STEEL TUBE. (AS.1163 REFERS)
9. POSTS ARE TO BE SET VERTICALLY IN CONCRETE GRADE N25.

10. CABLES ARE TO BE FORMED FROM TWO Ø3.15 WIRE TWISTED TOGETHER OR ONE STRAND Ø3.15 THICK HEAVY GALVANISED SPIRAL.
11. ALL POSTS, STAYS AND CABLES ARE TO BE GALVANISED IN ACCORDANCE WITH AS/NZS 4680.
12. CHAIN WIRE TO BE FIXED USING HEAVY GALVANISED 16 WIRE TIES OR EQUIVALENT AS FOLLOWS:
   - INTERMEDIATE POSTS AT 3 LOCATIONS.
   - END POSTS AT 3 LOCATIONS.
   - HORIZONTAL CABLE AT 375 CENTRES TO TOP CABLE.
   - HORIZONTAL CABLE AT 600 CENTRES TO MIDDLE CABLE.
   - HORIZONTAL CABLE AT 450 CENTRES TO BOTTOM CABLE.
13. BRACING PANELS TO BE PROVIDED AT ALL CHANGES IN DIRECTION AND EVERY 150m ON STRAIGHT ALIGNMENTS.
14. 900mm, 1200mm, 2400mm & 2800mm HEIGHTS MAY BE USED SUBJECT TO CITY OF GOLD COAST APPROVAL.
15. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

TYPICAL SECTION
SECTIONAL ELEVATION

**NOTES:**

1. ALL CONCRETE TO BE GRADE N2S.
2. LOG BARRIERS INCLUDING POSTS TO BE 175 DIAMETER, OR TO MATCH EXISTING AS DIRECTED BY CITY OF GOLD COAST.
3. AT BIKEWAY SLOWDOWN DEVICES, A CONTINUOUS RAIL SHALL BE PROVIDED.
4. ALL TIMBER TO BE CCA TREATED TO LEVEL H4 (AS1604).
5. CHECK FOR ANY SERVICE LOCATIONS PRIOR TO BORING POST HOLES.
6. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

**DETAIL 'A'**

Φ10 GALVANISED RAILLOC SPIKE (BARBED) OR EQUIVALENT (300 LONG) DRIVEN INTO Φ10 PREDRILLED HOLE, 270 LONG.

CHECK 25 OUT OF RAIL
SECTION ELEVATION

NOTES:

1. ALL CONCRETE TO BE GRADE N25.
2. GATE TO BE MOUNTED TO POST WITH TWO M16 GALVANISED STEEL BOLTS 75 LONG WITH THREAD DEFORMED BY TAČK WELD TO SECURE NUT AFTER ERECTION.
3. HINGE LUGS TO BE 6 FILLET WELDED TO POST AND GATE PRIOR TO ERECTION.
4. ALL END AND MITRE JOINTS TO BE BUTT WELDED ALL AROUND.
5. ALL PIPES TO BE MEDIUM GAUGE HEAVY GALVANISED FINISHED WITH TWO COATS OF TWO PARK 125 MICRON MINIMUM TOTAL THICKNESS, (E) WATTYL PARACRYL OR EQUIVALENT PROCESS. COLOUR TO MATCH COLORBOND "CAULFIELD GREEN".
6. ALL WELDS AND BARE METAL TO BE THOROUGHLY CLEANED AND PAINTED WITH GOLDU GALVANISING PRIMER PRIOR TO FINISH COAT.
7. ENSURE LOCK BOXES ARE LOCATED ON THE RIGHT HAND SIDE OF GATES WHEN HEADING DOWNHILL. THIS IS REQUIRED TO ALLOW THE DRIVER TO OPEN THE GATE WITHOUT BEING REQUIRED TO CROSS IN FRONT OF THE VEHICLE PARKED UPHILL.
8. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
EARTHING LAYOUT FOR THE BBQ

SUPPLY WITH SECTION 5, WIRING RULES AS/NZS 3000

FROM MAIN SWITCHBOARD
SUBSPAN SINGLE PHASE OR THREE PHASE WITH EARTH
LEAD SPN TO MAIN EARTH

SINGLE LINE DIAGRAM
FOR BBQ DISTRIBUTION BOARD

NOTES:
1. PROVIDE EARTH STAKE AND MEN LINK AS REQUIRED.
2. INSTALL CIRCUIT PROTECTIVE DEVICE INSIDE WEATHER PROOF ENCLOSURE.
3. PROVIDE INTEGRAL RED PROTECTION ON POWER OUTLET.
GENERAL NOTES:
1. DO NOT INSTALL SOAKAGE TRENCHES FOR GREASE TRAP IN VEHICULAR TRAFFIC AREAS.
2. DRAWINGS ARE NOT SITE SPECIFIC, THE ELECTRICAL FIT, GREASE TRAP AND SOAKAGE TRENCH CAN BE INTERCHANGEABLE.

FLOOR WASTE IN BASE SLAB WITH 100mm PVC PIPE CONNECTED TO GREASE TRAP

ELECTRICAL FIT, ACO TYPE 3 PLASTIC PIT COMPLETE WITH LOCKABLE GALVANISED AS STEEL LID MARKED "ELECTRICITY."

ISOLATION POINT / METERED CONNECTION TO MAINS WATER SUPPLY IN CONFORMANCE WITH GOLD COAST WATER REQUIREMENTS

STOP COCK IN APPROVED IRRIGATION BOX, MINIMUM 2 m AWAY FROM SLAB.

200 THICK N32 CONCRETE SLAB F42 MESH, 50mm TOP COVER ON 35mm SAND BEARING WITH WATERPROOF MEMBRANE DIRECTLY UNDER SLAB. PROVIDE N16 TRIMMER BARS AROUND PITS.

STAINLESS STEEL BENCH TOP
160L X 830 X 720 DEEP EVERHARD CONCRETE GREASE TRAP WITH REMOVABLE CONCRETE COVERS.

DOUBLE H CONCRETE SOAKAGE TRENCH WITH LIDS GALVANISED STEEL 150mm BELOW GROUND LEVEL

100mm DISCONNECTOR TRAP (DT) WITH STAINLESS STEEL METAL FLOOR WASTE (FW).

COMPACT SUBGRADE TO 95% Std COMPACTION

REAR ELEVATION

SIDE ELEVATION

PLAN

1. B30 MAINTENANCE DOOR
2. WATER SERVICE CABINET
3. DISTRIBUTION BOARD CABINET WITH GPO OUTLET

STANDARD DRAWING

DOUBLE STAINLESS STEEL BBQ
GENERAL ARRANGEMENT

2015 EDITION

ISSUE

A DRAWING REvised

AMENDMENT

APPROVED

DATE

ISSUED

CITY OF GOLD COAST

DRAWN BY

NAME: CAMERON TAYLOR

APPROVED - MANAGER PARKS & RECREATIONAL SERVICES

NAME: RON JACOBS

11/10/13
NOTES

1. THE RPZ DEVICE MUST CONFORM WITH THE FOLLOWING:
   (a) BE REGISTERED WITH CITY OF GOLD COAST AND PROVIDED
       IN ACCORDANCE WITH AS5500.
   (b) RPZ DEVICES MUST BE SIZED ACCORDING TO IRRIGATION
       SYSTEM FLOW RATES AND BE A DEVICE APPROVED
       BY THE CITY’S BACKFLOW PREVENTION OFFICER.
   (c) ONLY AN ENDORSED BACKFLOW PREVENTION OFFICER
       CAN ACTIVATE THE SYSTEM.

2. A PROTECTION COVER MANUFACTURED FROM 40x40x4
   GALVANISED ANGLE AND 50x50x4 GALVANISED MESH
   TO BE PROVIDED.

3. GOLD COAST WATER WILL INSTALL A 25 DIA WATER METER AFTER
   AN APPLICATION STATING THE LOCATION AND APPROVED NAME
   OF THE PARK, AND THE PRESCRIBED FEES HAVE BEEN PAID. THE
   APPLICATION MUST BE IN THE NAME OF THE CITY OF GOLD COAST.

4. CONCRETE TO BE CLASS N20 TO AS3600.

5. CONCRETE SLAB MUST BE 100mm THICK – SL72 MESH CENTRAL AND
   TO EXTEND A MINIMUM 150mm BEYOND COVER IN ALL DIRECTIONS

6. COVER TO BE LOCKED AS SHOWN USING PARKS ALLOCATED LOCK.

7. ALL GALVANISING TO BE IN ACCORDANCE WITH AS/NZS 4680

8. ALL WELDS AND BARE METAL TO BE THOROUGHLY
   CLEANED AND PAINTED WITH COLD GALVANISING.

9. DETAILS SHOWN ARE FOR A TYPICAL 25 DIA INSTALLATION.
   WHERE A LARGER INSTALLATION IS REQUIRED, INDIVIDUAL
   DESIGNS MUST BE PROVIDED.

10. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE

TYPICAL 25 Dia RPZ DEVICE INSTALLATION

SEMI-DIAGRAMMATIC
BIKEWAY ENTRANCE TYPE 1
2000 WIDE PATHWAY

BIKEWAY ENTRANCE TYPE 2
3000 WIDE & GREATER PATHWAY

BIKEWAY ENTRANCE TYPE 3
3000 WIDE & GREATER PATHWAY

NOTES:
1. THESE LAYOUTS ARE ADAPTED FROM IPWEA STD. DWG. NO. 5ED P-040.
2. CONCRETE KERBS IN ACCORDANCE WITH AS1556.6 & AS3600.
3. PAVEMENT MARKINGS TO BE INSTALLED IN WATERBORN PAINT OR OTHER SUITABLE MATERIAL. MATERIAL TO HAVE ANTI-SLIP / SKID MATERIAL APPLIED TO SURFACE. THERMOPLASTIC MATERIALS ARE NOT TO BE USED.
4. REFER TO MUTCD FOR BIKEWAY SIGNAGE.
5. CONCRETE FOOTPATHS AND BIKEWAYS TO BE IN ACCORDANCE WITH CITY OF GOLD COAST STD. DWG. NO. 02-041.
6. KERB RAMPS TO BE IN ACCORDANCE WITH IPWEA STD. DWG. NO. 5S-090.
7. LOW PROFILE LOG BARRIER PENETING TO PREVENT VEHICLE ACCESS TO BE IN ACCORDANCE WITH CITY OF GOLD COAST STD. DWG. NO. 05-045.
8. SITE SPECIFIC REQUIREMENTS SUCH AS LIGHTING TO BE ASSESSED AT EACH LOCATION.
9. FOR BOLLARD DETAILS REFER TO CITY OF GOLD COAST STD. DWG. NO. 05-021.
10. FOR PATH WIDTHS THAT ARE GREATER THAN 3000 A COMBINATION OF BIKEWAY ENTRANCE TYPE 1 AND TYPE 2 IS TO BE USED.
11. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
REMovable Bollards

Confirm with City of Gold Coast Council Office if removable bollards are required.

If required, removable bollards are to conform with the following requirements:

1. Consist of two components, a steel sleeve which is securely concreted in-ground and the bollard stem which slots into the sleeve. Bollard stem nominal diameter 75mm. The bollard stem is secured to the sleeve by a lock mechanism.
2. Medium duty galvanized steel with same finishes and colour scheme as bollards shown on this drawing.
3. Have handles to assist in removal.
4. Be padlockable at the base, using a sleeve with hinged lid locking mechanism.
5. Have a sleeve concreted into the ground that allows for the lid to be closed flush with surrounding concrete surface after removal of the bollard.

NOTE:
All dimensions are in millimetres unless shown otherwise.

This drawing is produced in colour. Reproduction or scanning in other than full colour may impart false or misleading information. If color is required, please contact the designer of record for clarification.

City of Gold Coast

This drawing is not to be amended without reference to Standards Committee.

Controlled Document

Do Not Scale

Take Figured Dimensions Only

Standard Drawing

Bikeway Path Terminal Treatment Bollards

Standard Drawing 05-021

2015 Edition
GENERAL NOTES
1. ENSURE BOLLARD MARKERS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.
2. ENSURE BOLLARDS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.
3. ALL DIMENSIONS IN MILLIMETRES (M.M.).

REMOVABLE STEEL BOLLARD - OVER HEAD VIEW 1.2m FOOTPATH

CONCRETE FILLED STEEL BOLLARD

LINE MARKING ON PATHS: YELLOW FOR CONCRETE OR WHITE FOR AC PATHS

REMOVABLE STEEL BOLLARD - OVER HEAD VIEW 1.5m FOOTPATH

CONCRETE FILLED STEEL BOLLARD

LINE MARKING ON PATHS: YELLOW FOR CONCRETE OR WHITE FOR AC PATHS

REMOVABLE STEEL BOLLARD - OVER HEAD VIEW 2.0m FOOTPATH

CONCRETE FILLED STEEL BOLLARD

LINE MARKING ON PATHS: YELLOW FOR CONCRETE OR WHITE FOR AC PATHS

REMOVABLE STEEL BOLLARD - OVER HEAD VIEW 3.0m FOOTPATH

CONCRETE FILLED STEEL BOLLARD

LINE MARKING ON PATHS: YELLOW FOR CONCRETE OR WHITE FOR AC PATHS

STANDARD DRAWING

BOLLARDS OVERHEAD VIEW

05-022

2015 EDITION
GENERAL NOTES

ENSURE BOLLARD MARKERS ARE LOCATED AND LANDSCAPED IN ACCORDANCE WITH DETAILED LANDSCAPE PLAN, AND SUBDIVISION AND DEVELOPMENT GUIDELINES.

ENSURE BOLLARDS ARE CLEANED OF CONCRETE SLURRY OR SPRAY WHEN INSTALLED TO PREVENT STAINING OR DAMAGE TO APPLIED FINISHES.

ALL DIMENSIONS IN MILLimetres (M.M.).

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REMOVABLE STEEL BOLLARD - INSTALLATION ON PATHWAY

REMovable Steel Bollard
Setout for Pathway Installation

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STANDARD DRAWING

BOLLARDS INSTALLATION ON PATHWAY

DRAWN BY: CITY OF GOLD COAST

PARKS - COORDINATOR OPEN SPACE, ASSETS

NAME: CAMERON TAYLOR

11/10/13

APPROVED: MANAGER PARKS & RECREATIONAL SERVICES

NAME: RON JACOBS

11/10/13

THIS DRAWING HAS BEEN SOURCED FROM SIPPENNA CITY COUNCIL. STANDARD DRAWINGS 2001 - SERIES 701 / PARKS

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No. AMENDMENT APPROVED DATE ISSUED

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2015 Edition
TYPICAL SHRUB/GROUNDCOVER PLANTING - SECTION

PLANT AS SPECIFIED. SET OUT FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PLANTING. STAKE IF SPECIFIED IN PLANT SCHEDULE.

MULTI-LAYER MIN. 100MM DEPTH. MAINTAIN 50MM SEPARATION BETWEEN MULTIL AND STEM OF PLANT.

IMPORTED SOIL MIX AS SPECIFIED. MINIMUM DEPTH 300MM.

PLACE AND LIGHTLY COMPACT THE SOIL MIX IN LAYERS TO PREVENT AIR POCKETS. FORM SHALLOW DEPRESSION IN SOIL AROUND TOP OF ROOTBALL TO IMPROVE WATER RETENTION TO PLANT.

PLACG SLOW RELEASE FERTILISER AS SPECIFIED AROUND ROOTBALL.

EXISTING SOIL/SUBSTRATE

EXISTING BASE SUB-GRADE TO BE RIPPED A MINIMUM OF 150MM.

TYPICAL TREE PLANTING - SECTION

CULTIVATE EXISTING SUB-GRADE TO 150MM DEPTH. REMOVE STONES EXCEEDING 50MM DIAMETER AND ANY ORGANIC MATTER EXCEEDING 100MM IN CLAY INCLUDING ROOTS, STICKS AND WEEDS BRUNG TO THE SURFACE DURING CULTIVATION. REMOVE ANY MATERIAL INJURIOUS TO PLANT GROWTH.

EITHER AMELIORATE EXISTING SITE TOPSOIL AS SPECIFIED OR IMPORT SOIL MIX. ALL IMPORTED SOIL MIXES MUST COMPLY WITH AS 4419-2003 "SOILS FOR LANDSCAPING AND GARDEN USE" CLASS 4.6 "SOIL BLEND" COMPLYING WITH THE REQUIREMENTS OF AS4419 SECTIONS 5, 7 AND 8 WITH pH FALLING WITHIN THE RANGE REQUIRED FOR NON-ACID OR ALKALINE SOILS AS DEFINED BY CLAUSE 5.6A. WITH PHOSPHORUS CONTENT SUITABLE FOR PHOSPHORUS-SENSITIVE PLANTS AS DEFINED BY CLAUSE 5.9 AND THE FURTHER REQUIREMENTS THAT THE ELECTRICAL CONDUCTIVITY WHEN TESTED IN ACCORDANCE WITH AS4419 APPENDIX D, NOT EXCEED 1.2 dS/m.

PROVE CERTIFICATE FOR IMPORTED SOIL MIX PRIOR TO BRINGING ON SITE. REFER TO SPECIFICATIONS.

AFTER APPROVAL OF THE PROPOSED SOIL MIX, DEPOSIT AND SPREAD SOIL MIX TO ACHIEVE A 300MM MINIMUM THICKNESS TO ALL PLANTING AREAS AFTER SLAB OR EDGE CONSTRUCTION.

EXCAVATE THE PLANTING HOLES FOR TREES TO A MINIMUM OF TWICE THE WIDTH (2X) AND ONE AND A HALF TIMES THE DEPTH OF THE ROOTBALL.

COMPACT SOIL MIX LIGHTLY IN LAYERS OF 150MM, ENSURING THAT NO AIR POCKETS REMAIN IN THE SOIL RAKE OVER LIGHTLY TO ACHIEVE SMOOTH SOIL PROFILES, AND ENSURE THAT ANY MOUNDING HAS A SMOOTH AND EVEN PROFILE.

USE 25MM GRADE HOOF PINE BARK OR EQUIVALENT MULTIL IN A 100MM LAYER. FREE FROM SOIL, WEEDS & ANY OTHER MATERIAL TOXIC TO PLANT GROWTH. SPREAD EVENLY & RAKE SMOOTH. FINISH MULTIL 25MM BELOW FINISHED SURFACE LEVEL OF SURROUNDING EDGE/TREATMENT.

STANDARD DRAWING

TREE AND SHRUB PLANTING DETAIL

STANDARD DRAWING NO. 05-101

2015 EDITION
MINIMUM PLANTING DISTANCE

1m. FROM STORMWATER OUTLET
1m. FROM EDGE OF GULLY FIT
1m. MINIMUM PLANTING WITHIN BETWEEN Kerb AND PATHWAY
1m. FROM CENTER OF TREE TO FRONT FACE OF KERB AND CHANNEL
1m. FROM OVERHEAD SERVICE WIRES
2m. FROM FRONT OR REAR OF STREET SIGNS
3m. FROM DRIVEWAY
3m. FROM FIRE HYDRANT
3.5m FROM GROUND MOUNTED TRANSFORMERS
6m. FROM EXISTING TREES
6m. FROM DEPARTURE SIDE OF BUS STOPS AND PEDESTRIAN CROSSINGS
7m. FROM POWER POLES / LIGHT POLES
8m. MINIMUM SPACING BETWEEN NEW TREES
10m. FROM APPROACH SIDE OF BUS STOPS AND PEDESTRIAN CROSSINGS
15m. FROM DEPARTURE SIDE OF A STREET INTERSECTION
20m FROM APPROACH SIDE OF A STREET INTERSECTION
NO TREE PLANTING DIRECTLY UNDER EXISTING CANOPIES THAT EXTEND TO AND BEYOND THE KERB AND CHANNEL

NOTE
IF THE PROPOSED TREE PLANTING DOES NOT COMPLY WITH THE SETOUT GUIDELINES, PLANTING SHALL NOT OCCUR WITHOUT APPROVAL FROM THE CITY OF GOLD COAST
NOTES:

- Where the mound is within the crown spread of existing trees, the grading of the mound is to be adjusted on site to avoid compaction of tree roots.

- Mounds shall be formed from imported fill with topsoil over to depths as required. Imported fill material will be used to form mounds where the existing site soil is inadequate in terms of quantity or quality. The imported fill should meet current Australian Standard AS4479-2003 ‘Soils for Landscaping and Garden Use’.

- Slopes to mounds shall be no greater than 1:3 in garden areas and 1:4 in turf areas unless otherwise shown on plan. All intersections of planes shall be rounded and gradual and curves generous. Ensure all mounds have a smooth and even profile (suitable for mowing purposes).

- Place clean filling in layers approximately 150mm thick compacted to 85% of the dry density ratio of the surrounding soil as determined by AS 1289.5.1. Minimize slumping and further internal packing down. Construct changes in grade over a minimum width of 500mm to smooth gradual and rounded profiles. Allow for placement of topsoil and turf or mulch where applicable. Refer to plans for levels of TDF of mound (if applicable). Mound soil to centre of garden bed.

TYPICAL MOUNDED PLANTING BED AND TURF AREAS - SECTION

TYPICAL TURF MEDIA PROFILE - SECTION

TYPICAL PLANTING MEDIA PROFILE - SECTION

STANDARD DRAWING

PLANTING MEDIA PROFILES TURF AND GARDEN

CITY OF GOLDCOAST

05-104

2015 EDITION
TREE PLANTING

Minimum size for street tree planting is to be as follows:
- Single street tree planting = minimum 4.5 litre established stock
- Grouped planting (three or more) = minimum 20 litre established stock
- Trees to comply with the requirements of "Specifying Trees - A Guide to Assessment of Tree Quality" by Ross Clark (Native Plant Guide)

ROAD VERGES

Road verges vary in width, but are typically 3.5m, 5m, and 5.8m wide. Council standard engineering road reserve cross-sections provide for an allocation of verge space for street planting. Trees may be set back a minimum 1.5m from the verge line. If a greater planting area is required, the location and arrangement of any footpath areas is to be determined in consultation with Council prior to submitting detailed landscape plans.

- All planting including shrubs and groundcover is to comply with Council's Traffic Engineering Design Guidelines for use of site restrictions and traffic safety requirements.
- Single tree planting is to have regard to the spatial requirements of the species and the impacts on the effectiveness of street lighting and flexibility for driveways and access.
- Refer also to Standard Drawing 05-103 Street Tree Planting - Set-Out Guide for Road Works.

ROUNDABOUTS

Planting in roundabouts is to be set back from the inside of the roundabout kerb edge as follows:
- 3.0m - 3.5m setback - pavement treatment only
- 3.0m - 3.5m setback - shrubs / ground cover only
- 3.0m - 3.5m setback - trees and shrubs / ground cover only. Trees are to be primarily single trunked trees with a maximum height of 500mm above the road pavement and at a point of 30mm above the road pavement level.

MEDIAN STRIPS

Planting in median strips is to be set back from the face of the median strip kerb edge as follows:
- 3.0m - 3.5m setback - appropriate turf or hard pavement treatment
- 3.0m - 3.5m setback - shrubs / ground cover only
- 3.0m - 3.5m setback - trees and shrubs / ground cover only. Trees are to be primarily single trunked trees, with a maximum height of 500mm above the road pavement level.

In median strips of 250mm - 500mm wide, single trees with a mature trunk diameter of 100mm may be located centrally in the median strip providing such trees are to havetraffic engineering and safety requirements. (C) trees are not to be planted minimum 1.5m setback from the edge of the road.

Notes and diagrams taken from GCCC Landscape Works Documentation Manual and from GCCC Design Principles for New Vegetation for GCCC Returned Works GCR1 Corridor, July 2010
**CATEGORY A**
**MATURE PARK TREES WITH ACTIVE GRASS GROWTH TO TRUNK**

- Mature park trees (generally tree diameter greater than 60cm).
- Tree diameter generally 80cm and greater.
- Generally there are tall trees with clear trunks.
- Trunk canopy is open allowing sufficient light to penetrate to ground level to promote active grass growth.
- Excessive shade where grass is not growing actively to the trunk and decrease height rate, grass may need to be adjusted as per category C.

**CATEGORY B**
**GENERAL PARK TREES INCLUDING JUVENILE TREES**

- Where grass growth is not growing actively to the trunk of the tree within a minimum metre radius extending from outside edge of trunk.
- Where bare areas occur under the tree and or grass is not growing actively, spread mulch (not over top of the tree canopy) metre extending from the edge of the tree trunk.
- Mulch width is 1m - 2m.
- Taper mulch away from base of tree trunk, do not place full depth mulch against tree trunk.
- Maintain clear height of 25cm to assist active grass growth and to maintain clear sight lines.

**CATEGORY C**
**TREES IN GROUPS (COPSE)**

- Trees growing less than 4 metres apart (as of tree lines).
- Same mulch depth and width as the category B; however mulch is applied in front of and continuing mulch cover beneath the base of trees.
- Taper mulch away from base of tree trunk, do not place full depth mulch against tree trunk.
- Maintain clear height of 25cm to assist active grass growth and to maintain clear sight lines.

**CATEGORY D**
**STREET TREES (FOOTPATHS AND MEDIANS)**

- Mulch width is 1m - 2m radius extending from outside edge of trunk.
- Where trees are separated by a grass verge between footpath and kerb, mulching pattern to footpath.
- Where trees are spaced less than 4 metres apart mulch the 1m - 2m radius of median trees as per category C.
- Same mulch depth and width as for category B.
- Mulch fully extend from base of tree trunk, do not place full depth mulch against tree trunk.
- Maintain clear height of 25cm to assist active grass growth and to maintain clear sight lines.
- Where tree trunk is greater than 60cm and grass is actively growing to the trunk, as per category A.
NOTE
For Slab Details, Dimensions and Location Refer to City of Gold Coast
Standard Drawings 05-339 & 05-500

TOP VIEW

FRONT VIEW

BOTTOM VIEW

SIDE VIEW

NOTE: SLAT ATTACHMENT
Use a 3g or spacers to allow correct and even spacing of the slats. Position slats and pilot (93.5mm) holes before securing with fasteners.

NOTE
1. Always preload Timber Slats before fastening.
2. Mount slats centre-down.

DETAIL A

STANDARD DRAWING

WATERSIDE SUITE - BENCH

THIS DRAWING IS NOT TO BE AMENDED WITHOUT REFERENCE TO STANDARDS COMMITTEE
CONTROLLED DOCUMENT
DO NOT SCALE
TAKE FIGURED DIMENSIONS ONLY

CITY OF GOLD COAST

PARKS, COORDINATOR OPEN SPACE ASSETS
NAME: LM/EDN 11/11/15
APPROVED - MANAGER PARKS & RECREATIONAL SERVICES
NAME: EWF 11/11/15

2015 EDITION

ISSUE
STANDARD DRAWING NO.
05-521