# BUNNINGS WAREHOUSE 950 PACIFIC HIGHWAY, PYMBLE

## CIVIL ENGINEERING WORKS FOR DEVELOPMENT APPLICATION

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### **ENVIRONMENTAL CONTROL NOTES:**

### EROSION AND SEDIMENT CONTROL

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF FROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL. THE RELEVANT STATE AUTHORITIES AND THE SUPERINTENDENT. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
- NO CONSTRUCTION WORKS ARE TO COMMENCE ON SITE UNTIL ALL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND HAVE BEEN INSPECTED AND APPROVED BY THE COUNCIL ENGINEER AND/OR
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REGULARLY INSPECTED, IN PARTICULAR AFTER STORMS, AND REPAIRED OR MAINTAINED AS REQUIRED TO ENSURE THE MEASURES CORRECT AND EFFICIENT FUNCTION THROUGHOUT THE DURATION OF THE WORKS, UNTIL SUCH TIME AS THE COUNCIL ENGINEER AND/ORSUPERINTENDENT AUTHORISES THE REMOVAL OF
- ALL STOCKPILES SHALL BE CLEAR OF ALL TREES AND DRAINAGE LINES
- (INCLUDING OVERLAND FLOW PATHS) AND PROTECTED FROM EROSION. N THE CASE OF THE TEMPORARY CONSTRUCTION EXIT. THE CONTRACTOR SHALL UNDERTAKE WEEKLY SURFACE CLEANING BY DRAG BROOM OR EQUIVALENT. TO REMOVE ALL BUILD UP OF FOREIGN MATERIAL TO THE SATISFACTION OF THE SUPERINTENDENT

#### TRAFFIC CONTROLS

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF TRAFFICS INCLUDING VEHICLES AND PEDESTRIANS TO THE SATISFACTION OF COUNCIL, THE RELEVANT STATE
- AUTHORITIES AND THE SUPERINTENDENT. THE CONTRACTOR IS TO PREPARE A TRAFFIC MANAGEMENT PLAN TO THE REQUIREMENTS OF THE RMS – TRAFFIC CONTROL AT WORK SITE, AS 1742 – AUSTRALIAN STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND LOCAL COUNCIL STANDARDS.

#### OTHER ENVIRONMENTAL CONTROLS

OTHER ENVIRONMENTAL CONTROLS LIKE NOISE DUST VIBRATION FLORA & FAUNA, FIRE, HAZMAT, AND CONTAMINATIONS MUST BE CONTROLLED TO THE REQUIREMENT OF THE COUNCIL AND THE RELEVANT STATE AUTHORITIES.

#### **GENERAL NOTES:**

- 1. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION.
- THE CONSTRUCTOR SHALL PREPARE A DILAPIDATION REPORT FOR THE EXISTING INFRASTRUCTURE WITHIN THE ROAD RESERVE, INCLUDING BUT NOT LIMITED TO KERBS, GUTTERS, FOOTPATHS, VEHICULAR CROSSINGS, STREET SIGNS SERVICE FITTING COVERS FTC.
- 3. THE CONSTRUCTOR SHALL REVIEW, BE AWARE AND AT ALL TIMES COMPLY WITH THE SPECIFIC REQUIREMENTS FOR THIS DEVELOPMENT AS SET OUT IN THE DEVELOPMENT APPROVAL FOR THE PROJECT.
- ANY CHANGES MADE BY THE CONSTRUCTOR TO ANY LEVEL, DIMENSION, LOCATION, POSITION, ALIGNMENT ETC., OF ANY OF THE WORKS SHOWN ON THE DRAWINGS WITHOUT THE WRITTEN CONSENT OF C&M CONSULTING ENGINEERS PTY, LTD. AND OR THE PRINCIPAL CERTIFYING AUTHORITY IS DONE SO AT THE CONSTRUCTORS OWN RISK.
- THE CONSTRUCTOR SHALL ALLOW TO LIAISE WITH AND PROVIDE SUFFICIENT NOTICE TO THE PRINCIPAL CERTIFYING AUTHORITY TO ENSURE THAT ALL WORKS ARE INSPECTED TO ENABLE COMPLIANCE CERTIFICATES TO BE ISSUED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONSTRUCTOR SHALL LIAISE WITH THE PRINCIPAL CERTIFYING AUTHORITY PRIOR TO ANY CONSTRUCTION WORKS COMMENCING AND PREPARE AN INSPECTION AND TEST PLAN WITH A MUTUALLY AGREED WITNESS AND HOLD POINTS FOR THE CONSTRUCTION WORKS.
- 6. IF THE PRINCIPAL CERTIFYING AUTHORITY IS NOT KU-RING-GAI COUNCIL, THEN THE CONSTRUCTOR MUST CONTACT KU-RING-GAI COUNCIL'S WORKS DIVISION TO ENABLE THEIR INSPECTION OF ALL WORKS (INCLUDING EROSION AND SEDIMENT CONTROL MEASURES) WITHIN THE ROAD RESERVE
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ACCESS TO THE SITE THE ACCESS SHALL BE ALL WEATHER SAFE ACCESS TO THE CONTRACTOR'S SITE FACILITIES AT ALL TIMES FOR THE DURATION OF THE CONTRACT.
- A TEMPORARY HOARDING OR FENCE OF MINIMUM 1.5m HIGH IS TO BE PROVIDED AROUND THE SITE TO PROTECT THE PUBLIC PRIOR TO COMMENCEMENT OF WORKS. HOARDINGS OR FENCES ARE TO BE STRUCTURALLY ADEQUATE, THE CONTRACTOR SHALL OBTAIN AN APPROVAL FROM COUNCIL PRIOR TO FRECTING THE HOARDING OR FENCE
- 9 ALL NEW WORKS SHALL MAKE A SMOOTH CONNECTION WITH ANY FORMATIONS, STRUCTURES, ETC.
- ALL ALTERATIONS AND/OR ADDITIONS TO EXISTING WORK, THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE EXISTING WORK BEFORE PROCEEDING AND NOTIFY THE SUPERINTENDENT OF DISCREPANCIES.
- 11. THE CONTRACTOR SHALL USE MANUFACTURED ITEMS IN THE WORK ONLY IN ACCORDANCE WITH THE CURRENT PUBLISHED
- THE WORKS SHALL BE CONSTRUCTED IN SUCH A MANNER THAT THERE IS MINIMUM DISTURBANCE TO EXISTING TREES AND VEGETATION.
- THE PUBLIC FOOTWAY AND ROADWAY FRONTING THE SITE SHALL BE MAINTAINED IN A SAFE AND UNOBSTRUCTED MANNER AT ALL TIMES DURING THE CONSTRUCTION WORKS.
- 14. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR REPAIRING TO THE SATISFACTION OF THE ASSET OWNER. ANY DAMAGE CAUSED TO ANY EXISTING INFRASTRUCTURE WITHIN THE ROAD RESERVE INCLUDING BUT NOT LIMITED TO KERBS, GUTTERS, FOOTPATHS, VEHICULAR CROSSINGS, STREET SIGNS, SERVICE FITTING COVERS, ETC.
- THE SITE SHALL BE KEPT IN A TIDY CONDITION AT ALL TIMES. LITTER RUBBISH AND BUILDING RUBBLE SHALL BE PLACED IN CONTAINERS OR BINS AND REGULARLY REMOVED FROM SITE AS REQUIRED

### STORMWATER NOTES:

- 1. STORMWATER DESIGN CRITERIA MINOR STORM ARI: 10 YEARS MAJOR STORM ARI: 100 YEARS IED DATA LOCALITY: PYMBLE
- PIPES DN375 AND LARGER TO BE STEEL REINFORCED CONCRETE PIPES CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS U.N.O
- PIPES DN300 AND SMALLER SHALL BE GRADE SH (SEWER GRADE) uPVC WITH RUBBER RING JOINTS.
- EQUIVALENT STRENGTH FIBRE REINFORCED CONCRETE PIPES MAY BE USED UP TO
- PIPES FOR SUB-SOIL DRAINS SHALL BE SLOTTED 100MM DIAMETER CLASS 1000 WRAPPED IN GEOFABRIC, U.O.N, COMPLYING WITH THE REQUIREMENTS OF AS 2439.
- PRECAST PITS, WHERE ALLOWED, AND THE INSITU BASE SHALL COMPLY WITH THE REQUIREMENT OF THE MANUFACTURER.
- ALL MILD STEEL FIXTURES INCLUDING GRATES, FRAMES, STEP IRONS, LADDERS, ETC., SHALL BE HOT DIP GALVANISED. GALVANISING SHALL COMPLY WITH THE
- REQUIREMENTS OF AS 1214 OR AS 1650 AS APPROPRIATE. 8. GEOFABRIC FILTER SHALL BE PERMEABLE, NON-WOVEN FABRIC MANUFACTURED FROM A POLYMER SUCH AS POLYPROPYLENE OR POLYESTER OF MASS NOT LESS
- THAN 135G/M2 THE MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS: CONCRETE AND FRC PIPES: EXTERNAL PIPE DIAMETER PLUS 400MM. HPVC PIPE: EXTERNAL DIAMETER OF PIPE PLUS 200MM
- SUBSOIL PIPE: 10. ALL PIPES SHALL BE PLACED CENTRALLY WITHIN THE TRENCH WITH EQUAL
- CLEARANCE EACH SIDE. 11. PIPE BEDDING MATERIAL SHALL BE CLEAN COARSE RIVER SAND WITH DEPTH AS

CONCRETE AND FRC PIPES: 100MM (175MM IN ROCK) UPVC PIPE: 75MM (100MM IN ROCK)

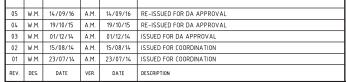
- SUBSOIL DRAINS: 50MM 12. ALL PIPES SHALL BE BACKFILLED WITH GRANULAR MATERIAL SUCH AS QUARRY FINES OR COARSE RIVER SAND TO A MINIMUM OF 150MM ABOVE THE PIPE. THE GRANULAR MATERIAL SHALL BE PLACED IN 150MM THICK MAXIMUM LAYERS AND COMPACTED TO ACHIEVE A DENSITY INDEX (ID) OF 70%. FREQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 1 TEST PER 2 LAYERS PER 40 LINEAR METRE.
- 13. BACKFILL THE REMAINDER OF THE TRENCH ABOVE THE SAND TO SUBGRADE LEVEL WITH TRENCH MATERIAL. PLACE AND COMPACT MATERIALS IN LAYERS NOT EXCEEDING 150MM LOOSE THICKNESS. MATERIAL LOWER THAN 500MM BELOW SUBGRADE LEVEL SHALL BE COMPACTED TO AT LEAST 95% OF STANDARD MAXIMUM DRY DENSITY. THE TOP 500MM BELOW PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD MAXIMUM DRY DENSITY
- 14. FILTER MATERIAL FOR SUBSOIL SHALL BE COARSE SAND OR CRUSHED STONE COMPLYING WITH ONE OF THE GRADINGS IN THE TABLE BELOW. WHERE NOTED ON THE DRAWINGS THE 7MM CRUSHED ROCK FILTER MATERIAL SHALL BE ENCLOSED. WITHIN FILTER FABRIC SHEET AS SPECIFIED. FILTER MATERIAL SHALL BE PLACED IN 250MM LAYERS AND COMPACTED TO DENSITY INDEX (ID) OF 60%

AS SIEVE		
SIZE (mm)	SAND	7mm ROCK
9.5	100	100
6.7	-	75-100
4.75	90-100	20-55
2.36	75-100	0-15
1.18	50-90	
0.6	20-60	
0.3	10-30	
0.15	2-10	
0.075	0-3	0-2

15. UNLESS OTHERWISE DETAILED OR PERMITTED, THE MINIMUM GRADE OF ALL PIPE WORKS SHALL BE 1.0%. AND HAVE MINIMUM 300mm COVER

- 1. THE CONTRACTOR SHALL STRIP THE MATERIAL CLASSIFIED AS TOPSOIL OR MATERIAL CONTAINING ORGANIC MATTER TO A LEVEL APPROVED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER AND THE SUPERINTENDENT. THE STRIPPED TOPSOIL SHOULD BE REMOVED AND STOCKPILED PRIOR TO ANY EARTHWORKS OPERATIONS.
- THE CONTRACTOR SHALL STRIP THE MATERIAL CLASSIFIED AS TOPSOIL OR MATERIAL CONTAINING ORGANIC MATTER TO A LEVEL APPROVED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER AND THE SUPERINTENDENT. THE STRIPPED TOPSOIL SHOULD BE REMOVED AND STOCKPILED PRIOR TO ANY EARTHWORKS OPERATIONS.
  THE MAXIMUM HEIGHT OF TOPSOIL STOCKPILES SHALL NOT EXCEED
- 2.5M AND THE MAXIMUM BATTER SLOPE SHALL NOT EXCEED 2H : 1V
- ALL EARTHWORKS OPERATIONS SHALL BE CARRIED OUT TO LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS3798 - 2007. THE CONTRACTOR SHALL ISSUE A WRITTEN LETTER FROM THE GEOTECHNICAL CONSULTANT THAT THEY HAVE BEEN ENGAGED ACCORDINGLY AND TAKES FULL RESPONSIBILITY OF THE EARTHWORKS OPERATION.
- THE CONTRACTOR SHALL OVER-EXCAVATE TO REMOVE ALL UNACCEPTABLE FILL MATERIAL CONTAINING DELETERIOUS MATERIALS SUCH AS ORGANIC MATTER AND CONSTRUCTION MATERIALS. ALL OVER-EXCAVATED AREAS SHALL BE REPLACED WITH SUITABLE MATERIAL WITH A CBR AT LEAST EQUAL TO THE SPECIFIED SUBGRADE CBR. SOURCED FROM ON SITE, IF AVAILABLE, OR IMPORTED.
- WET MATERIAL WILL NOT BE REGARDED AS UNSUITABLE. SHOULD WET MATERIAL BE ENCOUNTERED, THE CONTRACTOR SHALL DRY THE MATERIAL SUFFICIENTLY BY RE-WORKING, OR SPREADING IT TO ALLOW DRYING. ALL ASSOCIATED COSTS SHALL BE BORNE BY THE CONTRACTOR.
- 7. ALL EXCESS FARTHWORKS MATERIALS INCLUDING EXCESS. MATERIALS FROM THE STORMWATER AND SERVICE TRENCH EXCAVATIONS SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR AT THE CONTRACTOR'S COST.
- ALL BATTER SLOPES SHALL BE A MAXIMUM OF 1V:5H (U.N.O.) UNLESS NOTED OTHERWISE OR APPROVED ALL FILL MUST BE
- CONSTITUTED OF VIRGIN EXCAVATED NATURAL MATERIAL (VENM).
  THE CONTRACTOR SHALL EXCAVATE AND/OR PLACE AND COMPACT FILL TO CONFORM TO THE LINES, GRADES, CROSS SECTIONS, AND DIMENSIONS SHOWN ON THE DRAWINGS, ALLOWING FOR PAVEMENT/SLAB AND TOPSOIL LAYERS.
- FREQUENCIES OF COMPACTION TESTS FOR EARTHWORKS SHALL BE AS FOLLOWS (WHICHEVER IS GREATER NUMBER):
  - 1 TEST PER 500 M3 DISTRIBUTED AREA. OR
- 1 TEST PER LAYER OR 200MM THICKNESS, OR 3 TESTS PER VISIT
- 12. COMPACTION REQUIREMENTS FOR EARTHWORKS SHALL BE AS FOLLOWS:
  - GENERAL FILL: 95% OF SMDD
- TOP 500MM UNDER PAVEMENT OR STRUCTURE: 100% OF SMDD BACKFILL WITHIN 2M OF STRUCTURES: 100% OF SMDD
- 13. MOISTURE CONTENT TO BE IN THE RANGE OF 2% TO +2% OF THE OPTIMUM MOISTURE CONTENT
- 14. ALL COMPACTION TEST RESULTS SHALL BE PROVIDED TO THE SUPERINTENDENT
- ALL SITE REGRADED AREAS AFTER FORMATION, SHALL BE COVERED WITH A 150MM SELECT TOPSOIL LAYER TOPSOIL STOCKPILED PRIOR TO EARTHWORKS OPERATIONS CAN BE REUSED FOR THIS PURPOSE PROVIDED ANY DELETERIOUS MATERIAL IS REMOVED PRIOR TO PL ACING
- 16. ALL DISTURBED AND DENUDED AREAS SHALL BE REGRASSED WITHIN 7 DAYS AFTER THE COMPLETION OF EARTHWORKS FORMATION. REFER LANDSCAPE PLAN L1003 FOR DETAIL OF REGRASS.

## NOT FOR CONSTRUCTION







DRAWN	W.MARTIN	SCALE @ A1	N/A
VERIFIED	A.MANCONE	DATE	23/07/14
DESIGNED	W.MARTIN	DATE	23/07/14

BUNNINGS WAREHOUSE PYMBLE, 950 PACIFIC HIGHWAY COVER SHEET, DRAWING INDEX & GENERAL NOTES

TATUS DEVELOPMENT APPLICATION DRAWING No. 01112 DA100 REVISION 05

