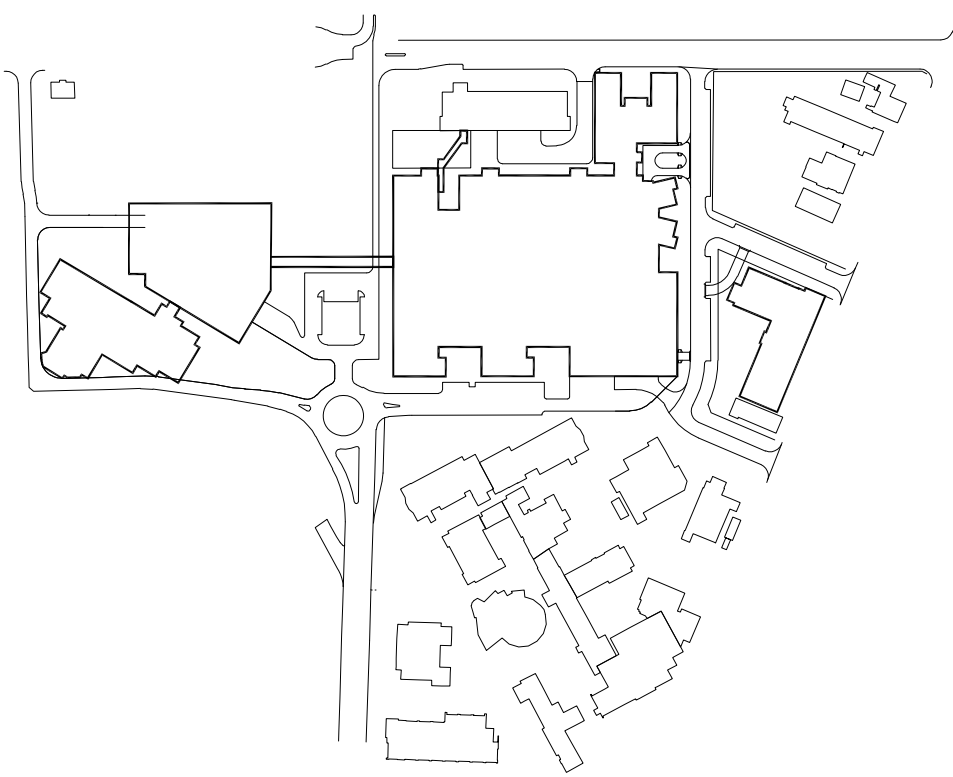


ROYAL NORTH SHORE HOSPITAL

CIVIL WORKS - PROJECT APPLICATION



CIVIL DRAWING LIST

GENERAL:

DWG.I.C.1500 TITLE SHEET NOTES AND LEGENDS
DWG.I.C.1501 TYPICAL ROAD CROSS SECTIONS

EROSION AND SEDIMENT CONTROL

DWG.I.C.1505 EROSION AND SEDIMENT CONTROL PLAN

BULK EARTHWORKS

DWG.I.C.1510 BULK EARTHWORKS PLAN

SITEWORKS AND STORMWATER DRAINAGE

DWG.I.C.1515 SITEWORKS PLAN - SHEET 1
DWG.I.C.1516 SITEWORKS PLAN - SHEET 2
DWG.I.C.1517 SITEWORKS PLAN - SHEET 3
DWG.I.C.1520 PROPOSED STORMWATER CATCHMENT PLAN
DWG.I.C.1525 STORMWATER LONGITUDINAL SECTIONS - SHEET 1
DWG.I.C.1526 STORMWATER LONGITUDINAL SECTIONS - SHEET 2
DWG.I.C.1527 STORMWATER LONGITUDINAL SECTIONS - SHEET 3
DWG.I.C.1528 STORMWATER LONGITUDINAL SECTIONS - SHEET 4
DWG.I.C.1529 STORMWATER LONGITUDINAL SECTIONS - SHEET 5

ROAD LONGITUDINAL AND CROSS SECTIONS:

DWG.I.C.1535 RESERVE ROAD SOUTH LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1536 WESTSIDE ROAD LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1537 RESERVE ROAD ENTRANCE LOOP LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1538 RESERVE ROAD NORTH & AMBULANCE LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1539 WESTBOURNE STREET LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1540 RED ROAD LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1541 CAR PARK & EILEEN STREET LONGITUDINAL AND CROSS SECTIONS
DWG.I.C.1542 BLUE ROAD LONGITUDINAL AND CROSS SECTIONS

PAVEMENT

DWG.I.C.1550 PAVEMENT PLAN

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY HARD AND FORESTER REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. HYDER CONSULTING DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT HYDER CONSULTING

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. HYDER CONSULTING CAN NOT GUARANTEE THAT THE SERVICES INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

BULK EARTHWORKS NOTES

- ORIGIN OF LEVELS: REFER SURVEY NOTES
- STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
- EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
- COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 5.1.1)
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS AND CARPARKS	100%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	98%
- FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
- BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN -:

(A) 1 TEST PER 200m ² OF FILL PLACED PER 300 LAYER OF FILL.
(B) 3 TESTS PER VISIT
(C) 1 TEST PER 1000m ² OF EXPOSED SUBGRADE

TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798 (1996).
- FILLING TO BE PLACED AND COMPACTED IN MAXIMUM 150mm LAYERS
- NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE SITE ENGINEER AND THE GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.
- WHERE GROUNDWATER DISCHARGE OCCURS IN BULK EXCAVATIONS OR CUT FACES, SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE SITE SUPERINTENDENT / ENGINEERS INSTRUCTIONS TO DIRECT DISCHARGE WATER TO THE NEAREST STORMWATER / SEDIMENTATION CONTROL DEVICE. THE SUBSOIL DRAINAGE MUST BE INSTALLED AS SOON AS PRACTICALLY POSSIBLE AFTER EXCAVATION. SUBSOIL DRAINAGE SHALL ALSO BE INSTALLED AT LOW POINTS IN THE FINISHED EARTHWORK PROFILE IN ACCORDANCE WITH THE SITE SUPERINTENDENT / ENGINEER'S INSTRUCTIONS.
- INSURE TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED AROUND STOCKPILED MATERIALS AND DISTURBED AREAS GENERALLY AS DETAILED.
- THE CONTRACTOR SHALL ALLOW FOR AND COORDINATE ALL MONITORING AND MAINTENANCE REQUIREMENTS IN RELATION TO SOIL AND GROUNDWATER CONDITIONS DURING CONSTRUCTION.

SITEWORKS NOTES

- ORIGIN OF LEVELS:- REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO HYDER CONSULTING.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO R.T.A. FORM 612.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051 (UNBOUND), R.T.A. FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1
FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1
FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL, IN 91 A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.T.A. FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF HYDER CONSULTING.
- TESTING OF PAVEMENTS SHALL COMPLY WITH AUST. SPEC SPECIFICATION INCLUDING DENSITY, PROOF AND BENKLEMAN BEAM TESTING.
- SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

PROPOSED WORKS LEGEND

EXISTING (REFER SURVEY NOTES)

PROPOSED

	PROPOSED CONTOUR
	FLUSH KERB
	MOUNTABLE KERB
	KERB AND GUTTER
	DISH DRAIN
	VEHICULAR CROSSING
	PRAM RAMP
	STORMWATER PIT AND PIPE SIZE (REFER STORMWATER LONGITUDINAL SECTIONS)
	STORMWATER PIT LABEL
	EXISTING STORMWATER PIPE
	STORMWATER CATCHMENTS
	BUILDINGS TO BE DECANTED AND DEMOLISHED
	RETAINING WALL
	1.2m CONCRETE PARAPET
	LIGHT POLE

STORMWATER DRAINAGE NOTES

- PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
- EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
- PIPES TO BE INSTALLED TO TYPE HSI SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
- PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY THE DESIGN CONSULTANT.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.
- SUBSOIL DRAINAGE LINES SHALL BE INSTALLED BEHIND ALL KERBS
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

KERBING NOTES

- ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES.
- ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- EXPANSION JOINTS (E.J.) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- IN THE REPLACEMENT OF KERB AND GUTTER -
EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- CONCRETE QUALITY
ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'C MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	25	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY HYDER CONSULTING.
- CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
- REINFORCEMENT SYMBOLS:

N	DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
R	DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
SL	DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304

NUMBER OF BARS IN GROUP:

17	N	20	250
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NOMINAL BAR SIZE in mm:

17	N	20	250
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SPACING in mm:

17	N	20	250
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THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.
- FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

17	N	20	250
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LAP TWO WIRES

GENERAL NOTE:

ALL WORKS IN ACCORDANCE WITH WILLOUGHBY CITY COUNCIL.

JOINTING NOTES

PEDESTRIAN PAVEMENT JOINTS

- ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
- EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 5.0m CENTRES.
- WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 125m
- WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
- PEDESTRIAN PAVEMENT JOINT DETAIL.

