

An architectural rendering of a modern school building with brick and wood-clad facades, large windows, and balconies. In the foreground, a paved courtyard with a brick-paved area is populated with children playing and walking. A large tree stands in the center of the courtyard. The sky is blue with scattered white clouds.

Upgrades to Chatswood Public School and Chatswood High School

Appendix 16 - Stormwater Management Plan + Erosion & Sediment Control Plan

SSD 9483

Prepared by Wood & Grieve Engineers

For School Infrastructure NSW, Department of Education

*Artists impression of upgrades to
Chatswood Public School*

CIVIL ENGINEERING WORKS



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GENERAL NOTES

- THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO LOCATE OR ADJUST AS REQUIRED. ALL COSTS TO BE BORNE BY THE APPLICANT, (NOT AT COUNCIL'S EXPENSE)
- THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER.
- SURVEY MARKS SHOWN THIS **■** SHALL BE MAINTAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE PRINCIPAL SHALL NOTIFY AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL OR RELOCATION.
- ALL NEW SERVICES SHALL MAKE SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- ALL LAND DISTURBED BY EARTHWORKS SHALL BE HYDROMULCHED, OR SIMILARLY TREATED TO ESTABLISH GRASS COVER. SEED MIXTURES ARE TO BE APPROVED BY THE PRINCIPAL PRIOR TO SPRAYING. ALL GRASSSED AREAS SHALL BE REGULARLY WATERED AND MAINTAINED UNTIL EXPIRATION OF THE MAINTENANCE PERIOD.
- THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
- ALL PITS DEEPER THAN 1.2m SHALL HAVE STEEP IRONS PROVIDED IN ACCORDANCE WITH CAMDEN COUNCIL'S STANDARDS.
- SUBSOIL DRAINS SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE PRINCIPAL AND IN ACCORDANCE WITH THE CIVIL SPECIFICATION.
- MINIMUM 100mm THICK TOPSOIL SHALL BE SPREAD ON ALL FOOTPATHS, BERMS, BATTERS AND ON ALL LOTS. EXCESS TOPSOIL SHALL BE STOCKPILED FOR FUTURE LANDSCAPING USE AS DIRECTED BY THE PRINCIPAL.
- THE CONTRACTOR SHALL PROVIDE MINIMUM 48 HOURS NOTICE TO THE PRINCIPAL FOR ALL INSPECTIONS.
- THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO THE ADJOINING PROPERTIES.
- THE CONTRACTOR SHALL UNDERTAKE TRAFFIC CONTROL MEASURES TO THE PRINCIPAL AND THE SATISFACTION OF MATLAND CITY COUNCIL. APPROPRIATE WARNING SIGNS SHALL BE DISPLAYED THROUGHOUT THE DURATION OF CONSTRUCTION.
- ALL NATURAL SURFACE DATA HAS BEEN DETERMINED BY TERRAIN MODELLING. ALL CONSTRUCTION SITE WORKS MUST BE CARRIED OUT USING THE BENCH MARKS NOTED ON THIS DRAWING.
- 100 YEAR FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.

STRUCTURAL INSPECTIONS

- STRUCTURAL INSPECTIONS ARE REQUIRED FOR STRUCTURES WHERE NOTED ON PLANS.
- 48 HOURS NOTICE IS REQUIRED FOR ALL INSPECTIONS.

SITE COMPOUND

- CONTRACTOR TO CONFIRM SITE COMPOUND AND FACILITIES LOCATION WITH PRINCIPAL.

SURVEY NOTES

THE EXISTING SITE FEATURES AND LEVELS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN PROVIDED BY ADJ. JOHNSON, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. WORD OR GRAVE ENGINEERS 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 WORD & GRAVE ENGINEERS.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

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RL:
DATUM: 8.706
A.H.D.

BULK EARTHWORKS NOTES

- ORIGIN OF LEVELS: REFER SURVEY NOTES.
- STRIP ALL TOPSOIL/ORGANIC MATERIAL (150mm NOMINAL) FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCKPILE AS DIRECTED BY PRINCIPAL.
- 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	MINIMUM DRY DENSITY
UNDER BUILDING SLABS ON GROUND	95-98% STD (AS 1289 S 5.1.1)
UNDER ROADS, FOOTWAYS AND CARPARKS	90% STD
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	90% STD
- BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH A 12 TONNE (MN) DEADWEIGHT SMOOTH DRUM NON VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- TESTING SHALL BE LEVEL 1 TESTING IN ACCORDANCE WITH THE CURRENT VERSION OF AS 3798.
- FILLING TO BE PLACED AND COMPACTED IN MAXIMUM LAYERS 200mm
- NO FILLING SHALL TAKE PLACE TO EXPOSE SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF 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 PRINCIPAL. GEOTECH 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 PRINCIPAL / GEOTECH'S INSTRUCTIONS.
- ENSURE TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED AROUND STOCKPILED MATERIALS AND DISTURBED AREAS. GENERALLY AS DETAIL.
- THE CONTRACTOR SHALL ALLOW FOR AND COORDINATE ALL WORKING AND MAINTENANCE REQUIREMENTS IN RELATION TO SOIL AND GROUNDWATER CONDITIONS DURING CONSTRUCTION.
- WORKS TO BE IN ACCORDANCE WITH ALL GEOTECHNICAL REPORTS.

SITWORKS 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 THE PRINCIPAL.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- SEWER, POTABLE WATER AND RECYCLED WATER MAINS BACKFILL TO BE IN ACCORDANCE WITH THE HYDRAULIC SPECIFICATION. ALL OTHER SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERGIRD OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL, COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 S 2.1, (OR A DENSITY INDEX OF NOT LESS THAN 75)
- ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R16.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051 (UNBOUND), R.M.S. FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 S 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.M.S. FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 S 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 (9) A CERTIFIED RECYCLED CONCRETE MATERIAL, COMPLYING WITH R.M.S. FORM 3051 WILL BE CONSIDERED SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF THE PRINCIPAL.
- 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 OUT BY OTHERS, NO ACCEPTANCE OF SERVICES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

EROSION AND SEDIMENT CONTROL

NOTES

GENERAL INSTRUCTIONS

- THE CONTRACTOR/ENGINEER/MANAGER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH A LOCAL AUTHORITY REQUIREMENTS & EPA REQUIREMENTS.
 - LANDSCAPING MANAGING BARRIERS, STORMWATER, SOILS AND CONSTRUCTION. 4th EDITION, MARCH 2004.
- MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE PRINCIPAL AND THE LOCAL AUTHORITY.
- AT ALL TIMES A WATER CART(S) SHALL BE MAINTAINED ON SITE TO:
 - WATER THE AREAS OF HYDROMULCH
 - CONTROL DUST
 WATERING OF MULCH, DUST OR VEGETATION MUST BE KEPT TO THE MINIMUM REQUIRED TO ACHIEVE SPECIFIED OUTCOMES. IN NO CASE SHALL AREAS BE OVER WATERED TO SATURATION OR TO THE POINT WHERE WATER POUNDS ON THE SURFACE.
- FOR THE WATER IN THE SEDIMENT BASINS(S) SHALL BE LOWERED PERIODICALLY TO MAINTAIN THE MINIMUM STORAGE VOLUME REQUIRED FOR FINE SOILS AND THE FLOWING.
- STORMWATER IN THE SETTLING ZONE SHALL BE DRAINED OR PUMPED OUT WITHIN 7 DAYS (NO LATER THAN 14 DAYS AS SITE CONDITIONS ALLOW) FOLLOWING A RAINFALL EVENT IF THE NOMINATED WATER QUALITY TARGETS CAN BE MET. THE LOWER LEVEL OF THE SETTLING ZONE SHALL BE IDENTIFIED WITH A PEG THAT SHOWS CLEARLY THE LEVEL WHICH DESIGN CAPACITY IS AVAILABLE.
 - STORED SEDIMENT SHALL NOT ENCRUST INTO SETTLING ZONE. SEDIMENT REMOVED FROM SEDIMENT BASIN SHALL BE DISPOSED OF TO THE NEAREST STORMWATER (SEDIMENTATION) CONTROL DEVICE.
 - TEMPORARY SEDIMENT BASIN OUTLET PIPE SHALL BE CAPPED DURING CONSTRUCTION. AFTER CONSTRUCTION BASIN SHOULD BE CLEARED OF SEDIMENT & SEDIMENT OUTLET PIPE CAP IS REMOVED.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND PRACTURANCE

- WHERE PRACTURANCE, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
 - MAINTAIN EXISTING SECURITY / WIND FENCES INSTALLED AS PART OF THE ENABLING WORKS AND INSTALL NEW SECURITY / WIND FENCES AS SHOWN.
 - MAINTAIN EXISTING SEDIMENT FENCES INSTALLED AS PART OF THE ENABLING WORKS AND INSTALL NEW SEDIMENT FENCES AS SHOWN.
 - INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN AND AS REQUIRED.
- UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
- DISTURBED AREAS TO BE GRASSSED TO THE FOLLOWING STANDARDS:
 - EMBANKMENTS AND CREEKS- HYDRO MULCHED.
 - VERGES- HYDRO MULCHED.

EROSION CONTROL

- DURING WINDY WETTER LARGE, UNPROTECTED AREAS WILL BE KEPT MOST DRY (WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

SEDIMENT CONTROL

- STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNWIND/UPWATER, E.G. THROUGH INSTALLATION OF SEDIMENT FENCINGS.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE. I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED/STABILISED.
- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- THE APZ ZONES FOR ANY EXISTING TRENCH NOT IDENTIFIED FOR REMOVAL WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES.

OTHER MATTERS

- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- THE APZ ZONES FOR ANY EXISTING TRENCH NOT IDENTIFIED FOR REMOVAL WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES.

KERBING NOTES

- ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa UNLESS OTHERWISE SPECIFIED IN NOTES OR MATLAND CITY SPECIFICATIONS.
- ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 S 2.1).
- EXPANSION JOINTS (E, J) TO BE FORMED FROM 10mm COMPRESSIBLE CORE FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DESIGN 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.
- WEAENED 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 RAMMED 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 500mm UNL O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 500mm WIDE UNL O.
- ALL OUTLET DRAINAGE PIPES CONNECTED TO THE ROLL KERB AND GUTTER SHALL CONSIST OF A RECTANGULAR HOLLOW SECTION (GALVANISED STEEL) AT THE LOW SIDE OF THE PROPOSED LOT.
- PRISM RAMP GRADIES SHALL BE MAX 1 IN 14. IN SPECIAL CIRCUMSTANCES GRADIES SHALL BE ABSOLUTE MAX 1 IN 8.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS IN PLACES THAT WILL NOT RESULT IN A VISIBLE EROSION OR POLLUTION HAZARD.
 - CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACE SPECIFICATION. SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMATION, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.
- | ELEMENT | AS 3600 Fc:MPa AT 28 DAYS | SPECIFIED SLUMP | NOMINAL AGG. SIZE |
|----------------|---------------------------|-----------------|-------------------|
| VEHICULAR BASE | 32 | 60 | 20 |
| KERBS, PATHS, | 25 | 80 | 20 |
| PITS | 32 | 80 | 20 |

- GEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL - PRETECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1378.

NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE PRINCIPAL.

ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TYPED 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.M.S. SPECIFICATION R63.

REINFORCEMENT SYMBOLS: N DENOTES GRADE 500 BARS TO AS 4671. GRADE R DENOTES 250 R HOT ROLLED PLAIN BARS TO AS 4671. SL DENOTES COLD-DRAWN WIRE REINFORCING FABRIC TO AS 4671

NUMBERS OF BARS IN GROUP: $\frac{1}{n}$ BAR GRADE AND TYPE

$\frac{1}{n}$ BAR GRADE AND TYPE

NOMINAL BAR SIZE IN mm \times SPACING IN mm

THE FIGURE FOLLOWING THE FABRIC SYMBOL, SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 4671.

7. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

25 MM

LAP 20 WIRES

8. EXTERNAL CONCRETE ELEMENTS SHALL MEET THE FOLLOWING REQUIREMENTS: MINIMUM PORTLAND CEMENT CONTENT 300 kg/m³, MAXIMUM WATER RATIO 0.5, AND CHLORIDE CONTENT RESTRICTED AS PER CLAUSE 4.9 OF AS3600.

PAVEMENT NOTE

- PAVEMENT IS TO BE SUPPLIED IN ACCORDANCE WITH CIVIL SPECIFICATION.

TRAFFIC CONTROL NOTES

- A TRAFFIC CONTROL PLAN IS TO BE PREPARED AND LOGGED WITH COUNCIL FOR APPROVAL BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

REINFORCEMENT STEEL

- WORKMANSHIP AND MATERIALS ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND ANY OTHER APPLICABLE CODES EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTATION.
- REINFORCEMENT TYPE AND GRADE

REINFORCEMENT NOTATION TYPE	DESCRIPTION AND TYPE	CLASSIFICATION AND DESIGNATION TO AS/NZS 4671
N	HOT ROLLED DEFORMED BAR, MICROALLOY TEMPCORE	D500N

BAR NOTATION GIVES THE FOLLOWING INFORMATION IN THE FOLLOWING ORDER: e.g. 20M16-200T - NO. OF BARS, TYPE, BAR SIZE (mm), SPACING (mm), LAYER (200 TOP).

T 1 TOP
B 1 BOTTOM
T 1ST LAYER
B 1ST LAYER
T 2ND LAYER
B 2ND LAYER

- REINFORCEMENT LAPS LAP REINFORCEMENT UNL O LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER IN WRITING. UNL O LAP ALL BARS AS TABULATED BELOW.

BAR SIZE	SLAB REINFORCEMENT	MINIMUM LAP LENGTH (mm)
N12		450
N16		650

BAR SIZE	WALL REINFORCEMENT	MINIMUM LAP LENGTH (mm)
N12		500
N16		650
N20		800
N24		900

STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:
 - AVERAGE RECURRENCE INTERVAL: ROAD DRAINAGE: 5 YEAR ARI MINOR STORM EVENT 20 YEAR ARI MINOR STORM EVENT 100 YEAR ARI MAJOR STORM EVENT
- ALL LOTS DISCHARGING TO INTERALLOTMENT DRAINAGE SYSTEMS ARE TO CAPTURE AND CONVEY ALL SITE RUNOFF UP TO THE 50 YR ARI INTERALLOTMENT DRAIN - THIS CAPTURE CONDITION APPLIES FOR SUCH LOTS BOTH PRIOR TO AND FOLLOWING BUILDING DEVELOPMENT - A MINIMUM GAP OF 2m BELOW FENCING IS TO BE CONSTRUCTED ACROSS THE FULL WIDTH OF ALL DRAINAGE EASEMENTS TO CONVEY DRAINAGE SURCHARGE FLOWS.
- PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS 3 WITH THE REQUIREMENTS OF AS 3600 3.1 AND AS/NZS 3600 3.2.
- PIPES TO BE INSTALLED TO TYPE H51 SUPPORT IN ACCORDANCE WITH AS 3725 IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERGIRD OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 S 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 3600 3.1 AND AS/NZS 3600 3.2.
- WHERE SUBSOIL DRAINAGE PASSES UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNL O UNDER LEVELS OF SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER MAINS. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO MATLAND CITY COUNCIL REQUIREMENTS AND AS3396
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE PRINCIPAL/ENGINEER.
- CVT ALL PIPES AFTER CONSTRUCTION AND PRIOR TO COMPLETION PROVIDE CCTV FOOTAGE FOR ALL NEW PIPES AND FOR ALL EXISTING PIPES WHICH ARE TO REMAIN COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - THE FILES SHALL BE IN MP4 FORMAT
 - FILE RESOLUTION SHALL BE 640 BY 480 PIXELS, 3MBPS AND 25 FRAMES PER SECOND
 - EACH PIPE REACH (I.E. BETWEEN TWO PITS) SHALL BE PROVIDED AS A SEPARATE FILE.

STORMWATER DRAINAGE NOTES

- THE CCTV INSPECTION SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE IPWEA CONDUIT ASSESSMENT AND ASSET PERFORMANCE GUIDELINES. PRACTICE NOTE 5, STORMWATER DRAINAGE.
- THE SPEED AND PANNING OF THE FOOTAGE SHALL BE SUFFICIENT TO DEMONSTRATE THAT THERE ARE NO SIGNIFICANT CRACKS IN THE PIPE AND THAT THE JOINTS HAVE BEEN PROPERLY CONSTRUCTED.
- THE FILES SHALL HAVE A NAME CORRESPONDING WITH THE UNIQUE LABEL PROVIDED IN THE ASSOCIATED STAMPED APPROVED DRAWINGS AND
- A SUMMARY REPORT (.PDF) SHALL ACCOMPANY THE DATA
- PIPES ARE DESIGNED FOR OPERATIONAL TRAFFIC LOADS ONLY. APPROPRIATE MEASURES SHOULD BE TAKEN TO PROTECT PIPES DURING CONSTRUCTION.

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. ARCADIS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY 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 ON SITE 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.

PROPOSED SERVICES NOTES

- THE CONTRACTOR SHALL ATTEND, MANAGE & SUPERVISE THE PROVISION OF PUBLIC UTILITY SERVICES TO THE WORKS GENERALLY AS INDICATED ON THE SERVICES PLANS. NOTING THAT PRIOR TO DURING CONSTRUCTION THE PUBLIC UTILITY AUTHORITIES WILL FINALISE THEIR DOCUMENTATION TO CONSTRUCTION ISSUE STANDARD. THE FOLLOWING GENERAL ARRANGEMENTS SHALL APPLY IN RESPECT OF EACH PUBLIC UTILITY SERVICE:
 - THE CIVIL CONTRACTOR SHALL ALLOW IN THEIR PRICE FOR CONDUIT CROSSINGS UNDER THE PROPOSED ROADS AS SHOWN ON THE "SERVICES PLAN".
 - THE CIVIL CONTRACTOR (TRENCH PROVIDER) IS TO ARRANGE ON SITE MEETING WITH ALL SERVICE AUTHORITIES PRIOR TO THE INSTALLATION OF CONDUITS.
 - THE CIVIL CONTRACTOR IS TO CO-ORDINATE INSTALLATION OF ELECTRICITY, GAS AND TELECOMMUNICATION SERVICES.
 - ELECTRICITY, GAS AND TELECOMMUNICATION SERVICES ARE TO BE LAID FOLLOWING THE INSTALLATION OF STORMWATER, SEWER AND WATER SERVICES AND KERB AND GUTTER.
 - ALL UTILITY AUTHORITY REPRESENTATIVES TO INSPECT ROAD CROSSINGS PRIOR TO SEALING.
 - ALL ELECTRICAL ROAD CROSSINGS TO BE CLASS 8 (ORANGE) uPVC CONDUITS.
 - ALL GAS ROAD CROSSINGS TO BE uPVC GREY SEWER GRADE CONDUITS.
 - ALL STREET POLES TO BE POSITIONED 350mm FROM BOUNDARY TO CENTRELINE OF POLE.
 - WHERE FOOTPATHS ARE TO BE CONSTRUCTED, ALL SERVICE PIT COVERS AND MARKERS ARE TO BE LAID WHOLLY WITHIN OR WHOLLY OUTSIDE THE CONCRETE FOOTPATH CONTACT PRINCIPAL SHOULD DIFFICULTIES ARISE.
 - ELECTRICITY CONDUITS ARE SHOWN FOR CLARITY HOWEVER, CABLES MAY BE DIRECTLY BURIED. APPROVAL BY AUSGRID REQUIRED.
 - SERVICES MARKERS ARE TO BE PLACED ON THE KERB & GUTTER AT ALL ROAD CROSSING POINTS, ON BOTH SIDES OF THE ROAD.
 - ALL SERVICE PIT COVERS TO BE INSTALLED FLUSH WITH PROPOSED VERGE LEVELS AND GRADES.

REV	DESCRIPTION	DRAWN	APPD	DATE
F	SSDA ISSUE	CPO	RET	11.03.20
E	DRAFT SSDA	CPO	RET	27.02.20
D	DRAFT	CPO	RET	18.02.20
C	ISSUED FOR SSDA	CPO	RET	11.12.19
B	ISSUED FOR INFORMATION	CPO	RET	20.04.19
A	ISSUED FOR INFORMATION	CPO	RET	27.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	-- J.J.
APPROVED FOR TENDER:	-- J.J.
APPROVED FOR CONSTRUCTION:	-- J.J.

UPGRADES TO
CHATSWOOD PUBLIC
SCHOOL AND CHATSWOOD
HIGH SCHOOL

GENERAL NOTES



FOR APPROVAL
NOT FOR CONSTRUCTION

AS SHOWN
SCALE @ A1
40623
CI-007-001
DRAWING No
F
REV

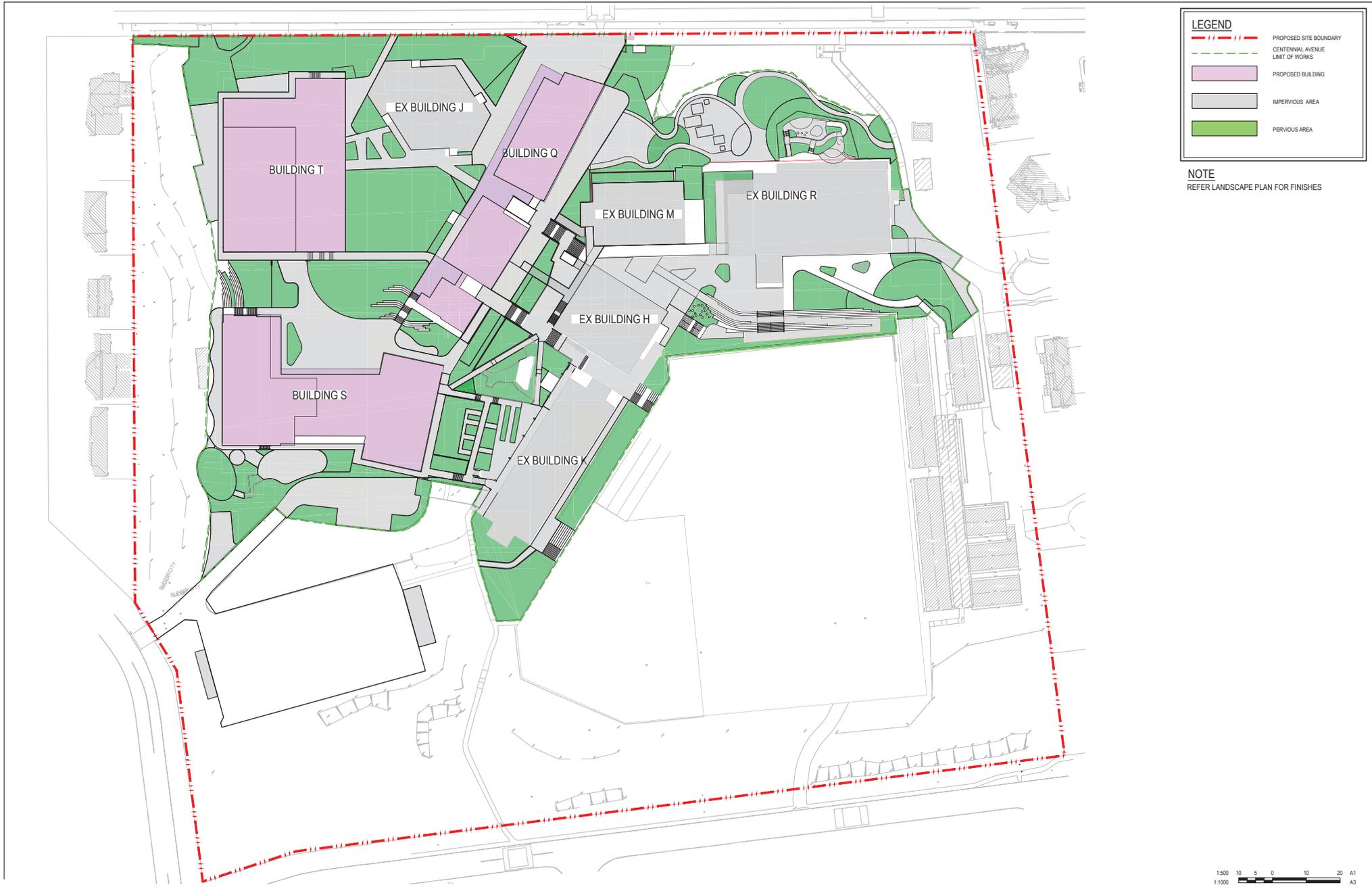
ARCHITECT/CLIENT

PROJECT

TITLE

40623-CI-007-001.dwg

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LEGEND

- PROPOSED SITE BOUNDARY
- CENTENNIAL AVENUE LIMIT OF WORKS
- PROPOSED BUILDING
- IMPERVIOUS AREA
- PERVIOUS AREA

NOTE
REFER LANDSCAPE PLAN FOR FINISHES



REV	DESCRIPTION	DRAWN	APPD	DATE
F	SSDA ISSUE	CPO	RET	11.03.20
E	DRAFT SSDA	CPO	RET	27.02.20
D	SSDA	CPO	RET	18.02.20
C	ISSUED FOR SSDA	CPO	RET	11.12.19
B	ISSUED FOR INFORMATION	CPO	RET	29.04.19
A	ISSUED FOR INFORMATION	CPO	RET	27.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	-- J.J.
APPROVED:	-- J.J.
FOR TENDER:	-- J.J.
APPROVED FOR CONSTRUCTION:	-- J.J.

UPGRADES TO CHATSWOOD PUBLIC SCHOOL AND CHATSWOOD HIGH SCHOOL

GENERAL ARRANGEMENT PLAN - CENTENNIAL AVENUE

PROJECT: 40623 TITLE: CI-060-001

11/03/2020 5:14:15 PM

WOOD & GRIEVE ENGINEERS

FOR APPROVAL
NOT FOR CONSTRUCTION

AS SHOWN: 40623 PROJECT No. CI-060-001 DRAWING No. F

SCALE @ A1: 1:1000

LEGEND

-  PROPOSED SITE BOUNDARY
-  CENTENNIAL AVENUE LIMIT OF WORKS
-  PROPOSED BUILDING
-  IMPERVIOUS AREA
-  PERVIOUS AREA

NOTE
REFER LANDSCAPE PLAN FOR FINISHES



REV	DESCRIPTION	DRAWN	APPD	DATE
D	ISSUE	CPO	RET	11.03.20
C	DRAFT SSDA	CPO	RET	27.02.20
B	DRAFT SSDA	CPO	RET	19.02.20
A	ISSUED FOR SSDA	CPO	RET	11.12.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	- J.J.
APPROVED FOR TENDER:	- J.J.
APPROVED FOR CONSTRUCTION:	- J.J.

UPGRADES TO CHATSWOOD PUBLIC SCHOOL AND CHATSWOOD HIGH SCHOOL
 GENERAL ARRANGEMENT PLAN - PACIFIC HIGHWAY

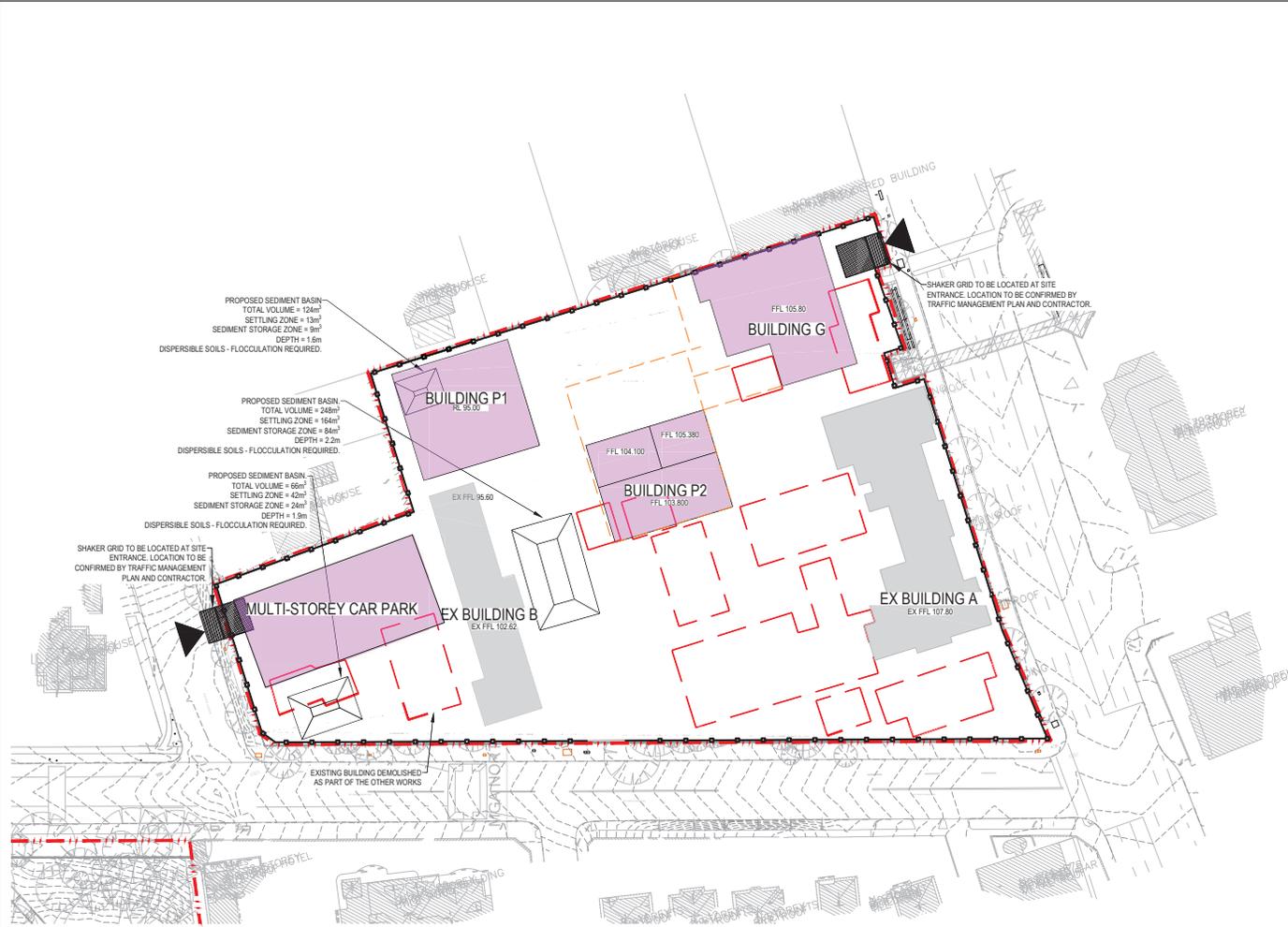
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WOOD & GRIEVE ENGINEERS

FOR APPROVAL
NOT FOR CONSTRUCTION

AS SHOWN: SCALE @ A1
 PROJECT No: 40623
 DRAWING No: CI-060-011
 REV: D

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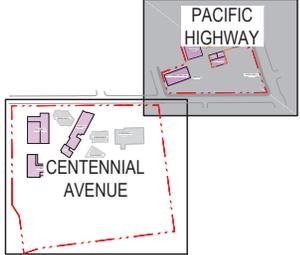


LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED BUILDING
- VEHICLE SHAKEDOWN DEVICE
- PROPOSED SWALE
- PROPOSED SILT FENCE
- EXISTING BUILDING TO BE DEMOLISHED
- EXISTING DEMOUNTABLE TO BE DEMOLISHED
- EXISTING JUNCTION PIT
- EXISTING PIT
- PROPOSED GRATED PIT
- EXISTING GRATED PIT
- EXISTING KERB INLET PIT

NOTE:
REFER DRAWING CI-070-01 FOR EROSION AND SEDIMENT CONTROL DETAILS

NOTE:
REFER DRAWING CI-070-01 FOR EROSION AND SEDIMENT CONTROL DETAILS



KEY PLAN
N.T.S.



REV	DESCRIPTION	DRAWN	APPD	DATE
G	SSDA ISSUE	CPO	RET	11.03.20
F	DRAFT SSDA	CPO	RET	28.02.20
E	DRAFT SSDA	CPO	RET	27.02.20
D	DRAFT SSDA	CPO	RET	18.02.20
C	ISSUED FOR SSDA	CPO	RET	11.12.19
B	ISSUED FOR INFORMATION	CPO	RET	29.04.19
A	ISSUED FOR INFORMATION	CPO	RET	27.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	- J.J.
APPROVED:	- J.J.
FOR TENDER:	- J.J.
APPROVED FOR CONSTRUCTION:	- J.J.

UPGRADES TO CHATSWOOD PUBLIC SCHOOL AND CHATSWOOD HIGH SCHOOL

EROSION AND SEDIMENT CONTROL PLAN - PACIFIC HIGHWAY

PROJECT TITLE

40623 CI-070-012.dwg

WOOD & GRIEVE ENGINEERS

FOR APPROVAL
NOT FOR CONSTRUCTION

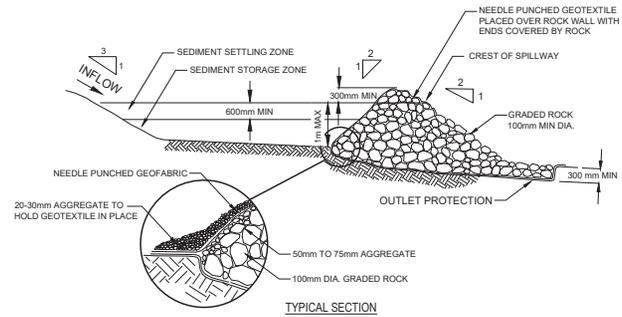
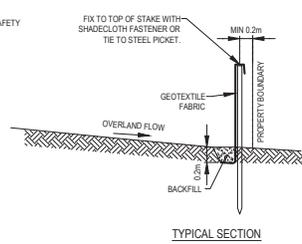
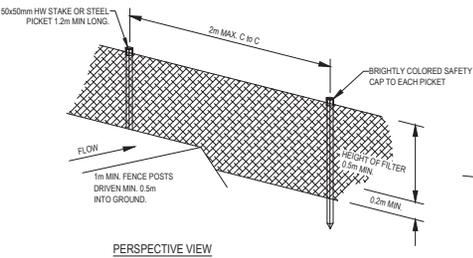
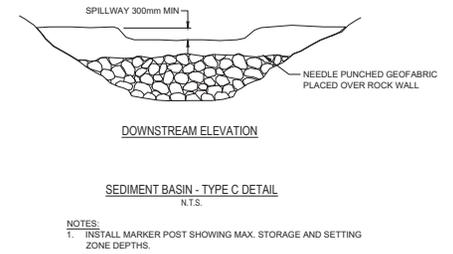
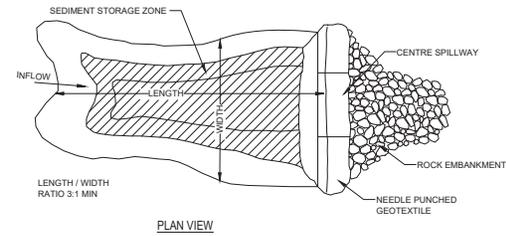
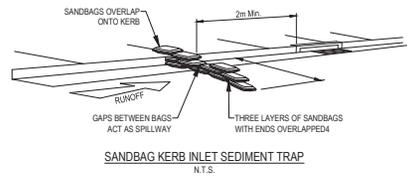
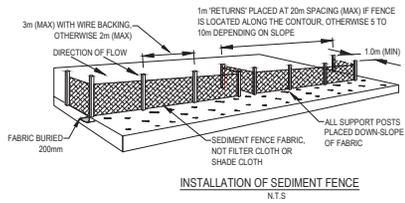
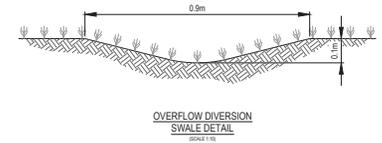
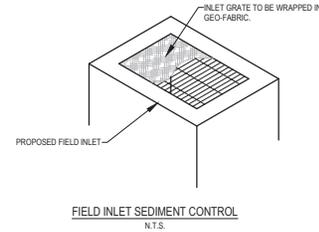
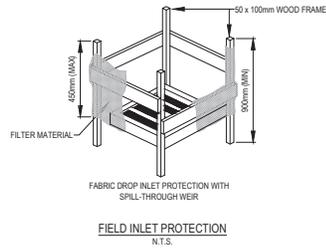
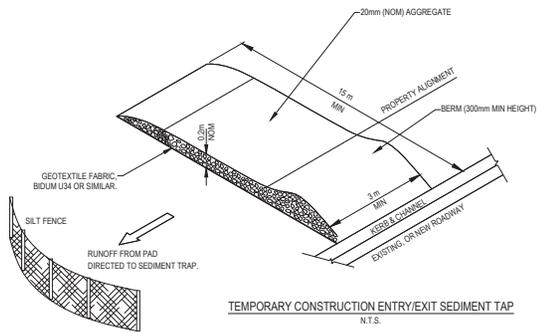
AS SHOWN SCALE @ A1

40623 PROJECT No

CI-070-012 DRAWING No

G REV

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NOTES:
1. INSTALL MARKER POST SHOWING MAX. STORAGE AND SETTING ZONE DEPTHS.

1:100 1 0 1 2 3 4 5 A1
1:200

REV	DESCRIPTION	DRAWN	APPD	DATE
F	SSDA ISSUE	CPO	RET	11.03.20
E	DRAFT SSDA	CPO	RET	27.02.20
D	ISSUED FOR SSDA	CPO	RET	18.02.20
C	ISSUED FOR INFORMATION	RET	RET	29.04.19
B	ISSUED FOR INFORMATION	CPO	RET	27.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	- J.J.
APPROVED FOR TENDER:	- J.J.
APPROVED FOR CONSTRUCTION:	- J.J.

PROJECT	TITLE
40523-CI-076-001.dwg	EROSION AND SEDIMENT CONTROL DETAILS

WOOD & GRIEVE ENGINEERS

FOR APPROVAL
NOT FOR CONSTRUCTION

CI-076-001 F

SCALE @ A1 PROJECT No DRAWING No REV

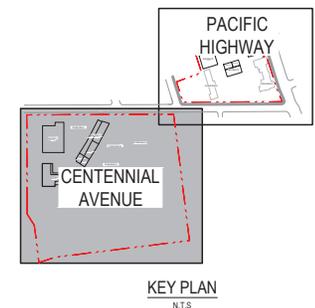
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CUT/FILL DEPTH RANGES		
COLOUR	LOWER	UPPER
Black	-5.0	-4.5
Dark Red	-4.5	-4.0
Red	-4.0	-3.5
Light Red	-3.5	-3.0
Very Light Red	-3.0	-2.5
Light Pink	-2.5	-2.0
Very Light Pink	-2.0	-1.5
Lightest Pink	-1.5	-1.0
White	-1.0	-0.5
Very Light Green	-0.5	0.0
Light Green	0.0	0.5
Medium Green	0.5	1.0
Dark Green	1.0	1.5
Very Dark Green	1.5	2.0
Black	2.0	2.5
Black	2.5	3.0
Black	3.0	3.5
Black	3.5	4.0
Black	4.0	4.5
Black	4.5	5.0

CUT AND FILL VOLUME
 CUT: 7,050 m³
 FILL: 5,920 m³
 NET: 1,130 m³ (CUT)

- NOTES:**
- VOLUMES ARE BASED ON A COMPARISON BETWEEN THE DESIGN SURFACE AND THE SURVEYED SURFACE.
 - NO STRIPPING OF THE EXISTING SURFACE HAS BEEN APPLIED.
 - NO BULKING FACTORS HAVE BEEN APPLIED.
 - NO ALLOWANCE FOR PAVEMENT BOXING HAS BEEN APPLIED.
 - CUT/FILL NUMBERS ARE TAKEN TO THE TOP OF SLAB LEVEL INSIDE BUILDING FOOTPRINTS.
 - CUT/FILL EXTERNAL TO BUILDING IS NOT CONSIDERED.
 - IT IS NOTED THAT THE MAJORITY, IF NOT ALL, CUT MATERIAL IS NOT SUITABLE FOR FILL PURPOSES.



REV	DESCRIPTION	DRAWN	APPD	DATE
I	SSDA ISSUE	CPO	RET	11.03.20
H	DRAFT SSDA	CPO	RET	27.02.20
G	DRAFT SSDA	CPO	RET	18.02.20
F	ISSUED FOR INFORMATION	CPO	RET	11.02.20
E	ISSUED FOR SSDA	CPO	RET	11.12.19
D	ISSUED FOR INFORMATION	CPO	RET	21.11.19
C	ISSUED FOR INFORMATION	CPO	RET	12.11.19
B	ISSUED FOR INFORMATION	CPO	RET	29.04.19
A	ISSUED FOR INFORMATION	GLE	RET	29.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	- J.L.
APPROVED:	- J.L.
FOR TENDER:	
APPROVED FOR CONSTRUCTION:	- J.L.

ARCHITECT/CLEINT

UPGRADES TO CHATSWOOD PUBLIC SCHOOL AND CHATSWOOD HIGH SCHOOL

BULK EARTHWORKS PLAN - CENTENNIAL AVENUE

PROJECT TITLE

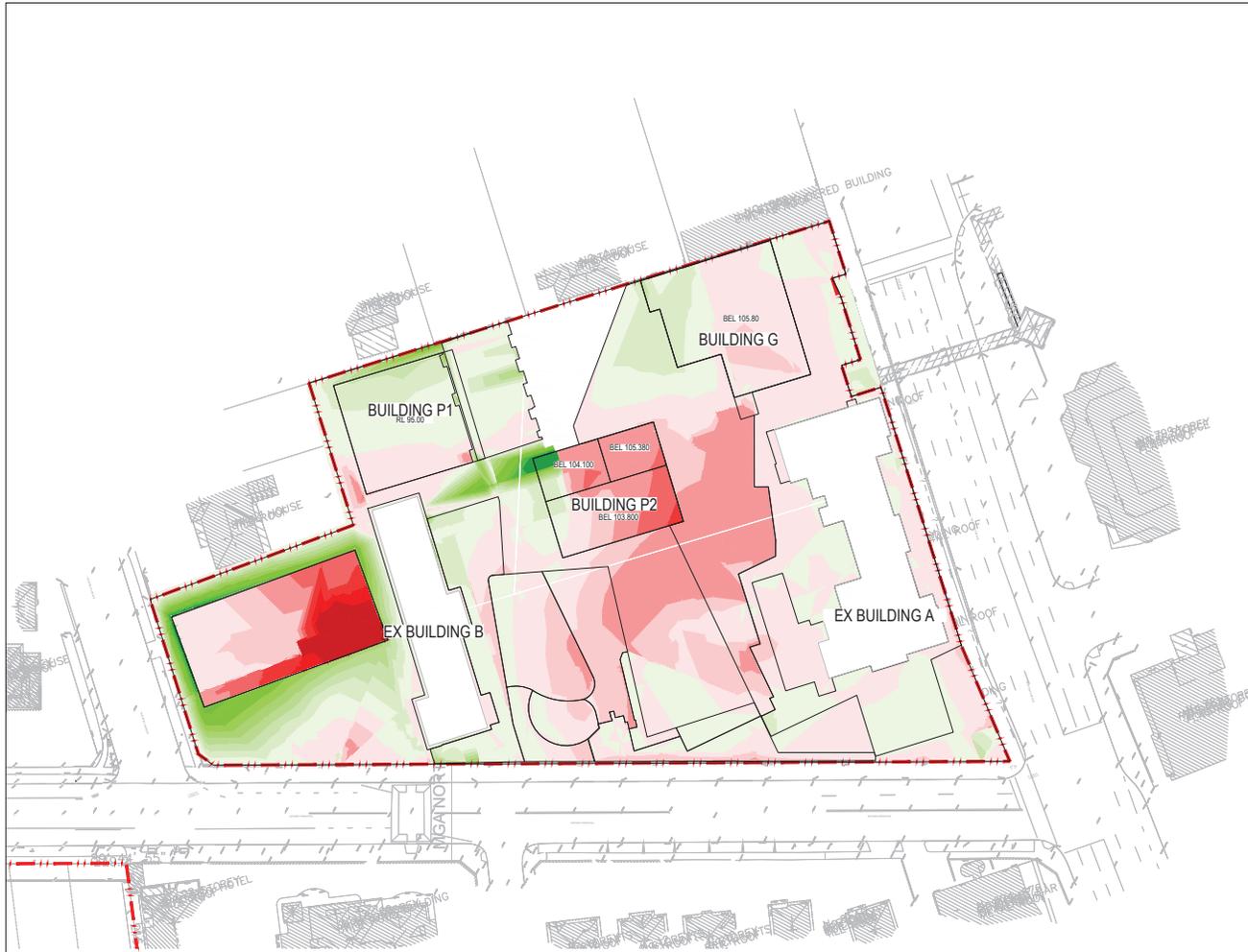


FOR APPROVAL
NOT FOR CONSTRUCTION

AS SHOWN	40623	CI-100-001	I
SCALE @ A1	PROJECT No	DRAWING No	REV

40623-C3D-BE-HIGH.dwg

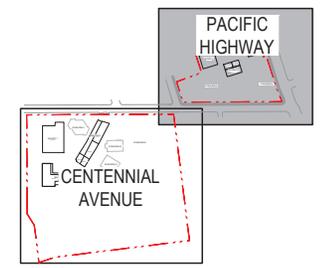
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CUT/FILL DEPTH RANGES		
COLOUR	LOWER	UPPER
Dark Red	-4.0	-3.5
Red	-3.5	-3.0
Light Red	-3.0	-2.5
Lighter Red	-2.5	-2.0
Lightest Red	-2.0	-1.5
Very Light Red	-1.5	-1.0
Lightest Red	-1.0	-0.5
Lightest Red	-0.5	0.0
Lightest Red	0.0	0.5
Lightest Red	0.5	1.0
Lightest Red	1.0	1.5
Lightest Red	1.5	2.0
Lightest Red	2.0	2.5
Lightest Red	2.5	3.0
Lightest Red	3.0	3.5
Lightest Red	3.5	4.0
Lightest Red	4.0	4.5
Lightest Red	4.5	5.0
Lightest Red	5.0	5.5
Lightest Red	5.5	6.0
Lightest Red	6.0	6.5

CUT AND FILL VOLUME
 CUT: 4,550 m³
 FILL: 3,620 m³
 NET: 930 m³ (Cut)

- NOTES:**
- VOLUMES ARE BASED ON A COMPARISON BETWEEN THE DESIGN SURFACE AND THE SURVEYED SURFACE. NO STRIPPING OF THE EXISTING SURFACE HAS BEEN APPLIED.
 - NO STRIPPING OF THE EXISTING SURFACE HAS BEEN APPLIED.
 - NO BULKING FACTORS HAVE BEEN APPLIED.
 - NO ALLOWANCE FOR PAVEMENT BOXING HAS BEEN APPLIED.
 - CUT/FILL NUMBERS ARE TAKEN TO THE TOP OF SLAB LEVEL INSIDE BUILDING FOOTPRINTS.
 - CUT/FILL EXTERNAL TO BUILDING IS NOT CONSIDERED.
 - IT IS NOTED THAT THE MAJORITY, IF NOT ALL, CUT MATERIAL IS NOT SUITABLE FOR FILL PURPOSES.



KEY PLAN
N.T.S.



REV	DESCRIPTION	DRAWN	APPD	DATE
H	SSDA ISSUE	CPO	RET	11.03.20
G	DRAFT SSDA	CPO	RET	10.03.20
F	DRAFT SSDA	CPO	RET	27.02.20
E	DRAFT SSDA	CPO	RET	18.02.20
D	ISSUED FOR SSDA	CPO	RET	11.12.19
C	ISSUED FOR INFORMATION	CPO	RET	12.11.19
B	ISSUED FOR INFORMATION	CPO	RET	29.04.19
A	ISSUED FOR INFORMATION	GLE	RET	29.03.19

DRAWN:	CPO
DESIGNED:	RET
VERIFIED:	... J.J.
APPROVED:	... J.J.
FOR TENDER:	... J.J.
APPROVED FOR CONSTRUCTION:	... J.J.

UPGRADES TO CHATSWOOD PUBLIC SCHOOL AND CHATSWOOD HIGH SCHOOL
 BULK EARTHWORKS PLAN - PACIFIC HIGHWAY

WOOD & GRIEVE ENGINEERS

FOR APPROVAL
NOT FOR CONSTRUCTION

AS SHOWN: 40623
SCALE @ A1: PROJECT No

CI-100-011
DRAWING No

H
REV