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PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
TYPICAL STORMWATER
MANAGEMENT DETAILS

DRAWING No	C012829.06-SSDA45	ISSUE B
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Appendix B

INFRASTRUCTURE AND SITE SERVICING DOCUMENTS PER AMMENDMENT TO DA15-275

LOT 23/24, HOLLINSWORTH ROAD

MARSDEN PARK, NSW

INFRASTRUCTURE DRAWINGS - SECTION 96 APPLICATION

DRAWING LIST

DRAWING NO.	DRAWING TITLE
C012829.01-DA100	DRAWING LIST & GENERAL NOTES
C012829.01-DA200	EROSION AND SEDIMENT CONTROL PLAN
C012829.01-DA250	EROSION AND SEDIMENT CONTROL DETAILS
C012829.01-DA311	BULK EARTHWORKS PLAN
C012829.01-DA312	BULK EARTHWORKS CUT/FILL PLAN
C012829.01-DA318	BULK EARTHWORKS SECTIONS – SHEET 1
C012829.01-DA319	BULK EARTHWORKS SECTIONS – SHEET 2
C012829.01-DA410	STORMWATER DRAINAGE KEY PLAN
C012829.01-DA411	HOLLINSWORTH ROAD CIVIL WORKS PLAN – SHEET 1
C012829.01-DA412	HOLLINSWORTH ROAD CIVIL WORKS PLAN – SHEET 2
C012829.01-DA421	WESTERN DRAINAGE EASEMENT PLAN – SHEET 1
C012829.01-DA422	WESTERN DRAINAGE EASEMENT PLAN – SHEET 2
C012829.01-DA423	LOT 3 DISCHARGE PLAN
C012829.01-DA441	PRE-DEVELOPMENT CATCHMENT PLAN
C012829.01-DA442	POST-DEVELOPMENT CATCHMENT PLAN
C012829.01-DA451	STORMWATER DRAINAGE DETAILS – SHEET 1
C012829.01-DA452	STORMWATER DRAINAGE DETAILS – SHEET 2
C012829.01-DA461	STORMWATER DRAINAGE LONGSECTIONS – SHEET 1
C012829.01-DA462	STORMWATER DRAINAGE LONGSECTIONS – SHEET 2
C012829.01-DA471	ROADWORKS LONGSECTION
C012829.01-DA491	ROADWORKS TYPICAL DETAILS
C012829.01-DA610	RETAINING WALL LAYOUT PLAN
C012829.01-DA651	RETAINING WALL DETAILS – SHEET 1
C012829.01-DA652	RETAINING WALL DETAILS – SHEET 2

STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS DA411 & DA412.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- STORMWATER PIPES WITHIN ROAD RESERVES SHALL BE CLASS 3 REINFORCED CONCRETE WITH RUBBER RING JOINTS, AND STORMWATER PIPES CROSSING ROADS SHALL BE CLASS 4 REINFORCED CONCRETE. ALL PIPES SHALL HAVE RUBBER RING JOINTS PER BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
- ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE S8B UNO.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNO.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE UNO. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

GENERAL NOTES

- THESE NOTES ARE TO BE READ IN CONJUNCTION WITH BLACKTOWN CITY COUNCIL'S SPECIFICATIONS.
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS AND WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- IF THE CONTRACTOR HAS ANY QUESTIONS, REQUIRES CLARIFICATION OF ANY ISSUES, OR FINDS ANY DISCREPANCIES WITHIN THESE DRAWINGS, THE CONTRACTOR SHALL ADVISE THE SUPERINTENDENT REPRESENTATIVE BEFORE PROCEEDING.
- ALL SET OUT DIMENSIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE WORK COMMENCES. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
- THE CONTRACTOR SHALL LOCATE AND IDENTIFY ALL UNDERGROUND SERVICES CROSSING THE WORKS AREA PRIOR TO THE COMMENCEMENT OF WORK AND SHALL REPAIR ANY DAMAGE CAUSED TO SUCH SERVICES DURING THE COURSE OF THE WORKS. ANY SERVICE LOCATIONS SHOWN ON THE FOLLOWING DRAWINGS ARE INDICATIVE ONLY.
- ALL LEVELS ARE IN METRES (m) & DIMENSIONS ARE IN MILLIMETRES (mm), UNLESS NOTED OTHERWISE.
- ALL MATERIALS AND WORKMANSHIP USED IN THE CONSTRUCTION OF THIS DESIGN SHALL BE IN ACCORDANCE WITH ALL RELEVANT CURRENT AUSTRALIAN STANDARDS.
- DURING CONSTRUCTION THE WORKS SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING AND BATTERS SHALL BE PROVIDED BY THE CONTRACTOR TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S STANDARDS & SPECIFICATIONS AND COUNCIL'S NOTICE OF DETERMINATION (DA CONDITIONS).
- THE CONTRACTOR SHALL OBTAIN SETOUT CO-ORDINATES FROM THE SUPERINTENDENT REPRESENTATIVE, AND ARRANGE ALL SURVEY SETOUT BY A REGISTERED SURVEYOR.
- THE CONTRACTOR SHALL OBTAIN THE REQUIRED PERMITS COVERING THE NECESSARY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL THE CONDITIONS COVERING THE ISSUE OF SUCH PERMITS. A CHARGE IS MADE FOR PERMITS ISSUED IN RESPECT OF PAVEMENT OPENINGS. THE CONTRACTOR SHALL OBTAIN DETAILS FROM COUNCIL. THE CONTRACTOR IS TO PAY ALL FEES, MEET ALL REQUIREMENTS AND CARRY OUT ALL LIAISON AT NO EXTRA COST. ALL PAVEMENT SURFACING IS TO BE UNDERTAKEN BY THE CONTRACTOR. ALL PAVEMENT REINSTATEMENT IS TO BE UNDERTAKEN BY THE CONTRACTOR. ALL TO BLACKTOWN CITY COUNCIL'S STANDARDS AND APPROVAL.
- ALL CONSTRUCTION WORK SHALL BE CARRIED OUT SO THAT AT ANYTIME ADJOINING PROPERTY OWNERS ARE NOT DEPRIVED OF AN ALL-WEATHER ACCESS OR SUBJECTED TO ADDITIONAL OR POLLUTED STORMWATER RUNOFF DURING THE PERIOD OF CONSTRUCTION.
- THE CONTRACTOR SHALL PLACE CONDUITS WHERE REQUIRED BY THE RELEVANT AUTHORITIES.
- THE CONTRACTOR SHALL UNDERTAKE ALL UTILITY ADJUSTMENTS NECESSARY FOR THE COMPLETION OF WORKS.

EXISTING SERVICES

- DURING THE EXECUTION OF WORKS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT SERVICE AUTHORITY, AT NO COST TO THE PRINCIPAL.
- WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING SERVICE, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF ITS REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.
- EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA. THE ACCURACY IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK. ALL CLEARANCES AND APPROVALS SHALL ALSO BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY PRIOR TO THE COMMENCEMENT OF WORK.
- ALL NEW AND EXHUMED SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS WITHIN THE SITE SHALL BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO. SUBJECT TO PRIOR APPROVAL FROM RELEVANT AUTHORITY.
- ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.
- CARE TO BE TAKEN WHEN EXCAVATING NEAR UTILITY SERVICES. NO MECHANICAL EXCAVATION TO BE UNDERTAKEN OVER SERVICES. LIAISE WITH RELEVANT AUTHORITY.
- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.
- THE CONTRACTOR IS TO MAINTAIN EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE ROADS AT ALL TIMES. MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAM FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO THE ADJACENT RESIDENCES. CONTRACTOR TO GAIN APPROVAL OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- THE CONTRACTOR SHALL UNDERTAKE A DIAL BEFORE YOU DIG (DBYD 1100) SERVICES SEARCH BEFORE THE COMMENCEMENT OF ANY WORKS.

ELECTRONIC INFORMATION NOTES:

- THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
- THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
- THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

SURVEY NOTE:

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY 'SY074063.000.1' BY 'LAND PARTNERS CONSULTANTS P/L' DATED 27 OCT 2016.

SITE PREPARATION NOTES:

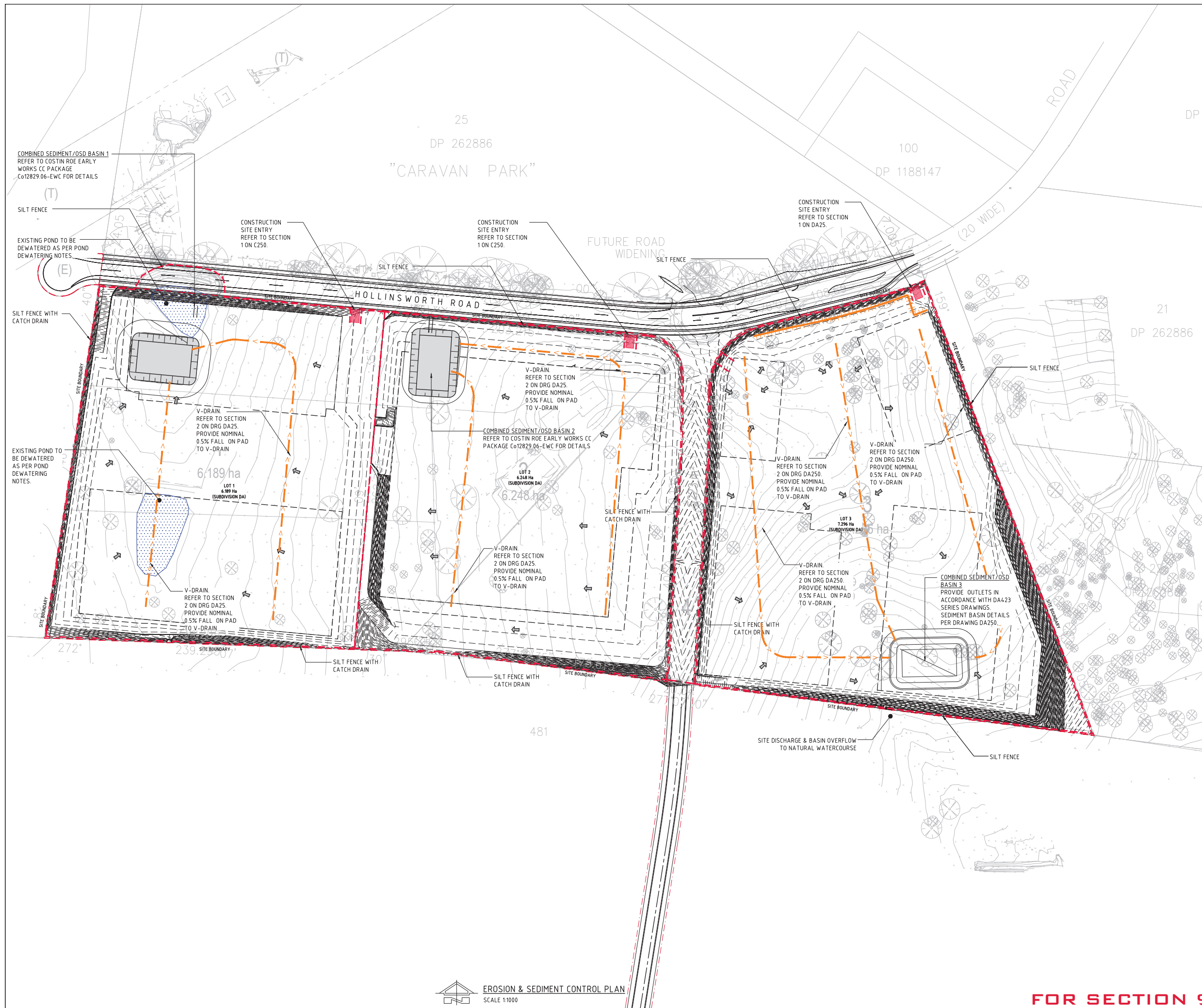
- ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT "GTE817rev1" PROVIDED BY GROUND TECHNOLOGIES DATED 17 MAY 2016.
- EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY LAND PARTNERS TITLED SY074063 DATED 27 OCTOBER 2016.
- STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
- COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
- PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
- AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
- SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 MM SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HLF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 MM SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 MM SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
- ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION (EG. COSTIN ROE SITE PREPARATION NOTES IN DWG C013003.01-EWC10).
- PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
- EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
- MATCH EXISTING LEVELS AT BATTER INTERFACE.
- CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.



LOCALITY PLAN
N.T.S

FOR SECTION 96

				ARCHITECT		CLIENT		PROJECT		COSTIN ROE CONSULTING PTY LTD.		DRAWING TITLE	
				[watch this SPACE design]		LOGOS		INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS HOLLINGSWORTH ROAD MARSDEN PARK NSW		Consulting Engineers Level 1, 8 Widdowall Street Wahia Bay, Sydney NSW 2000 Tel: (02) 9551-7699 Fax: (02) 9541-3721 email: mail@costinroe.com.au ©		DRAWING LIST & GENERAL NOTES	
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ISSUED FOR INFORMATION				01.08.17		A		DATE		12829.06-DA100		ISSUE	
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LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES CONSTRUCTION ENTRY
- DENOTES EXISTING POND TO BE DEWATERED

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C012829.06-DA250.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (32.2mm).

SEDIMENT BASIN 1:
CATCHMENT AREA = 6.189ha
REQUIRED BASIN VOLUME = 1,495m³
BASE DIMENSION (LxB) = 15.0m x 30.0m
TOP DIMENSION (LxB) = 27.0m x 42.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,532m³

SEDIMENT BASIN 2:
CATCHMENT AREA = 6.248ha
REQUIRED BASIN VOLUME = 1,509m³
BASE DIMENSION (LxB) = 15.0m x 30.0m
TOP DIMENSION (LxB) = 27.0m x 42.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,532m³

SEDIMENT BASIN 3:
CATCHMENT AREA = 7.296ha
REQUIRED BASIN VOLUME = 1,762m³
BASE DIMENSION (LxB) = 17.0m x 32.0m
TOP DIMENSION (LxB) = 29.0m x 44.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,769m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

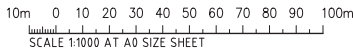
NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
3. C_v = 0.5 & LENGTH TO WIDTH RATIO OF 2 (MIN.)

SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

POND DEWATERING NOTES:

1. DRAIN PONDS OF WATER & DISCHARGE CLEAN WATER TO STORMWATER DRAINAGE SYSTEM (AS PER NOTES 2 & 3) - REFER TO STORMWATER PLAN FOR LOCATIONS.
2. DEWATERING TO BE PERFORMED IN SUCH A MANNER AS TO REMOVE CLEAN WATER WITHOUT REMOVING OR DISTURBING SILT, SEDIMENT OR OTHER ORGANIC MATERIAL FROM THE BASE OF THE PONDS.
3. DISCHARGE OF WATER FROM PONDS TO HAVE A PH RANGE OF 6.5-8.5 AND TSS < 50mg/L. PONDS TO BE DOSED WITH GYPSUM (APPROX. 30mg PER CUBIC METRE) TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS.
4. REMOVE ALL SILT, ORGANIC AND WATER LOGGED MATERIAL FROM BASE OF POND (INM. DEPTH 0.5-1.0m) AND DISPOSE OF IN ACCORDANCE WITH THE ACCEPTABLE PRACTICE.
5. EXPOSE NATURAL SITE SOILS AND COMPACT SUBGRADE IN ACCORDANCE WITH THE SITE PREPARATION NOTES (REFER DRG. DA10) REMOVING ANY SOFT ZONES AS REQ'D.
6. PLACE AND COMPACT FILL AS PER SITE PREPARATION NOTES ON DRAWING C100.



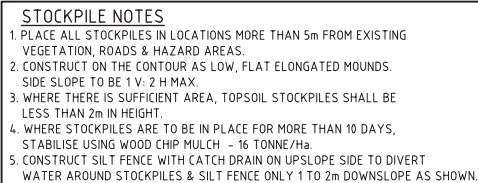
EROSION & SEDIMENT CONTROL PLAN
SCALE 1:1000

FOR SECTION 96

ISSUED FOR SECTION 96 APPLICATION 22.11.17 E				ARCHITECT				CLIENT				PROJECT				Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahah Bay, Sydney NSW 2000 Tel: (02) 8551-7699 Fax: (02) 8541-3721 email: mail@costinroe.com.au ©			
ISSUED FOR INFORMATION 26.10.17 D				[watch this SPACE design]				LOGOS				INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS HOLLINSWORTH ROAD MARSDEN PARK NSW				PRECISION COMMUNICATION ACCOUNTABILITY			
ISSUED FOR INFORMATION 01.08.17 B												DESIGNED: [NAME] DATE: JUN 17 CHECKED: [NAME] SCALE: A0 AS SHOWN CAD REF: C012829.06-DA200				DRAWING TITLE EROSION & SEDIMENT CONTROL PLAN			
FOR INFORMATION ONLY 22.06.17 A																DRAWING No 12829.06-DA200			
AMENDMENTS				DATE				DATE				ISSUE				ISSUE			



TYPICAL SILT FENCE DETAIL
N.T.S.
PROVIDE 1m RETURNS AT 30m INTERVALS
TYPICAL



NOTES: ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER. MINIMISE DISTURBED AREAS. ROADS & FOOTPATHS TO BE SWEEPED DAILY. 12m TURF TO BE PLACED BEHIND KERBS. DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.
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FOR SECTION 96

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
EROSION & SEDIMENT CONTROL
DETAILS

DRAWING No 12829.06-DA 250

ISSUE 1