

			ARCHITECT VARIAN		PROPOSED INDUSTRIAL	
SUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION 28.01.22 C SUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION 10.12.21 B		ARCHILE	Valson	dexus	DEVELUPMENT SOUTH STREET, MARSDEN PARK	
SUED FOR COORDINATION 12.11.21 A		PRUJELIS			DESIGNED DRAWN DATE CHECKED SIZE SCALE CA	AD REF:
MENDMENTS DATE ISSUE	AMENDMENTS DATE ISSUE		· · · · ·		D.S. D.S. SEP '21 M.W. A0 AS SHOWN 14	4243.01-SSDA

Bay, Sydney NSW 2000 12) 9251-7699 Fax: (02) 9241-373

### EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

- SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL O SUIL. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEM FORMED LEAR WATER IS TO BE DIVERTED AWAY FROM DISTURED GROUND AND INTO THE DRAINAGE SYSTEM THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS. ALL FAITHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STAPLE IN THE ODINION OF A SUITARLY CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION. FURMA IUN. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO DODENTLY THIN AND ALME EDODECID ALL TOPSUL STOLMPILES ARE TO BE SUITABLE TO VOERED TO THE SATENFACTION OF THE SITE MANAGER TO PREVENT WID AND WATER EROSION. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OF RO THERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE. ALL STOCKPILE SITES SHALL BE CLEARLY MARKED AND SIGN PORS UCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM TORY DEVINENT ATION CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SCIDIENT ATION CONTROL PLAN. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOLM MATERIALS FORM MOTOR VEHICLES. THE CONTRACTOR IS TO ENSURE RUNDFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDIMS ACCESS RADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS ON DIRECTED TO NATURAL WATERCOURSES. AND LEXIS TO ENSURE SATISFACTORY DRAINTAMS SUPER, CROWNS AND DRAINS ON ALL EXCAVATINS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP. PREVENT WIND AND WATER EROSION.

### SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING Co14243.01-SSDA25.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.

EDIMENT BASIN 1:	
ATCHMENT AREA	= 9.83ha
EQUIRED BASIN VOLUME	= 3303m³
ASE DIMENSION (LxB)	= 60.0m x 30.0m
OP DIMENSION (LxB)	= 69.0m x 39.0m
1AX SIDE SLOPE	= 1V:3H
EPTH	= 1.5m
ROVIDED BASIN VOLUME	= 3346m³

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. Cv = 0.5 & LENGTH TO UNITH RATIO D ? (MIN.) SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

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- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE DUST CONTROL MEASURES ARE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN.
- THE APPLICATION OF LIQUID BASED DUST SUPPRESSION MEASURES MUST BE SUCH THAT SEDIMENT LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD. (EG USING HAY BALES)
- DUST GENERATION ASSOCIATED WITH WIND EROSION TO BE CONTROLLED USING WATER TRUCKS, DUST SUPPRESSING FOG, MIST GENERATORS, SEALANT PLACED OVER THE SOIL, SURFACE ROUGHENING OR RE-VEGETATION.
- THE FOLLOWING ACTIVITIES SHALL BE ADOPTED, IF NECESSARY, TO MANAGE DUST CONTROL ON SITE:
- LIMITING THE AREA OF SOIL DISTURBANCE AT ANY GIVEN TIME
- REPLACING TOPSOIL AFTER COMPLETION OF EARTHWORKS. PROGRAMMING WORK TO MINIMISE THE LIFE OF STOCKPILES.
- TEMPORARILY STABILISING LONG-TERM STOCKPILES.
- GRAVELLING UNSEALED ACCESS AND HAUL ROADS. MINIMISING TRAFFIC MOVEMENT ON EXPOSED SURFACES.
- LIMITING VEHICULAR TRAFFIC TO 15km/h
- RETAINING EXISTING VEGETATION AS WIND BREAKS
- OIL, LANDFILL GAS CONDENSATE OR ANY CONTAMINATED LEACHATE OR STORMWATER IS NOT TO BE USED FOR DUST SUPPRESSION.









NOTE: EARTHWORK VOLUMES ARE APPROXIMATE ONLY. NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, EROSION AND SEDIMENT CONTROL OR BULKING OR COMPACTION OF FILLED SOILS. CONTRACTOR TO ALLOW FOR THESE ITEMS AS REQUIRED. BULK EARTHWORKS ESTIMATES ARE BASED ON THE FINISHED LEVELS DULE CARL INWURS ES INFAILES ARE DASED UN THE FINISHED LEVELS SURFACE AND AN INFERRED STRUCTURAL SLAB THICKNESS SALLOWANCE OF 300mm ACROSS THE SITE. FINAL SLAB THICKNESSES AND BULK EARTHWORKS VOLUMES SHALL BE CONFIRMED DURING THE DETAILED DESIGN PHASE OF WORKS.

### SITE PREPARATION NOTES:

- ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 SUPERVISION GENERALLY IN 1.
- ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL ENGINEER. 2. EXISTING LEVELS ARE BASED ON SITE SURVEY INFORMATION PROVIDED BY LAND
- PARTNERS REF:SY074944.000.1.1 DATED 11/05/21. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE 3.
- L
- 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. ADDAS TO RECEIVE EN LITAT ARE NOT ON DENCHED PATTERS I AND ADDAS IN CUT 5.
- FILL PLACEMENT AND COMPACITION. 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 6. SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE
- INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
- INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF 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 HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET. 8.
- 9
- PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 72 KDR VAND 23% WET. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 33% 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 HILF TEST METHOD (AS1289.5.1). THESE METHODS REQURE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE THERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STLL BE ADDETED AND TEST METPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
- 10.

- APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION 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 DISCREPARATY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL PROVIDE THEMORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNGFT THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE INFOSALM THEMORAS 14. DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER, REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES

6m 0 15 30 45 60 75m SCALE 1:750 AT A0 SIZE SHEET BULK EARTHWORKS &

Costin Roe Consulting

CUT/FILL PLAN PRECISION | COMMUNICATION | ACCOUNTABILITY

Co14243.01-SSDA30



AMENDMENT

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watson

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PROJECTS

REVISED FOR AMENDED ARCHITECTURAL LAYOUT REVISED FOR AMENDED ARCHITECTURAL LAYOUT REVISED AS CLOUDED SISUED FOR STATE SUMPRICANT DEVELOPMENT APPLICATION ISSUED FOR COORDINATION

05.05.22 02.05.22 28.01.22 10.12.21 12.11.21 DATE

ISSUE

FOR STATE SIGNIFICANT DEVELOPMENT APPILCATION

Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tet (02) 802-7680 Pac (02) 884-3781 email: mail@costinroe.com.au @

PROJECT PROPOSED INDUSTRIAL DEVELOPMENT SOUTH STREET, MARSDEN PARK

DESIGNED DRAWN DATE CHECKED SIZE SCALE CAD REF: D.S. D.S. SEP '21 M.W. A0 AS SHOWN 14243.01-SSDA36

dexus





818



500mm FROM THOSE SHOWN. FINAL
L GEOTECHNICAL INVESTIGATIONS,
AND ACHIEVING A CUT TO FILL
VER THE PROPERTY.

LEGEND: LEVELS DATUM IS	AHD.				
EXISTING SITE LEV INFORMATION PROV SY074944.000.1.1 D	EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS SURVEYORS TITLED SY074944.000.1.1 DATED 11/05/21.				
A	- OVERFLOW DIRECTION				
	- SGGP, SINGLE GRATED GULLY PIT				
	- SJP, SEALED JUNCTION PIT				
I)	- KIP, KERB INLET PIT				
	- SGGP WITH ENVIROPOD 200 PIT INSERT				
	- SJP WITH ENVIROPOD 200 PIT INSERT				
<b>(</b> )	- KIP WITH ENVIROPOD 200 PIT INSERT				
S₩≻	- DRAINAGE LINE				
	- AWNING				
, DP	- DP, DOWNPIPE LOCATION				
	- ROOFWATER LINE (AERIAL)				
rw>	- ROOFWATER LINE (IN-GROUND)				
\$\$>	- SUBSOIL LINE				
	- GRATED DRAIN				
50.00	<ul> <li>FINISHED PAVEMENT CONTOUR (MAJOR)</li> <li>0.5m INTERVALS</li> </ul>				

- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

### STORMWATER DRAINAGE NOTES: ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN ALL STONTING TO MONG TO BOTTOTE DUBY ALCONDUCTOR MIT ADDITAL AT STANDARD ASSO0.3 FLUMBING AND DRAINAGE, PART 3: STORWATED RAINAGE. 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 CTOMP EVENT. 2 TOPM EVENT STURKE VENT. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSDA50. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDEO NO FLAN. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE. ALL STORMWATER PIPES #375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE. ALL PIPES UP TO AND INCLUDING #300 TO BE UPVC GRADE SNB 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 M12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIUM 300mm WHERE REQUIRED ALL CONCRETE FOR FITS SHALL BE F°C-25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER. IN ADDITION TO THE 94 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL 5. 6 IN ADDITION TO ITEM 9 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL 10. 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 SUPPORED. RAM AND PACK FILING 11. 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. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HAST YTPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT. 12 SUPPORT. WHERE PIPE LINES ENTER PITS. PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED $\phi$ 100 $\mu$ VC TO EACH SIDE OF PIPE. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER 14 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 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 30 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. WHERE SUBSOIL DRAINAGE PASSES UNDER A PAVEMENT OR A SLAB, UNSLOTTED UPVC ARE TO BE PROVIDED UNLESS NOTED OTHERWISE. ALL PIPE GRADES 11N 200 MINIMUM UND. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm. MIN ADD CRUPET A DIPPED TRAVET AND PAGINS & MIN JAD CRUFE RENEATH 18. 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 19. PIT COVENS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D'HEAVY DUTY, THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS D'HEDIM DUTY' UN.O. 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 OP SIZE UN.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL. PIPE LENGTHS NOMINATED ON PLAN OR ROVIDE CLEANING EYE AT GROUND LEVEL. PIST DALL ON PLAN PROVIDE CLEANING EYE AT GROUND LEVEL. STO ALL OW FOR THIS. 20. 22. IS TO ALLOW FOR THIS. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, 23. INTERCEMENT OF ALS THE AUXIMUST DIVERTIGE STATES OF AUXIMUST OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE DOCUMENTATION OF SU THE ENGINEER FOR CLARIFICATION.

50.10

<u>NOTE:</u> ALL SURFACE INLET PITS & ROOFWATER COLLECTION PITS TO BE FITTED WITH OCEAN PROTECT OCEANGUARD OG200 PIT INSERT 6m 0 15 30 45 60 75m SCALE 1:750 AT A0 SIZE SHEET WAREHOUSE STORMWATER Costin Roe Consulting DRAINAGE PLAN PRECISION | COMMUNICATION | ACCOUNTABILITY Co14243.01-SSDA40



NAME H1 R1 R2 CP1 Y1 CP2 R5 CP3 R6 LS1 R4 CP4 H2 CP5 R3 R7 LS4 LS3



MUSIC – SITE AREAS						
	DESCRIPTION	AREA	IMPERVIOUS	TREATMENT		
		BASIN	1 (600m²)			
	HARDSTAND	0.638	100%	OCEANGUARD (200 MICRON)		
	ROOF	0.618	100%	RAINWATER TANK		
	ROOF	0.697	100%	RAINWATER TANK		
	CARPARK	0.669	100%	OCEANGUARD (200 MICRON)		
	ASPHALT YARD	0.414	100%	OCEANSAVE GPT		
	CARPARK	0.720	100%	OCEANGUARD (200 MICRON)		
	ROOF	0.720	100%	OCEANGUARD (200 MICRON)		
	CARPARK	0.237	100%	OCEANGOARD (200 PIICRON)		
	ROOF	0.446	100%	OCEANGUARD (200 MICRON)		
	LANDSCAPING	0.372	0%	N/A		
		BASIN	2 (240m²)			
	ROOF	0.579	100%	OCEANGUARD (200 MICRON)		
	HARDSTAND	0.102	100%	OCEANGUARD (200 MICRON)		
	HARDSTAND	0.657	100%	OCEANGUARD (200 MICRON)		
	CARPARK	0.135	100%	OCEANGUARD (200 MICRON)		
	ROOF	0.600	100%	OCEANGUARD (200 MICRON)		
	ROOF	0.449	100%	OCEANGUARD (200 MICRON)		
	LANDSCAPING	0.086	0%	N/A		
BYPASS						
		0.756	0%	N/A		







SCALE 1:20



CROSS SECTION SCALE 1:20





# -H.D. CAST IRON GRATE & TEE BAR FRAME 'GATIC' OR EQUAL SEE SCHEDULE

PLAN SCALE 1:20 TAPERED SINGLE GRATED GULLY PIT - SGGP SUBSOIL NOT SHOWN FOR CLARITY

REVISED AS CLOUDED ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION

SUED FOR COORDINATION

02.05.



SCALE 1:20 REFER TYPICAL PIT DETAILS FOR ALL ITEMS NOT LABELED.

ARCHILE

PROJECTS

watson





LEGEND: LEVELS DATUM IS AHD.				
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS SURVEYORS TITLED SY074944.000.1.1 DATED 11/05/21.				
	- SGGP, SINGLE GRATED GULLY PIT			
$\boxtimes$	- SJP, SEALED JUNCTION PIT			
SW>	- DRAINAGE LINE			
50.00	<ul> <li>— FINISHED PAVEMENT CONTOUR (MAJOR)</li> <li>0.5m INTERVALS</li> </ul>			
5 <u>0.10</u>	<ul> <li>– FINISHED PAVEMENT CONTOUR (MINOR)</li> <li>0.1m INTERVALS</li> </ul>			



Omm FROM THOSE SHOWN. FINAL	
EOTECHNICAL INVESTIGATIONS,	
D ACHIEVING A CUT TO FILL	
R THE PROPERTY	

### LEGEND: LEVELS DATUM IS AHD. - SGGP, SINGLE GRATED GULLY PIT - SJP, SEALED JUNCTION PIT $\boxtimes$ - KIP, KERB INLET PIT - GD, GRATED DRAIN (300W × 225D UNO) - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS \_\_\_\_\_\_ 50.10 \_\_\_\_\_ FINISHED LEVELS PLAN NOTES: LEVELS DATUM IS AUSTRALIAN HEIGHT DATUM (A.H.D.). GRADING REQUIREMENTS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2890.1, AS2890.2 AND AS2890.6. AS2890.1, AS2890.2 AND AS2890.6. ALL CONTOUR INES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN. CONTOUR INTERVALS • THE MINOR CONTOUR INTERVAL IS 0.1m. • THE MAJOR CONTOUR INTERVAL IS 0.5m. HARDSTAND GRADING • MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%). • GRADING DF ON-GRADE DOCKS TO BE 1:100 (1%). FALL AWAY FROM THE DOCK FACE FOR A I FIRITH OF 15m. U N.O.

- A LENGTH OF 15m U.N.O. GRADING OF TRUCK CIRCULATION ZONES TO BE MINIMUM AS NOTED ABOVE, 3-4%

- GRADING OF TRUCK CIRCULATION ZONES TO BE MINIMUM AS NOTED ABOVE, 3-4% NOMINAL AND MAX. 5%.
   CAR PARKING AREA GRADES
   MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%), DESIRABLE MINIMUM GRADE 1:50 (2%).
   MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) N CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
   DISABLED ACCESS PARKING ZONES AND SHARED SPACE TO BE MAXIMUM OF 1:33 (1%) ASPHALT PAVEMENT AND MAXIMUM OF 1:40 (2:5%) IN CONCRETE PAVEMENT.
   CARPARK RAMP GRADES TO BE MAX 1:5 WITH 2:5m SMOOTH TRANSITION AT TOP AND BOTTOM IN 0. BOTTOM U.N.O.
- TRUCK RAMP GRADES
- MAXIMM B-DOUBLE OR 19.0m AV RAMP GRADES ARE TO BE 18.3 (12%) U.N.O. ON PLAN PROVIDE MINIMUM 4.0m LONG TRANSITION WHERE CHANGES OF GRADE EXCEED 1:20 (5%) AT A CREST U.N.O. PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGE OF GRADE EXCEED 1:20 (5%)
- AT A SAG U.N.O.
- AT A SAG UNO. AT A SAG UNO. TRANSITIONS ARE TO PROVIDE A SMOOTH CONTINUUS CIRCULAR AND TANGENTIAL CHANGE IN GRADE TO ENSURE NO SHARP OR ACUTE CHANGES IN GRADE ARE PRESENT. WHERE FIRE BRIGADE ACCESS IS REQUIRED, MAXIMUM RAMP GRADIENTS ARE TO BE 16 (16.6%). DESIRABLE RAMP GRADIENTS ARE TO BE 18 (12.5%) WITH 7m TRANSITION TOP AND BOTTOM UNO. ON PLAN. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V3H UNO. BASED ON GEOTECHNICAL ASSESSMENT. PROVIDE MINIMUM 0.5m BERM BETWEEN THE BACK OF KERB OR PAVEMENT EDGES AND THE TOP OR TOE OF A BATTER. ALL BATTER SLOPE SITE ROJENT CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
- 10.
- ENGINEER. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL. GRADE.
- 11. 12.
- ALL POUPAINS ARE 10 FALL AWAY FROM THE BUILDING AT 25% NOMINAL. URADE. ALL PAVEMENTS ARE 106 SETAT 3700M BELOW THE FUNSIED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS. PROVIDE LOCAL FEATHERING AT DOORWAYS OR ROLLER SHUTTER'S TO PROVIDE FLUSH FINISH AS REQUIRED. WHERE REW AND EXISTING INTERFACING IS REQUIRED, MATCH EXISTING LEVELS AND PROVIDE SMOOTH INTERFACE BETWEEN NEW AND EXISTING GRADIENTS. REFER ANY CONCERNS TO THE ENGINEER. 13.

6m 0 15 30 45 60 75m SCALE 1:750 AT A0 SIZE SHEET

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY







00mm FROM THOSE SHOWN. FINAL GEOTECHNICAL INVESTIGATIONS, ND ACHIEVING A CUT TO FILL	LEGEND: LEVELS DATUM IS AHD.	1 PAVEMENT CONTOUR (MA (DR)
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ð = 34° a		
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		DRAWING No
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Co14243.01-SSDA65 B



# Appendix B

# **MUSIC MODEL CONFIGURATION & PARAMETERS**

### **B.1** Introduction

The MUSIC modelling software was chosen to model water quality. This model has been released by the Cooperative Research Centre for Catchment Hydrology (CRCCH) and is a standard industry model for this purpose. MUSIC (the Model for Urban Stormwater Improvement Conceptualisation) is suitable for simulating catchment areas of up to 100 km<sup>2</sup> and utilises a continuous simulation approach to model water quality.

By simulating the performance of stormwater management systems, MUSIC can be used to predict if these proposed systems and changes to land use are appropriate for their catchments and are capable of meeting specified water quality objectives (CRC 2002). The water quality constituents modelled in MUSIC and of relevance to this report include Total Suspended Solids (TSS), Total Phosphorus (TP) and Total Nitrogen (TN).

The pollutant retention criteria set out in Blacktown City Council DCP Part J and nominated in **Section 4.1** of this report were used as a basis for assessing the effectiveness of the selected treatment trains.

The MUSIC model "*Co14243.01\_Rev.A.sqz*" was set up to examine the effectiveness of the water quality treatment train and to predict if council requirements have been achieved. The model was set up using the latest Blacktown City Council *MUSICLINK* parameters for clay soil and the layout of the MUSIC model is presented in **Appendix B**.

Modelling parameters used are based on the latest Blacktown City Council *MUSICLINK* parameters).

### **B.2** Rainfall Data

As per the recommendation of Council, *six-minute* pluviographic data for the Sydney Meteorological Office Station was sourced from the Bureau of Meteorology (BOM) as nominated below. Evapo-transpiration data for the period was sourced from the Sydney Monthly Areal PET data set supplied with the MUSIC software.

Input	Data Used
Rainfall Station	67035 Liverpool (Whitlam)
Rainfall Period	1 January 1967 – 31 December 1976
	(10 years)
Mean Annual Rainfall (mm)	857
Evapotanspiration	Sydney Monthly Areal PET
Model Timestep	6 minutes
-	

Value

### **B.3** Rainfall Runoff Parameters

### Parameter

Rainfall Threshold	1.40
Soil Storage Capacity (mm)	170
Initial Storage (% capacity)	30
Field Capacity (mm)	70
Infiltration Capacity Coefficient a	210

Infiltration Capacity exponent b	4.7
Initial Depth (mm)	10
Daily Recharge Rate (%)	50
Daily Baseflow Rate (%)	4
Daily Seepage Rate (%)	0

### B.4 Pollutant Concentrations & Source Nodes

Pollutant concentrations for source nodes are based on parameters adopted by the SCA as per **Table B.1**.

Flow Type	Surface	TSS (log <sub>10</sub> values)		TP (log <sub>10</sub> values)		TN (log <sub>10</sub> values)	
	Туре	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
Baseflow	Roof	1.20	0.17	-0.85	0.19	0.11	0.12
	Roads	1.20	0.17	-0.85	0.19	0.11	0.12
	Landscaping	1.2	0.17	-0.85	0.19	0.11	0.12
Stormflow	Roof	1.30	0.32	-0.89	0.25	0.30	0.19
	Roads	2.43	0.32	-0.30	0.25	0.34	0.19
	Landscaping	2.15	0.32	-0.6	0.25	0.30	0.19

### **Table B.1. Pollutant Concentrations**

The MUSIC model has been setup with a treatment train approach based on the pollutant concentrations in **Table B.1** above.

The relevant stormwater catchment sizes are listed below in **Table B.2** and their configuration within the MUSIC model.

MUSIC – SITE AREAS					
NAME	DESCRIPTION	AREA	IMPERVIOUS	TREATMENT	
		BASIN	1 (600m²)		
H1	HARDSTAND	0.638	100%	OCEANGUARD (200 MICRON)	
R1	ROOF	0.618	100%	RAINWATER TANK	
R2	ROOF	0.697	100%	RAINWATER TANK	
CP1	CARPARK	0.237	100%	OCEANGUARD (200 MICRON)	
Y1	ASPHALT YARD	1.593	100%	OCEANSAVE GPT	
CP2	CARPARK	0.718	100%	OCEANGUARD (200 MICRON)	
R5	ROOF	0.720	100%		
CP3	CARPARK	0.237	100%	OCEANGOARD (200 MICRON)	
R6	ROOF	0.446	100%	OCEANGUARD (200 MICRON)	
LS1	LANDSCAPING	0.372	0%	N/A	
BASIN 2 (240m <sup>2</sup> )					
R4	ROOF	0.579	100%	OCEANGUARD (200 MICRON)	
CP4	HARDSTAND	0.102	100%	OCEANGUARD (200 MICRON)	
H2	HARDSTAND	0.657	100%	OCEANGUARD (200 MICRON)	
CP5	CARPARK	0.231	100%	OCEANGUARD (200 MICRON)	
R3	ROOF	0.658	100%	OCEANGUARD (200 MICRON)	
R7	ROOF	0.449	100%	OCEANGUARD (200 MICRON)	
LS4	LANDSCAPING	0.086	0%	N/A	
BYPASS					
LS3	LANDSCAPING	0.414	0%	N/A	

**Table B.2. Music Model Source Nodes** 

### **B.5** Treatment Nodes

Gross Pollutant Trap (enviropod) and bio-retention treatment nodes have been used in the modelling of the development as provided by the suppliers of the products based on testing completed by the product manufacturers. Detention basin nodes were also introduced to the model using typical parameters contained in MUSIC modelling guidelines.

It is noted that the bio-retention node, within the flood storage basin, has been modelled in MUSIC to simulate treatment during low flow and non-flood scenario. The bioretention node allows for a high flow bypass which would operate when flows from the site are greater than 100 l/s. This flow is based on the 1 in 3-month flow from the site and would simulate a conservative model for the site during the period when the flood basin operates and would not provide treatment to the site. It is noted that the model is conservative in that the flood basin is not expected to operate until flood events which are greater than 1 in 5-year ARI which would mean that possible higher treatment of stormwater from the site. This is considered a suitable and conservative modelling approach for the treatment of stormwater from this site.

<b>Gross Pollutant Tra</b>	<u> p – Ocean Protect Oceanguard OG200</u>
Parameter	Value
	2

Treatable Flow <u>Pollutant Reductions</u> Per Technical Guidelines  $0.02m^{3/s}$ 

### **B.6** Results

**Table B.3** shows the results of the MUSIC analysis. The reduction rate is expressed as a percentage and compares the post-development pollutant loads without treatment versus post-development loads with treatment.

	Source	Residual Load	% Reduction
Total Suspended Solids (kg/yr)	11400	1340	88.3
Total Phosphorus (kg/yr)	22.6	6.75	70.2
Total Nitrogen (kg/yr)	141	65.5	53.7
Gross Pollutants (kg/yr)	1580	0	100

### Table B.3. MUSIC analysis results

The model results indicate that, through the use of the STM in the treatment train, pollutant load reductions for Total Suspended Solids, Total Phosphorous, Total Nitrogen and Gross Pollutants will meet the requirements of Council's Part J *DCP* on an overall catchment basis.

### **B.7** Modelling Discussion

MUSIC modelling has been performed to assess the effectiveness of the selected treatment trains and to ensure that the pollutant retention requirements of Council have been met.

The MUSIC modelling has shown that the proposed treatment train of STM will provide stormwater treatment which will meet Councils requirements in an effective and economical manner.

Hydrocarbon and oil & grease removal cannot be modelled with MUSIC software. As an industrial estate with users for individual development sites not known, the exact levels of hydrocarbons would not be known however given the expected use of the site as a warehouse distribution centre these pollutants would not be expected to be large. Potential sources of hydrocarbons and/or oil & grease which drain to the stormwater system would be limited to leaking engine sumps or for accidental fuel spills/leaks and leaching of bituminous pavements (car parking only). The potential for these pollutants is low and published data from the CSIRO indicates that average concentrations from industrial sites are in the order of 10mg/L and we would expect source loading from this site to be near to or below this concentration. Hydrocarbon pollution would also be limited to surface areas which will be treated via OceanProtect OceanGuard absorbent in conjunction with bio-retention treatment which are predicted to reduce this pollutant.

Further, the provision of an oil baffle within the treatment system which captures and contains hydrocarbons and oils has been included. This is considered a deemed to comply solution by Blacktown City Council.

Given the expected low source loadings of hydrocarbons and oil/grease and removal efficiencies of the treatment devices and filtration systems we consider that the requirements of the Council have been met.

# **Appendix C** DRAFT SOIL AND WATER MANAGEMENT PLAN

### C.1 Introduction

An erosion and sediment control plan (ESCP) is shown on drawing **Co14243.01**-**SSDA20** with details on **SSDA25**. These are conceptual plans only providing sufficient detail to clearly show that the works can proceed without undue pollution to receiving waters. A detailed plan will be prepared once consent is given and before works start.

The Staged ESCP considers initial site establishment, requirements during construction of roads and infrastructure and estate earthworks, completion of estate works and the period between this and development of individual lots.

### C.2 General Conditions

- 1. The ESCP will be read in conjunction with the engineering plans, and any other plans or written instructions that may be issued in relation to development at the subject site.
- 2. Contractors will ensure that all soil and water management works are undertaken as instructed in this specification and constructed following the guidelines stated in *Managing Urban Stormwater, Soils and Construction (2004) "The Blue Book"* and Blacktown City Council specifications.
- 3. All subcontractors will be informed of their responsibilities in minimising the potential for soil erosion and pollution to down slope areas.

### C.3 Land Disturbance

1. Where practicable, the soil erosion hazard on the site will be kept as low as possible and as recommended in Table C.1.

Land Use	Limitation	Comments
Construction areas	Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans.	All site workers will clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope), or similar materials.
Access areas	Limited to a maximum width of 5 metres	The site manager will determine and mark the location of these zones onsite. They can vary in position so as to best conserve existing vegetation and protect downstream areas while being considerate of the needs of efficient works activities. All site workers will clearly recognise these boundaries.
Remaining lands	Entry prohibited except for essential management works	

### C.4 Erosion Control Conditions

- 1. Clearly visible barrier fencing shall be installed as shown on the plan and elsewhere at the discretion of the site superintendent to ensure traffic control and prohibit unnecessary site disturbance. Vehicular access to the site shall be limited to only those essential for construction work and they shall enter the site only through the stabilised access points.
- 2. Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils remain on the surface at the completion of works.
- 3. Where practicable, schedule the construction program so that the time from starting land disturbance to stabilisation has a duration of less than six months.
- 4. Notwithstanding this, schedule works so that the duration from the conclusion of land shaping to completion of final stabilisation is less than 20 working days.
- 5. Land recently established with grass species will be watered regularly until an effective cover has properly established and plants are growing vigorously. Further application of seed might be necessary later in areas of inadequate vegetation establishment.
- 6. Where practical, foot and vehicular traffic will be kept away from all recently established areas
- 7. Earth batters shall be constructed in accordance with the Geotechnical Engineers Report or with as law a gradient as practical but not steeper than:
  - 2H:1V where slope length is less than 7 metres
  - 2.5H:1V where slope length is between 7 and 10 metres
  - 3H:1V where slope length is between 10 and 12 metres
  - 4H:1V where slope length is between 12 and 18 metres
  - 5H:1V where slope length is between 18 and 27 metres
  - 6H:1V where slope length is greater than 27 metres
- 8. All earthworks, including waterways/drains/spillways and their outlets, will be constructed to be stable in at least the design storm event.
- 9. During windy weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in sufficient quantities, soil binders and/or dust retardants will be used or the surface will be left in a cloddy state that resists removal by wind.

### C.5 **Pollution Control Conditions**

- Stockpiles will not be located within 5 metres of hazard areas, including likely areas of high velocity flows such as waterways, paved areas and driveways. Silt/ sediment fences and appropriate stabilisation of stockpiles are to be provided as detailed on the drawings.
- 2. Sediment fences will:
  - a) Be installed where shown on the drawings, and elsewhere at the discretion of the site superintendent to contain the coarser sediment fraction (including aggregated fines) as near as possible to their source.
  - b) Have a catchment area not exceeding 720 square meters, a storage depth (including both settling and settled zones) of at least 0.6 meters, and internal dimensions that provide maximum surface area for settling, and
  - c) Provide a return of 1 metre upslope at intervals along the fence where catchment area exceeds 720 square meters, to limit discharge reaching each section to 10 litres/second in a maximum 20-year  $t_c$  discharge.
- 3. Sediment removed from any trapping device will be disposed in locations where further erosion and consequent pollution to down slope lands and waterways will not occur.
- 4. Water will be prevented from directly entering the permanent drainage system unless it is relatively sediment free (i.e. the catchment area has been permanently landscaped and/or likely sediment has been treated in an approved device). Nevertheless, stormwater inlets will be protected.
- 5. Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised.

### C.6 Waste Management Conditions

Acceptable bind will be provided for any concrete and mortar slurries, paints, acid washings, lightweight waste materials and litter. Clearance service will be provided at least weekly.

### C.7 Site Inspection and Maintenance

- 1. A self-auditing program will be established based on a Check Sheet. A site inspection using the Check Sheet will be made by the site manager:
  - At least weekly.
  - Immediately before site closure.
  - Immediately following rainfall events in excess of 5mm in any 24-hour period.

The self-audit will include:

- Recording the condition of every sediment control device
- Recording maintenance requirements (if any) for each sediment control device

- Recording the volumes of sediment removed from sediment retention systems, where applicable
- Recording the site where sediment is disposed
- Forwarding a signed duplicate of the completed Check Sheet to the project manager/developer for their information
- 2. In addition, a suitably qualified person will be required to oversee the installation and maintenance of all soil and water management works on the site. The person shall be required to provide a short monthly written report. The responsible person will ensure that:
  - The plan is being implemented correctly
  - Repairs are undertaken as required
  - Essential modifications are made to the plan if and when necessary

The report shall carry a certificate that works have been carried out in accordance with the plan.

- 3. Waste bins will be emptied as necessary. Disposal of waste will be in a manner approved by the Site Superintendent.
- 4. Proper drainage will be maintained. To this end drains (including inlet and outlet works) will be checked to ensure that they are operating as intended, especially that,
  - No low points exist that can overtop in a large storm event
  - Areas of erosion are repaired (e.g. lined with a suitable material) and/or velocity of flow is reduced appropriately through construction of small check dams of installing additional diversion upslope.
  - Blockages are cleared (these might occur because of sediment pollution, sand/soil/spoil being deposited in or too close to them, breached by vehicle wheels, etc.).
- 5. Sand/soil/spoil materials placed closer than 2 meters from hazard areas will be removed. Such hazard areas include and areas of high velocity water flows (e.g. waterways and gutters), paved areas and driveways.
- 6. Recently stabilised lands will be checked to ensure that erosion hazard has been effectively reduced. Any repairs will be initiated as appropriate.
- 7. Excessive vegetation growth will be controlled through mowing or slashing.
- 8. All sediment detention systems will be kept in good, working condition. In particular, attention will be given to:
  - a) Recent works to ensure they have not resulted in diversion of sediment laden water away from them
  - b) Degradable products to ensure they are replaced as required, and
  - c) Sediment removal, to ensure the design capacity or less remains in the settling zone.
- 9. Any pollutants removed from sediment basins or litter traps will be disposed of in areas where further pollution to down slope lands and waterways should not occur.

- 10. Additional erosion and/or sediment control works will be constructed as necessary to ensure the desired protection is given to down slope lands and waterways, i.e. make ongoing changes to the plan where it proves inadequate in practice or is subjected to changes in conditions at the work site or elsewhere in the catchment.
- 11. Erosion and sediment control measures will be maintained in a functioning condition until all earthwork activities are completed and the site stabilised
- 12. Litter, debris and sediment will be removed from the gross pollutant traps and trash racks as required.

### EROSION AND SEDIMENT CONTROL WEEKLY SITE INSPECTION SHEET

Legend:

N/A Not applicable

□ OK □ Not OK

1       Public roadways clear of sediment.         2       Entry/exit pads clear of excessive sediment deposition.         3       Entry/exit pads have adequate void spacing to trap sediment.         4       The construction site is clear of litter and unconfined rubbish.         5       Adequate stockpiles of emergency ESC materials exist on site.         6       Site dust is being adequately controlled.         7       Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.         8       Up-slope "clean" water is being appropriately diverted around/through the site.         9       Drainage lines are free of soil scour and sediment deposition.         10       No areas of exposed soil are in need of erosion control.         11       Earth batters are free of "rill" erosion.         12       Erosion control mulch is not being displaced by wind or water.         13       Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.         14       Sediment fences are free from damage.	Item	Consideration	Assessment
2       Entry/exit pads clear of excessive sediment deposition.         3       Entry/exit pads have adequate void spacing to trap sediment.         4       The construction site is clear of litter and unconfined rubbish.         5       Adequate stockpiles of emergency ESC materials exist on site.         6       Site dust is being adequately controlled.         7       Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.         8       Up-slope "clean" water is being appropriately diverted around/through the site.         9       Drainage lines are free of soil scour and sediment deposition.         10       No areas of exposed soil are in need of erosion control.         11       Earth batters are free of "rill" erosion.         12       Erosion control mulch is not being displaced by wind or water.         13       Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.         14       Sediment fences are free from damage.         15       Sediment traps are free of excessive sediment deposition.         16       Sediment traps are free of excessive sediment deposition.         17       All sediment tayer within a sediment basin is clearly visible through the supernatant prior to discharge such water.         18       The settled sediment layer within a sediment basin is clearly visible through	1	Public roadways clear of sediment.	• • • • • • • • • • •
3       Entry/exit pads have adequate void spacing to trap sediment.         4       The construction site is clear of litter and unconfined rubbish.         5       Adequate stockpiles of emergency ESC materials exist on site.         6       Site dust is being adequately controlled.         7       Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.         8       Up-slope "clean" water is being appropriately diverted around/through the site.         9       Drainage lines are free of soil scour and sediment deposition.         10       No areas of exposed soil are in need of erosion control.         11       Earth batters are free of "rill" erosion.         12       Erosion control mulch is not being displaced by wind or water.         13       Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.         14       Sediment fences are free from damage.         15       Sediment traps are free of excessive sediment deposition.         16       Sediment traps are free of excessive sediment basin is clearly visible through the supernatant prior to discharge such water.         19       All sediment layer within a sediment basin is clearly visible         18       through the supernatant prior to revegetation.         20       All soil surfaces are being appropriately prepared (i.e. pH, nutrients,	2	Entry/exit pads clear of excessive sediment deposition.	• • • • • • • • • • •
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# **Appendix D** STORMWATER SYSTEM DRAFT MAINTENANCE SCHEDULE

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE			
SWALES/ LANDSCAR	SWALES/ LANDSCAPED AREAS					
Check density of vegetation and ensure minimum height of 150mm is maintained. Check for any evidence of weed infestation	Six monthly	Maintenance Contractor	Replant and/or fertilise, weed and water in accordance with landscape consultant specifications			
Inspect swale for excessive litter and sediment build up	Six monthly	Maintenance Contractor	Remove sediment and litter and dispose in accordance with local authorities' requirements.			
Check for any evidence of channelisation and erosion	Six monthly/ After Major Storm	Maintenance Contractor	Reinstate eroded areas so that original, designed swale profile is maintained			
Weed Infestation	Three Monthly	Maintenance Contractor	Remove any weed infestation ensuring all root ball of weed is removed. Replace with vegetation where required.			
Inspect swale surface for erosion	Six Monthly	Maintenance Contractor	Replace topsoil in eroded area and cover and secure with biodegradable fabric. Cut hole in fabric and revegetate.			
INLET & JUNCTION	PITS					
Inside of pits	Six Monthly	Maintenance Contractor	Remove grate and inspect internal walls and base, repair where required. Remove any collected sediment, debris, litter.			
Outside of pits	Four Monthly/ After Major Storm	Maintenance Contractor	Clean grate of collected sediment, debris, litter and vegetation.			
PROPRIETARY TREA	PROPRIETARY TREATMENT DEVICES (OceanSave Oceanguard)					
Refer to Manufacturers Operation and Maintenance Manuel	Annually	Maintenance Contractor	Refer to Manufacturers Operation and Maintenance Manuel			

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE			
RAINWATER TANK			·			
Check for any clogging and blockage of the first flush device	Monthly	Maintenance Contractor	First flush device to be cleaned out			
Check for any clogging and blockage of the tank inlet - leaf/litter screen	Six monthly	Maintenance Contractor	Leaves and debris to be removed from the inlet leaf/litter screen			
Check the level of sediment within the tank	Every two years	Maintenance Contractor	Sediment and debris to be removed from rainwater tank floor if sediment level is greater than the maximum allowable depth as specified by the hydraulic consultant			
STORMWATER SYST	ГЕМ					
General Inspection of complete stormwater drainage system	Bi-annually	Maintenance Contractor	Inspect all drainage structures noting any dilapidation in structures and carry out required repairs.			
TANKS	TANKS					
Inspect and remove any blockage from orifice	Six Monthly	Maintenance Contractor/ Owner	Remove grate and screen to inspect orifice.			
Inspect trash screen and clean	Six Monthly	Maintenance Contractor/ Owner	Remove grate and screen if required to clean it.			
Inspect flap valve and remove any blockage.	Six Monthly	Maintenance Contractor/ Owner	Remove grate. Ensure flap valve moves freely and remove any blockages or debris.			
Inspect pit sump for damage or blockage.	Six Monthly	Maintenance Contractor/ Owner	Remove grate & screen. Remove sediment/ sludge build up and check orifice and flap valve are clear.			
Inspect storage areas and remove debris/ mulch/ litter etc likely to block screens/ grates.	Six Monthly	Maintenance Contractor/ Owner	Remove debris and floatable materials.			

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
Check attachment of orifice plate and screen to wall of pit	Annually	Maintenance Contractor	Remove grate and screen. Ensure plate or screen mounted securely, tighten fixings if required. Seal gaps if required.
Check orifice diameter is correct and retains sharp edge.	Five yearly	Maintenance Contractor	Compare diameter to design (see Work-as- Executed) and ensure edge is not pitted or damaged.
Check screen for corrosion	Annually	Maintenance Contractor	Remove grate and screen and examine for rust or corrosion, especially at corners or welds.
Inspect overflow weir and remove any blockage	Six monthly	Maintenance Contractor/ Owner	Ensure weir is free of blockage.
Inspect walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls, repair as necessary.
Check step irons	Annually	Maintenance Contractor	Ensure fixings are secure and irons are free from corrosion.

# Appendix E COUNCIL CORRESPONDENCE

### **Daniel Soliman**

From:	Mark Wilson
Sent:	Wednesday, 13 October 2021 11:17 AM
То:	Alan Goh
Cc:	jack.marples@dexus.com; Brent Jones; Daniel Soliman; Bruce Colman; Clare
	Coleman; Tom Smith
Subject:	FW: 311 South Street Marsden Park - Basin L1.1

Alan,

We have received a response from Council on the status of the basins as below – this aligns with the previous email on the status of the basin as reflected in the DA on the north of South Street.

Council are able to provide the basin drawings, plus WAE of the channel which leads to the basin and we will need to convey our drainage to.

Georg advises the basin will be completed mid-2022.

Based on the below timing, there would not be a need for temporary OSD as part of the development.

### Best Regards,

### Mark Wilson Director

Costin Roe Consulting Pty Ltd ABN 50 003 696 446

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Sydney Office: Level 1, 8 Windmill Street, Walsh Bay PO Box N419, Sydney, NSW 1220 Australia tel: +61 2 9251 7699 fax: +61 2 9241 3731 email: Mark@costinroe.com.au web: www.costinroe.com.au

Postal address:PO Box N419, Sydney NSW 1220Phone: 02-9251 7699Fax: 02-9241 3731Email: mail@costinroe.com.auEmail: mail@strataeng.com.auWeb: www.costinroe.com.au

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### Best Regards,

Mark Wilson Director



email: <u>Mark@costinroe.com.au</u> web: <u>www.costinroe.com.au</u>

Postal address:PO Box N419, Sydney NSW 1220Phone: 02-9251 7699Fax: 02-9241 3731Email: mail@costinroe.com.auEmail: mail@strataeng.com.auWeb: www.costinroe.com.au

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From: Georg Eberl <Georg.Eberl@blacktown.nsw.gov.au>

Sent: Wednesday, 13 October 2021 9:20 AM

To: Mark Wilson <Mark@costinroe.com.au>

**Cc:** Daniel Soliman <daniel.soliman@costinroe.com.au>; David Yeomans <David.Yeomans@blacktown.nsw.gov.au>; Mark Bunch <Mark.Bunch@blacktown.nsw.gov.au>

**Subject:** RE: 311 South Street Marsden Park - Basin L1.1

Hi Mark, Apologies for the delay in responding.

The design for the basin is complete and drawings will be provided.

The low flow diversion line L4.1 is under construction and nearing completion. Basin L1.1 is likely to commence construction late this year or early next year so would expect it to be completed by mid-next year.

To avoid the need for temporary OSD, you would need to connect your site drainage down to trunk drainage line L1.3 which is already constructed. There is a 132kV electrical feeder crossing South Street near the western corner of 311 South Street so you will need to consider this in your drainage design and site levels

Hi Dave,

Can you send through the final design drawing please and also the WAE for the trunk drainage line up to South Street L1.3

Regards



## Georg Eberl Engineer Design

9839 6382 0439 470 842 Georg.Eberl@blacktown.nsw.gov.au PO Box 63 Blacktown NSW 2148 blacktown.nsw.gov.au

Follow us on social media



From: Mark Wilson <Mark@costinroe.com.au>
Sent: Wednesday, 29 September 2021 10:03 AM
To: Georg Eberl <Georg.Eberl@blacktown.nsw.gov.au>
Cc: Daniel Soliman <daniel.soliman@costinroe.com.au>
Subject: FW: 311 South Street Marsden Park - Basin L1.1

George,

I hope you are well – if you could refer to the below. Tony directed me to you on this question regarding Basin L1.1 in Marsden Park.

If you could review and I will call to discuss.

Thankyou in advance.

Best Regards,

Mark Wilson Director



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From: Mark Wilson <<u>Mark@costinroe.com.au</u>> Sent: Tuesday, 28 September 2021 5:44 PM To: Tony Merrilees <<u>Tony.Merrilees@blacktown.nsw.gov.au</u>>

Cc: Daniel Soliman <<u>daniel.soliman@costinroe.com.au</u>>

Subject: 311 South Street Marsden Park - Basin L1.1

Tony,

Hope you are well – I am sending this email regarding a new project.

We are collating information for an upcoming DA submission on land at 311 South Street (refer below) which drains to proposed regional Basin L1.1 (formerly Basin P per JWP).

We understand the design of Basin L1.1 is being produced by Cardno for Council and that this nearing completion. Also that funding to construct the basin from state has been granted.

Are you able to provide any clarity on construction timing and delivery of the basin? Also are you able to provide any design drawings or reports which set out catchments and allowances for the basin. We understand our site

I'll give you a call over the coming days to discuss.

Regards Mark.



Figure 8 - Regional Stormwater Strategy

As shown in Figure 8, the Regional Basin L1.1 is located on the subject site. It is understood that Council is nearing completion of these design works and intends to commence construction in 2021.

A copy of the detailed design for Basin L1.1 (which is currently being finalised by Council's consultant Cardno) is shown on Figure 9 below.



### Best Regards,

### Mark Wilson Director

Costin Roe Consulting Pty Ltd ABN 50 003 696 446

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