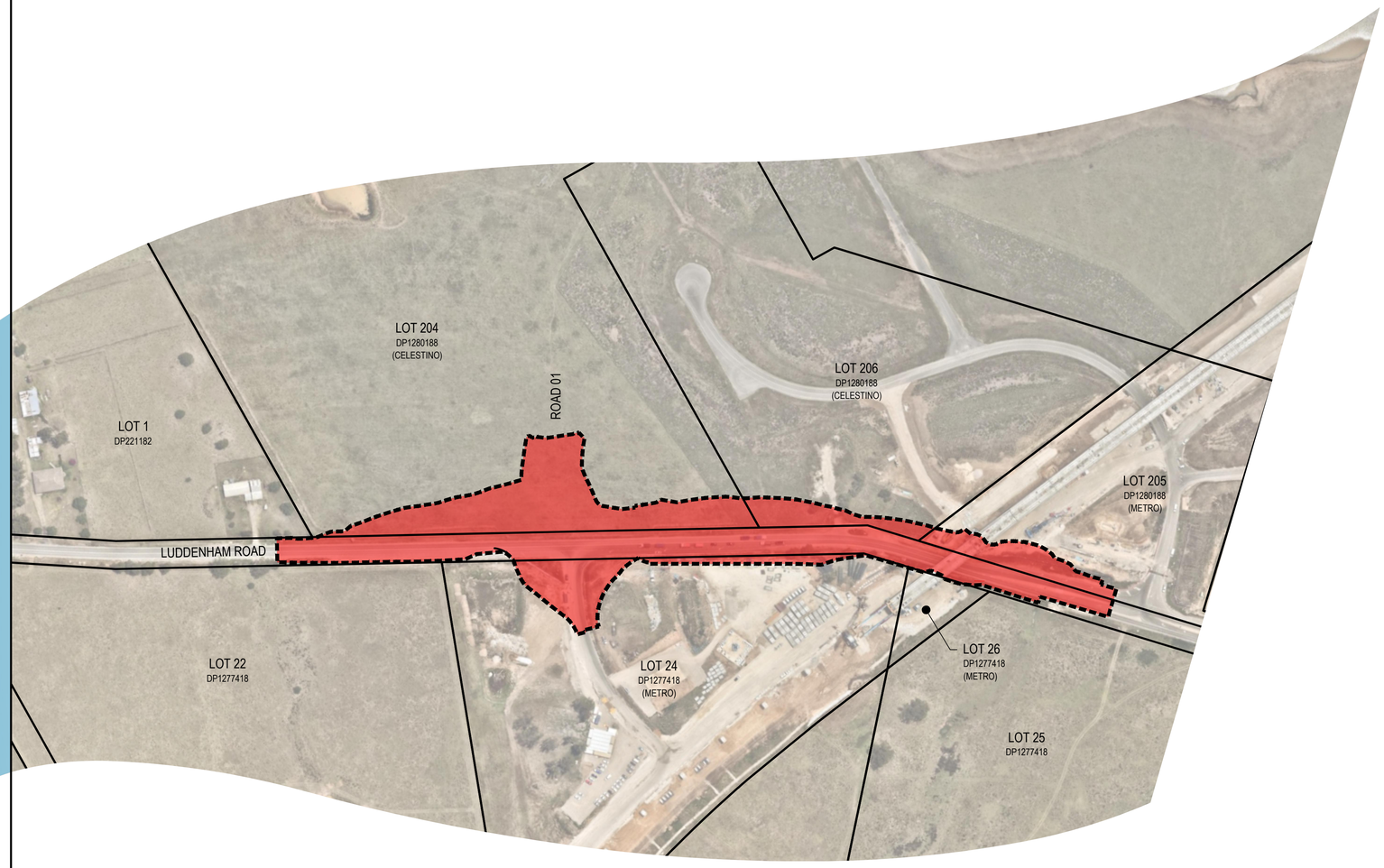

CELESTINO DEVELOPMENTS SSP PTY LTD

SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS
DEVELOPMENT APPLICATION

DRAWING SCHEDULE

DRAWING NUMBER	DESCRIPTION
180001-01-DA-C01.01	COVER SHEET AND DRAWING SCHEDULE
180001-01-DA-C01.21	SPECIFICATION NOTES - SHEET 01
180001-01-DA-C01.22	SPECIFICATION NOTES - SHEET 02
180001-01-DA-C01.41	GENERAL ARRANGEMENT PLAN
180001-01-DA-C02.01	ESTABLISHMENT AND DEMOLITION PLAN - SHEET 01
180001-01-DA-C02.02	ESTABLISHMENT AND DEMOLITION PLAN - SHEET 02
180001-01-DA-C03.01	EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 01 - SHEET 01
180001-01-DA-C03.02	EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 01 - SHEET 02
180001-01-DA-C03.03	EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 02 - SHEET 01
180001-01-DA-C03.04	EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 02 - SHEET 02
180001-01-DA-C03.21	EROSION AND SEDIMENTATION CONTROL DETAILS - SHEET 01
180001-01-DA-C03.22	EROSION AND SEDIMENTATION CONTROL DETAILS - SHEET 02
180001-01-DA-C04.01	BULK EARTHWORKS CUT AND FILL PLAN
180001-01-DA-C05.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
180001-01-DA-C05.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
180001-01-DA-C05.03	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 03
180001-01-DA-C05.04	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 04
180001-01-DA-C06.01	ROAD TYPICAL CROSS SECTIONS - SHEET 01
180001-01-DA-C06.02	ROAD TYPICAL CROSS SECTIONS - SHEET 02
180001-01-DA-C07.01	ROAD LONGITUDINAL SECTIONS - SHEET 01
180001-01-DA-C07.02	ROAD LONGITUDINAL SECTIONS - SHEET 02
180001-01-DA-C07.03	ROAD LONGITUDINAL SECTIONS - SHEET 03
180001-01-DA-C07.04	ROAD LONGITUDINAL SECTIONS - SHEET 04
180001-01-DA-C07.05	ROAD LONGITUDINAL SECTIONS - SHEET 05
180001-01-DA-C07.06	ROAD LONGITUDINAL SECTIONS - SHEET 06
180001-01-DA-C10.01	PAVEMENT PLAN - SHEET 01
180001-01-DA-C10.02	PAVEMENT PLAN - SHEET 02
180001-01-DA-C10.03	PAVEMENT PLAN - SHEET 03
180001-01-DA-C10.04	PAVEMENT PLAN - SHEET 04
180001-01-DA-C11.01	SIGNAGE AND LINEMARKING PLAN - SHEET 01
180001-01-DA-C11.02	SIGNAGE AND LINEMARKING PLAN - SHEET 02
180001-01-DA-C11.03	SIGNAGE AND LINEMARKING PLAN - SHEET 03
180001-01-DA-C11.04	SIGNAGE AND LINEMARKING PLAN - SHEET 04
180001-01-DA-C14.01	SITEWORKS DETAILS
180001-01-DA-C15.01	RETAINING WALL ELEVATION
180001-01-DA-C22.01	STORMWATER CATCHMENT PLAN
180001-01-DA-C25.01	TURNING PATH PLAN - SHEET 01
180001-01-DA-C25.02	TURNING PATH PLAN - SHEET 02
180001-01-DA-C25.03	TURNING PATH PLAN - SHEET 03
180001-01-DA-C26.01	SAFETY IN DESIGN REPORT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client

CELESTINO

Scale

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North

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enspire

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Scale	1:2000
Date	23/12/2022
Size	A1
Datum	MGA2020
Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION
Project Number/Drawing Number	180001-01-DA-C01.01
Revision	5

DATE PLOTTED: 19 December 2023 11:40 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C01.01-COVER SHEET AND DRAWING SCHEDULE.dwg

SURVEY

1. ORIGIN OF SURVEY

   FILE: OVERALL DETAIL-GDA 2020.DWG
   DATE: 25/10/2021
   PROVIDED BY: PROUST AND GARDNER CONSULTING PTY LTD

   FILE: 23360-Entry Road Detail (C).DWG
   DATE: 01/03/2023
   PROVIDED BY: PROUST AND GARDNER CONSULTING PTY LTD

2. THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN SUPPLIED BY REGISTERED SURVEYORS TO PROVIDE A BASIS FOR DESIGN. THE USE OF THIS SURVEY BASE DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

3. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE SUPERINTENDENT.

4. THE RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES ARE DIAGRAMMATIC ONLY. WHERE DISTANCES TO BOUNDARIES ARE CRITICAL THEY SHOULD BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION BY FURTHER SURVEY.

GENERAL

1. WORKS TO BE GENERALLY CONSTRUCTED IN ACCORDANCE WITH COUNCIL'S CONSTRUCTION SPECIFICATIONS.

2. TINSW STANDARD DETAILS TO BE USED WHERE POSSIBLE.

3. UTILITY ADJUSTMENTS AT DEVELOPERS EXPENSE.

4. CONDUITS TO BE PLACED WHERE REQUIRED BY THE RELEVANT AUTHORITIES.

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EROSION AND SEDIMENT CONTROL

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, RELEVANT STATE GOVERNMENT AUTHORITY AND NSW EPA. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.

2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.

3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.

4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.

5. 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 DISTURBANCE

6. WHERE PRACTICAL, 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:
   a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   b. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   c. INSTALL SEDIMENT BASIN AS SHOWN ON PLAN, INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
   d. 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.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. 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 DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.

10. 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.

11. CONSTRUCTION WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE WATER HAS BEEN TESTED AND MEETS THE REQUIREMENTS OF THE RELEVANT PLANNING CONTROLS.

12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   a. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   b. ENSURING THAT NOTHING IS NAILED TO THEM
   c. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
   (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
   (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
   (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

EXISTING SERVICES

1. ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.

2. CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER ALL LIVE SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.

3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT, AND AT NO EXTRA COST.

4. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.

5. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREA AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.

6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.

7. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.

8. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES 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.

9. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION A THOROUGH SEARCH OF ALL SERVICE AUTHORITIES SHOULD BE MADE TO DETERMINE THE POSSIBLE LOCATION OF ANY FURTHER UNDERGROUND SERVICES.

10. AUTHORITY PLANS GENERALLY SHOW ONLY THE PRESENCE OF CABLES AND PLANT AND DO NOT WARRANT OR GUARANTEE THAT SUCH PLANS ARE ACCURATE. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR EXISTING SERVICES AND PLANT. BEFORE USING MACHINE EXCAVATORS SERVICES MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION.

11. THE CONTRACTOR IS TO UNDERTAKE A BEFORE-YOU-DIG SEARCH PRIOR TO ANY EXCAVATION AND MAINTAIN A CURRENT SET ON-SITE DURING EXCAVATION WORKS.

12. 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.ENSPIRE SOLUTIONS 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.

13. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

EARTHWORKS

1. AT THE COMMENCEMENT OF THE CUT AND FILLING OPERATIONS FOR BULK EARTHWORKS A GEOTECHNICAL ENGINEER IS TO VISIT THE SITE & CONFIRM THE SUITABILITY OF THE METHODOLOGY OF ACHIEVING THE REQUIRED BUILDING PLATFORMS AND COMPACTION REQUIREMENTS. SUBSEQUENTLY, THE HEAD CONTRACTOR IS TO CONFIRM, IN WRITING TO THE DESIGNING CIVIL & STRUCTURAL ENGINEERS, THAT THE METHODOLOGY APPROVED AT THE TIME OF THE GEOTECHNICAL ENGINEERS VISIT WAS MAINTAINED DURING ALL THE BULK EARTHWORKS PROCESS.

2. STRIP TOPSOIL, ORGANIC MATTER AND RUBBLE FROM CONSTRUCTION AREA TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.

3. WHERE FILLING, STRUCTURAL SLABS OR PAVEMENTS ARE REQUIRED, PROOF ROLL THE EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A SMOOTH DRUM VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER) IN THE PRESENCE OF THE SUPERINTENDENT. THE CONTRACTOR IS TO ALLOW TO REMOVE AND REPLACE A PROVISIONAL QUANTITY OF UNSUITABLE SUBGRADE MATTER.

4. ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.

5. EXCAVATED MATERIAL IS NOT TO BE USED AS STRUCTURAL FILL UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER.

6. THE CONTRACTOR IS TO PROVIDE CERTIFICATES VERIFYING THE QUALITY OF IMPORTED MATERIAL FOR THE SUPERINTENDENTS APPROVAL.

7. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289 E3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 E5.1.1.1:

LOCATION	COMPACTION REQUIREMENT
UNDER BUILDING SLABS	100% SMDD
LANDSCAPED AREAS	95% SMDD
ROADS & PAVED AREAS	100% SMDD

8. FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN

UNDER ROAD	80% DENSITY
OTHER AREA	75% DENSITY

9. THE CONTRACTOR IS TO ALLOW FOR COMPACTION TESTING BY NATA REGISTERED LABORATORY FOR PLATFORMS AND FILL LAYERS IN ACCORDANCE WITH THE LATEST VERSION OF AS3798 - FOR TYPE 1 OPERATIONS (MINIMUM 3 TESTS PER LAYER).

10. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN:
    A. 1 TEST PER 200m^3 OF FILL PLACED PER 200mm LAYER OF FILL
    B. 3 TESTS PER VISIT
    C. 1 TEST PER 1000m^2 OF EXPOSED SUBGRADE
    D. TESTING SHALL BE "LEVEL 1" UNDERTAKEN IN ACCORDANCE WITH AS1398.

11. WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION STANDARD IS ACHIEVED.

12. ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND U.N.O. NO ADDITIONAL PAYMENTS WILL BE MADE FOR EXCAVATION IN WET OR HARD GROUND.

13. WHERE THERE IS INSUFFICIENT EXCAVATED MATERIAL SUITABLE FOR FILLING OR SUBGRADE REPLACEMENT, THE CONTRACTOR IS TO ALLOW TO IMPORT FILL. IMPORTED FILL SHALL COMPLY WITH THE FOLLOWING:
    A. MAXIMUM SIZE 50mm. PASSING 75 MICRON SIEVE (<25%).
    B. PLASTICITY INDEX BETWEEN 2-15% AND CBR>8.
    C. FREE FROM ORGANIC AND PERISHABLE MATTER.

14. REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT FOR GENERAL REQUIREMENTS ON SITE PREPARATION AND RE-USE OF EXISTING SITE MATERIAL AS ENGINEERED FILL.

15. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED AT THEIR COST.

16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE AND MAINTAIN THE INTEGRITY OF ALL SERVICES, CONDUITS AND PIPES DURING CONSTRUCTION, SPECIFICALLY DURING THE BACKFILLING AND COMPACTION PROCEDURE. ANY AND ALL DAMAGE TO NEW OR EXISTING SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST.

17. PROTECT FINAL SURFACE WITH EITHER A TEMPORARY LOOSE SOIL LAYER OR A GRANULAR SUB-BASE LAYER TO PREVENT DRYING OUT PRIOR TO ON-GROUND SLAB CONSTRUCTION.

SITEWORKS

1. ALL WORKS TO BE IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS, SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.

2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO THE DESIGN ENGINEER.

3. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH RMS AND LOCAL AUTHORITY REGULATIONS AND REQUIREMENTS.

4. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED.

5. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION ON COMPLETION OF WORKS.

6. ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.

7. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.

8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO LODGMENT OF TENDER AND ON SITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.

9. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND SPECIFICATIONS, AND ANY OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT OF THE SUBJECT SITE.

10. THESE PLANS SHALL BE READ IN CONJUNCTION WITH ALL APPROVED DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER PROJECT CONSULTANTS.

11. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL LEVELS ARE IN METRES (m), UNO. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).

12. IN CASE OF DOUBT OR DISCREPANCY REFER TO THE DESIGN ENGINEER AND SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. OTHERWISE THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REMEDIATION WORKS.

13. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.

14. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.

15. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO ALL BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.

16. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.

17. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

18. ALL VARIATIONS TO SPECIFIED PRODUCTS OR DESIGNS SHALL BE REFERRED TO THE DESIGN ENGINEER IN WRITING FOR APPROVAL.

19. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
    A. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
    B. ENSURING THAT NOTHING IS NAILED TO THEM
    C. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
       C.a. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
       C.b. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
       C.c. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

20. EPA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO REGARDING THE LEVEL OF NOISE AND WORKING HOURS, TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBOURS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) ANNUAL EXCEEDANCE PROBABILITIES (AEP):
   5% (1 IN 20) MINOR (PIPED) NETWORK
   1% (1 IN 100) MAJOR (OVERLAND FLOW SYSTEM)

   (B) RAINFALL INTENSITIES:
   ARR 1987
   RAINFALL FROM BUREAU OF METEOROLOGY WEBSITE

   (C) HYDROLOGIC METHOD:
   DRAINS WITH ILSAX METHOD

2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O. ALL ROAD CROSSINGS ARE TO BE MINIMUM CLASS '4'.

3. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.

4. ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.

5. PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.

6. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE PN6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.

7. PIPES TO BE INSTALLED TO TYPE HS2 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).

8. REFER TO AS/NRS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.

9. WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE REVIEWED BY ENSPIRE SOLUTIONS PRIOR TO INSTALLATION.

10. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3:2015.

11. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.

12. SUBSOIL DRAINAGE LINES SHALL BE INSTALLED BEHIND ALL KERBS EXCEPT WHERE STORMWATER DRAINAGE IS LOCATED ALONG THE KERBLINE.

13. A MINIMUM OF 3m OF SUBSOIL LINE SHALL BE LAID INTO UPSTREAM SIDE OF ALL DRAINAGE PITS.

14. FLUSHING POINTS SHALL BE INSTALLED TO TINSW DETAIL, AND AT MAX 50m SPACING.

15. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.

16. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.

17. GRATES AND COVERS SHALL CONFORM TO AS 3996.

18. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.

19. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

20. 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 SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

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Client: CELESTINO

Scale:

North:

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Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SPECIFICATION NOTES
SHEET 01

Scale: NTS
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KERBS

1. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 175mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
2. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE FOAM FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
3. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE OR IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
5. IN THE REPLACEMENT OF KERB AND GUTTER :-
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 600mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.

PAVEMENTS

1. ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT RMS SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.
2. COMPACTION STANDARDS:
   A) BASE: 98% MODIFIED MAXIMUM DRY DENSITY
   B) SUBBASE: 95% MODIFIED MAXIMUM DRY DENSITY
3. THE CONTRACTOR SHALL CONFIRM THE DESIGN CBR WITH A MINIMUM OF 3 TESTS TAKEN AT SUBGRADE LEVEL. WHERE DISCREPANCY IS FOUND, CONTACT THE DESIGNING ENGINEER.
4. ALLOW FOR COMPACTION TESTING BY NATA REGISTERED LABORATORY FOR: BASE LAYER, SUBBASE LAYER, SUBGRADE IN ACCORDANCE WITH THE LATEST VERSION OF AS3798 FOR PAVEMENTS. ALLOW FOR AT LEAST TWO SUCCESSFUL COMPACTION TESTS IN EACH LAYER.
5. MATCH NEW PAVEMENT LAYERS NEATLY AND FLUSH WITH EXISTING WHERE REQUIRED.
6. KEY NEW BASE AND SUBBASE LAYERS INTO EXISTING WITH 150mm WIDE STEPS. ASPHALTIC CONCRETE WEARING COURSE IS TO EXTEND 150mm (MIN) PAST BASECOURSE INTERFACE.
7. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
8. ALL ASPHALTIC CONCRETE (AC) WORK TO BE PREPARED AND CARRIED OUT IN ACCORDANCE WITH GOOD ASPHALTIC PAVING PRACTICE AS DESCRIBED IN AS2734-1994 "ASPHALT (HOT-MIXED) PAVING - GUIDE TO GOOD PRACTICE" AND CURRENT RMS SPECIFICATIONS (R116).
9. WHERE NOMINATED, THE CONTRACTOR SHALL ALLOW FOR ALL COMPONENTS OF PROPRIETARY JOINTING SYSTEMS INCLUDING FIXING, TEMPLATES & PEGGING TO ENSURE THAT ALL DOWEL BARS REMAIN IN THE CORRECT ALIGNMENT AND POSITION.
10. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER $50m^3$ OF BASECOURSE MATERIAL PLACED.
11. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER $50m^3$ OF SUB-BASE COURSE MATERIAL PLACED.
12. 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 COUNCIL ENGINEER.
13. 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.

CONCRETE

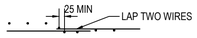
1. THIS SECTION REFERS TO CIVIL CONCRETE WORKS AND DOES NOT INCLUDE BUILDINGS OR BRIDGE STRUCTURES.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
3. CONCRETE QUALITY;
   ALL REQUIREMENTS OF THE CURRENT AS3600 CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE	MAX 56 DAY DRYING SHRINKAGE
KERBS AND PATHS	25	60	20	650um
PITS AND VEHICULAR PAVEMENTS	32	80	20	650um
FOOTINGS	32	80	20	650um
CULVERT BASE SLAB	40	80	20	650um

4. CONCRETE PROPERTIES FOR SLABS AND BEAMS SHALL BE VARIED FROM NORMAL CLASS AS FOLLOWS:
   A. MINIMUM CEMENT CONTENT 250kg/m3
   B. MAXIMUM 56 DAY SHRINKAGE STRAIN = AS NOMINATED ABOVE
   C. PRIOR TO COMMENCEMENT CONCRETE SUPPLIER TO PROVIDE DRYING SHRINKAGE TEST RESULTS FROM PRODUCTION ASSESSMENT AS EVIDENCE THAT SPECIFIED DRYING SHRINKAGE LIMITS CAN BE ACHIEVED USING NORMAL MIX DESIGN.
5. CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
6. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
7. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE DESIGN ENGINEER.
8. CLEAR CONCRETE COVERS SHALL BE (UNO):

ENVIRONMENT	COVER
A. SURFACES OF MEMBERS CAST AGAINST, AND IN CONTACT WITH THE GROUND	50mm
B. SURFACES OF MEMBERS CAST AGAINST, AND IN CONTACT WITH THE GROUND SEPARATED BY MEMBRANE	40mm
C. SURFACES OF MEMBERS IN ABOVE GROUND EXTERIOR ENVIRONMENTS	40mm
D. SURFACES OF MEMBERS IN INTERIOR ENVIRONMENTS	20mm

9. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
10. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
11. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

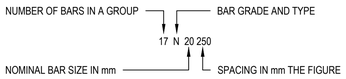


FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.

12. uPVC SHEET SHALL BE PLACED BELOW ALL CONCRETE PAVEMENTS.
13. ALL PENETRATIONS TO HAVE 2/N12 TRIMMER BARS TOP AND BOTTOM TO EACH FACE U.N.O. EXTEND TRIMMERS 700 BEYOND PENETRATION.
14. FORMWORK CLASS SHALL BE IN ACCORDANCE WITH AS380.
15. SURFACE FINISHES:

ELEMENT	FORMWORK CLASS
STORMWATER PIT	OFF FORM
PAVEMENTS	MACHINE FLOAT/BROOM FINISHED
KERBS	STEEL FLOAT/TROWEL

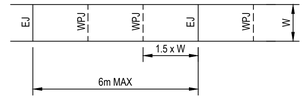
16. REINFORCEMENT SYMBOLS:
    N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
    R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
    SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304



PAVEMENT JOINTS

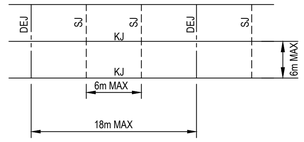
PEDESTRIAN PAVEMENTS

1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS U.N.O ON THE DESIGN DRAWINGS.
2. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
3. WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 1.5 x WIDTH OF THE PAVEMENT.
4. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
5. TYPICAL PEDESTRIAN PAVEMENT JOINT DETAIL.



VEHICULAR PAVEMENTS

6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS U.N.O ON THE DESIGN DRAWINGS.
7. TIED KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED LONGITUDINALLY AT A MAX OF 6.0m CENTRES
8. SAWN JOINTS SHOULD GENERALLY BE LOCATED LATERALLY AT A MAX OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 30.0m CENTRES
9. TYPICAL VEHICULAR PAVEMENT JOINT DETAIL.



10. PROVIDE 10mm EXPANSION FOAM BETWEEN NEW CONRETE WORKS AND EXISTING STRUCTURES.
11. LOCAL AUTHORITY REQUIREMENTS SHALL TAKE PRECEDENCE WITHIN THE PUBLIC ROAD RESERVE.
12. DOWELS TO BE PLACED ON PROPRIETARY CRADLES TO ENSURE CORRECT SPACING AND ALIGNMENT.

SIGNAGE AND LINE MARKING

1. LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH AS 2700 AND AS 2709 AND TfNSW SPECIFICATIONS.
2. ALL PAINT SHALL BE APPLIED BY MECHANICAL SPRAYER.
3. LINE MARKING SHALL BE SPOTTED OUT AND APPROVED PRIOR TO SPRAYING.
4. PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm TO 0.40mm.
5. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
6. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
7. PROVIDE RETRO-REFLECTORISED PAVEMENT MARKERS TO COUNCIL AND TfNSW. REQUIREMENTS.
8. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES ARE TO BE YELLOW.
9. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE TfNSW. REGULATORY SIGNS MANUAL.
10. RELOCATE OR REMOVE EXISTING SIGNS AS REQUIRED.
11. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.

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Client: CELESTINO

Scale

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Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SPECIFICATION NOTES
SHEET 02

Scale: NTS
Date: 23/12/2022
Size: A1
Datum: MGA2020

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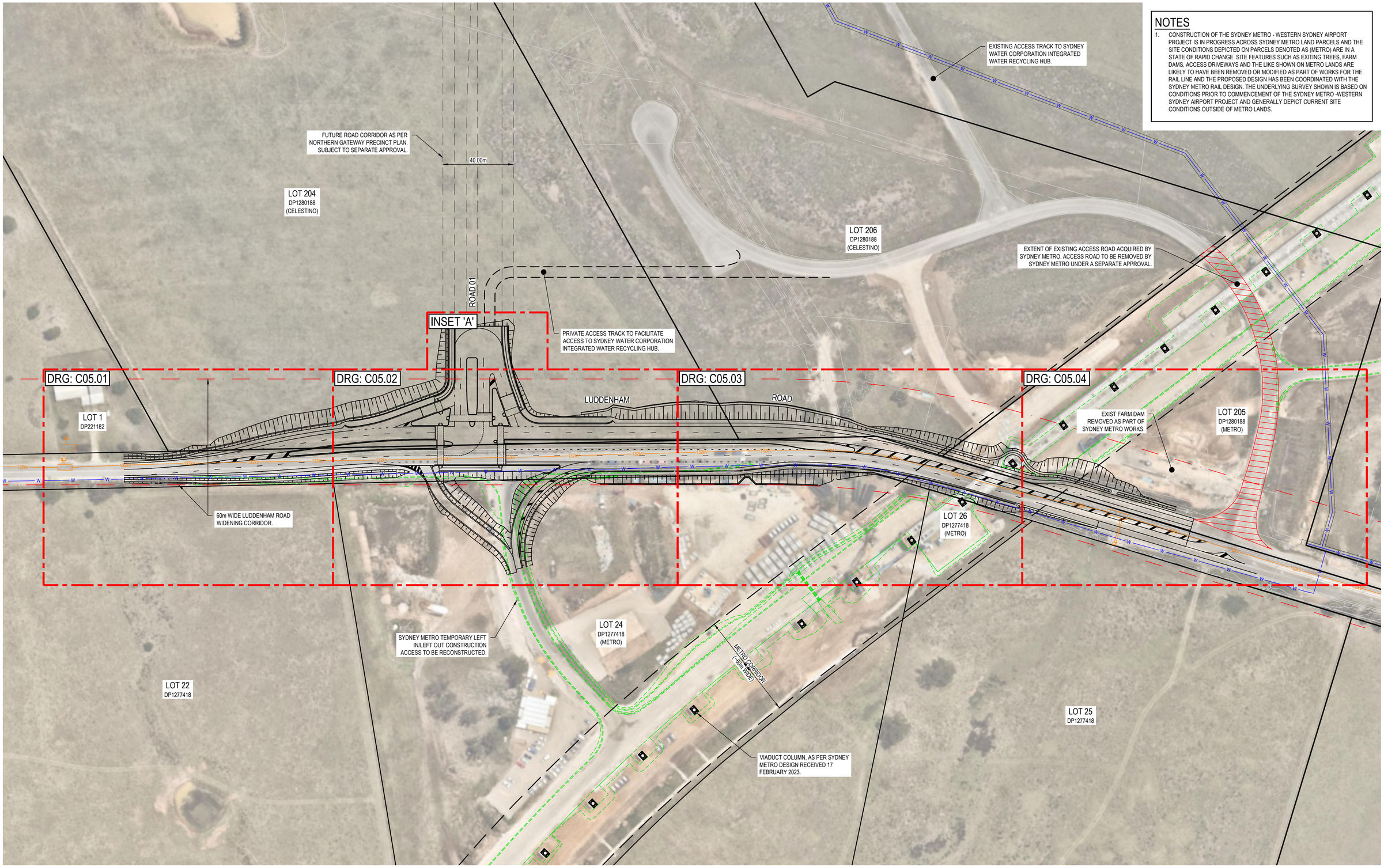
NOTES

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.



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Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

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Project: SYDNEY SCIENCE PARK
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Title: GENERAL ARRANGEMENT PLAN

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LEGEND

- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- EXISTING PAVEMENT TO BE REMOVED
- e o/h — EXISTING OVERHEAD ELECTRICAL
- 132kV — EXISTING 132kV ELECTRICAL
- W — EXISTING POTABLE WATER MAIN
- T — EXISTING TELECOMMUNICATIONS LINE

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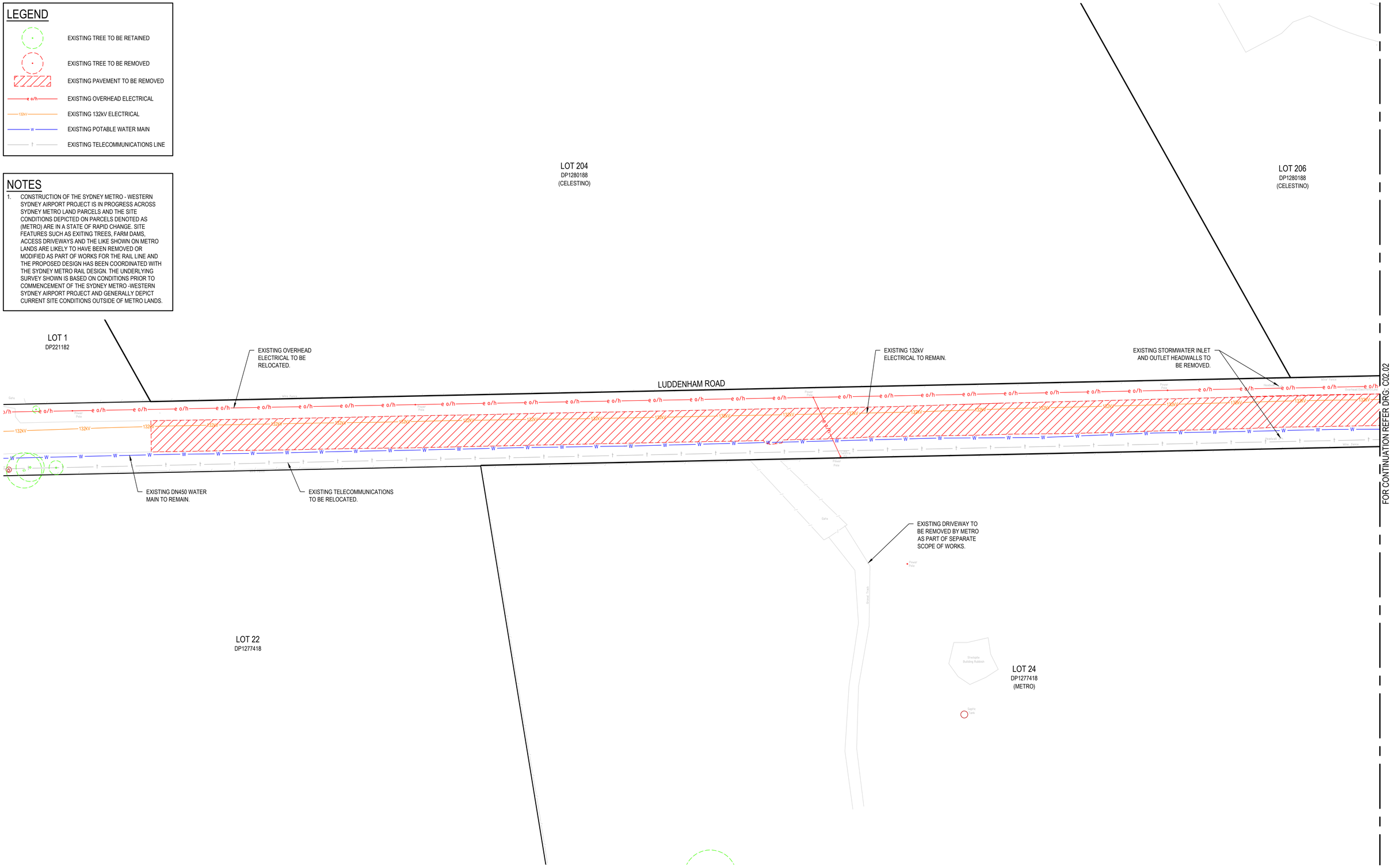

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Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

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Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ESTABLISHMENT AND DEMOLITION PLAN
SHEET 01

Scale: 1:500
Date: 23/12/2022
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Status: FOR INFORMATION ONLY
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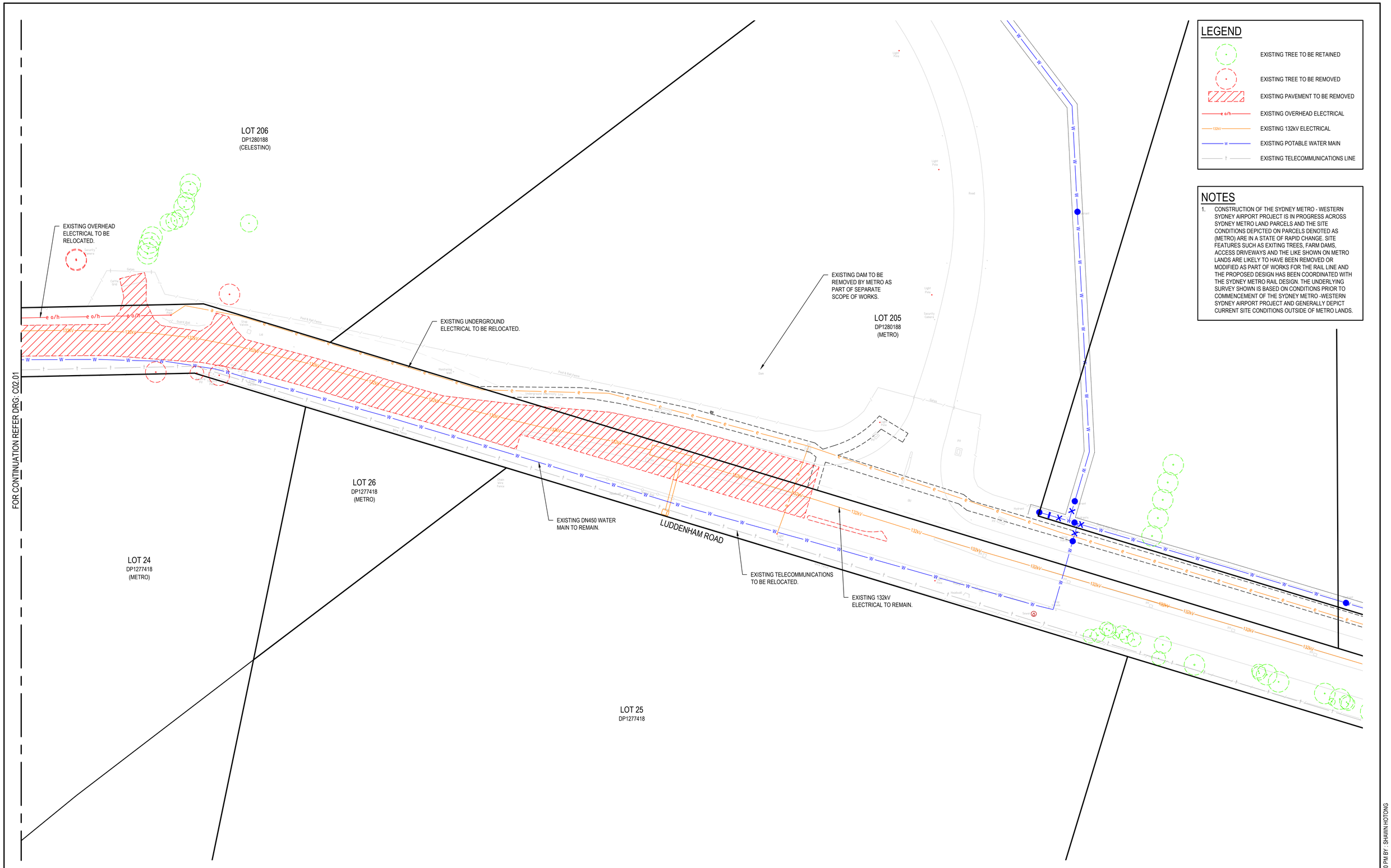

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- EXISTING PAVEMENT TO BE REMOVED
- EXISTING OVERHEAD ELECTRICAL
- EXISTING 132kV ELECTRICAL
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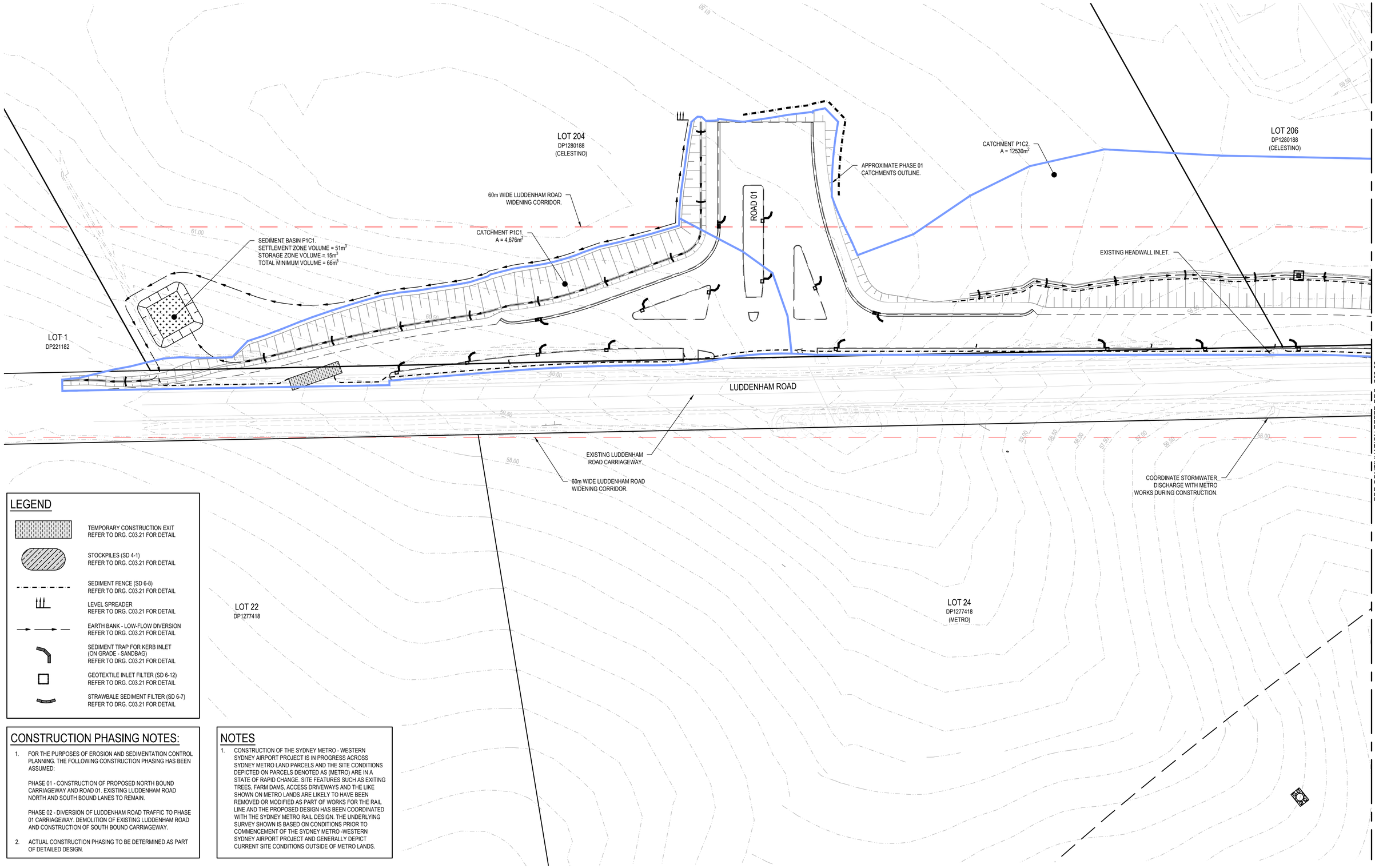
Revision: 7

DATE PLOTTED: 8 November 2024 1:00 PM BY: SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C02.01-C02.02-ESTABLISHMENT AND DEMOLITION PLAN.dwg



LEGEND

- TEMPORARY CONSTRUCTION EXIT — REFER TO DRG. C03.21 FOR DETAIL
- STOCKPILES (SD 4-1) — REFER TO DRG. C03.21 FOR DETAIL
- SEDIMENT FENCE (SD 6-8) — REFER TO DRG. C03.21 FOR DETAIL
- LEVEL SPREADER — REFER TO DRG. C03.21 FOR DETAIL
- EARTH BANK - LOW-FLOW DIVERSION — REFER TO DRG. C03.21 FOR DETAIL
- SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG) — REFER TO DRG. C03.21 FOR DETAIL
- GEOTEXTILE INLET FILTER (SD 6-12) — REFER TO DRG. C03.21 FOR DETAIL
- STRAWBALE SEDIMENT FILTER (SD 6-7) — REFER TO DRG. C03.21 FOR DETAIL

CONSTRUCTION PHASING NOTES:

1. FOR THE PURPOSES OF EROSION AND SEDIMENTATION CONTROL PLANNING. THE FOLLOWING CONSTRUCTION PHASING HAS BEEN ASSUMED:

   PHASE 01 - CONSTRUCTION OF PROPOSED NORTH BOUND CARRIAGEWAY AND ROAD 01. EXISTING LUDDENHAM ROAD NORTH AND SOUTH BOUND LANES TO REMAIN.

   PHASE 02 - DIVERSION OF LUDDENHAM ROAD TRAFFIC TO PHASE 01 CARRIAGEWAY. DEMOLITION OF EXISTING LUDDENHAM ROAD AND CONSTRUCTION OF SOUTH BOUND CARRIAGEWAY.

2. ACTUAL CONSTRUCTION PHASING TO BE DETERMINED AS PART OF DETAILED DESIGN.

NOTES

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL PLAN
INDICATIVE CONSTRUCTION PHASE 01
SHEET 01

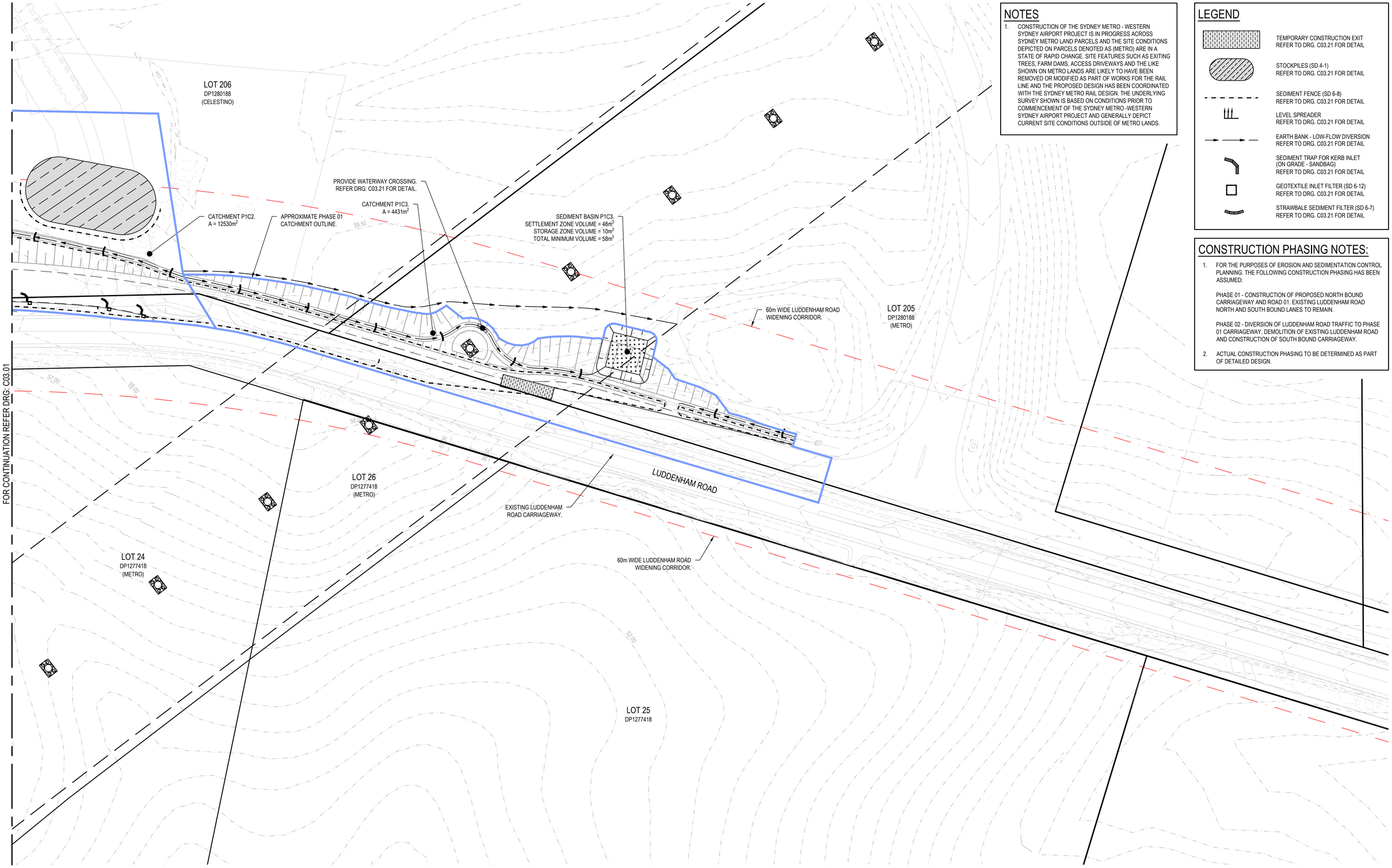
Scale: 1:500
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C03.01
Revision: 6

DATE PLOTTED: 19 December 2023 11:14 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C03.01-C03.02-EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 01.dwg



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LEGEND

- TEMPORARY CONSTRUCTION EXIT
  REFER TO DRG. C03.21 FOR DETAIL
- STOCKPILES (SD 4-1)
  REFER TO DRG. C03.21 FOR DETAIL
- SEDIMENT FENCE (SD 6-8)
  REFER TO DRG. C03.21 FOR DETAIL
- LEVEL SPREADER
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- EARTH BANK - LOW-FLOW DIVERSION
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- GEOTEXTILE INLET FILTER (SD 6-12)
  REFER TO DRG. C03.21 FOR DETAIL
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Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

North

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LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL PLAN
INDICATIVE CONSTRUCTION PHASE 01
SHEET 02

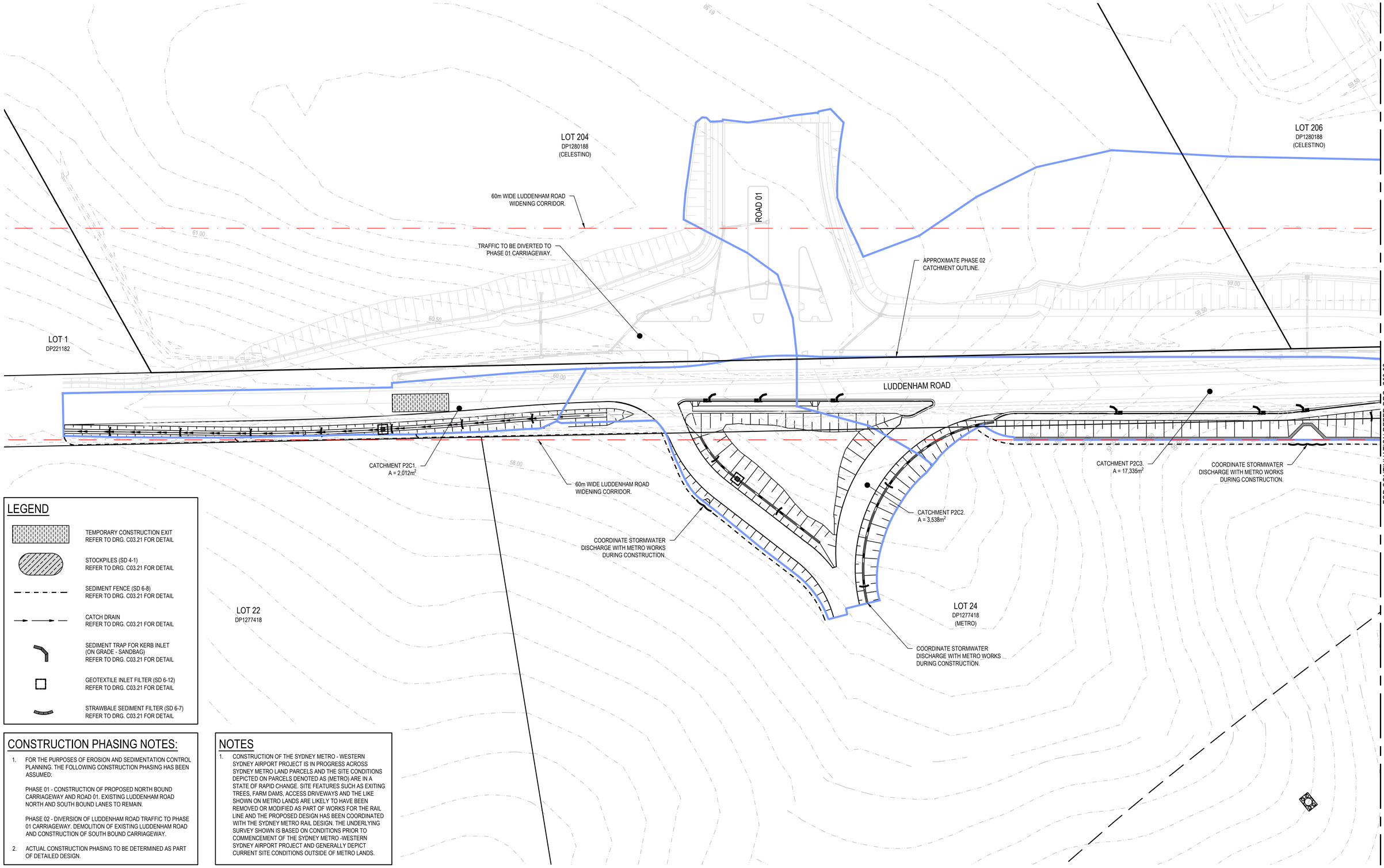
Scale: 1:500
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C03.02
Revision: 6

DATE PLOTTED: 19 December 2023 11:15 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C03.01-C03.02-EROSION AND SEDIMENTATION CONTROL PLAN INDICATIVE CONSTRUCTION PHASE 01.dwg



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LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL PLAN
INDICATIVE CONSTRUCTION PHASE 02
SHEET 01

Scale: 1:500
Date: 6/04/2023
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
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Project Number/Drawing Number: 180001-01-DA-C03.03
Revision: 5

DATE PLOTTED: 19 December 2023 11:15 AM BY : SHAWN HOTONG

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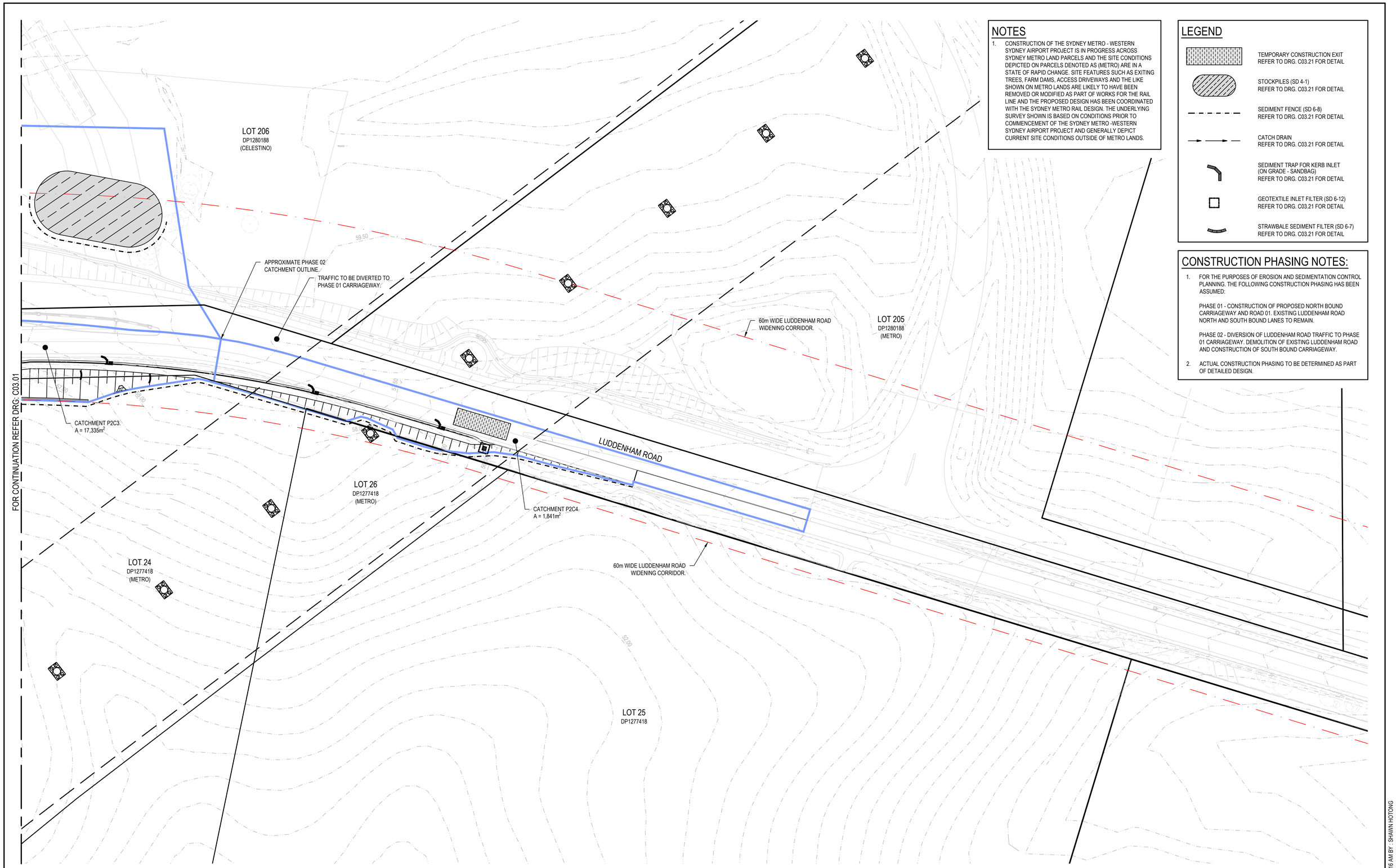

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LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL PLAN
INDICATIVE CONSTRUCTION PHASE 02
SHEET 02

Scale: 1:500
Date: 6/04/2023
Size: A1
Datum: MGA2020

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Project Number/Drawing Number: 180001-01-DA-C03.04
Revision: 5

DATE PLOTTED: 19 December 2023 11:16 AM BY : SHAWN HOTONG

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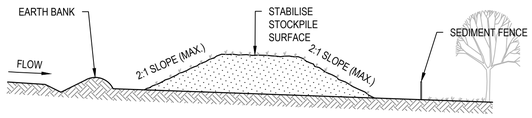
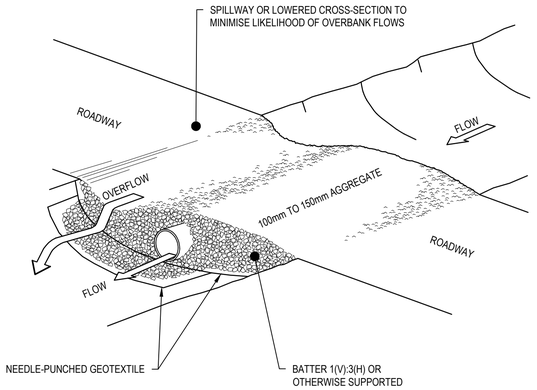


CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

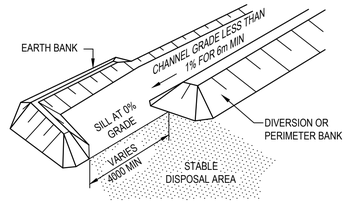
STOCKPILES (SD 4-1)



CONSTRUCTION NOTES

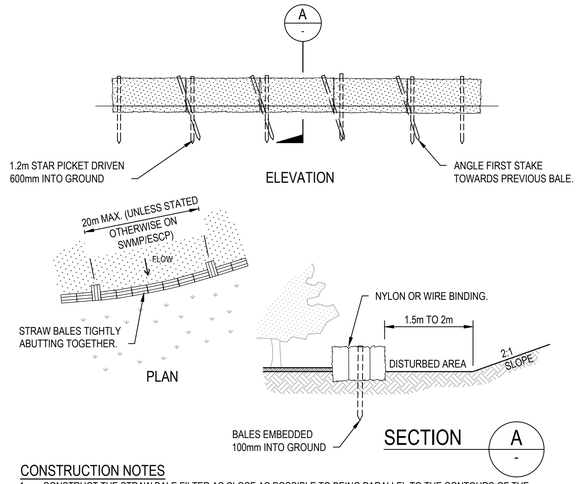
1. PROHIBIT ALL TRAFFIC UNTIL THE ACCESS WAY IS CONSTRUCTED.
2. STRIP ANY TOPSOIL AND PLACE A NEEDLE-PUNCHED TEXTILE OVER THE BASE OF THE CROSSING.
3. PLACE CLEAN, RIGID, NON POLLUTING AGGREGATE OR GRAVEL IN THE 100mm TO 150mm SIZE CLASS OVER THE FABRIC TO A MINIMUM DEPTH OF 200mm.
4. PROVIDE A 3m WIDE CARRIAGEWAY WITH SUFFICIENT LENGTH OF CULVERT PIPE TO ALLOW LESS THAN A 3(H): 1 (V) SLOPE ON SIDE BATTERS.
5. INSTALL A LOWER SECTION TO ACT AS AN EMERGENCY SPILLWAY IN GREATER THAN DESIGN STORM EVENTS.
6. ENSURE THAT CULVERT OUTLETS EXTEND BEYOND THE TOE OF FILL EMBANKMENTS.

GRAVEL WATERWAY CROSSING (SD 5-1)



LEVEL SPREADER

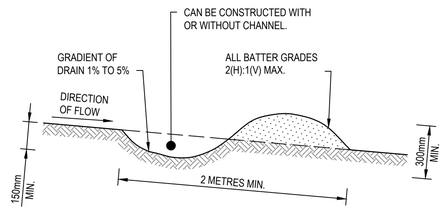
NOT TO SCALE



CONSTRUCTION NOTES

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1 TO 2 METRES DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

STRAW BALE FILTER (SD 6-7)

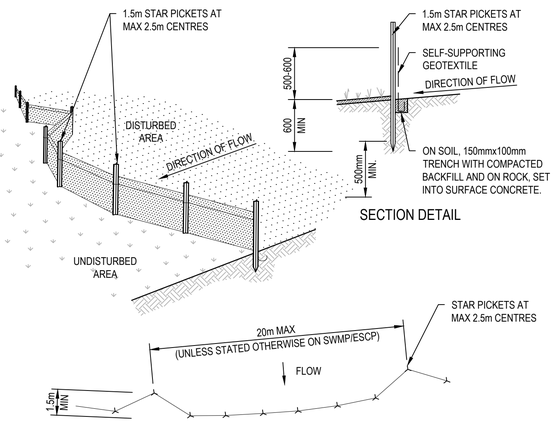


CONSTRUCTION NOTES

1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

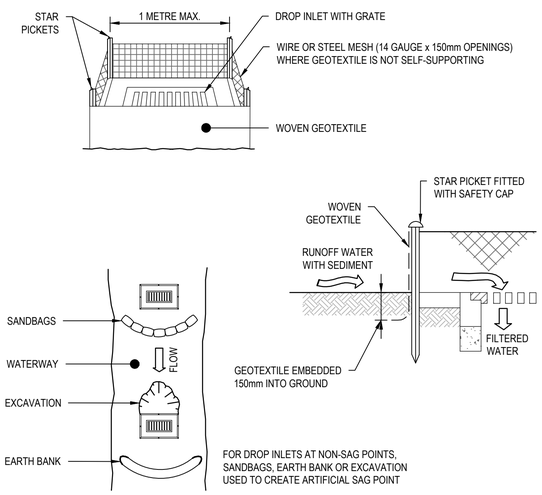
EARTH BANK - LOW FLOW (SD 5-5)



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

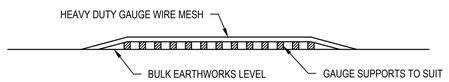
SEDIMENT FENCE (SD 6-8)



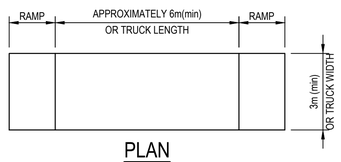
CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER (SD 6-12)



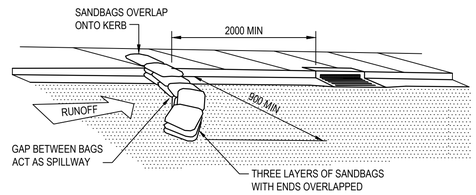
ELEVATION



PLAN

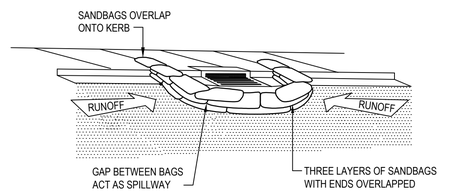
TEMPORARY CONSTRUCTION EXIT (SHAKER PAD DETAIL)

THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.



SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)

NOT TO SCALE



SEDIMENT TRAP FOR KERB INLET (AT LOW POINT - SANDBAG)

NOT TO SCALE

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale:

North:

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL DETAILS

SHEET 01

Scale: NTS

Date: 23/12/2022

Size: A1

Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C03.21

Revision: 5

DATE PLOTTED: 19 December 2023 11:40 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C03.21-C03.22-EROSION AND SEDIMENTATION CONTROL DETAILS.dwg

INDICATIVE MAINTENANCE SCHEDULE

CONTROL ELEMENT	MAINTENANCE FREQUENCY	INSPECTION REQUIREMENTS
DIVERSION DRAINS	> MONTHLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK STATE OF CHANNEL IS FREE DRAINING AND FREE OF DEBRIS OR BLOCKAGE. TRIM OVERGROWTH AND REMOVE BLOCKAGES WHERE REQUIRED. > CHECK CHANNEL ALIGNMENT OR FORMATION HAS NOT BEEN ADVERSELY ALTERED. RECTIFY DEFECTS WITHIN 48 HOURS.
STRAW BALE FILTERS	> MONTHLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK STRAW BALE FILTERS ARE TIGHTLY BOUND AND ANCHORED. RECTIFY DEFECTS WITHIN 48 HOURS. > CHECK FOR EXCESS SEDIMENT BUILD UP AND REMOVE WHERE REQUIRED.
SEDIMENT FENCES	> MONTHLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK SEDIMENT FENCES ARE APPROPRIATELY POSITIONED AND ANCHORED. RECTIFY DEFECTS WITHIN 48 HOURS. > CHECK FOR EXCESS SEDIMENT BUILD UP AND REMOVE WHERE REQUIRED. > CHECK FOR STANDING WATER AND DEWATER IN ACCORDANCE WITH SEDIMENT BASIN DEWATERING METHODOLOGY. ALTERNATIVELY TRANSFER SEDIMENT LADEN WATER TO SEDIMENT BASINS TO CONSOLIDATE TREATMENT ONLY WHERE SEDIMENT BASINS HAVE CAPACITY TO STORE TRANSFERRED WATER.
PIT INLET FILTERS	> MONTHLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK PIT INLET FILTERS ARE CORRECTLY POSITIONED AND ANCHORED. RECTIFY DEFECTS WITHIN 48 HOURS. > CHECK FOR EXCESS SEDIMENT BUILD UP AND REMOVE WHERE REQUIRED.
CONSTRUCTION EXITS	> WEEKLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK CONSTRUCTION EXITS HAVE ADEQUATE SEDIMENT AND SOIL STORAGE. REMOVE EXCESS SEDIMENT AND SOILS. > CHECK DIVERSION DRAIN TO NEAREST SEDIMENT CONTROL FENCE OR SEDIMENT CONTROL BASIN IS AVAILABLE AND UNIMPEDED. > CONVERT TO WASH DOWN CONSTRUCTION EXIT WHERE EXCESSIVE SEDIMENT IS OBSERVED ON DEPARTURE AREAS.
SEDIMENT BASINS	> WEEKLY AND/OR FOLLOWING A RAINFALL EVENT.	> CHECK GENERAL STATE OF SEDIMENT BASINS ARE OPERATING AS PER DESIGN DRAWING (E.G. DEPTHS, OVERFLOW WEIRS, OVERFLOW DIRECTION). RECTIFY DEFECTS WITHIN 48 HOURS. > ENSURE COMPLETE SETTLEMENT OF SEDIMENT WITHIN 5 DAYS OF RAINFALL. FLOCCULATE SEDIMENT LADEN WATER WHERE NECESSARY TO ENSURE SETTLEMENT WITHIN 5 DAYS OF RAINFALL. > CHECK SEDIMENT STORAGE ZONE CAPACITY AND REMOVE ALL STORED SEDIMENT ONCE STORAGE IS EXCEEDED. > DISPOSE OF SETTLEMENT ZONE WATER PRIOR TO NEXT FORECAST RAINFALL. TEST WATER PRIOR TO DISPOSAL AND DISPOSE ONLY WHERE TOTAL SUSPENDED SOLIDS IS EQUAL TO OR LESS THAN 50MG/L AND PH LEVELS BETWEEN 6.5-8.5.

1. Erosion Hazard and Sediment Basins

Site Name: Sydney Science Park

Site Location: Penrith - Luddenham Road

Precinct/Stage: Interim Signalised Intersection (LUD3)

Other Details: Soil Type D assumed

Site area	Sub-catchment or Name of Structure						Notes
	P1C1	P1C2	P1C3				
Total catchment area (ha)	0.47	1.25	0.44				
Disturbed catchment area (ha)	0.47	0.63	0.44				
Soil analysis (enter sediment type if known, or laboratory particle size data)							
Sediment Type (C, F or D) if known:	D	D	D				From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	D	D	D				Automatic calculation from above
Rainfall data							
Design rainfall depth (no of days)	5	5	5				See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	80	80	80				
x-day, y-percentile rainfall event (mm)	21.8	21.8	21.8				
Rainfall R-factor (if known)							Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)	10.1	10.1	10.1				
RUSLE Factors							
Rainfall erosivity (*R*-factor)	2250	2250	2250				Auto-filled from above
Soil erodibility (*K*-factor)	0.034	0.034	0.034				RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	200	150	140				
Slope gradient (%)	3	3	3				
Length/gradient (*LS*-factor)	1.01	0.88	0.85				
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	
Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)							
Storage (soil) zone design (no of months)	3	3	3				Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.5	0.5	0.5				See Table F2, page F-4 in Appendix F
Calculations and Type D/F Sediment Basin Volumes							
Soil loss (t/ha/yr)	100	87	84				
Soil Loss Class	1	1	1				See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	77	67	65				Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	9	11	7				See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	51	136	48				See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	60	147	55				

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).

1. Erosion Hazard and Sediment Basins

Site Name: Sydney Science Park

Site Location: Penrith - Luddenham Road

Precinct/Stage: Interim Signalised Intersection (LUD3)

Other Details: Soil Type D assumed

Site area	Sub-catchment or Name of Structure						Notes
	P2C1	P2C2	P2C3	P2C4			
Total catchment area (ha)	0.2	0.48	1.9	0.23			
Disturbed catchment area (ha)	0.2	0.3	0.65	0.23			
Soil analysis (enter sediment type if known, or laboratory particle size data)							
Sediment Type (C, F or D) if known:	D	D	D	D			From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	D	D	D	D			Automatic calculation from above
Rainfall data							
Design rainfall depth (no of days)		5	5				See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)		80	80				
x-day, y-percentile rainfall event (mm)		21.8	21.8				
Rainfall R-factor (if known)							Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)		10.1	10.1				
RUSLE Factors							
Rainfall erosivity (*R*-factor)		2250	2250				Auto-filled from above
Soil erodibility (*K*-factor)	0.034	0.034	0.034	0.034			RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	150	70	150	120			
Slope gradient (%)	3	3	3	3			
Length/gradient (*LS*-factor)	0.88	0.61	0.88	0.79			
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	
Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)							
Storage (soil) zone design (no of months)		3	3				Minimum is generally 2 months
Cv (Volumetric runoff coefficient)		0.5	0.5				See Table F2, page F-4 in Appendix F
Calculations and Type D/F Sediment Basin Volumes							
Soil loss (t/ha/yr)		61	87				
Soil Loss Class		1	1				See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)		47	67				Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)		4	11				See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)		52	207				See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)		56	218				

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
3	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
2	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
1	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL DETAILS

SHEET 02

Scale: NTS

Date: 6/04/2023

Size: A1

Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C03.22

Revision: 3

DATE PLOTTED: 19 December 2023 11:40 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C03.21-C03.22-EROSION AND SEDIMENTATION CONTROL DETAILS.dwg

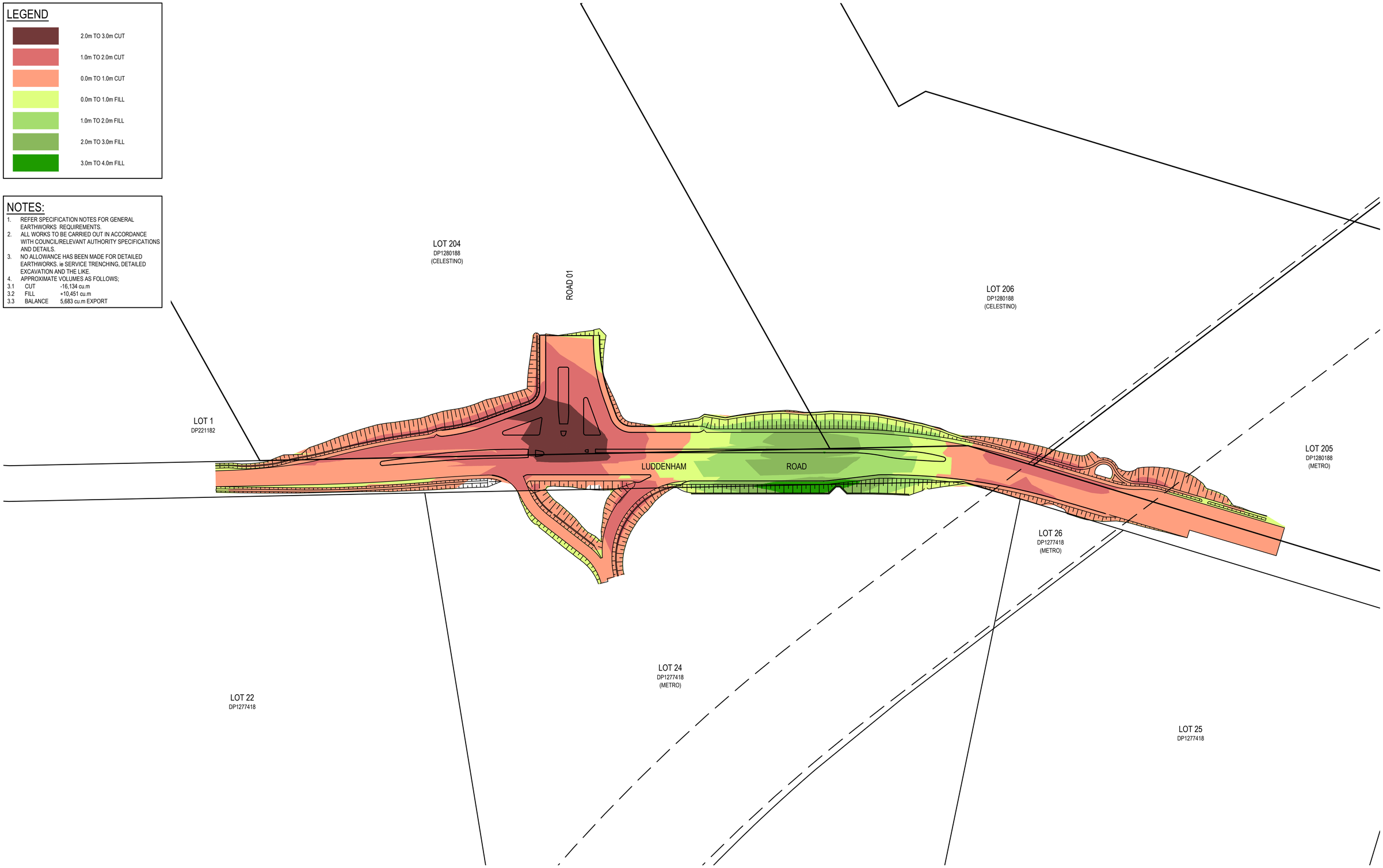
LEGEND

- 2.0m TO 3.0m CUT
- 1.0m TO 2.0m CUT
- 0.0m TO 1.0m CUT
- 0.0m TO 1.0m FILL
- 1.0m TO 2.0m FILL
- 2.0m TO 3.0m FILL
- 3.0m TO 4.0m FILL

NOTES:

1. REFER SPECIFICATION NOTES FOR GENERAL EARTHWORKS REQUIREMENTS.
2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL/RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
3. NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS. ie SERVICE TRENCHING, DETAILED EXCAVATION AND THE LIKE.
4. APPROXIMATE VOLUMES AS FOLLOWS;

3.1	CUT	-16,134 cu.m
3.2	FILL	+10,451 cu.m
3.3	BALANCE	5,683 cu.m EXPORT



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

Enspire Solutions Pty Ltd
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ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: BULK EARTHWORKS CUT AND FILL PLAN

Scale: 1:1000
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C04.01

Revision: 5

DATE PLOTTED: 19 December 2023 11:40 AM BY : SHAWN HOTONG

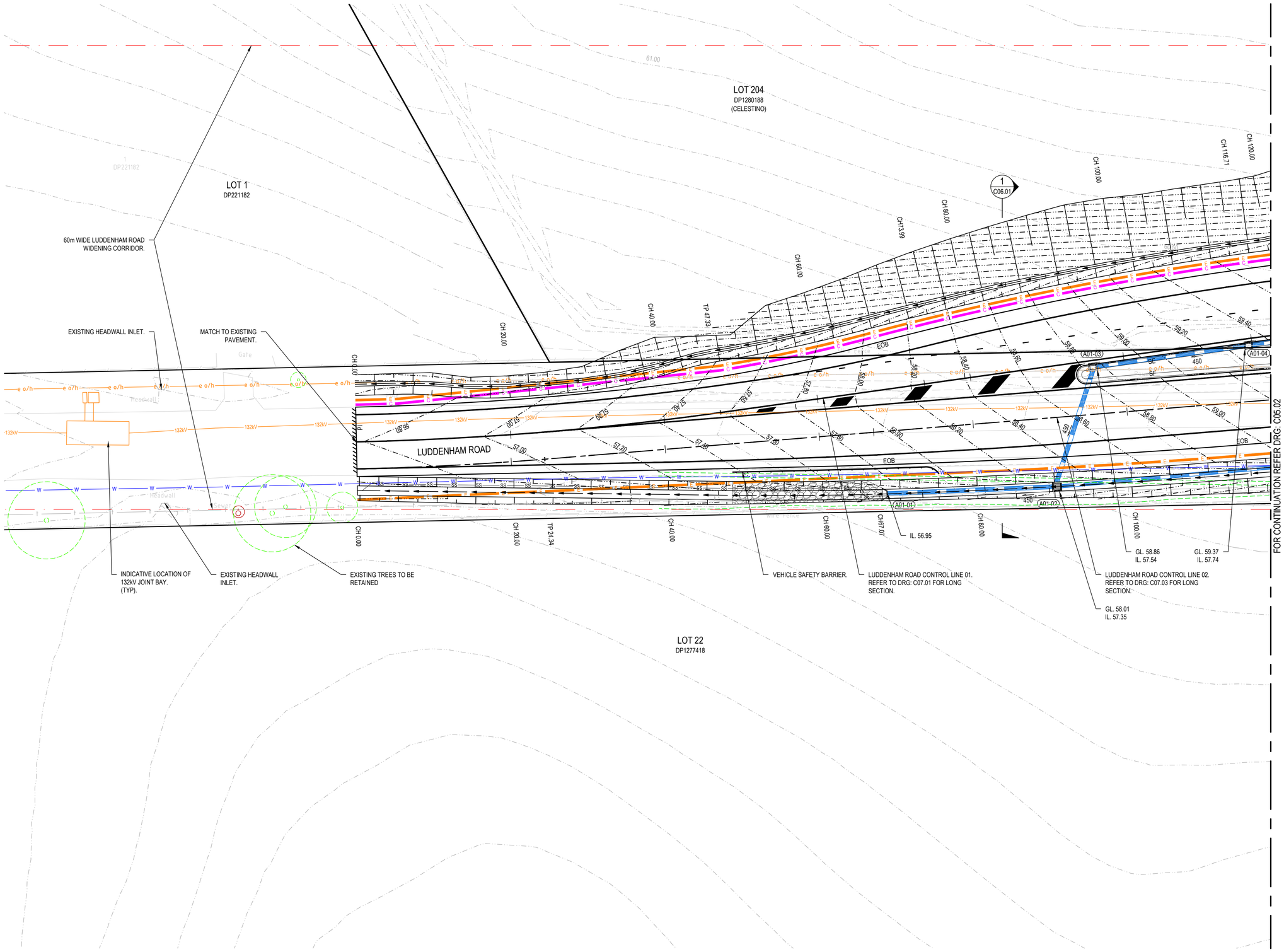
CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C04.01-BULK EARTHWORKS CUT AND FILL PLAN.dwg

LEGEND

- PROPERTY BOUNDARY
- 100.00 — CONTOUR
- BATTER 1IN 4 U.N.O
- SA — BARRIER KERB AND CHANNEL REFER TfNSW STANDARD DRG: R0300-01 FOR DETAIL
- SE — RAISED MEDIAN KERB WITH DRAINAGE REFER TfNSW STANDARD DRG: R0300-01 FOR DETAIL
- SF — RAISED MEDIAN KERB REFER TfNSW STANDARD DRG: R0300-01 FOR DETAIL
- PI — PAVEMENT INTERFACE
- EOB — EDGE OF BITUMEN
- RW01 — RETAINING WALL REFER DRG: C15.01 FOR ELEVATION
- F 100.00 — FINISHED LEVEL
- GL 100.00 — GRATE LEVEL
- IL 100.00 — INVERT LEVEL
- GRASS LINED SWALE REFER DRG: C14.01 FOR DETAIL
- SCOUR PROTECTION
- 375 — PIPE SIZE STORMWATER DRAINAGE LINE FLOW DIRECTION
- A01/01 — STORMWATER LINE/PIT NUMBER
- KERB INLET PIT
- SURFACE INLET PIT/JUNCTION PIT
- HEADWALL
- E — INDICATIVE INTERIM ELECTRICAL REFER NOTE 4
- C — INDICATIVE INTERIM TELECOMMUNICATIONS REFER NOTE 4

NOTES:

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.
2. ALL INTERFACE BATTERS ARE TO BE STABILISED WITH SEEDED HYDROMULCH.
3. ALL VERGES TO BE STABILISED WITH TURF.
4. INDICATIVE INTERIM ELECTRICAL AND TELECOMMUNICATIONS ALLOCATIONS SHOWN ARE TO FACILITATE ADEQUATE SERVICING OF THE INTERIM SIGNALISED INTERSECTION AND DOES NOT REPRESENT ULTIMATE SERVICE ALLOCATIONS.(E.G. PROVISION OF STREET LIGHTING, UNDERGROUNDING OF EXISTING OVERHEAD, SERVICING INTERIM SIGNALS EQUIPMENT). ULTIMATE SERVICING IS TO BE PROVIDED AS PART OF PLANNED FUTURE LUDDENHAM ROAD WIDENING. INTERIM SERVICING SHOWN IS INDICATIVE ONLY AND SUBJECT TO CHANGE AS PART OF DETAIL DESIGN.



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
7	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

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Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN
SHEET 01

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
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Project Number/Drawing Number: 180001-01-DA-C05.01
Revision: 7

DATE PLOTTED: 2 April 2024 10:46 AM BY : SHAWN HOTONG

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FOR CONTINUATION REFER INSET 'A'

FOR CONTINUATION REFER DRG: C05.01

FOR CONTINUATION REFER DRG: C05.03

LOT 204
DP1280188
(CELESTINO)

60m WIDE LUDDENHAM ROAD WIDENING CORRIDOR.

ROAD 01

ROAD 01 CONTROL LINE 01. REFER TO DRG: C07.05 FOR LONG SECTION.

ROAD 01 CONTROL LINE 02. REFER TO DRG: C07.06 FOR LONG SECTION.

CAP AND SEAL. (TYP)

LUDDENHAM ROAD

LUDDENHAM ROAD CONTROL LINE 02. REFER TO DRG: C07.03 FOR LONG SECTION.

LUDDENHAM ROAD CONTROL LINE 01. REFER TO DRG: C07.01 FOR LONG SECTION.

VEHICLE SAFETY BARRIER.

EXIT ROAD TO MAINTAIN METRO VIADUCT CONSTRUCTION ACCESS.

LEVEL SPREADER.

SLIP LANE TO MAINTAIN METRO VIADUCT CONSTRUCTION ACCESS.

LOT 24
DP1277418
(METRO)

ENTRY ROAD TO MAINTAIN METRO VIADUCT CONSTRUCTION ACCESS.

SYDNEY METRO TEMPORARY LEFT IN/LEFT OUT CONSTRUCTION ACCESS TO BE RECONSTRUCTED.

MATCH EXISTING METRO ACCESS ROAD PAVEMENT.

PRIVATE ACCESS TRACK TO FACILITATE ACCESS TO SYDNEY WATER CORPORATION INTEGRATED WATER RECYCLING HUB.

PRIVATE ACCESS GATE.

FOR CONTINUATION REFER PLAN

INSET 'A'

SCALE 1:250

NOTES:

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.
2. ALL INTERFACE BATTERS ARE TO BE STABILISED WITH SEEDED HYDROMULCH.
3. ALL VERGES TO BE STABILISED WITH TURF.
4. REFER DRG: C05.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
8	8/11/2024	UPDATED TREE REMOVAL / RETENTION	SHH	JS		SHH
7	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

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ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN

SHEET 02

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

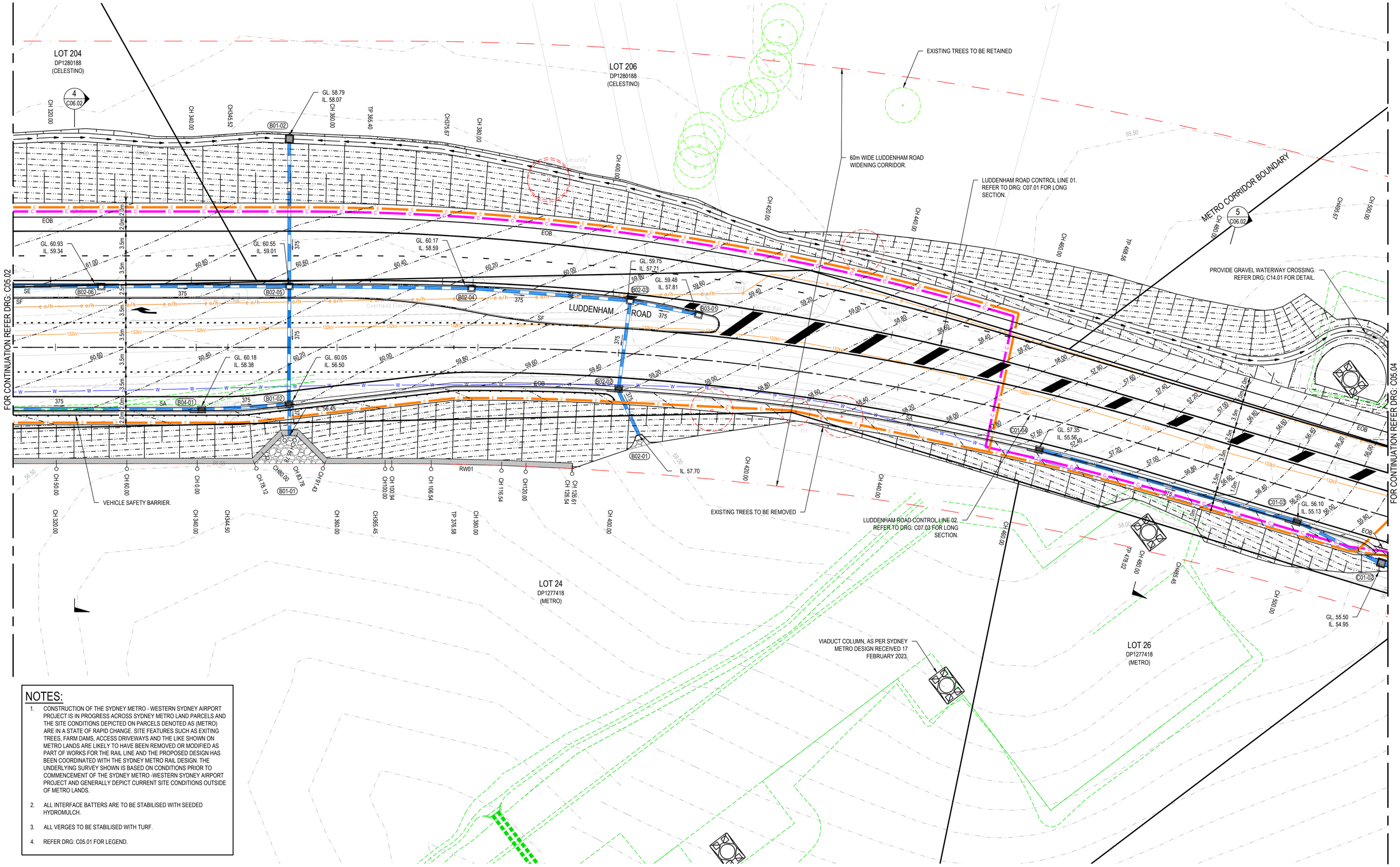
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C05.02

Revision: 8

DATE PLOTTED: 8 November 2024 1:05 PM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C05.01-C05.04-SITEWORKS AND STORMWATER MANAGEMENT PLAN.dwg



NOTES:

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.
2. ALL INTERFACE BATTERS ARE TO BE STABILISED WITH SEEDED HYDROMULCH.
3. ALL VERGES TO BE STABILISED WITH TURF.
4. REFER DRG: C05.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
8	8/11/2024	UPDATED TREE REMOVAL / RETENTION	SHH	JS		SHH
7	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN
SHEET 03

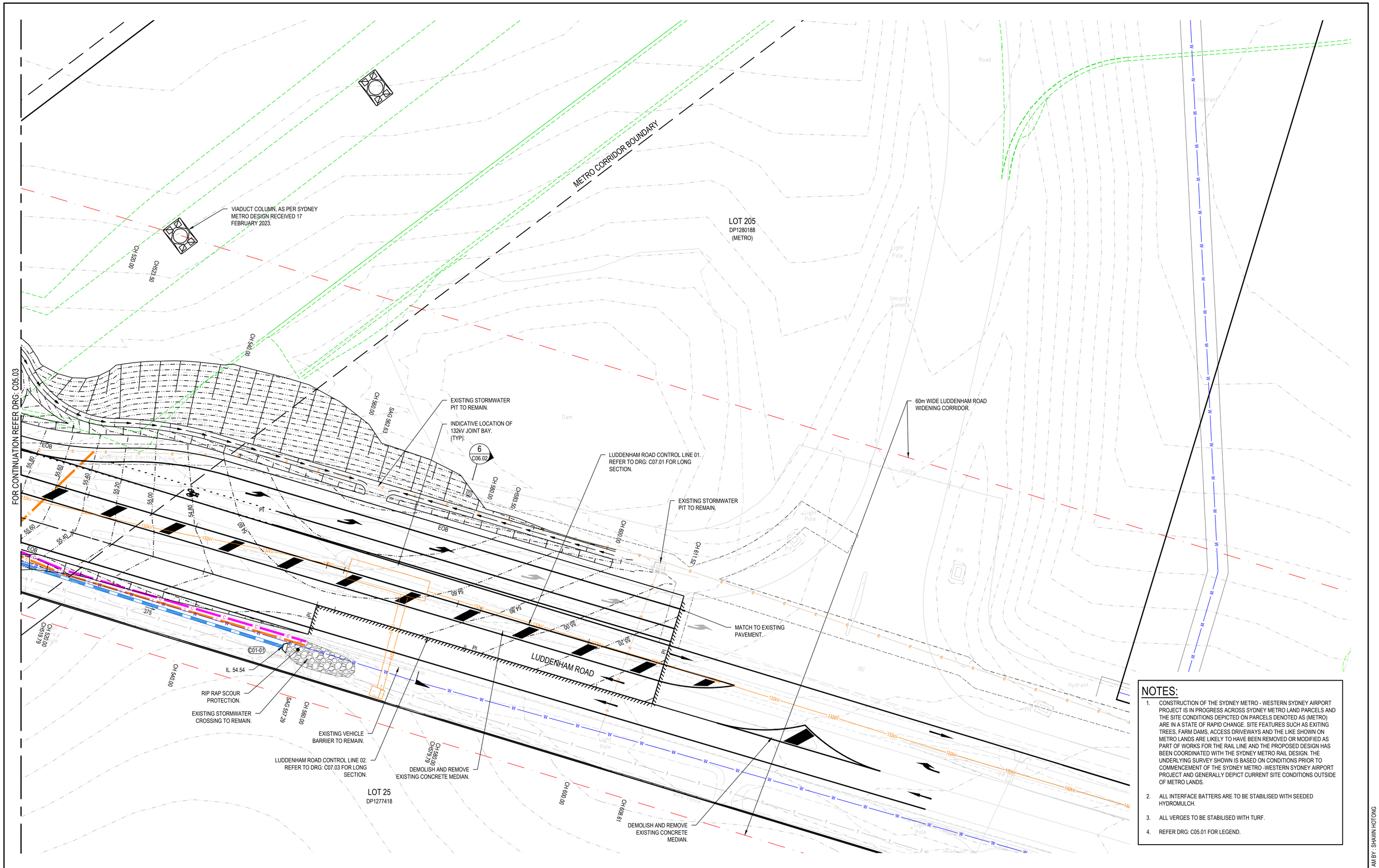
Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C05.03
Revision: 8

DATE PLOTTED: 8 November 2024 1:00 PM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C05.01-C05.04-SITEWORKS AND STORMWATER MANAGEMENT PLAN.dwg



NOTES:

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.
2. ALL INTERFACE BATTERS ARE TO BE STABILISED WITH SEEDED HYDROMULCH.
3. ALL VERGES TO BE STABILISED WITH TURF.
4. REFER DRG: C05.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
7	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN
SHEET 04

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

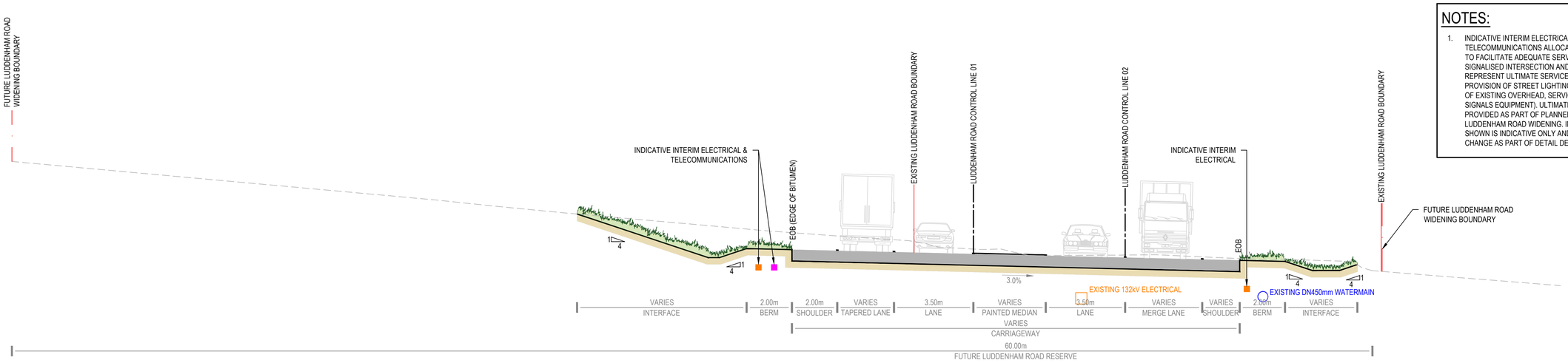
Project Number/Drawing Number: 180001-01-DA-C05.04
Revision: 7

DATE PLOTTED: 2 April 2024 10:46 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C05.01-C05.04-SITEWORKS AND STORMWATER MANAGEMENT PLAN.dwg

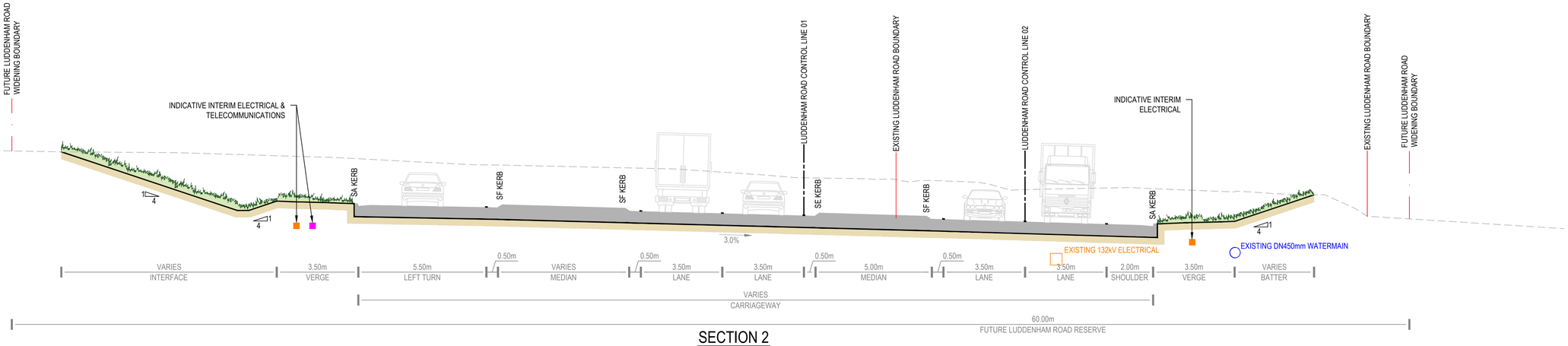
NOTES:

1. INDICATIVE INTERIM ELECTRICAL AND TELECOMMUNICATIONS ALLOCATIONS SHOWN ARE TO FACILITATE ADEQUATE SERVICING OF THE INTERIM SIGNALISED INTERSECTION AND DOES NOT REPRESENT ULTIMATE SERVICE ALLOCATIONS.(E.G. PROVISION OF STREET LIGHTING, UNDERGROUNDING OF EXISTING OVERHEAD, SERVICING INTERIM SIGNALS EQUIPMENT). ULTIMATE SERVICING IS TO BE PROVIDED AS PART OF PLANNED FUTURE LUDDENHAM ROAD WIDENING. INTERIM SERVICING SHOWN IS INDICATIVE ONLY AND SUBJECT TO CHANGE AS PART OF DETAIL DESIGN.



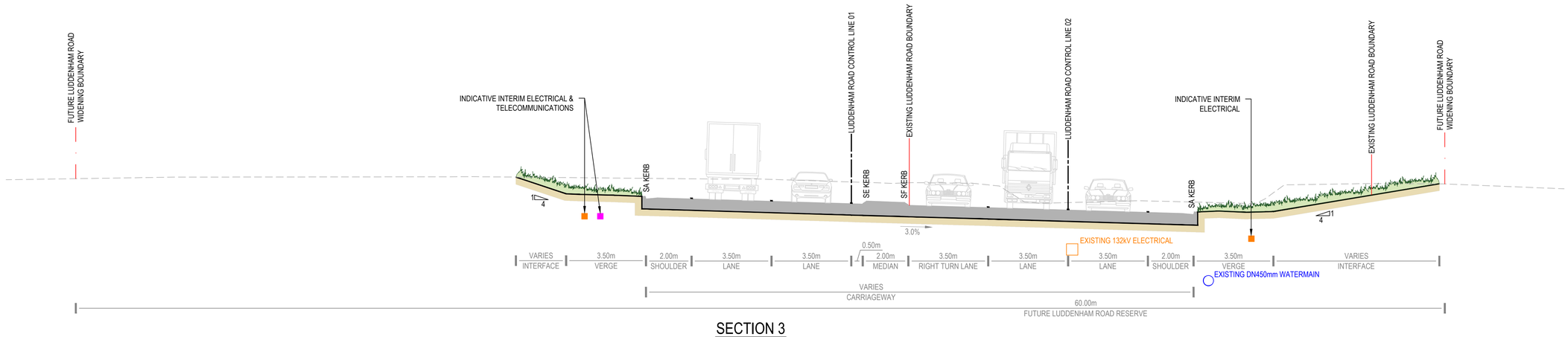
SECTION 1

SCALE 1:100



SECTION 2

SCALE 1:100



SECTION 3

SCALE 1:100

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 1 2 4 6 8 10m — SCALE 1:100 @A1

North

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Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD TYPICAL CROSS SECTIONS

SHEET 01

Scale: 1:100
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

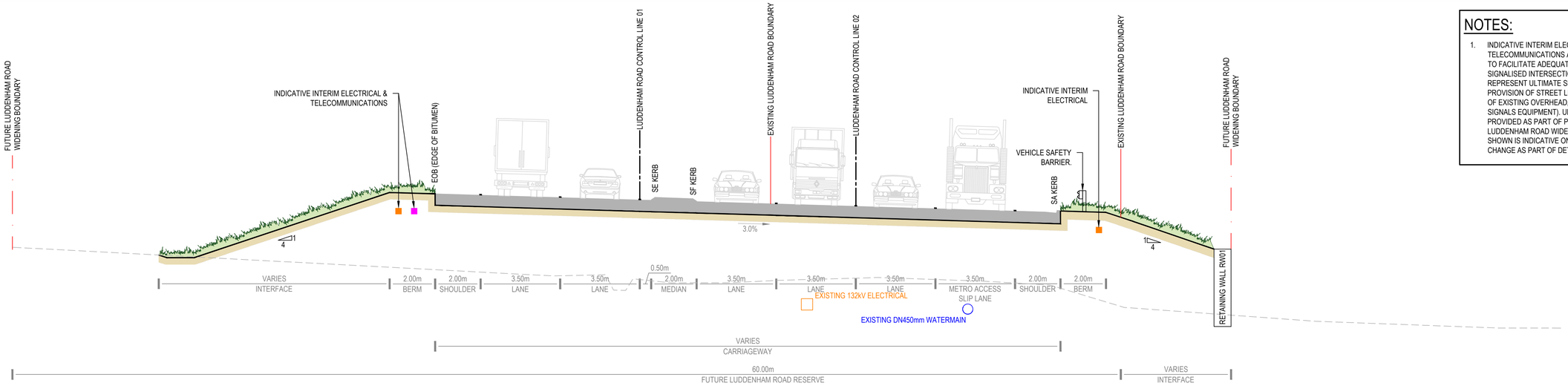
Project Number/Drawing Number: 180001-01-DA-C06.01
Revision: 5

DATE PLOTTED: 2 April 2024 10:34 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C06.01-C06.02-ROAD TYPICAL CROSS SECTIONS.dwg

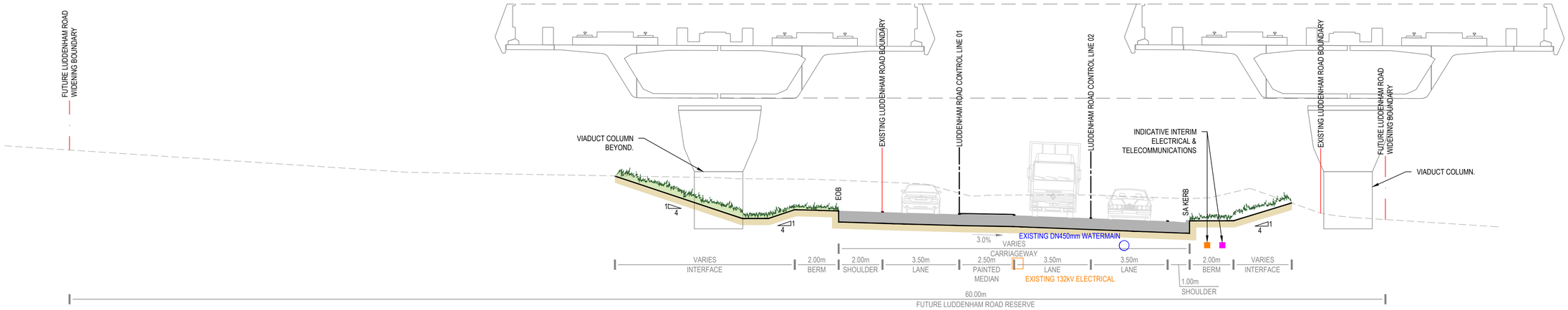
NOTES:

1. INDICATIVE INTERIM ELECTRICAL AND TELECOMMUNICATIONS ALLOCATIONS SHOWN ARE TO FACILITATE ADEQUATE SERVICING OF THE INTERIM SIGNALISED INTERSECTION AND DOES NOT REPRESENT ULTIMATE SERVICE ALLOCATIONS.(E.G. PROVISION OF STREET LIGHTING, UNDERGROUNDING OF EXISTING OVERHEAD, SERVICING INTERIM SIGNALS EQUIPMENT). ULTIMATE SERVICING IS TO BE PROVIDED AS PART OF PLANNED FUTURE LUDDENHAM ROAD WIDENING. INTERIM SERVICING SHOWN IS INDICATIVE ONLY AND SUBJECT TO CHANGE AS PART OF DETAIL DESIGN.



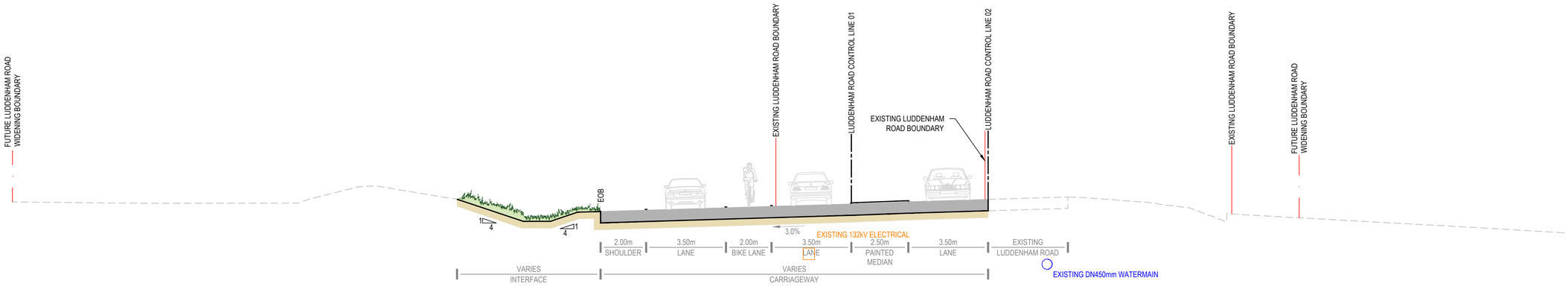
SECTION 4

SCALE 1:100



SECTION 5

SCALE 1:100



SECTION 6

SCALE 1:100

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 1 2 4 6 8 10m — SCALE 1:100 @A1

North

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Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD TYPICAL CROSS SECTIONS

SHEET 02

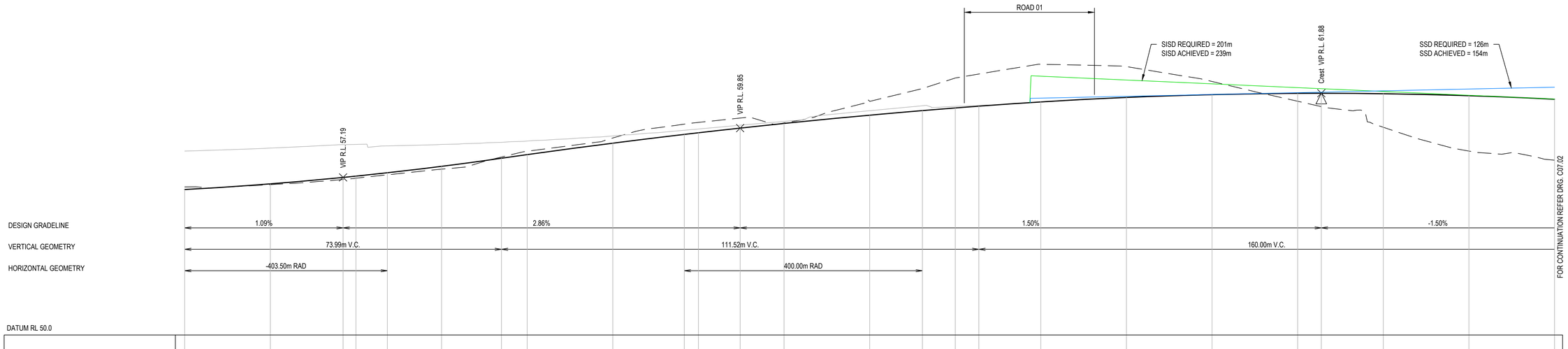
Scale: 1:100
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C06.02
Revision: 5

DATE PLOTTED: 2 April 2024 10:34 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSPID-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C06.01-C06.02-ROAD TYPICAL CROSS SECTIONS.dwg



FINISHED SURFACE	56.79	57.05	57.36	57.42	57.57	57.87	58.25	58.42	58.95	59.36	59.44	59.66	59.87	60.26	60.47	60.60	60.68	60.88	61.09	61.22	61.28	61.28	61.26	61.17	61.00
ULTIMATE SURFACE	58.59	58.72	58.89	58.90	58.83	58.89	58.99	59.05	59.29	59.56	59.61	59.79	59.97	60.47	60.70	60.67	60.71	60.87	61.08	61.21	61.26	61.27	61.25	61.16	60.99
EXISTING SURFACE	58.91	57.02	57.26	57.32	57.48	57.74	58.31	58.58	59.20	59.94	59.92	60.13	59.90	60.91	61.50	61.99	62.18	62.63	62.53	61.83	60.91	60.66	59.70	58.58	58.16
CHAINAGE	0.00	20.00	37.00	40.00	47.33	60.00	73.99	80.00	100.00	116.71	120.00	129.75	140.00	160.00	172.32	180.00	185.52	200.00	220.00	240.00	260.00	265.52	280.00	300.00	320.00

CONTROL LINE 01 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

NOTES

1. REFER CONTROL LINE 02 FOR EXISTING UTILITY PROJECTIONS.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 01

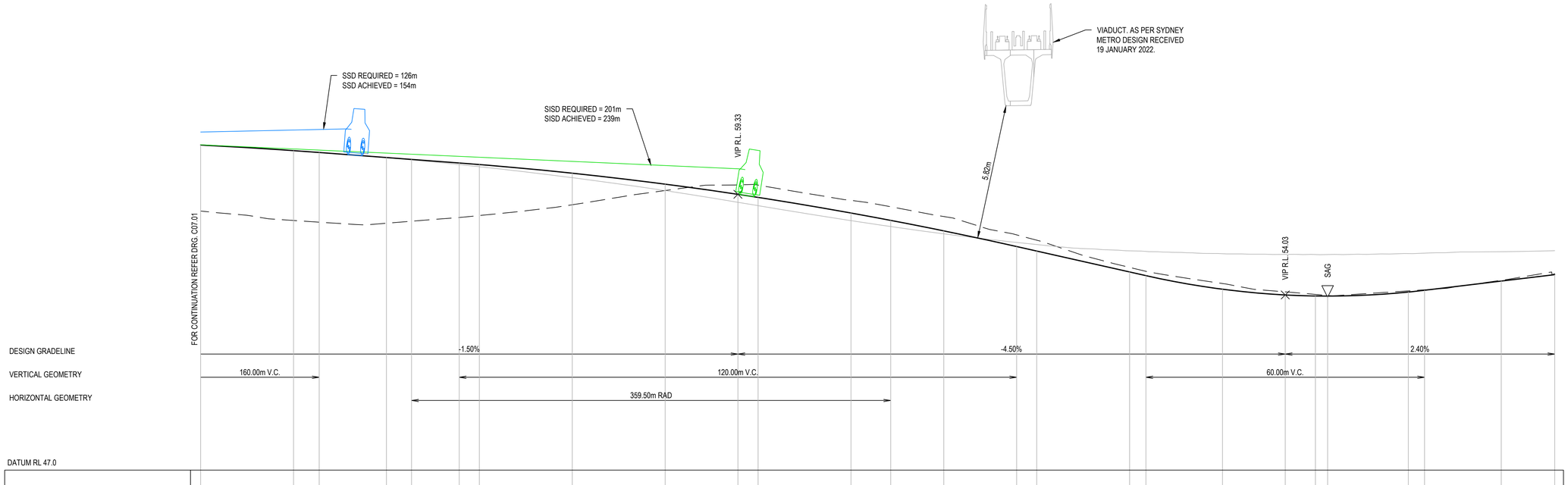
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C07.01
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg



DATUM RL 47.0

FINISHED SURFACE	61.00	60.76	60.68	60.47	60.38	60.23	60.16	59.79	59.32	58.88	58.75	58.08	57.76	57.30	56.63	56.43	55.53	55.38	54.79	54.55	54.50	54.50	54.67	54.75	55.14	55.42
ULTIMATE SURFACE	60.99	60.76	60.68	60.46	60.36	60.16	60.07	59.60	59.04	58.54	58.39	57.75	57.49	57.18	56.81	56.72	56.45	56.42	56.32	56.29	56.29	56.29	56.33	56.35	56.41	56.45
EXISTING SURFACE	58.16	57.75	57.68	57.64	57.72	57.88	57.97	58.43	59.04	59.29	59.28	58.62	58.35	57.92	57.13	56.90	55.73	55.56	55.04	54.68	54.57	54.52	54.72	54.77	55.18	55.46
CHAINAGE	320.00	340.00	345.52	360.00	365.40	375.67	380.00	400.00	420.00	435.67	440.00	460.00	468.56	480.00	495.67	500.00	520.00	523.50	540.00	553.50	560.00	562.63	580.00	583.50	600.00	611.52

CONTROL LINE 01 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

NOTES

1. REFER CONTROL LINE 02 FOR EXISTING UTILITY PROJECTIONS.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

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Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 02

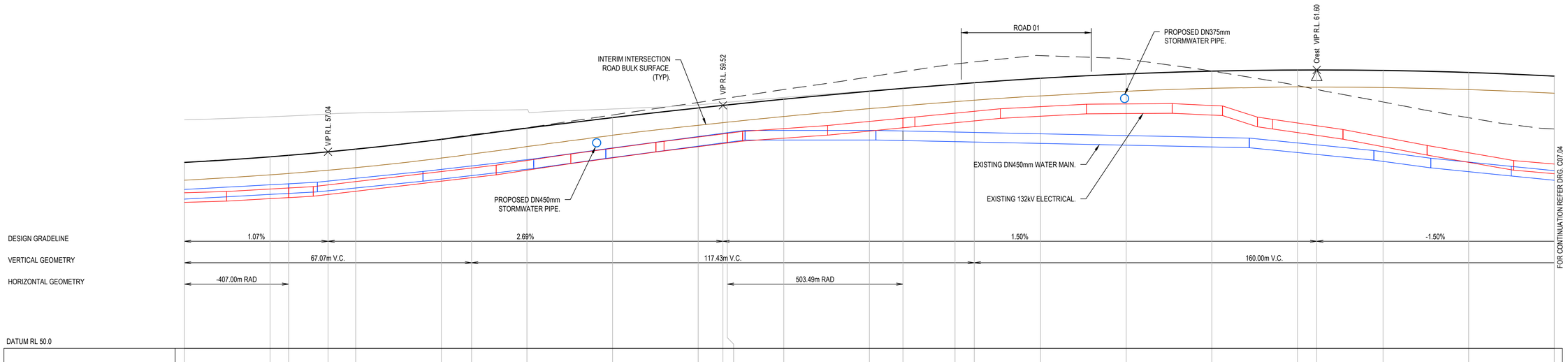
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C07.02
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg



FINISHED SURFACE	56.68	56.95	57.02	57.18	57.31	57.76	57.94	58.28	58.78	59.23	59.35	59.37	59.64	60.01	60.14	60.34	60.40	60.61	60.82	60.95	61.00	61.00	60.98	60.89	60.72
ULTIMATE SURFACE	58.67	58.81	58.85	58.95	58.99	59.08	59.10	59.15	59.18	59.37	59.47	59.49	59.72	60.04	60.16	60.34	60.40	60.61	60.80	60.93	60.98	60.98	60.96	60.87	60.70
EXISTING SURFACE	56.68	56.95	57.02	57.18	57.29	57.78	57.98	58.31	58.90	59.48	59.66	59.69	60.09	60.68	60.92	61.28	61.38	61.67	61.51	60.95	60.28	60.09	59.51	58.77	58.25
CHAINAGE	0.00	20.00	24.34	33.54	40.00	60.00	67.07	80.00	100.00	120.00	125.79	126.79	140.00	160.00	167.84	180.00	184.50	200.00	220.00	240.00	260.00	264.50	280.00	300.00	320.00

CONTROL LINE 02 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 03

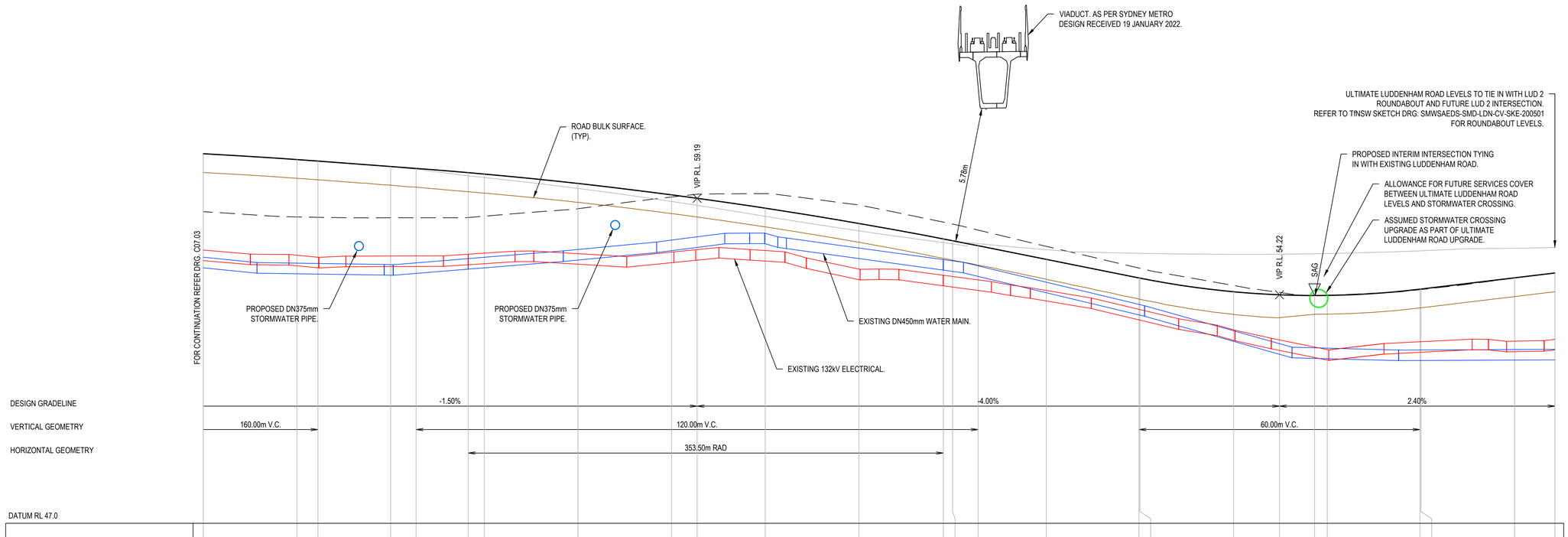
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C07.03
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg



FINISHED SURFACE	60.72	60.47	60.40	60.17	60.09	59.91	59.85	59.45	58.96	58.81	58.39	57.74	57.08	57.00	56.79	56.21	55.42	55.41	54.83	54.70	54.67	54.67	54.94	54.94	55.42	55.63
ULTIMATE SURFACE	60.70	60.47	60.40	60.16	60.05	59.77	59.70	59.24	58.68	58.51	58.05	57.43	56.92	56.87	56.88	56.62	56.47	56.47	56.42	56.43	56.45	56.46	56.57	56.58	56.68	56.72
EXISTING SURFACE	58.25	58.02	58.00	57.98	57.99	57.99	58.05	58.37	58.87	58.99	59.01	58.53	57.80	57.72	57.46	56.77	55.84	55.83	55.09	54.80	54.66	54.66	54.92	54.92	55.41	55.63
CHAINAGE	320.00	340.00	344.50	360.00	365.45	376.58	380.00	400.00	420.00	425.45	440.00	460.00	478.02	480.00	485.45	500.00	519.79	520.00	540.00	549.79	557.29	560.00	579.79	580.00	600.00	608.61

CONTROL LINE 02 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

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Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 04

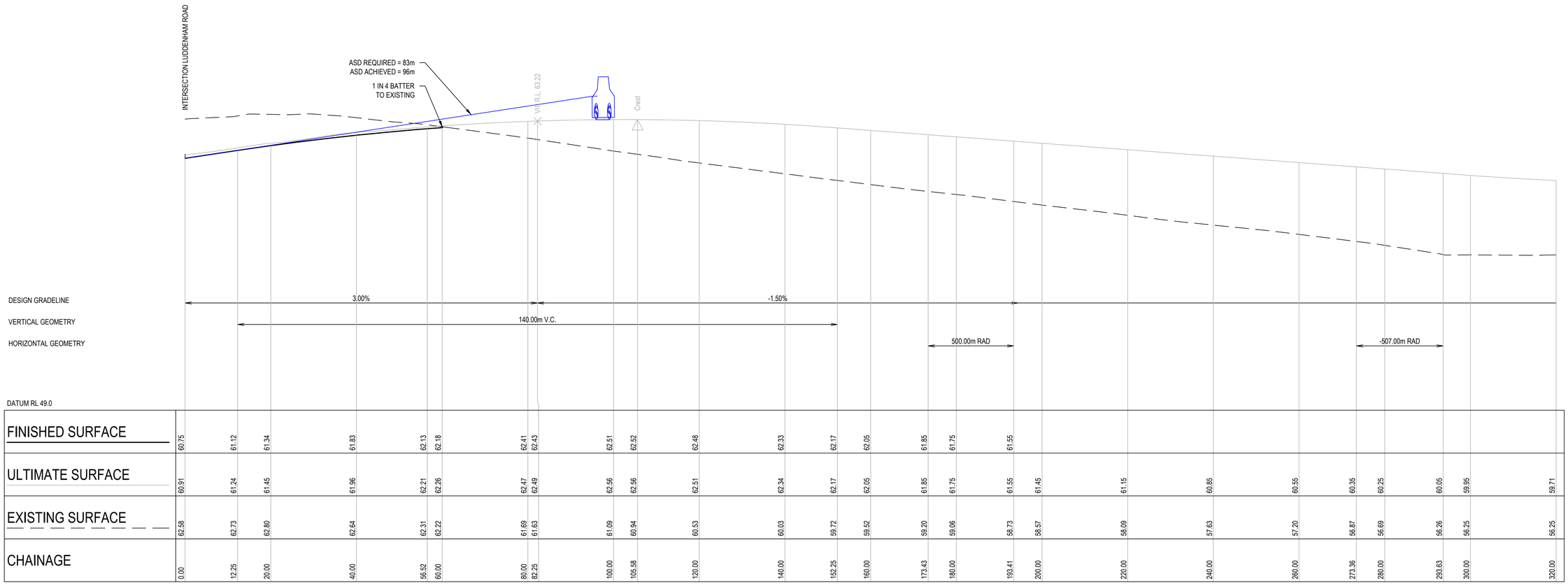
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C07.04
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg



FINISHED SURFACE	60.75	61.12	61.34	61.83	62.13	62.18	62.41	62.43	62.51	62.52	62.48	62.33	62.17	62.05	61.85	61.75	61.55																	
ULTIMATE SURFACE	60.91	61.24	61.45	61.96	62.21	62.26	62.47	62.49	62.56	62.56	62.51	62.34	62.17	62.05	61.85	61.75	61.55	61.45	61.15	60.85	60.55	60.35	60.25	60.05	59.95	59.71								
EXISTING SURFACE	62.58	62.73	62.80	62.64	62.31	62.22	61.69	61.63	61.09	60.94	60.53	60.03	59.72	59.52	59.20	59.06	58.73	58.57	58.09	57.63	57.20	56.87	56.69	56.26	56.25	56.25								
CHAINAGE	0.00	12.25	20.00	40.00	56.52	60.00	80.00	82.25	100.00	105.58	120.00	140.00	152.25	160.00	173.43	180.00	193.41	200.00	220.00	240.00	260.00	273.36	280.00	293.63	300.00	320.00								

ROAD 01 CONTROL LINE 01 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 05

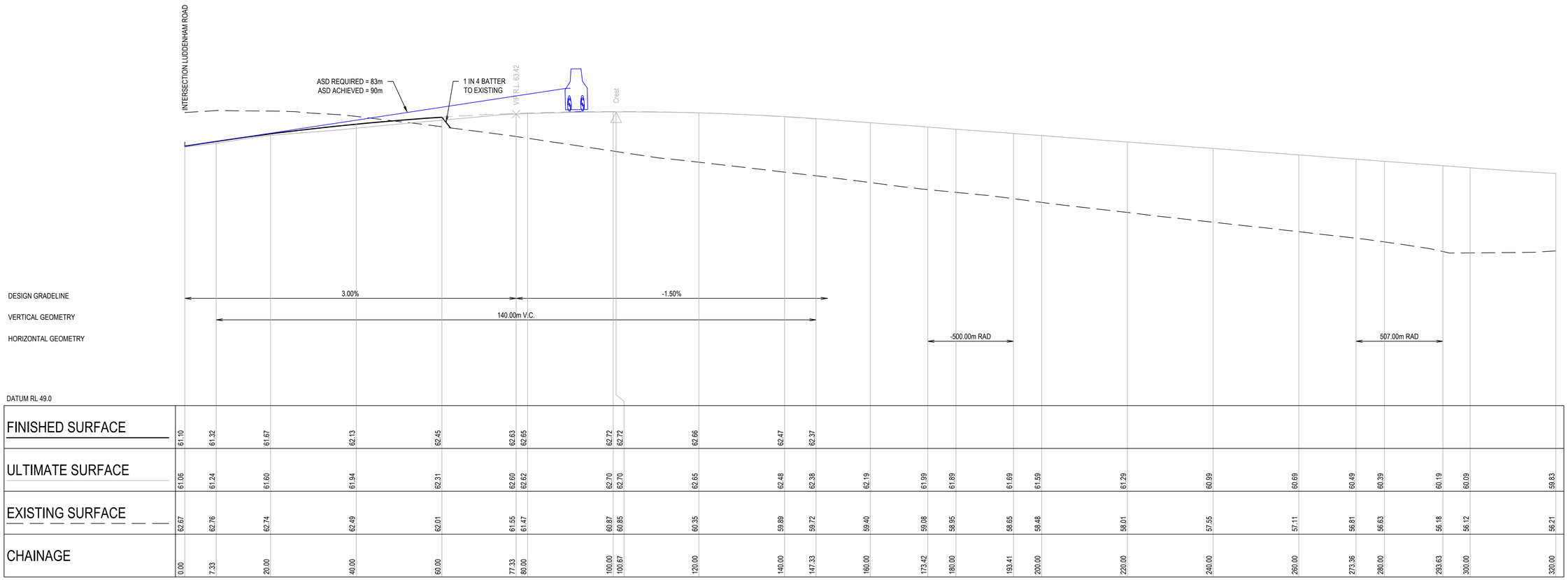
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C07.05
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSPID-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg



CHAINAGE	FINISHED SURFACE	ULTIMATE SURFACE	EXISTING SURFACE
0.00	61.10	61.06	62.67
7.33	61.32	61.24	62.76
20.00	61.67	61.60	62.74
40.00	62.13	61.94	62.49
60.00	62.45	62.31	62.01
77.33	62.63	62.60	61.55
80.00	62.65	62.62	61.47
100.00	62.72	62.70	60.87
100.67	62.72	62.70	60.85
120.00	62.66	62.65	60.35
140.00	62.47	62.48	59.89
147.33	62.37	62.38	59.72
160.00		62.19	59.40
173.42		61.99	59.08
180.00		61.89	58.95
193.41		61.69	58.65
200.00		61.59	58.48
220.00		61.29	58.01
240.00		60.99	57.55
260.00		60.69	57.11
273.36		60.49	56.81
280.00		60.39	56.63
293.63		60.19	56.18
300.00		60.09	56.12
320.00		59.83	56.21

ROAD 01 CONTROL LINE 02 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: ROAD LONGITUDINAL SECTIONS
SHEET 06

Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

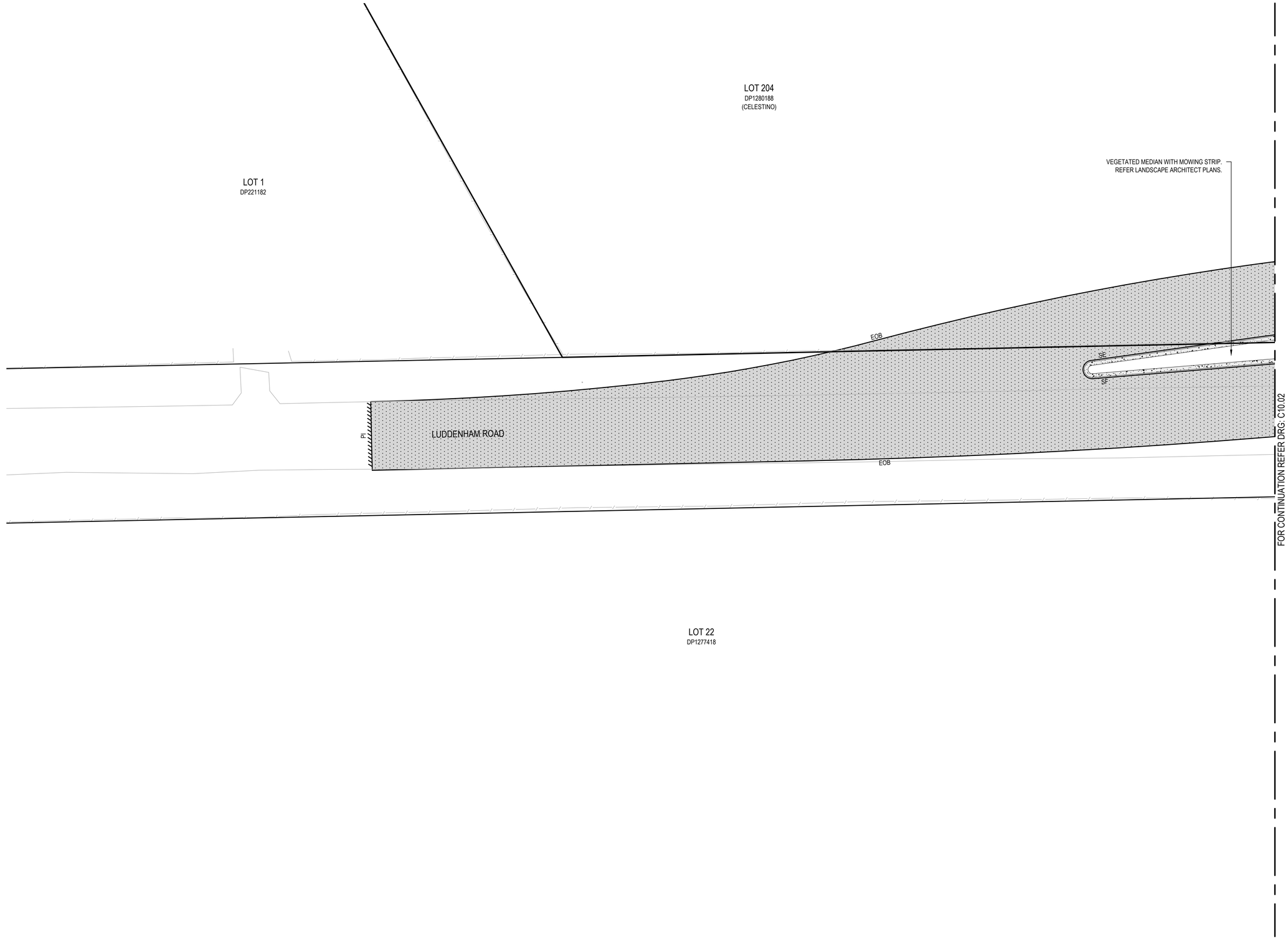
Project Number/Drawing Number: 180001-01-DA-C07.06
Revision: 4

DATE PLOTTED: 19 December 2023 11:41 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C07.01-C07.06-ROAD LONGITUDINAL SECTION.dwg

LEGEND

	EXISTING PROPERTY BOUNDARY
SA	BARRIER KERB AND CHANNEL REFER TINSW STANDARD DRG: R0300-01 FOR DETAIL
SE	RAISED MEDIAN KERB WITH DRAINAGE REFER TINSW STANDARD DRG: R0300-01 FOR DETAIL
SF	RAISED MEDIAN KERB REFER TINSW STANDARD DRG: R0300-01 FOR DETAIL
PI	PAVEMENT INTERFACE
EOB	EDGE OF BITUMEN
	PAVEMENT F1
	PAVEMENT F2
	CONCRETE MEDIAN
	FOOTPATH
	ACCESS TRACK



FOR CONTINUATION REFER DRG: C10.02

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: PAVEMENT PLAN
SHEET 01

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C10.01
Revision: 5

DATE PLOTTED: 2 April 2024 10:35 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C10.01-C10.04-PAVEMENT PLAN.dwg

FOR CONTINUATION REFER INSET 'A'

NOTE:

1. REFER DRG: C10.01 FOR LEGEND.

LOT 204
DP1280188
(CELESTINO)

VEGETATED MEDIAN WITH MOWING STRIP.
REFER LANDSCAPE ARCHITECT PLANS.

ROAD 01

LOT 204
DP1280188
(CELESTINO)

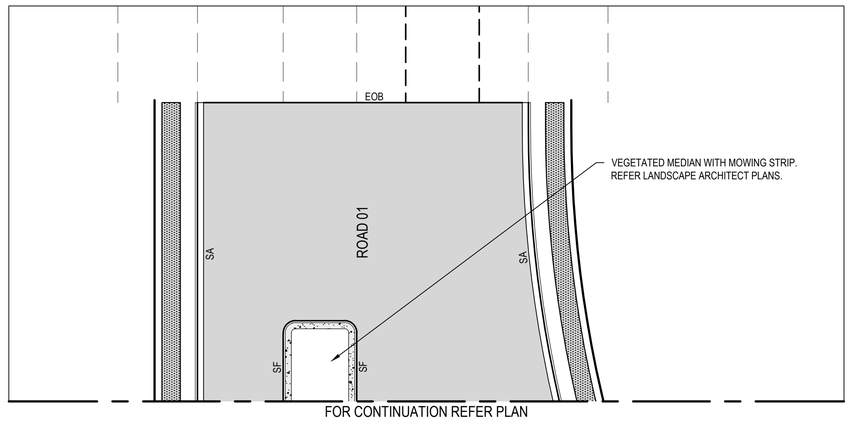
VEGETATED MEDIAN WITH MOWING STRIP.
REFER LANDSCAPE ARCHITECT PLANS.

LUDDENHAM ROAD

FOR CONTINUATION REFER DRG: C10.01

FOR CONTINUATION REFER DRG: C10.03

LOT 24
DP1277418
(METRO)



FOR CONTINUATION REFER PLAN

INSET 'A'

SCALE 1:250

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: PAVEMENT PLAN

SHEET 02

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

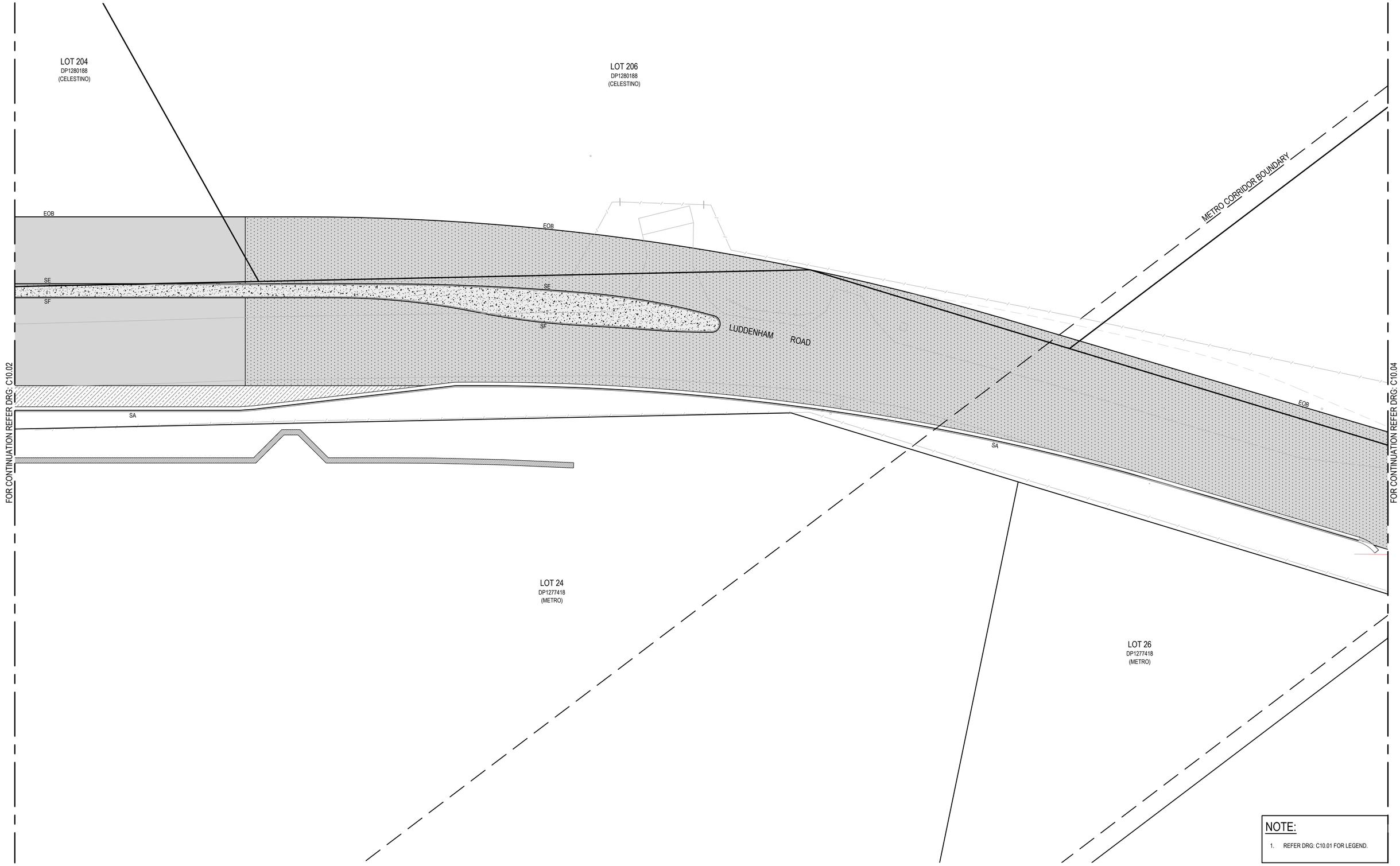
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C10.02

Revision: 5

DATE PLOTTED: 2 April 2024 10:35 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C10.01-C10.04-PAVEMENT PLAN.dwg



NOTE:

1. REFER DRG: C10.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: PAVEMENT PLAN

SHEET 03

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

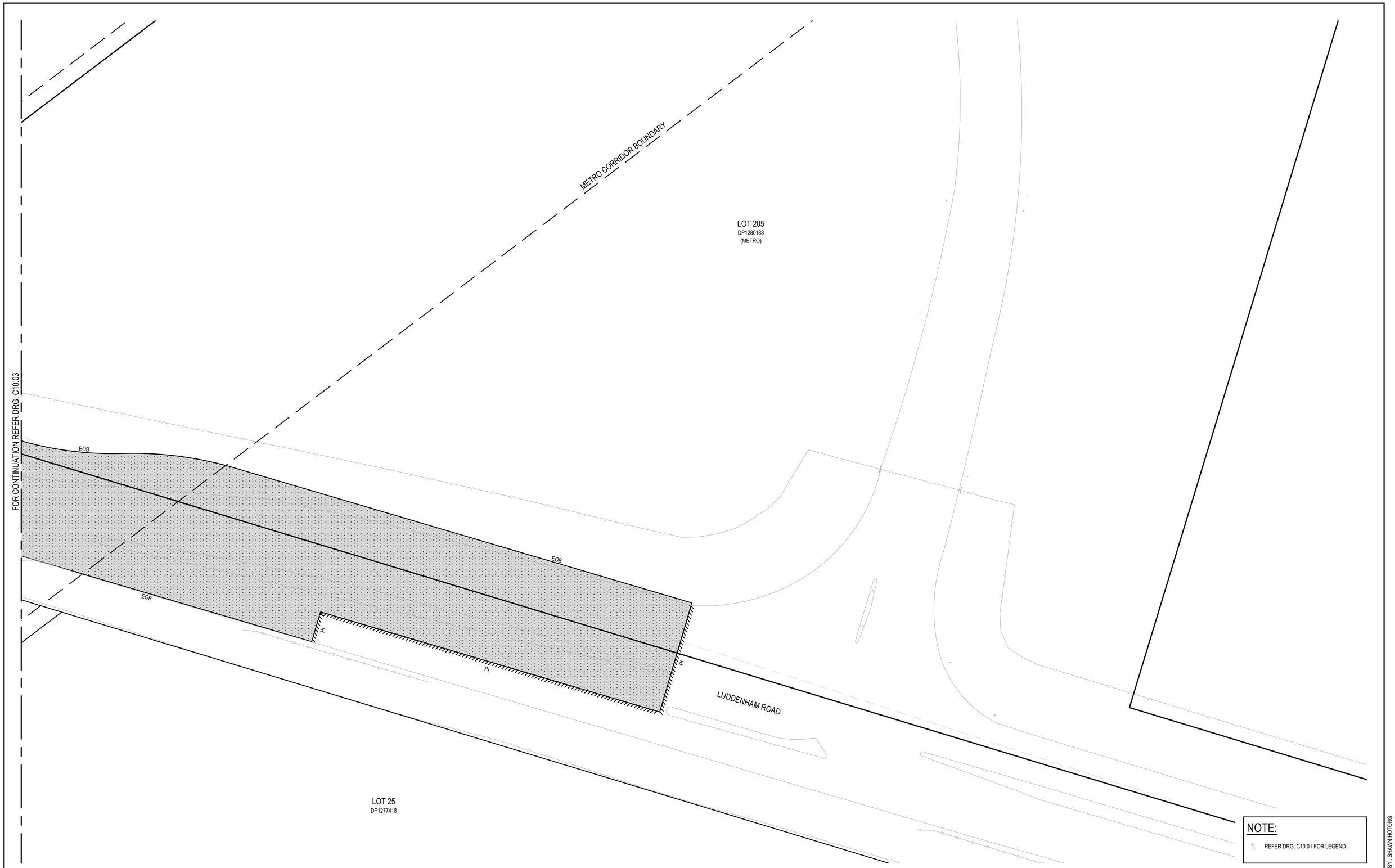
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C10.03

Revision: 5

DATE PLOTTED: 2 April 2024 10:35 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C10.01-C10.04-PAVEMENT PLAN.dwg



NOTE:

1. REFER DRG: C10.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: PAVEMENT PLAN

SHEET 04

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C10.04
Revision: 5

DATE PLOTTED: 2 April 2024 10:35 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C10.01-C10.04-PAVEMENT PLAN.dwg

PAVEMENT MARKINGS:

EDGE LINES
E1
E4

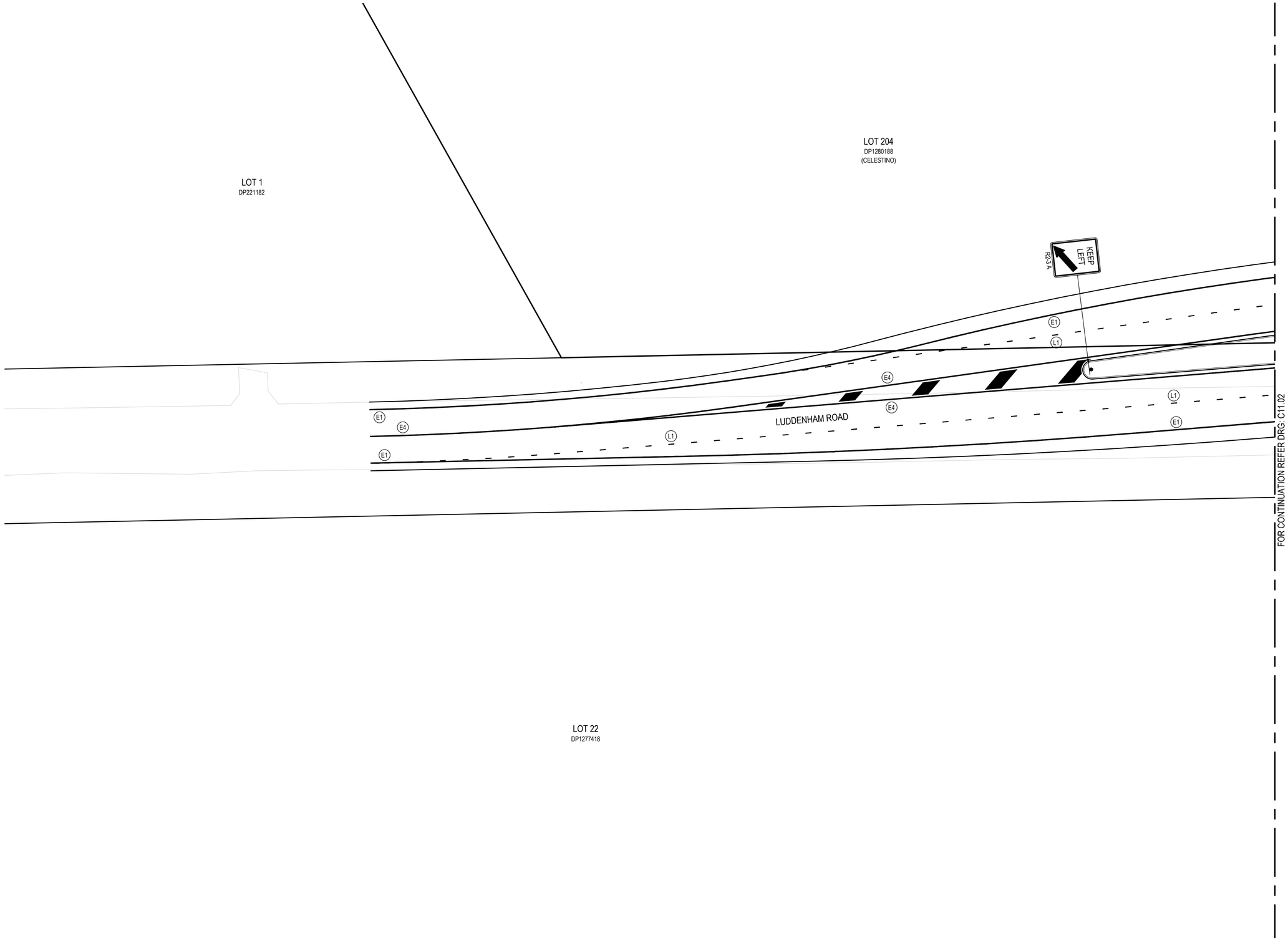
LANE LINES
L1
L7

CONTINUITY LINES
C1

STOP LINE
TF

PAVEMENT ARROWS
UA1
UA3(L)
UA3(R)

BICYCLE FACILITIES
PS-2



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SIGNAGE AND LINEMARKING PLAN
SHEET 01

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C11.01
Revision: 4

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSPID-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C11.01-C11.04-SIGNAGE AND LINEMARKING PLAN.dwg

FOR CONTINUATION REFER INSET 'A'

NOTE:

1. REFER DRG: C11.01 FOR LEGEND.

LOT 204
DP1280188
(CELESTINO)

NO STOPPING
R5-400 A

KEEP LEFT
R2-3 A

INDICATIVE TRAFFIC SIGNAL LOCATIONS.

LOT 204
DP1280188
(CELESTINO)

NO STOPPING
R5-400 A

LUDDENHAM ROAD

FOR CONTINUATION REFER DRG: C11.01

FOR CONTINUATION REFER DRG: C11.03

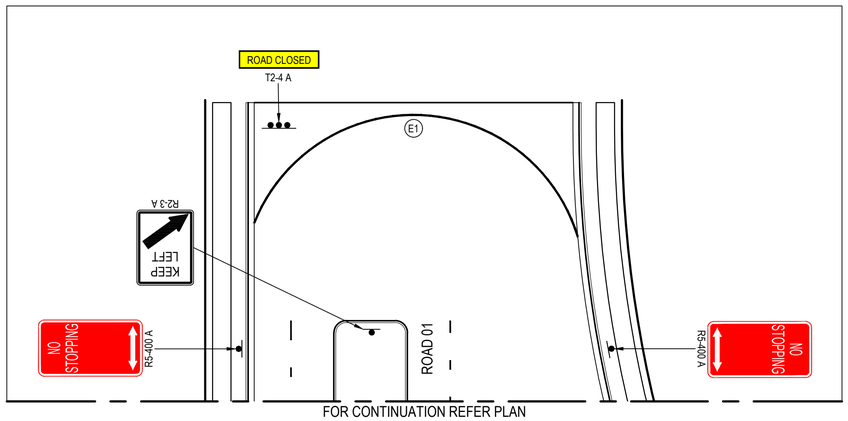
STOP
R1-1 A

STOP
R1-1 A

KEEP LEFT
R2-3 A

KEEP LEFT
R2-3 A

LOT 24
DP1277418
(METRO)



FOR CONTINUATION REFER PLAN

INSET 'A'

SCALE 1:250

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SIGNAGE AND LINEMARKING PLAN

SHEET 02

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

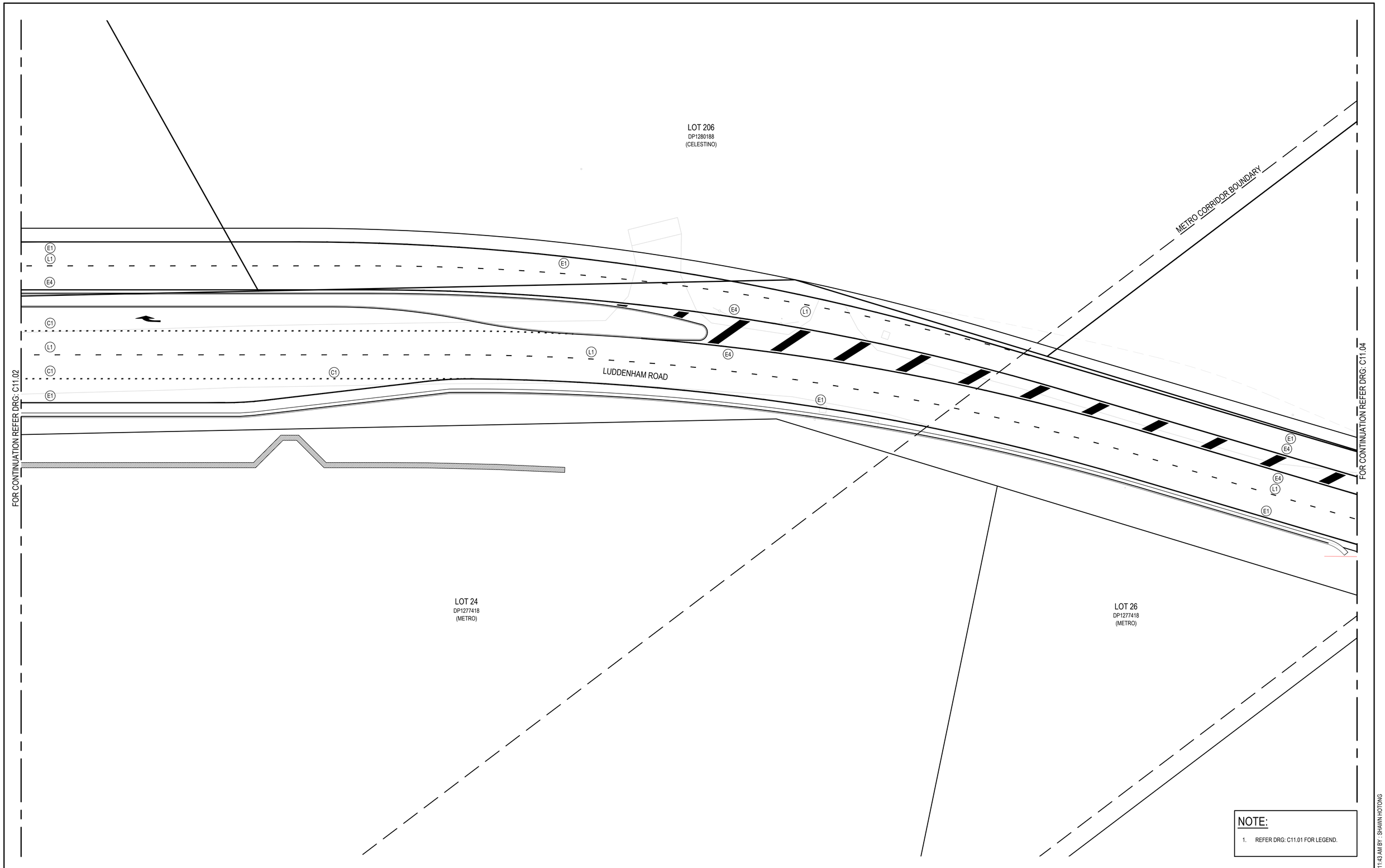
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C11.02

Revision: 4

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSPID-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C11.01-C11.04-SIGNAGE AND LINEMARKING PLAN.dwg



NOTE:

1. REFER DRG: C11.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SIGNAGE AND LINEMARKING PLAN

SHEET 03

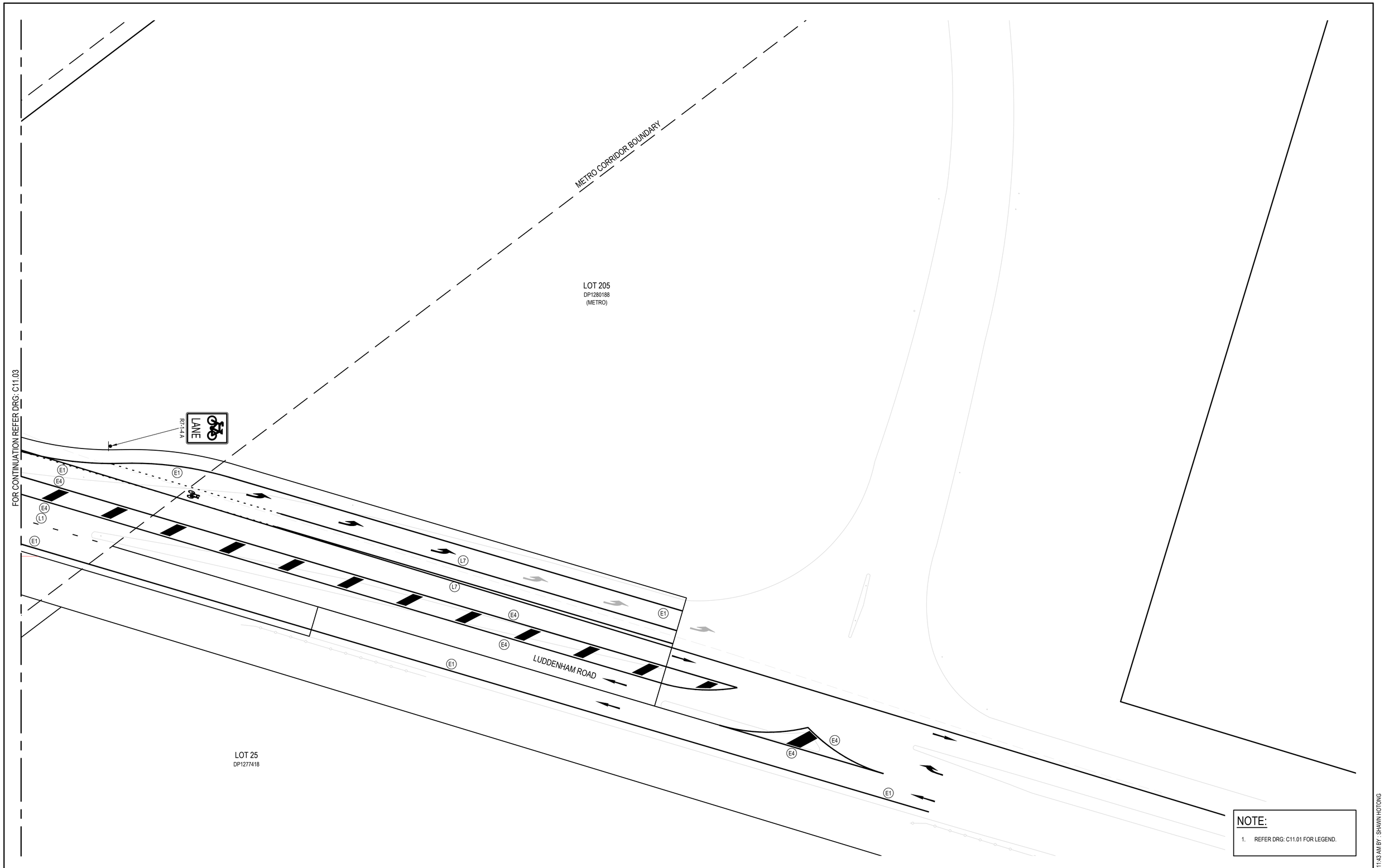
Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C11.03
Revision: 4

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C11.01-C11.04-SIGNAGE AND LINEMARKING PLAN.dwg



NOTE:

1. REFER DRG: C11.01 FOR LEGEND.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SIGNAGE AND LINEMARKING PLAN

SHEET 04

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

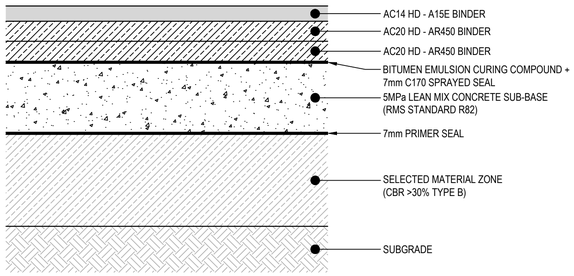
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C11.04

Revision: 4

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

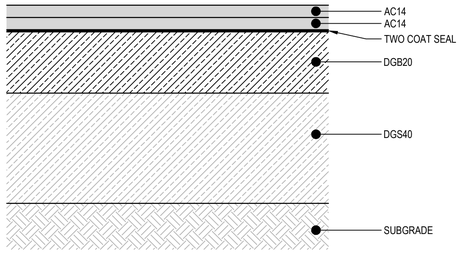
CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C11.01-C11.04-SIGNAGE AND LINEMARKING PLAN.dwg



ROAD PAVEMENT F1

SCALE 1:10

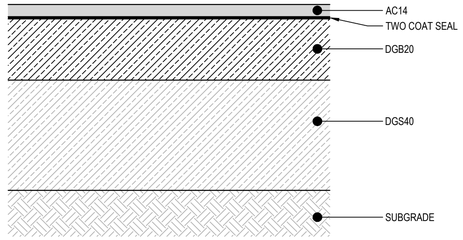
NOTE:
PAVEMENT PROFILE IS INDICATIVE AND TO BE DETERMINED BY GEOTECHNICAL ENGINEER AT DETAILED DESIGN



ROAD PAVEMENT F2

SCALE 1:10

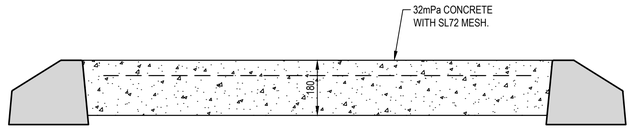
NOTE:
PAVEMENT PROFILE IS INDICATIVE AND TO BE DETERMINED BY GEOTECHNICAL ENGINEER AT DETAILED DESIGN



ACCESS TRACK

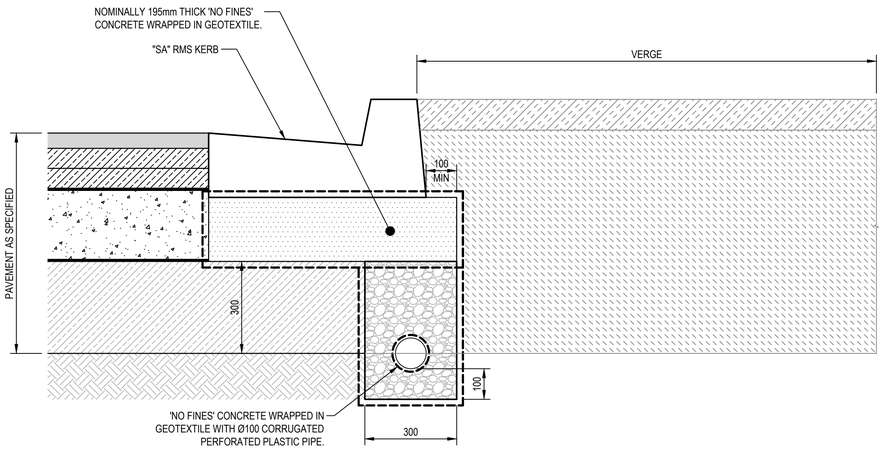
SCALE 1:10

NOTE:
PAVEMENT PROFILE IS INDICATIVE AND TO BE DETERMINED BY GEOTECHNICAL ENGINEER AT DETAILED DESIGN



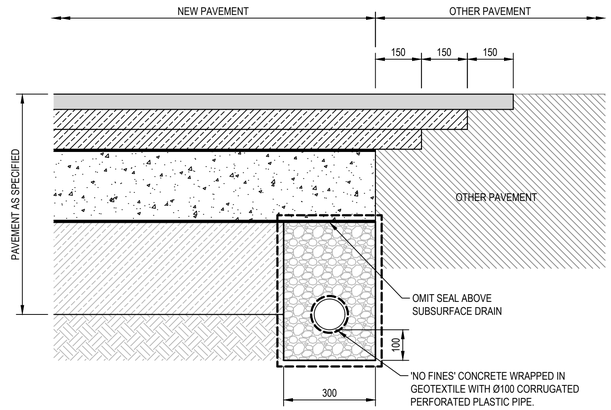
CONCRETE MEDIAN

SCALE 1:10



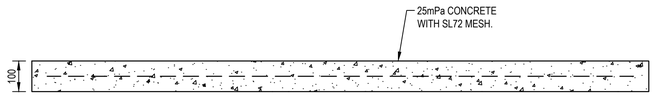
VERGE WITH SA KERB

SCALE 1:10



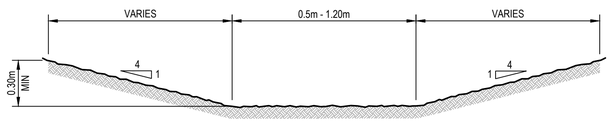
PAVEMENT INTERFACE (PI)

SCALE 1:10



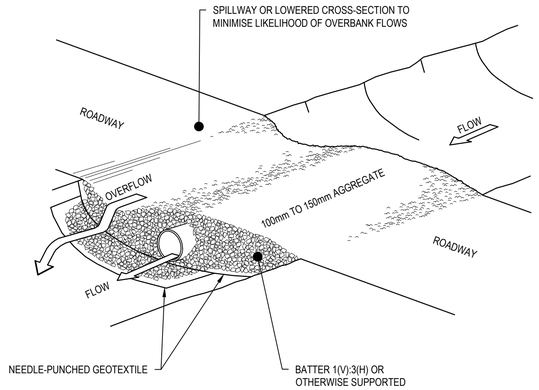
CONCRETE FOOTPATH

SCALE 1:10



GRASS LINED SWALE

SCALE 1:20



CONSTRUCTION NOTES

1. PROHIBIT ALL TRAFFIC UNTIL THE ACCESS WAY IS CONSTRUCTED.
2. STRIP ANY TOPSOIL AND PLACE A NEEDLE-PUNCHED TEXTILE OVER THE BASE OF THE CROSSING.
3. PLACE CLEAN, RIGID, NON POLLUTING AGGREGATE OR GRAVEL IN THE 100mm TO 150mm SIZE CLASS OVER THE FABRIC TO A MINIMUM DEPTH OF 200mm.
4. PROVIDE A 3m WIDE CARRIAGEWAY WITH SUFFICIENT LENGTH OF CULVERT PIPE TO ALLOW LESS THAN A 3(H): 1 (V) SLOPE ON SIDE BATTERS.
5. INSTALL A LOWER SECTION TO ACT AS AN EMERGENCY SPILLWAY IN GREATER THAN DESIGN STORM EVENTS.
6. ENSURE THAT CULVERT OUTLETS EXTEND BEYOND THE TOE OF FILL EMBANKMENTS.

GRAVEL WATERWAY CROSSING (SD 5-1)

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 0.5 1 1.5 2m — SCALE 1:20 @A1; 0 1 2 3 4 5m — SCALE 1:50 @A1

North

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Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SITEWORKS DETAILS

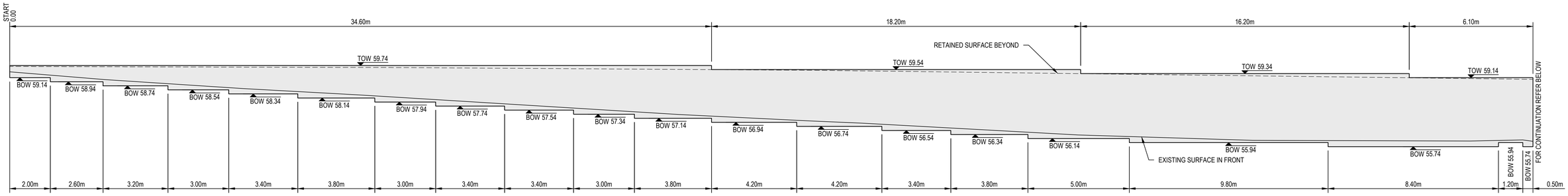
Scale: AS SHOWN
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C14.01
Revision: 5

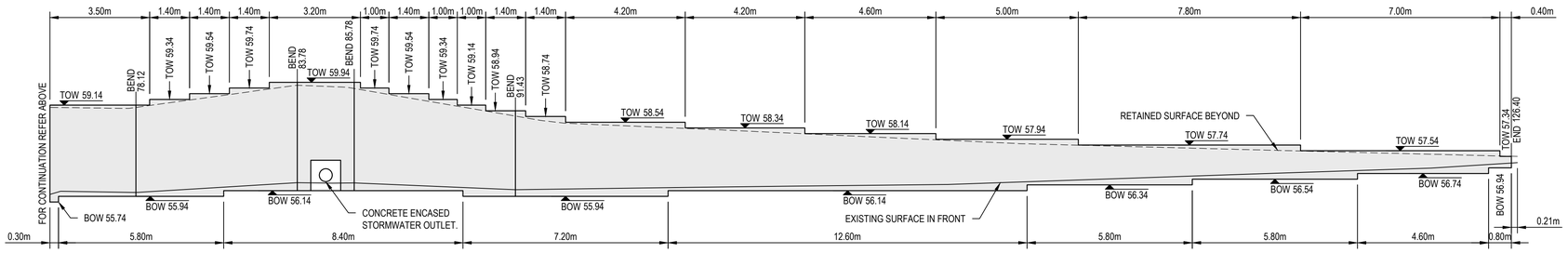
DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C14.01-SITEWORKS DETAILS.dwg



RETAINING WALL - RW01 ELEVATION

SCALE HORI 1:100
SCALE VERT 1:100



RETAINING WALL - RW01 ELEVATION

SCALE HORI 1:100
SCALE VERT 1:100

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH

Client: CELESTINO

Scale: 0 1 2 4 6 8 10m — SCALE 1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: RETAINING WALL ELEVATION

Scale: 1:100
Date: 24/11/2023
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C15.01
Revision: 1

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C15.01-RETAINING WALL ELEVATION.dwg

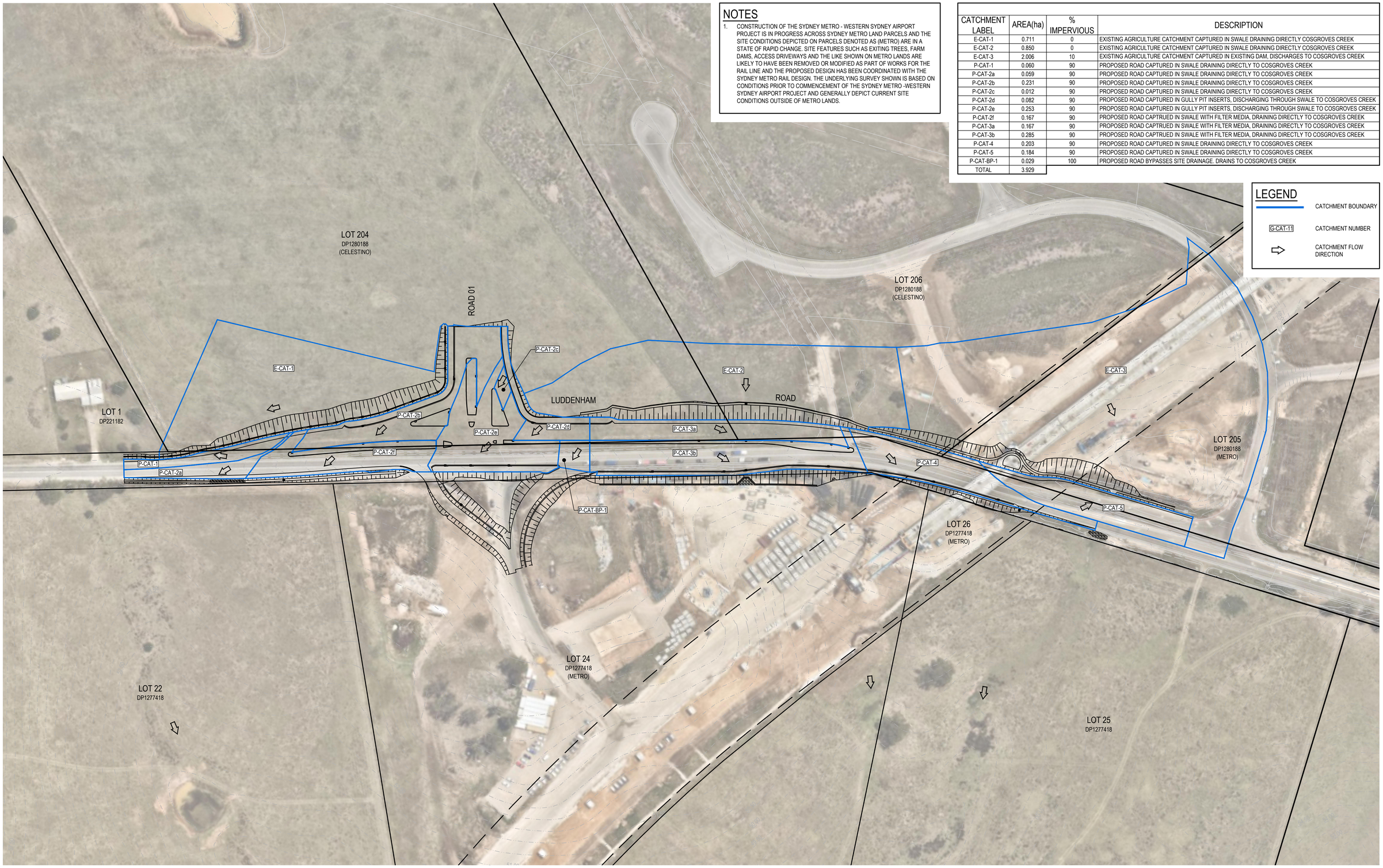
NOTES

1. CONSTRUCTION OF THE SYDNEY METRO - WESTERN SYDNEY AIRPORT PROJECT IS IN PROGRESS ACROSS SYDNEY METRO LAND PARCELS AND THE SITE CONDITIONS DEPICTED ON PARCELS DENOTED AS (METRO) ARE IN A STATE OF RAPID CHANGE. SITE FEATURES SUCH AS EXITING TREES, FARM DAMS, ACCESS DRIVEWAYS AND THE LIKE SHOWN ON METRO LANDS ARE LIKELY TO HAVE BEEN REMOVED OR MODIFIED AS PART OF WORKS FOR THE RAIL LINE AND THE PROPOSED DESIGN HAS BEEN COORDINATED WITH THE SYDNEY METRO RAIL DESIGN. THE UNDERLYING SURVEY SHOWN IS BASED ON CONDITIONS PRIOR TO COMMENCEMENT OF THE SYDNEY METRO -WESTERN SYDNEY AIRPORT PROJECT AND GENERALLY DEPICT CURRENT SITE CONDITIONS OUTSIDE OF METRO LANDS.

CATCHMENT LABEL	AREA(ha)	% IMPERVIOUS	DESCRIPTION
E-CAT-1	0.711	0	EXISTING AGRICULTURE CATCHMENT CAPTURED IN SWALE DRAINING DIRECTLY COSGROVES CREEK
E-CAT-2	0.850	0	EXISTING AGRICULTURE CATCHMENT CAPTURED IN SWALE DRAINING DIRECTLY COSGROVES CREEK
E-CAT-3	2.006	10	EXISTING AGRICULTURE CATCHMENT CAPTURED IN EXISTING DAM, DISCHARGES TO COSGROVES CREEK
P-CAT-1	0.060	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-2a	0.059	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-2b	0.231	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-2c	0.012	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-2d	0.082	90	PROPOSED ROAD CAPTURED IN GULLY PIT INSERTS, DISCHARGING THROUGH SWALE TO COSGROVES CREEK
P-CAT-2e	0.253	90	PROPOSED ROAD CAPTURED IN GULLY PIT INSERTS, DISCHARGING THROUGH SWALE TO COSGROVES CREEK
P-CAT-2f	0.167	90	PROPOSED ROAD CAPTRUED IN SWALE WITH FILTER MEDIA, DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-3a	0.167	90	PROPOSED ROAD CAPTRUED IN SWALE WITH FILTER MEDIA, DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-3b	0.285	90	PROPOSED ROAD CAPTRUED IN SWALE WITH FILTER MEDIA, DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-4	0.203	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-5	0.184	90	PROPOSED ROAD CAPTURED IN SWALE DRAINING DIRECTLY TO COSGROVES CREEK
P-CAT-BP-1	0.029	100	PROPOSED ROAD BYPASSES SITE DRAINAGE. DRAINS TO COSGROVES CREEK
TOTAL	3.929		

LEGEND

- CATCHMENT BOUNDARY
- G-CAT-11 — CATCHMENT NUMBER
- CATCHMENT FLOW DIRECTION



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
6	19/12/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
4	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: STORMWATER CATCHMENT PLAN

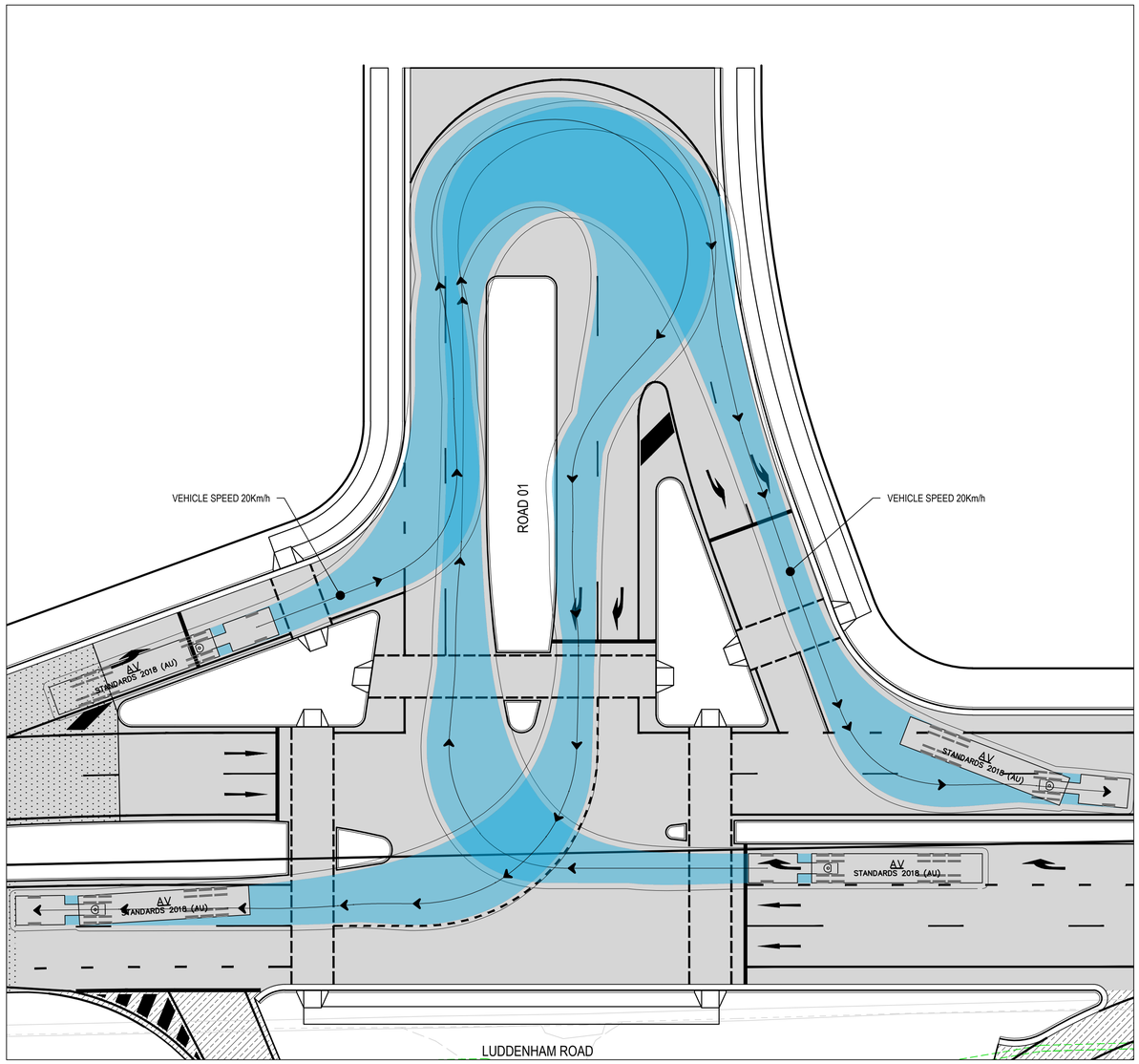
Scale: 1:1000
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C22.01
Revision: 6

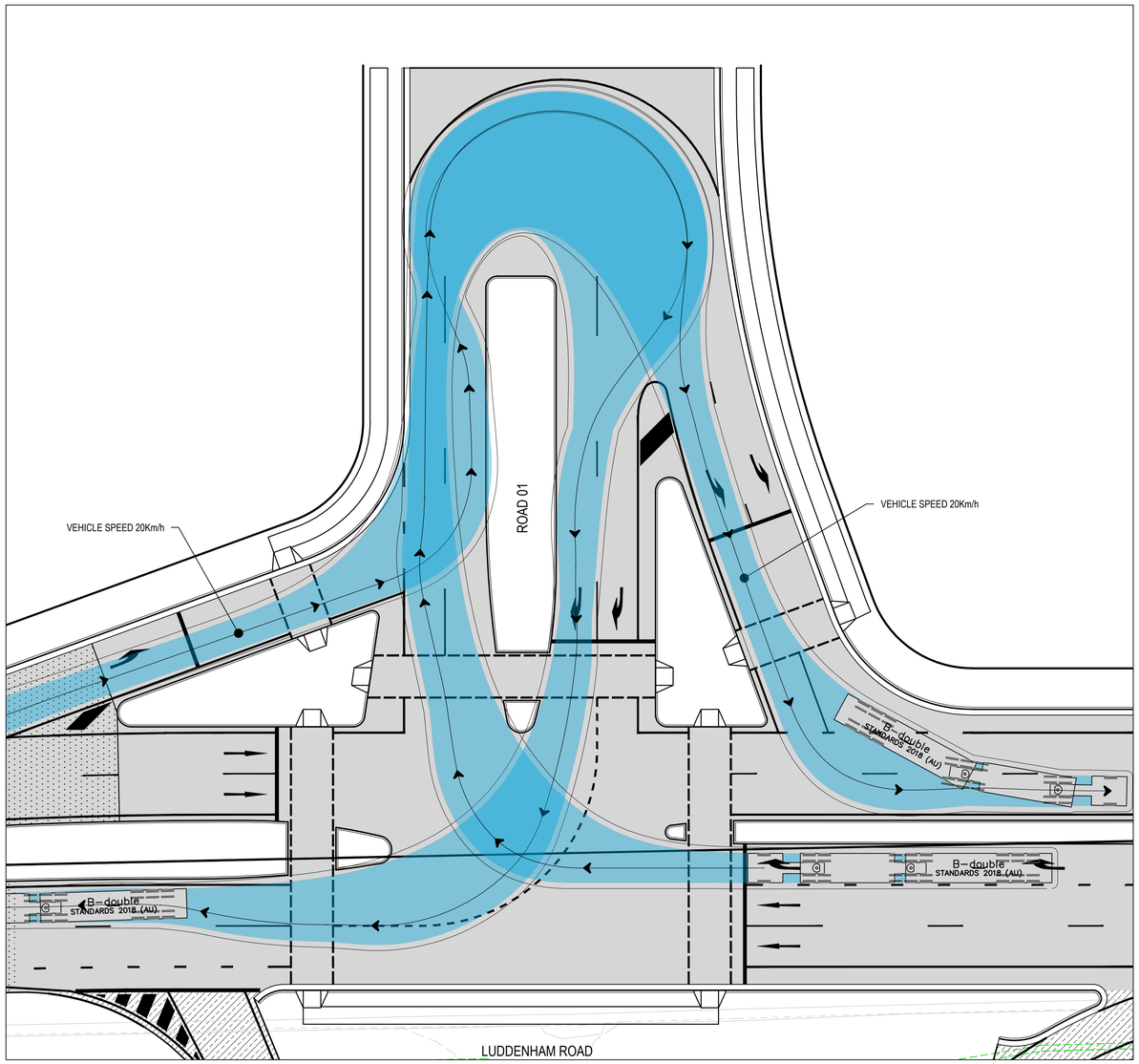
DATE PLOTTED: 19 December 2023 11:21 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C22.01-STORMWATER CATCHMENT PLAN.dwg



LUDDENHAM ROAD & ROAD 01 INTERSECTION - ARTICULATED VEHICLE MOVEMENTS

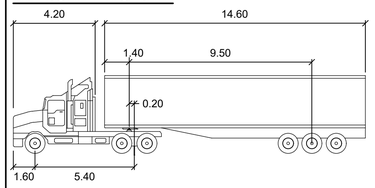
SCALE 1:250



LUDDENHAM ROAD & ROAD 01 INTERSECTION - B-DOUBLE VEHICLE MOVEMENTS

SCALE 1:250

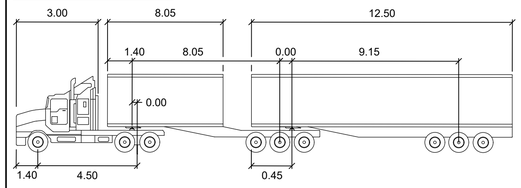
VEHICLE PROFILE:



AV 20m

TRACTOR WIDTH:	2.50m	LOCK TO LOCK TIME:	6.0s
TRAILER WIDTH:	2.50m	STEERING ANGLE:	28.3°
TRACTOR TRACK:	2.50m	ARTICULATING ANGLE:	72.0°
TRAILER TRACK:	2.50m		

VEHICLE PROFILE:



B-DOUBLE 26m

TRACTOR WIDTH:	2.50m	LOCK TO LOCK TIME:	6.0s
TRAILER WIDTH:	2.50m	STEERING ANGLE:	23.4°
TRACTOR TRACK:	2.50m	ARTICULATING ANGLE:	70.0°
TRAILER TRACK:	2.50m		

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

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ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: TURNING PATH PLAN

SHEET 01

Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

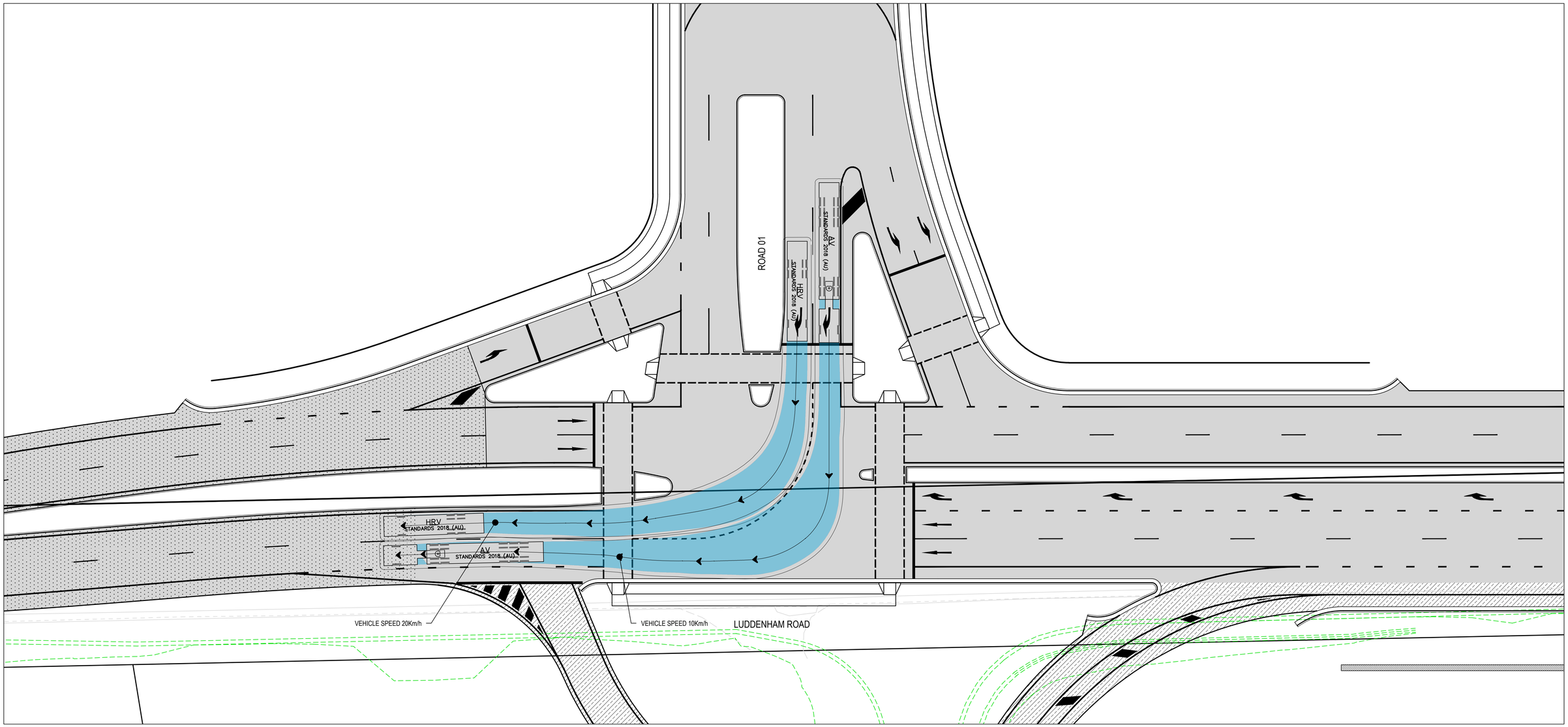
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C25.01

Revision: 5

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

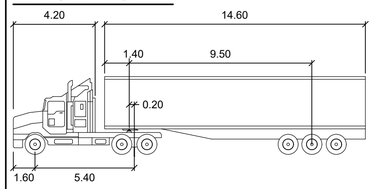
CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C25.01-C25.03-TURNING PATH PLAN.dwg



LUDDENHAM ROAD & ROAD 01 INTERSECTION - ARTICULATED VEHICLE & HRV MOVEMENTS

SCALE 1:250

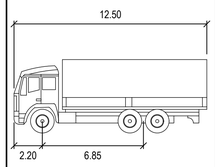
VEHICLE PROFILE:



AV 20m

TRACTOR WIDTH:	2.50m	LOCK TO LOCK TIME:	6.0s
TRAILER WIDTH:	2.50m	STEERING ANGLE:	28.3°
TRACTOR TRACK:	2.50m	ARTICULATING ANGLE:	72.0°
TRAILER TRACK:	2.50m		

VEHICLE PROFILE:



HRV

WIDTH	:2.50m
TRACK	:2.50m
LOCK TO LOCK TIME	:6.0s
STEERING ANGLE	:36.7°

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

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Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: TURNING PATH PLAN

SHEET 02

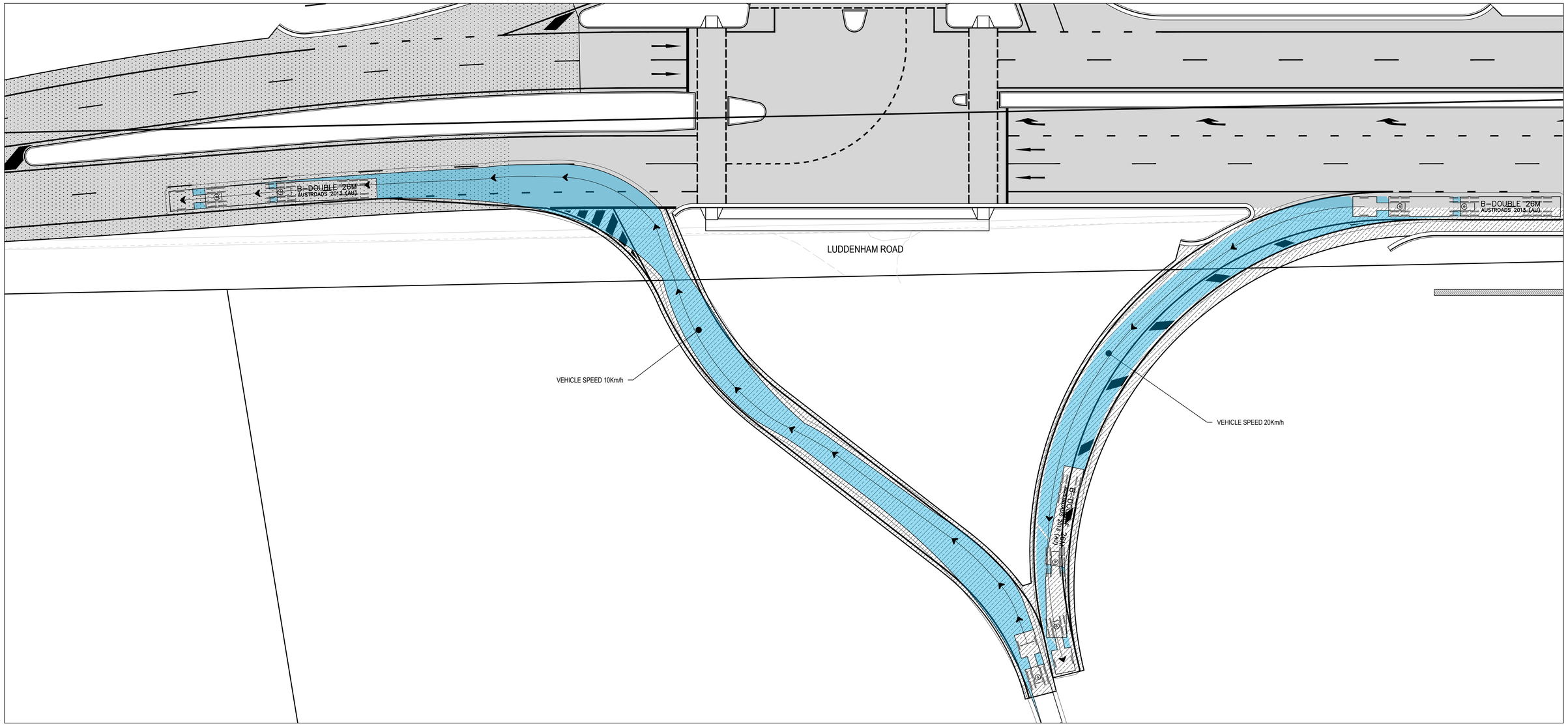
Scale: 1:250
Date: 23/12/2022
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C25.02
Revision: 5

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

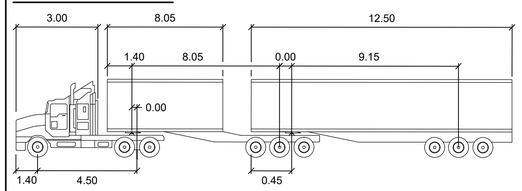
CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C25.01-C25.03-TURNING PATH PLAN.dwg



LUDDENHAM ROAD LOT 24 ACCESS DRIVEWAY - B-DOUBLE VEHICLE MOVEMENTS

SCALE 1:250

VEHICLE PROFILE:



B-DOUBLE 26m

TRACTOR WIDTH:	2.50m	LOCK TO LOCK TIME:	6.0s
TRAILER WIDTH:	2.50m	STEERING ANGLE:	23.4°
TRACTOR TRACK:	2.50m	ARTICULATING ANGLE:	70.0°
TRAILER TRACK:	2.50m		

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	8/05/2023	ISSUED FOR DEVELOPMENT APPLICATION	CWH	JS	-	SH
2	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
1	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

Client: CELESTINO

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: TURNING PATH PLAN

SHEET 03

Scale: 1:250
Date: 6/04/2023
Size: A1
Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 180001-01-DA-C25.03

Revision: 5

DATE PLOTTED: 19 December 2023 11:43 AM BY : SHAWN HOTONG

CAD File: P:\180001 SSP\D-Civil\01-LUD3 Signals\Drawings\6-DACC\01-DA\180001-01-DA-C25.01-C25.03-TURNING PATH PLAN.dwg

SAFETY IN DESIGN REPORT

INTRODUCTION

ENSPIRE HAS BEEN APPOINTED BY CELESTINO DEVELOPMENT SSP TO PREPARE DESIGN DOCUMENTATION FOR ROADS AND STORMWATER PIT AND PIPE INFRASTRUCTURE FOR LUD3 INTERIM SIGNALISED INTERSECTION. THIS SAFETY IN DESIGN REPORT HAS BEEN DEVELOPED IN PARALLEL WITH THE DESIGN TO IDENTIFY POTENTIAL HAZARDS TO WORK HEALTH AND SAFETY AND DEVELOP RISK ASSESSMENT METHODS TO POTENTIALLY REDUCE THE LIKELIHOOD AND SEVERITY OF HAZARDS.

THIS SAFETY IN DESIGN REPORT HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE WORK HEALTH AND SAFETY REGULATION 2017 AND THE WORK HEALTH AND SAFETY REGULATION PART 6.2 CLAUSE 295. UNDER THE WORK HEALTH AND SAFETY REGULATION DESIGNERS HAVE THE RESPONSIBILITY TO ENSURE THEIR DESIGN ELIMINATES OR MINIMISES RISKS TO HEALTH AND SAFETY AND GIVE ADEQUATE INFORMATION TO PEOPLE COMMISSIONING THE DESIGN AND UNDERTAKING CONSTRUCTION, OPERATION AND MAINTENANCE ACTIVITIES BASED ON THE DESIGN.

THIS REPORT SPECIFIES POTENTIAL HEALTH AND SAFETY RISKS AND HAZARDS ASSOCIATED WITH THE DESIGN ELEMENTS DOCUMENTED IN THIS DRAWING PACKAGE TO RELEVANT PERSONNEL DURING THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE, AND DEMOLITION AS WELL AS ULTIMATE DEMOLITION PROCESS AND ASSESSES THEIR LIKELIHOOD AND CONSEQUENCES. THIS REPORT PROPOSES ACTIONS AND STRATEGIES AGAINST RISKS IDENTIFIED TO ACHIEVE EFFECTIVE MITIGATION OF THE RISKS AND HAZARDS, AND ASSESSES RESIDUAL RISKS BASED ON CONTROL MEASURES BEING IMPLEMENTED. ANY SAFETY ISSUES UNRESOLVED THROUGH DESIGN ARE ALSO IDENTIFIED FOR THEIR APPROPRIATE MANAGEMENT.

THE INFORMATION CONTAINED IN THIS SAFETY IN DESIGN REPORT HAS BEEN PREPARED PRIOR TO THE COMMENCEMENT OF THE WORK ON SITE. IT DOES NOT TAKE ACCOUNT OF ANY MATTERS OR INFORMATION WHICH MAY COME TO LIGHT AFTER THAT TIME. WHEN A DESIGN IS ALTERED, AN ADDITIONAL REVIEW MUST BE CONDUCTED TO ENSURE NEW RISKS HAVE BEEN CAPTURED DUE TO MODIFICATION OF THE DESIGN. ADDITIONALLY, CLIENTS ARE REQUIRED TO INFORM ENSPIRE OF ANY EXISTING RISKS AND HAZARDS IN THE AREA WHERE CONSTRUCTION WILL TAKE PLACE.

THE RISKS IDENTIFIED IN THIS SAFETY IN DESIGN REPORT ARE PROJECT AND DESIGN SPECIFIC RISKS WHICH WOULD NOT BE EASILY RECOGNIZED BY A REASONABLY COMPETENT STAKEHOLDER. IT DOES NOT ADDRESS THE COMMON-PLACE HAZARDS OR HAZARDS WHERE KNOWN SOLUTIONS APPLY, AND WHICH ARE ASSOCIATED WITH CONSTRUCTION, OPERATION AND MAINTENANCE AND DEMOLITION GENERALLY. THESE COMMON-PLACE HAZARDS MUST BE CONTROLLED BY THE APPLICATION OF NORMAL GOOD MANAGEMENT PRACTICES.

THIS DESIGN REPORT ASSUMES THAT DURING CONSTRUCTION, OPERATION AND MAINTENANCE OF THE DEVELOPMENT, THE PRINCIPAL WILL ENGAGE EXPERIENCED AND COMPETENT PERSONNEL AS PART OF THE RESPECTIVE TENDER EVALUATION PROCESS. IT IS THE HEAD CONTRACTOR'S OBLIGATION TO PREPARE AND IMPLEMENT SITE SPECIFIC WORK HEALTH AND SAFETY MANAGEMENT PLANS TO MITIGATE COMMON RISKS ASSOCIATED WITH GENERAL CONSTRUCTION AND OPERATION ACTIVITIES IN ACCORDANCE WITH THE WORK HEALTH AND SAFETY REGULATION 2017.

PROPOSED WORKS

THE SCOPE OF THE MAIN ACTIVITIES INVOLVED IN THESE WORKS ARE:

- DETAILED DESIGN OF ROADS AND STORMWATER INFRASTRUCTURE;
- CONSTRUCTION OF ROADS, STORMWATER INFRASTRUCTURE AND SERVICES;
- SITE VISITS AND INSPECTIONS;
- POST CONSTRUCTION OPERATION AND MAINTENANCE.
- FUTURE DEMOLITION

INFORMATION TRANSFER

SAFETY IN DESIGN RELIES ON EFFECTIVE DOCUMENTATION AND COMMUNICATION BETWEEN EVERYONE INVOLVED IN THE LIFE CYCLE OF THE DESIGN ELEMENTS. IN ACCORDANCE WITH THE WORK HEALTH AND SAFETY REGULATION 2017, THE DESIGNER MUST PROVIDE A COPY OF THIS SAFETY IN DESIGN REPORT TO THE PRINCIPAL CONTRACTOR IN PARALLEL WITH THE COMPLETED DESIGN DOCUMENTATION AND ENSURE THAT THE FOLLOWING ACTIONS ARE UNDERTAKEN:

- ONSITE SAFETY INDUCTIONS, INCLUDING HAZARDS IDENTIFIED IN THIS REPORT, SHOULD BE CONDUCTED FOR ALL STAFF;
- SAFETY MANAGEMENT PLANS SHOULD BE PREPARED FOR THE HAZARDS IDENTIFIED IN THIS REPORT;
- THERE SHOULD BE NO VARIATION ON DESIGN REQUIREMENTS WITHOUT CONSULTATION WITH THE ORIGINAL DESIGNERS;
- ONSITE MANAGEMENT OF CONTRACTORS TO ENSURE THAT HAZARDS THAT ARISE THROUGH STARTING/COMPLETION OF JOBS DOES NOT OCCUR; AND
- THIS DESIGN MAY INTERFACE WITH OTHER PLANS AND ACCOUNT SHOULD BE TAKEN OF ANY INTERFACE ISSUES.

IT IS RECOMMENDED THAT THIS SAFETY IN DESIGN REPORT BE PASSED ONTO ANY PARTICIPANT IN THE PROJECT WHO MAY EXTEND THE DESIGN OR FURTHER DEVELOP THE DESIGN.

SAFE DESIGN PROCESS

A SAFE DESIGN PROCESS SHOULD BE ENGAGED EARLY IN THE DEVELOPMENT OF THE DESIGN TO IDENTIFY ALL CONCEIVABLE RISKS AND HAZARDS THAT MAY AFFECT THE FUNDAMENTALS OF THE DESIGN AND AVOID UNNECESSARY REWORK. IT SHOULD BE IMPLEMENTED THROUGH A STRUCTURED APPROACH ACROSS EACH PHASE OF THE DESIGN PROCESS.

DELIVERY OF SAFE DESIGN FOR EACH DESIGN PHASE OF THE PROJECT HAS BEEN CARRIED OUT FOLLOWING THE STEPS BELOW:

- STEP 1: PRELIMINARY RISK IDENTIFICATION

  THE DESIGNER/DESIGN TEAM TO CONDUCT A PRELIMINARY ASSESSMENT AND IDENTIFY ANY POTENTIAL RISKS RELEVANT TO THE SCOPE OF DESIGN WORKS. WITH PROJECTS INVOLVING MULTIPLE DISCIPLINES, THE DESIGNER/DESIGN TEAM TO ATTEND SAFETY IN DESIGN WORKSHOP (IF APPROPRIATE) AND IDENTIFY RISKS IN CONSULTATION WITH OTHER KEY PROJECT STAKEHOLDERS.
- STEP 2: RISK ASSESSMENT AND MITIGATION

  THE DESIGNER/DESIGN TEAM TO ASSESS THE LIKELIHOOD AND SEVERITY OF EACH HAZARD AND DEVELOP CONTROLS AND MEASURES TO ELIMINATE OR MINIMISE THE CONSEQUENCES OF THE HAZARD.
- STEP 3: VERIFICATION

  ENSPIRE TO PERFORM INTERNAL VERIFICATION ON THE SAFE DESIGN RISK REGISTER PRIOR TO ISSUING TO THE CONTRACTOR AND CLIENT.
- STEP 4: REVIEW DESIGN

  THE DESIGNER/DESIGN TEAM TO IDENTIFY ANY ALTERATIONS IN DESIGN AND REVIEW AND UPDATE RISK REGISTER ACCORDINGLY.

PROJECT REPRESENTATIVES

ORGANISATION	PROJECT ROLE	MAIN CONTACT	CONTACT DETAILS
CELESTINO DEVELOPMENTS SSP	DEVELOPMENT PROPONENT	BRADLEY DEKRUIF	TEL: 02 9842 1259 EMAIL: bradley.dekruif@celestino.net.au ADDRESS: 642 GREAT WESTERN HIGHWAY, PENDLE HILL NSW 2145
ENSPIRE SOLUTIONS	CIVIL DESIGN CONSULTANT	SHAWN HOTONG	TEL: 0424 629 155 EMAIL: shawn.hotong@enspiresolutions.com.au ADDRESS: LEVEL 4, 153 WALKER STREET, NORTH SYDNEY NSW 2060
TBC	PRINCIPAL CONTRACTOR	TBC	TBC
TBC	ASSET OPERATOR / MAINTENANCE	TBC	TBC

QUALITATIVE MEASURES OF LIKELIHOOD OR FREQUENCY

LEVEL	MEASURE	CRITERIA
1	RARE	WOULD ONLY OCCUR IN HIGHLY EXCEPTIONAL CIRCUMSTANCES THAT ARE UNLIKELY TO EXIST IN ANY PHASE OF THE DEVELOPMENT'S LIFECYCLE PERIOD. EXTREMELY REMOTE CHANCE OF OCCURRENCE IN DEVELOPMENT'S LIFECYCLE PERIOD. 'ONCE IN A LIFETIME' EVENT.
2	UNLIKELY	NOT LIKELY TO OCCUR IN THE DEVELOPMENT'S LIFECYCLE PERIOD. A SMALL, BUT REMOTE CHANCE OF OCCURRENCE DUE TO CIRCUMSTANCES / SITUATIONS THAT COULD ARISE.
3	POSSIBLE	LIKELY TO OCCUR AT LEAST ONCE BUT NOT EXPECTED TO OCCUR MUCH MORE THAT THIS IN THE DEVELOPMENT'S LIFECYCLE PERIOD.
4	LIKELY	LIKELY TO OCCUR MORE THAN ONCE IN THE DEVELOPMENT'S LIFECYCLE PERIOD BUT NOT AN 'EVERYDAY" OCCURRENCE. PRECONDITIONS WILL ARISE AT TIMES THROUGHOUT THE PERIOD.
5	ALMOST CERTAIN	WILL OCCUR. CIRCUMSTANCES OR SITUATIONS ARE LIKELY TO ARISE OFTEN THROUGHOUT THE DEVELOPMENT'S LIFECYCLE PERIOD WHICH PROVIDES THE OPPORTUNITY FOR CRYSTALLISATION OF RISK. EXPECT FREQUENT, REGULAR OCCURRENCES.

QUALITATIVE MEASURES OF IMPACT - CONSEQUENCE SEVERITY

LEVEL	MEASURE	CRITERIA
1	INSIGNIFICANT	NO INJURIES; NO ENVIRONMENTAL IMPACT.
2	MINOR	FIRST AID; ENVIRONMENTAL RELEASE IMMEDIATELY CONTAINED.
3	MODERATE	MEDICAL TREATMENT; ENVIRONMENTAL RELEASE NOT IMMEDIATELY CONTAINED WITH NO DETRIMENTAL EFFECTS.
4	MAJOR	LOST TIME AND/OR LONG-TERM INJURY/ILLNESS; ENVIRONMENTAL RELEASE NOT IMMEDIATELY CONTAINED WITH TOXIC EFFECTS.
5	CATASTROPHIC	FATALITY; RELEASE TO THE ENVIRONMENT WITH LONG TERM OR PERMANENT TOXIC EFFECTS.

MATRIX FOR DETERMINATION OF RISK LEVEL

CONSEQUENCE	CATASTROPHIC	(5)	HIGH	VERY HIGH	VERY HIGH	VERY HIGH	VERY HIGH
	MAJOR	(4)	HIGH	HIGH	VERY HIGH	VERY HIGH	VERY HIGH
	MODERATE	(3)	MODERATE	MODERATE	HIGH	HIGH	VERY HIGH
	MINOR	(2)	LOW	LOW	MODERATE	HIGH	VERY HIGH
	INSIGNIFICANT	(1)	LOW	LOW	LOW	MODERATE	HIGH
			RARE (1)	UNLIKELY (2)	POSSIBLE (3)	LIKELY (4)	ALMOST CERTAINLY (5)
			LIKELIHOOD				

SAFE DESIGN RISK REGISTER

ITEM	ACTIVITY	HAZARD	STAGE	INITIAL RISK			DESIGN ACTION	RESIDUAL RISK			PERSON RESPONSIBLE FOR CONTROLS	STATUS
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
1	SEDIMENT BASIN OPERATION	FALLING INTO BASIN WHICH HOLDS WATER	CONSTRUCTION	2	5	VERY HIGH	- PROVIDE BATTER SLOPES SUITABLE FOR SAFE EGRESS. - MAINTAIN WATER LEVELS IN BASIN. - MINIMISE PERMANENT WATER DEPTH. - FENCE SEDIMENT BASINS TO PREVENT ACCIDENTAL FALL.	2	3	MODERATE	CONTRACTOR	-
2	TREE REMOVAL	- FALL FROM HEIGHT - CRUSH INJURY FROM FALLING TREE	CONSTRUCTION	2	5	VERY HIGH	- LIMIT NUMBER OF TREES TO BE REMOVED. - CERTIFIED ARBORIST USING BEST PRACTICES RESPONSIBLE FOR TREE REMOVAL.	2	3	MODERATE	CONTRACTOR	-
3	PIPE TRENCHING	FALL INTO DEEP EXCAVATIONS	CONSTRUCTION	2	5	VERY HIGH	- APPLY APPROPRIATE BENCHING / SHORING TECHNIQUES. - UNDERTAKE WORKS UNDER GEOTECHNICAL ENGINEER SUPERVISION. - MANAGE ROAD SIDE TRAFFIC APPROPRIATELY.	1	3	MODERATE	CONTRACTOR	-
4	LOCALISED STEEP BATTERS	VEHICLE ROLL OVER	OPERATION	3	5	VERY HIGH	- PROVIDE VEHICLE BARRIER PROTECTION	3	2	MODERATE	DESIGNER	-
5	VIADUCT CROSSING	COLLISION WITH TALL VEHCILES / LOADS	OPERATION AND CONSTRUCTION	3	5	VERY HIGH	- DESIGN VERTICAL ROAD GEOMETRY WITH ADEQUATE VERTICAL CLEARANCE. - CONTRACTOR TO ESTABLISH SAFE WORK METHODS WITHIN VIADUCT BUFFER.	1	5	HIGH	DESIGNER CONTRACTOR	-
6	EXISTING LIVE UTILITIES	CONFLICT WITH EXISTING UTILITIES	CONSTRUCTION	5	5	VERY HIGH	- UNDERGROUND OVERHEAD ELECTRICAL. - PHYSICALLY LOCATE EXISTING UTILITIES TO CONFIRM LOCATIONS. - ADOPT SURVEY/WAE/FOR CONSTRUCTION DATA FOR INFRASTRUCTURE PLANNING PURPOSES (E.G. STORMWATER CROSSINGS). - ADOPT SAFE WORKING METHODS AROUND EXISTING UTILITIES. - APPLY TEMPORARY PROTECTION MEASURES DURING WORKS.	3	3	HIGH	DESIGNER CONTRACTOR	-
7	VIADUCT COLUMN CLEAR ZONE	VEHICLE COLLISION WITH COLUMNS	OPERATION	2	2	LOW	- CURRENT DESIGN ADEQUATELY POSITIONS COLUMNS RELATIVE TO EDGE OF TRAVEL LANE, OUTSIDE CLEAR ZONE. - PROPOSED ROADS ARE IN CUT, RESULTING IN THE COLUMN HAZARD BEING ELEVATED REDUCING COLLISION POTENTIAL.	2	2	LOW	DESIGNER	-
8	CONCURRENT ADJACENT WORKS	OVERLAPPING PRINCIPAL CONTRACTOR ZONES GENERATING CONSTRUCTION TRAFFIC HAZARD	CONSTRUCTION	3	4	VERY HIGH	- COORDINATE TRAFFIC CONTROLS AND VEHICLE ROUTES WITH ADJACENT WORKS SITE(S) - CONSIDER ALTERNATIVE ACCESS ROUTES TO SEPARATE CONSTRUCTION TRAFFIC.	1	3	MODERATE	CONTRACTOR	-

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
5	2/04/2024	AMENDED TO TFNSW & SMWSA COMMENTS	SHH	SHH		SHH
4	24/11/2023	ISSUED FOR DEVELOPMENT APPLICATION	MDH	JS	-	SH
3	27/04/2023	ISSUED FOR DEVELOPMENT APPLICATION	GJI	JS	-	SH
2	6/04/2023	90% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH
1	23/12/2022	70% PROGRESS ISSUE FOR REVIEW	CWH	JS	-	SH

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Scale:

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Project: SYDNEY SCIENCE PARK
LUDDENHAM ROAD LUD3
CIVIL ENGINEERING WORKS

Title: SAFETY IN DESIGN REPORT

Scale: NTS

Date: 23/12/2022

Size: A1

Datum: MGA2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

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Revision: 5

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