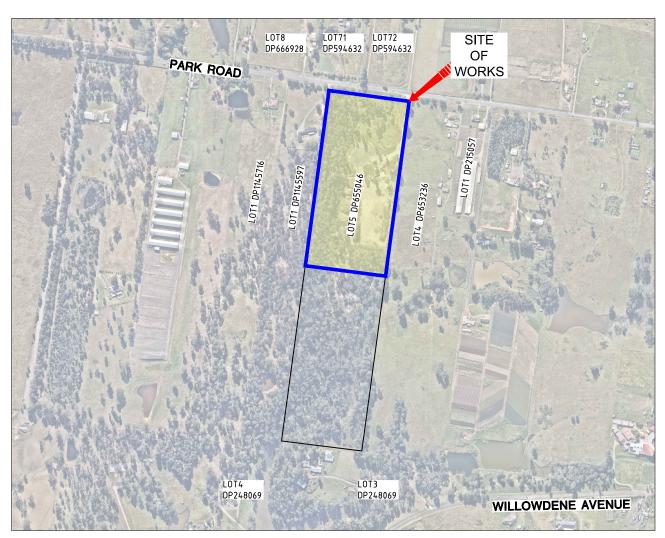
CIVIL ENGINEERING AND STORMWATER FOR LOT5 DP655046

344 PARK ROAD WALLACIA

ISSUED FOR DEVELOPMENT APPLICATION AUGUST 2021

SCHEDULE OF DRAWINGS

PLAN NUMBER	DRAWING TITLE
7410-DA-000	COVER SHEET
7410-DA-001	GENERAL NOTES AND LEGEND
7410-DA-002	GENERAL ARRANGEMENT PLAN SHEET 1 OF 2
7410-DA-003	GENERAL ARRANGEMENT PLAN SHEET 2
7410-DA-020	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
7410-DA-021	EROSION AND SEDIMENT CONTROL PLAN
7410-DA-050	EARTHWORKS PLAN
7410-DA-051	SITE SECTIONS
7410-DA-060	GRADING PLAN SHEET 1 OF 2
7410-DA-061	GRADING PLAN SHEET 2
7410-DA-100	STORMWATER PLAN SHEET 1 OF 2
7410-DA-101	STORMWATER PLAN SHEET 2
7410-DA-200	CHAINAGE PLAN SHEET 1 OF 2
7410-DA-201	CHAINAGE PLAN SHEET 2
7410-DA-205	ROAD CROSS SECTIONS SHEET 1 OF 2
7410-DA-206	ROAD CROSS SECTIONS SHEET 2
7410-DA-210	ROAD LONGITUDINAL SECTIONS SHEET 1 OF 3
7410-DA-211	ROAD LONGITUDINAL SECTIONS SHEET 2
7410-DA-212	ROAD LONGITUDINAL SECTIONS SHEET 3
7410-DA-215	ROAD 1 CROSS SECTIONS SHEET 1 OF 2
7410-DA-216	ROAD 1 CROSS SECTIONS SHEET 2
7410-DA-217	ROAD 2 CROSS SECTIONS SHEET 1 OF 2
7410-DA-218	ROAD 2 CROSS SECTIONS SHEET 1 OF 2
7410-DA-219	ROAD 3 CROSS SECTIONS
7410-DA-220	ROAD 4 CROSS SECTIONS
7410-DA-300	CATCHMENT PLAN PRE DEVELOPMENT
7410-DA-301	CATCHMENT PLAN POST DEVELOPMENT
7410-DA-302	CATCHMENT PLAN EXTERNAL
7410-DA-303	MUSIC CATCHMENT PLAN AND SCHEDULE
7410-DA-405	ONSITE DETENTION DETAILS SHEET 1 OF 3
7410-DA-406	ONSITE DETENTION DETAILS SHEET 2
7410-DA-407	ONSITE DETENTION DETAILS SHEET 3
7410-DA-415	CULVERT DETAILS
7410-DA-420	INTERNAL DRIVEWAY ACCESS PLAN AND DETAILS



LOCALITY PLAN NTS

CLIENT:

BENBOW ENVIRONMENTAL

CONSULTANTS:





- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES IN THESE DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.

 THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL
- DIMENSIONS, ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT, DIMENSIONS SHALL NOT BE OBTAINED BY SCALING OFF THE PLANS. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF
- ALL WORKMANSHIP AND MATERIALS STALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT AUSTRALIAN STANDARDS, THE BY-LAWS AND ORDINANCES OF THE RELEVANT AUTHORITIES AND THE SPECIFICATIONS. NO CHANGES SHALL BE MADE BY CONTRACTOR WITHOUT THE WRITTEN CONSENT OF THE SUPERINTENDENT THE SUPERINTENDENT IS TO CONFIRM THE EXACT EXTENTS ON SITE PRIOR
- TO COMMENCEMENT.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SAFE WORK PRACTICES ARE FOLLOWED AT ALL TIMES DURING THE COURSE OF THE CONTRACT. OH&S REGULATIONS AND WORK COVER REQUIREMENTS ARE TO BE COMPLIED WITH. REFER TO THE SPECIFICATION AND CONTRACT DOCUMENTS
- CONTRACT DUCUMENTS.

 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL SURVEY MARKS ARE MAINTAINED. IF THE CONTROL MARKS ARE DESTROYED OR MOVED DURING CONSTRUCTION THE CONTRACTOR MUST SUPPLY ADEQUATE MARKS FOR RE-ESTABLISHMENT AND INFORM
- CHANGES, REDUCED LEVELS, CHAINAGES, OFFSETS AND ROAD WIDTHS ARE IN METRES UNLESS OTHERWISE SHOWN.
- IAISE WITH THE SUPERINTENDENT APPOINTED BY CITY COUNCIL PRIOR TO COMMENCEMENT OF CONSTRUCTION
- OF CONSTRUCTION.

 9. ALL SITE FILLING SHALL BE COMPACTED TO 98% STANDARD COMPACTION, CONTROLLED BY THE GEOTECHNICAL ENGINEER OR AS INSTRUCTED BY THE SUPERINTENDENT.

 10. SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT TO THE REQUIREMENTS OF COUNCIL'S ENGINEER.

 11. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- 12. THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS. TO BE PROVIDED PRIOR TO THE
- WITHOUT THE WRITTER PERMISSION OF THE UWNERS. TO BE PROVIDED PRIOR TO THE APPROVAL OF THE PLANS.

 13. THE WSUD DESIGN IS GUIDED AS PER WATER SENSITIVE URBAN DESIGN (WSUD) STANDARD DRAWINGS BLACKTOWN CITY COUNCIL

 14. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE DURATION OF THE
- 15. REFER TO CITY COUNCIL'S SPECIFICATION AND STANDARD DRAWINGS OF KERBS AND

SITE PREPARATION NOTES

- ORIGIN OF LEVELS: AHD.
 COORDINATES TO MGA MAP GRID AUSTRALIA
- COORDINATES TO MGA MAP GRID AUSTRALIA
 ASPHALTIC CONCRETE SHALL CONFORM TO R.T.A. FORM R116.
 ALL BASECOURSE MATERIAL. SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH
 R.T.A. FORM 3051 (UNBOUND), R.T.A. FORM 3052 (BOUND) COMPACTED TO A MINIMUM 98%
 MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING
 SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASECOURSE MATERIAL KEEP.
 ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY
 WITH R.T.A. FORM 3051 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE
 WITH AS 1996 5.2.1 EDECULENCY OF COMPACTION TESTING SHALL NOT BE I.ESS THAN 1 TEST
- WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST
- WITH AS 1299 3-11. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN THEST PER 50m³ OF SUB-BASE COURSE MATERIAL PLACED.
 WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED OUT BY OTHERS (EG. ADJUSTMENT OF SERVICES). COORDINATION OF THESE WORKS SHALL BE THE RESPONSIBILIT OF THE CONTRACTOR.

- KERBING NOTES

 1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa. OTHERWISE AS PER COUNCIL SPECIFICATIONS.

 2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289)
- EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD EXPANSION JOIN S (E.J) I O BE FORMED FROM 10MB COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.

 IN THE REPLACEMENT OF ROLL/KERB AND GUTTER, EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O. FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW ROLL/KERB AND GUTTER, NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O. ALL OTMENT DBAINAGE PIPES CONNECTED TO THE POLIT KERPS AND GUTTER SHALL CONSIST.
- ALLOTMENT DRAINAGE PIPES CONNECTED TO THE ROLL/KERB AND GUTTER SHALL CONSIST OF A RECTANGULAR HOLLOW SECTION (GALVANISED STEEL) AT THE LOW SIDE OF THE
- OF A RECTAINDIGHT HOLLOW SECTION (GREATWINGS STEEL) AT THE LOW SIDE OF THE PROPOSED LOT. REFER TO COUNCIL'S SPECIFICATION FOR DETAILS.

 EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW ROLL/KERB AND GUTTER IS SHOWN.

 PRAM RAMP GRADES SHALL BE MAX 1 IN 14, IN SPECIAL CIRCUMSTANCES GRADES SHALL BE
- ABSOLUTE MAX 1 IN 10.
 WEAKENED PLANE JOINTS TO BE A MINIMUM 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT ON INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS SHALL MATCH THE IOINT LOCATIONS IN THE SLARS
- RAMPED AND VEHICULAR CROSSINGS SHALL HAVE A BROOMED FINISH WITH ALL OTHER KERBING OR DISH GUTTERS TO BE STEEL FLOAT FINISHED

SURVEY NOTES:

- ALL SITE SET OUT POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR
- SURVEYOR.
 THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING
 DRAWINGS HAVE BEEN INVESTIGATED BY THE REGISTERED SURVEYOR.
 THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN.
 INDESCO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
- CONTACT SUPERINTENDENT IF DISCREPANCIES ARE ENCOUNTERED. DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND FIELD DATA

STORMWATER NOTES

- STORMWATER DESIGN CRITERIA: PIPE DRAINAGE SYSTEM IS DESIGNED FOR 5 YEAR ARI
- DRAINAGE SYSTEM IS DESIGNED FOR MAJOR EVENT OF 100 YEAR ARI
- IFA DATA LOCALITY: CITY COUNCIL
- IFA DATA LOCALITY: CITY COUNCIL
 PIPE BEDDING MATERIAL SHALL BE CLEAN COURSE RIVER SAND WITH DEPTH AS FOLLOWS:
 CONCRETE AND FRC PIPES: 100mm (175mm IN ROCK)
 UPVC PIPE: 75mm (100mm IN ROCK)
 SUBSOIL 50mm
 BACKFILL ALL PIPES WITH GRANULAR MATERIAL SUCH AS QUARRY FINES OF COARSE RIVER
- SAND TO A MINIMUM OF 150mm ABOVE THE PIPE. THE GRANULAR MATERIAL SHALL BE PLACED IN 150mm THICK MAX. LAYERS COMPACTED TO ACHIEVE A DENSITY INDEX OF 70% REQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 1 TEST PER 2 LAYERS
- PREQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 11EST PER 2 LAYERS PER 40 LINEAR METRE.
 PIPES GREATER THAN 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' 10/20 COVER APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINT U.N.O.
 PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SEWER GRADE UPVC WITH SOLVENT
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS
- WHIERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPES SHALL BE USED.

 ALL PITS, INCLUDING COUNCIL PITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 40MPa. ALL REINFORCEMENT SHALL HAVE A MINIMUM COVER OF 60mm COVERS AND GRATES SHALL CONFORM TO A.S. 3996 AND COUNCIL SPECIFICATIONS.

 BACKFILL THE REMAINDER OF THE TRENCH ABOVE THE SAND TO SUBGRADE LEVEL WITH TRENCH MATERIAL. PLACE AND COMPACT MATERIALS IN LAYERS NOT EXCEEDING 150mm (COSET BICKPRESS MATERIAL). LOOSE THICKNESS. MATERIAL LOWER THAN 50mm BELOW SUBGRADE LEVEL SHALL BE COMPACTED TO A MIN. OF 95% OF STANDARD MAXIMUM DRY DENSITY. TOP 50mm BELOW PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD
- PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD MAXIMUM DRY DENSITY (SMDD).

 FILTER MATERIAL FOR SUBSOIL SHALL BE COARSE SAND OR CRUSHED STONE WHICH COMPLIES WITH ONE OF THE GRADINGS IN THE TABLE BELOW. AS SPECIFIED ON THE DRAWINGS THE 7mm CRUSHED ROCK FILTER MATERIAL SHALL BE ENCLOSED WITHIN FILTER FABRIC SHEET AS SPECIFIED. FILTER MATERIAL SHALL BE PLACED IN 250mm LAYERS AND COMPACTED TO A DENSITY INDEX OF 60%.
- 12. LINTEL LENGTH SHOWN ON DRAWING INDICATES THE CLEAR OPENING LENGTH

AS SIEVE SIZE (mm)	SAND	70mm ROCK
9.5	100	100
6.7	-	75-100
4.75	90-100	20-55
2.36	75-100	0-15
1.18	50-90	-
0.6	20-60	-
0.3	10-30	-
0.15	2-10	-
0.075	0-3	0-2

- PRIOR TO ISSUE OF PRACTICAL COMPLETION CONTRACTOR SHALL CARRY OUT CCTV ON ALL PIPES AND SUBMIT VIDEO AND WRITTEN REPORT CONFIRMING THAT ALL PIPES ARE FREE OF DEFECTS AND ARE LAID TO SPECIFICATION.
- A MINIMUM GAP OF 0.2m BELOW FENCING TO BE CONSTRUCTED ACROSS THE FULL WIDTH
- . A MINIMUM GAP OF 0.2m BELOW FENCING TO BE CONSTRUCTED ACROSS THE FULL WIDTH OF ALL DRAINAGE EASEMENTS TO CONVEY DRAINAGE SURCHARGE FLOWS.

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

 . GRATES AND COVERS SHALL CONFORM WITH THE CITY COUNCIL'S SPECIFICATION.

 . AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL BALLING DOWN DITE.
- BACKEILLING OF TRENCHES SHALL BE IN ACCORDANCE WITH THE CITY COUNCIL'S SPECIFICATIONS

FALLING DOWN PITS.

- SPECIFICATIONS.

 19. REINFORCEMENT AND STEP IRONS ARE TO BE PLACED IN PITS GREATER THAN 1.2M DEEP IN ACCORDANCE WITH THE CITY COUNCIL'S AND MANUFACTURER REQUIREMENTS.

 20. SUBSOIL DRAINS ARE TO BE PROVIDED BEHIND ALL KERBS AS DIRECTED.

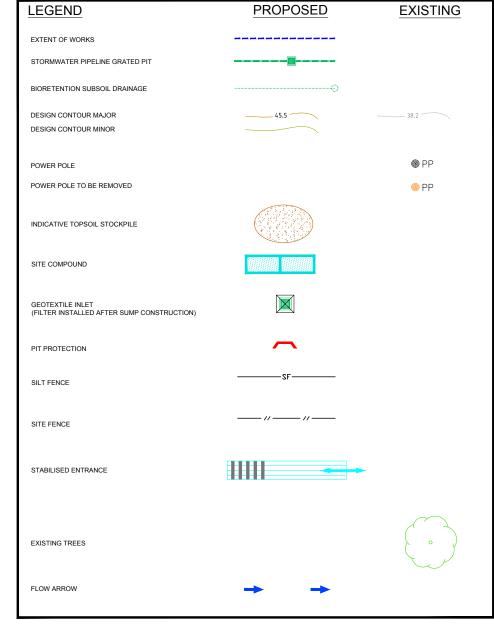
 21. ALL PITS SHALL BE BENCHED AND FLOW STREAMLINED.

 22. ALL MILD STEEL FIXTURES INCLUDING (GRATES, FRAMES, STEP IRONS, LADDERS ETC). SHALL BE HOT DIP GALVANISED WHICH SHALL COMPLY WITH THE REQUIREMENTS OF AS 1214 OR AS 1650, AS APPROPRIATE.
- 23 GEOFABRIC FILTER SHALL BE PERMEABLE NON-WOVEN FABRIC MANUFACTURED FROM A
- 20. GEOFABRIC THE TEN SHALL BE PERMINEABLE, NON-WOVEN FABRIC MANUFACTORED FROM A POLYPROPYLENE OR POLYSTER OF MASS GREATER THAN 135g/m2

 24. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH A.S. 3500 3.1 (1998) AND ASINZ 3500 3.2 (1998)

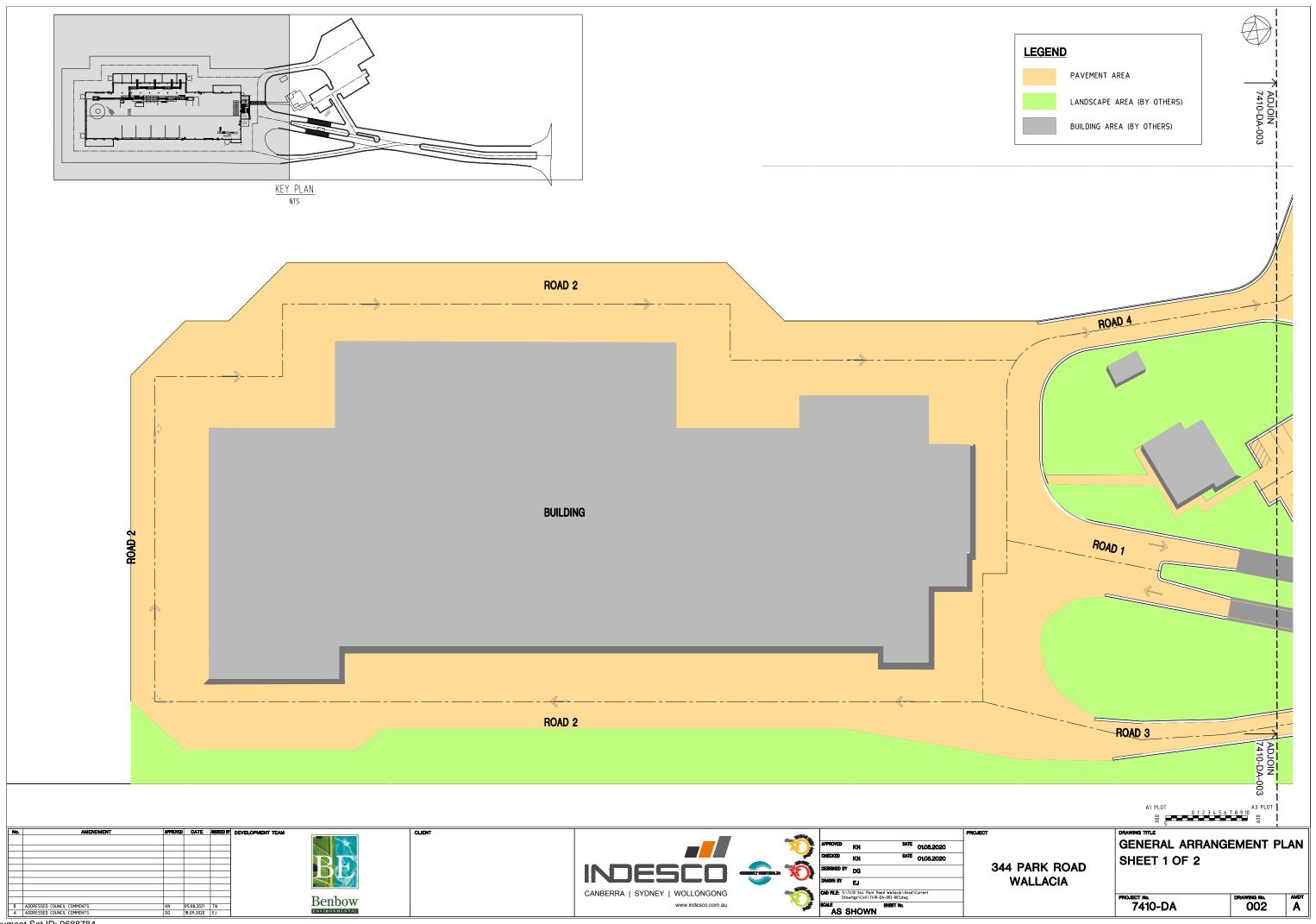
 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MINIMUM COVER OF 600mm
- DURING CONSTRUCTION

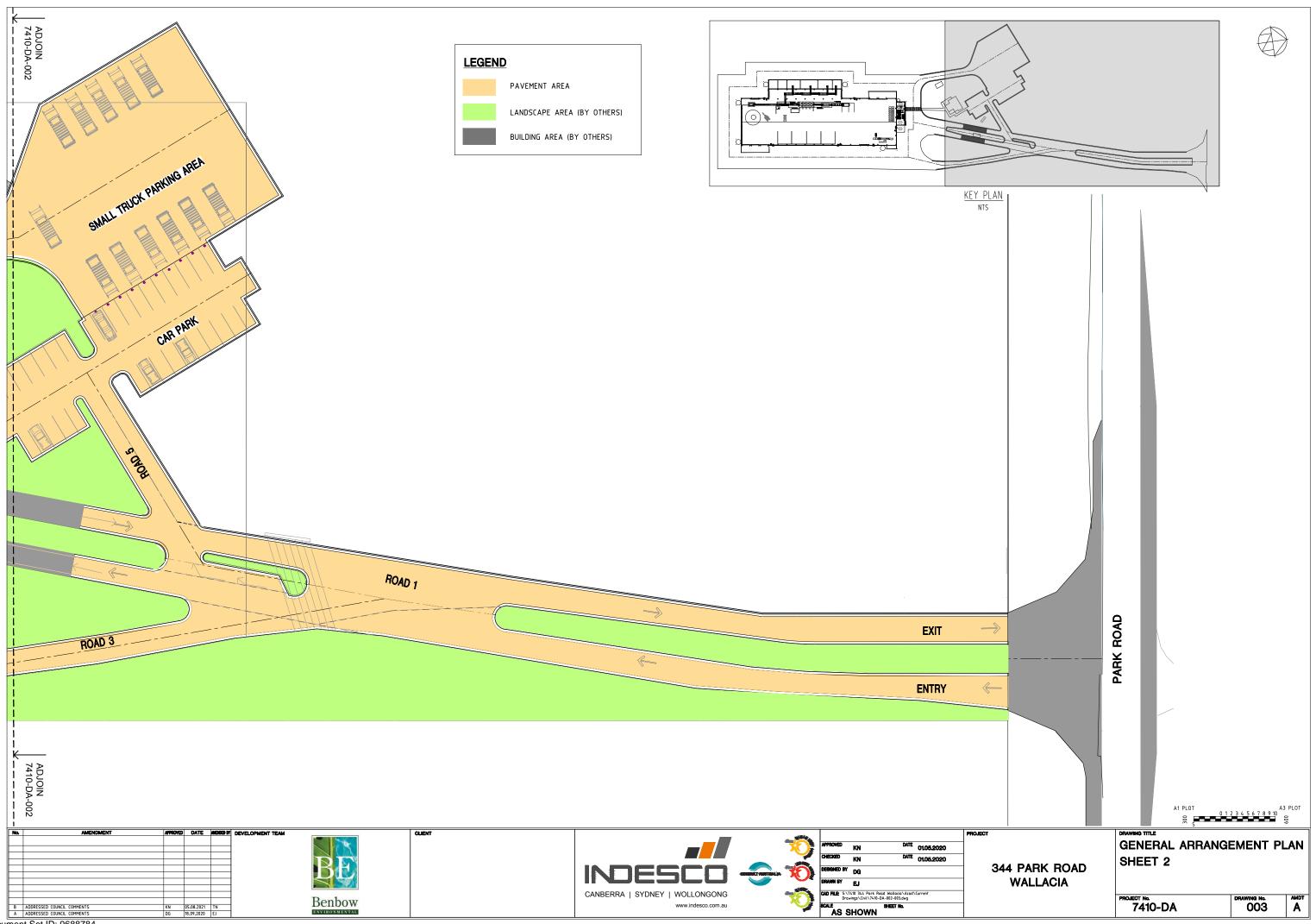
ALL NOTES ARE TO BE READ IN CONJUNCTION WITH COUNCIL'S ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL











GENERAL NOTES ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE. SELECTIVE CLEARING OF VEGETATION TO BE RESTRICTED TO NOMINATED AREAS WITH CLEARED VEGETATION STORED ALONG THE CONTOUR. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT NOMINATED SITE. NO MORE THAN 150m OF TRENCH TO BE OPEN AT ANY ONE TIME. CUT AND FILL BATTER GRADIENTS MAXIMUM OF 1:3 (MAXIMUM). ALL TEMPORARY EARTH STRUCTURES, INCLUDING SOIL STOCKPILES AND CUT AND FILL BATTERS, TO BE TRACK AND ROLLED AND/OR SEEDED WITHIN 14 DAYS OF THEIR CONSTRUCTION WITH THE FOLLOWING CROP COVER AND FERTILISER MIXTURE: (SUBJECT TO SOIL TESTING IF REQUIRED) JAPANESE MILLET RYF CORN/OATS

STARTER FERTILISER

 STARLER FERTILISER
 ALL KERB INLETS SUBJECT TO STORMWATER INUNDATION FROM CONSTRUCTION SITE TO BE PROTECTED FROM SEDIMENT FLOW BY MESH AND GRAVEL INLET FILTER.
 ALL DISTURBED AREAS TO BE STABILISED AND/OR REVEGETATED WITHIN 14 DAYS OF EARTHWORKS COMPLETION USING TURF OR THE FOLLOWING SEED AND FERTILISER MIXTURE:

SPR/SUM AUT/WIN 16kg/Ha 6kg/Ha 10kg/Ha JAPANESE MILLET RYE CORN/OATS COUCH GRASS RHODES GRASS 16kg/Ha 16kg/Ha 8kg/Ha 8kg/Ha 10kg/Ha 10kg/Ha 6kg/Ha STARTER FERTILISER (AT SOWING) 300kg/Ha 300kg/Ha MAINTENANCE FERTILISER (FOLLOWING SPRING/SUMMER)

SEDIMENT FENCES AND BARRIER FENCES SHALL BE INSTALLED AS SHOWN ON THE SEDIMENT

SEDIMENT FENCES AND BARRIER FENCES SHALL BE INSTALLED AS SHOWN ON THE SEDIMEN AND EROSION CONTROL PLAN (SECP).

CONSTRUCT STABILISED SITE ACCESS FOLLOWING THE SECP OR OTHER SUITABLE TECHNIQUE APPROVED BY THE COUNCIL.

ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR

STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE. ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE IMPLEMENTED AND INSTALLED IN

ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE IMPLEMENTED AND INSTALLED IN ACCORDANCE WITH "SOIL AND CONSTRUCTION" (BLUE BOOK), VOL. 1 ED. 4TH, MARCH 2004 THE SEDIMENT BASIN SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT ALL OF THE DISTURBED AREAS ARE HYDROMULCHED WHERE FLOCCULATION OF THE BASIN IS REQUIRED, THE RECOMMENDED INITIAL DOSE IS 30kg OF GYPSUM/100 m3 OF BASIN VOLUME, UNLESS OTHERWISE SPECIFIED. THIS RATE MAY VARY

DEPENDING ON THE TESTING OF PREVIOUS WATER SAMPLES AND THE ACHIEVMENT OF THE REQUIRED WATER QUALITY TARGETS.

CONTINUOUS DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION TO

CONTINUOUS DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION TO THE SATISFACTION AND DURATION SPECIFIED BY THE SUPERINTENDENT AND COUNCIL. ALL OF THE SOIL STORAGE, REVEGETATION AND SEDIMENT AND EROSION CONTROL MANAGEMENT DEVICES/MEASURES SHALL BE IMPLEMENTED TO NSW ENVIRONMENT PROTECTION AUTHORITY (EPA) AND DEPARTMENT OF LAND AND WATER REQUIREMENTS. ALL SEDIMENT AND EROSION CONTROL MANAGEMENT MEASURES/DEVICES SHOWN ON THE PLANS

STOCKPILE NOTES

SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.

IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 30 DAYS THEN THEY SHALL BE STABILIZED BY COVERING WITH MULCH OR WITH TEMPORARY VEGETATION.

FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPREAD TO A MINIMUM DEPTH OF 150MM

ON THE BARE SOIL SURFACES AND REVEGETATE AS SHOWN ABOVE.

SEDIMENT CONTROLS

FILTER FABRIC (E.G. PROPOX OR EQUIVALENT) SHALL BE STRETCHED BETWEEN POSTS AT MAX. 3m C/C TO FORM THE SILT FENCE. THE FABRIC SHALL BE BURIED AND BACKFILLED WITH SOIL 150mm DEEP IN AN EXCAVATED TRENCH ALONG THE BASE OF THE FABRIC.

STRAW BALES SHALL BE PLACED IN A SINGLE ROW, END-TO-END, AND BOUND WITH WIRE. EACH BALE SHALL BE ANCHORED WITH TWO STEEL STAKES (DRIVEN 450mm IN THE GROUND) AT THE CENTRE LINE OF THE BALE. ALL BALES SHALL BE EMBEDDED 100mm INTO THE SOIL

SPECIAL NOTES

IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN PROTECTION AGAINST WATER DAMAGE FOR THE DURATION OF THE CONTRACT. INDESCO DOES NOT GUARANTEE THE COMPLETENESS OF THE PLANS TO FULLY REDUCE WATER DAMAGE.

COMPLETENESS OF THE PLANS TO FULLY REDUCE WATER DAMAGE.

COUNCIL APPLICANT REPRESENTATIVES SHALL INSPECT THE SITE PRIOR TO COMMENCING
EARTHWORKS, AND AFTER PEGGING/MARKING THE PROPOSED ROAD CENTRELINE. BOTH
REPRESENTATIVES SHALL APPROPRIATELY IDENTIFY AND MARK ALL TREES TO BE RETAINED
AND/OR CORDONED. NO TREES SHALL BE REMOVED WITHOUT COUNCIL'S APPROVAL.

MANAGEMENT DEVICES SHALL BE MAINTAINED/CLEANED REGULARLY AND REMAIN FOR THE
DURATION OF THE MAINTENANCE PERIOD. SEDIMENT SHALL BE REMOVED AS PER THE

ENGINEER

INDESCO DOES NOT GUARANTEE THE EXACT LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES. ACTUAL EXTENTS AND REQUIREMENTS SHALL BE CONFIRMED ON SITE. THIS PLAN SHALL BE READ IN CONJUNCTION WITH GUIDELINES SET IN 'MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION' (ED. 4) AND THE RELEVANT ROADS AND DRAINAGE

- EARTH BANK STABILISE STOCKPILE SURFACE SEDIMENT FENCE FLOW.

CONSTRUCTION NOTES

I. PLACE STOCKPILE S MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROAI AND HAZARD AREAS.

CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.

WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
ALL STOCKPILES ARE TO BE LOCATED AND PLACED IN ACCORDANCE WITH THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN.

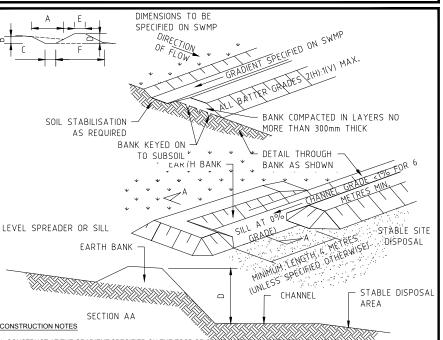
PLAN. WHERE STOCKPILES ARE TEMPORARY (<14 DAYS) NO STABILISATION IS REQUIRED. REVIEW THE ADEQUACY OF SEDIMENT CONTROLS IF RAINFALL IS PREDICTED.
WHERE STOCKPILES ARE TEMPORARY (<14 DAYS) THE FOLLOWING ADDITIONAL CONTROL ARE REQUIRED:

- MAXIMUM BATTER SLOPE REDUCED TO 1:4 - CONSTRUCT A CONTOUR DRAIN ON THE LOW SIDE OF THE STOCKPILE, AND DISCHARGING THROUGH A STRAW BALE OR 200mm

HIGH GRAVEL DAM

- ESTABLISH GRASS COVER TO SURFACE OF STOCKPILE WITHIN 14 DAYS, USING HYDROMULCH WITH A 75:25 MIX OF SEASONAL ANI PERMANENT GRASS SEEDS, AND A STRAW MULCH THICKNESS OF NO LESS THAN 5mm. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWINGS 6-8) 1 TO 2 METRES DOWNSLOPE.

STOCKPILES



1. CONSTRUCT AT THE GRADIENT SPECIFIED ON THE ESCP OR SWMP NORMALLY BETWEEN 1% AND 5%

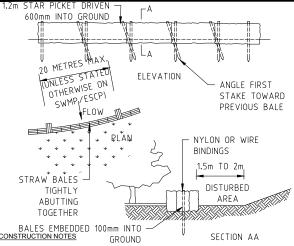
AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.

ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.

BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED, AT THE DIMENSIONS SHOW IT THE SWMP. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURI

COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION FOLLOWING TABLE 5.2 IN LANDCOM WHERE DISCHARGING TO ERODIBLE LANDS. ENSURE THEY OUTLET THROUGH A PROPERLY CONSTRUCTED LEVEL SPREADER

CONSTRUCT THE LEVEL SPREADER AT THE GRADIENT SPECIFIED ON THE ESCP OR SWMP. NORMALLY LESS THAN 1% OR LEVEL WHERE POSSIBLE, ENSURE THEY DISCHARGE WATERS ONTO EITHER STABILISED OR UNDISTURBED DISPOSAL SITES WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED. APPROVAL MIGHT BE REQUIRED TO DISCHAGRE INTO OTHER



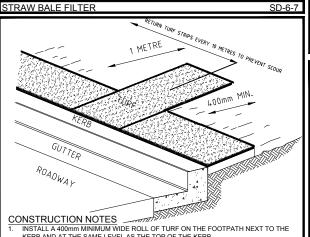
1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLE TO THE CONTOURS OF THE SITE

PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING, USE STRAW TO

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 EAC 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 AND, IF POSSIBLE, FLOSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS AN USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED

BATTER, ENSURE THE BALES ARE PLACED 1 TO 2 METRES DOWNSLOPE FROM THE

ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALE IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS



INSTALL A 400mm MINIMUM WIDE ROLL OF TURF ON THE FOOTPATH NEXT TO THE KERB AND AT THE SAME LEVEL AS THE TOP OF THE KERB.

LAY 1.4 METRE LONG TURF STRIPS NORMAL TO THE KERB EVERY 10 METRES. REHABILITATE DISTURBED SOIL BEHIND THE TURF STRIP FOLLOWING THE

RUNOFF WATER-TIMBER SPACER WITH SEDIMENT OVERFLOW SEDIMENT - ∇

MAX. 2.5m CENTRES SURFACE CONCRETE 20 METRES MAX. (UNLESS STATED OTHERWISE ON SWMP/ESCP) FLOW 1.5m STAR PICKETS AT MAX. 2.5m CENTRES

SELF-SUPPORTING

ON SOIL, 150mm X

100mm TRENCH

WITH COMPACTED

BACKFILL AND ON

ROCK. SET INTO

GEOTEXTILE

DIRECTION

OF FLOW

SECTION DETAIL

1.5m STAR PICKETS AT

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE. BU VITH 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 LITRE FR SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.

JT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE COT A 150mm DEEP TRENCH ALONG THE OPSCOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.

DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.

FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE

RENCH . FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE

EOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS OF SATISFACTORY. OIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP. ACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE

MIN. 1.5n

1.5m STAR PICKETS AT

DISTURBED AREA

UNDISTIBRED

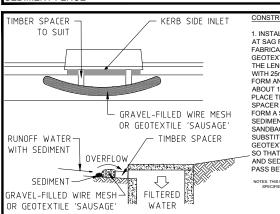
"AŘĘ"A" "

MAX. 2.5m CENTRES

500mm TiO 600mm

600mm MIN.

SEDIMENT FENCE SD 6-8



 INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
 FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAT THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL FORM AN ELLIPTICAL CROSS-SECTION PORM AN ELLIFTICAL CROSS-SECTION
ABOUT 150mm HIGH X 400mm WIDE.
PLACE THE FILTER AT THE OPENING WITH
SPACER BLOCKS.
FORM A SEAL WITH THE KERB TO PREVEN SEDIMENT BYPASSING THE FILTER. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACE SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

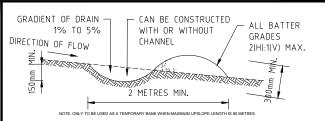
SD-6-

SD 6-14

В

SD-6-13

MESH AND GRAVEL INLET FILTER



BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.

AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.

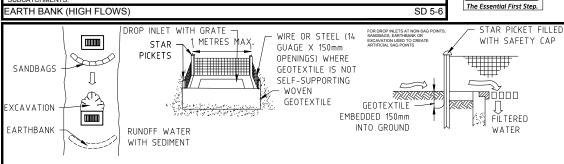
ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD

BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED

ENSURE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION

EARTH BANK (LOW FLOW) SD-5-

VED DATE MEIDER DEVELOPMENT TEAL



CONSTRUCTION NOTES FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES

FABRICALE A SEMINISTI BARKIER MADE FROM GEOLEVILLE OR STARW BALES.
FOLLOW STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.

IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EATH BANKS AS SHOWNIN THE DRAWING DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT

CONSTRUCTION SITE RUNOFF DIRECTED TO SEDIMENT TRAP/FENCE DGB20 ROAD BASE OR 30 MM AGGREGATE GEOTEXTILE FABRIC DESIGNED TO PREVENT INTERMIXING OF SUBGRADE AND BASE MATERIAL AND TO MAINTAIN GOOD PROPERTIES OF THE SUB-BASE LAYERS. GEOFABRICMAY BE A WOVEN OR NEEDLE-PUNCHED PRODUCT WITH A MINIMUM CBR BURST CONSTRUCTION NOTES STRENGTH (AS3706.4-90) OF 2500 N EXISTING ROADWAY STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3m WIDE WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISIED ACCESS TO DIVERT WATER TO THE EDIMENT FENCE

GEOTEXTILE INLET FILTER

Benbow



SD-6-12

KERBSIDE TURF STRIP

YOU DIG www.1100.com.au

DATE 01.05.2020 DATE 01.05.2020 EJ CAD FILE S:\7410 344 Park Road Wallacia\Ac Drawings\Civil\7410-DA-020-021.dwg AS SHOWN

STABILISED SITE ACCESS

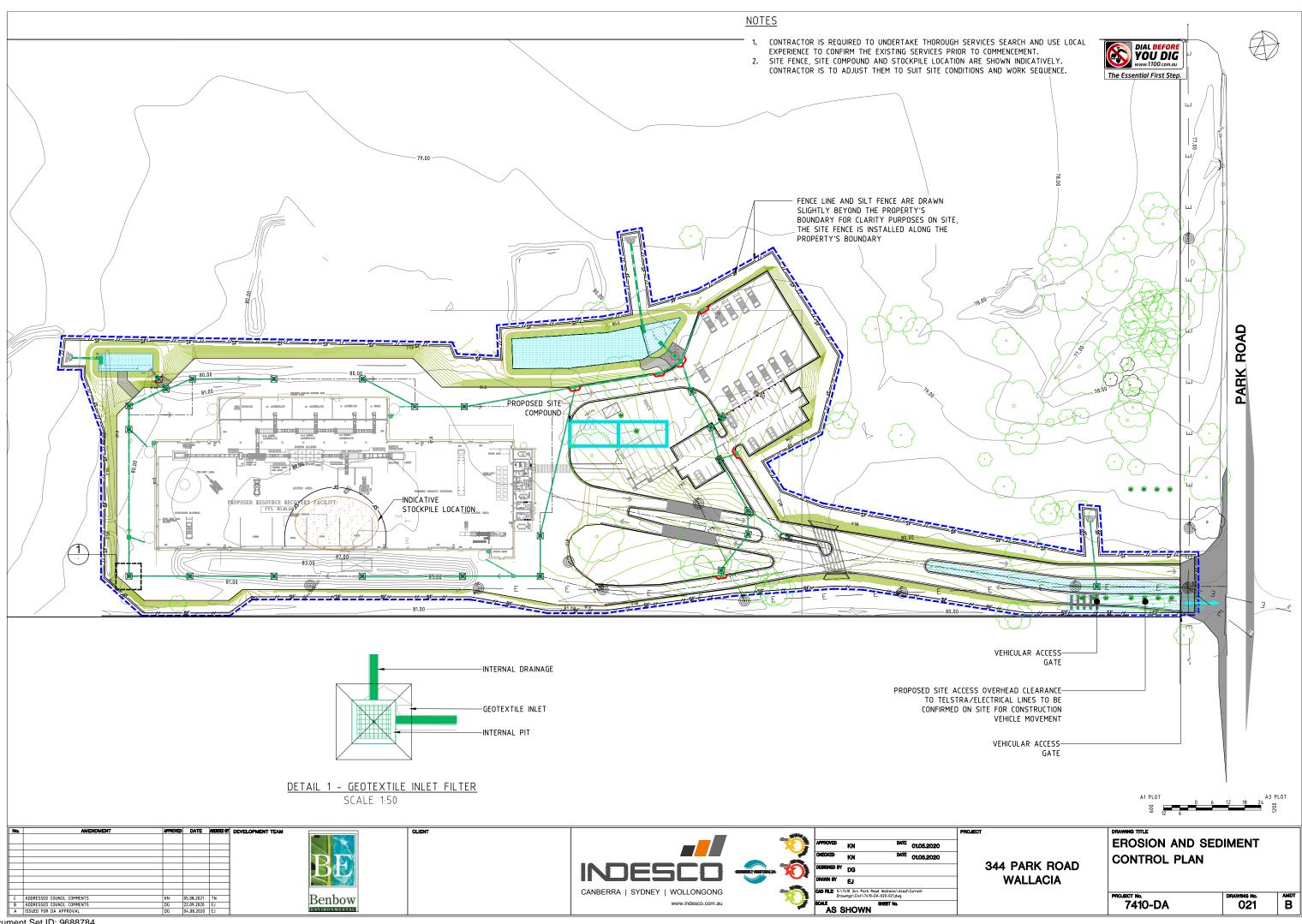
344 PARK ROAD WALLACIA

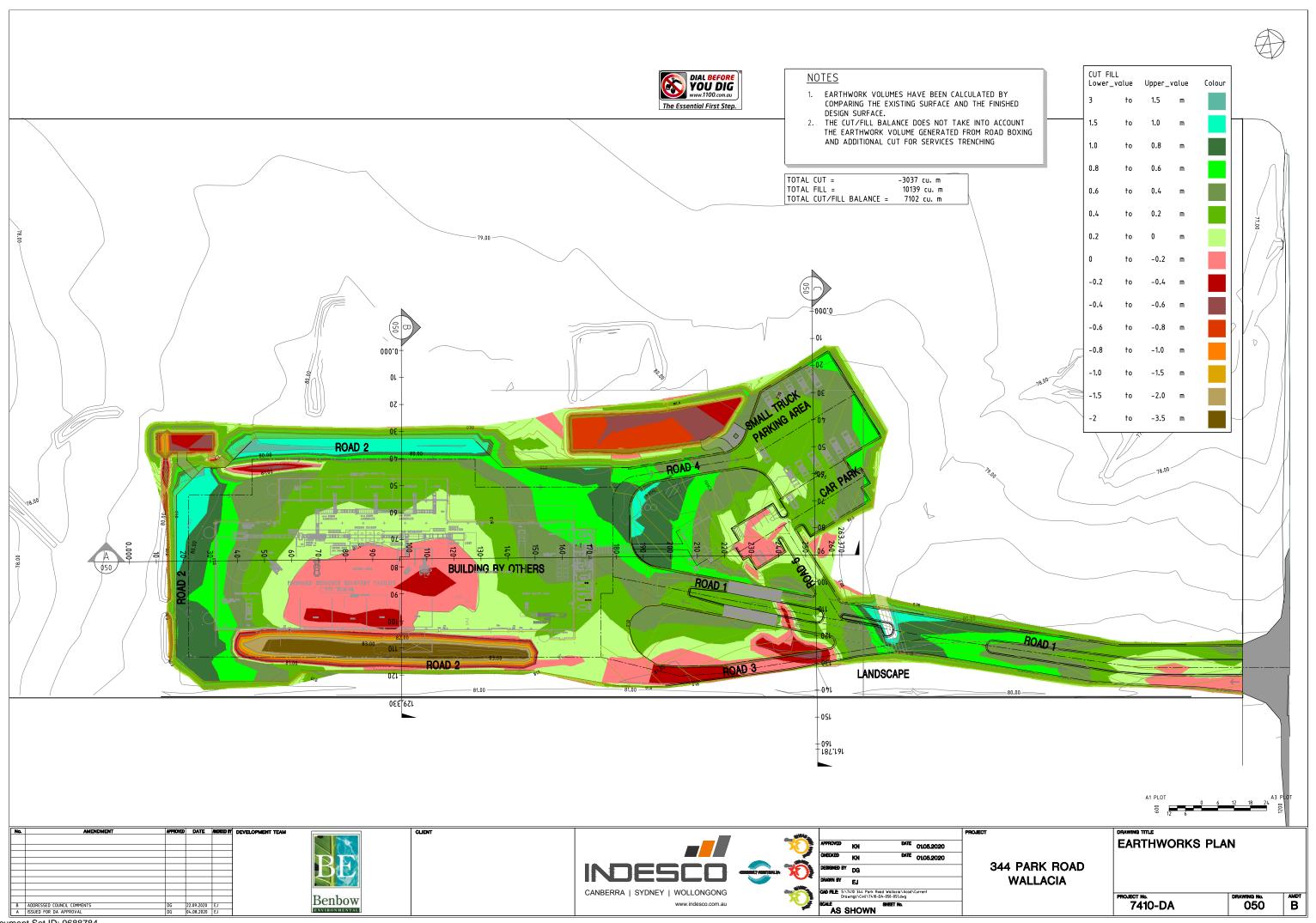
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

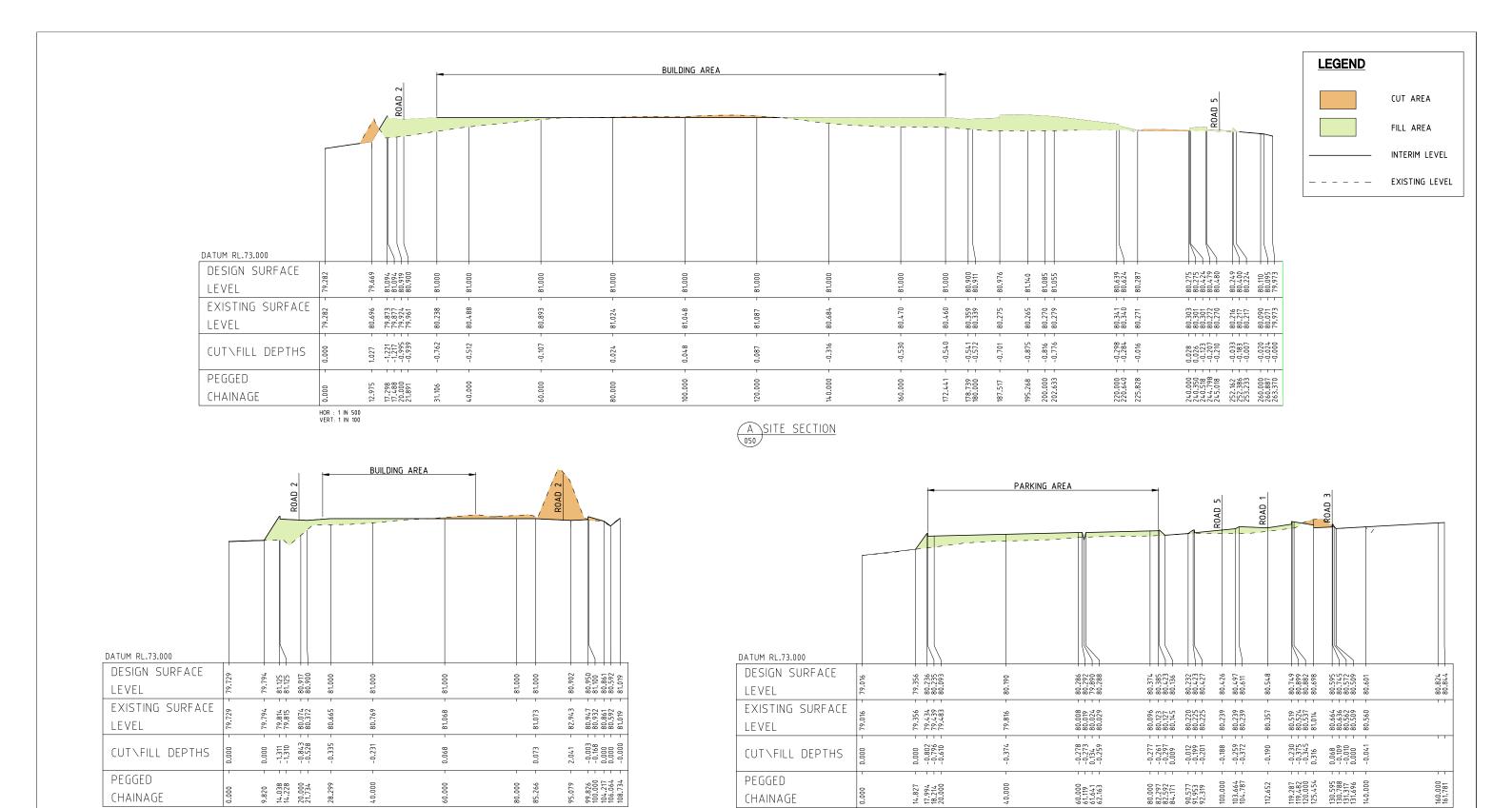
7410-DA 020

A ISSUED FOR DA APPROVAL Document Set ID: 9688784

Version: 1. Version Date: 06/08/2021







B SITE SECTION

C SITE SECTION

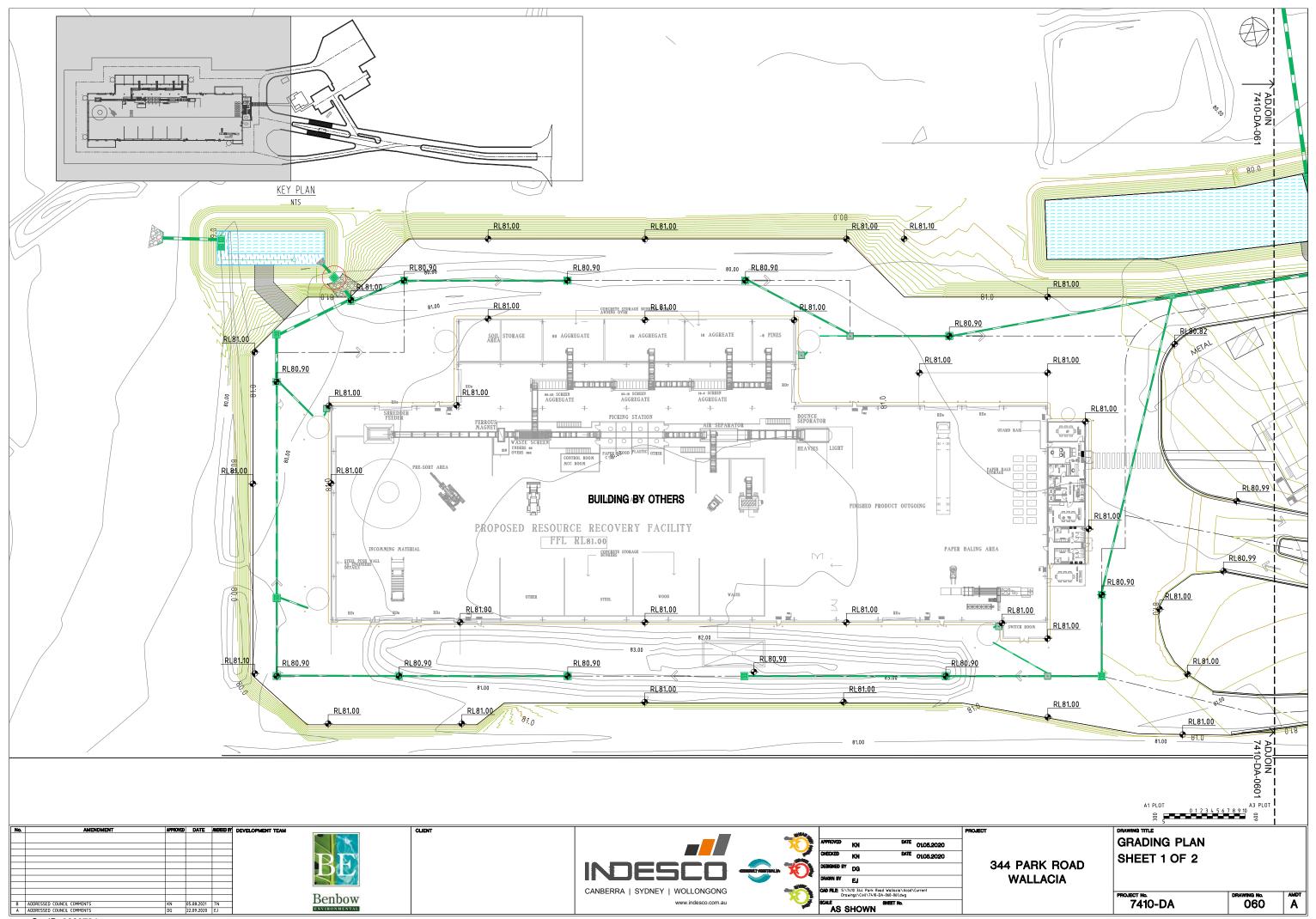
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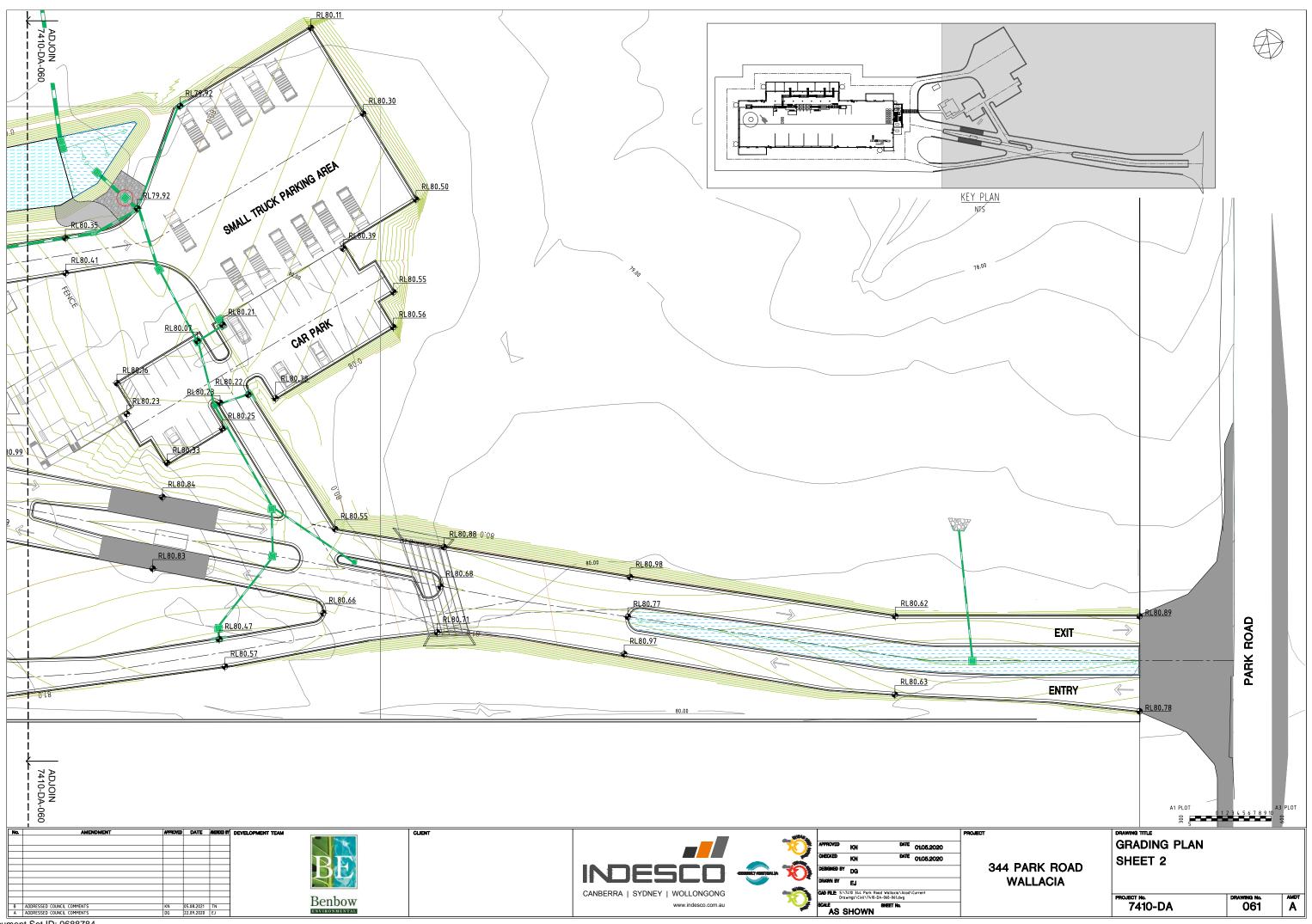


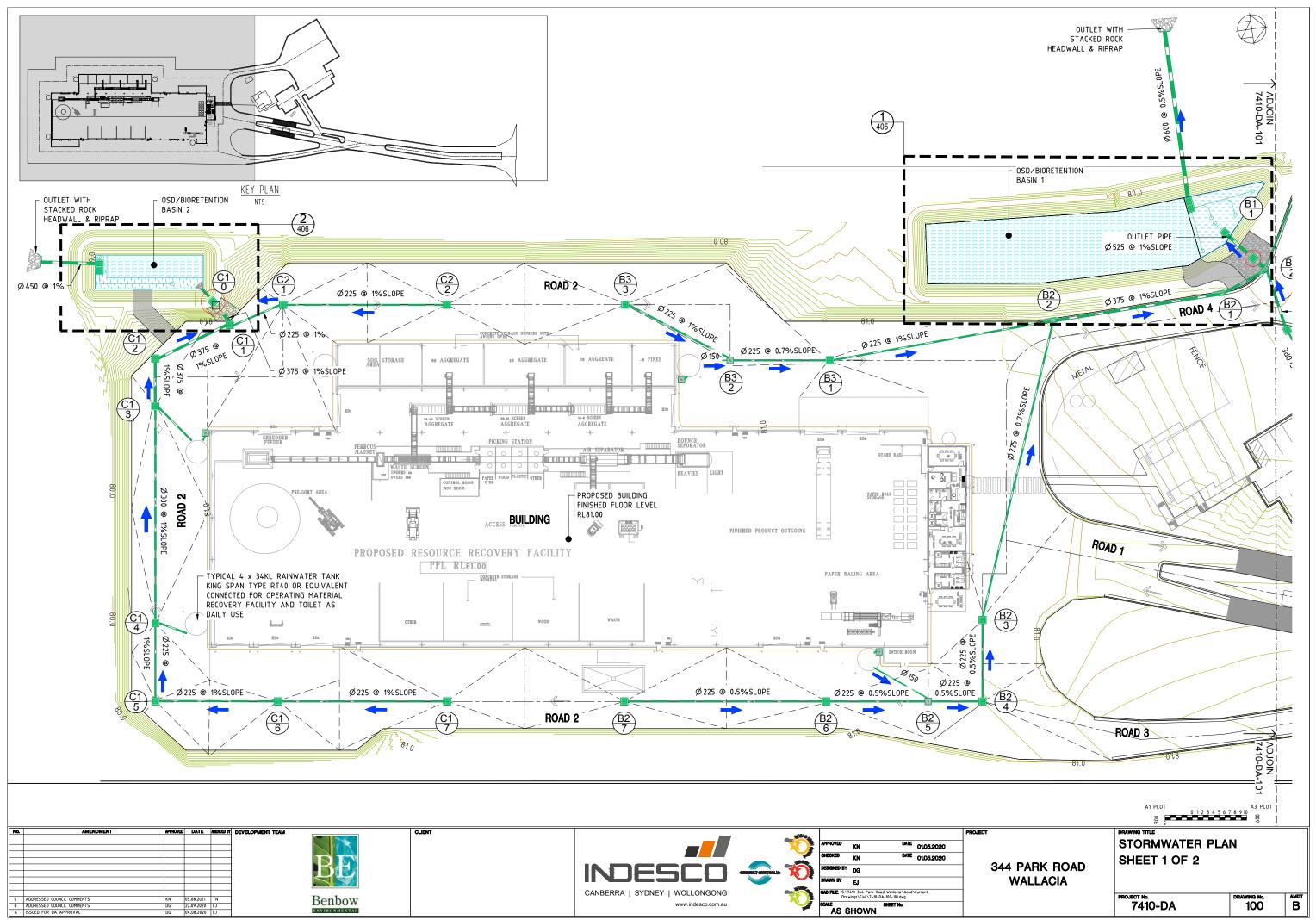
No.	AMENDMENT	APPROVED	DATE	MBIOD BY DEVELOPMENT TEAM		CLIENT	_	- No.			PROJECT	DRAWING TITLE		
								*()	APPROVED KN	DATE 01.05.2020		SITE SECTIONS		
				 					CHECKED KN	DATE 01.05.2020				
									DESIGNED BY DG		344 PARK ROAD			
									DRAWN BY EJ		WALLACIA			
HH				 			CANBERRA SYDNEY WOLLONGONG			Park Road Wallacia\Acad\Current	-			
	RESSED COUNCIL COMMENTS	KN	05.08.2021	TN	Benbow		www.indesco.com.au	X)		1\7410-DA-050-051.dwg	_	PROJECT No.	DRAWING No.	AMDT
	RESSED COUNCIL COMMENTS JED FOR DA APPROVAL	DG DG	22.09.2020 04.08.2020	EJ	ENVIRONMENTAL		www.indesco.com.au		AS SHOV	SHEET No. VN		7410-DA	051	8

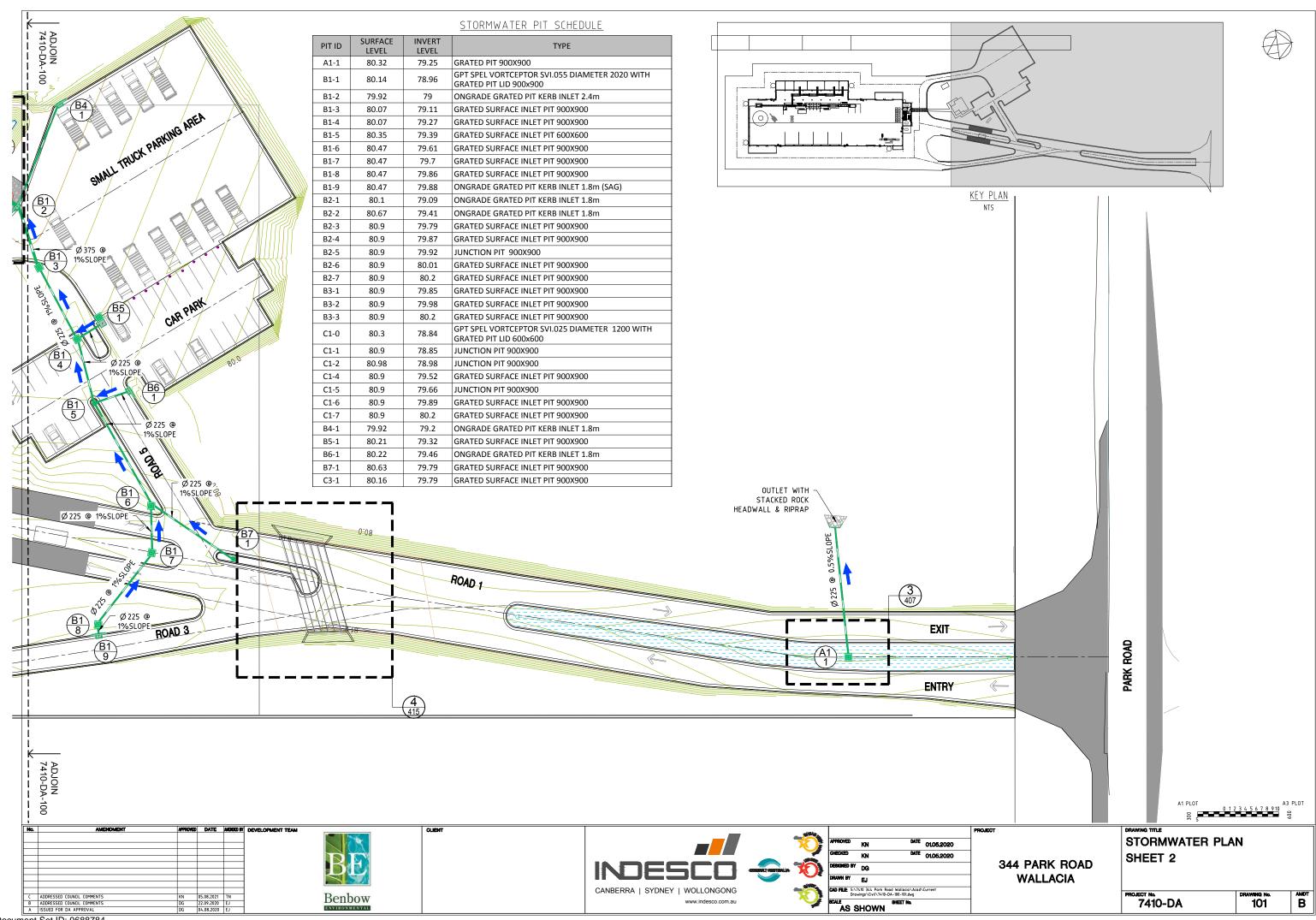
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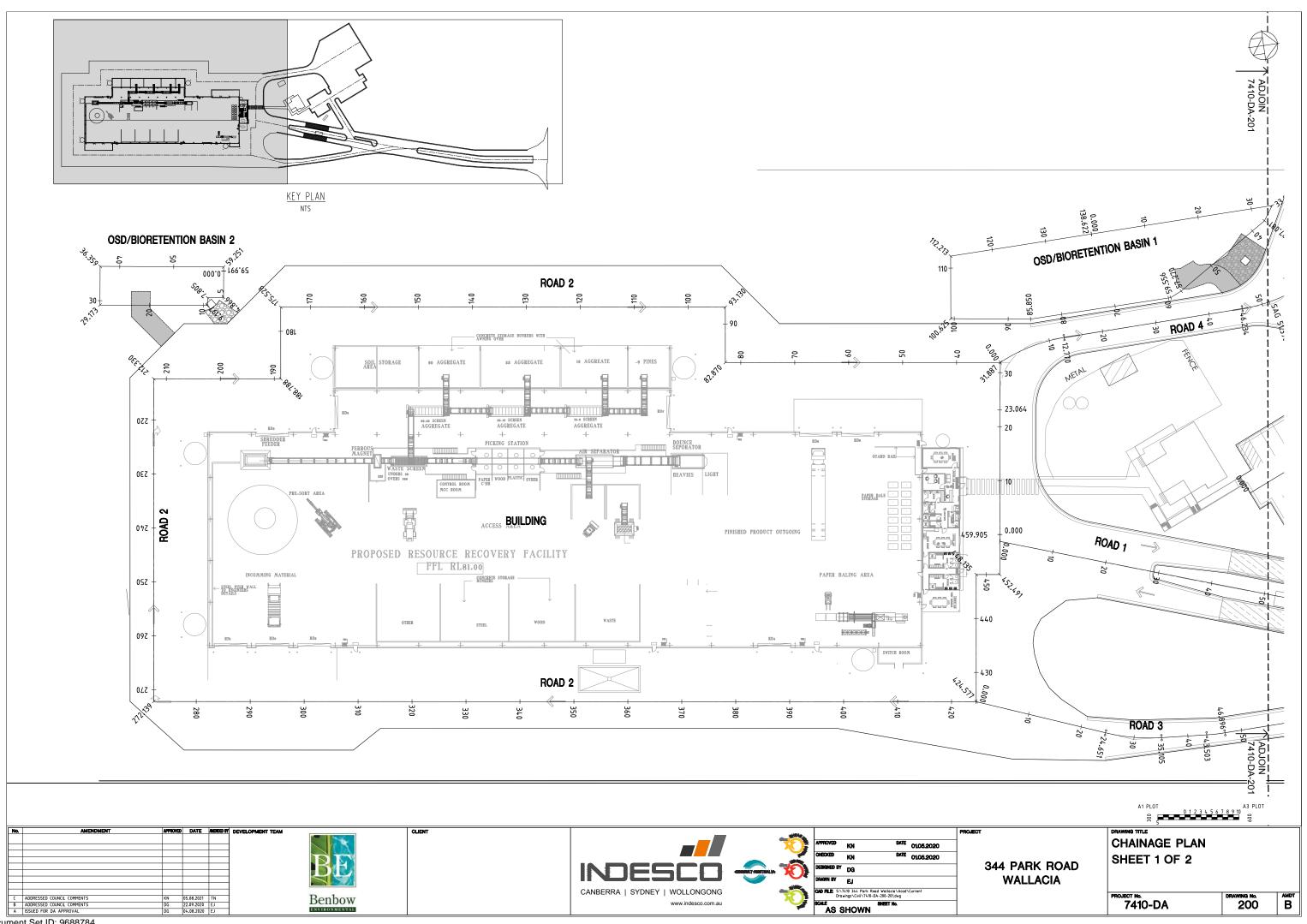
CHAINAGE

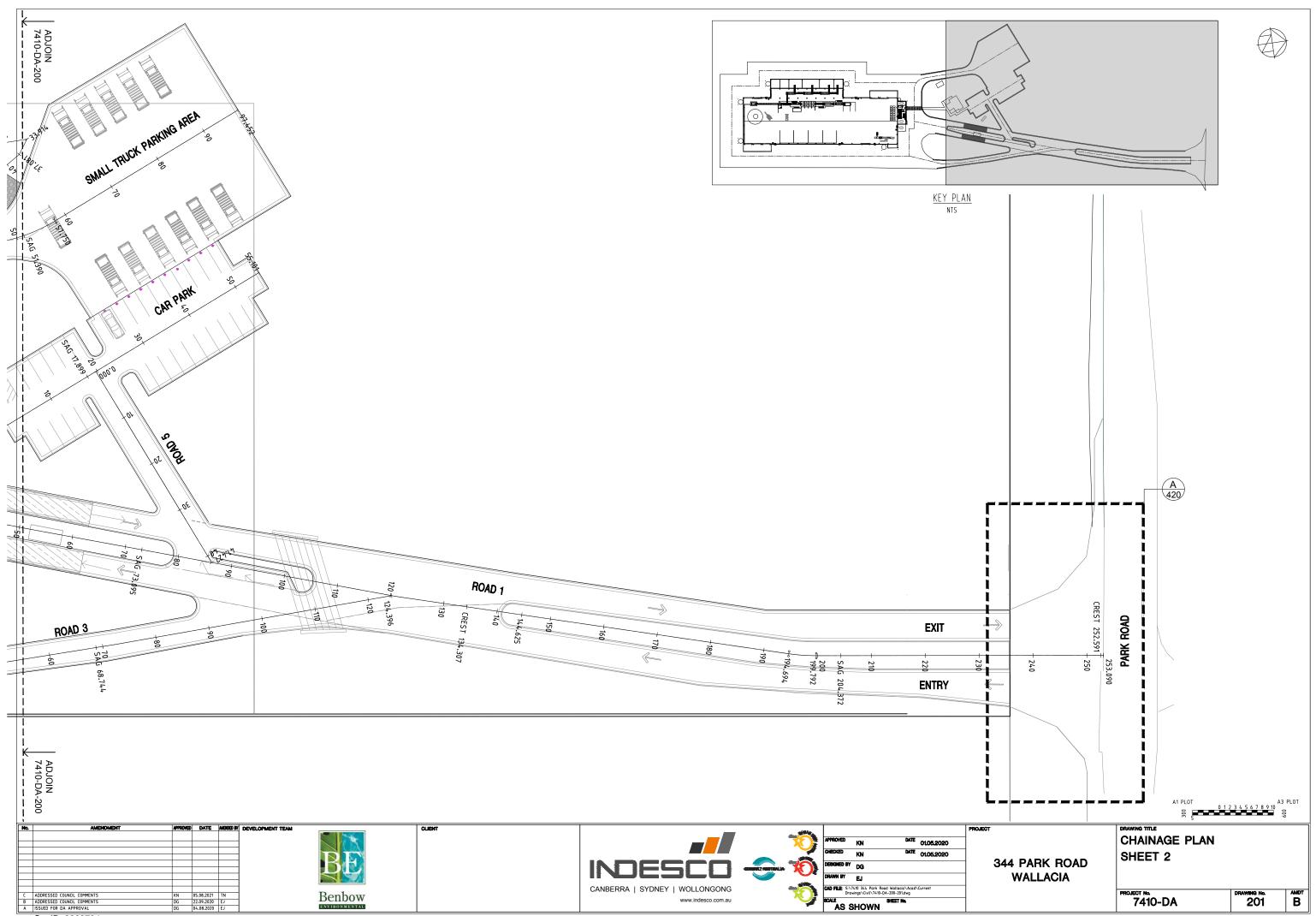


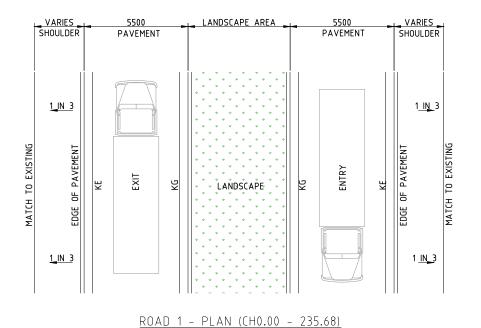




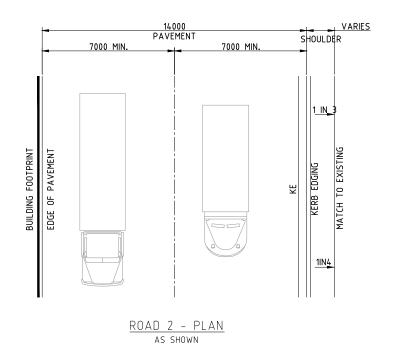








AS SHOWN



7000 MIN 7000 MIN 14000 MIN

ROAD 2 TYPICAL SECTION

AS SHOWN

MATCH TO EXISTING

VARIES

VARIES

S500 MIN. LANDSCAPE AREA S500 MIN. CARRIAGEWAY (ENTRY)

ROAD 1 TYPICAL SECTION

* KERB & GUTTER WITH INTERMITTENT GAPS TO ALLOW FLOWS TO ENTER MEDIAN

- 1. PIT LOCATION ON TYPICAL SECTION REFER TO STORMWATER PLAN DRG-7410-DA-100-101
- 2. TWO WAY CROSSFALL VARIES REFER TO GRADING PLAN DRG-7410-DA-

VARIES

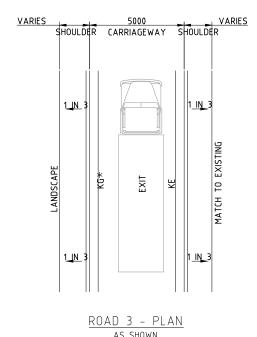
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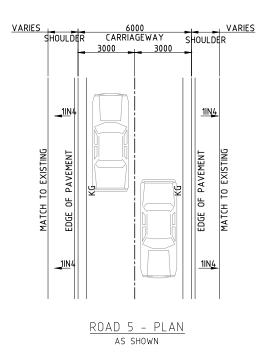


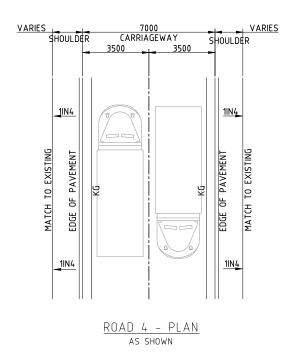


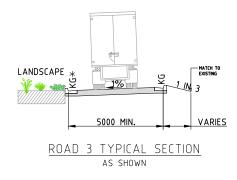
MATCH TO

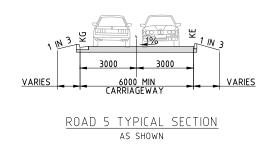
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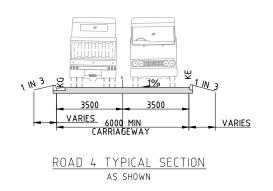








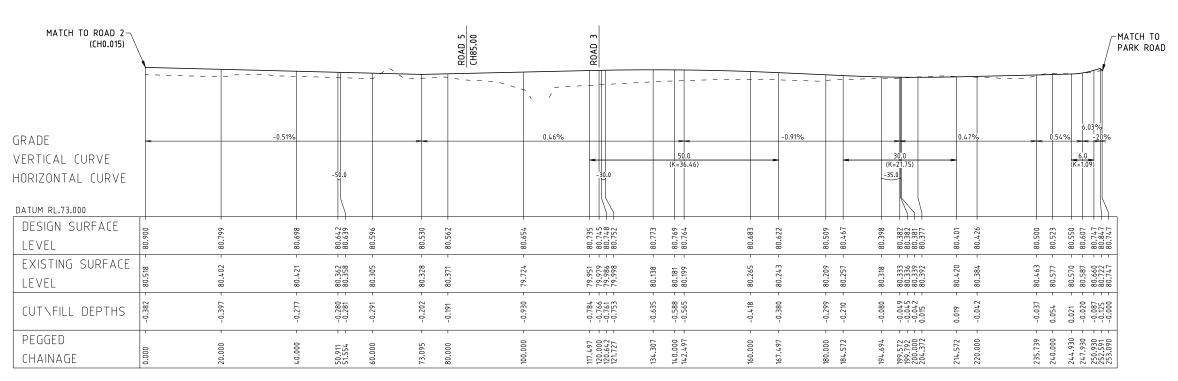




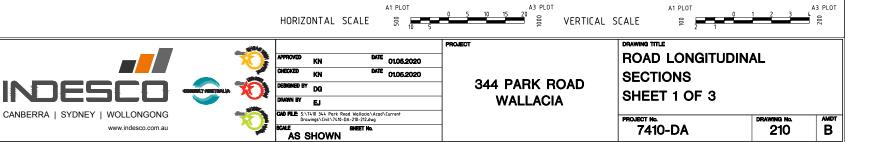
* KERB & GUTTER WITH INTERMITTENT GAPS
TO ALLOW FLOWS TO ENTER MEDIAN





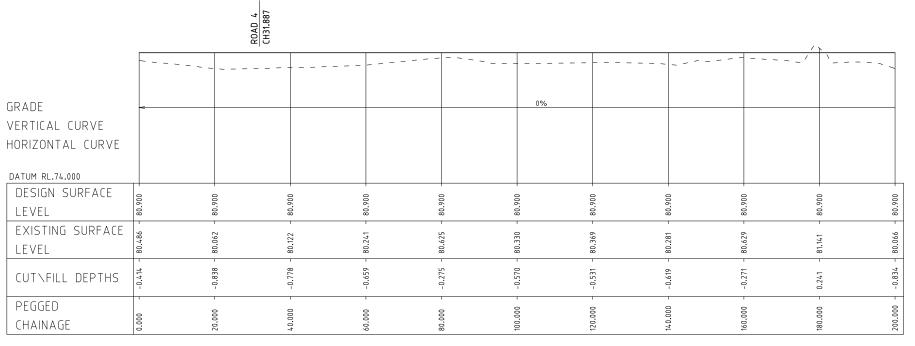


LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 1

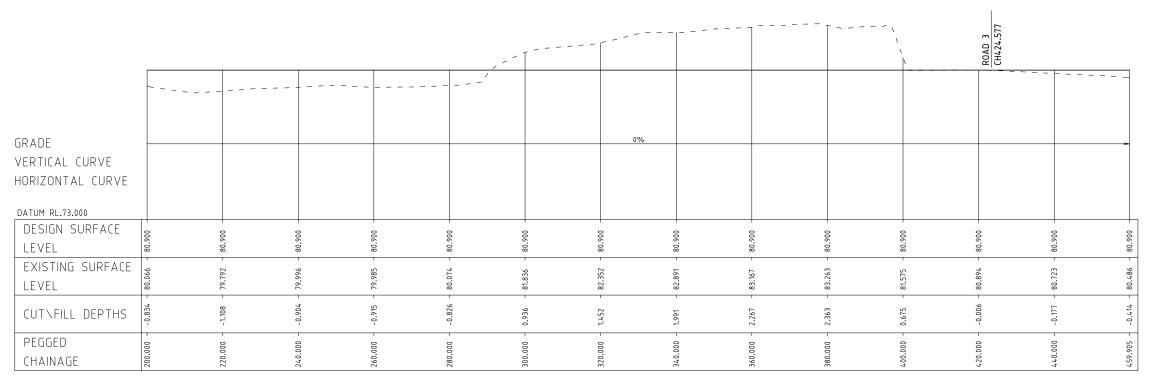


Benbow

<u>LEGEND</u>	
	DESIGN LEVEL
	EXISTING LEVEL

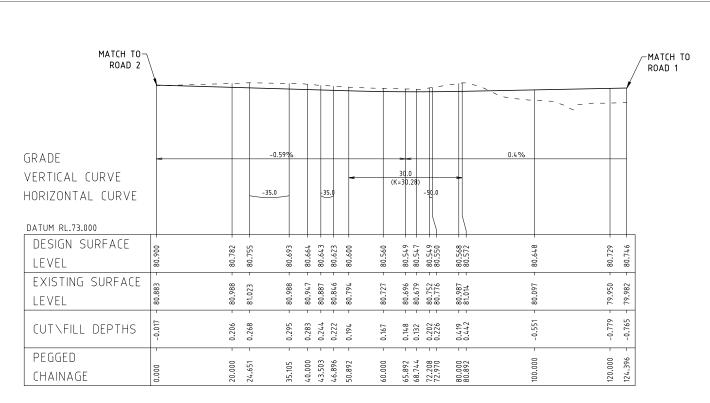


LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 2 (CH0.000-CH200)

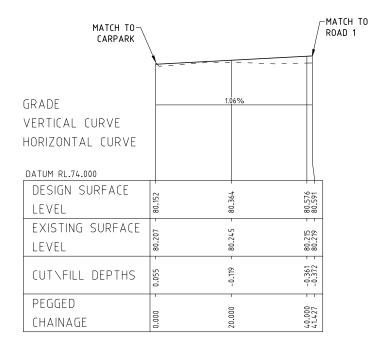


LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 2 (CH200-CH459.905

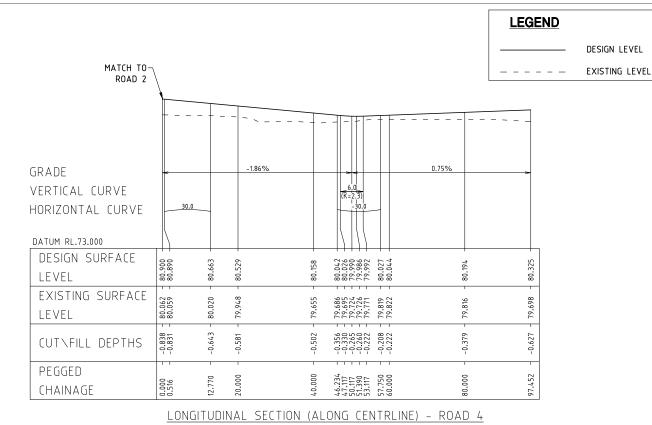


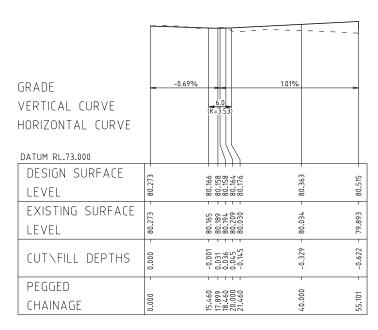


LONGITUDINAL SECTION (ALONG CENTRLINE) - ROAD 3



LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 5

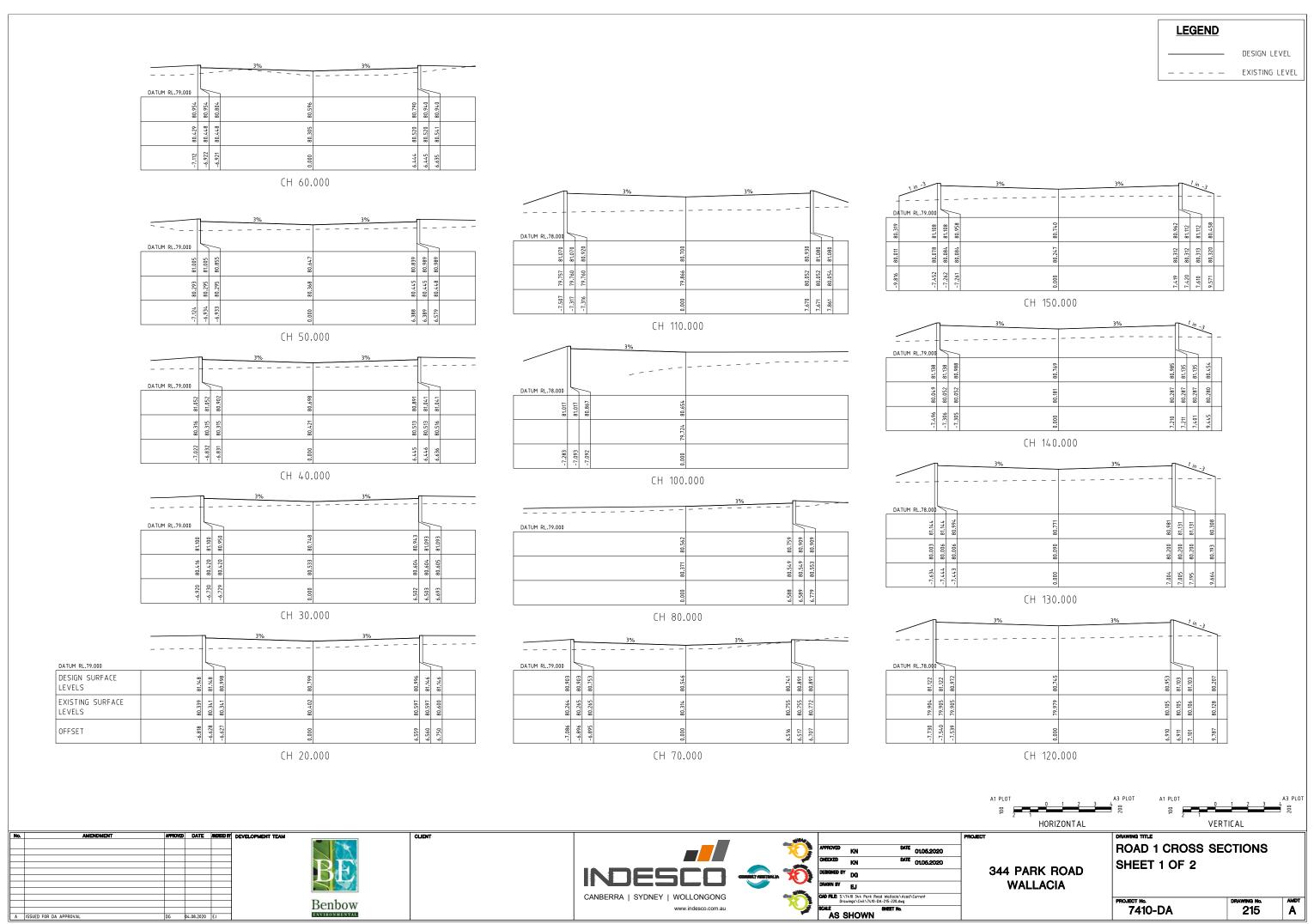


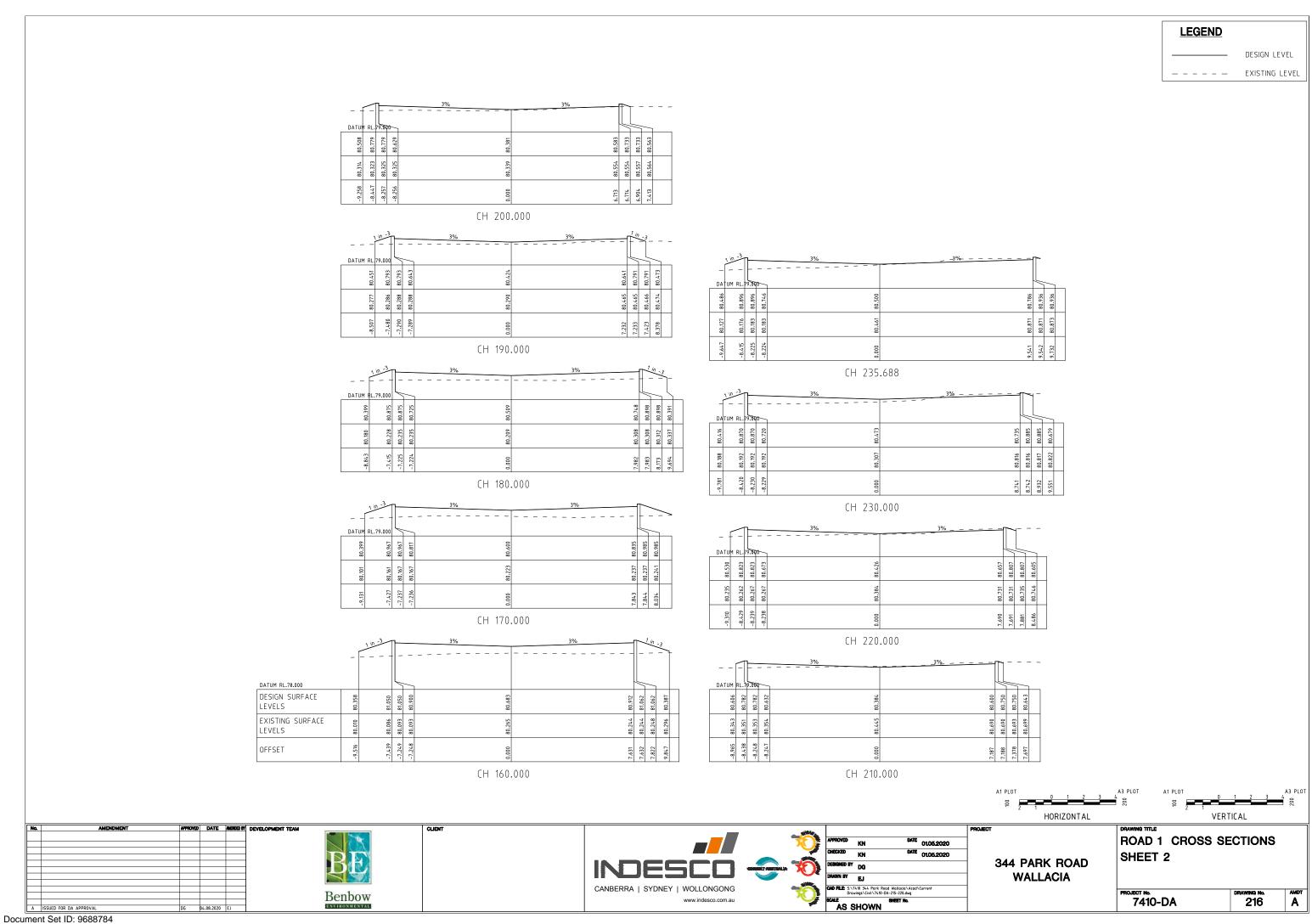


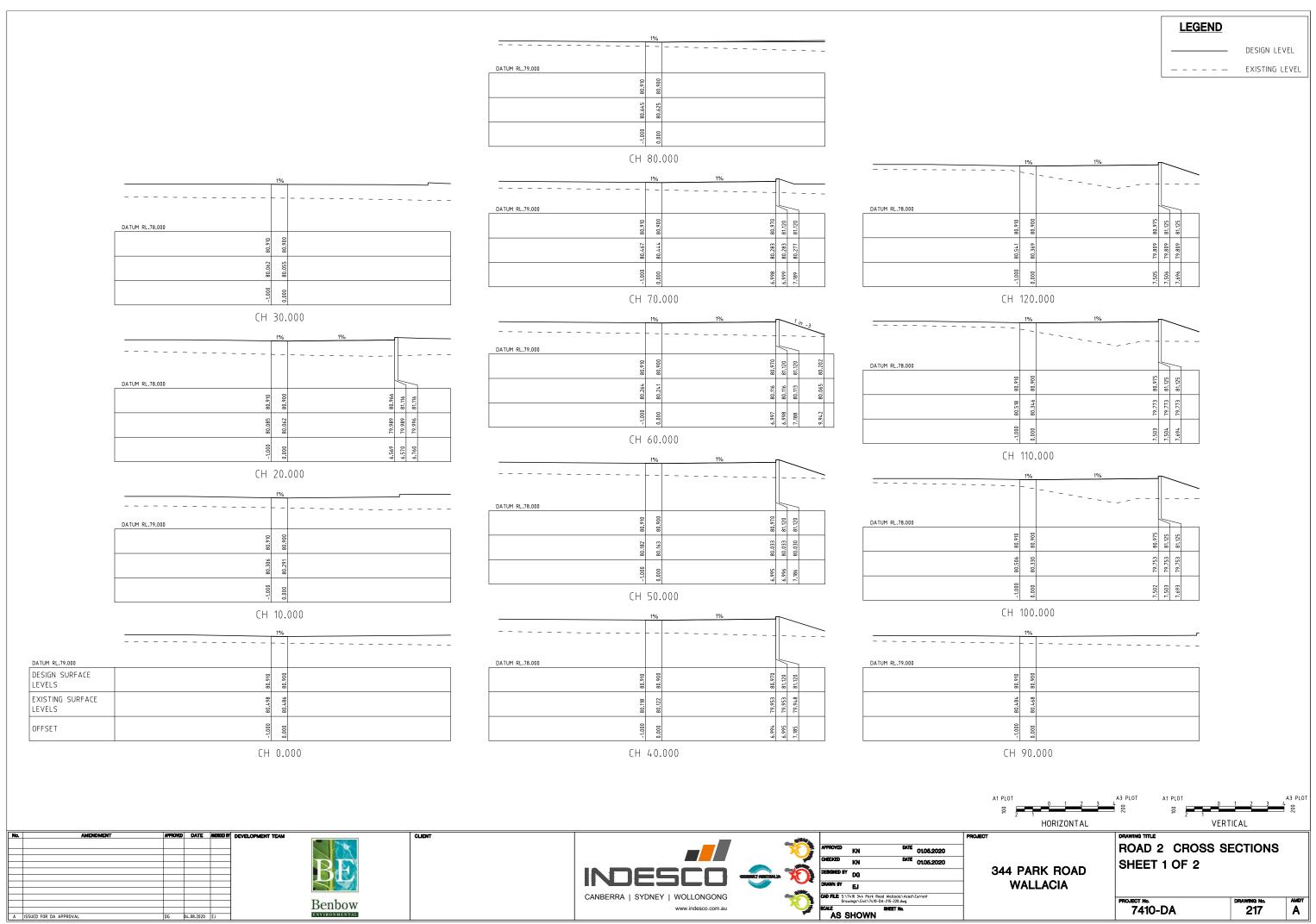
LONGITUDINAL SECTION (ALONG CENTRELINE) - CARPARK

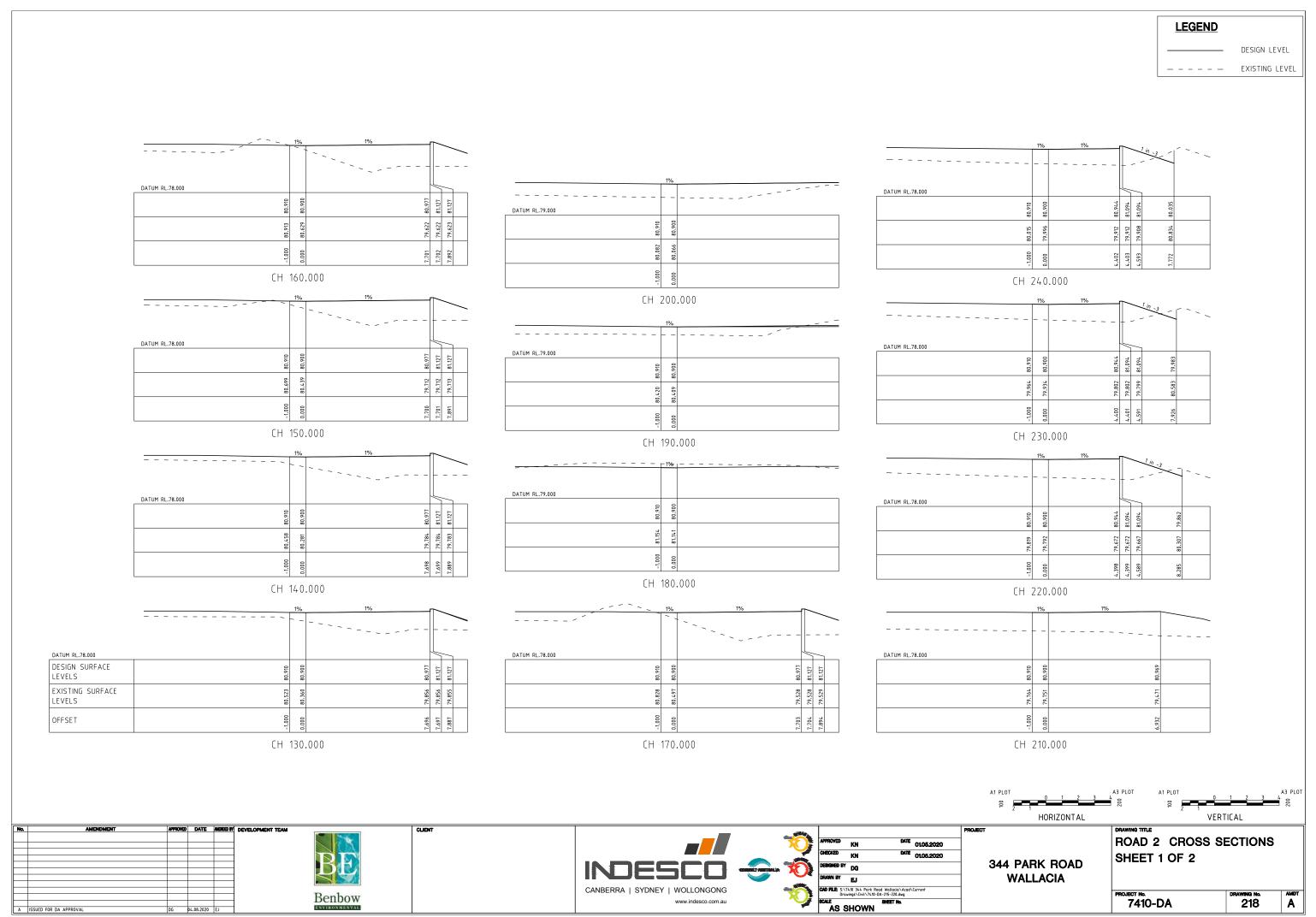


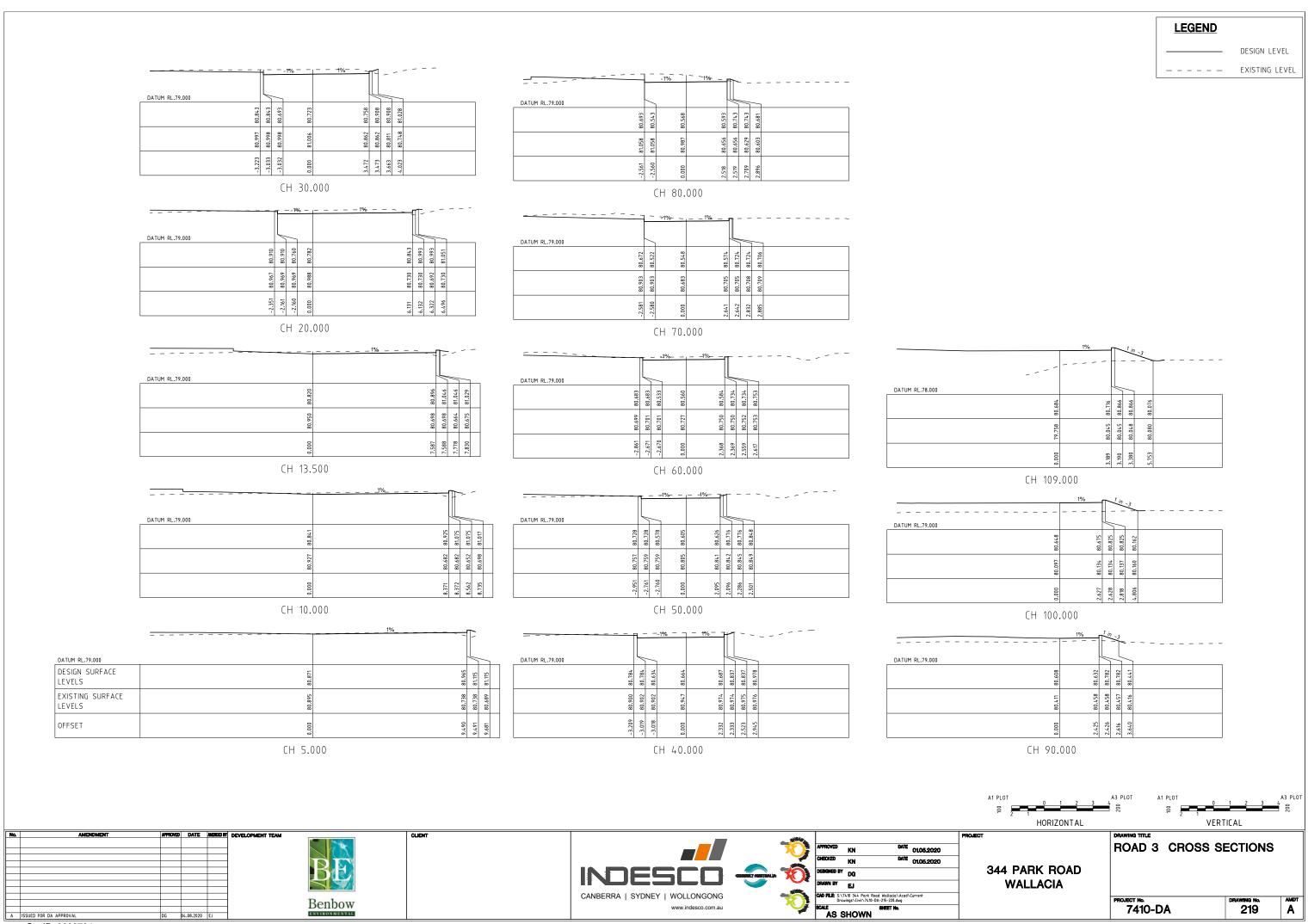




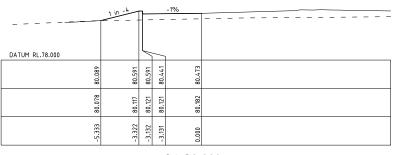












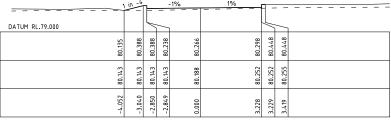
CH 30.000

	1 in -4	п		-1%	1%	П.	_	
DATUM RL.79.000			_			Ļ		1
80.184	80.490	80.490	80.340	80.369	80.402	80.552	80.552	
80.173	80.199	80.203	80.203	80.245	80.258	80.258	80.259	
-4.402	-3.181	-2.991	-2.990	0:000	3.228	3.229	3.419	

CH 20.000

				-1%	1%		_		
DATUM RL.79.000			_				_	_	
80.187	80.423	80.423	80.273	80.302		80.335	80.485	80.485	
80.195	80.196	80.196	80.196	80.242		80.274	80.274	80.274	
-4.036	-3.090	-2.900	-2.899	0.000		3.228	3.229	3.419	

CH 13.500

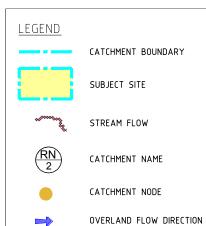


CH 10.000

		1%	_	_	
DATUM RL.79.000				_	
DESIGN SURFACE LEVELS	000	80.242	80.392	80.392	
EXISTING SURFACE LEVELS	6	80.165	80.165	80.169	
OFFSET	Co	3.228	3.229	3.419	

CH 4.500





HYDROLOGY LINK

CATCHMENT SCHEDULE

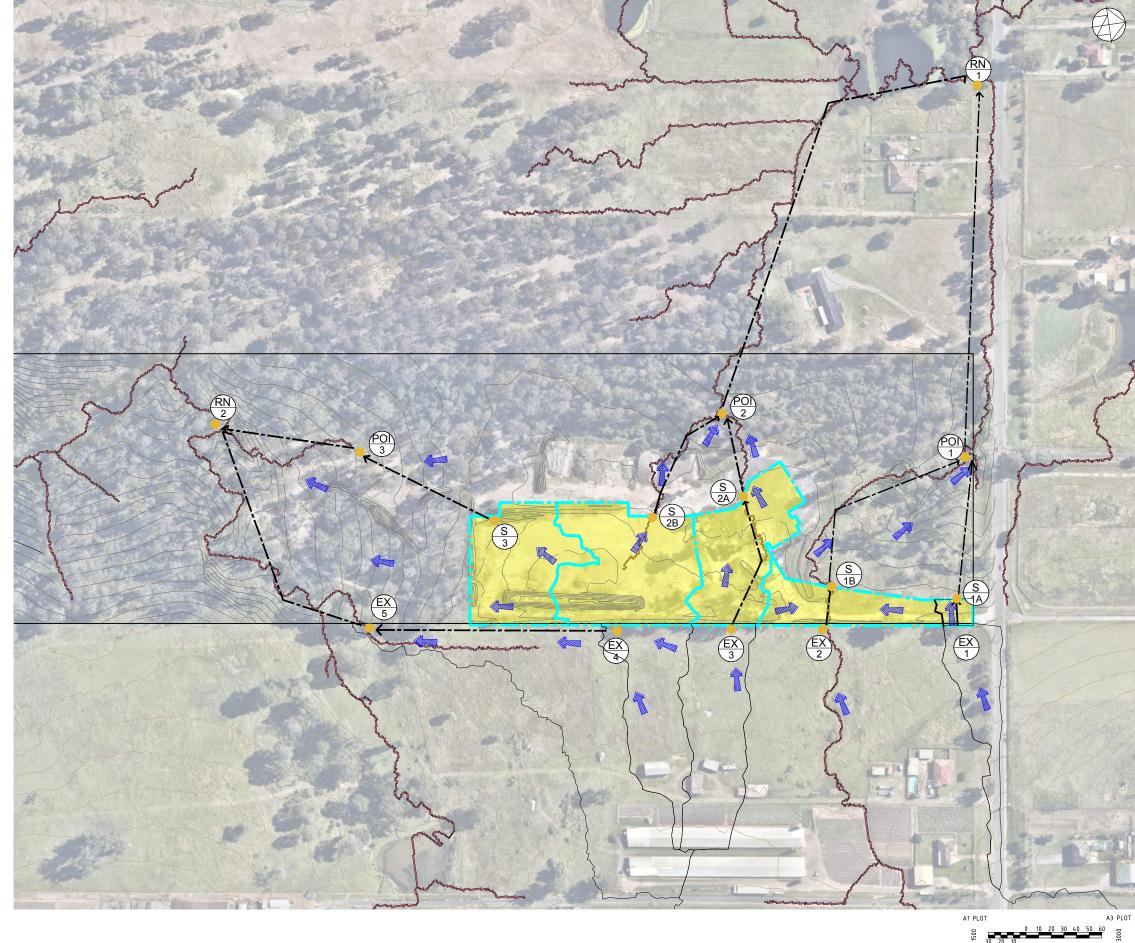
SUBCATCHMENT ID	SUBCATCHMENT	AREA (Ha)	IMPERVIOUS (%)
INTERNAL			
S1A	EXISTING	0.057	5
S1B	EXISTING LAND	0.413	5
S2A	EXISTING HOUSE	0.703	10
S2B	EXISTING HOUSE	0.951	10
S3	EXISTING	0.652	5
	TOTAL	2.777	
EXTERNAL			
EX1	EXISTING	0.444	5
EX2	EXISTING	13.505	5
EX3	EXISTING	0.840	5
EX4	EXISTING	0.702	5
EX5	EXISTING	1.814	5
	TOTAL	17.305	

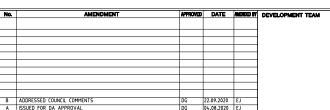
FLOW SUMMARY AT RECEIVING NODE (RN1)

STORM EVENTS AEP	EXISTING	
(%)	(m3/s)	
0.5EY	1.325	
0.2EY	2.401	
10	2.953	
5	3.686	
2	4.416	
1	5.16	

FLOW SUMMARY AT RECEIVING NODE (RN2)

STORM EVENTS AEP	EXISTING
(%)	(m3/s)
0.5EY	0.386
0.2EY	0.638
10	0.777
5	0.953
2	1.142
1	1.326







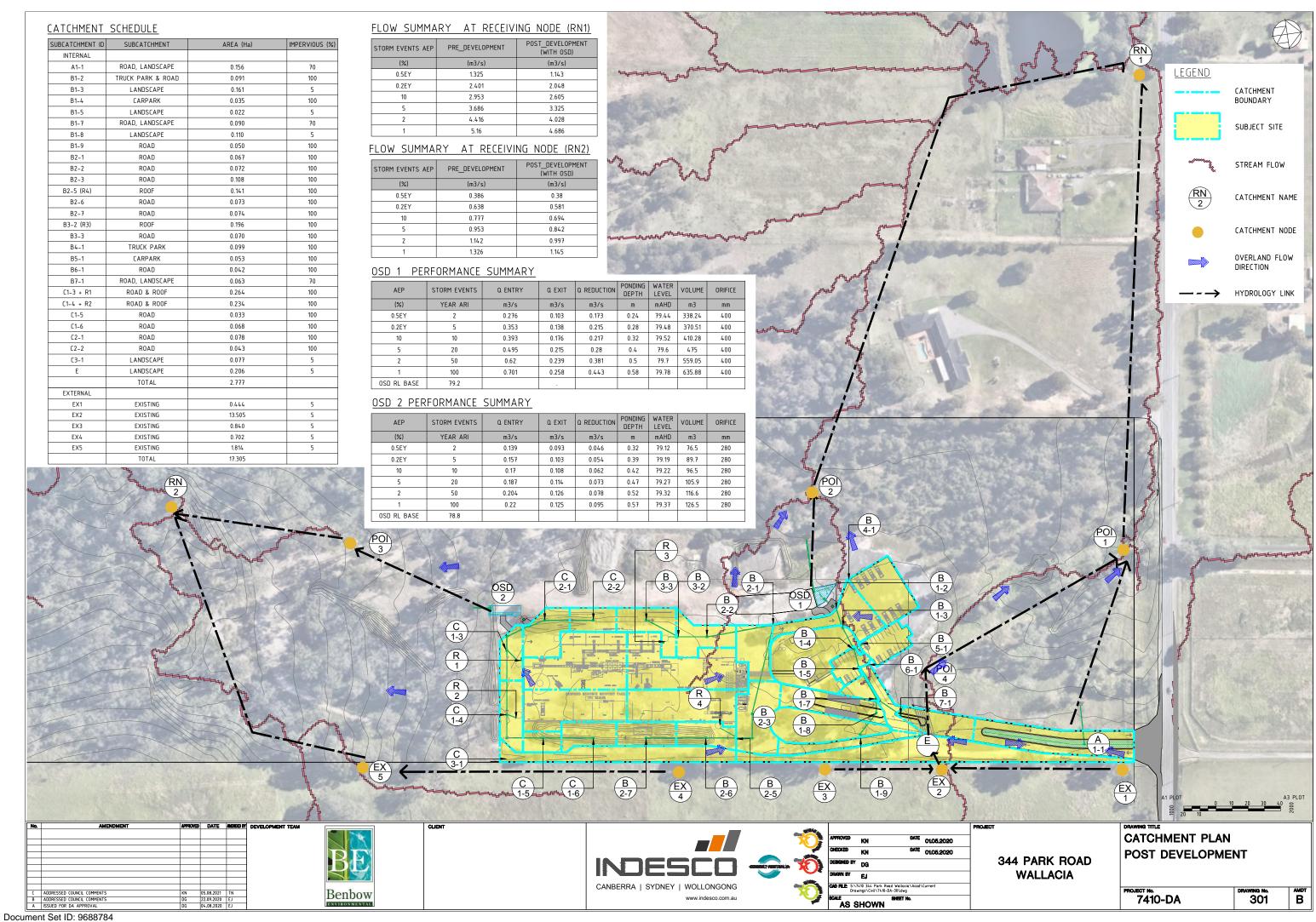


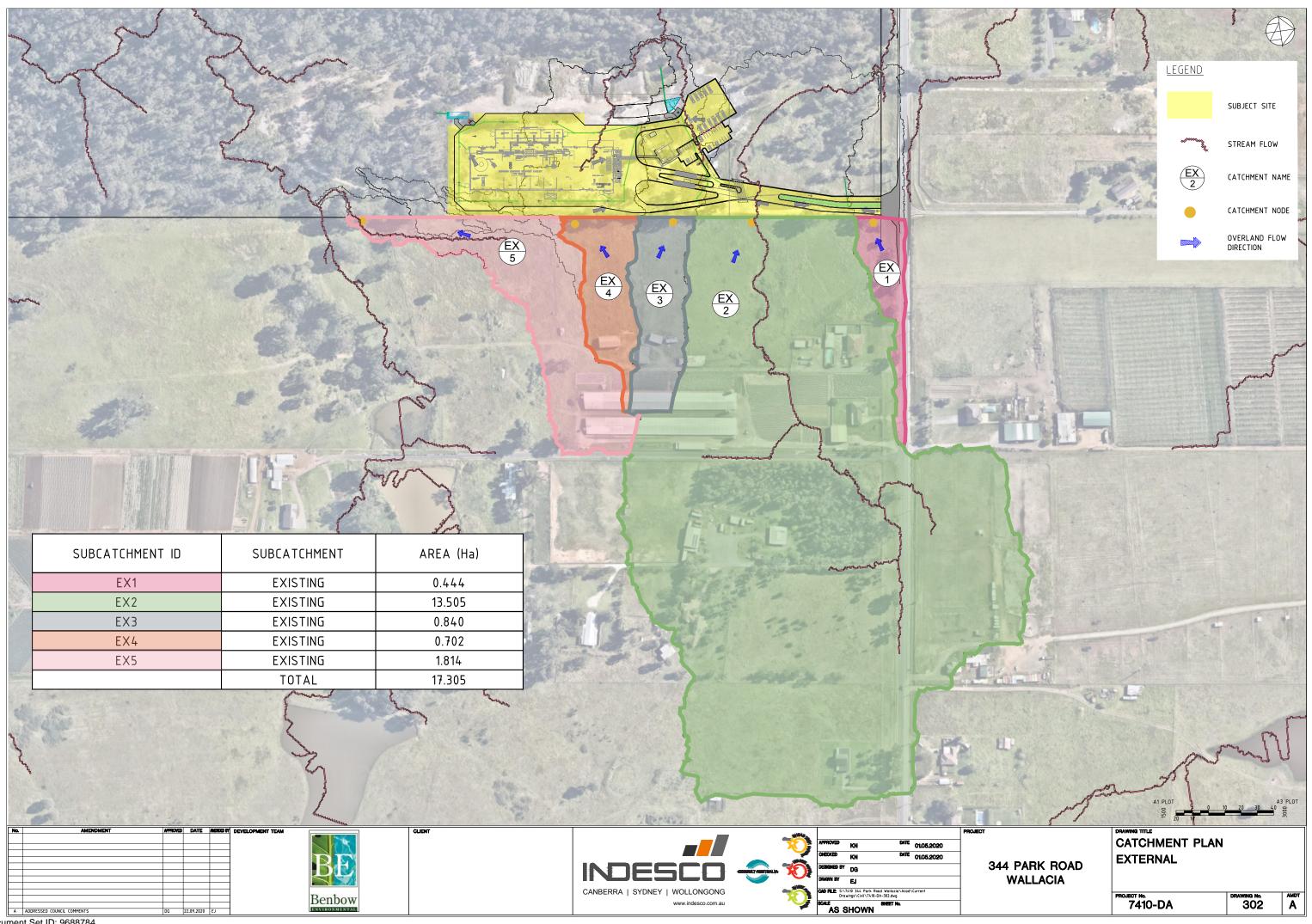


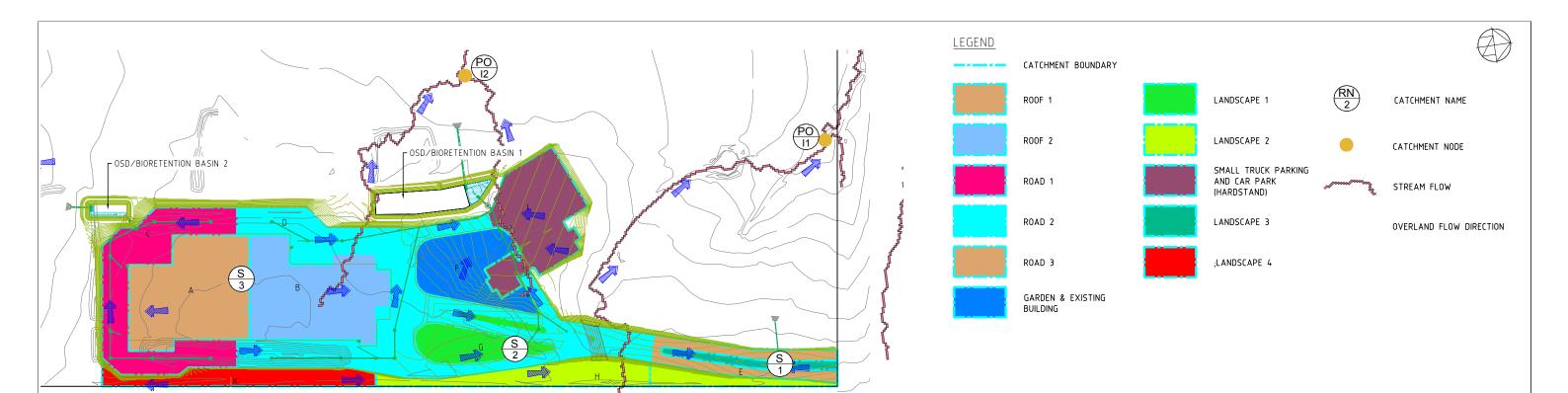
	* ORIGINAL	SIGNED		PRO
APPROVED	* KN	DATE	01.05.2020	
CHECKED	* KN	DATE	01.05.2020	
DESIGNED E	P DG			
DRAWN BY	EJ			
	i:\7410 344 Park Irawings\Civil\741	Road Wallacia\Acad\ 0-DA-300.dwg	Current	
BCALE A C	SHOWA	SHEET No.		

344 PARK ROAD WALLACIA PROJECT No. 7410-DA 300

AMDT B







MUSIC CATCHMENT SCHEDULE

SUBCATCHMENT ID	SUBCATCHMENT	AREA (Ha)	IMPERVIOUS (%)
A	ROOF 1	0.338	100
В	ROOF 2	0.337	100
С	ROAD 1	0.382	100
D	ROAD 2	0.714	100
E	ROAD 3	0.112	100
F	GARDEN & EX-BUILDING	0.182	50
G	LANDSCAPE 1	0.134	5
Н	LANDSCAPE 2	0.206	5
I	SMALL TRUCK PARKING AND CAR PARK (HARDSTAND)	0.250	100
J	LANDSCAPE 3	0.044	5
K	LANDSCAPE 4	0.077	5
	TOTAL	2.7765	

MUSIC TREATMENT TRAIN SCHEDULE

TREATMENT TRAIN	TYPE	UNIT	SIZE	QTY
BIORETENTION 1	400 mm FILTER MEDIA	m2	100	1
BIORETENTION 2	400 mm FILTER MEDIA	m2	50	1
BIORETENTION 3	400 mm FILTER MEDIA	m2	50	1
GPT SPEL	VORTCEPTOR SVI.055M	N/A	1	1
GPT SPEL	VORTCEPTOR SVI.025	N/A	1	1
RAINWATER TANK	RT-40 KINGSPAN	kL	40KL	4

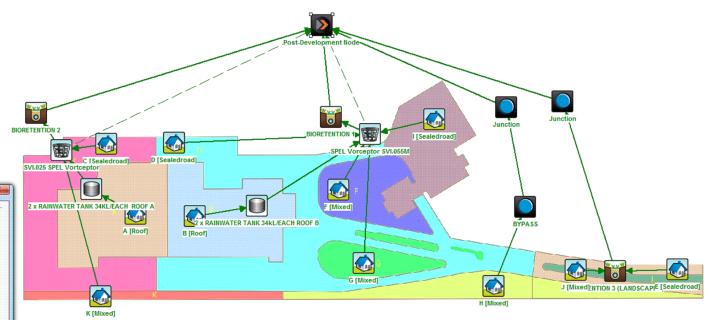
(*) ONLY 80% VOLUME OF RAIN
WATER TANK HAS BEEN MODELED IN
MISSIC

MUSIC RESULT SCHEDULE

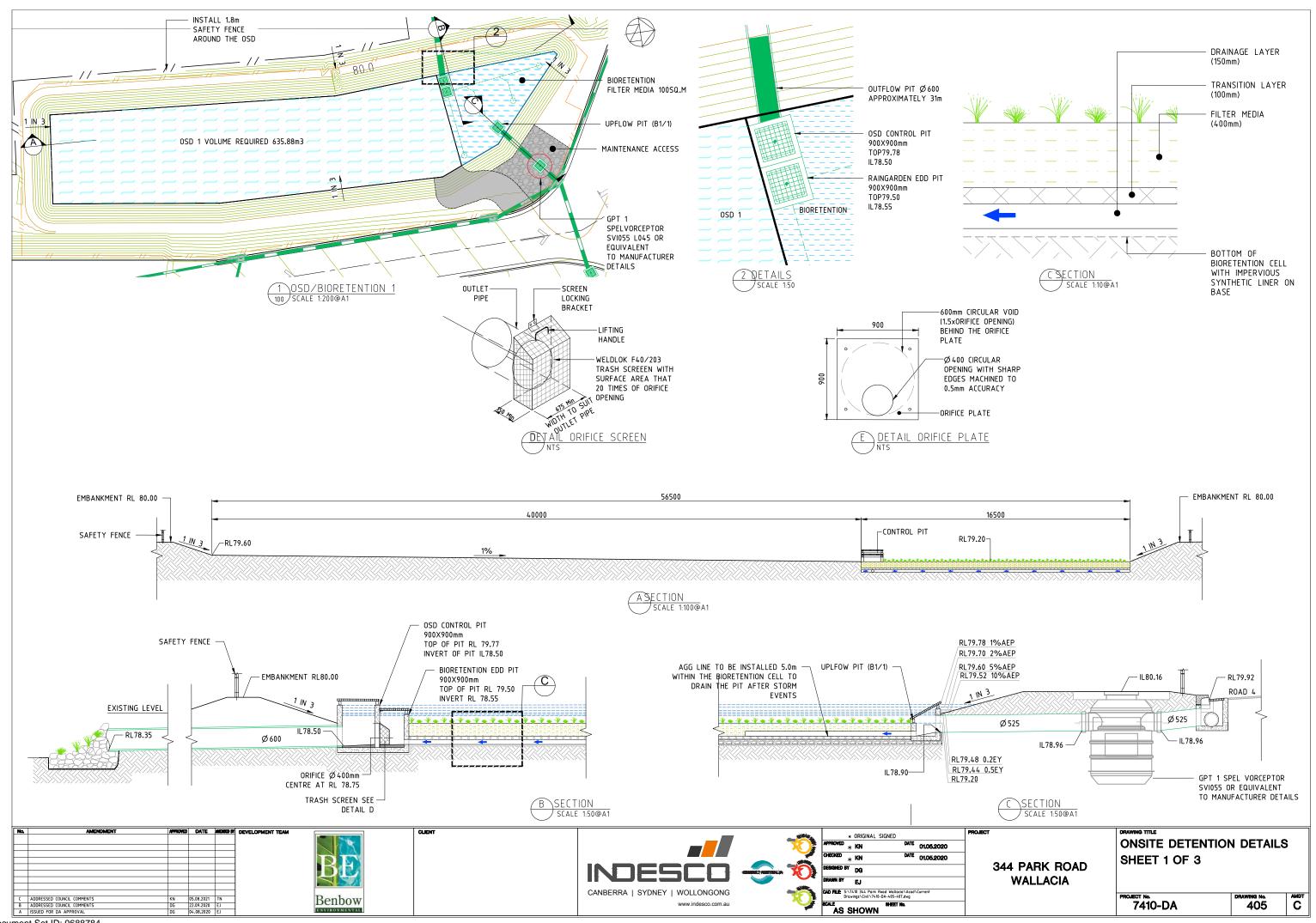
POLLUTANT DICHARGE TREATMENT	SOURCES	RESIDUAL LOAD	% REDUCTION
Flow (ML/yr)	13.8	9.95	27.9
Total Suspended Solids (kg/yr)	3340	356	89.4
Total Phosphorus (kg/yr)	6	1.45	75.7
Total Nitrogen (kg/yr)	32	13.6	57.3

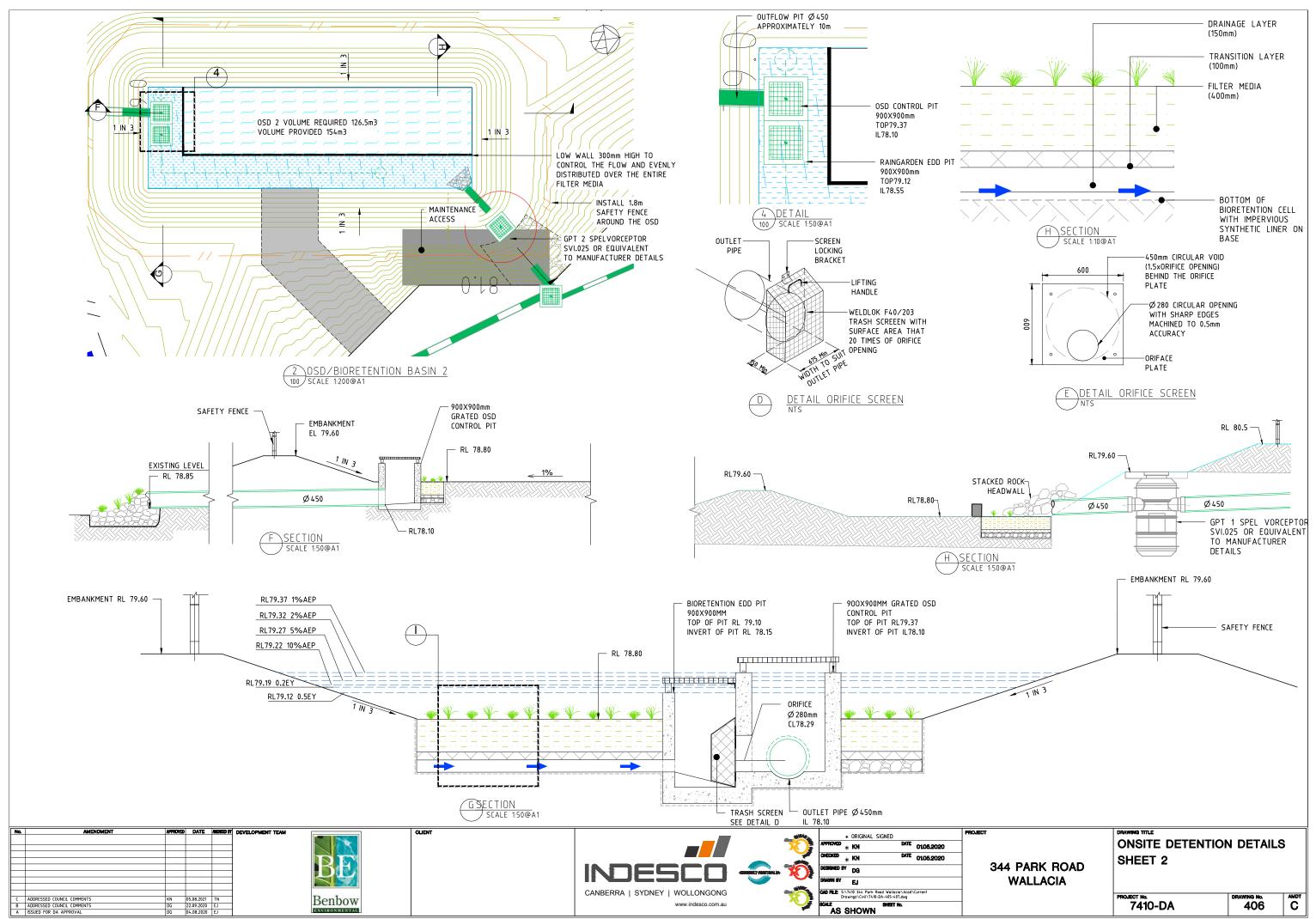
MUSIC MODEL & RESULT

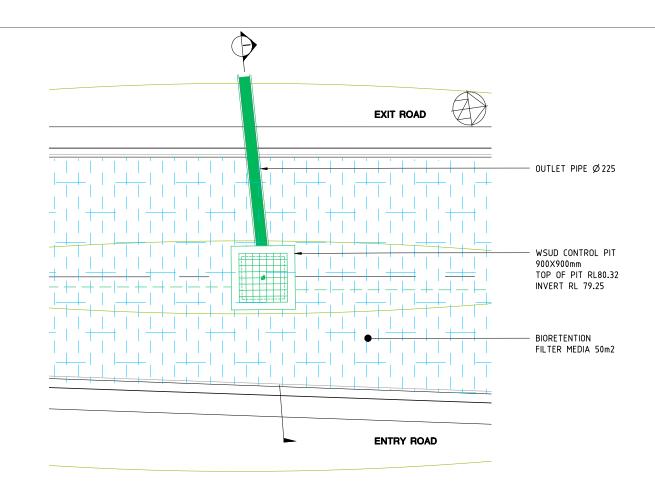


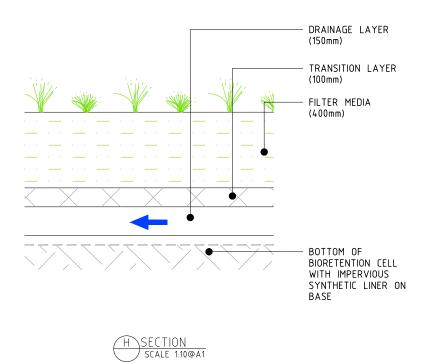


No.	AMENDMENT APPR	IOVED DATE	AMERICED BY	DEVELOPMENT TEAM	BE	CUENT	APPROVED KN DATE 01.05.2020 GRECKED KN DATE 01.05.2020 DERWIN BY EJ PROJECT PROJECT PROJECT PROJECT APPROVED KN DATE 01.05.2020 SA44 PARK ROAD WALLACIA DERWING TITLE MUSIC CATCHMENT PLAN AND SCHEDULE	
	ADDRESSED COUNCIL COMMENTS KN ADDRESSED COUNCIL COMMENTS DG ISSUED FOR DA APPROVAL DG	05.08.2021 22.09.2020 04.08.2020	TN EJ EJ		Benbow		CANBERRA SYDNEY WOLLONGONG www.indesco.com.au CONFILE \$1/14/9 34.4 Park Road Wollicia/Acad/Current Drawings/Cirel/7/18/9-08-385.deg CONFILE \$1/14/9 34.4 Park Road Wollicia/Acad/Current Drawings/Cirel/7/18/9-08-385	AMDT B

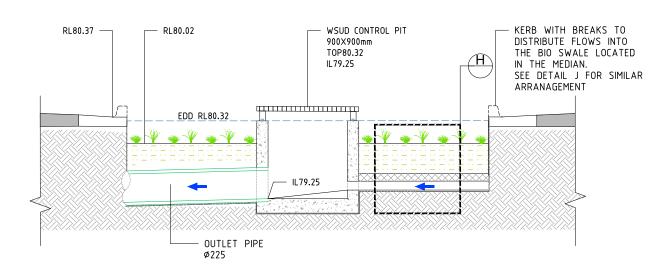








BIORETENTION 3 100 SCALE 1:40@A1







J BIORETENTION PERSPECTIVE

No.	AMENDMENT	APPROVED	DATE	MEIOE BY	DEVELOPMENT TEAM	
٢	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN		Benboy
В	ADDRESSED COUNCIL COMMENTS		22.09.2020	EJ		Dellino
A	ISSUED FOR DA APPROVAL		04.08.2020	EJ		ENVIRONMENT.



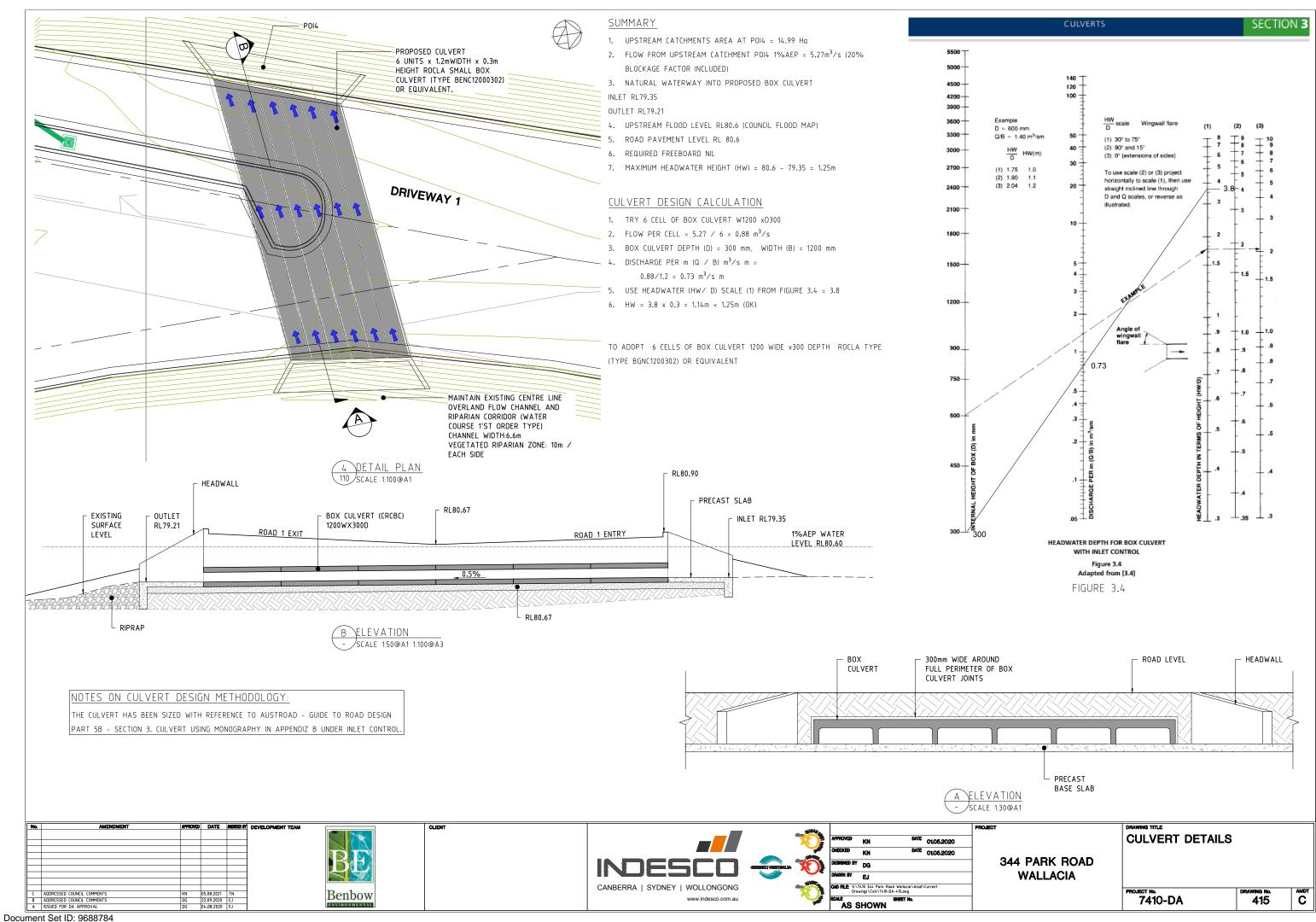


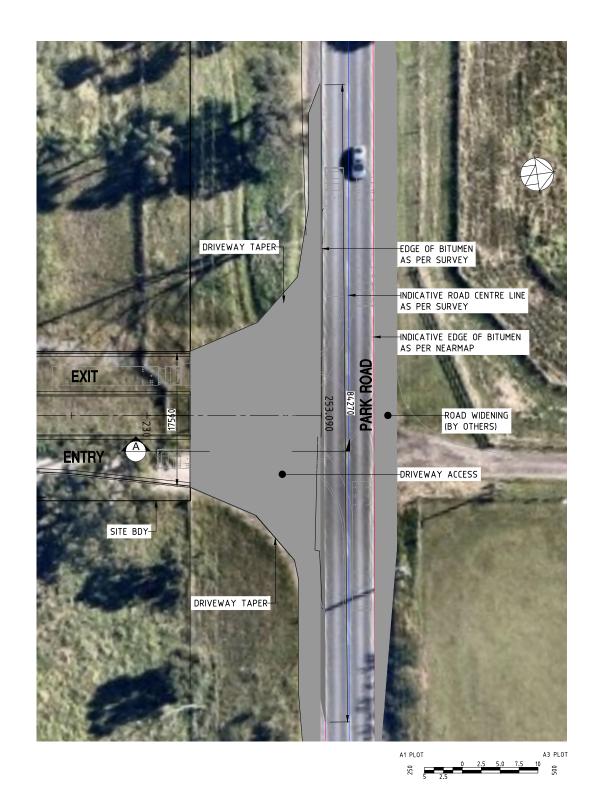
	* ORIGINAL SIG	NED
APPROVED	* KN	DATE 01.05.202
CHECKED	* KN	DATE 01.05.202
DESIGNED I	PY DG	
DRAWN BY	EJ	
	5:\7410 344 Park Road Drawings\Civil\7410-DA	Wallacia\Acad\Current -405-407.dwg
BCALE AS	SHOWN	SHEET No.

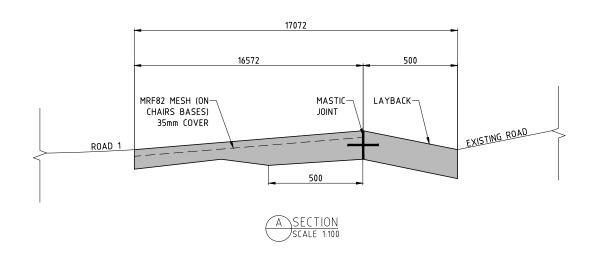
344 PARK ROAD **WALLACIA**

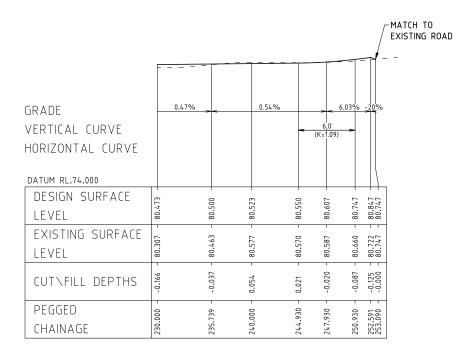
ONSITE DETENTION DETAILS SHEET 3

7410-DA AMDT 407









LEGEND

DESIGN LEVEL

EXISTING LEVEL

DRIVEWAY LONGITUDINAL SECTION (ALONG CENTRELINE)

HORIZONTAL SCALE	A1 PLOT 0 2 4 6	A3 PLOT
VERTICAL SCALE	A1 PLOT 0 1 2 3	43 PLOT

No.	AMENDMENT	APPROVED DATE	AMERICED BY	DEVELOPMENT TEAM	CLIENT		APPROVED KN DATE 01.05.202	PROJECT	INTERNAL DRIVEW	MAV	
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						IIVEDLU 🤝 🐧	DRAWN BY E.J	WALLACIA			
				Benbow		CANBERRA SYDNEY WOLLONGONG	CAO FLE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-420.dwg		PROJECT No.	DRAWING No.	AMDT
B ADDRESSED COUNCIL COM A ADDRESSED COUNCIL COM		KN 05.08.2021 DG 22.09.2020	TN EJ	Delibow		www.indesco.com.au	AS SHOWN		7410-DA	420	0