Cardno
Shaping the Future

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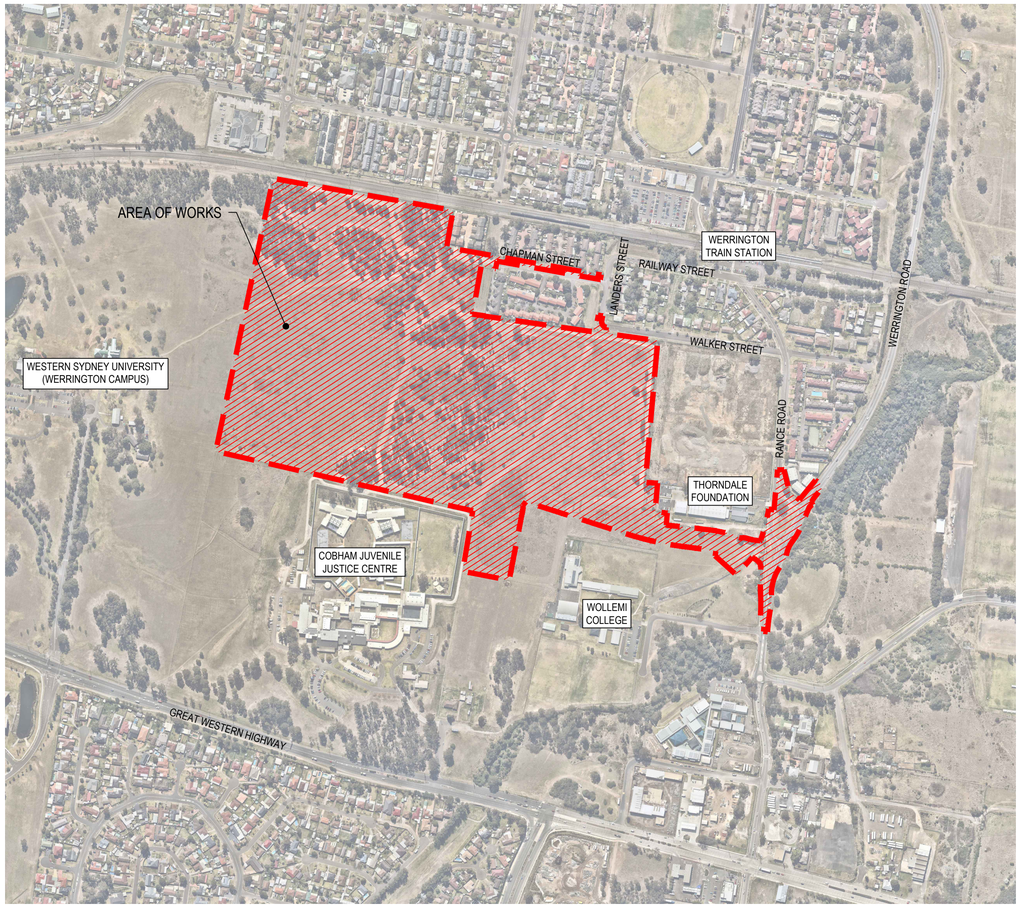
lendlease

LENDLEASE COMMUNITIES

CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION



LOCALITY PLAN
1:5000

NORTH

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
80219053-DA001-CI-1001	COVERSHEET AND DRAWING SCHEDULE
80219053-DA001-CI-1011	GENERAL NOTES AND LEGENDS
80219053-DA001-CI-1031	GENERAL ARRANGEMENT PLAN
80219053-DA001-CI-1041	ROAD HIERARCHY PLAN
80219053-DA001-CI-1051	EXISTING SERVICES AND SURVEY PLAN
80219053-DA001-CI-1101	EROSION AND SEDIMENT CONTROL PLAN SHEET 1 OF 3
80219053-DA001-CI-1102	EROSION AND SEDIMENT CONTROL PLAN SHEET 2 OF 3
80219053-DA001-CI-1103	EROSION AND SEDIMENT CONTROL PLAN SHEET 3 OF 3
80219053-DA001-CI-1131	EROSION AND SEDIMENT CONTROL DETAILS
80219053-DA001-CI-1141	CUT AND FILL PLAN
80219053-DA001-CI-1151	SITE SECTIONS SHEET 1 OF 5
80219053-DA001-CI-1152	SITE SECTIONS SHEET 2 OF 5
80219053-DA001-CI-1153	SITE SECTIONS SHEET 3 OF 5
80219053-DA001-CI-1154	SITE SECTIONS SHEET 4 OF 5
80219053-DA001-CI-1155	SITE SECTIONS SHEET 5 OF 5
80219053-DA001-CI-1251	ROAD TYPICAL CROSS SECTION
80219053-DA001-CI-1301	SITEWORKS AND STORMWATER PLAN SHEET 1 OF 7
80219053-DA001-CI-1302	SITEWORKS AND STORMWATER PLAN SHEET 2 OF 7
80219053-DA001-CI-1303	SITEWORKS AND STORMWATER PLAN SHEET 3 OF 7
80219053-DA001-CI-1304	SITEWORKS AND STORMWATER PLAN SHEET 4 OF 7
80219053-DA001-CI-1305	SITEWORKS AND STORMWATER PLAN SHEET 5 OF 7
80219053-DA001-CI-1306	SITEWORKS AND STORMWATER PLAN SHEET 6 OF 7
80219053-DA001-CI-1307	SITEWORKS AND STORMWATER PLAN SHEET 7 OF 7
80219053-DA001-CI-1311	ROUNDABOUT CONCEPT PLAN
80219053-DA001-CI-1351	ROAD LONGITUDINAL SECTIONS SHEET 1 OF 11
80219053-DA001-CI-1352	ROAD LONGITUDINAL SECTIONS SHEET 2 OF 11
80219053-DA001-CI-1353	ROAD LONGITUDINAL SECTIONS SHEET 3 OF 11
80219053-DA001-CI-1354	ROAD LONGITUDINAL SECTIONS SHEET 4 OF 11
80219053-DA001-CI-1355	ROAD LONGITUDINAL SECTIONS SHEET 5 OF 11
80219053-DA001-CI-1356	ROAD LONGITUDINAL SECTIONS SHEET 6 OF 11
80219053-DA001-CI-1357	ROAD LONGITUDINAL SECTIONS SHEET 7 OF 11
80219053-DA001-CI-1358	ROAD LONGITUDINAL SECTIONS SHEET 8 OF 11
80219053-DA001-CI-1359	ROAD LONGITUDINAL SECTIONS SHEET 9 OF 11
80219053-DA001-CI-1360	ROAD LONGITUDINAL SECTIONS SHEET 10 OF 11
80219053-DA001-CI-1361	ROAD LONGITUDINAL SECTIONS SHEET 11 OF 11
80219053-DA001-CI-1601	ROAD TYPICAL DETAILS SHEET 1 OF 2
80219053-DA001-CI-1602	ROAD TYPICAL DETAILS SHEET 2 OF 2
80219053-DA001-CI-2001	BIORETENTION / OSD BASIN PLAN AND SECTIONS SHEET 1 OF 3
80219053-DA001-CI-2002	BIORETENTION / OSD BASIN PLAN AND SECTIONS SHEET 2 OF 3
80219053-DA001-CI-2003	BIORETENTION BASIN PLAN AND SECTIONS SHEET 3 OF 3
80219053-DA001-CI-2201	STORMWATER DRAINAGE DETAILS SHEET 1 OF 2
80219053-DA001-CI-2202	STORMWATER DRAINAGE DETAILS SHEET 2 OF 2
80219053-DA001-CI-2301	STORMWATER CATCHMENT PLAN
80219053-DA001-CI-3001	TURN PATH PLANS SHEET 1 OF 4
80219053-DA001-CI-3002	TURN PATH PLANS SHEET 2 OF 4
80219053-DA001-CI-3003	TURN PATH PLANS SHEET 3 OF 4
80219053-DA001-CI-3004	TURN PATH PLANS SHEET 4 OF 4

0 100 200 300 400 500m
SCALE 1:5000 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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Drawn YNL	Date 1/10/2019	
Checked PL	Date 1/10/2019	
Designed HLD	Date 1/10/2019	
Verified PL	Date 1/10/2019	
Approved AJG	Date 1/10/2019	

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:5000	A1

Drawing Number: 80219053-DA001-CI-1001
Revision: 4

DATE PLOTTED: 4 March 2020 11:00 AM BY : HAYDEN DAVENPORT
XREF's: XR-80219053-CI-AERIAL; XR-80219053-CI-BOUNDARY
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1001 COVER SHEET AND DRAWING SCHEDULE.dwg
Document Set ID: 9091177
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:00 AM BY : HAYDEN DAVENPORT

ACCESS AND SAFETY

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

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

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

GENERAL

1. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL GUIDELINES.

2. PENRITH CITY COUNCIL STANDARD DETAILS TO BE USED WHERE REQUIRED.

3. UTILITY ADJUSTMENTS AT DEVELOPERS EXPENSE.

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

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO, BEING REGISTERED SURVEYORS AND SURVEY PREVIOUSLY PROVIDED BY LENDLEASE THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN.

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

NOTES

1. THIS PLAN IS PREPARED FOR LENDLEASE FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS FOR THE PURPOSE OF DESIGNING NEW CONSTRUCTIONS ON THE LAND AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.
2. VISIBLE SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY OR DIAL BEFORE YOU DIG INFORMATION. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
3. SERVICES MARKED AS DYBD ARE BASED ON DIAL BEFORE YOU DIG DATA COLLECTED ON 08/07/2019.

LEGEND

- POWER POLE WITH LIGHT
- LIGHT POLE
- WATER METER
- SEWER MANHOLE
- SEWER LAMPHOLE
- UNCLASSIFIED PIT
- DRAINAGE PIT
- COMMUNICATIONS PIT
- CONTOUR MAJOR
- BOUNDARY SUBJECT
- BUILDING EDGE
- CROWN OF ROAD
- EDGE OF BITUMEN/FORMATION
- FENCE
- NATURAL SURFACE STRING
- TOE OF BANK
- TOP OF BANK
- DRAINAGE LINE
- SEWER
- POTABLE WATER (DYBD)
- ELECTIRCAL OVERHEAD LINE
- UNDERGROUND ELECTRICAL CONDUIT (DYBD)
- EXISTING OPTUS LINE (DYBD)
- EXISTING TELSTRA LINE (DYBD)
- EXISTING NBN LINE (DYBD)

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER AND OFFICE OF ENVIRONMENT AND HERITAGE. 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 (D) 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. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.

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:

OTHER MATTERS

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.

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DIAL 1100
BEFORE YOU DIG

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   A. PUBLIC STORMWATER DESIGNED TO PENRITH COUNCIL'S STORMWATER MANAGEMENT POLICY, DESIGN GUIDELINES FOR ENGINEERING WORKS FOR SUBDIVISIONS AND DEVELOPMENTS, AND AUSTRALIAN RAINFALL AND RUNOFF 2016.

   B. ANNUAL EXCEEDANCE PROBABILITY:
   20% AEP PIPED DRAINAGE
   1% AEP OVERLAND FLOW
2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.

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

4. EQUIVALENT STRENGTH FRC PIPES MAY BE USED.

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

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

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

8. PIPES TO BE INSTALLED TO TYPE HS1 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).

9. REFER TO AS/NZS 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.

10. 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 CARDNO PRIOR TO INSTALLATION.

11. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3:2018.

12. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY PENRITH CITY COUNCIL.

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

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

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

16. GRATES AND COVERS SHALL CONFORM TO AS 3996 AND PENRITH CITY COUNCIL GUIDELINES.

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

18. 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.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.CARDNO CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING 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.

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.

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

3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS AND SURFACES.

4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.

5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED 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% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)

6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.

7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R116.

8. 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 50m³ OF BASECOURSE MATERIAL PLACED.

9. 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 50m³ OF SUB-BASE COURSE MATERIAL PLACED.

10. 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 CARDNO.

11. 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.

12. 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.

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES

2. REFER TO GEOTECHNICAL REPORT PREPARED BY DOUGLAS PARTNERS PROVIDED BY LENDLEASE FOR SITE PREPARATION REQUIREMENTS

3. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.

4. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.

5. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 E 5.1.1.)
UNDER ROADS AND CARPARKS	98%
UNDER BUILDING SLABS	100%
LANDSCAPED AREAS	98%

6. FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN 75% DENSITY INDEX

7. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TO 10 TONNE (MIN) DEADWEIGHT THREE POINT STEEL WHEELED ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).

8. EARTHWORKS ARE TO BE INSPECTED AND TESTED BY AN INDEPENDENT GEOTECHNICAL TESTING AUTHORITY TO LEVEL 1 RESPONSIBILITY AS DEFINED IN AS 3798.

9. FILLING TO BE PLACED IN MAXIMUM 250mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED.

10. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

SEDIMENT AND EROSION CONTROL LEGEND

- TEMPORARY STABILISED SITE ACCESS AND TRUCK WASH DOWN
- STRAW BALE SEDIMENT FILTER
- SITE FENCE
- SEDIMENT FENCE
- DIVERSION BANK AND CHANNEL
- GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
- SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
- MESH AND GRAVEL INLET FILTER
- INDICATIVE STOCKPILE LOCATIONS
- SITE ENTRANCE
- TEMPORARY SEDIMENT BASIN

ROOF WATER KERB OUTLETS

1. KERB OUTLETS TO BE PROVIDED IN ACCORDANCE WITH PENRITH CITY COUNCILS CIVIL WORKS SPECIFICATION AT EACH LOT WHERE INTERALLOTMENT DRAINAGE IS NOT PROVIDED

2. KERB OUTLETS ARE TO BE CONSTRUCTED AT THE SAME TIME KERBS ARE POURED.

3. ALIGNMENT OF KERB OUTLET PIPE TO BE ADJUSTED ON SITE TO AVOID SERVICE CLASHES.

TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT.
BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

PROPOSED WORKS LEGEND

- EXTENT OF WORK
- STAGE BOUNDARY
- 158.00 — PROPOSED CONTOUR
- BATTER
- RW — STRUCTURAL RETAINING WALL
- KERB & GUTTER REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- VEHICULAR CROSSING REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- KERB RAMP AS PER COUNCIL STANDARDS
- SITE FENCE
- Ø375 — FLOW DIRECTION STORMWATER PIPE PIPE DIAMETER
- DRAINAGE CAP
- CONCRETE HEADWALL
- KERB INLET WITH LINTEL.
- JUNCTION PIT
- GRATED INLET PIT
- SCOUR PROTECTION
- TREES TO BE RETAINED
- TREES TO BE REMOVED.
- APZ BOUNDARY
- SURVEY BOUNDARY

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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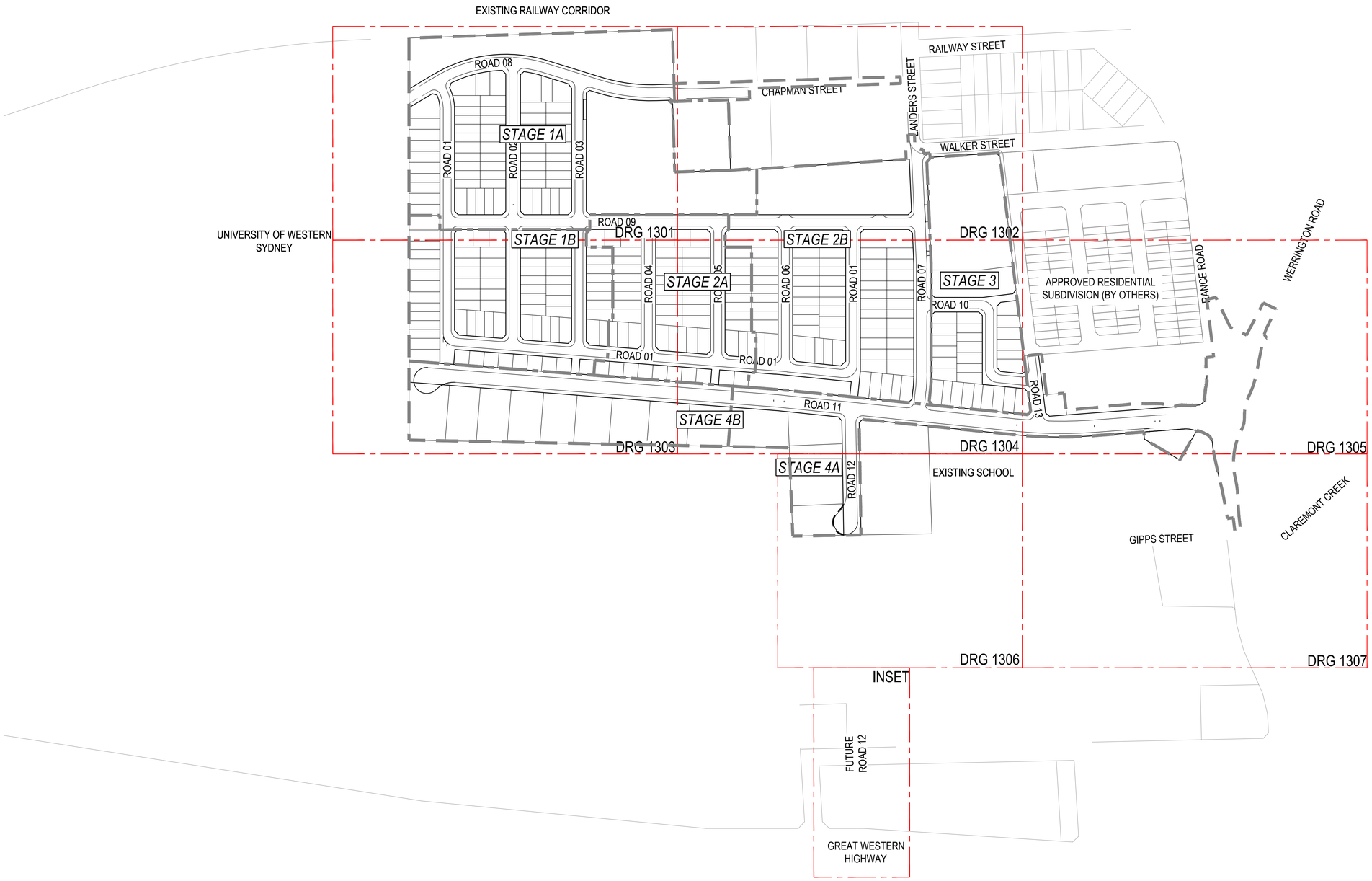
		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES
Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION
Title: GENERAL NOTES AND LEGENDS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	N.T.S	A1

Drawing Number: 80219053-DA001-CI-1011
Revision: 4



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3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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SCALE 1:2000 @A1

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Drawn	YNL	1/10/2019
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Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: GENERAL ARRANGEMENT PLAN

Status: FOR APPROVAL
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Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:2500	A1

Drawing Number: 80219053-DA001-CI-1031
Revision: 4

DATE PLOTTED: 4 March 2020 1:35 PM BY : HAYDEN DAVENPORT

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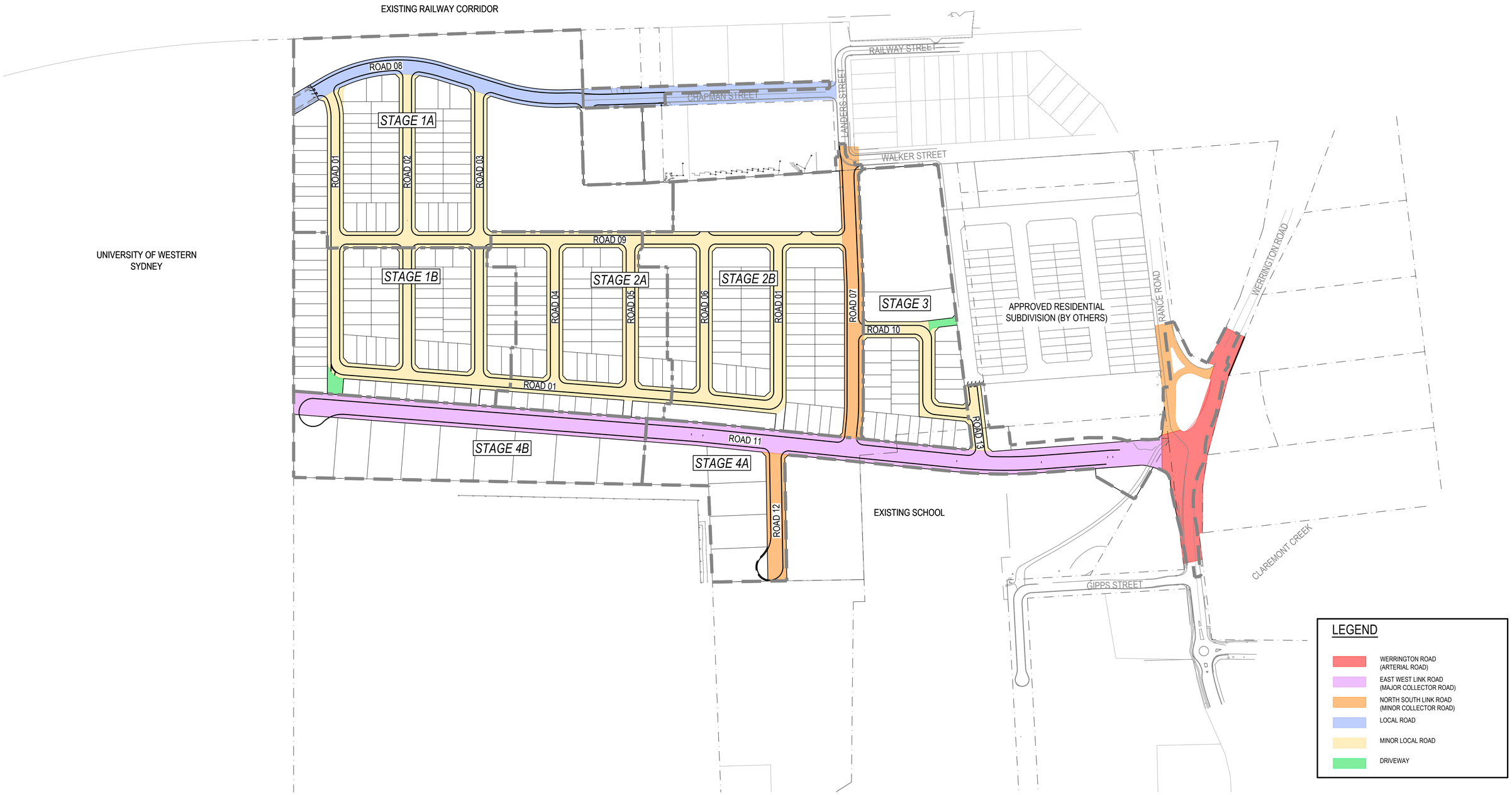

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3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
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1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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SCALE 1:2000 @A1

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Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD HIERARCHY PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:2000	A1

Drawing Number: 80219053-DA001-CI-1041
Revision: 4

DATE PLOTTED: 4 March 2020 1:36 PM BY : HAYDEN DAVENPORT

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-SURVEY; XR-80219053-CI-ROAD; XR-80219053-CI-ROAD-HIERARCHY; XR-80219053-CI-CONTROL; XR-80219053-CI-ADJOINING SUBDIVISION
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Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:00 AM BY : HAYDEN DAVENPORT

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-SURVEY; XR-80219053-CI-EXISTING SERVICES; XR-80219053-CI-CONTROL; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-ADJOINING SUBDIVISION

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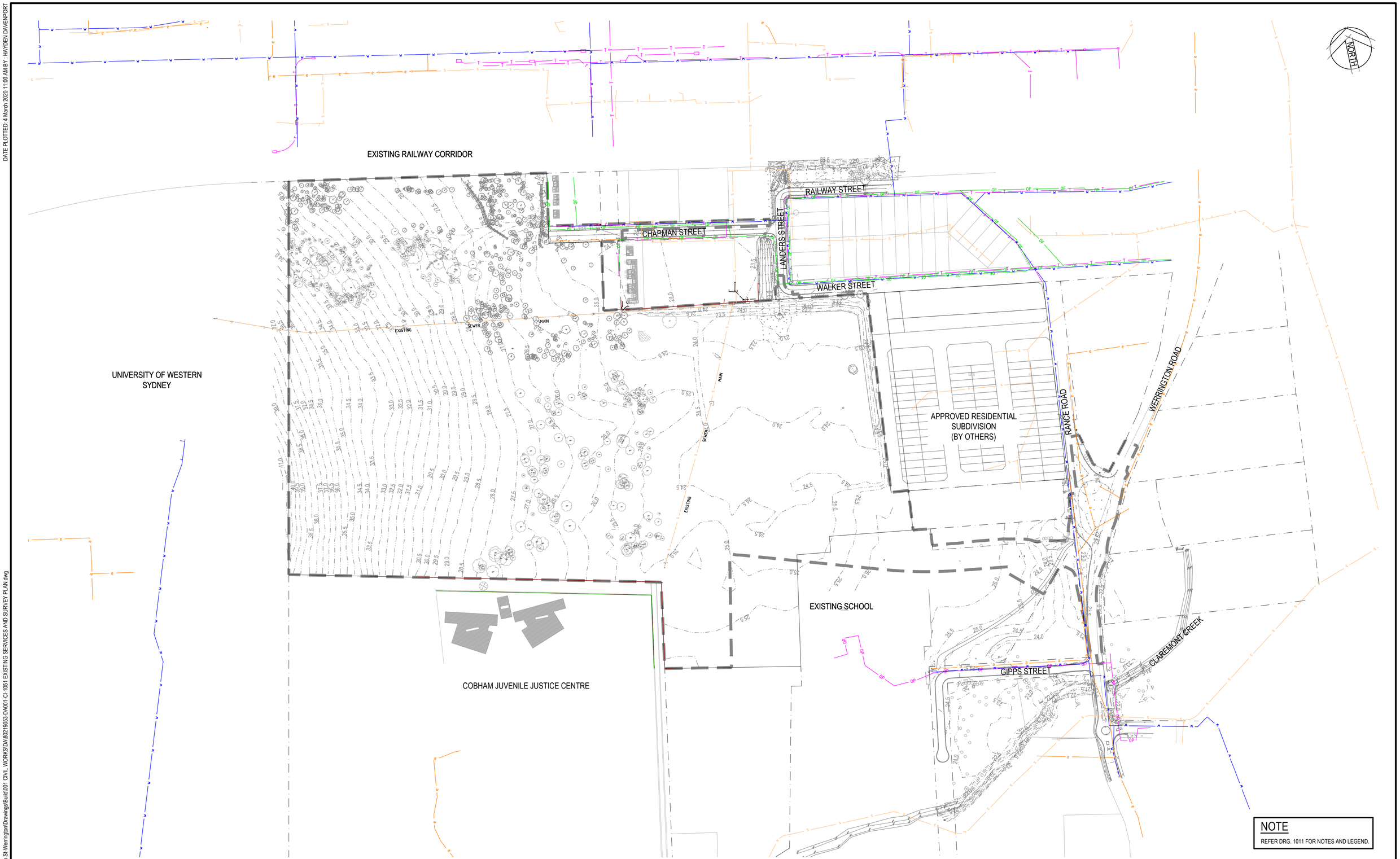

NOTE

REFER DRG. 1011 FOR NOTES AND LEGEND.

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Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: EXISTING SERVICES AND SURVEY PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

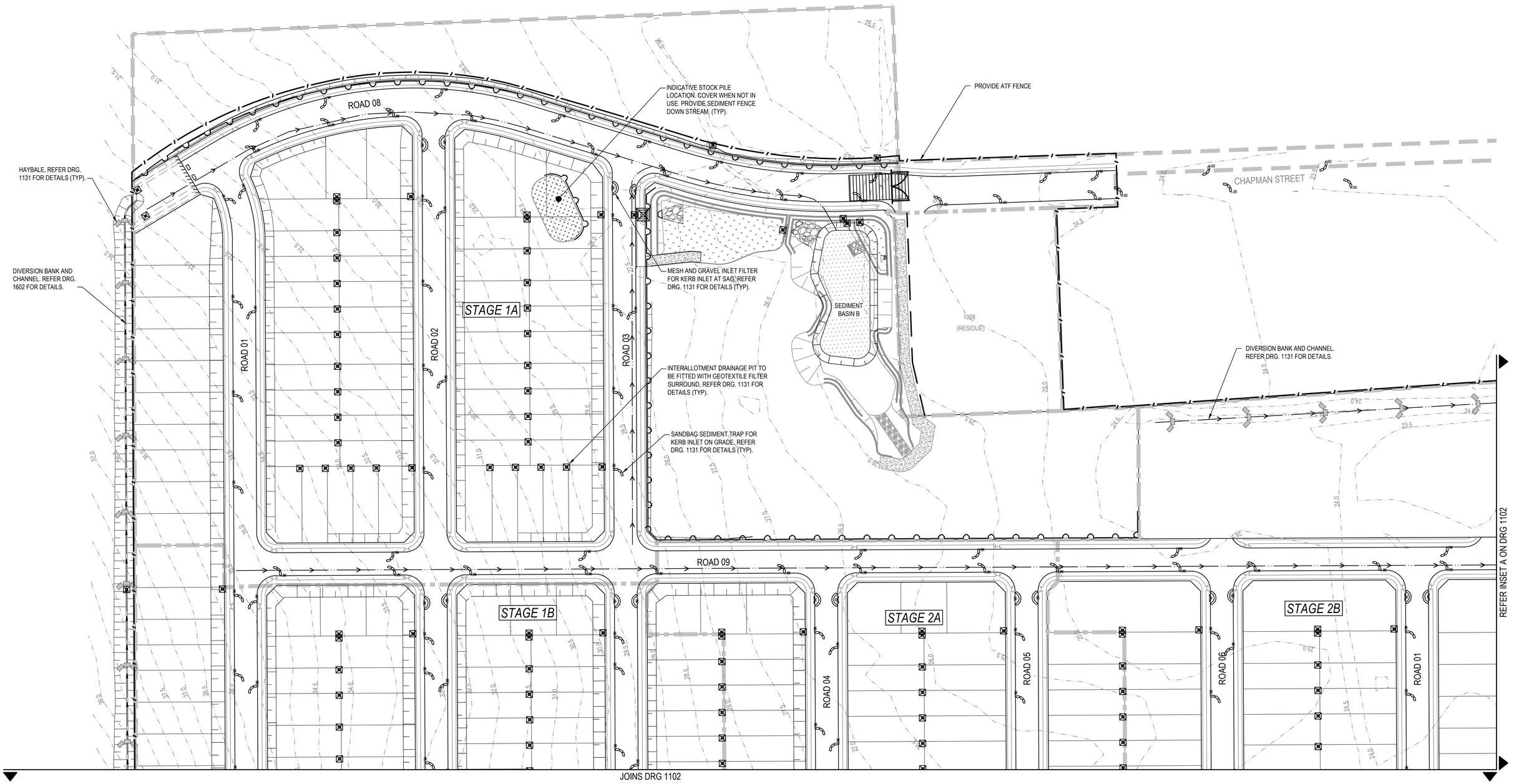
Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:2000	A1

Drawing Number: 80219053-DA001-CI-1051

Revision: 4

NOTE

REFER DRG. 1011 FOR NOTES AND LEGEND.



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Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: EROSION AND SEDIMENT CONTROL PLAN
SHEET 1 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:750	A1

Drawing Number: 80219053-DA001-CI-1101
Revision: 4

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DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT

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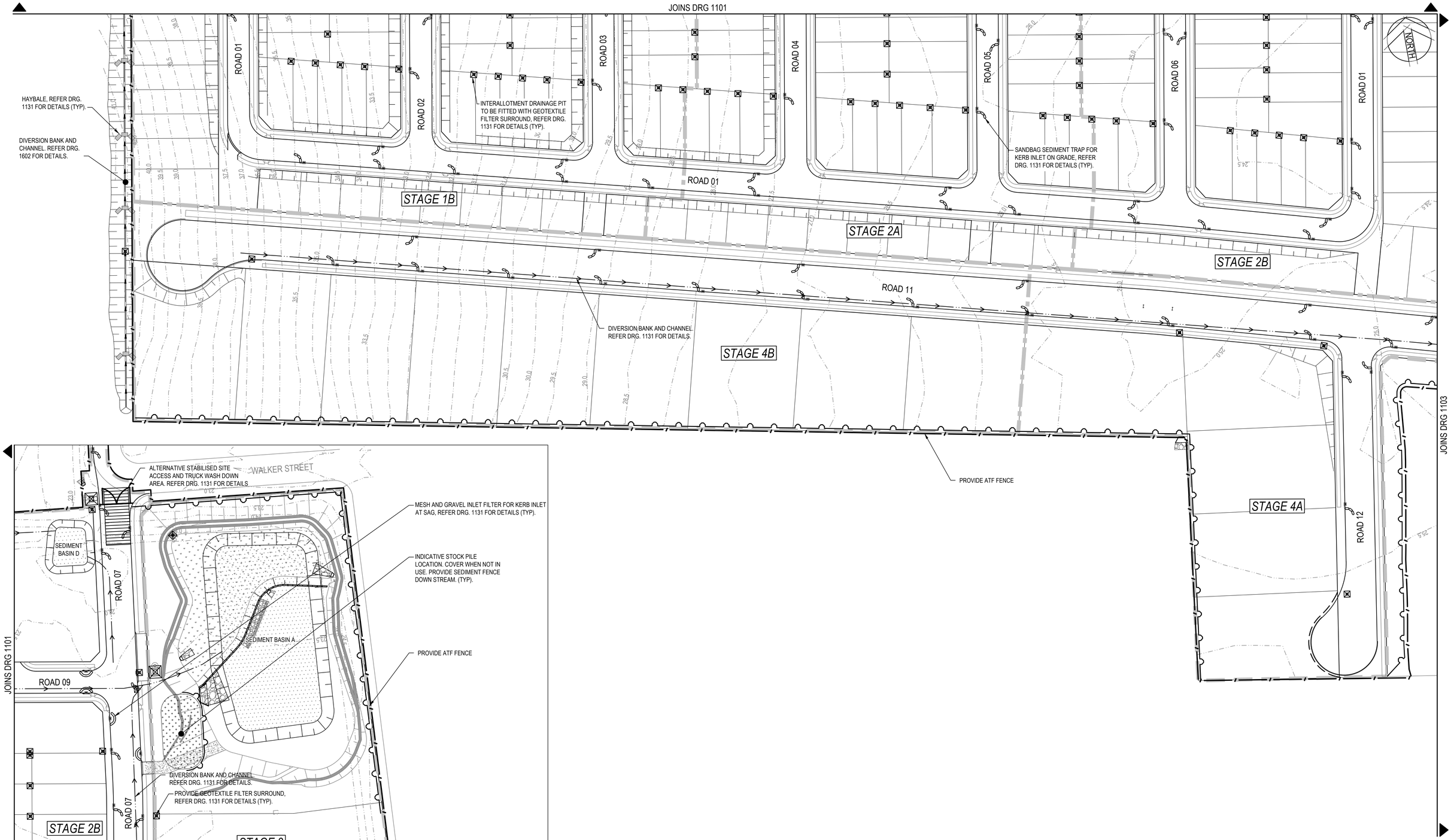

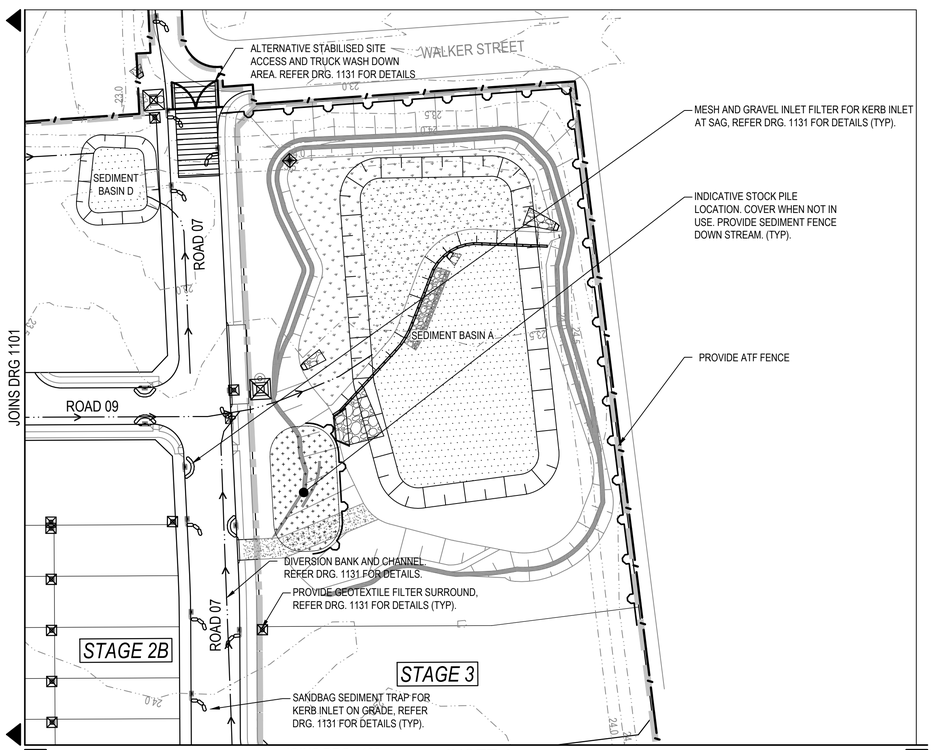

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NOTE

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4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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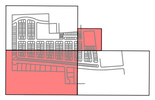

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Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: EROSION AND SEDIMENT CONTROL PLAN
SHEET 2 OF 3

Status: FOR APPROVAL
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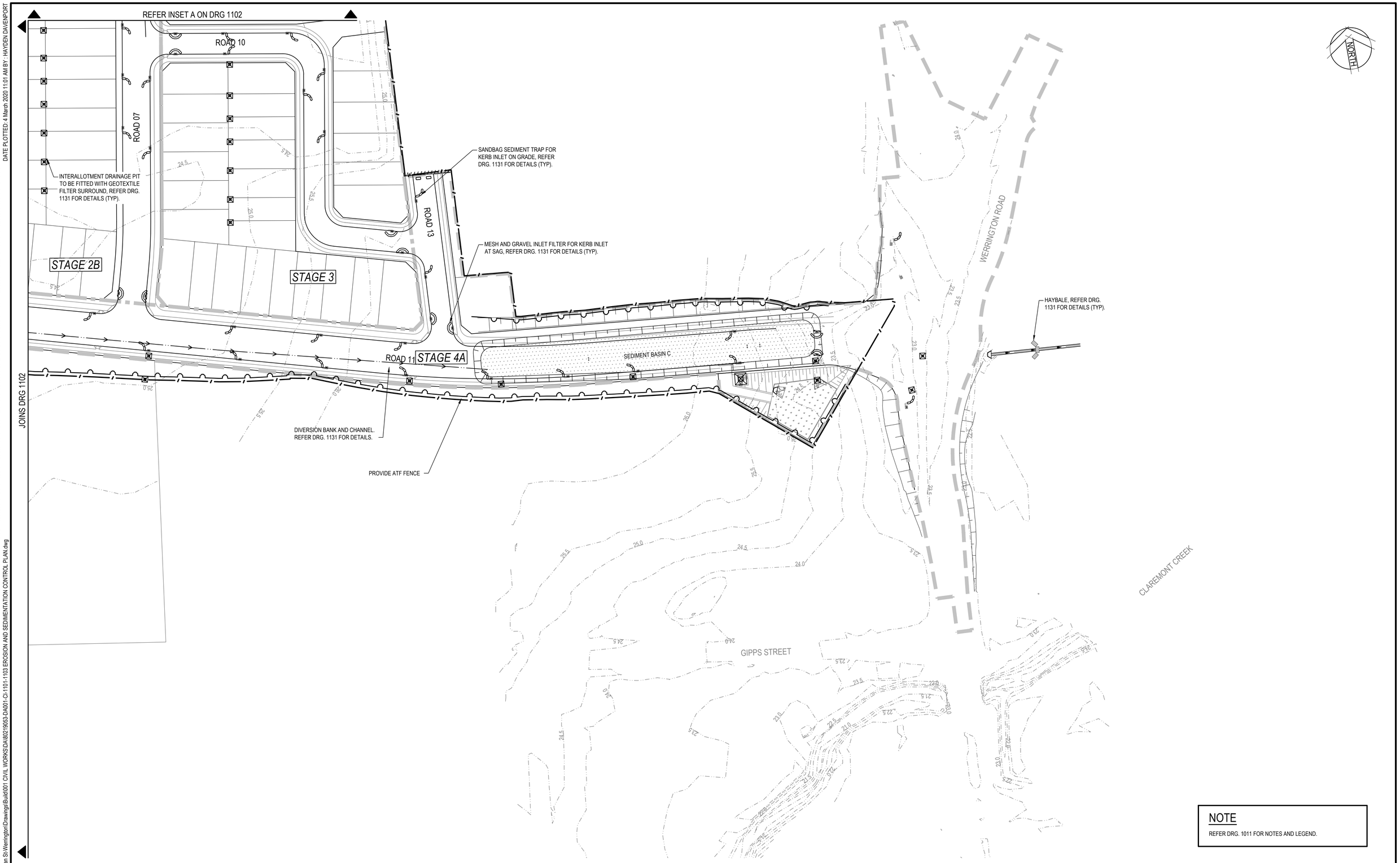
Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:750	A1

Drawing Number: 80219053-DA001-CI-1102
Revision: 4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



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Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: EROSION AND SEDIMENT CONTROL PLAN
SHEET 3 OF 3

Status: FOR APPROVAL
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Datum	Date	Scale	Size
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Drawing Number: 80219053-DA001-CI-1103
Revision: 4

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Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

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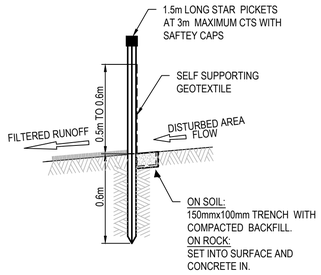

SEDIMENT FENCE SECTION

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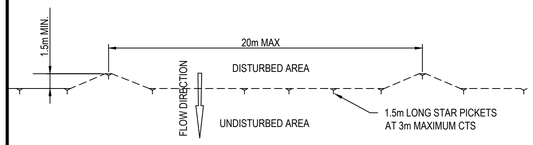

SEDIMENT FENCE PLAN

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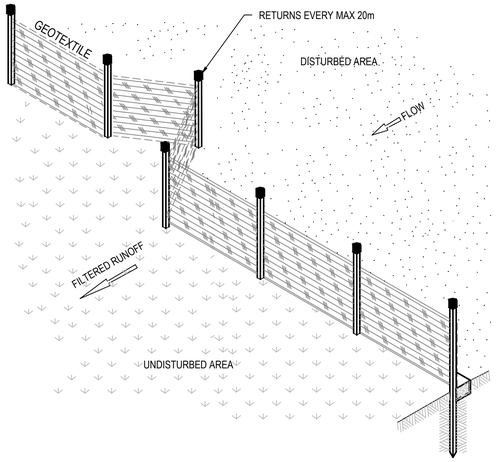

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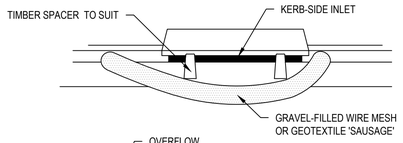

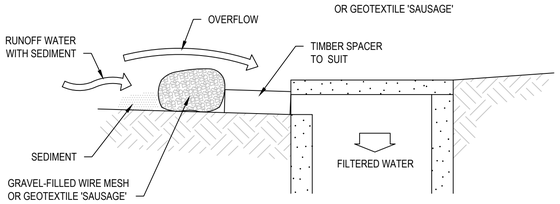

MESH AND GRAVEL INLET FILTER

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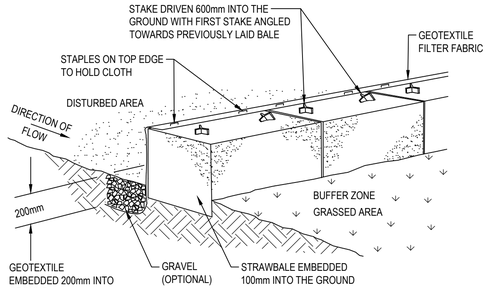

STRAWBALE AND GEOTEXTILE SEDIMENT FILTER

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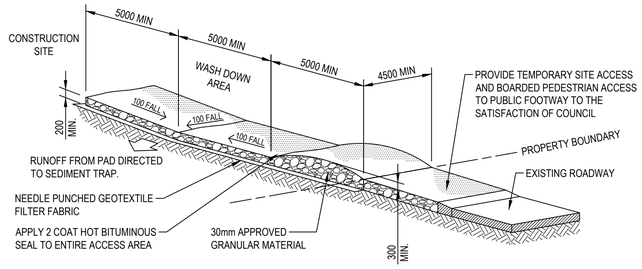

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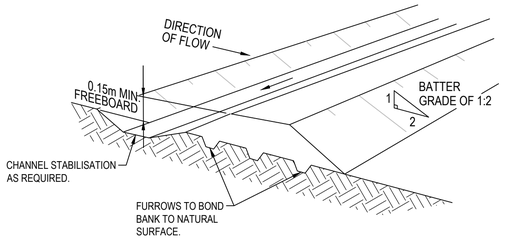

DIVERSION BANK AND CHANNEL

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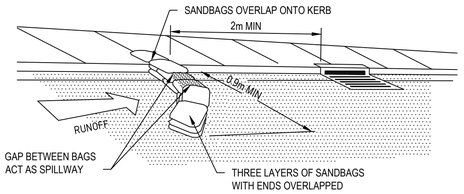
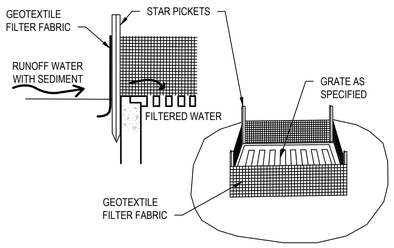


SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE

NTS



GEOTEXTILE FILTER PIT SURROUND

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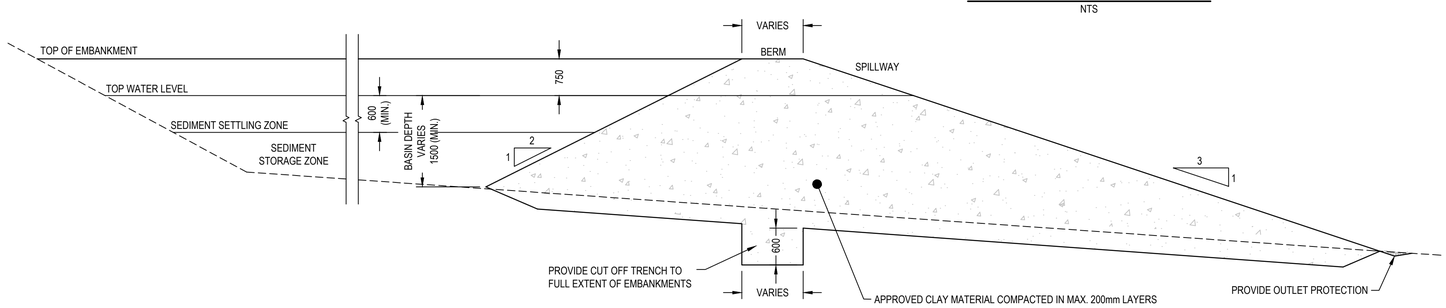

TYPICAL SEDIMENT BASIN CROSS SECTION

1 : 50

TYPICAL FOR ALL SEDIMENT BASINS

Note: These "Standard Calculation" spreadsheets relate only to low erosion hazard lands as identified in figure 4.6 where the designer chooses to not use the RUSLE to size sediment basins. The more "Detailed Calculation" spreadsheets should be used on high erosion hazard lands as identified by figure 4.6 or where the designer chooses to run the RUSLE in calculations.

1. Site Data Sheet

Site name: Chapman St, Werrington

Site location: Penrith City Council

Precinct: Entire development

Description of site: Residential Subdivision

Site area	Site						Remarks
	B	A	C	D			
Total catchment area (ha)	5.35	15.87	13.6	1.13			
Disturbed catchment area (ha)							

Soil analysis

Soil landscape							DIPNR mapping (if relevant)
Soil Texture Group	D	D	D	D			Sections 6.3.3(c), (d) and (e)

Rainfall data

Design rainfall depth (days)	5	5	5	5			See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	75	75	75	75			See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	21.8	21.8	21.8	21.8			See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	8.79	8.79	8.79	8.79			See IFD chart for the site
Rainfall erosivity (R-factor)	1780	1780	1780	1780			Automatic calculation from above data

Comments: Design rainfall depth - 75% for disturbances < 6 months (6.3.4)
ARR16 IFD chart used

3. Volume of Sediment Basins, Type D and Type F Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for Type F and Type D soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

V = 10 x Cv x A x Ry-%ile, x-day (m3)

where:

10 = a unit conversion factor

Cv = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

R = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the standard calculation, the sediment storage zone is 50 percent of the setting zone. However, designers can work to capture the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)), in which case the "Detailed Calculation" spreadsheets should be used.

Total Basin Volume

Site	Cv	R x-day y-%ile	Total catchment area (ha)	Settling zone volume (m3)	Sediment storage volume (m3)	Total basin volume (m3)	Total basin volume provided (m3)
B	0.50	21.8	5.35	583	292	875	875
A	0.50	21.8	15.87	1730	865	2595	2595
C	0.50	21.8	13.60	1482	741	2224	2224
D	0.50	21.8	1.13	123	62	185	185

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 1000 2000 3000 4000 5000mm

SCALE 1:50 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: EROSION AND SEDIMENT CONTROL DETAILS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1131

Revision: 4

XREF's:
CAD File: N:\Projects\82\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1131 EROSION AND SEDIMENTATION CONTROL DETAILS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-CUT FILL HATCH; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-CONTROL; XR-80219053-CI-ROUNDABOUT; XR-80219053-CI-ROAD; XR-80219053-CI-DESN CONTOURS-500
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1141 CUT FILL PLAN.dwg

LEGEND

- CUT GREATER THAN 3m
- CUT BETWEEN 2.75m AND 3m
- CUT BETWEEN 2.5m AND 2.75m
- CUT BETWEEN 2.25m AND 2.5m
- CUT BETWEEN 2.0m AND 2.25m
- CUT BETWEEN 1.75m AND 2.0m
- CUT BETWEEN 1.5m AND 1.75m
- CUT BETWEEN 1.25m AND 1.5m
- CUT BETWEEN 1.0m AND 1.25m
- CUT BETWEEN 0.75m AND 1.0m
- CUT BETWEEN 0.5m AND 0.75m
- CUT BETWEEN 0.25m AND 0.5m
- CUT LESS THAN 0.25m
- FILL LESS THAN 0.25m
- FILL BETWEEN 0.25m AND 0.5m
- FILL BETWEEN 0.5m AND 0.75m
- FILL BETWEEN 0.75m AND 1.0m
- FILL BETWEEN 1.0m AND 1.25m
- FILL BETWEEN 1.25m AND 1.5m
- FILL BETWEEN 1.5m AND 1.75m
- FILL BETWEEN 1.75m AND 2.0m
- FILL BETWEEN 2.0m AND 2.25m
- FILL BETWEEN 2.25m AND 2.5m
- FILL BETWEEN 2.5m AND 2.75m
- FILL BETWEEN 2.75m AND 3.0m
- FILL GREATER THAN 3.0m

APPROXIMATE BULK EARTHWORK VOLUMES

CUT = - 51,981m³
FILL = +295,817m³
BALANCE = +243,836m³

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 20m 40m 60m 80m 100m 150m 170m
SCALE 1:1750 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES
Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION
Title: CUT AND FILL PLAN

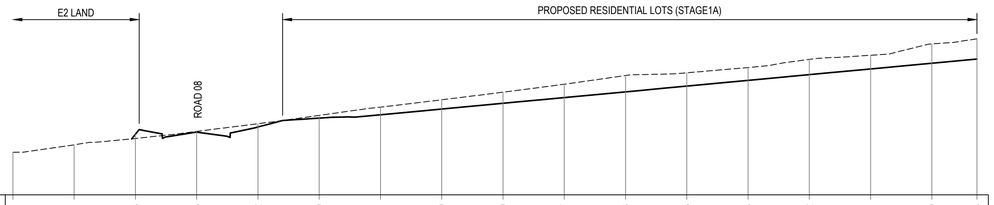
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:1750	A1

Drawing Number: 80219053-DA001-CI-1141
Revision: 4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

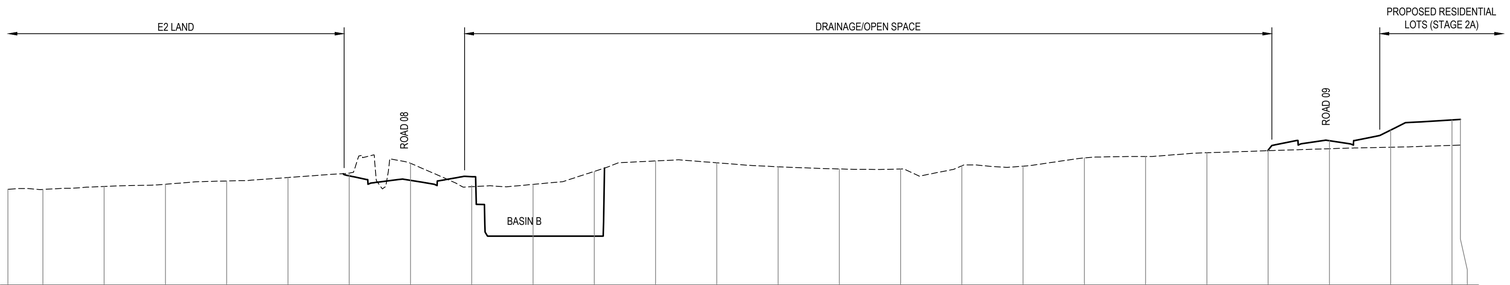
DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT



Datum 27.00

DESIGN LEVEL			28.98	29.05	29.22	29.50	29.61	29.80	29.99	30.17	30.36	30.55	30.73	30.92	31.11	31.30	31.43
EXISTING LEVEL	28.39	28.63	28.84	29.07	29.32	29.59	29.86	30.10	30.35	30.61	30.89	30.98	31.15	31.42	31.55	31.93	32.09
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	157.360

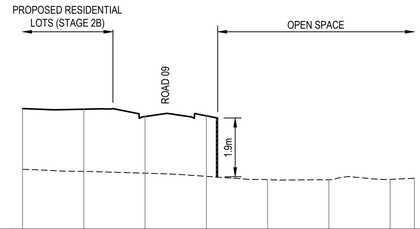
SECTION 1 / 1141
SCALE 1:100V 1:500H



Datum 23.00

DESIGN LEVEL							26.57	26.42	26.54	24.60	24.60												27.41	27.71	28.06	28.39	28.41		
EXISTING LEVEL	26.13	26.12	26.22	26.29	26.40	26.51	26.66	26.98	26.21	26.29	26.71	27.05	26.99	26.86	26.79	26.79	26.90	26.88	27.15	27.20	27.32	27.39	27.45	27.50	27.56	27.57			
CHAINAGE	64.285	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	301.389			

SECTION 2 / 1141
SCALE 1:100V 1:500H



Datum 23.00

DESIGN LEVEL	26.93	26.91	26.67	26.70				
EXISTING LEVEL	24.95	24.88	24.82	24.72	24.61	24.61	24.62	24.66
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	63.951

SECTION 3 / 1141
SCALE 1:100V 1:500H

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITE SECTIONS
SHEET 1 OF 5

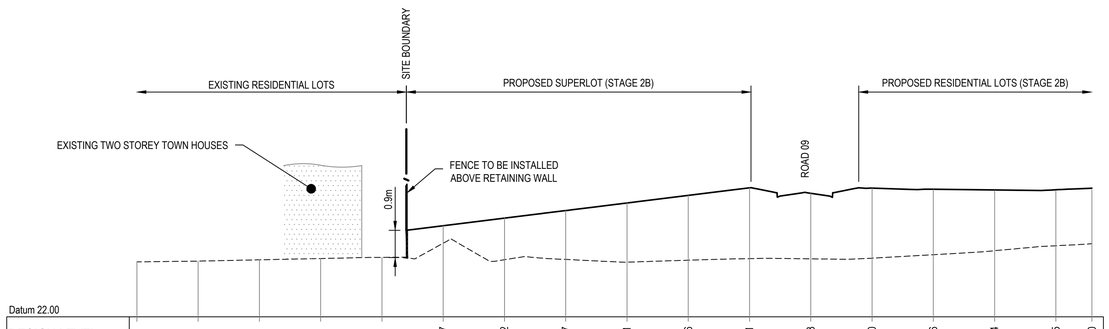
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1151
Revision: 4

XREF's:
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1151-1155 SITE SECTIONS.dwg

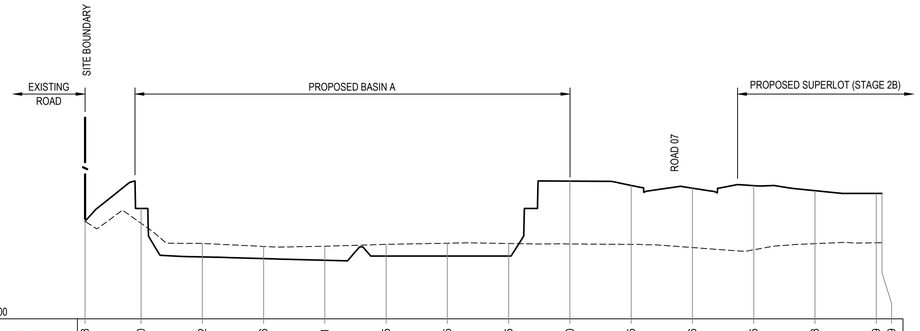
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



Datum 22.00

DESIGN LEVEL						24.97	25.22	25.47	25.71	25.96	26.21	26.03	26.20	26.16	26.14	26.15	26.20
EXISTING LEVEL	23.79	23.82	23.86	23.90	23.94	24.40	23.86	23.87	23.78	23.85	23.90	23.89	23.91	24.03	24.16	24.32	24.39
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	155.887

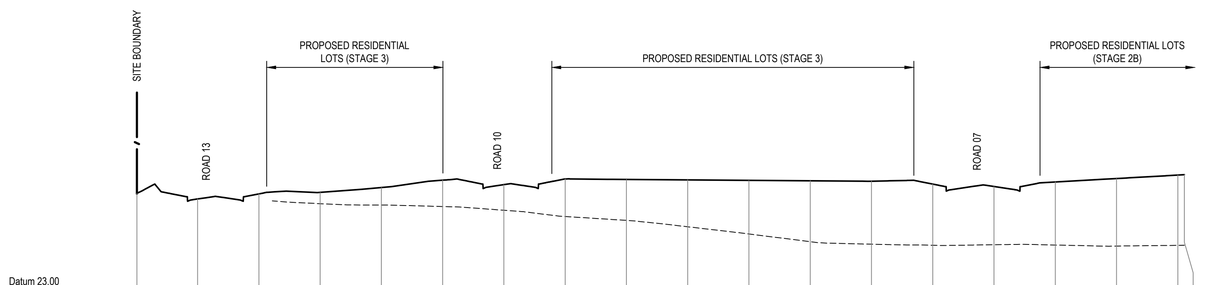
SECTION 4 / 1141
SCALE 1:100V 1:500H



Datum 21.00

DESIGN LEVEL	24.18	24.60	23.02	22.96	22.91	23.05	23.05	23.05	25.50	25.35	25.26	25.35	25.18	25.09 25.09
EXISTING LEVEL	24.18	24.12	23.46	23.36	23.37	23.43	23.47	23.46	23.44	23.43	23.33	23.25	23.45	23.48 23.48
CHAINAGE	20.854	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000 150.946

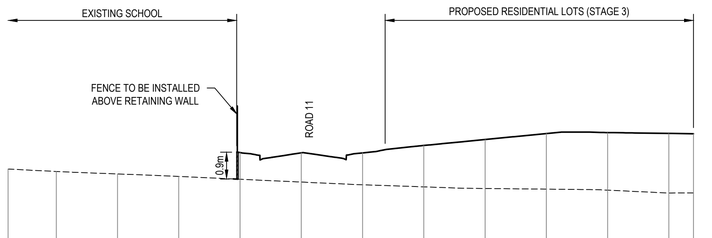
SECTION 5 / 1141
SCALE 1:100V 1:500H



Datum 23.00

DESIGN LEVEL	26.10	25.91	26.07	26.12	26.28	26.52	26.38	26.56	26.55	26.53	26.52	26.50	26.49	26.39	26.32	26.46	26.58	26.69 26.70
EXISTING LEVEL				25.76	25.71	25.66	25.54	25.34	25.21	25.00	24.77	24.52	24.43	24.40	24.42	24.41	24.37	24.40 24.40
CHAINAGE	30.092	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000 201.062

SECTION 6 / 1141
SCALE 1:100V 1:500H



Datum 23.00

DESIGN LEVEL					25.89	25.88	25.88	26.12	26.32	26.51	26.54	26.52	26.51
EXISTING LEVEL	26.35	25.27	25.19	25.11	25.02	24.93	24.84	24.77	24.72	24.70	24.66	24.57	24.57
CHAINAGE	12.132	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	124.007

SECTION 7 / 1141
SCALE 1:100V 1:500H

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITE SECTIONS
SHEET 2 OF 5

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

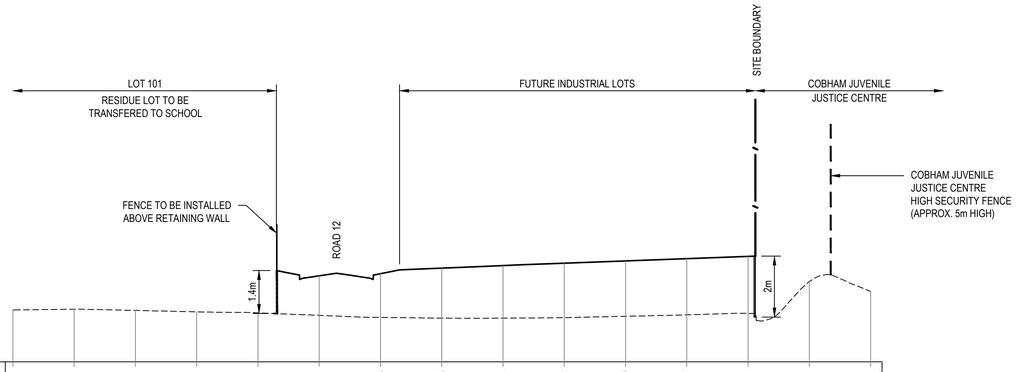
Drawing Number: 80219053-DA001-CI-1152
Revision: 4

DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT

XREF's:
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1151-1155 SITE SECTIONS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

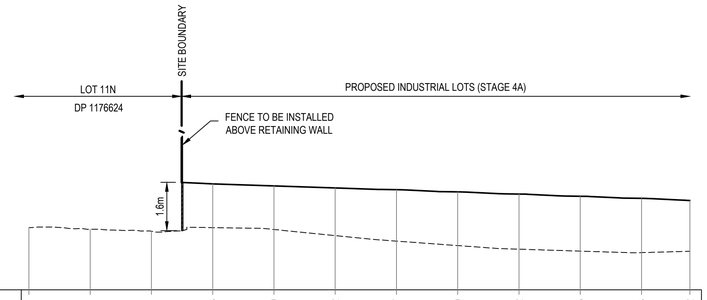
DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT



Datum 24.00

DESIGN LEVEL						26.81	26.88	27.06	27.14	27.22	27.29	27.37	27.44		
EXISTING LEVEL	25.69	25.72	25.68	25.63	25.60	25.51	25.45	25.42	25.43	25.44	25.49	25.53	25.58	26.62	26.29
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000

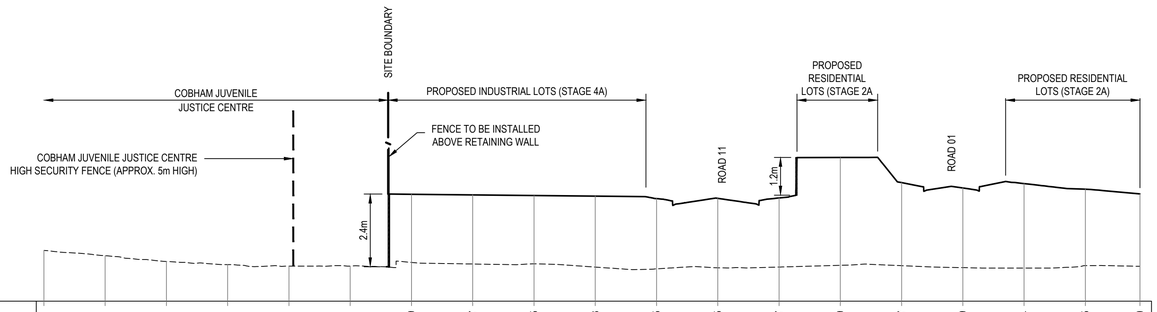
SECTION 8 / 1141
SCALE 1:100V 1:500H



Datum 24.00

DESIGN LEVEL				27.46	27.39	27.32	27.27	27.20	27.12	27.05	26.98	26.92
EXISTING LEVEL	26.03	25.98	25.91	26.03	25.97	25.77	25.59	25.44	25.33	25.26	25.21	25.26
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	107.904

SECTION 9 / 1141
SCALE 1:100V 1:500H



Datum 24.00

DESIGN LEVEL							27.49	27.47	27.45	27.43	27.35	27.35	27.37	28.69	27.87	27.69	27.84	27.65	27.50
EXISTING LEVEL	25.65	25.48	25.29	25.19	25.14	25.14	25.26	25.21	25.22	25.11	25.05	25.09	25.11	25.17	25.16	25.09	25.08	25.16	25.13
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	178.914

SECTION 10 / 1141
SCALE 1:100V 1:500H

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITE SECTIONS
SHEET 3 OF 5

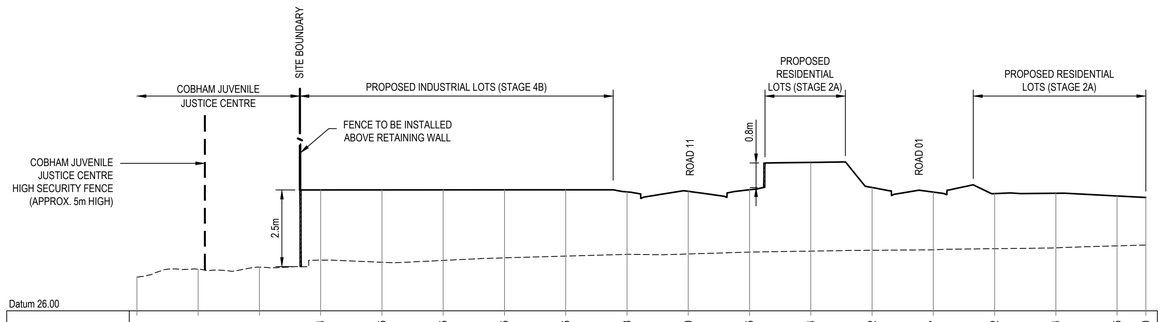
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1153
Revision: 4

XREF's:
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1151-1155 SITE SECTIONS.dwg

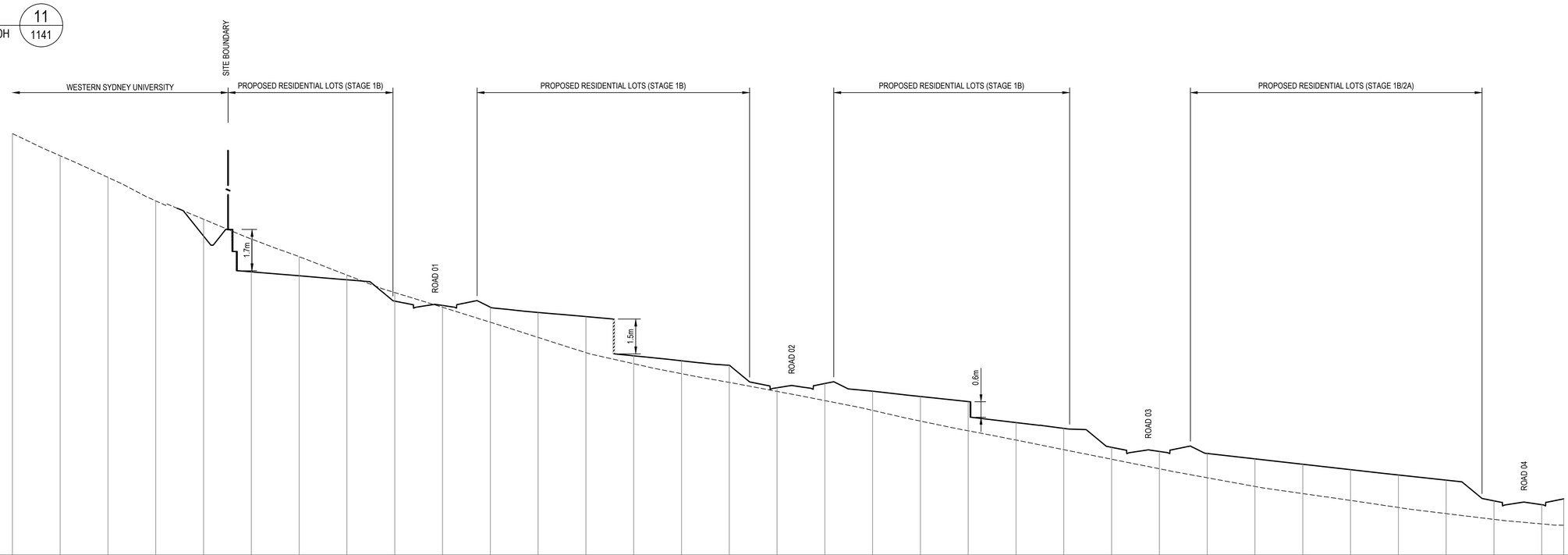
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



Datum 26.00

DESIGN LEVEL				29.94	29.95	29.95	29.95	29.95	29.88	29.90	29.95	30.84	30.02	29.87	29.82	29.84	29.75	29.70
EXISTING LEVEL	27.11	27.36	27.42	27.65	27.58	27.64	27.73	27.79	27.84	27.86	27.92	27.95	27.98	27.99	28.03	28.06	28.12	28.15
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	164.691

SECTION 11 / 1141
SCALE 1:100V 1:500H



Datum 26.00

DESIGN LEVEL					39.34	37.84	37.68	37.51	36.62	36.44	36.36	36.15	35.97	34.33	34.12	33.94	33.00	33.17	32.85	32.63	32.42	31.54	31.30	30.51	30.33	30.25	30.02	29.80	29.57	29.35	29.13	28.27	28.11	28.35
EXISTING LEVEL	43.63	42.70	41.79	40.81	40.04	39.22	38.48	37.71	36.98	36.36	35.74	35.10	34.47	34.00	33.59	33.22	32.85	32.46	32.05	31.60	31.20	30.81	30.41	30.01	29.61	28.23	28.87	28.57	28.29	27.99	27.73	27.49	27.30	27.25
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	324.608

SECTION 12 / 1141
SCALE 1:100V 1:500H

Rev.	Date	Description	Des.	Verif.	Appd.
3	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
1	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		

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

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Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITE SECTIONS
SHEET 4 OF 5

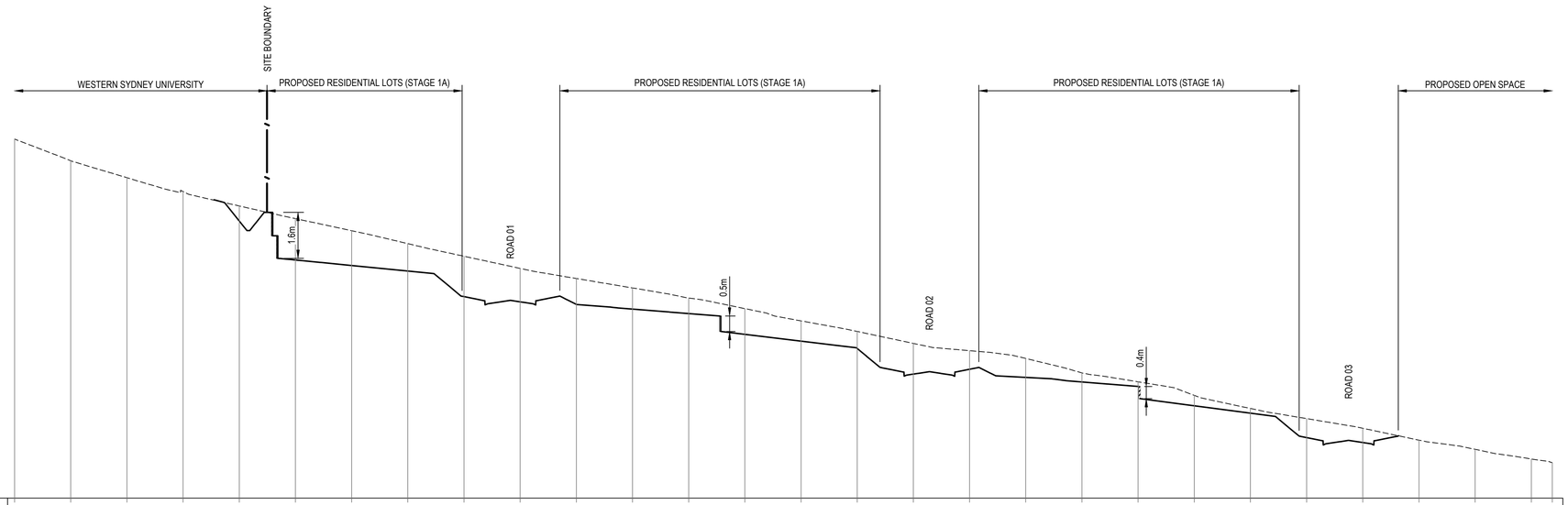
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1154
Revision: 3

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1151-1155 SITE SECTIONS.dwg

DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT



Datum 26.00

DESIGN LEVEL					35.87	34.48	34.28	34.09	33.17	32.99	32.90	32.73	32.57	31.83	31.59	31.33	30.42	30.59	30.30	30.14	29.97	29.29	29.02	28.15	27.98					
EXISTING LEVEL	38.79	38.01	37.41	36.92	36.40	35.95	35.52	35.06	34.61	34.18	33.82	33.48	33.13	32.75	32.31	31.93	31.51	31.25	30.97	30.46	30.14	29.66	29.19	28.83	28.49	28.06	27.74	27.39	27.26	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	273.738	

SECTION 13 / 1141

SCALE 1:100V 1:500H

Rev.	Date	Description	Des.	Verif.	Appd.
3	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
1	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		

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V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITE SECTIONS
SHEET 5 OF 5

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

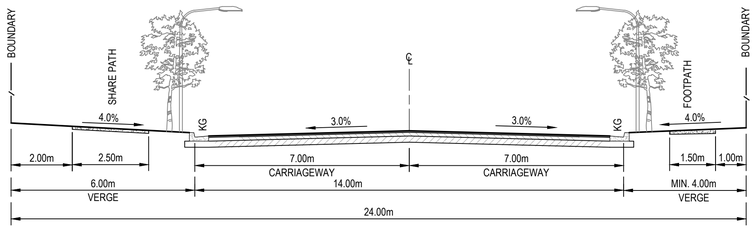
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1155
Revision: 3

DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT

XREF's:
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1151-1155 SITE SECTIONS.dwg

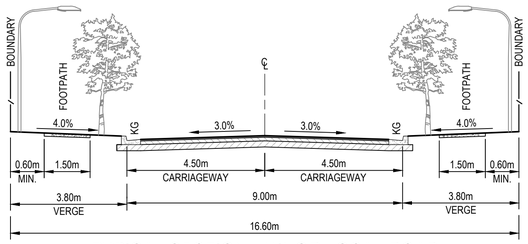
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



TYPICAL SECTION - EAST-WEST LINK ROAD
(MAJOR COLLECTOR ROAD)

ROAD 11

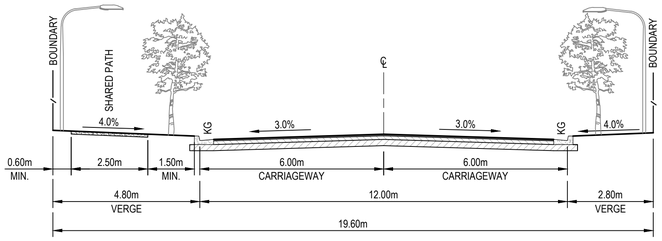
SCALE 1:100



TYPICAL SECTION - MINOR LOCAL ROAD

ROAD 01, 02, 03, 04, 05, 06, 10, 13

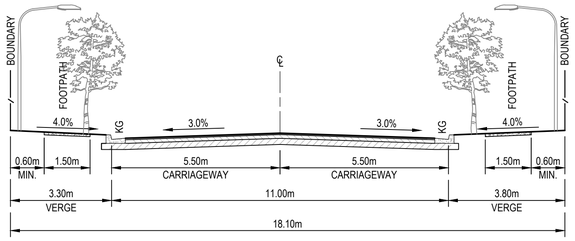
SCALE 1:100



TYPICAL SECTION - NORTH SOUTH ROAD
(MINOR COLLECTOR ROAD)

ROAD 07

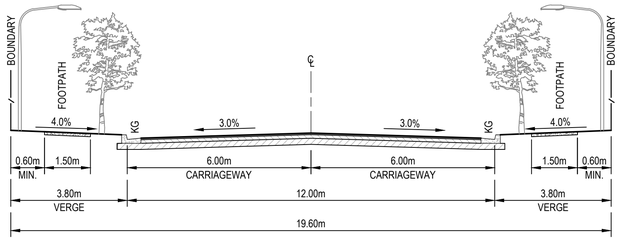
SCALE 1:100



TYPICAL SECTION - LOCAL ROAD

ROAD 08

SCALE 1:100



TYPICAL SECTION - NORTH SOUTH ROAD
(MINOR COLLECTOR ROAD)

ROAD 12

SCALE 1:100

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 1 2 4 6 8 10m

SCALE 1:100 @A1

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Web: www.cardno.com.au

		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD TYPICAL CROSS SECTION

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:100	A1

Drawing Number: 80219053-DA001-CI-1251

Revision: 4

DATE PLOTTED: 4 March 2020 11:01 AM BY : HAYDEN DAVENPORT

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1251 ROAD TYPICAL CROSS SECTIONS.dwg

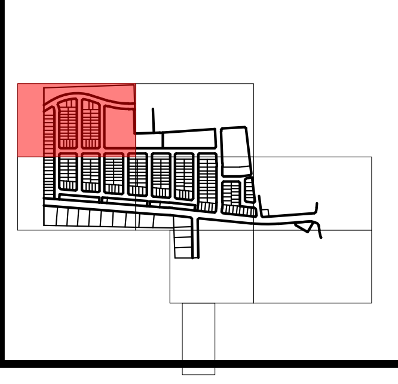
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

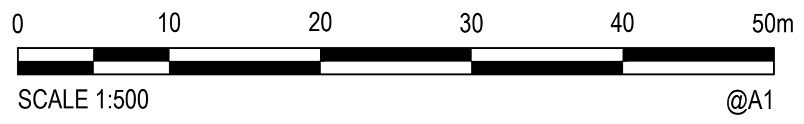
XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-EXST CONTOURS-500; XR-802190
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1301-1307 SITEWORKS AND STORMWATER PLAN.dwg
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT

NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		





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Drawn	YNL	Date 1/10/2019
Checked	PL	Date 1/10/2019
Designed	HLD	Date 1/10/2019
Verified	PL	Date 1/10/2019
Approved	AJG	1/10/2019

Client LENDLEASE COMMUNITIES

Project CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title SITEWORKS AND STORMWATER PLAN
SHEET 1 OF 7

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

Drawing Number	Revision
80219053-DA001-CI-1301	4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

NOTE

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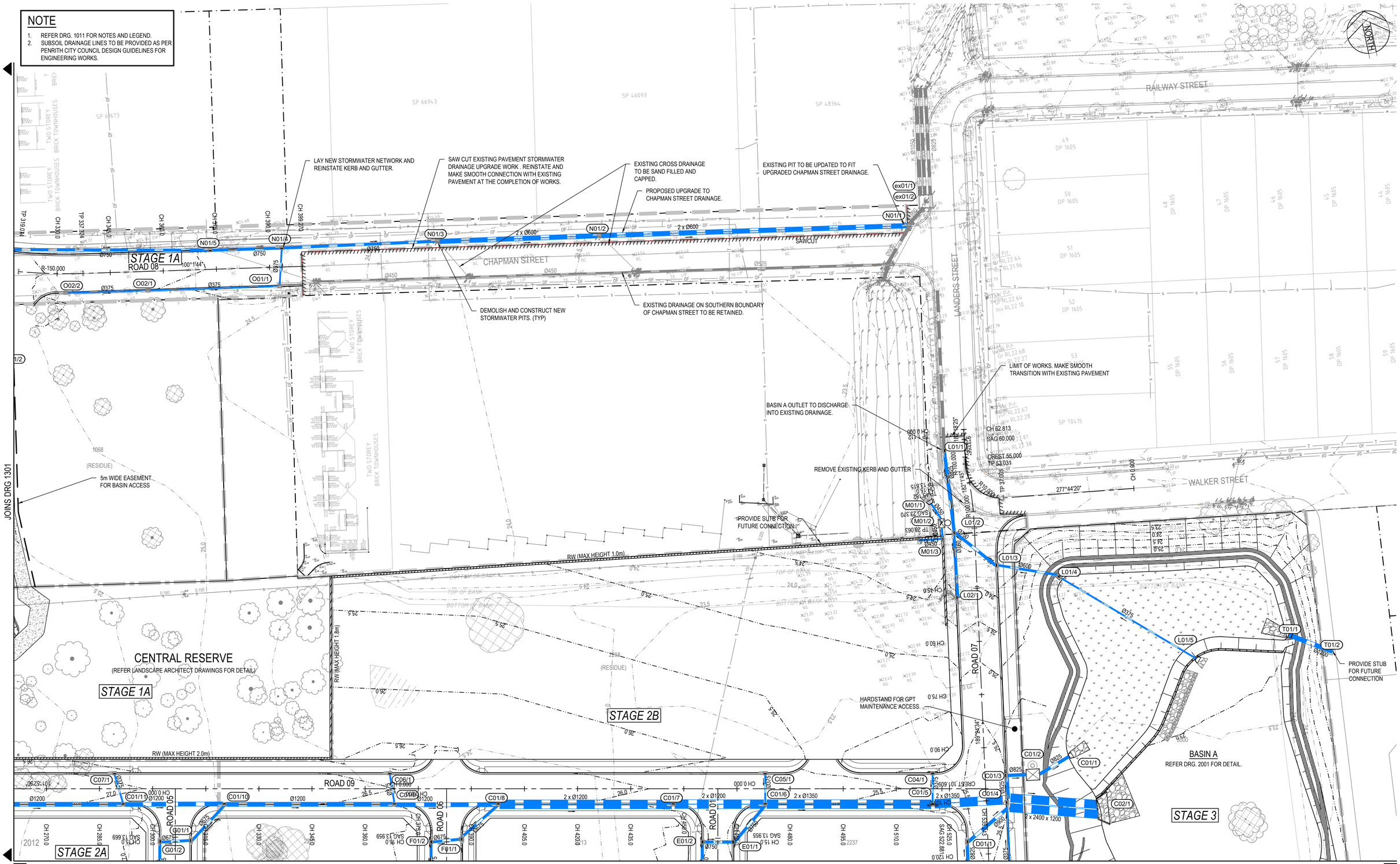

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

SCALE 1:500 @A1

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Web: www.cardno.com.au

		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITEWORKS AND STORMWATER PLAN
SHEET 2 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

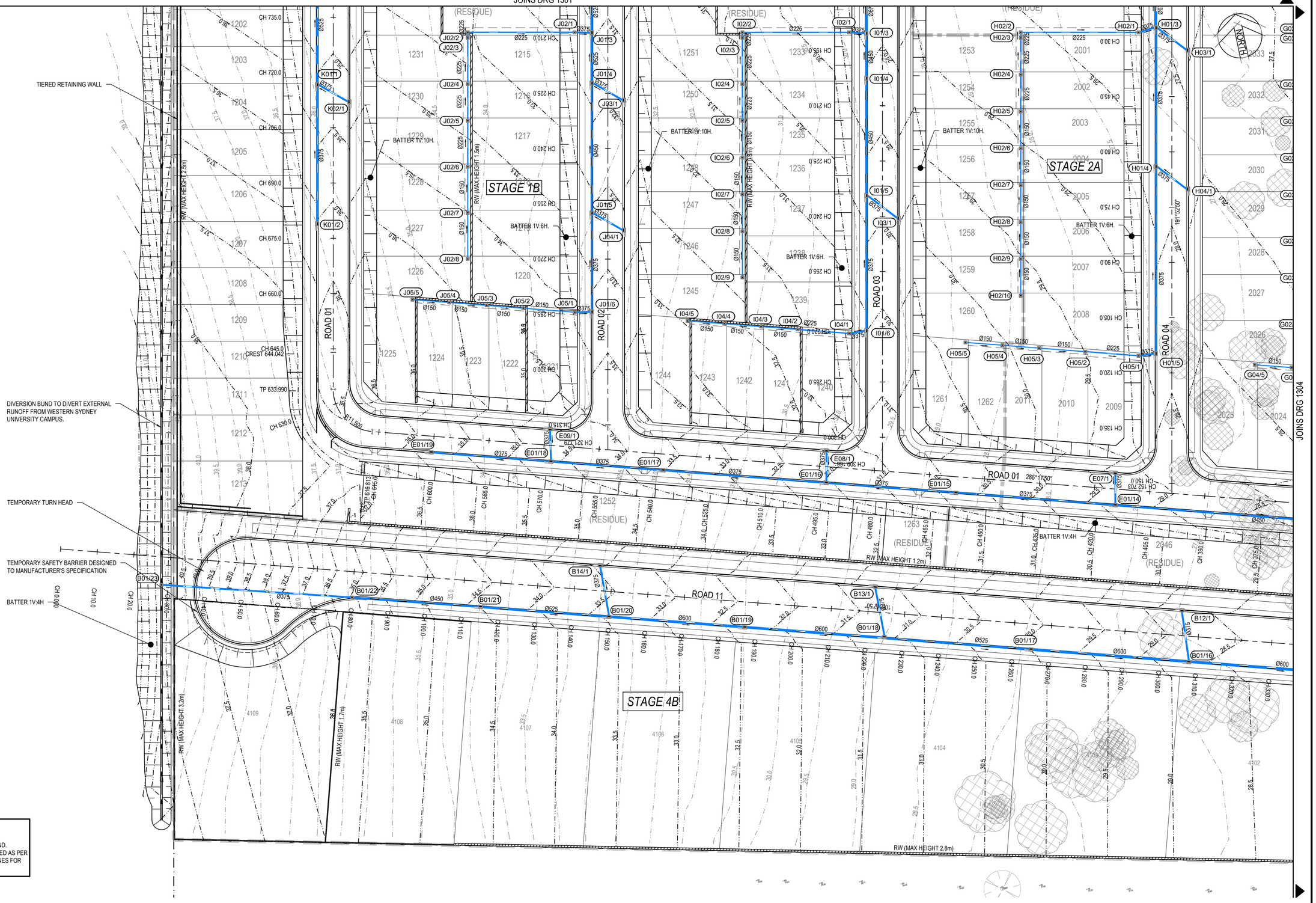
Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

Drawing Number: 80219053-DA001-CI-1302
Revision: 4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-CONTROL; XR-80219053-CI-ROAD; XR-80219053-CI-SITEWORKS; XR-80219053-CI-TREES; XR-80219053-CI-SURVEY; XR-80219053-CI-VPORTS; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-STORMWATER; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-BOUNDARY
CAD File: N:\Projects\802\FY19\53_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1301-1307 SITEWORKS AND STORMWATER PLAN.dwg
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

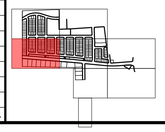
XREFs: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-CONTROL;
CAD File: N:\Projects\8020\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1301-1307 SITEWORKS AND STORMWATER PLAN.dwg
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT



NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		



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SCALE 1:500 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITEWORKS AND STORMWATER PLAN
SHEET 3 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

Drawing Number: 80219053-DA001-CI-1303
Revision: 4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-SURVEY; XR-80219053-CI-PORTS; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-BOUNDARY
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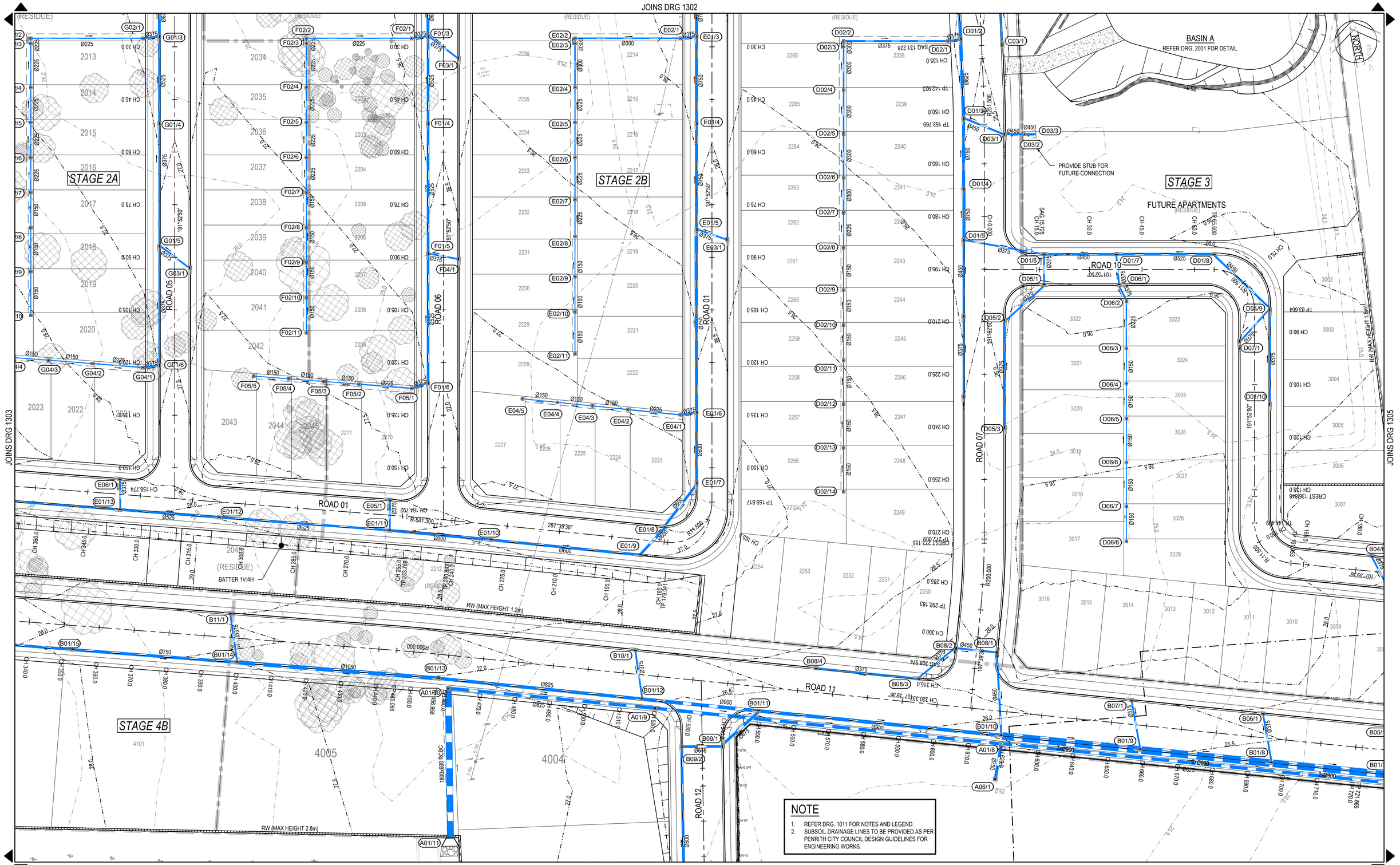
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT



NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
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1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

SCALE 1:500 @A1

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Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITEWORKS AND STORMWATER PLAN
SHEET 4 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

Drawing Number: 80219053-DA001-CI-1304
Revision: 4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-SURVEY; XR-80219053-CI-VPORTS; XR-80219053-CI-SITEWORKS; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1301-1307 SITEWORKS AND STORMWATER PLAN.dwg

NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

SCALE 1:500 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITEWORKS AND STORMWATER PLAN
SHEET 5 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

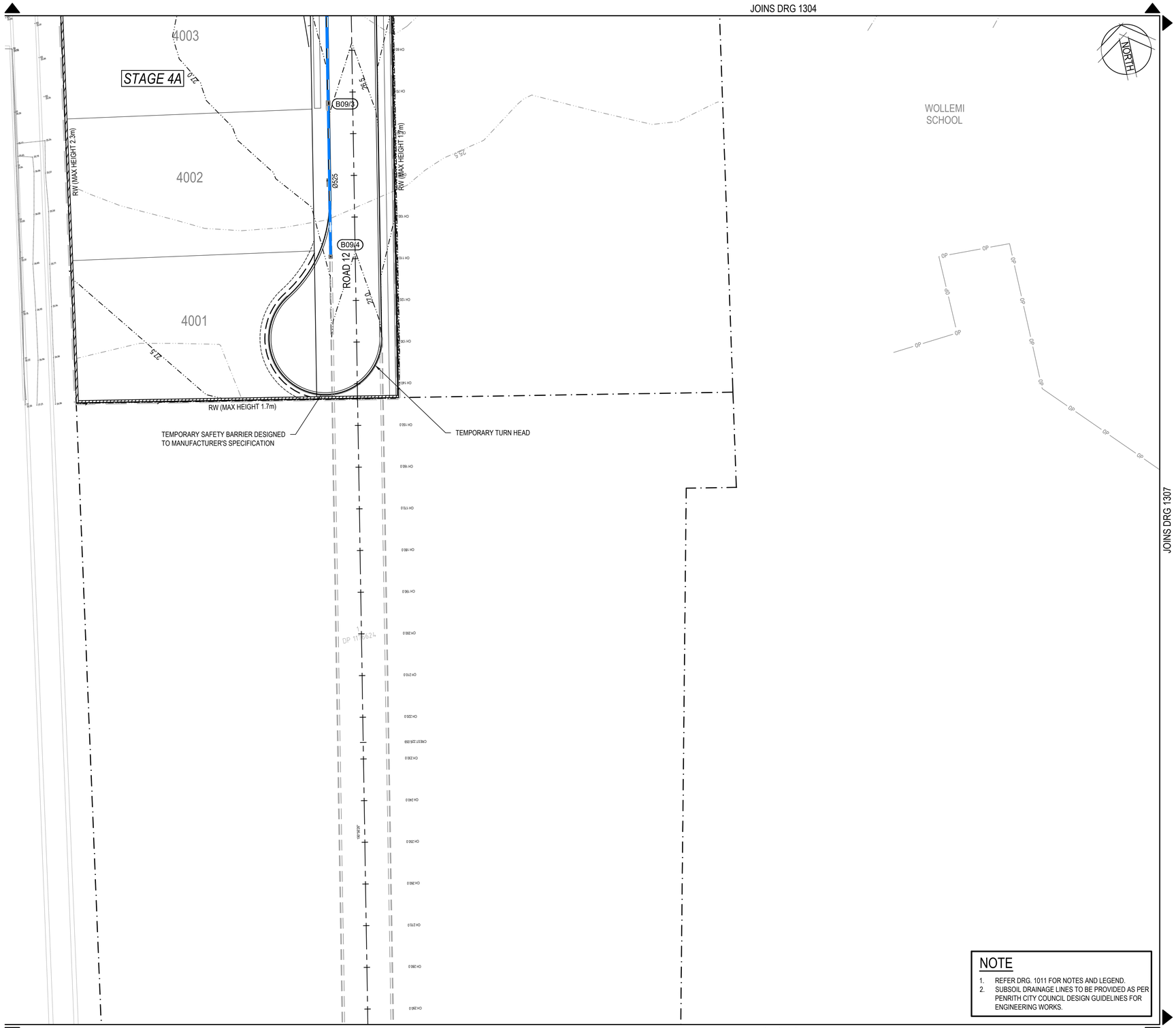
Drawing Number: 80219053-DA001-CI-1305
Revision: 4

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

JOINS DRG 1306

INSET
SCALE 1:500

JOINS DRG 1304



JOINS DRG 1307

JOINS INSET

NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.

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4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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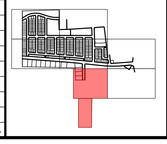
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		



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Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: SITEWORKS AND STORMWATER PLAN
SHEET 6 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

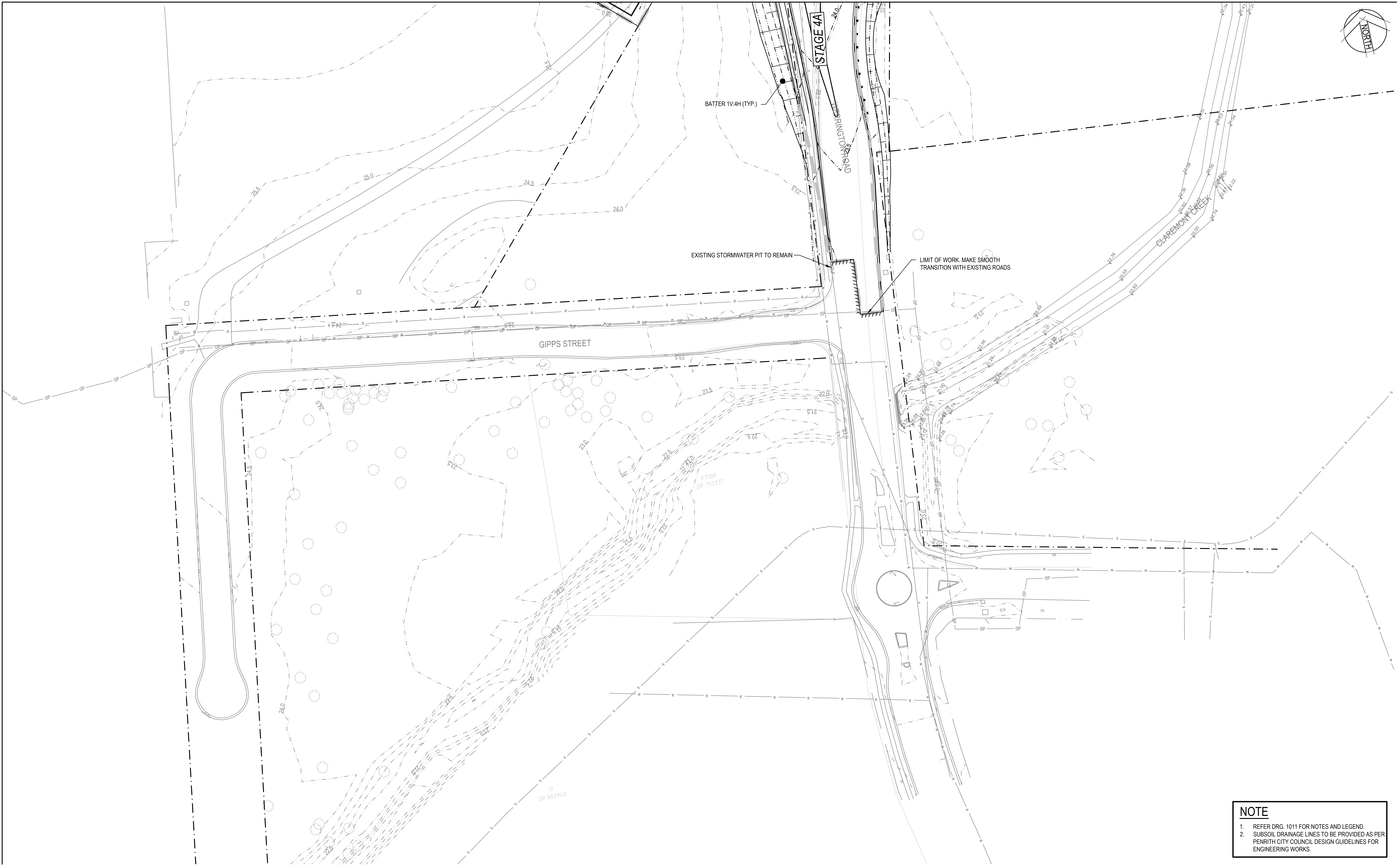
Drawing Number: 80219053-DA001-CI-1306
Revision: 4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-TREES; XR-80219053-CI-SITEWORKS AND STORMWATER PLAN.dwg
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1301-1307 SITEWORKS AND STORMWATER PLAN.dwg
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

JOINS DRG 1305

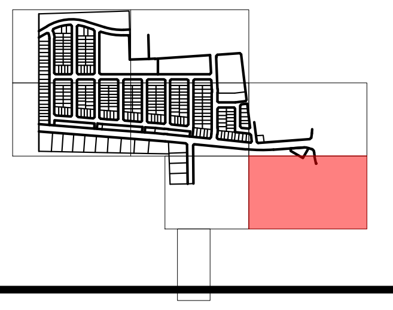
JOINS DRG 1306

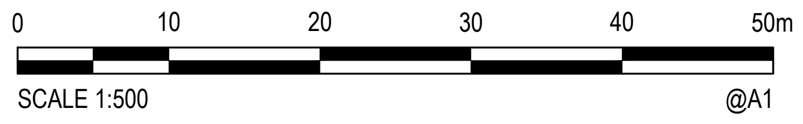


NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		





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Drawn	YNL	Date 1/10/2019
Checked	PL	Date 1/10/2019
Designed	HLD	Date 1/10/2019
Verified	PL	Date 1/10/2019
Approved	AJG	1/10/2019

Client LENDLEASE COMMUNITIES

Project CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title SITEWORKS AND STORMWATER PLAN
SHEET 7 OF 7

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:500	A1

Drawing Number	Revision
80219053-DA001-CI-1307	4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-SURVEY; XR-80219053-CI-TREES; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-STORMWATER; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-OSD-PLAN; XR-80219053-CI-EXST CONTOURS-500; XR-802190
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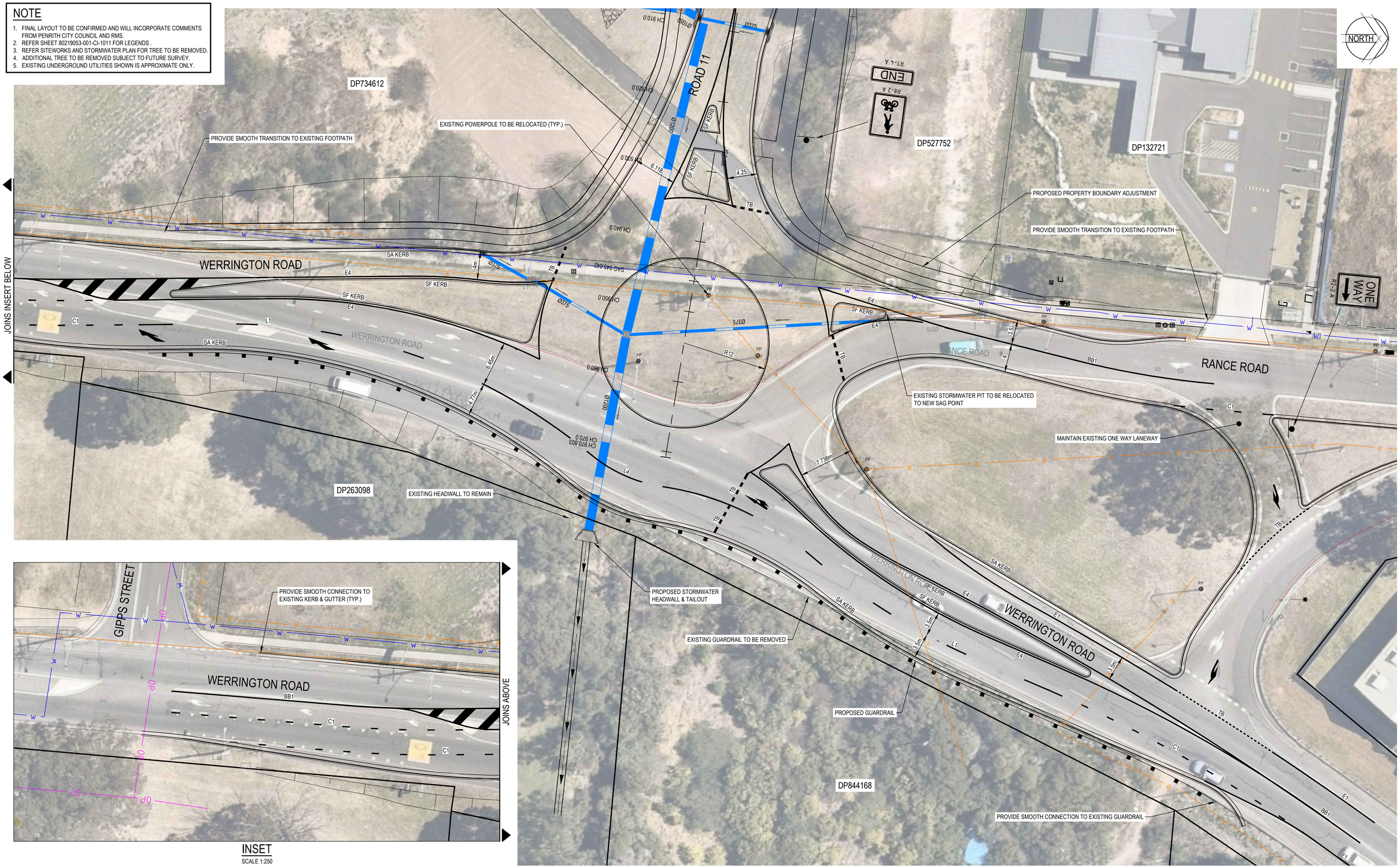
DATE PLOTTED: 4 March 2020 1:48 PM BY : HAYDEN DAVENPORT

NOTE

1. FINAL LAYOUT TO BE CONFIRMED AND WILL INCORPORATE COMMENTS FROM PENRITH CITY COUNCIL AND RMS.
2. REFER SHEET 80219053-001-CI-1011 FOR LEGENDS .
3. REFER SITEWORKS AND STORMWATER PLAN FOR TREE TO BE REMOVED.
4. ADDITIONAL TREE TO BE REMOVED SUBJECT TO FUTURE SURVEY.
5. EXISTING UNDERGROUND UTILITIES SHOWN IS APPROXIMATE ONLY.



Rev.	Date	Description	Des.	Verif.	Appd.
2	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
1	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG

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SCALE 1:250 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROUNDABOUT CONCEPT PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:250	A1

Drawing Number: 80219053-DA001-CI-1311
Revision: 2

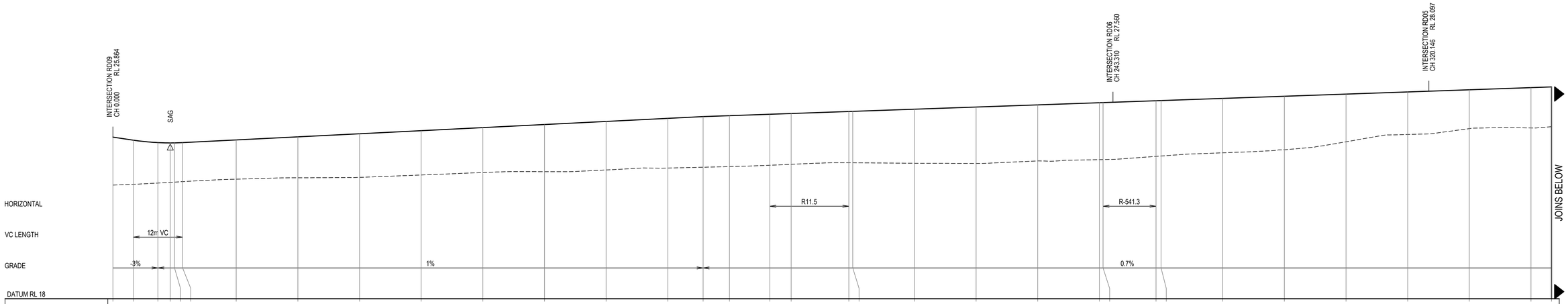
DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT

XREF's: XR-80219053-CI-AERIAL; XR-80219053-CI-ROUNDABOUT; XR-80219053-CI-SURVEY; XR-80219053-CI-STORMWATER; XR-80219053-CI-CONTROL; XR-80219053-CI-EXISTING SERVICES; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-ROAD; XR-80219053-CI-SITEWORKS

CAD File: N:\Projects\802\CPY19053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1311 ROUNDABOUT CONCEPT PLAN.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT

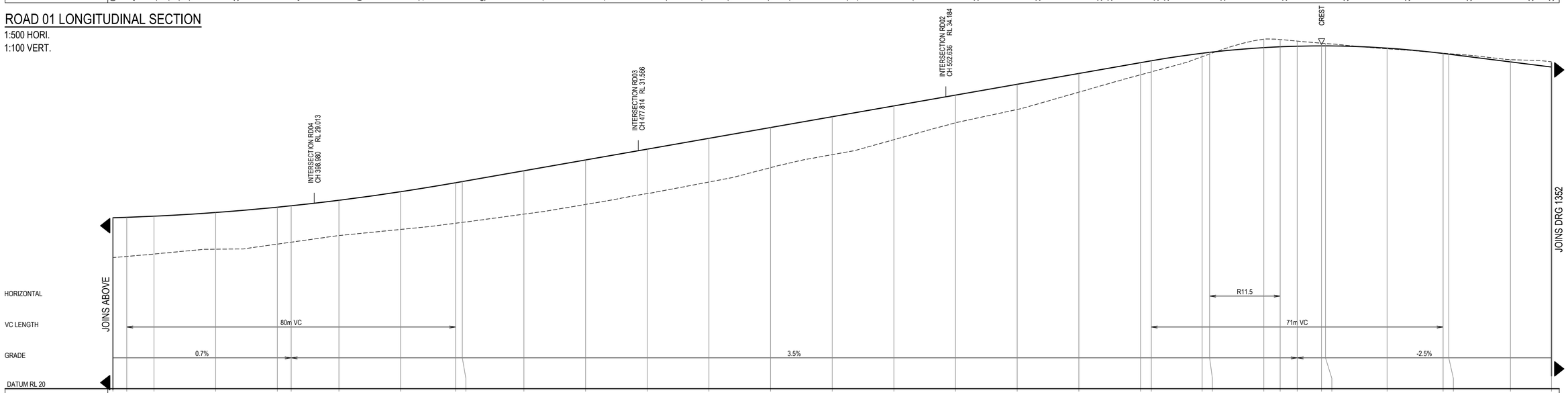


CHAINAGE	EXISTING SURFACE	DESIGN LEVEL
0.000	23.531	25.864
4.955	23.569	25.715
10.955	23.629	25.595
13.955	23.663	25.580
15.000	23.675	25.582
16.955	23.697	25.595
30.000	23.817	25.726
45.000	23.885	25.876
60.000	23.905	26.026
75.000	24.021	26.176
90.000	24.140	26.326
105.000	24.182	26.476
120.000	24.265	26.626
135.000	24.359	26.776
143.593	24.398	26.862
150.000	24.429	26.906
159.817	24.495	26.975
165.000	24.539	27.011
179.041	24.617	27.110
180.000	24.615	27.116
195.000	24.590	27.221
210.000	24.582	27.326
225.000	24.705	27.431
240.000	24.767	27.536
240.893	24.770	27.543
253.768	24.926	27.633
255.000	24.943	27.641
270.000	25.099	27.746
285.000	25.248	27.851
300.000	25.637	27.956
315.000	25.991	28.061
330.000	26.275	28.166
345.000	26.309	28.271
350.000	26.372	28.306

WAE LEVEL

ROAD 01 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



CHAINAGE	EXISTING SURFACE	DESIGN LEVEL
350.000	26.372	28.306
353.366	26.430	28.330
360.000	26.546	28.384
375.000	26.779	28.563
390.000	27.027	28.821
393.366	27.121	28.890
405.000	27.443	29.158
420.000	27.741	29.573
433.366	28.041	30.010
435.000	28.082	30.067
450.000	28.484	30.592
465.000	28.955	31.117
480.000	29.482	31.642
495.000	30.043	32.167
510.000	30.743	32.692
525.000	31.374	33.217
540.000	32.101	33.742
555.000	32.923	34.267
570.000	33.571	34.792
585.000	34.410	35.317
600.000	35.254	35.842
602.625	35.395	35.934
615.000	36.132	36.303
616.813	36.263	36.346
630.000	36.986	36.576
633.990	36.969	36.616
638.125	36.892	36.644
644.042	36.791	36.659
645.000	36.776	36.659
660.000	36.518	36.551
673.625	36.306	36.289
675.000	36.284	36.255
690.000	35.990	35.880
700.000	35.887	35.630

WAE LEVEL

ROAD 01 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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Drawn	YNL	1/10/2019
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Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 1 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1351
Revision: 4

XREF's:
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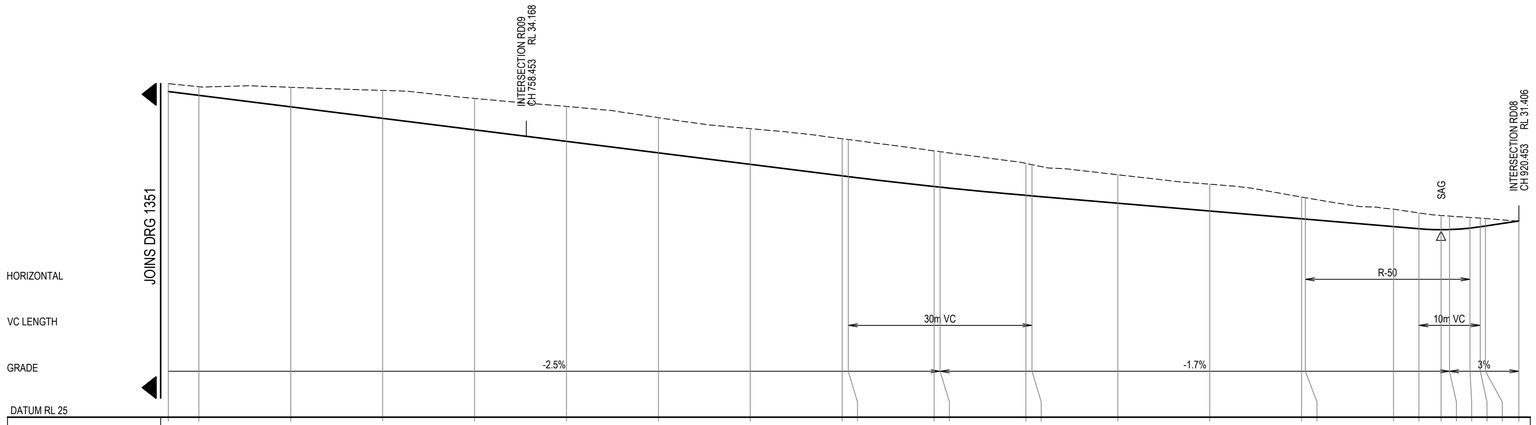
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



CHAINAGE	EXISTING SURFACE	DESIGN LEVEL	WAE LEVEL
700.000	35.887	35.630	
705.000	35.787	35.505	
720.000	35.768	35.130	
735.000	35.667	34.755	
750.000	35.405	34.380	
765.000	35.144	34.005	
780.000	34.778	33.630	
795.000	34.419	33.255	
810.000	34.091	32.880	
810.990	34.065	32.855	
825.000	33.692	32.531	
825.990	33.666	32.510	
840.000	33.285	32.242	
840.990	33.244	32.225	
855.000	32.914	31.987	
870.000	32.606	31.732	
885.000	32.186	31.477	
885.610	32.164	31.466	
900.000	31.791	31.222	
904.145	31.666	31.151	
907.762	31.583	31.121	
909.145	31.563	31.125	
912.480	31.521	31.173	
914.145	31.499	31.216	
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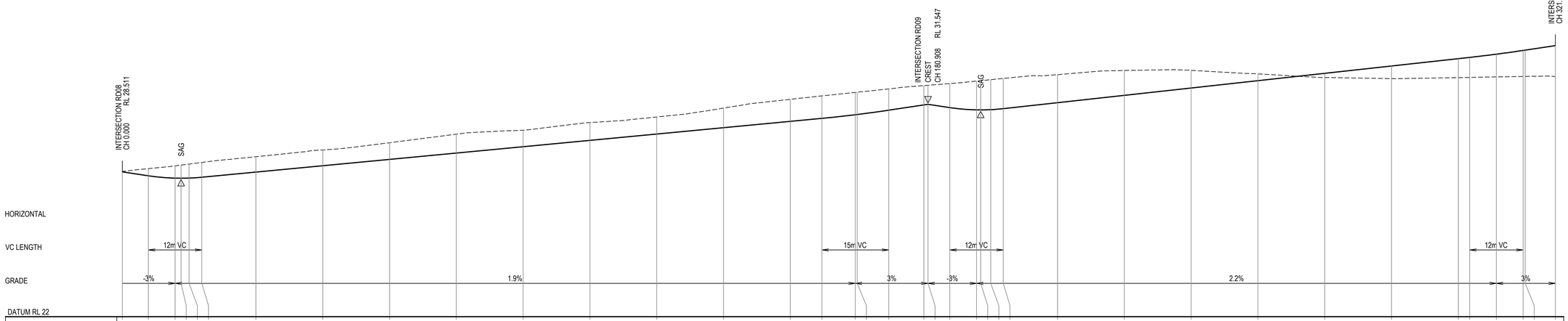
ROAD 01 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



CHAINAGE	EXISTING SURFACE	DESIGN LEVEL	WAE LEVEL
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11.853	28.782	28.229	
13.199	28.816	28.225	
15.000	28.863	28.232	
17.853	28.936	28.269	
30.000	29.191	28.500	
45.000	29.495	28.785	
60.000	29.818	29.070	
75.000	30.205	29.355	
90.000	30.381	29.640	
105.000	30.727	29.925	
120.000	30.977	30.210	
135.000	31.376	30.495	
150.000	31.771	30.780	
157.092	31.926	30.915	
164.592	32.081	31.078	
165.000	32.090	31.088	
172.092	32.238	31.282	
180.000	32.387	31.519	
180.908	32.401	31.547	
185.817	32.477	31.399	
191.817	32.590	31.297	
192.740	32.608	31.296	
195.000	32.653	31.307	
197.817	32.708	31.351	
210.000	32.880	31.619	
225.000	33.067	31.949	
240.000	33.071	32.279	
255.000	32.914	32.609	
270.000	32.748	32.939	
285.000	32.702	33.269	
300.000	32.745	33.599	
302.535	32.753	33.655	
308.535	32.777	33.799	
314.535	32.797	33.967	
315.000	32.799	33.981	
321.779	32.794	34.184	

ROAD 02 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 2 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1352
Revision: 4

XREF's:
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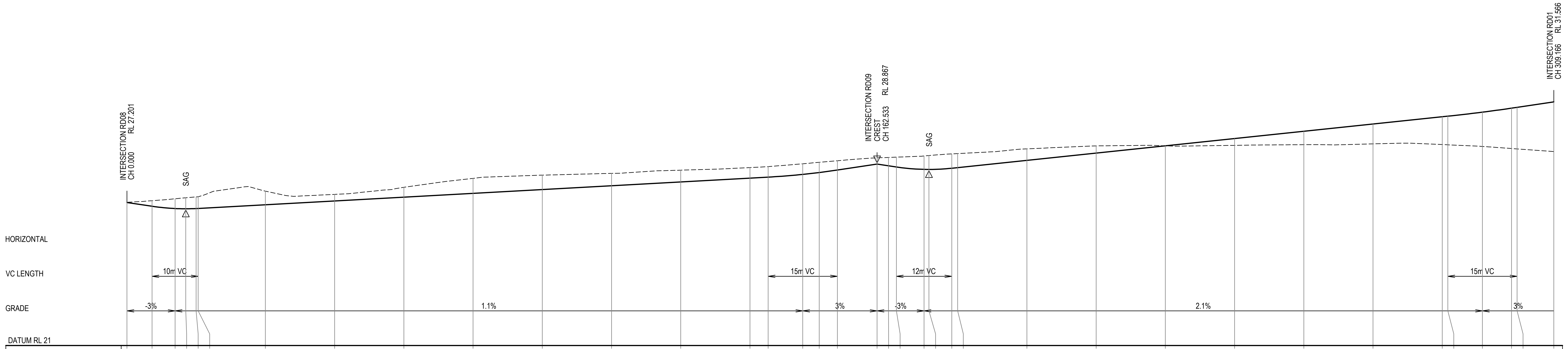
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT

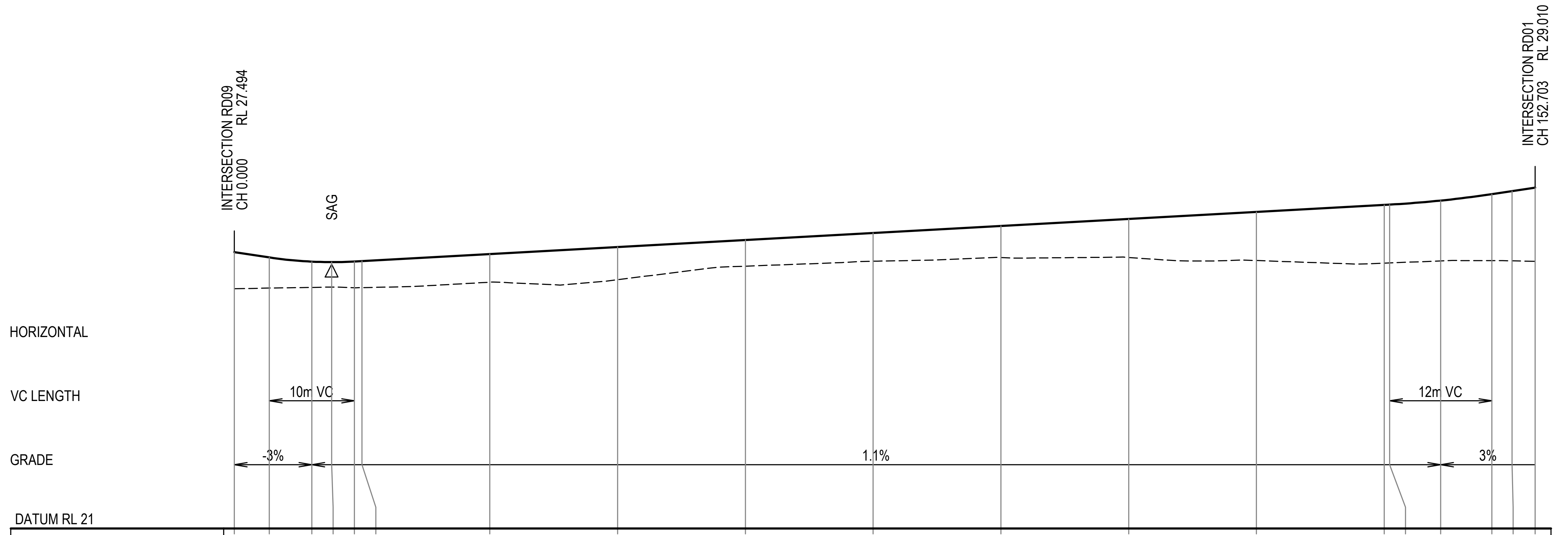


WAE LEVEL																		
DESIGN LEVEL	27.201	27.038	26.939	26.928	26.938	26.943	27.103	27.268	27.433	27.598	27.763	27.928	28.093	28.258	28.301	28.419	28.500	28.609
EXISTING SURFACE	27.209	27.278	27.363	27.407	27.444	27.451	27.695	27.553	27.860	28.248	28.386	28.463	28.603	28.716	28.755	28.880	28.943	29.012
CHAINAGE	0.000	5.434	10.434	12.751	15.000	15.434	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	138.937	146.437	150.000	153.937

WAE LEVEL																			
DESIGN LEVEL	28.867	28.793	28.741	28.638	28.635	28.687	28.714	29.029	29.344	29.659	29.974	30.289	30.604	30.919	30.944	31.119	31.291	31.327	31.566
EXISTING SURFACE	29.136	29.155	29.167	29.218	29.236	29.309	29.322	29.527	29.656	29.658	29.677	29.708	29.743	29.713	29.702	29.632	29.542	29.525	29.409
CHAINAGE	162.533	165.000	166.716	172.716	173.775	178.716	180.000	195.000	210.000	225.000	240.000	255.000	270.000	285.000	286.204	293.704	300.000	301.204	309.166

ROAD 03 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL																			
DESIGN LEVEL	27.494	27.370	27.271	27.260	27.275	27.285	27.450	27.615	27.780	27.945	28.110	28.275	28.440	28.605	28.612	28.706	28.858	28.929	29.010
EXISTING SURFACE	26.634	26.650	26.666	26.673	26.657	26.659	26.788	26.847	27.165	27.280	27.367	27.369	27.298	27.236	27.241	27.287	27.295	27.289	27.277
CHAINAGE	0.000	4.110	9.110	11.427	14.110	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	135.627	141.627	147.627	150.000	152.703

ROAD 04 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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Tel: 02 9496 7700 Fax: 02 9439 5170
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Drawn	YNL	Date 1/10/2019
Checked	PL	Date 1/10/2019
Designed	HLD	Date 1/10/2019
Verified	PL	Date 1/10/2019
Approved	AJG	1/10/2019

Client LENDLEASE COMMUNITIES

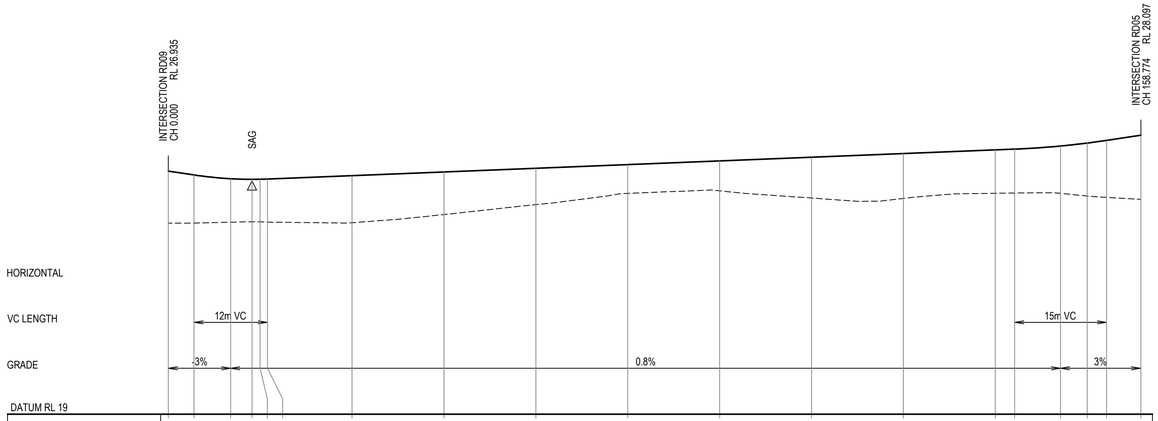
Project CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title ROAD LONGITUDINAL SECTIONS
SHEET 3 OF 11

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

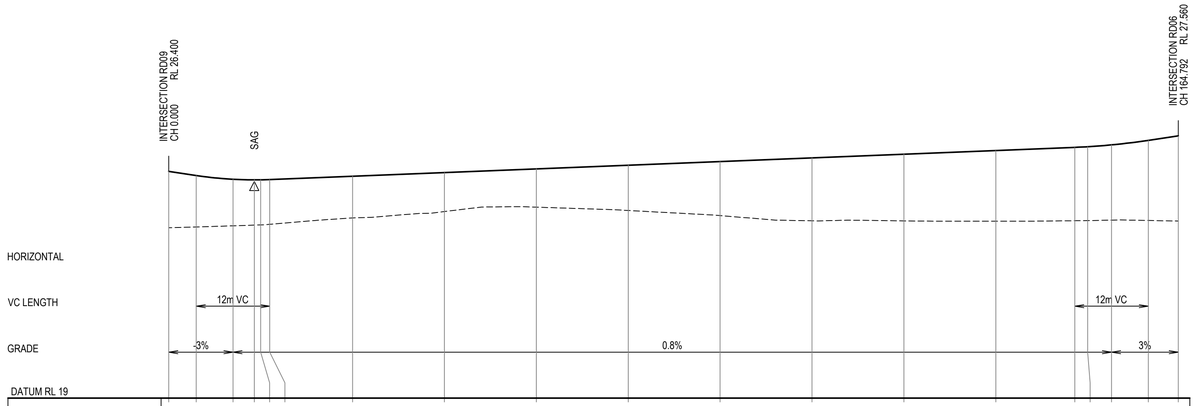
Drawing Number	Revision
80219053-DA001-CI-1353	4



WAE LEVEL																	
DESIGN LEVEL	26.935	26.809	26.686	26.667	26.670	26.677	26.788	26.908	27.028	27.148	27.268	27.388	27.508	27.628	27.653	27.754	27.851	27.938	28.097
EXISTING SURFACE	25.236	25.239	25.268	25.281	25.281	25.271	25.251	25.517	25.841	26.205	26.291	26.056	26.044	26.211	26.219	26.209	26.122	26.078	26.017
CHAINAGE	0.000	4.196	10.196	13.669	15.000	16.196	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	138.149	145.649	150.000	153.149	158.774

ROAD 05 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL																	
DESIGN LEVEL	26.400	26.265	26.142	26.123	26.125	26.133	26.242	26.362	26.482	26.602	26.722	26.842	26.962	27.082	27.185	27.206	27.266	27.413	27.560
EXISTING SURFACE	24.565	24.586	24.624	24.646	24.653	24.672	24.880	25.089	25.232	25.124	24.957	24.787	24.785	24.774	24.790	24.795	24.810	24.798	24.780
CHAINAGE	0.000	4.486	10.486	13.959	15.000	16.486	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	147.890	150.000	153.890	159.890	164.792

ROAD 06 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 4 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

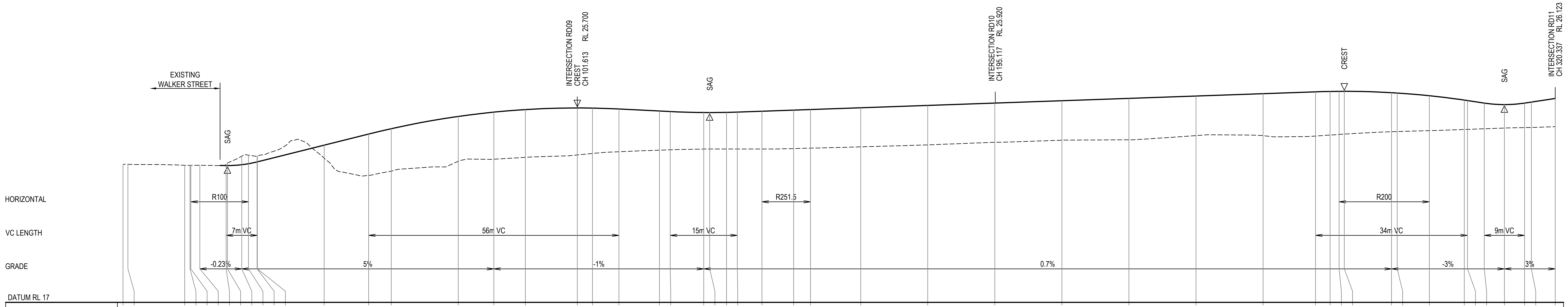
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1354
Revision: 4

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT

XREF's:
CAD File: N:\Projects\80\2FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

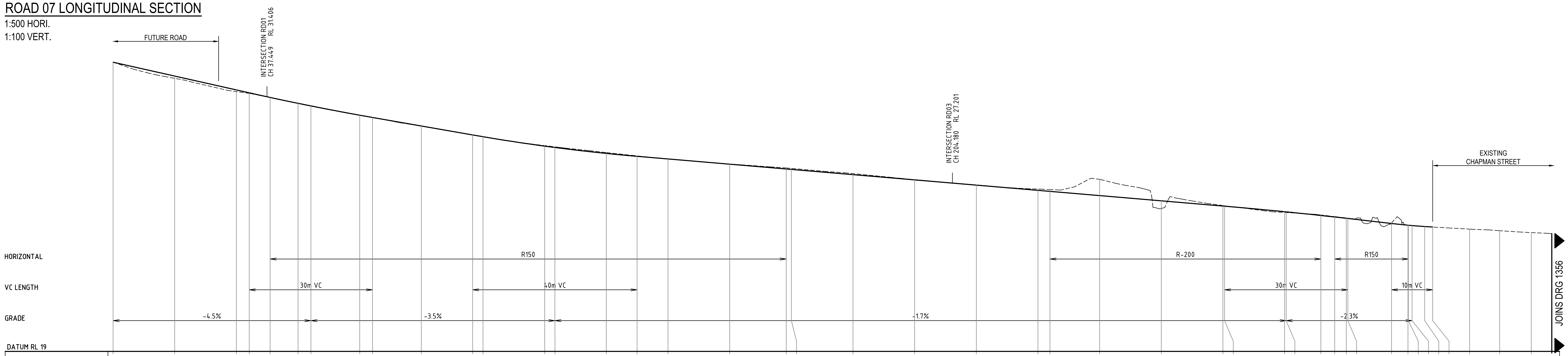
DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



WAE LEVEL	DESIGN LEVEL	EXISTING SURFACE	CHAINAGE
		23.178	0.000
		23.176	1.112
		23.135	13.815
		23.133	15.000
		23.133	15.182
		23.135	17.181
	23.122	23.181	23.065
	23.122	23.235	23.370
	23.160	23.541	26.565
	23.204	23.588	28.063
	23.286	23.533	30.000
	23.289	23.537	30.065
	24.036	23.453	45.000
	24.533	22.682	54.942
	24.772	22.875	60.000
	25.320	23.313	75.000
	25.513	23.405	82.942
	25.627	23.490	90.000
	25.700	23.597	101.609
	25.693	23.662	105.000
	25.653	23.742	110.942
	25.562	23.810	120.000
	25.538	23.826	122.404
	25.495	23.860	129.904
	25.494	23.862	131.228
	25.502	23.863	135.000
	25.516	23.864	137.404
	25.554	23.864	142.922
	25.604	23.882	150.000
	25.630	23.901	153.769
	25.709	23.959	165.000
	25.814	24.048	180.000
	25.919	24.161	195.000
	26.024	24.257	210.000
	26.129	24.275	225.000
	26.234	24.463	240.000
	26.339	24.461	255.000
	26.421	24.443	266.722
	26.438	24.487	270.000
	26.443	24.513	272.009
	26.444	24.529	273.155
	26.383	24.635	283.722
	26.367	24.643	285.000
	26.247	24.684	292.183
	26.051	24.736	300.000
	26.030	24.741	300.722
	25.917	24.768	304.474
	25.850	24.801	308.974
	25.917	24.821	313.474
	25.963	24.827	315.000
	26.123	24.864	320.337

ROAD 07 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL	DESIGN LEVEL	EXISTING SURFACE	CHAINAGE	
	33.088	33.088	0.000	TP
	32.413	32.303	15.000	
	31.738	31.656	30.000	
	31.597	31.570	33.127	
	31.372	31.367	38.216	TP
	31.086	31.095	45.000	
	30.959	30.972	48.127	
	30.508	30.506	60.000	
	30.397	30.399	63.127	
	29.981	29.972	75.000	
	29.545	29.549	87.482	
	29.458	29.465	90.000	
	29.000	29.025	105.000	
	28.935	28.963	107.482	
	28.644	28.685	120.000	
	28.505	28.525	127.482	
	28.377	28.374	135.000	
	28.122	28.132	150.000	
	27.888	27.940	163.754	TP
	27.867	27.918	165.000	
	27.612	27.663	180.000	
	27.357	27.371	195.000	
	27.102	27.111	210.000	
	26.847	26.909	225.000	
	26.797	26.884	227.906	TP
	26.592	27.381	240.000	
	26.337	25.954	255.000	
	26.082	26.107	270.000	
	26.075	26.097	270.387	
	25.805	25.769	285.000	
	25.798	25.764	285.387	
	25.622	25.647	293.826	TP
	25.548	25.569	297.182	TP
	25.484	25.504	300.000	
	25.475	25.495	300.387	
	25.231	25.258	311.009	
	25.149	25.154	315.000	TP
	25.147	25.152	315.098	
	25.131	25.133	316.009	TP
	25.084	25.077	319.074	
	25.061	25.057	321.009	
		24.958	330.000	
		24.881	337.324	TP
		24.789	345.000	
		24.735	350.000	

ROAD 08 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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Drawn YNL Date 1/10/2019
Checked PL Date 1/10/2019
Designed HLD Date 1/10/2019
Verified PL Date 1/10/2019
Approved AJG 1/10/2019

Client LENDLEASE COMMUNITIES

Project CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

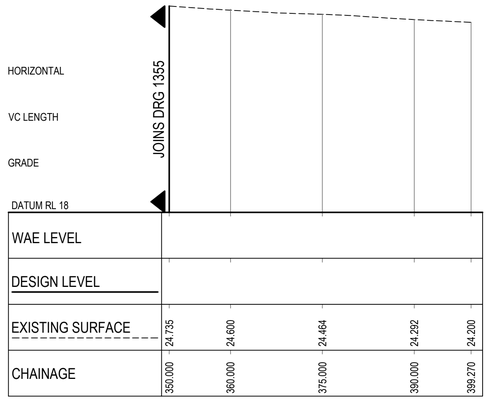
Title ROAD LONGITUDINAL SECTIONS
SHEET 5 OF 11

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum A.H.D
Date Oct' 2019
Scale AS SHOWN
Size A1
Drawing Number 80219053-DA001-CI-1355
Revision 4

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



ROAD 08 LONGITUDINAL SECTION

1:500 HORI.
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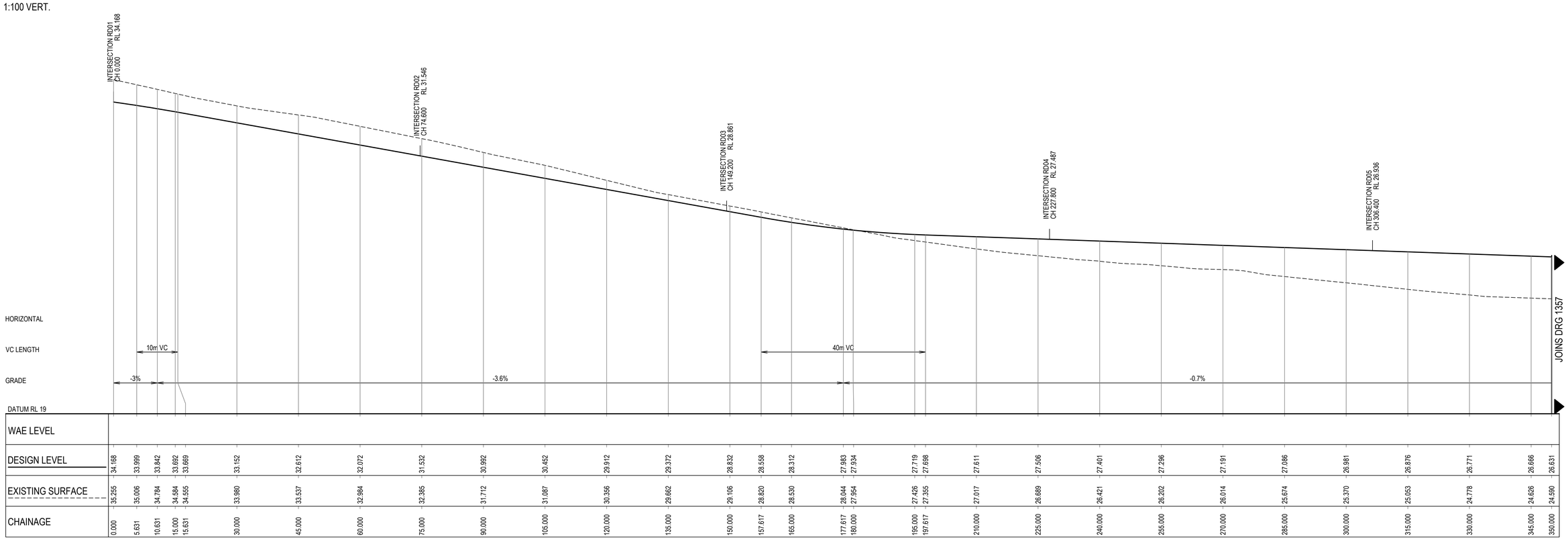

ROAD 09 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 6 OF 11

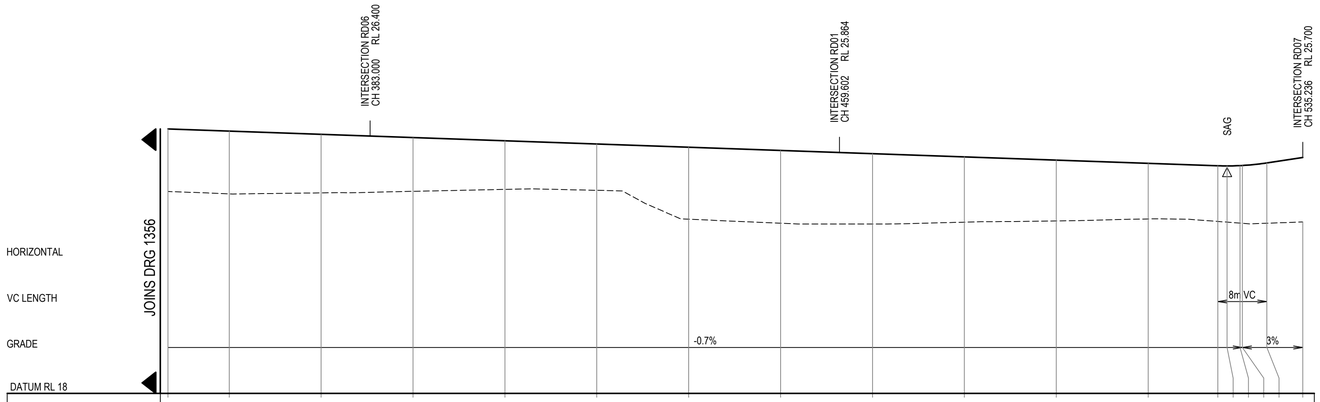
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1356
Revision: 4

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

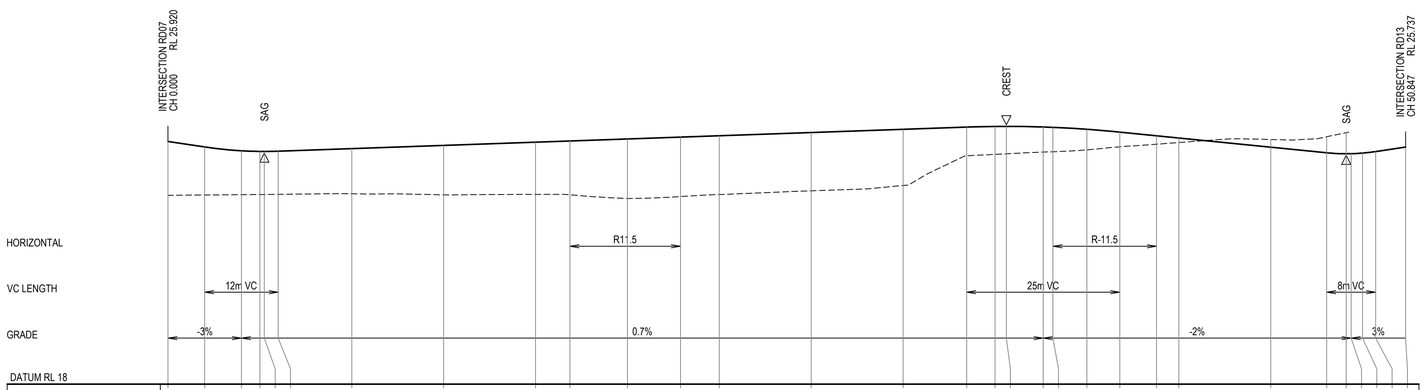
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



WAE LEVEL																							
DESIGN LEVEL	26.631	26.561	26.456	26.351	26.246	26.141	26.036	25.931	25.826	25.721	25.616	25.511	25.432	25.426	25.437	25.441	25.524						
EXISTING SURFACE	24.590	24.514	24.547	24.596	24.660	24.630	23.687	23.555	23.531	23.591	23.630	23.696	23.614	23.591	23.559	23.554	23.555	23.597					
CHAINAGE	350.000	360.000	375.000	390.000	405.000	420.000	435.000	450.000	465.000	480.000	495.000	510.000	521.367	522.881	525.000	525.367	529.367	535.243					

ROAD 09 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL																							
DESIGN LEVEL	25.920	25.740	25.615	25.595	25.594	25.602	25.686	25.791	25.896	25.935	26.001	26.062	26.106	26.211	26.316	26.388	26.409	26.411	26.392	26.360	26.318	26.226	26.106
EXISTING SURFACE	24.161	24.173	24.183	24.188	24.189	24.194	24.212	24.178	24.192	24.178	24.059	24.121	24.187	24.309	24.483	25.452	25.498	25.517	25.575	25.583	25.645	25.746	25.830
CHAINAGE	0.000	5.996	11.996	15.000	15.725	17.996	30.000	45.000	60.000	65.600	75.000	83.664	90.000	105.000	120.000	130.364	135.000	136.846	142.864	144.449	150.000	155.364	161.353

WAE LEVEL																							
DESIGN LEVEL	26.033	25.733	25.551	25.519	25.521	25.541	25.591	25.737															
EXISTING SURFACE	25.884	25.984	26.073	26.208																			
CHAINAGE	165.000	180.000	189.124	192.324	193.124	195.000	197.124	202.012															

ROAD 10 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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Drawn	YNL	1/10/2019
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Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 7 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

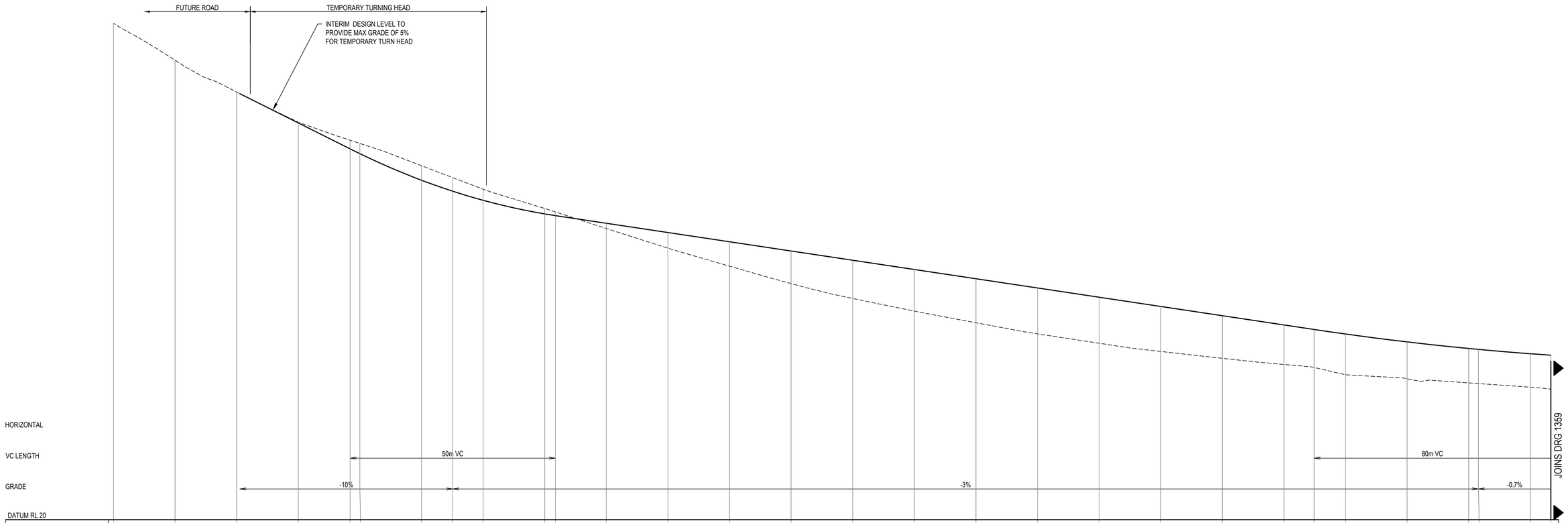
Drawing Number: 80219053-DA001-CI-1357
Revision: 4

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



WAE LEVEL																																		
DESIGN LEVEL				39.317	38.056	37.821	36.529	35.994	35.552	34.889	34.806	34.434	33.984	33.534	33.084	32.634	32.184	31.734	31.284	30.834	30.384	29.934	29.484	29.264	29.043	28.658	28.338	28.294	28.083	28.012
EXISTING SURFACE	44.167	42.367	40.820	39.355	38.476	38.319	37.238	36.654	36.094	35.155	34.987	34.180	33.224	32.346	31.499	30.774	30.159	29.592	29.051	28.594	28.195	27.861	27.561	27.415	27.068	26.863	26.664	26.631	26.453	26.363
CHAINAGE	TP 0.000	15.000	30.000	45.000	57.610	60.000	75.000	82.610	90.000	105.000	107.610	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	255.000	270.000	285.000	292.337	300.000	315.000	330.000	332.337	345.000	350.000

ROAD 11 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 8 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

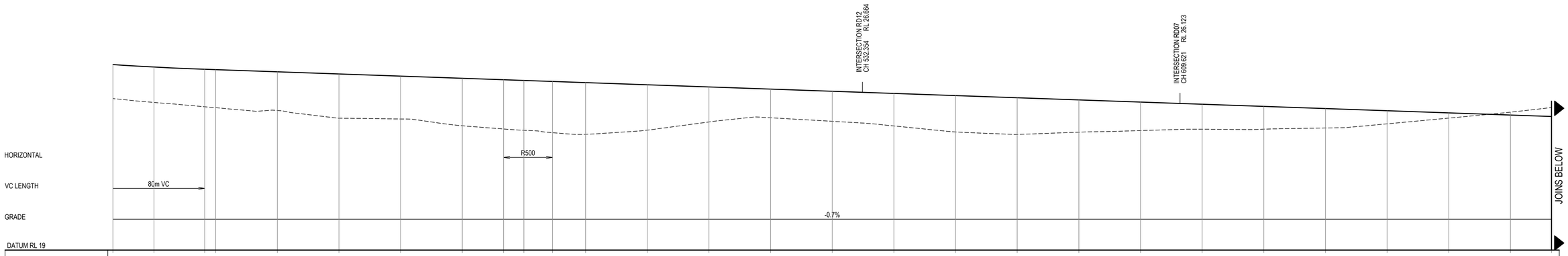
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1358
Revision: 4

XREF's:
CAD File: N:\Projects\8202\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

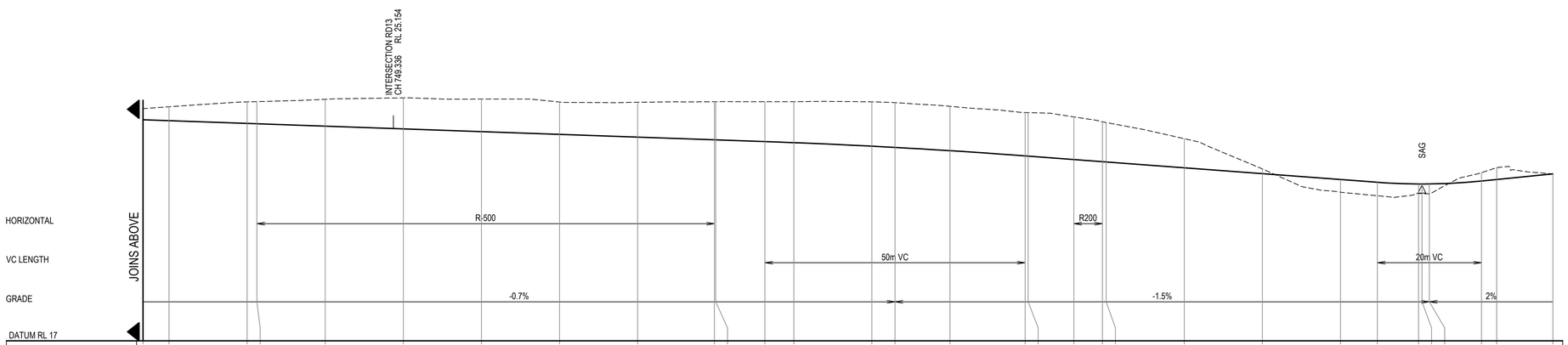
DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



WAE LEVEL																																		
DESIGN LEVEL	28.012	27.893	27.784	27.766	27.661	27.556	27.451	27.346	27.275	27.241	27.192	27.136	27.031	26.926	26.821	26.716	26.611	26.506	26.401	26.296	26.191	26.086	25.981	25.876	25.771	25.666	25.561	25.491
EXISTING SURFACE	26.363	26.172	25.964	25.917	25.781	25.407	25.369	25.041	24.884	24.820	24.703	24.626	24.827	25.224	25.429	25.257	25.032	24.740	24.620	24.728	24.806	24.874	24.874	24.931	25.133	25.412	25.700	25.920
CHAINAGE	350.000	360.000	372.337	375.000	390.000	405.000	420.000	435.000	445.666	450.000	456.958	465.000	480.000	495.000	510.000	525.000	540.000	555.000	570.000	585.000	600.000	615.000	630.000	645.000	660.000	675.000	690.000	700.000
			TP						TP		TP																	

ROAD 11 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL																																		
DESIGN LEVEL	25.491	25.456	25.351	25.338	25.246	25.141	25.036	24.931	24.826	24.722	24.721	24.655	24.613	24.477	24.430	24.305	24.105	24.096	23.964	23.882	23.871	23.646	23.421	23.196	23.090	23.026	23.026	23.028	23.140	23.199	23.415
EXISTING SURFACE	25.920	25.991	26.179	26.189	26.278	26.334	26.286	26.173	26.164	26.185	26.186	26.187	26.185	26.180	26.149	26.038	25.772	25.769	25.602	25.417	25.384	24.765	23.603	22.712	22.973	22.658	22.655	22.649	23.459	23.652	23.415
CHAINAGE	700.000	705.000	720.000	721.869	735.000	750.000	765.000	780.000	795.000	809.756	810.000	819.437	825.000	840.000	844.437	855.000	869.437	870.000	878.783	884.268	885.000	900.000	915.000	930.000	937.070	945.000	945.642	947.070	957.070	960.000	970.803
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ROAD 11 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
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Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 9 OF 11

Status: FOR APPROVAL
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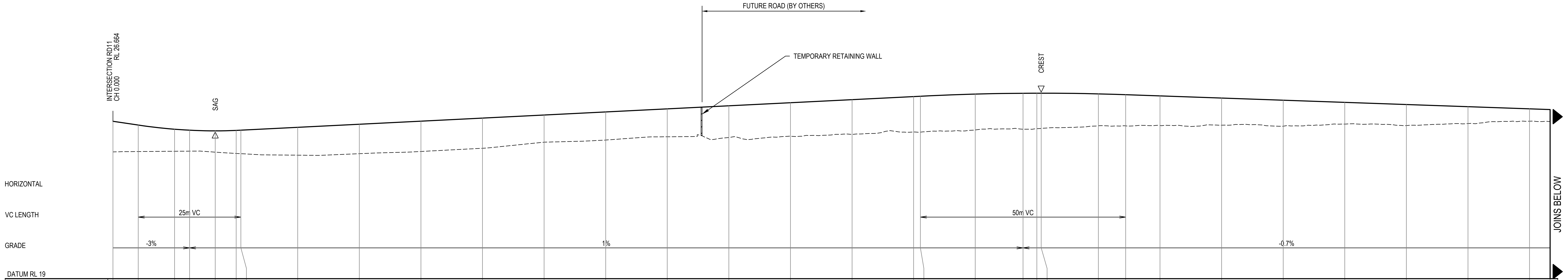
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1359
Revision: 4

XREF's:
CAD File: N:\Projects\80\2\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



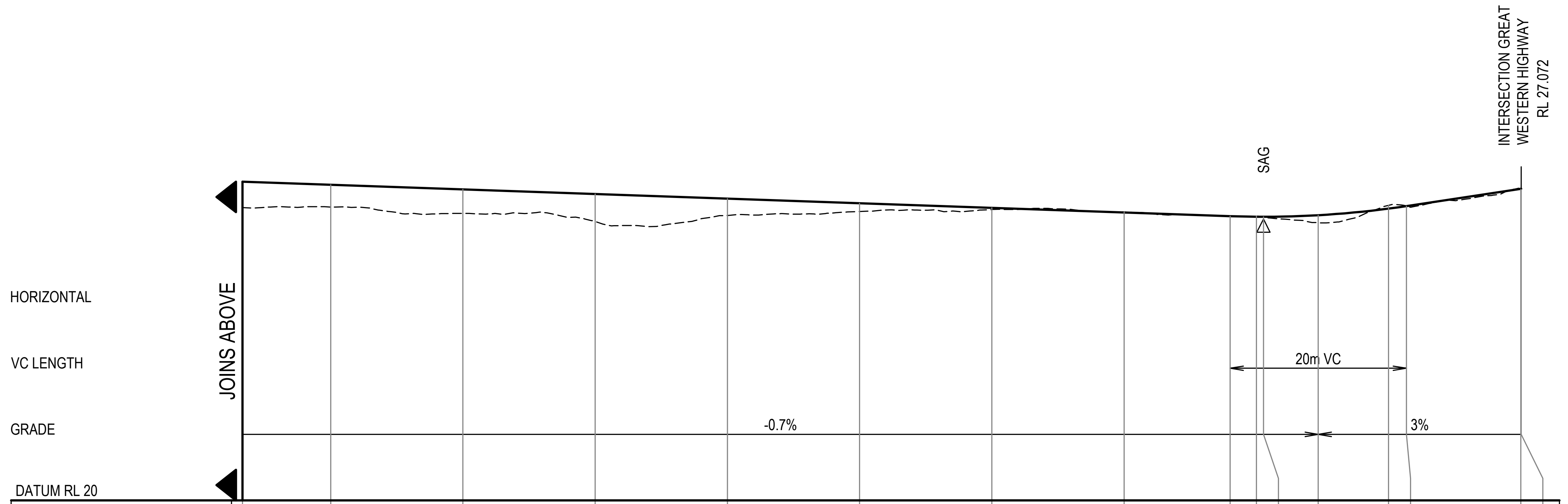
WAE LEVEL											
DESIGN LEVEL	26.664	26.480	26.277	26.230	26.198	26.219	26.230	26.368	26.518	26.668	26.818
EXISTING SURFACE	25.172	25.191	25.204	25.210	25.160	25.100	25.087	25.013	25.085	25.194	25.350
CHAINAGE	TP 0.000	6.156	15.000	18.656	24.906	30.000	31.156	45.000	60.000	75.000	90.000

WAE LEVEL											
DESIGN LEVEL	26.968	27.118	27.268	27.418	27.568	27.718	27.868	27.884	27.988	28.028	28.031
EXISTING SURFACE	25.647	25.750	25.910	25.874	25.937	26.025	26.141	26.136	26.243	26.275	26.302
CHAINAGE	105.000	120.000	135.000	150.000	165.000	180.000	195.000	196.647	210.000	221.647	225.000

WAE LEVEL											
DESIGN LEVEL	28.031	27.998	27.959	27.901	27.796	27.691	27.586	27.481	27.376	27.271	27.236
EXISTING SURFACE	26.315	26.444	26.440	26.458	26.472	26.426	26.529	26.455	26.553	26.669	26.650
CHAINAGE	226.059	240.000	246.647	255.000	270.000	285.000	300.000	315.000	330.000	345.000	350.000

ROAD 12 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



WAE LEVEL									
DESIGN LEVEL	27.236	27.166	27.061	26.956	26.851	26.746	26.641	26.536	26.452
EXISTING SURFACE	26.650	26.660	26.515	26.330	26.468	26.560	26.603	26.548	26.452
CHAINAGE	350.000	360.000	375.000	390.000	405.000	420.000	435.000	450.000	462.026

WAE LEVEL								
DESIGN LEVEL	26.439	26.439	26.474	26.625	26.682	27.071	27.072
EXISTING SURFACE	26.450	26.431	26.303	26.698	26.681	27.074	27.072
CHAINAGE	465.000	465.810	472.026	480.000	482.026	495.000	495.043

ROAD 12 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100
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Drawn	YNL	Date 1/10/2019
Checked	PL	Date 1/10/2019
Designed	HLD	Date 1/10/2019
Verified	PL	Date 1/10/2019
Approved	AJG	1/10/2019

Client LENDLEASE COMMUNITIES

Project CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

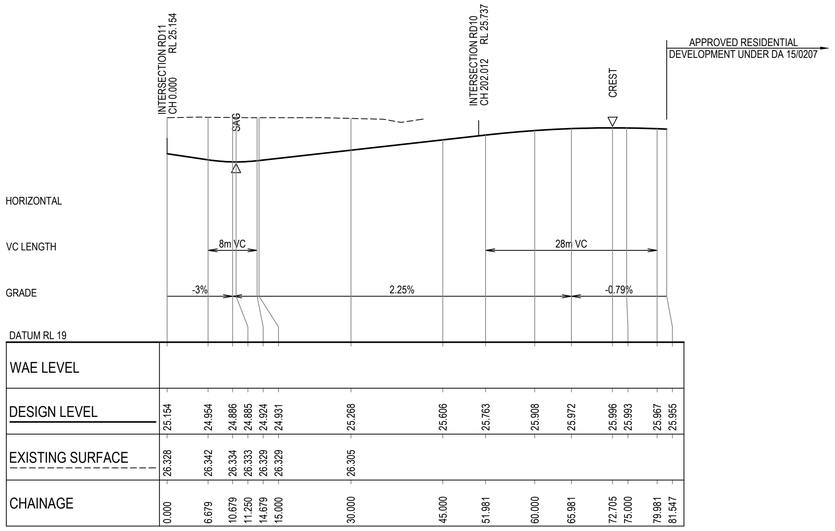
Title ROAD LONGITUDINAL SECTIONS
SHEET 10 OF 11

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

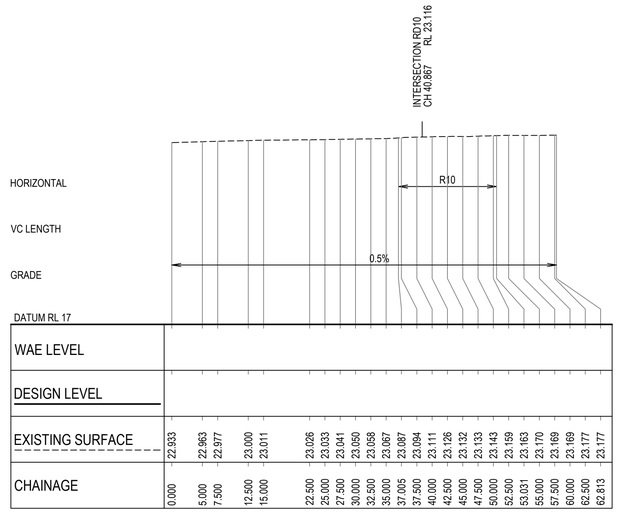
Drawing Number 80219053-DA001-CI-1360
Revision 4

DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



ROAD 13 LONGITUDINAL SECTION

1:500 HORI.
1:100 VERT.



EXISTING WALKER STREET (FOR INFORMATION ONLY)

1:500 HORI.
1:100 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
1	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG

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

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		Date
Drawn	HLD	3/03/2020
Checked	PL	3/03/2020
Designed	HLD	3/03/2020
Verified	PL	3/03/2020
Approved	AJG	3/03/2020

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD LONGITUDINAL SECTIONS
SHEET 11 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

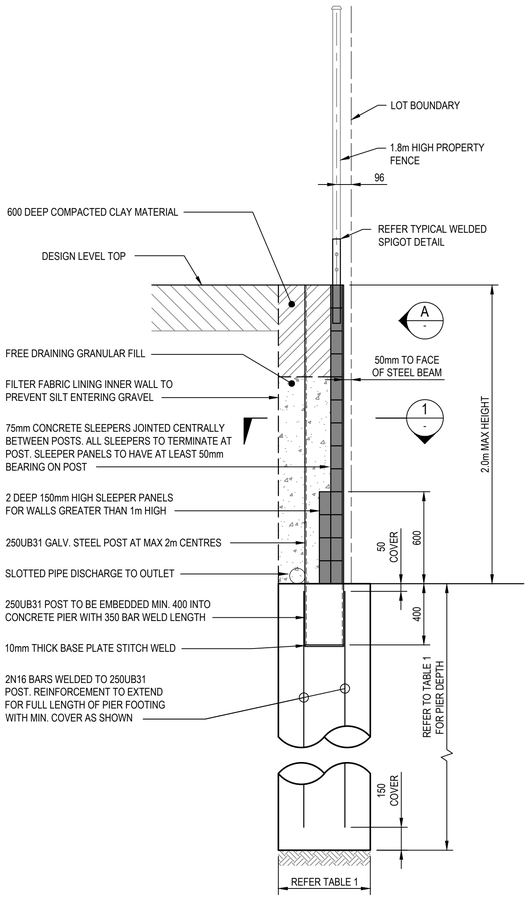
Datum	Date	Scale	Size
A.H.D	Mar'20	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1361
Revision: 1

XREF's:
CAD File: N:\Projects\8022\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1351-1361 ROAD LONGITUDINAL SECTIONS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

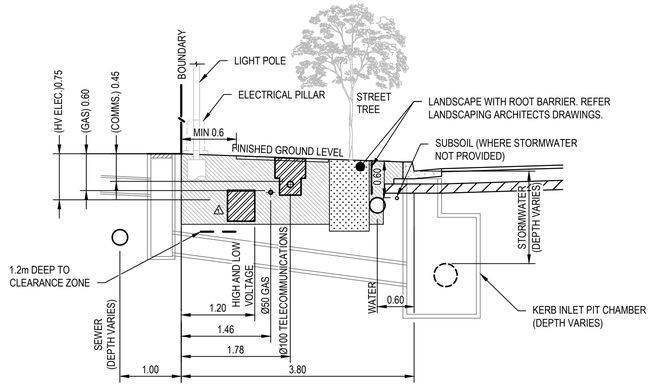
DATE PLOTTED: 4 March 2020 11:03 AM BY : HAYDEN DAVENPORT



TYPICAL CONCRETE SLEEPER RETAINING WALL SECTION - MAX 2.0m HIGH

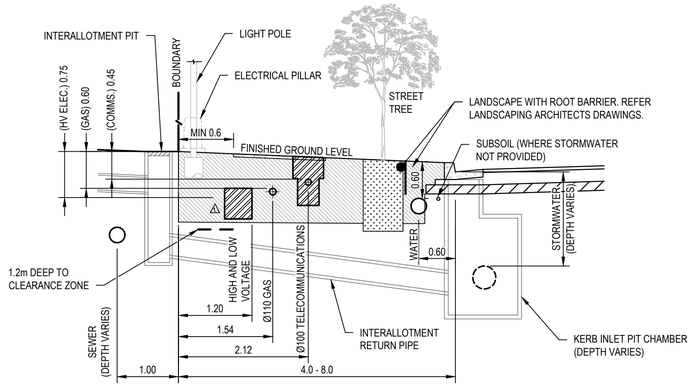
ALL OTHER WALLS EXCEPT ON COBHAM JUVENILE JUSTICE CENTRE BOUNDARY

SCALE 1:20



TYPICAL LOCAL ROAD SERVICES TRENCH EXCAVATION

1:50m

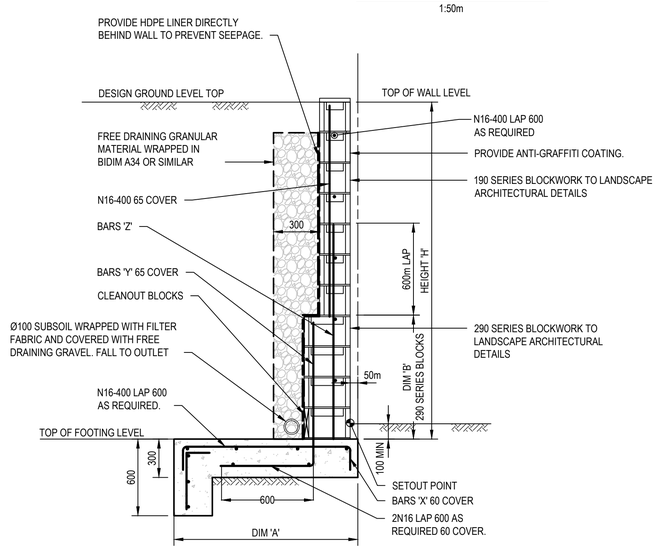


TYPICAL COLLECTOR ROAD SERVICES TRENCH EXCAVATION

1:50m

NOTE

1. FINAL SERVICES ALLOCATION TO BE COORDINATED WITH SERVICES AUTHORITIES.



BLOCKWORK RETAINING WALL 2.0m TO 3.5m

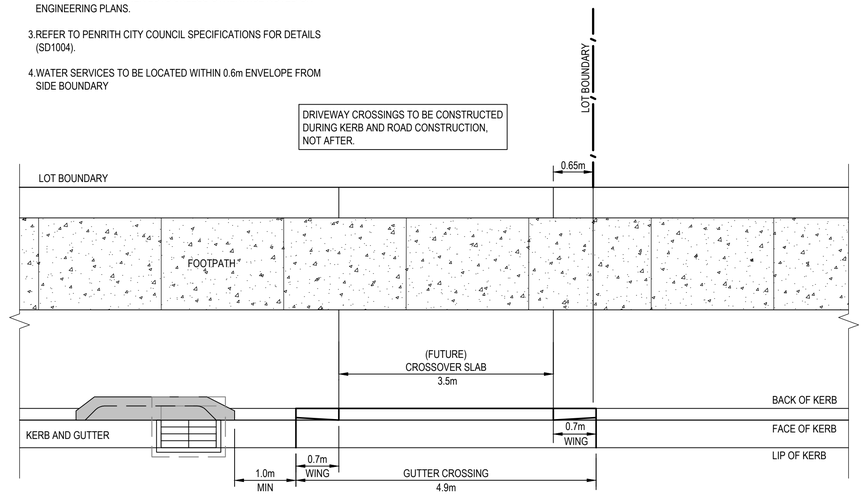
WALL TYPE ALONG BOUNDARY WITH COBHAM JUVENILE JUSTICE CENTRE

SCALE 1:20

NOTE:

1. DRAINAGE PITS TO BE LOCATED MINIMUM 1.0m FROM EDGE OF DRIVEWAY.
2. LAYBACKS TO BE CONSTRUCTED ON PRIMARY DRIVEWAY FRONTAGE FOR CORNER LOTS UNLESS OTHERWISE NOTED ON ENGINEERING PLANS.
3. REFER TO PENRITH CITY COUNCIL SPECIFICATIONS FOR DETAILS (SD1004).
4. WATER SERVICES TO BE LOCATED WITHIN 0.6m ENVELOPE FROM SIDE BOUNDARY

DRIVEWAY CROSSINGS TO BE CONSTRUCTED DURING KERB AND ROAD CONSTRUCTION, NOT AFTER.



TYPICAL DRIVEWAY LOCATION DETAIL

1:50m

TABLE 1

WALL HEIGHT	PIER DIAMETER	PIER DEPTH
0m - 1.0m	450Ø*	1200
1.0m - 2.0m	600Ø	2400

* MIN. 600Ø FOR PIERS AT CORNERS, JUNCTIONS AND SERVICE CROSSINGS

H DIM	A DIM(1)	B DIM	BARS X	BARS Y	BARS Z
1800 < H ≤ 2200	1500	800	N16-400	N16-400	N16-400
2200 < H ≤ 2600	1900	1000	N16-200	N16-200	N16-200
2600 < H ≤ 3000	2300	1000	N16-200	N16-200	N16-200
3000 < H ≤ 3500	2400	1600	N20-200	N16-200	N20-200

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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Drawn	YNL	1/10/2019
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Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD TYPICAL DETAILS
SHEET 1 OF 2

Status: FOR APPROVAL
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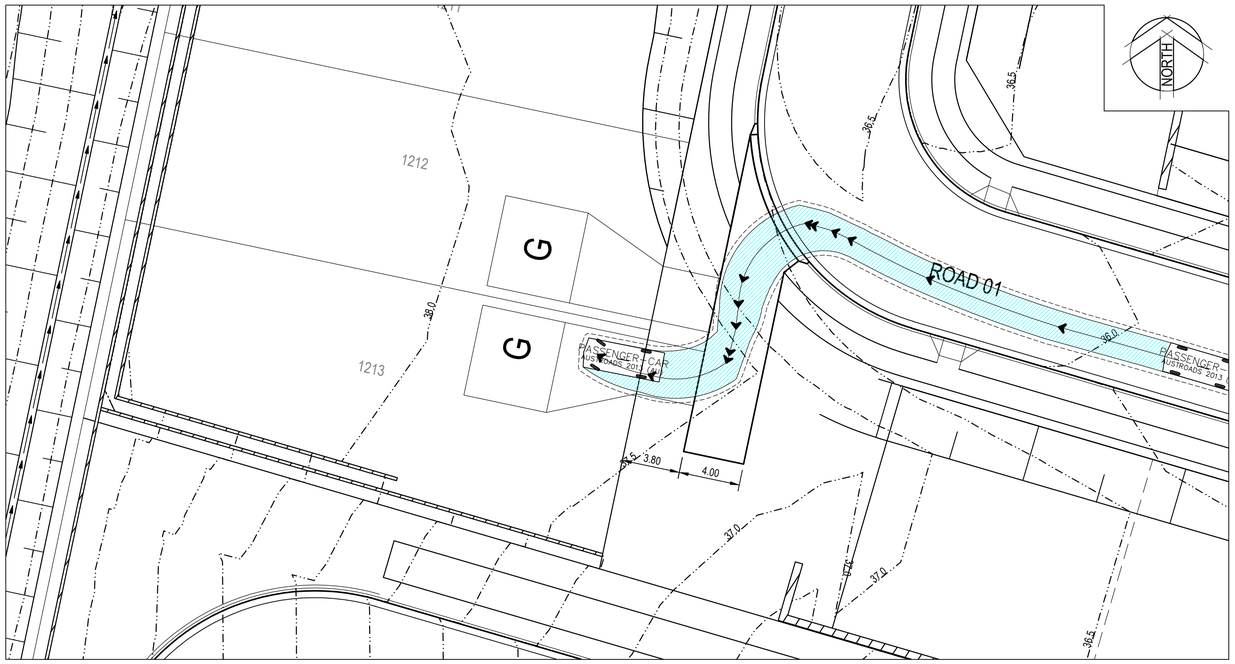
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1601
Revision: 4

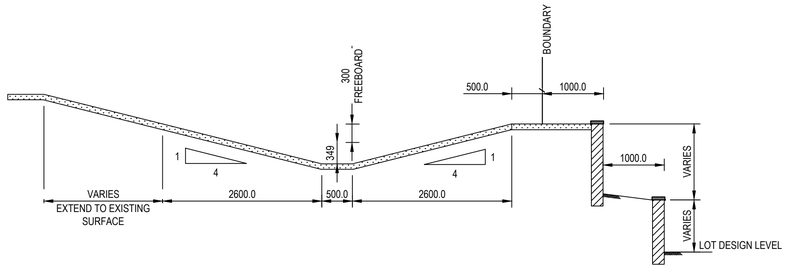
XREF's: XR-80219053-CI-ROAD; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-EXST CONTOURS-250; XR-80219053-CI-DRIVEWAY; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-SITEWORKS; XR-80219053-CI-CONTROL
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1601-1602 ROAD TYPICAL DETAILS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



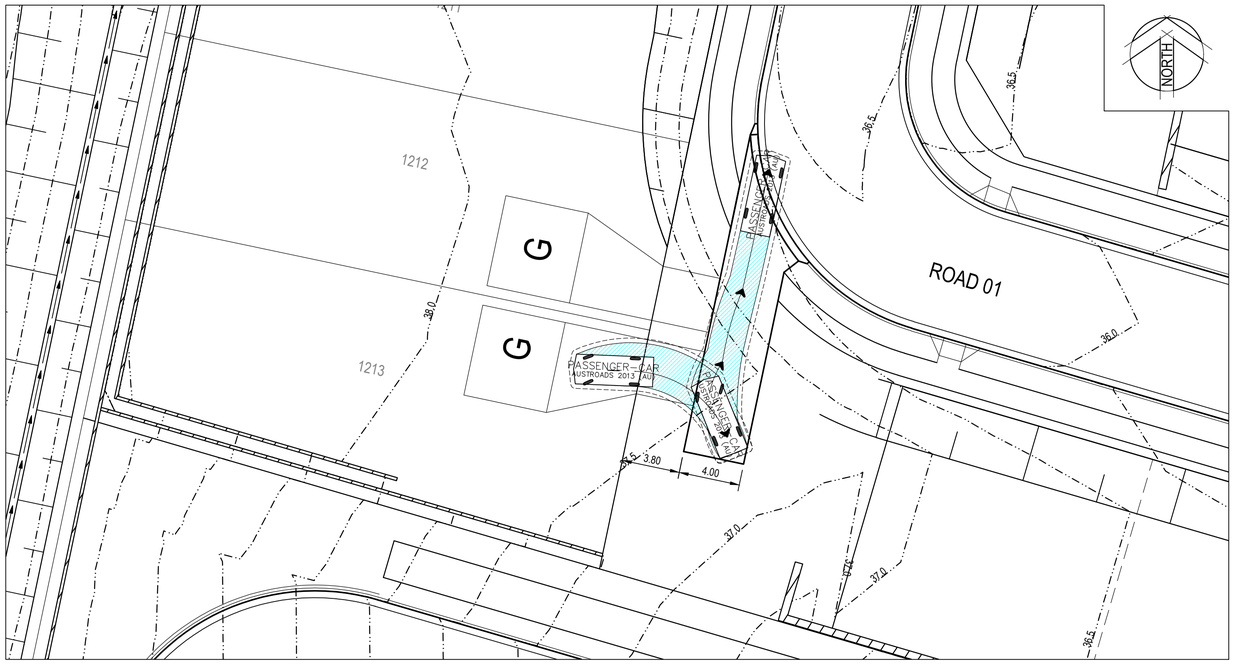
TYPICAL DRIVEWAY PLAN - ENTRY

SCALE 1:200



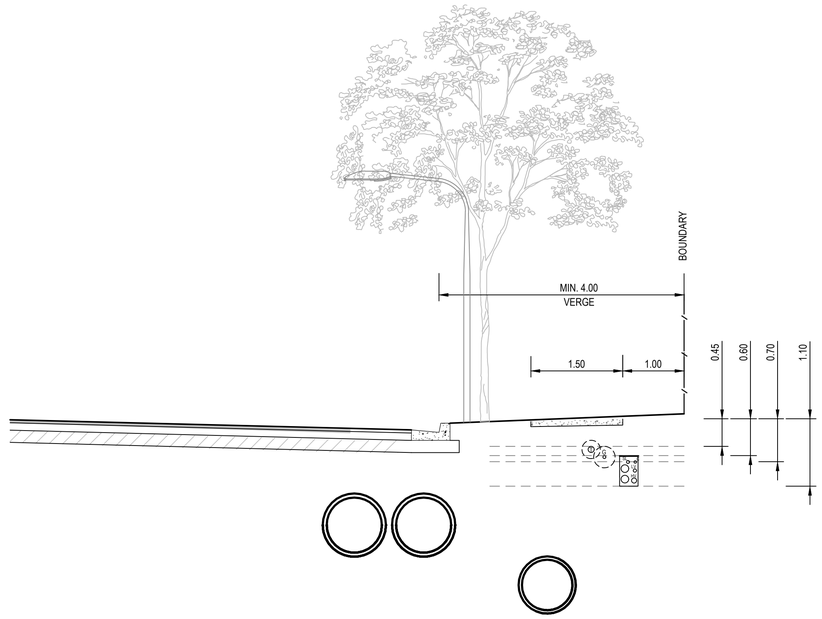
TERRACE RETAINING WALL AND SWALE DETAIL

SCALE 1:50



TYPICAL DRIVEWAY PLAN - EXIT

SCALE 1:200



TYPICAL SERVICE ALLOCATION (MAJOR COLLECTOR ROAD)

ROAD 11

SCALE 1:50

Rev.	Date	Description	Des.	Verif.	Appd.
1	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG

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SCALE 1:50 @A1

0 5 10 15 20m
SCALE 1:200 @A1

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Drawn	TPB	28/02/2020
Checked		
Designed	HLD	28/02/2020
Verified	PL	28/02/2020
Approved	AJG	28/02/2020

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: ROAD TYPICAL DETAILS
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

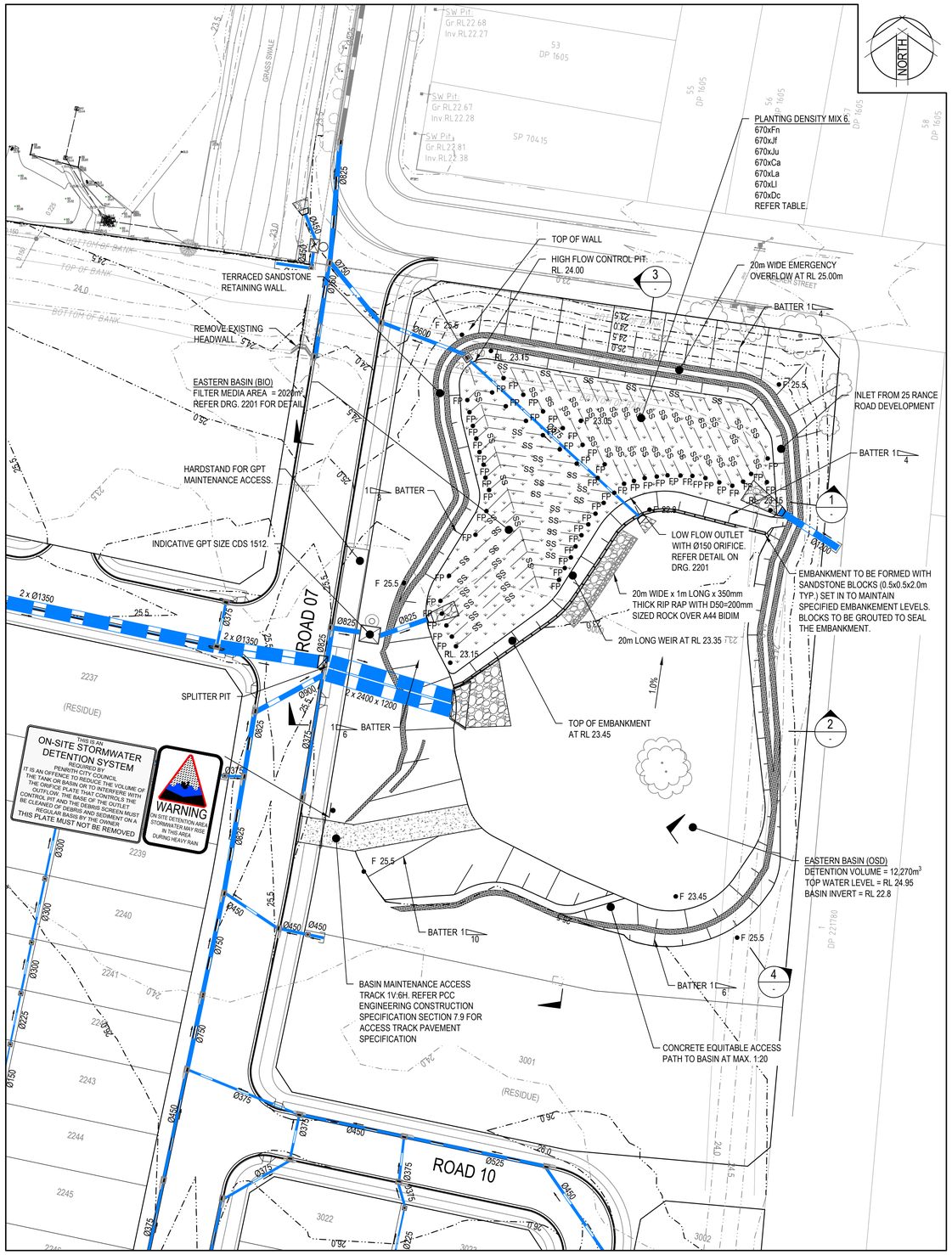
Datum	Date	Scale	Size
A.H.D	Feb' 2020	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-1602

Revision: 1

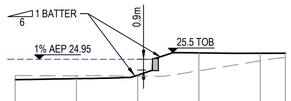
DATE PLOTTED: 4 March 2020 11:12 AM BY : HAYDEN DAVENPORT
XREF's: XR-80219053-CI-ROAD; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-EXST CONTOURS-250; XR-80219053-CI-DRIVEWAY; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-RETAINING WALL PLAN; XR-80219053-CI-CONTROL
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-1601-1602 ROAD TYPICAL DETAILS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



DETENTION BASIN A PLAN

SCALE 1:500

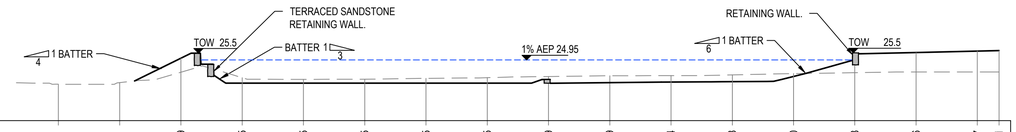


Datum 20.00

DESIGN LEVEL	23.29	23.37	23.66	25.48	25.45	25.45
EXISTING LEVEL	23.64	23.61	23.58	24.01	24.83	25.10
CHAINAGE	0.000	10.000	20.000	30.000	40.000	44.111

SECTION 4
SCALE 1:250V 1:500H

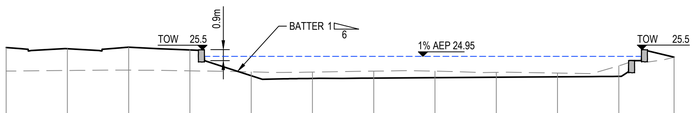
Mix 6						
Ca	*Carex appressa*	Sedge	1.3m	75mm	6	808
Dc	*Dianella caerulea*	Blue flax lily	0.5m	75mm	6	808
Fn	*Ficinia nodosa*	Knobby Club Rush	0.8m	75mm	6	808
Jf	*Juncus flavidus*	Mat Rush	1.0m	75mm	6	808
Ju	*Juncus usitatus*	Common Rush	1.0m	75mm	6	808
La	*Lepironia articulata*	Grey rush	0.9m	75mm	6	808
Li	*Lomandra longifolia*	Mat Rush	1.2m	75mm	6	808



Datum 20.00

DESIGN LEVEL			25.09	23.05	23.05	23.05	23.05	23.05	23.29	23.09	23.14	23.18	23.60	25.48	25.56	25.67	25.71
EXISTING LEVEL		22.97	23.10	23.95	23.50	23.36	23.38	23.44	23.50	23.59	23.66	23.67	23.73	23.83	23.91	23.96	23.97
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	163.550

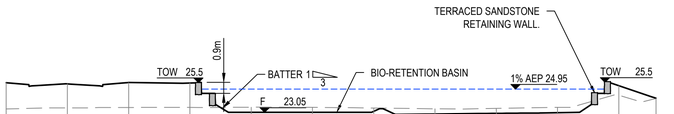
SECTION 3
SCALE 1:250V 1:500H



Datum 20.00

DESIGN LEVEL	25.67	25.58	25.70	25.48	23.37	23.15	23.18	23.21	23.25	23.28	23.32	24.89
EXISTING LEVEL	23.76	23.80	23.83	23.77	23.68	23.67	23.75	23.74	23.64	23.59	24.18	24.87
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	109.027

SECTION 2
SCALE 1:250V 1:500H



Datum 20.00

DESIGN LEVEL	25.46	25.37	25.48	25.44	23.05	23.05	23.13	22.91	22.97	23.02	25.22	24.21
EXISTING LEVEL	23.32	23.41	23.45	23.45	23.47	23.45	23.40	23.34	23.37	23.45	24.45	24.18
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	106.082

SECTION 1
SCALE 1:250V 1:500H

NOTE:
1. REFER DRG. 2201 FOR OUTLET DETAILS
2. REFER LANDSCAPE ARCHITECT DRAWINGS FOR OPEN SPACE ESTABLISHMENT DETAILS

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: BIORETENTION / OSD BASIN PLAN AND SECTIONS
SHEET 1 OF 3

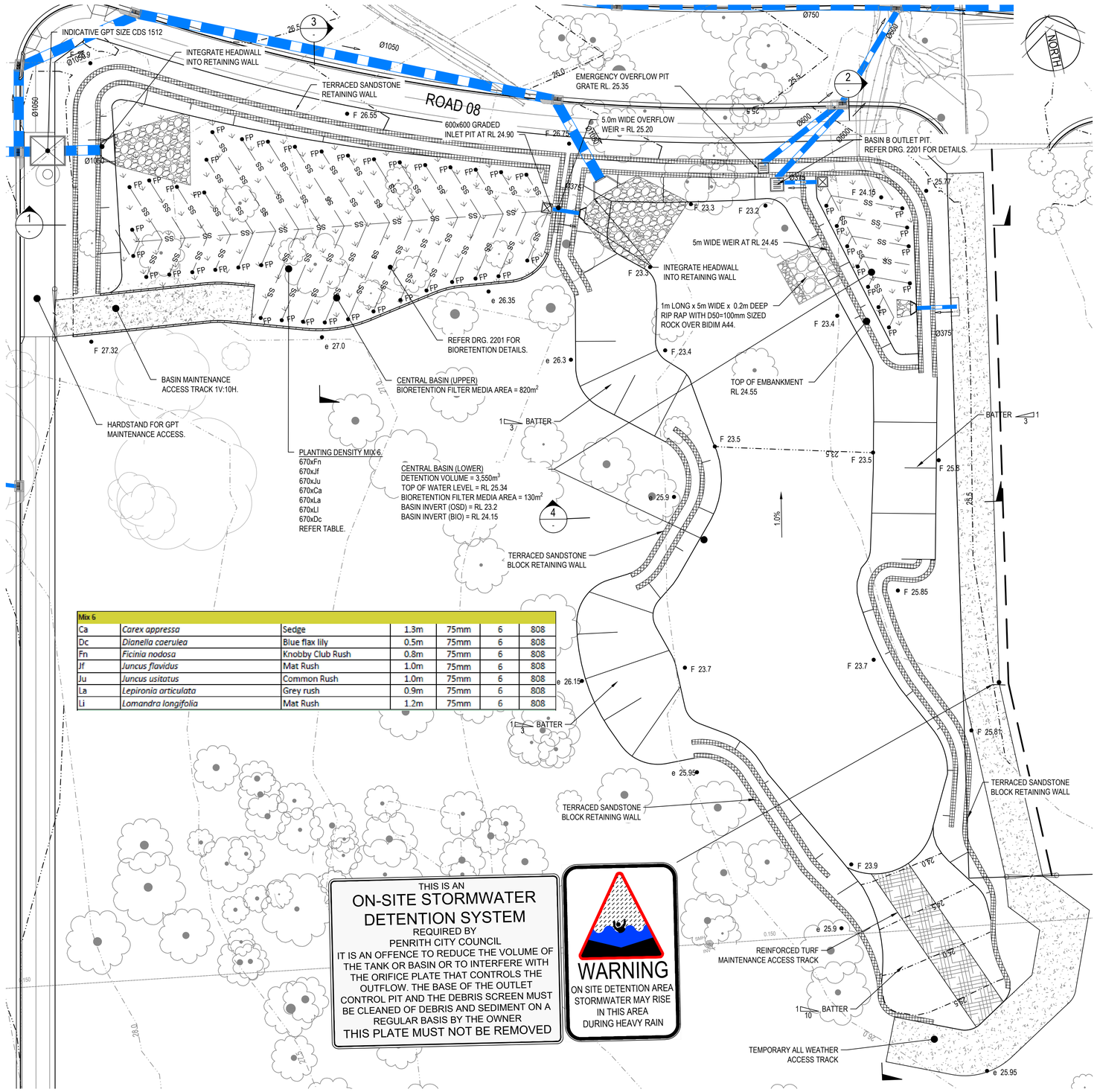
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-2001
Revision: 4

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT
XREF's: XR-80219053-CI-OSD-PLAN; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-SURVEY; XR-80219053-CI-ROAD; XR-80219053-CI-STORMWATER; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-ROUNDABOUT
CAD File: N:\Projects\902\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2001-2003 DETENTION BASIN PLAN AND SECTIONS.dwg

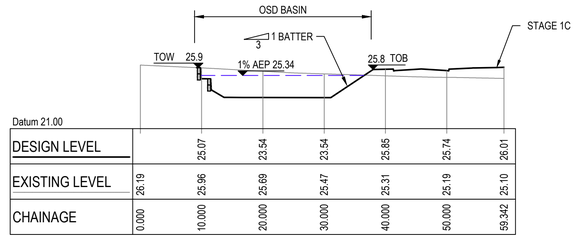
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



Mix 6						
Ca	*Carex appressa*	Sedge	1.3m	75mm	6	808
Dc	*Dianella caerulea*	Blue flax lily	0.5m	75mm	6	808
Fn	*Ficinia nodosa*	Knobby Club Rush	0.8m	75mm	6	808
Jf	*Juncus flavidus*	Mat Rush	1.0m	75mm	6	808
Ju	*Juncus usitatus*	Common Rush	1.0m	75mm	6	808
La	*Lepironia articulata*	Grey rush	0.9m	75mm	6	808
Li	*Lomandra longifolia*	Mat Rush	1.2m	75mm	6	808

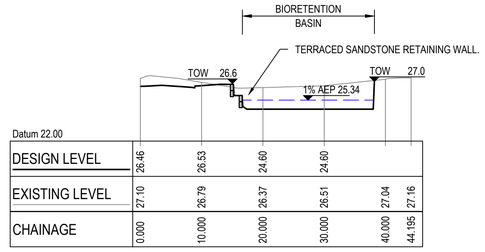
DETENTION BASIN B PLAN

SCALE 1:250



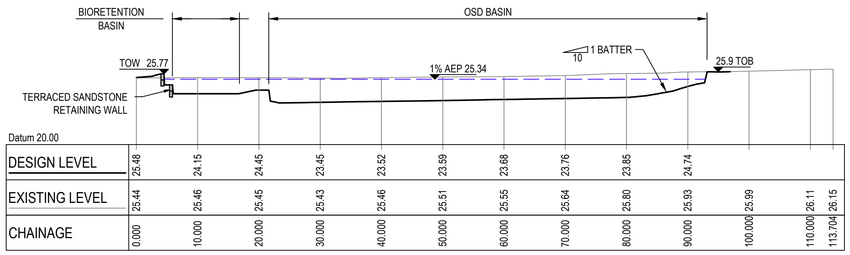
DESIGN LEVEL		25.07	23.54	23.54	25.85	25.74	26.01
EXISTING LEVEL	26.19	25.96	25.69	25.47	25.31	25.19	25.10
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	59.342

SECTION 4 -
SCALE 1:250V 1:500H



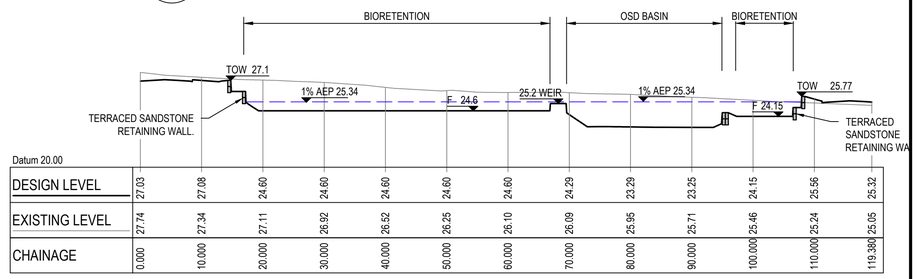
DESIGN LEVEL	26.46	26.53	24.60	24.60		
EXISTING LEVEL	27.10	26.79	26.37	26.51	27.04	27.16
CHAINAGE	0.000	10.000	20.000	30.000	40.000	44.195

SECTION 3 -
SCALE 1:250V 1:500H



DESIGN LEVEL	25.48	24.15	24.45	23.45	23.52	23.59	23.68	23.76	23.85	24.74		
EXISTING LEVEL	25.44	25.46	25.45	25.43	25.46	25.51	25.55	25.64	25.80	25.93	25.99	26.11	26.15
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	113.704

SECTION 2 -
SCALE 1:250V 1:500H



DESIGN LEVEL	27.03	27.08	24.60	24.60	24.60	24.60	24.60	24.29	23.29	23.25	24.15	25.56	25.32
EXISTING LEVEL	27.74	27.34	27.11	26.92	26.52	26.25	26.10	26.09	25.95	25.71	25.46	25.24	25.05
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	119.380

SECTION 1 -
SCALE 1:250V 1:500H

NOTE:
1. REFER DRG. 2201 FOR OUTLET DETAILS
2. REFER LANDSCAPE ARCHITECT DRAWINGS FOR OPEN SPACE ESTABLISHMENT DETAILS

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 2 4 6 8 10m
SCALE: 1:100 @A1
0 5 10 15 20 25m
SCALE: 1:250 @A1
0 10 20 30 40 50m
SCALE: 1:500 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: BIORETENTION / OSD BASIN PLAN AND SECTIONS
SHEET 2 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

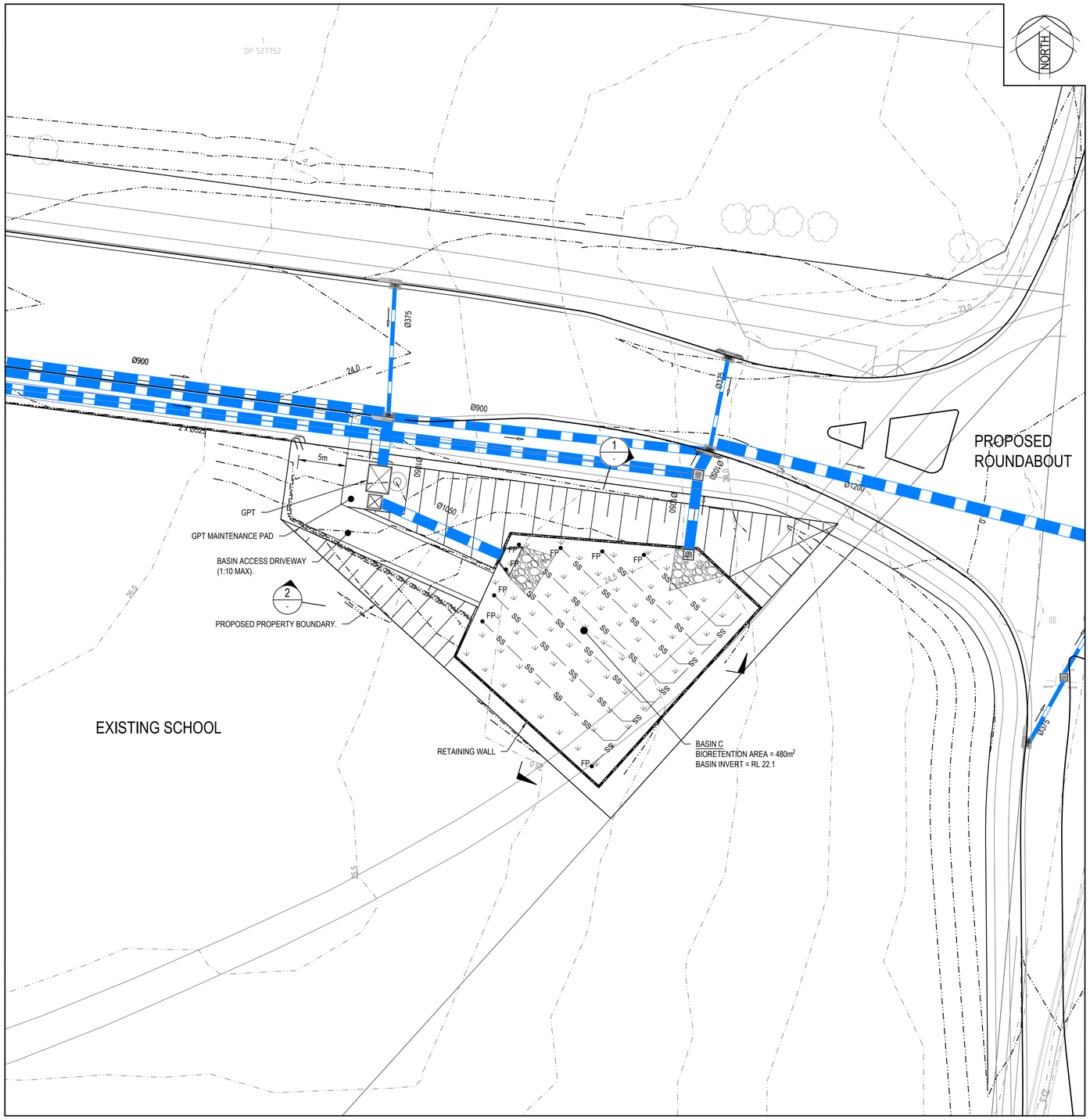
Drawing Number: 80219053-DA001-CI-2002
Revision: 4

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT

XREF's: XR-80219053-CI-OSD-PLAN; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-SURVEY; XR-80219053-CI-ROAD; XR-80219053-CI-STORMWATER; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-EXST CONTOURS-500; Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2001-2003 DETENTION BASIN PLAN AND SECTIONS.dwg

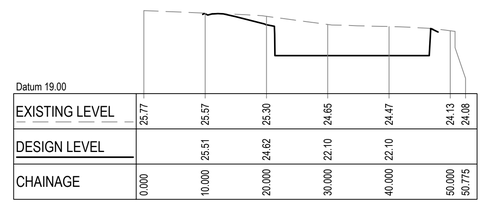
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT



DETENTION BASIN C PLAN

SCALE 1:250

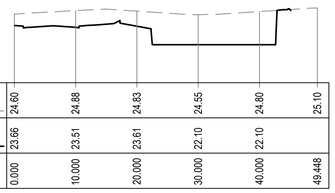


Datum 19.00

EXISTING LEVEL	25.77	25.57	25.30	24.65	24.47	24.13	24.08
DESIGN LEVEL		25.51	24.62	22.10	22.10		
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	50.775

SECTION 2 -

SCALE 1:250V 1:500H



Datum 19.00

EXISTING LEVEL	24.60	24.88	24.83	24.55	24.80	25.10
DESIGN LEVEL	23.66	23.51	23.61	22.10	22.10	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	49.448

SECTION 1 -

SCALE 1:250V 1:500H

NOTE:

1. REFER DRG. 2201 FOR OUTLET DETAILS
2. REFER LANDSCAPE ARCHITECT DRAWINGS FOR OPEN SPACE ESTABLISHMENT DETAILS

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 2 4 6 8 10m — SCALE: 1:100 @A1

0 5 10 15 20 25m — SCALE: 1:250 @A1

0 10 20 30 40 50m — SCALE: 1:500 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: BIORETENTION BASIN PLAN AND SECTIONS
SHEET 3 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

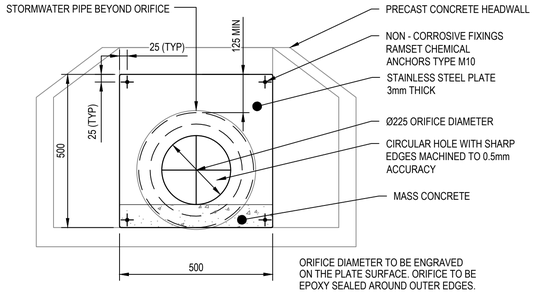
Drawing Number: 80219053-DA001-CI-2003

Revision: 4

XREF's: XR-80219053-CI-QSD-PLAN; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-SURVEY; XR-80219053-CI-ROAD; XR-80219053-CI-STORMWATER; XR-80219053-CI-DESN CONTOURS-500; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-ROUNDABOUT
CAD File: N:\Projects\8020\FY19\53_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2001-2003 DETENTION BASIN PLAN AND SECTIONS.dwg

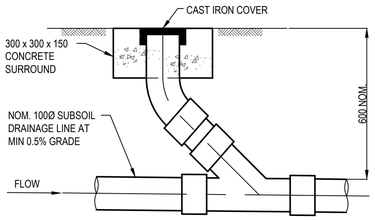
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT



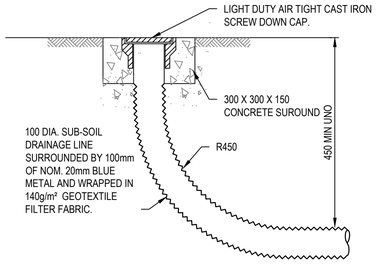
ORIFICE PLATE DETAIL FOR BASIN A OUTLET

SCALE 1:10



INTERMEDIATE RISER

SCALE 1:10



FLUSHING POINT

SCALE 1:10

BIO-FILTRATION FILTER MEDIA SPECIFICATION

MATERIALS:

BIO-FILTRATION FILTER MEDIA, TRANSITION LAYER AND DRAINAGE LAYERS TO BE IN ACCORDANCE WITH CURRENT VERSION OF FAWB DOCUMENT "STORMWATER BIO-FILTRATION SYSTEMS ADOPTION GUIDELINES" AND THE FOLLOWING:

A) BIO-FILTRATION FILTER MEDIA

1. BIO-FILTRATION MEDIA IS TO BE FREE OF RUBBISH AND DELETERIOUS MATERIAL.
2. BIO-FILTRATION FILTER MEDIA SATURATED HYDRAULIC CONDUCTIVITY TO BE A MAXIMUM OF 125mm/hr USING TEST METHOD ASTM F1815-06.
3. IT IS DESIRABLE THAT THE BIO-FILTRATION FILTER MEDIA PARTICLE SIZE DISTRIBUTION IS AS FOLLOWS:

CLAY & SILT	<3%	(<0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15-0.25mm)
MEDIUM TO COARSE SAND	40-60%	(0.25-1.0mm)
COARSE SAND	7-10%	(1.0-2.0mm)
FINE GRAVEL	<3%	(2.0-3.4mm)

THE COMBINED PERCENTAGE OF CLAY AND SILT MUST NOT EXCEED 3% (W/W) UNDER ANY CIRCUMSTANCES.

4. BIO-FILTRATION FILTER MEDIA IS TO BE TESTED AND COMPLY WITH THE FOLLOWING REQUIREMENTS:
   a) ORGANIC MATTER CONTENT IN ACCORDANCE WITH AS4419 AT LEAST 3% (W/W)
   b) TOTAL NITROGEN (TN) CONTENT <800mg/kg
   c) ORTHOPHOSPHATE (PO_4^{3-}) CONTENT = 40mg/kg WHERE PLANTS WITH MODERATE PHOSPHOROUS SENSITIVITY ARE TO BE USED, TOTAL PHOSPHOROUS CONCENTRATION SHOULD BE <20mg/kg.
   d) AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419 - pH 5.5-7.5 (pH 1.5 IN WATER)
   e) ELECTRICAL CONDUCTIVITY (EC) AS SPECIFIED FOR "NATURAL SOILS AND SOILS BLENDS" AS4419 <1.2ds/m
   f) DISPENSABILITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' AS4419 CATEGORY 1 OR 2
   g) TEXTURE - LOAMY SAND AS PER AS4419

5.PRIOR TO PLACEMENT OF THE FILTER MEDIA A STATEMENT IS TO BE SUBMITTED FROM A QUALIFIED HORTICULTURIST CONFIRMING THAT THE SOIL IS CAPABLE OF SUPPORTING A HEALTHY COMMUNITY OF VEGETATION.

6.TESTS CONFIRMING THE REQUIREMENTS OF ITEMS 1 TO 4 ARE TO BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF FILTER MEDIA.

B) TRANSITION LAYER

1) TRANSITION LAYER MATERIAL SHALL BE A CLEAN, WELL GRADED SAND MATERIAL CONTAINING <2% FINES.
2) THE PARTICLE SIZE DISTRIBUTION OF THE SAND TO BE ASSESSED TO ENSURE. D_{15} (TRANSITION LAYER) LESS THAN OR EQUAL TO 5 x D_{85} (FILTER MEDIA)

WHERE: D_{15} (TRANSITION LAYER) IS THE 15TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e, 15% OF THE SAND IS SMALLER THAN D_{15} mm), AND D_{85} (FILTER MEDIA) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

C) DRAINAGE LAYER

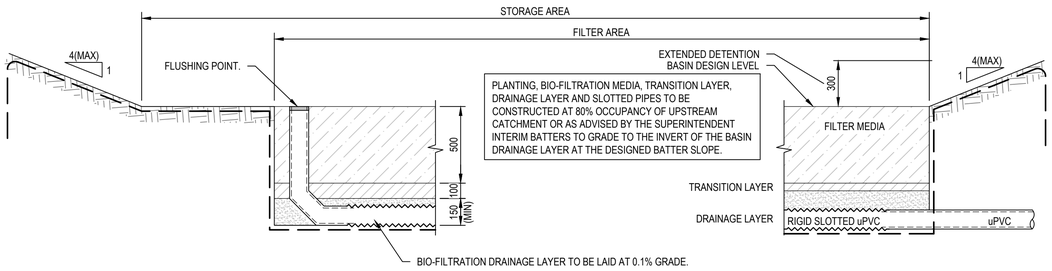
DRAINAGE LAYER MATERIAL IS TO BE CLEAN, FINE GRAVEL, SUCH AS A 5mm WASHED SCREENINGS. THE PARTICLE SIZE DISTRIBUTION TO BE:
D_{15} (DRAINAGE LAYER) < 5 x D_{85} (TRANSITION LAYER)
WHERE: D_{15} (DRAINAGE LAYER) IS THE 15TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e, 15% OF THE SAND IS SMALLER THAN D_{15} mm), AND D_{85} (TRANSITION LAYER) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

D) VEGETATION

VEGETATION TO BE PLANTED AT MINIMUM DENSITY 8 PLANTS PER SQUARE METRE. PLANT SPECIES TO BE SELECTED FROM LIST IN SECTION 6.1 OF PENRITH CITY COUNCIL WSUD TECHNICAL GUIDELINES VERSION 3 - JUNE 2015

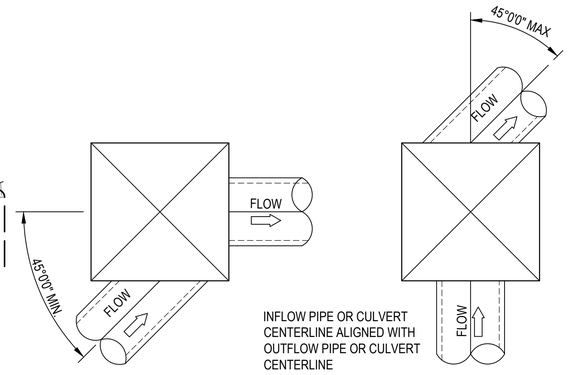
INSTALLATION:

FILTER MATERIAL IS TO BE LIGHTLY COMPACTED (E.G. A SINGLE PASS WITH A DRUM LAWN ROLLER) UNDER NO CIRCUMSTANCES SHOULD HEAVY EQUIPMENT OR MULTIPLE PASSES BE MADE. FILTER MEDIA SHOULD BE INSTALLED IN TWO LIFTS UNLESS THE DEPTH IS LESS THAN 500mm.



BIO-FILTRATION BASIN TYPICAL SECTION

SCALE 1:20



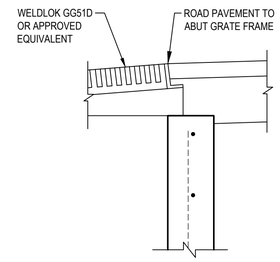
DIRECTION ANGLE GREATER THAN 45° (SIDE OF PIT) PIT ALIGNMANT REQUIREMENTS

SCALE 1:25

TYPICAL DETAILS OF STORMWATER PIPE OR CULVERT ALIGNMENTS THROUGH STORMWATER PITS. STORMWATER PIPE OR CULVERT ALIGNMENTS NOT SHOWN SHOULD BE CONSTRUCTED SIMILARLY IN ORDER TO STREAMLINE FLOWS FROM UPSTREAM TO DOWNSTREAM AND MINIMISE HEADLOSS.

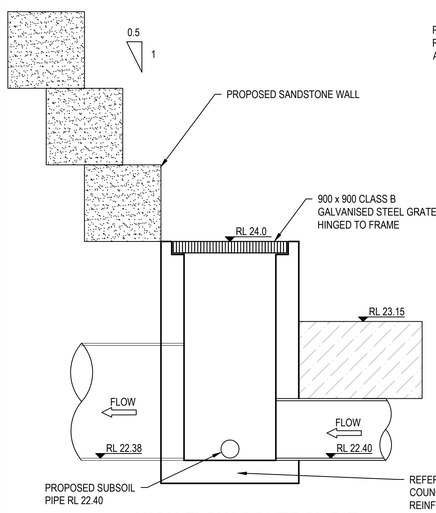
NOTES

1. ALL PITS EXCEEDING 1.0m DEPTH TO BE FITTED WITH STEP IRONS TO COUNCIL SPECIFICATION. REFER PCC STANDARD DRAWING SD3001 FOR DETAILS.
2. CONSTRUCT 1m APRON AROUND PIT IN ACCORDANCE WITH PCC STANDARD DRAWING SD2002.
3. ALL GRATES TO BE WELDLOK OR EQUIVALENT HEAVILY GALVANISED STEEL GRATE WITH HINGED ENTRY AND LOCK DOWN "J" BOLT TO MANUFACTURERS DETAIL. ALL GRATES TO BE CLASS "N".
4. ALL GRATES TO BE CONSTRUCTED IN ACCORDANCE WITH PCC STANDARD DRAWING SD2002.



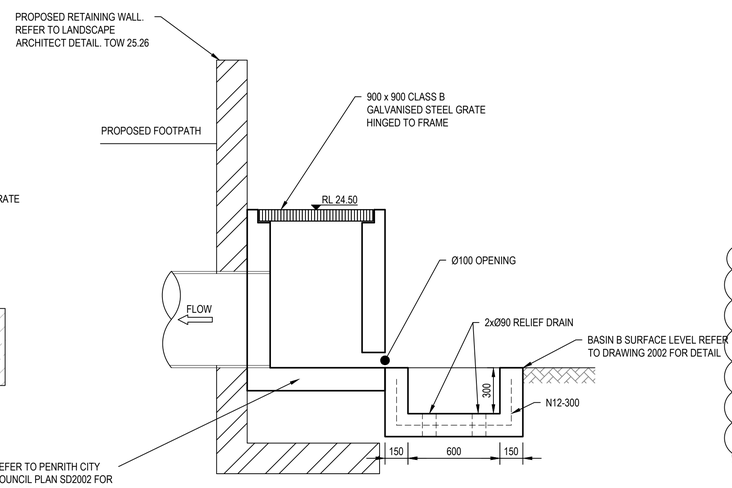
DETAIL A

SCALE 1:10



HIGH FLOW CONTROL PIT (BASIN A)

SCALE 1:20



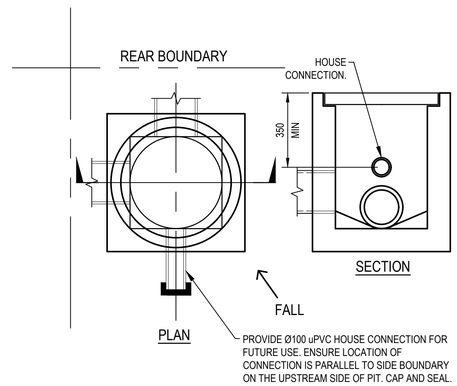
BASIN B OUTLET PIT

SCALE 1:20

OSD MODELLING RESULT DATA

AEP %	PSD	Q	STAGE		VOLUME (m^3)	
			BASIN A	BASIN B	BASIN A	BASIN B
50	0.66	0.66	24.05	24.32	5600	1300
20	1.84	1.23	24.2	24.56	6600	1800
5	3.2	2.00	24.33	24.60	7500	1900
1	4.8	3.64	24.95	25.34	11900	3660

NOTE
OSD CALCULATED AT THE INTERSECTION OF LANDERS STREET AND CHAPMAN STREET.



PENRITH CITY COUNCIL STANDARD INTERALLOTMENT DRAINAGE PIT

SCALE 1:20

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 200 400 600 800 1000mm — SCALE 1:10 @A1
0 500 1000 1500 2000mm — SCALE 1:20 @A1
0 0.5 1 1.5 2 2.5m — SCALE 1:25 @A1

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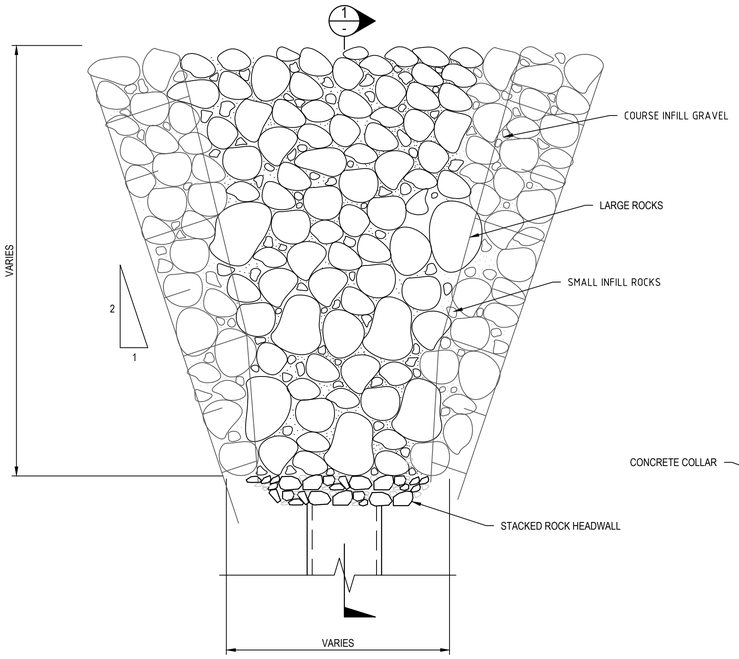
		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES
Project: CHAPMAN STREET WERRINGTON CIVIL WORKS DEVELOPMENT APPLICATION
Title: STORMWATER DRAINAGE DETAILS SHEET 1 OF 2
Status: FOR APPROVAL — NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum: A.H.D | Date: Oct' 2019 | Scale: AS SHOWN | Size: A1
Drawing Number: 80219053-DA001-CI-2201 | Revision: 4

XREF's:
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2201 STORMWATER DRAINAGE DETAILS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT



TYPICAL OUTLET HEADWALL SCOUR PROTECTION PLAN

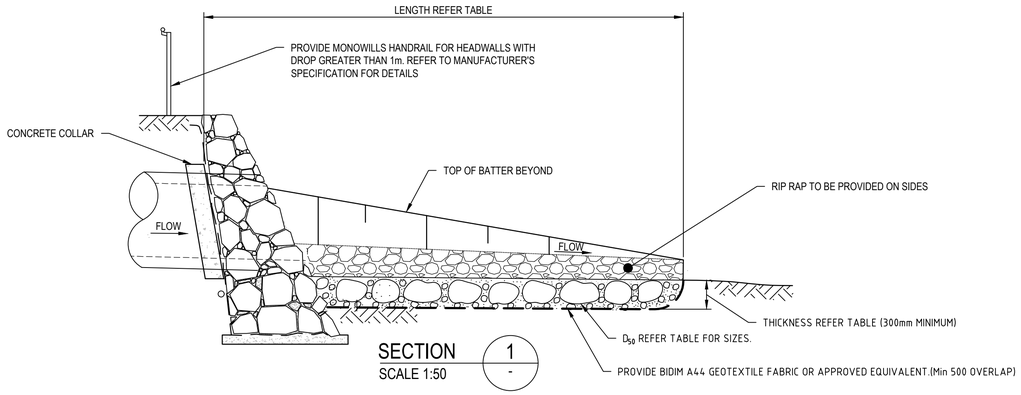
SCALE 1:50

HEADWALL RIP-RAP SCOUR PROTECTION (MINIMUM DIMENSIONS)

OUTLET NUMBER	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)	D50 (mm)
A01 /1	9600	3600	500	300
B01 /1	7200	3600	400	200
C01 /1	5000	2500	400	200
C02 /1	10800	4100	500	300
P01 /1	1500	1200	400	200
Q01 /1	8500	3200	500	300
T01 /1	7200	3600	400	200

NOTE:

1. LAY SCOUR PROTECTION AT CHANNEL BED AND 0.5m UP FROM THE TOE OF BATTER TO PREVENT BANK EROSION.



SECTION 1 / -
SCALE 1:50

TYPICAL OUTLET HEADWALL SCOUR PROTECTION DETAIL

SCALE 1:50

Rev.	Date	Description	Des.	Verif.	Appd.
2	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
1	16/12/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 1 2 3 4 5m
SCALE 1:50 @A1

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		Date
Drawn	TPB	16/12/2019
Checked	PL	16/12/2019
Designed	HLD	16/12/2019
Verified	PL	16/12/2019
Approved	AJG	16/12/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: STORMWATER DRAINAGE DETAILS
SHEET 2 OF 2

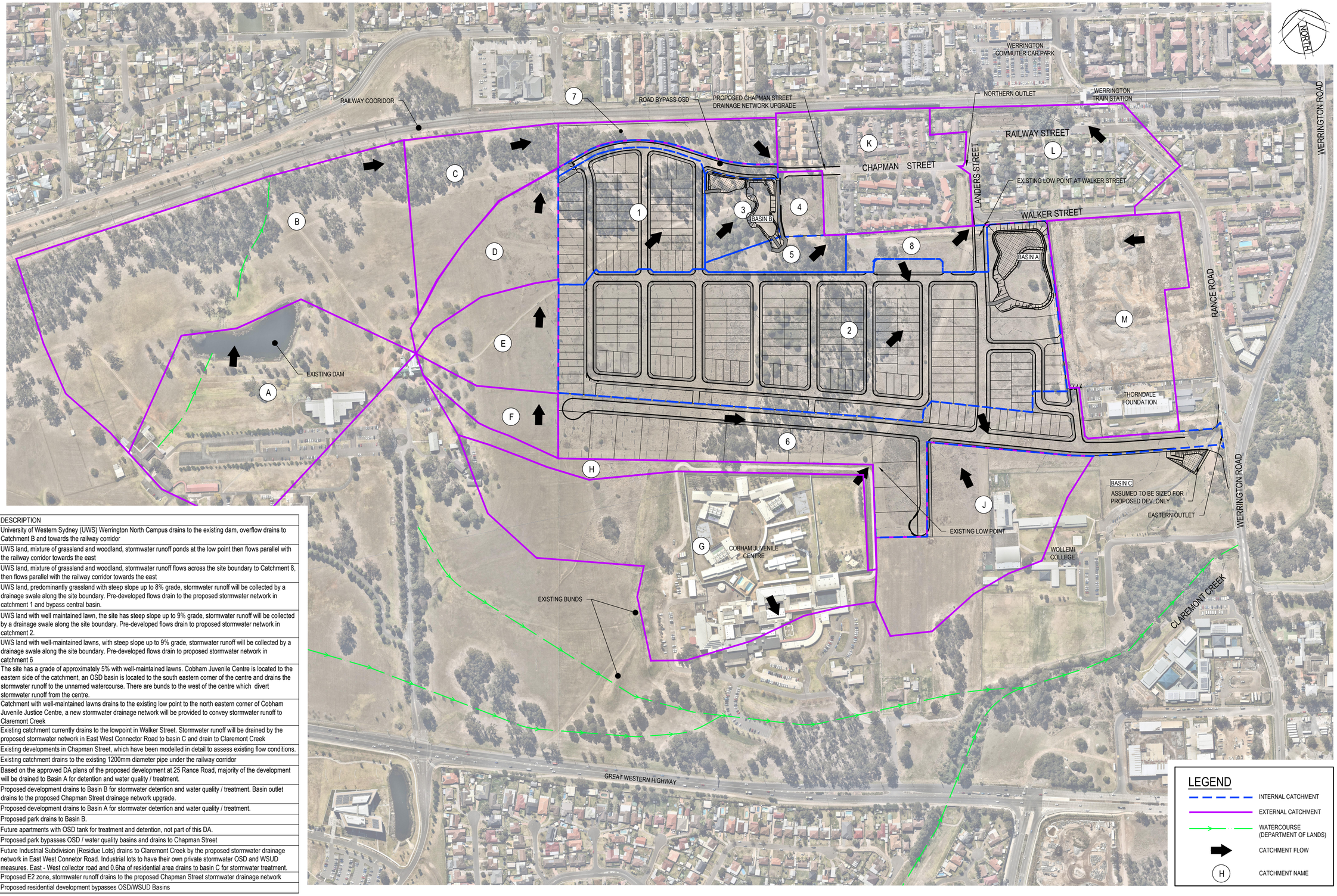
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Dec' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-2202
Revision: 2

XREF's:
CAD File: N:\Projects\8002\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2201 STORMWATER DRAINAGE DETAILS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020



CATCHMENT	AREA (ha)	DESCRIPTION
A	6.98	University of Western Sydney (UWS) Werrington North Campus drains to the existing dam, overflow drains to Catchment B and towards the railway corridor
B	11.4	UWS land, mixture of grassland and woodland, stormwater runoff ponds at the low point then flows parallel with the railway corridor towards the east
C	2.66	UWS land, mixture of grassland and woodland, stormwater runoff flows across the site boundary to Catchment 8, then flows parallel with the railway corridor towards the east
D	2.05	UWS land, predominantly grassland with steep slope up to 8% grade, stormwater runoff will be collected by a drainage swale along the site boundary. Pre-developed flows drain to the proposed stormwater network in catchment 1 and bypass central basin.
E	2.1	UWS land with well maintained lawn, the site has steep slope up to 9% grade, stormwater runoff will be collected by a drainage swale along the site boundary. Pre-developed flows drain to proposed stormwater network in catchment 2.
F	1.05	UWS land with well-maintained lawns, with steep slope up to 9% grade, stormwater runoff will be collected by a drainage swale along the site boundary. Pre-developed flows drain to proposed stormwater network in catchment 6
G	9.55	The site has a grade of approximately 5% with well-maintained lawns. Cobham Juvenile Centre is located to the eastern side of the catchment, an OSD basin is located to the south eastern corner of the centre and drains the stormwater runoff to the unnamed watercourse. There are bunds to the west of the centre which divert stormwater runoff from the centre.
H	1.32	Catchment with well-maintained lawns drains to the existing low point to the north eastern corner of Cobham Juvenile Justice Centre, a new stormwater drainage network will be provided to convey stormwater runoff to Claremont Creek
J	4.5	Existing catchment currently drains to the lowpoint in Walker Street. Stormwater runoff will be drained by the proposed stormwater network in East West Connector Road to basin C and drain to Claremont Creek
K	3.67	Existing developments in Chapman Street, which have been modelled in detail to assess existing flow conditions.
L	4.14	Existing catchment drains to the existing 1200mm diameter pipe under the railway corridor
M	4.61	Based on the approved DA plans of the proposed development at 25 Rance Road, majority of the development will be drained to Basin A for detention and water quality / treatment.
1	3.2	Proposed development drains to Basin B for stormwater detention and water quality / treatment. Basin outlet drains to the proposed Chapman Street drainage network upgrade.
2	13.8	Proposed development drains to Basin A for stormwater detention and water quality / treatment.
3	1.1	Proposed park drains to Basin B.
4	0.54	Future apartments with OSD tank for treatment and detention, not part of this DA.
5	0.73	Proposed park bypasses OSD / water quality basins and drains to Chapman Street
6	6.1	Future Industrial Subdivision (Residue Lots) drains to Claremont Creek by the proposed stormwater drainage network in East West Connetor Road. Industrial lots to have their own private stormwater OSD and WSUD measures. East - West collector road and 0.6ha of residential area drains to basin C for stormwater treatment.
7	1.3	Proposed E2 zone, stormwater runoff drains to the proposed Chapman Street stormwater drainage network
8	0.95	Proposed residential development bypasses OSD/WSUD Basins

LEGEND

- INTERNAL CATCHMENT
- EXTERNAL CATCHMENT
- WATERCOURSE (DEPARTMENT OF LANDS)
- CATCHMENT FLOW
- (H) CATCHMENT NAME

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 50 100 150 200 250m
SCALE 1:2500 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: STORMWATER CATCHMENT PLAN

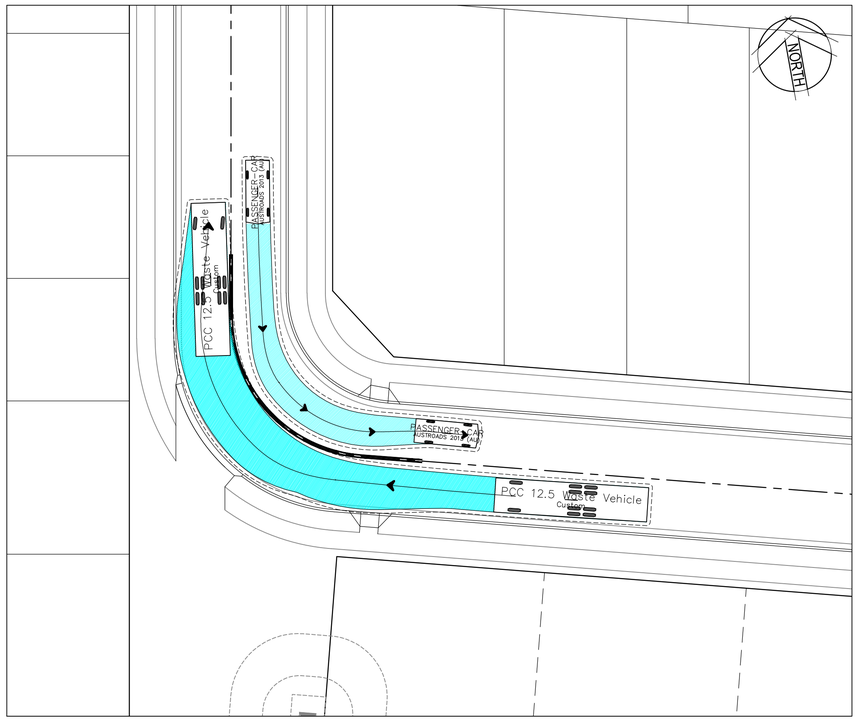
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

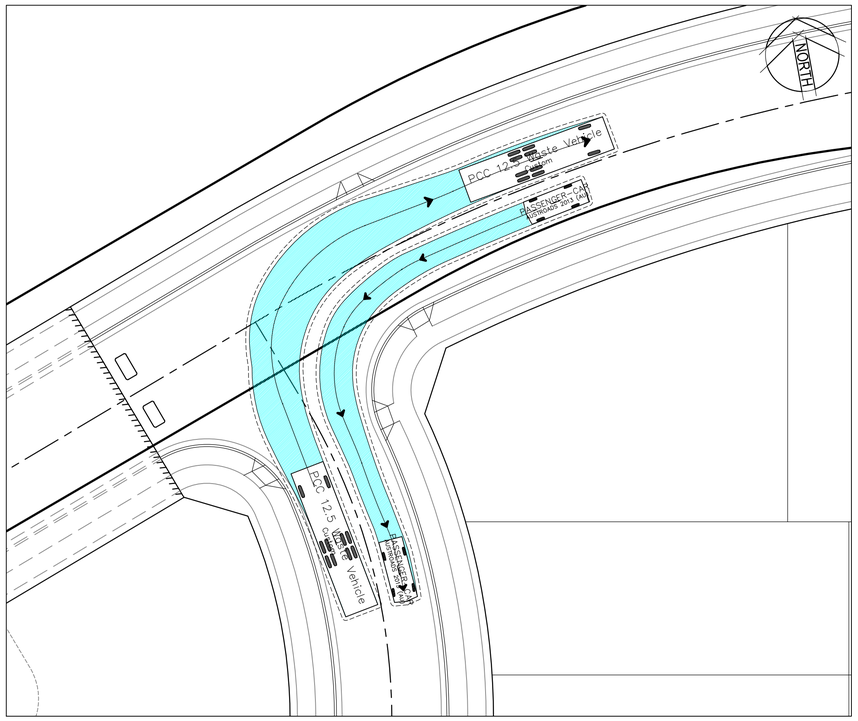
Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:2500	A1

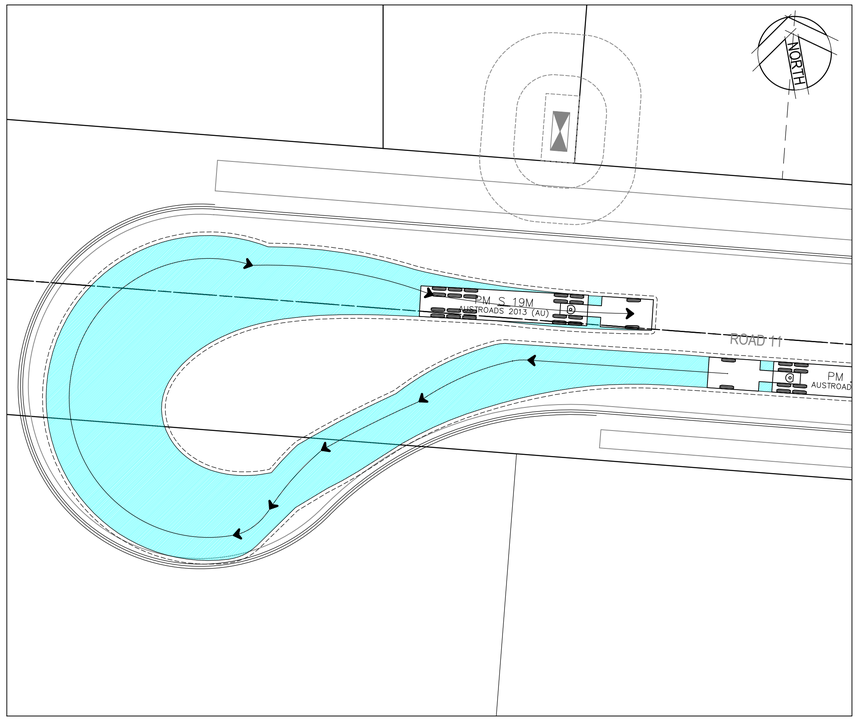
Drawing Number: 80219053-DA001-CI-2301
Revision: 4

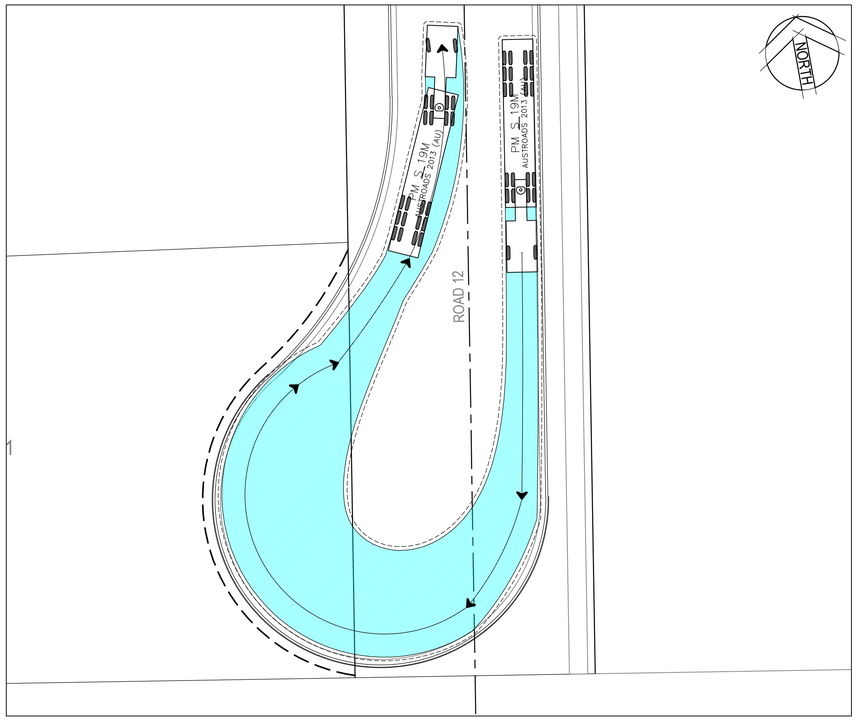
DATE PLOTTED: 4 March 2020 11:05 AM BY - HAYDEN DAVENPORT
XREF's: XR-80219053-CI-SURVEY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-ROAD; XR-80219053-CI-CATCHMENT-PLAN; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-CI-DESN CONTOURS; XR-80219053-CI-AERIAL; XR-80219053-CI-EXISTING WATERCOURSES; XR-80219053-CI-OSD-PLAN
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-2301 STORMWATER CATCHMENT PLAN.dwg

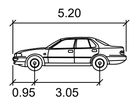
Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020





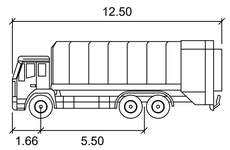






PASSENGER-CAR

		meters
Width	:	1.94
Track	:	1.84
Lock to Lock Time	:	6.0
Steering Angle	:	33.6



PCC 12.5 Waste Vehicle

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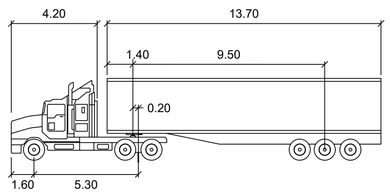
Steering Angle	:	26.1



PM S 19M

		meters			
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Trailer Width	:	2.50	Steering Angle	:	27.8
Tractor Track	:	2.50	Articulating Angle	:	70.0
Trailer Track	:	2.50			

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 5 10 15 20m

SCALE 1:200 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: TURN PATH PLANS
SHEET 1 OF 4

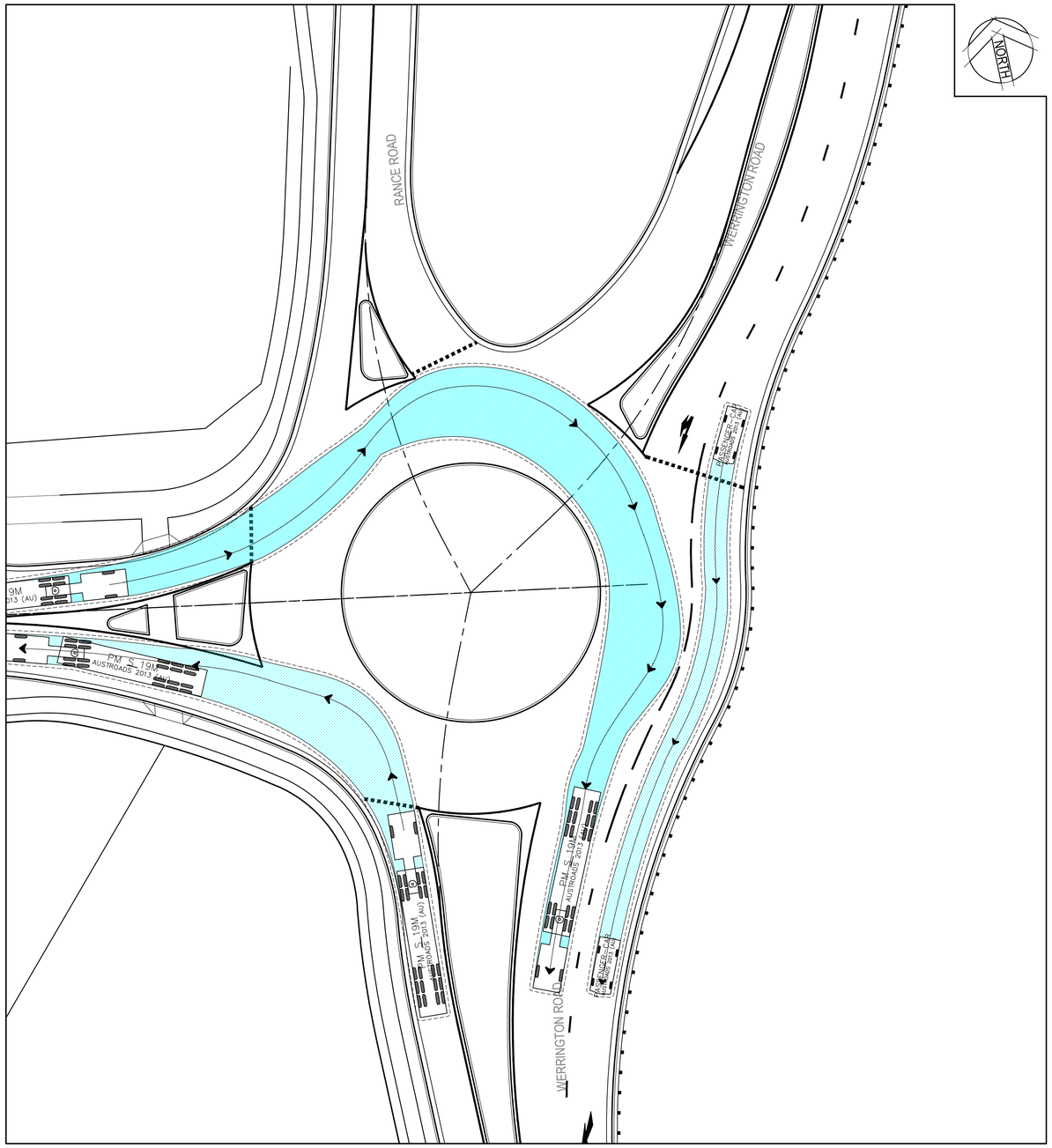
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

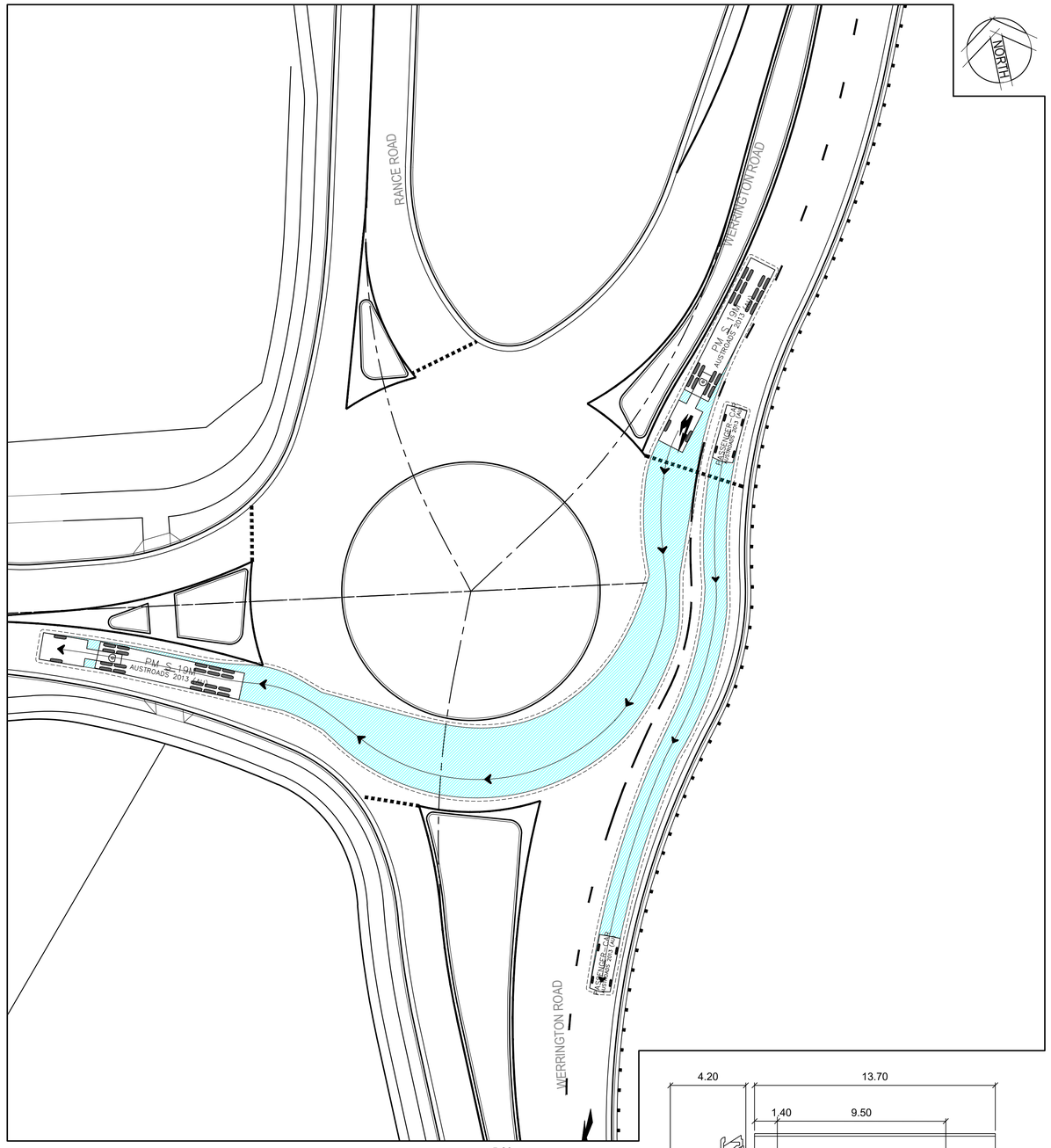
Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

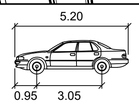
Drawing Number: 80219053-DA001-CI-3001
Revision: 4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-PORTS; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-SIGNAGE AND LINEMARKING; XR-80219053-CI-ROUNDABOUT; SW Base Optiq RECONFIGURE 190808
CAD File: N:\Projects\80\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-3001-3005 TURN PATH PLANS.dwg
DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

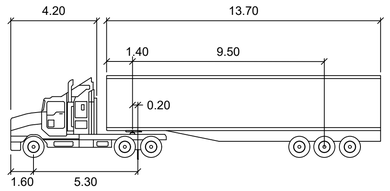






PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 5 10 15 20 25m

SCALE 1:250 @A1

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		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: TURN PATH PLANS
SHEET 2 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	AS SHOWN	A1

Drawing Number: 80219053-DA001-CI-3002

Revision: 4

XREFs: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-RQAD; XR-80219053-CI-CONTROL; XR-80219053-CI-SIGNAGE AND LINEMARKING; XR-80219053-CI-ROUNDABOUT; SW Base Opt9e RECONFIGURE 190808

CAD File: N:\Projects\820\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-3001-3005 TURN PATH PLANS.dwg

DATE PLOTTED: 4 March 2020 11:05 AM BY : HAYDEN DAVENPORT

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

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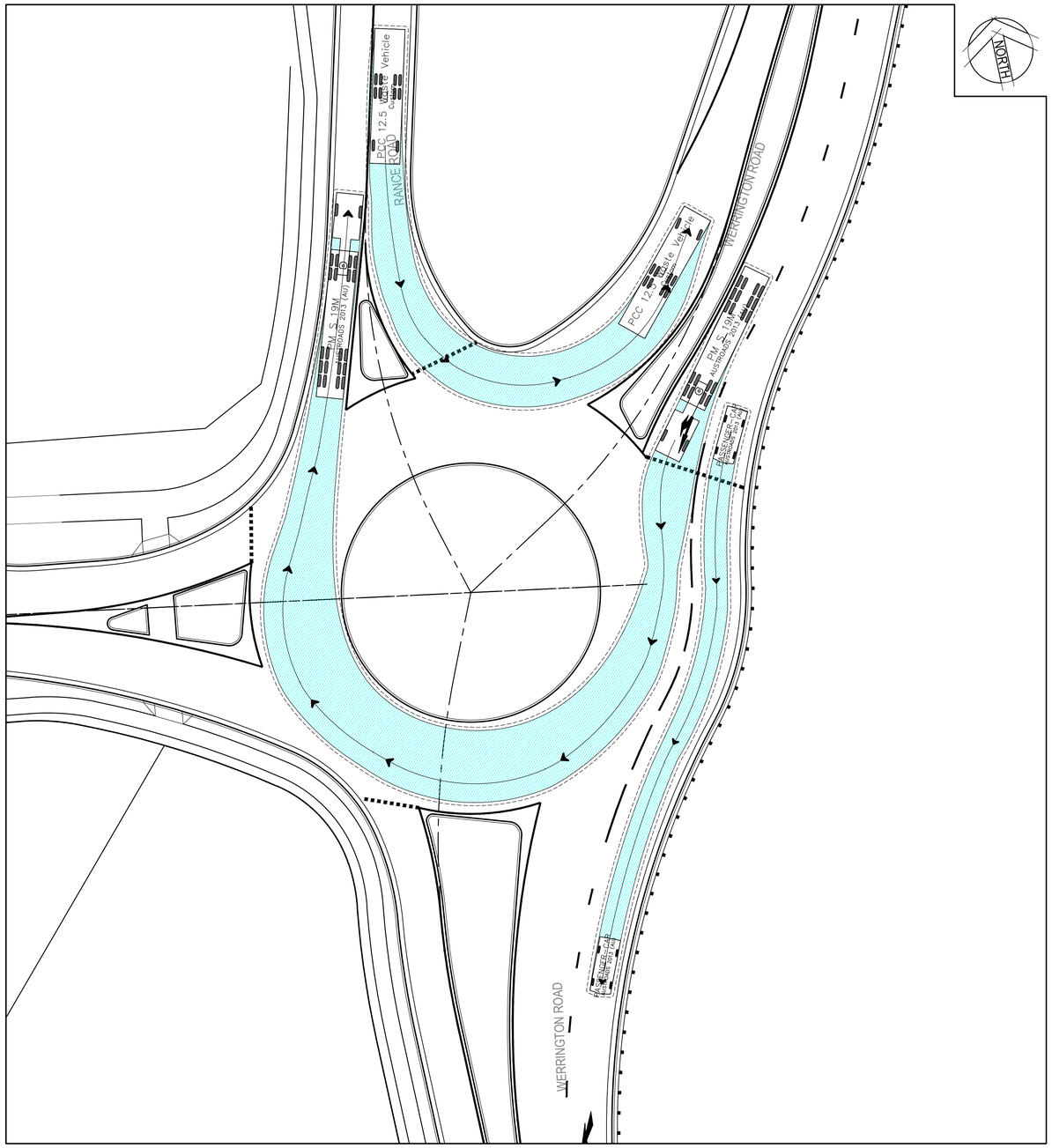
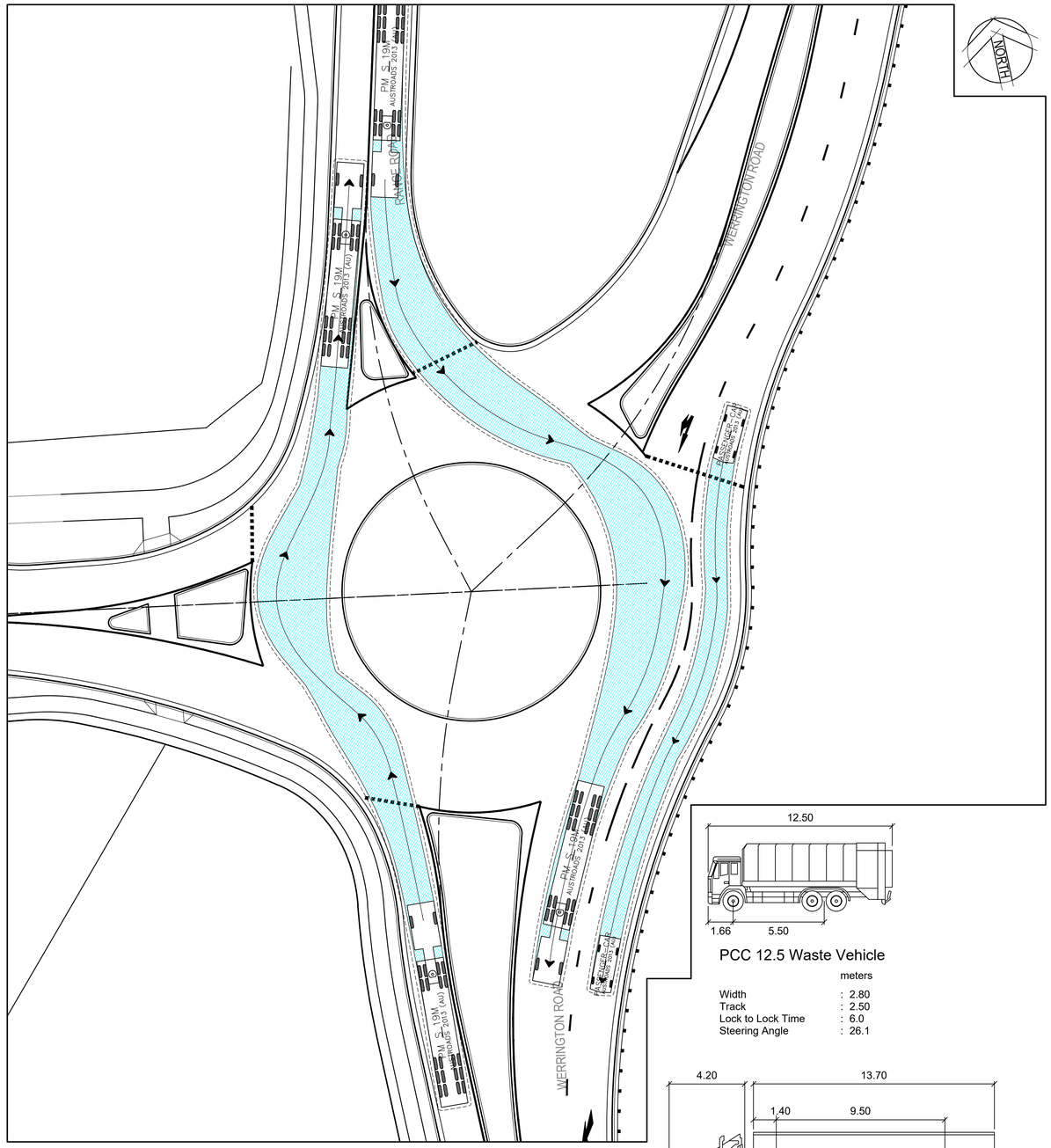
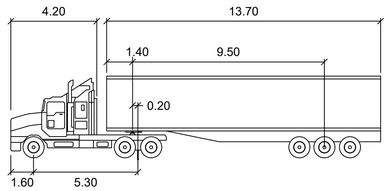
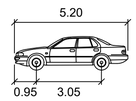




PCC 12.5 Waste Vehicle

	meters
Width	: 2.80
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 26.1





PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

PM S 19M

	meters
Tractor Width	: 2.50
Trailer Width	: 2.50
Tractor Track	: 2.50
Trailer Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 27.8
Articulating Angle	: 70.0

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
3	1/10/2019	ISSUED FOR DA APPROVAL	HLD	PL	AJG
2	27/09/2019	ISSUED FOR INFORMATION (90% DA)	HLD		
1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

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

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Level 9, The Forum, 203 Pacific Highway
St. Leonards, NSW 2065
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

		Date
Drawn	YNL	1/10/2019
Checked	PL	1/10/2019
Designed	HLD	1/10/2019
Verified	PL	1/10/2019
Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: TURN PATH PLANS
SHEET 3 OF 4

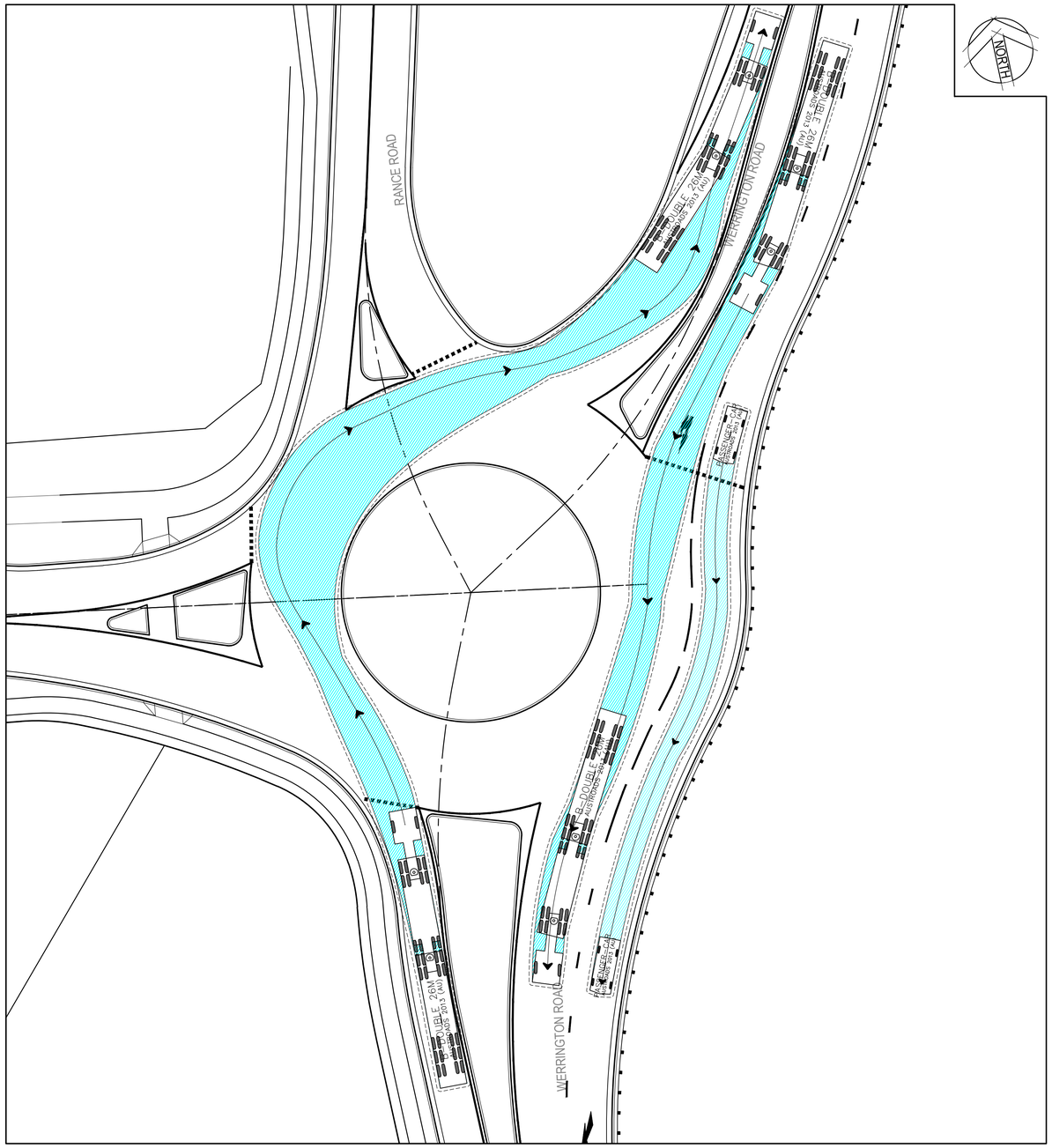
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

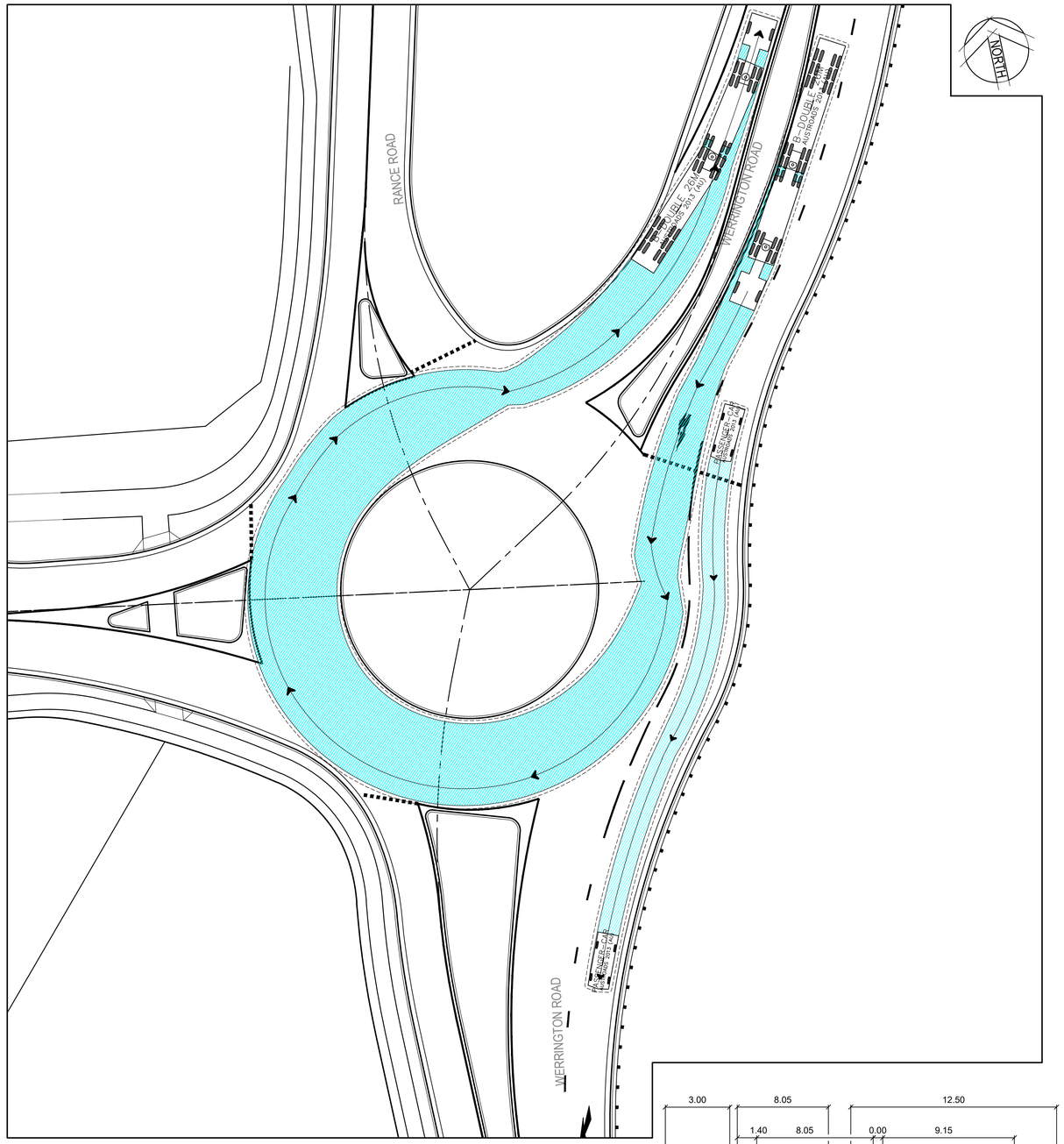
Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:250	A1

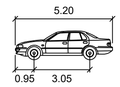
Drawing Number: 80219053-DA001-CI-3003
Revision: 4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-SIGNAGE AND LINEMARKING; XR-80219053-CI-ROUNDABOUT;
CAD File: N:\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\DA\80219053-DA001-CI-3001-3005 TURN PATH PLANS.dwg

Document Set ID: 9081774
Version: 1, Version Date: 31/03/2020

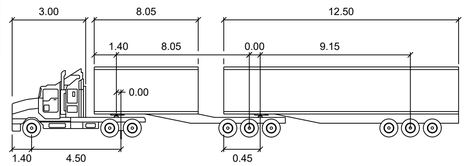






PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



B-DOUBLE 26M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Rev.	Date	Description	Des.	Verif.	Appd.
4	4/03/2020	RE-ISSUED FOR DA APPROVAL	HLD	PL	AJG
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1	9/08/2019	ISSUED FOR INFORMATION (50% DA)	HLD		

0 5 10 15 20 25m

SCALE 1:250 @A1

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Approved	AJG	1/10/2019

Client: LENDLEASE COMMUNITIES

Project: CHAPMAN STREET WERRINGTON
CIVIL WORKS
DEVELOPMENT APPLICATION

Title: TURN PATH PLANS
SHEET 4 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
A.H.D	Oct' 2019	1:250	A1

Drawing Number: 80219053-DA001-CI-3004

Revision: 4

XREF's: XR-80219053-CI-BOUNDARY; XR-80219053-CI-LOT LAYOUT; XR-80219053-CI-VPORTS; XR-80219053-CI-ROAD; XR-80219053-CI-CONTROL; XR-80219053-CI-SIGNAGE AND LINEMARKING; XR-80219053-CI-ROUNDABOUT;
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