Sensitivity: General

DRAWING REGISTER - CIVIL

HOUSING DELIVERY SYSTEM -CHCH MBU4
6-10 ORR STREET, NETHERBY, ASHBURTON - AR109526

DRAWING REGISTER AND TRANSMITTAL NOTICE

DRAWING NO.	DRAWING TITLE	ISSUE: CURRENT REV	DAY MONTH YEAR	20 03 24					
AR109526-CV-001	COVER SHEET	A		A					
AR109526-CV-002	GENERAL CIVIL NOTES	A		A					
AR109526-CV-111	CONCEPTUAL SERVICES PLAN	A		A					
AR109526-CV-121	EXISTING SITE PLAN WITH EROSION & SEDIMENT CONTROL.	A		A					
AR109526-CV-131	EARTHWORKS PLAN	A		A					
AR109526-CV-501	EROSION & SEDIMENT CONTROL DETAILS	A		A					
	Count	6		6					

DISTRIBUTION

HOUSING DELIVERY SYSTEM - CHCH MBU4
6-10 ORR STREET, NETHERBY, ASHBURTON - AR109526

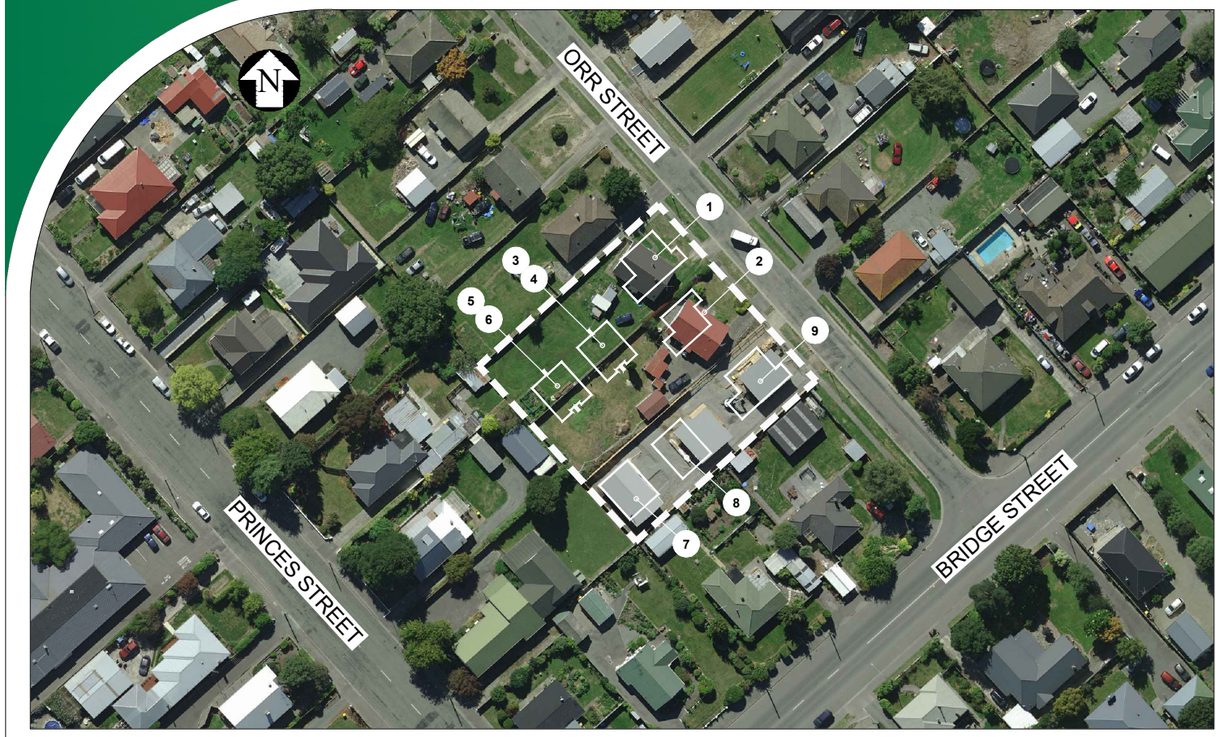
DRAWING REGISTER AND TRANSMITTAL NOTICE

Resource Consent

COMPANY	
ASHBURTON DISTRICT COUNCIL	P
BUILDER	P

KEY
PDF.....P
A1.....A1 Hardcopy
A3.....A3 Hardcopy
AA.....A1 and A3 Hardcopy

HOUSING DELIVERY SYSTEM - CHCH MBU4



LOCALITY PLAN
NTS

DRAWING LIST	
DRAWING NUMBER	DESCRIPTION
AR109526-CV-001	COVER SHEET
AR109526-CV-002	GENERAL CIVIL NOTES
AR109526-CV-111	CONCEPTUAL SERVICES PLAN
AR109526-CV-121	EXISTING SITE PLAN WITH EROSION & SEDIMENT CONTROL.
AR109526-CV-131	EARTHWORKS PLAN
AR109526-CV-501	EROSION & SEDIMENT CONTROL DETAILS

CIVIL

3160491

6-10 ORR STREET
NETHERBY
ASHBURTON

COVER SHEET

MARCH 2024

Beca

Kāinga Ora
Homes and Communities

ORIGINAL DRAWING
IN COLOUR

RESOURCE CONSENT
NOT FOR CONSTRUCTION

AR109526-CV-001 | A

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Document No. AR109526-CV-001.DWG

Housing Delivery System MBU4: Specifications

1. Datums and Coordinate Systems

- levels are in terms of Lyttelton Vertical Datum 1937(LVD37). Origin of levels: U 77 (AC97) RL:100.89m
- coordinates are in terms of NZGD2000 Gawler Circuit 2000. Origin of Coordinates: IT I DP 59139 (CM9T) (783062.51mN,432632.41mE)

2. Civil Works General

All works shall be in accordance with the New Zealand Building Code (NZBC) and the Ashburton District Council Standard Specifications for (i) Construction of Sewer and Stormwater Pipelines, and the (ii) Construction of Water Supply Pipelines, including the (iii) Water Services Department Standard Details, and (iv) the Roading Standard Drawings (Aoraki Roading Collaboration).

3. Setout

The contractor shall be responsible for setting out the work as shown on the drawings.

It is the contractors responsibility to confirm design positions and levels on site. If any existing positions or levels are found to conflict with the design then the contractor shall refer this back to the engineer.

4. Existing Services

The contractor shall check with territorial authorities and services providers for details and locations of services within and adjacent to the site. The contractor shall locate and protect all existing services that are to be retained.

5. Erosion and Sediment control

Erosion and sediment control shall be in accordance with the Canterbury regional Council's Erosion and Sediment Control Toolbox, the ADC Stormwater Bylaw, the specification and the drawings.

6. Earthworks General

The scope for earthworks include:

- stripping and disposal of surplus topsoil
- excavation and disposal of unsuitable material as agreed upon with the engineer
- minor cut to fill works within the proposed extent of works.

The contractor shall be responsible for managing stormwater runoff for the period of the contract term as per the contractors construction management plans. All excavation works are to be carried out in accordance with Worksafe NZ Excavation Safety Good Practice Guide dated July 2016.

7. Subgrade

The contractor shall be responsible for protection and care of the subgrade for works duration and particularly during wet weather.

8. Subgrade Testing

Subgrade testing shall be carried out immediately prior to pavement construction in accordance with the following parameters:

- fine grained material in-situ CBR shall be determined by testing with a dynamic cone (scala) penetrometer to a depth of not less than 1 metre in accordance with NZS 4402 test 6.5.2 at 10m spacings.
- Minimum CBR of 4% for pavement construction and 7% for vehicle crossings.

The contractor shall not commence the construction of the sub-basecourse layer until the engineer's acceptance of the subgrade is given.

9. Filling

Filling shall be to the following requirements:

- fill material shall be laid and compacted in layers not exceeding 150mm thickness.
- AP65 shall be compacted to a minimum dry density of 98% and the materials Maximum Dry Density (MMD).

10. Drainage and Water Supply

- placement and compaction of all embedment and backfill shall be in layers not exceeding 250mm compacted thickness. Where hand tampers are used, the compacted lift thickness shall not exceed 150mm.
- backfill shall be AP20.
- during construction, test backfill compaction of every layer at least once in each 10m of trench using a nuclear densometer.
  - o backfill shall comply as follows:
    - trafficked and pedestrian areas - compacted to a minimum dry density of 98% and the materials Maximum Dry Density (MMD)
    - landscape areas (not trafficked) - compacted to minimum of 70% of that materials maximum dry density
- gravity drainage shall be Hydrostatic Tested with a minimum head of 1.2m at the upper end of the pipe for a minimum of 5 minutes with no drop in water level. No part of the pipeline shall be subjected to a head of water greater than 6m for safety reasons.
- water supply pipelines shall be tested in accordance with AS/NZS 2566.2 Appendix M8 at a minimum pressure of 200kPa with no drop in pressure.
- abandoned services shall be removed in accordance with the ADC Standard Specifications for Construction of Sewer and Stormwater Pipelines.

11. Sub-basecourse/Basecourse Preparation

Should rain fall on the subgrade between the time of initial acceptance and the commencement of sub-basecourse construction, a further inspection of the subgrade surface shall be carried out to confirm that the subgrade is still suitable for sub-basecourse construction to proceed.

12. Sub-basecourse Construction

- Supply, placement and compaction of sub-base material shall be in accordance with NZTA B/2 and NZS 4404.
- Sub base shall be AP65.

13. Sub-basecourse Acceptance

The sub-basecourse shall meet the following requirements prior to acceptance:

- acceptance for compaction shall be in accordance with NZTA B/2 and NZS 4404.
- surface shape and tolerances shall comply with the requirements of NZTA B/2 and NZS 4404

Any yielding or otherwise unsatisfactory areas of the sub-basecourse which become evident shall be treated in accordance with the engineer's instructions.

For areas less than 500mm depth one set of testing shall suffice. For areas greater than 500mm two sets of testing shall be undertaken on layers of equal depth.

14. Basecourse Construction

The supply, placing and compaction of the basecourse layers shall be in accordance with NZTA B/2 and NZS 4404. Basecourse shall comply with the NZTA M/4 specification unless otherwise noted on the drawings.

15. Basecourse Acceptance

The basecourse shall meet the following requirements prior to acceptance:

- acceptance for compaction shall be in accordance with NZTA B/2 and NZS 4404.
- surface shape and tolerances shall comply with the requirements of NZTA B/2 and NZS 4404.

The contractor shall not commence the construction of the surface layer until the engineer's acceptance of the basecourse is given.

16. Asphaltic Concrete

Asphaltic concrete shall be manufactured and installed in accordance with NZTA M/10 and NZS 4404.

The finished surface shall:

- Be uniform in texture
- Contain no segregated areas
- Not pond water

17. Concrete

All concrete shall be in accordance with the requirements of NZBC, NZS 3104, NZS 3109, NZS 3112, NZS 3114.

The finished surface shall:

- Be uniform in texture
- Contain no segregated areas
- Not pond water

18. Asbuilts

Asbuilts shall be marked up copies of the Building Consent drawings.

19. Completion

Completion documents shall include all testing included in the above specifications and asbuilt documentation to the satisfaction of the engineer and in accordance with the contract documents.

The following shall be submitted for final sign off:

- asbuilt documents
- compaction test results (clegg, Nuclear Density Meter)
- leakage testing (air testing or hydrostatic testing)
- supplier specifications and warranties (for pumps, tanks, chambers etc)
- construction inspections records including site photos.

The engineer reserves the right to request further documentation to that listed above.

20. Inspections

The contractor shall provide the engineer with 72 hours notice prior to an item being ready for inspection.

The following items are to be inspected by the engineer on site:

- Earthworks
  - o excavated subgrade prior to any filling.
  - o completion of compaction of each layer of fill material and testing prior to placement of further layers
- Pipework
  - o trench excavation prior to laying of bedding materials
  - o completed pipework, manholes, chambers and other structures prior to backfilling
  - o completion of compaction of backfill and testing
- Pavement
  - o inspection of subgrade prior to sub-basecourse placement
  - o completion of compaction of basecourse material prior to placement of surfacing
  - o boxing and jointing prior to pouring of concrete
- Completion
  - o final inspection on completion of drainage and surfaces.

RESOURCE CONSENT
NOT FOR CONSTRUCTION

ORIGINAL DRAWING IN COLOUR

No.	Revision	By	Chk	Appd	Date
A	ISSUED FOR RESOURCE CONSENT	RS	DJ	CH	20.03.24

Original Scale (A1)
Reduced Scale (A3)

Design	R. Sharma	29.02.2024
Drawn	A. Khurana	29.02.2024
Dsg Verifier	D .Johnstone	14.03.2024
Drg Check	G. Frowein	14.03.2024

* Refer to Revision 1 for Original Signature

Beca

Kāinga Ora Homes and Communities

Project: 6-10 ORR STREET NETHERBY ASHBURTON

Title: GENERAL CIVIL NOTES

Discipline: CIVIL

Beca Project No.: 3160491

Drawing No.: AR109526-CV-002

Rev.: A

Document No. AR109526-CV-002.DWG

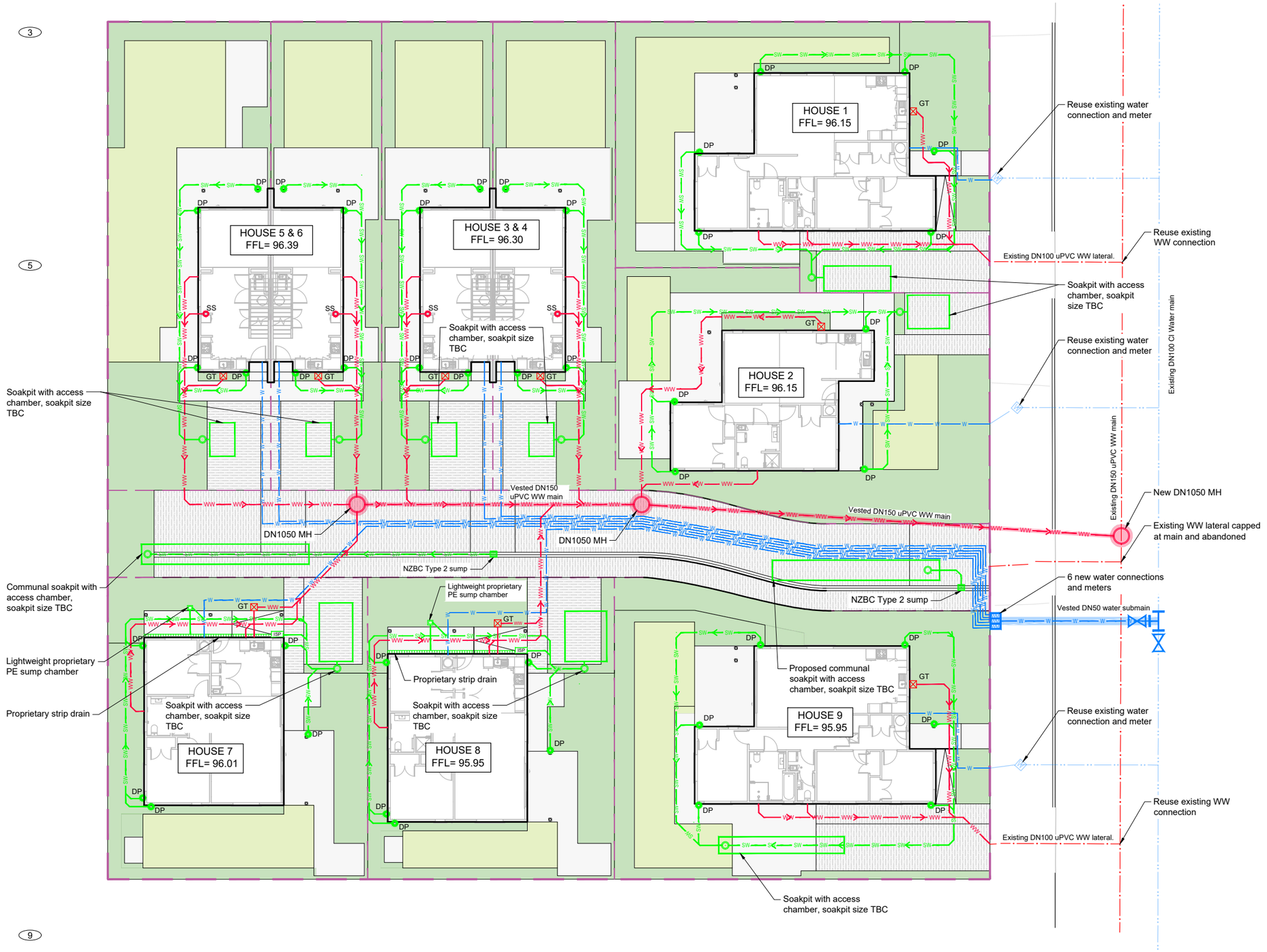
DO NOT SCALE FOR SET OUT DIMENSIONS

Important Services Note:

Contractor to confirm soakage rate during construction. Engineering team to overview testing and resize soakpits if necessary. Refer to technical specification for further information.

Important Services Note:

Existing services shown are indicative and based on records supplied by the service authorities. The contractor is responsible for ensuring all services are located and marked prior to any site works, and for protecting these services for the duration of the contract. Locations of power supply and communications including connection locations are indicative only. Contractor to confirm appropriate services layout with utility providers and ensure minimum separation distances are observed for shared trenching with 3 waters services



Notes:

1. Refer to drawing CV-002 for General Civil Notes.
2. For DN100 uPVC pipes within the boundary use SN6, for DN150 uPVC pipes within the boundary use SN8. When in road reserve use SN16 for both DN100 & DN150 pipes. All pipes vested to council to be SN16.
3. Drainage contractor is to confirm the condition of all existing stormwater and wastewater laterals prior to making connections.The public wastewater lateral may only be repaired by a Council Authorized Drainlayer.
4. Stormwater - DN100 uPVC SW @1:100 unless noted otherwise.
5. Wastewater - DN100 uPVC WW @1:60 unless noted otherwise.
6. Water - DN20 PE80 PN12.5 WS unless noted otherwise.
7. Threshold Drains:
   - The first 1m of sealed surfacing next to a threshold drain must fall away from the threshold drain at 1 in 40 grade.
   - Internal fall of threshold drains must be a minimum grade of 1 in 200.
   - Threshold drains have been designed to have a maximum of 3.7m of internal fall each side of the outlets to the stormwater system. Internal fall direction of threshold drains to these outlets is shown by arrows.
   - Threshold drain outlets drain to a sump with a lid level at least 150mm below the finished floor level to the connected dwelling.
   - Overflow outlets are to be installed where the threshold drain terminates less than 150mm below finished floor level.
8. Invert levels of existing pipes that proposed stormwater & wastewater systems are connecting to must be excavated and confirmed at the start of construction.
9. A buried inspection point is to be installed on wastewater pipes as soon as practicable, and within soft landscaping, after it penetrates the house foundation. Unless a gully trap is specified on that section of pipe in which case it is not required.

LEGEND

Existing	Proposed
Sewer	Waste Water
Water	Water
Stormwater	Stormwater
U/G Power	Property Boundary
O/H Power	Gully Trap
High Voltage	Sewer Stack
Telecommunication	Down Pipe
Fibre optic	WW / SW rodding point
Existing Services Easement	WW / SW Access point (Buried Access point)
Existing Power Pole/ Lighting Pole	Proprietary Inline Sump
Existing Water Meter	Water Valve & Meter
Existing Fire Hydrant	Fire Hydrant
Ex. SW/WW Manhole	WW / SW Manhole
Ex. SW/WW Sump	Sump. Refer to drawing for type
	Strip Drain
	Wastewater pipe to be vested back to council
	Potable water pipe to be vested back to council

RESOURCE CONSENT
NOT FOR CONSTRUCTION

ORIGINAL DRAWING IN COLOUR

No.	Revision	By	Chk	Appd	Date
A	ISSUED FOR RESOURCE CONSENT	RS	DJ	CH	20.03.24

Design	R. Sharma	29.02.2024
Drawn	A. Khurana	29.02.2024
Dsg Verifier	D. Johnstone	14.03.2024
Drg Check	G. Frowein	14.03.2024

Original Scale (A1) 1:125
Reduced Scale (A3) 1:250
* Refer to Revision 1 for Original Signature

Project: 6-10 ORR STREET NETHERBY ASHBURTON

Title: CONCEPTUAL SERVICES PLAN

Discipline: CIVIL
Beca Project No.: 3160491
Drawing No.: AR109526-CV-111
Rev.: A

Document No. AR109526-CV-111.DWG

DO NOT SCALE FOR SET OUT DIMENSIONS

Drawing Plotted: 20 Mar 2024 10:42 AM

Install perimeter silt fence as required dependant on site contours and construction process. Refer CV-501 for details

Existing house to be demolished. Typical

Proposed house outline. Typical

Stabilised entranceway. Refer CV-501 for detail

Refer to Architectural drawings for trees to be removed/retained

Lot 3 DP 18886

Lot 4 DP 18886

Lot 5 DP 18886

228°11'30" 52.73

138°11'30" 16.96

138°10'00" 16.96

138°11'30" 17.34

138°10'00" 17.34

138°11'30" 16.94

138°10'00" 16.94

48°11'30" 52.73

8m min.

Varies

4m min.

ORR STREET

BN 4
RL 95.50m

Contractor to install `Vanguard Type 49-GPM' ground protection mat with proprietary mat connectors as per manufacturer's specifications (or similar approved by engineer) over the stabilised gravel layer to protect the existing footpath and kerb during construction. Extent of mat protection to be agreed upon with engineer

Contractor to install ``Vanguard Type 49-GPM' ground protection mat with proprietary mat connectors as per manufacturer's specifications (or similar approved by engineer) over the stabilised gravel layer to protect the existing footpath and kerb during construction. Extent of mat protection to be agreed upon with engineer

TK 95.50
TK 95.47
TK 95.44
TK 95.43
TK 95.40
TK 95.39
TK 95.38
TK 95.36
TK 95.34
TK 95.32
TK 95.29
TK 95.27
IL 93.38
LL 95.28

Important Services Note:

Existing services shown are indicative and based on records supplied by the service authorities. The contractor is responsible for ensuring all services are located and marked prior to any site works, and for protecting these services for the duration of the contract. Locations of power supply and communications including connection locations are indicative only. Contractor to confirm appropriate services layout with utility providers and ensure minimum separation distances are observed for shared trenching with 3 waters services

Notes:

1. Refer to drawing CV-002 for General Civil Notes.
2. The topographical survey information shown is supplied by a third party and has not been confirmed by Beca.
3. Refer to architectural drawings for trees to be removed.
4. Refer to architectural drawings for fencing requirements.
5. Install water inlet protection (silt sock) at downstream catchpits or other stormwater inlet structures.
6. Refer to survey drawing for further detail on existing features.
7. The contractor is to provide a dust management plan as part of their erosion and sediment control plan and in line with their proposed construction method. Suitable measures to control dust on the site would include:
   - Watering of exposed areas of ground during dry periods.
   - Keeping vehicle speeds low in dry conditions.
   - Access road constructed with large roading aggregate to minimise dust.
   - Staging of works to avoid exposing large areas before they are needed for construction.
   - Covering or dust suppressant of earthworks stockpiles.
   - On-tool water suppression.

LEGEND

- Sewer
- Water
- Stormwater
- U/G Power
- O/H power
- High voltage
- Telecommunication
- Fibre optic
- Vodafone
- Property Boundary
- Existing Services easement
- 20.0 Major contour
- Minor contour
- Existing Fence
- Proposed Silt Fence
- Silt sock for sump protection
- BN X XX.XXm Control mark
- Stormwater sump
- Stormwater manhole
- Stormwater kerb outlet
- Sewer manhole
- Spot heights
- Fire hydrant
- Water meter
- Water valve
- Power box
- Telecom box / plinth
- Existing power pole / lightpole
- CHORUS Existing communications structure
- Tree trunk and dripline

RESOURCE CONSENT
NOT FOR CONSTRUCTION

ORIGINAL DRAWING IN COLOUR

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A	ISSUED FOR RESOURCE CONSENT	RS	DJ	CH	20.03.24

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Reduced Scale (A3)	1:250	
Design	R. Sharma	29.02.2024
Drawn	A. Khurana	29.02.2024
Dsg Verifier	D .Johnstone	14.03.2024
Drg Check	G. Frowein	14.03.2024

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Beca

Kāinga Ora Homes and Communities

Project: 6-10 ORR STREET NETHERBY ASHBURTON

Title: EXISTING SITE PLAN WITH EROSION & SEDIMENT CONTROL

Discipline: CIVIL

Beca Project No.: 3160491

Drawing No.: AR109526-CV-121

Rev.: A

Document No. AR109526-CV-121.DWG

1:125 (A1) 1:250 (A3)

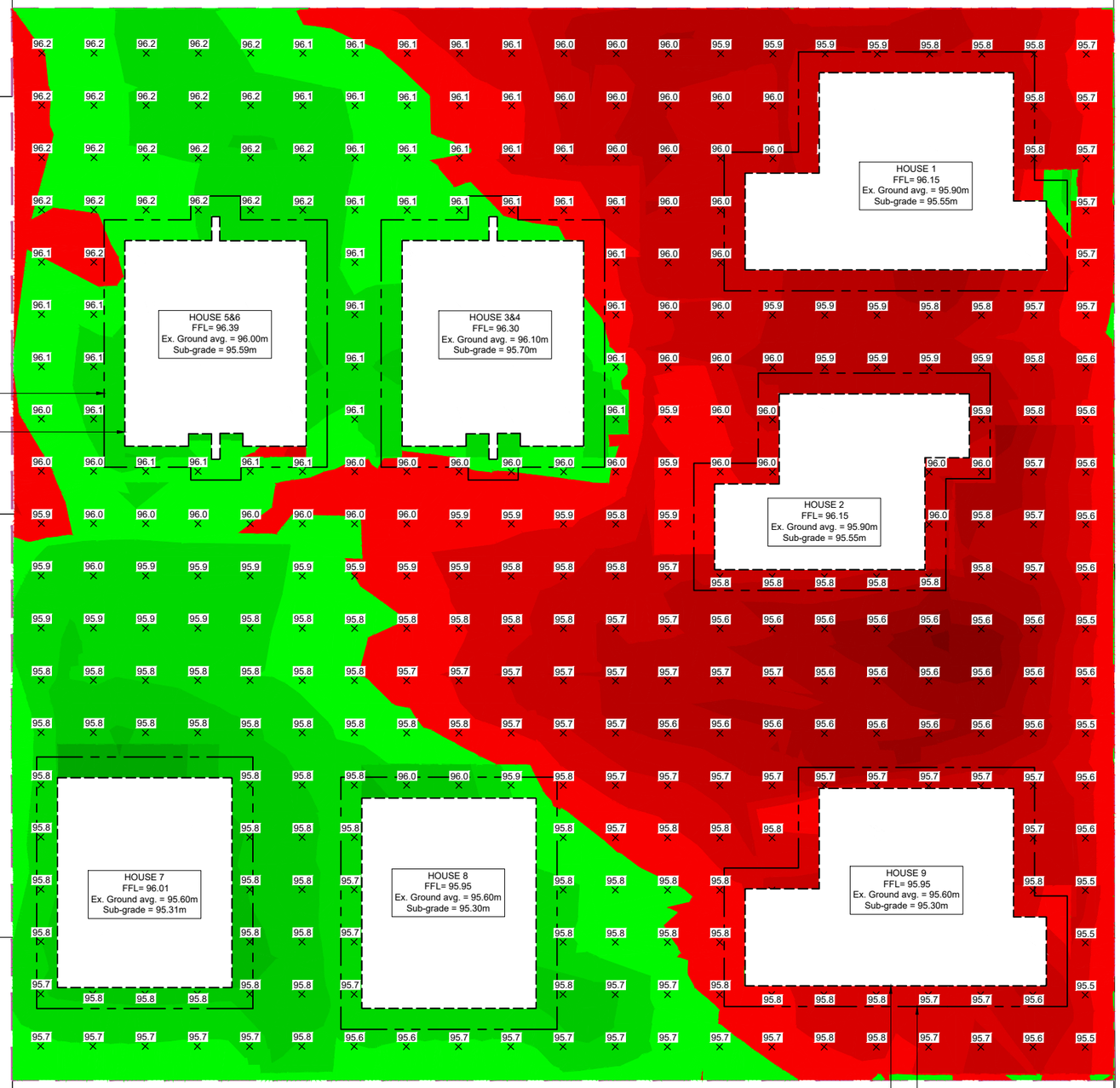
DO NOT SCALE FOR SET OUT DIMENSIONS

Notes:

1. Refer to drawing CV-002 for general civil notes.
2. Spot heights represent finished ground levels.

Elevation Ranges		
Colour	Minimum Elevation (m)	Maximum Elevation (m)
	0.5	0.6
	0.4	0.5
	0.3	0.4
	0.2	0.3
	0.1	0.2
	0.0	0.1
	-0.1	0.0
	-0.2	-0.1
	-0.3	-0.2
	-0.4	-0.3
	-0.5	-0.4
	-0.6	-0.5
	-0.7	-0.6
	-0.8	-0.7

Volumes : Cut \ Fill		
	Whole Site	
	Cut (m^3)	Fill (m^3)
Stage 1 -From existing to site scrape	1079	0
Stage 2 - From site scrape to subgrade	161	149
Stage 3 - From subgrade to finished	4	1046
Total	1243	1196



ORR STREET

3 4 5 7 9 12

EARTHWORKS PLAN OVERALL
EXISTING TO FINAL

RESOURCE CONSENT
NOT FOR CONSTRUCTION

ORIGINAL DRAWING
IN COLOUR

1:25 (A1) 1:250 (A3) 12.5m

No.	Revision	By	Chk	Appd	Date
A	ISSUED FOR RESOURCE CONSENT	RS	DJ	CH	20.03.24

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Kāinga Ora Homes and Communities

Project: 6-10 ORR STREET NETHERBY ASHBURTON

Title: EARTHWORKS PLAN

Discipline: CIVIL

Beca Project No.: 3160491

Drawing No.: AR109526-CV-131

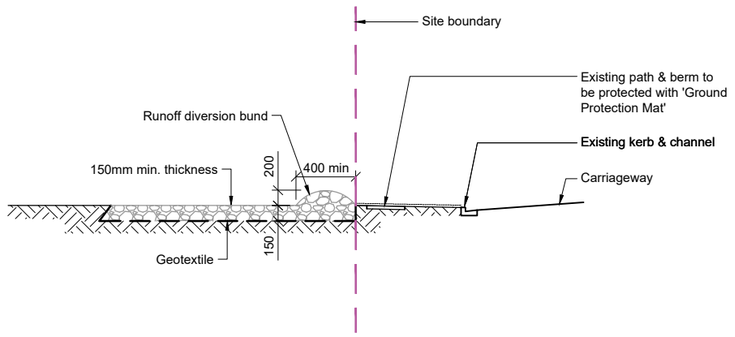
Rev.: A

Document No. AR109526-CV-131.DWG

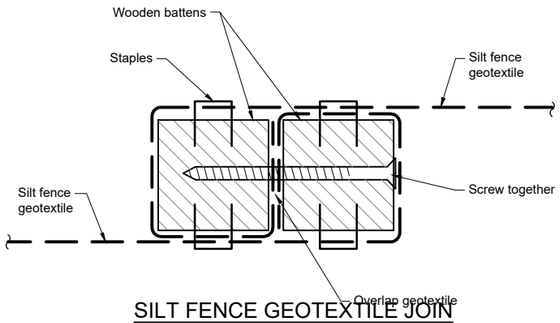
DO NOT SCALE FOR SET OUT DIMENSIONS

Notes:

1. Refer to drawing CV-002 for General Notes.
2. Refer to drawing CV-121 for location of stabilised entranceway on property boundary.

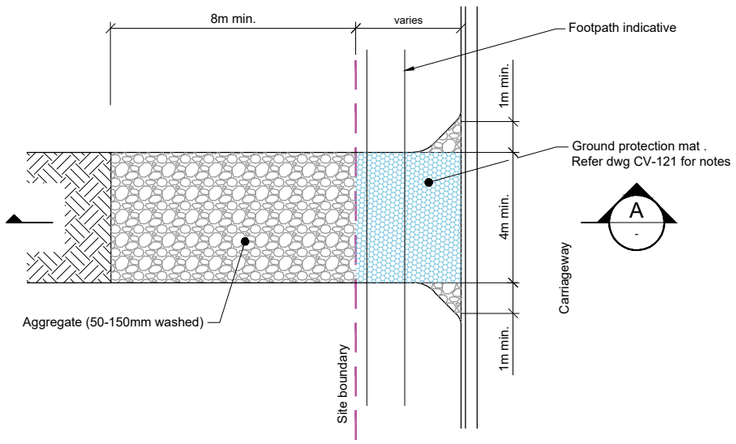


A SECTION - STABILISED ENTRANCEWAY
SCALE NTS



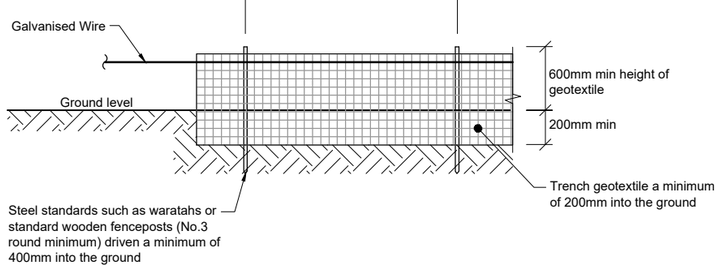
SILT FENCE GEOTEXTILE JOIN SECTIONAL PLAN

NTS



STABILISED ENTRANCEWAY - PLAN

NTS

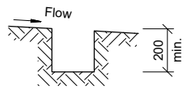


SILT FENCE ELEVATION

NTS

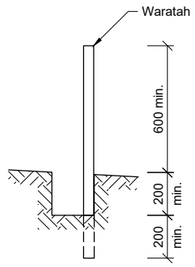
Step 1

Dig a 200mm deep trench



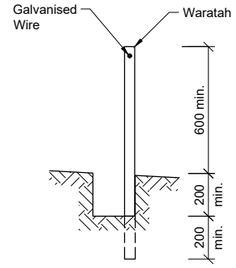
Step 2

Hammer in 1m waratahs or wooden fence post 200mm into the trench, therefore 400mm below original ground level



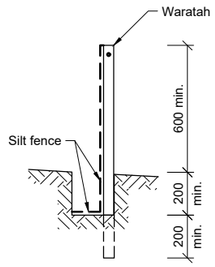
Step 3

Install single galvanised wire and tension it at 50m intervals



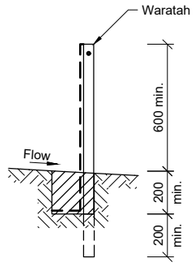
Step 4

Install single layer of silt fence geotextile fabric hard against the side of the trench (800mm total height)



Step 5

Back fill and compact well (critical)



SILT FENCE CONSTRUCTION METHOD

NTS

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
A	ISSUED FOR RESOURCE CONSENT	RS	DJ	CH	20.03.24

Original Scale (A1)	as shown	
Reduced Scale (A3)		
Design	R. Sharma	29.02.2024
Drawn	A. Khurana	29.02.2024
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Beca

Kāinga Ora Homes and Communities

Project: 6-10 ORR STREET NETHERBY ASHBURTON

Title: EROSION & SEDIMENT CONTROL DETAILS

Discipline: CIVIL

Beca Project No.: 3160491

Drawing No.: AR109526-CV-501

Rev.: A

Document No. AR109526-CV-131.DWG

UNIT MEASURE BAR 0 10 20 30 40 50 60 70 80 90 100

DO NOT SCALE FOR SET OUT DIMENSIONS