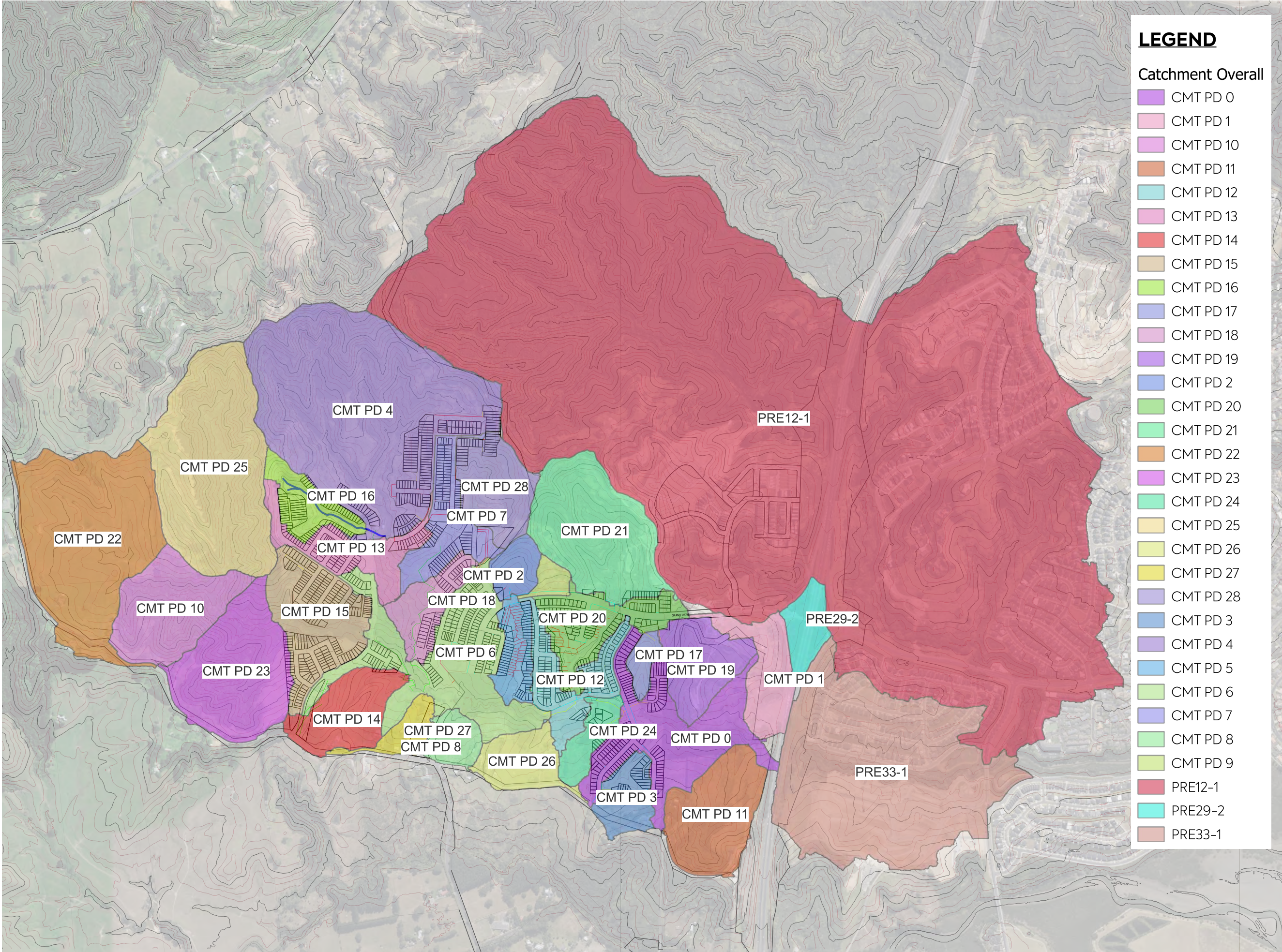


CATCHMENT NAME	AREA (ha)
CMT PD 5	3.586
CMT PD 23	14.228
PRE33-1	37.909
PRE12-1	265.321
CMT PD 28	7.031
CMT PD 10	10.615
CMT PD 24	3.007
CMT PD 13	6.174
CMT PD 27	2.443
CMT PD 14	6.940
CMT PD 25	23.647
CMT PD 17	1.540
CMT PD 18	4.576
CMT PD 3	3.851
CMT PD 9	1.253
CMT PD 8	2.796
CMT PD 6	16.824
CMT PD 1	5.955
CMT PD 26	4.774
CMT PD 0	14.247
CMT PD 7	6.302
CMT PD 21	14.747
CMT PD 22	24.152



2D MODELLING EXTENT

PERIMETER NAME	NO. OF CELLS	AREA (ha)
Perimeter 1	330455	386.38

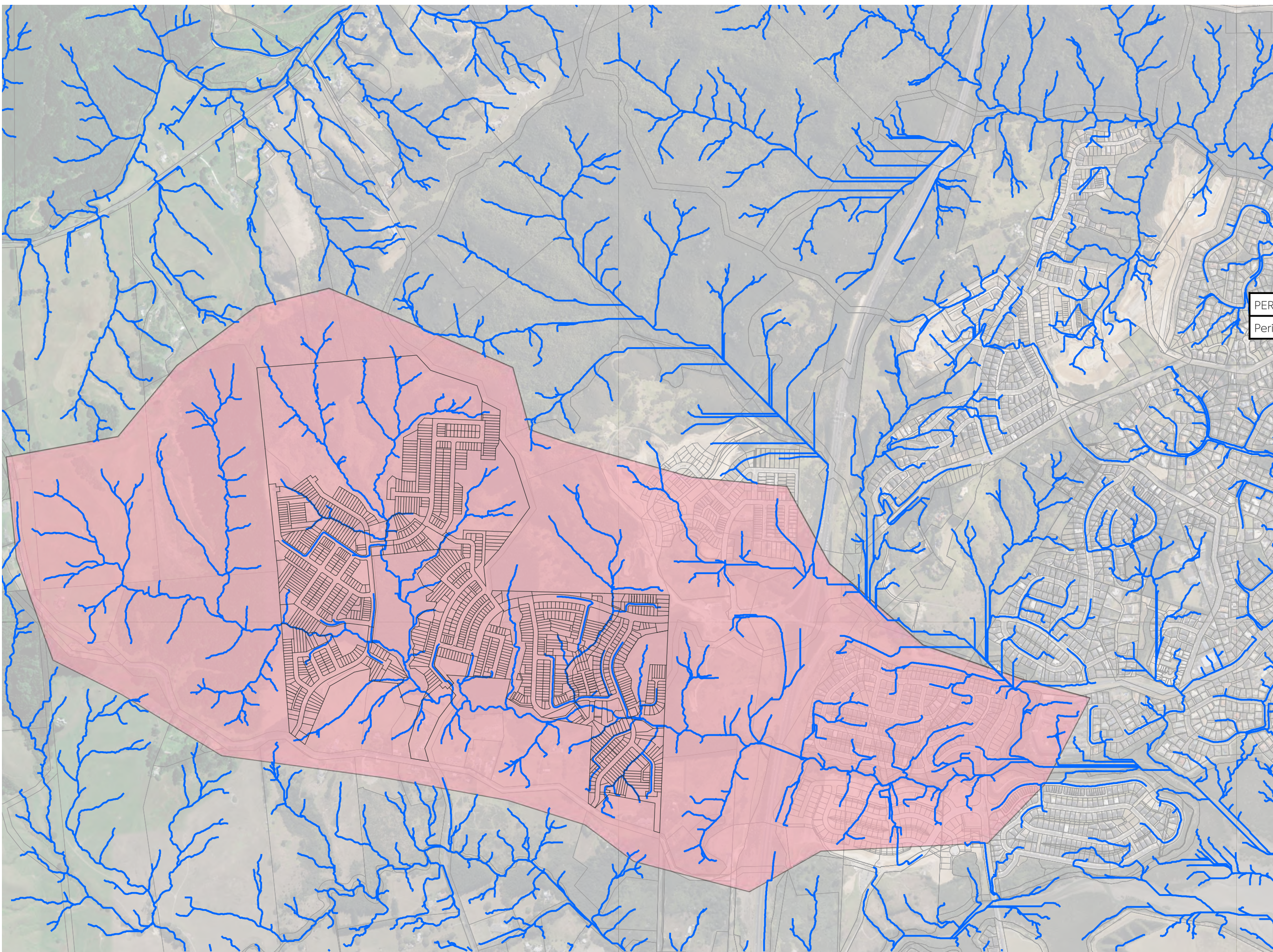
MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR CONSENT

SCALE: 1:12,000

DRAWING NO: 3725-0-4501 REV: A



TITLE:

53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
2D MODEL EXTENT
OVERALL PLAN

PURPOSE OF ISSUE:

FOR CONSENT

SCALE: 1:12,000

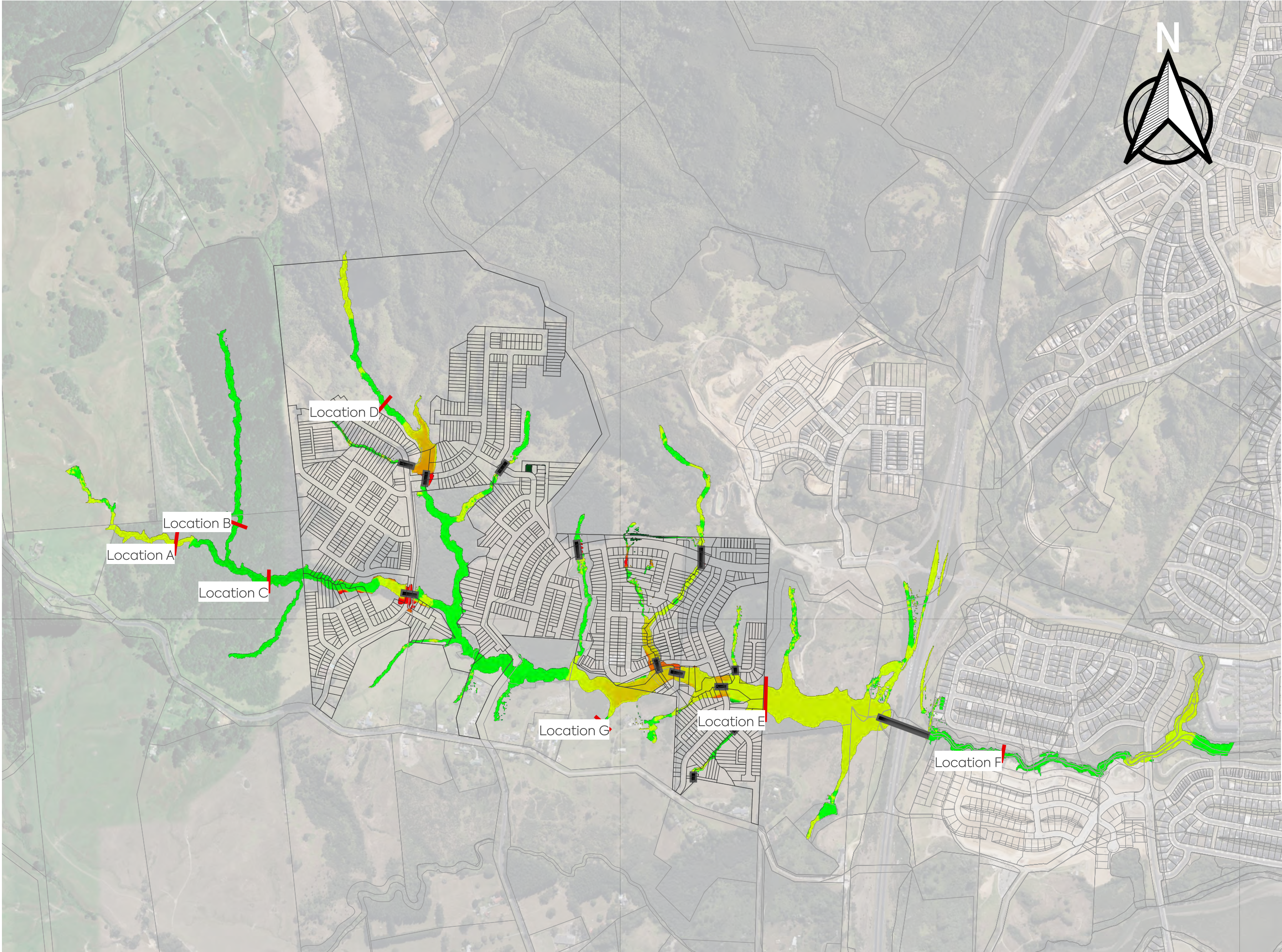
DRAWING NO: 3725-0-4501 REV: A

REV	DESCRIPTION	DRN	BYCHK	BYAPP	BY DATE
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PLOT DATE ---- WWW.MCKENZIEANDCO.CO.NZ THIS DRAWING IS SOLELY FOR USE BY THE CLIENT ON THIS PROJECT ONLY. NO LIABILITY IS ACCEPTED IN ITS USE BY ANY OTHER ENTITY OR FOR ANY OTHER PURPOSE.

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NOTES:

1. COMPARISON IS FOR 1% AEP STORM EVENT FOR PRE- AND POST- DEVELOPMENT SCENARIO.

2. SCENARIOS FOR COMPARISON IS SCENARIO 9 (D_MPD38CC001AEPWBBASE_PDT) AND SCENARIO 8 (EXD38CC001AEPWBBASE_EXT)



MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO:
3725-0-4502

REV:
A

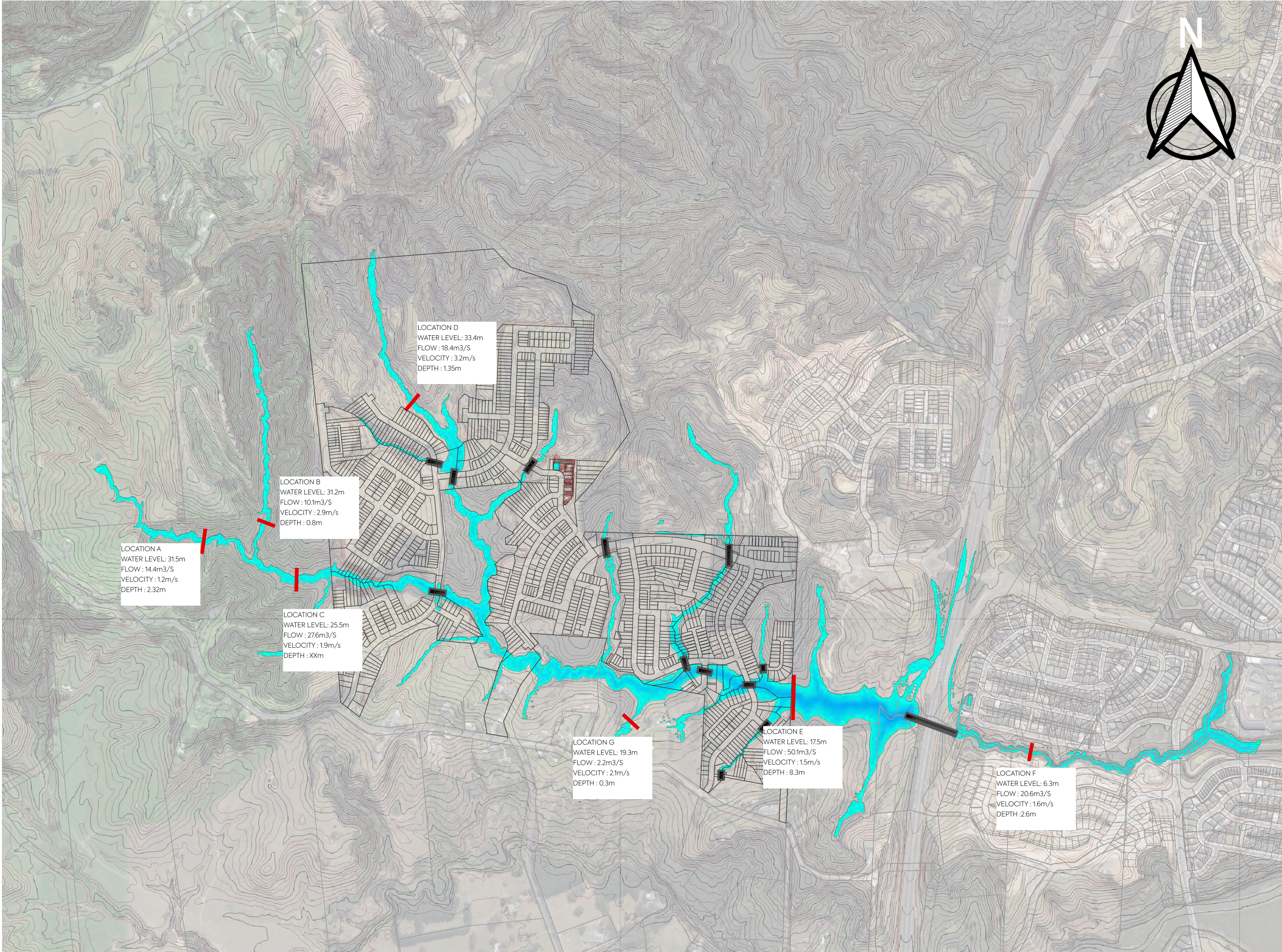
A				
FIRST ISSUE		HS	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP BY DATE
PLOT DATE ----				



CLIENT:
VINEWAY LIMITED

PROJECT:
DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

TITLE:
STORMWATER
FLOOD ASSESSMENT
1% AEP POST VS PRE DEVELOPMENT
COMPARISON PLAN (3.8D CC)



- NOTES:
1. SCENARIO ID IS D_MPD38CC001AEPTWBBASE_PDT, SCENARIO NUMBER 9.
 2. 1% AEP SCENARIO, WITH 3.8 DEGREE CLIMATE CHANGE, LAND USE IS MAXIMUM PROBABLE DEVELOPMENT WITHIN THE DELMORE SITE, EXISTING OUTSIDE THE DEVELOPMENT SITE.
 3. COMPARISON AGAINST EXISTING DEVELOPMENT (EXD38CC001AEPTWBBASE_EXT, SCENARIO 8) IS SHOWN ON PLAN 4503.
 4. CONTOUR INTERVAL IS 2.5m

LEGEND:

— CROSS SECTION

Proposed Culverts

CONTOURS

— 2.5 (MINOR)

— 10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

	<= 0.8000
	0.8000 - 1.6000
	1.6000 - 2.4000
	2.4000 - 3.2000
	3.2000 - 4.0000
	4.0000 - 4.8000
	4.8000 - 5.6000
	5.6000 - 6.4000
	6.4000 - 7.2000
	7.2000 - 8.0000
	8.0000 - 8.8000
	8.8000 - 9.6000
	9.6000 - 10.4000
	10.4000 - 11.2000
	11.2000 - 12.0000
	12.0000 - 12.8000
	12.8000 - 13.6000
	13.6000 - 14.4000
	14.4000 - 15.2000
	> 15.2000

MAP PROJECTION/ VERTICAL DATUM:

NZGD2000 / MT EDEN 2000
(EPSG: 2105)

NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR CONSENT

SCALE:

1:10,000

DRAWING NO:

3725-0-4503

REV:

A

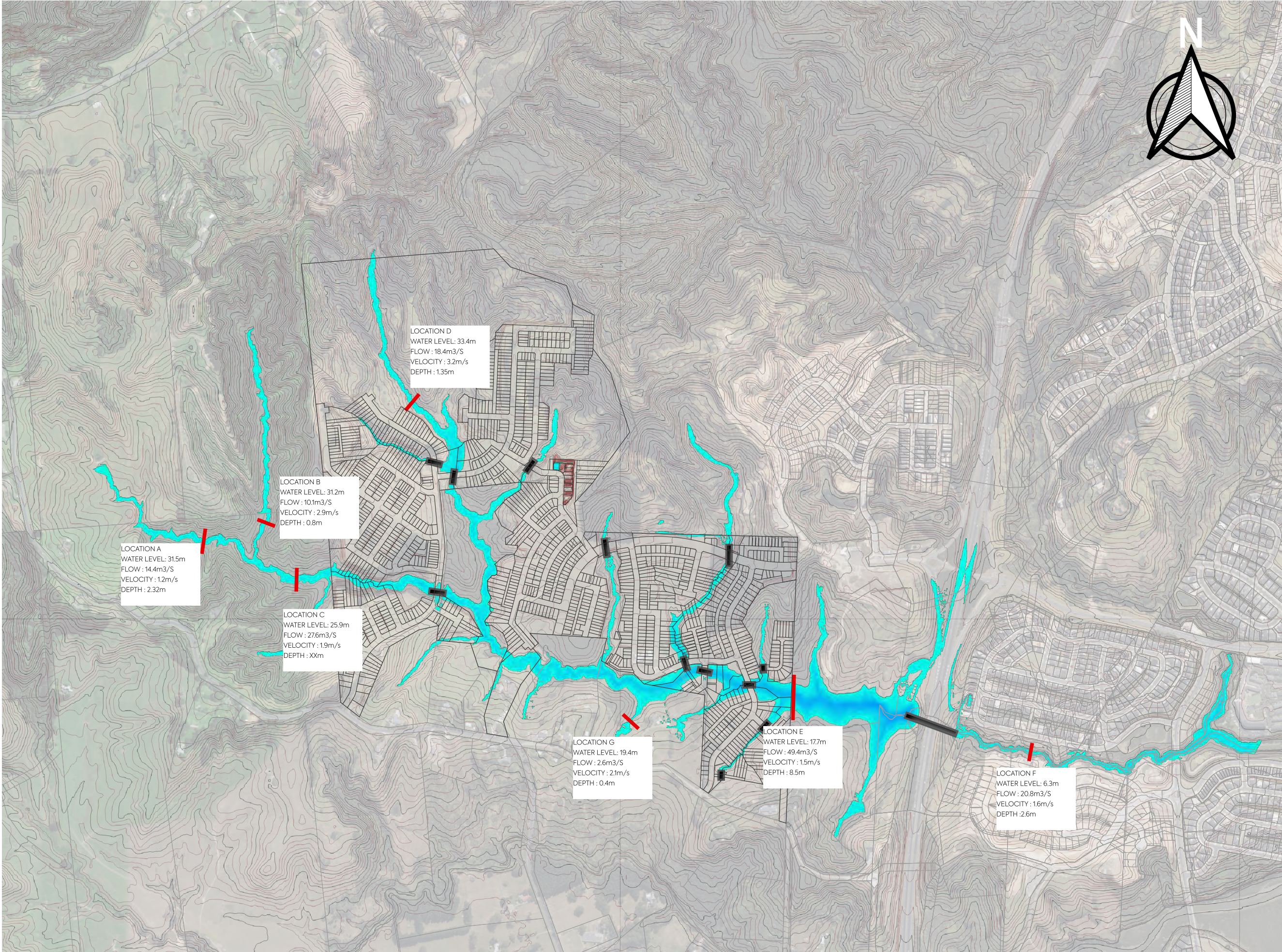
A	FIRST ISSUE	HS	-	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP	BY DATE
PLOT DATE	----	WWW.MCKENZIEANDCO.CO.NZ	THIS DRAWING IS SOLELY FOR USE BY THE CLIENT ON THIS PROJECT ONLY. NO LIABILITY IS ACCEPTED IN ITS USE BY ANY OTHER ENTITY OR FOR ANY OTHER PURPOSE.		



VINEWAY LIMITED

DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
1% AEP POST-DEVELOPMENT
FLOOD PLAIN PLAN (3.8D CC)



- NOTES:
1. SCENARIO ID IS MPD38CC001AEPTWBBASE_PDT, SCENARIO NUMBER 5.
 2. 1% AEP SCENARIO, WITH 3.8 DEGREE CLIMATE CHANGE, LAND USE IS MAXIMUM PROBABLE DEVELOPMENT WITHIN THE DELMORE SITE, MPD OUTSIDE THE DEVELOPMENT THAT ARE WITHIN FUZ.
 3. CONTOUR INTERVAL IS 2.5m

LEGEND:

— CROSS SECTION

Proposed Culverts

CONTOURS

— 2.5 (MINOR)

— 10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

	<= 0.8000
	0.8000 - 1.6000
	1.6000 - 2.4000
	2.4000 - 3.2000
	3.2000 - 4.0000
	4.0000 - 4.8000
	4.8000 - 5.6000
	5.6000 - 6.4000
	6.4000 - 7.2000
	7.2000 - 8.0000
	8.0000 - 8.8000
	8.8000 - 9.6000
	9.6000 - 10.4000
	10.4000 - 11.2000
	11.2000 - 12.0000
	12.0000 - 12.8000
	12.8000 - 13.6000
	13.6000 - 14.4000
	14.4000 - 15.2000
	> 15.2000

MAP PROJECTION/ VERTICAL DATUM:

NZGD2000 / MT EDEN 2000
(EPSG: 2105)

NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR DISCUSSION ONLY

SCALE:

1:10,000

DRAWING NO:

3725-0-4505

REV:

A

A	FIRST ISSUE	HS	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP BY DATE
PLOT DATE ----				

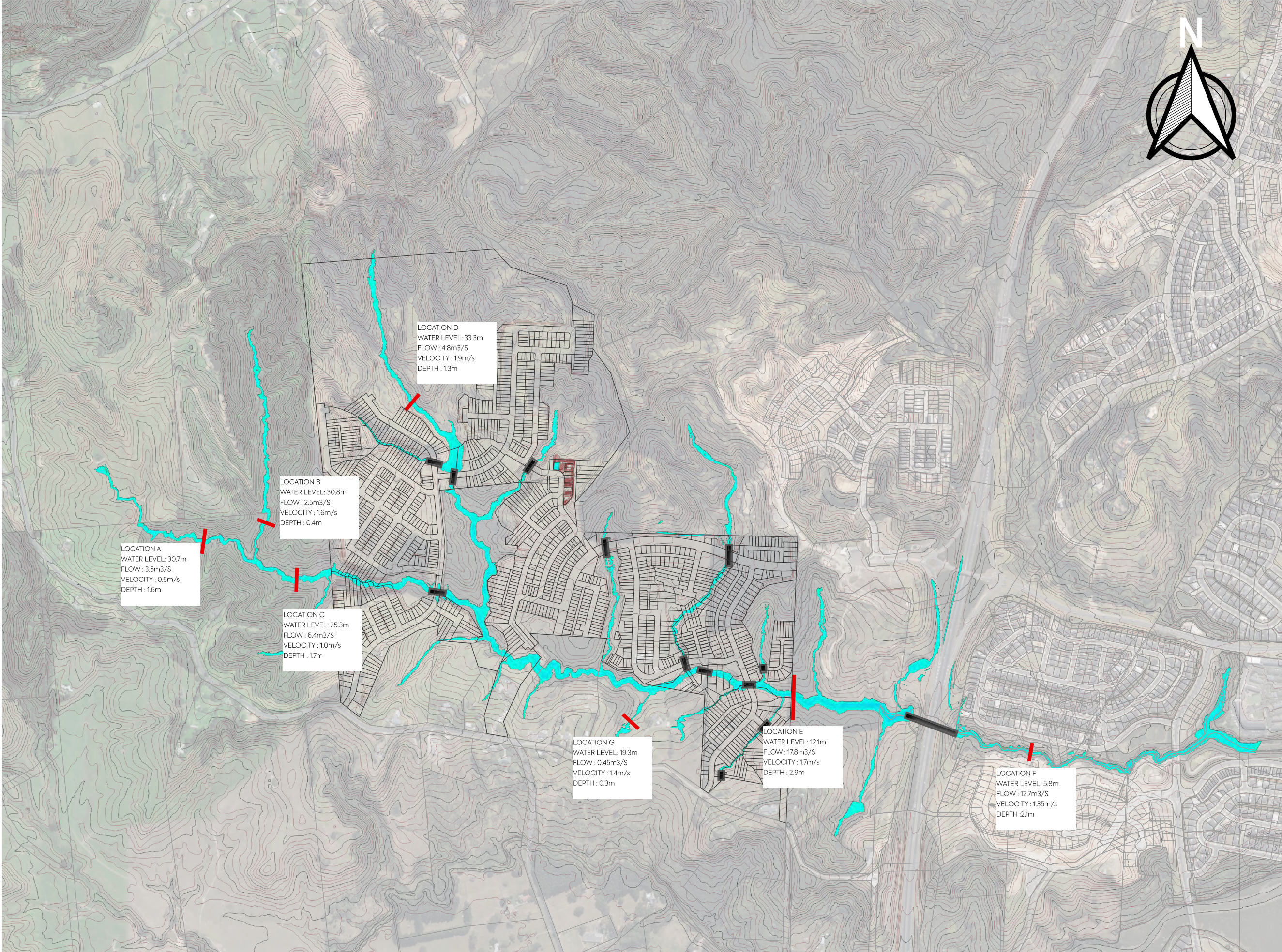


MCKENZIE & CO.

VINEWAY LIMITED

DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
1% AEP POST-DEVELOPMENT
FLOOD PLAIN PLAN (3.8D CC) - FUZ



- NOTES:
1. SCENARIO ID IS D_MPD21CC050Aeptwabase_pdt ,SCENARIO NUMBER 16.
 2. 50% AEP SCENARIO, WITH 2.1 DEGREE CLIMATE CHANGE, LAND USE IS MAXIMUM PROBABLE DEVELOPMENT WITHIN THE DELMORE SITE, EXISTING OUTSIDE THE DEVELOPMENT SITE.
 3. COMPARISON AGAINST EXISTING DEVELOPMENT (EXD21CC050Aeptwabase_ext, SCENARIO 13) IS SHOWN ON PLAN 4507.
 4. CONTOUR INTERVAL IS 2.5m

LEGEND:

CROSS SECTION

Proposed Culverts

CONTOURS

2.5 (MINOR)

10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

	<= 0.8000
	0.8000 - 1.6000
	1.6000 - 2.4000
	2.4000 - 3.2000
	3.2000 - 4.0000
	4.0000 - 4.8000
	4.8000 - 5.6000
	5.6000 - 6.4000
	6.4000 - 7.2000
	7.2000 - 8.0000
	8.0000 - 8.8000
	8.8000 - 9.6000
	9.6000 - 10.4000
	10.4000 - 11.2000
	11.2000 - 12.0000
	12.0000 - 12.8000
	12.8000 - 13.6000
	13.6000 - 14.4000
	14.4000 - 15.2000
	> 15.2000

MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR DISCUSSION ONLY

SCALE:
1:10,000

DRAWING NO: 3725-0-4506

REV: A

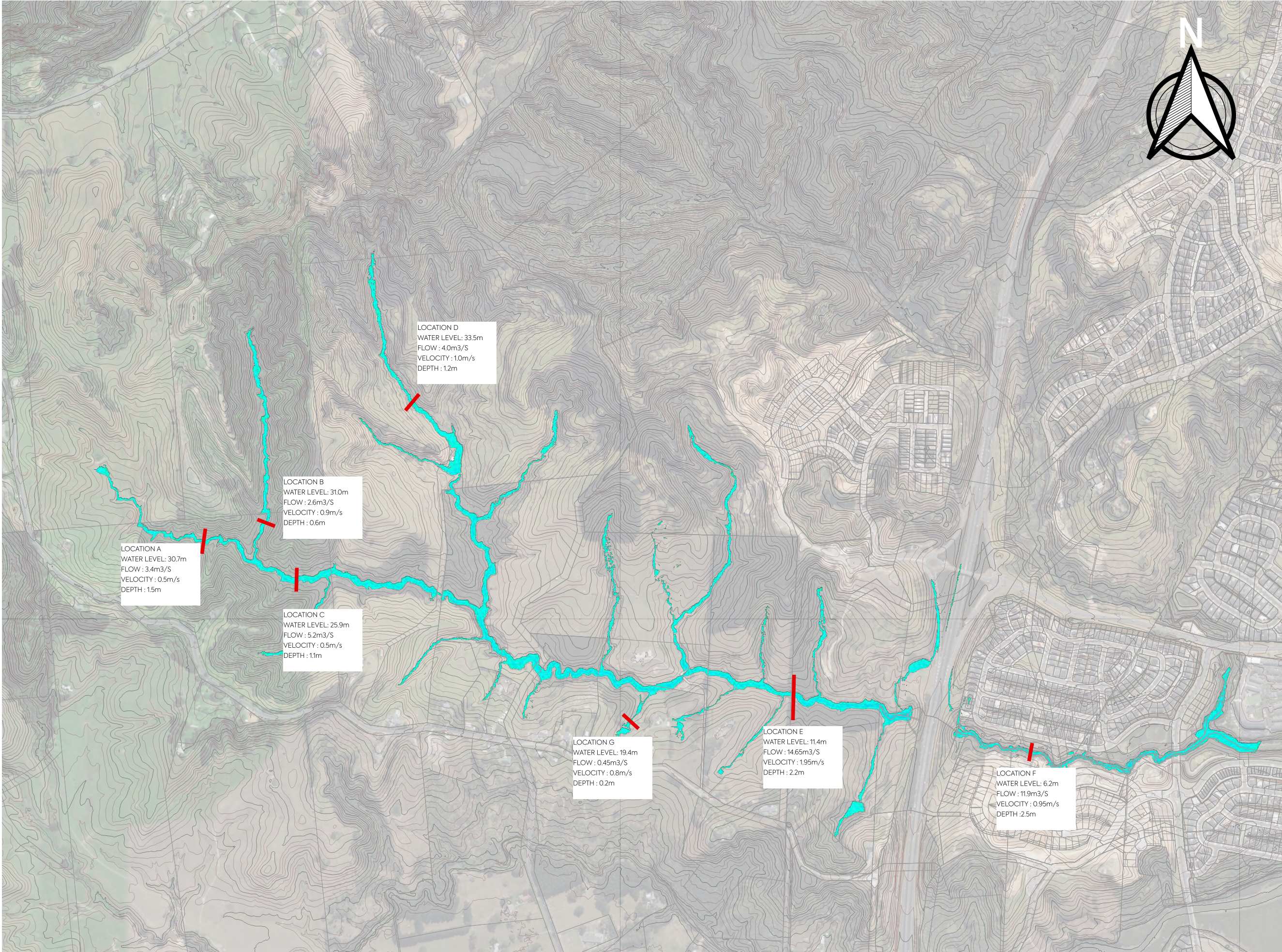
A				
FIRST ISSUE				
HS - - 16/01/2025				
REV	DESCRIPTION	DRN	BYCHK	BY APP BY DATE
PLOT DATE ----				



VINEWAY LIMITED

DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
50% AEP POST-DEVELOPMENT
FLOOD PLAIN PLAN (2.1D CC)



- NOTES:
1. SCENARIO ID IS EXD21CC050AEPTWABASE_EXT ,SCENARIO NUMBER 13.
 2. 50% AEP SCENARIO, WITH 2.1 DEGREE CLIMATE CHANGE, LAND USE IS CURRENT (PRE-EXISTING).
 3. CONTOUR INTERVAL IS 2.5m

LEGEND:

CROSS SECTION

CONTOURS

- 2.5 (MINOR)
- 10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

- <= 0.8000
- 0.8000 - 1.6000
- 1.6000 - 2.4000
- 2.4000 - 3.2000
- 3.2000 - 4.0000
- 4.0000 - 4.8000
- 4.8000 - 5.6000
- 5.6000 - 6.4000
- 6.4000 - 7.2000
- 7.2000 - 8.0000
- 8.0000 - 8.8000
- 8.8000 - 9.6000
- 9.6000 - 10.4000
- 10.4000 - 11.2000
- 11.2000 - 12.0000
- 12.0000 - 12.8000
- 12.8000 - 13.6000
- 13.6000 - 14.4000
- 14.4000 - 15.2000
- > 15.2000

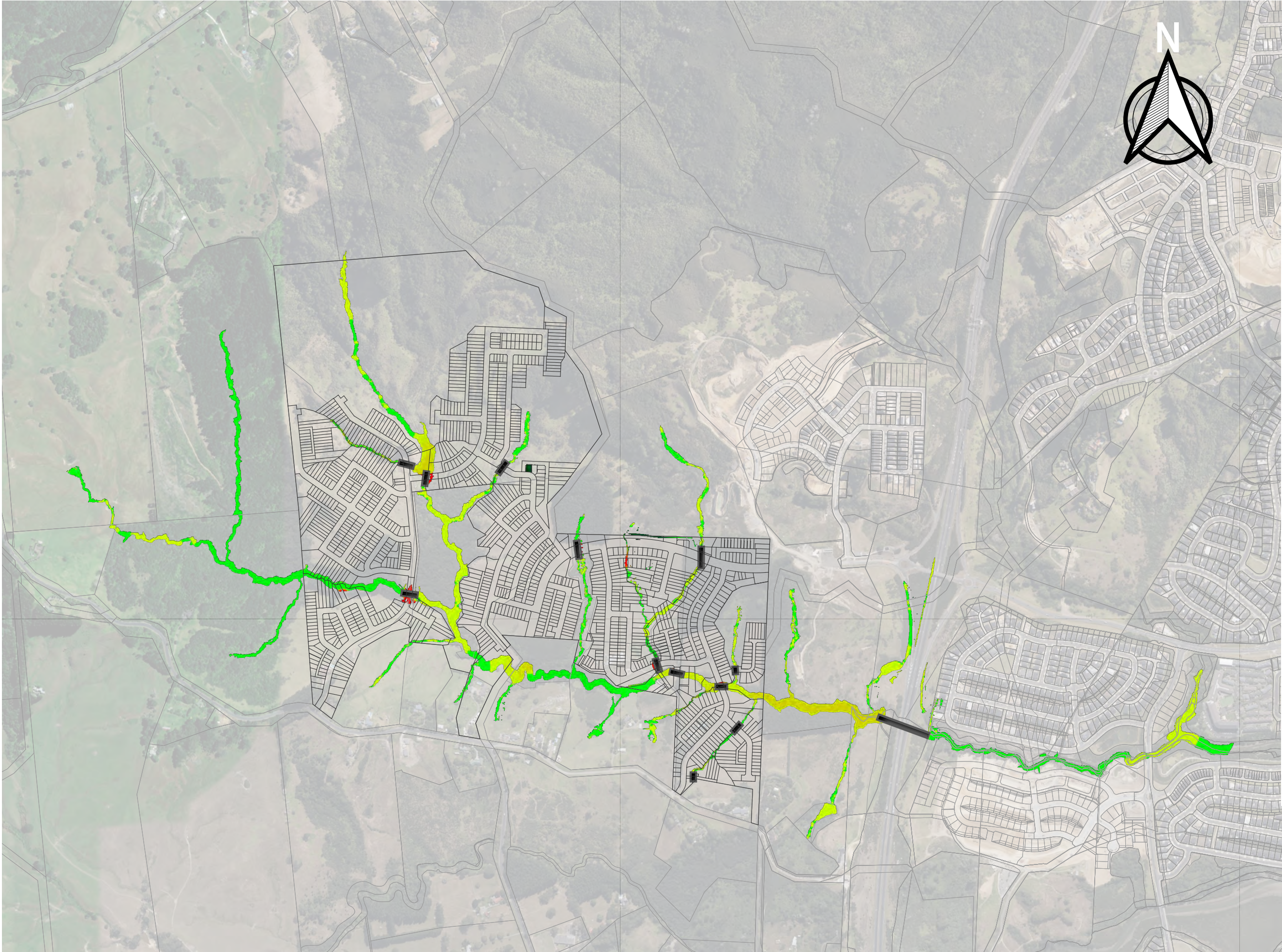
MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO:
3725-0-4504

REV:
A



NOTES:

1. COMPARISON IS FOR 50% AEP STORM EVENT FOR PRE- AND POST- DEVELOPMENT SCENARIO.

2. SCENARIOS FOR COMPARISON IS SCENARIO 16 (D_MPD21CC050AEPWBBASE_PDT) AND SCENARIO 13 (EXD21CC050AEPWBBASE_EXT)



MAP PROJECTION/ VERTICAL DATUM:

NZGD2000 / MT EDEN 2000
(EPSG: 2105)

NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR CONSENT

SCALE:

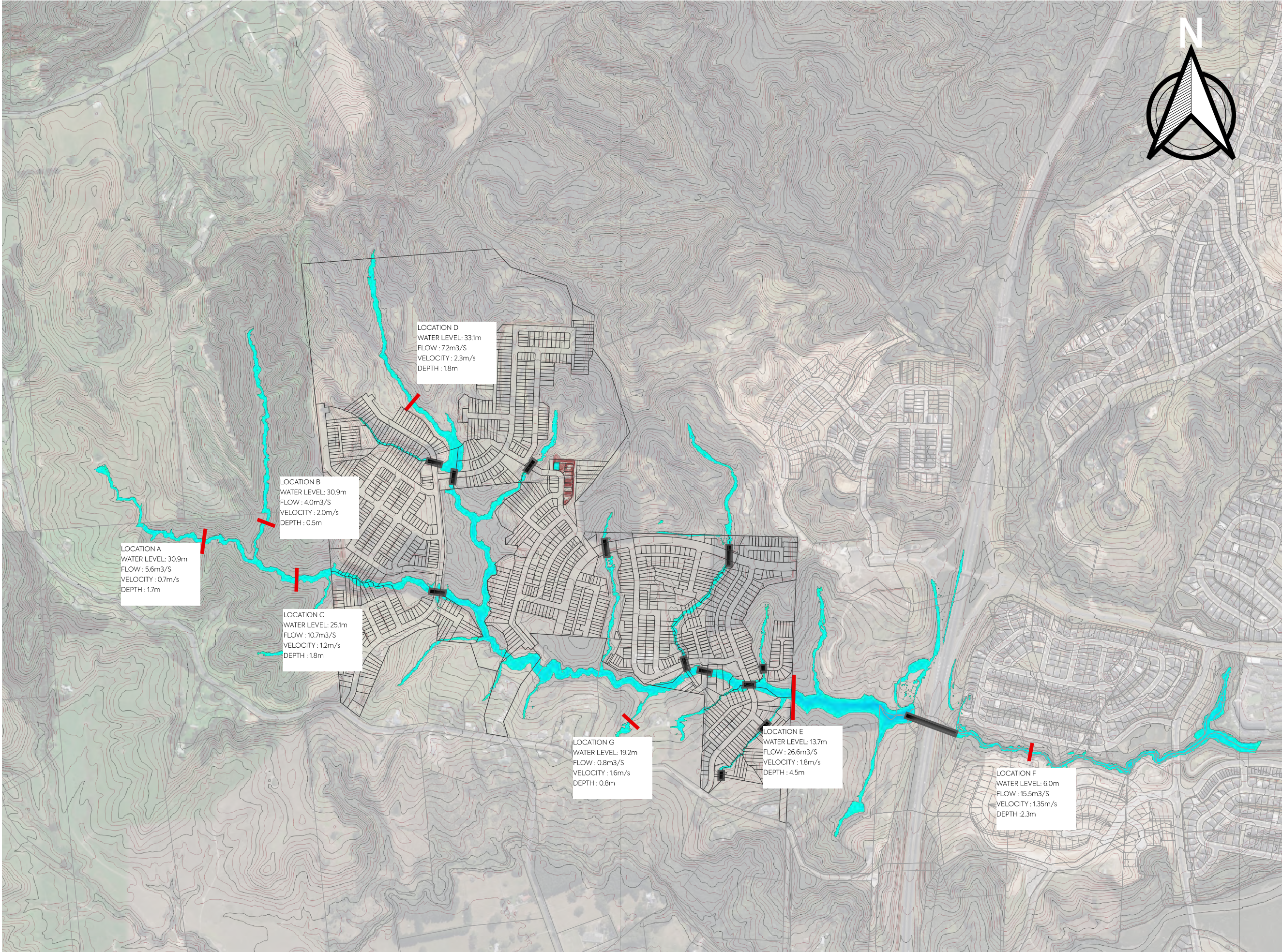
1:10,000

DRAWING NO:

3725-0-4508

REV:

A



- NOTES:
1. SCENARIO ID IS D_MPD21CC020APTWABASE_PDT ,SCENARIO NUMBER 17.
 2. 20% AEP SCENARIO, WITH 2.1 DEGREE CLIMATE CHANGE, LAND USE IS MAXIMUM PROBABLE DEVELOPMENT WITHIN THE DELMORE SITE, EXISTING OUTSIDE THE DEVELOPMENT SITE.
 3. CONTOUR INTERVAL IS 2.5m

LEGEND:

— CROSS SECTION

Proposed Culverts

CONTOURS

— 2.5 (MINOR)

— 10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

	<= 0.8000
	0.8000 - 1.6000
	1.6000 - 2.4000
	2.4000 - 3.2000
	3.2000 - 4.0000
	4.0000 - 4.8000
	4.8000 - 5.6000
	5.6000 - 6.4000
	6.4000 - 7.2000
	7.2000 - 8.0000
	8.0000 - 8.8000
	8.8000 - 9.6000
	9.6000 - 10.4000
	10.4000 - 11.2000
	11.2000 - 12.0000
	12.0000 - 12.8000
	12.8000 - 13.6000
	13.6000 - 14.4000
	14.4000 - 15.2000
	> 15.2000

MAP PROJECTION/ VERTICAL DATUM:

NZGD2000 / MT EDEN 2000
(EPSG: 2105)

NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR DISCUSSION ONLY

SCALE:

1:10,000

DRAWING NO: 3725-0-4509

REV: A

A	FIRST ISSUE	HS	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP BY DATE
PLOT DATE ----				

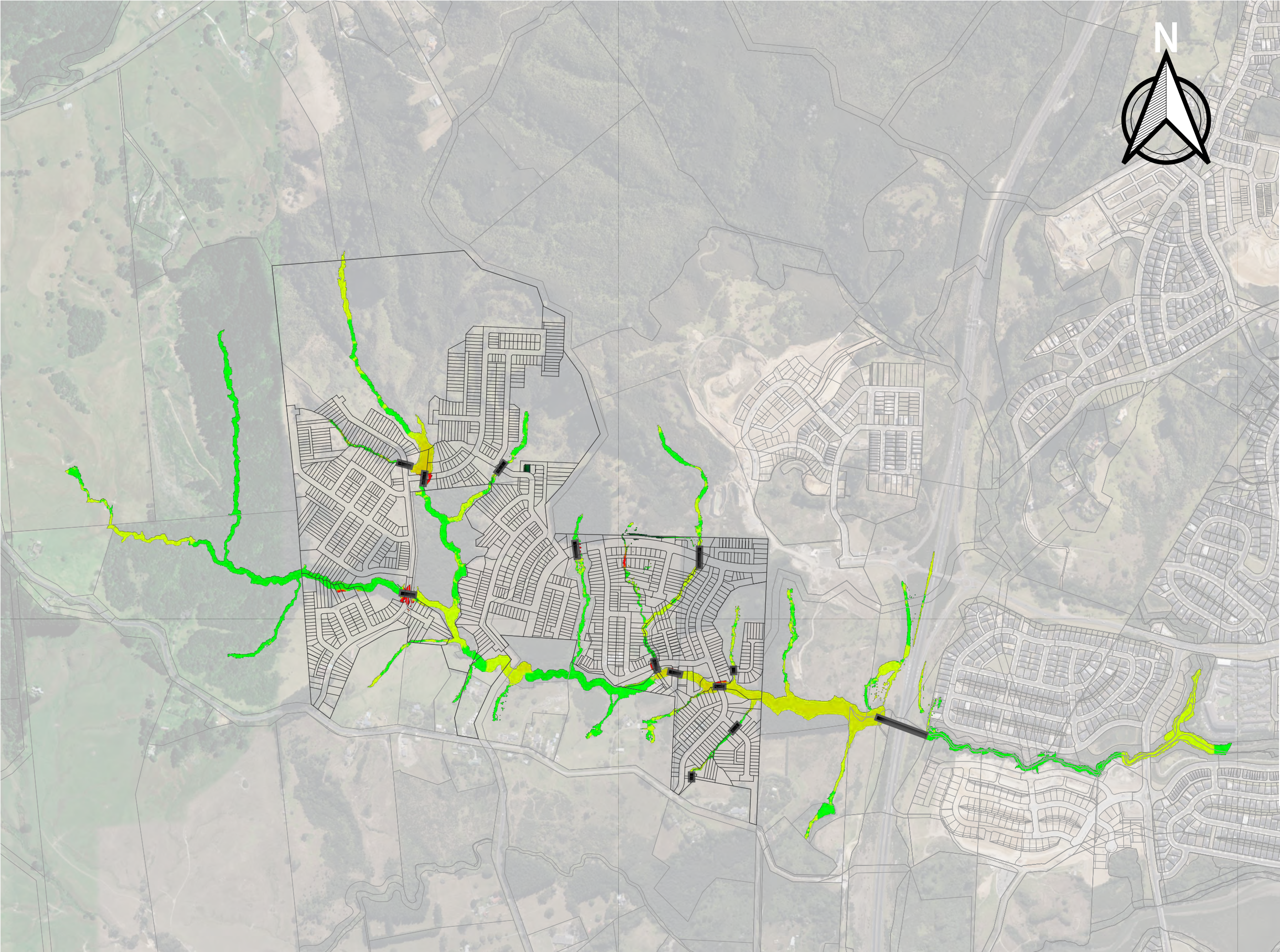


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VINEWAY LIMITED

DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
20% AEP POST-DEVELOPMENT
FLOOD PLAIN PLAN (2.1D CC)



NOTES:

1. COMPARISON IS FOR 20% AEP STORM EVENT FOR PRE- AND POST- DEVELOPMENT SCENARIO.

2. SCENARIOS FOR COMPARISON IS SCENARIO 17 (D_MPD21CC020AEPTWBBASE_PDT) AND SCENARIO 15 (EXD21CC020AEPTWBBASE_EXT)



MAP PROJECTION/ VERTICAL DATUM:

NZGD2000 / MT EDEN 2000
(EPSG: 2105)

NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:

FOR CONSENT

SCALE:

1:10,000

DRAWING NO:

3725-0-4511

REV:

A

A				
FIRST ISSUE				
HS	-	-	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP BY DATE
PLOT DATE ----				



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VINEWAY LIMITED

DELMORE

53A, 53B & 55 RUSSELL ROAD

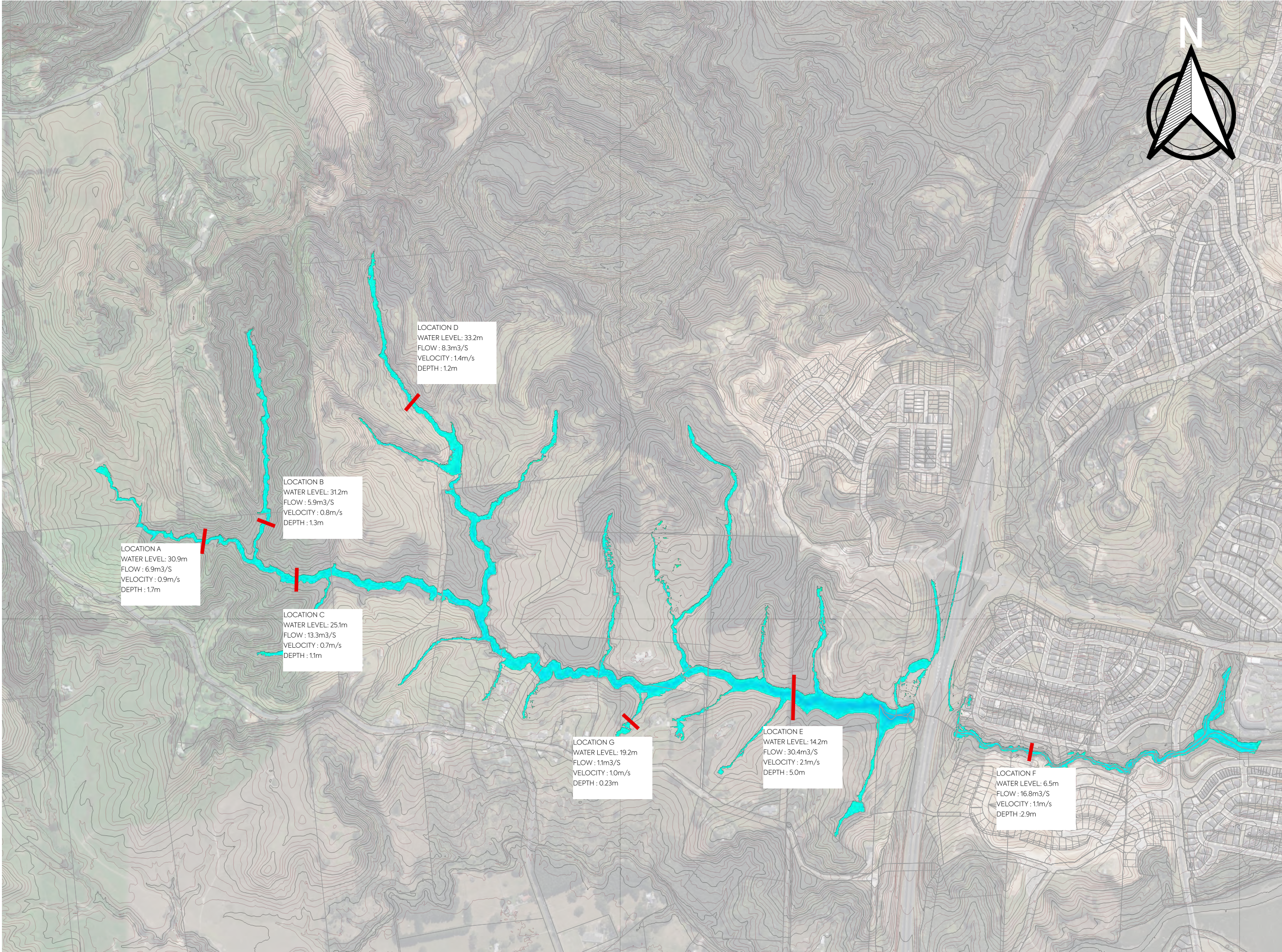
OREWA

STORMWATER

FLOOD ASSESSMENT

20% AEP POST VS PRE DEVELOPMENT

COMPARISON PLAN (3.8D CC)



- NOTES:
1. SCENARIO ID IS EXD21CC010AEPWABASE_EXT ,SCENARIO NUMBER 14.
 2. 10% AEP SCENARIO, WITH 2.1 DEGREE CLIMATE CHANGE, LAND USE IS CURRENT (PRE-EXISTING).
 3. CONTOUR INTERVAL IS 2.5m

LEGEND:

CROSS SECTION

CONTOURS

- 2.5 (MINOR)
- 10 (MAJOR)

FLOOD DEPTH (SCENARIO 9)

Band 1 (Gray)

<= 0.8000
0.8000 - 1.6000
1.6000 - 2.4000
2.4000 - 3.2000
3.2000 - 4.0000
4.0000 - 4.8000
4.8000 - 5.6000
5.6000 - 6.4000
6.4000 - 7.2000
7.2000 - 8.0000
8.0000 - 8.8000
8.8000 - 9.6000
9.6000 - 10.4000
10.4000 - 11.2000
11.2000 - 12.0000
12.0000 - 12.8000
12.8000 - 13.6000
13.6000 - 14.4000
14.4000 - 15.2000
> 15.2000

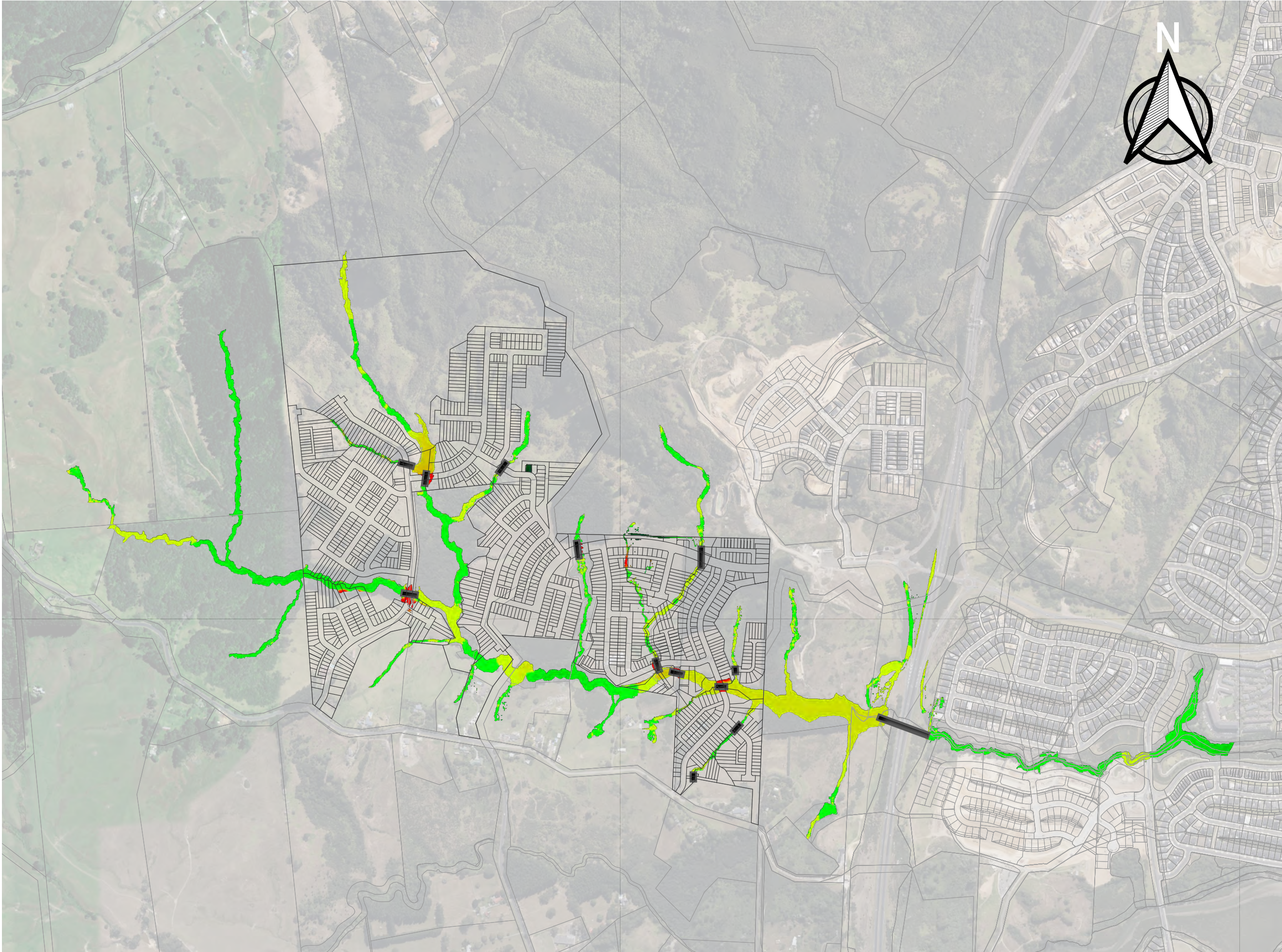
MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO:
3725-0-4513

REV:
A



NOTES:

1. COMPARISON IS FOR 10% AEP STORM EVENT FOR PRE- AND POST- DEVELOPMENT SCENARIO.

2. SCENARIOS FOR COMPARISON IS SCENARIO 18 (D_MPD21CC010Aeptwbbase_pdt) AND SCENARIO 14 (EXD21CC010Aeptwbbase_ext)



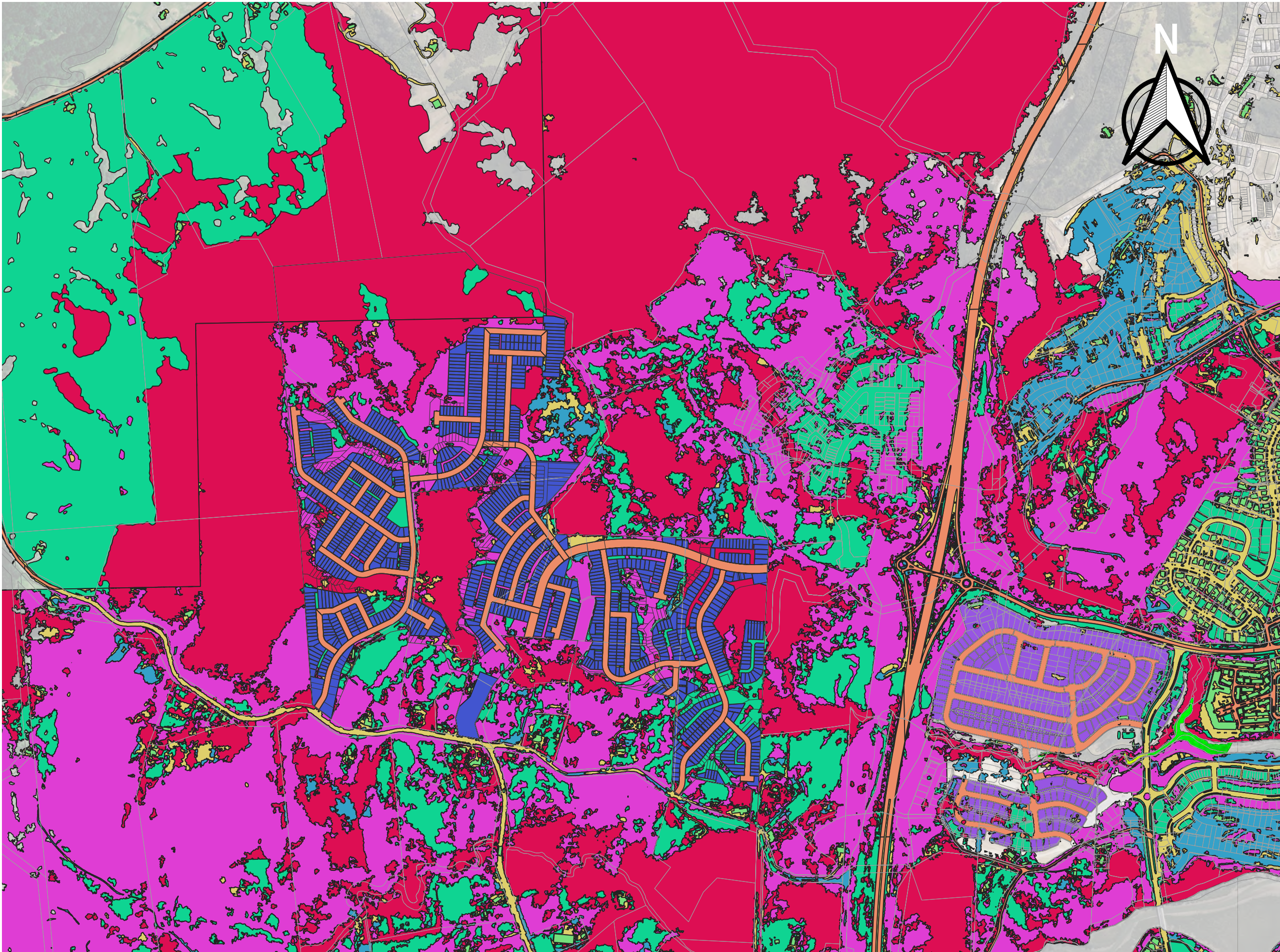
MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO:
3725-0-4514

REV:
A



NOTES:
1. LAND COVER DATA FOR POST-DEVELOPMENT SCENARIO

LandType	Mannings
Grass	0.06
Schrub	0.1
High Veg	0.12
Gravel	0.05
Urban	0.1
Others	0.1
Roads	0.05

LEGEND

- Grass
- Gravel
- High Veg
- Others
- Prop Lot
- Roads
- Roof
- Schrub
- Urban

MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO: 3725-0-4515
REV: A

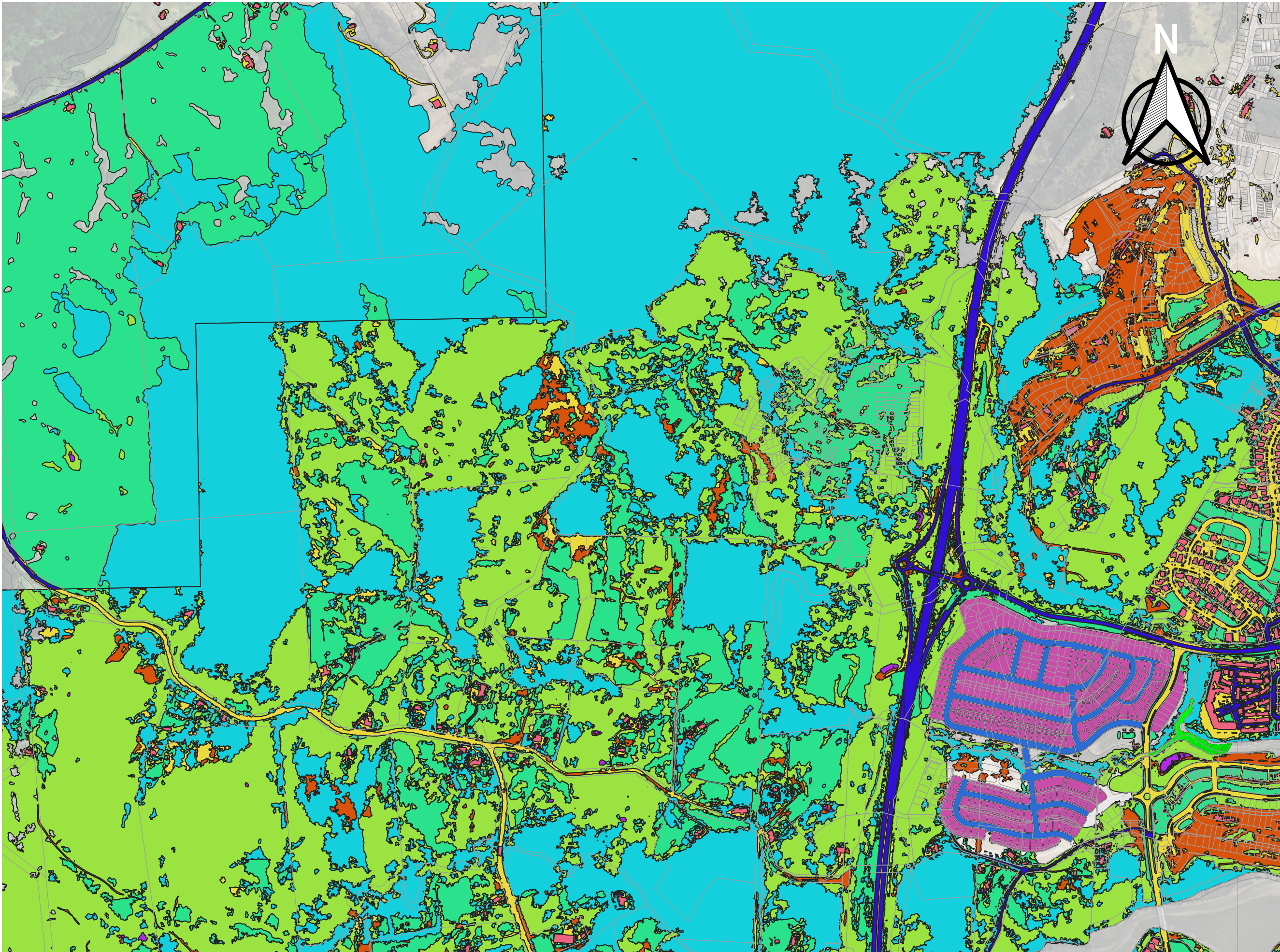
A	FIRST ISSUE	HS	-	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP	BY DATE
PLOT DATE	----	WWW.MCKENZIEANDCO.CO.NZ	THIS DRAWING IS SOLELY FOR USE BY THE CLIENT ON THIS PROJECT ONLY. NO LIABILITY IS ACCEPTED IN ITS USE BY ANY OTHER ENTITY OR FOR ANY OTHER PURPOSE.		



VINEWAY LIMITED

DELMORE
53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
POST-DEVELOPMENT
MANNINGS EXTENT



NOTES:
1. LAND COVER DATA FOR POST-DEVELOPMENT SCENARIO

LandType	Mannings
Grass	0.06
Schrub	0.1
High Veg	0.12
Gravel	0.05
Urban	0.1
Others	0.1
Roads	0.05

Land Cover Pre for HEC

- Ex Roads
- Grass
- Gravel
- High Veg
- Others
- Roads
- Roof
- Schrub
- Urban
- Water

MAP PROJECTION/ VERTICAL DATUM:
NZGD2000 / MT EDEN 2000
(EPSG: 2105)
NEW ZEALAND VERTICAL DATUM 2016

PURPOSE OF ISSUE:
FOR CONSENT

SCALE:
1:10,000

DRAWING NO: 3725-0-4516
REV: A

A	FIRST ISSUE	HS	-	-	16/01/2025
REV	DESCRIPTION	DRN	BYCHK	BY APP	BY DATE



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VINEWAY LIMITED

DELMORE

53A, 53B & 55 RUSSELL ROAD
OREWA

STORMWATER
FLOOD ASSESSMENT
PRE-DEVELOPMENT
MANNINGS EXTENT