



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
PROP BDY
STAGE BOUNDARY
EX OLFP
REMOVED EX OLFP
EXISTING STREAMS
PR SW FLOW PTH
PR SW PIPE
10m STREAM SETBACK
RIPARIAN YARD
20m SETBACK
WETLAND AREA
100m SETBACK
- EX/PROP SWMH
PROP SWCP SINGLE
PR INDICATIVE LEVEL
SPREADER - SUBJECT TO
DETAIL DESIGN
- PR RIPRAP
PR CULVERT
EX CULVERT
PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

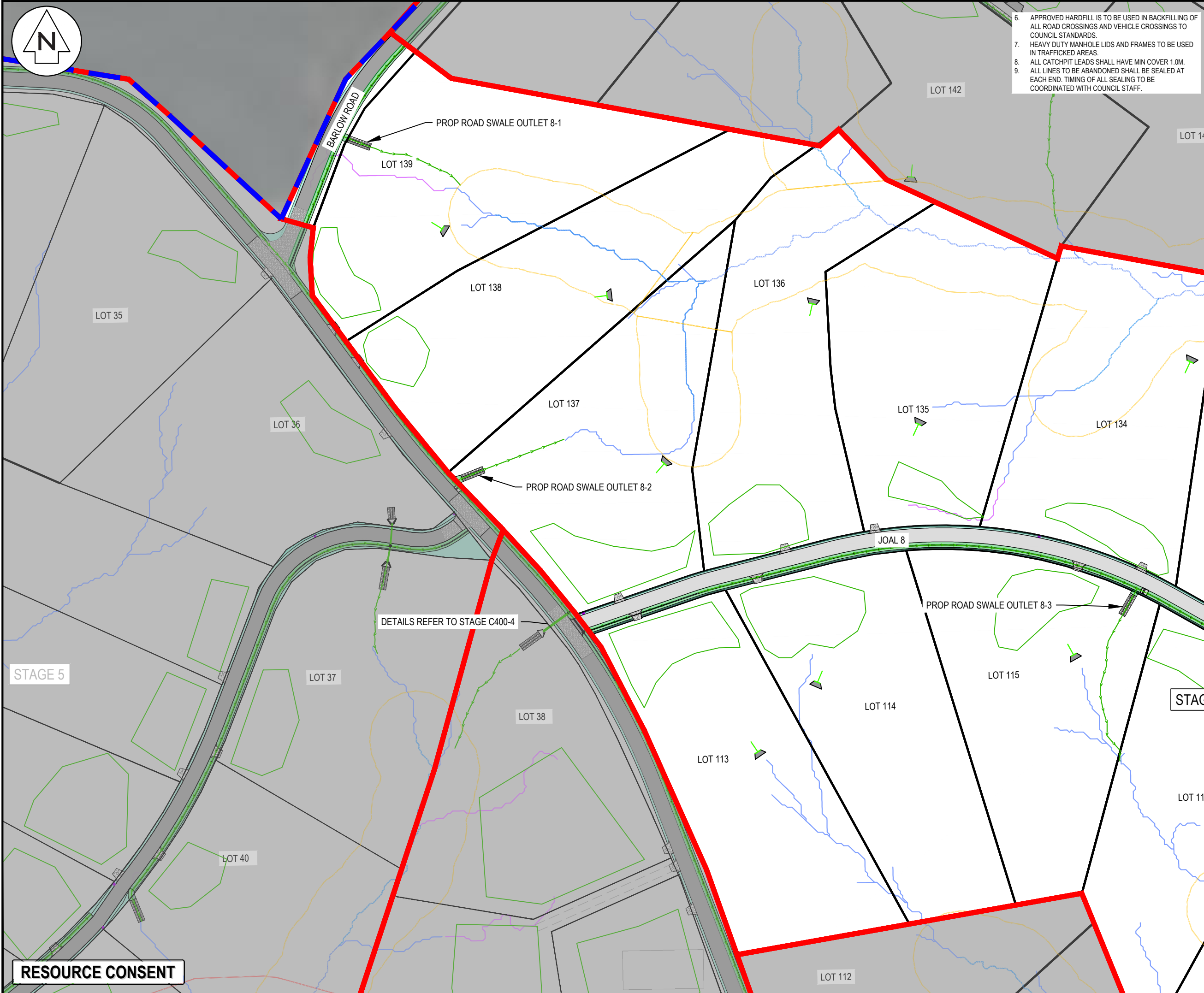
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 8**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-8-0
Rev	A

RESOURCE CONSENT

DATE: 5/2/25 FILE PATH: F:\Maven\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C400 STAGE 8 - 14 STORMWATER.DWG



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



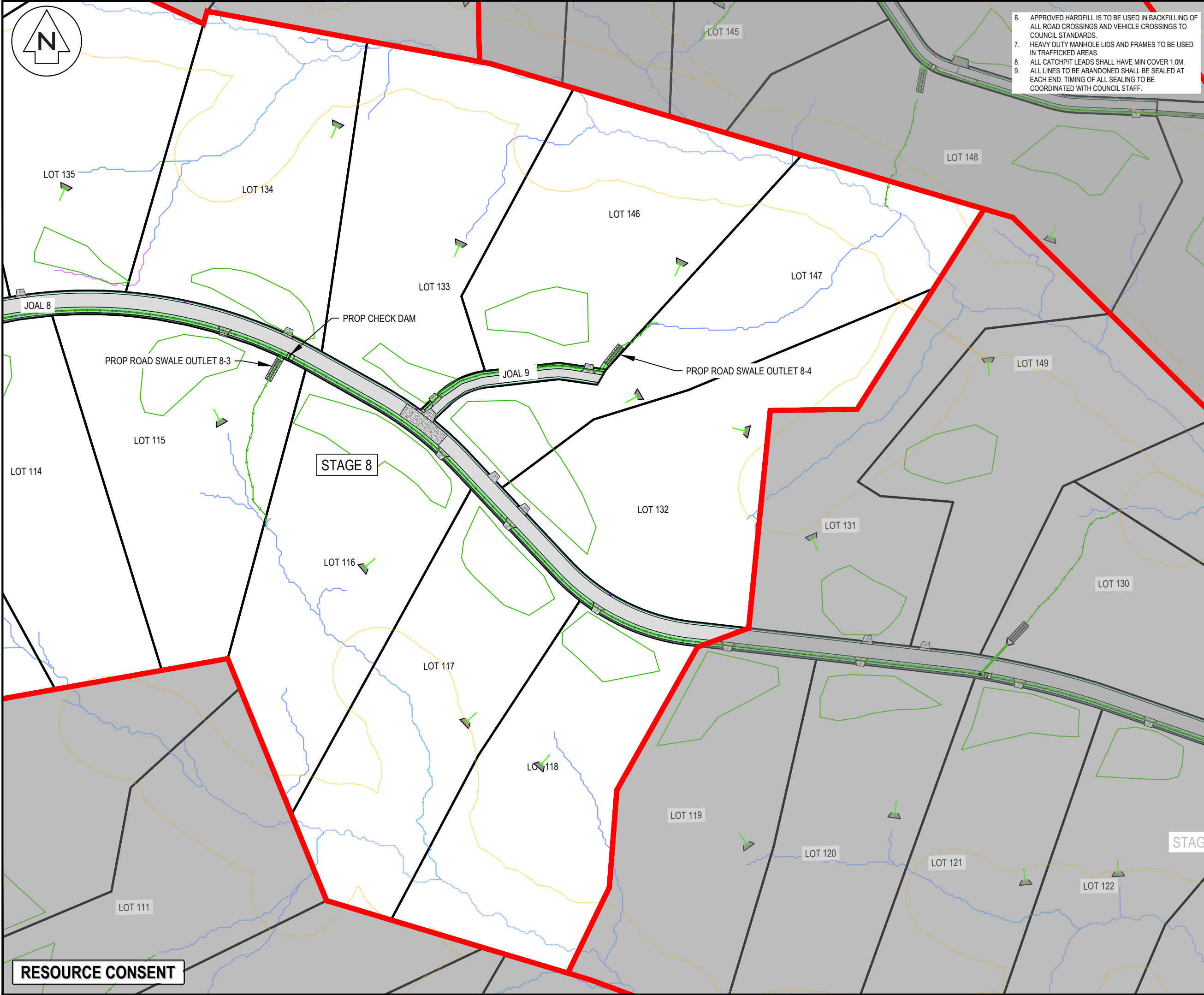
Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 8

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-8-1
Rev	A

DATE: 4/02/25 FILE PATH: F:\Maven\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C400 STAGE 8 - 14 STORMWATER.DWG



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 8

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-8-2
Rev	A



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
PROP BDY
STAGE BOUNDARY
EX OLFP
REMOVED EX OLFP
EXISTING STREAMS
PR SW FLOW PTH
PR SW PIPE
10m STREAM SETBACK
RIPARIAN YARD
20m SETBACK
WETLAND AREA
100m SETBACK
EX/PROP SWMH
PROP SWCP SINGLE
PR INDICATIVE LEVEL
SPREADER - SUBJECT TO
DETAIL DESIGN
PR RIPRAP
PR CULVERT
EX CULVERT
PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

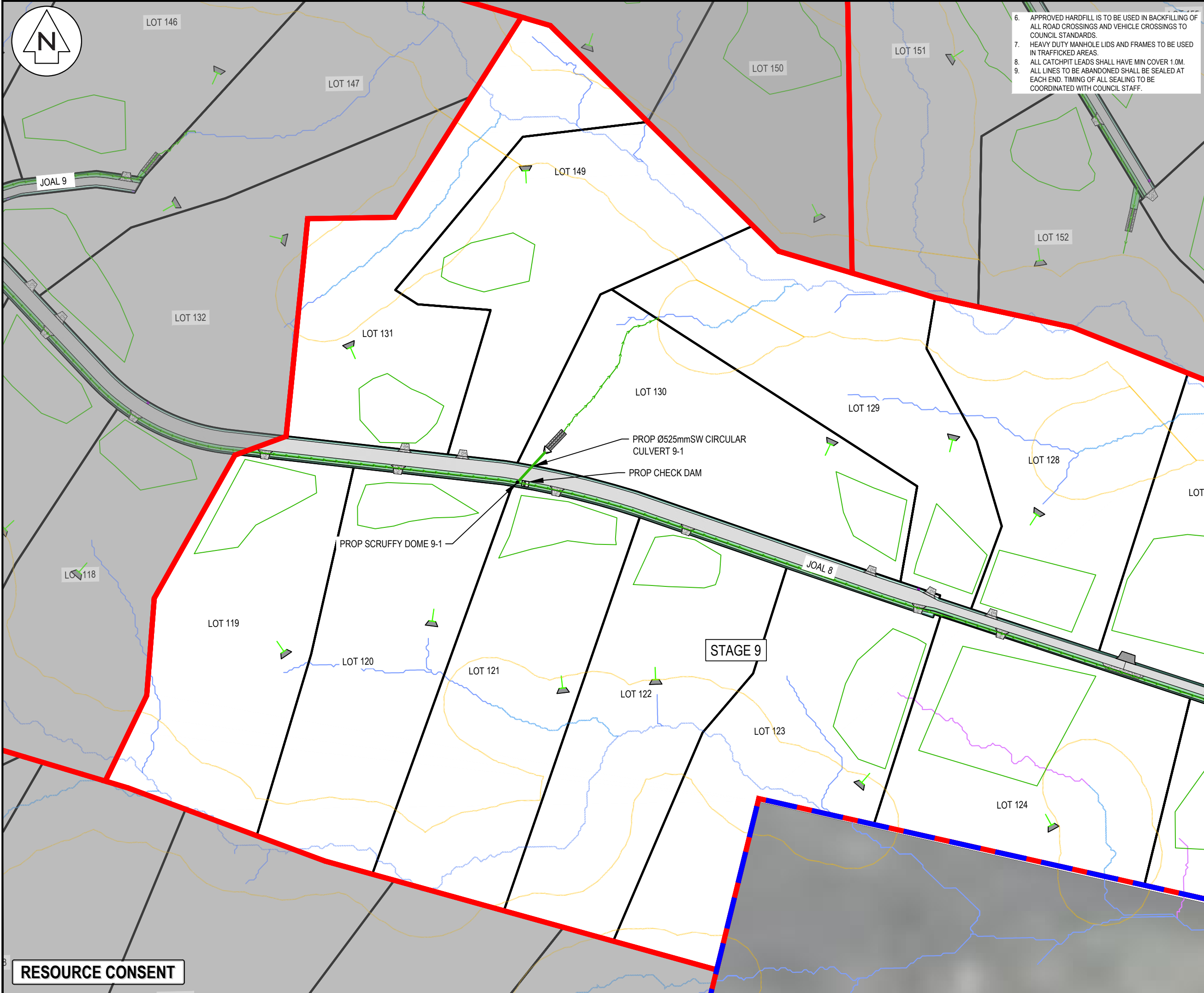


Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 9**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-9-0
Rev	A

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



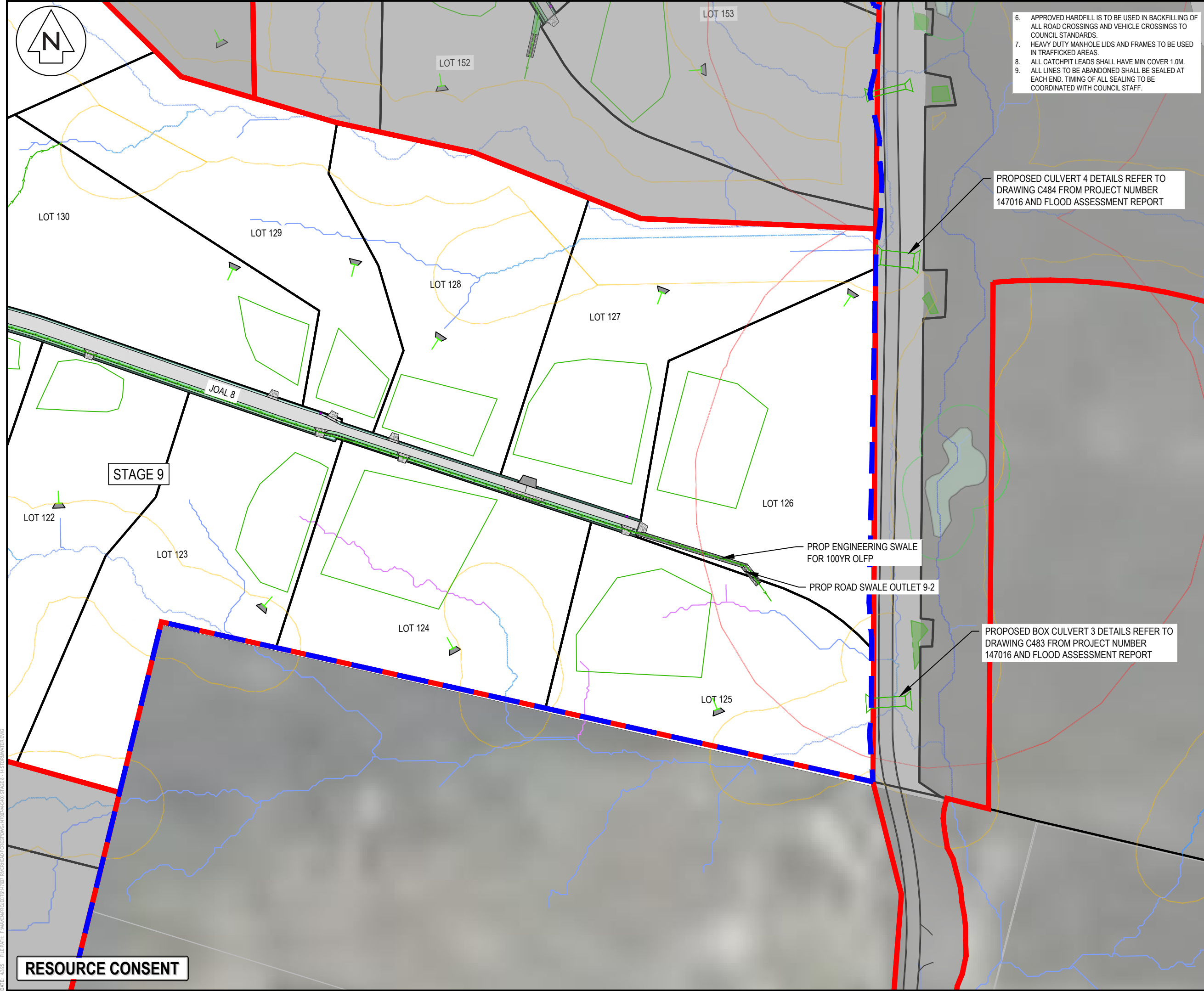
Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 9

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-9-1
Rev	A

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

PROPOSED CULVERT 4 DETAILS REFER TO DRAWING C484 FROM PROJECT NUMBER 147016 AND FLOOD ASSESSMENT REPORT

PROP ENGINEERING SWALE FOR 100YR OLFP

PROP ROAD SWALE OUTLET 9-2

PROPOSED BOX CULVERT 3 DETAILS REFER TO DRAWING C483 FROM PROJECT NUMBER 147016 AND FLOOD ASSESSMENT REPORT

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.

2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.

3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.

4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).

5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

EX BDY

PROP BDY

STAGE BOUNDARY

EX OLFP

REMOVED EX OLFP

EXISTING STREAMS

PR SW FLOW PTH

PR SW PIPE

10m STREAM SETBACK

10m RIPARIAN YARD

20m SETBACK

WETLAND AREA

100m SETBACK

EX/PROP SWMH

PROP SWCP SINGLE

PR INDICATIVE LEVEL

SPREADER - SUBJECT TO DETAIL DESIGN

PR RIPRAP

PR CULVERT

EX CULVERT

PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M

M A E N

Maven Associates

09 571 0050

info@maven.co.nz

www.maven.co.nz

5 Owens Road, Epsom

Auckland 1023

Project

DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title

PROPOSED STORMWATER PLAN - STAGE 9

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-9-2
Rev	A



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
PROP BDY
STAGE BOUNDARY
EX OLFP
REMOVED EX OLFP
EXISTING STREAMS
PR SW FLOW PTH
PR SW PIPE
10m STREAM SETBACK
RIPARIAN YARD
20m SETBACK
WETLAND AREA
100m SETBACK
- EX/PROP SWMH
PROP SWCP SINGLE
PR INDICATIVE LEVEL
SPREADER - SUBJECT TO
DETAIL DESIGN
- PR RIPRAP
PR CULVERT
EX CULVERT
PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 10**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-10-0
Rev	A

RESOURCE CONSENT



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 10**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-10-1
Rev	A

RESOURCE CONSENT

DATE: 4/02/25 FILE PATH: F:\MAVEN\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C400 STAGE 8 - 14 STORMWATER.DWG



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 11**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-11-0
Rev	A

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
- 1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 - 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 - 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

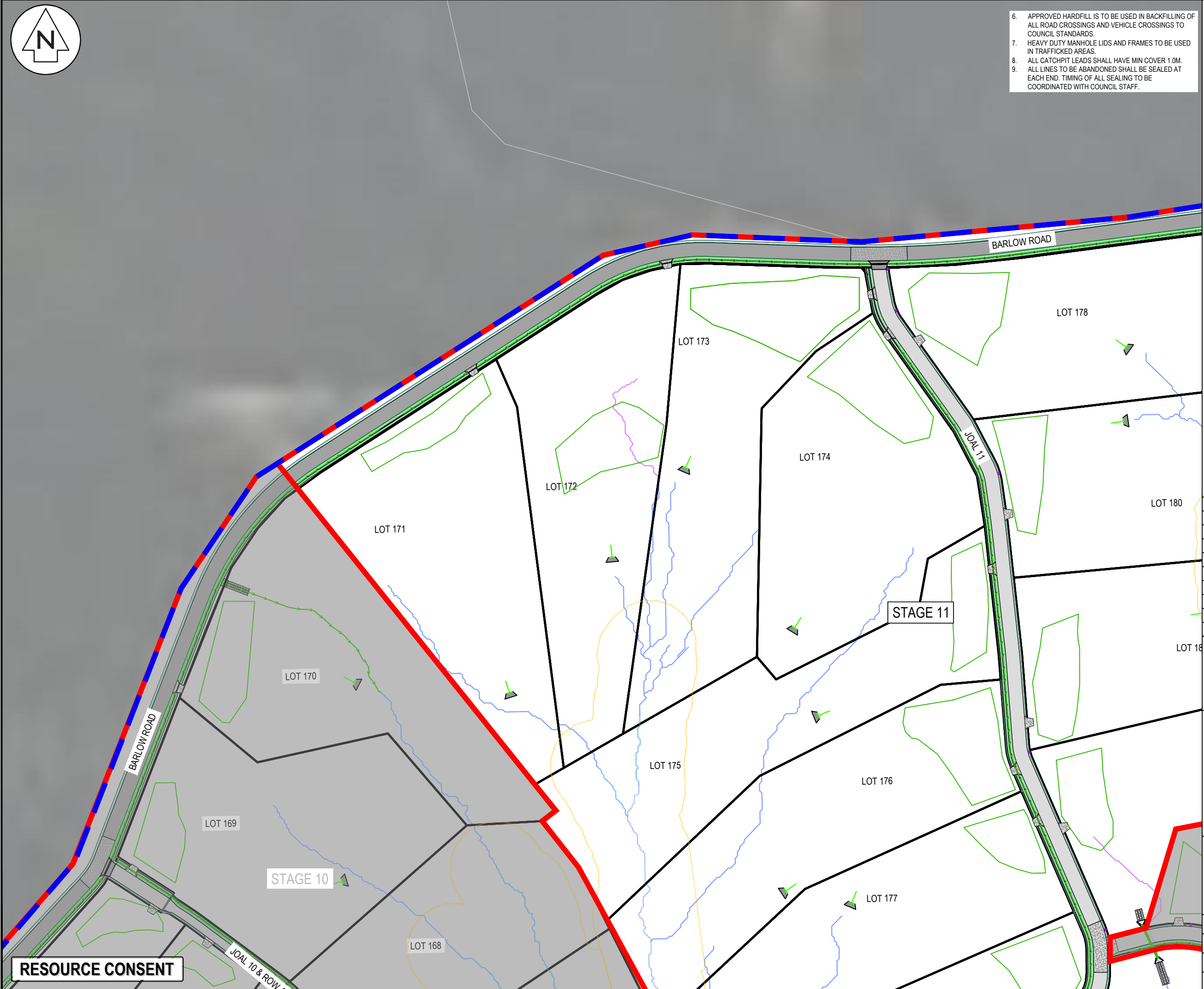


Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 11

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-11-1
Rev	A



RESOURCE CONSENT



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

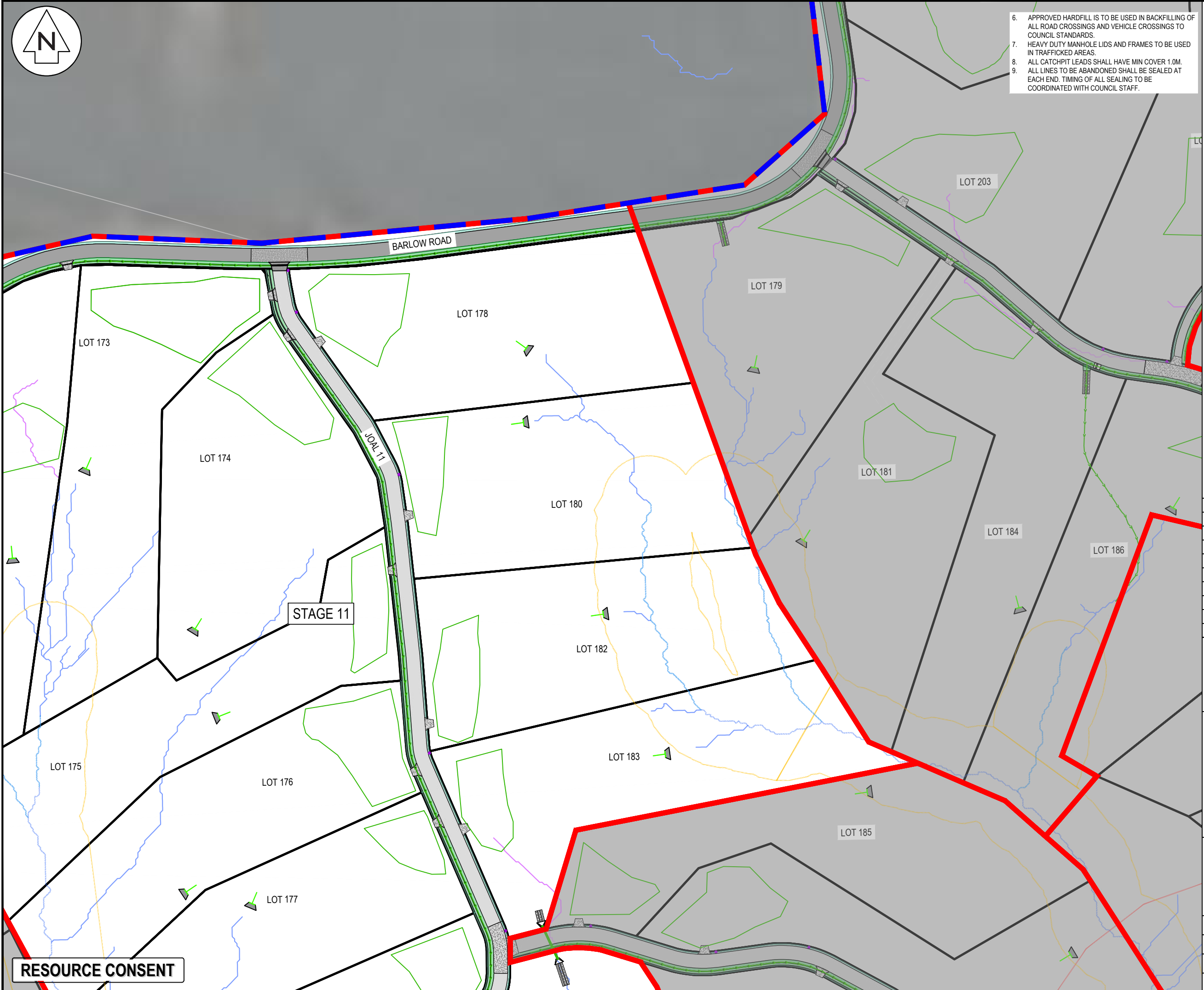
A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

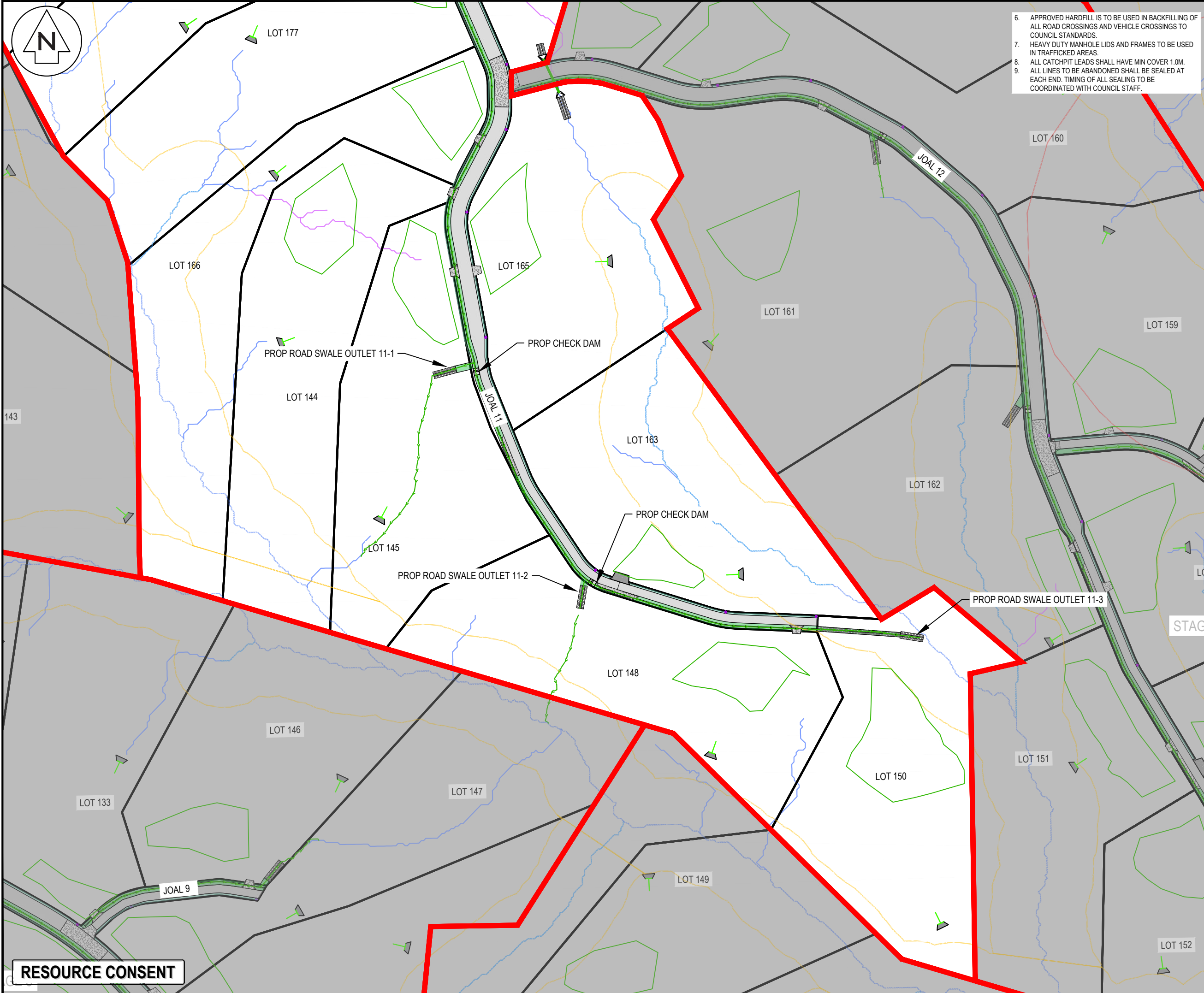
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 11**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-11-2
Rev	A



RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
- 1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 - 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 - 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 11

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-11-3
Rev	A

RESOURCE CONSENT



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
PROP BDY
STAGE BOUNDARY
EX OLFP
REMOVED EX OLFP
EXISTING STREAMS
PR SW FLOW PTH
PR SW PIPE
10m STREAM SETBACK
RIPARIAN YARD
20m SETBACK
WETLAND AREA
100m SETBACK
EX/PROP SWMH
PROP SWCP SINGLE
PR INDICATIVE LEVEL
SPREADER - SUBJECT TO
DETAIL DESIGN
PR RIPRAP
PR CULVERT
EX CULVERT
PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

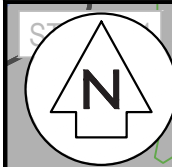
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 12**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-12-0
Rev	A

RESOURCE CONSENT



LOT 182

LOT 183

LOT 185

LOT 187

LOT 189

LOT 190

LOT 191

LOT 160

LOT 161

LOT 159

LOT 158

LOT 163

LOT 162

LOT 157

LOT 148

LOT 155

PROP Ø375mm SW CIRCULAR
CULVERT 12-1

PROP ROAD SWALE OUTLET 12-2

PROP ROAD SWALE OUTLET 12-3

PROP CHECK DAM

PROP ROAD SWALE OUTLET 12-5

PROP ROAD SWALE OUTLET 12-4

STAGE 12

RESOURCE CONSENT

6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

- | | |
|-------------------------------------|-------------------------------------|
| EX BDY | EX BDY |
| PROP BDY | PROP BDY |
| STAGE BOUNDARY | STAGE BOUNDARY |
| EX OLFP | EX OLFP |
| REMOVED EX OLFP | REMOVED EX OLFP |
| EXISTING STREAMS | EXISTING STREAMS |
| PR SW FLOW PTH | PR SW FLOW PTH |
| PR SW PIPE | PR SW PIPE |
| 10m STREAM SETBACK | 10m STREAM SETBACK |
| RIPARIAN YARD | RIPARIAN YARD |
| 20m SETBACK | 20m SETBACK |
| WETLAND AREA | WETLAND AREA |
| 100m SETBACK | 100m SETBACK |
| EX/PROP SWMH | EX/PROP SWMH |
| PROP SWCP SINGLE | PROP SWCP SINGLE |
| PR INDICATIVE LEVEL | PR INDICATIVE LEVEL |
| SPREADER - SUBJECT TO DETAIL DESIGN | SPREADER - SUBJECT TO DETAIL DESIGN |
| PR RIPRAP | PR RIPRAP |
| PR CULVERT | PR CULVERT |
| EX CULVERT | EX CULVERT |
| PR SCRUFFY DOME | PR SCRUFFY DOME |

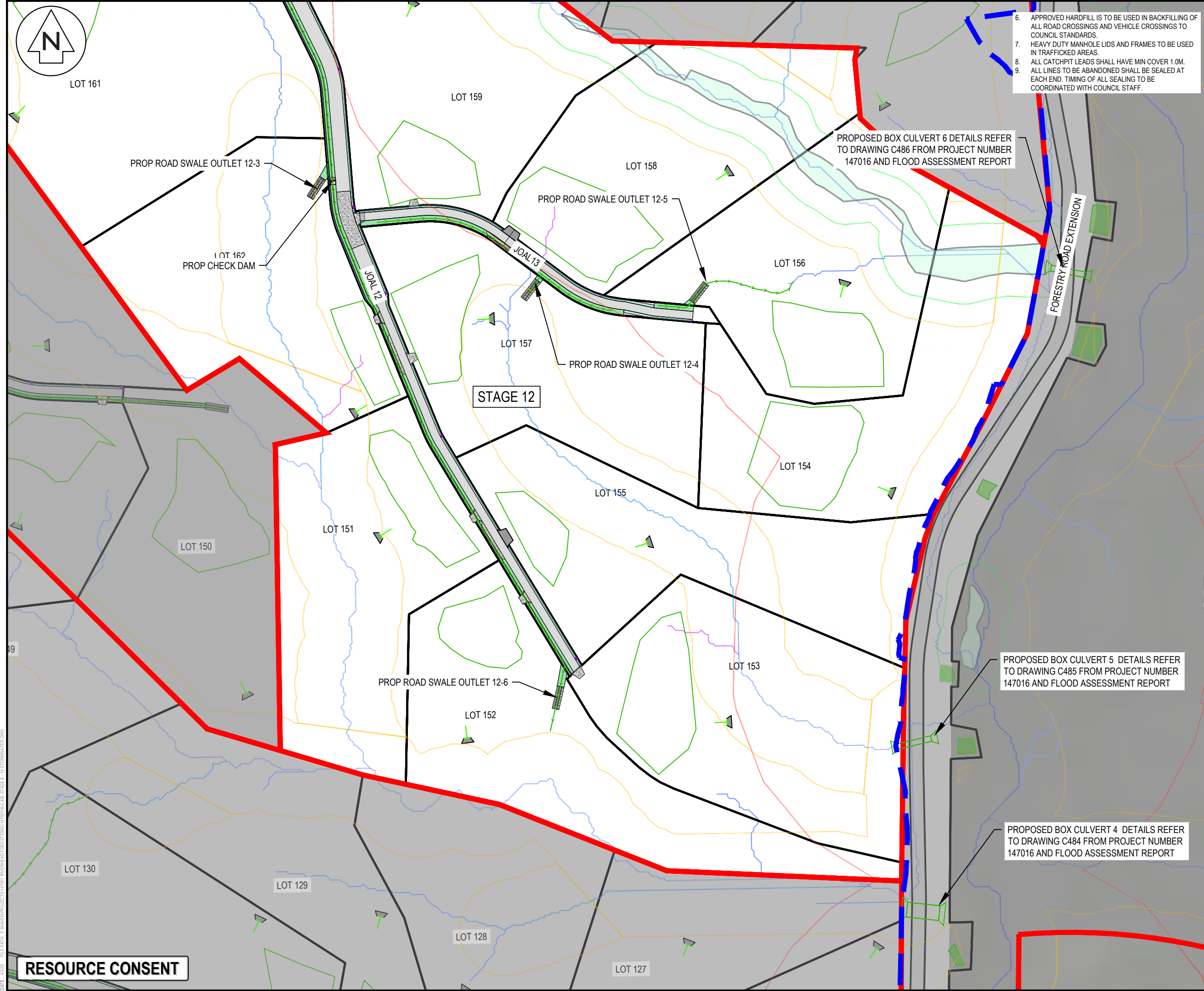
A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 12**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-12-1
Rev	A



- APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
- ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 - IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 - EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

- EX BDY
- PROP BDY
- STAGE BOUNDARY
- EX OLFP
- REMOVED EX OLFP
- EXISTING STREAMS
- PR SW FLOW PTH
- PR SW PIPE
- 10m STREAM SETBACK
- RIPARIAN YARD
- 20m SETBACK
- WETLAND AREA
- 100m SETBACK
- EX/PROP SWMH
- PROP SWCP SINGLE
- PR INDICATIVE LEVEL
- SPREADER - SUBJECT TO DETAIL DESIGN
- PR RIPRAP
- PR CULVERT
- EX CULVERT
- PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

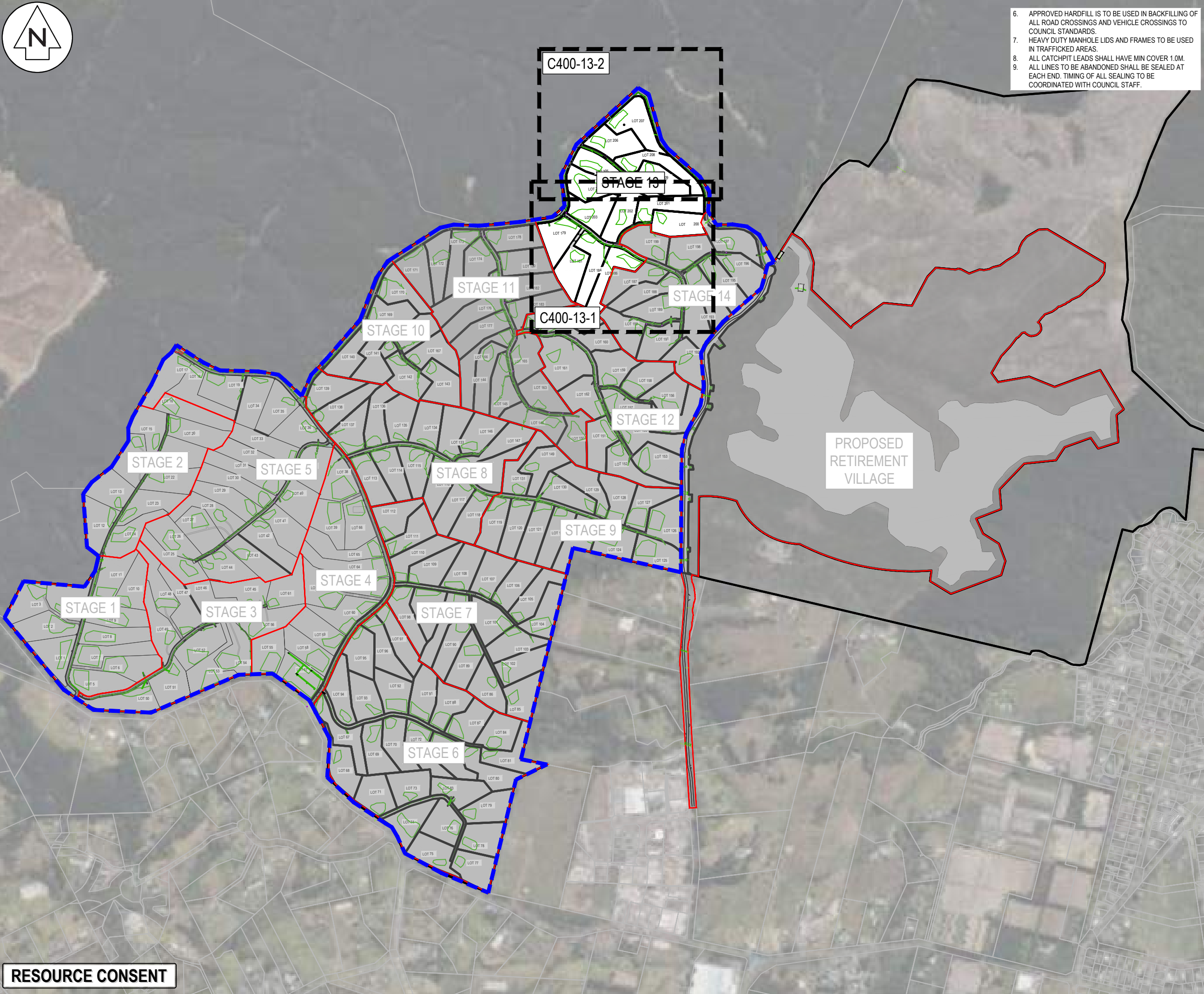
M **Maven Associates**
 09 571 0050
 info@maven.co.nz
 www.maven.co.nz
 5 Owens Road, Epsom
 Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED STORMWATER PLAN - STAGE 12

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-12-2
Rev	A

RESOURCE CONSENT



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

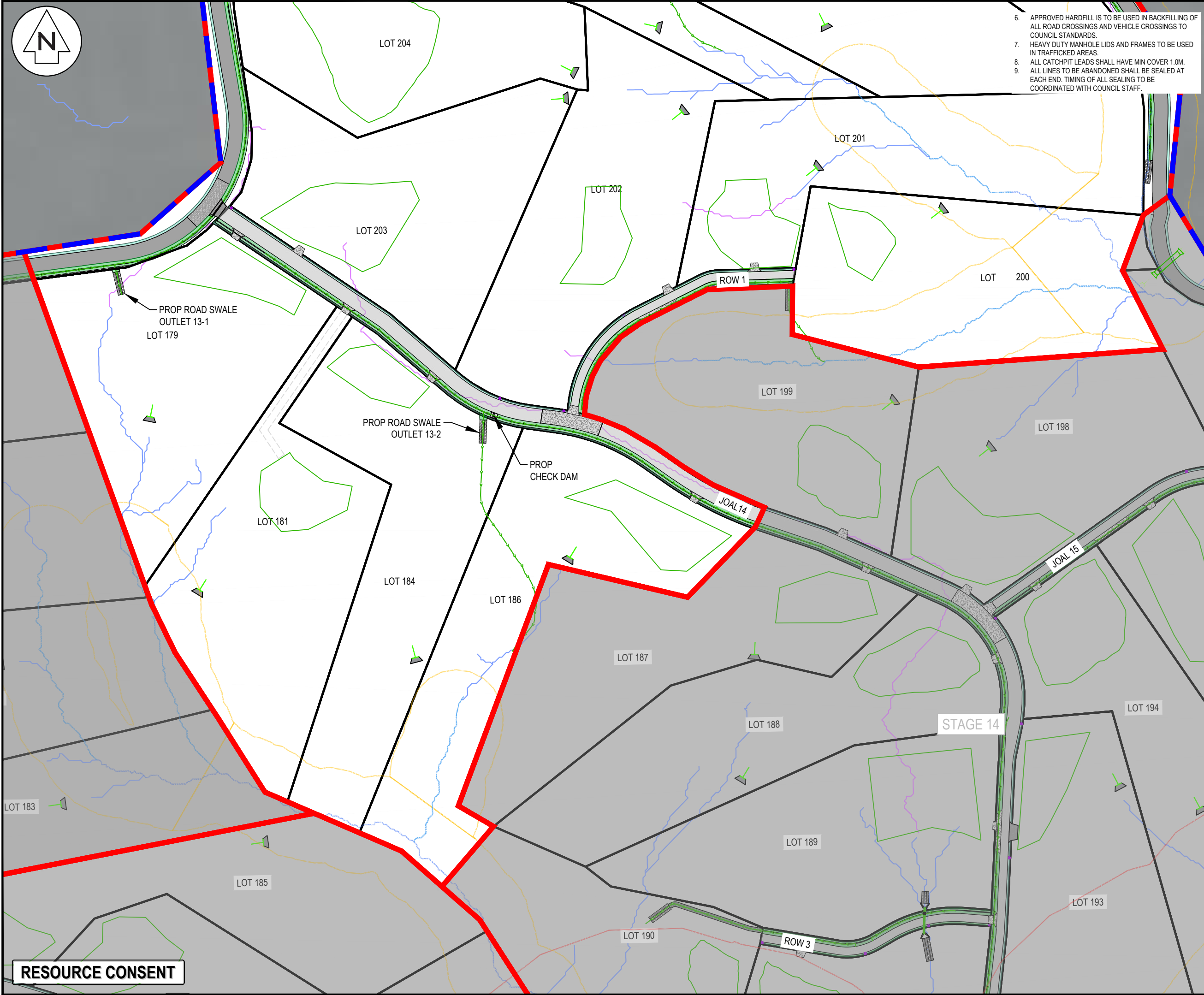
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOO PUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 13**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-13-0
Rev	A

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
- 1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 - 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 - 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 13**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-13-1
Rev	A

DATE: 4/02/25 FILE PATH: F:\Maven\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C400 STAGE 8 - 14 STORMWATER.DWG

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
- 1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 - 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 - 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DEISGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

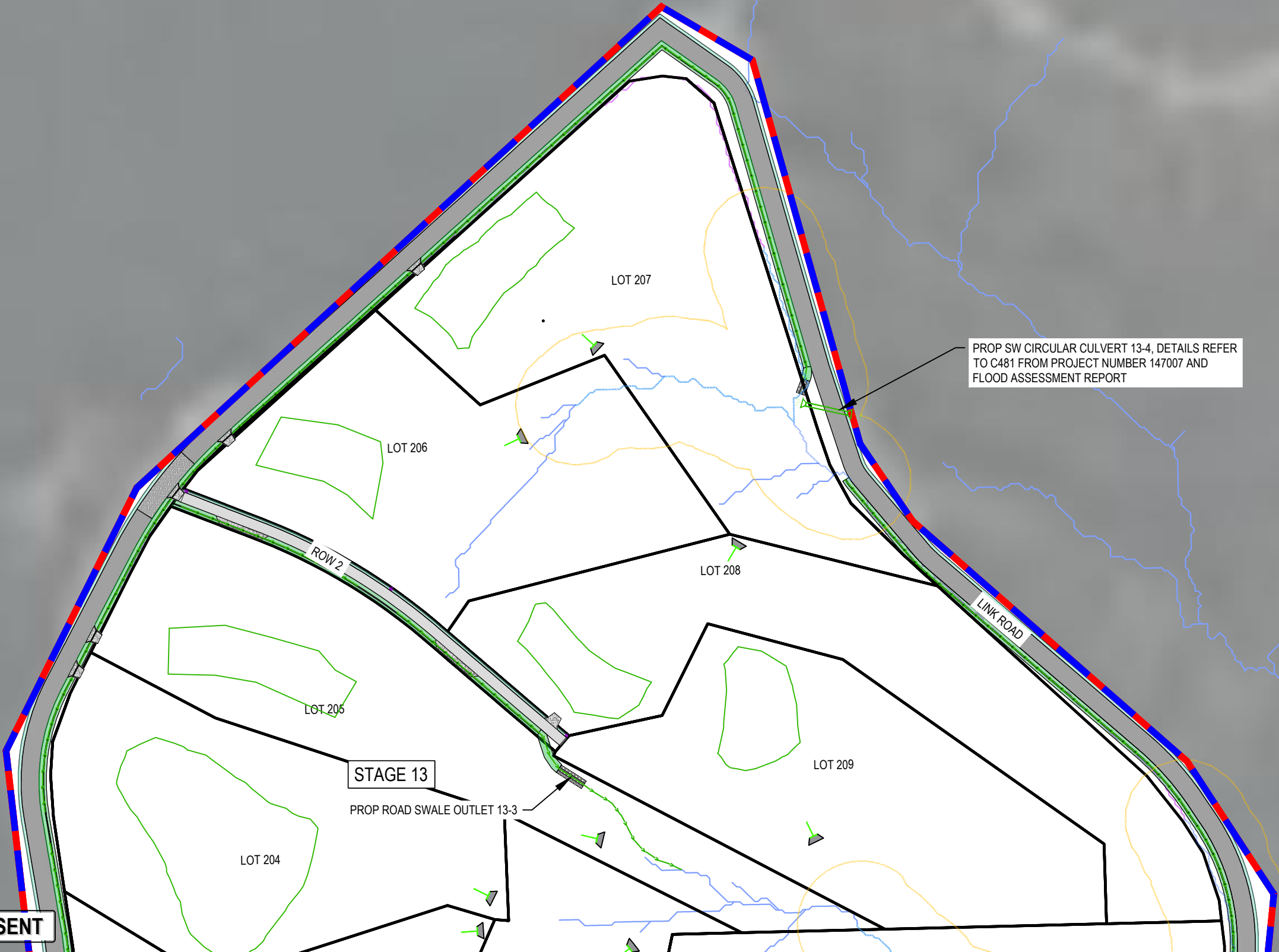
A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 13**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-13-2
Rev	A



RESOURCE CONSENT



6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025

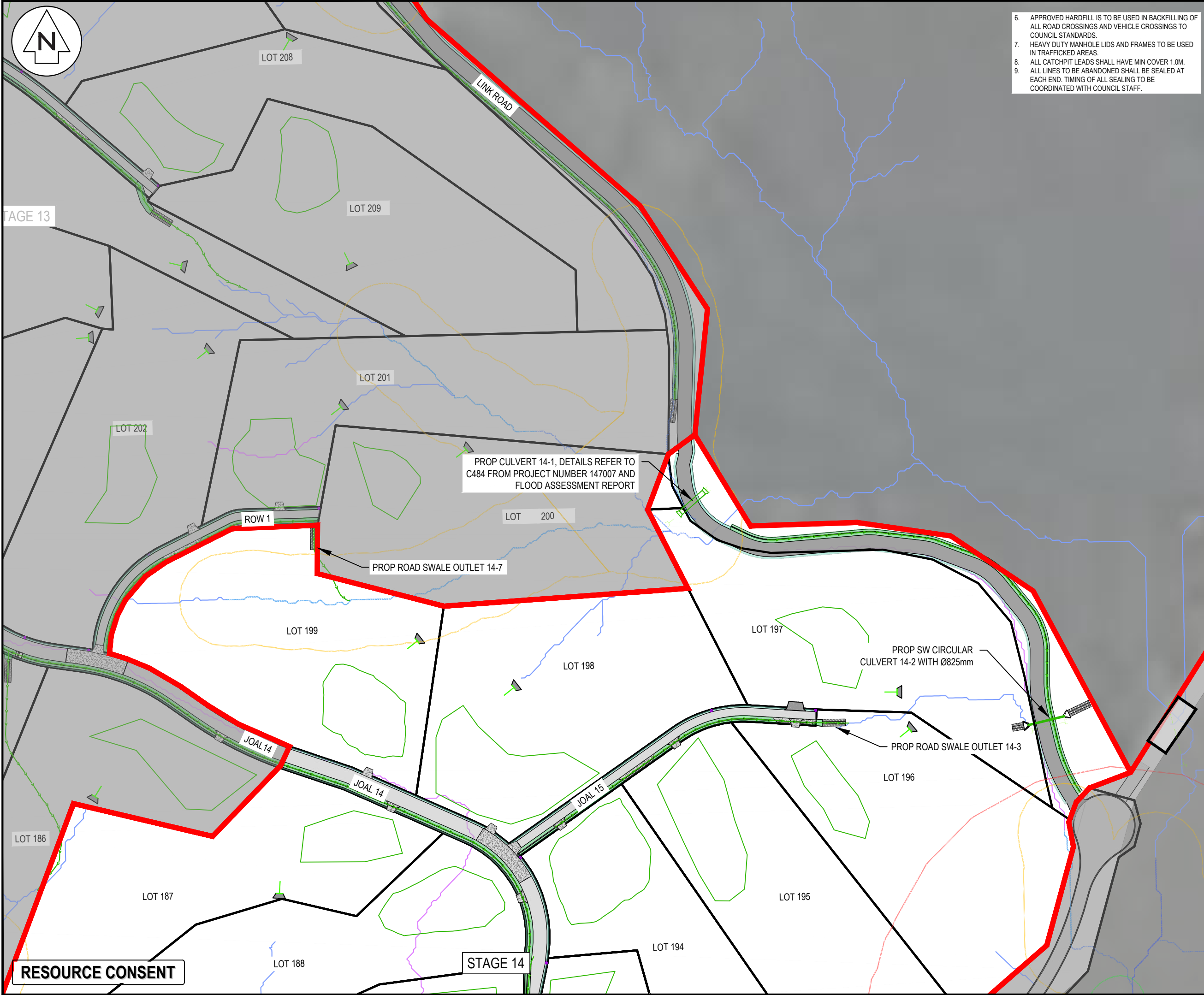
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
OVERVIEW - STAGE 14**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-14-0
Rev	A

RESOURCE CONSENT



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

LEGEND

	EX BDY
	PROP BDY
	STAGE BOUNDARY
	EX OLFP
	REMOVED EX OLFP
	EXISTING STREAMS
	PR SW FLOW PTH
	PR SW PIPE
	10m STREAM SETBACK
	RIPARIAN YARD
	20m SETBACK
	WETLAND AREA
	100m SETBACK
	EX/PROP SWMH
	PROP SWCP SINGLE
	PR INDICATIVE LEVEL
	SPREADER - SUBJECT TO DETAIL DESIGN
	PR RIPRAP
	PR CULVERT
	EX CULVERT
	PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



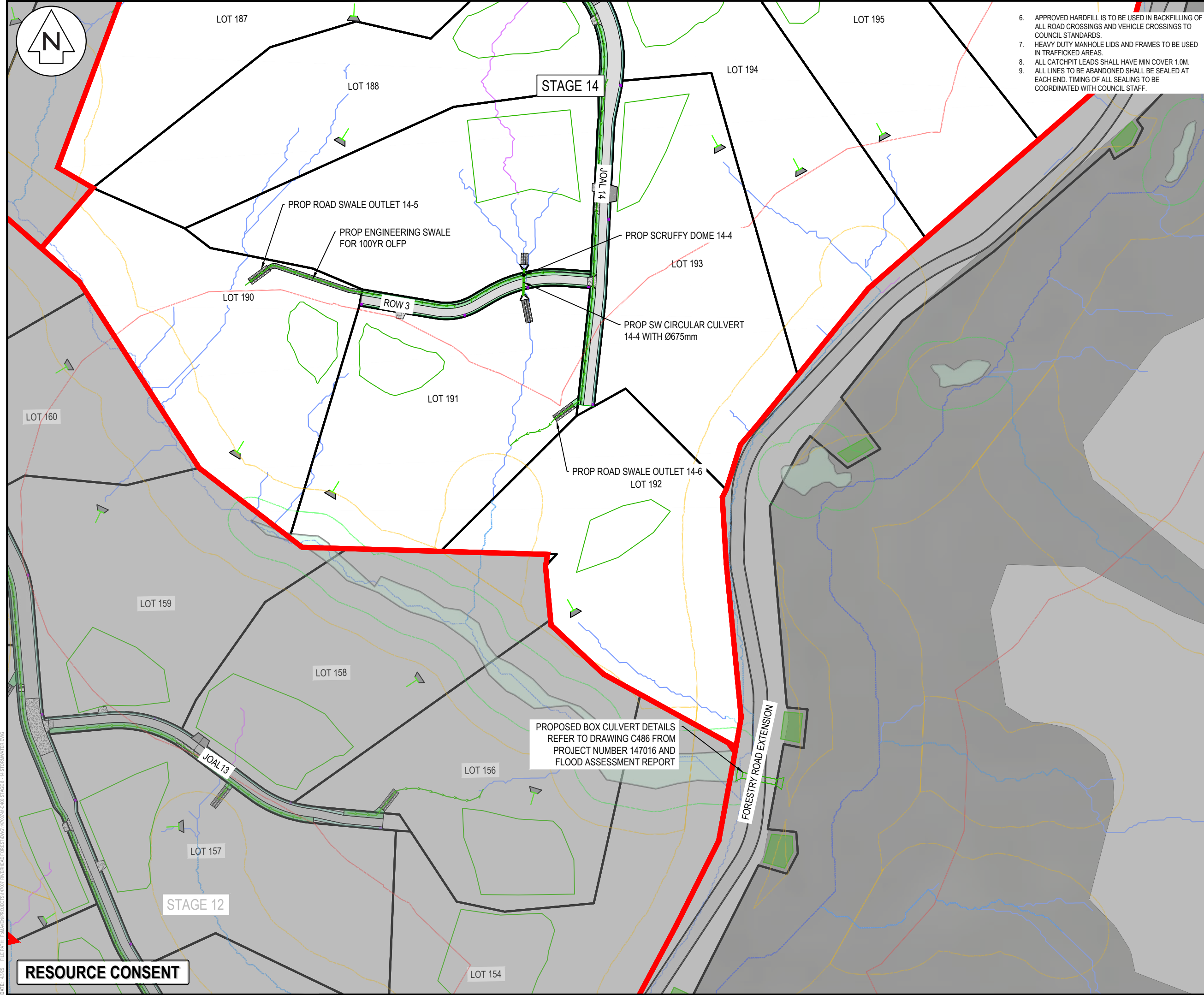
Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 14**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-14-1
Rev	A

DATE: 4/02/25 FILE PATH: F:\Maven\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C400 STAGE 8 - 14 STORMWATER.DWG



- 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
- 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
- 8. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
- 9. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.

- LEGEND
- EX BDY
 - PROP BDY
 - STAGE BOUNDARY
 - EX OLFP
 - REMOVED EX OLFP
 - EXISTING STREAMS
 - PR SW FLOW PTH
 - PR SW PIPE
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK
 - EX/PROP SWMH
 - PROP SWCP SINGLE
 - PR INDICATIVE LEVEL
 - SPREADER - SUBJECT TO DETAIL DESIGN
 - PR RIPRAP
 - PR CULVERT
 - EX CULVERT
 - PR SCRUFFY DOME

A	RC	WY	03/2025
Rev	Description	By	Date
Survey	LANDPRO		03/22
Design	WY		03/2025
Drawn	WY		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED
STORMWATER
PLAN - STAGE 14**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C400 STAGE 8 - 14 STORMWATER.DWG
Drawing no.	C400-14-2
Rev	A

RESOURCE CONSENT