



**LEGEND:**

- - - BULK EARTHWORKS BOUNDARY
- STORMWATER - EXISTING
- STORMWATER - PROPOSED
- MGL CONTOURS SHOWN AT 1m INTERVALS
- → EXISTING STREAM

PROPOSED CULVERTS				
Culvert ID	Diameter	Length	Grade	Note
P-30	750mm	56m	1.2%	Replace E-02 with 750mm Dia
P-31	375mm	56m	10.0%	Second High Level Inlet With E-03
P-32	1500 x 1000 Box	45m	2.0%	Piping of stream to allow SH59 upgrade
P-33	1500 x 1000 Box	58m	3.0%	Piping of stream to allow SH59 upgrade
P-34	600mm	10m	3.6%	Extension of E-06
P-35	600 to 900 mm	60.5m	1.5% to 6%	Retention Wetland B Outlet
P-36	450 to 675 mm	36m	10% to 15%	Retention Wetland C Outlet
P-37	600mm	28m	14% to 25%	Retention Wetland A Outlet
P-38	900mm	44m	3.5%	Road/Stream Crossing
P-39	600mm	10m	2.0%	Replace E-18 with 600mm Dia
P-40	350 to 2100 mm	28.5mm	5% to 6%	Retention Wetland E Outlet

This design and drawing shall only be used for the purpose for which it was supplied and shall not be altered or reproduced without the permission of Envelope Engineering Limited. No liability shall be accepted for unauthorised use of this design and drawing.

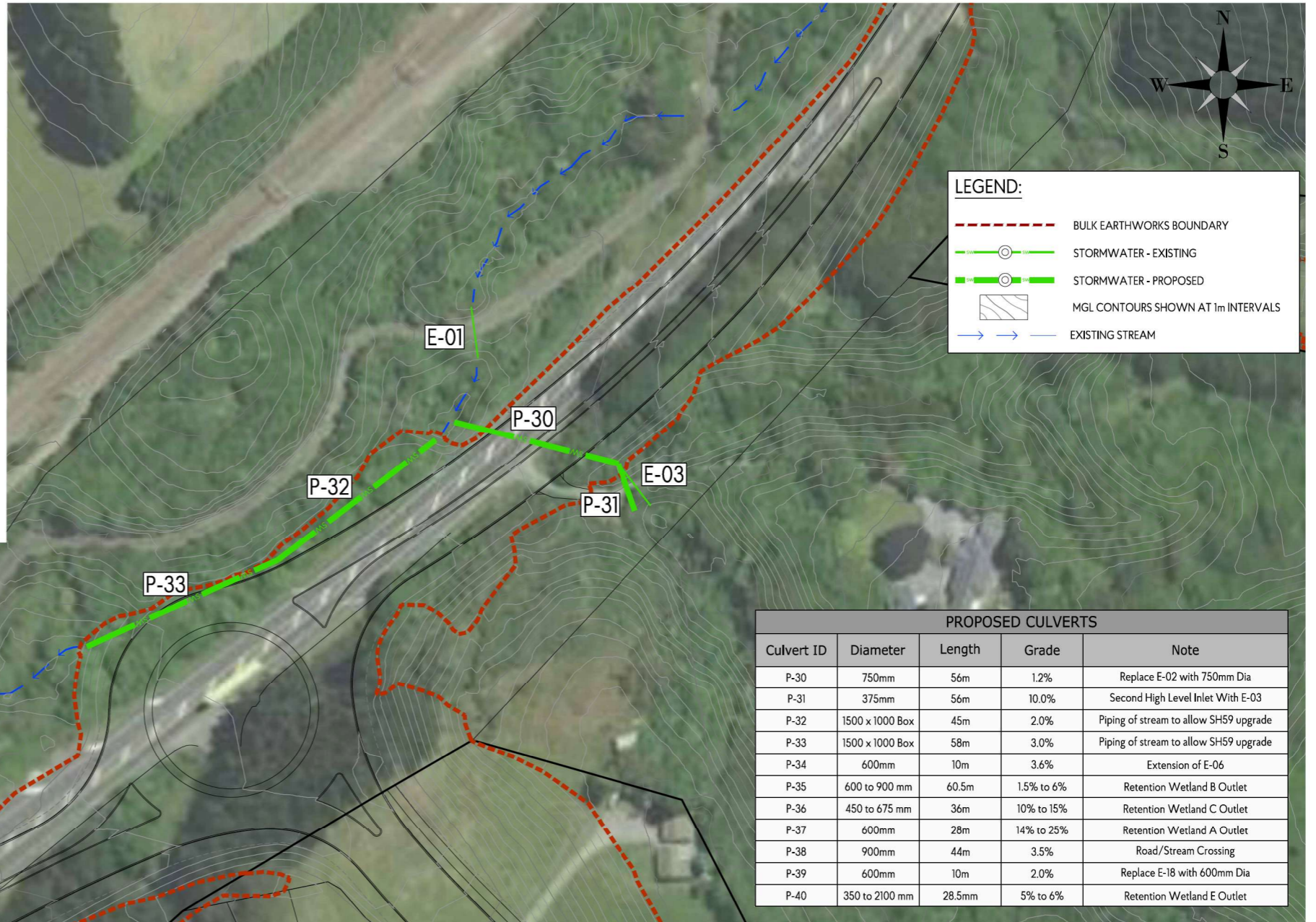
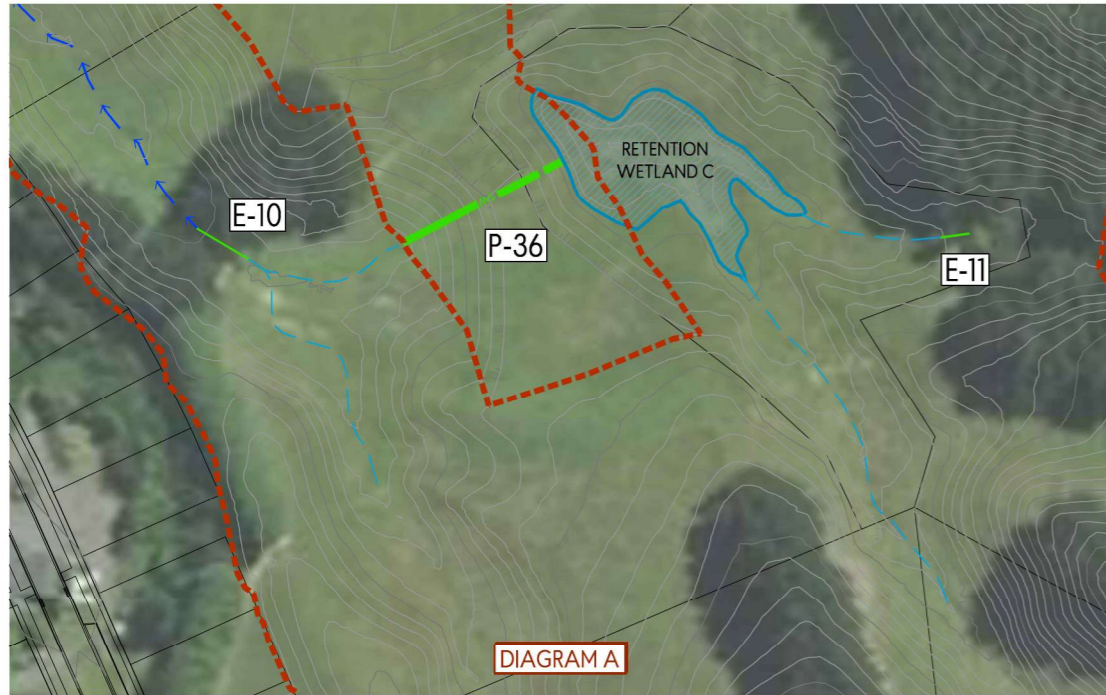
REVISIONS:			
REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	LB	06-03-2026
R2	CULVERT LABELS UPDATED	PWJ	10-03-2026

PROJECT:  
**PUKERUA PROPERTY GROUP LP  
 MOUNT WELCOME - PUKERUA BAY  
 PORIRUA**

TITLE:  
**PROPOSED DRAINAGE/CULVERTS  
 OVERALL LAYOUT**



DESIGNED: PWJ      DRAWN: LB  
 CHECKED: KD      PLOT DATE: 10-03-2026  
 SCALE A1: 1:2500      SCALE A3: 1:5000  
 STATUS: RESOURCE CONSENT  
 PROJECT No: **1753-02**      DRAWING No: **SK8440**      REVISION: **R2**



**LEGEND:**

- - - BULK EARTHWORKS BOUNDARY
- STORMWATER - EXISTING
- STORMWATER - PROPOSED
- MGL CONTOURS SHOWN AT 1m INTERVALS
- - - EXISTING STREAM

PROPOSED CULVERTS				
Culvert ID	Diameter	Length	Grade	Note
P-30	750mm	56m	1.2%	Replace E-02 with 750mm Dia
P-31	375mm	56m	10.0%	Second High Level Inlet With E-03
P-32	1500 x 1000 Box	45m	2.0%	Piping of stream to allow SH59 upgrade
P-33	1500 x 1000 Box	58m	3.0%	Piping of stream to allow SH59 upgrade
P-34	600mm	10m	3.6%	Extension of E-06
P-35	600 to 900 mm	60.5m	1.5% to 6%	Retention Wetland B Outlet
P-36	450 to 675 mm	36m	10% to 15%	Retention Wetland C Outlet
P-37	600mm	28m	14% to 25%	Retention Wetland A Outlet
P-38	900mm	44m	3.5%	Road/Stream Crossing
P-39	600mm	10m	2.0%	Replace E-18 with 600mm Dia
P-40	350 to 2100 mm	28.5mm	5% to 6%	Retention Wetland E Outlet

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**REVISIONS:**

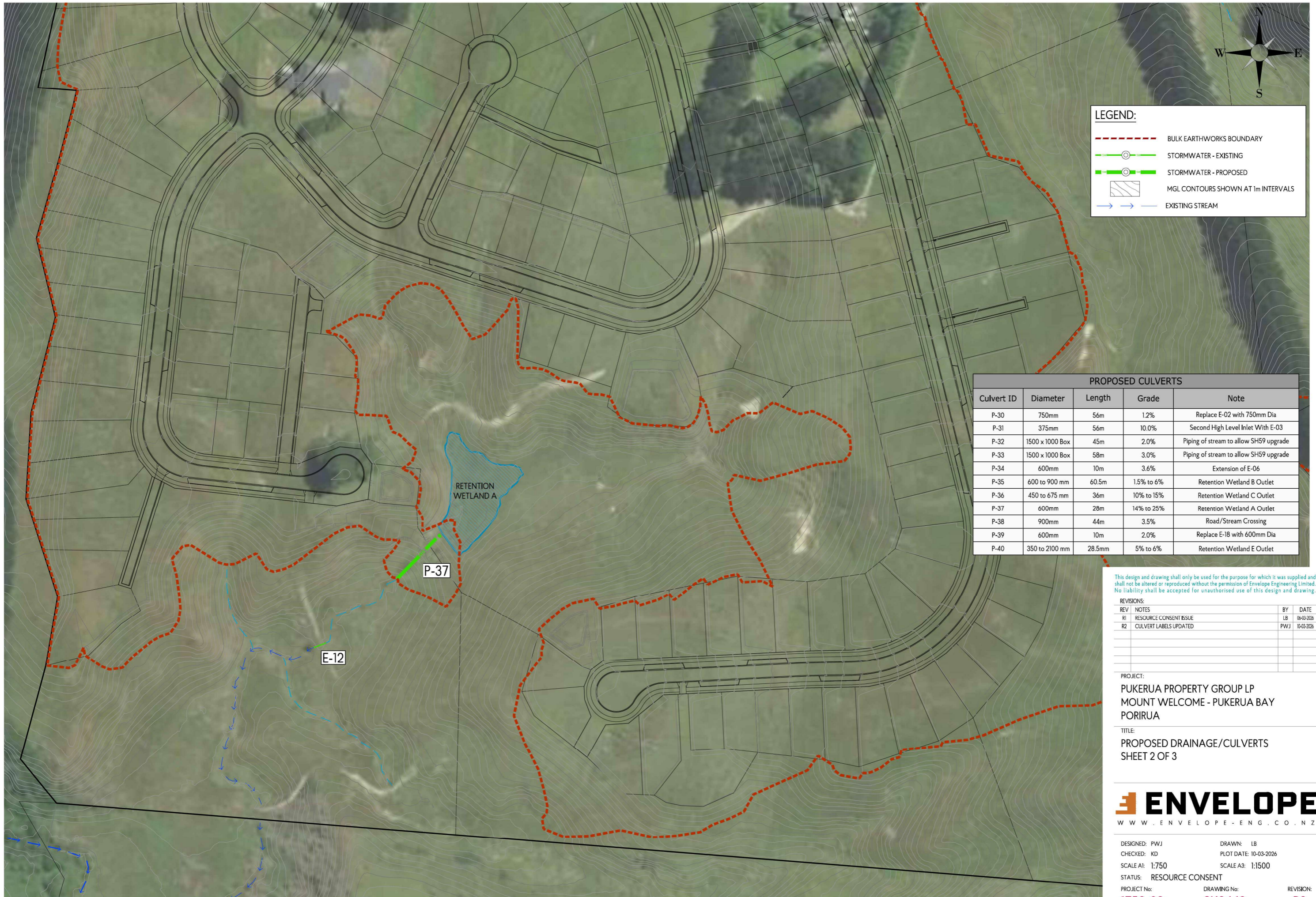
REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	LB	06-03-2026
R2	CULVERT LABELS UPDATED	PWJ	10-03-2026

**PROJECT:**  
 PUKERUA PROPERTY GROUP LP  
 MOUNT WELCOME - PUKERUA BAY  
 PORIRUA

**TITLE:**  
 PROPOSED DRAINAGE/CULVERTS  
 SHEET 1 OF 3



DESIGNED: PWJ      DRAWN: LB  
 CHECKED: KD      PLOT DATE: 10-03-2026  
 SCALE A1: 1:750      SCALE A3: 1:1500  
 STATUS: RESOURCE CONSENT  
 PROJECT No: 1753-02      DRAWING No: SK8441      REVISION: R2



**LEGEND:**

- - - BULK EARTHWORKS BOUNDARY
- STORMWATER - EXISTING
- -○- - STORMWATER - PROPOSED
- MGL CONTOURS SHOWN AT 1m INTERVALS
- → EXISTING STREAM

PROPOSED CULVERTS				
Culvert ID	Diameter	Length	Grade	Note
P-30	750mm	56m	1.2%	Replace E-02 with 750mm Dia
P-31	375mm	56m	10.0%	Second High Level Inlet With E-03
P-32	1500 x 1000 Box	45m	2.0%	Piping of stream to allow SH59 upgrade
P-33	1500 x 1000 Box	58m	3.0%	Piping of stream to allow SH59 upgrade
P-34	600mm	10m	3.6%	Extension of E-06
P-35	600 to 900 mm	60.5m	1.5% to 6%	Retention Wetland B Outlet
P-36	450 to 675 mm	36m	10% to 15%	Retention Wetland C Outlet
P-37	600mm	28m	14% to 25%	Retention Wetland A Outlet
P-38	900mm	44m	3.5%	Road/Stream Crossing
P-39	600mm	10m	2.0%	Replace E-18 with 600mm Dia
P-40	350 to 2100 mm	28.5mm	5% to 6%	Retention Wetland E Outlet

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**REVISIONS:**

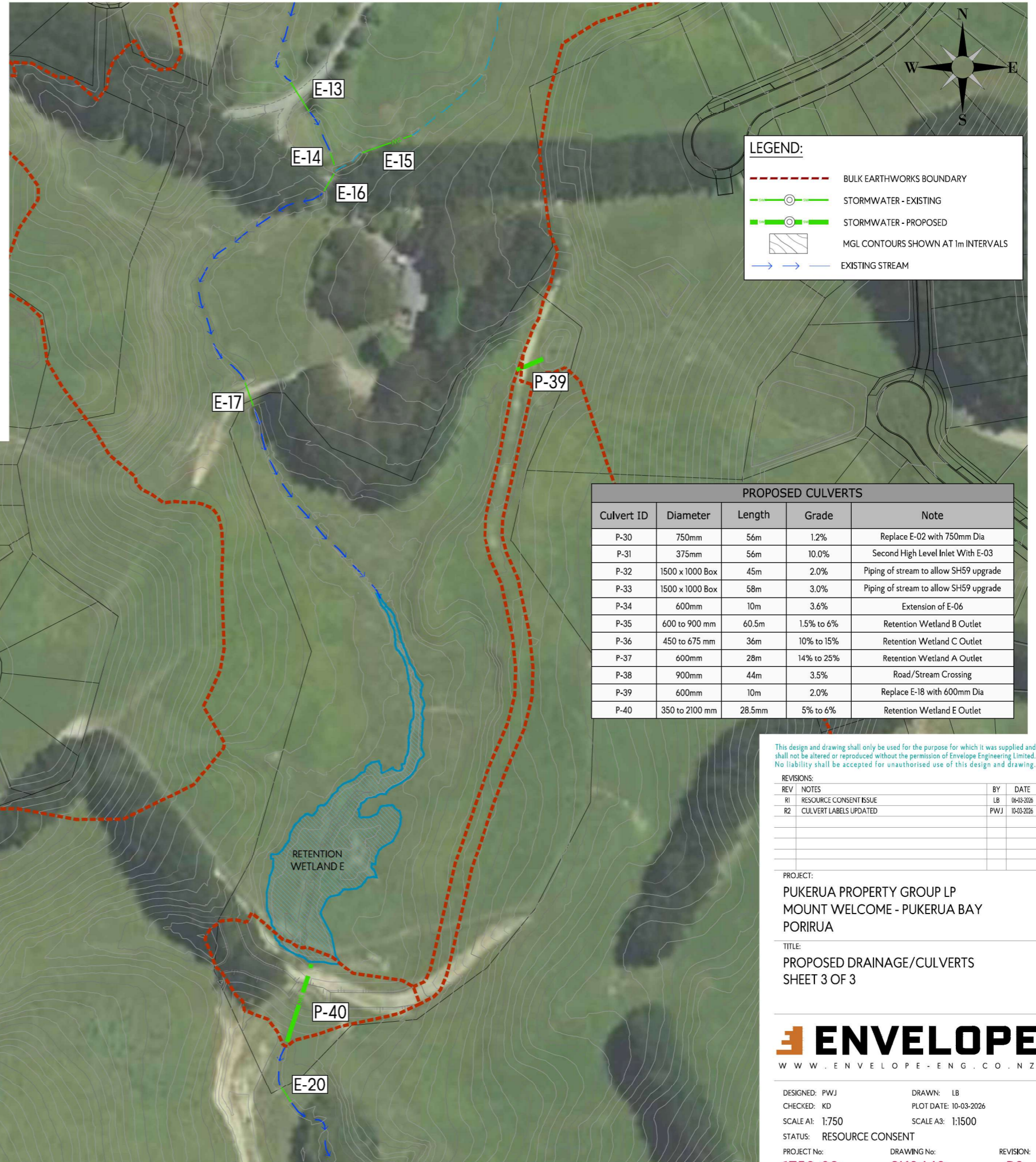
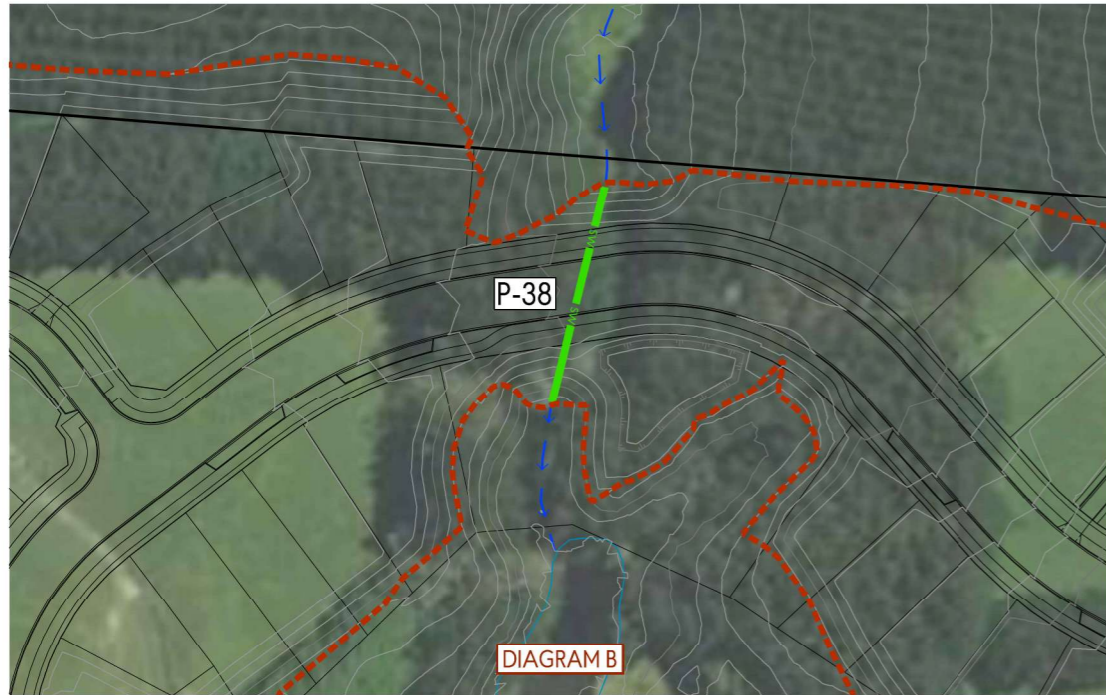
REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	LB	06-03-2026
R2	CULVERT LABELS UPDATED	PWJ	10-03-2026

PROJECT:  
**PUKERUA PROPERTY GROUP LP  
 MOUNT WELCOME - PUKERUA BAY  
 PORIRUA**

TITLE:  
**PROPOSED DRAINAGE/CULVERTS  
 SHEET 2 OF 3**



DESIGNED: PWJ      DRAWN: LB  
 CHECKED: KD      PLOT DATE: 10-03-2026  
 SCALE A1: 1:750      SCALE A3: 1:1500  
 STATUS: RESOURCE CONSENT  
 PROJECT No: **1753-02**      DRAWING No: **SK8442**      REVISION: **R2**



**LEGEND:**

- - - BULK EARTHWORKS BOUNDARY
- STORMWATER - EXISTING
- STORMWATER - PROPOSED
- MGL CONTOURS SHOWN AT 1m INTERVALS
- → EXISTING STREAM

PROPOSED CULVERTS				
Culvert ID	Diameter	Length	Grade	Note
P-30	750mm	56m	1.2%	Replace E-02 with 750mm Dia
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P-33	1500 x 1000 Box	58m	3.0%	Piping of stream to allow SH59 upgrade
P-34	600mm	10m	3.6%	Extension of E-06
P-35	600 to 900 mm	60.5m	1.5% to 6%	Retention Wetland B Outlet
P-36	450 to 675 mm	36m	10% to 15%	Retention Wetland C Outlet
P-37	600mm	28m	14% to 25%	Retention Wetland A Outlet
P-38	900mm	44m	3.5%	Road/Stream Crossing
P-39	600mm	10m	2.0%	Replace E-18 with 600mm Dia
P-40	350 to 2100 mm	28.5mm	5% to 6%	Retention Wetland E Outlet

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**REVISIONS:**

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	LB	06-03-2026
R2	CULVERT LABELS UPDATED	PWJ	10-03-2026

**PROJECT:**  
 PUKERUA PROPERTY GROUP LP  
 MOUNT WELCOME - PUKERUA BAY  
 PORIRUA

**TITLE:**  
 PROPOSED DRAINAGE/CULVERTS  
 SHEET 3 OF 3



DESIGNED: PWJ      DRAWN: LB  
 CHECKED: KD      PLOT DATE: 10-03-2026  
 SCALE A1: 1:750      SCALE A3: 1:1500  
 STATUS: RESOURCE CONSENT  
 PROJECT No: **1753-02**      DRAWING No: **SK8443**      REVISION: **R2**