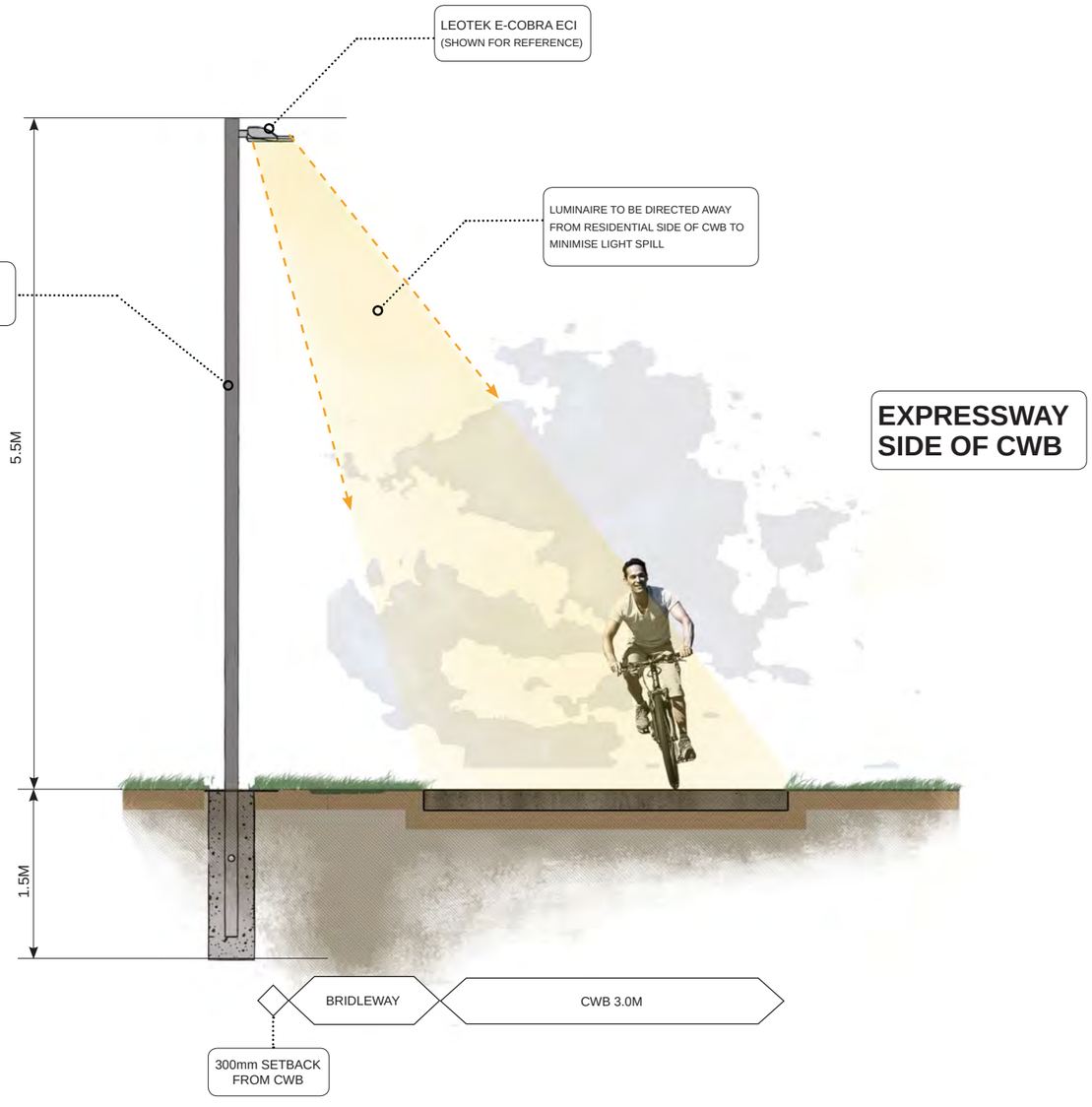


POLE HEIGHT	POLE SPACING	EXTRAPOLATED PROJECT QUANTITY
4.5M	26M	135
5.0M	28M	126
5.5M	30M	117
6.0M	31M	114
6.5M	32M	110

OPTIMUM POLE SPACING - COLUMN HEIGHT RATIO WITH SUGGESTED LUMINR (LEOTEK E-COBRA ECI)

DETAIL DESIGN (DET)

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1) AS SHOWN
Reduced Scale (A3) AS SHOWN

Design	LK	11/10/14	Approved For Construction*
Drawn	VB	11/10/14	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 13 INDICATIVE LIGHT POLE CONFIGURATION

Drawing No: M2PP-121-D-DWG-8703

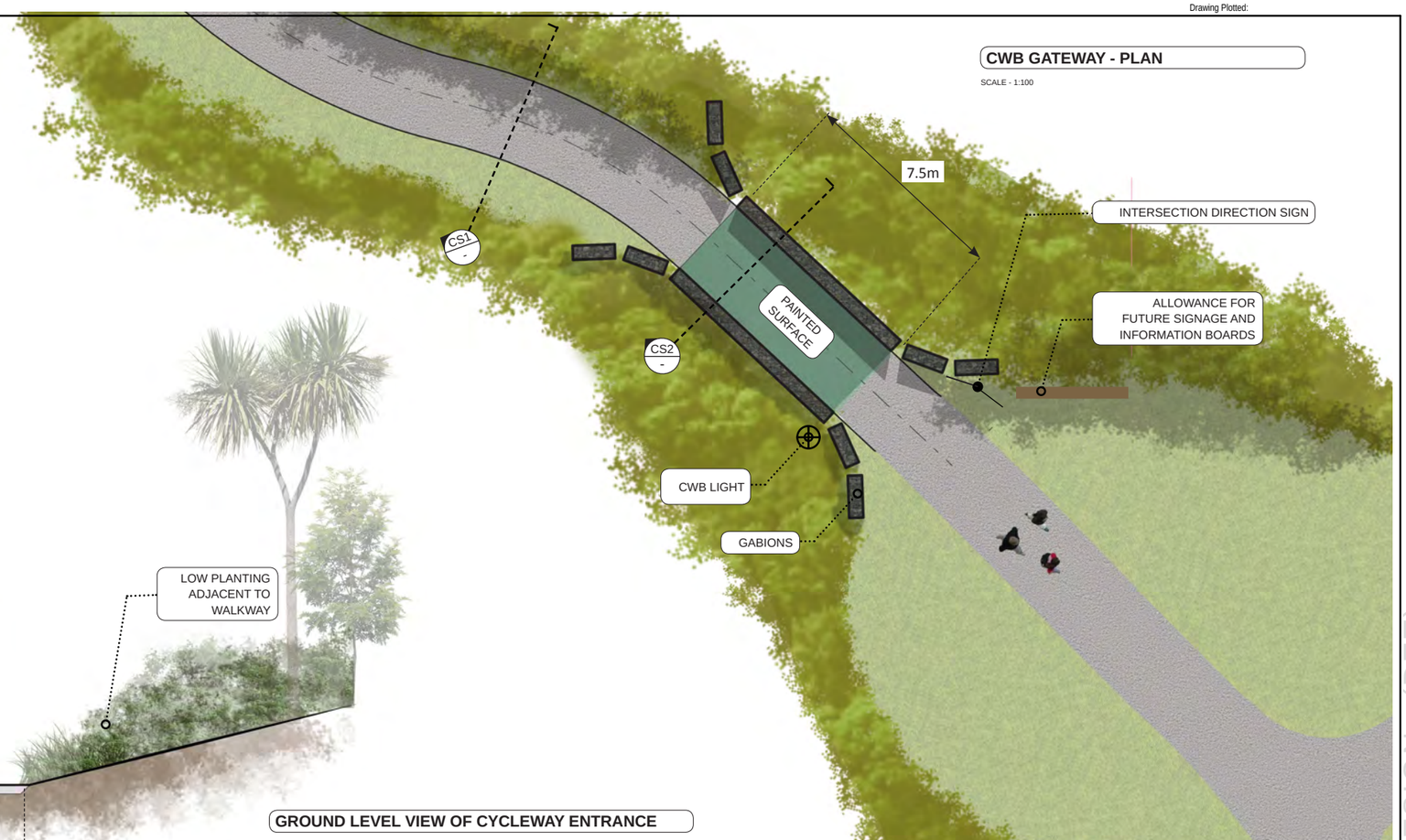
Rev. C

Document No.

Drawing Plotted:

CWB GATEWAY - PLAN

SCALE - 1:100



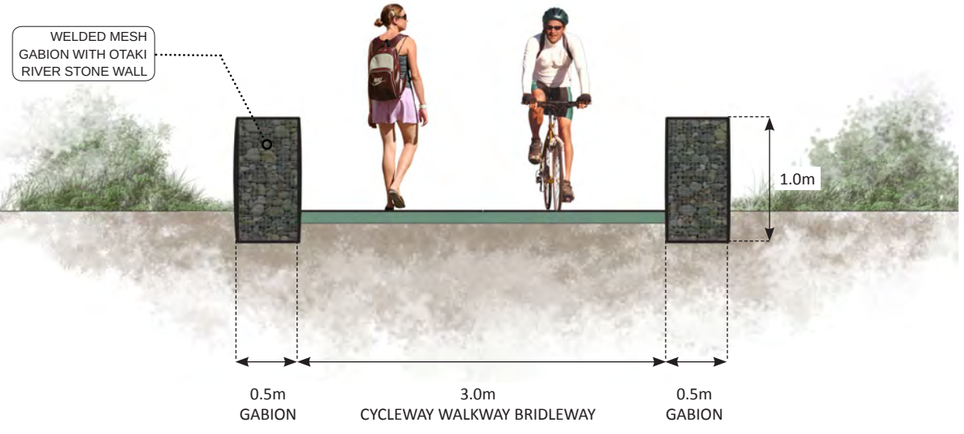
CS1 - TYPICAL CYCLEWAY SECTION

SCALE - 1:50

GROUND LEVEL VIEW OF CYCLEWAY ENTRANCE

CS2 - TYPE 1 CYCLEWAY ENTRANCE

SCALE - 1:50



A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN				Approved For Construction* Date
	Design	LK	11/10/14	
	Drawn	VB	11/10/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 14 CWB INTERSECTIONS

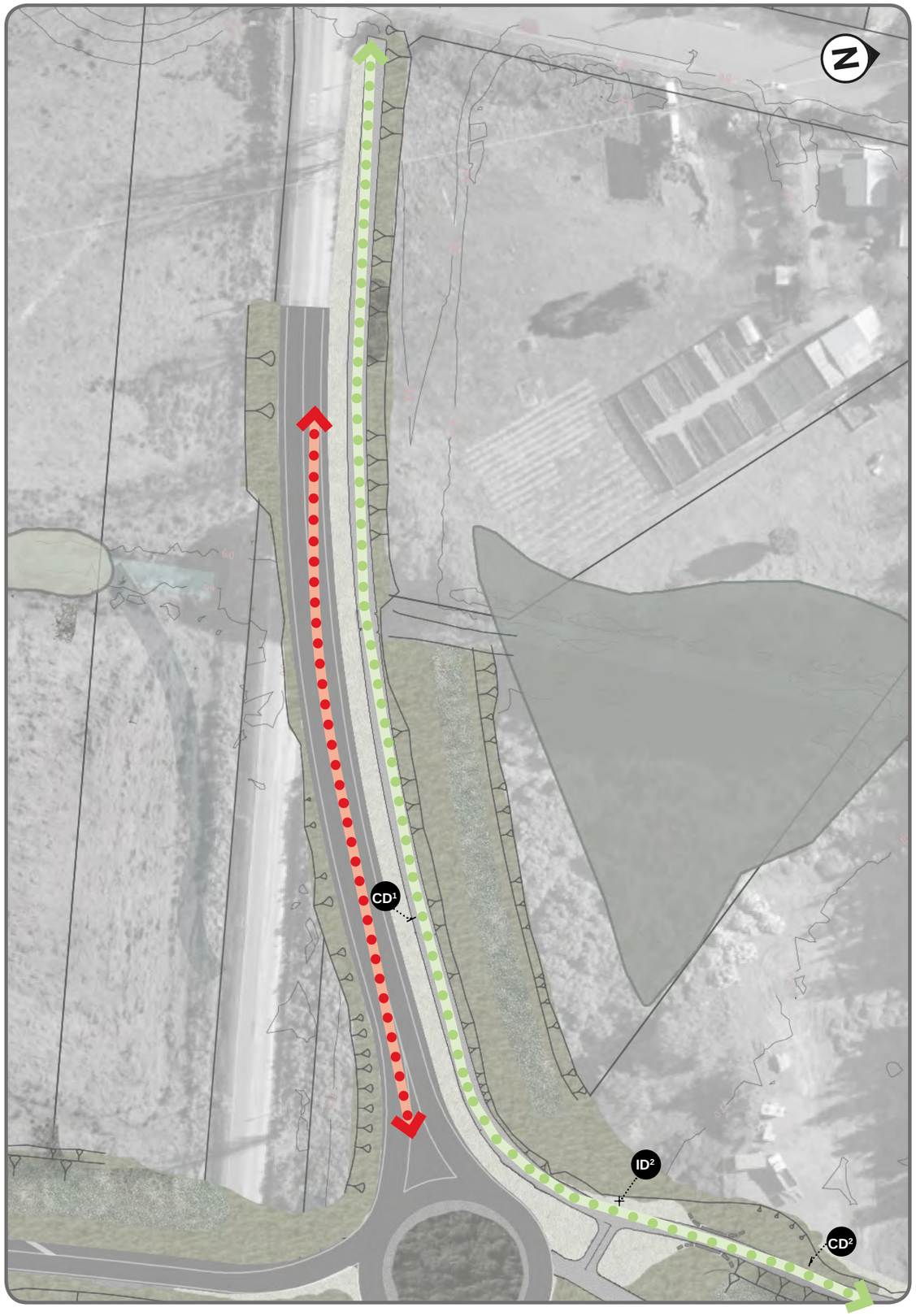
Drawing No: M2PP-121-D-DWG-8801

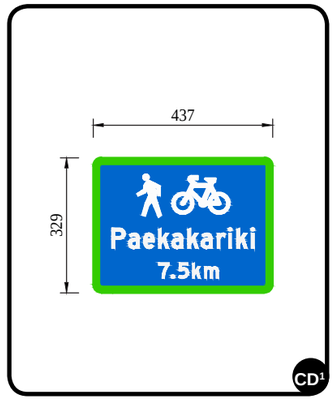
Rev. C

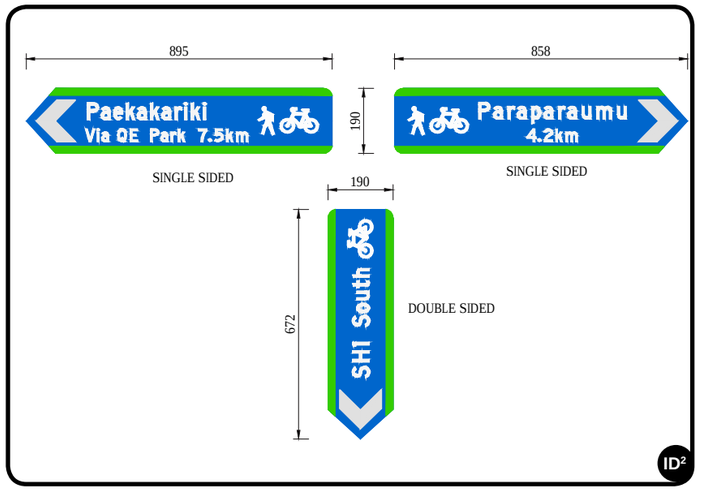
Document No.

DETAIL DESIGN (DET)

Drawing Plotted: 12:34PMWEDNESDAY17DECEMBER2014







LEGEND

- CYCLWAY WALKWAY BRIDLEWAY
- EXISTING NETWORK
- LOCAL ROAD
- CROSSING POINT

A1 REPRODUCTION SCALE 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE 50 40 30 20 10 0mm

DETAIL DESIGN

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	LK	11/10/14	Approved For Construction* Date
	Drawn	VB	11/10/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 15 SIGNAGE LOCATION PLAN

Drawing No: M2PP-121-D-DWG-8902

Rev. C

Document No.

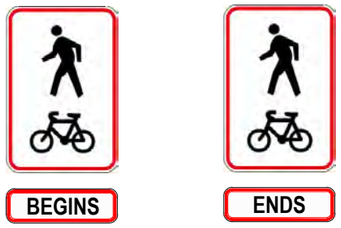
TYPICAL SIGN TYPES:

AI - ADVANCED INFO SIGNS

AT START OF ROUTE.
INCLUDES:
- MAP & INFO
- LENGTH & DURATION OF RIDE / WALK

AI - Advance Information Signs are not an essential requirement for public access tracks or cycle routes, nor are they standardised in terms of their design and layout. These signs may, if desired and appropriate, be installed at or near the start point of the route to provide detailed information, such as a map and information about the length and duration to ride etc. These signs should be clearly visible from the road, allowing cyclists and pedestrians a safe place to stop clear of the roadway or cycleway to read the information.

BE - BEGINNING AND ENDING SIGNS



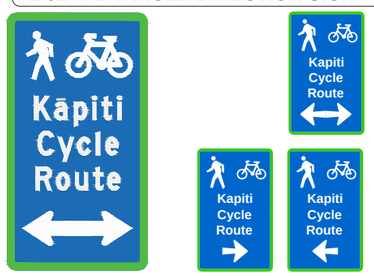
BE - Begins/Ends Signs are used to indicate the start and/or end point of a cycle route. They will include route specific information. Route Begins Signs should be installed on the left hand side of the CWB immediately beyond or adjacent to any advance information sign or at a logical starting point for the cycle route.

ID - INTERSECTION DIRECTION

ID - The Intersection Direction Sign is located at or as near as possible to the actual intersection. Should include both Information about the destination and the distance.

Multiple sighs and destinations to be on one post

AD01 - ADVANCED DIRECTION SIGN - ON LOCAL ROAD APPROACHING CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

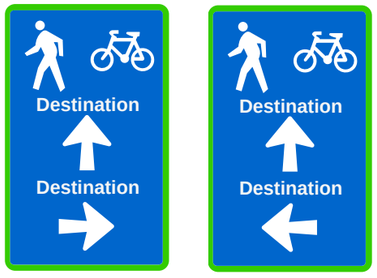
CD - CONFIRMATION DIRECTION

CD - The Confirmation Direction Sign is used to confirm the direction/ destination of travel after an intersection it is intended to provide assurance to cyclists. The CD sign features a straight ahead arrow and should include both Information about the destination and the distance.

As a general rule of thumb, these signs should be installed; between 20-50m beyond an intersection where an Advance Direction Sign has been used and should generally be visible from that intersection;

Cyclists should see a CD sign at least every 15-30 minutes of typical cyclist travel, or every 5-10 km.

AD - ADVANCED DIRECTION - ON CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

LOCAL ROAD INTERSECTION SIGNS

LR + GW - Local road (LR) and Giveway (GW) signs should to be used where the CWB crosses a local road. These are to be located at or as near as possible to the actual intersection. Where possible the LR should be kept to one per intersection and be able to be read by people on either side of the intersection. Both the LR and GW should share the same post and or be incorporateted onto an existing post.

A1 REPRODUCTION SCALE 100 80 60 40 20 0mm
A3 REPRODUCTION SCALE 50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1) AS SHOWN NTS
Reduced Scale (A3) AS SHOWN NTS

Design	LK	11/10/14	Approved For Construction*
Drawn	VB	11/10/14	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 16 CWB SIGN TYPE SUMMARY

Drawing No: M2PP-121-D-DWG-8901

Rev. C

Document No.

- **This guidance does not negate the requirement for the landscape architect to sign off these works prior to spreading topsoil.**
- The obligation to round earthwork cuts in the dune country, avoiding a geometric engineered finish, is a requirement of the consent conditions, the UDLF and the LMP (see below).
- Ideally, this shaping should have been incorporated into the earthworks design model, for implementation on site via the Trimble system. However, inclusion of flowing contours proved unworkable in the MX model so it was agreed that 'on site' instruction by the Design Team with the Construction Team was the best approach.
- Earthworks in sector 460 have been completed to a standard that meets the consent design requirements. Consequently, the dune shaping in 460 (depicted at right) is the design standard for 'dune rounding' for the entire M2PP project.

Consent Conditions

Condition DC.57 b) The purpose of each SSLMP shall be to help ensure detailed landscape design of the Project accords with the principles set out in the Urban and Landscape Design Framework (Technical Report 5) in order to achieve the outcomes and standards required under Condition DC.53C, having regard to the local character and context and ecological conditions within each sector or stage of the route. SSLMPs are required for all sectors/stages of the Expressway.

Condition DC.57 f) Each SSLMP shall include details of landscape design, including the following matters:
xi) Consideration of:
A. The landforms and character, including streams;

UDLF(Urban Design and Landscape Framework)

The dunes are the 'signature' landforms encountered along the Expressway corridor. In the first instance the route alignment seeks to avoid significant dunes if possible. However, loss or modification of some dunes will be inevitable in places given the confined corridor available and the scale of the Expressway footprint. Integrating the Expressway linear form into the dune landforms is a key design objective.

Design Concept
The dune forms and other natural landform features have been avoided as best they can in the alignment of the Expressway. However, the Expressway will create change to landforms and the approach will be to 'naturalise' the changes as far as practicable, to integrate those changes with local topographical patterns.

Design Principles
The following principles will apply to the landform design:

3. Design or modify landforms to acknowledge and reflect the local topographical pattern (scale, orientation, profile).

5. Shape (roll off) the tops of cut/ fill faces so the faces integrate with the existing dune profiles as far as practicable and minimise risk of water and wind erosion.

6. Shape visual and noise mitigation bunds to appear as 'natural' landform, avoiding engineered appearances unless these forms are a component of a designed 'land art' formation.

LMP(Landscape Management Plan)

Attachment 2: Principles, Methods and Procedures (pg.6)

Ensure finished earthworks physically and visually relate to adjoining landforms and that they reflect the Design Principles as set out in the Urban and Landscape Design Framework.

-Shape noise and visual mitigation bunds to appear as 'natural' landforms where practicable.

- Avoid unnecessary disturbance to natural landforms.

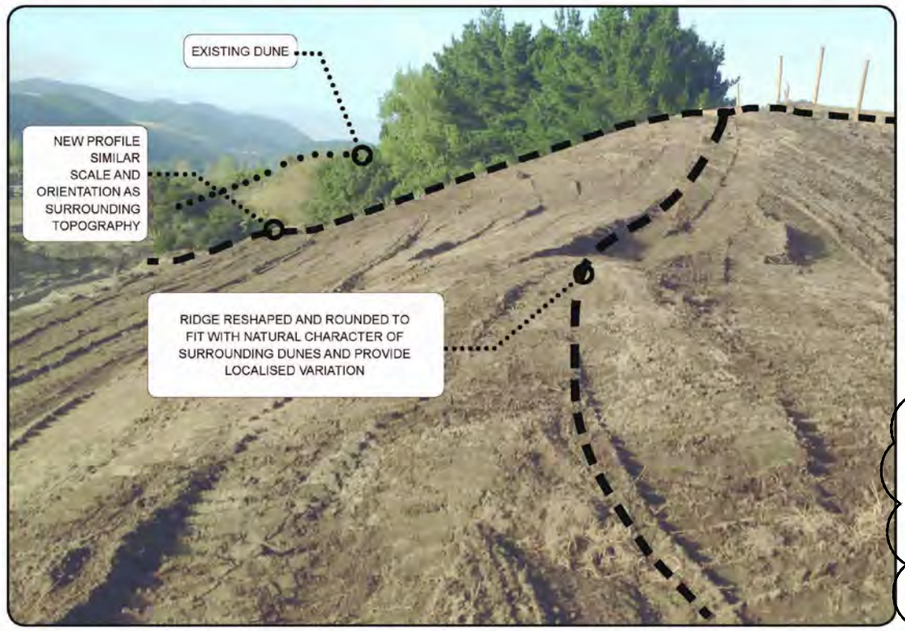
-Re-shaping of dunes to achieve a 'natural' appearance is likely to require extending earthworks into surrounding topography.

Best Practice Examples from Sector 460

Below are examples of successful dune rounding conducted in sector 460 (western side of alignment between approx. chainage 9700-10,000).

-Seamless blending with landforms beyond designation

-Rounding and gradients are a continuation of adjoining landforms

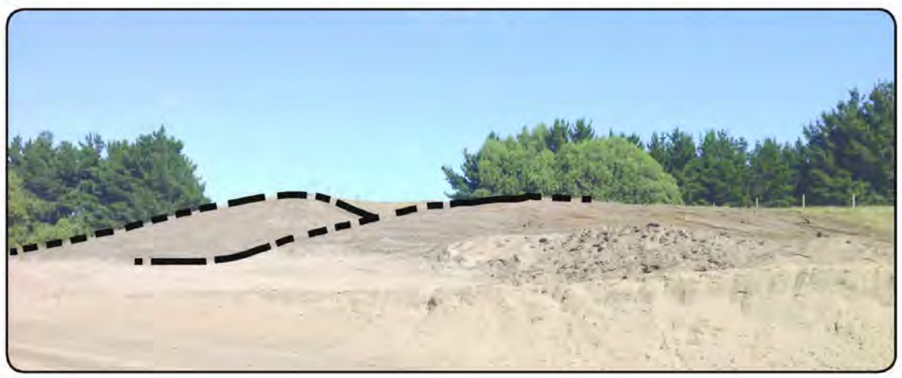


-Dune rounding at edge of boundary fits with existing profile

-Rounding and gradients are at a similar character and scale to surrounding landforms

-Horizontal shaping and undulation with similar character to surrounding dune context

-During dune rounding, form a positive fall across the earthworks and ensure there are no ruts, sags or ground depressions to avoid water collecting and potentially destabilising the slope.



-Natural appearance. Avoid uniform, engineered profiles.

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
2	REVISED BASED ON GEOTECHNICAL INPUT	MP	MP	BF	DS	07.08.14
1	FOR CONSTRUCTION	MP	GFB	DH	DC	07.05.14

Original Scale (A1) NTS	Design	B FAULKNER	24.04.14	Approved For Construction* P BRADSHAW Date 09.05.14
	Drawn	V BILLETT	24.04.14	
Reduced Scale (A3) NTS	Dsg Verifier	B EVANS	05.05.14	
	Dwg Check	G F-B	05.05.14	
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: STANDARD DETAILS
DUNE ROUNDING DETAIL

Drawing No.: M2PP-23R-D-DWG-8904

Rev.: 2

Document No.: M2PP-23R-D-DWG-8904.DWG

DO NOT SCALE IF IN DOUBT ASK.

A1 REPRODUCTION SCALE 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE 50 40 30 20 10 0mm

Drawing Plotted: 28 Oct 2014 09:39 a.m.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER

- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

MATCHLINE REFER: M2PP- 32R -D-DWG-8202

QUEEN ELIZABETH PARK

RETAIN

VEGETATION REMOVED

310

320

RETAIN

EXPRESSWAY NORTHBOUND

EXPRESSWAY SOUTHBOUND

EXISTING SH1

1900

2000

2100

2200

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

320

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
4	FOR CONSTRUCTION - REVISED AS NOTED	MP	GFB	DH	DC	24.10.14
3	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	23.05.14
2	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	21.05.14
1	FOR CONSTRUCTION	MP	WGH	DH	SW	13.11.13

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	B FAULKNER	19.09.13	Approved For Construction* P BRADSHAW Date 15.11.13
Drawn	M POWELL	19.09.13	
Dsg Verifier	B EVANS	12.11.13	
Dwg Check	W HOLCROFT	13.11.13	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE VEGETATION TO BE RETAINED SHEET 1

Drawing No: M2PP-32R-D-DWG-8701

Rev. 4

Document No. M2PP-32R-D-DWG-8701.DWG

Drawing Plotted: 28 Oct 2014 09:41 a.m.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

320

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION - REVISED AS NOTED	MP	GFB	DH	DC	24.10.14
2	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	21.05.14
1	FOR CONSTRUCTION	MP	WGH	DH	SW	13.11.13

Original Scale (A1) 1:500	Design	B FAULKNER	19.09.13
Reduced Scale (A3) 1:1000	Drawn	M POWELL	19.09.13
	Dsg Verifier	B EVANS	12.11.13
	Dwg Check	W HOLCROFT	13.11.13

Approved For Construction* P BRADSHAW Date 15.11.13

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE VEGETATION TO BE RETAINED SHEET 2

Drawing No: M2PP-32R-D-DWG-8702

Rev. 3

Document No. M2PP-32R-D-DWG-8702.DWG