

IN THE MATTER: The Resource Management Act 1991

AND

IN THE MATTER of proposed Plan Change E:
Roxburgh Residential Area
Palmerston North City Council District Plan

STATEMENT OF EVIDENCE OF DAVID CHARNLEY
ON BEHALF OF PALMERSTON NORTH CITY COUNCIL
VISUAL MODELLING – BULK & FORM

Dated: 01 April 2025

TABLE OF CONTENTS

A. INTRODUCTION.....	3
B. CODE OF CONDUCT	4
C. SCOPE.....	4
D. METHODOLOGY	5
E VIEWPOINTS.....	7
E CONCLUSION.....	13
APPENDIX I – Modelled Viewpoints.....	14

EVIDENCE OF DAVID CHARNLEY

A. INTRODUCTION

- [1] My name is David Regan Charnley. I am employed as a Senior Urban Designer at Palmerston North City Council (PNCC) and authorised to provide this evidence on behalf of Palmerston North City Council.
- [2] I have prepared this statement of evidence on behalf of the Palmerston North City Council (**Council**) in respect of technical related matters arising from the submissions and further submissions on Palmerston North City Council's Proposed District Plan E: Roxburgh Residential Area (PCE); primarily related to maximum development bulk and form.
- [3] PCE seeks to rezone an industrial area within Hokowhitu for residential purposes and includes an accompanying structure plan and provisions (objectives, policies and rules) into the District Plan.
- [4] I am familiar with the site for PCE. I visited the site and surrounds various times over the last nine years for both this work and other work along the Manawatū River environs and the surrounding residential area.
- [5] My role in PCE has involved:
- 5.1 preparing a 3D digital model of maximum bulk and form anticipated for the proposed Roxburgh Residential Area, applying both the proposed Structure Plan (Map7.10) and key performance standards proposed under rule R10.6.1.8.
 - 5.2 preparing 2D static perspectives views of the proposed Roxburgh Residential Area 3D model to visually understand and communicate anticipated maximum bulk and form from a range of public viewpoints within the adjacent Manawatū River environs.
- [6] I hold a bachelor's degree with honours in Landscape Architecture from Lincoln University, Canterbury.

- [7] I have over 30 years' work experience in the fields of urban design, landscape architecture and construction, both in private practice and local government, and have since held the role of Senior Urban Designer at Palmerston North City Council where I provide cross organisation design advisory across urban planning, public capital projects and design review.
- [8] I am a Registered Member of Tuia Pita Ora, New Zealand Institute of Landscape Architects (NZILA).

B. CODE OF CONDUCT

- [9] I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Council hearing panel. My qualifications as an expert are set out above. I confirm that the matters addressed in this statement of evidence are within my area of expertise and are restricted to 3D modelling of the proposed plan change area, proposed permitted-activity performance standards and preparation of 2D representative public view perspectives.
- [10] I am familiar with the site for PCE. I visited the site various times over the last two years for both this work and related work in the existing residential area.

C. SCOPE

- [11] My statement of evidence has been prepared as supplementary evidence to that provided by Mr McDonald responding to matters raised by submitters, with regard to three-storey high buildings proposed by the plan change, specifically those located within the proposed riverfront area within Map 7.10. It addresses anticipated public views of maximum bulk and form permitted by the proposed plan change.
- [12] My statement of evidence covers the following matters:
- 12.1 Methodology to construct bulk and form 3D digital model, determine and prepare representative 2D public view perspective images.

- 12.2 Summary of public views in relation to viewpoint location, direction and distance, viewer height and visible bulk and form.

D. METHODOLOGY

[13] The following methodology was undertaken to prepare the digital bulk and form model:

- 13.1 Undertake a site visit to determine locations of representative public viewpoint locations from within the Manawatū River environs. Many viewpoint locations were possible along the public shared pathway and wider river environment including riverbank and top of the stopbank.
- 13.2 Seven locations were confirmed as suitably representative of public views experienced including intervals along the shared pathway, from feature structure, river edge and top of stop banks. All locations are indicated on Viewpoint Map (Sheet 1) of Appendix I.
- 13.3 Using CAD, import and geo-reference geospatial information.
- 13.4 Map 0.5m contours and extrude topographic model of proposed plan change area and immediate surrounds including adjacent Manawatū River environs to east of the site, and parts of Manawatū Street and Tilbury Ave.
- 13.5 Prepare a maximum development sub-division scheme plan for the proposed Roxburgh Residential Area (Map 7.10 Structure Plan) applying a minimum lot size of 250m² as per proposed Permitted Activity Rule R10.6.1.8 c (i) a. The resulting sub-division scheme being 124 lots.
- 13.6 Further model maximum bulk and form further applying the following Permitted Activity Rules of R10.6.1.8:
- 13.6.1 (c) Site Area, Site Coverage & number of buildings
(i) a, (ii) a & (iii) a
- 13.6.2 (f) Height

(i) & (ii) a & b

13.6.3 (g) Height Recession Plane

(i) a & b, (ii) a, (iii), (iv)

13.6.4 (i) Separation Distance

Compliance with R10.6.1.1(c) except where two dwellings are joined by a wall or by their respective garages, the separation distance provisions in R10.6.1.1(c)(i)(a) must not apply.

13.6.5 (j) Outlook Space

(i) a -c, (ii) a-d, (iii)

13.6.6 (l) Onsite amenity

(i) On ground amenity compliance with R10.6.1.1(e)

13.7 The following assumptions have been applied to the bulk and form model:

13.7.1 Allowance for 6m frontage setback

13.7.2 Allowance for onsite carparking

13.8 Insert human block figures for scale reference of rendered perspective views.

13.9 Generate representative 2D perspective views of proposed site bulk and form from each determined public viewpoint. Each view generated applies the following 3D model criteria:

13.9.1 Proposed maximum bulk and form model of Roxburgh Residential Area set at current average topographical level of 34.5m above sea level.

13.9.2 Each public viewpoint location is set at current topographical ground level. These vary between 28.3m – 36.25m above sea level.

13.9.3 All viewpoints rendered are set at average human eye level of 1.7m above ground level

13.9.4 Sun angle set at 12.00pm 21 June (shortest day)

13.10 Each 2D perspective viewpoint rendered communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area, and indicates:

13.10.1 The latitudinal and longitudinal location of the viewpoint,

13.10.2 The direction of view,

13.10.3 The distance of view,

13.10.4 A description of view including visible elements within the foreground, midground and background view,

13.10.5 Levels of visible bulk and form. These being:

- White = remaining available roofline bulk and form within applicable maximum heights and height recession plans (HIRB)
- Dark Pink = Ground Floor (Level 1)
- Pink = 1st Storey (Level 2) 3-6m
- Blue = 2nd Storey (Level 3)

13.11 Each 2D perspective viewpoint rendered does not allow for any vegetation, construction materiality, or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

E VIEWPOINTS

[14] Viewpoint 1

15.1 Located adjacent to Te Manawa o Te Wai whare shelter and looking 146m north-west toward Roxburgh Residential Area from an eye level of 30.2m above sea level.

15.2 In the foreground, the stop-bank and river open space extend from south to north (left to right). To the left, the stop-bank mitigates views of existing residential dwellings associated with Tilbury Ave. In the centre and to the right, the stop-bank mitigates views of the ground floor (L1) and most of the first storey (L2) bulk and form associated with the Roxburgh Residential Area.

- 15.3 Midground views include the remaining 'toothed' roofline of two-storey dwelling bulk and form along the boundary of Tilbury Ave in the centre. Tapering views of L1 , L2, and the remaining variable roofline of three-storey river front dwellings are also visible to the right.
- 15.4 The taller rooflines of these midground three-storey dwellings are 11m high. The lower rooflines between are 9.8m high, constrained in being able to reach 11m high by the height recession planes.
- 15.5 The varied skyline and open sky form the background view.

[15] Viewpoint 2

- 16.1 This viewpoint is located on top of the stop-bank adjacent to the rear boundaries of 22-27 Tilbury Ave, looking 82m north to north-west toward the Roxburgh Residential Area and Tilbury Ave residences from an eye level of 37.2m above sea level.
- 16.2 The stop-bank extends north through the midground centre, with view down into the Tilbury Ave residences to the left and open space environment of river to the right. There is 14m – 15m of space between the base of the stop-bank and the riverfront dwellings.
- 16.3 The bulk and form of the two-storey dwellings along the boundary with Tilbury Ave are visible to the left midground. The dark band in this location represents 1.8m high fence along the Tilbury Ave boundary line. The varied roofline forms along this boundary are 8.7m high, restricted in attaining 9m high by the height recession planes.
- 16.4 Partial views of the three-storey river front dwellings behind the two-story boundary dwellings are visible in the centre. Partial views of the ground floor (L1) , first storey (L2), second storey (L3) and variable rooflines are possible in centre. The majority of visible three -storey rooflines of the river front dwellings in this view are 11m high. The partially visible, lower rooflines are 9.8m high, constrained in being able to reach 11m high by the height recession planes.

16.5 The varied skyline and open sky form the background view.

[16] Viewpoint 3

17.1 This viewpoint is located on sealed shared pathway, looking 88.5m north to north-west toward the Roxburgh Residential Area from an eye level of 37.2m above sea level.

17.2 The open space river environs and stop-bank extend south to north (left to right) forming the midground view.

17.3 The bulk and form of the two-storey dwellings along the boundary with Tilbury Ave are visible to the left midground. This comprises of both the first storey (L2) and varied roofline. These dwellings being unable to attain 9m high due to height recession planes.

17.4 Views of the three-storey river front dwellings bulk and form are visible in the centre extending south to north (left to right) with the stop-bank. The first storey (L2), second story (L3) and rooflines of dwelling fronting the river are visible, with most of the second story (L3) of this riverfront bulk and form located within the roofline of these dwellings. While some rooflines at the end of each of the three-storey rows are 11m high, the majority from this viewpoint are around 9.8m high, constrained by the height recession planes.

17.5 The gap between each three-storey row along the riverfront is the main public access into the river environs.

17.6 The varied skyline and open sky form the background view.

[17] Viewpoint 4a

18.1 This viewpoint is directly east of the site on the shared pathway adjacent to river edge, looking 108m south-west to west toward the Roxburgh Residential Area from an eye level of 32.2m above sea level. It shares the same location as Viewpoint 4b and is part of a wider field of vision from this position (refer to Viewpoint 4b).

- 18.2 The open space river environs and stop-bank extend south to north (left to right) forming the midground view.
- 18.3 Partial views of the bulk and form of the two-storey dwellings along the boundary with Tilbury Ave are visible to the left midground. This comprises of both the first storey (L2) and varied roofline.
- 18.4 Views of the three-storey river front dwellings bulk and form the centre midground, extending south to north (left to right) with the stop-bank. The bulk and form of the first storey (L2), second story (L3) and varied roofline of this riverfront row of dwellings are visible, with most of the second storey (L3) located within the roofline bulk and form of these dwellings. Views of the ground floor (L1) are mitigated by the stop-bank.
- 18.5 Some rooflines located at each end of the row are 11m high, while the remainder between are 9.8m high, constrained in being able to attain 11m high by the height recession planes.
- 18.5 Open space access through the centre of site forms the left midground. Partial views two-storey dwellings and rooflines are visible beyond the river front area.
- 18.6 The varied skyline and open sky form the background view.

[18] Viewpoint 4b

- 19.1 This viewpoint is at the same location as Viewpoint 4a, though looking 108m north-west toward the Roxburgh Residential Area from an eye level of 32.2m above sea level. It is part of a wider field of view from this position (refer to Viewpoint 4a).
- 19.2 The open space river environs and stop-bank extend south to north (left to right) to form the midground view. The river environs extend north, dropping away in elevation to the right.

- 19.3 Open space access through the centre of site forms the left midground. Partial views two-storey dwellings and rooflines are visible beyond the river front area.
- 19.4 Views of the three-storey river front dwellings bulk and form the centre midground, extending south to north (left to right) and tapering in view to the north with the stop-bank. The bulk and form of the first storey (L2), second story (L3) and varied of this riverfront row of dwellings are visible, with most of the second storey (L3) located within the roofline bulk and form of these dwellings. Views of the ground floor (L1) are mitigated by the stop-bank.
- 19.5 Some rooflines located at each end of the row are 11m high, while the remainder between are 10m high, constrained in being able to attain 11m high by the height recession planes.
- 19.6 The varied skyline and open sky form the background view.

[19] Viewpoint 5

- 20.1 This viewpoint is directly east and closer to site, partially up the stop-bank on the shared path, looking 25m north-west toward the Roxburgh Residential Area from an eye level of 36.7m above sea level.
- 20.2 The rising stop-bank forms the midground view, with and open space river environs tapering off to the right of the stop-bank.
- 20.3 The three-storey river front dwellings dominate the left midground, with views of ground floor (L1), first-storey (L2), second storey (L3) and remaining roofline. Most of the second storey (L3) is located within the roofline bulk and form of these dwellings.
- 20.4 Rooflines located at the far end of the row are 11m high, while the remainder in the centre midground are 10m high, constrained in being able to attain 11m high by the height recession planes.
- 20.4 Varied skyline and open sky form the background view.

[20] Viewpoint 6

- 21.1 This viewpoint is on top of stop-bank adjacent to site, looking 20m south to south-west toward the Roxburgh Residential Area from an eye level of 37.95m above sea level.
- 21.2 From right to left, the lower river open space environs, stop-bank, and adjacent bulk and form of the three-storey riverfront dwellings form the foreground and midground view. All floor levels (L1 -L3) are visible due to the elevated close position to the riverfront dwellings. Rooflines in this view generally attain 11m high, though partially varied by height recession planes.
- 21.3 There is 7m – 15m of space between the base of the stop-bank and the riverfront dwellings.
- 21.4 Varied and distant views of the river, stop-bank and shared pathway extending south, and open sky form the background view.

[21] Viewpoint 7

- 22.1 This viewpoint is located on a secondary walking trail adjacent to river edge, looking 150m south-west toward the Roxburgh Residential Area from an eye level of 31.7m above sea level.
- 22.2 Similar to Viewpoint 3, the open space river environs and rising stop-bank extending from south to north (left to right) form the foreground view.
- 22.3 The top of the stop-bank along with bulk and form of three-storey river front dwellings form the midground view. The first storey (L1), second storey (L3) and varied rooflines of the river front dwellings are all visible. Views of the ground floor (L1) are mitigated by the stop-bank.
- 22.4 Partial views beyond the three-storey riverfront bulk and form to two-storey bulk and form beyond are possible. Rooflines reach 11m high in parts to the centre right midground and at the end of rows to the centre left. The remaining roofline is 9.8m -10m high, constrained by height recession planes.

- 22.5 Open sky along with some varied and distant views of the river extending south to the left form the background view.

E CONCLUSION

[22] Views of bulk and form

- 23.1 Views of the Roxburgh Residential Area's bulk and form are possible from within the Manawatū River open space environs, especially for the three-storey lots located within the riverfront area, and some two-storey located along the south boundary with Tilbury Ave.
- 23.2 Viewpoints vary throughout the adjacent river environs, resulting in changing and evolving views of bulk and form as the viewer moves around.
- 23.3 Viewpoint 7 provides the most exposed view of three-storey bulk and form, which can attain a height of 11m high.
- 23.4 For many viewpoints 80m or more away, the stop-bank obscures views of the views of the ground floor (L1) of riverfront dwellings.
- 23.5 Of the 127 lots modeled for the Roxburgh Residential Area, 37 are within the riverfront area. Only 13 can reach a maximum height of 11m, while the rest are limited to 9.8m -10m high, due to height recession planes.

APPENDIX I – MODELLED VIEWPOINTS



DRAFT

ROXBURGH RESIDENTIAL AREA

MAP OF MODELLED PUBLIC VIEWPOINTS

VIEWPOINT 1 - 28.5m G.L*

VIEWPOINT 2 - 35.5m G.L*

VIEWPOINT 3 - 29.5m G.L*

VIEWPOINT 4A - 30.5m G.L*

VIEWPOINT 4B - 30.5m G.L*

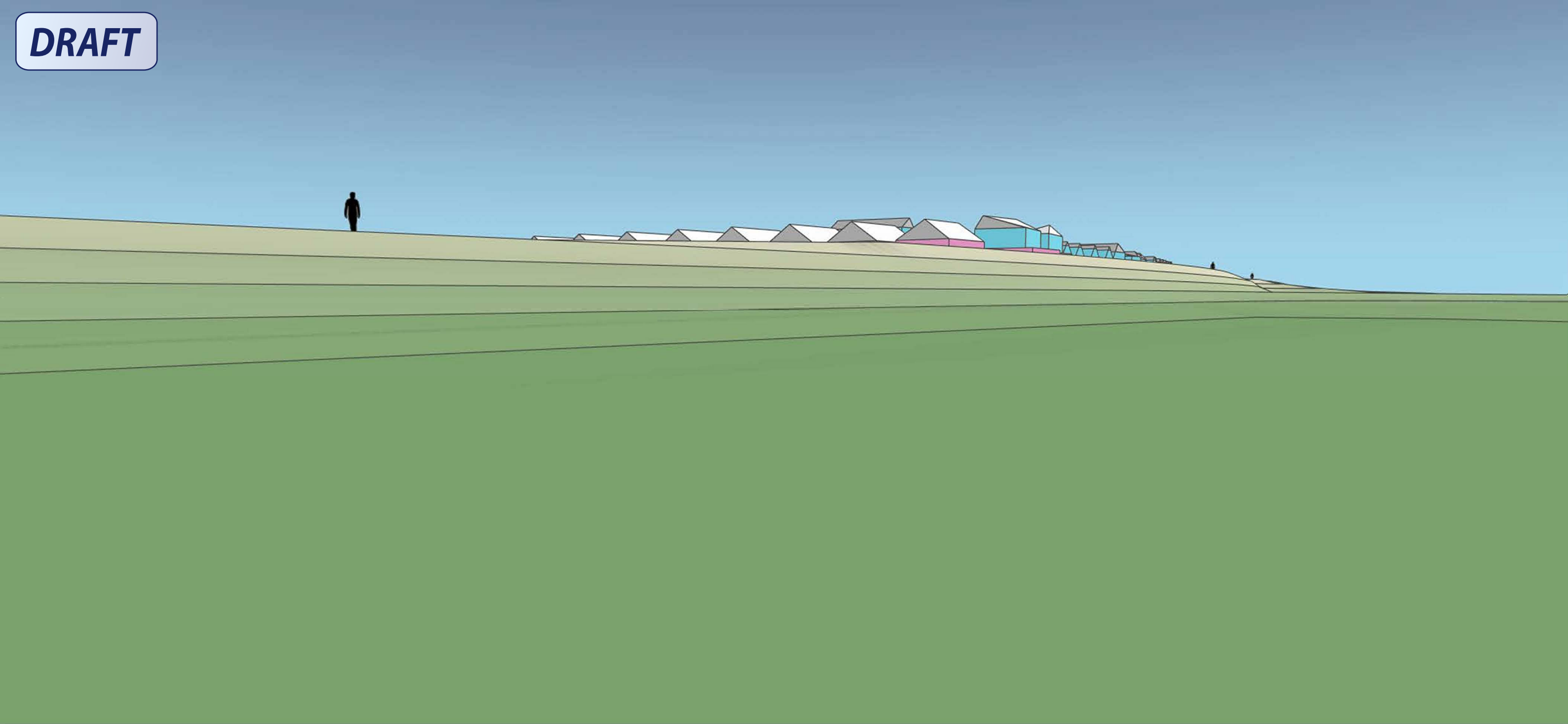
VIEWPOINT 5 - 35.0m G.L*

VIEWPOINT 6 - 36.25m G.L*

VIEWPOINT 7 - 30.0m G.L*

PROPOSED SITE - 34.0m G.L average

*All views are set at 1.7m above ground level = average human height



VIEWPOINT 1

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned at Te Manawa o Te Wai Whare, within Manawatū River environs, directly east of Tilbury Avenue
- looking north-west toward proposed Roxburgh Residential Area and adjacent dwellings of 17-20 Tilbury ave
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives.human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank and open riverspace extends south to north (left to right)
- top - stopbank mitigates views of groundfloor (L1 Dark Pink) and most of 1st storey (L2 Pink) bulk and form
- top left - residential boundaries and dwellings of 22-27 Tilbury Ave are adjacent located behind stopbank. stopbank mitigates views of these dwellings

MIDGROUND

- full view - stopbank extends south to north (left to right)
- full view - Roxburgh Residential Riverfront Area fronts east over stopbank and river environs
- full view - 2 storey (L2 Pink) bulk and form and remaining variable roofline up to 11m high max fronting adjoining neighbouring residences visible
- full view , 2 storey (L2 Pink) and 3 storey (L3 Blue) bulk and form and remaining variable roofline up to 11m high max fronting river environs visible.
- bottom - stopbank mitigates views of groundfloor (L1Dark Pink) and most of 1st storey (L12 Pink) bulk and form
- centre - 2 and 3 storey (L2 Pink and L3 Blue) and remaining variable roofline up to 11m high max are visible

BACKGROUND

- full view - building skyline and open sky

LOCATION:

Latitude 40° 21' 43.308" N, Longitude 175° 38' 47.688"W

DIRECTION

- north-west view toward Roxburgh Residential Area

DIISTANCE

- 146m

GROUND LEVEL (G.L):

- 28.5m

VIEWER EYE LEVEL (VL):

- 30.2m*
- *1.7m above GL - average adult human eye height

BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 2

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned on top of stopbank immediately adjacent to 22-27 Tilbury Ave
- looking north-west toward proposed Roxburgh Residential Area and adjacent dwellings of Tilbury Ave
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives. human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank extends north with 27 Tilbury Ave to the left, river openspace to the right,
- left- open views down into residential zone of Tilbury Ave and Roxburgh Residential Area
- top - space between bulk and form and base of stop bank

MIDGROUND

- full view - stopbank extending north
- full view - 2 storey(L1 Dark Pink/L2 Pink) dwellings adjoining neighbouring residences and 3 storey (L1 Dark Pink/L2 Pink and L3 Blue) most visible from top of river front
- full view - dark band along boundary of ground floor is 2m high boundary fence to Tilbury Ave residents
- top - remaining variable roofline is visible up to 11m high max

BACKGROUND

- full view - building skyline and open sky

LOCATION:

Latitude 40° 21' 48.816" N, Longitude 175° 38' 45.42" W

DIRECTION

- north-west toward Tilbury Ave & Roxburgh Residential Area

DIISTANCE

- 82m

GROUND LEVEL (G.L):

- 35.5m Top of Bank (TOB)

VIEWER EYE LEVEL (VL):

- 37.2m*
- *1.7m above GL - average adult human eye height

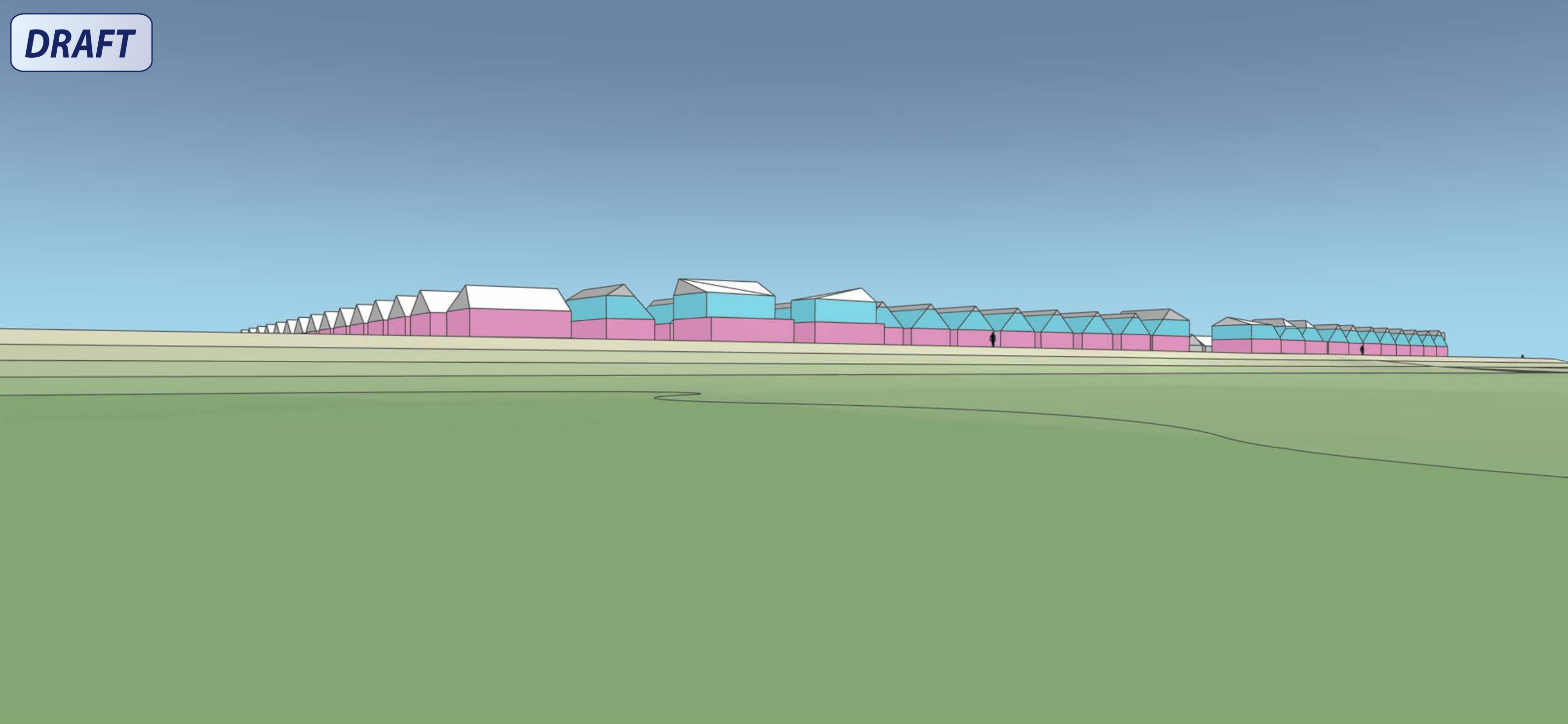
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 3

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned on shared pathway directly south- east of Roxburgh Residential Area
- looking west to north-west toward Tilbury Ave and proposed Roxburgh Residential Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives. human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank and open riverspace extends south to north (left to right)
- top - stopbank mitigates views of groundfloor (L1 Dark Pink) and most of 1st storey (L2 Pink) bulk and form
- top left - residential boundaries and dwellings of 22-27 Tilbury Ave are adjacent located behind stopbank
- top left - stopbank mitigates views of 22-27 Tilbury Ave

MIDGROUND

- full view - stopbank extends south to north (left to right)
- full view - Roxburgh Residential Riverfront Area fronts east over stopbank and river environs 2 storey (L2 Pink) bulk and form adjoining neighbouring residences and 3 storey (L3 Blue) bulk and form fronting river environs.
- bottom - stopbank mitigates views of most groundfloor and some 1st storey bulk and form,
- centre - 2 and 3 storey (L2 Pink & L3 Blue) and remaining variable roofline up to 11m high max are visible

BACKGROUND

- full view - building skyline and open sky

LOCATION:
Latitude 40° 21' 43.308" N, Longitude 175° 38' 48.696" W

DIRECTION
• west to north-west toward Roxburgh Residential Area

DIISTANCE
• 88.5m

GROUND LEVEL (G.L):
• 29.5m

VIEWER EYE LEVEL (VL):
• 31.2m*
*1.7m above GL - average adult human eye height

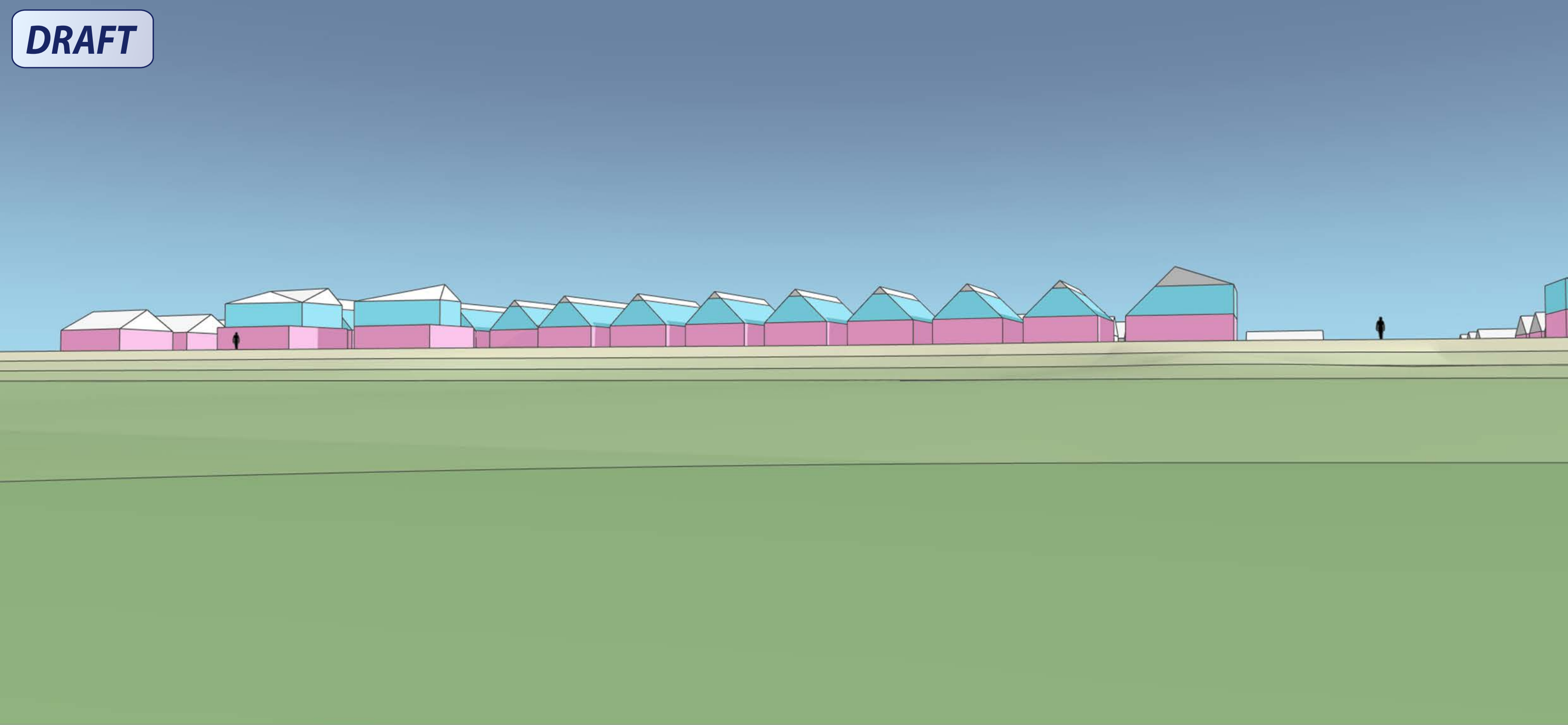
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE
(>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 4a

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned near river edge on shared pathway directly east of Roxburgh Residential Area
- looking south-west to west toward proposed riverfront area of Roxburgh Residential Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives. human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank and open riverspace extends south to north (left to right)
- top - stopbank mitigates views of groundfloor (L1 Dark Pink) and most of 1st storey (L2 Pink) bulk and form
- top left - residential boundaries and dwellings of 22-27 Tilbury Ave are adjacent located behind stopbank
- top left - stopbank mitigates views of 22-27 Tilbury Ave

MIDGROUND

- full view - stopbank extends south to north (left to right)
- full view - Roxburgh Residential Riverfront Area fronts east over stopbank and river environs 2 storey (L2 Pink) bulk and form adjoining neighbouring residences and 3 storey (L3 Blue) bulk and form fronting river environs.
- bottom - stopbank mitigates views of most groundfloor and some 1st storey bulk and form,
- centre - 2 and 3 storey (L2 Pink & L3 Blue) and remaining variable roofline up to 11m high max are visible

BACKGROUND

- full view - building skyline and open sky

LOCATION:

Latitude 40° 21' 37.008" N, Longitude 175° 38' 47.688" W

DIRECTION

- south-west to west toward Roxburgh Residential Area

DIISTANCE

- 108m

GROUND LEVEL (G.L):

- 30.5m

VIEWER EYE LEVEL (VL):

- 32.2m*
- *1.7m above GL - average adult human eye height

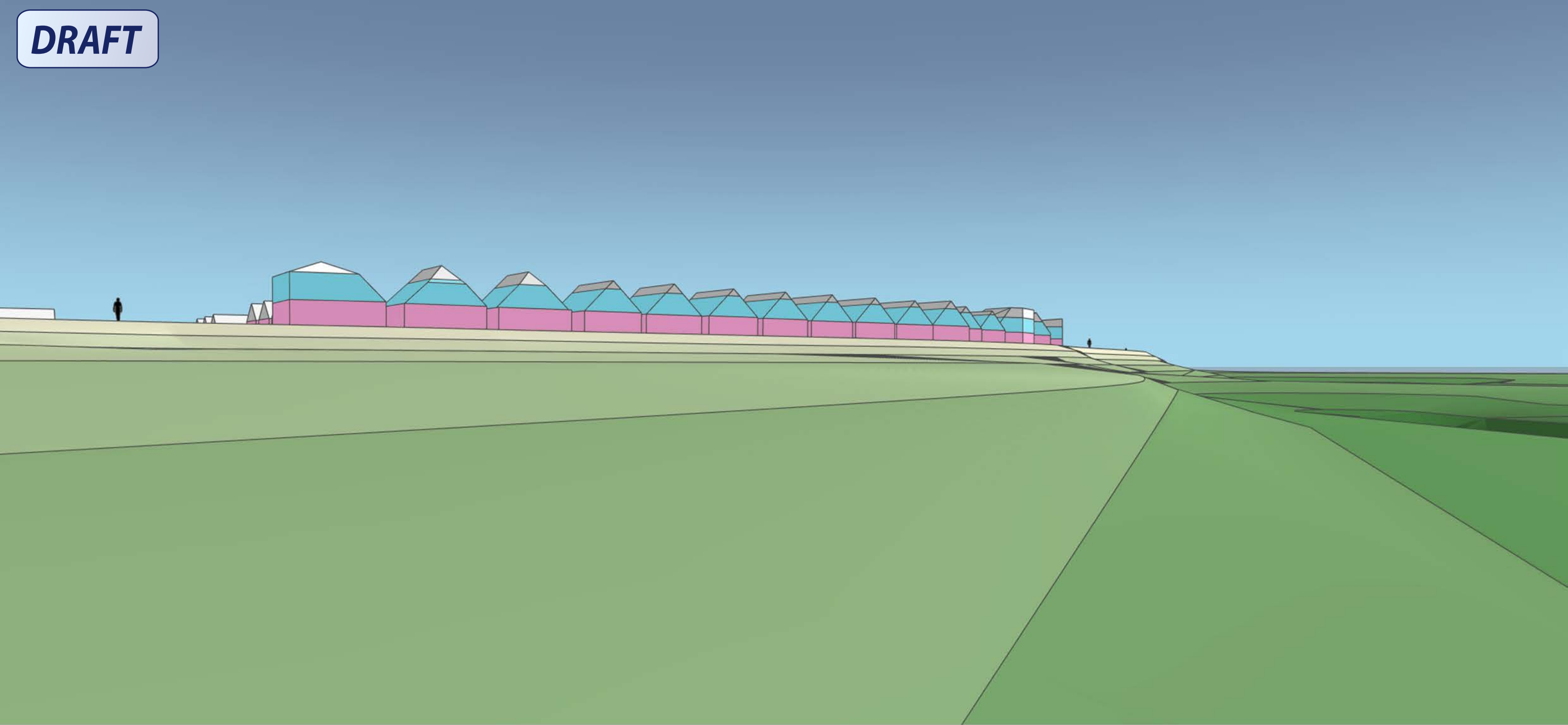
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 4b

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned near river edge on shared pathway directly east of Roxburgh Residential Area
- looking west to north-west toward proposed riverfront area of Roxburgh Residential Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives.human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank and open riverspace extends south to north (left to right)
- top - stopbank mitigates views of groundfloor (L1 -Dark Pink) bulk and form fronting river
- top left -public access visible at top of stopbank. Open gap between bulk and form

MIDGROUND

- full view - stopbank extends south to north (left to right) River environs drops away in level toward river edge
- centre - Roxburgh Residential Riverfront Area fronts east over stopbank and river environs.
- centre - 2 and 3 storey (L2 Pink & L3 Blue) and remaining variable roofline up to 11m high max are visible
- centre left - partial visibility of 2 storey bulk and form behind riverfront area bulk and form
- bottom - stopbank mitigates views of most groundfloor (L1 Dark Pink)located directly behind

BACKGROUND

- full view - building skyline and open sky

LOCATION:

Latitude 40° 21' 43.308" N, Longitude 175° 38' 48.696"W

DIRECTION

- west to north-west toward Roxburgh Residential Area

DIISTANCE

- 108m

GROUND LEVEL (G.L):

- 30.5m

VIEWER EYE LEVEL (VL):

- 32.2m*
- *1.7m above GL - average adult human eye height

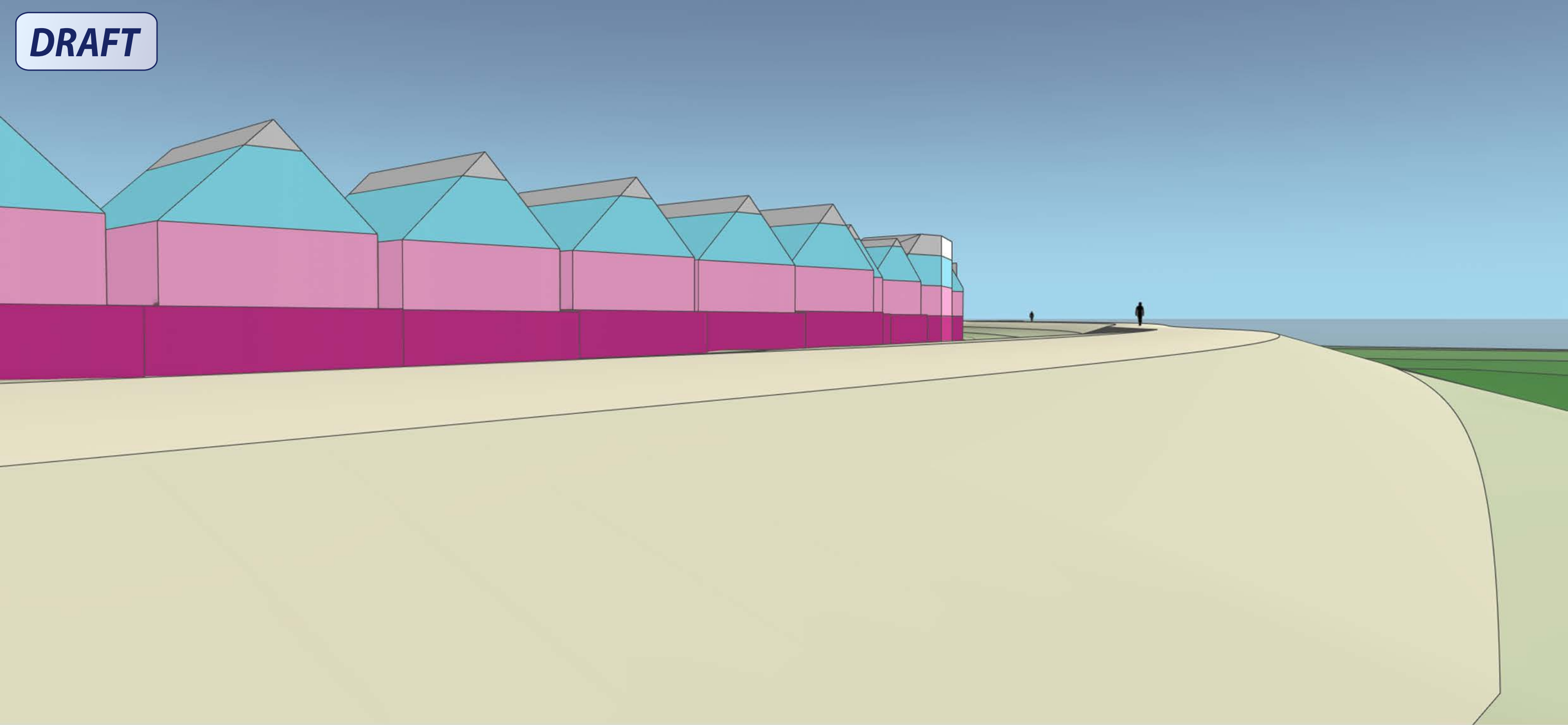
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 5

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned on shared pathway rising up stop bank
- looking north-west toward proposed Roxburgh Residential Riverfront Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives.human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank extends north past Roxburgh Residential Riverfront Areaeast, river openspace to the right,
- full view - rising stopbank

MIDGROUND

- full view - stopbank extending north
- full view - 3 storey (L1-L3) bulk and form along riverfront edge with stop-bank in front.
- full view - 3 storey (L1-L3) bulk and form frontage over river environs
- top - remaining variable roofline is visible up to 11m high max

BACKGROUND

- full view - building skyline, river stopbank and lower environs and open sky

LOCATION:

Latitude 40° 21' 34.452" N, Longitude 175° 38' 43.332"

DIRECTION

- north-west toward Roxburgh Residential Riverfront Area

DIISTANCE

- 25m

GROUND LEVEL (G.L):

- 35.0m

VIEWER EYE LEVEL (VL):

- 36.7m*
- *1.7m above GL - average adult human eye height

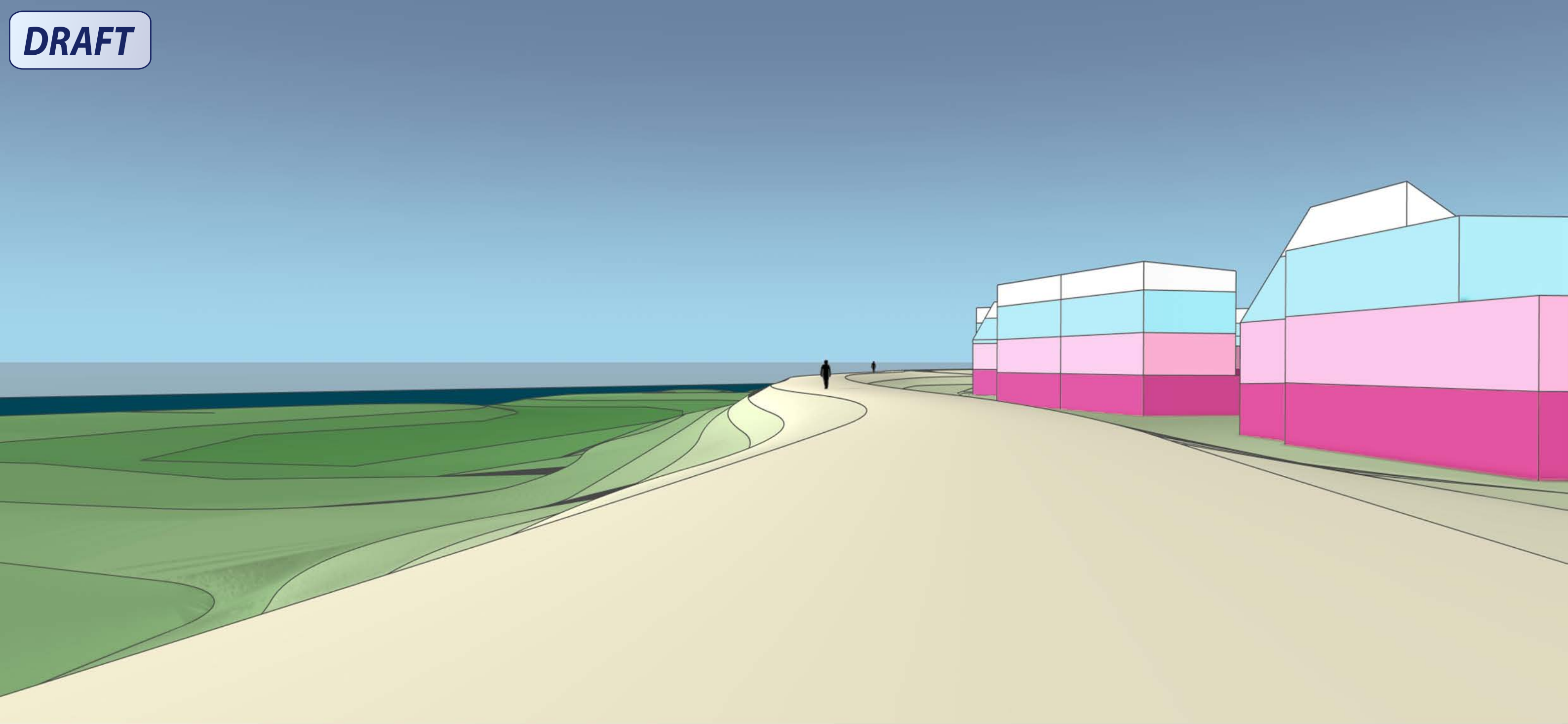
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 6

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned on shared pathway on top of stop bank adjacent to Roxburgh Residential Area
- looking south to south-east toward proposed Roxburgh Residential Riverfront Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives.human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - stopbank extends south past Roxburgh Residential Riverfront Area
- left - river openspace, stopbank steeply sloping down to the left,
- right - Roxburgh Residential Riverfront Area, stopbank sloping down to the right
- centre - top of stopbank extending south

MIDGROUND

- full view - 3 storey (L1-L3) bulk and form of Roxburgh Residential Riverfront Area fronting and overlooking stopbank and river environs.
- right - 3 storey (L1-L3) bulk and form all visible.
- right - remaining variable roofline is visible up to 11m high max
- left - stopbank and river environs sloping away to river edge
- centre - top of stopbank extending south

BACKGROUND

- full view - river environs edges and beyond, building skyline, and open sky

LOCATION:

Latitude 40° 21' 29.304" N, Longitude 175° 38' 37.896"W

DIRECTION

- south to south-east toward Roxburgh Residential Riverfront Area

DIISTANCE

- 20m

GROUND LEVEL (G.L):

- 36.25m

VIEWER EYE LEVEL (VL):

- 37.95m*
- *1.7m above GL - average adult human eye height

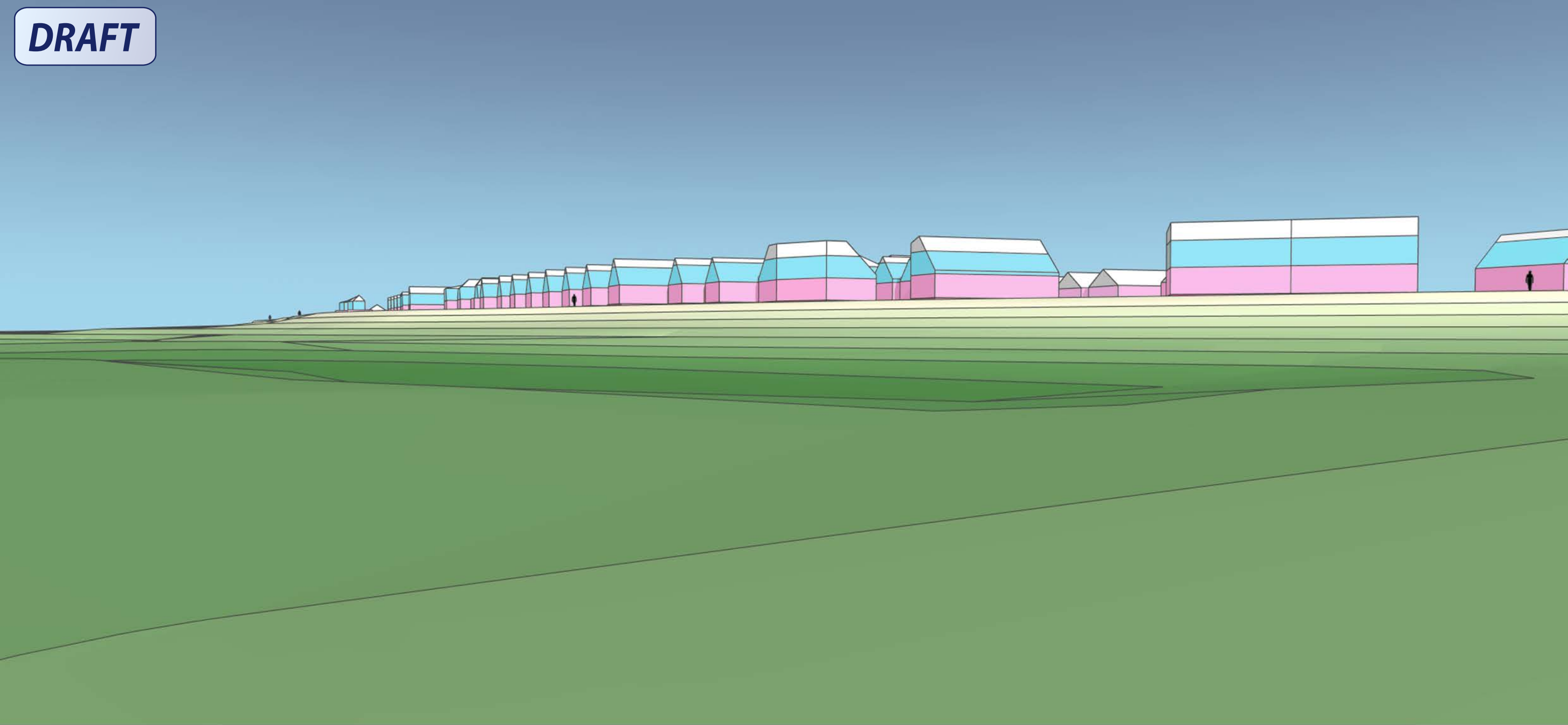
BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor



VIEWPOINT 7

VIEW

- perspective view, generated from digital 3D bulk and form model
- positioned on walking trail adjacent to river edge
- looking south-west toward proposed Roxburgh Residential Riverfront Area
- communicates existing landform and potential development bulk and form permitted under Proposed Plan Change E - Roxburgh Residential Area
- for scale purposes, human figure blocks are located within the 3D model and rendered perspectives.human figure block scale = 1.8m high
- to determine development maximum bulk and form the 3D model applies proposed permitted activity Rules 10.6.1 and R10.6.1.8 performance standards to each lot
- no allowance for any vegetation, construction materials or any other physical elements that contribute to mitigation of bulk and form or added amenity and visual interest.

FOREGROUND

- full view - river environs sloping toward stopbank. stopbank rises sharply

MIDGROUND

- full view - stopbank extends south to north (left to right)
- full view - Roxburgh Residential Riverfront Area fronts east over stopbank and river environs
- centre - 2 and 3 storey (L2 Pink & L3 Blue) and remaining variable roofline up to 11m high max are visible
- centre - partial visibility of 2 storey (L2 Pink) bulk and form and remaining variable roofline up to 11m high max behind immediate river front bulk and form.
- bottom - stopbank mitigates views of most groundfloor (L1 Dark Pink) and some 1st storey (L2 Pink) bulk and form.
- top - remaining variable roofline (white) is visible up to 11m high max

BACKGROUND

- full view - building skyline, lower river environs and open sky

LOCATION:

Latitude 40° 21' 26.316"N, Longitude 175° 38' 42.288"W

DIRECTION

- south-west toward Roxburgh Residential Riverfront Area

DIISTANCE

- 150m

GROUND LEVEL (G.L.):

- 30.0m

VIEWER EYE LEVEL (VL):

- 31.7m*
- *1.7m above GL - average adult human eye height

BUILDING HEIGHT INDICATOR

AVAILABLE ROOFLINE (>11m high max & HIRB)

L3 = 2nd Storey

L2 = 1st Storey

L1 = Groundfloor