Before an Independent Commissioner Appointed by the Selwyn District Council

Under the Resource Management Act 1991

In the matter of a hearing on Plan Change 79 to the Operative Selwyn District

Plan

Birchs Village Limited

Proponent

Statement of Evidence of Lisa Marie Williams

17 April 2023

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Qualifications and Experience

- My full name is Lisa Marie Williams. I am a senior transport engineer and planner employed by Novo Group Limited, a Christchurch based resource management and traffic engineering consulting company. I hold the qualifications of a Master of Engineering (Transport) from the University of Canterbury. I have nearly 20 years of experience as a Transport Engineer and Planner in New Zealand. I am a Transportation Group member of Engineering New Zealand.
- My specific experience relevant to this evidence includes processing and preparing traffic assessments under the Resource Management Act 1991, for notified and non-notified applications on a range of land-use activities. This specifically includes a variety of Plan Change, Subdivision, and Outline Plan applications in the Selwyn District.

Code of Conduct for Expert Witnesses

While this is not a hearing before the Environment Court, I confirm I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Summary Statement

- Birchs Village Limited (**BVL**) seeks to rezone 37 ha of land from Inner Plains to Living Medium Density Prebbleton (**LMDP**) and Business 1 (**B1**) in an area south of Hamptons Road, and west of Birchs Road, Prebbleton (**Site**) under the Operative Selwyn District Plan (**OSDP**). I prepared a transport assessment (dated 24/11/2021) for the original plan change application and also provided an addendum (dated 8 April 2022), relating to revisions to the proposed plan change.
- A revised Outline Development Plan (**ODP**) is provided as **Attachment 1** and the following evidence has been prepared on this basis. There have been some changes to the ODP since the Transport Assessment and Addendum, these however relate primarily to the internal layout, to better integrate with other services and design outcomes. The location of the primary road intersections with Birchs Road and Hamptons Road have not changed, nor have the key pedestrian routes. The revised ODP also continues to provide for future road connections to adjacent land to the south and west.
- The revised ODP includes one extra local (secondary) road connection to Birchs Road. Whilst local roads are not normally shown on an ODP, this road connection has been shown as its purpose is to service the business area in a co-ordinated

manner and also indicate a third future road connection to the land to the west. The design of this road will be carefully considered to prevent it being used as a quasi-primary road. Supporting commentary has been added to the narrative in this respect. A pedestrian crossing point has also been shown on the ODP to convey the intent to connect with the pedestrian and cycle entry to Kahaka Park. These changes are considered to be appropriate and do not change my previous conclusions in respect of the ODP.

- The ODP narrative has also been revised to accommodate urban design outcomes which indicate that property access to Birchs Road is desirable. It is considered that this could be accommodated in some locations where it does not compromise the safe and efficient functioning of Birchs Road and recognising that frontage upgrades to Birchs Road are anticipated to provide an urban standard.
- In terms of development of the ODP area, I have been advised that the rezoning and development, in accordance with the medium density residential standards, would realistically provide for around 527 lots enabling up to 1,581 dwellings. It is understood that the rezoning enables development potential for around 2,500 dwellings as a result of secondary subdivisions in the longer term although this may be an unlikely scenario. As such secondary subdivisions are to be managed by way of proposed rules / assessment matters that enable consideration of effects at that time. Such provisions have been considered by others. The Transport Assessment focused on one dwelling per lot¹ and up to three dwellings per lot under the realistic development scenario.
- Table 1 of the Transport Assessment set out estimates of traffic generation for up to 600 dwellings and some local businesses which may include a preschool and shops such as a dairy, hairdressers or similar that service the local community. This indicated AM Peak: 177 arrivals, 438 departures and PM peak: 376 arrivals and 236 departures.
- The maximum 1,581 dwellings under the realistic development scenario could be expected to generate 1,423 trips² in the peak hours³. The resultant traffic generation for the 1,581 dwellings, preschool and shops is summarised below.

² NZ Transport Agency Research Report 453 (Trips and Parking Related to Land Use) for residential trip generation suggests an 85th percentile traffic generation rate of 0.9 vehicle movements per dwelling in the morning and evening peak hour.

¹ At the time based on 600 lots.

³ Being 370 arrivals, 1,053 departures in the AM Peak and 896 arrivals and 527 departures in the PM peak. This applies the ITE trip generation guidebook arrival and departure flows as outlined in the Transport Assessment (paragraph 6).

Table 1: Summary of Traffic Generation Estimates (1,581 dwellings + Business)

Activity	AM Arrivals	AM Departures	PM Arrivals	PM Departures
Residential	370	1,053	896	527
Preschool	11	11	10	9
Shops	26	27	26	27
Total	407	1,091	932	563

- The above traffic generation is 81 households above the future development capacity originally assessed in the Transport Assessment and the effects of that increase were considered in the Addendum.
- 12 The conclusions of the Transport Assessment and Addendum are summarised as:
 - (a) The proposed road layout has been designed to integrate with the existing and planned road network and can be appropriately designed to operate within good levels of service.
 - (b) The proposal is consistent with the existing road hierarchy and future / planned roads and intersection upgrades. There do not appear to be any major timing constraints in terms of development and planned road networks near the Site.
 - (c) The proposal includes provision for shared path connections to provide access to the existing Little River Rail Trail, Kahaka Park, and bus stop. The Site is appropriately located to support travel by all modes.
 - (d) There is ample ability to accommodate the anticipated development with provision of a 'T' intersection with Birchs Road near the southern end of the revised ODP, a 'T' intersection with Hamptons Road near the western boundary, a roundabout at the intersection of Leadleys Road Birchs Road and the ability to upgrade the Birchs Road Hamptons Road intersection to a roundabout for the higher traffic volumes associated with medium density development (more than 600 dwellings⁴).
 - (e) The rezoning and proposed transport network can be integrated into the surrounding existing and planned transport network in a safe, efficient, and appropriate manner which provides for travel by all modes.

⁴ A rule is proposed in respect of this threshold and the need for an upgrade.

- (f) The proposed rezoning is considered to be generally consistent with the objectives and policies of the OSDP from a transport perspective⁵.
- In addition to the assessments provided to date, there are several transport related aspects of the National Policy Statement on Urban Development (NPS-UD) and the Greenfield Framework (GF) which I have been asked to comment on from a technical perspective. The relevant criteria and summary of points have been provided below. These comments are intended to assist with the overall considerations, undertaken by others.

Table 2: Summary of Transport Comments on NPS-UD and Greenfield Framework Criteria

Criteria	Comment
(NPS-UD) Have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; Demonstrates how it connects to current or planned or will support future public transport systems. Demonstrates how it provides for active transport accessibility. Demonstrates how it links to jobs, open spaces, and community services.	The Site is well located relative to the existing #80 bus route on Birchs Road which connects to Lincoln and to Christchurch ^{6.} There is also a school bus from Prebbleton to Lincoln High School. The primary roads proposed within the ODP would also be suitable to cater for bus routes as demand grows and new / expanded routes are provided. Both the local shops / services proposed, and a variety of existing destinations, are within walking and cycling distance ⁷ . The pedestrian and cycle connections proposed within the ODP provide for convenient and direct access to these and the existing Rail Trail cycleway along Birchs Road. The Site is also well connected to the wider strategic road network for connections to other destinations ⁸ .
(NPS-UD) Well-connected along transport corridors	The Site has good connectivity to the wider road network for travel in all directions. There is direct access along Birchs Road to Lincoln, Leadleys Road to Halswell (SH75) and to

⁵ For completeness the Transport Assessment also included consideration of the Proposed District Plan objectives and policies (as notified) and concluded that the proposal is generally consistent with those provisions.

⁶ Refer to paragraphs 35-37 of the Transport Assessment for further details.

⁷ Refer to paragraph 39 of the Transport Assessment for a list.

⁸ Refer to paragraphs 62-64 of the Transport Assessment.

Criteria	Comment
Demonstrates how it is connected to key strategic transport routes.	Rolleston via Hamptons Road – Selwyn Road – Lincoln Rolleston Road. There are direct connections to Christchurch and the Christchurch Southern Motorway (via Hamptons Road to Springs Road and Shands Road or Birchs Road to Springs Road).
(GF) Does not affect the safe, efficient, and effective functioning of the strategic transport network? Demonstrates how it connects with the wider transport network and addresses any potential impact on the network.	The Transport Assessment concluded that there are safe and efficient options to achieve connections to the existing road network which provides access to the strategic transport network. There are a number of Private Plan Changes and pSDP submissions seeking re-zoning that if all progressed would have cumulative effects on the wider strategic transport network and it is understood that this will largely be driven by demand for new housing in the District. It is understood that NZTA and the Greater Christchurch Partners are progressing a number of studies / strategic plans ⁹ to assess and co-ordinate the cumulative effects of growth.
(GF) Does not foreclose opportunity of planned strategic transport requirements? Outlines how it aligns with any planned strategic transport work.	The Transport Assessment identified that the proposal fits within the planned road network in the vicinity of the Site.
(GF) Does not significantly impact the operation of important infrastructure, including strategic transport network. Demonstrates where important infrastructure is located within the requested area and what mitigating factors are being	The Transport Assessment concludes that the traffic generation effects on the frontage roads can be appropriately managed and identifies what upgrades may be required.

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⁹ Including: Greater Christchurch 2050, Urban Growth Partnership, Turn-up -and -go / Mass Rapid Transit (MRT) Indicative Business Case, and a Greater Christchurch Spatial Plan.

Criteria	Comment
used to reduce reverse sensitivity effects.	
(GF) How it aligns with existing or planned infrastructure, including public transport services, and connecting with water, wastewater, and stormwater networks where available.	In addition to integration with the road network, the Transport Assessment identifies proposed links for access to the existing public transport services and the Rail Trail adjacent to the site.
Outline what infrastructure is existing or planned and how the re-zoning aligns with it.	
(GF) Creates and maintains connectivity through the zoned land, including access to parks, commercial areas and community services.	The Outline Plan and Transport Assessment demonstrate connections through the proposed residential zone to local destinations including Kahaka Park, the Domain, existing shops near Springs Road and Schools.
Demonstrates connectivity through the rezoning as well as with adjoining land.	The Outline Plan also indicates provision for future connectivity to adjoining land.
Demonstrates where parks, commercial and community spaces are and how accessible they are.	
(GF) Promotes walking, cycling and public transport access. Demonstrates where these routes could be.	The Outline Plan and Transport Assessment include proposed connections to existing footpaths, public transport services and the Rail Trail.

Response to Officer's Report

14 A Transport Hearing Report has been prepared by Mat Collins of Flow Transportation Specialists Limited, on behalf of the Selwyn District Council, and this is provided in Appendix 2 of the Council officers s.42A report. There is general agreement between the Council officers and myself in respect of most transport

- related matters and as such the response below considers only those matters where changes or additional considerations have been recommended.
- 15 It is noted that matters relating to staging and development thresholds have been addressed by others and are not therefore discussed here other than where technical advice is provided to guide those considerations.
 - ODP narrative be amended to include "Road frontage upgrades: The Birchs Road and Hamptons Road frontages are to be upgraded to an urban standard in accordance with the Council's Engineering Code of Practice. All frontage upgrades are to be developed in consultation with Council."
- 16 This has been included in the revised ODP narrative.
 - ODP plan and narrative should be amended to indicate an additional north/south secondary road, and an additional (third) future road connection to the west.
- 17 A third future road connection to the west has been indicated on the revised ODP.
- The revised ODP has changed the alignment of the primary North-South road to a more central position that better services the Site. A secondary connection on a north-south alignment is now provided west of the primary road. This is considered to be a better overall outcome and achieve the intent of the change sought.
 - Road cross sections are removed from the ODP or otherwise amended to comply with Section 13 of Council's Engineering Code of Practice.
- 19 Road cross sections were indicated for guidance relating to amenity and urban design assessments and are not intended to replace normal road design standards or processes. To avoid confusion, these have been removed from the revised ODP.
 - Change the ODP narrative "A primary road legal width of 21 m is proposed, to allow inclusion of which will include a shared pedestrian/cycle path, separate from the main vehicle carriageway"
- I would recommend the original wording is retained in the revised ODP narrative as it is beneficial to allow flexibility for this level of detail to be determined at subdivision stage rather than being overly prescriptive. The District Plan rules along with other standards and design guides already provide for robust analysis at subdivision stage.
 - That the ODP identify that the Leadleys intersection must be formed as a roundabout, and include safe crossing facilities to the Little River cycle trail.

- The revised ODP has been amended to show Leadleys Road / Birchs Road intersection as a roundabout. The need for correction of the alignment has been shown indicatively on the revised ODP and crossing facilities would be provided. The exact alignment and design of crossing facilities would be undertaken at subdivision stage. This process reviews the detailed design and would include a road safety audit. The revised ODP narrative has been updated to include commentary regarding the alignment and crossing facilities.
 - Mitigation measures, such as a speed reduction [80km/h to 50km/h] or turning restrictions, will be required to ensure the Primary Road intersection with Hamptons Road can operate safely. Amend the ODP narrative to refer to safe intersection sight distance.
- The detailed design of this intersection (and upgrades to Hamptons Road as well as changes to the Speed Limit Register) will be undertaken at subdivision stage. This includes a road safety audit of the design to ensure it will operate safely. The revised ODP narrative has been updated to include some commentary around visibility at this intersection.
 - Springs Road/Hamptons Road intersection is upgraded to a roundabout prior to any development within PPC79.
- Given this work is already funded and scheduled for 2023-2024 this should readily be completed prior to occupation by future residents. This can be addressed by proposed provisions if considered necessary although it is recommended that this refer to "occupation by future residents" rather than "development". This wording better recognises that the effects relate to traffic generation of future residents not the development and construction phases of the subdivision.
 - Birchs Road/Springs Road intersection: PPC72 included an estimate of the existing and future performance with a growth factor of 20% for background traffic. This demonstrated that this intersection is expected to "operate acceptably (albeit in a somewhat congested state during peak hours), with the development of PPC72 and PPC79 (600 dwelling scenario). However, should the 1500 1581 dwelling scenario eventuate for PPC79, I consider that further assessment of this intersection would be required. Refer to my discussion in Section 5.1 for a potential planning mechanism to ensure this outcome" 10
- 24 The Hamptons Road Springs Road and Hamptons Road Shands Road roundabout upgrades are planned to address immediate congestion on the Springs Road route and provide an alternative to the Birchs Road connection to Springs

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¹⁰ Section 5.1.2 on Page 12 of the Transportation Hearing Report

Road. Noting that these upgrades are scheduled for 2023/2024 and that the site is located south of and with frontage to Hamptons Road, it is considered that this will be an attractive route.

- Development on the Site would progress in stages, over time towards the realistic medium density scenario (1,581 dwellings), and any upgrades at the Birchs Road / Springs Road intersection would need to be considered from a strategic (overall) road network perspective rather than simply capacity related upgrades. Such considerations are best undertaken in a co-ordinated way by Council and their strategic partners.
 - An upgrade of Ellesmere Road is a prerequisite and Leadleys Road widening on formation of the roundabout with Birchs.
- 26 It is understood that the Ellesmere Road Seal Widening is scheduled for 2024/25. The project includes Ellesmere Road seal widening and intersection upgrades between Edward Street (Lincoln) and Knights Stream Bridge (near Trices Road / Sabys Road).
- The timing of this work will likely be completed before significant additional traffic is generated from the Site noting that development and occupation of houses will be gradual. Further, Ellesmere Road is reasonably removed from the Site and there are a wide range of other routes available such that I don't consider it necessary to delay development on the PC79 site by requiring it to be co-ordinated with those upgrades. As above, the Hamptons Road Springs Road and Hamptons Road Shands Road upgrades are being prioritised to provide some immediate address to congestion and development of the Site and traffic growth across the District will all occur progressively over time.
- Upgrades and changes to Leadleys Road on the approach to the intersection with Birchs Road would be included as part of the intersection upgrade. It is understood that Council are also in the process of upgrades for parking and pedestrian and cycle facilities on and adjacent to the Leadleys Road Kahaka Park frontage.
- In terms of any wider upgrades required for Leadleys Road, traffic estimates for use of Leadleys Road by future residents of the Site have been derived using the existing traffic volumes which provide an indication of how commuter traffic is currently dispersed across the transport network and recognises that future residents will have similar trip patterns. Whilst congestion may encourage some trips to use alternative routes, Figure 4 of the Transport Hearing Report which showed where such trips may occur, did not indicate noticeable increases along nearby sections of Leadleys Road and only smaller increases (100vph) on the section approaching SH74. The growth on that section appears to be associated with trips from Lincoln. It is expected that this may reflect that other routes are more direct from Prebbleton. Whilst there will be some use of Leadleys Road by future

residents, I disagree that it would be a significant amount warranting immediate upgrade of Leadleys Road as part of the PC79 development.

- Growth and Capacity
- 30 Sections 4 and 6 of the Transport Hearings Report included analysis of the wider and potential cumulative transport effects in reference to planned upgrades and a study of potential growth in commuter traffic associated with population growth in Selwyn District. The transport related effects largely depend on a complex range of issues across the Selwyn District relating to the extent of population growth relative to provision of land¹¹, location of growth, timing of infrastructure, development of employment and local services and changing commuter patterns. Ultimately there is general agreement that the volume of traffic generated by the Site is not of concern in itself and that cumulative effects reflect the changing approach to providing for growth. The planning and co-ordination of infrastructure upgrades, and other projects related to mode shift, to address the impacts of this cumulative growth have already commenced and will be implemented over time.
 - The s.42A report (paragraph 118) concludes "there are a number of changes recommended to the ODP to improve the immediate transport environment around the plan change site. Mr Collins also recommends that the plan change be subject to a staging rule that prevents development until the suite of intersection improvements programmed over the next 1-3 years are completed. Provided these amendments/ staging rules are in place, Mr Collins is satisfied that the plan change will result in acceptable outcomes from a transport perspective."
- The recommended changes have been discussed above and for the most part accommodated within the revised ODP and narrative. There will be some time before residents are occupying the Site and the nature of subdivision and construction means that this will occur progressively, noting the timing of upgrades (2023-2025) already appears commensurate with any noticeable increase traffic volumes from the Site, a comprehensive staging rule is not likely to be necessary. However as outlined above, if such a rule is included this should refer to "occupation by residents" rather than "development".

Submissions

There were a number of submissions relating to transport and the key themes 12 are summarised below with a response to each. The further submissions related

¹¹ Acknowledging that where sufficient land is available growth may be limited by demand for housing rather than increasing proportionate to zoned land.

¹² Emissions, amenity affects and noise resulting from transport are assessed by others.

to the 60km/h speed limit for Birchs Road and otherwise related to points already raised in the submissions.

- Concern about existing and future traffic volumes and capacity of transport networks to cater for additional traffic associated with growth. Related concerns regarding the impacts on existing and future traffic congestion.
- The Transport Assessment and Addendum included consideration of the potential increase in density (3 dwellings per lot equating to 1,581 dwellings) and the subsequent higher traffic generation and resultant intersection capacity in paragraphs 65-69. Additional infill development capacity beyond this level would require further subdivision and be assessed on its merits at that time.
- The transport modelling has considered the capacity of nearby intersections and upgrades needed to allow these to operate at acceptable levels of service. The modelling uses the best estimates and counts of traffic available in the location, at the time, including peak hour counts undertaken by Novo Group Limited. The traffic counts and estimates undertaken provide a good basis for the transport modelling and allowances have been appropriately accommodated for planned changes to the road network and 20% growth in transport across the road network associated with general growth such as from development in Lincoln. This is considered to be appropriate noting that the increase in transport associated with new development further afield is spread across the road network. The modelling also includes a peaking factor to allow for the busiest period within a peak hour. I am confident the modelling provided represents a robust analysis that is fit for the purpose of considering the capacity and upgrades required to accommodate the proposed ODP traffic.
 - Impacts on commuter volumes and routes, particularly by private motor vehicle, and cumulative effects on the wider transport network.
- As outlined above, the cumulative effects have already been discussed in some detail in respect of the Councils s.42A report.
- The Councils Long Term Plan 2021-2031 (LTP) includes ¹³ "A series of intersections safety improvements subsidised by NZTA to replace priority controlled intersections with roundabouts to improve safety and congestion outcomes on key arterial commuter routes and connectivity to the Southern Motorway." This includes upgrades at the "Shands/Trents, Shands/Hamptons, & Springs/Hamptons intersections" which are planned for the 2022-2025 timeframe. Other projects are also included in the LTP to address congestion in the nearer

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https://www.selwyn.govt.nz/ data/assets/pdf file/0005/459599/Long-Term-Plan-2021-2031 Document WEB.pdf Refer to Page 82.

future including additional park and ride facilities in Lincoln and Rolleston to encourage travel via public transport (bus) and a network of cycleways including a new connection from Prebbleton to Templeton.

- 37 In terms of accommodating the transport demands associated with growth across the District and particularly commuter routes to Christchurch, this is being considered in detail by the Greater Christchurch Strategic Partnership with an emphasis on reducing private motor vehicle travel.
 - Speed limits and rural road environment
- As part of the subdivision process, the frontages of Hamptons Road and Birchs Road would be upgraded to an urban standard. The design of these upgrades is determined through the subdivision process however it would be expected to include typical design standards with footpaths, kerb and channel, lighting and the like. This is also anticipated to be supported by urban speed limits (50km/h or less). The internal roads within the ODP would also have urban speed limits and design / construction.
 - Safety for pedestrians and cyclists arising from the increase in vehicles / traffic volumes and capacity, and suitability of existing cycleways for commuters.
- As outlined above, the frontage roads would be expected to be upgraded to an urban standard and speed (50km/h or less) which will address most of the existing safety concerns in the immediate vicinity of the Site. Particularly this would include street lights, footpaths and pedestrian and cycle crossing points at / near intersections and for access to Kahaka Park.
- 40 It is also noted that a pedestrian crossing is already being developed on Birchs Road as part of the Park upgrades.
- The sections of shared path for the Rail Trail are connected along Birchs Road between Trices Road and Springs Road by sections of cycle lanes (marked on the road carriageway). Cycle lanes are considered to be suitable for commuter cyclists.
- The Council's **LTP**¹⁴ also includes a new cycleway connecting Prebbleton to Templeton.

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https://www.selwyn.govt.nz/__data/assets/pdf_file/0005/459599/Long-Term-Plan-2021-2031_Document_WEB.pdf

- Safety of Hamptons Road and proposed 'T' intersection location.
- A crash report was included within the transport assessment. For completeness a check of the original crash search area for crashes since 2021, did not identify any additional crashes (to end of March 2023). An expanded search also indicated that there were no reported crashes on the nearby sections of Hamptons Road for the last 20 years.
- The location and visibility of the proposed 'T' intersection with Hamptons Road was considered in paragraph 42 of the Transport Assessment which concluded that both the separation between the intersections and visibility in each direction at the future intersection would be appropriate. The 'T' intersection would afford priority to vehicles on Hamptons Road. The visibility at the future intersection is achieved despite the existing hedge west of the proposed intersection.
- As outlined above, the nearby sections of Hamptons Road would be upgraded to an urban standard.

Conclusion

- In summary, I consider the rezoning proposed is able to be accommodated within the existing and planned transport network and provides access for all modes.
- The changes recommended in the Council Officers s.42A Report have been discussed above and for the most part accommodated in the revised ODP and narrative. There will be some time before residents are occupying the Site and the nature of subdivision and construction means that this will occur progressively, noting the timing of planned upgrades (2023-2025) already appears commensurate with any noticeable increase traffic volumes from the Site, a comprehensive staging rule is not likely to be necessary. However, if included should refer to "occupation by residents" rather than "development". The proponent is also proposing a rule with a 600 dwelling threshold in respect of the upgrade of Birchs Road, Hamptons Road to a roundabout, this is discussed in detail by others.
- As outlined above and in the previous assessments, I consider the rezoning request to be generally consistent with the relevant objectives and policies of the OSDP and the transport related aspects of the Councils Framework criteria.
- 49 As such, I can support the rezoning sought under Plan Change 79 from a transport perspective.

Lisa Marie Williams

Dated this 17th day of April 2023

Appendix 1 – Revised Outline Development Plan