

19 January 2024

Todd Elder
Senior Policy Planner
Auckland Council Plans and Places

Sent via email: todd.elder@aucklandcouncil.govt.nz

Section 92 response to further information request for Notice of Requirement – Whenuapai Wastewater Servicing Scheme Package 1

Dear Todd,

Please see the below response to the further information requests sought pursuant to Section 92 of the Resource Management Act 1991, dated 13 November 2023. For ease of reference, we provide a response to each question in the table below.

The following attachments are included to support out responses:

- Attachment 1 – Section 92 Response table
- Attachment 2 – Phasing Summaries
- Attachment 3 - Eastern Route 12d Sketch and Longsection

I trust that the above sufficiently addressed the matters raised in your s92 request. Please feel free to contact me if you have any further questions.

Yours faithfully,



William Hung
Senior Resource Consent Planner
Strategy and Planning
Watercare Services Limited

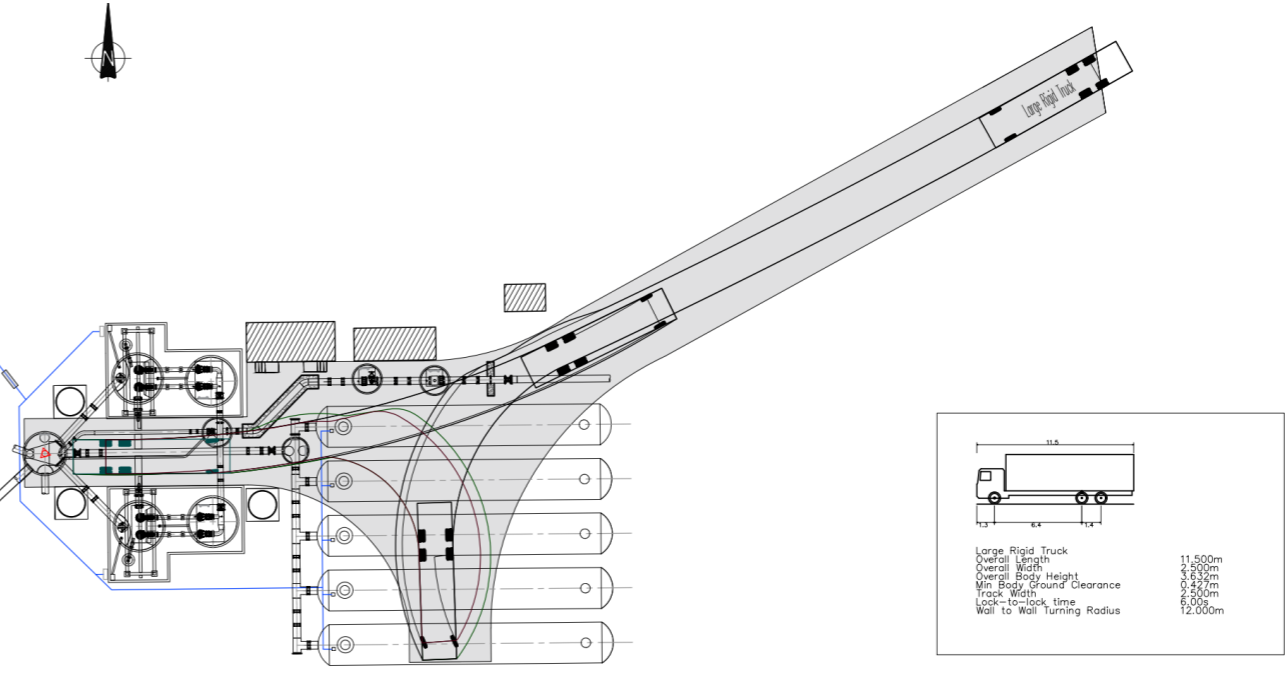
Attachment 1 - Section 92 Request for Information: BUN60422958

Item	Council Information Request	Applicant's response
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Transport

TRA1	Please provide further detail on the parameters used/assumptions made on the stop-go operation on SIDRA and the phasing summary of the SIDRA outputs.	Attachment 2 provides the phasing summaries for the NORMAL and CHRISTMAS scenarios for the stop-go operation. We allowed for a maximum of 150secs for the 'Practical Cycle Time' setting to run the model. A yellow time setting of 2 seconds and all-red time setting of 15 seconds was input based on the length of the stop-go operation.
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TRA 2	Please provide further detail on the duration of construction works if an open trenching construction method is used for the pipeline underneath Brigham Creek Road.	<p>Installing the pipeline underneath Brigham Creek Road is anticipated to take approximately 2 weeks, including 1 week to install the pipeline, and 1 week to resurface and reinstate the carriageway. It is noted that the final road resurfacing and reinstatement works are dependent on weather conditions. In the event of poor weather, additional time may be required.</p> <p>As shown by the modelling, works of approximately 2 weeks in duration over the period between the beginning of the last week of December and the end of the third week of January will have acceptable effects.</p> <p>The exact timing of the proposed works will be subject to Auckland Transport approval.</p>
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TRA 3	Please demonstrate how a rigid truck can turn around at the pump station to exit the site in a forward direction.	<p>Vehicle tracking for an 11.5m rigid truck is provided in Drawing 2013646.007 <i>Site Roading – Large Rigid Truck Vehicle Turning</i> (refer to Appendix A to the AEE and Figure 1 below). The drawing shows an 11.5m rigid truck can complete a 3 point turn within the sealed areas above the pump station, and exit the site in a forward direction.</p>  <table border="1" data-bbox="2255 1344 2567 1564"> <tr> <td>Large Rigid Truck</td> <td>11.500m</td> </tr> <tr> <td>Overall Length</td> <td>11.500m</td> </tr> <tr> <td>Overall Width</td> <td>4.200m</td> </tr> <tr> <td>Overall Body Height</td> <td>3.100m</td> </tr> <tr> <td>Min Body/Ground Clearance</td> <td>0.427m</td> </tr> <tr> <td>Track Width</td> <td>2.500m</td> </tr> <tr> <td>Lock-to-lock time</td> <td>6.000m</td> </tr> <tr> <td>Wall to Wall Turning Radius</td> <td>12.000m</td> </tr> </table> <p>Figure 1. Snip from 'Site Roading – Large Rigid Truck Vehicle Turning (Drawing 2013646.007, WSP GHD, Appendix A to the AEE).</p>	Large Rigid Truck	11.500m	Overall Length	11.500m	Overall Width	4.200m	Overall Body Height	3.100m	Min Body/Ground Clearance	0.427m	Track Width	2.500m	Lock-to-lock time	6.000m	Wall to Wall Turning Radius	12.000m
Large Rigid Truck	11.500m																	
Overall Length	11.500m																	
Overall Width	4.200m																	
Overall Body Height	3.100m																	
Min Body/Ground Clearance	0.427m																	
Track Width	2.500m																	
Lock-to-lock time	6.000m																	
Wall to Wall Turning Radius	12.000m																	

TRA 4	Please provide sight distance drawings at each of the SAPs and key intersections identified. The visibility assessment should consider both the horizontal and vertical alignment.	<p>High-level detail for each of the access sites has been provided in Section 5 of the Transport Impact Assessment. Most of the changes required involve vegetation removal along property boundaries or temporary speed management to reduce the required sight distance where other measures are not possible.</p> <p>SAP 4 does not meet the requirements for the sight distance given its location in a medium density residential development and is a low volume type road. However, this is considered acceptable because:</p>
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- SAP 4 is located at a corner, which means actual vehicle speeds at the SAP location are likely to be significantly lower than the posted speed limit.
- As a low volume road, Tamiro Road is for residential access only with no through function (no exit).
- SAP 4 is not expected to have a large number of vehicle movements so conflicts are unlikely.
- It is also not expected that SAP4 will have large trucks entering or exiting, as set out in Table 3-2 of the TIA, so there is no need to cross the centreline here, thereby avoiding potential conflicts with oncoming vehicles.
- In addition, notifying local residents of the proposed vehicle movements and providing appropriate signage will mean there is low risk of conflict between vehicles in the area surrounding SAP 4.

For the two intersections where visibility is obstructed (Trig Rd / Spedding Road, Spedding Rd / Mamari Rd) the following figures show what vegetation may need to be removed to provide the adequate sight distance. For Figure 2, Figure 4 and Figure 5 the black lines are the measures for the sight distance calculations and the area between the long black line and orange indicates what is expected to be cleared in order to provide adequate sight distance. For the purposes of clarity, trimming, alteration, or removal of trees on roads adjoining the future urban zone is a permitted activity under Rule E26.4.3.1 of the AUP.

The aerial photographs below do not show the extent of vegetation removal required and it will only be clear once on-site what is required to be removed to meet the sight distance requirements. These issues will be addressed as part of the Construction Traffic Management Plans which is required under Condition DC8, and which will be completed before construction begins.



Figure 1: Sight distance north at the Trig Rd / Spedding Rd intersection (sight distance calculation lines in black, vegetation clearance extent between black and orange lines)



Figure 2: Sight distance south at the Trig Rd / Spedding Rd intersection (sight distance calculation lines in black, vegetation clearance extent between black and orange lines)



Figure 3: Sight distance west at the Spedding Rd / Mamari Rd intersection (sight distance calculation lines in black, vegetation clearance extent between black and orange lines)

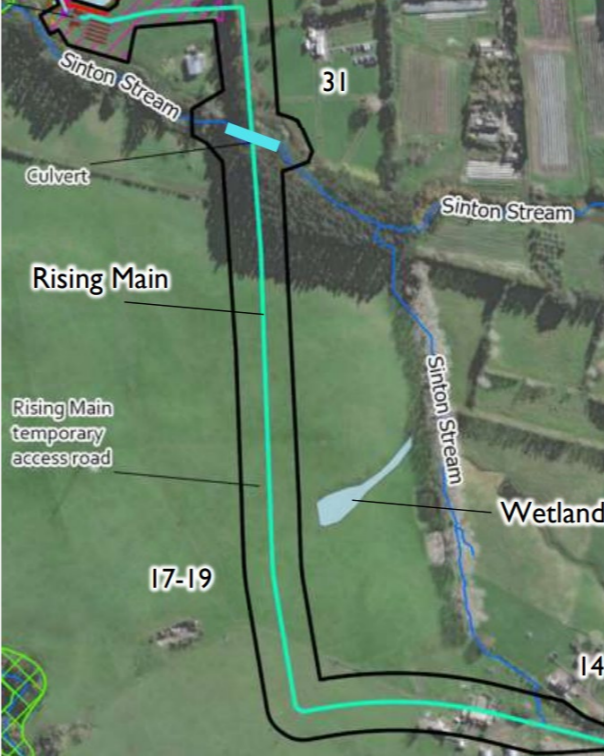
<p>TRA 5</p>	<p>Please demonstrate vehicle manoeuvring through the rising main temporary access road using a truck and trailer.</p>	<p>Please note that the aqua line on Figure 5 below is the location of the rising main, rather than the access road. The rising main access road will be located predominantly within the designation. If manoeuvring of the 23m truck and trailer cannot be achieved within the boundary of the designation at the northern and southern ends, the access road may track outside the designation for a minimal section.</p>  <p>Figure 5: Rising main</p>
<p>TRA 6</p>	<p>Please outline how vehicle access into SAP 4 from Tamiro Road can be provided, while avoiding the stormwater pond and road infrastructure such as light poles. Please demonstrate a truck can enter and exit through this access in a forward direction.</p>	<p>Traffic assessment on SAP 4 was based on the assumption that it will not be using the existing vehicle crossing that accesses an existing maintenance facility. Other key assumptions at the time was that a new vehicle crossing would be constructed adjacent to the existing one and a corresponding internal vehicle path constructed also. Details of this internal vehicle path was assumed to have flexibility to be accommodated to suit within the property and therefore internal tracking was not carried out at the time of the assessment – we were advised at the time that a vehicle would have sufficient space to turn around and exit in a forward direction. The vehicle tracking into the actual site (SAP4) was therefore mainly to validate that a right turn into the site was feasible with final confirmation of location to be determined. That said, location 1 as shown in Figure 6 below has the light pole and planting that would likely be affected at that specific location. Another potential location marked '2' in Figure 7 below would be able to replicate the same tracking parameters.</p>



Figure 6: vehicle tracking into SAP4



Figure 7: Potential vehicle entrance points for SAP4.

Engineering

ENG 1 Can you please consider the comments above (*as included in Council's s92 request*), and reconsider the functional requirement for the location East of the wetland. Please include pipe route, including consideration of rearranging structures within the WSL pump station land in this assessment.

We acknowledge the sketch provided with the Functional Need memorandum is a rough high level alternative assessment (sketch prepared by Beca with numbers by GHD). Following the Development Engineer's comment, GHD have looked at the eastern route in further detail.

GHD have completed a 12d longsection design for the eastern route. A sketch and longsection are provided in **Attachment 3**.

		<p>In order to maintain a similar pump station depth, the eastern route alignment along the wetland perimeter requires 5 additional manholes (ranging from 2.9-3.8m deep), and 50 m additional pipe length.</p> <p>As the pump station site is directly adjacent to the wetland riparian, it is inevitable for the eastern route alignment to run within the riparian margin to discharge at the inlet manhole. This is how the design is shown on the 12d sketch. Some of the upstream manholes could be moved outside the margin but will further increase depths and pipe length. On this basis, extending the gravity main to the eastern side of Wetland C is still considered to have an impact due to greater excavations, with associated greater environmental effects including increased drawdown of the wetland.</p> <p>Other information to consider on the route selection:</p> <ul style="list-style-type: none"> Proposed interim Slaughterhouse pump station has been sited on 23A Brigham Creek Road to serve development of land south of Brigham Creek Road. The pump station is at the lowest possible elevation providing for the most efficient hydraulic operation of the network, whilst being outside of Wetland C itself. The proposed position of the pump station enables the provision of an emergency overflow from the pump station to the stream. Wastewater from the current Whenuapai network is to be diverted from the existing WW pump station in Tamiro Road to the new proposed new interim Slaughterhouse wastewater pump station. The proposed new wastewater trunk sewer to the new pump station starts at the existing pump station with the upstream invert level set as high as possible whilst maintaining gravity flow from the existing network. The new trunk main generally follows the 100 year AEP flood level of the existing watercourse at minimum acceptable grade of 0.5% to maintain self cleansing flow. The route was optimised with consideration to various factors, including HSE, environment, and providing the minimum construction cost and time by minimising excavation depth for the proposed new pump station.
ENG 2	It appears that bringing in power and water supply from the alignment of the new Spedding Road and through the ROW area may be a better long term option, which would also avoid these services going through the toe of Wetland C. Can this please be considered? If not why not.	<p>Approval from Vector requires power supply be connected to the existing network by the northern side of Brigham Creek Road. Rerouting via the proposed right of way involves significantly longer length of HV cable and deviates from Vector's agreement to service the station.</p> <p>With respect to water there are no current supply mains accessible from the right of way, the alternative means routing the water supply a far longer distance.</p>
ENG 3	The functional requirement memorandum has BECA and Watercare in the header. Can you please clarify who prepared the memo, and provide the specialists who contributed?	The memo is jointly prepared by Watercare and BECA with technical input from the designer (GHD and WSP).
ENG 4	Please provide an analysis against Auckland Unitary Plan RPS Chapter B7 Toitū te whenua, toitū te taiao – Natural resources, provided this application will modify multiple wetlands.	<p>Chapter B7 identifies that pressures on natural resources need to be managed for environmental, social, economic and cultural wellbeing. Objective B7.3.1(2) and Policy B7.3.2(4) seeks that the loss of freshwater systems are minimised, and avoided except where it is necessary to provide for the health and safety of communities, growth and development, or infrastructure, no practicable alternative exists, and mitigation measures including off-site works are implemented to address the adverse effects arising from the loss in freshwater system functions and values. Policy B7.4.2(5) seeks that establishment of structures within streams and wetlands is limited to those that have a functional need or operational requirement to be located there. Policy B7.4.2(8) requires use and development to minimise and manage the discharge of sediment into freshwater by requiring land disturbing activities to use industry best practice and standards appropriate to the nature and scale of the land disturbing activity, and the sensitivity of the receiving environment.</p> <p><i>Comment:</i> The project design has sought to avoid the loss of wetland extent to the extent practicable by purposefully siting the pump station in the southwestern corner of 23-27 Brigham Creek Road (now 23A Brigham Creek Road) and minimising the extent of construction activities as far as practicable.</p> <p>Where this has been unavoidable, Watercare has applied for regional resource consents, with the regional consent application demonstrating the functional and operational need for the proposed location (refer to Appendix Q of the AEE), describing in detail potential effects and identifying a range of mitigation measures and restoration activities so that there is no net loss of wetland extent or value.</p>

		<p>In addition, the proposed works will result in the loss and modification of a small section of natural stream channel, which will be mitigated through restoration of the Sinton Stream and Sinton A Stream (as set out in the regional consent application).</p> <p>Overall, the works will provide the wastewater infrastructure necessary for urban growth, protecting the health and safety of the community by providing sanitation services and reducing the risk of wastewater overflows into the environment. Whilst there will be some impact on wetlands and streams within the project area, there is an operational and functional need for the works in this location and, with the mitigation and restoration proposed, it is considered that the proposal aligns with the objectives and policies in Chapter B7.</p>
Ecology		
Eco 1	<p>Please update the ecological assessment and AEE to acknowledge the Significant Ecological Area (and Significant Natural Area under the National Policy Statement on Indigenous biodiversity). A consequential assessment may be required.</p> <p>Please update the fauna assessment and provide the surveys; to identify lizards and bat habitats that are likely to need management plan(s).</p> <p>Please include controls (standards) to manage the effects on the bats, for example, exterior lighting (e.g. security / flood lighting) and noise management.</p>	<p>The EclA submitted with the application acknowledges both the SEA and SNA in Section 5.1, providing an overview of the criteria met by the riparian vegetation along Totara Creek for SEA classification. Based on the assessment, it is expected that the SNA criteria will also meet the also be met for SNA classification. However, given that no clearance of riparian vegetation is anticipated within the SEA, there are no anticipated effects on the ecological function and values of the SEA. As a result, further assessment is deemed unnecessary.</p> <p>Regarding fauna assessments, Sections 7.2.2 and 7.2.3 of the EclA recommend initial surveys to identify the presence of bats and lizards within the project footprint. This includes surveying for suitable roosting characteristics in trees proposed for clearance to assess bat populations, as well as conducting an initial lizard survey in areas with suitable lizard habitat (this align with the Standard Conditions Manual for Lizards (Auckland Council, 2020)).</p> <p>In addition, it is noted that security lighting at the site will be on sensors, so the site will not be permanently lit at night. The EclA already acknowledges that noise and dust during earthworks has the potential to impact bats which rely on echolocation, but as long tailed bats are active at night when earthworks are not expected to occur, the effects of this are assessed to be limited.</p> <p>These measures are required by the NoR designation conditions DC21-DC31 (refer to Appendix K of the AEE for the NoR).</p>

PHASING SUMMARY

Site: 101 [Normal Traffic (Site Folder: Whenuapai Watercare TIA)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Practical Cycle Time)

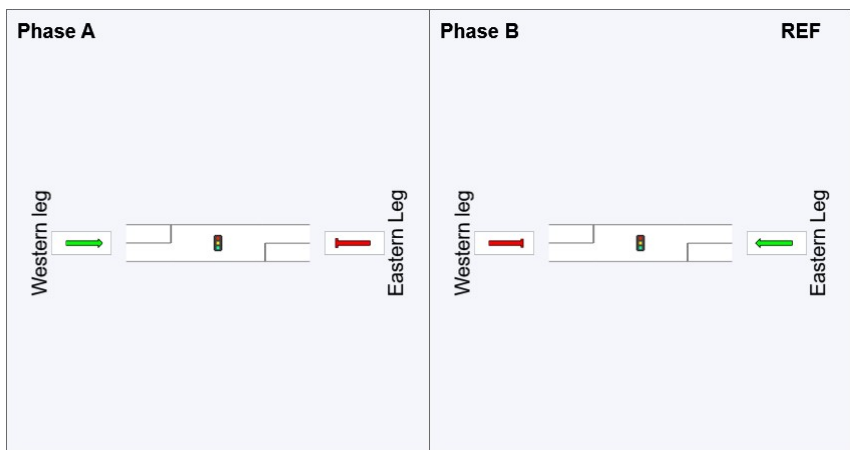
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Leading Right Turn
Reference Phase: Phase B
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	31	0
Green Time (sec)	22	14
Phase Time (sec)	39	31
Phase Split	56%	44%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
 VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

PHASING SUMMARY

Site: 101 [Christmas Traffic (Site Folder: Whenuapai Watercare TIA)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

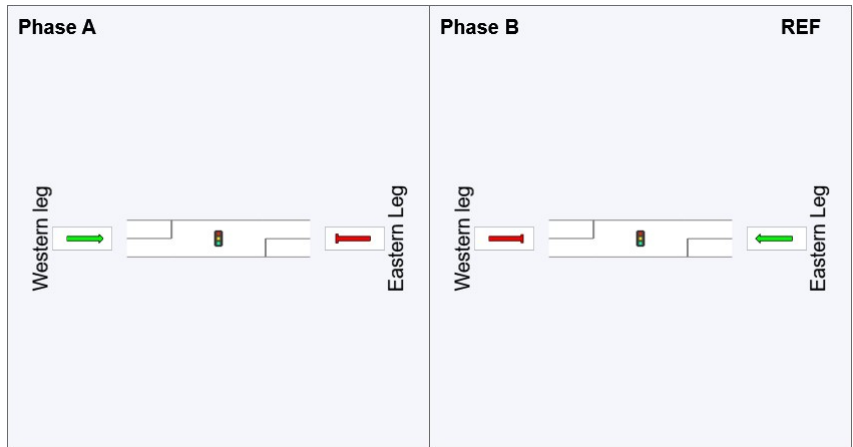
Timings based on settings in the Site Phasing & Timing dialog
 Phase Times determined by the program
 Phase Sequence: Leading Right Turn
 Reference Phase: Phase B
 Input Phase Sequence: A, B
 Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	27	0
Green Time (sec)	16	10
Phase Time (sec)	33	27
Phase Split	55%	45%

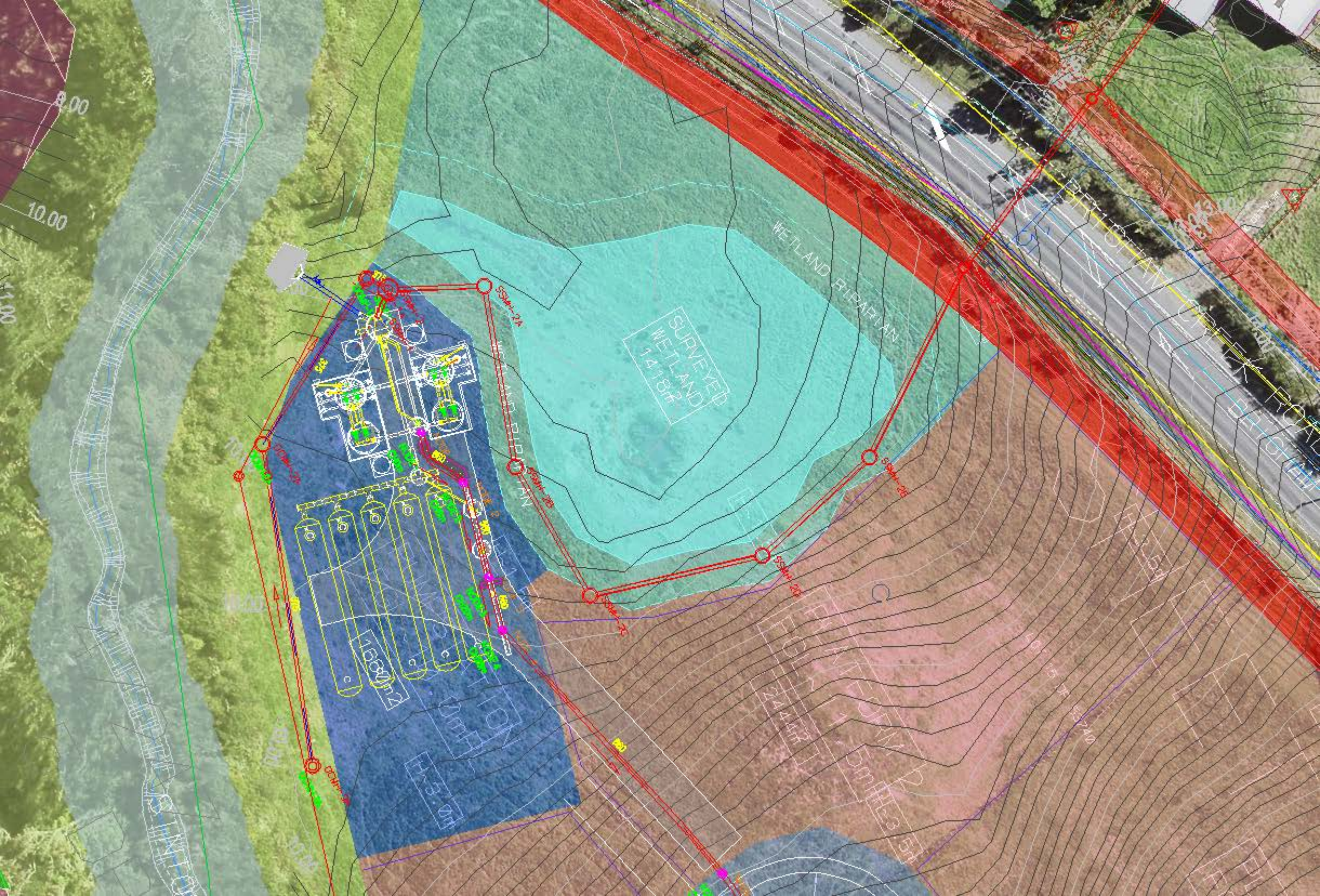
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
 VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied





- GREY PVC PIPE 110mm IL 10.36
- BLACK RUBBER PIPE 10mm IL 10.26
- WATER PIPE LOCAL 315mm IL 10.50
- THREE GREEN PVC PIPES 100mm IL 10.16
- TWO SPARK GREY PVC PIPES 120mm IL 9.20
- BLACK STEEL WRAP COMMS PIPE 25mm IL 11.18
- BLUE STEEL WRAP COMMS PIPE 10mm IL 11.26
- BLACK PVC PIPE 40mm IL 10.11
- EXST VECT GAS 100mm IL 11.62
- WATER PIPE LOCAL 200mm IL 11.29

PIPE GRADE (%)	0.8%	1.5%	0.5%	0.5%	0.5%	0.5%	0.9%	0.5%
PIPE SLOPE (1 IN X)	125.0	66.7	200.0	200.0	200.0	200.0	360.0	200.0
PIPE SIZE (mm)	450							
PIPE CLASS	PVC-U							
DATUM R.L.	-10.00							

DEPTH TO INVERT FROM EXISTING SURFACE	3.46	3.46	3.25	3.20	2.95	2.90	3.31	3.26	3.52	3.47	3.74	3.69	3.39	3.34	3.88	3.83	5.53
INVERT LEVEL	5.70	5.70	5.73	5.78	5.95	6.00	6.11	6.16	6.25	6.30	6.40	6.45	6.54	6.59	6.80	6.85	6.98
EXISTING SURFACE LEVEL	9.16	8.97	8.89	8.89	9.42	9.42	9.76	9.76	10.15	10.15	9.93	9.93	10.69	10.69	10.69	10.69	12.51
CHAINAGE	0.00	3.61	3.61	11.40	15.01	21.80	36.81	36.81	54.47	54.47	75.46	75.46	92.75	92.75	117.81	117.81	143.06

PROP WW GRAVITY MAIN LONGITUDINAL SECTION

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