

Objectives and Policies Assessment - Herne Bay Trunk Sewer

Below are the objectives and policies of the relevant chapters (E7, E16, E17, E25, E26, E30 and E31) of the Auckland Unitary Plan that are considered to be relevant to the project and a brief assessment against each of them:

E7 Groundwater

Objectives and Policies	Assessment
<p><i>The relevant objectives and policies of groundwater are listed in E1 Water quality and integrated management and E2 Water quantity, allocation and use.</i></p> <p><u>E1 Water quality and integrated management</u></p> <p><i>E1.2. Objectives [rp/rcp]</i></p> <p><i>(1) Freshwater and sediment quality is maintained where it is excellent or good and progressively improved over time in degraded areas.</i></p> <p><i>(2) The mauri of freshwater is maintained or progressively improved over time to enable traditional and cultural use of this resource by Mana Whenua.</i></p> <p><i>(3) Stormwater and wastewater networks are managed to protect public health and safety and to prevent or minimise adverse effects of contaminants on freshwater and coastal water quality.</i></p> <p><u>E2. Water quantity, allocation and use</u></p> <p><i>Objectives [rp]</i></p> <p><i>(2) Water resources are managed to maximise the efficient allocation and efficient use of available water.</i></p> <p><i>(3) Mana Whenua values including the mauri of water, are acknowledged in the allocation and use of water.</i></p> <p><i>Policies</i></p> <p><i>Diversion of groundwater</i></p> <p><i>(23) Require proposals to divert groundwater, in addition to the matters addressed in Policy E2.3(6) and (7) above, to ensure that:</i></p> <p><i>(a) the proposal avoids, remedies or mitigates any adverse effects on:</i></p> <p><i>(i) scheduled historic heritage places and scheduled sites and places of significance to Mana Whenua; and</i></p> <p><i>(ii) people and communities.</i></p> <p><i>(b) the groundwater diversion does not cause or exacerbate any flooding;</i></p> <p><i>(c) monitoring has been incorporated where appropriate, including:</i></p> <p><i>(i) measurement and recording of water levels and pressures; and</i></p> <p><i>(ii) measurement and recording of the movement of ground, buildings and other structures.</i></p> <p><i>(d) mitigation has been incorporated where appropriate including:</i></p> <p><i>(i) minimising the period where the excavation is open/unsealed;</i></p> <p><i>(ii) use of low permeability perimeter walls and floors;</i></p> <p><i>(iii) use of temporary and permanent systems to retain the excavation; or</i></p> <p><i>(iv) re-injection of water to maintain groundwater pressures.</i></p> <p><i>Drilling holes and bores</i></p>	<p>There are no surface freshwater bodies affected by the proposed works, nor is discharge to groundwater anticipated, therefore the mauri of freshwater will be maintained.</p> <p>The main purpose of the proposed trunk sewer work is to reduce the wet weather overflows which would improve the bathing water quality in the Waitematā Harbour, thus minimising the effects of contaminants on coastal water quality and protecting the public health.</p> <p>Groundwater diversion is only expected during construction given the depth of the proposed shafts and diameter of the sewer line, with no ongoing need to abstract freshwater. Design criteria and construction methodology such as secant piles will ensure that adverse effects on heritage places and other residential buildings are avoided.</p> <p>Groundwater diversion will be monitored to ensure that any potential for settlement, particularly on scheduled heritage places is understood and can be addressed. A conservative construction methodology, which utilises secant piling and a TBM on 'closed mode', has been selected to mitigate the potential for adverse effects. Monitoring has been suggested within the geotechnical and groundwater assessment.</p> <p>Geotechnical investigations have been undertaken in accordance with New Zealand Standard on the Environmental Standard for Drilling of Soil and Rock (NZS 4411:2001) to inform the geotechnical assessment and design</p>

<p>(24) Require proposals to drill holes or bores to demonstrate that the location, design and construction:</p> <p>(a) complies with the New Zealand Standard on the Environmental Standard for Drilling of Soil and Rock (NZS 4411:2001);</p> <p>(b) prevents contaminants from entering an aquifer;</p> <p>(c) prevents cross-contamination between aquifers with different pressure, water quality or temperature;</p> <p>(d) prevents leakage of groundwater to waste;</p> <p>(e) avoids the destruction, damage or modification of any scheduled historic heritage place or scheduled sites and places of significance to Mana Whenua; and</p> <p>(f) avoids disturbance of wetlands and significant ecological areas where practicable</p>	
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E16. Trees in Open Space Zones

Objectives and Policies	Assessment
<p><u>E16.2. Objectives</u></p> <p>(2) There is an increase in the quality and extent of tree cover in open space zones, particularly within areas identified for intensified living.</p> <p><u>E16.3. Policies</u></p> <p>(1) Encourage ongoing maintenance of trees to enhance open space zones, while recognising existing constraints and functional requirements of the site.</p> <p>(2) Manage trees within open space zones to protect their cultural, amenity, landscape and ecological values, while acknowledging that multiple uses occur in open space areas.</p>	<p>One tree (a Kermadec pōhutukawa of poor form) is proposed to be removed within Salisbury Reserve to enable heavy vehicle access to CSA-1.</p> <p>The removal of one tree within the reserve is not likely to compromise the amenity, landscape and ecological values of the reserve.</p> <p>Mitigation planting within the reserve is proposed, which will provide a greater number of trees, increasing the canopy cover of the park in the long term.</p>

E17. Trees in Roads

Objectives and Policies	Assessment
<p><u>E17.2. Objectives</u></p> <p>(3) The safe and efficient development, maintenance, operation and upgrading of the transport system and utilities is enabled while ensuring that the overall ecological and amenity values provided by trees in roads are maintained.</p> <p><u>E17.3. Policies</u></p> <p>(1) Balance the safe and efficient development, operation, use, maintenance and upgrading of infrastructure, utilities, and road network with the protection of trees in roads.</p> <p>(3) Manage trees in roads to protect their cultural, amenity, landscape and ecological values while acknowledging that multiple uses occur in roads.</p>	<p>The removal of 13 street trees in the project area will have some impacts on amenity values in the short term. Replanting of at least 13 street trees will be undertaken, with liaison with Parks and Community Facilities (AC) to confirm the location and species that are to be planted. Between 46 – 51 trees will be planted in the area (including the aforementioned trees within the road) after works have been completed as mitigation for loss to ecosystem services with tree removal.</p> <p>None of the trees being removed are scheduled or notable trees.</p> <p>The proposed trees removal is to enable construction sites for the construction of shafts for the sewer, and is necessary for the safe and efficient development and operation of the surrounding wastewater network.</p>

E25 Noise and Vibration

Objectives and Policies	Assessment
<p><u>E25.2. Objectives [rcp/dp]</u></p> <p>(1) People are protected from unreasonable levels of noise and vibration.</p> <p>(2) The amenity values of residential zones are protected from unreasonable noise and vibration, particularly at night.</p>	<p>The surface construction and tunnelling alignment works are all proposed within the road reserves which is a permitted activity with a submission of the Construction Noise and Vibration Management Plan (CNVMP).</p>

<p>(4) Construction activities that cannot meet noise and vibration standards are enabled while controlling duration, frequency and timing to manage adverse effects.</p> <p><u>E25.3. Policies [rcp/dp]</u></p> <p>(2) Minimise, where practicable, noise and vibration at its source or on the site from which it is generated to mitigate adverse effects on adjacent sites.</p> <p>Construction, demolition and maintenance activities</p> <p>(10) Avoid, remedy or mitigate the adverse effects of noise and vibration from construction, maintenance and demolition activities while having regard to:</p> <ul style="list-style-type: none"> (a) the sensitivity of the receiving environment; and (b) the proposed duration and hours of operation of the activity; and (c) the practicability of complying with permitted noise and vibration standards. 	<p>The Construction Noise and Vibration Technical Assessment Report by Tonkin and Taylor, however confirms that there will be seven properties subject to a noise level up to 92dBA due to surface construction works, and a further two affected by the CSA1 site at Salisbury Reserve.</p> <p>Other properties will be subject to construction vibration infringements including four properties which will exceed the 5mm/s DIN limits and two properties within the Herne Bay Historic Heritage Area that will infringe the 3mm/s DIN limits for sensitive structures.</p> <p>Adverse noise and vibration effects will be avoided where possible and will predominantly occur intermittently and during daylight hours, and will typical of those associated with such a significant infrastructure project.</p> <p>Detailed mitigation measures have been outlined in the Construction Noise and Vibration Management Plan ('CNVMP') and include measures such as noise barriers, restricted hours of operation, extensive community consultation and building surveys where required, employing the mitigation hierarchy.</p>
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E26 Infrastructure

Objectives and Policies	Assessment
<p>E26.2. Network utilities and electricity generation – All zones and roads</p> <p><u>E26.2.1. Objectives [rp/dp]</u></p> <p>(1) The benefits of infrastructure are recognised.</p> <p>(2) The value of investment in infrastructure is recognised.</p> <p>(3) Safe, efficient and secure infrastructure is enabled, to service the needs of existing and authorised proposed subdivision, use and development.</p> <p>(4) Development, operation, maintenance, repair, replacement, renewal, upgrading and removal of infrastructure is enabled.</p> <p>(5) The resilience of infrastructure is improved and continuity of service is enabled.</p> <p>(6) Infrastructure is appropriately protected from incompatible subdivision, use and development, and reverse sensitivity effects.</p> <p>(9) The adverse effects of infrastructure are avoided, remedied or mitigated.</p> <p><u>E26.2.2. Policies [rp/dp]</u></p> <p>(1) Recognise the social, economic, cultural and environmental benefits that infrastructure provides, including:</p> <ul style="list-style-type: none"> (a) enabling enhancement of the quality of life and standard of living for people and communities; (b) providing for public health and safety; (e) enabling growth and development; (f) protecting and enhancing the environment; <p>(2) Provide for the development, operation, maintenance, repair, upgrade and removal of infrastructure throughout Auckland by recognising:</p> <ul style="list-style-type: none"> (a) functional and operational needs; (b) location, route and design needs and constraints; (c) the complexity and interconnectedness of infrastructure services; (d) the benefits of infrastructure to communities within Auckland and beyond; 	<p>The infrastructure benefits of the Project will be significant, as it will reduce existing wet weather overflows into the adjacent Waitematā Harbour, improving water quality and reducing existing odour emissions from overflow events.</p> <p>The new pipeline will also increase both the resilience and capacity of the existing network, ensuring it can accommodate growth from residential intensification enabled under the Auckland Unitary Plan. The sewer will reduce pressure on the ageing 'Branch 5' sewer, which does not sufficiently serve the needs of the Herne Bay area.</p> <p>The design has prioritised a pipeline route that is located within the road reserve in order to reduce potential effects on surrounding occupants and to avoid works within the Notable Tree and Historic Heritage overlays. While the construction of the pipeline will generate temporary significant adverse effects on the road network, these cannot be avoided, and the positive benefits of the infrastructure on the environment and Herne Bay community in the long term are recognised by Chapter E26.</p> <p>The Project does require the temporary occupation of Salisbury Reserve and an unnamed reserve at 94a – b Shelly Beach Road for use as CSAs, however it is not possible to complete the construction works in a timely and efficient manner without the use of these sites. Both reserves will be reinstated to previous condition upon completion of construction, with replacement planting provided in consultation with AC Parks and the community.</p> <p>The project is consistent with policy direction in that it provides to upgrading an existing utility in a historic heritage area, while ensuring that the adverse effects on the values of the area are avoided through use of the road corridor and the road reserve.</p>

- (e) the need to quickly restore disrupted services; and
- (f) its role in servicing existing, consented and planned development.

Adverse effects of infrastructure

(4) Require the development, operation, maintenance, repair, upgrading and removal of infrastructure to avoid, remedy or mitigate adverse effects, including, on the:

- (a) health, well-being and safety of people and communities, including nuisance from noise, vibration, dust and odour emissions and light spill;
- (b) safe and efficient operation of other infrastructure;
- (c) amenity values of the streetscape and adjoining properties;
- (d) environment from temporary and ongoing discharges; and
- (e) values for which a site has been scheduled or incorporated in an overlay.

(5) Consider the following matters when assessing the effects of infrastructure:

- (a) the degree to which the environment has already been modified;
- (b) the nature, duration, timing and frequency of the adverse effects;
- (c) the impact on the network and levels of service if the work is not undertaken;
- (d) the need for the infrastructure in the context of the wider network; and
- (e) the benefits provided by the infrastructure to the communities within Auckland and beyond.

(6) Consider the following matters where new infrastructure or major upgrades to infrastructure are proposed within areas that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character:

- (a) the economic, cultural and social benefits derived from infrastructure and the adverse effects of not providing the infrastructure;
- (b) whether the infrastructure has a functional or operational need to be located in or traverse the proposed location;
- (c) the need for utility connections across or through such areas to enable an effective and efficient network;
- (d) whether there are any practicable alternative locations, routes or designs, which would avoid, or reduce adverse effects on the values of those places, while having regard to E26.2.2(6)(a) - (c);
- (e) the extent of existing adverse effects and potential cumulative adverse effects;
- (f) how the proposed infrastructure contributes to the strategic form or function, or enables the planned growth and intensification, of Auckland;
- (g) the type, scale and extent of adverse effects on the identified values of the area or feature, taking into account:
 - (i) scheduled sites and places of significance and value to Mana Whenua;
 - (ii) significant public open space areas, including harbours;
 - (iii) hilltops and high points that are publicly accessible scenic lookouts;
 - (iv) high-use recreation areas;
 - (v) natural ecosystems and habitats; and
 - (vi) the extent to which the proposed infrastructure or upgrade can avoid adverse effects on the values of the area, and where these adverse effects cannot practicably be avoided, then the extent to which adverse effects on the values of the area can be appropriately remedied or mitigated.
- (h) whether adverse effects on the identified values of the area or feature must be avoided pursuant to any national policy statement, national environmental standard, or regional policy statement.

<p>(7) Enable the following activities within natural heritage, natural resources, coastal environment, historic heritage, special character and Mana Whenua cultural heritage overlays:</p> <p>(a) the use and operation of existing infrastructure; and</p> <p>(b) the minor upgrading, maintenance and repair of existing infrastructure, while ensuring that the adverse effects on the values of the area are avoided and where those effects cannot practicably be avoided, minimise any such effects and ensure they are appropriately remedied or mitigated.</p> <p>(8) Encourage new linear infrastructure to be located in roads, and where practicable within the road reserve adjacent to the carriage way.</p>	
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E30 Contaminated Land

Objectives and Policies	Assessment
<p><u>E30.2. Objective</u></p> <p>The discharge of contaminants from contaminated land into air, or into water, or onto or into land are managed to protect the environment and human health and to enable land to be used for suitable activities now and in the future</p> <p><u>E30.3. Policies</u></p> <p>(2) Require any use or development of land containing elevated levels of contaminants resulting in discharges to air, land or water to manage or remediate the contamination to a level that:</p> <p>(a) allows contaminants to remain in the ground/groundwater, where it can be demonstrated that the level of residual contamination is not reasonably likely to pose a significant adverse effect on human health or the environment; and</p> <p>(b) avoids adverse effects on potable water supplies; and</p> <p>(c) avoids, remedies or mitigates significant adverse effects on ecological values, water quality, human health and amenity values;</p> <p>while taking into account all of the following:</p> <p>(d) the physical constraints of the site and operational practicalities;</p> <p>(e) the financial implications of the investigation, remediation, management and monitoring options;</p> <p>(f) the use of best practice contaminated land management, including the preparation and consideration of preliminary and detailed site investigations, remedial action plans, site validation reports and site management plans for the identification, monitoring and remediation of contaminated land; and</p> <p>(g) whether adequate measures are in place for the transport, disposal and tracking of contaminated soil and other contaminated material removed from a site to prevent adverse effects on the environment.</p>	<p>The PSI has identified sites of potential contamination along the alignment, including at CSA1 within Salisbury Reserve. Construction at the identified contaminated sites will be shallow, and only required for the provision of graveled surfaces for construction traffic and storage, minimizing the potential for mobilisation of contaminants.</p> <p>The supporting SMP provides several measures to be undertaken during construction to ensure effects on the environment and human health are avoided, including those relating to:</p> <ul style="list-style-type: none"> • Site Management • Excavation, disposal and transport of excavated soils; • Water Management; • Imported Materials • Handling Unexpected contamination • Emergency response • Complaints protocol <p>In addition, a DSI will be undertaken prior to construction with further targeted management and mitigation measures proposed.</p>

E31 Hazardous Substances

Objectives and Policies	Assessment
<p><u>E31.2 Objective</u></p> <p>(1) The risks of hazardous facilities to people, property and the environment are minimised to acceptable levels while recognising the benefits of these facilities.</p> <p><u>E31.3 Policies</u></p> <p>(1) Manage hazardous substances by:</p>	<p>Small amounts of diesel (Up to 2,000) will be stored at the CSA-1 site in Salisbury Reserve. This is required at this site to refuel the machinery, and to reduce heavy vehicle trips through the residential area to refuel machinery at the CSA-2 site.</p> <p>The diesel will be stored in a sealed container on the site, with bunding surrounding the tank to ensure that spills are contained and not discharged to the environment. Flammable materials will be appropriately setback from the storage container to reduce risk. Spill containment procedures will be provided within the final Construction Management Plan.</p>

<p>(a) locating, designing, constructing and managing hazardous facilities to avoid or adequately mitigate adverse effects, including risks, to people, property and the environment;</p> <p>(b) identifying, assessing and managing cumulative effects of hazardous facilities so they do not increase to unacceptable levels of risk to people, property and the environment; and</p> <p>(c) locating land use activities so that the adverse effects of the transport of hazardous substances on roading infrastructure and other land use activities are minimised.</p> <p>(2) Require adequate separation distances between hazardous facilities and activities sensitive to hazardous facilities to avoid or adequately mitigate risk to people and property and to avoid reverse sensitivity effects.</p>	
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B. Regional Policy Statement

Objectives and Policies	Assessment
<p><u>B2.2. Urban growth and form</u></p> <p><u>B2.2.1 Objectives</u></p> <p>(3) Sufficient development capacity and land supply is provided to accommodate residential, commercial, industrial growth and social facilities to support growth.</p> <p><u>B2.2.2 Policies</u></p> <p><u>B2.4 Residential Growth</u></p> <p><u>B2.4.2 Policies</u></p> <p>(6) Ensure development is adequately serviced by existing infrastructure or is provided with infrastructure prior to or at the same time as residential intensification.</p> <p><u>B3.2 Infrastructure (The Infrastructure, Transport and Energy Chapter)</u></p> <p><u>B3.2.1 Objectives</u></p> <p>(1) Infrastructure is resilient, efficient and effective.</p> <p>(2) The benefits of infrastructure are recognised, including:</p> <p>(a) providing essential services for the functioning of communities, businesses and industries within and beyond Auckland;</p> <p>(3) Development, operation, maintenance, and upgrading of infrastructure is enabled, while managing adverse effects on:</p> <p>(a) the quality of the environment and, in particular, natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character;</p> <p>(b) the health and safety of communities and amenity values.</p> <p>(4) The functional and operational needs of infrastructure are recognised.</p> <p>(8) The adverse effects of infrastructure are avoided, remedied or mitigated.</p> <p><u>B3.2.2 Policies</u></p> <p>Provision of infrastructure</p> <p>(1) Enable the efficient development, operation, maintenance and upgrading of infrastructure.</p> <p>(2) Recognise the value of investment in existing infrastructure.</p>	<p>The proposed new trunk sewer is required to provide for future residential growth in the area.</p> <p>The Project is essential to ensure the wastewater network functioning well, and in recognition of its functional and operational needs. The new pipeline will increase the resilience of the existing network, while reducing wet weather overflows to the adjacent harbour.</p> <p>The potential adverse effects have been assessed with appropriate mitigation measures such as trees replanting, the provision of a CNVMP and associated noise reduction measures.</p> <p>The proposed pipeline will be co-located with the existing road corridor and will safely share this space with other infrastructure.</p> <p>The proposed vibration levels will largely be kept to below the German standards which should minimise any adverse effects to the heritage buildings along the route. Monitoring and building inspections are proposed to manage this risk.</p> <p>The proposed pipeline will be co-located with the existing road corridor and will safely share this space with other infrastructure.</p> <p>A suite of consent conditions, management plans and monitoring is suggested to detect and manage potential adverse effects on people and the environment.</p>

(3) Provide for the locational requirements of infrastructure by recognising that it can have a functional or operational need to be located in areas with natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character

Managing adverse effects

(6) Enable the development, operation, maintenance and upgrading of infrastructure in areas with natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character while ensuring that the adverse effects on the values of such areas are avoided where practicable or otherwise remedied or mitigated.

(7) Encourage the co-location of infrastructure and the shared use of existing infrastructure corridors where this is safe and satisfies operational and technical requirements.

(8) Avoid, remedy or mitigate the adverse effects from the construction, operation, maintenance or repair of infrastructure.

B5.2. Historic Heritage

B5.2.2. Policies

Protection of scheduled significant historic heritage places

(7) Avoid where practicable significant adverse effects on significant historic heritage places. Where significant adverse effects cannot be avoided, they should be remedied or mitigated so that they no longer constitute a significant adverse effect.