Department of Corrections

June 2023

WIP Tranche 2A
Detailed Business Case

Appendices

Contents

Note:
Some of these Appendices refer to full documents produced elsewhere which have been inserted into this document. Therefore, true pagination does not always align.

Appendix A: PBC

Available upon request.

Appendix B: Drinking Water Safety Plan

PDF inserted on following page

Drinking Water Safety Plan Summary

As a drinking water supplier, Ara Poutama Aotearoa has legal responsibilities

Contracts are in place for Downer and Cushman & Wakefield to provide these services, however, Ara Poutama Aotearoa has ultimate responsibility for providing safe drinking water.

Ara Poutama Aotearoa are water suppliers at Christchurch Men's, Christchurch Women's, Whanganui, and Waikeria custodial sites

Under Water Services Act 2021, Ara Poutama Aotearoa is classed as a water supplier at four custodial sites. This is because we source and treat water to provide our drinking water at those sites. Other sites have drinking water supplied by local authorities or NZDF.

Drinking water standards in Aotearoa have increased, including the need to produce a Drinking Water Safety Plan

Drinking Water Quality legislation has changed over the last two years. A new regulator has been formed (Taumata Arowai) and new drinking water standards have been developed. These new standards have been in effect since 14 November 2022 and require a higher standard of drinking water quality and risk mitigation.

Producing a Drinking Water Safety Plan is a legal requirement; the plan is a living document that states the risks to Ara Poutama Aotearoa of not providing safe drinking water and identifies improvements.

Figure 1: Custodial site map - water supplier sites identified

Ara Poutama Aotearoa is actively working towards compliance. We provide safe drinking water but do not yet fully comply with all drinking water standards

While current drinking water standards at all custodial sites remain high, with a safe standard of water supplied to all, Ara Poutama Aotearoa is not yet fully compliant with the new drinking water standards.

Drinking Water Safety Plan Summary

There are number of things we need to do to achieve compliance.

- Increase awareness of drinking water safety
- Develop and update procedures
- Increase the level of drinking water treatment
- Increase the level of drinking water quality monitoring
- Additional human resource (more staff to treat, test, manage & monitor drinking water)
- Improved reporting
- Improved document management
- Increased education for staff and contractors

Ara Poutama Aotearoa needs to document our commitment to supplying drinking water that meets the standards.

Ara Poutama Aotearoa needs to document our commitment to drinking water safety through increasing awareness, developing processes and appropriate reporting to ensure the business remains informed.

If things do not go to plan, we need to immediately respond to the issue and notify the water regulator – Taumata Arowai

If a problem occurs with our drinking water quality and we are unable to meet or are at risk of not meeting the drinking water standards, the legislation requires us to act immediately and notify Taumata Arowai. To support our response, we need to show that we are compliant (or working towards compliance) and have taken all practical steps to address the issue and respond to the situation.

Providing safe drinking water is linked to the departments' frameworks, outcomes, and strategy.

Providing safe drinking water is essential to delivering on the Asset Planning Framework, including the Asset Management Policy and Strategic Asset Management Plan, regulatory compliance, health and safety requirements, and Hōkai Rangi.

Additional information: *A copy of the current Drinking Water Safety Plan can be found here.*

More information on drinking water safety can be found at www.taumataarowai.govt.nz.

Information on the Waters Infrastructure Programme can be found on tātou here.

Appendix C: Alignment of Hōkai Rangi to 3 waters investment programme

Hōkai Rangi Strategic Area	How the 3 Waters Programme Will Align
"Partnership and Leadership: *Corrections will lead through best practice Crown Māori relations and have authentic shared decision making at key levels – and design that with Māori."*	Māori have significant whakapapa-based relationships with freshwater, and exercise kaitiakitanga over freshwater bodies. Effective engagement and partnership with Māori regarding asset management solutions can produce better environmental outcomes and avoid both delays and added costs later in the process, especially through consenting and supply agreement processes. Further, it will also avoid additional strain on local relationships with mana whenua and ensure compliance with the RMA and upcoming 3 Waters legislation.
"Humanising and Healing: *Those in our care gain the skills, encouragement and support they need through respectful and value led interactions, while not being further harmed or traumatised by their experiences with our systems and environments."*	Water is a necessity for life. Having reliable 3 waters infrastructure is a direct contributor to the wellbeing of people in our care, through the provision of humanising and healing environments, that do not harm, stress or traumatise.
"Whanau: *Ara Poutama Aotearoa will proactively communicate with whanau, involve them and keep them close and connected to those in our care and management."*	Relocating people in our care due to loss of three waters services may lead to people in care being moved further from their whanau, impacting on wellbeing. Whanau knowing that their family members in our care are experiencing additional stress, tension or personal safety issues due to urgent or emergency relocations or due to removal or reduction of 3 waters services including use of water for offender employment and prisoner management can impact on both prisoner whanau and prisoner wellbeing.
"Incorporating a Te Ao Māori worldview: *Kaupapa Māori will be embedded across everything we do, with the right services available which prioritise, embed and protect mātaranga Māori."*	A Māori worldview and mātauranga Māori is relevant to understanding the wellbeing of water, through Te Mana o te Wai, aided by the National Policy Statement for Freshwater Management 2020 (NPSFM) and the Water Services Bill.
"Foundations for participation: *To lead a healthy and sustainable life, people in our care and management and their whanau need to have their basic needs met and the relevant tools for full participation in society."*	People in our care can have reduced access to offender employment opportunities dependent on water, such as horticultural nursery work, farming, and cleaning, during periods of water restrictions. These programmes are important to provide people in care with employment skills to support sustainable reintegration into society. They also serve to address boredom and provide purposeful activity – both of which contribute to improved mental wellbeing and health.

Appendix D: Site Assessment Reports

Site Assessment Reports:

Site Assessment Report Summaries — Mount Eden Corrections Facility

The Mount Eden Corrections Facility (ME) is in central Auckland, at 1 Lauder Road, Mount Eden. It is situated within an industrial area, directly west of State Highway 1 and south of the western train line extending from Newmarket. The historic building has been dormant since 2011 when the modern accommodation buildings took over as the primary prison.

Key Findings

Summary: A total of 29 affected assets have been assessed with 27 high and medium Urgency assets requiring action within a 4 year timeframe at a estimated total cost of 9(2)

Potable Water/firefighting: The condition of the water reticulation network is largely unknown due to outstanding investigations, however based on the age and material of the majority of the network we would anticipate it to be generally in good condition. The pipelines supplying site, reservoir and flow meters have visible surface/structural damage. The booster pumps have a number of faults, and are undersized which means they cannot sustain required pressures for long periods. There are 9(2)(b)(ii) [redacted]

Wastewater: The condition of the wastewater reticulation network is largely unknown due to outstanding investigations, however based on the age and material of the majority of the network we would anticipate it to be generally in good condition. VC pipelines in the vicinity of the rock has visible structural damage and block frequently. The pump stations have a number of significant operational/structural failures which is evident via a high fault history (50 faults from 2019-2022). Storage onsite at the pump stations is insufficient for pump failure in line with industry best practice.

Stormwater:. The condition of the stormwater reticulation network is largely unknown due to outstanding investigations, however based on limited CCTV there are some concerns around structural pipeline defects such as circumferential cracking and longitudinal cracking. Further investigations are needed to ascertain the extent of this across the prison. Maintenance and remediation is needed throughout. The rainwater tanks used onsite are in very poor condition and are leaking. The onsite treatment devices are in good condition.

Data Confidence: There is a low level of confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	21	72.41%	9(2)(b)(ii)	[redacted]
	Medium	6	20.69%		
	Low	2	6.90%		
Risk Category	Reticulation	9	37.50%		
	Storage	4	16.67%		
	Supply	3	12.50%		
	Pump Station	8	33.33%		
	Treatment	0	0.00%		
Potential Consequence	Infrastructure Failure	14	48.28%		
	Resilience	5	17.24%		
	LOS	1	3.45%		
	Non-compliance	2	6.90%		
	SAR Water Safety	3	10.34%		
	SAR Asset Management	2	6.90%		
	Work-related safety	2	6.90%		
	Public safety	0	0.00%		
	Water safety	0	0.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	2	6.90%		
	Medium	12	41.38%		
	Low	15	51.72%		

Water Asset		Risk	Description	Resultant Risk
Potable/firefighting	Source	Very High	Due to Supply 1 & 2	Medium
	Critical Spares	Very High	Asset(s) do not exist at this site	Low
	Storage	High	Due to W01 Timber Reservoir	Low
	Reticulation - Pipes	High	Due to Ring Main	Low
	Reticulation - Pump Station	High	Due to 004 Pump Station	Medium
	Quality	High	Due to supply	Low
Waste	Reticulation - Pipes	High	Due to Vitrified Clay pipes	Medium
	Reticulation - Pump Stations	High	Due to Pump Stations	Low
	Disposal	Very High	Due to Vitrified Clay pipes	Medium
Storm	Reticulation – Pipes	Medium	Due to Pipes and overflows from wastewater system	Low
	Reticulation – Pump Stations	Medium	Due to 052 Stormwater Pump House	Low
	Disposal	Very High	Due to Soak puts	Low
	Storage	High	Due to Rainwater Tank 1	Low

Site Assessment Report Summaries

Arohata Prison

The Arohata Prison (AP) is located on the southern fringe of Tawa in Wellington City at 1 Main Road. It is on a hill facing north. It is adjacent to the municipal 3 Waters networks on its northern side. Built in 1944, it was initially a woman's youth detention centre before becoming a youth prison in 1981 and a woman's prison in 1987. The prison caters to 88 female inmates in maximum occupancy with minimum to high security status.

Key Findings

Summary: A total of 23 affected assets have been assessed requiring action within a 4 year timeframe at an estimated total cost of 9(2)(b)

Potable Water/firefighting: The condition of the water reticulation network is largely unknown due to outstanding investigations. Based on the age and material, we would anticipate 33% of the network to be generally in good condition. However, the supply pipeline to the site is in very poor condition and the CLS ring main is likely to be in poor condition based on its age (80+ years). The fire water storage for the Self Care facility may be insufficient for required flows, and the associated fire pump is in moderate condition with visible signs of surface damage. The booster pumps for the main prison facilities are in good condition. There are 9(2)(b)(ii) [redacted]

Wastewater: Condition of the wastewater gravity network is largely unknown as investigations are ongoing. CCTV that was available at the time indicated significant structural and root intrusion on the EW pipelines which discharge to the council system. For the remainder of the reticulation system inspected there was generally no major faults but did indicate regular flushing and cleaning needs to occur. The Self Care pump station has significant structural damage and operational concerns.

Stormwater: Condition of the stormwater network is largely unknown as investigations are ongoing. However, available CCTV data did not indicate major faults or blockages. Risks identified include reports of surface flooding at the toe of the retaining wall to the west of the site and three outfall structures in the infiltration zone, which could not be found. Further hydraulic, seismic and geotechnical assessments are recommended.

Data Confidence: There is a moderate level of data confidence across the three water assets due to ongoing condition assessments and unavailability of asset records.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	12	52.17%	9(2)(b)(ii) [redacted]	
	Medium	11	47.83%		
	Low	0	0.00%		
Risk Category	Reticulation	13	56.52%		
	Storage	6	26.09%		
	Supply	2	8.70%		
	Pump Station	2	8.70%		
	Treatment	0	0.00%		
	Infrastructure Failure	11	47.83%		
	Resilience	4	17.39%		
	LOS	2	8.70%		
	Non-compliance	0	0.00%		
Potential Consequence	SAR Water Safety	4	17.39%		
	SAR Asset Management	0	0.00%		
	Work-related safety	2	8.70%		
	Public safety	0	0.00%		
	Water safety	0	0.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	1	4.35%		
	Medium	4	17.39%		
	Low	18	78.26%		

Water Asset		Risk	Description	Resultant Risk
Potable/firefighting	Source	Very High	Asset(s) do not exist at this site	Low
	Storage	High	Due to security at storage tanks at 45R	Low
	Reticulation - Pipes	High	Due to Main supply from 46N to 46V	Low
	Reticulation – Pump Station	Very High	Due to Booster pump in building 04B – LoS not met	Low
	Fire Fighting - Pipes	Medium	Due to Booster pumps in building 04B	Medium
	Fire Fighting - Pump Station	Very High	Due to fire pump at self-care facility	Low
Waste	Reticulation - Pipes	High		Low
	Reticulation - Pump Stations	Very High	Due to pumpstation at self-care facility	Low
	Treatment	Medium	Due to grease trap	Medium
Storm	Reticulation - Pipes	Medium	Due to RC pipes	Low

Site Assessment Report Summaries

Rolleston Prison

Rolleston Prison (RO) is located 22 km south-west of Christchurch City, near the town of Rolleston. Located off State Highway 1, the primary entrance is on Runners Road (see Figure 1). The RO site was originally an army detention centre and was established in 1958. In 1987, the prison underwent extensive renovations to increase capacity. Rolleston Prison currently holds approx. 260 minimum to low-medium security male inmates, served by up to 90 staff. The maximum capacity of the prison is 504 (including 244 beds in the new modular build units).

Key Findings

Summary: A total of 31 affected assets have been assessed requiring action within a 4 year timeframe at a estimated total cost of 9(2)

Potable Water/firefighting: The condition of the water reticulation network is largely unknown as potholing has not been carried out however based on the acoustic test results, pipe age and assumed material we would anticipate it to be in good condition. Flow testing of the firewater sprinkler system indicates that the firewater pump and pipework are too small to meet duty demand and the fire system is therefore non-compliant.

The sites emergency bore is run daily for maintenance purposes feeding untreated water directly into the potable water reservoirs.

Wastewater: The condition of the wastewater reticulation network is largely unknown due to the absence of CCTV or other condition assessment however based on the age, material and fault history we would anticipate that the wastewater network is in good condition. A CCTV survey of the network would be beneficial to confirm pipe configuration, details, and condition. Onsite wastewater storage is in good condition and adequately sized for the site.

Stormwater: The condition of the stormwater network is largely unknown due to the absence of CCTV or other condition assessment however based on the age, material and fault history we would anticipate that the stormwater network is in good condition. A CCTV survey of the network would be beneficial to confirm pipe configuration, details, and condition.

The numerous stormwater soak pits and infiltration pits around the site are in good condition.

Data Confidence: There is a high level of confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	25	80.65%	9(2)(b)(ii)	
	Medium	6	19.35%		
	Low	0	0.00%		
Risk Category	Reticulation	8	27.59%		
	Storage	10	34.48%		
	Supply	5	17.24%		
	Pump Station	6	20.69%		
	Treatment	0	0.00%		
	Infrastructure Failure	6	19.35%		
	Resilience	3	9.68%		
	LOS	10	32.26%		
	Non-compliance	1	3.23%		
	SAR Water Safety	9	29.03%		
	SAR Asset Management	0	0.00%		
	Work-related safety	0	0.00%		
	Public safety	2	6.45%		
	Water safety	0	0.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	4	12.90%		
	Medium	24	77.42%		
	Low	3	9.68%		

	Water Asset	Risk	Description	Resulta
Potable/firefighting	Critical Spares	High	Due to supply pipe and bore	Low
	Supply	Very High	Asset(s) do not exist at this site	Medium
	Storage	Very High	Due to 29A & B reservoirs and new modular reservoirs	Medium
	Reticulation - Pipes	High	Due to combined fire/potable watermain	Medium
	Reticulation - Pump Station	Very High	High due to 24P+ modular build pump station	Medium
	Fire Fighting - Pipes	Very High	Due to modular build separate fire network	Medium
	Fire Fighting - Pump Station	Very High	Due to 24P fire pumps	Medium
Waste	Reticulation - Pipes	Medium	Due to gravity mains collecting from multiple buildings	Low
	Reticulation - Storage	Very High	Due to emergency storage chamber (33S)	Medium
Storm	Disposal	Very High	North-east of site (modular builds)	Medium

Site Assessment Report Summaries — Rimutaka Prison

The Rimutaka Prison (RM) is in Upper Hutt, adjacent to the Trentham Army Camp. The prison has a capacity of 1,038 inmates. The prison facilities include eight units plus eight two-storey units, several industry workshops, youth units, self-care and various staff and regional facilities. The facility was mainly built in 1967 with additional units constructed more recently. Supply of water and sewage disposal is by connection to the municipal networks. The site is subject to runoff from the surrounding hills and streams.

Key Findings

Summary: A total of 20 affected assets have been requiring action within a 4 year timeframe at an estimated total cost of 9(2) A 9(2) provisional sum has been included in the 9(2) for Waste and Stormwater.

Potable Water/firefighting: Based off known materials and asset age, we would anticipate 48% of the potable water/firefighting network is generally in good condition. Several areas of the network are still unknown and various leakages and faults being reported that require further investigation. There are missing backflow and sampling points throughout the system comprising the safety of our water. The 9(2)(b)(ii) could present a risk if 9(2)(b)(ii)

Wastewater: Condition of the wastewater gravity network is largely unknown as investigations are ongoing. The available data is currently inconclusive.
Te Korowai pump station has been flagged as high risk due to reports of multiple faults and blockages.

Stormwater: Condition of the stormwater network is largely unknown as investigations are ongoing. The data is currently inconclusive. Localized flooding had been reported at the at Staff college in the past. Other risks identified include the three retention basins in the upstream catchment, south of the prison. Catchment modelling and hydraulic assessments are recommended to ensure the existing infrastructure would be able to accommodate the current and future flows, and to assess the risk if one of the basins were to fail.

Data Confidence: There is a low level of confidence across the three water assets due to the outputs of the TOPO survey and CCTV assessment not being in accordance with the specifications.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	8	36.36%	9(2)(b)(ii)	
	Medium	14	63.64%		
	Low	0	0.00%		
Risk Category	Reticulation	18	81.82%		
	Storage	2	9.09%		
	Supply	0	0.00%		
	Pump Station	2	9.09%		
	Treatment	0	0.00%		
	Infrastructure Failure	13	59.09%		
Potential Consequence	Resilience	3	13.64%		
	LOS	1	4.55%		
	Non-compliance	1	4.55%		
	SAR Water Safety	3	13.64%		
	SAR Asset Management	0	0.00%		
	Work-related safety	1	4.55%		
	Public safety	0	0.00%		
	Water safety	0	0.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Whanganui	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	0	0.00%		
	Medium	5	22.73%		
	Low	17	77.27%		

	Water Asset	Risk	Description	Resulta
Potable	Storage	High	Due to non-potable storage tanks at various units	Low
	Reticulation - Pipes	High	Due to several buildings requiring BFPD's, and sample taps to be installed across the site	Low
Waste	Reticulation - Pipes	Medium	Due to age of pipes and cracking observed during the CCTV review	Medium
	Reticulation - Pump Stations	High	Due to Te Korowai Pump station	Low
Storm	Storage	Medium	Due to stormwater catchment modelling to be done above prison	Medium

Site Assessment Report Summaries — Christchurch Men's Prison

The Christchurch Men's Prison (CP) is located to the west of Christchurch City off State Highway 73 (West Coast Road). Christchurch Men's Prison and Christchurch Women's Prison are within 2 kilometres of one another and have interrelated water infrastructure. The prison was established in 1915, although the initial buildings were not completed until 1925 at which point the population was around 120. The two original wings remain on site. As of 2018, the site had a muster of around 950 minimum to high security inmates, with over 400 staff.

Key Findings

Summary: A total of 70 affected assets have been assessed with 64 high and medium Urgency assets requiring action within a 4 year timeframe at a estimated total cost of 9(2)

Potable Water/firefighting: The condition of the AC piping making up 16% of the potable water reticulation network is poor. Testing shows extensive material loss with all AC piping tested having a wall loss of 29% or more. The condition of the remainder of the network is largely unknown however based on an assumed age and materials we would anticipate it to be generally in good condition. There are missing backflow and sampling points throughout the system compromising the safety of our water. The primary fire pump is in moderate condition and the backup firewater pump is in poor condition with visible signs of damage. Potable water pumps are all in good condition. The site bore is generally in good condition however the concrete drainage pad around the bore is undersized increasing the risk of surface water infiltrating the bore.

Wastewater: The condition of the majority of the wastewater reticulation network is good however regular flushing and cleaning is recommended in certain sections that are prone to blockage. A small section of AC piping is in poor condition. The internal macerator pump station has significant safety and operational concerns which is evident via a high fault history (21 faults from 2018-2022).

Stormwater: Condition of the stormwater network is currently unknown as CCTV inspections were not carried out. Stormwater is considered low risk as stormwater discharges locally throughout the site and therefore pipe failures would not impact the whole network/site. Based on the age it was anticipated the network to be in a fair condition. The stormwater outfall structures are in poor condition.

Data Confidence: There is a high level of data confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	52	74.29%	9(2)(b)(ii)	
	Medium	12	17.14%		
	Low	6	8.57%		
Risk Category	Reticulation	29	41.43%		
	Storage	6	8.57%		
	Supply	8	11.43%		
	Pump Station	20	28.57%		
	Treatment	7	10.00%		
	Infrastructure Failure	32	45.71%		
	Resilience	2	2.86%		
	LOS	5	7.14%		
	Non-compliance	4	5.71%		
	SAR Water Safety	21	30.00%		
Potential Consequence	SAR Asset Management	0	0.00%		
	Work-related safety	6	8.57%		
	Public safety	0	0.00%		
	Water safety	0	0.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Whanganui	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	4	5.71%		
	Medium	45	64.29%		
	Low	21	30.00%		

	Water Asset	Risk	Description	Resultant Risk
Potable/firefighting	Source	High	Due to the water bore	Low
	Treatment	Very High	Due to the water treatment plant	Low
	Storage	High	Due to water storage tanks 1 & 2	Low
	Reticulation - Pipes	High	Due to AC piping and BFPs	Low
	Reticulation - Pump station	Medium	Due to pump station having high consequence	Low
	Fire Fighting - Storage	Medium	Due to piping consequence	Medium
	Fire Fighting - Pump station	High	Due to condition of fire water pumps and high consequence	Medium
Waste	Reticulation - Pipes	High	Due to condition of piping and valves	Low
	Reticulation - Pump stations	High	Due to pump station condition	Low
	Storage	High	Due to storage	Low
Storm	Reticulation - Pipes	Medium	Due to stormwater sumps	Low
	Treatment	High	Due to treatment devices	Low

Water Safety Plan Summaries

Christchurch Women's Corrections Facility

Christchurch Prison (CP) and Christchurch Women's Prison (CW) are located to the west of the Christchurch City off State Highway 73 (West Coast Road). The two prisons are within 2 kilometres of one another and have interrelated water infrastructure. The water supply for the two sites is known as the Christchurch Prisons Water Supply. Christchurch Women's is located to the west of Christchurch Prison, at Newton Road, Christchurch. The prison was established in 1974 it caters to up to 134 minimum to high security female inmates with 56 staff.

Identified Risks

Summary: A total of 9 affected assets have been assessed with 6 high and 3 medium Urgency assets requiring action within a 4 year timeframe at a estimated total cost of 9(2)(b)

Water Safety: The unacceptable risks that require targeted improvements, escalation, as well as ongoing monitoring and management stem from the core issues and have been listed below

1. Non-compliant treated water
2. Inadequate monitoring
3. Lack of formal operations & maintenance procedures
4. Incomplete asset data
5. Contingency plan & BCP require updating
6. Partial backflow protection
7. Immature drinking water quality management system

Data Confidence: There is a high level of data confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	6	66.67%	9(2)(b)(ii)	
	Medium	3	33.33%		
	Low	0	0.00%		
Risk Category	Reticulation	3	33.33%		
	Storage	0	0.00%		
	Supply	4	44.44%		
	Pump Station	0	0.00%		
	Treatment	2	22.22%		
Potential Consequence	Infrastructure Failure	0	0.00%		
	Resilience	0	0.00%		
	LOS	0	0.00%		
	Non-compliance	0	0.00%		
	SAR Water Safety	0	0.00%		
	SAR Asset Management	0	0.00%		
	Work-related safety	0	0.00%		
	Public safety	0	0.00%		
	Water safety	9	100.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	2	22.22%		
	Medium	1	11.11%		
	Low	6	66.67%		

	Water Asset	Risk	Description	Resultant Risk
Potable	Reticulation - Pipes	Medium	Due to flow monitors, water quality monitoring and backflow protection	Low
	Treatment	Very High	Due to water treatment plant	Low
	Supply	Very High	Due to water bores and farm water quality	Medium

Water Safety Plan Summaries

Whanganui Prison

Whanganui Prison is located approximately 6.5km southwest of Whanganui. The water supply is used to supply drinking water and all other water needs on the site including supply of irrigation water for the nursery operations and for a number of activities which take place on site including employment and training opportunities in joinery / timber, engineering and horticultures trades. As of August 2022, there are approximately 560 people in the Department's care at this prison.

Identified Risks

Summary: A total of 8 affected assets have been assessed with 4 high and 4 medium Urgency assets requiring action within a 4 year timeframe at a estimated total cost of 9(2)(b)

Water Safety: The unacceptable risks that require targeted improvements, escalation, as well as ongoing monitoring and management stem from the core issues that are outlined below.

1. Non-compliant treated water
2. Inadequate monitoring
3. Lack of formal operations & maintenance procedures
4. Incomplete asset data
5. Contingency plan & BCP require updating
6. Partial backflow protection
7. Immature drinking water quality management system

Data Confidence: There is a high level of data confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	4	50.00%	9(2)(b)(ii)	
	Medium	4	50.00%		
	Low	0	0.00%		
Risk Category	Reticulation	3	37.50%		
	Storage	0	0.00%		
	Supply	2	25.00%		
	Pump Station	0	0.00%		
	Treatment	3	37.50%		
Potential Consequence	Infrastructure Failure	0	0.00%		
	Resilience	0	0.00%		
	LOS	0	0.00%		
	Non-compliance	0	0.00%		
	SAR Water Safety	0	0.00%		
	SAR Asset Management	0	0.00%		
	Work-related safety	0	0.00%		
	Public safety	0	0.00%		
	Water safety	8	100.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	2	25.00%		
	Medium	2	25.00%		
	Low	4	50.00%		

	Water Asset	Risk	Description	Resultant Risk
Potable	Reticulation - Pipes	Medium	Due to installation of flow monitors, quality monitors and backflow protection	Low
	Treatment	Very High	Due to monitoring and filtering improvements	Medium
	Supply	High	Due to Southgate water bore	High

Water Safety Plan Summaries

Waikeria Prison

Waikeria Prison is set on a 1,200-hectare site located 10 kilometres south of Te Awamutu. The water supply is currently (November 2022) non-compliant with the DWQAR due to insufficient monitoring and lack of a protozoa barrier for the Class 2 source water at the Southgate WTP. Further details, including planned improvements to provide safe and compliant water, are in the subsequent sections. As of August 2022, there are approximately 460 people in the Department's care at this prison. The maximum future occupancy, including the current development is up to 3,000.

Identified Risks

Summary: A total of 10 affected assets have been assessed with 6 high and 4 medium Urgency assets requiring action within a 4 year timeframe at a estimated total cost of 9(2)(b)

Water Safety: The unacceptable risks that require targeted improvements, escalation, as well as ongoing monitoring and management stem from the core issues that are summarised below:

1. Non-compliant treated water
2. Inadequate monitoring
3. Lack of formal operations & maintenance procedures
4. Incomplete asset data
5. Contingency plan & BCP require updating
6. Partial backflow protection
7. Immature drinking water quality management system
8. Limited system knowledge

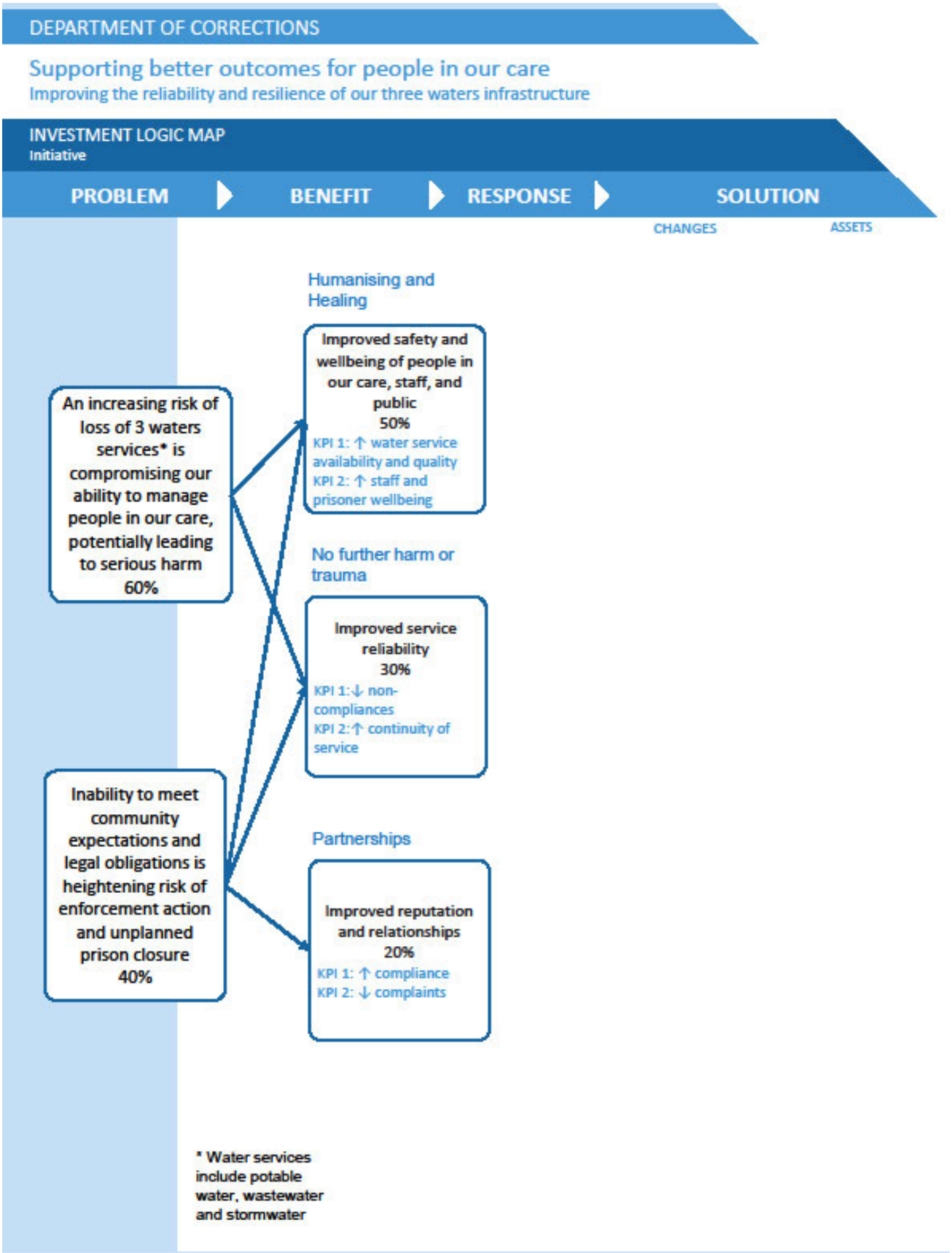
Data Confidence: There is a high level of data confidence across the three water assets due to accessibility and availability on asset conditions.

Categorised Figures

	Category	Affected Assets	% Assets	Total Cost	% Cost
Urgency	High	6	60.00%	9(2)(b)(ii)	
	Medium	4	40.00%		
	Low	0	0.00%		
Risk Category	Reticulation	4	44.44%		
	Storage	1	11.11%		
	Supply	2	22.22%		
	Pump Station	0	0.00%		
	Treatment	2	22.22%		
Potential Consequence	Infrastructure Failure	0	0.00%		
	Resilience	0	0.00%		
	LOS	0	0.00%		
	Non-compliance	0	0.00%		
	SAR Water Safety	0	0.00%		
	SAR Asset Management	0	0.00%		
	Work-related safety	0	0.00%		
	Public safety	0	0.00%		
	Water safety	10	100.00%		
	Asset Management	0	0.00%		
	Water safety - Personnel	0	0.00%		
	Asset Management - Personnel	0	0.00%		
	Whanganui	0	0.00%		
	Programme Management	0	0.00%		
	Resilience Strategy	0	0.00%		
Complexity	High	2	20.00%		
	Medium	4	40.00%		
	Low	4	40.00%		

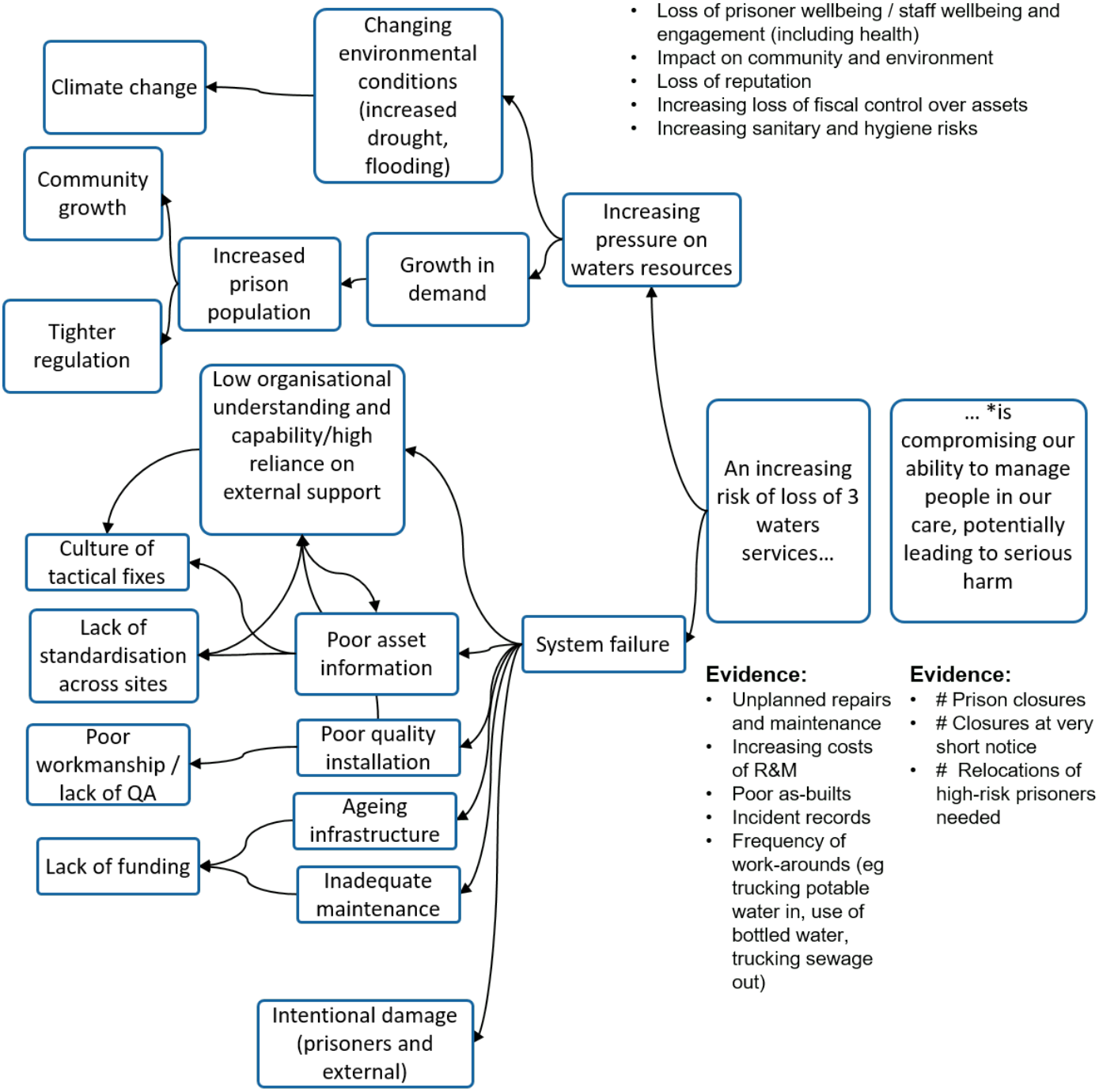
	Water Asset	Risk	Description	Resultant Risk
Potable	Reticulation - Pipes	Medium	Due to installation of flushing points and backflow protection	Low
	Storage	Very High	Due to reservoir site safety issues	Low
	Treatment	Very High	Due to monitoring and filtering improvements	Medium
	Supply	High	Due to Southgate water bore	High

Appendix E: Investment Logic Map



What happens if we do nothing?

- Increasing risk of closure of facilities
- Increasing cost pressures
- Increasing risk of serious harm incidents as a result of inability to use water for prisoner management (Reduced level of service)
- Loss of prisoner wellbeing / staff wellbeing and engagement (including health)
- Impact on community and environment
- Loss of reputation
- Increasing loss of fiscal control over assets
- Increasing sanitary and hygiene risks

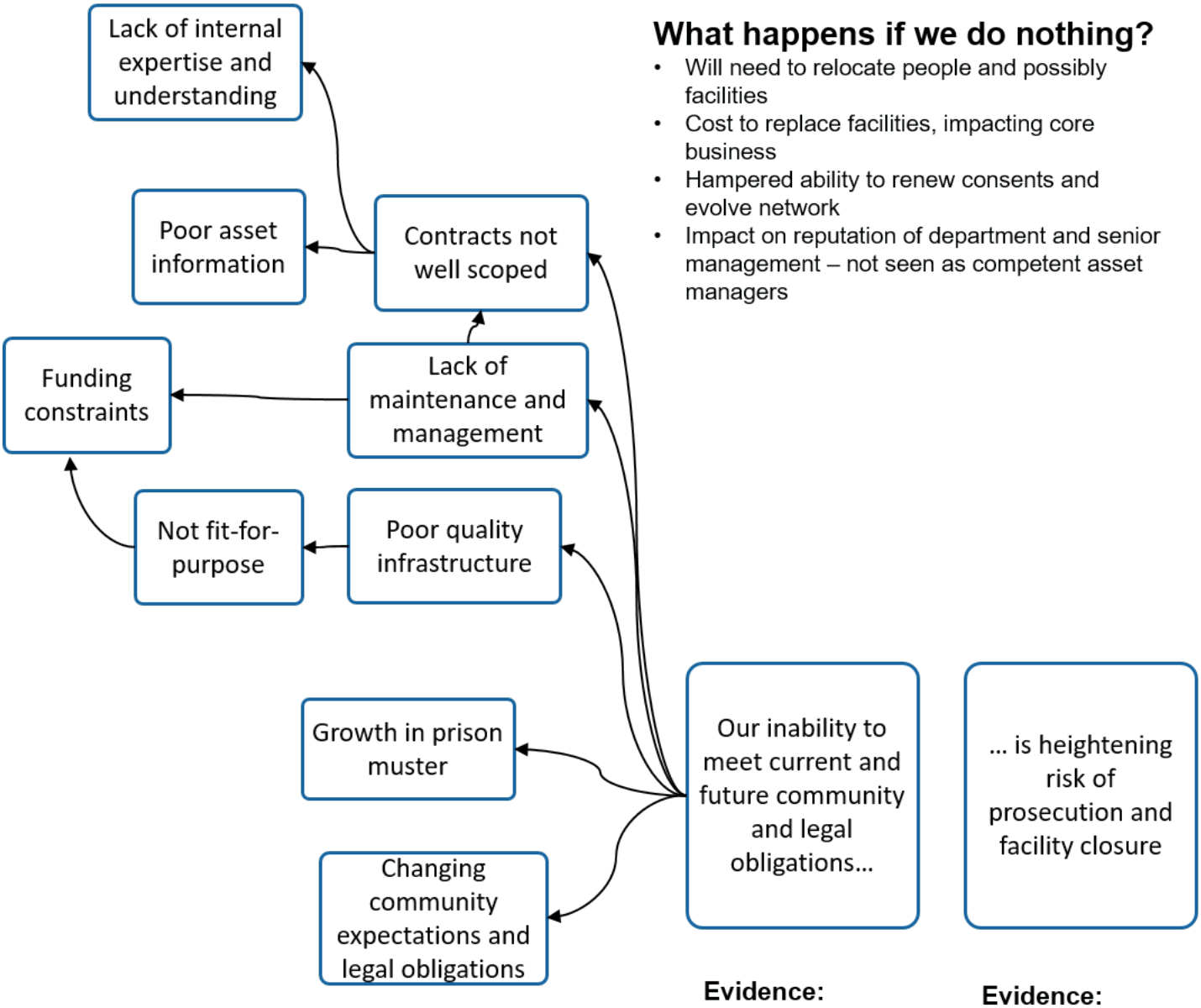


Evidence:

- Unplanned repairs and maintenance
- Increasing costs of R&M
- Poor as-builts
- Incident records
- Frequency of work-arounds (eg trucking potable water in, use of bottled water, trucking sewage out)

Evidence:

- # Prison closures
- # Closures at very short notice
- # Relocations of high-risk prisoners needed



What happens if we do nothing?

- Will need to relocate people and possibly facilities
- Cost to replace facilities, impacting core business
- Hampered ability to renew consents and evolve network
- Impact on reputation of department and senior management – not seen as competent asset managers

Evidence:

- Database of risks of non-compliance
- Compliance reports
- Monitoring data
- Consent renewals
- Supply agreements

Evidence:

- Communications from regulators

Appendix F: Level of Service Requirements

PDF inserted on following page

Three Waters Level of Service Framework

JANUARY 2022

FINAL DOCUMENT – JANUARY 2022		
Version	**Reviewer**	**Date**
1.0	Three Waters Progamme Steering Committee	9 Feb 2022

ARA POUTAMA AOTEAROA
DEPARTMENT OF CORRECTIONS

Contents

Note: This document was originally produced by Stantec and has been put into a Department of Corrections format. The original document was quality controlled through the Stantec quality assurance process.

Quality Control

Version control

Date	Version	Reason for change	Author	Title
31/01/2022	1.0	Convert document to a Department of Corrections format	Nicola Chisnall	Asset Manager Three Waters, Strategic Asset Management

Reviewers and approvers

Date	Version	Name	Title	Reviewer/Approver
01/02/2022	1.0	Dan Comber	3W Programme Lead	9(2)(a)
01/02/2022	1.0	Jessie Lea	Manager Strategic Asset Manager, Strategic Asset Management	

Abbreviations

AEP	Annual Exceedance Probability
AM/FM provider	Asset Management and Facilities Maintenance Provider
ARI	Average Recurrence Interval
BCP	Business Continuity Plans
BIA	Business Impact Assessments
CAPEX	Capital Expenditure
CDEM	Civil Defence and Emergency Management
ILM	Investment Logic Map
LoS	Levels of service
MBIE	Ministry of Business, Innovation and Employment
NPSFM	National Policy Statement for Freshwater Management 2020
NRCF	Northland Regional Correctional Facility
OPEX	Operational Expenditure
PBC	Programme Business Case

Glossary

Annual Exceedance Probability	The annual exceedance probability (AEP) is the inverse of the return period for a rainfall event. For example, for a two-year return period the exceedance probability in any given year is one over two = 0.5, or 50 percent.
Average Recurrence Interval	The average recurrence interval (ARI) is the average time between floods or rainfall of a certain size and duration. For example, a 100-year ARI flow will occur on average once every 100 years.
Emergency Level Disruption	A shock event such that the emergency level operations are implemented with an initial minimum level of service for the 3 Waters to maintain life sustaining functions. The BCP for each prison would define emergency level operations to return the site as rapidly as possible to minimum operating requirements.
Minimum Operating Requirements	The minimum operating requirements for 3 Waters: • is the level of service for a prison to operate prior to moving to emergency response (and BCPs). • encompasses the minimum daily operation of the site, including drinking water, hygiene and cooking services, and essential water use activities as identified within the National CEO, Regional and Site level BCPs (site specific). • will need to be sustained for a duration (this may be site specific or depend on the event).
Security	In the context of 3 Waters Infrastructure, security refers to protection of the 3 Waters assets from outside influences, such as vandalism, to maintain a continuity of service.
Substantiated Complaint	a complaint determined to be factual, based on an investigation of events where all reasonable steps have been taken to assess its origin

Te Mana o te Wai	A concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community. See the National Policy Statement for Freshwater Management 2020 for the full definition including the 6 principles of Te Mana o te Wai.

1 Introduction

1.1 Scope of this document

Currently the Department of Corrections (Corrections) does not have an overarching document that defines the expectations and performance requirements for their 3 Waters infrastructure. This document provides a draft Levels of Service (LoS) framework for 3 Waters at prison sites to address this and provide a consistent direction for future works. This draft document is to be agreed in principle by Corrections and evolve over time.

The development of the draft LoS framework forms part of the Corrections 3 Waters Programme Business Case (PBC) Tranche 1 works to establish the foundations for the ongoing forward works programme.

1.2 Use of this document

Reference shall be made to this document for:

- Asset management and planning (both CAPEX and OPEX)
- Designing and/or constructing new builds or renewal/upgrading existing infrastructure
- Preparation of annual performance monitoring reports.

This document should be read in conjunction with Corrections Resilience Plan, Business Continuity Plans (national, regional and site specific), Corrections Quality and Environmental Management Systems, and Business Impact Assessments for the appliable site(s).

In the event of a conflict or ambiguity between these documents, this LoS document shall take precedence.

1.3 Why develop levels of service?

Levels of Service (LoS), for any organisation, form the foundation of decision-making processes related to development and management of assets and services, and for ongoing benchmarking and performance measurement. In the context of the 3 Waters, the LoS would be used to define the asset's performance targets as they relate to reliability, quantity, quality, compliance, and responsiveness. They are also used to establish health and safety targets whether for personal wellbeing or environmental protection at each site or beyond the boundary.

The LoS framework includes strategic measures that define what the customer using the 3 Waters service will receive (for example minimum pressure at the tap) and technical measures that

Corrections will adopt to ensure that the customer levels of service will be achieved (for example % of assets with a condition rating). For Corrections, the customer would be Our People, being people in our care, staff, Contractors, and visitors.

The LoS framework includes targets for each performance measure. These targets are linked to the programme of infrastructure capital expenditure and operational changes. Any variance between the performance of existing 3 Waters infrastructure and the targets established can be used to identify areas of additional focus or re-prioritisation of the Corrections CAPEX and OPEX programmes.

2 Development

Resilience describes the capacity of a system to resist, absorb, recover from, and adapt to shocks and stresses (resilience disruptors) to a set level of service, within a timeframe that is tolerable from

The structure and the content of the LoS framework have been developed to align, where practicable, with the following:

- Corrections Programme Business Case Investment Logic Map (PBC ILM)
- Corrections existing processes/documentation (i.e. draft LoS framework, BCP's and BIA's)
- Processes of Local Government authorities
- Process of other New Zealand government departments
- Existing and projected New Zealand legislative requirements

The sections below describe the basis behind the development of the LoS framework.

2.1 Structure

The 3 Waters LoS structure is aligned to an approach whereby the LoS can be established and presented in a concise manner, with goals, objectives and performance measure targets clearly defined.

The adopted LoS structure (as presented in Appendix A) is aligned to the overarching Programme Business Case Investment Logic Map (PBC ILM) benefits, other Local government authority examples and to be consistent with projected New Zealand legislative requirements (refer Section 2.3).

The structure has three categories as follows (with the relevant PBC ILM benefits):

1) Safe and Healthy Waters (Improved safety and wellbeing of people in our care, staff and public)

2) Respectful of the Environment (Improved reputation and relationships)

3) Resilient 3 Waters Infrastructure (Improved service reliability)

Under each category, service goals are defined, with specific service objectives, performance measures and targets. In this manner, baseline requirements can be established, Corrections can monitor progress towards achieving the targeted outcomes, and strategies put in place to rectify any gaps.

2.2 Alignment with local government

Most Corrections prison estates are serviced by third party suppliers for water supply and wastewater treatment and disposal. As such, elements of the LoS for Corrections 3 Waters services need to align with each provider.

A review has been completed of the municipalities that Corrections hold third party agreements with to look at the structure of their 3 Waters LoS frameworks. In particular, the 3 Waters LoS frameworks of Watercare Services Ltd, Wellington Water and Christchurch City Council have been referred to in the development of the Corrections LoS tables. It is expected that these entities will play a significant part in the forthcoming 3 Waters services reform process and will influence the establishment of future guidelines and performance practices.

It should be noted that the 3 Waters LoS frameworks for Local Government entities reflect their compliance requirements and Corrections, as an agency being serviced by local authorities, does not need to achieve the same level of compliance. As such the comparison is for potential future alignment only.

2.3 Alignment with current and projected legislation

Elements of the LoS for Corrections 3 Waters services need to align with governing legislation of the day and with potential changes in the governance framework. As such the requirements of current and projected future legislation has been reviewed and incorporated including:

- The Department of Internal Affairs (DIA) established non-financial mandatory performance measures for Local Government service providers for water supply, wastewater, and stormwater. While Corrections does not generally constitute a service provider on all sites, these performance measures are still relevant and have been incorporated within the Corrections LoS tables,

- Ministry of Health, “New Zealand Drinking Water Standards (2018)”: definition of the current level of treatment and protection measures required for potable drinking water supplies,

- Minister for the Environment, “National Policy Statement for Freshwater Management 2020 (NPSFM)”,
- Water Services Act 202[1]
- Ministry of Business, Innovation and Employment, “New Zealand Building Code Clause E1 Surface Water (2020)”: definition of management of stormwater on site for structures.

As a 3 Waters services provider, Corrections is required to give effect to Te Mana o te Wai, a concept introduced under the National Policy Statement for Freshwater Management 2020 (NPSFM) and the Water Services Act. The concept of Te Mana o te Wai recognises the vital importance of water. Te Mana o te Wai imposes a hierarchy of obligations; to prioritise the health and well-being of water first, before the health needs of people (such as drinking water) and before providing for the social, economic and cultural well-being of people and communities. Giving effect to Te mana o te Wai will require more efficient use of our drinking water and will influence how we treat our 3 Waters (drinking water, stormwater, wastewater), and their extraction, discharges, and interactions with waterbodies.

2.4 Alignment with Corrections existing processes and consultation with the business

The Corrections operating environment differs from what would be expected within a municipality. The LoS framework therefore needs to be adapted to fit specific requirements, particularly with respect to security and managing people in our care. The asset and facility management contracts and BCP’s for the sites have been used to inform the service objectives and define measurable values for performance.

As of May 2021, a parallel workstream is occurring looking at the Levels of Service Framework across the entire estate (focussed on prison buildings and services). The proposed 3 Waters LoS structure is to align this overarching approach being completed. The 3 Waters services have been identified as a support activity within the overarching Estate LoS framework. This means that although they do not directly influence all the outcomes of Hōkai Rangi, achieving the target LoS across 3 Waters services will enable Corrections to direct more time and effort towards those goals. Continuity of 3 Waters services does have a direct influence on maintaining the wellbeing of Our People as an outcome of Hōkai Rangi and therefore performance measures for resilient infrastructure have been defined.

[1] The Water Services Bill passed into law as the Water Services Act in November 2021. Taumata Arowai became the water services regulator in November 2021. Taumata Arowai have released documents for public consultation to help inform the regulatory approach under the Water Services Act. These have not been reviewed as part of this framework, due to timing around their date of release. Changes to governance structures and adjustments to performance expectations may evolve from this process.

We have provided a table in Appendix B that directly compares the 3 Waters LoS framework with the service objectives for the balance of the estate. Workshops were held between the Estate LoS Framework and the LoS for 3 Waters development teams in May 2021.There is close alignment between the two approaches and no additional performance measures in the 3 Waters LoS were deemed necessary.

The draft LoS framework for 3 Waters has been developed through engagement with key staff and decisionmakers within Corrections. Workshops have been conducted to present and discuss the draft LoS service objectives and performance measures. These workshops have included representatives from Corrections Strategic Asset Management, AM/FM, Custodial and Delivery teams. The structure and approach were presented and agreed in a workshop on 9 March 2021. This was followed by a workshop on 15 April 2021 to discuss and modify the service objectives and performance measures, with additional review in workshops on 10/11 May 2021 and 17 June 2021. The views and comments of all parties, along with those of industry experts, have subsequently been incorporated within this documentation. The initial timeframes for the provision or restoration of services in the LoS have been aligned, where applicable, with the Ara Poutama Aotearoa Prioritised Business Functions as drafted in May 2021, and as presented in Appendix C, and the 3 Waters PBC.

3 Levels of service statements

The proposed LoS framework for 3 Waters is presented in Appendix A Levels of service framework table in line with the development process described above. The intent is that these LoS service objectives and performance measures be taken forward for all Corrections 3 Waters infrastructure. Below is an overview of the three LoS categories for 3 Waters and their associated service goals. Refer to Appendix A Levels of service framework table for the performance measures under each service goal.

Some performance measures have an additional annotation as being Legislative or Enabling. These can be described as:

- **Legislative Measures**: as in Section 2.3, driven by Central Government these measures are either DIA non-financial performance measures or requirements under New Zealand legislation. Inclusion provides alignment with local government authority service providers and establishes minimum set requirements for services for each of the 3 Waters.

- **Enabling Measures**: although not traditional levels of service these performance measures provide a stepping stone to realising another. They have been included to encourage process and cultural change. Once completed or entrained into Corrections way of working, these performance measures could be modified or removed from the LoS framework.

3.1 Safe and healthy waters

Safe and Healthy Waters aligns primarily with the health and wellbeing of Our People (generally defined as people in our care, staff, and visitors) and the environment. The service goals are:

1) We provide water that is safe to drink,

2) We operate and manage assets that are safe for Our People,

3) We provide sufficient water supply, and

4) We minimise public health risks associated with wastewater and stormwater.

3.2 Respectful of the environment

The provision of 3 Waters services will have an impact on the environment whether it be on the abstraction, treatment and supply of water, the treatment and disposal of both wastewater and stormwater, and the overarching operation and maintenance of the networks. The service goals aligned to being respectful of the environment include:

1) We improve the efficiency of our water use,

2) We apply the principles of Te Mana o te Wai in our 3 water services,

3) We minimise the impact of stormwater discharges on people's lives and proactively plan for the impacts of climate change, and

4) We minimise the impact of our services on the natural environment[2].

3.3 Resilient 3 Waters Infrastructure

The Levels of Service for resilient 3 Waters infrastructure have been developed to align with the draft Corrections Resilience Framework. There are specific LoS performance measures established to progressively assess and then address limitation of the existing prison 3 Waters infrastructure while defining the targets for future works. The service goals for resilient 3 Waters infrastructure are:

1) We provide 3 Water services that are resilient to shocks and stresses,

2) We provide reliable 3 Waters services to Our People, and

3) We improve our asset management planning.

Under the Service Goal of “We provide 3 Water services that are resilient to shocks and stresses” there are two event categories nominated being:

- Emergency Level Disruptions, and
- Minimum Operating Requirements.

The definition of these two event categories and their implication for each prison are outlined in the Resilience Framework and as such should be read in conjunction with this document. While provisions required for an Emergency Level Disruption across prisons are comparable, the Minimum Operating Requirements are site specific. For example, having secured provisions for water supply to meet animal welfare needs in the context of sites that have working farms as opposed to those without.

A draft table of minimum operation requirement parameters by operational area has been provided in Appendix D to support discussions at a prison level to develop the Minimum Operating Requirements. This will be subject to review following the vulnerability assessment of each site in future interventions.

[2] This Service Goal directly relates to the consideration of the 3 Waters Services and how they perform against target carbon emission standards and operational / energy efficiencies

4 Future direction

The LoS framework is a living document. The tables contained in Appendix A set out the performance measures for Corrections 3 Waters infrastructure. However, there are set parameters and figures that have yet to be defined due to site specific requirements or refined based on application within the prison environment.

The next stages required to finalise the LoS tables include the following:

- Resilience and Vulnerability assessment: (Intervention 18-Resilience) for each prison assess critical assets on site, their vulnerability to natural hazards and capacity for meeting minimum performance requirements. Assessment to be completed in conjunction with the Deputy National Commissioner office to ensure consistency of approach,
- Flows and Loads Assessment: (Interventions 40-Water Balances and 54-System Capacity) considering the current operations at each of the prison sites to document water use (potable water and wastewater flow measurement) and the minimum operating requirements,
- Legislative requirements: review of the LoS Framework tables once the current draft legislative requirements have been defined, particularly with respect to finalising of the Water Services Bill and Drinking Water Standards,
- Impact Assessment: to review current performance of each site against the draft LoS, and assess the implications/impact of LoS including alignment with 3 Water PBC (Intervention: 31b-Develop levels of service), and
- Review for alignment with the Levels of Service Framework across the entire Corrections estate.

As an interim measure, the LoS tables in Appendix A should be issued as a draft document to provide guidance for future designs, to inform discussions on targets within each prison site, trial the function of the LoS framework and Corrections ability to measure and report on the LoS.

Once finalised as a first issue, the LoS will require on-going review. We recommend as a minimum:

- Review of annual performance per site against performance measures,
- Monitoring of legislative or third-party provider changes that may impact network operations and review/modify the LoS accordingly, and
- Review of LoS every three (3) years, including any associated changes to future site management practices.

Appendix A Levels of service framework table

Outcome	Service Goal	Service Objectives	Performance Measure (PM)	Target (by 2022/23)	Target (by 2026)	Target (by 2035)	Legislative measure	Enabling Measure
1.0 Safe and Healthy Waters	1.1 We provide water that is safe to drink	Potable water meets current NZ Drinking Water Standards and legislation	1.1.1: % of sites compliant with National Drinking Water Standards (whether through third party agreements or with site supplies), including: - Protozoa - Bacterial	--	100% 18 / 18 sites	100% 18 / 18 sites	☑	
		Water supplied is of acceptable quality	1.1.2: Number of substantiated Potable Water service complaints for example; - Clarity - Taste & Odour	--	< 2 per site per year	< 2 per site per year	☑	
	1.2 We operate and manage assets that are safe for Our People	3 Waters services are delivered in a way that is safe for Our People	1.2.1: Lost time injuries associated with construction, commissioning, and operation of 3 Waters assets	0 per site per year	0 per site per year	0 per site per year		
		Asset safety risks are identified and improved	1.2.2: % of sites fully reviewed (with respect to 3 Waters services) for operational health and safety risks and planned works established	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		☑
			1.2.3: % of assets identified for safety improvement capital upgrades under **PM 1.2.2** that are on capital plan	--	100%	100%		☑
	1.3 We provide sufficient water supply	Sufficient water is supplied to meet firefighting needs	1.3.1: % of sites fully compliant with New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008)	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites	☑	
		Water is supplied with sufficient pressure	1.3.2: % of sites meeting minimum pressure requirements at the "tap"	--	100% 18 / 18 sites	100% 18 / 18 sites		
		Sufficient potable water supply is addressed under Service Goal 3.1						
	1.4 We minimise public health risks associated with wastewater and stormwater	Our People, the public and the environment are protected from direct exposure to untreated wastewater and stormwater	1.4.1: Number of wet weather overflows from the wastewater network	--	0 per site	0 per site		
			1.4.2: Number of dry weather overflows from the wastewater network	--	0 per site	0 per site	☑	
		Wastewater services provided are of acceptable quality	1.4.3: Number of substantiated Wastewater service complaints for example; - sewage odour; - sewerage system faults; - sewerage system blockages	--	< 2 per site per year	< 2 per site per year	☑	

Outcome	Service Goal	Service Objectives	Performance Measure (PM)	Target (by 2022/23)	Target (by 2026)	Target (by 2035)	Legislative measure	Enabling Measure
		Stormwater management provisions are of acceptable quality	1.4.4: Number of substantiated Stormwater service complaints for example; - stormwater system faults; - flooding extent; - stormwater system blockages	--	< 2 per site per year	< 2 per site per year	☑	
2.0 Respectful of the Environment	2.1 We improve the efficiency of our water use	We minimise the volume of real water loss from our networks	2.1.1: % of water loss from networked reticulation system	--	< 15%	< 10%	☑	
		We optimise the average water consumed on our sites	2.1.2: Average water consumption per Person per day (excluding operational water use)	--	< 200 l/p/day	< 200 l/p/day	☑	
			2.1.3: % of sites fully reviewed for operational water use (excluding per Person water consumption defined in **PM 2.1.2**) and planned works / operational changes for water optimisation established	--	61% 11 / 18 sites	100% 18 / 18 sites		☑
			2.1.4: % of assets identified for water optimisation capital upgrades under **PM 2.1.3** that are on capital plan	--	100%	100%		☑
	2.2 We apply the principles of Te Mana o te Wai in our 3 water services	Our People are educated to use our 3 Water services in ways that reduce the impact on the natural and built environment	2.2.1: % of Our People to be given nominated education messages via defined methods e.g. media, forums, displays & presentation each year	100%	100%	100%		
		We improve our water resource management	2.2.2: % of sites where assessment has been undertaken to manage/reduce runoff/discharge volume and contaminant discharge beyond the site boundary	44% 8 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		☑
		3 Waters services are managed to comply with consents	2.2.3: Number of escalated enforcement actions (Compliance with resource consents for the water supply, wastewater, and stormwater activities)	0	0	0	☑	
	2.3 We minimise the impact of stormwater discharges on people's lives and proactively plan for the impacts of climate change	Potential impact of stormwater discharges on property & on-site access is identified and minimised	2.3.1: % of sites assessed such that activities on-site do not exacerbate issues in downstream stormwater drainage systems and planned works / operational changes established	--	83% 15 / 18 sites	100% 18 / 18 sites		☑
			2.3.2: % of sites with assets identified for stormwater capital upgrades under **PM 2.2.2 and 2.3.1** that are on capital plan	--	83% 15 / 18 sites	100% 18 / 18 sites		☑
	2.4 We minimise the impact of our services on the natural environment	Operation and Maintenance of 3 Waters services are energy efficient, transitioning to Zero Carbon Emission standards	2.4.1 % of sites where 3 Waters services operational activities have been assessed for energy use and emissions, and have management plans established	--	83% 15 / 18 sites	100% 18 / 18 sites		

Outcome	Service Goal	Service Objectives	Performance Measure (PM)	Target (by 2022/23)	Target (by 2026)	Target (by 2035)	Legislative measure	Enabling Measure
3.0 Resilient 3 Waters infrastructure	3.1 We provide 3 Waters services that are resilient to shocks and stresses	We have robust 3 Waters services with appropriate alternatives and response arrangements in place to address **Emergency Level Disruptions**	3.1.1: Unplanned decanting of our prisons solely due to 3 Waters infrastructure failure	0	0	0		
			3.1.2: % of sites with sufficient firefighting infrastructure to maintain sprinklers at adequate flow and pressure in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.1.3: % of sites that are self-sufficient for emergency water supply requirements (separate from normal daily operational requirements)	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.1.4: % of sites that have sufficient emergency storage in the wastewater network	--	100% 18 / 18	100% 18 / 18		
				% of sites with at least 8 hours storage of average dry weather wastewater flow				
			3.1.5: % of sites where habitable and operationally critical structures are assessed for flood risk in accordance with the New Zealand Building Code and planned works defined	--	100% 18 / 18 sites	100% 18 / 18 sites		☑
			3.1.6: % of sites with assets identified for flood risk mitigation capital upgrades under **PM 3.1.5** that are on capital plan	--	100% 18 / 18 sites	100% 18 / 18 sites		☑
			3.1.7: % of sites with critical on-site access links passable during and following significant rainfall events	--	100% 18 / 18	100% 18 / 18		
			3.1.8: % of sites fully compliant with the 3 Waters Proactive Tasks, Critical Spares items and state of readiness Action Plan in each site's Business Continuity Plan	--	100% 18 / 18 sites	100% 18 / 18 sites		
		We have robust 3 Waters services with appropriate alternatives and response arrangements in place to meet **Minimum Operating Requirements**	3.1.9: % of sites that have secured provisions for water supply to meet minimum operating requirements	--	100% 18 / 18 sites	100% 18 / 18 sites		
			3.1.10: % of sites that have effective wastewater management to meet minimum operating requirements	--	100% 18 / 18 sites	100% 18 / 18 sites		
			3.1.11: % of sites where critical pipelines and structures are assessed for technical resilience (including seismic / land movement risks) and planned works established	100% 18 / 18 sites	100%	100% 18 / 18 sites		☑

Outcome	Service Goal	Service Objectives	Performance Measure (PM)	Target (by 2022/23)	Target (by 2026)	Target (by 2035)	Legislative measure	Enabling Measure
					18 / 18 sites			
			3.1.12: % of sites with assets identified for resilience improvement capital upgrades under **PM 3.1.11** that are on capital plan	--	100% 18 / 18 sites	100% 18 / 18 sites		☑
	3.2 We provide reliable 3 Waters services to Our People	Our People have access to reliable 3 Waters services	3.2.1: Duration of unplanned interruptions to operations of critical services is minimised	Figure to be defined by site	Figure to be defined by site	Figure to be defined by site		
			3.2.2: Median response time to attend service outages • Priority 1: Emergency – Acute events (e.g. 4 hrs) • Priority 2: Urgent – Systems fault or failure / blockages (e.g. 8 hrs)	Figure to be defined by site	Figure to be defined by site	Figure to be defined by site	☑	
			3.2.3: Duration of planned interruptions to operations of critical services is minimised	Figure to be defined by site	Figure to be defined by site	Figure to be defined by site		
	3.3 We improve our asset management planning	We plan our asset replacements / renewals with greater certainty	3.3.1: % of assets that have received a condition rating – Water (NAMS IIMM)	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.3.2: % of assets that have received a condition rating - Wastewater (NAMS IIMM)	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.3.3: % of assets that have received a condition rating - Stormwater (NAMS IIMM)	100% 18 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.3.4: % of assets that have a condition rating with a reliable confidence (2 or better)	56% 10 / 18 sites	100% 18 / 18 sites	100% 18 / 18 sites		
			3.3.5: % of critical assets that have a condition rating of 2 or better	--	100% 18 / 18 sites	100% 18 / 18 sites		

Reference to "Our People" reflects aspects of the Level of Service that relate to people in our care, staff, and visitors.

Supporting Notes to 3 Waters LoS Framework Tables

Service Goals under the 3 Waters services LoS Framework have been classified into three general categories in the tables below. Each of these categories align to the Programme Business Case Investment Logic Map (PBC ILM) benefits as follows:

Safe and Healthy Waters - *Improved safety and wellbeing of people in our care, staff and public*

Respectful of the Environment - *Improved reputation and relationships*

Resilient 3 Waters infrastructure - I*mproved service reliability*

The PBC Investment Objectives require the following, which determine the target timeframe for the LoS objectives to be achieved:

All our prison facilities have a reliable provision of 3 Waters services by 2035

All our prison facilities meet regulatory requirements for human health and environmental standards by 2026

For Performance Measures the target percentage of sites for compliance is less than 100%. Where this is the case, the percentage refers to the number of sites where investigations are to take place within the defined horizon, based on the 3W PBC e.g. 10 out of 18 sites are to have completed an on-site asset condition rating assessment by the end of the 2022 / 23 financial year.

Safe and Healthy Waters

Performance measure	Comment
1.1.2	Lagging indicator of issues within the potable water services. The review and validation of any complaints will inform the wider programme interventions and site-specific actions. Proactive steps to be taken will need to include: an education programme in place to inform our people and moderate expectations for the service provided; and providing relevant and timely communications to our people if issues arise on site that might lead to complaints.
1.2.1	"Check" element of the Health and Safety in Work Act 2015. Lagging indicator for performance of applied H&S practices. The health and safety practices by site should subsequently follow the guidelines from the Department of Corrections H&S and Wellbeing team in review of notifiable incidents (measured as a relative percentage of the total number of hours of work per site).

Performance measure	Comment
1.2.2	"Plan" / "Do" element of the Health and Safety in Work Act 2015. Leading / Proactive indicator for performance of applied H&S practices
1.3.2	under NZS 4509, the minimum pressure requirement is 100 kPa / 10m residual head for fire-fighting compliance (under PM 1.3.1). Point of supply minimum pressures for local government authorities are typically in the order of 25m, with the minimum pressure at the building interface of 20m. Where the structures are single level then a minimum 20m residual pressure should be applied at each building. For multi-story structures, site specific design will be required.
1.4.1	Not a DIA non-financial mandatory PM, although carries a public and environmental health risk should they occur. Links to the inflow and infiltration issues on any one site and capacity issues associated with PM. While the target LoS is zero wet weather overflows from the wastewater system, this is dependent on the wastewater system not being inundated due to performance of the stormwater drainage on site. As such, and subject to review, the zero-overflow target would be associated with a 1 in 10-year ARI rainfall event. Also, this measure applies to onsite system only, and not where conditions of the receiving environment are causing backwater effects within the network leading to overflows.
1.4.3	Lagging indicator of issues within the wastewater services. The review and validation of any complaints will inform the wider programme interventions and site-specific actions. Proactive steps to be taken will need to include: an education programme in place to inform our people and moderate expectations for the service provided; and providing relevant and timely communications to our people if issues arise on site that might lead to complaints. Complaints to exclude blockages related to deliberate actions of people in our care to compromise the system.
1.4.4	Lagging indicator of issues within the stormwater services. The review and validation of any complaints will inform the wider programme interventions and site-specific actions. Proactive steps to be taken will need to include: an education programme in place to inform our people and moderate expectations for the service provided; and providing relevant and timely communications to our people if issues arise on site that might lead to complaints. Complaints to exclude blockages related to deliberate actions of people in our care to compromise the system.

Respectful of the Environment

Performance measure	Comment
2.1.2 / 2.1.3	The water use on site comprises the Essential services for maintaining the health and wellbeing of Our People and Operational Water Use comprising other operations on site including (as examples); horticulture, animal welfare, external laundry services, operational flows.
2.2.1	Education was added to align with the intent of the 3 Waters PBC
2.2.2	Runoff management will be a requirement under any site-specific discharge consent, particularly for new developments. Sites to be assessed for management practices and links to water conservation measures on site. Targets to be reassessed when the NES is released.
2.3	The impacts of climate change apply to both the prison estates and the upstream/downstream environments, with assessment to accommodate allowance for sea level rise and increased intensity of extreme rainfall as defined within the DoC Design Standards.
2.4.1	Energy efficiency / Zero Carbon Emissions targets to be incorporated into Design Standards for new infrastructure. Site wide assessments to be completed on existing services to identify where efficiencies can be made as it relates to reducing energy use and carbon emissions, informing renewal programmes and equipment selected.

Resilient 3 Waters infrastructure

Performance measure	Comment
3.1	Emergency Level Disruptions and Minimum Operating Requirements: for definitions, please refer to the Glossary
3.1.3	For sustaining life in an emergency / sudden extreme shock. Principally for drinking water but expanded to include provisions for minimum levels of hygiene. From the WHO minimum water requirements (pyramid) this would equate to 7.5-

Performance measure	Comment
	15 l/day, 2.2 litres of potable water as a minimum for drinking water, and the balance for hygiene. Refer to the Resilience Framework for an expanded definition of Emergency Level Disruptions. **Provisions to be determined by site** based on 22.2 litres/pp/day for drinking and basic hygiene (2.2 l/p/day as bottled / securely sourced potable water) plus allowance for livestock wellbeing (where applicable) over the course of 3 days
3.1.4	Aligns to 8-hour storage of average dry weather wastewater flow for holding tank capacity (BIA maximum allowance outage) and could include inherent pipeline storage within the network.
3.1.5	Direct assessment to be made to Building Code compliance for habitable and operationally critical structures (meeting a 1% AEP flooding event / 1 in 100 years, accounting for climate change)
3.1.7	Risk based assessment for sites for the welfare of Our people to allow for evacuation in moderate to large rainfall events. Consistent with Territorial Authority LoS Targets for urban road networks. Relates to site access on transport corridors for evacuation, movement of people in our care, emergency vehicles, pedestrian access
3.1.8	Compliance of each site's readiness (Action Plans within BCP documents) as measured through the annual compliance audit
3.1.9	Secured provisions for water supply reflect a combination of on-site storage, on-site water supply and treatment (if applicable), and off-site third-party supply. The third-party agreement would need be acknowledge the minimum operating requirements and establish continuity of services for water supply during stressed events.
3.1.10	Review of each site considering possible continued disruption of beyond point of discharge which may include operations / management by onsite storage or alternative measures for treatment / disposal. The volume required would be a function of the on-site minimum operating requirements for water (refer reference table in Appendix D).
3.3.4	Five level data confidence ratings:1 = Highly reliable, 2 = Reliable, 3 = Less reliable, 4 = Uncertain and 5 = Highly uncertain as Water NZ NPR definitions.

Performance measure	Comment
3.3.5	Five level condition rating: 1 = Very Good Condition, 2 = Minor Defects Only, Minor maintenance; 3 = Maintenance Required for Accepted LoS; 4 = Requires Renewal, Significant renewal/upgrade; 5 = Asset Unserviceable, over 50% of asset requires replacement (as defined in the IIMM)

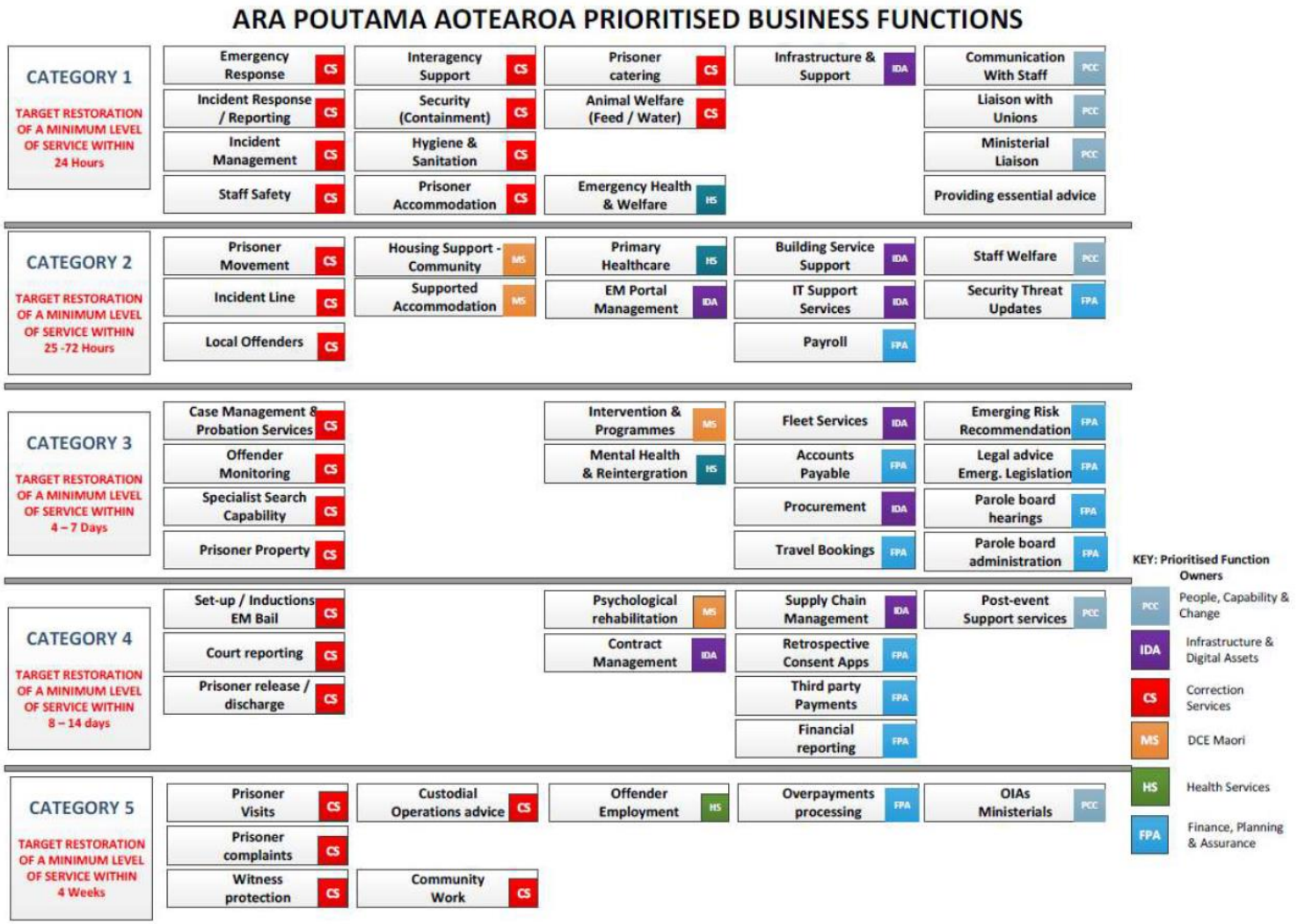
Appendix B 3 Waters LoS framework alignment

Alignment with Draft 'Department of Corrections – Service Level Framework – 13072021 (5-J0795) by WSP and Corrections' (13 July 2021) Performance Measure references from the 3 Waters LoS (column 3) are provided to indicate specific alignment.

Performance Indicators		Service Level Goals	Alignment of 3 Waters LoS (PM references)
Condition		In working order, supportable, not damaged or in need of repair	3.1, 3.3
Utilisation		Well utilised without being overloaded	1.3, 1.4, 2.1, 3.1
Functionality (Operational)	Accessibility	Where needed and readily accessible	1.2, 3.1
	Resilience	Tough, reliable, and dependable	3.1, 3.2, 3.3
	Design Performance	Unimpaired and not deteriorated	1.2, 1.4, 3.1, 3.4
	Efficiency	Efficient to operate and own	2.1
	Supportive of Operating Model	Aligned to the desired Operating Model	1.2, 1.4, 3.1
	Safety and Security	Safe for prisoners, visitors, custodial services, and contractors	1.1, 1.2
		Secure, robust, and durable	1.2, 3.1
	Compliance and Certification	Compliant with Legislation and Regulations	1.1, 2.2
		Meet calibration and certification requirements	1.1, 1.3, 1.4
Functionality (Strategic)	Humanising & Healing	Beneficial to the wellbeing of people in our care	1.1, 1.3
	Te Ao Maori Worldview	Supporting staff for Maori Programmes	1.4, 2.1, 2.2, 2.4
		Tikanga	1.1, 1.2, 1.3, 1.4
	Providing Foundation for Participation	Beneficial for the development of Living Skills and Tools	1.1, 1.3
		A foundation for future employment	1.1, 1.3
	Environmentally Sustainable	Utility Efficient	1.3
		Not detrimental to the natural environment	1.4, 2.3
		Are not contributing to global warming	2.4
		Suitable for environmentally responsible operation	1.4, 2.1, 2.2
Service Delivery	Responsive Service	Actively responds to Faults and Complaints	3.2
	Customer Satisfaction	Using Complaints to improve service	1.1, 1.4

Appendix C Prioritised business functions

The below diagram is from the Department of Corrections CEO Continuity Plan, Page 19, Appendix 2 – Prioritised Functions', 21 August 2020



Appendix D Minimum operating requirements

Table for quantifying the Minimum Operating Requirements by Site

Prison Site: _____

Date of Assessment: _____ **Assessment completed by:** _____

Operational Area	Water Supply				Wastewater*
	Unit	Unit Measure	Quantity	Total	Total
Drinking	l/p/day	2.2	by site	XX	XX
Sanitation *(toilets and hand basins)*	l/p/day	20	by site	XX	XX
Showers	l/p/day	by site	by site	XX	XX
Kitchen	l/p/day	by site	by site	XX	XX
Laundry	l/p/day	by site	by site	XX	XX
Animal Welfare – *Drinking Water*	l/hd/day	by site	by site	XX	
Animal Welfare – *Pasture Health*	l/ha/day	by site	by site	XX	
Horticulture *(e.g. Essential Offender Employment)*	l/day	by site	1	XX	
Laundry Services *(e.g. Essential Offender Employment)*	l/day	by site	1	XX	XX
Operational (O&M)	l/day	by site	1	XX	
Other *(define)*	l/day	by site	1	XX	XX
Sub-total	l/day			XX	XX
Water Loss *(maximum allowance)*	l/day	15%	by site	XX	
Total	l/day			XX	XX

Key	
l/p/day	litres per Person per day (including staff and People in Our Care)
l/hd/day	litres per head of livestock per day
l/ha/day	litres per hectare per day
l/day	litres per day
Wastewater*	conservatively, the total minimum operating requirements for wastewater would equate to that of water supply for the operating area nominated (i.e. 100% of water demand). Grey cells are where wastewater generation is not expected.

How this table is to be used:

- Assessment to be completed by site
- RED text to be completed
- To be based on continuous operation, but at diminished capacity, for the site
- Unit measures to be completed based on site assessment and should be benchmarked across the estate (e.g. comparison between regions/prisons)

This table can also be extended to consider operational water use by site under typical conditions to provide a benchmark for future improvements or changes, and should be reviewed with the consideration to the risk appetite for the sit

Appendix G: Three Waters Risk Framework

To understand the risk profile across prison sites a 3 Water Risk assessment Framework has been developed by Corrections. Secondly, for the Drinking Water Safety Plan a separate risk framework has been developed based on the Enterprise Risk Framework with additions specifically relating to drinking water safety.

Both the frameworks align with the Corrections Enterprise Risk Management Framework, seen in the diagram below (albeit with augmented definitions to account for the specifics of three waters infrastructure.

Likelihood	Minimal	Minor	Moderate	Major	Extreme
Almost certain	Medium	Medium	High	Very high	Very high
Likely	Low	Medium	High	Very high	Very high
Possible	Low	Medium	Medium	High	Very high
Unlikely	Low	Low	Medium	High	Very high
Rare	Low	Low	Medium	High	High

Consequence

Three Water Risk Framework

Outlined below is a summary of the 3 Water Risk Assessment Framework which was utilised in the risk assessments for the five sites undertaken by Stantec[1].

Likelihood

	Descriptor Level of Likelihood				
Criteria	Rare	Unlikely	Possible	Likely	Almost Certain
Probability of Occurrence	>5%	5%-20%	21%-60%	61%-90%	>90%
Frequency of Occurrence	May occur in exceptional circumstances	Could occur in some circumstances	Might occur in many circumstances	Will probably occur in many circumstances	Expected to occur in most circumstances

Infrastructure Likelihood

If you have condition data with a confidence level of A/B then you can simply use the condition score from investigations

Criteria	Rare	Unlikely	Possible	Likely	Almost Certain
Condition Score	C1	C2	C3	C4	C5

If investigation data is not available, or the confidence level is lower than A/B the condition shall be approximated via the following (or equivalent suitable methodology using engineering judgement)

Likelihood Score					
Remaining Life (of individual asset) - 70%					

[1] The 3 Water Risk Assessment Framework was approved by Corrections for Stantec's work and referenced in this paper accordingly.

Criteria	Rare	Unlikely	Possible	Likely	Almost Certain
Civil Infrastructure *e.g., pipeline, valve, manhole*	>50 years	30-50 years	10-30 years	3-10 years	<3 years
Mechanical/Electrical/Process Infrastructure *e.g., pump, UV, electrical controls*	>20 years	10-20 years	3-10 years	1-3 years	<1 year
Fault History (per individual asset) - 30%					
Pipeline		No previous breaks or issues in last 10 years	A non-critical fault (e.g. blockage) or issue in last 10 years	Multiple minor breaks/fault (e.g., blockage/overflows) or a major fault/break (e.g. broken pipe or joint failure) in last 10 years	Multiple critical breaks in last 10 years
Individual Asset (e.g., pump)		No previous breaks or issues in last 10 years	A non-critical fault or issue (e.g. alarm fault) in last 10 years	Multiple non-critical failure/fault or a critical break in last 10 years (e.g. requiring repairs)	Multiple critical breaks in last 10 years

Potential Consequence

Potential Consequence	Minimal	Minor	Moderate	Major	Extreme
Water Safety	Minimal impact, little disruption to normal operation. Isolated exceedance of aesthetic parameter. For example: - Minor colour, taste, or odour issues experienced at some taps.	Minor impact on a sub-population, some manageable disruption to normal operation. Potential local aesthetic issues, isolated exceedance of MAV. For example: - Colour, taste, or odour issues experienced at some taps.	Minor impact on most of the population, significant (but manageable) disruption to normal operation, requirement for increased monitoring. Potential widespread aesthetic issues, or repeated breach of maximum acceptable value (MAV). For example: - Chemical contamination reaches all taps (default score for chemical contamination unless there is evidence to support using an alternative score). - Colour, taste, or odour issues experienced at all taps. - Short-term reduction in water supply level of service (low pressure, reduced supply).	Major impact on a sub-population, significant compromise of systems and abnormal operation, requirement for high level of monitoring and incident management. Potential acute harm to people, declared outbreak or widespread illness expected. For example: - Microbiological contamination or toxic chemical reaches some taps - Loss of supply to an accommodation block, or equivalent (e.g., kitchen) - Prolonged reduction (>48hrs) in water supply level of service (low pressure, reduced supply)	Major impact on most of the population, complete failure of systems, requirement for high level of monitoring and incident management. Potential acute harm to people, declared outbreak or widespread illness and possible deaths expected. For example: - Microbiological contamination or acutely toxic chemical reaches all taps - Loss of water supply to the whole prison

Potential Consequence	Minimal	Minor	Moderate	Major	Extreme
3W Infrastructure Operation	Little or no impact on ability to operate business as usual.	Near normal service with some manageable disruption to normal operation. May result in inability to carry out some non-critical BAU operations. For example: - Failure of non-critical services. - Shut down of non-critical operations on site (e.g., nursery) - Water restrictions (low to moderate level) - Some non-critical operations on site impacted (e.g., nursery) - Planned and notified disruptions for repairs - SW capacity generally working but increased localised ponding and surface runoff.	Minor impact on most of the population, significant (but manageable) disruption to normal operation, leading to notifiable outages, reduced levels of service and increased operating costs (i.e. MOR operation) For example: - Water restrictions (high level) - Tankering in water to reservoir - Some critical operations on site impacted (e.g., laundry) - Pressure fluctuations - Overflows of wastewater to ground or waterways during wet weather - SW capacity generally working but some localised flooding.	Some critical 3W services are completely disrupted and uncontrolled leading to inability to safely and securely carry out critical operations to a portion of a prison site. Requires a high level of incident management (i.e., operating under BCP's). Site may need to be partially decanted if essential 3W services cannot be returned to MOR within an acceptable time period. (i.e., Emergency operation - part of site) For example: - Failure of critical assets - No or very limited services for a portion of the site - Portion of the site will need bottled water - Portion of the site has uncontrolled overflows of wastewater to ground or waterways - Portion of the SW system overwhelmed and uncontrolled leading to flooding - 2-3 essential critical buildings are without 3W services	Critical 3W services are completely disrupted and uncontrolled leading to inability to safely and securely carry out critical operations at the entire prison site. Requires a high level of incident management (i.e., operating under BCP's). Site may need to be fully decanted if essential 3W services cannot be returned to MOR within an acceptable time period. (i.e., Emergency operation - full site). For example: - Failure of critical assets - No or very limited services for the entire site - Bottled water - Uncontrolled overflows of wastewater to ground or waterways - SW system overwhelmed and uncontrolled leading to flooding.

Drinking Water Safety Plan Risk Framework

Outlined below is a summary of the Drinking Water Safety Plan risk framework. This framework is consistent with the approaches recommended by the Ministry of Health and aligned with the Department of Corrections Enterprise Risk Framework (ERM).

Likelihood

Likelihood describes the chance of a risk events occurring in a given timeframe. The H&S Risk Framework descriptors of Likelihood are used for the Drinking Water Safety Plan assessment and are shown in the table below.

	Descriptor Level of Likelihood				
Criteria	Rare	Unlikely	Possible	Likely	Almost Certain
Frequency of occurrence	Not expected to occur for years	Occurs at least annually	Occurs At least six monthly	Occurs at least monthly	Occurs at least weekly

Consequence

Consequences describe the potential outcome or results associated with a risk event if or when it occurs or does not occur. This Drinking Water Safety Plan concerns two major public health hazard categories relating to the water supply. These are:

- The continuity of water supply: Due to the nature of Ara Poutama Aotearoa's operations any interruption in the continuity of water supply is unacceptable and puts the health and safety of people at risk.
- Water quality: The Consequences of water contamination hazards are the same for Ara Poutama Aotearoa as for any other large water supplier.

Therefore, the descriptors for Consequence have been adopted with clarifications included for the level of supply disruption or water quality hazard expected. The Consequence descriptors are shown in the table below.

Potential Consequence	Minimal	Minor	Moderate	Major	Extreme
Drinking Water Safety	Minimal impact, little disruption to normal operation. Isolated exceedance of aesthetic parameter. For example: - Minor colour, taste, or odour issues experienced at some taps.	Minor impact on a sub-population, some manageable disruption to normal operation. Potential local aesthetic issues, isolated exceedance of MAV. For example: - Colour, taste or odour issues experienced at some taps.	Minor impact on most of the population, significant (but manageable) disruption to normal operation, requirement for increased monitoring. Potential widespread aesthetic issues, or repeated breach of maximum acceptable value (MAV). For example: - Chemical contamination reaches all taps (default score for chemical contamination unless there is evidence to support using an alternative score). - Colour, taste or odour issues experienced at all taps. - Short-term reduction in water supply level of service (low pressure, reduced supply).	Major impact on a sub-population, significant compromise of systems and abnormal operation, requirement for high level of monitoring and incident management. Potential acute harm to people, declared outbreak or widespread illness expected. For example: - Microbiological contamination or toxic chemical reaches some taps. - Loss of supply to an accommodation block, or equivalent (e.g., kitchen) - Prolonged reduction. (>48hrs) in water supply level of service (low pressure, reduced supply).	Major impact on most of the population, complete failure of systems, requirement for high level of monitoring and incident management. Potential acute harm to people, declared outbreak or widespread illness and possible deaths expected. For example: - Microbiological contamination or acutely toxic chemical reaches all taps. - Loss of water supply to the whole prison.

Urgency

Site Assessment Reports

For the Site Assessment Reports renewals and/or improvements have been prioritised in accordance with Corrections 3 Waters Level of Service Framework, V1.0 provisional targets and the draft Three Waters Prioritisation Framework. This methodology also utilizes the Three Water Risk Framework. In summary the following approach has been taken:

1. High urgency: Any asset with a total risk score of high or very high, and a Likelihood score of 3 or greater, and any improvement works required to meet the Levels of service 2026 targets.
2. Medium urgency: Any asset with a total risk score of medium, and a Likelihood score of 3 or greater.
3. Low urgency: Any asset with a Likelihood score of 2 or lower, any asset with a total risk score of low, or works are not required to meet Levels of service 2026 targets.

Drinking Water Safety Plan

Urgency has been categorised to represent how Likelihood and Consequence determine in what timeframe the asset needs to be addressed, where:

1. High is within 12 months.
2. Medium within 24 months.
3. Low within 48 months.

Site Assessment and Drinking Water Safety Plan Summary abbreviations

AC	Asbestos-cement
BCP	Business continuity plan
BFP	Backflow preventer
GEW	Glazed Earthenware Sewers
HDPE	High density polyethylene
PE	Polyethylene Pipe Polyethelyne
PVC	Polyvinyl chloride
RC	Reinforced Concrete
VC	Vitrified clay pipe

Appendix H: CSF Scoring Framework

Strategic Alignment

Quantitative Assessment

Much Worse (-3)	Moderately Worse (-2)	Slightly Worse (-1)	Neutral (0)	Slightly Better (+1)	Moderately Better (+2)	Much Better (+3)
The delivery option will result in a worse residual risk profile than the status quo. This option will score a -3 and be discounted.			The residual risk profile is no better or worse than the status quo.	The residual risk profile demonstrates there is an improvement in risk score, but on average, remains at 'high'.	The residual risk profile demonstrates there is an improvement in risk score, and on average, moves to 'medium'.	The residual risk profile demonstrates there is an improvement in risk score, and on average, moves to 'low'.

Qualitative Assessment

To ensure robustness of findings, an additional qualitative check was applied to ensure that the comparative scoring is logical and accurately represents the performance of options. Key qualitative considerations were complexity, compliance requirements, cost, and enablement of linked operations.

Market Attractiveness

Much Worse (-3)	Moderately Worse (-2)	Slightly Worse (-1)	Neutral (0)	Slightly Better (+1)	Moderately Better (+2)	Much Better (+3)
The delivery option will consist of a quantum of work where there is a very high risk that the New Zealand market will not have the capacity to deliver in required timelines. Due to the proportion of very large and complex projects included in the option, there is a very high risk that the projects cannot be achieved within the required timelines.	The delivery option will consist of a quantum of work where there is a high risk that the New Zealand market will not have the capacity to deliver in required timelines. Due to the proportion of large and complex projects included in the option, there is a high risk that the projects cannot be achieved within the required timelines.	The delivery option will consist of a quantum of work where there is a medium risk that the New Zealand Market will not have the capacity to deliver in required timelines. Due to the proportion of medium and moderately complex projects included in the option, there is a medium risk that the projects cannot be achieved within the required timelines.	The delivery option is no better or worse than the status quo	The delivery option will consist of a quantum of work where there is a low risk that the New Zealand market will not have the capacity to deliver in required timelines. Secondly, due to the low proportion of medium sized projects, there is a low risk that the delivery option cannot be achieved within the required timelines. The quantum of work will be slightly appealing to a tier one service provider and Corrections will potentially need to engage multiple service providers to deliver the option, incurring increased procurement costs and management overheads.	The delivery option will consist of a quantum of work where there is a low risk that the New Zealand market will not have the capacity to deliver in required timelines. Secondly, due to the low proportion of medium sized projects, there is a low risk that the delivery option cannot be achieved within the required timelines. The quantum of work will be somewhat appealing to a tier one service provider and Corrections might need to engage multiple service providers to deliver the option, incurring increased procurement costs and management overheads.	The delivery option will consist of a quantum of work where there is a low risk that the New Zealand market will not have the capacity to deliver in required timelines. Secondly, due to the low proportion of medium sized projects, there is a low risk that the delivery option cannot be achieved within the required timelines. The quantum of work will be appealing to a tier one service provider and Corrections will not need to engage multiple service providers to deliver the option.

Affordability

Much Worse (-3)	Moderately Worse (-2)	Slightly Worse (-1)	Neutral (0)	Slightly Better (+1)	Moderately Better (+2)	Much Better (+3)
Funding required for the deliver option is 30% greater than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a high level of risk that the Water Infrastructure Programme cannot be delivered in approved timelines, cost or scope.	Funding required for the deliver option is 20% greater than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a medium level of risk that the Water Infrastructure Programme cannot be delivered in approved timelines, cost or scope.	Funding required for the deliver option is 10% greater than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a low level of risk that the Water Infrastructure Programme cannot be delivered in approved timelines, cost or scope.	Funding required for the deliver option equals the current initially identified 9(2)(b)(ii) level communicated to key stakeholders.	Funding required for the deliver option is 10% less than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a slight cost reduction to the overall delivery of the Water Infrastructure Programme against approved funding levels.	Funding required for the deliver option is 20% less than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a moderate cost reduction to the overall delivery of the Water Infrastructure Programme against approved funding levels.	Funding required for the deliver option is 30% less than the initially identified funding 9(2)(b)(ii) level communicated to key stakeholders. This could result in a significant cost reduction to the overall delivery of the Water Infrastructure Programme against approved funding levels.

Value for Money

Much Worse (-3)	Moderately Worse (-2)	Slightly Worse (-1)	Neutral (0)	Slightly Better (+1)	Moderately Better (+2)	Much Better (+3)
The overall cost of the delivery option will not result in a reduction in the residual risk profile. This option will score a -3 and be discounted.			The option's value for money is no better or worse than the status quo.	Positive risk reduction, but the risk reduction : cost relationship variance is worse than the mean of other options. Water demand savings of c. $2m p.a. , or less Less than 3 Use Studies falls into the Option and provides qualitative benefits.	Positive risk reduction, but the risk reduction : cost relationship variance is equal to the mean of other options. Water demand savings of c. $2m - $4m p.a. Four Use Study's that falls into the Option and provides qualitative benefits.	Positive risk reduction, but the risk reduction : cost relationship variance is better than the mean of other options. Water demand savings of c. $4m p.a, or more. All Use Study's that falls into the Option and provides qualitative benefits.

Appendix I: Technical Annex for cost and benefit modelling

Table I1 Economic Modelling Assumptions

Assumption	Comment
Values	All values are in $NZD All values reported on an annualised basis (By Financial Year, Eg. Year 1 = January 2023 – December 2023)
Discount rate	The discount rate is 5% in line with the Treasury's guidance
Model term	The model has a term of 30 years and accrues on-going benefits and costs until the 31st of December 2052

Table I2 Inputs and Sources for Water Savings Benefits

Input	Item		Description	Source
Site Assessment Report Output	Site Assessment Report Interventions (mainly CAPEX oriented)	*Tier 1*	*Non compliance:* Resource Management Act and Drinking water requirements. These costs were variable across each option with some items/costs excluded depending on urgency rating. **Examples include**: Checking fire hydrant compliance Overall site stormwater treatment Pre-treatment of stormwater	Stantec
			Water safety: Everything else relating to WSP (at CMP). These costs were variable across each option with some items/costs excluded depending on urgency rating. **Examples include**: Water Quality Monitoring Install flow monitor/s Strainer replacing **Data at CMP was submitted in split data drops as CP was covered in the Site Assessment Reports and Drinking Water Safety Plan. Data was consolidated for reporting purposes.*	
		Tier 2	*Infrastructure:* Three Waters physical assets that have been investigated or assessed for their condition. These costs were variable across each option with some items/costs excluded depending on urgency rating. **Examples include**: New potable water tank Booster pumps approaching end of life Faulty pump stations to be improved **Rimutaka storm and wastewater infrastructure failure has been included as a provisional sum as they didn't have sufficient information to inform robust cost estimates at the time.*	
			Levels of service: Asset's performance targets as they relate to reliability, quantity, quality, compliance, and responsiveness. These costs were variable across each option with some items/costs excluded depending on urgency rating. **Examples include**: Investigate requirement for booster pumps Monitor fire pumps Upgrade the SW network	
			Resilience: Risk of the systems water supply interruption to handle external forces and disruptions. These costs were variable across each option with some items/costs excluded depending on urgency rating. **Examples include**: Install flowmeters and level sensors	

			Seismic assessment proposed for storage tanks resilience Investigate pipe size and capacity	
Water Safety Plan Output	Water Safety Plan Interventions and Facilities		**Examples include**: 16. Capability and Capacity Strategy 17. Inspection and Maintenance Strategy 18. Water Safety Plan Updates These costs were variable across each option with some items/costs excluded depending on urgency rating.	Stantec
	Water Safety Asset Management		Asset management in relation to Water Safety Plans. **Examples include**: Installation of flushing point Change backwash to treated water instead of raw water Upgrade of bore pump to soft start/VSD These costs were variable across each option with some items/costs excluded depending on urgency rating.	
Other / Whanganui	Program Management		The base for options has been incurred by Corrections to date for all options and includes FY 21, 22, and 23. **Examples**: Programme overheads Programme managers Programme directors **Options Scaling**: For each option we have scaled each options programme management cost depending on the expected level of effort required. Noting that some elements of programme management are fixed while other are variable and will change depending on the size of the programme.	Corrections
	Strategic Resilience		A long-term response and cost to the resilience plan to adapt assets to resist, absorb, recover from, and adapt to shocks and stresses to a set level of service. Provisional sums have been provided by Stantec to develop the minimum level of resilience. This was excluded from 3 of the 4 options.	

Table I3 Contingency Breakdown

Option	Urgency	Potential Consequence	Category	Contingency
Minimum Compliance	High	Infrastructure failure	Infrastructure and Loss of Services	30%
Minimum Compliance	High	Resilience	Resilience	30%
Minimum Compliance	High	LOS	Build Resilience	30%
High Urgency	High	Non-compliance	Non Compliance & Water Safety	30%
High Urgency	High	SAR Water Safety	SAR Water Safety	30%
High Urgency	High	Water safety	DWSP Water Safety	30%
High Urgency	High	Water safety - Personnel	DWSP Water Safety - Personnel	0%
Minimum Compliance	High	SAR Asset Management	SAR Asset Management	30%
High Urgency	High	Work-related safety	Institutional Investments Tier 1	30%
High Urgency	High	Public safety	Institutional Investments Tier 1	30%
High Urgency	High	Whanganui	Whanganui Projects	0%
High Urgency	High	Water safety	APA Water Safety	50%
High Urgency	High	Asset Management - Personnel	Institutional Investments Tier 2	0%
High Urgency	High	Asset Management	Institutional Investments Tier 2	50%

High Urgency	High	Programme Management	Programme Management	0%
Proactive Stewardship	Medium	Infrastructure failure	Infrastructure and Loss of Services	30%
Proactive Stewardship	Medium	Resilience	Resilience	30%
Proactive Stewardship	Medium	LOS	Build Resilience	30%
Minimum Compliance	Medium	Non-compliance	Non Compliance & Water Safety	30%
Minimum Compliance	Medium	SAR Water Safety	SAR Water Safety	30%
Minimum Compliance	Medium	Water safety	DWSP Water Safety	30%
Minimum Compliance	Medium	Water safety - Personnel	DWSP Water Safety - Personnel	0%
Proactive Stewardship	Medium	SAR Asset Management	SAR Asset Management	30%
Minimum Compliance	Medium	Work-related safety	Institutional Investments Tier 1	30%
Minimum Compliance	Medium	Public safety	Institutional Investments Tier 1	30%
Minimum Compliance	Medium	Whanganui	Whanganui Projects	0%
Minimum Compliance	Medium	Water safety	APA Water Safety	50%
Minimum Compliance	Medium	Asset Management - Personnel	Institutional Investments Tier 2	0%
Minimum Compliance	Medium	Asset Management	Institutional Investments Tier 2	50%
Minimum Compliance	Medium	Programme Management	Programme Management	0%
Strategic Resilience	Medium	Resilience Strategy	Resilience Strategy	50%

Table I4 Inputs and Sources for Water Savings Benefits

Input	Source	Methodology
The sites included for the water savings benefits assessment are as follows: 26. Arohata Prison 27. Christchurch Men's Prison 28. Mount Eden Corrections Facility 29. Rimutaka Prison 30. Rolleston Prison		
Current water demand for each of the prison sites	Previous Programme Business Case (Stantec data)	The current water demand is assumed to be the same as shown in the previous Programme Business Case.
Economic cost of water	Previous Programme Business Case based on Paremoremo proxy.	This figure was reinforced by reviewing evidence of individual prison sites invoices for their water usage.[2]
Future water demand – leak detection	EY Analysis based on Stantec data	Leak detection was scaled to the size of the funding envelope (I.E, the more funding will equate to increased leak detection). This methodology was developed and used inputs provided by Stantec.
Future water demand – asset renewal	EY Analysis based on Stantec data	Asset renewal water savings was scaled to the size of the funding envelope (I.E, the more funding will equate to increased benefit from asset renewal). This methodology was developed and used inputs provided by Stantec.

[2] Following interrogation of water demand and cost profiles across prison sites we found that there were too many outlier numbers that could not give us a conclusive economic cost of water

Future water demand – water efficient devices	EY Analysis based on Stantec data	Water efficient devices benefits were scaled to the size of the funding envelope (I.E, the more funding will equate to increased benefit from water efficient devices). This methodology was developed and used inputs provided by Stantec.

Appendix J: Non-compliance issues in 'High Urgency Only' option

Option One – High urgency issues only does not address all the possible future compliance issues that would eliminate the risk of non-compliance. The following items listed below identify the medium urgency items that could need to be addressed to reduce compliance risk.

Non-Compliance Item	Description
Fire Hydrants	Fire hydrants (site wide) Fire hydrants across site have been checked in recent building compliance assessment - check compliant with Firefighting Code of Practice. Currently no hydrants provided for firefighting purposes for southern side of prison.
Stormwater Treatment Device	Filters 9no. Filters across site, 1no was missed from Manhole inspections. All inspected filters are in very good condition.
Grease Trap	Grease trap at kitchen 21K. Structural failure of trap can result in trade waste seeping into ground or stormwater networks. Installation date assumed to be 1944 when prison was constructed. Condition unknown but assumed to be good. No inspection records available to view but cleaned on regular intervals according to Downer - comment during site visit. Needs to be confirmed if size is sufficient for prison size.
Stormwater Outlet	Stormwater Outlet at 54s and Workshop - 49 450mm PVC pipe discharges to dry basin - Pipe with concrete slabs over top as a headwall. Slabs have been pushed outwards by ground above. - Poor condition
Stormwater Pipeline	SW Reticulation - Kowhai - Fault recorded: Kowhai Unit, sump between cells and boiler room full with paint washout - Risk of non-compliance with discharge to ground consent.
Stormwater treatment Device	Workshop Yards Swales - Swales on perimeter of Yards, with rock infiltration - including off Yard 1 - Yards used for making houses may have runoff with contaminants (paints, other chemicals). Consider pre-treatment of this runoff.
Wastewater Chamber	WW Wet well at W05 Installation date was 2017 according to as builts. Condition was good, security was good. Guiderail brackets had heavy corrosion. Bolts rusted on ladder hinges. Bottom of roof slab could not be inspected. Overhead lifting beam needs to be inspected by specialist.
Grease Trap	2 x chamber grease traps at K01 (Kitchens) Both traps were in moderate condition, could not inspect because they were full. No maintenance schedule observed, no info on trade waste consent available. Structural condition unknown, material of construction assumed to be concrete, assumed installation date of 1967. Structural failure of trap can result in trade waste seeping into ground or stormwater. Visually looks like it has not been cleaned in some time. No faults reported.

Appendix K: Use Studies

Use Study 1 – Christchurch Men's Prison	Potable/firefighting Water Treatment Plant

Asset 9(2)(b)(ii) Is a Water Treatment Plant that requires filtration and monitoring upgrades and is assessed as 'high' urgency and 'high' Complexity. The recommended action is to upgrade the treatment plant to include UV treatment. This requires a building extension to install additional treatment infrastructure. It will further add the ability to upgrade and install new power supplies, generators, and control systems. The total cost is estimated at 9(2)(b)(ii), with a duration of 18 months. The recommendation has been assessed against the qualitative benefits and has an impact on the following:

1. **Increase in wellbeing of Staff** – *UV water treatment will provide an additional level of disinfection to enable staff to receive reliable and consistent quality drinking water that meets drinking water standards.*
2. **Increase in wellbeing of prisoners in care** - *UV water treatment will provide and additional level of disinfection that meets drinking water standards.*
3. **Increase in compliance with legislative & regulatory requirements** – *Recommendation have been designed to meet legislative and regulatory requirements.*
4. **Increase in trust & confidence regarding license to operate** - *New power supply and control systems will ensure remediation of issues at the WTP on a timely basis.*
5. **Decrease in potential reputational damage** – *Contamination of* Potable/firefighting *Water can cause widespread sickness; UV, filtration and chlorination reduces the risk of this occurring.*

Recommended works will take the assets current state risk of 'high' to a residual risk of 'low'.

In August 2016 Havelock North suffered an outbreak of gastroenteritis in which 5,500 of the town's 14,000 residents became ill (Department of Internal Affairs, 2016). Evidence has found that UV treatment could have reduced the outbreak (National Science Foundation, 2021). Estimated total economic costs to remediate the issue was $21 million.

Use Study 2 – Rimutaka Prison	Potable/firefighting Water Reticulation

Asset 9(2)(b)(ii) is a Potable Water Reticulation Asset that requires flowmeters to be installed at end and entry sites to verify flow from reservoirs and has been classified as 'medium' urgency and 'low' Complexity. The Recommended action is to install flowmeters and monitoring equipment to individual units to monitor water consumption. The total cost is estimated to be 9(2)(b)(ii), with a duration of 12 months to deliver. The recommendation has been assessed against the qualitative benefits and has an impact on the following:

1. **Increase in wellbeing of Staff** – *Proactive detection of leaks allows better allocation of staff time.*
2. **Increase in wellbeing of prisoners in care** - *Monitoring equipment will reduce disruptions which could impact their routine.*
3. **Increase in compliance with legislative & regulatory requirements** – Potable/firefighting *Water requirements can be maintained through monitoring water consumption*
4. **Increase in trust & confidence regarding license to operate** – B*y consistently measuring water consumption water reduction can be quantified*

Potential for operational information to be incorporated to determine and monitor network leaks. This recommended Option will take the current to a residual risk of 'low'.

Use Study 3 – Arohata Prison	Wastewater Pump Station

Asset 9(2)(b)(ii) is a Pump station wet well for a self-care facility located at 9(2)(b)(ii) Its condition was poor due to deformation of plastic wet well walls, with 6(c). The condition of the pump is moderate with mechanical and electrical components nearing end of useful life. 6(c). Due to the nature of the current state, it has been assessed at a 'high' urgency item with a total cost of 9(2)(b)(ii) and duration of 12 months. The recommended action is to upgrade the asset with

complete fire reinforced polyester chambers for wet well and valve chambers. The specifications are designed to meet regulations and safety requirements. Electrical installations with be completed with Inner and Outer panel set, pump controls, and instruments to allow for monitoring and alarm systems. The recommendation has been assessed against the qualitative benefits and has an impact on the following:

1. **Protect the natural environment** – *renewing the asset reduces the risk of environmental contamination due to asset failure.*
2. **Increase in compliance with legislative & regulatory requirements** – *renewing the asset reduces the amount of time needed to inspect and maintain the asset, reducing the exposure to wastewater for our contractors and staff*
3. **Increase in trust & confidence regarding license to operate** – *parts are replaced with the latest material type that are more resilient and increase overall structural integrity and reliability.*
4. **Decrease in potential reputational damage** – *Failure could result in environmental contamination as well as negative effects on the community as a result of odour and discharge.*

It is currently at high risk with a potential Consequence of wet well failure that can lead to uncontrolled wastewater seepage to ground or stormwater. Recommended work will decrease current risk to 'low'.

Use Study 4 - Rimutaka Prison	Wastewater Pump Station

9(2)(b)(ii) is a Wastewater pump station at Te Korowai (Staff College) with an urgency rating of 'high'. It has been recommended that it will require a Capex Asset Upgrade and will involve replacing the Wastewater pump station. The total cost is estimated to be 9(2)(b)(ii) with a duration of 12 months. The recommended works will involve electrical installation complete with panel set, pump control, instruments, and connection to current BMS. The recommendation has been assessed against the qualitative benefits and has an impact on the following:

1. **Protect the natural environment** – *Upgrading* the asset *reduces the risk of environmental contamination through early warning of issues via BMS monitoring.*
2. **Increase in compliance with legislative & regulatory requirements** – – *renewing the asset reduces the amount of time needed to inspect and maintain the asset reducing the exposure to wastewater from our contractors and staff.*
3. **Increase in trust & confidence regarding license to operate** – *Pump control measures and instruments can detect blockage or failures to enable early detection of failure and are fit for purpose and serviceable*
4. **Decrease in potential reputational damage** - *Failure could result in environmental damage and contamination of the surrounding water sources.*

The asset is currently classified as 'high' risk with potential Consequences of blockages, which would result in system and asset failure of Wastewater infrastructure. The recommended changes would result in a residual risk of 'low'.

Appendix L: Risk Profile by Site, Option

Site Assessment Report

Table L1 Consolidated Site Assessment Report by Prison Site

Prison		Risk Profile - Site Assessment Report			
		High urgency issues only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
Arohata	# of Assets	6	12	23	23
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	15.22			
	Resultant site risk (colour coded)	5.50	6.00	5.61	5.61
Christchurch Men's	# of Assets	22	59	64	64
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	16.09			
	Resultant site risk (colour coded)	4.82	4.76	4.63	4.63
Mount Eden	# of Assets	5	23	27	27
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	15.76			
	Resultant site risk (colour coded)	7.80	6.65	6.41	6.41
Rimutaka	# of Assets	5	10	22	22
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	13.64			
	Resultant site risk (colour coded)	7.00	6.13	5.75	5.75
Rolleston	# of Assets	11	26	31	31
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	18.97			
	Resultant site risk (colour coded)	8.64	9.19	8.83	8.83

Water Safety Plan

Table L2 Water Safety Plan by Prison Site

Prison		Risk Profile - Water Safety Plan			
		High urgency issues only	Achieve compliance	Proactive stewardship	Strategic resilience
Christchurch Women's	# of Assets	6	9	9	9
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	18.00			
	Resultant site risk (colour coded)	6.17	7.22	7.22	7.22
Waikeria	# of Assets	6	10	10	10
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	16.60			
	Resultant site risk (colour coded)	5.33	7.00	7.00	7.00
Whanganui	# of Assets	4	8	8	8
	Cost of Programme	9(2)(b)(ii)			
	Current site risk	17.25			
	Resultant site risk (colour coded)	6.00	7.50	7.50	7.50

Appendix M: Affordability Split – Opex/ Capex

Table M1: Affordability by CAPEX

Group	CAPEX	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
1	**Infrastructure Replacement**				
	Site Assessment Report	9(2)(b)(ii)			
	Contingency				
	Sub Total				
2	**System and Regulatory Interventions**				
	AM/FM				
	APA Water Safety				
	Water Safety				
	Contingency				
	Water Safety Plan Interventions and Facilities				
	Drinking Water Safety Asset Management				
	Contingency				
	Total				
	Sub Total				
3	**Other**				
	Resilience Strategy				
	Contingency				
	Sub Total				
	Programme Management				
	Contingency				
	Sub Total				
Total					
	Total CAPEX Cost				

Table M2 Affordability by OPEX

Group	OPEX	High Urgency Issues Only	Minimum Compliance	Provactive Stewardship	Strategic Resilience
1	**Infrastructure Replacement**				
	Site Assessment Report	9(2)(b)(ii)			
	Contingency				
	Sub Total				
2	**System and Regulatory Interventions**				
	AM/FM				
	APA Water Safety				
	Water Safety				
	Contingency				
	Water Safety Plan Interventions and Facilities				
	Drinking Water Safety Asset Management				
	Contingency				
	Total				
	Sub Total				
3	**Other**				
	Resilience Strategy				
	Contingency				
	Sub Total				
	Progamme Management				
	Contingency				
	Sub Total				
Total					
	Total Cost				

Table M3 Initial Risk sourced from Stantec's Site Assessment Reports and Drinking Water Safety Plan by Water Asset and Site

Water Asset		Site				
		Mount Eden Corrections Facility	Arohata Prison	Rolleston Prison	Rimutaka Prison	Christchurch Men's Prison
Potable	Source	Very High	-	Very High	-	Very High
	Treatment	-	-	-	-	Very High
	Storage	Very High	High	Very High	-	Very High
	Reticulation - Pipes	Very High	Very High	Very High	-	Very High
	Reticulation - Pump station	Very High	-	Very High	Very High	High
	Firefighting - Pipes	-	-	-	-	High
	Firefighting - Pump station	Very High	High	Very High	-	Very High
Waste	Reticulation - Pipes	Very High	Very High	High	High	Very High
	Reticulation - Pump station	Very High	Very High	-	Very High	Very High
	Treatment	-	-	-	-	-
	Reticulation - Storage	-	-	Very High	-	-
	Disposal	Very High	Very High	-	-	Very High

Storm	Reticulation - Pipes	-	-	-	-	Medium
	Reticulation - Pump station	-	-	-	-	-
	Treatment	-	-	-	-	Very High
	Disposal	-	High	Very High	-	Medium

Appendix N: Options Asset Breakdown

ID	Asset ID	High Urgency Issues Only Option	Minimum Compliance Option	Proactive Stewardship	Strategic Resilience
1	ME.PW.Supply	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
2	ME.PW.Supply	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
4	ME.PW.W01	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
7	ME.PW.W01	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
9	ME.PW.004	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
11	ME.PW Ring Main - The Rock	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
13	ME.PW Ring Main - New	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
18	ME.PW.BFP	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
19	ME.PW.WQ	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
21	ME.PW.052	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
23	ME.PW	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
24	ME.WW1	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
25	ME.WW1	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
26	ME.WW2	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
27	ME.WW2	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
28	ME.12S	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
29	ME.12S	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
38	ME.WW	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
40	ME.WW	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
49	ME.WW.Site Wide	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
50	ME.WW.KGT	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
53	ME.B52-01L-103	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
55	ME.B52-01L-104	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
56	ME.SW.052	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
60	ME.SW	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
61	ME.SW	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
64	ME Resilience Upgrades	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
65	AP.PW.001	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
68	AP.PW.002	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
71	AP.PW.004	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
75	AP.PW.005	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
76	AP.PW.006	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
82	AP.PW.010	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
84	AP.PW.011	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
87	AP.PW.013	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience

93	AP.PW.018	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
100	AP.PW.023	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
101	AP.PW.024	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
102	AP.PW.025	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
103	AP.PW.026	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
104	AP.PW.027	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
105	AP.PW.028	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
106	AP.WW.001	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
109	AP.WW.003	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
111	AP.WW.004	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
122	AP.SW.006	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
127	AP.SW.009	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
140	AP.SW.022	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
141	AP.SW.023	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
142	AP.SW.024	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
145	CP.PW.001	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
147	CP.PW.001	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
149	CP.PW.002	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
151	CP.PW.002	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
153	CP.PW.003	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
155	CP.PW.003	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
157	CP.PW.004	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
159	CP.PW.004	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
160	CP.PW.004	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
164	CP.PW.006 (Tank 1)	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
166	CP.PW.007 (Tank 2)	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
168	CP.PW.008	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
170	CP.PW.009	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
176	CP.PW.011	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
178	CP.PW.012	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
180	CP.PW.013	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
182	CP.PW.014	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
184	CP.PW.015	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
186	CP.PW.016	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
188	CP.PW.017	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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254	CP.PW.067	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
255	CP.PW.068	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
256	CP.PW.069	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
257	CP.PW.070	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
261	CP.WW.01 - 54s	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
262	CP.WW.01 - 54s	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
263	CP.WW.01 - 54s	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
264	CP.WW.01 - 54s	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
265	CP.WW.01 - 54s	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
267	CP.WW.01 - 54s	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
269	CP.WW.01 - 54s	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
270	CP.WW.01 - 54s	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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369	CP.WW.44	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
370	CP.SW.001	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience

372	CP.SW.001	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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384	CP.SW.007	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
390	CP.SW.010	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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398	RO.PW.Supply	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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403	RO.RW.Bore #1	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
404	RO.RW.Bore(32P) RW.Tanks(32P)	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
407	RO.PW.Sample Taps	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
409	RO.PW.29TA	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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415	RO.PW.29TA	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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423	RO.PW.Modular Reservoirs	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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432	RO.PW.24P PS	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
434	RO.PW.Modular PS	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
435	RO.FW.24P PS	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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453	RO.PW.Retic 02K & N	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
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463	RO.PW.High Risk BF	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
466	RO.PW.Reticulation SCADA	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
467	RO.PW Resilience Upgrades	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
478	RO.WW.Gravity Garden & Rubbish Dump	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
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513	RM.PW.015	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience

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526	RM.PW.027	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
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547	RM.PW.041	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
548	RM.PW.042	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
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552	RM.PW.046	Not in scope according to matrix	Not in scope according to matrix	Proactive Stewardship	Strategic Resilience
560	RM.WW.008	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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562	RM.WW.010	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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608	CW.PW.008	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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627	WG.PW.003	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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655	No Asset ID	Not in scope according to matrix	Minimum Compliance	Proactive Stewardship	Strategic Resilience
656	No Asset ID	High Urgency Issues Only	Minimum Compliance	Proactive Stewardship	Strategic Resilience
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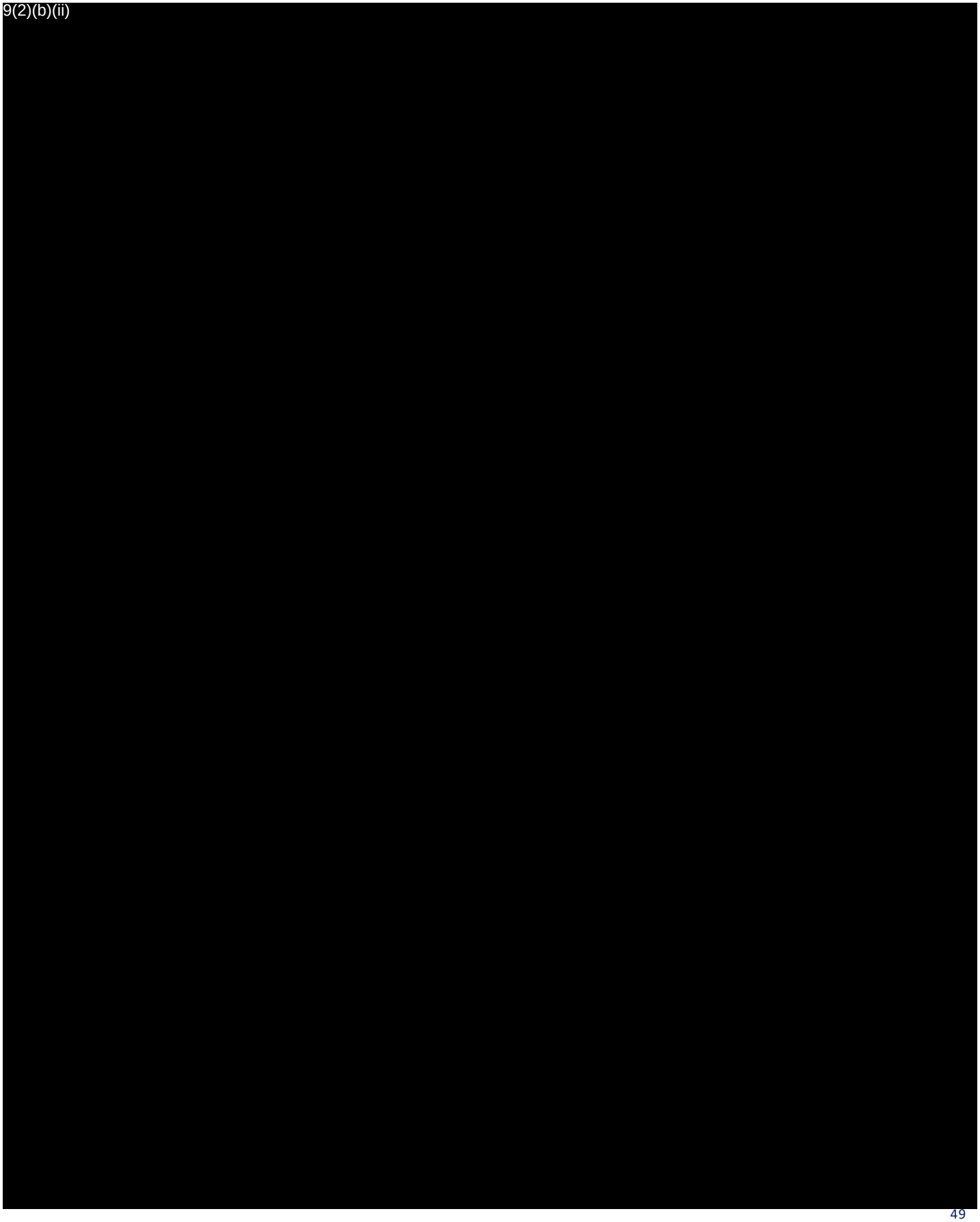
736	No Asset ID	Not in scope according to matrix	Not in scope according to matrix	Not in scope according to matrix	Strategic Resilience

Appendix O: Risk Allocation Table for the 9(2)(b)(ii) model

Note: The table below has been taken/adapted from the Construction Procurement guidelines – further tailoring and/or alignment to wider risks within the Detailed Business Case (DBC) will/may be required, or amalgamated elsewhere within the DBC if risks are consolidated at DBC level and stated elsewhere in the document.

9(2)(b)(ii)



9(2)(b)(ii)

Appendix P: Tranche 2A Construction Procurement Strategy

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ARA POUTAMA AOTEAROA
DEPARTMENT OF CORRECTIONS

Tranche 2A Construction Procurement Strategy

Waters Infrastructure Programme (WIP)

WIP Procurement Lead (Author):	Rohit Chandra
WIP Programme Manager:	Dan Comber
Senior Responsible Owner:	Peter Kearney
Date:	16 December 2022
Version:	5.0
Status:	**FINAL**

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Document Control

Document Information	
Document ID	**Waters Infrastructure Program (WIP) Construction Procurement Strategy – Tranche 2A**
Release Date	**16 December 2022**

Document History		
Version	**Issue Date**	**Changes**
Draft v1.0	5 September 2022	First Draft (not released)
Draft v2.0	11 November 2022	Released to WIP Steering Group for review and feedback
Draft v3.0	18 November 2022	NPT (Brian Davies) Review & feedback received
Final v4.0	28 November 2022	Feedback and comments incorporated from all reviewers.
Final v5.0	16 December 2022	NPT (Brian Davies) Review & changes

Reviewer	Title/Team	Review Date	Status
WIP SGC	Steering Group	14 November 2022	Comments incorporated
Dan Comber	WIP Programme Manager	21 November 2022	Comments incorporated
Brian Davies	Manager Strategic Procurement (Procurement Business Partner), National Procurement Team	17 November 2022 28 November 2022 16 December 2022	Feedback provided via Tracked Changes v3.0, v4.0 and v5.0, and comments incorporated

Document Approvals

By signing this document, the following individuals confirm they approve the document and accept the responsibilities as set out in this plan and the accountability for the safe delivery of this strategy

Name	Role	Signature	Sign-off Date
Tod Cooper	Director Procurement, National Procurement	(Endorse)	<date>
Stephen O'Neill	Director Asset Management & Chair of WIP Steering Group Committee	(Approve)	<date>

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DOCUMENT PURPOSE

Purpose

The purpose of this document is to outline the Waters Infrastructure Programme (WIP) Tranche 2A Construction Procurement Strategy so that WIP procurement and construction outcomes are achieved in the most effective manner, aligned to Government Procurement Rules (GPR) and Principles, and are fit-for-purpose and appropriate for the Department of Corrections. This procurement strategy document is to be used to support and inform the Commercial Case in the WIP Programme Business Case (PBC) and the 9(2)(b)(ii) for 9(2) It also aligns to the Department's Supplier Relationship Management Framework for all Key and Critical suppliers.

Specifically, this document is to encapsulate the analysis undertaken (where options have been evaluated and have provided conclusion at the best-fit solution) and recommends one or more preferred commercial delivery models and preferred procurement approaches in relation to the procurement activity for WIP Tranche 2A. In this respect it is a procurement strategy document that relates to the process for considering and deciding the most appropriate sourcing and delivery model, and our approach to market for a specific project or projects.

Note that this document is not a Procurement Plan, which is the execution plan for delivering the procurement strategy during the sourcing phase of the procurement lifecycle. A separate Procurement Plan will be developed specific to the requirements of the 5 sites once the results of the site investigations have been completed and the investment options and the construction requirements detail has been specified for each site. At that stage the Procurement Plan will address the specific delivery model and approach to market in the context of the site requirements of the supplier market at that time, governance, key stakeholders and their responsibilities, cost estimates and budget, tender deliverables, timelines and milestones, probity requirements, and tender evaluation requirements amongst other relevant criteria.

This Tranche 2A Construction Procurement Strategy is the agreed strategy and plan between this Programme and key Department of Corrections stakeholders.

Consultation (on development of this paper)

In the development of this document, including analysis, the following external parties have been consulted:

1. **The Building Intelligence Group (TBIG)** (Lead advisors on Tranche 2A Construction procurement strategy, market approach and market sounding) Refer to full report in Appendix 2.
2. **TSA** (Construction Procurement Advisory and WIP Procurement Workshop leads on WIP evaluation criteria and commercial delivery model assessment)
3. **Ernst & Young (EY)** (Desktop (NZ) Market scan of construction main contractors and design consultancies, and market conditions/environment) Refer to full report in Appendix 2.
4. 9(2)(h)
5. **NZ Infrastructure Commission ('Infracom' / Te Waihanga)** (NZ Government construction pipeline)
6. **MBIE** - Construction Procurement Guidelines and Government Procurement Rules
7. **Audit NZ** (Probity Assurance)

Assumptions

This contractor procurement strategies presented in this paper are underpinned by the following assumptions, each of which could be a significant programme and project risk if not valid. It is assumed that:

- The strategic case for the project is unlikely to be impacted by the results post 2023 general elections.
- Current construction market dynamics, and any impact they may have on project time, cost, and risk, is manageable within acceptable parameters from an economic and financial case perspective.
- It is palatable, from a cost mitigation perspective, to place orders for the supply of long lead-time items, directly or indirectly, including paying deposits.
- A Detailed Business Case (DBC) is required for approval of project funding for Financial Year 23/24.

BACKGROUND

Sector Overview - NZ

The construction sector in New Zealand contributes around 7% of the national GDP, employing c. 275,000 New Zealanders. At around $10 billion per annum, approximately 50% of the construction spend is procured by the public sector. The construction market size in New Zealand was valued at $55.1 billion in the year 2021. The construction market in New Zealand is expected to grow at a rate of more than 3% during the period 2023-2026.

Commercial construction, industrial construction, infrastructure construction, energy and utilities construction, institutional construction and residential construction are the key sectors in the New Zealand construction market

The three waters market, within the wider construction sector, is significant in scale with an estimated asset value of over $70 billion. From Water New Zealand's 2020/2021 National Performance Review, of the 38 local authorities that participated, the assets include:

- 339 water treatment plants and 193 wastewater treatment plants
- Over 87,000kms of network for water, wastewater and stormwater
- 3,972 water, wastewater and stormwater pump stations

Water assets are largely owned and operated by New Zealand's 67 local authorities and Crown entities such as Corrections, Department of Conservation and New Zealand Defence Force. The sector is serviced by a complex market through a range of arrangements to deliver three waters services. This includes:

- In-house business units within local authorities / Crown entities
- Council-Controlled Organisations (CCO) e.g. Watercare in Auckland and Wellington Water
- Third-party supply arrangements to access capabilities of water service providers, engineers and other specialists
- Private contractors and sub-contractors for construction, operations and maintenance services

Overall, the water infrastructure sector consists of approximately 4,900 staff who support the delivery of services to 4.3 million customers.

Market COVID19 Impacts

New Zealand's construction sector had already been in crisis prior to COVID-19, with the key issues identified by the Construction Sector Accord comprising skills and labour shortages, poor risk allocation, unclear regulations, and a lack of a visible, coordinated pipeline of work.

COVID has exacerbated impacts on the already fragile construction sector, which is still feeling the pressures of:

- Financial stability.
- Lower risk appetites, with risk uncertainty being priced into tenders, or suppliers being selective in regards what they bid for.
- Previously closed international boarders are now open, softening the steep escalations being experienced in supply chains and resource constraints.
- High potential for escalation of projects as a result of the above, requiring increased contingency provisions, or projects being re-evaluated.
- Limited capacity to deliver civil works as the water sector is increasing demand across public and private entities.

Procurement approaches should recognise that the conditions above have turned the market from a 'buyers' market to a 'sellers' market and project risk profiles are changing significantly[1].

There is an unprecedented level of infrastructure investment planned over the next decade within New Zealand (NZ), with the most recent Te Waihanga report estimating the pipeline of water sector infrastructure works across NZ to be $10.5b out to 2027. The Government's 3 Waters reform programme, as facilitated by the Department of Internal Affairs (DIA), and the proposed future water entities as part of those legislative reforms under control of Taumata Arowai, the new water services regulator, will take priority in the market due to their substantial programmes providing certainty of work to contractors and consultants.

Examples of the scale of larger programmes include:

- Watercare Service Limited (Auckland) with an anticipated spend of $18.5b over the next 20 years (2021-2041)
- Wellington Water (Greater Wellington Region) has a budget of $230m per annum, with an expected 30% growth year on year.
- Defence Estate Infrastructure (DEI) is investing $2.3b over 10 years.

Ara Poutama Aotearoa - Waters Infrastructure Program

Overview

Ara Poutama Aotearoa is responsible for a significant network of 3 Waters (3W) infrastructure across its 18 prison sites – that is, an infrastructure for drinking (potable) water, stormwater, and wastewater – across its prison sites. Across many prison sites, the quality (condition) of this 3W infrastructure is quite uneven. For example:

- A desktop study completed in 2021 indicates that approximately 70% of the infrastructure presents an unacceptable risk of service failure. This is problematic because a failure of 3W services can have consequences for the Department's ability to manage people in its care.
- Parts of the current infrastructure is non-compliant. The Department is unable to fully meet community or custodial expectations or legal obligations – e.g., in terms of new 3W legislation, Resource Management Act (RMA), and supply agreements. The compliance risks are such that enforcement action and unplanned prison closures could result.

Waters Infrastructure Programme – Work Programme

The Waters Infrastructure Program (WIP) is the Department's primary response to this situation and is the strategic response to addressing 3W risks and challenges. The WIP programme of work forms the basis of investment in the 3W's. WIP's overall investment objectives are to ensure that prison facilities have reliable 3W service provision by FY35/36, and meet regulatory requirements for human health, and for environmental standards, by FY25/26.

A Programme Business Case (PBC) was approved by Cabinet in August 2021, with the PBC noting that the Programme would be delivered at an approximate cost of $486m in four Tranches over a 16-year delivery period, with Tranche 1 commencing July 2021.

[1] Agile Procurement in the Water Sector June 2020 – Department of Internal Affairs chrome https://taituara.org.nz/Attachment?Action=Download&Attachment_id=2265

The WIP Programme Management Plan (PMP), approved by the WIP Steering Group Committee (SGC) in August 2022, updates the delivery planning for Tranche 1 and the wider programme from what was originally set out in the WIP PBC. Current planning as per the PMP assumes that full delivery of WIP will extend over 14 years through two tranches and three stages within Tranche 2, as follows.

Tranche	Stage	Period	Fiscal year	Estimate	Funded
Tranche 1	Prepare (Lay foundations)	2 years	2021/22-2022/23	9(2)(b)(ii) [redacted]	$22.70m
Tranche 2	Stage A -Reduce critical risks	4 years	2023/24-2026/27	[redacted]	-
Tranche 2	Stage B - Build Resilience	4 years	2027/28-2030/31	[redacted]	-
Tranche 2	Stage C - Future Focused	4 years	2031/32-2034/35	[redacted]	-
	Total	**16 years**	**2021/22 – 2034/35**	**$485.55m**	**$22.70m**

The present PMP assumes:

- The same overall PBC-funded WIP budget.
- The same general structure including logic regarding staging, e.g., risk-based.
- Assumes a reduced overall period for WIP: 14 rather than 16 years. This follows from revisions to the periods for Tranche 2 (four rather than three years; now reconfigured as Tranche 2B) and previous Tranche 4 (four rather than seven years; now reconfigured as Tranche 2C).
- Specifies two rather than four Tranches, albeit with the second having three Stages.

Under the PBC, sizable investigative activity would occur up to year 9 of the programme. The new planning assumption is that all on-site and other investigations will be complete during Tranche 1 (30 June 2023). The new Tranche 2 will be focused on construction, although the delivery approach will not be 'big bang'. Instead, it is anticipated that construction will be organised around three four-year stages, as outlined above.

Although Tranche 1 will see physical works at a limited number of prison sites, its focus is preparing for construction delivery during the three Stages of Tranche 2 and especially Tranche 2A. It is recognised that compliance and wider risk management will continue to be required as construction delivery proceeds.

Tranche 1 will close substantial gaps in the lack of the Department's knowledge about its 3W infrastructure, as well as build the Department's capability and capacity to manage its 3W assets. In this sense, Tranche 1 will set the scene for all other activity in the Programme. The three Stages of Tranche 2 will include further consideration of 3W assets at each in-scope prison site – but in the context of construction and other delivery planning only (e.g., construction design). A summary of the Tranches is outlined below:

Tranche 1: Prepare

Tranche 1 will:

- Develop the Department's capacity and capability to manage its 3W assets, e.g., by establishing 3W plans, policies, and frameworks, including in the context of new legislative requirements.
- Increase the availability of 3W asset information, through completion of on-site and other investigations, and through development of associated databases.
- Deliver projects that mitigate already-known critical risks at a limited number of prisons, and in one case 9(2)(b)(ii) [redacted].
- Identify investment options for Tranche 2, and plan their implementation, including in terms of procurement and construction management.
- Establish foundations for internal and external stakeholder engagement.

Tranche 2A

Tranche 2A will:

- Embed improvements (capacity and capability) to how the Department manages its 3W assets, building on steps taken in Tranche 1.
- Use plans, frameworks, and policies produced in Tranche 1 to optimise use of current assets, e.g., in terms of leak detection and critical spares management.
- Implement capital projects and other improvements at in-scope prisons. Often this will be on a site-by-site basis, for reasons of efficiency, cost, and procurement. However, the overall aim will be to reduce remaining critical 3W risks to no more than 'high' level risks', including asset failure.
- Confirm that prison facilities meet regulatory requirements for human health and environment standards (by FY2526 – Investment Objective 2).
- Identify investment options for Tranche 2B and plan their implementation.

A geographical summary of sites (and projects) in scope for Tranche 2A is presented in Appendices. The following 5 sites (subject to site investigations by Downer) are in scope for Tranche 2A, for which site investigations have been completed by Downer in early October 2022 and Site Assessment reports (SAR) for each site have been issued by Stantec on 28 October 2022:

1. Mt Eden Corrections Facility (MECF)
2. Rimutaka Prison (RM)
3. Arohata Prison (AP)
4. Christchurch Men's Prison (CMP)
5. Rolleston Prison (RO)

The investigations in relation to these sites encompassed leak detection, CCTV, potholing, inflow & infiltration, topographical surveys and above ground system condition assessments.

Included in scope are three other prison sites (and including Christchurch Men's Prison being the fourth site for Water safety Plan but also listed above as an investigated site), for which the Department is responsible for potable water supply and not only potable water distribution, and so must submit a Water Safety Plan (WSP) for each to Taumata Arowai – the water services regulator – no later than November 2022 given new legislative requirements. The investment options presented in the DBC will account for implementation of these WSPs and any new construction associated with bringing water safety standards up to date. These 4 sites are:

1. Waikeria Prison (WK)
2. Whanganui Prison (WHG)
3. Christchurch Men's Prison (CMP)
4. Christchurch Women's Prison (CW)

Note that, with the exception of CMP, the other three sites will still have site investigations done (as they are subject to WSP only at this stage) and any resulting construction work/investment in those sites will be a part of subsequent tranches in Tranche 2.

Tranche 2B

During Tranche 2B construction activity will continue to be a on a site-by-site basis. Holding all else equal, delivery will target high-rated 3W risks – compliance and other – aiming to reduce to these than no more than moderate level risks across most sites and water types by FY3031. Activities will include:

- Further optimisation of current assets at sites with the next level risk scores, e.g., pumps and pump stations optimisation.
- Implementing construction projects at relevant prisons so that all 3W high risk issues have been mitigated.
- Identifying investment options for Tranche 2C and planning their implementation.

Tranche 2C

Tranche 2C will focus on reducing 3W risks to moderate or in some cases low level risks across all in-scope sites and water types. Activities will include:

- Construction projects at relevant prisons.
- Confirming that prison facilities have a reliable provision of 3W services (by FY3536 – investment objective 1).
- Programme closure, including handover of final deliverables to non-programme ownership, and lessons reporting.

Additional Scope - Whanganui wastewater and stormwater projects

The WIP memo dated 4 July 2022, and titled 'Scope of 3 Waters Programme – inclusion of existing 3W projects' was approved on 7 July 2022, and approved Whanganui Wastewater and Stormwater projects to move within the scope of WIP and within the oversight of the WIP Steering Group Committee (SGC), with the key rationale that while these projects are not currently funded by PBC/DBC-23, they directly serve WIP investment objectives.

Whilst the work packages have been brought into the overall WIP, they have their own procurement approach elsewhere documented.

Whanganui Wastewater

The Whanganui Wastewater project commenced in 2021 prior to the establishment of the WIP and with a separate governance (steering) group to WIP. The project has been set up to remediate the wastewater treatment plant servicing Whanganui Prison which is over 50 years old and in urgent need of upgrade or replacement to meet consent conditions. To remediate the above issues, a new pipeline will be constructed to discharge wastewater to the local Whanganui District Council Wastewater Treatment Plant.

Since its set up, the project has completed detailed design and entered into a 2 stage procurement process (for a main contractor) for construction of firstly Registration of Interest (RoI), followed by Request for Proposal (RFP) (Tender). This procurement process (RoI) commenced in May/June 2022, with the RoI stating that a RFP would subsequently be issued on 15 August 2022 and the contract (Main contractor) would be in place by November 2022. As this process has been delayed due to various issues, with the RFP never being issued to the market, and given the timing of where the project now is (i.e., this project now coincides with the WIP T2A construction procurement planning), and from a strategic point of view, the Whanganui wastewater project has been folded in the overall scope of the T2A construction procurement strategy with the WIP Steering Group having approved this on 14 November 2022.

The key difference to note however is that while the Whanganui Wastewater is in scope of WIP Tranche 2A, it will still be subject to its own procurement plan and approach (which will be a go-to-market (RFP) approach in early 2023 for a main contractor as detailed design has been completed.)

Whanganui Stormwater

This project is also included in the scope of this WIP T2A Procurement Strategy. During Tranche 1, the Whanganui Storm Water Project completed repair and relining of the existing storm water network. Tranche 2 will now see the installation of new storm water filters, bio-retention (rain garden) scheme and green outfall areas. The Department sought to renew a Resource Consent to discharge storm water from the prison to local water bodies when it expired in 2013. As the current discharge no longer meets Horizons Regional Council's One Plan requirements, significant investigation, analysis, and design was completed to lodge for a new consent which was approved in April 2021. The consent was subsequently appealed and has been held up in the Environmental Court. Agreement with the appellant has now been reached for the appeal to be lifted subject to a number of conditions being included in the consent. Once Resource Consent is granted, the Department has three (3) years to meet all the consent conditions. The status and timing of where this project now currently sits means that it is now included within the scope of WIP Tranche 2A.

CURRENT AM/FM CONTRACT

Downer is the incumbent facilities maintenance (FM) provider for the Department of Corrections. (With Cushman and Wakefield holding the FM contract at our two PPP sites in Auckland and Waikeria). Downer has 230 FTE staff across the 16 sites working on the FM contract which has a 9(2)(b)(ii) .

Corrections use 'quotable works' as a mechanism under the current FM contracts for additional scope of works to which Downer undertook 9(2)(b) of 'new' 3 Waters replacement works last year (2021, NZ wide). Downer is currently working at the Ohakea and Waiouru sites regarding water service replacement works.

Currently delivered under quotable works include:

- Planned asset replacements 9(2)(b)(ii)
- Other lower value projects 9(2)(b)(ii)
- Minor capital works 9(2)(b)(ii)

Part of the current contract is to escort contractors around and 'manage the site' which needs to be contractually managed by Corrections during any procurement and planning processes.

9(2)(b)(ii)

9(2)(h)

construction principles and applicable definitions

The WIP Construction Workstream has defined a set of construction principles (as tabulated below) that will be used to guide decisions during both Tranche 1 and Tranche 2 regarding which construction projects (for the 16 prison sites in scope for WIP) will be treated as in scope for WIP.

Summary	Principle	Implications
All material 3W capex projects within scope	A CAPEX project is within WIP's scope if its primary deliverable is an improvement to the Department's 3W infrastructure and/or compliance, and its scale/scope is not better managed within the PAR programme, and without direct WIP SG oversight.	Some constructions projects historically delivered under the Planned Asset Replacement (PAR) programme associated with facilities management delivery will be delivered under WIP instead. On the other hand, some minor/less complex 3W-related items will continue to be managed under the PAR programme.
New as well as existing 3W capex projects	All existing 3W construction projects are within WIP's scope – not only new 3W projects arising from physical and other investigations commissioned by WIP and funded through the WIP PBC.	Some historic 3W projects will now fall under WIP's scope. However, reporting, including to external parties (e.g., TSY) will record different funding sources as appropriate.
At all prison sites, (Except Invercargill and Manawatu)	Except for Invercargill and Manawatu sites, no prison is excluded from WIP's construction delivery scope, although construction delivery for a site will be highly conditional on prison-specific characteristics (e.g., PPP status, infrastructure age, network criticality, etc.)	PPP sites are included within WIP's Construction Workstream, assuming 3W construction activity at them is warranted.
Whatever the funding source	A project's inclusion within WIP's scope does not imply that it is funded by the WIP PBC or its successors. Other funding sources are possible.	Some WIP construction projects will be funded from the Department's baseline or separate appropriations. However, reporting, including to external parties (e.g., TSY) will record different funding sources.
Whatever the delivery agent	A project's inclusion with WIP's scope does not imply that its project management will be led by member of the WIP programme team. Other project management arrangements are possible, even if overall oversight is through WIP including WIP SG.	Depending on capacity and other factors, some WIP construction projects could be managed by employees/contractors based in other teams within Asset Management Directorate. On current planning, all WIP-funded construction projects less than $0.25M will be managed through AM-FM and possibility the PAR Programme in particular, with oversight by WIPSG.
WIP SG oversight	If a project is within WIP's scope, the WIP SG has oversight of it, either through a standalone Project Control Group for larger construction projects, or through the soon to be established WIP Construction Working Group.	The WIP Construction Working Group needs to be established so that the WIP SG does not need to provide direct oversight of smaller projects within the programme.

'Interventions' in Programme Business Case

The Programme Business Case also introduced the concept of an 'intervention' as the core planning unit of the PBC. The PBC distinguished five types of intervention: investigations (OPEX); institutional improvements (OPEX); optimisations of current assets (OPEX/CAPEX); asset renewals (CAPEX); and asset replacements (CAPEX).

In broad terms, the 'assets optimisations', 'asset renewals', and 'asset replacements' referenced by the PBC correspond to projects to be delivered under the Construction Workstream. The commercial case in the PBC further define asset (CAPEX) categories as:

- **Asset Renewals/Replacement:** Renewal of existing Infrastructure – Capital expenditure that repairs, remediates, or replaces existing infrastructure e.g. repair and replacement of existing wastewater distribution pipes
- **Asset Optimisations:** Asset optimisation solutions -Activities that seek to optimise the use of existing assets e.g. installation of water efficient devices
- **New infrastructure:** New capital expenditure that provides a new service or function e.g. construction of a new storage tank for potable water

WIP Capex (construction) definitions used in Stantec Site Assessment Reports

Following the conclusion of the 5 site investigations in (T2A scope) by Downer in early October 2022, Stantec produced Site Assessment Reports (SAR) for each site on 28 October 2022. This paper uses the data, costings and results as presented in the SAR reports as at 28 October 2022 to model the T2A construction procurement options presented in this paper.

The SAR takes the investigation findings and classifies these using the CAPEX and OPEX definitions in the table below. The CAPEX definitions below are used for purposes of defining 'Construction' under this procurement strategy and were defined by WIP.

Waters Infrastructure Program (WIP)		**Site assessment report / Investment options report categorisation**	
Asset Investment Category ***(alternative Terms sometimes used in brackets)***	**Investment Category Definition**	**Asset Classification for Site Assessment Report**	**Accg. Treatment (OPEX/CAPEX)**
Build new Asset	This relates to constructing new infrastructure where none existed before or where an existing asset has been entirely replaced for something completely/fundamentally different.	New Asset - Create	CAPEX
Asset Renewal *(Asset Replacement or Asset Refresh)*	These are generally funded from depreciation and replaces existing infrastructure: • For like-for-like replacement of existing assets, or • For similar replacement of existing assets i.e., there may be extra costs to meet additional requirements e.g. technological changes and/or costs in relation to requirements stemming from new standards or government policy that mean the asset is no longer like-for-like but still similar	Asset – Renew/replace	CAPEX
Asset Upgrade *(Asset Improvement)*	Improvements or upgrades that improve capacity, functionality, security or services i.e. existing asset is materially improved in terms of functionality or otherwise but is not replaced.	Asset – Upgrade *(Note: This could be Minor works)*	CAPEX *(Note: there may be some exceptions that are OPEX)*
Repair	Structural Repairs to fix what is broken or damaged, to maintain functionality and ensures current service levels are met. Unplanned (reactive) maintenance on a fix/fail basis.	Maintenance – Reactive/Unplanned *(Typically Lower value)* *(Typically one-off)*	OPEX
Maintain	Preventative maintenance and Corrective works performed on a planned/routine basis to over the life of asset.	Maintenance – Routine/Planned *(Typically ongoing)*	OPEX
Operate	Operational costs including those required to operate the asset e.g., power, fuel, chemicals, staff and the operational cost consequences	Maintenance – Operate	OPEX

Detailed Business Case (DBC-23)

Tranche 1 will produce a Detailed Business Case (DBC) for investment in Tranche 2A and will seek Treasury funding for up to 9(2)(b)(ii) The DBC-23, to be submitted through Budget 23 – will identify the preferred investment option (using multi criteria assessment) which will be carried through the commercial, financial and

management cases. This T2A procurement Strategy will be a key input into the commercial case, with the commercial case developing the recommended procurement preferred option in detail. The DBC-23 Programme options will be as follows:

Option 1: Address High urgency Issues and risks (Address all high urgency regulatory compliance and safety issues)
Option 2: Address High and Medium Urgency issues and risks (Address all high urgency issues and medium urgency regulatory compliance and safety issues
Option3: Address critical issues and risks and build tactical resilience (Address all high and medium urgency issues and look for delivery optimisation)
Option 4: Build Strategic resilience: Address all high and medium urgency issues, look for delivery optimisation opportunities, and include provisional sum for expected resilience investments

To arrive at the preferred option, the options will be scored using the multi criteria assessment framework against 4 (weighted) critical success factors:

Strategic Alignment (40%) - How well does the option reduce the risk of 3 waters failure / non compliance?
Supplier Capacity and Achievability (40%) – How attractive is the package of work for the market and is it achievable in the timeframe required?
Affordability (10%) – Is the option deliverable within the identified funding envelope?
Value for Money (10%) – How well does the option represent good economic value?

It should be noted that the funding value attached to the preferred option will not be the same as the procurement value for Tranche 2A Construction noted in this paper. A key difference will be due to the Whanganui projects as while these projects are within the scope of WIP T2A construction procurement, the department already has funding for these projects.

Estimated construction costs for Tranche 2A construction procurement – 5 sites + WSP[2] 9(2)(b)(ii)

WIP construction cost estimates have been prepared by Stantec Incorporated (Stantec) as at the project definition phase only, and a defined scope of works has been assumed (excluding OPEX, design and consent costs). Max estimates are:
9(2)(b)(ii)

When considering 9(2)(b)(ii) the scope and scale of the procurement packages will influence market interest, capacity, and capability. In terms of scale in comparison to the market, Corrections WIP is 9(2)(b)(ii), as a result, we cannot 9(2)(b)(ii)

Estimated Construction Costs - Tranche 2A

Site / Project	Estimated Construction Costs (Total CAPEX) (Max estimates from Site Assessment Reports)
Mount Eden Correctional Facility	9(2)(b)

[2] The acronym WSP refers to Water Safety Plans (further discussed in Section 7) - Under the Water Services Act 2021, Corrections is now classified as a supplier of drinking water at 4 custodial sites (Whanganui, Waikeria, Christchurch Men's, and Christchurch Women's Prisons), and is required to submit Drinking Water Safety Plans (DWSP) to Taumata Arowai, the new water services regulator.

Rimutaka Prison	9(2)(b)(ii) [redacted]
Arohata Prison	
Rolleston Prison	
Christchurch Men's Prison (also a WSP site)	
Waikeria Prison (WSP site)	
Whanganui Prison (WSP site)	
Christchurch Women's Prison (WSP Site)	
TOTAL FOR SITES & WSP	
With Added Site & WSP contingency (25%)	
With Added WIP Programme contingency (30%)	
Total Added Contingency	
TOTAL TER VALUE	
Whanganui Stormwater (+35% Project contingency for Stage 1)	
Whanganui Wastewater (+ 30% Project contingency)	
TOTAL T2A CONSTRUCTION PROCUREMENT VALUE	

Market Feedback (Market Sounding)

Early market sounding with Tier 1 and 2 contractors and consultants on the engagement of Main Contractor/s and Design and Engineering service providers for WIP, signalled strong preferences for the work to b 9(2)(b)(ii) [redacted]

The following considerations are important in determining the most appropriate and effective procurement strategy for Tranche 2A:

- The incumbent facilities management (FM) contract holders in the Corrections estate (Downer, and Cushman and Wakefield) are expected to be the future maintainers of the assets and improvements as a result of the WIP outcomes.
    - As a result, they are expected to be involved in the WIP in some capacity.
    - Their current FM contract is 9(2)(b)(ii) [redacted] 9(2)(b)(ii) [redacted].
    - It is expected that the new WIP infrastructure contract must complement the existing non WIP FM contract, where possible, including renewal/expiry dates.
- The procurement approach must be compliant with the GPR, Procurement Principles, internal Procurement Policy and align to the Department's Supplier Relationship Management Framework for all Key and Critical suppliers.
- Offer a high level of confidence in a main contractor's ability to safely undertake the works in a secure environment.
- Establish a design and construction delivery approach that achieves a balance between cost surety and risk pricing, that is fair and transparent to all parties.
- Position the procurement in a manner where the required work is bundled in such a way as to as attractive to the market as possible, without putting unnecessary internal costs on delivery and missing the benefit of the impact of timely delivery.
- Engage consultants and contractors who understand constraints and will work collaboratively and flexibly to minimise design re-work, operational disruption, and programme impact.

Commercial Delivery Model

There are a variety of commercial delivery models available within the market that allocate roles, responsibilities, and risks to different parties. Workshops were facilitated (by TSA) with Corrections to evaluate potential delivery models for Tranche 2A, grouped into three broad categories: traditional models, collaborative models, and bundled models.

The following three viable options had been identified as the preferred construction delivery models for Tranche 2A:

- Option A. 9(2)(b)(ii)
- Option B.
- Option C.

Option C. 9(2)(b)(ii) was ranked first in the evaluation workshops when considering just Tranche 2A. This model is 9(2)(b)(ii) . The ranking may reflect thinking around possible options for 9(2)(b)(ii)

This preference allows for 9(2)(b)(ii)

Option C. 9(2)(b)(ii) is our recommended option.

Following a review of the Stantec site-based assessments and, when considering against managing costs, critical infrastructure (risk of failure), access, and geographical locations, there are two possible approaches: 9(2)(b)(ii)

9(2)(b)(ii)

TRANCHE 2A – PROCUREMENT SOURCING OPTIONS

Scope of Sourcing Strategy

This procurement strategy primarily:

1. Focuses on the procurement options (procurement approach and Commercial delivery model) for WIP, and also considers associated design and other professional services (if appropriate under a particular commercial delivery model being used under a strategic option) for the 8 sites in scope in Tranche 2A
2. Follows on from the commercial case in the PBC and updates the procurement strategy for current context and Programme changes since the original PBC and commercial case was written
3. Narrows down on strategic procurement options (and associated commercial delivery models) that are realistic in the current market context, to the specific sites being investigated, that are within Department of Corrections risk and WIP evaluation criteria, and WIP delivery and timing tolerances
4. Provides a 2022 NZ market scan of key construction providers (main contractors) and key design and engineering services providers, and restricts market capacity and capability testing to suppliers identified in this market scan
5. Discusses current market constraints in a post-COVID operating environment and procurement implications arising out of this
6. Assesses market capacity from a targeted market sounding exercise
7. Discusses Contracting options
8. Recommends a preferred Procurement Option (Procurement approach and commercial delivery model)

Included in the scope for T2A construction procurement (and as consistent with the PBC) is:

1. Construction requirements in relation to 3W infrastructure for the 5 sites, including hot water systems external to building envelopes, that services Correction's prison sites only
2. Construction activity related to WSPs for the 4 sites
3. All Construction activity that is considered to be capital expenditure (CAPEX)

The following elements are considered to be out of scope (and as consistent with the PBC):

1. Building mechanical or electrical installed inside a building or on a building as part of a system, such as plumbing pipes, fixtures, fittings, and equipment
2. Other water infrastructure that is not used for 3W purposes, such as standalone irrigation infrastructure
3. 3W infrastructure that services property or land assets owned or operated by Corrections that are not related to prison facilities, such as Community corrections facilities
4. Any construction related requirement/activity that is considered to be operating expenditure (OPEX), such as repair (fail/fix), operate and maintenance activities

Procurement Strategy Considerations

The following considerations are important in determining the most appropriate and beneficial procurement strategy for Tranche 2A:

Topic	Consideration point
Existing AM/FM Provider	The procurement approach must recognise the existing contract arrangements with Downer and, should a new contract for water infrastructure be established, then both contracts must complement each other where possible.
Government Procurement Rules	The procurement approach must be compliant with the GPR, consistent with the Principles of good procurement and aligns to the Department's Supplier Relationship Management Framework for all Key and Critical suppliers.
Secure environments	To support a high level of confidence in a main contractor's ability to safely undertake the works in an extremely secure environment.

Current market dynamics and costs	To establish a design and construction delivery approach that achieves a balance between cost surety and risk pricing, that is fair to all parties.
WIP market placement	To position the procurement in a manner that is attractive to the market.
Programme planning	To engage consultants and contractors who understand constraints and will work collaboratively and flexibly to minimise design re-work, operational disruption, and programme impact.

Procurement Objectives

The following table summarises the procurement objectives which each procurement option has been evaluated against, reflecting what is important to Corrections and how it would signal this to the market in any procurement.

Procurement Objective	Description
Quality	Attract high-caliber participation from the market and secures competent, safe, and capable partner(s) (i.e., no interruption to prison operations and security is maintained at all times).
Time	To provide for efficient delivery through design, constructability, coordination, and sequencing (i.e., efficient on-site work/efficient utilization of time inside the wire and ensuring the primacy of risk reduction).
Broader Outcomes	To provide opportunities to reduce the cycle of reoffending (i.e., Broader Outcomes through opportunities for prisoner education and employment, woman in business and Māori businesses, workforce skills and development).
Risk mitigation	To allocate risk fairly and transparently to the party best able to manage – considering data/data management gaps and operational risks which fall to the Department.
Reputation	To develop and maintain trusting relationships with stakeholders, regulators, councils, and others for the duration of the programme.
Wider engagement	To maintain or improve relationships with mana whenua as part of the WIP

Procurement Strategy Evaluation Criteria

In September and October 2022, TSA facilitated two workshops with Corrections to evaluate potential delivery and procurement models for Trance 2A:

- **Workshop One:** Revision of Evaluation Criteria
- **Workshop Two:** Application of Evaluation Criteria

The PBC assessed a range of potential delivery and procurement models for capital interventions beyond Tranche 1, grouped into three broad categories: traditional models, collaborative models, and bundled models. The different categories represented different outcomes in respect of risk transfer, contract duration and public sector participation. Ten evaluation criteria and their weightings were weighted and scored as part of the procurement model selection process. These criteria were updated and reduced in number as an outcome of Workshop One.

Evaluation Criteria

- **Cost Confidence:** Extent to which procurement approach provides confidence regarding costs against budget at the point of commitment. Lowered weighting to reflect the nature of assets (unknowns). Note: Value-for-money assessments will look beyond price to incorporate asset performance (quality) and public value, including environmental and social factors, into decision-making.
- **Time confidence:** The extent to which the procurement approach provides confidence regarding time to completion at the point of commitment. For example:
    - High-risk facilities (Tranche 2A) are completed on time.
    - Correctional facilities are given timeframes for construction that are met (strict duration for inside the wire – both contractor and operations).
- **Market attractiveness:** The extent to which the procurement approach is attractive to the market given its feedback:
    - Contractor involvement in understanding assets, design, planning and prioritisation, management of risks and resource constraints, overlay of systems & processes and standardised approaches.
- **Flexibility:** Agile enough to provide flexibility to address unanticipated changes in scope, sequencing, timing, priority, or other requirements, but still maintains continuity of correctional facilities operations. For example:
    - If a facility is temporarily closed, then there is the ability to bring forward 3W work
    - If a facility's 3W infrastructure has a status change this can be easily reprioritised.
- **Corrections capability and capacity:** Capability and capacity of Corrections to effectively deliver the procurement method including contract management and interface risk. This is linked to risk allocation; the more risk Corrections accepts the higher the internal capability required, and this has an associated cost.
- **Risk allocation:** The extent to which the procurement approach efficiently allocates and manages risk i.e., responsibility with those best placed to manage the risk. This criterion is linked to:
    - Corrections capability: The more risk you retain the more internal capability is required, which results in higher costs
    - Corrections asset information: The quality of corrections asset information and the outcome of site investigations.
- **Broader Outcomes:** The Government Procurement Rules mandate agencies to consider broader social, cultural, economic, and environmental outcomes within the procurement strategy of major projects, including contribution toward regional economic growth. Consider procurement that supports a Broader Outcomes approach such as reducing reoffending – prisoner education and employment, skills development and health, safety and wellbeing promotion and 'by-design'.

Recommended Strategic Procurement Approach

The sourcing approaches for the two options, national and regional, are as follows:

- Option 1. 9(2)(b)(ii) [redacted]
- Option 2. [redacted]

Another option exists as a variation to Option 1, in that, instead of 9(2)(b)(ii) [redacted], that the Department 9(2)(b)(ii) [redacted]) to undertake the work.

9(2)(b)(ii) [redacted]. **(This is our preferred procurement option for the procurement sourcing approach).**

Risks and Mitigations

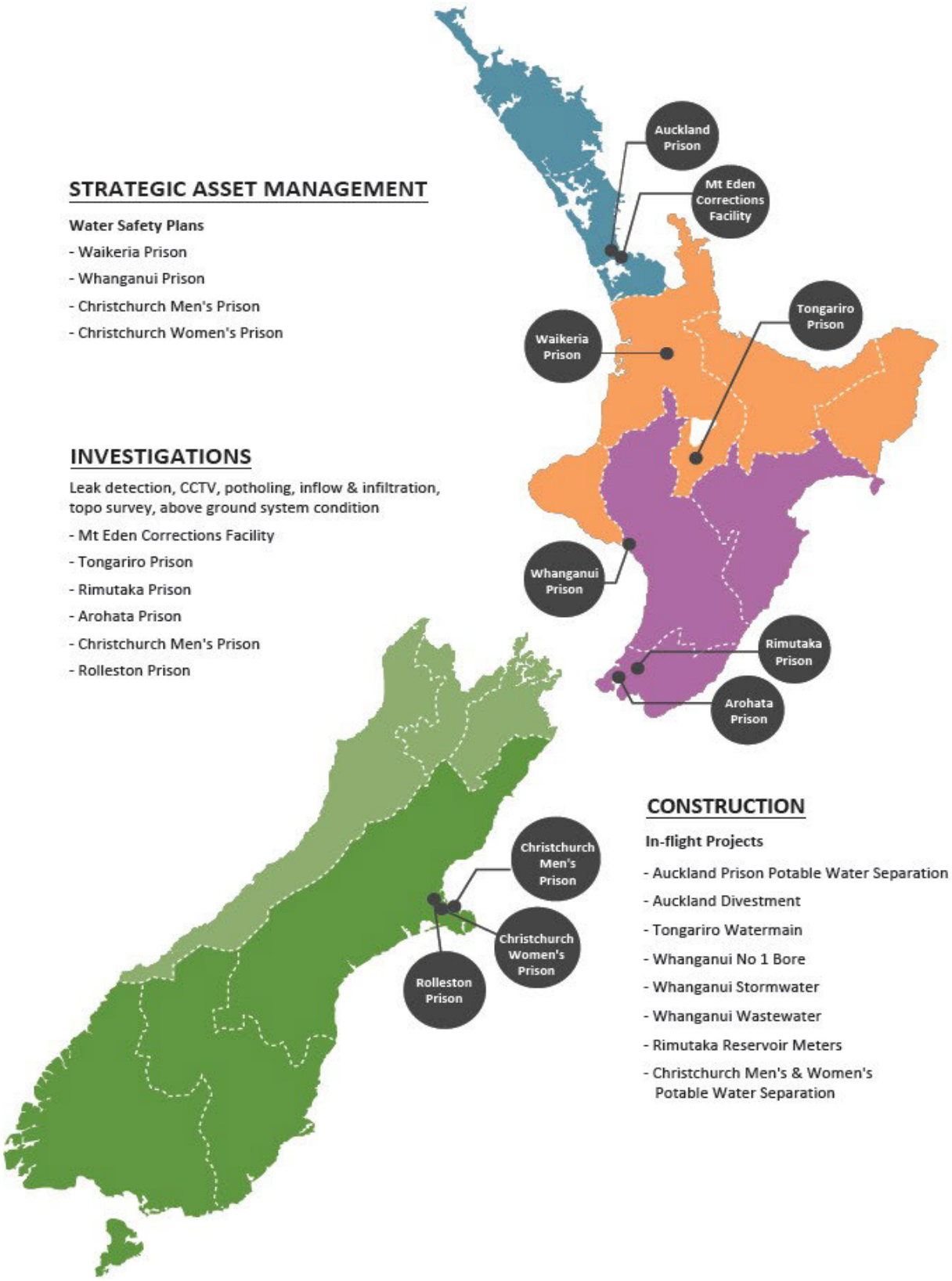
A set of potential risks related to the procurement lifecycle have been identified for consideration. These and other risks such as design change or error, ground conditions, construction delay, supply chain issues, adverse weather conditions, interface issues, and scheduling will be included in a Quantitative Risk Analysis supporting the DBC Economic Case.

Procurement Risks	Impact
9(2)(b)(ii) [redacted]	
Constrained Corrections contract management	Corrections capacity and capability to manage delivery means procured contractors are not well managed. A lack of organisation capacity and/or capability could impact the ability of Corrections to deliver the programme, resulting in inadequate/ineffective engagement and strategic risk i.e. misaligned procurement and programme delivery strategies An initial set of key 'institutional improvement' deliverables are nearing completion.
9(2)(b)(ii) [redacted]	
Interface frictions	Downer contract ends in Nov 2028 (with 2 years further rights of renewal), scheduled during Tranche 2A construction period. Interface risks exist if a separate contractor is engaged, with new assets being handed over to Downer for ongoing maintenance. There resides a question on who holds responsibility for maintaining replaced/renewed assets post-implementation (e.g. warranty periods and ongoing maintenance).
WIP scale in 3 Waters market	Individual WIP projects (sites) are not considered large compared to council programmes. Project-by-project procurement and delivery approach is not appealing to the contractor and consultant markets, resulting in limited tender responses. The size, scale and/or timing of the programme does not allow for sufficient economies of scale, or presents limited opportunities for contractor competition
Poor quality/insufficient design documentation	Material changes to Tranche 2A scope, scale, cost, or timing because of incomplete and/or inaccurate information and assumptions underlying the procurement process. Client instigated change in design during procurement or construction stages result in programme delays, cost uncertainty, additional risk taken by Corrections.
Constrained market capacity	Limited professional expertise and supplier availability due to wider national pipeline demand, three waters reform, low immigration due to COVID-19 and highly specialised nature of water supply treatment. Water reform and WSE programmes will take priority. Designers can increase capacity easily, (remote working, offshore, centralised, automating). The pinch point will be contractors and their capacity nationally. Contractors do a mix of self-performing and sub-contracting to increase capacity. Lack of competition impacts value for money if suppliers create a premium. Market engagement feedbacks supports this risk and is likely to remain a key consideration
Incomplete asset information	Uneven 3W asset information does not allow for complete pricing/methodologies to be developed prior to construction leading to onsite variations. This impacts delivery planning (including costing) and contractor

	implementation. Poor information impacting design timeframe and risk transference.
Risk sharing	The passing on of risk by stealth to 9(2)(b)(ii) leads to poor performance and poor outcomes. Contract Special Conditions that form part of the contracts are fair and that 9(2)(b)(ii) are agreed early in the project so tha 9(2)(b)(ii) .
Cost escalations	Cost escalation occurs as such that contractor management is especially important. EY supplied information suggesting this is still a major risk factor.

APPENDICES

APPENDIX 1: SITES/PROJECTS IN SCOPE FOR TRANCHE 2A CONSTRUCTION PROCUREMENT



Note: ***Of the In-flight projects listed under construction, only Whanganui Wastewater and Whanganui Stormwater Projects are in scope for Tranche 2A Construction Procurement***

Ernst & Young (EY) 3 Waters NZ Market Scan Report

Corrections 3W
Market Scan Report (I

The Building Intelligence Group (TBIG) targeted market sounding report

WIP Market Sounding
Summary Report - FIN

9(2)(h)

Appendix 3: Site Profile - Mt Eden Correctional Facility

Facility Summary

- Located in the central Auckland suburb of Mt Eden.
- Constructed in 1856 as a military stockade. The site has undergone several construction phases that have increased capacity.
- Accommodates high to maximum security, low to high security including remand prisoners.
- 1 of 3 Prisons in the Northern Region.
- Specialist units on-site include: Intervention and Support Unit, Drug Treatment Unit, Matapuna STU, High Risk Personality Profile Programme, Youth Unit and Self-Care Units.
- Staff Numbers – 527
- Operational Capacity – 1,112
- Maximum Capacity – 1,299

3 Waters Key Facts

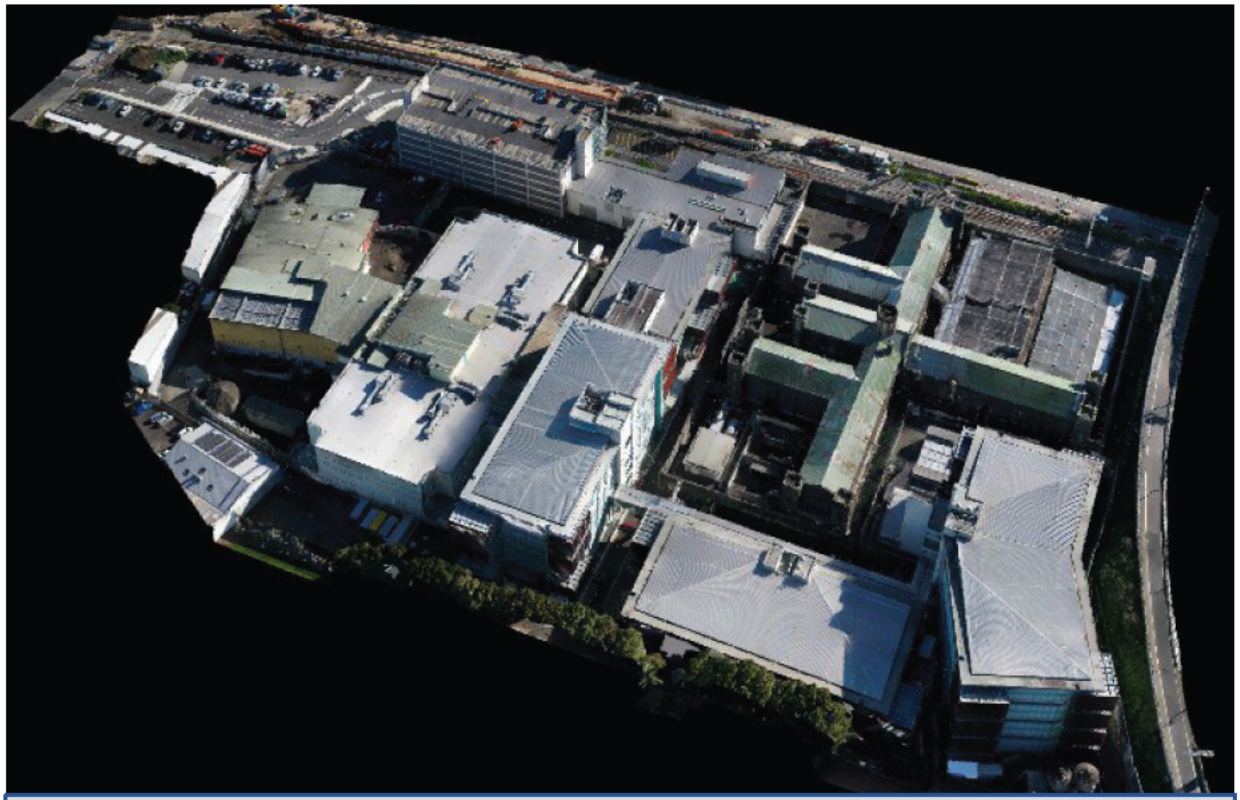
Average Potable Water Daily Demand
180 m3/day

# of Reservoirs / Capacity
1 off (300 m3)

Potable Water Pipework
1,755m

Waste Water Pipework
2,844m

Stormwater Pipework
2,450m



Stantec Site Assessment Report – Key findings (High urgency and critical items >9(2)(b)(ii) CAPEX):
Stormwater: Replace both Water supply lines; provide new 6(c) [redacted] rehabilitate 300m3 tank; re-tension external wire ropes and replace any damaged timber planks around reservoir; replace all 3 booster pumps; replace approx. 120m of existing pipe with new DN150 HDPE pipework; install monitoring points at each supply point
Wastewater: Improvement of WW2 and 12S Pump Stations; Fix damaged Gravity mains (piping in rock)
Potable Water: Provision of new pipework and backflow assembly; improve 300m3 timber tank reservoir; install BFP devices and flow meters (site wide)

APPENDIX 3.1 : SITE PROFILE – RIMUTAKA PRISON

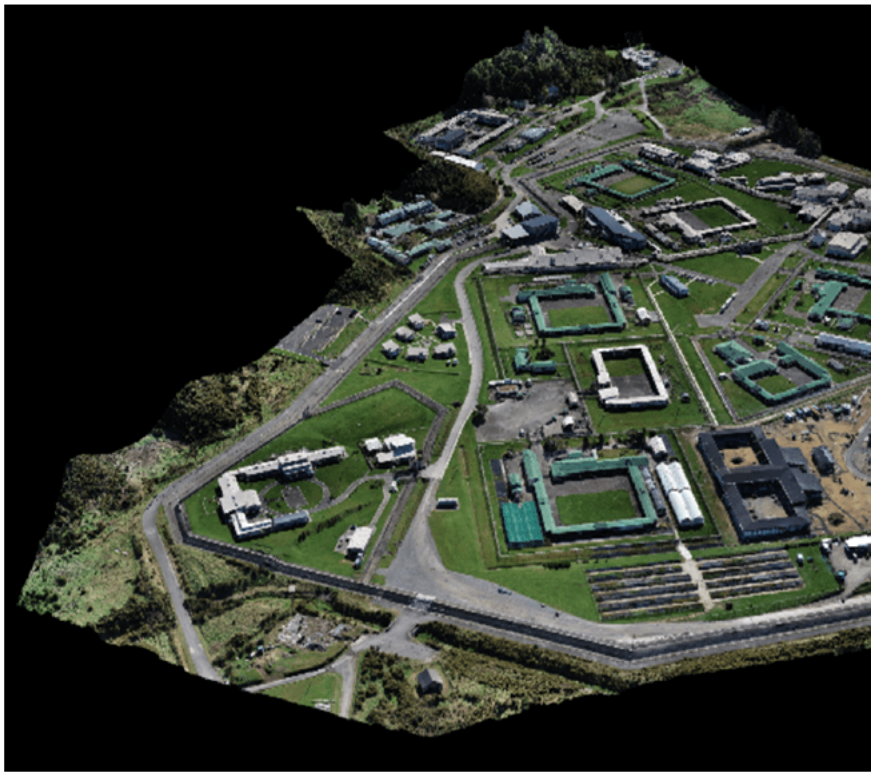
Facility Summary

- Located near suburb of Trentham, Upper Hutt.
- Established in 1967.
- Accommodates minimum to high security prisoners.
- 1 of 5 Prisons in the Lower North Region.
- Specialist units on-site include: Intervention and Support Unit, Drug Treatment Unit, Matapuna STU, High Risk Personality Profile Programme, Youth Unit and Self-Care Units.
- Staff Numbers – 580
- Operational Capacity – 710
- Maximum Capacity – 1,118

3W Critical Assets

Assets that are determined as being ***Critical*** are based on having a high risk of failure, and major consequence to the operation of the site. These include:

- Potable water supply provided from adjacent reservoir that are owned by UHCC.
- These reservoirs also provide water supply for fire fighting.
- Wastewater pump station and macerator, as well as outlet gravity and pressure mains.
- Stormwater intake sumps and open channels.
- Al pipework due to overall age and risk from possible Asbestos Containing Material (ACM).



Stantec Site Assessment Report – Key findings (High urgency and critical items 9(2)(b)(ii) CAPEX):

Wastewater: Improve/replace Wastewater pump station at Te Korowai (Staff college)

Stormwater: N/A

Potable Water: Improve unit 7 pipelines (152m); Install sample taps (approx.. 20); upgrade valve connections and chambers

APPENDIX 3.2: AROHATA PRISON SITE PROFILE

Facility Summary

- Located in the Wellington Suburb of Tawa.
- Constructed in 1944 as a Women's Borstal.
- It became a Women's Prison in 1987.
- Accommodates minimum to high security including remand prisoners.
- 1 of 3 Women's Prisons in New Zealand.
- Specialist units on-site include: Intervention and Support Unit, Mothers and Babies Unit, Drug Treatment Unit, Matapuna STU, Youth Unit and Self-Care Units.
- Staff Numbers – 144
- Average Capacity – 98
- Operational Capacity – 164
- Maximum Capacity – 173

3W Critical Assets

Assets that are determined as being ***Critical*** are based on having a high risk of failure, and major consequence to the operation of the site. These include:

- Reservoirs (support fire fighting capability on-site);
- Potable, Storm and Waste Water have single point of connection into towns main.
- Sewage macerators and pumps;
- Age of pipework that includes Asbestos Containing Material (ACM).

Stantec Site Assessment Report – Key findings (High urgency and critical items > 9(2)(b)(ii) - CAPEX):

Wastewater: Improve/replace Pump station wet well at 49P for self-care facility; Improve/replace 2 x 150mm RC discharge pipe to municipal network from site (320m); 150mm GEW WW pipe (121m) from 44c to 18F & 150mm RC from MH 15 to MH 12 (40m)

Stormwater: Improve/replace 3 x Concrete headwalls as per asbuilts and culverts at 42S within infiltration zone

Potable Water: Fire pump at self-care unit shed 29F; 150mm of assumed CLS pipe (280m) ring main x2; Pump station wet well at 49P self-care facility - Replace with new package type wastewater pump station; 2 x 150mm discharge pipe to municipal network from the site x2 (320m); 150mm GEW WW pipe (121m) from 44C to 18F & 150mm from MH 15 to MH 12 (40m); install 8 x sample taps;

APPENDIX 3.3: CHRISTCHURCH MEN'S PRISON SITE PROFILE

Facility Summary

- Located on outskirts of Christchurch.
- Established in 1915.
- Accommodates minimum to high security and remand prisoners.
- 1 of 5 Prisons in the Southern Region.
- Specialist units on-site include: Intervention and Support Unit, Drug Treatment Unit, Matapuna STU, High Risk Personality Profile Programme, Youth Unit and Self-Care Units.
- Staff Numbers – 626
- Operational Capacity – 841
- Maximum Capacity – 966

3W Critical Assets

Assets that are determined as being ***Critical*** are based on having a high risk of failure, and major consequence to the operation of the site. These include:

- Potable water supply provided from on-site bores.
- Potable water supply bores, storage tanks, booster pumps stations and chlorine dosing facilities.
- Wastewater pump stations, macerators and associated storage chambers.
- Stormwater intake sumps, soak pits, ponds and stormwater storage tank.
- Al pipework due to overall age and risk from possible Asbestos Containing Material (ACM).

Stantec Site Assessment Report – Key findings (High urgency and critical items > 9(2)(b) - CAPEX):
Wastewater: Improve/replace Internal Macerator pump station (54S) x 6; Improve internal pump station (54S) wet well; improve/replace pump station at T14 for CIE industries buildings; improve replace gravity mains 150mm AC pipe (110mm) from 67M to 32J, and from 14G to 10F
Stormwater: Pre-treatment of stormwater at Industries Road -Workshop 19W; Improve Stormwater Sumps at staff carpark
Potable Water: WSP Improvements – 56P potable water treatment Plant; WSP improvements – Water bore 56P; improve/replace 150NB AC pipe (396m) – PW ring main; improve/replace 150NB AC pipe (>471m) from CP to farms and housing on Paparua drive; 100NB AC pipe (575m) from O2H to RO1 entry/exit Rd.; improve/replace 56T small diesel fire water pump.

Appendix 3.4: Rolleston Prison Site Profile

Facility Summary

- Located west of the Rolleston township, just outside Christchurch.
- Constructed in 1958.
- Accommodates low to high security prisoners.
- 1 of 5 Prisons in the Southern Region.
- Specialist units on-site include: Intervention and Support Unit, Drug Treatment Unit, Matapuna STU, High Risk Personality Profile Programme, Youth Unit and Self-Care Units.
- Staff Numbers – 185
- Operational Capacity – 260
- Maximum Capacity – 260

3W Critical Assets

Assets that are determined as being ***Critical*** are based on having a high risk of failure, and major consequence to the operation of the site. These include:

- Potable water has single point of connection into towns mains.
- Wastewater emergency storage chamber, macerator and pump station.
- Stormwater intake sumps, soak pits, water race and open channel drains.
- Age of pipework that includes Asbestos Containing Material (ACM).

Stantec Site Assessment Report – Key findings (High urgency and critical items >9(2)(b) - CAPEX):
Wastewater: Low value work only re wastewater storage chamber
Stormwater: SW disposal – Modular builds – potential requirement for additional treatment of stormwater to meet new consent for modular build e-coli conditions
Potable Water: Improve/replace Fire water reticulation; Improve Potable Water reticulation – install ring main on site; improve/replace 29T A RCON water tank (circular) infrastructure; improve/replace ittigation bore (at 32P) & 4 x RCON Irrigation water tanks (at 33P)

APPENDIX 4 – BUNDLING APPROACH

Programme is key to delivering successful WIP outcomes and informing the preferred procurement approach. Due to resourcing and logistical challenges with sites spread across NZ, there are reasonable benefits to both 9(2)(b)(ii) delivery models, with key points to consider for each.

All five sites included in Tranche 2A have varying scales of value, complexity and urgency which require interrogation to adequately consider and identify the preferred approach to delivery.

Market Feedback

The scope and scale of the procurement packages will influence market interest, capacity, 9(2)(b)(ii) .

Due to the required resources and costs to bid for tenders, there is a lack of appetite for 9(2)(b)(ii) approach to procurement regarding the WIP programme. There is a risk some, if not most, Tier 1 contractors would not tender if this approach was taken, prioritising other, more significant works on the market. However, this does not prevent a Tier 1 contractor from 9(2)(b)(ii)

The consultant market is going to be drawn towards programmes with continuous work, rather than a stop/start approach, preferring to be on panels not requiring bids.

9(2)(b)(ii)

9(2)(b)(ii) [redacted]

Site Cost Estimates and Complexities

Cost estimates have been prepared by Stantec at the project definition phase only, and a defined scope of works has been assumed. The exact scope of works, the associated concept and hence the overall cost will be refined as we move through the project lifecycle, and hence may differ from that assumed. A contingency or funding risk to account for uncertainty and ill-defined scope has not been added to the estimates.

National Construction Cost Estimates ($m)

9(2)(b)(ii) [redacted]

Regional Construction Cost Estimates ($m)

- Northern Region
- Lower North Region
- Southern Region

9(2)(b)(ii) [redacted]

Refer to Section 6 of this report for detailed cost estimate breakdowns per site.

Figure 1 shows estimated construction-only and total costs per site. When considering 9(2)(b)(ii) [redacted]

9(2)(b)(ii) [redacted]

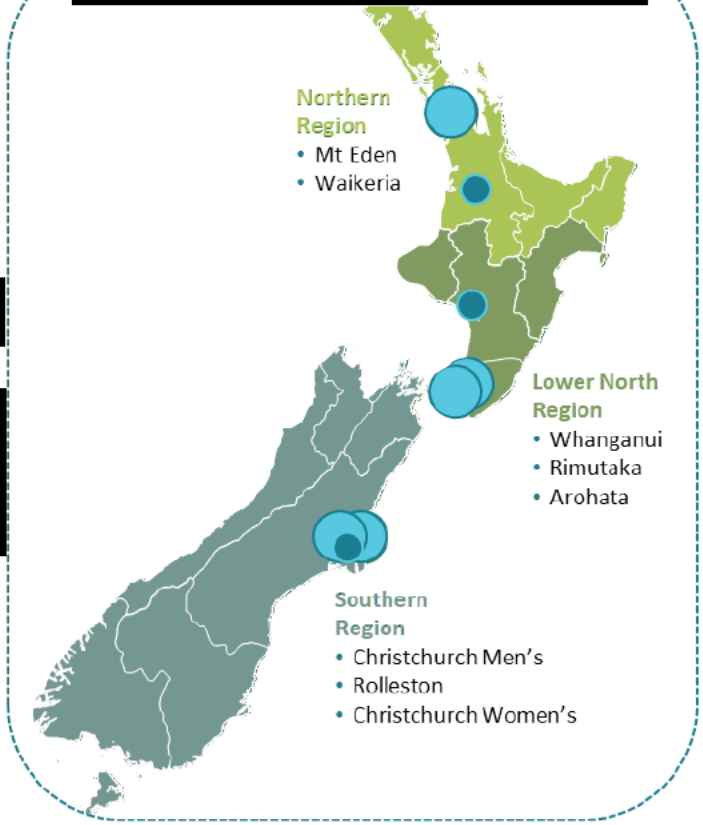


Figure 1: 9(2)(b)(ii) [redacted]

The scope of interventions and their complexity will impact the procurement approach. The more costly, technically complex, and/or risky the project, the more likely that the application of alternative procurement models will be appropriate.

The technical interventions per site is presented as levels of complexity:

- Low – package of works can be undertaken by current FM provider
- Medium – BAU/renewals type of works (e.g. standard drain laying)
- High – specialised contractor/activity/multi-disciplinary (may require out of town support)

It could be assumed that low-complexity and medium-complexity projects could be completed concurrently via one supplier, with high complexity works sub-contracted to specialist suppliers.

Site Urgency

Stantec completed site assessments and documented current understandings of the 3 Water infrastructure at all five Tranche 2A sites, including condition/performance, the associated risk of loss of service (LOS) due to infrastructure failure and/or compliance, and recommended renewal/improvement works that will mitigate this risk.

When looking at master planning, there is a need to establish priorities in terms of risk and make calls on what level of service is appropriate, with immediate fixes being identified in the Water Safety Plans (WSP's).

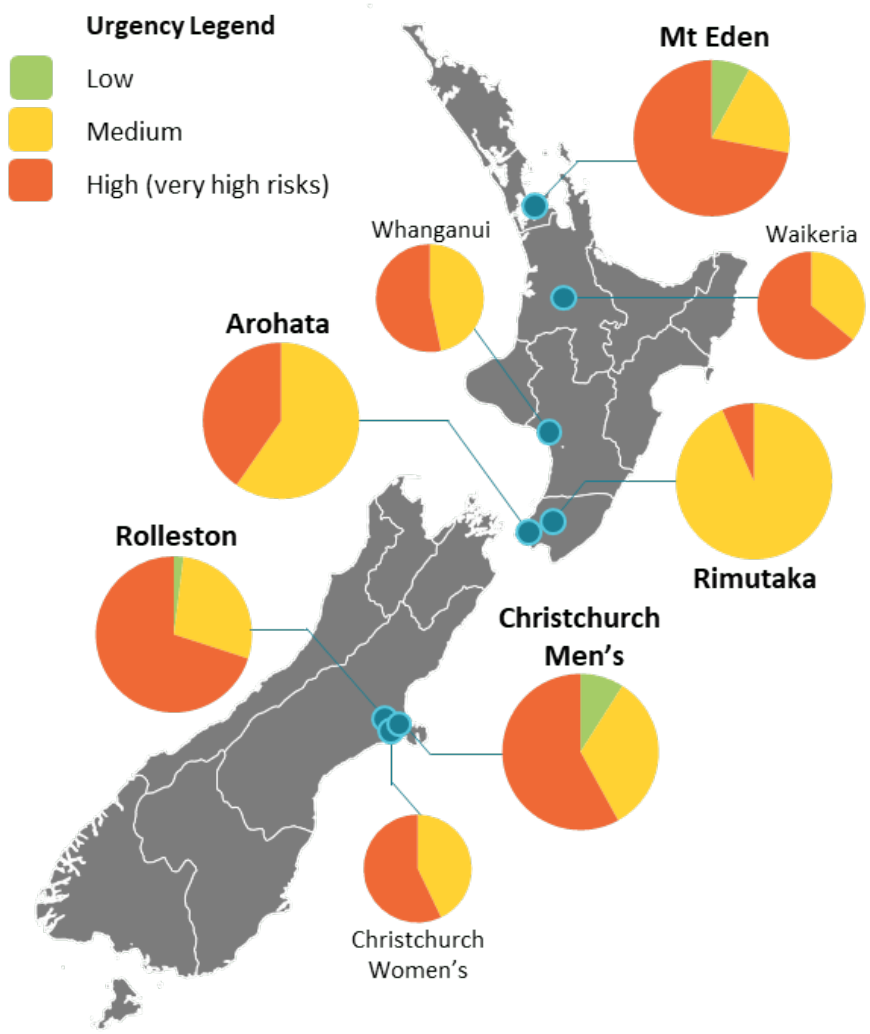


Figure 3: Site urgency

In summary, the following approach had been taken in the site assessment reports:

High Urgency: Any asset with a total risk score of high or very high, a likelihood score of 3 or greater, and any improvement works required to meet the loss of service 2026 targets.

Medium Urgency: Any asset with a total risk score of medium, and a likelihood score of 3 or greater.

Low Urgency: Any asset with a likelihood score of 2 or lower, any asset with a total risk score of low, or works are not required to meet LOS 2026 targets.

Figure 3 shows aggregated data presented in the site assessment reports, to reflect the percentage of high, medium, and low urgency of works per site, providing a sense of priority when considering contractor and consultant procurement 9(2)(b)(ii) [redacted] and scheduling of site construction.

Project Packaging Options Analysis

The table below summarises the benefits and points to consider of 9(2)(b)(ii) project packaging options.

Project Packaging Options	Benefits	Points of note
9(2)(b)(ii)		

Market Capability (Water Infrastructure Service Providers)

The Waters Infrastructure Programme engaged Ernst & Young (EY) in August 2022 to undertake a desktop market scan of the current state of three waters service providers in New Zealand. The full EY Market scan report is attached in Appendix 2. The results of this market scan are summarised below.

Tier 1 'Construct, Operate, and Maintain' Service Providers

The desktop market scan has identified eight service providers in the New Zealand market who appear to offer comprehensive services in the construction, operation, and maintenance of three water assets. They provide multiple services across New Zealand and appear to have the capacity to deliver large packages of work across all three waters assets. These have been categorised as 'Tier 1' service providers. Note, these companies provide services for three water assets, they do not own the asset infrastructure themselves.

The EY report noted that based on the desktop scan, nearly all of the construct, operate and maintain service providers have stated they offer all or most of the service categories listed. However, based on the customer case studies delivered by each of the service providers, this does not always reflect the full breadth and depth of services across the three waters. Therefore, further market sounding may be required to validate these findings.

Tier 1 locally owned companies include Fulton Hogan, City Care Water and Fletcher Building. Internationally owned companies, or their subsidiaries include Downer Group, HEB Construction, McConnell Dowell, Veolia and Ventia.

The table below identifies for each service provider the services they offer (Service Categories), and the locality of services.

Note:

- If the service category is shaded a lighter green, then the provider has stated that they provide this service (through their company websites or marketing/case study material).
- If the service category has a tick next to it and is shaded a darker green, then the desktop review has concluded that these are the main services provided by the company.

Tier 1 Construction Service Providers								
Company and Service Locality	**Fulton Hogan**	**Downer Group**	**Citycare Water**	**Fletcher Building**	**HEB**	**McConnell Dowell**	**Veolia**	**Ventia**
Service Categories	All of NZ	All of NZ	All of NZ	All of NZ	All of NZ	All of NZ	All of NZ	Northern Region of the NI
Engineering Planning, Feasibility and Consenting								
Engineering Design								
Water and Wastewater Production Construction	✓	✓		✓	✓	✓		✓
Water and Wastewater Conveyance Construction	✓	✓		✓	✓	✓		✓
Production Facility Maintenance	✓	✓	✓				✓	✓

Conveyance Facility Maintenance	✓	✓	✓				✓	✓
Production Facility Operations	✓	✓	✓				✓	✓
Engineering Specialist & Professional Services								
Asset Management Services								

Tier 2 'Construct, Operate and Maintain' Service Providers

The EY desktop market scan identified six 'Tier 2' three waters construct, operate, and maintain service providers in New Zealand. They have been defined as Tier 2 providers as they do not have a service offering across New Zealand, nor do they have the workforce capacity as the 'Tier 1' service providers.

The table below identifies for each service provider the services they offer (Service Categories), and the locality of services.

Note:

- If the service category is shaded a lighter green, then the provider has stated that they provide this service (through their company websites or marketing/case study material).
- If the service category has a tick next to it and is shaded a darker green, then the desktop review has concluded that these are the main services provided by the company.

Tier 2 Construction Service Providers						
Company and Service Locality	**Pipeline and Civil**	**Spartan Construction**	**March and Cato**	**E Carson & Sons**	**Trility**	**Corde**
Service Categories	North Island	North and South Island	North Island	Wellington and Canterbury Regions	Bay of Plenty and Hawkes Bay	Canterbury Region
Engineering Planning, Feasibility and Consenting						
Engineering Design						
Water and Wastewater Production Construction						
Water and Wastewater Conveyance Construction	✓	✓	✓	✓		
Production Facility Maintenance					✓	✓
Conveyance Facility Maintenance					✓	✓
Production Facility Operations					✓	✓

Engineering Specialist & Professional Services						
Asset Management Services						

Design and Engineering Service Providers

This section lists the main three waters design and engineering providers in New Zealand. Note that it appears that several firms are less active in the three waters sector, even though they have a significant footprint in New Zealand and internationally for other services.

The table below identifies for each service provider the services they offer (Service Categories), and the locality of services.

Note: If the service category is shaded a lighter green, then the provider has stated that they provide this service (through their company websites or marketing/case study material).

Design and Engineering Service Providers									
Company / **Service Categories**	**Beca**	**Stantec**	**GHD**	**WSP**	**Mott MacDonald**	**Jacobs Engineering**	**AECOM**	**Aurecon**	**Tonkin & Taylor**
Asset Management									
Consenting and Environmental									
Master Planning									
Options Assessments									
Concept Level Design Services									
Detailed Design Services									
Project Management									
Construction Monitoring									
Contract Management									
Hydraulic Modelling									

Market Constraints

Ernst & Young (EY) in August 2022 included in their desktop market scan a sample summary of the critical market observations and potential mitigations and/or opportunities to consider in accordance with procurement rules is provided in the table below.

Observations	Implications	Potential mitigants and/or opportunities
Unprecedented level of infrastructure investment over the next decade	The most recent Te Waihanga report estimates the pipeline of infrastructure works across NZ is $69b out to 2027; $10.5b is attributed to the water sector[3]. This includes projects that are at a scale and complexity never seen before in the NZ market. This may pose capacity constraints and challenges for deliverability and affordability as demand for water service providers in the infrastructure market increases.	• Where appropriate and in accordance with procurement rules, leverage existing contractual arrangements and relationships to secure supply and better understand constraints to delivering the programme. • 9(2)(b)(ii) [redacted] • Early engagement with the market to test capacity, capability, appetite for suppliers and recruited staff and increase pipeline visibility to support suppliers resourcing and capacity planning. • Long term investment planning to develop multi-year project pipelines that can be communicated with confidence to the market. This will develop a sustainable industry and sector confidence in Correction's future workload. • Developing flexible and outcomes-based contracting models. • Build in long lead times to programmes of work to accommodate for anticipated market constraints. • Shorten approval times where appropriate to do so to mitigate the impacts of price escalations.
Supplier market capacity constraints	NZ has a limited supplier capacity, particularly in light of the highly specialised skillset required for some aspects of the three waters services and increased national demand for three waters skills and materials due to wider three waters reform. There is a workforce shortage across the water sector but especially in specialist water consultancy expertise[4]. This is also in addition to local authorities' BAU investments in water infrastructure to meet required levels of service for their communities.	
Labour shortages and constraints due to Covid-19	40% of surveyed construction sector operators say they don't have enough staff to meet current demand. The situation worsens when we look at future demand, with over half (56%) saying they don't have enough staff to meet future demand[5]. This means that construction companies will begin being more selective in which jobs they take.	
Shifting from 'buyers' market to 'sellers' market	Due to the above constraints on the fragile construction sector and the Government's reliance on the construction sector for water services delivery, the market is shifting to a supplier's market. This is therefore shifting the project risk profile.	
Fragmented construction market	The NZ construction market is largely fragmented with a predominance of small to medium-sized businesses and a small number of larger construction companies that are locally	• Navigating the sub-contracting market requires a high level of management skill and planning on the part of a Main Contractor. Therefore, selecting a Main

[3] Te Waihanga (2022). Infrastructure Quarterly May 2022. https://www.tewaihanga.govt.nz/assets/Uploads/Infrastructure-Quarterly-May-2022-v2.pdf

[4] Deloitte (2021). Industry Development Study & Economic Impact Assessment for Department of Internal Affairs. https://www2.deloitte.com/content/dam/Deloitte/nz/Documents/Economics/DAE%20Industry%20Development%20Study%20&%20Economic%20Impact%20Assessment.pdf

[5] EBOSS (2021). Construction Supply Chain Report 2021.

	owned or related to predominantly Australian parent organisations. Any procurement approach will involve numerous packages of work that will need to be undertaken by different specialist sub-contractors. The vast majority of the sub-contractors will be small to medium enterprises and tend to lack the depth of resources and financial resilience and overall capacity to deliver projects at scale.	Contractor who has demonstrated desired attributes is key. • Sub-contractors are more inclined to service Main Contractors with whom they have developed trusted and long-time working relationships with, so it will be important to be aware of these relationships when evaluating the respondents, especially where multiple Main Contractors are proposing a single sub-contractor.
Rural locations and constrained regional markets	Anecdotal evidence suggests that skills shortages are particularly pronounced in the regions. Given that some of Corrections facilities are rural – this presents risks for delivery, delay and cost escalation.	• Undertaking market sounding to understand market capacity and capability and inform of future pipelines.
Supply chain tightness and price escalation	Major infrastructure projects in New Zealand continue to face increasing cost pressures and supply chain disruption due to demand on the construction industry outstripping supply. External factors have driven these pressures, including key events such as the COVID-19 pandemic. Studies indicate that price escalation in the market is currently between 8% - 15% per annum[6]. This may mean that existing funding for the Corrections PBC may be insufficient and delays to projects will become increasingly costly.	• Continue to establish a catalogue of 'ready to go' business cases to enable credible market engagement. • Move towards contracts/approaches where the contractor helps better inform all the risks to minimise the risk of cost escalation. • However acknowledge that escalation costs by and large will still occur and will be incurred by Corrections therefore this risk needs to be taken into consideration when pricing. • Select a provider who has demonstrated they can manage the supply chain disruptions and uncertainty in programming and pricing.
Evolving Three Waters Reform	The Three Waters Reform has two key impacts on Corrections: • The introduction of new legislation, standards, and national regulator increases the expected cost of replacement of these assets (and the speed at which this activity is required). • The proposed establishment of four regional water entities could support the potential to transfer of Corrections water assets and operations to the entities. These present commercial opportunities and challenges for Corrections three waters assets.	• Support for the prioritisation of potable water infrastructure investment in programmes where relevant. • Explore the potential to transfer three waters assets to new water entities. • Improve asset information to support future conversations about asset transfer. • Document existing FM provider relationships across all facilities to support future conversations about asset transfer.

[6] Rider Levitt Bucknell (2021) Readers Digest 2021. Accessed through: https://s31756.pcdn.co/oceania/wp-content/uploads/sites/1/2021/04/NZ_RLB-Riders-Digest-20212.pdf

APPENDIX 6 – MARKET CAPACITY

Infrastructure Commission (Infracom)

The WIP team met with representatives from the Infrastructure Commission on 10th August 2022 to ascertain the level of 3 waters infrastructure work/projects in the pipeline across the NZ government and Local councils. Infracom maintain very limited (and at the time had very limited) pipeline data/information on water infrastructure projects and WIP could not gather any meaningful insight on 3 waters project pipeline information as a result.

Infracom also confirmed that they did not have the resources available to support the department for WIP procurement or capacity to conduct 3 waters specific market studies/scans on behalf of the department. It was also confirmed that Infracom were happy for the Department to continue with the direction WIP was travelling in, given that the Department had good capability in this area, and that a hands-on infracom involvement was not required.

Current 3 Waters Market

The New Zealand Government has created a plan to ensure the three water systems nationwide are in good condition to maintain operational continuity and meet ongoing challenges such as population growth, climate change and natural disasters. As a part of this plan, four new publicly-owned Water Service Entities (WSEs) are to be established replacing the services currently managed by 67 councils.

As the WSE's are established to deliver the demand of 3 Waters-related works, there is expected to be an initial $1.6b spend per annum in the market, with forecasting this will triple overtime. Although the expected spending is significant, if water services can execute and spend 100% of this budget in the first year, they will be doing well.

The 3 Waters market growth largely depends on local body elections, the passing of the Water Services Entities Bill, and DIA making decisions around the establishment of the WSE's and policy approach.

The 3 Waters reform and the future water entities will take priority in the market, due to their substantial programmes providing certainty of work to contractors and consultants. Examples of the scale of programmes include:

- Watercare Service Limited (Auckland) have the largest running programme to date with an anticipated spend of $18.5 billion over the next 20 years (2021-2041)
- Wellington Water (Greater Wellington Region) has a budget of $230m per annum, with an expected 30% growth year on year.
- Dunedin City Council had a planned budget of $1b over 50 years (as of the 2010 annual report).
- Defence Estate Infrastructure (DEI) is investing $2.3b over 10 years to upgrade their 3 Waters infrastructure. With the programme in year 2, they are not currently spending $230m pa, however, this is expected to gain traction.

In terms of scale, Corrections WIP is not a large programme. While WSE's are being set up, there may be a lull in the market with underutilised resources waiting for projects to progress or tenders to hit the market. Depending on if this occurs, and if there is proper planning and certainty, this could be beneficial for Corrections to leverage its WIP programme scale in the market.

9(2)(b)(ii), 9(2)(ba)(i)

[redacted]

9(2)(b)(ii), 9(2)(ba)(i)

Market Feedback

In early September 2022 Corrections engaged The Building Intelligence Group (TBIG), from the AoG Construction Consultancy Services panel, to conduct a targeted market-sounding exercise on behalf of Corrections. The full TBIG Market Sounding report is attached in Appendix 2. The objective was to seek early market feedback from contractors and consultants on the engagement of Main Contractor/s and Design and Engineering service providers for the 3 Waters Infrastructure project in relation to the full scope of Tranche 2A, seeking to gain an understanding of the capability, capacity and appetite for the scope of work.

The market sounding was not an extensive nationwide survey of all possible respondents, as it used a sample group of competent suppliers to help inform the procurement approach due to time constraints. Both Tier 2 contractors were referenced in an EY desktop market scan and were included due to regional spread (Auckland and Christchurch). A wider, more comprehensive, market engagement will likely be completed before the procurement process is undertaken.

TBIG undertook targeted engagements with the following contractors and consultants in one-on-one interviews, regarding the replacements and refreshment of Corrections 3 Waters infrastructure across Tranche 2A and the wider programme (remaining 11 sites) nationwide:

Tier 1 Construction Service Providers	Tier 2 Construction Service Providers	Tier 1 Design and Engineering Service Providers
9(2)(b)(ii), 9(2)(ba)(i)		

9(2)(b)(ii), 9(2)(ba)(i) [redacted]

Additional to the consultants and contractors, TBIG engaged Andrew Mercer, Head of Asset Efficiency at Watercare Service Limited to gain an understanding of the enterprise model and the inputs required for it to be successful.

Interviews with each entity were structured around four key themes as lines of enquiry:

- **Theme 1** – Market appetites 9(2)(b)(ii), 9(2)(ba)(i) [redacted]
- **Theme 2** – Capacity in the market to deliver the works over the forecasted programme timelines.
- **Theme 3** – Different approaches to procurement and contracting of the works.
- **Theme 4** – Feedback regarding contractor site access requirements.

Engagements were run on an informal, voluntary basis, and not considered part of a formal procurement process. Contractors and consultants were not required to sign a non-disclosure agreement.

Design and Engineering Consultants feedback

At a high-level the Design and Engineering Consultants feedback can be summarised as follows:

9(2)(b)(ii), 9(2)(ba)(i) [redacted]

One consultant expressed their capacity to deliver the full programme of work, as it would be serviced out of their metro offices, Auckland, Wellington and Christchurch respectively, provided timeframes and lead times are reasonable. One consultant advised they are resource constrained, with the water reform and future water entities taking priority.

Current indicative design timelines seemed to be achievable to the remaining three consultants (e.g ~9(2) [redacted] consultant fees between now and mid-2025), although there would be a need for approximately 9(2 [redacted] FTE to deliver the full design programme. With current demand, it is unlikely many consultants have that level of capacity at any one time, but a panel would 9(2)(b) [redacted] per designer, if 3 on panel). Other suggested methods to increase consultants' capacity included remote working within NZ, offshore resourcing, and automating.

Tier 1 and 2 Contractor's feedback

At a high-level the contractors' feedback can be summarised as follows:

It was generally noted between both Tier 1 and 2 contractors that the WIP scope and type is standard water services work which they have the plant and skillsets required to undertake. Most have specialist 'water' divisions offering technical expertise as well as typical civil works, such as specialist pipe layers and trenchers.

A Tier 2 contractor did note, they do not have extensive water treatment experience other than building the structures but are able to partner with their preferred consultant to provide technical design assurance.

Tier 1 are national contractors who can do the work, although feedback indicated capacity was dependent on the WIP programme schedule, as undertaking all 5 sites of Tranche 2A simultaneously would be a stretch, given other competing projects and resource constraints.

A contractor noted they have stopped employing for now, as the NZ talent pool is exhausted and those available are 'bottom of the barrel'. This has resulted in them making business decisions as to which projects they tender and which they decline.

Nationally, contractors do a mix of self-performing and sub-contracting by working with key local resources, playing to each other's strengths, and gaining efficiencies. For health, safety, and quality reasons, some contractors prefer self-delivery, but recognise there is a need to keep a healthy sub-contractor market going. Sub-contractors are required to comply with the Main Contractor's health, safety, and quality requirements.

Tier 2 contractors are not considered national providers, and in some cases are sub-contracted to Tier 1's or utilised under alliance/panel models. If Tier 2 contractors are used for the entire programme, they would typically manage these centrally and sub-contract via competitors to areas they currently do not have a presence.

9(2)(b)(ii), 9(2)(ba)(i) [redacted]

Operational accessibility feedback

Corrections have contractor vetting and site access protocols which need to be adhered to by any contractor entering the secure sites. There are several contractors who will be able to do the work, but given the highly secure environments, operational issues and coordination, requirements are onerous and would need to be clearly outlined so any tenderers understand what is required.

Generally, contractors have no issue with security, criminal history checks, and drug testing as they are a part of their current company policies and are mandatory conditions of employment. However, prisons are not easy sites to work on and take a high level of resources which is a talent pool that is under pressure nationally and internationally and is only going to intensify.

Most contractors have worked in similar environments, such as airports, which have comparable security requirements, acknowledging the proposed works are not in confined spaces, at height or over water.

APPENDIX 7 - COMMERCIAL DELIVERY MODELS

This section is a brief overview of the different procurement models and what the strengths and weaknesses of each approach are, with respect to Tranche 2A only. Due to this, based on the application of evaluation criteria, 9(2)(b)(ii) models have not been included. There are also some examples of where respective models have been implemented within New Zealand, and by which of the aforementioned service providers.

Overview of Delivery Model Types

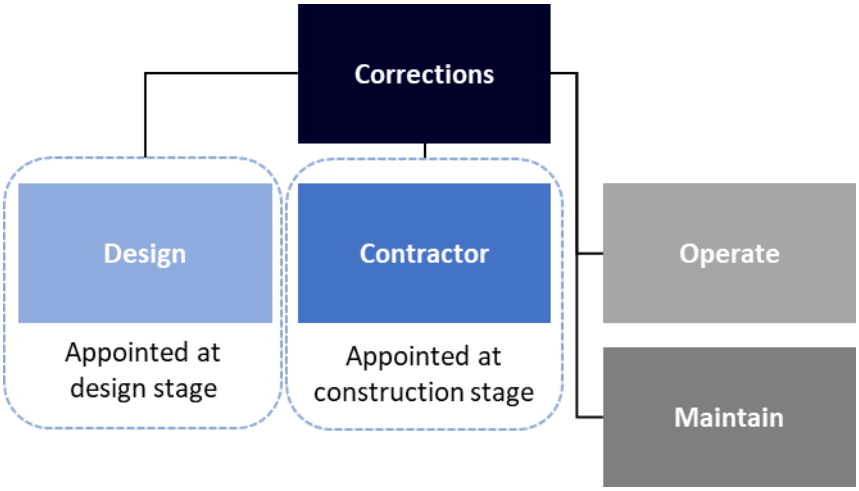
The Construction Procurement Guidelines illustrated the types of delivery models available to demonstrate how each influences the procurement approach and opportunities for collaboration and inno

9(2)(b)(ii)

Construct Only (Traditional)

Definition: Traditional, or conventional client-led design, requires that the design is fully developed before the construction contract is awarded.

The owner engages consultants to prepare the design and tender documents. The owner then leads a competitive tender process to appoint a separate contractor for the construction of the facility. In most cases, the design is fully developed before the construction contract is awarded. However, anecdotally some procuring agencies have tended to use overlapping design and construction processes, which can introduce risk to the construction contract as a result of unfinished designs. In this approach, operations and maintenance roles are provided in-house or sourced by the owner directly, outside the design and construction process.



Strengths / opportunities	Weaknesses / risks
• High level of control. • Potential to reduce design-related risk through retention of design. • Straightforward bidding process lowers tender costs, level of risk retention and encourages competition. • High degree of cost certainty.	• Price certainty relies on the completeness and accuracy of design documentation. • Long lead time to reach tender stage. • No single point of responsibility. • Design risk lies with the owner and contractor. • Reduced opportunity for construction and design teams to work together.

The water sector in New Zealand will often use the Construct Only contract for smaller or discrete capital projects. For example, companies such as Pipeline and Civil, Spartan, March Cato, and E Carson and Son are often engaged for smaller capital projects through this contract type.

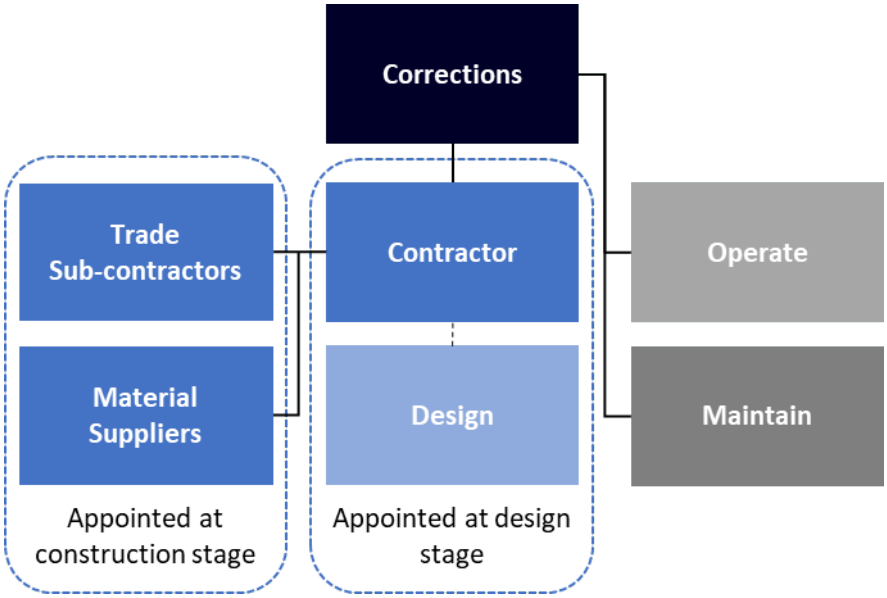
Construct Only contracts are also sometimes used for large projects. For example, Fulton Hogan was engaged by Watercare via construct-only contract (NZS 3910) for the Ardmore Water Treatment Plant Resilience Upgrade. GHD was the design partner in this $25 million Watercare investment. A second example is Hastings District Council engaging Fulton Hogan via a construct-only contract (NZS 3910) to upgrade the pump station located in Hastings. The design was undertaken by Stantec.

Design and Build

Definition: The main contractor takes on the responsibility for both the design and construction.

Under this model, design and construction services are contracted with a single entity via a competitive tender process, creating a single point of responsibility. There are several variations:

- Competitive – contractors tender on design and construction
- Develop and construct – concept level design is developed and scoped, then tenders are received to complete design and construction
- Novation – design is novated to the successful contractor Operations and maintenance roles are provided in-house or sourced by the owner directly, outside the design and construction process.



Strengths / opportunities	Weaknesses / risks
• Value-for-money decisions can be optimised. • High potential for innovation. • Potential for expedited delivery. • Single point of responsibility aids in the transfer of design risk and minimises interface risk. • There can be a high degree of cost certainty. • The contractor generally warrants the design's fitness for purpose.	• Less suited to complex design requirements. • Longer and more onerous tender period. • Private sector innovations can be price-focused instead of quality or whole of life. • The owner retains specification risk. • May be difficult for the owner to exert control over the design process.

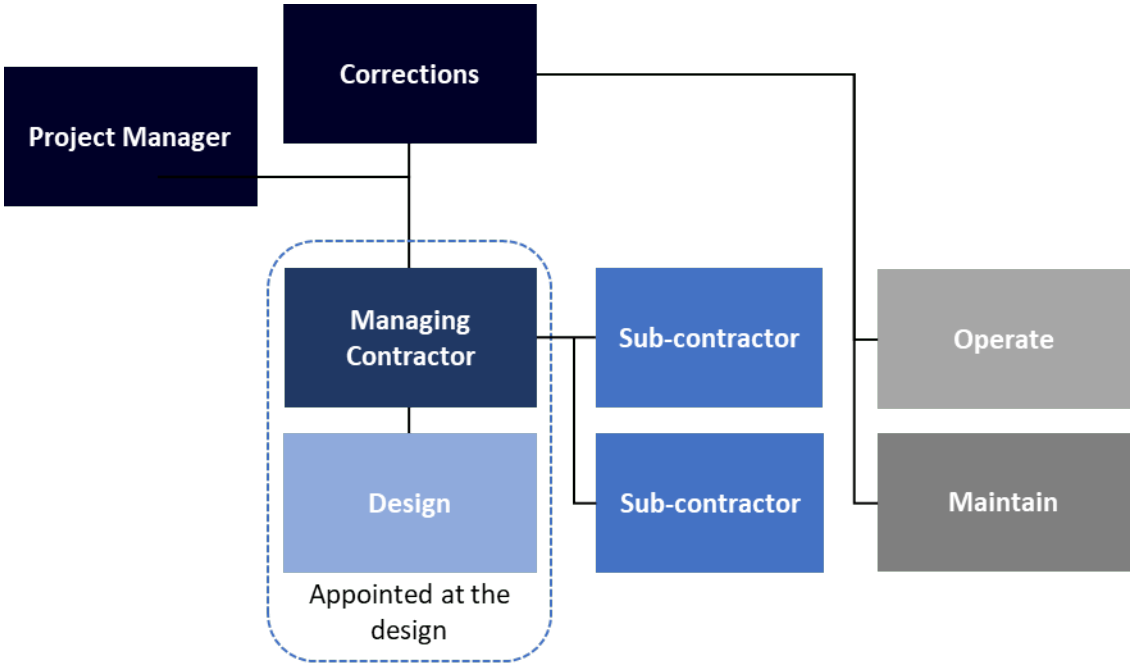
Similar to Construct Only contracts, the water sector in New Zealand will frequently utilise Design and Construct contracts for capital projects. Such contracts are often used with larger service providers as they have the economies of scale to offer both services. For example, Watercare engaged Fulton Hogan through a design and construct contract (NZS 3916:2013) to build the Pukekohe Reservoir and associated infrastructure. Another example is the engagement of Ventia by the Far North District Council for the Kerikeri Wastewater Treatment Plan Project.

Managing Contractor (MC)

Definition: A company contracted to administer and oversees a complete project by managing several contractor or subcontractors who carry out different parts of the work.

Often considered synonymous with Construct Only and with ECI. Managing Contractor is similar to Construction Management, but contracts are entered into directly by the Managing Contractor, instead of the owner. Operations and maintenance roles are provided in-house or sourced by the owner directly, outside the design and construction process.

The diagram below assumes the Managing Contractor holds all design risk and will procure subcontractors on an ad-hoc basis as required.



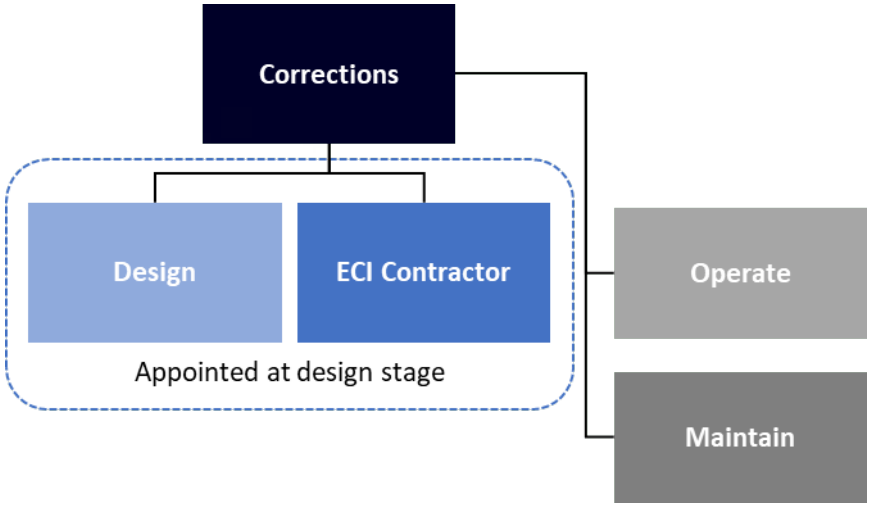
Strengths / opportunities	Weaknesses / risks
• The owner retains a high degree of control. • Potential for expedited delivery. • Continuity of designers and constructability input can decrease rework. • Design can be varied with relative ease. • MC takes project management-related risks and some delivery/cost risks.	• Limited competitive tension after MC appointed. • Limited cost certainty and complex administration. • High resourcing requirements from the owner. • MC incentives may not align with the owners.

Within the New Zealand market, the Construction Manager and Managing Contractor models are sometimes utilised. The use of such contracts is generally for larger projects of work where there are interdependencies and different specialisms that require coordination and tight management. Examples of such projects include Beca's role in the Watercare Hunua 4 Watermain Project. Beca worked alongside Watercare and coordinated all scientific, engineering and cultural investigations, including preparing the applications. Beca also undertook detailed design, cost estimates and construction monitoring.

Early Contractor Involvement (ECI)

Definition: The early engagement of a contractor to benefit from input such as constructability, scheduling, early procurement of long-lead time items, estimating, etc.

The model procures an ECI contractor through a qualifications-based procurement, with an intention to convert that same contractor into the prime contractor (under C or DB) once design is sufficiently progressed. Arrangements between the owner, designers and contractors where the parties are collectively responsible for performing the work and profit margins of the private parties are put at risk if project objectives are not achieved.

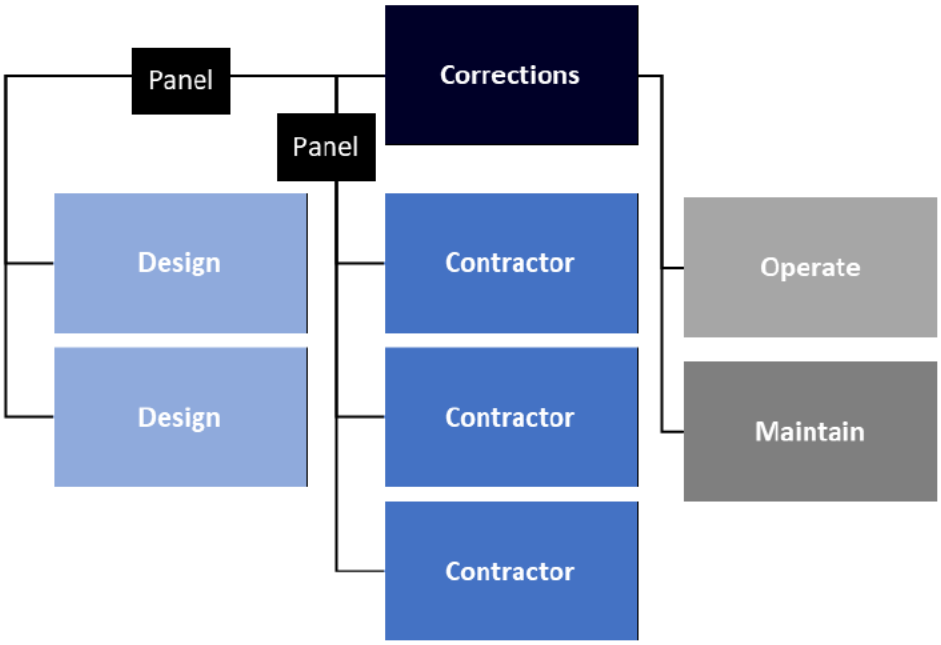


Strengths / opportunities	Weaknesses / risks
• Improved cost and time savings. • High potential for innovation. • Collaborative arrangement. • Constructability input can decrease rework. • Potential for an earlier commitment of construction resources and procurement of items with long lead times. • Early involvement can help contractors understand and efficiently price risk.	• Potential for loss of competitive tension through conversion to Construct or Design-Build contract. • Potential for less market interest in a hot market. • High resourcing requirements from the owner. • Open book re-tendering can disrupt timelines.

The market scan has identified a few examples of where the ECI model has been utilised in the water sector. For example, Fulton Hogan entered an ECI contract with Fonterra in the construction of the Whareroa Water Treatment Plant. Beca was engaged to do the design. March Cato was also engaged through an ECI contract by Watercare and its Wastewater Targeted Asset Renewal Programme (5-year programme).

Panel of Suppliers

Owners that are delivering multiple projects over a long period may want to consider establishing a panel of suppliers. A panel of suppliers is a list of suppliers who have been pre-approved by an agency and who have agreed to the terms and conditions for supply. In establishing a panel of suppliers, the agency will verify which suppliers are capable of delivering the works and will agree in advance with each supplier the terms and conditions of supply of the goods, services or works, including the pricing (e.g., hourly rates) or the pricing mechanism that will apply. Once the panel has been established, the owner can select an appropriate supplier from the panel each time a project needs to be delivered through a secondary procurement process.



Strengths / opportunities	Weaknesses / risks
• Opportunity to develop long-term partnerships. • Can drive continuous improvement. • Opportunity to measure and improve performance on projects. • Can incorporate specific construction methods into the design. • All parties have a better understanding and ownership of risks and how best to manage them.	• A stop-start workload won't promote the right environment for continuous improvement. • High up-front effort required to establish a panel is more than for tendering a single project. • Clients that are unclear about the volume and frequency of projects may not attract the best suppliers or value proposition and run the risk of future complaints from suppliers. • Panels with too many suppliers for the volume of work available will not deliver the potential benefits.

Wellington Water (WW) was the first to lead a panel approach, however, at the time there wasn't a lot of work available on the market, with buyers focussing on the lowest price. It took WW 3-4 years to establish their processes and panels and for everyone to understand their scopes and objectives. They are now gaining efficiencies with panels closely aligned, not contractually, but conversationally over time. WW also has a good programme by allocating work across multiple projects, big and small, forecasting ahead by a year.

9(2)(b)(ii) [redacted]

Commercial Model Evaluation Criteria

To facilitate the assessment of commercial models, the evaluation criteria were subsequently ranked to reflect their relative importance to the programme by applying the following scoring methodology.

DBC Update	Weighting
Cost confidence	10%

Time confidence	15%
Flexibility	25%
Corrections capability and capacity	15%
Risk allocation	10%
Broader outcomes aligned to reducing reoffending	5%

There are a variety of commercial models available within the market that allocate roles, responsibilities, and risk to different parties. The suitability of these commercial models is closely linked to the individual project or programme attributes, as well as the client/market capability. The risk allocation of any given model has a significant bearing on how attractive each model is within the market.

At Workshop Two potential commercial models, including some discounted at the PBC stage, were scored (separately by two teams) against the updated criteria using the same scoring method used in the PBC. Potential commercial models were scored for Tranche 2A alone, as well as for the entire programme. Refer to Appendix 4 for the full Commercial Model Assessments.

Whilst generic definitions for the different models were provided to assist evaluation, there was some debate at the workshop as to how the models would apply in the context of the WIP – as applied to just Tranche 2A or the entire programme (or residual).

Nine models were ranked as follows, considering scopes of Tranche 2A only or the entire WIP programme:

	DBC Team 1: Tranche 2A	DBC Team 2: Tranche 2A	DBC Team 1: WIP Programme	DBC Team 2: WIP Programme
9(2)(b)(ii)	5	2	7	5
	3	4	5	6
	Discounted	3	Discounted	Discounted
	1	1	1	3
	Discounted	Discounted	Discounted	Discounted
	Discounted	Discounted	2	2
	2	Discounted	3	1
	4	5	6	7
	Discounted	Discounted	4	4

In a summary, 9(2)(b)(ii) approach ranked first by both teams when considering just Tranche 2A, however, there was not a clear first-ranked option when considering the entire programme.

- The Department will have a high need for a supplier/s that have a full and easily operationalised knowledge of the requirements working inside and around the security fences at our prison sites. This places the incumbent FM providers with a natural advantage and head-start, but again we have discounted this as a major reason for direct sourcing as this knowledge is able to be replicated, albeit with time and some cost duplication.

Major considerations for the right supplier are:

- This approach will strengthen the build-up of the Department's strategic asset management (SAM) details with efficiency of handover from construction to maintenance with greater detail being able to be provided to the Department including materials used (type, size, location, etc.).
- Market feedback advises us that these parcels of the WIP programme are unattractive in bundled amounts to attract a respondent. This is due to the comparative small bundle size when compared to other market opportunities for the supply market.
- This would further envelop the FM provider into a wider involvement with the Department's infrastructure as a strategic supplier relationship and contract and, whilst fear in consolidation, we have competitive tension with having Downer and C&W in this field.

Get the best deal for everyone

There are a number of considerations that the Department expects to realise out of this direct source engagement with Downer and C&W. These considerations are designed to ensure that some of the normal aspects which would be evaluated under a market tender are assessed and given consideration and worth, without the need to test these in the market. The Department would ensure it maintains a bargaining strength position. These include:

- **Test For Price** – The Department is currently preparing for an open-market tender for Whanganui Wastewater. This will give the Department the opportunity to receive current market pricing for costs, product margins and sub-contractor throughput margins. This is timed to be received prior to the completion of negotiations with our FM provider for the WIP programme covered by the TER. The Department is also exploring other known market information for margins and cost profiles outside of the Whanganui tender that will equally inform value-for-money if the Whanganui tender receives minimal or only one respondent.
- **Test For Remedial Work Impact** - Experience from the start of the Whanganui waste and storm water efforts over the last two years have produced findings that remedial work is being 'found' as the maintenance is being uncovered. This means that there is an increased importance of this maintenance work for the reduction in greater issues of 'unfound problems' with water/pipe structures. This is reflective of the impact that we require when undertaking the remedial WIP work.
- **Test For Margin** - Having the Whanganui work taken to the market separately, and close in time to this activity with the incumbent FM providers will also mean that there is a very recent knowledge and experience gained about pricing margins. This will be invaluable when we assess the Downer and C&W pricing negotiations.
- **Test For Transparency** – incumbent FM contracts do not allow for transparency and understanding of how sub-contractors are engaged, selected, and priced. Whilst the Department has no desire to act in a veto capacity but being 'inside the tent' for when they offer sub-contracts would help our understanding of who, why and at what price/margin.
- **Timing** – opportunity exists to take advantage and strike early in our supplier engagement and get parcels of our early work programme completed. This will give early-adoption advantage and increase the impact our work.
- **Broader Outcomes** – a range of Broader Outcome achievements and Te Kupenga Hao Pāuaua – Progressive Procurement, around the diversity of the supplier base, exist in the strategic FM contract and relationships with Downer and C&W, however existing contract arrangements have not allowed these benefits to be realised. It is expected that, as the strategic FM contractors are not being put through the process of bidding, our requirements for Broader Outcome achievements and Te Kupenga Hao Pāuaua – Progressive Procurement benefits will be greatly enhanced. Early supplier engagement has confirmed their acceptance of such.

Appendix R: TBIG Market Sounding Report

PDF inserted on following page

DEPARTMENT OF CORRECTIONS
ARA POUTAMA AOTEAROA

3 Waters Infrastructure Project

Summary of Contractor and Consultant Market Sounding

Department of Corrections

02 November 2022

COMMERCIAL IN CONFIDENCE

AUCKLAND | TAURANGA | HAWKE'S BAY | WELLINGTON | NELSON | CHRISTCHURCH | QUEENSTOWN | DUNEDIN | INVERCARGILL

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Appendix U: Tranche 2A DBC-23 WIP Commercial Model Assessment

Team 1

	Criteria	Cost Confidence	Time Confidence	Market Attractiveness	Flexibility	Corrections Capability & Capacity	Risk Allocation	Broader Outcomes	Unweighted Score	Weighted Score	Ranking
	Extent to which commercial model ...	Provides cost confidence at point of commitment. Lower weighting to reflect ability to actually achieve confidence given nature of assets / projects / programme	Provides time confidence at point of commitment / high risk completed on time / operations impact met	Attracts the market - noting that this may vary between project and programme approach depending on market tier targeted	Agile enough to provide flexibility to address unanticipated changes in scope, sequencing, timing, priority	Places more or less burden on Corrections resources (e.g managing more or less contracts, interfaces, risks)	Effectively allocates risk to the party best able to manage	Supports a broader outcomes approach such as reducing reoffending			
Model	**Definitions**	10%	15%	20%	25%	15%	10%	5%			
9(2)(b)(ii)		1	2	2	-1	-2	-2	-2	-2	-0.05	**5**
		1	2	1	-1	-1	0	-2	0	0.1	**3**
		x	x	x	x	x	x	x	x	x	x

9(2)(b)(ii)	0	1	2	2	2	1	1	9	1.5	1
	x	x	x	x	x	x	x	x	x	x
	x	x	x	x	x	x	x	x	x	x
	2	2	2	-1	-2	2	1	6	0.6	2
	0	1	-2	0	-2	-2	-2	-7	-0.85	4
	x	x	x	x	x	x	x	x	x	x
	2	2	2	2	2	2	2	14	2	

Team 2

	Criteria	Cost Confidence	Time Confidence	Market Attractiveness	Flexibility	Corrections Capability & Capacity	Risk Allocation	Broader Outcomes	Unweighted Score	Weighted Score	Ranking
	Extent to which commercial model ...	Provides cost confidence at point of commitment. Lower weighting to reflect ability to actually achieve confidence given nature of assets / projects / programme	Provides time confidence at point of commitment / high risk completed on time / operations impact met	Attracts the market - noting that this may vary between project and programme approach depending on market tier targeted	Agile enough to provide flexibility to address unanticipated changes in scope, sequencing, timing, priority	Places more or less burden on Corrections resources (e.g managing more or less contracts, interfaces, risks)	Effectively allocates risk to the party best able to manage	Supports a broader outcomes approach such as reducing reoffending			
Model	**Definitions**	10%	15%	20%	25%	15%	10%	5%			
9(2)(b)(ii)		0	-2	-2	-1	1	0	-2	-6	-0.9	**2**
		0	-2	-1	0	2	-1	-2	-4	-0.4	**4**
		1	-1	-1	1	-2	-2	-2	-6	-0.6	**3**
		-2	0	1	1	1	-1	1	1	0.35	**1**

9(2)(b)(ii)											
		x	x	x	x	x	x	x	x	x	x
		x	x	x	x	x	x	x	x	x	x
		x	x	x	x	x	x	x	x	x	x
		0	0	0	2	-2	-2	-2	-4	-0.1	5
		x	x	x	x	x	x	x	x	x	x
CHECK		2	2	2	2	2	2	2	14	2	

Appendix V: Use of Funds in Detail

Table V1 (by location) and V2 (by asset) is a detailed overview of outputs being purchased in Tranche 2A (FY2023/24 – FY2026/27).

Table V1 Overview of outputs being purchased in Tranche 2A (location)

Proactive Stewardship: Waters Infrastructure Programme Tranche 2A		
Category	FY2023/24 – FY2026/27 (4 yrs)	
	Specific interventions scheduled for Tranche 2A	**Real (NZM)**
Potable Water Infrastructure	Arohata	9(2)(b)(ii)
	Christchurch Mens Prison	
	Mt Eden	
	Rimutaka	
	Rolleston	
Stormwater Infrastructure	Arohata	
	Christchurch Mens Prison	
	Mt Eden	
	Rimutaka	
Wastewater Infrastructure	Arohata	
	Christchurch Mens Prison	
	Mt Eden	
	Rimutaka	
	Rolleston	
Potable Water Infrastructure – Water Safety	Arohata	
	Christchurch Mens Prison	
	Christchurch Womens Prison	
	Mt Eden	
	Rimutaka	
	Rolleston	
	Whanganui	
	Waikeria	
Programme Management	N/A	
Maintenance and Operational Costs	Arohata	
	Christchurch Mens Prison	

Proactive Stewardship: Waters Infrastructure Programme Tranche 2A		
	Christchurch Womens Prison	9(2)(b)(ii)
	Mt Eden	
	Rimutaka	
	Rolleston	
	Whanganui	
	Waikeria	
Water Safety Personnel	N/A	
Water Safety Strategies, Policies etc	N/A	
Water Safety Support Costs	N/A	
Total		

Table V2 Overview of outputs being purchased in Tranche 2A

Proactive Stewardship: Waters Infrastructure Programme Tranche 2A		
Years	FY2023/24 – FY2026/27 (4 yrs)	
Category	**Specific interventions scheduled for Tranche 2A**	**Real (NZM)**
Potable Water Infrastructure	Upgrades and replacements of Potable Water Mains, Pipelines, Pumps, Bores and Valves	9(2)(b)(ii)
	New Emergency Storage Tanks	
	Upgrades and replacements of Reservoirs	
	Upgrades and replacements of Firewater Pipelines, Pumps and Storage Tanks	
	Upgrades and replacements of SCADA controls and telemetry	
	New Critical Spares	
Stormwater Infrastructure	Upgrades and replacements of Stormwater Pipelines, Outlets, Sumps, and Treatment Devices	
	Upgrades and replacements of Productive Water Pipeline and Storage Tanks.	
	New Critical Spares.	
Wastewater Infrastructure	Upgrades and replacements of Wastewater Pipelines, Mains, Storage Chambers and Pump Stations.	
	Upgrades and replacement of Water Treatment Plants.	
	Upgrades and replacements of Water Bores and Water Bore Pumps.	

Proactive Stewardship: Waters Infrastructure Programme Tranche 2A		9(2)(b)(ii)
Potable Water Infrastructure – Water Safety	New Monitors, Controls and Telemetry.	
	New Backflow Prevention.	
	Upgrades and replacements of Reservoirs.	
	Other Miscellaneous Water Safety Improvements.	
Programme Management	Delivery and support the programme, as outlined within the Management Case, including the proposed programme delivery team	
Maintenance and Operational Costs	Maintenance and operational costs on new, upgraded and replacement Potable Water, and Wastewater and Water Safety Infrastructure.	
Water Safety Personnel	Three Waters Asset Manager, Three Waters Technical Advisor and Three Waters Safety Analyst.	
Water Safety Strategies, Policies, etc	Development of a range of strategies, policies, plans, procedures, and processes to support compliance with Water Safety Standards and guidelines.	
Water Safety Support Costs	Resources required to support the implementation of Water Safety Plan Improvements	
Total		

Appendix W: Finance and Economic Model Assumptions

Purpose

The purpose of this appendix is to make visible, the underlying assumptions and workings of key aspects of the Economic and Finance Cases within the Programme Business Case.

Note – Documents Context

This appendix needs to be read in conjunction with the Technical Programme Cost Model (Assumptions and Limitations tab), the Economic Case and Economic Model, and the Finance Case and Finance Model. Full Economic, Finance and Benefits Models can be provided upon request.

Future Investment Pathway

The content in our Programme Business Case is consistent with the 20 May 2020 Infrastructure Programme Governance Committee Paper that established this project and outlined our intended Future Investment Pathway. An extract from this Paper:

Discussions with Delivery Planning and Strategic Finance have suggested that that because it is likely that we could be seeking further funding from Treasury, we should follow the Better Business Case process, so that we are at a standard that will allow an application to be made, if required.

A Strategic Assessment followed by a Programme Business Case should be prepared to align with the Treasury's annual budget-planning process. The Programme Business Case will be framed around the Treasury five-case model and will evidence our current understanding of condition and service level risks across the portfolio, and assess a range of viable options to determine a preferred way forward, to inform pathways for further capital investment.

Strategic Finance will present a holistic view of Corrections' total request for additional funding for FY21 to the Treasury, and unless funding for the initiative can be allocated internally, this is likely to include a request for an additional capital injection towards 3 waters investment. Capital requested will be phased over a number of years, with the likelihood of an initial 'discovery' phase of investment in FY21, where funds are requested to support comprehensive understanding of the issues, combined with progressing any priority interventions that are sufficiently evidenced to justify immediate funding. Future funding details and phases will be further established during the 'discovery' phase.

The Programme Business Case will set out the anticipated timeline for planned 3 waters interventions, with the expectation that this will cover short, medium and long-term activities, planning for a minimum programme of 1-5 years, and have a long-term horizon to align with the 20 year LTIP.

Key PBC Assumptions - Finance

Assumption	Comment
Values	All values are in $NZD. All values reported on an annualised basis (By Financial Year, Eg. Year 1 = July 2021 – June 2022).
Inflation	Inflation assumed to be in line with CPI for all opex and capex spend & LCI for Personnel costs. This is applied to everything except depreciation & capital charge.
Depreciation	Useful life assumed to be 50 years for 90% of assets & 10% are assumed to be 15 years. Depreciation is straight line over the useful life.
Capital Charge	5% - rounded to nearest $500 increment.
Tranches	Tranches are defined by the years below: 1. Lay Foundations (2021/22 - 2022/23) 2. Reduce Critical Risks (2023/24 - 2025/26) 3. Build Resilience (2026/27 - 2029/30) 4. Future Focussed (2030/31 - 2036/37)
Model Term	16-year model, broken into 4 tranches, with a final column highlighting any ongoing costs up to 2051.
Ongoing costs	Ongoing costs include any base case expenditure, as well as ongoing software licensing costs, ongoing additional AM/FM, any ongoing additional FTE costs, and any other ongoing capital charge/depreciation, as well as ongoing investigations (every 10 years)
Ongoing Investigations	Certain investigations have been modelled to occur every 10 years, phased in the same way as the original investigations as per Stantec 3 Waters Consultant suggestion. These investigations only have a 15% programme contingency premium applied, as in 10 years' time we have assumed the information/design to be superior to current levels
Base Case Downer Fixed Fee and Quotable works	Downer existing Fixed Fees and Quotable works in the base case have been applied across sites that are aged >30 years. This number increases overtime as more and more sites become older than 30 years. This logic is consistent with the benefits model.

Additional Key Finance Assumptions

We draw down the money in 6 month lots – we only apply capital charge to new capex and not to renewal capex as that is already in our baseline

We have used rounding up and down to $500 and this makes on overall difference of $200

From the Technical Programme Cost Model:

- Extra Over monies represents additional Fixed Fee spent with Downer and Cushman Wakefield

1. Investigations and institutional 'ongoing opex' represents additional FTE for Corrections
2. Ongoing opex associated with Optimisation/Totex Interventions and Capex New Interventions, represents increased Fixed Fees for AM/FM contracts
3. Ongoing unplanned costs – Also known as 'Containment costs' relates to Opex and should be 2% of our total asset value as per industry standard used by Councils. This figure aligns with the 9(2)(b)(ii) figure used for ongoing unplanned costs.

Please also note: that as part of the Intervention shortlisting process, when we scored interventions against the rough order cost it was based on the total cost of that intervention across all the sites where it was allocated (not per site).

Key PBC Assumptions - Economic

Assumption	Comment
Values	All values are in $NZD. All values reported on an annualised basis (By Financial Year, Eg. Year 1 = July 2021 – June 2022).
Whole of Life	Thirty (30) years
Discount rate	5.0% Applied the current standard discount rate (Default government infrastructure discount rate).
Modelled	Fiscal year basis (July 1st to June 30) commencing from 2020/21 fiscal year
Cost escalation	Cost escalation will not be included in the Economic Model as per Treasury guidance. All prices are real, NZD (2020).
Tranches	Tranches are defined by the years below 1. 2021/22 - 2022/23 2. 2023/24 - 2025/26 3. 2026/27 - 2029/30 4. 2030/31 - 2036/37 Ongoing Operating expenditure to 2050/51
Base Case – Capex and Opex	A description of the status quo. All Programme Options will compare to the Base Case. Expenditure broken down as follows: **Capex:** 1. Capex commitment as profiled from the Capital Plan specific to 3Waters infrastructure (next two years) with Out years at PAR commitment of 9(2)(b)(ii) per annum thereafter during the WOL model period. **Opex:** 2. 3 Water NO workforce (FTEs) 3. AM / FM Downer Contracted expenditure calculated on a site basis and cost triggered once the age of site exceeds 30 years.
Programme costing (Reduce Critical risk / Build Foundations / Proactive Stewardship)	Programme costing and phasing as modelled by the Technical Programme Cost Model, Version 16.5 (27 April 2021) used. Costs broken down as follows: 4. Base cost 5. + Contingency at Intervention Level **Subtotal: Total programme initial costing** 6. + management fee (% of Subtotal: Total Programme initial costing) 7. + Programme Risk/Contingency at Programme Level (% of Subtotal and Management fee) **Equal Total Cost rounded to the nearest $500.** Phasing and timing of programme as outlined in the Technical Programme Cost Model and within the tranches' constraint periods as above.
Other Delivery and Support costs	Is incurred in line with the phasing of the programme (Eg. construction phase etc). These costs are additional administration costs associated with the efficient management of each programme of work by site. Costing scheduled provided by the Business (3W Project Team)

Optimisation Interventions - Totex Classification

Within the Technical Programme, and Economic and Financial Models, the Optimisation intervention type consists of Totex funding, which is a mix of capex and opex.

The Classifications of these Interventions into their Opex and Capex splits are as follows:

Opex:

- 11b – Inflow Infiltration
- 20 – WSPs; Water Safety Plans
- 39 – Spares management
- 50 - Leak detection
- 59 - Auckland village disconnection

Capex:

- 14 – Security
- 15 – Ring fence
- 34 - Private connections and Stormwater (SW) flow
- 43 – Install water efficient devices
- 58 – Pumps and pump stations

Delivery and Monitoring Costs and Permanent Ongoing Costs

The following cost assumptions for Delivery, Monitoring and Permanent ongoing were built by our Stantec 3 Waters consultants, our QA for internal construction and project management and our PBC project team. These costs are based on a mix of current costs and estimates based on professional experience.

These are additional costs to the Technical Programme Cost Model and are included within the Economic and Financial Models.

Extra Opex Spend	Assumptions	Year of Spend	Total Amount	Total applied to
Delivery & Monitoring Services – Only for the 16 yr Programme				
3 Waters expertise to assist with Single Stage Business Cases: Delivery and Monitoring budget line	To assist with Single Stage Business Cases and at the end of Each Tranche or part tranche, by external consultants to; collate/review the information, update the risk assessment and the proposed programme of works and associated costs. Assumed, can build on and update the Current State Analysis document and Programme Business Case (2020) to support SSBC production. Allow $60k (6 weeks @ 40 hours/week @ $250/hr) for updating the technical programmes and an additional $20-40k if you want additional advice, reviews of documentation and consultants to attend the odd meeting or workshop.	Multiple – see assumptions column	9(2)(b)(ii)	As per assumptions column. 4 x SSBC in total

Extra Opex Spend	Assumptions	Year of Spend	Total Amount	Total applied to
	Does not include contingency. Based on PBC external assistance rates. **Years:** • To add to the end of Tranche 1 to support Tranche 2a SSBC $100k • end of Tranche 2a to support Tranche 2b SSBC (Tranche 2a is the first year of Tranche 2) $100k • end of Tranche 2b to support Tranche 3 SSBC (Tranche 2b is the end of the final 2 yrs of Tranche 2) $100k • End of Tranche 3 to support Tranche 4 SSBC $100k **Per Tranche and ceases after the end of Tranche 3 SSBC is completed.**			
Internal Team to assist with Single Stage Business Cases: **Delivery and Monitoring budget line**	Assumed all internal resources: 1 x PM 9(2) pa, 1 x writer 9(2) pa, Economic and Finance modellers 2 x 9(2) pa. Then we will need various amounts of time from the FM team, procurement, strategic asset management etc which have not been costed but are part of their BAU jobs. Assumed, can build on and update the Current State Analysis document and Programme Business Case (2020) to support SSBC production. **Years:** • To add to the end of Tranche 1 to support Tranche 2a SSBC $520k • end of Tranche 2a to support Tranche 2b SSBC (Tranche 2a is the first year of Tranche 2) $520k • end of Tranche 2b to support Tranche 3 SSBC (Tranche 2b is the end of the final 2 yrs of Tranche 2) $520k • End of Tranche 3 to support Tranche 4 SSBC $520k **Per Tranche and ceases after the end of Tranche 3 SSBC is completed.**	Multiple – see assumptions column	9(2)(b)	As per assumptions column. 4 x SSBC in total
Council and Iwi Engagement **Delivery and Monitoring budget line**	Assume 10 hui per tranche (4 tranches) x $15k per hui. $150k per tranche. $600k total. Assume hui are held across 1st two years of each tranche (5 in one year and 5 in the other year) @ $75k per year for 1st 2 yrs of each Tranche. Assumed; cover all travel, food, venue, outside facilitator, mana whenua payments and internal staff costs. **Should finish at end of year 2, Tranche 4.**	Multiple – see assumptions column	9(2)(b)(ii)	Total

Extra Opex Spend	Assumptions	Year of Spend	Total Amount	Total applied to
Management Fee **Delivery and Monitoring budget line**	For clarity all costs associated with procurement and MSQA/Site Monitoring (excluding internal review/approvals) of CAPEX works is included in the PBC. Note: The 3 Waters Asset Manager and Technical Advisor roles are assumed to be reviewing and approving the work of external providers and writing internal reports. **The Management Fee:** Is worked out as a percentage within the Stantec Cost Input Model, and should allow funding for: • 1 Programme Director • 1 FTE PM per $750k of investigation or institutional interventions • 1 FTE PM per $5-7m of capex interventions • For each year of Tranche 1: 1 project coordinator & 1 project administrator. 2 x 9(2) pa • For each year of Tranche 2 onwards - 2 project coordinators & 1 project administrators. 3 x 9(2)(b) pa 9(2)(b)(ii), 9(2)(a) for Assistant Project Manager roles) **Please note:** that within the above, some resource may need to be repurposed to support the Project Management Team.	Every year	As per Technical Programme Cost Model	As per Technical Programme Cost Model
External QA. **Delivery and Monitoring budget line**	Project Assurance Reviews for each tranche. 9(2) per review x 4 tranches. **Ends after 16 yrs - One off cost within each of the last years of each tranche**	Multiple – see assumptions column	9(2)(b)(ii)	One off cost for each Tranche, last year
Health and Safety Audits **Delivery and Monitoring budget line**	Corrections typically have bi-monthly independent H&S audits to be undertaken (Site Safe, etc) during the **construction stages of the programme only. Allow $15K pa for each site during construction.**	Multiple – see assumptions column	9(2)(b)	Construction stage, per site.
Operational Readiness/User Acceptance Testing **Delivery and Monitoring budget line**	Allow for half time role throughout at 9(2) pa full time, but we will use half time. 9(2) **pa is total pa. Only for programme duration of 16 yrs.**	Multiple – see assumptions column	9(2)(b)	Total per year used
Custodial Support to the sites. **Delivery and Monitoring budget line**	Assume 2No. FTE's for all sites **only during investigation and totex and capex works.** 9(2)(b) pa total I.e. 9(2) **pa is total pa. Only for programme duration of 16 yrs.**	Multiple – see assumptions column	9(2)(b)(ii)	Total per year used
Communications support - Personnel **Delivery and Monitoring budget line**	Likely to need additional support beyond the in-house resources. Includes input for Stakeholder Consultation Group and Stakeholder Reference Group. 9(2) **pa for an SME half time** 9(2)(b) **at half time).** **Only for programme duration of 16 yrs.**	Multiple – see assumptions column	9(2)(b)	Total per year used

Extra Opex Spend	Assumptions	Year of Spend	Total Amount	Total applied to
Communications support – Materials **Delivery and Monitoring budget line**	Likely to need additional support beyond the in-house resources. Includes input for Stakeholder Consultation Group and Stakeholder Reference Group, 9(2) **pa each year of 16 years** to cover admin, contractors, flights/expenses, production of materials. 9(2)(b) month over 11months). **Only for programme duration of 16 yrs.**	Multiple – see assumptions column	9(2)(b)	Total per year used
Permanent Costs – going beyond the 16 yr programme – Additional Opex to Technical Programme Cost inputs				
SPM Asset Management tool license(s), support and occasional set up refresh **New ongoing permanent Opex budget line** **Lasts beyond the life of the 16 yr programme. (Not new ongoing internal FTE or AM/FM contractual fees. It is separate to this)**	• Initial set up already covered in 2020-2021 within the 3 Waters Critical Early Works Project • Start the following fees from 01 July 2021 ongoing for 30 yrs - for the first 5 years, increase amount by 10% increase on the base cost (not compounded) to account for expansion of use and functionality - as per internal economist advice. • License fees at 9(2)(b) per month - current costs • Support services at 9(2)(b) per month - current costs • Once every three years; refresh/config/upgrade of 9(2) Yr 1: 9(2)(b)(ii) [redacted] Yr 2: Yr 3: Yr 4: Yr 5: Yr 6: Yr 7: Yr 8: Yr 9: Yr 1 Yr 1 Yr 1 Yr 1 Yr 1 Yr 1 Yr 1 **NB: This is a permanent arrangement, lasting past the programme of 16 yrs.**	Multiple	As per assumptions column	
Ongoing opex as 'permanent staff' - 3 waters internal expertise **New ongoing permanent Opex budget line**	In-house 3 Waters expertise. Manager at 9(2)(b) pa, Technical Advisor at 9(2) pa.	Multiple	9(2)(b)(ii)	Total per year used

Extra Opex Spend	Assumptions	Year of Spend	Total Amount	Total applied to
Lasts beyond the life of the 16 yr programme. (Not new ongoing internal FTE or AM/FM contractual fees. It is separate to this)	Assumed **permanent employees in perpetuity**. Blended rate of internal employee and contractor costs, as per 3 Waters Consultant, Stantec, estimates. **NB: This is a permanent arrangement, lasting past the programme of 16 yrs.**			
Ongoing opex as 'permanent consultants' - RMA and Compliance expertise **New ongoing permanent Opex budget line** **Lasts beyond the life of the 16 yr programme. (Not new ongoing internal FTE or AM/FM contractual fees. It is separate to this)**	To be reviewed during each Single Stage Business Case; RMA and Compliance. Likely to require Boffa Miskell specialist input as well as the internal RMA team. Allow 9(2) pa for this input – **permanent consultancy in perpetuity.** To respond to the works and also to respond to the new legislation. **NB: This is a permanent arrangement, lasting past the programme of 16 yrs.**	Multiple	9(2)(b)(ii)	Total per year used

Benefits Model Asset Valuation 'Proof' – Downer

The following are the workings to support our current valuation of our 3 Waters Assets as $200m. This valuation is cited throughout the Programme Business Case and within the Benefits Model component of the Economic Model.

Due to our incomplete data regarding our 3 Waters Assets and their value, we needed to make some assumptions and to use both industry best practice and our professional experience.

First, we determined the value for the 3 Waters assets in scope for the PBC, as this is lower than the value of the total Water Services Assets within the Corrections Estate. The following are the steps that were taken to determine this valuation.

Waters In-Scope Asset Valuation – Yellow highlighted cells

Row Labels	Sum of CAPEX
Bore Water	9(2)(b)(ii)
Domestic Cold Water	
Domestic Hot Water	
Farm Water	
Irrigation Systems	
Plumbing Fixtures	

	9(2)(b)(ii)
Stormwater (Building related)	
Stormwater-Reticulation	
Swimming Pool	
Waste Water Building Related	
Wastewater-Reticulation & Storage	
Wastewater-Treatment	
Water Reticulation & Storage	
Water Treatment Systems	
Grand Total (shaded yellow)	
Grand Total	

For this valuation we used the Downer asset data as a primary source of information as Downer is our primary AM/FM provider across the majority of our sites 16.5 sites out of 18. We did not include the value of the assets from the sites where our AM/FM provider is Cushman & Wakefield as at the time of writing, within Corrections direct management, this equated to half a site (Auckland Prison) and two Public Private Partnership (PPP) sites (the other half of Auckland Prison and Auckland South Prison).

The costs associated with the Technical Programme planned for the PPP sites allowed a much lower spend through this programme as compared with other sites, due to the PPP contract responsibilities already in place and due to needing to assess these responsibilities and any additional funding that may be required in much greater detail through the planned Single Stage Business Case (SSBC) for Tranche 2 of this Programme.

From the Downer Contract Management team, the total water services asset valuation is estimated at ~$290m. However, a lot of these items are not related to this 3 Waters PBC, and while it is not easy to define where the line stops, the assets highlighted in yellow in the below table are in scope for the PBC – and therefore the total value of in scope 3 Waters assets should be ~$150m at a minimum as indicated by the shaded yellow cells below.

We then accounted for our incomplete 3 Waters asset data in two ways:

- We acknowledged there is a proportion of some of the non-yellow highlighted items in the table above that are in scope for the PBC – particularly the building related items, and the domestic hot/cold water. It would therefore be prudent to assume that a blanket percentage of 20% of the residual 3 Waters Assets not specific to the 3 Waters PBC scope was used to account for this. I.e. ~$28m rounded to ~$30m. This would give us an assumed in-scope asset base of $180m.
- There is also a consideration to be made that the Downer register of assets is more complete for above ground assets than below ground assets and so it is fair to assume that the 3 waters assets as a proportion of total assets would be higher than the result from using the Downer asset valuations. As another check, we estimated the additional maximum value of the 3 waters in-scope assets underground as $100m using 'cost estimates to replace' provided by our 3 Waters Consultants, Stantec. Therefore, this brings the total possible value of in scope 3 Waters assets to ~$250m compared with the Downer-only 3 Waters asset information being ~$150m. Due to possible double counting from this method, it would be prudent to take a mid-point which is $200m.

Our initial valuation range to Treasury within our Risk Profile Assessment and our Point of Entry documentation, and our own in-house FM assessment of 3 Waters value was $180m-$200m. This was also included within the May 2020 3 Waters asset report provided to the Corrections Infrastructure Programme Governance Committee.

The 3 Waters PBC will use the slightly greater 3 waters asset value of $200m due to the inherent under valuation of this asset class.

The water assets that are in scope for our PBC represents ~69% of the total water asset base, using the $200m asset value, I.e. 200m/290m.

Benefits Model Asset Valuation 'Proof'– Cushman & Wakefield

When we document the amount of funding the Department puts towards our 3 waters infrastructure that is in-scope for this PBC we can also account for the portion of the Auckland Prison run directly by Corrections via our AM/FM Provider, Cushman & Wakefield:

- 9(2)(b)(ii) [redacted] in fixed fees
- [redacted] in variable fees

As per below extract from the Cushman & Wakefield budget and spend info from our Contract Management function – 9(2)(a) [redacted]

NOTE: These figures were taken from the excel sheet with full Cushman Wakefield information in it, filename 'CW-Auckland Prison Water Assets V3'

Appendix X: SAM Workstream – Deliverables for Completion

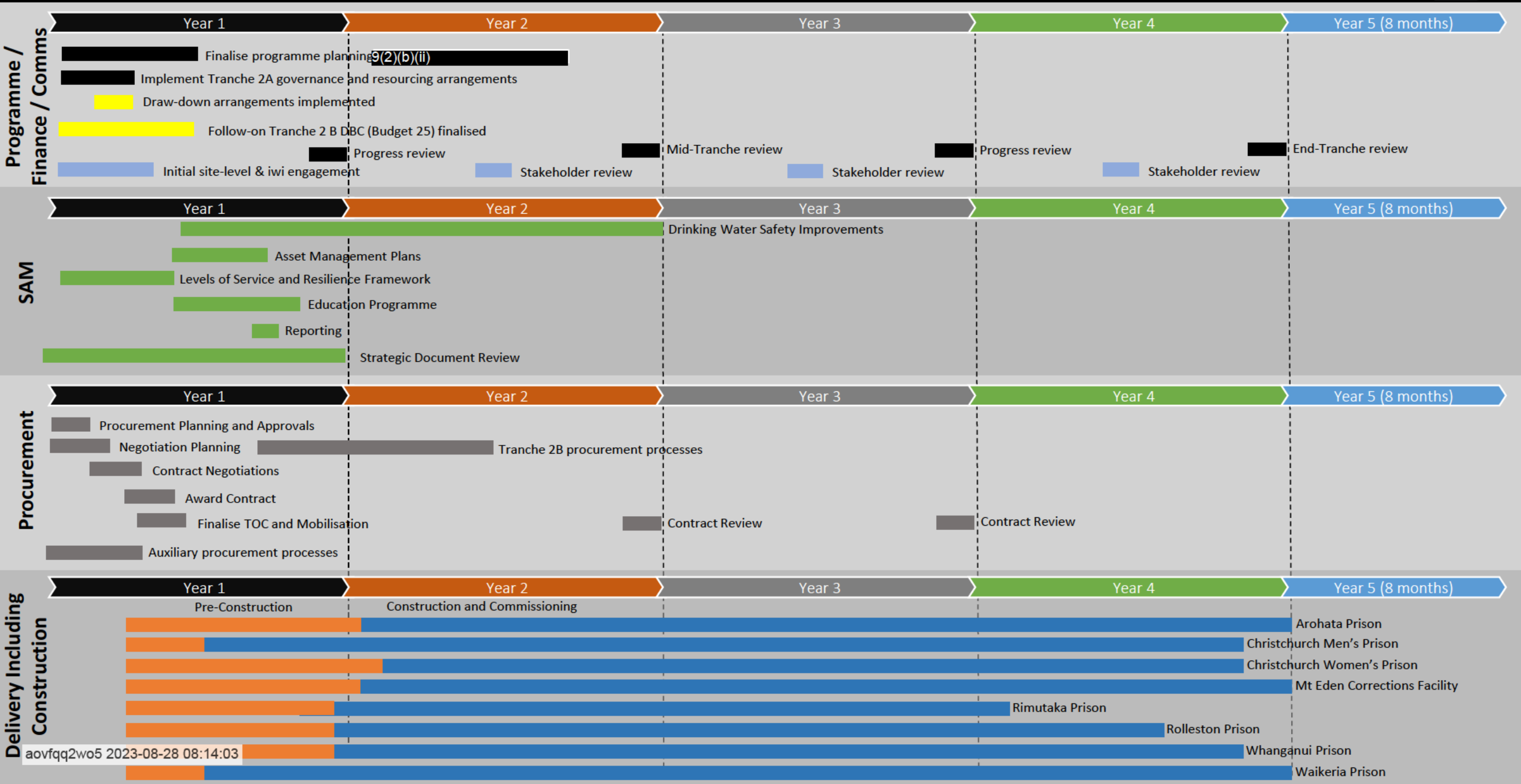
Category	Activity	Output
Drinking Water Safety Improvements	Processes and Procedure development	Processes and Procedure (FM Contractor and APA)
	Capability and Capacity strategy	Strategy (FM Contractor and APA)
	Drinking Water Safety Policy	Policy
	Water Storage Management Plan	Plan
	DWSP updates	Revised Plan to TA as required
	Documentation	Process
	Hygiene Code of Practice	Plan
	Stakeholder Engagement Plan	Plan
	Third Party Supply Agreements Update	Updates as required or as possible
	Inspection and Maintenance Strategy	Direction setting document
	Private connections position paper	Direction setting document
Asset Management Plans	Writing of plans for remaining sites	Plans
Levels of Service Framework	Completion of version 2	Plan
Resilience Framework	Completion of version 2	Plan
Education	3W but initial focus on drinking water	Delivery approach and resulting programme (APA and Contractor)
Reporting	Taumata Arowai drinking water quality	Reporting (monthly and annual)
	Taumata Arowai Environmental Performance Reporting	Reporting (annual)

Appendix Y: WIP Implementation Schedule

PDF inserted on following page

Programme High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME



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Appendix Z: Site-Level Implementation Schedule

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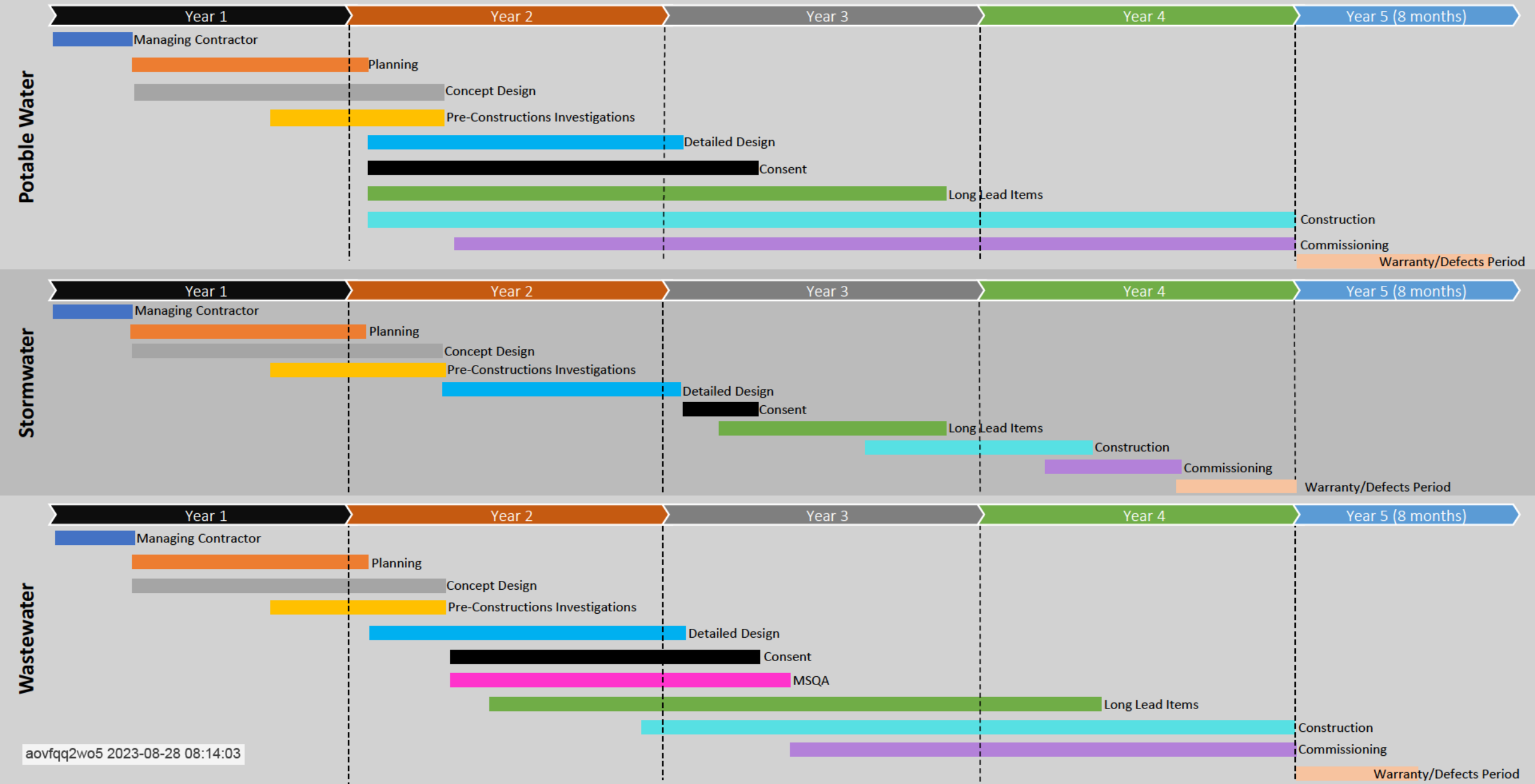
Arohata Prison High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME



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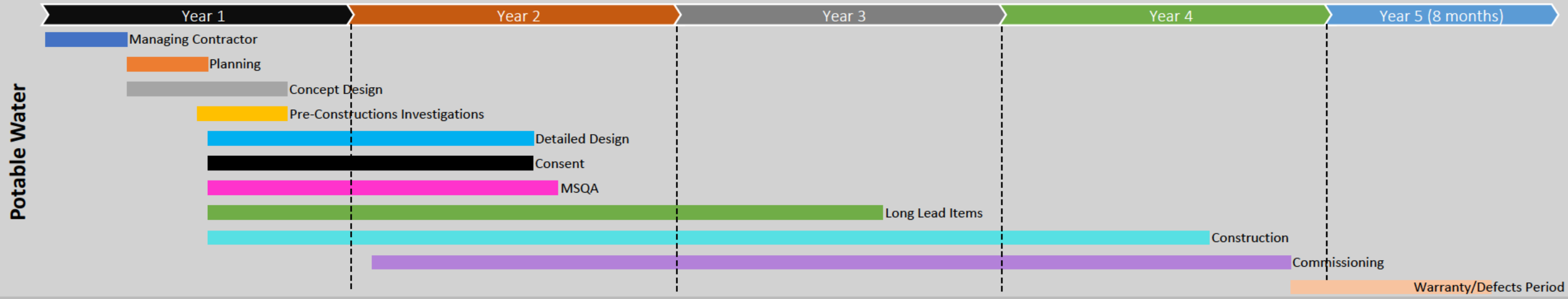
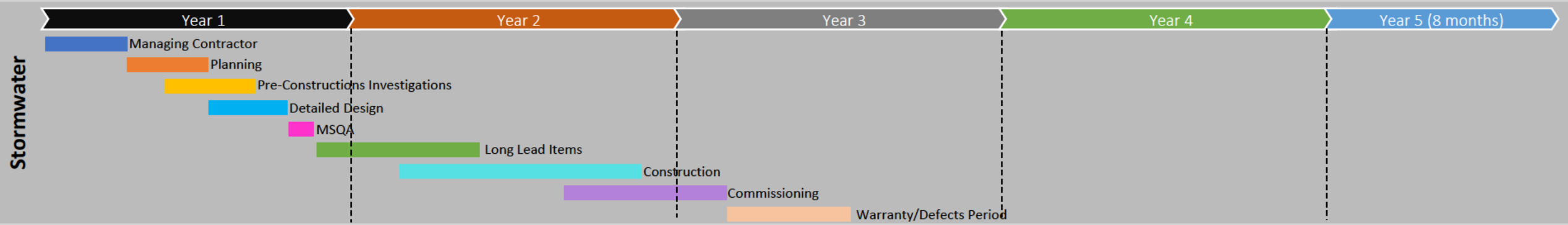
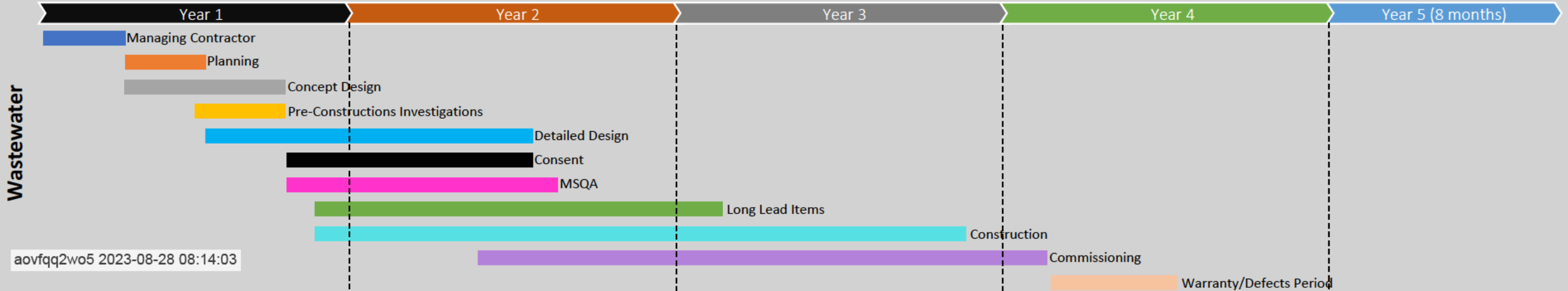
Christchurch Men's Prison High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME







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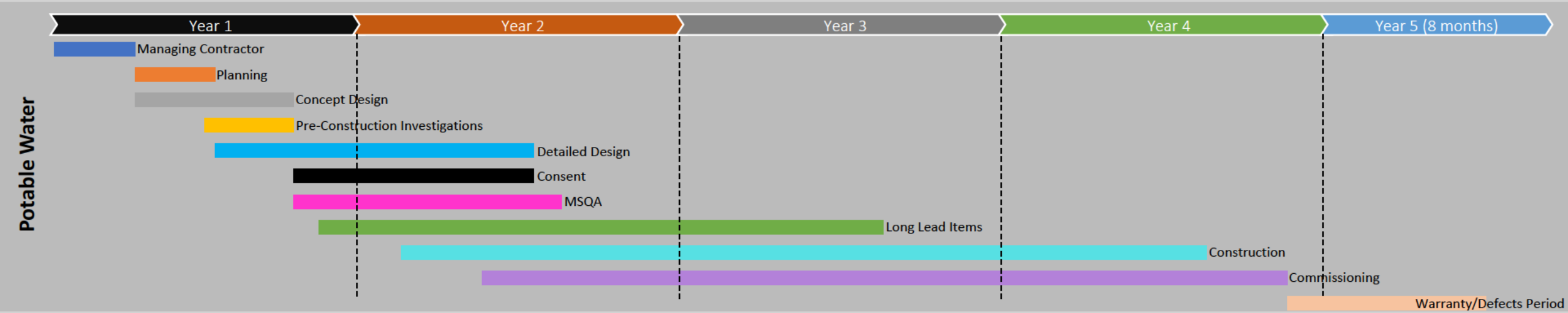
Christchurch Women's Prison High-Level Schedule



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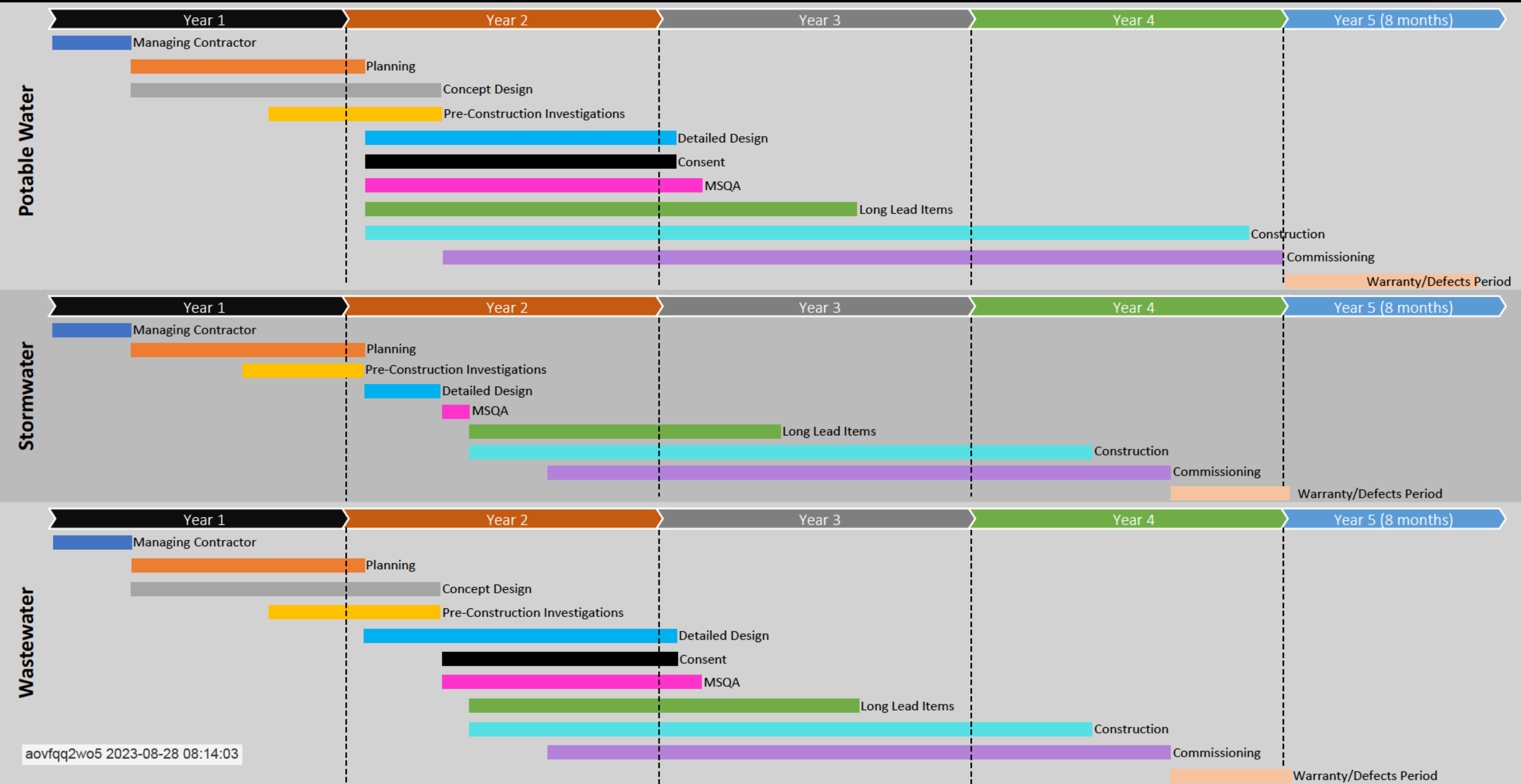
Mt Eden Corrections Facility High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME



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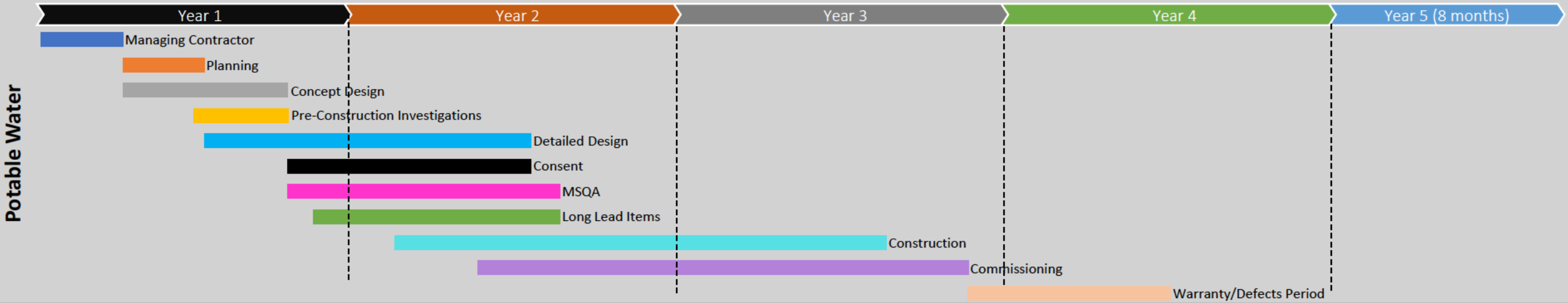
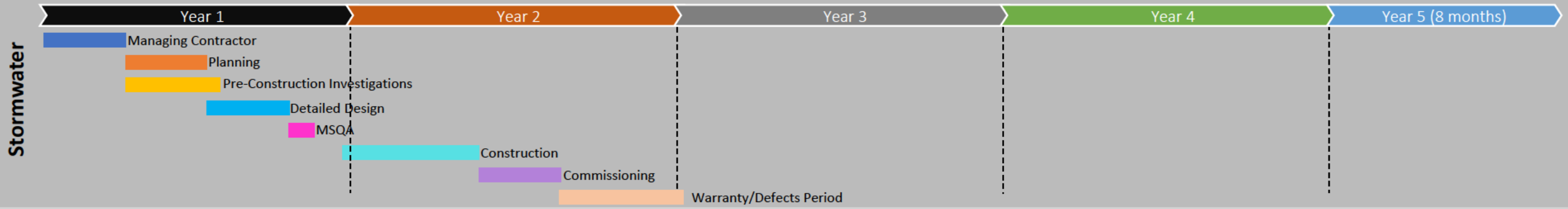
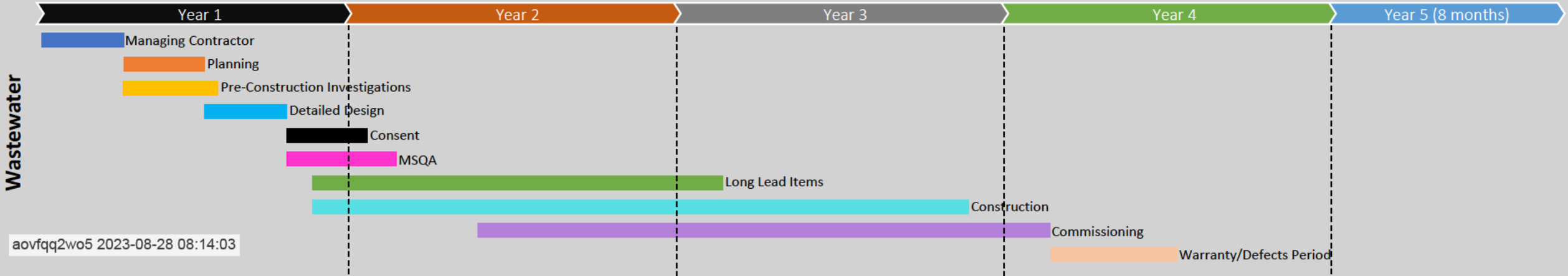
Rimutaka Prison High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME







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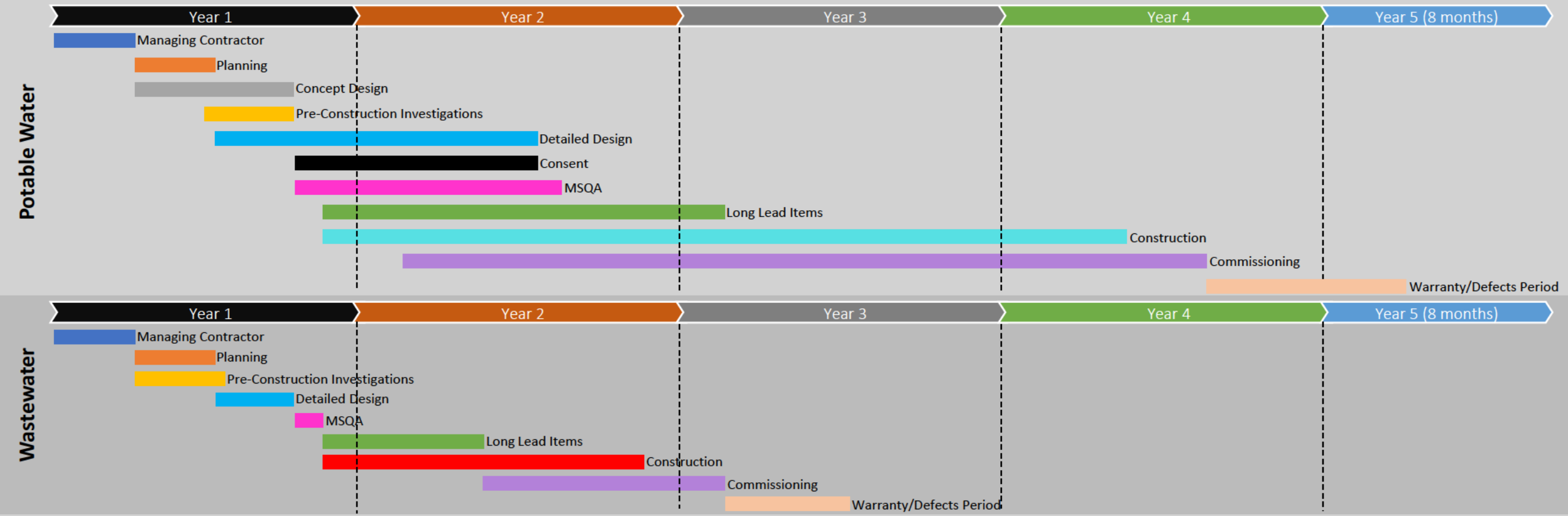
Rolleston Prison High-Level Schedule

WATERS INFRASTRUCTURE PROGRAMME



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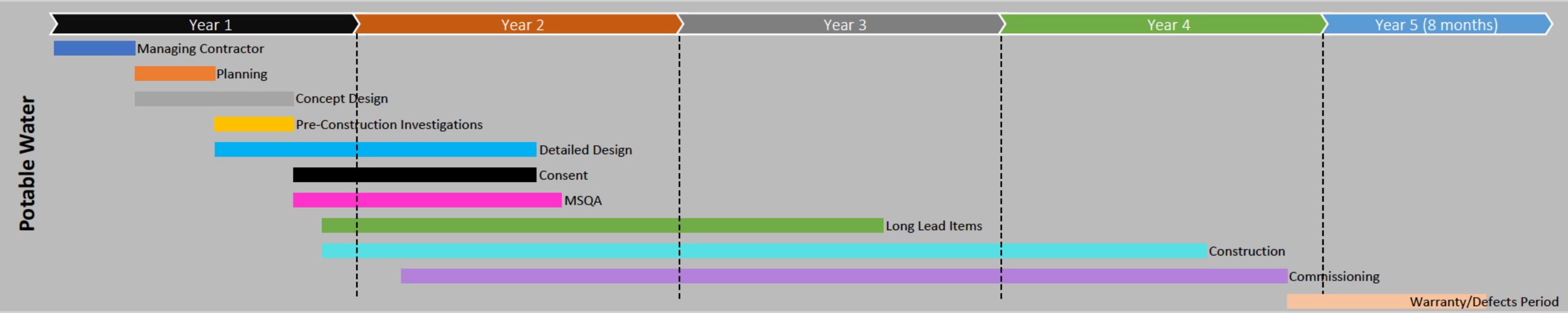
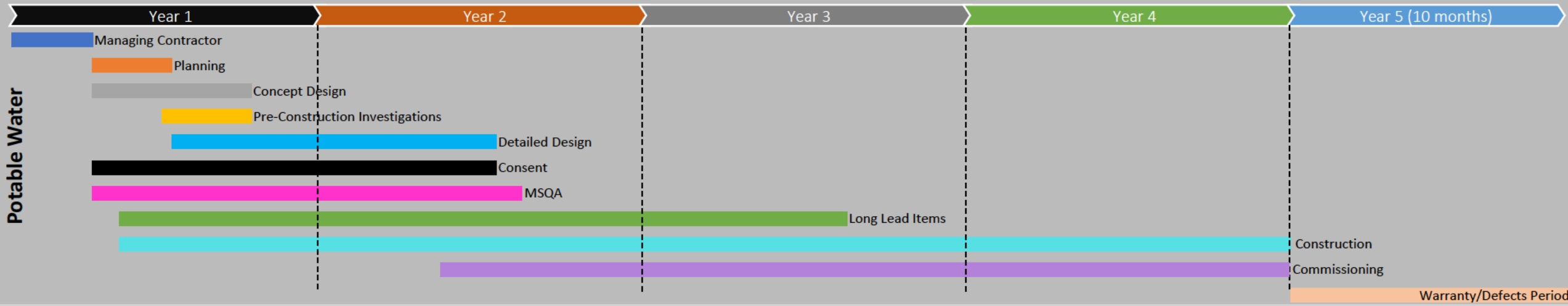
Whanganui Prison High-Level Schedule



Waikeria Prison High-Level Schedule



Appendix AA: Tranche 2A Governance Management Structure

Portfolio-Level Governance

E.2.4. As referenced above, WIPSG will direct the programme during Tranche 2A. WIP's authority will derives from: IFPCG, which must endorse funding drawdowns for WIP; and, in turn, the Investment Committee (which must approve funding drawdowns for WIP – e.g., in the context of outcomes from DBC-23).

E.2.5. In broad terms, the Investment Committee role's is to consider investment planning and execution given the Department's strategic objectives and Government policy. It monitors benefits realisation and provides guidance to portfolio committees – IFPCG in the case of WIP.

E.2.6. WIP's monthly reporting – e.g., in terms of schedule, benefits realisation, and cost control – will monitored by IFPCG (the immediate "portfolio board" in this context) and in turn the Investment Committee (the Department-wide portfolio board).

E.2.7. During Tranche 2A, the IFPCG and Investment Committee will be involved in overseeing benefits reporting and preparation of DBC-24.

Programme-Level Governance

E.2.8. Responsible for directing WIP, WIPSG performs the role of "programme board" per standard definitions. As set out in WIPSG Terms of Reference, WIPSG's focus is ensuring that:

- WIP's investment objective and benefits are delivered per PBC and other requirements.
- The Programme remains aligned to the Department's strategic objectives.
- WIP is well managed in terms of requirements for cost, schedule, and quality.

E.2.9. WIPSG's specific responsibilities include:

- Authorising the start and end of each WIP Tranche/Stage.
- Considering Change Requests relating to cost, schedule, and quality (including scope) – when not within the delegation of the SRO.
- Endorsing WIP management products – e.g., Programme Management Plans, Exception Reports – prior to approval.
- Overseeing the Programme's adherence to quality and other assurance requirements.
- Considering risks and issues escalated by the Programme Manager.
- Reviewing Programme resourcing.
- Championing WIP with internal and external stakeholders.
- Escalating risks and issues to IFPCG as appropriate. Note: request for additional funding will be endorsed by IFPCG before escalation for approval by the Investment Committee.

E.2.10. WIPSG is chaired by the BRO and attended by the SRO. Their specific responsibilities are summarised below. Other members include the following. Their role includes representing their respective functional responsibilities.

- DCFO Strategic Finance.
- Senior Advisor Office of National Commissioner.
- National Manager Project Delivery.
- National Manager Facilities Delivery.
- Manager Delivery Planning.
- Manager Strategic Asset Management.

Benefits Realisation Owner

E.2.11. During Tranche 2A, WIP's BRO – and chair of WIPSG – will be [Director Asset Management]. The BRO is the person ultimately accountable for WIP achieving its investment objectives and benefits, per PBC and wider formally agreed expectations. In addition, as chair of WIPSG, the BRO has overall accountability for WIPSG fulfilling its role and responsibilities: see above.

E.2.12. During Tranche 1, a BRO focus is ensuring that planning for subsequent Tranches aligns with assumptions set out in the PBC (formally revised as necessary). This will entail overseeing:

- Completion of DBC-23 and preparation for DBC-24 as vehicles for ongoing investment in WIP through Tranches 2A and 2B.
- Preparation of a Benefit Review Plan that reconfirms or amends benefits mapping, identification, and analysis completed ahead of submission of the PBC.

- Ahead of the commencement of Tranche 2A, the introduction of fit-for purpose mechanisms for benefits measurement and reporting.

E.2.13. Another BRO focus during Tranche 1 is ensuring that revised governance and delivery arrangements are implemented ahead of Tranche 2A. Tranche 1 is focused on establishing foundations for WIP overall, with limited construction-related project activity completed. Subsequent Tranches will involve a substantially greater level of project delivery – necessarily coordinated at a programme-wide level – and it is expected that amended governance and delivery arrangements will be necessary. For example, it is anticipated that changes could be needed to:

- WIPSG's membership and responsibilities.
- Delegations to the SRO and Programme Manager, or similar roles.
- The role of the two review groups – e.g., one option is for the Construction Review Group to have a decision-making role within certain levels.
- Arrangements for independent programme, project, and technical quality assurance.
- Programme team structure, depending in part on the commercial model(s) chosen for design and construction delivery during Tranche 2A.

Senior Responsible Owner

E.2.14. As noted above, the primary focus of the BRO is achievement of WIP's investment objectives and benefits. Reporting to BRO, the SRO is accountable for delivery of WIP – within agreed tolerances for cost, quality, schedule, and other matters – so that achievement of these objectives and benefits is possible. Specific responsibilities include:

1. Approving Programme-level management plans.
2. Exercising financial delegations, e.g., in respect of in-flight projects within the Construction Workstream.
3. Overseeing the implementation of agreed programme processes – e.g., for risk and change management. This includes ensuring management of WIP complies with EPMO and other Departmental requirements,
4. Acting as an escalation point for the Programme Manager.

AM Review Group

E.2.15. During Tranche 1, two working groups will support decision-making by WIPSG. One is the AM Review Group. Membership will be as follows.

5. Programme Manager.
6. Manager, RMLM.
7. Manager, SAM.
8. National Manager Facilities Delivery.
9. Manager, Statutory Compliance.
10. Internal SPM and GIS team representative.
11. Stantec representative (by invitation).
12. AMFM Contractor representative (by invitation)

E.2.16. The AM Review Group will endorse key deliverables of the SAM, Data, and Investigation Workstreams prior to WIPSG approval. During Tranche 1, key examples of such deliverables include:

13. Site Assessment Reports.
14. Asset Management Plans.
15. Data SOP.
16. 3W National Infrastructure Plan (version 2.0)
17. Resiliency Framework.
18. Level of Service Framework (version 2.0)
19. Water Safety Plans.

E.2.17. In addition, the AM Review Group will be consulted on planning for Tranche 2A, with an emphasis on two main subjects. First, post-programme ownership and implementation of Tranche 1 deliverables from the SAM, Data, and Investigations Workstreams – i.e., practical steps to build the Department's knowledge, capacity, and capability to manage its 3W assets on an ongoing basis.

E.2.18. Second, verifying assumptions about compliance and other risks that will inform investment planning for Tranche 2A and in turn preparation of DBC-23 and PIBC-23.

E.2.19. The Group will meet as required, probably no more than once every second month, at least until early 2024 – i.e., until DBC-24 and its SAM, Data, and Investigations Workstreams-related inputs have been confirmed, and the post-programme ownership of associated deliverables has been implemented. It is expected that, in many cases, the Group's work can be completed through review of papers rather than in-person/virtual meetings.

Construction Review Group

E.2.20. The Construction Review Group will oversee planning for, and delivery of, projects within WIP's Construction Workstream. The focus will be support to decision making by the SRO and wider WIPSG. The SRO has clear financial and other delegations relating Tranche 1 construction projects, per the September 2021 WIP Funding Memo. The role of the Construction Review Group will endorse key decisions before formal SRO or wider WIPSG approval is sought.

E.2.21. It is expected that the Construction Review Group will have two focus areas in this context. First, reviewing Programme- and Tranche-level construction planning – from the perspective of deliverability and successful implementation more broadly, as opposed to priorities for investment given compliance and other risk factors. For example, the Construction Review Group would review substantive planning for delivery of Tranche 2A before this planning is approved by WIPSG.

E.2.22. Second, portfolio management for individual construction projects, including during the Design and Plan phase – e.g., endorsements to move from design to procurement to construction; and including overseeing delegated project board responsibilities given to individual PCG for large construction projects.

E.2.23. Membership will be as follows.

- Programme Manager.
- National Manager Project Delivery.
- Manager Delivery Planning.
- AM Procurement nominee.
- National Procurement nominee.
- Statutory Compliance nominee.
- RMLM nominee.
- H&S nominee.
- AM PMO nominee.
- Stantec representative (by invitation).
- AMFM Contractor representative (by invitation).

E.2.24. The Group will meet as required, probably no more than once every second month. As noted above, the role of the Group will be reviewed before the completion of Tranche 1, noting the scale construction activity planned for the subsequent Tranche.

Programme Manager

E.2.25. Although not part of WIP's governance arrangements, the Programme Manager attends WIPSG meetings. The Programme Manager is accountable to the SRO and wider WIPSG for the week-to-week delivery of the programme, acting with agreed tolerances for cost, quality, schedule, and other matters. Specific responsibilities include:

20. Preparation of management plans and associated registers.
21. Delivering against these plans, within agreed tolerances, and monitoring and reporting on this delivery.
22. Implementing agreed procedures for management of WIP, e.g., for change management.
23. Week-to-week oversight of processes for risk and issue management. Escalating risks and issues to the SRO and wider WIPSG.

Appendix BB: Key Accountabilities for Individual Roles and Boards

Portfolio-Level Governance

As referenced above, WIPSG will direct the programme during Tranche 2A. WIP's authority will derives from: IFPCG, which must endorse funding drawdowns for WIP; and, in turn, the Investment Committee (which must approve funding drawdowns for WIP – e.g., in the context of outcomes from DBC-23).

In broad terms, the Investment Committee role's is to consider investment planning and execution given the Department's strategic objectives and Government policy. It monitors benefits realisation and provides guidance to portfolio committees – IFPCG in the case of WIP.

WIP's monthly reporting – e.g., in terms of schedule, benefits realisation, and cost control – will monitored by IFPCG (the immediate "portfolio board" in this context) and in turn the Investment Committee (the Department-wide portfolio board).

During Tranche 2A, the IFPCG and Investment Committee will be involved in overseeing benefits reporting and preparation of DBC-24.

Programme-Level Governance

Responsible for directing WIP, WIPSG performs the role of "programme board" per standard definitions. As set out in WIPSG Terms of Reference, WIPSG's focus is ensuring that:

- WIP's investment objective and benefits are delivered per PBC and other requirements.
- The Programme remains aligned to the Department's strategic objectives.
- WIP is well managed in terms of requirements for cost, schedule, and quality.

WIPSG's specific responsibilities include:

- Authorising the start and end of each WIP Tranche/Stage.
- Considering Change Requests relating to cost, schedule, and quality (including scope) – when not within the delegation of the SRO.
- Endorsing WIP management products – e.g., Programme Management Plans, Exception Reports – prior to approval.
- Overseeing the Programme's adherence to quality and other assurance requirements.
- Considering risks and issues escalated by the Programme Manager.
- Reviewing Programme resourcing.
- Championing WIP with internal and external stakeholders.
- Escalating risks and issues to IFPCG as appropriate. Note: request for additional funding will be endorsed by IFPCG before escalation for approval by the Investment Committee.

WIPSG is chaired by the BRO and attended by the SRO. Their specific responsibilities are summarised below. Other members include the following. Their role includes representing their respective functional responsibilities.

- DCFO Strategic Finance.
- Senior Advisor Office of National Commissioner.
- National Manager Project Delivery.
- National Manager Facilities Delivery.
- Manager Delivery Planning.
- Manager Strategic Asset Management.

Benefits Realisation Owner

During Tranche 2A, WIP's BRO – and chair of WIPSG – will be [Director Asset Management]. The BRO is the person ultimately accountable for WIP achieving its investment objectives and benefits, per PBC and wider formally agreed

expectations. In addition, as chair of WIPSG, the BRO has overall accountability for WIPSG fulfilling its role and responsibilities: see above.

During Tranche 1, a BRO focus is ensuring that planning for subsequent Tranches aligns with assumptions set out in the PBC (formally revised as necessary). This will entail overseeing:

- Completion of DBC-23 and preparation for DBC-24 as vehicles for ongoing investment in WIP through Tranches 2A and 2B.
- Preparation of a Benefit Review Plan that reconfirms or amends benefits mapping, identification, and analysis completed ahead of submission of the PBC.
- Ahead of the commencement of Tranche 2A, the introduction of fit-for purpose mechanisms for benefits measurement and reporting.

Another BRO focus during Tranche 1 is ensuring that revised governance and delivery arrangements are implemented ahead of Tranche 2A. Tranche 1 is focused on establishing foundations for WIP overall, with limited construction-related project activity completed. Subsequent Tranches will involve a substantially greater level of project delivery – necessarily coordinated at a programme-wide level – and it is expected that amended governance and delivery arrangements will be necessary. For example, it is anticipated that changes could be needed to:

- WIPSG's membership and responsibilities.
- Delegations to the SRO and Programme Manager, or similar roles.
- The role of the two review groups – e.g., one option is for the Construction Review Group to have a decision-making role within certain levels.
- Arrangements for independent programme, project, and technical quality assurance.
- Programme team structure, depending in part on the commercial model(s) chosen for design and construction delivery during Tranche 2A.

Senior Responsible Owner

As noted above, the primary focus of the BRO is achievement of WIP's investment objectives and benefits. Reporting to BRO, the SRO is accountable for delivery of WIP – within agreed tolerances for cost, quality, schedule, and other matters – so that achievement of these objectives and benefits is possible. Specific responsibilities include:

24. Approving Programme-level management plans.
25. Exercising financial delegations, e.g., in respect of in-flight projects within the Construction Workstream.
26. Overseeing the implementation of agreed programme processes – e.g., for risk and change management. This includes ensuring management of WIP complies with EPMO and other Departmental requirements,
27. Acting as an escalation point for the Programme Manager.

AM Review Group

During Tranche 1, two working groups will support decision-making by WIPSG. One is the AM Review Group. Membership will be as follows.

28. Programme Manager.
29. Manager, RMLM.
30. Manager, SAM.
31. National Manager Facilities Delivery.
32. Manager, Statutory Compliance.
33. Internal SPM and GIS team representative.
34. Stantec representative (by invitation).
35. AMFM Contractor representative (by invitation)

The AM Review Group will endorse key deliverables of the SAM, Data, and Investigation Workstreams prior to WIPSG approval. During Tranche 1, key examples of such deliverables include:

36. Site Assessment Reports.
37. Asset Management Plans.

38. Data SOP.
39. 3W National Infrastructure Plan (version 2.0)
40. Resiliency Framework.
41. Level of Service Framework (version 2.0)
42. Water Safety Plans.

In addition, the AM Review Group will be consulted on planning for Tranche 2A, with an emphasis on two main subjects. First, post-programme ownership and implementation of Tranche 1 deliverables from the SAM, Data, and Investigations Workstreams – i.e., practical steps to build the Department's knowledge, capacity, and capability to manage its 3W assets on an ongoing basis.

Second, verifying assumptions about compliance and other risks that will inform investment planning for Tranche 2A and in turn preparation of DBC-23 and PIBC-23.

The Group will meet as required, probably no more than once every second month, at least until early 2024 – i.e., until DBC-24 and its SAM, Data, and Investigations Workstreams-related inputs have been confirmed, and the post-programme ownership of associated deliverables has been implemented. It is expected that, in many cases, the Group's work can be completed through review of papers rather than in-person/virtual meetings.

Construction Review Group

The Construction Review Group will oversee planning for, and delivery of, projects within WIP's Construction Workstream. The focus will be support to decision making by the SRO and wider WIPSG. The SRO has clear financial and other delegations relating Tranche 1 construction projects, per the September 2021 WIP Funding Memo. The role of the Construction Review Group will endorse key decisions before formal SRO or wider WIPSG approval is sought.

It is expected that the Construction Review Group will have two focus areas in this context. First, reviewing Programme- and Tranche-level construction planning – from the perspective of deliverability and successful implementation more broadly, as opposed to priorities for investment given compliance and other risk factors. For example, the Construction Review Group would review substantive planning for delivery of Tranche 2A before this planning is approved by WIPSG.

Second, portfolio management for individual construction projects, including during the Design and Plan phase – e.g., endorsements to move from design to procurement to construction; and including overseeing delegated project board responsibilities given to individual PCG for large construction projects.

Membership will be as follows.

- Programme Manager.
- National Manager Project Delivery.
- Manager Delivery Planning.
- AM Procurement nominee.
- National Procurement nominee.
- Statutory Compliance nominee.
- RMLM nominee.
- H&S nominee.
- AM PMO nominee.
- Stantec representative (by invitation).
- AMFM Contractor representative (by invitation).

The Group will meet as required, probably no more than once every second month. As noted above, the role of the Group will be reviewed before the completion of Tranche 1, noting the scale construction activity planned for the subsequent Tranche.

Programme Manager

Although not part of WIP's governance arrangements, the Programme Manager attends WIPSG meetings. The Programme Manager is accountable to the SRO and wider WIPSG for the week-to-week delivery of the programme, acting with agreed tolerances for cost, quality, schedule, and other matters. Specific responsibilities include:

43. Preparation of management plans and associated registers.
44. Delivering against these plans, within agreed tolerances, and monitoring and reporting on this delivery.
45. Implementing agreed procedures for management of WIP, e.g., for change management.
46. Week-to-week oversight of processes for risk and issue management. Escalating risks and issues to the SRO and wider WIPSG.

Appendix CC: Programme Processes and Controls

The below sections are excerpts of the approved Tranche 1 WIP Programme Management Plan (PMP) which summarise the programme processes and controls that have been established during Tranche 1. The PMP for Tranche 2A is yet to be developed but will be established by the engaged Managing Contractor and build on the existing Tranche 1 PMP.

Change control

During Tranche 2A, Programme-level change requests will follow the Department's guidelines on Change Control Procedure. The following steps will be implemented.

- **Capture:** all Programme Change Requests will be logged in Sentient.
- **Examine:** assess the impact of the change. Determine if the change needs to go through the Department Change Request process before following the Managing Contractor approval process (if applicable).
- **Propose:** propose options and make a recommendation in a Programme Change Request Form.
- **Decide:** an appropriate level of authority will decide on the change request. The level of authority will be determined based on the level of severity of the change request as per the tolerances approved in WIP Programme Management Plan the holder of applicable contingencies (if required).
- **Implement:** during this step the Programme Manager will ensure that the approved course of action is incorporated into the programmes plans and is executed as planned. In some cases, this will result in a new baseline for the Tranche or wider Programme.

Before the commencement of Tranche 2A, options to develop these procedures for the WIP context will be considered in consultation with stakeholders including AM PMO.

Change control procedures will be used when considering actual or potential change to any element of the Programme and will comprise:

- A review of lessons learned from other programmes/projects where similare changes have occurred, to assist in the planning of change and to mitigate risks of repeating risks due to change in this Programme.
- Analysis of the change impact on the Programme's planned outputs, benefits, and risks, and impact on our key internal and external stakeholders
- Agreement of a specific set of actions and approach to manage the change, which will involve key stakeholders where appropriate and will also include internal tools and processes to manage financial impacts (funding memos) and contractual impacts (contract variations with suppliers or consultants) where appropriate
- A Programme change control register to record all change requests that impact the overall Programme and Project change control registers for each project will be kept. Each change request will require formal approval from the relevant governing authority and appropriate communication to those affected.

These procedures will help to ensure that any impacts to costs, risks, quality of outputs or benefits as a result of change will be appropriately managed and effectively communicated.

Cost Management

The WIP budget will be managed according to the tolerances, approvals, and contingency delegations approved in the WIP Funding Memo and in-line with the Departments Financial Delegation Policies.

WIP will implement the Department's monthly and other financial reporting requirements, including through use of Sentient insofar as this possible.

WIP-specific procedures for cost management will be implemented as per the WIP Finance Manual (May 2022).

Vendor Management

During Tranche 1, the focus of vendor management is procurement for Tranche 2A. As seen above, Tranche 1 includes dedicated Procurement Workstream given the scale of the procurement planning required as an input to DBC-23 and before commencement of Tranche 2A.

On overall approach, the Commercial Case of the PBC sets out current assumptions about WIP's approach to vendor management. These assumptions will not be repeated in the present version of this PMP because a substantially updated Procurement Strategy for WIP – focused on Tranche 2A – is currently being prepared. The next update to this PMP will:

- Record implications of this updated Strategy for how WIP will be managed as a programme.
- Document outcomes of follow-on procurement planning – once a commercial model for Tranche 2A (if not more for the WIP more generally) has been confirmed.
- Consider lessons from previous programme of WIP's nature.

Implementation and Handover

Programme-level processes for the implementation and handover of key deliverables – e.g., new 3W assets – will be confirmed during Tranche 1, i.e., in advance of the substantive construction activity to commence during Tranche 2A.

In the meantime, individual projects within WIP will specify implementation and handover requirements on a case-by-case basis, and, where appliable, following existing Departmental processes – e.g., as specified by the Project Completion Handover Checklist for Downer-led projects.

As a practical matter – and in advance of guidance to be issued on this subject before the commencement of Tranche 2A – all as-built drawings, warrantees/guarantees, compliance certification, plant and equipment operating and maintenance manuals, will be forwarded to AM-FM.

Quality Management

WIP will continue to follow the principle that a product cannot be considered as completed until it has been reviewed and approved by relevant authorities. Note:

- Reviewers and approvers for each Tranche 2A deliverable will be confirmed through an WIPSG-approved PMP.
- In addition, this PMP will specify macro-level quality criteria for Tranche 2A products within each WIP Workstream.

More detailed planning for WIP's quality management will occur prior to the commencement of Tranche 2A, with input from the appointed Managing Contractor. This quality planning will give attention to:

- Acceptance processes, including for construction deliverables.
- Quality activities, for both technical and management products.
- Quality controls, e.g., in terms of use of design authorities and Tranche/Stage-gate checks.
- Process for technical and other quality assurance, both at a programme and individual project level.

Programme Reporting

To ensure successful delivery of the three waters programme it is important that the appropriate balance is struck between delegation of authority, to ensure the efficient and effective management of the programme and maintaining appropriate accountability.

Corrections' performance management process ensures that progress towards the programme's strategic objectives are measured and reported to ensure achievement of outputs and agreed outcomes.

The governance structure and key roles outlined in the sections above will be used as the structure and roles for programme reporting.

Information Management

WIP will continue to maintain predominantly electronic records, which will be saved in CM9 – the Department's [add detail] – in due course.

WIP will comply with the information security classification guidelines and associated practices as per CM9 D15-114821 and D15-114818 PM: Guidelines for the Protection of Official Information.

The following controls will be in place and used during Tranche 2A:

- Document control (version updates, list of changes made each time) will be used.
- Draft versions will be labelled V0.1, V0.2, etc
- Final approved versions will be labelled V1.0 with any subsequent approved changes numbered V1.1, V1.2 etc (if a subsequent update is significant, consider using V2.0 instead).
- The Programme and any Project / Workstream names will be used consistently.
- A log is to be maintained listing the Programme Management and major business / technical outputs produced by the Programme.
- Sentient will maintain an Issue Log, listing all general issues associated with the Programme which may result in changes to the existing baselines.
- Sentient will maintain a Change Request Log of all the requests for change generated during the Programme's lifecycle.

Appendix DD: Benefits Realisation Plan

PDF inserted on following page

ARA POUTAMA AOTEAROA
DEPARTMENT OF CORRECTIONS

Waters Infrastructure Programme

Detailed Business Case Tranche 2A – Benefits Realisation Plan (Draft)

5 April 2023

Introduction

The Benefits Realisation Plan (BRP) is a complete view of all the benefits, their dependencies and expected timing for benefits realisation. It sets out what stakeholders can expect from the project or programme and is used as the basis for tracking against what is actually realised.

Treasury (2019). *Managing Benefits from Projects and Programmes: Guide for Practitioners*

The BRP should:

- Align to benefits identified in the Business Case (e.g. Strategic and Economic Case)
- Be SMART - we may have to be pragmatic about what we can track
- Provide an evidence base to show that the benefits identified in the programme have materialised (i.e. an audit function)

A good BRP also provides a basis to amend the programme if investments are not having intended consequences (i.e. support a management function)

The Corrections Waters Infrastructure Programme (WIP) BRP was developed by leveraging the benefits and objectives outlined in the draft WIP DBC Strategic Case and the 2021 PBC benefits register. This was subsequently updated to align with the draft Waters Assets Levels of Service (LoS) Framework v2 (February 2023). The draft BRP was further developed and refined at two workshops (27 March and 31 March) with the WIP team. It should be noted that the WIP BRP is a living document and will need to be updated accordingly as the DBC is developed, as the 2023 LoS Framework measures are finalised, and if there are relevant changes to legislation that need to be reflected.

Notes

Acronyms

DWSP: Drinking water safety plan. These have been developed for the following sites: Whanganui, Christchurch Men's, Christchurch Women's, Waikeria.

SAR: Site assessment reports. These have been developed for the following sites: Arohata, Rolleston, Mount Eden, Rimutaka, Christchurch Men's.

Definitions

Direct (BRP column header): Measures denoted as 'direct', the WIP has a substantial and direct influence on the benefit. Therefore the WIP is responsible for monitoring and meeting the benefit targets.

Indirect (BRP column header): Measures denoted as 'indirect', the WIP contributes but may not have a substantial and direct influence on the benefit due to other dependencies. Therefore the WIP is only responsible for understanding these measures for best practice.

Unplanned maintenance: To be defined by Corrections.

Emergency works: To be defined by Corrections.

Fault: To be defined by Corrections.

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B1 Improved health, safety and wellbeing of people in our care, staff and the public	**B1.1 Increase in health, safety and wellbeing of the people in our care, our staff and the public:** The safety and wellbeing of prisoners, our staff and the public are put at significant risk when prison services are lost due to a three waters infrastructure failure or drinking water quality issues leading to sickness or the requirement to shut water systems down. **Beneficiary:** Corrections, public, staff, and prisoners	*TBC*	B1.1.1 Number of unplanned decanting of our prisons solely due to water infrastructure failure. (LoS 1.1.2)	Direct	To be established. Important to distinguish between sites here. I.e. only decanting related to infrastructure failure should apply to SAR sites.	Establish through this process estate wide report on decanting activities (Annual) as there currently is no central repository on decanting activities	All (8 sites)	0 events by 2028/29
		TBC	B1.1.2 Number of notices issued related to water quality – i.e. boil water, infringement notice.	Direct	Under current DWS legislation, baseline is zero notices.	*TBC with resource and land management team for data sources*	DWSP sites only	0 notices by 2026
		TBC	B1.1.3 Lost time injuries associated with operation of Waters assets. (LoS 1.2.1)	Indirect	Historic count of lost time injuries over past [X] years per site.	Records of lost time injuries (Annual)	All (8 sites)	0 (per site) per year by 2022/23
	B1.2 Protect the natural environment: Reducing the current instances of non-compliance will minimise the negative impacts on the environment. Building resilience into the network to detail with climate-change related impacts and water conservation. Improving the management of three waters infrastructure to contribute to regional councils being able to give effect to Te Mana o Te Wai. **Beneficiary:** Corrections, public and staff	*TBC*	B1.2.1 Number of notices issued related to breach of consent etc.	Direct	Historic count of notices over past [X] years.	*TBC with resource and land management team for data sources*	All (8 sites)	0 notices by XXXX
		TBC	B1.2.2 Number of instances where monitoring shows Corrections is breaching consent conditions.	Direct	Historic counts of breaches over past [X] years.	*TBC with resource and land management team for data sources*	All (8 sites)	0 breaches by XXXX
		TBC	B1.2.3 Number of wet weather overflows from the wastewater and stormwater network. (LoS 1.4.1)	Direct	Historic counts of wet weather overflows over past [X] years per site.	Records of confirmed wastewater overflows (Annual).	SAR sites only	0 (per site) per year by 2026
		TBC	B1.2.4 % of sites where assessment has been undertaken to manage/reduce runoff/discharge volume and contaminant discharge beyond the site boundary. (LoS 2.2.2)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	TBC once site specific reporting is established	All (8 sites)	100% 8/8 sites by 2026

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B1 Improved health, safety and wellbeing of people in our care, staff and the public	**B1.3 Avoided unplanned emergency/costs:** Improving three waters infrastructure assets, processes and systems will reduce unplanned & emergency repairs and 'workarounds' to maintain service levels. **Beneficiary:** Corrections, staff and prisoners	*TBC*	B1.3.1 Amount spent on unplanned maintenance[1], or emergency[2] works, by site.	Direct	Historic spend on unplanned maintenance, or emergency works, over past [X] years, by site.	*TBC with finance team*	All (8 sites)	*% identified in the PBC, by site.*
B2 Improved service reliability	**B2.1 Improved capital planning (through improved information and evidence base):** Having information that is relevant, reliable, timely, accessible, and, ideally, comprehensive to support effective governance, engagement, and accountability. An improved understanding of the Corrections three waters network, coupled with appropriate investments in capacity and capability, will support enhanced total expenditure planning, optimised cost allocation and contract negotiation with current and future service providers. This will drive more efficient capital planning, delivery, and budget allocation across Corrections' prison portfolio. **Beneficiary:** Corrections	*TBC*	B2.1.1 Contingencies or margins that are priced into current and future contracts.	Indirect	Historic contingencies or margins applied to contracts over [X] years.	*TBC with WIP team*	All (8 sites)	*TBC*
		TBC	B2.1.2 % of sites with assets that have a condition rating with a reliable confidence (2 or better). (LoS 3.3.4)	Direct	Historic trend of confidence ratings by class over [X] years.	Records of Waters assets, by class, with condition ratings with a reliable confidence level (Annual)	All (8 sites)	100% 8/8 sites by 2026
		TBC	B2.1.3 Extent to which prices for services are within tolerances as part of QS estimates.	Direct	*TBC*	*TBC with WIP team*	All (8 sites)	*TBC*

[1]Unplanned maintenance: To be defined by Corrections
[2]Emergency works: To be defined by Corrections

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B2 Improved service reliability	**B2.2 Continuity of Service Provision and improved levels of service:** A greater understanding of the Corrections three waters network, coupled with appropriate investments in capacity, capability, reliability, and robustness will strengthen operations and maintenance programmes that can maintain continuity of service provision and improve levels of service for staff, prisoners, and the community. **Beneficiary:** Corrections, staff and prisoners	*TBC*	B2.2.1 % of sites within the reference pressure range at the "tap" under normal operations. (LoS 1.3.2)	Direct	Historic % of sites within reference pressure range under normal operations.	Site wide report on pressure levels within potable water network (Annual)	All (8 sites)	100% 8/8 sites by 2026
		TBC	B2.2.2 Number of unplanned interruptions to operations of critical services. (LoS 3.2.1)	Indirect	Historic count of unplanned operational disruptions over [X] years.	Records of unplanned interruptions (Annual)	All (8 sites)	*TBC*
		TBC	B2.2.3 Number of substantiated wastewater and stormwater service complaints / faults i.e. odour, faults, blockages, and flooding. (LoS 1.3.3 and 1.3.4)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	TBD once site specific reporting is established	All (8 sites)	100% 8/8 sites by 2026
	B2.3 Decreased three waters planned and unplanned or emergency mitigation costs: Adopting interventions that can reduce costs associated with current and known/planned mitigation measures as well as reducing the risk of costs associated with unplanned mitigation measures. Corrections will also avoid much higher costs that would be incurred if the assets deteriorate to point of failure, and which leads to denial of service or business interruption at prisons. **Beneficiary:** Corrections	*TBC*	B2.3.1 Amount spent on unplanned maintenance[1], or emergency works[2], by site.	Direct	Historic spend on unplanned or emergency mitigations over past [X] years.	*TBC with finance team*	All (8 sites)	*% identified in the PBC, by site.*

[1]Unplanned maintenance: To be defined by Corrections
[2]Emergency works: To be defined by Corrections

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B2 Improved service reliability	**B2.4 Increased compliance with legislative and regulatory requirements:** Corrections has a range of legislative and regulatory obligations that must be met when delivering three waters services. These include complying with: • Provisions relating to supply of drinking water stated in Part 2 of the Water Services Act 2021. • The set limits for the concentration of determinands in drinking water stated in the Drinking Water Standards 2022. • The compliance rules such as monitoring and reporting requirements for drinking water as stated in the Drinking Water Quality Assurance Rules. • Provisions relating to supply of firefighting water stated in New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008). • Duties and restrictions in relation to use of land, coastal marine area, river and lake beds, water, discharges and noise as stated in Part 3 of the Resource Management Act 1991 (amended 2022). • The requirements of the National Policy Statement for Freshwater Management 2020 (amended 2023) including managing freshwater in a way that 'gives effect' to Te Mana o te Wai and improving degraded water bodies. • The standards for other activities that relate to freshwater such as a culvert in Part 3 of the National Environmental Standards for Freshwater Management. • Water or wastewater bylaws set out by relevant local authorities. • Health and safety duties stated in Part 2 of the Health and Safety at Work Act. **Beneficiary:** Corrections, staff, and prisoners	*TBC*	B2.4.1 % of sites with treatment that is compliant with Drinking Water Standards and DWQAR (Drinking Water Suppliers only). (LoS 1.1.1)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	• Direct monthly reporting (Taumata Arowai) of sampling results • Site specific compliance (Annual)	DWSP sites only	100% 4/4 sites by 2026
		TBC	B2.4.2 % of sites with a third party supply that is compliant with Drinking Water Standards and DWQAR. (LoS 1.1.2)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	• Sampling Results • Site specific compliance (Annual)	Third party supplier sites only (XX sites)	100% X/X sites by 2026
		TBC	B2.4.3 % of sites with potable water distribution system compliant with current drinking water legislative requirements for sampling and documentation. (LoS 1.1.3)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	• Sampling Results • Site specific compliance (Annual)	All (8 sites)	100% 8/8 sites by 2026

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B2 Improved service reliability	**B2.4 Increased compliance with legislative and regulatory requirements:** Corrections has a range of legislative and regulatory obligations that must be met when delivering three waters services. These include complying with: • Provisions relating to supply of drinking water stated in Part 2 of the Water Services Act 2021. • The set limits for the concentration of determinands in drinking water stated in the Drinking Water Standards 2022. • The compliance rules such as monitoring and reporting requirements for drinking water as stated in the Drinking Water Quality Assurance Rules. • Provisions relating to supply of firefighting water stated in New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008). • Duties and restrictions in relation to use of land, coastal marine area, river and lake beds, water, discharges and noise as stated in Part 3 of the Resource Management Act 1991 (amended 2022). • The requirements of the National Policy Statement for Freshwater Management 2020 (amended 2023) including managing freshwater in a way that 'gives effect' to Te Mana o te Wai and improving degraded water bodies. • The standards for other activities that relate to freshwater such as a culvert in Part 3 of the National Environmental Standards for Freshwater Management. • Water or wastewater bylaws set out by relevant local authorities. • Health and safety duties stated in Part 2 of the Health and Safety at Work Act. **Beneficiary:** Corrections, staff, and prisoners	*TBC*	B2.4.4 % of sites fully compliant with New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008). (LoS 1.3.1)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	Site wide report on fire compliance (Buildings and fire hydrant)	All (8 sites)	100% 8/8 sites by 2022/23
		TBC	B2.4.5 % of sites compliant with resource management obligations or third party agreements for water activities. (LoS 2.2.3)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	Site wide report on Site Compliance (Annual)	All (8 sites)	100% 8/8 sites by 2026
		TBC	B2.4.6 % of sites compliant with health and safety obligations for operational water activities.	Direct	*TBC with three waters asset team / resource and land management team for data sources*	*TBC with three waters asset team / resource and land management team for data sources*	All (8 sites)	100% 8/8 sites by 2026

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B3 Improved reputation, relationships, & partnerships	**B3.1 Increased trust and confidence regarding our license to operate:** Resolving three waters infrastructure issues will improve levels of service, mitigate risks, or enhance positive outcomes for prisoners, staff, and the community. This will improve trust and confidence of the Department with iwi, other key stakeholders, and the wider community, leading to opportunities for mutually supportive partnerships. **Beneficiary:** Corrections	*TBC*	B3.1.1 Potable water quality is acceptable to consumers as measured by number of substantiated complaints for clarity, taste and odour (and compliance with Aesthetic Values where appropriate). (LoS 1.1.4)	Direct	Historic number of complaints associated with water quality over [X] years per site.	Records of complaints, both unsubstantiated and substantiated (Annual)	DWSP sites only	< 2 (per site) per year by 2026
		TBC	B3.1.2 Number of substantiated wastewater and stormwater service complaints / faults[3] i.e. odour, faults, blockages, and flooding. (LoS 1.3.3 and 1.3.4)	Direct	*TBC with three waters asset team / resource and land management team for data sources*	*TBC once site specific reporting is established*	All (8 sites)	100% 8/8 sites by 2026
	B3.2 Improve our ability to integrate with water suppliers or to divest of assets or supply: Resolving three waters infrastructure issues, as well as improving asset information, can increase the ability of Corrections to transfer assets, or services, to third parties **Beneficiary:** Corrections	*TBC*	B3.2.1 Asset management maturity rating.	Direct	Historical asset management maturity rating per site.	*TBC with three waters asset team*	7 sites only (excludes Waikeria)	*TBC with three waters asset team*

[3]Fault: To be defined by Corrections

Benefit	Description	Owner	Possible measures	Direct/ Indirect	Baseline	Data source(s)	Applicability across prison sites	Target (incl. time)
B3 Improved reputation, relationships, & partnerships	**B3.3 Decrease in potential for reputational damage:** Three waters infrastructure failure, regulatory non-compliance and/or lack of access to basic life needs related to drinking water, water for personal hygiene (toilets, showers), disposing of wastewater (including sewage), and water for use in rehabilitation and education programmes and meaningful activities outside of prison cells is likely to negatively impact public confidence in the Corrections system. Continued friction with local iwi over water issues, if not resolved, restrict Corrections' ability to be considered genuine in their commitment to positive and meaningful engagement with Māori, in line with the Hōkai Rangi Strategy and as a Crown-Treaty Partner. Continued friction with Councils and Water Suppliers over breach of consents and supply agreements and the challenging process of renewing these, if not resolved, also restrict Corrections' ability to be seen as a reliable and effective partner in relationships or partnerships that bring mutual efficiencies and other benefits to our key stakeholders. **Beneficiary:** Corrections	*TBC*	B3.3.1 Number of non-compliance risks in relation to three waters services.	Direct	Historic count of non-compliance risks per site.	*TBC with three waters asset team / resource and land management team for data sources*	All (8 sites)	*TBC*
		TBC	B3.3.2 Number infringements notices received in relation to three waters services.	Direct	Historic count of infringement notices received per site.	*TBC with three waters asset team / resource and land management team for data sources*	All (8 sites)	Zero infringement notices received per site.
		TBC	B3.3.3 Number of unplanned interruptions to operations of critical services. (LoS 3.2.1)	Indirect	Historic count of unplanned operational disruptions over [X] years.	Records of unplanned interruptions (Annual)	All (8 sites)	*TBC*
		TBC	B3.3.4 Following the stakeholder engagement plan for each site.	Direct	Create a stakeholder engagement plan for each site.	*TBC with three waters asset team who will develop this pln.*	All (8 sites)	*TBC*
B4 Improved efficiency	**B4.1 Reduced water demand through reduced water waste[4]:** Minimising the volume of real water losses from the network and optimising the average water consumption across sites will improve the efficiency of water use. Additionally, adopting newer technologies, or altering operational practices, can encourage more environmentally effective use of existing resources (water) or inputs (electricity, gas, chemicals) as well. **Beneficiary:** Corrections	*TBC*	B4.1.1 Volume of real water loss from the potable water network. (LoS 2.1.1)	Direct	Historical volume of real water losses per site over [X] years	Site wide report on real water loss. *Check with Liam.*	Only sites that have water meters (TBC on others).	< 5 m^3/km/day by 2026.
		TBC	B4.1.2 Average potable water consumption per Person per day by site (excluding operational/commercial/industrial water use). (LoS 2.1.1)	Direct	Historical average potable water consumption per person per site per day over [X] years (excluding operational/commercial/industrial water use).	Site wide report on real water loss. *Check with Finance.*	Only sites that have water meters (TBC on others).	< 200 l/p/day by 2026.

[4]This was previously a sub-benefit of "B1 Improved health, safety and wellbeing of people in our care, staff and the public". However, this sub-benefit has be re-categorised into a new benefit category "B4 Improved efficiency" as this is a significant benefit for the WIP. This will need to be further tested before finalising as this may impact on the broader WIP DBC Strategic Case and Economic Case.

Appendix EE: Stakeholder Levels of Engagement Descriptions

Stakeholder	Type of engagement
Government (External)	
Minister of Corrections & Minister of Finance	Inform – as required for programme activities, including as part of the Budget 2023 submission to Treasury.
Treasury - Vote Analyst and IMAP liaison	Consult - in development of the investment proposal and the subsequent, supporting business with regular update meetings and opportunities for feedback.
Three Waters Services Government Reference group – DIA, DOC, Education, Kainga Ora, NZDF, Department of Corrections	Inform and discussions to compare – Our Strategic Asset Manager has been a member of the Government Reference Group for Corrections and together with our and Manager Resource Management, has held regular conversations with counterparts in these Government Agencies to both learn and share knowledge regarding meeting our 3 Waters Services and Infrastructure needs.
Taumata Arowai	Inform and be informed – Our Strategic Asset Manager has held regular conversations with the CEO and members of staff through the development and submission of Drinking Water Safety Plans required for the sites where the Department is the supplier of water, to ensure the PBC and the Department are informed of plans for 3 Waters Reform and Legislation, as well as informing the regulator of our challenges.
Infrastructure Commission	Inform and be informed – our DCFO Strategic Finance, the programme Procurement Lead, and our Strategic Asset Manager have held regular meetings with the Infrastructure Commission, in the development of procurement planning for the implementation of the various construction projects required by the programme. The Infrastructure Commission have advised that they do not require consultation in the development of this DBC and associated Cabinet Paper.
Ministry of Justice	Inform – as Justice Sector partners on any operational considerations to the prison network.
Non-Government (External)	
AM/FM Service Providers	Collaborate – Engaged in activities that formed outputs required to inform DBC and Engaged in the undertaking of ongoing investigative works and associated planning for construction activity to be undertaken during T2A.
Mana whenua and Treaty Partners	Collaborate – Interested iwi partners have been engaged in the design and planning of construction activities undertaken during T1, including at the Whanganui Prison site. Programme management planning, by site, will include collaboration with iwi partners, where relevant.
9(2)(b)(ii)	
Other Professional Service Providers	Collaborate – via direct engagement on professional services required by the programme such as legal, quality assurance and probity.
Regional/Local Authorities	Involve – via direct engagements on planning and consent process in partnership with AM/FM teams
Water Providers	Involve – on planning and assurance of potable water compliance activities, including with Drinking Water Standards.
Unions: CANZ, PSA, NZNO	Inform – via communications on any impacts to front line staff and operations because of work at sites, including training and education opportunities for uplifting compliance requirements.

Appendix FF: Immediate Engagement Priorities

The level of engagement with some stakeholders will increase by a material degree over the first 12 months of T2A. The below sections summarise the immediate engagement priorities.

Treaty Partners, Tāngata Whenua, and Mana Whenua

WIP acknowledges the connection Māori have with water. Māori exercise Kaitiakitanga over freshwater and have strong relationships to water more generally. Water is taonga. The programme is aware that decisions relating to three waters infrastructure – including as implemented through T2A – are important to Māori, and that there is a link to Maori Crown partnerships more generally.

Ara Poutama Aotearoa, as a representative of the Crown, have obligations under Te Tiriti o Waitangi to:

- actively protect Māori interests,
- treat Māori fairly, and
- involve Māori in designing, developing, and implementing strategies that affect Māori.

The Department recognises WIP's investment objectives are best served by early and effective engagement with the mana whenua associated with the rohe in which T2A delivery is focused. Such engagement will enable WIP to gather on-the-ground information, to understand issues and views properly and early, and to incorporate our partnership with Māori to strengthen the legitimacy of decisions, both for the programme and the Department as a whole. It is recognised that delivery of Tranche 2 could be delayed or entail additional costs unless:

- early engagement occurs with mana whenua,
- there are meaningful conversations about WIP's impacts on water quality and use, and
- decisions are consistent with Māori rights and interests in the freshwater body.

WIP will draw upon the expertise of the DCE Māori, and specifically the Ruataki Māori Partnerships team, as well as Corrections' local iwi relationship owners, who will co-ordinate engagements. WIP will use established channels only, recognising that Corrections has a consolidated programme of iwi engagement as part of the implementation of the Department's Hōkai Rangi strategy. This holistic approach to engagement with iwi representatives posits the Department as a partner with a singular voice, reducing multiple engagements across the various activities of the Department and allowing a te ao Māori worldview to inform these partnerships. Engagement and communications by WIP will follow, and be led by, these principles of engagement.

Noting the importance of water use to Māori, and the engagements separate to WIP happening a part of the Government's wider three waters reform programme, the expectation of WIP is that the appropriate levels of involvement and information sharing conducted is framed and focused on the interventions required to the Department's three waters assets, separate from any wider legislative or governance reform that is happening concurrently.

Corrections Services

While on-going engagement with a variety of internal stakeholders will be required, strong engagement with Corrections' operational arm – Corrections Services – will be critical for the success of T2A.

Table FF1 Approach to Engagement with Corrections Services Stakeholders

Internal Stakeholders	Goal for group	Approach
Leadership teams at sites, including PDs, APDs, and site Operational Support Managers	Decision makers who are informed of programme activities and planning	Ensure they are kept fully informed with timely and accurate information, while allowing two-way communications to build effective working relationships.
All staff at sites	End users who are informed of upcoming works and empowered by water use information	Communications where appropriate using a mixture of collateral, newsletter and email channels, and direct engagement, supported by intranet resources.

While consultation is required at a site level for the delivery of T2A, Corrections Services' interests and strategic direction at the most senior level, will be represented primarily by the Deputy National Commissioner and the Director of Change.

The Programme team, led by the Programme and Project Managers will also work collaboratively with Prison Directors and their Operations Support Managers, where required, to ensure that:

- the programme rationale and goals are properly communicated and understood, with a clear understanding of roles, responsibilities, and demands on time,
- the expectations and concerns of regional and site leaders are well understood by the programme team and are factored into programme and project planning and delivery,
- the programme team understands site histories, including any construction activity recently undertaken or planned, and the prior experiences of each site based on lessons learned, to avoid repeating mistakes,
- regional and site leaders are sufficiently involved in design, implementation, and change management processes to ensure fit-for-purpose solutions are developed and delivered, and
- the scope, scale, and interdependencies of potential operational disruptions to sites are well understood and communicated, with mitigations jointly planned to ensure 'no surprises.'

Communications and engagement plans will be developed for each group of projects within the construction phase of the programme, supported by the overarching Programme Communications and Engagement Strategy. These plans will articulate a communications approach tailored to each phase of the Programme and to each group of sites within that phase.

Communications and engagement activities will be coordinated by the Programme Manager and each of the Project Managers, with support from the Communications and Engagement lead, and for Prison sites, in collaboration with the Deputy National Commissioner and the Director of Change.

This approach will ensure appropriate leadership and consistency of messaging for stakeholders to drive awareness, understanding, buy-in and contribution to the project, and for stakeholders to be able to contribute to problem solving and lessons learned for the benefit of the programme and projects within it.

This approach will also assist with a strong partnership and buy-in from the Business as Usual (BAU) teams that will support initial delivery of the programme, and ensure a successful transition to ongoing strategic management of assets by BAU teams after implementations.

Noting the current environment in relation to the COVID-19 response at sites is one of prioritising as capacity for new projects opens, leadership at sites will be engaged with a "whole of Asset Management" approach. The programme team will engage with wider Asset Management & Facilities Maintenance teams to develop a plan of engagement with sites that encompasses upcoming work for the purposes of information sharing, while time, resourcing, and health and safety considerations at sites are effectively managed. From this, an iterative site engagement plan for the programme will be developed, noting that specific programme work will also require direct engagement with sites outside of these, as needed. This foundation of engagement will allow the programme to create wider information and education communications for all sites advising of any potentially disruptive work upcoming, while beginning to promote educational resources developed on desired water use in the future state.

Engaging Sites

The programme will be sensitive to the needs of, and the environment at, sites as engagement for new and ongoing project work occurs. It is expected that many Asset Management initiatives will require engagement with sites throughout the four-year period of T2A. The "whole of Asset Management approach" detailed above will provide the opportunity for a consolidated and integrated approach to engagements with sites, minimising disruption to the core services delivered by Corrections Services. What this looks like in practice will be co-developed with stakeholders but could allow for consolidated communications to sites with updates across multiple pieces of work, ensuring projects needing similar information are able to consolidate questions and share answers, and that comms resources are shared across projects.

AM Directorate

The programme will act on a principal of openness and partnership with its AM partners, positioning the expertise of the programme team with regards to project management and delivery as a resource to work in conjunction with the institutional and operational skills that exist within BAU teams in the Department.

Targeted comms to Asset Management teams will continue to leverage internal communications channels developed during T1 of WIP, including a dedicated project inbox, AM/FM newsletters, workshops, floor talks and other targeted channels, all supported by information provided by intranet resources. This will promote and support the sharing of information and develop working relationships with partners.

Table FF2 Approach to Engagement with Asset Management Stakeholders

Internal Stakeholders	Goal for group	Approach
AM/FM partners including PAR, SAM, FM and RMA teams	Decision partners who are engaged with programme activities and planning	Regularly engage with planning for all relevant engagement and comms activities, ensuring wider AM/FM messaging can be incorporated. Bespoke channels such as BM newsletter, floor talks, and AM emails to target messaging.

Key Messages for Collaboration with Asset Management

- The input, experience, and expertise of all Asset Management teams is vital to the success of the Three Waters Programme. You are the experts at managing the Department's assets.
- Our project team brings external expertise that compliments the work you do.
- We are here to help build a programme with you that will ensure you are resourced, have the processes you need, and that we can collectively meet our long-term goals.
- That is why it is so important we talk now, to define the framework of the programme and our roles and responsibilities that ensure we can provide the support you need.
- Ongoing and meaningful partnerships between the Programme and other Asset Management teams is key to the success of this. This is a priority for our programme of work.
- Now is also the perfect time to do this. Informed by the work undertaken to date, we are reviewing the current tranche of the programme with an aim to inform the next phase of work.
- This direction will give everyone involved a clear focus on our collective journey.

Approach Regarding Three Waters Reforms and Legislation

Table FF2 Approach to Engagement with Wider Government Three Waters Partners

Partner agencies	Goal for group	Approach
Other partner agencies, including Taumata Arowai	Two-way information sharing to understand and comply with future impacts of changes to water policy	Engaged through appropriate workstream activities, as required.

The programme team also recognises the central role that several government agencies are playing in the upcoming reform of three waters regulation and service delivery. Engagement with Taumata Arowai, the new Water Services Regulator will continue to be led by the Strategic Asset Management and Institutional Leads of WIP, to ensure compliance with recently enacted and upcoming legislative and regulatory requirements, including the creation and submission of Drinking Water Safety Plans for relevant sites. Corrections continues to engage constructively with Taumata Arowai to ensure alignment with their reform agenda and the new regulatory environment.

Corrections also continues to engage with the NZ Defence Force, Department of Conservation, Ministry of Education, and the Infrastructure Commission in an ongoing Three Waters Working Group, as well as with other agencies such as MBIE, local councils and water suppliers, who are all stakeholders with similar interests in upgrades of Corrections' three waters infrastructure.

Branding that gives a singular voice and identity to project work is an important tool to effectively engage with partners and stakeholders. While the programme was initially stood up under the name “Three Waters”, the wider reform programme happening outside the Department under this banner has created connotations for people about the nature of work this programme is undertaking. While ensuring compliance with three waters legislation is an output of the programme, work on sites will be focused on ensuring water infrastructure continues to serve the needs of the Department. To support this message and focus, the programme was renamed the Corrections Water Improvement Programme during T1, with associated branding collateral developed to support a simple and clear message about the need for this work and the benefits it is providing.

Approach Regarding Prisoners and their Whānau

Regard continues to be given to people under Corrections’ care and their whānau. As construction projects are implemented, communications will be developed at the programme and project level, in consultation with Corrections Services, that ensure Corrections staff, people under the care of Corrections, and their whānau understand any temporary impacts on them caused by programme activities, what changes are taking place, and how the outputs of WIP will support a better quality of life for those who reside or work in the prison estate.

Key Messages Regarding the Programme

- The Department’s Water Infrastructure Programme is focused on the critical works needed for our water infrastructure – understanding what it looks like today and what we need to do to ensure it continues to support our frontline staff with their mahi in the future.
- Ara Poutama Aotearoa is responsible for maintaining a significant network of water infrastructure across all 18 prison sites, with an estimated replacement cost of more than $200 million.
- Over half of our prison sites are more than 50 years old and nearly 70% of the water infrastructure we have is at potential risk of asset or compliance failure.
- Acting now will help us to continue to provide safe, healing, and humanising environments across prison network.
- This will also mitigate risks associated with unplanned prisoner movements and transfers because of water systems failing at sites.
- Part of our work will be ensuring compliance with ongoing legislative changes, but the primary focus is on making sure our infrastructure can meet the needs of the Department, now and in the future.
- The programme is split in to two tranches:
- Tranche 1 is about investigating sites to build processes and discover where the most urgent work needs to happen
- Tranche 2 will prioritise and continue construction work at sites over the next few years.

Frontline Corrections’ staff

An assessment conducted by WIP indicates that, for frontline Corrections’ staff, a low level of change management will be required. In general, the “end users” of water services in this context – including Corrections’ staff – will not be materially impacted by Tranche 2A delivery or its outputs. Nonetheless:

- Information on the project will also be shared through mass communication channels to ensure frontline staff, and Corrections Services teams that support them in National Office are informed of programme activities.
- Regular engagement with identified partners through workstream activities will be supported by the development of a centralised repository of information on tātou, providing project updates, an overview of the scope of the works and intended outcomes, educational resources, contact information for team members, and other supporting information.
- A centralised programme email address and inbox, supported by programme branding, will create a voice and identity for the programme for all communications. This will allow for direct engagement with those impacted most by the ongoing work and allow an iterative build of communications over time. This approach will help embed the programme with sites while prioritising the most important information to be received at the most important time.

- An opportunity has been identified in education around water use to reduce consumption. If desired, this could be established as a self-directed learning module or resource owned by the Learning and Development team.

AM Directorate

WIP's SAM workstream is responsible for building the capacity and capability of the Department and its contracted Facilities Maintenance providers to ensure compliance with the new drinking water safety requirements of the Water Services Act 2021. This will require the adoption of new processes and upskilling of staff to ensuring compliance on an ongoing basis. As documented above, engagement with sites and operators on an early and ongoing basis will support the work in this area and allow for a successful change programme to be implemented.

Stakeholders at sites have been engaged at the design and planning stages of all activities for each site. As planning and implantation of tranche 2 of the programme continues, this process will continue to mitigate any potential disruption to the operation of the core functions of each site, and to prioritise, plan, and consolidate activities on site. The change management process detailed below will be incorporated into any temporary procedural changes required for site operation (e.g. changes to site access, onboarding and processing of prisoners, water use such as irrigation or water storage), and in the implementation of any ongoing post construction procedures (e.g. water testing, reporting, maintenance of infrastructure).

The change management journey will exist through the entire life cycle of the programme, allowing BAU units to transition in to ownership and effective management of new assets and procedures. Co-design of procedures with impacted stakeholders will be essential to understanding the reasons for any change, as well as in understanding those procedures. Similarly, active and ongoing engagement with stakeholders will allow BAU teams to effectively integrate the increased availability of data on assets in to their strategic asset planning and to consider the appropriate resourcing for the maintenance and replacement throughout the entire lifecycle of the asset.

Treaty Partners, Tāngata Whenua, and Mana Whenua

The Department's change management principles are also paramount in the engagement and partnership with Iwi and Mana Whenua. Noting the Department's approach to iwi engagement described above, the Department's iwi engagement process will be used as the guiding principles of iwi engagement as it relates to change. A Te Ao Māori perspective on engagement is an important consideration of engagement and change management with our Treaty Partners.