



Environmental
Protection
Authority

Beenyup Wastewater Ocean Outlets into Marmion Marine Park
– inquiry under section 46 of the
Environmental Protection Act 1986
to amend Ministerial statements 382 and 569

Water Corporation

Report 1751
October 2023

Inquiry under section 46 of the *Environmental Protection Act 1986*

The Minister for Environment has requested that the Environmental Protection Authority (EPA) inquire into and report on the matter of amending the implementation conditions in Ministerial Statements 382 and 569 relating to the Beenyup Wastewater Ocean Outlets into Marmion Marine Park.


Section 46(6) of the *Environmental Protection Act 1986* requires the EPA to prepare a report that includes:

- (a) a recommendation on whether or not the implementation conditions to which the inquiry relates, or any of them, should be amended
- (b) any other recommendations that it thinks appropriate.

The following is the EPA's report to the Minister pursuant to s. 46(6) of the *Environmental Protection Act 1986*.

The proponent, Water Corporation, has also submitted a request to the EPA to change the proposal described in Ministerial Statement 382. This report includes the EPA's advice to the Minister following consideration of the requested changes to the proposals' operating scenarios following commissioning of the Advanced Water Recycling Plant.

The EPA considered the two requests in a combined report as the changes to the conditions and proposal are related and linked.



Prof. Matthew Tonts
Chair
Environmental Protection Authority

2 November 2023

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1 Proposal

The Beenyup Wastewater Ocean Outlets into Marmion Marine Park commenced operation in 1978 and disposes treated domestic wastewater associated with the Beenyup Water Resource Recovery Facility (WRRF) into Marmion Marine Park.

In January 1990, the Environmental Protection Authority (EPA) assessed the duplication of the ocean outlet (the original referred proposal) at the level of Public Environmental Review. The EPA considered the following environmental factors required detailed evaluation in its Report and Recommendations (Report 393, EPA 1990) to the Minister for the Environment:

- nutrient loading on the local marine communities of Marmion Marine Park
- bacterial contamination of waters in relation to public health and ecological considerations
- heavy metal and pesticide (toxicant) contamination of local biota
- underwater blasting
- modification to seabed and damage to the marine communities
- onshore site modification.

The EPA concluded in Report 393, that the proposed second outfall would be environmentally acceptable, provided the combined nutrient loadings from both offshore outlets did not exceed the maximum loads set for the single outfall (EPA 1990). The then Minister for Environment approved the proposal for implementation, subject to the implementation conditions of Ministerial Statement 101.

In applying the *Statement of environmental principles, factors, objectives and aims of EIA* (EPA 2023b) these factors are now represented by:

- Benthic Communities and Habitat
- Marine Environmental Quality
- Marine Fauna.

These environmental factors have been used to assess the proposed change to the proposal and the conditions. In addition, and since the original proposal was assessed, the EPA has included an additional environmental factor for Greenhouse Gas Emissions. This is discussed further in section 5.3.

Previously approved amendments to the proposal

In August 2016, Water Corporation requested both an amendment to the proposal and to the conditions to incorporate the operation and expansion of the Advanced Water Recycling Plant (AWRP), which was assessed as part of the Perth Groundwater Replenishment Scheme (Ministerial Statement 1065).

The proposed change to the proposal was the incorporation of two operating scenarios based on the percentage of wastewater that was expected to be

recovered from the wastewater stream by the AWRP. This resulted in changes to the both the volumes and discharge characteristics of the wastewater disposed of through the ocean outlets. The amended proposal was approved under s. 45C of the *Environmental Protection Act 1986* (EP Act) in August 2017.

Previously approved amendments to the conditions

Ministerial Statement 101 required environmental studies into the effects of the discharge of treated wastewater into Perth's coastal waters (condition 12) and regarding alternatives to ocean disposal (condition 13). These had not been completed within the specified timeframe and the EPA was requested to conduct an inquiry under s. 46 of the EP Act to extend the reporting deadlines for these conditions. As part of this inquiry, the EPA removed conditions that had already been completed and updated the wording on other conditions to reflect the current standard at the time. The EPA released Report 762 in November 1994, and the subsequent Ministerial Statement 382 was published in March 1995. Ministerial Statement 382 replaced all implementation conditions of Ministerial Statement 101.

In November 1998, Water Corporation requested a change to condition 2-1 of Ministerial Statement 382 to provide an increase to the total phosphorous discharged from the outlets, this increase was from 913 kilograms (kg) per day to 1500 kg per day, plus 10%. The EPA undertook an inquiry under s. 46 of the EP Act into this change, noting that productivity and growth of marine organisms is dependent on nitrogen availability rather than phosphorous. The EPA therefore recommended that condition 2-1 be amended (Report 1012, EPA 1995). Ministerial Statement 569 was published in July 2001 approving the increase in phosphorous levels.

New information since the last assessment

Since the EPA released Report 1012, the EPA has also completed its assessment on the redevelopment and expansion of Landcorp's Ocean Reef Marina proposal (Report 1629, EPA 2019). The revised marina involves the construction of two additional breakwaters, dredging and reclamation works within the new breakwaters and the installation of jetties and moorings to facilitate up to 750 boat pens. The proposal also involves removal of the current breakwaters. Ministerial Statement 1107 regulates environmental aspects of the Ocean Reef Marina proposal.

The EPA's assessment of the Ocean Reef Marina was based on the key environmental factors of marine environmental quality, benthic communities and habitats, coastal processes and social surroundings. In conducting this Ocean Reef Marina assessment, Landcorp and the EPA considered the existing Beenyup Ocean Outlets, which discharges approximately 1.6 kilometres due west of the marina (refer Figure 1). The interaction between this proposal and the Ocean Reef Marina proposal is discussed in Section 5.1.



Figure 1: Proposal location, Low Ecological Protection Area and Primary Contact Management Zone

2 Requested change to the proposal

In 2020, the proponent requested a further change to the proposal based on an updated understanding of the operating capacity of the AWRP. The proponent advised that the limits of the approved proposal were overly optimistic, and that the AWRP would not be able to recover the volume of wastewater expected. The following changes to the proposal were therefore requested:

- removal of “scenario 1 and scenario 2” operations and replacement with a discharge range for the WRRF and AWRP
- update to the boundary of the Seafood Management Zone based on improved understanding of water quality outcomes delivered by the AWRP.

Amendments to the EP Act came into force in October 2021, however, these amendments only apply to applications submitted after that date. Therefore, this change to proposal has been assessed using the relevant provisions of EP Act that were in force at the time of the application.

The previous section 45C of the EP Act provided that the Minister may consent to changes to a proposal after a statement has been issued under s. 45(5) of the Act, provided the Minister does not consider that the change might have a significant detrimental effect on the environment in addition to, or different from, the effect of the original proposal.

Section 5.3 of the previous Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA 2020a) identifies the EPA’s process for undertaking an assessment of a change to a proposal; in particular, the ‘six aspects’ to be considered when determining whether a change to a proposal can be approved.

2.1 The six aspects to be considered

1. Identification of the content of the original proposal.

The original referred proposal described in the public environmental review and relevant EPA Reports, and approved under Ministerial Statements 101, 382 and 569, is to build a second ocean outfall from the WRRF into Marmion Marine Park. It has the following characteristics:

- Outlet A – pipeline 1,650 meters (m) in length and 1,420 millimetres (mm) in diameter with a 200 m diffuser (consisting of 50 ports)
- Outlet B – pipeline 1,800 m in length and 1,420 mm in diameter with a 200 m diffuser (consisting of 48 ports)
- discharge of up to 150 mega litres per day (ML/day).

The change to the proposal approved in 2017 incorporated a key characteristics table to Ministerial Statement 382 which included the above elements. The amended proposal also included two operating scenarios, which were based on whether the AWRP was operating at full expected capacity (greater than 75% recovery) or only at partial expected capacity (less than 75% recovery) and/or when the AWRP was

offline for planned or unplanned shutdowns and maintenance (refer Attachment 1 of Ministerial Statement 382).

A Low Ecological Protection Area (LEPA) and a combined Seafood and Primary Contact Management Zone were applied around the outlets based on the expected dilution of wastewater. The amended proposal also included Environmental Values and Environmental Quality Objectives, consistent with the EPA's Marine Environmental Quality Framework.

2. Identification of the content of the relevant change(s) and determine whether the change(s) involves a revision of the original proposal.

This change to the proposal is regarding the volume of wastewater that will be recovered by the AWRP, which is changing from the AWRP recovering greater/less than 75% to the AWRP recovering between 47–68%. This change results from an improved understanding of the operational efficiency of the AWRP as described above. The change can be categorised as:

- normal operation – best plant performance: the AWRP running at the highest expected operational capacity (68%)
- normal operation – worst plant performance: the AWRP running at the lowest expected operational capacity (47%).

This change will result in a change to the concentrations of toxicants in the wastewater stream, which is summarised in Table 1.

Table 1: Summary of the changes to the discharge volumes and characteristics

Proposal element	Unit	Original referred proposal (MS 382)	Amended proposal (s.45C 2017)	Revised normal – best case	Revised normal – worst case
<i>Discharge volume</i>					
AWRP recovery	%	0	85	68	47
Volume into WRRF	ML/d	150	150	150	150
Volume into AWRP	ML/d	0	150	130	91
AWRP production	ML/d	0	127.5	88	61
Discharge from WRRF direct to the ocean outlet	ML/d	150	0	20	20
Amount diverted from AWRP due to reduced (70%) capacity/ performance	ML/d	0	0	0	39
Discharge from AWRP to the ocean outlet	ML/d	0	22.5	42	30
Total discharge to ocean	ML/d	150	22.5	62	89

Proposal element	Unit	Original referred proposal (MS 382)	Amended proposal (s.45C 2017)	Revised normal – best case	Revised normal – worst case
Discharge to ocean (via each outlet)	ML/d	75	11.25	31	44.5
<i>Discharge characteristic</i>					
Total dissolved solids	g/L	0.73	4.87	1.77	1.23
Copper	µg/L	9.3	62	22.5	15.7
Zinc	µg/L	6.3	42	15.2	10.6
Ammonia	mg/L	1.8	12	4.4	3
<i>Enterococci</i> spp.	MPN/100 mL	4,057	609	1,309	2,689
Thermotolerant coliforms (TTC) in the discharge	CFU/100 mL	72,005	10,801	23,227	47,734

Consistent with the amended proposal, there will remain a situation where the AWRP will not be operating (planned and unplanned maintenance and shutdowns), and 100% of the wastewater stream will be treated by the WWRF and disposed of through the outlets. For these limited periods, the characteristics of the wastewater stream will be consistent with the original referred proposal as described above in Table 1.

While the EPA notes that the concentration of some toxicants are going to increase, it also notes (as discussed below) that these increases are not predicted to affect the ability of the proposal to meet relevant Environmental Quality Guidelines and Standards.

3. Determination as to whether the original proposal has had or will have any detrimental effect on the environment and, if so, what.

The proponent commenced monitoring the effects of the outlets in 1992, which became part of the Perth Long Term Ocean Outlet Monitoring (PLOOM) program in 1995. In 2003, it was updated to a Trial Compliance Monitoring Program to be consistent with the EPA's Marine Environmental Quality Management Framework. This included the establishment of Environmental Quality Guidelines and Standards as well as the establishment of zones (which was subsequently included in Ministerial Statement 382 in 2017).

The proponent submits monitoring reports subject to conditions 2–3 and 4 of Ministerial Statement 382. The EPA advises, based on a review of the previous five annual reports from the PLOOM program (Water Corporation 2023d) and relevant annual environmental reports, that:

- the maximum nutrient loading for total nitrogen and total phosphorous is being met
- the Environmental Quality Standards for all indicators were met in all years

- the Environmental Quality Guidelines for toxicants in treated wastewater, thermotolerant coliforms and *Enterococci* species were met in all years
- there was one exceedance for salinity concentration (physical chemistry suite of indicators) in 2018–2019 at the boundary of the LEPA. Other monitoring sites within the adjacent High Ecological Protection Area (HEPA) met the relevant Environmental Quality Guidelines. In considering whether this exceedance would have a detrimental effect on the environment, the EPA notes that no other relevant exceedances occurred, and therefore considers it unlikely that there was a detrimental effect on the environment
- There was one exceedance of the Environmental Quality Guidelines for algal biotoxins in both 2019–2020 and 2021–2022. Analysis of these exceedances indicated the relevant toxic phytoplankton were widespread and not related to the operation of the outlet
- There have been one to two occasions in each of the previous five years where there was an exceedance of the Environmental Quality Guidelines related to chlorophyll-a (for the nutrient indicator and/or the phytoplankton bloom indicator). In considering whether these exceedances would have a detrimental effect on the environment, the EPA notes that no other exceedances of relevant indicators such as dissolved oxygen occurred, and therefore considers it unlikely that there was a detrimental effect on the environment.

Noting the conclusions above regarding the previous exceedances, the EPA makes the observation that the proposal (as demonstrated through the PLOOM program) is meeting its objective for marine environmental quality. The EPA also considers that, by meeting the Environmental Quality Guidelines and Standards for the Environmental Value of Ecosystem Health, the proposal is also likely to meet its objective for benthic communities and habitat, and marine fauna. The EPA has therefore concluded that the proposal is unlikely to have had a detrimental effect on the environment to date.

4. *Determination as to whether the change(s) to the original proposal might (in the Minister's opinion) have any detrimental effect on the environment and, if so, what.*

As described above and summarised in Table 1, the operation of the AWRP changes the discharge characteristics of the wastewater stream when compared to the original referred proposal. With the reduction in discharge volumes, a higher concentration of toxicants are found in the wastewater stream. However, the AWRP also contains additional treatment measures for *Enterococci* and thermotolerant coliforms, which reduces the bacterial concentrations in the treated wastewater being disposed through the outlets.

This change to the proposal (that is, a change to the amount of wastewater being recovered through the AWRP when compared to the amended proposal) will result in one of two operational situations:

Situation 1 – AWRP operating:

When the AWRP is operating at a lower recovery rate than the amended proposal, the volume of wastewater discharged through the outlets will increase. This will

reduce the concentration of some toxicants in the wastewater stream, for example, total dissolved solids, copper, zinc and ammonia. As a result of the proposed change, the overall dilution expected at the LEPA boundary and that the potential impact footprint for toxicants has been modelled to be slightly smaller, the proponent has not proposed to change the boundaries of the LEPA and adjacent HEPA. The EPA considers that with a reduction in toxicant concentrations, the Environmental Quality Guidelines and Standards will continue to be met at these boundaries and therefore the change will not have a detrimental effect on the environment.

The current amended proposal has one management zone to meet the Environmental Quality Objectives for both the Environmental Values of Recreation and Aesthetics, and Fishing and Aquaculture. However, with the change to the proposal the proponent advises it is no longer appropriate for the Seafood and Primary Contact Management Zone to be combined.

The proponent considers that the Recreation and Aesthetics Environmental Value, and its associated Environmental Quality Objectives, Environmental Quality Guidelines and Standards for the maintenance of primary contact, secondary contact and aesthetic values can continue to be met at the 2017 zone boundary. Therefore, the current zone (using the current 2017 boundaries) will remain but only for the purpose of primary contact, secondary contact and aesthetic values (the Primary Contact Management Zone). The EPA considers that as the boundary remains unchanged, and the Environmental Quality Guidelines and Standards will continue to be met for the Recreation and Aesthetics Environmental Value, the change will not have a detrimental effect on the environment.

However, with the reduction of AWRP recovery, the bacterial loads for *Enterococci* and thermotolerant coliforms will increase and the proponent expects that the thermotolerant coliforms concentrations will routinely breach the indicators at the boundary of the 2017 combined zone. As long-term data regarding the operational performance of the AWRP is not yet available, the proponent has proposed a two-tiered monitoring approach. The first will be to monitor at the boundary of the Observed Zone of Effect (OZE), which is based on long-term monitoring results of the original referred proposal and where the Environmental Quality Guidelines and Standards are currently being met.

The proponent will also conduct a second monitoring program at a smaller interim Seafood Management Zone where modelling indicates that the relevant Environmental Quality Objectives, Guidelines and Standards can be met. The proponent proposes to review the boundary of this zone after eight years of annual monitoring. This will provide additional time to verify the modelled predictions and to ensure seasonal weather and hydrodynamic conditions can be captured to determine if compliance can be met at the smaller zone in the long-term. The interim Seafood Management Zone is about 75% of the size of the OZE. Further discussion regarding the incorporation of this adaptive management approach is discussed below in section 5 as part of the EPA inquiry into conditions.

EPA Services considers Situation 1, as it relates to bacterial contaminants, has the potential to result in a detrimental effect on the environmental value of marine environmental quality. Considering the potential levels of bacterial contaminants and

ecological pathways, the EPA considers the change does not have a potential to result in a detrimental effect on either benthic communities and habitats or marine fauna when compared to the amended proposal.

However, the EPA notes that when the environmental effect is compared to the original referred proposal, there is an improved environmental outcome and there is no additional detrimental effect. This matter is discussed further under aspects five and six below.

Situation 2 – AWRP shutdown:

When the AWRP is not operating, which is expected to be limited to periods of plant shutdown, the detrimental effect of the proposal is expected to be same as the amended proposal. The EPA therefore considers the change will not have a detrimental effect on the environment.

In summary, the detrimental effect of the changed proposal is an increase in the concentration of bacterial contaminants in the wastewater stream. This results in a larger area that will be subject to higher concentrations of bacterial contaminants, and where fishing for seafood is not recommended.

5. Determination as to whether the detrimental effect (if any) which the change(s) might have on the environment is additional to, or different from, the detrimental effect (if any) which the original proposal has had or will have

The requested change to the proposal is likely to have a detrimental effect to the environmental value of marine environmental quality that is additional to the effect of the amended proposal. The requested change will increase the area where seafood may not be safe for human consumption, and new zones will be designated indicating these areas.

However, the EPA notes that the discharge scenarios incorporated into the 2017 amended proposal were overly optimistic and not based on real world performance capability of the AWRP. When the requested change is compared to the original referred proposal, the EPA considers that the change is not likely to have an additional detrimental effect on the environment. The EPA considers, when placed in this context, the likely outcome of the proposed change is the same or better than the original referred proposal.

6. Determination as to whether any detrimental effect which the change(s) to the original proposal might have on the environment, which is additional to, or different from, any detrimental effect which the original proposal has had or will have, is, in the circumstances, significant.

While the EPA considered in aspect five that the detrimental effect is additional to the amended proposal (although not the original referred proposal), the EPA does not consider there is a reasonable possibility that the additional detrimental effect is significant based on the following:

- the proposed change will not effect the mean monthly nutrient loading rates as these will remain unchanged for both total nitrogen (3,500 kg/per day) and total phosphorous plus 10% (1,500 kg/per day plus 10%)
- the proposed change will not effect the boundaries of the LEPA, HEPA, or the achievement of the Environmental Quality Objectives, Guidelines or Standards for the Environmental Value of Ecosystem Health
- the proposed change will not effect the achievement of the Environmental Quality Objectives, Guidelines or Standards for the Environmental Value of Recreation and Aesthetics. The EPA notes that an administrative change will occur in that a new Primary Contact Management Zone will be established, however, the boundary of this zone is the same as that of the amended proposal
- the proposed change will effect the Environmental Value of Fishing and Aquaculture as new zones to ensure seafood safe for human consumption will need to be established. However, the EPA notes the amended proposal was based on overly optimistic and unrealistic performance capability of the AWRP. The EPA also notes that the amended proposal, as well as the proposed change, still includes situations when the AWRP will not be operating (planned and unplanned maintenance events). The EPA therefore considers that the environmental outcome of the proposed change is the same or better than the original referred proposal, and concludes that the change does not have a reasonable possibility of affecting the environmental value of marine environmental quality.

In conclusion, the EPA considers that the change to proposal will result in a small increase in bacterial contaminants when compared to the amended proposal, but not the original proposal. The EPA does not consider that this change is significant due to the small increase in the extent of the seafood management zones, the small reduction in available area for fishing compared to the area remaining.

2.2 Recommendations

Having assessed the proposed change to the proposal, the EPA submits the following recommendations to the Minister for Environment:

1. The EPA considers there is no reasonable possibility that the proposed changes will have a significant detrimental effect on the environment that is additional to, or different from, the effect of the original proposal.
2. The Minister may approve the changes to the proposal under s. 45C of the EP Act, noting that the EPA's recommendation is to supersede Ministerial Statements 382 and 569 with a new consolidated statement to incorporate updated conditions.

3 Requested amendments to the conditions

In August 2016, Water Corporation requested both an amendment to the proposal and conditions of Ministerial Statements 382 and 569 to incorporate commissioning of the AWRP and to provide a contemporary approach to marine monitoring and reporting.

In September 2016, the Minister for Environment requested that the EPA inquire into and report on the matter of amending the implementation conditions of Ministerial Statements 382 and 569 for the proposal.

The requested change to the proposal was approved in 2017, however, prior to the finalisation of the change to conditions, a further change to the proposal was required based on an improved understanding of the operational capacity of the AWRP. The section 46 inquiry was therefore paused while the proponent conducted additional modelling to inform both the additional change to the proposal discussed in section 2 and inform the contemporary approach to marine monitoring and reporting requested as part of the change to conditions.

This report satisfies the requirements of the EPA's inquiry.

4 Inquiry into amending the conditions

The EPA has discretion as to how it conducts this inquiry. In determining the extent and nature of this inquiry, the EPA had regard to information such as:

- the currency of its original assessment (Report 393)
- subsequent s. 46 inquiries (Reports 762 and 1012)
- Ministerial Statements 382 and 569
- information provided by the proponent (Water Corporation 2016, 2023a, 2023b, 2023c and 2023d)
- advice from relevant decision-making authorities
- any new information regarding the potential impacts of the proposal on the environment.

EPA procedures

Since the request in 2016, the EPA has released a range of new environmental impact assessment policy and guidance documents, including those relating to amendments to the EP Act in October 2021. These have replaced EPA policy and guidance that were current at the time of receiving the change to conditions request. The EPA consulted with the proponent on the application of the current environmental impact assessment policy and guidance documents relevant to the EPA's assessment of the proposal.

In conducting this inquiry, the EPA has considered and given due regard to relevant current and former policy documents. The EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2021* (State of Western Australia 2021) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA 2021).

Regulation by other decision-making authorities

Part V of the EP Act regulates emissions and discharges to prevent unacceptable impacts to public health or the environment. The proponent holds licenses for the operation of AWRP and the WRRF, however, these licenses do not contain conditions that regulate the discharge via the ocean outlet. The EPA therefore has considered the existing licensing arrangements in its assessment of the change to conditions.

5 Inquiry findings

The EPA considered that the following are the key environmental factors relevant to the amendment/s to the conditions:

- marine environmental quality
- benthic communities and habitats
- marine fauna.

Given the age of Ministerial Statements 382 and 569, and the request from the proponent for a contemporary approach to management of marine discharges, the EPA considers it appropriate to recommend that Ministerial Statements 382 and 569 are superseded by a new contemporary Ministerial Statement and conditions. The inquiry findings and recommendations have therefore been discussed in this context. Appendix A summarises the EPA's inquiry findings for each condition in Ministerial Statements 382 and 569 and provides a recommendation as to whether the condition should be deleted or replaced.

5.1 Marine Environmental Quality

The EPA's environmental objective for this factor is *to maintain the quality of water, sediment and biota so that environmental values are protected*.

Conclusions from EPA Report 393, 762 and 1012

In assessing the proposed duplication of the outfalls in Marmion Marine Park, the EPA at the time recognised that there were considerable uncertainties regarding the effects of ocean disposal of treated wastewater. The EPA noted, however, that the results of monitoring programs undertaken at the original outfall, and at other outfalls within the Perth Metropolitan area, did not show significant environmental impacts.

However, despite this, the lack of long-term study and adequate baseline data were of significant concern for the EPA. This was particularly for impacts from localised increases in total nitrogen and phosphorus and from bacterial, heavy metal and pesticide contamination. The EPA therefore recommended that the total nutrient loads to be disposed remain unchanged from that approved for the single outfall. The limit for phosphorous was amended in 2001 (Ministerial Statement 569), with the EPA noting at the time that productivity and growth of marine organisms is dependent on nitrogen availability rather than phosphorous.

Ministerial Statements 382 and 569 contain conditions for the following:

- target loads for nitrogen and phosphorous, including a requirement to refer any proposed increases in nutrient loads beyond the prescribed limit to the EPA (conditions 2-1 and 2-2)
- a requirement to continue to undertake surveys and monitoring, or to continue the existing monitoring program, and submit reports to the EPA (conditions 2-3, 4 and 8-1)

- conditions requiring contingency actions regarding further treating the wastewater should exceedances in water quality criteria or unacceptable impacts occur (condition 3-4 nutrient loading, condition 6 bacterial concentrations, condition 7 and 8-2 marine biota contamination)
- procedure 3 requires the proponent to identify the beneficial uses (now referred to as Environmental Values), the beneficial use zones, and relevant water quality criteria for those zones prior to construction, with procedure 4 requiring a period review of these zones.

To address the potential long-term impacts from ocean disposal of treated wastewater, conditions 3, 12 and 13 of Ministerial Statements 382 and 569 required additional studies into:

- water circulation in the region of the pipe outlets to determine flushing characteristics of the receiving waterbody (conditions 3-1 and 3-3)
- nutrient loadings on the local marine communities (conditions 3-2 and 3-3)
- the likely wastewater discharge volumes and characteristics to occur by the year 2040 and whether the waters of Metropolitan Perth have the assimilative capacity for this wastewater (condition 12)
- alternative methods to the ocean disposal of wastewater (condition 13).

Assessment of the requested amendment/s to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Marine Environmental Quality* (EPA 2016b)
- *Technical Guidance – Protecting the Quality of Western Australia’s Marine Environment* (EPA 2016e).

Total phosphorous and nitrogen loads

Ministerial Statement 569 changed the nutrient loadings for total phosphorous, with the amended condition 2-1 setting the limit to 1,500 kilograms per day plus 10% of total phosphorous, and 3.6 tonnes per day of total nitrogen. The proponent’s annual environment reports identifies that these nutrient loadings are being met.

As described in section 2, the discharge characteristics of the wastewater stream are different with the incorporation of AWRP into the treatment and disposal process. However, while the volume of wastewater discharged will decrease when the AWRP is operating, the maximum daily load for total phosphorous and nitrogen is not expected to change (Water Corporation 2023a).

Nonetheless, the EPA considers that the nutrient loads for total phosphorous and total nitrogen should continue to be regulated. Accordingly, the prescribed limit for these nutrients has been included in condition A1, based on a mean monthly discharge. Noting the previous limits for phosphorous prescribed in condition 2-1 of Ministerial Statement 569 was for 1,500 kg/day plus 10%, the EPA recommends that

the total allowable limits in condition A1 should include this 10% for clarity and has therefore recommended the new limit of 1,650 kg/day.

Monitoring, reporting and contingency actions

Consistent with its contemporary condition framework, the EPA has recommended outcomes that the proponent will be required to meet during implementation. Recommended condition B1-1 requires the proponent to ensure no adverse impacts on marine environmental values (beneficial uses) beyond those considered appropriate in the LEPA. The LEPA defines a small area around the outfalls where changes in the ecosystem processes, biodiversity, abundance and biomass and quality of water and sediment can occur. The LEPA was established in 2017 as part of the amended proposal and remains unchanged as a result of the proposed change discussed in section 2 or as a result of the inquiry into the conditions. The establishment of a LEPA also reflects that the WWRF and ocean outlets have been in operation in this location for over 40 years. The EPA recommends condition A1 be imposed regarding the LEPA.

To support the recommended outcomes and consistent with the EPA's Marine Environmental Quality Management Framework, the proponent has prepared the Beenyup Ocean Outlets Marine Environmental Management Plan, Version 10 (MEMP, Water Corporation 2023b). The MEMP identifies the Environmental Values and related Environmental Quality Objectives that will apply during operation of the Beenyup ocean outfalls (refer Summary Table in the MEMP). It also outlines the procedures and frequencies for both monitoring and reporting against those objectives and identifies the Environmental Quality Guidelines and Environmental Quality Standards. The EPA considers that the MEMP has been prepared consistent with its relevant technical guidance (EPA 2016e) and applies a modern and contemporary approach to managing discharge related impacts to marine environmental quality.

The EPA therefore recommends that conditions 2-3, 4 and 8-1 of Ministerial Statement 382 regarding ongoing monitoring are replaced with recommended condition B1-2 which requires the proponent to implement the MEMP.

The MEMP also includes both contingency actions in the event the Environmental Quality Guidelines and Environmental Quality Standards are exceeded. The EPA therefore considers that conditions 3-4, 6, 7 and 8-2 (regarding contingency actions for exceedances related to nutrient loading, bacterial concentrations and marine biota contamination, respectively) can also be replaced with recommended condition B1-2.

In addition to the LEPA, the relevant management zones spatially defined in the MEMP are the Observed Zone of Effect and Seafood Management Zone, and the Primary Contact Management Zone. The Environmental Quality Guidelines and Environmental Quality Standards that the proponent will monitor are applicable to these zones and will ensure the Environmental Values are being met. The EPA therefore considers that Procedure 3 has been fulfilled and can be deleted, and that Procedure 4 will be fulfilled by the implementation of the MEMP required by condition B1-2.

Conditions A1 and B1 are supported by conditions in Parts C and D regarding monitoring and implementation of environmental management plans and compliance reporting.

Toxicants and bacterial contamination

As described in section 2 and summarised in Table 1, the proposed change to the proposal will result in a change to volume and characteristics of the wastewater stream. This proposed change will result in the following:

- A smaller impact footprint for toxicants, with modelling also indicating that the threshold for copper, which historical data indicates is the primary toxicant of concern, will continue to be met at the LEPA boundary.
- An increase in the bacterial concentrations of thermotolerant coliforms and *Enterococci* spp. However, the size of the area around the outlets where humans may safely swim (that is, the Primary Contact Zone) will not change as a result of the increased bacterial loads.
- A change to zones around the outlets where seafood may be safely collected for human consumption. Although the EPA notes that this increase is a result of the proponent's overly optimistic understanding of the treatment capacity of the AWRP.

To inform the environmental outcome, monitoring and relevant management zones, the proponent undertook both hydrodynamic modelling and examined bacterial concentrations from the PLOOM data beyond the immediate vicinity of the ocean outlets (Water Corporation 2023a, 2023b). To ensure the EPA environmental quality objectives for its Environmental Values would continue to be met, and to reflect both community expectations for an improved environmental outcome and the improved treatment processes through the AWRP, the EPA required the proponent to propose an adaptive management response within the MEMP.

The proponent therefore has proposed a two-tiered monitoring and management framework, and the MEMP establishes two zones that will be monitored. The first zone is the Observed Zone of Effect, which is based on 15 years of long-term monitoring and where the proponent considers the Environmental Quality Criteria for thermotolerant coliforms area can be met based on a historical worst-case scenario. The proponent will be expected to demonstrate compliance with the Environmental Quality Criteria associated with this zone and implement contingency actions if deemed necessary.

The second zone is the smaller Seafood Management Zone, and while numerical modelling indicates that the Environmental Quality Criteria could be met at the boundary of this zone, it relies on the AWRP operating at predicted recovery rates. The proponent had advised that, at this stage, they have insufficient data to determine whether the AWRP will operate as expected and therefore can predict how many days of planned and unplanned shutdowns may occur.

These zones have been incorporated into the MEMP to allow for adaptive management approach to be applied. The proponent has proposed monitoring at the boundary of both seafood management zones within its MEMP, with a review of the

annual monitoring results after eight years to determine whether compliance can be maintained at the boundary of the smaller zone.

The EPA considers the approach proposed by the proponent is reasonable, however has recommended condition B2 which requires the proponent to submit an Environmental Performance Report after eight years of monitoring both the Observed Zone of Effect and the Seafood Management Zone. The Environmental Performance Report will be required to outline monitoring results against the Environmental Quality Criteria and establish whether compliance can be met at the smaller zone. Recommended condition B2-4 requires the MEMP to be updated should monitoring show that compliance with the Environmental Quality Criteria will be able to be met at a smaller zone.

The EPA also recommends that condition 6 of Ministerial Statement 382 regarding bacterial contamination is replaced with recommended condition B1-2 which requires the proponent to implement the MEMP.

Interaction with the Ocean Reef Marina proposal

Within close proximity to the Beenyup Ocean Outfalls is the upgraded Ocean Reef Marina, which was assessed by the EPA in Report 1629 (EPA 2019) with Ministerial Statement 1107 published in August 2019.

As part of the assessment for the Ocean Reef Marina proposal, baseline studies and numerical modelling was undertaken in order to predict marina water discharge and therefore determine relevant ecological protection areas for the marina during both construction and operation. Based on the results of this modelling, Ministerial Statement 1107 applies a high level of ecological protection outside the marina breakwaters. This modelling also considered the likelihood that discharge plumes from the Ocean Reef Marina and the Beenyup Ocean Outfalls would mix, affecting marine water quality and the ability of either DevelopmentWA or Water Corporation to meet condition requirements and achieve the respective Environmental Quality Objectives (City of Joondalup 2016). EPA Report 1629 advised that the Ocean Reef Marina proposal would be unlikely to affect Marine Environmental Quality at the outfalls, or vice versa.

The EPA notes that during construction for the Ocean Reef Marina, the Environmental Quality Guideline related to turbidity has been exceeded a number of times, resulting in the implementation of contingency actions. Despite these exceedances, the Environmental Quality Standards and the environmental outcomes for the Ocean Reef Marina proposal continued to be met. During these events, Beenyup Ocean Outfalls also continued to meet the water quality criteria applied around their management zones. The EPA notes that some concerns were raised during breakwater construction for Ocean Reef Marina around floating waste (such as cotton buds), however, compliance investigations by the Department of Water and Environmental Regulation were unable to determine the source of this waste.

The EPA advises that the proponent, in determining the spatial extent of the Beenyup Ocean Outlet's management zones, has considered a range of likely weather scenarios and historical performance to ensure that the zones were appropriately sized, and compliance could be demonstrated at zone boundaries. The

EPA notes that under certain weather conditions, plumes from the Beenyup Ocean Outlets and the Ocean Reef Marina could encroach towards the other. Despite this, the EPA considers the environmental implications for marine environmental quality to be manageable as each proponent will be required to meet the respective environmental outcomes, levels of ecological protection and management zones.

The EPA also notes that condition C2-2 provides for changes to the MEMP, either by the proponent or at the request of the Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER). This will allow any required changes to be made to the MEMP should interactions between the two proposals warrant such changes in future.

Long-term studies

As outlined above, Ministerial Statement 382 required the proponent to complete a series of studies. The EPA notes that all of these studies have been completed, as outlined below:

- To assist in the coordination of the nutrient impact studies, the Technical Advisory Group was established in July 1992 as required by condition 3-3. The proponent submitted the Perth Coastal Waters Study Summary Report in July 1995 as required by conditions 3-1 and 3-2. The proponent then completed the study into water circulation and flushing characteristics in 1998, as required by condition 3-1.
- The proponent submitted the Wastewater 2040 Strategy for the Perth Region in July 1995 as required by condition 12. This study predicted the likely wastewater discharge loads and impacts from the metropolitan area between Mandurah and Yanchep.
- Condition 13 (Studies of Alternatives to Ocean Disposal) required that the proponent undertake and complete studies into alternatives to ocean disposal of wastewater. This was undertaken in the proponent's Wastewater 2040 Strategy for the Perth Region. The EPA notes that the Wastewater 2040 Strategy analysed a number of alternative options for effluent disposal including groundwater recharge. Stage 2 of the Groundwater Replenishment Scheme was assessed by the EPA in May 2017 (Report 1597) and includes the recharge of up to 14 GL per annum into the Yarragadee and Leederville aquifers.

Therefore, the EPA recommends that condition 3 (Nutrient Impact Studies), condition 12 (Studies to Predict Loads and Impacts by 2040) and condition 13 (Studies of Alternatives to Ocean Disposal) of Ministerial Statement 382 are deleted.

Marmion Marine Park

Marmion Marine Park was gazetted in 1987 as Western Australia's first marine park. As outlined in section 1, the original Beenyup ocean outfall predates the marine park, with the proposal to duplicate the outlet first being sent to the EPA prior to the marine gazettal in February 1987.

The EPA notes that, since the proposal was last assessed, changes to the boundaries of Marmion Marine Park have occurred. In 2019, 143 ha were excised

from the park to develop the Ocean Reef Marina, which was undertaken via the *Reserves (Marmion Marine Park) Act 2019*. This triggered a review of the management plan to reflect both the excision and proposed expansion of the marine park under the State Government's Plan for Our Parks (DBCA 2023).

The Department of Biodiversity, Conservation and Attractions (DBCA) have now published a Draft Resource Assessment as well as the proposed study area boundaries for an extension to Marmion Marine Park on its website (DBCA 2023). The EPA advises that the proponent's PLOOM monitoring is continuing to demonstrate compliance with both environmental and health related Environmental Quality Guidelines and Standards and does not consider that the proposal would pose a risk to marine environmental quality of any proposed expansion to the marine park.

5.2 Benthic Communities and Habitats, and Marine Fauna

The EPA environmental objective for the benthic communities and habitat environmental factor is *to protect benthic communities and habitats so that biological diversity and ecological integrity are maintained*.

The EPA environmental objective for the marine fauna environmental factor is *to protect marine fauna so that biological diversity and ecological integrity are maintained*.

EPA Reports 393, 762 and 1012

In assessing the proposed duplication of the outfalls in Marmion Marine Park, the EPA at the time recognised that there was uncertainty regarding the effects of past and present impacts from nutrient loading to local marine communities. The EPA also recognised that the ecological effects of bacterial contamination on the marine environment from domestic wastewater, particularly to biota and marine fauna, were poorly understood. EPA Report 393 also considered the potential for blasting to impact benthic communities, habitat and fauna.

Ministerial Statements 382 and 569 contain conditions for the following:

- in the event of concentrations of bacterial or other contaminants having demonstrable effects on marine biota (especially mammals), then the proponent is to take action to reduce these concentrations (EPA Report 393, with updated language applied to condition 7 of Ministerial Statement 382)
- investigations into the effects of contamination of biota by heavy metals, pesticides and by products of the chlorination process (condition 8 of Ministerial Statement 382)
- a requirement to not undertake blasting during construction, using an alternative method (condition 10 in Ministerial Statement 101). As the proponent determined to use a dredge for construction, the condition was not replicated in Ministerial Statement 393.

EPA Report 762 contained no additional assessment of the potential impacts to benthic communities and habitat and marine fauna than those outlined in EPA Report 393.

EPA Report 1012 noted that the mapping of the habitats on the seafloor occurred as part of the Perth Coastal Waters Study and that regular measurements were taken of algae and seagrass to establish the response to inputs of nutrients. The Perth Coastal Waters Study found no signs of eutrophication in the vicinity of the outfall. Following from the Perth Coastal Waters Study, the PLOOM program began. At the time, the PLOOM found no observed changes in biodiversity or abundance of marine organisms between 1 and 2 kilometres of the outlet. EPA Report 1012 considered that the increase in phosphorous would be unlikely to affect the productivity and growth of marine organisms.

Assessment of the proposed change to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Benthic Communities and Habitats* (EPA 2016a)
- *Technical Guidance – Protection of Benthic Communities and Habitats* (EPA 2016f)
- *Environmental Factor Guideline – Marine Fauna* (EPA 2016c).

The EPA notes that management actions defined in condition 7 in Ministerial Statement 382 have not been triggered as a result of the implementation of the proposal. However, as outlined in section 5.1, the proponent will be required to meet environmental outcomes regarding no adverse impacts beyond those authorised by the management zones. The EPA considers that by achieving the Environmental Quality Objectives for the Environmental Value of Ecosystem Health, the proposal will also be consistent with the EPA factor objectives for benthic communities and habitat and marine fauna.

In addition, the MEMP contains provisions to monitor bacteria and contaminants, undertake contingency actions should an Environmental Quality Guideline or Standard is exceeded and provide annual reports to the CEO of DWER. The EPA therefore recommends that condition 7 be deleted and replaced with recommended condition B1-2, which requires the implementation of the MEMP.

As required by condition 8 of Ministerial Statement 382, the proponent undertakes triennial biota contamination surveys. This monitoring includes sampling of bioaccumulating chemicals such as heavy metals and pesticides in sentinel species (mussels). The proponent conducted a 12-year review of the biota contamination in 2003, which concluded that no significant contamination of sediments or biota has occurred around the outlets (DAL Science & Engineering 2004).

The proponent's MEMP includes monitoring for non-bioaccumulating toxicants, bioaccumulating toxicants in sentinel mussels, and Whole of Effluent Toxicity testing to determine whether the Environmental Quality Objectives for the relevant

Environmental Values are being met. The EPA, therefore, recommends that condition 8 be deleted and replaced with recommended condition B1-2 which requires the implementation of the MEMP.

5.3 Other factors

Given the time since the original assessment and the previous s. 46 inquiry, the proponent is required to consider the relevancy of any new or additional environmental factors in its request for a change to conditions. The assessment of other factors is outlined below.

Greenhouse Gas Emissions

In April 2020, greenhouse gas emissions was added as an environmental factor for consideration by the EPA in the environmental impact assessment process. The EPA environmental objective for greenhouse gas emissions is *to reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change*.

The EPA's *Environmental factor guideline – Greenhouse gas emissions* (EPA 2023a) sets out that, generally, emissions from a proposal will be assessed where they exceed 100,000 tonnes of scope 1 or scope 2 emissions each year measured in CO₂-e. The EPA will have regard to this guideline when assessing new proposals and changes to proposals or conditions (s. 46 inquiries) resulting in an increase in greenhouse gas emissions, which may involve the EPA recommending inclusion of additional conditions.

Assessment of the requested change to conditions

The proponent has advised it is striving for net zero greenhouse gas emissions by 2035 and has calculated annual targets to reach this goal (Water Corporation 2023c). Emissions in 2023 for both scope 1 and scope 2 emissions total 3,293 CO₂-e tonnes/annum. The EPA therefore considers greenhouse gas emissions is not a relevant consideration for this assessment as it falls well below the threshold of 100,000 tonnes CO₂-e outlined in the relevant environmental factor guideline.

5.4 Other conditions

Ministerial Statements 382 and 569 contain other conditions not related to the key environmental factors discussed above. The EPA's recommendations regarding these other conditions and its recommendations regarding other new proposed conditions are summarised in Appendix A.

6 Conclusions and recommendations

The proponent has requested that Ministerial Statements 382 and 569 be amalgamated into a single contemporary approval and accommodate a change in the volume of treated wastewater discharged into Marmion Marine Park. The EPA considers it is appropriate to replace all conditions in Ministerial Statements 382 and 569 with those discussed in this report and outlined in Appendix 2.

Conclusions

In relation to the environmental factors, and considering the information provided by the proponent and relevant EPA policies and guidelines, the EPA concludes that:

- there are no significant new or additional information that changes the conclusions reached by the EPA under any of the relevant environmental factors since the proposal was assessed by the EPA in EPA Report 393, 762 and 1012
- no new significant environmental factors have arisen since the EPA's original assessment of the proposal
- impacts to the key environmental factors are considered manageable, based on the imposition of the attached recommended conditions (Appendix B).

Recommendations

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment under s. 46 of the EP Act:

1. It is appropriate to replace Ministerial statements 382 and 569 with a new Ministerial statement in the manner provided for in the attached recommended Statement.
2. After complying with s. 46(8) of the EP Act, the Minister issues a statement of decision to replace Ministerial statements 382 and 569 in the manner provided for in the attached recommended statement (Appendix B).

Appendix A: Assessment of proposed amendments to implementation conditions of Ministerial Statements 382 and 569

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
<p>1 Implementation</p> <p>The proponent must adhere in substance to the proposal as assessed. However, changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.</p> <p>1-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.</p>	<p>Replace this condition with contemporary condition A1 that specifies limitations and extent of the proposal with which the proponent must comply.</p> <p>This should be read in conjunction the introduction which identifies the proposal content document outlining the proposal to which the conditions relate.</p> <p>It is noted that should the proponent wish to change the proposal, a request can be made under s. 45C of the EP Act.</p>
<p>2 Target Loads for Nitrogen and Phosphorus</p> <p>2-1 <i>Was amended by Ministerial Statement 555 (refer below)</i></p> <p>2-2 The proponent shall refer to the Environmental Protection Authority any proposal to increase the levels of nutrients discharged beyond the levels referred to in condition 2-1.</p> <p>2-3 Prior to 31 August each year, the proponent shall submit monitoring reports to the Department of Environmental Protection, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater.</p>	<p>Delete condition 2-2 as the limits on target loads continue to be prescribed by conditions (recommended condition A1). Changes to conditions may be requested under either s. 45C or s. 46 of the EP Act, and will require assessment by the EPA.</p> <p>Replace condition 2-3 with contemporary standard condition D2 which requires the proponent to submit annual compliance assessment reports to the Chief Executive Officer. This includes the results of monitoring to achieve the limits specified in Part A. This should be read in conjunction with standard condition C3, which requires the proponent</p>

Environmental Protection Authority

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.	environmental outcomes, with the MEMP containing relevant Environmental Quality Guidelines and Standards. In addition, standard condition C4-1 requires the MEMP to contain adaptive management and contingency measures in the event the Environmental Quality Standards aren't being met. Standard condition D1 outlines reporting required by the proponent in the event of non-compliance including failing to meet the environmental outcome in condition B1-1, failure to implement the MEMP or failure to meet and Environmental Quality Standard.
4 Monitoring Programme 4-1 The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report, to the requirements of the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department. 4-2 The proponent shall submit reports on the monitoring programme referred to in condition 4-1 to the Department of Environmental Protection as outlined in the Public Environmental Report.	Replace condition 4-1 with recommended condition B1-1 and B1-2 which require the proponent to implement the MEMP to meet relevant environmental outcomes. The MEMP revises the previous monitoring program and applies a contemporary approach for marine discharges. Replace condition 4-2 with standard condition D2, which requires the proponent to submit annual compliance assessment reports to the Chief Executive Officer. This includes specifying requirements regarding the implementation of the MEMP.
Condition 5 Water Quality was previously deleted	N/A
6 Bacterial Concentrations 6-1 In the event that water quality criteria for bacteria in the prescribed beneficial use zones are exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations.	Replace condition 6 with recommended condition B1-1 and B1-2 which require the proponent to implement the MEMP to meet relevant environmental outcomes. The MEMP includes Environmental Quality Guidelines and Standards, monitoring provisions and contingency actions regarding bacterial contamination.
7 Effects on Marine Biota 7-1 In the event that concentrations of bacteria or other contaminants introduced into the receiving water by the	Replace condition 7 with recommended condition B1-1 and B1-2 which require the proponent to implement the MEMP to meet relevant environmental outcomes.

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
<p>proponent are unacceptable, in the opinion of the Minister for the Environment, because of demonstrable effects on marine biota (especially mammals), the proponent shall take action to ensure that concentrations of contaminants are reduced to levels which are acceptable to the Minister for the Environment on advice of the Departments of Environmental Protection and Conservation and Land Management.</p>	<p>One of the main Environmental Quality Objectives monitored by the MEMP is Maintenance of Ecosystem Integrity, which includes specific monitoring regimes for bioaccumulating toxicants, whole of effluent toxicity testing, and sediment sampling. These programs will ensure marine biota including marine mammals are protected from contamination.</p>
<p>8 Surveys of Biota Contamination</p> <p>8-1 The proponent shall undertake surveys, to the requirements of the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process. These surveys shall:</p> <ol style="list-style-type: none"> (1) incorporate an initial survey, commencing as soon as possible and to be completed before the second pipeline becomes operational, to establish current levels of contamination in a range of species; and (2) include follow-up surveys, to take place every three years, with a major review after 12 years. <p>The proponent shall forward results to the Department of Environmental Protection within six months of completion of sampling.</p> <p>8-2 In the event that levels of contamination of biota are found to be unacceptable in the opinion of the Minister for the Environment, the proponent shall reduce concentrations of contaminants to levels which are acceptable to the Minister for the Environment on advice of the Department of Environmental Protection.</p>	<p>Replace condition 8-1 with recommended condition B1-1 and B1-2 which require the proponent to implement the MEMP to meet relevant environmental outcomes.</p> <p>The MEMP monitors two Environmental Quality Objectives, Maintenance of Ecosystem Integrity and Maintenance of seafood safe for human consumption.</p> <p>Replace condition 8-2 with contemporary standard condition C4-1, which requires the MEMP to contain adaptive management and contingency measures in the event the Environmental Quality Standards aren't being met. Contemporary standard condition D1 outlines reporting required by the proponent in the event of non-compliance including failing to meet the environmental outcome in condition B1-1, failure to implement the MEMP or failure to meet and Environmental Quality Standard.</p>

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
Condition 9 and 10 were previously deleted	N/A
11 Rehabilitation of On-shore Site 11-1 Following the completion of construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the requirements of the Department of Environmental Protection on advice of the Ministry for Planning.	Delete condition 11 as the requirements of this condition were completed in 1998.
12 Studies to Predict Loads and Impacts by 2040 12-1 Prior to 31 March 1995, the proponent shall undertake and complete studies to the requirements of the Environmental Protection Authority which: <ul style="list-style-type: none"> (1) predict the wastewater discharges and characteristics likely to occur by the year 2040 from Metropolitan Perth (including discharges from the area between Mandurah and Yanchep, inclusive); and (2) determine whether the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040. 	Delete condition 12 as the requirements of this condition were completed in July 1995.
13 Studies of Alternatives to Ocean Disposal 13-1 Prior to 31 March 1995, the proponent shall undertake and complete a study to the requirements of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.	Delete condition 13 as the requirements of this condition have been completed. The proponent's Wastewater 2040 Strategy analysed a number of alternative options for effluent disposal including groundwater recharge. Stage 2 of the Groundwater Replenishment Scheme was assessed by the EPA (Report 1597) in May 2017 and includes the recharge of up to 14 GL per annum into the Yarragadee and Leederville aquifers.
14 Decommissioning 14-1 The proponent shall achieve satisfactory decommissioning, and if necessary, removal of the pipeline and rehabilitation of the site and its environs.	Replace condition 14 with new contemporary condition B2 relating to decommissioning.

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
<p>14-2 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and rehabilitation plan.</p> <p>14-3 The proponent shall implement the plan required by condition 14-2.</p>	
<p>Procedure</p> <ol style="list-style-type: none"> 1. The Department of Environmental Protection is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other public authority. 2. If the Department of Environmental Protection, other public authority or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment. 3. Prior to commencing operations, the Department of Environmental Protection, on advice of the Water Authority of Western Australia, the Departments of Conservation and Land Management and Health and the Fisheries Department will identify beneficial uses and beneficial use zones for the waters in the locality of the outlets and determine a mixing zone, to the requirements of the Minister for the Environment. The water quality criteria for the beneficial use zones will be those published in Environmental Protection Authority Bulletin No 103, Water Quality Criteria for Marine and Estuarine Waters of Western Australia, April 1981, or as revised from time to time. 4. The allocation of beneficial uses and beneficial use zones and the mixing zone will be periodically reviewed in the light of monitoring data, to the requirements of the Minister for the Environment on advice of the Department of Environmental Protection. 	<p>Replace procedures 1 and 2 with contemporary standard conditions in Part C and Part D regarding compliance.</p> <p>These conditions should be read in conjunction with s. 48 of the EP Act which specifies matters related to the control of implementation of proposals. This includes duties of the Chief Executive Officer (of DWER) and other decision making authorities and public authorities.</p> <p>Delete procedures 3 as this condition was required to be completed prior to operations and has been fulfilled. It should be noted beneficial uses have been replaced with Environmental Values, and beneficial use zones have been replaced with the Low Ecological Protection Area, the Observed Zone of Effect and Seafood Management Zone, and the Primary Contact Management Zone.</p> <p>Replace procedure 4 with condition B1-1 which requires the proponent implement the proposal to achieve outcomes related to the Environmental Values specified in its <i>Technical Guidance – Protecting the Quality of Western Australia’s Marine Environment</i>. The MEMP also includes zones and monitoring related to the Environmental Value Fishing and Aquaculture, which is recommended by condition B1-2.</p>

Ministerial Statement 382	
Condition wording	Assessment and evaluation of proposed amendment
	It is noted that should the proponent wish to change the proposal, an application is to be made under s. 45C of the EP Act.

Ministerial Statement 569	
Condition wording	Recommended outcome
2-1 The proponent shall not permit the combined mean monthly nutrient loadings within both the original and second pipelines from the Beenyup Wastewater Treatment Plan to exceed 1500 kilogrammes per day plus 10% for total phosphorus, and 3.6 tonnes per day for total nitrogen.	Replace condition 2-1 with recommended condition A1 which specifies the limits that apply to the proposal. The numerical limits remained unchanged, however the 10% addition for total phosphorus is now included in the total allowable limits.

Appendix B: Recommended conditions

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (*Environmental Protection Act 1986*)

BEENYUP WASTEWATER OCEAN OUTLETS INTO MARMION MARINE PARK

Proposal: The proposal is to operate the Beenyup Wastewater Ocean Outlets into Marmion Marine Park that are associated with the Beenyup Wastewater Treatment Plant and Advanced Water Recycling Plant

Proponent: Water Corporation
Australian Business Number 28 003 434 917

Proponent address: 629 Newcastle Street
Leederville WA 6902

Report of the Environmental Protection Authority: 1751

Previous Assessment Numbers: 79, 912 and 1231

Previous Report Numbers: 393, 762 and 1012

Preceding Statement/s Relating to this Proposal: 101, 382 and 569

Introduction: The Beenyup Wastewater Ocean Outlets into Marmion Marine Park existing proposal was agreed to be implemented under Ministerial Statements 382 and 569 (13 March 1995 and 10 July 2001). The EPA's Report for the Beenyup Wastewater Ocean Outlets into Marmion Marine Park existing proposal is Reports 762 and 1012, EPA Assessment Numbers 912 and 1231.

Pursuant to section 45C(1)(c) of the *Environmental Protection Act 1986*, an amendment to the existing proposal is now approved. In addition, pursuant to section 45(8) as applied by section 46(8) of the *Environmental Protection Act 1986*, an amendment to the implementation conditions has been agreed.

The proposal Beenyup Wastewater Ocean Outlets into Marmion Marine Park described in the 'Proposal Content Document' attachment of the section 45C application of August 2023 may now be implemented and is subject to the following implementation conditions and procedures.

Ministerial Statements 382 and 569 for the existing Beenyup Wastewater Ocean Outlets into Marmion Marine Park proposal are now superseded.

Conditions and procedures

Part A: Proposal extent

Part B: Environmental outcomes, prescriptions and objectives

Part C: Environmental management plans and monitoring

Part D: Compliance and other conditions

PART A: PROPOSAL EXTENT

Limitations and Extent of Proposal

A1-1 The proponent must ensure that the proposal is implemented in such a manner that the following limitations or maximum extents / capacities / ranges are not exceeded:

Proposal element	Location	Maximum extent
Operational elements		
Total discharge from Outlet A and Outlet B		Up to 150 ML/day
Mean monthly nutrient discharge from Outlet A and Outlet B for total phosphorous		Up to 1650 kilograms per day
Mean monthly nitrogen discharge from Outlet A and Outlet B for total nitrogen.		Up to 3.6 tonnes per day
Low Ecological Protection Area	Figure 1	150 m from Outlet A and Outlet B diffusers

PART B – ENVIRONMENTAL OUTCOMES, PRESCRIPTIONS AND OBJECTIVES

B1 Marine Environmental Quality

B1-1 The proponent must ensure the implementation of the proposal achieves the following environment outcomes:

- (1) no **adverse impacts** on the **marine environmental values** of Ecosystem Health and Cultural and Spiritual outside the **Low Ecological Protection Area**;
- (2) no **adverse impacts** on the **marine environmental values** of Recreation and Aesthetics, and Fishing and Aquaculture outside the **Primary Contact Management Zone** and the **zone/s for the management of seafood**, respectively;
- (3) the levels of ecological protection to be achieved inside and outside of the **Low Ecological Protection Area** are consistent with the corresponding level of ecological protection described in Appendix 1, Table 1 of the **Marine Water Quality Technical Guidance**,

and the method used to derive **Environmental Quality Guidelines** and **Environmental Quality Standards** are consistent with the **Marine Water Quality Technical Guidance**.

B1-2 The proponent must implement the Beenyup Ocean Outlets Marine Environmental Management Plan (Version 11, October 2023), with the purpose of ensuring the marine environmental quality environmental outcomes in condition B1-1 are achieved, monitored and substantiated.

B2 Environmental Performance Report

B2-1 The proponent shall submit an Environmental Performance Report to CEO within six (6) months following the completion of eight (8) summer monitoring periods as outlined in the **confirmed** the Beenyup Ocean Outlets Marine Environmental Management Plan (Version 11, October 2023).

B2-2 The Environmental Performance Report shall report on the achievement of the **Environmental Quality Objectives** at the boundaries of the **zone/s for the management of seafood** for the preceding eight (8) years.

B2-3 The Environmental Performance Report must:

- (1) specify whether the **Environmental Quality Guidelines** and **Environmental Quality Standards** have been met each year at the boundaries of the **zone/s for the management of seafood**;
- (2) specify whether any **contingency measures** were implemented during the period of reporting; and

- (3) identify the spatial boundary that will apply to the Environment Value of Fishing and Aquaculture, based on the results of monitoring undertaken, and meet the outcomes in condition B1-1;

- B2-4 The proponent shall, based on the results of the Environmental Performance Report required by condition B2-3, review and revise the **confirmed** Beenyup Ocean Outlets Marine Environmental Management Plan (Version 11, October 2023) required by condition B1-2 to satisfy the requirements of condition C4 and demonstrate how achievement of the marine environmental quality environmental outcome in condition B1-1 will be monitored and substantiated, and submit it to the **CEO** within six (6) months following the completion of eight (8) summer monitoring periods.
- B2-5 The Environmental Performance Report must be published on the proponent's website and provided to the **CEO** in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being provided.

B3 Decommissioning

- B3-1 The proponent must ensure that **decommissioning** of the proposal achieves the following environmental objective:
 - (1) no **irreversible** impacts to benthic communities and habitats.
- B3-2 The proponent must prepare an environmental management plan that satisfies the requirements of condition C5 and demonstrates how the environmental objective in condition B3-1 will be achieved, and submit it to the **CEO**.

PART C – ENVIRONMENTAL MANAGEMENT PLANS AND MONITORING

C1 Environmental Management Plans: Conditions Related to Commencement of Implementation of the Proposal

C1-1 The proponent must not undertake **decommissioning** until the **CEO** has **confirmed** in writing that the environmental management plan required by condition B3-2 meets the requirements of that condition and condition C5.

C2 Environmental Management Plans: Conditions Relating to Approval, Implementation, Review and Publication

C2-1 Upon being required to implement an environmental management plan under Part B, or after receiving notice in writing from the **CEO** under condition C1-1 that the environmental management plan(s) required in Part B satisfies the relevant requirements, the proponent must:

- (1) implement the most recent version of the **confirmed** environmental management plan; and
- (2) continue to implement the **confirmed** environmental management plan referred to in condition C2-1(1), other than for any period which the **CEO** confirms by notice in writing that it has been demonstrated that the relevant requirements for the environmental management plan have been met, or are able to be met under another statutory decision-making process, in which case the implementation of the environmental management plan is no longer required for that period.

C2-2 The proponent:

- (1) may review and revise a **confirmed** environmental management plan provided it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan;
- (2) must review and revise a **confirmed** environmental management plan and ensure it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan, as and when directed by the **CEO**; and
- (3) must revise and submit to the **CEO** the **confirmed** environmental management plan if there is a material risk that the outcomes or objectives it is required to achieve will not be complied with, including but not limited to as a result of a change to the proposal.

C2-3 Despite condition C2-1, but subject to conditions C2-4 and C2-5, the proponent may implement minor revisions to an environmental management plan if the

revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, outcomes or objectives which the environmental management plan is required to achieve.

C2-4 If the proponent is to implement minor revisions to an environmental management plan under condition C2-3, the proponent must provide the **CEO** with the following at least twenty (20) business days before it implements the revisions:

- (1) the revised environmental management plan clearly showing the minor revisions;
- (2) an explanation of and justification for the minor revisions; and
- (3) an explanation of why the minor revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, outcomes or objectives which the environmental management plan is required to achieve.

C2-5 The proponent must cease to implement any revisions of the environmental management plan which the **CEO** notifies the proponent (at any time) in writing may not be implemented.

C2-6 **Confirmed** environmental management plans, and any revised environmental management plans under condition C2-4(1), must be published on the proponent's website and provided to the **CEO** in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being implemented, or being required to be implemented (whichever is earlier).

C3 Conditions Related to Monitoring

C3-1 The proponent must undertake monitoring capable of:

- (1) substantiating whether the proposal limitations and extents in Part A are exceeded; and
- (2) **detecting** and substantiating whether the environmental outcomes identified in Part B are achieved (excluding any environmental outcomes in Part B where an environmental management plan is expressly required to monitor achievement of that outcome).

C3-2 The proponent must submit as part of the Compliance Assessment Report required by condition D2, a compliance monitoring report that:

- (1) outlines the monitoring that was undertaken during the implementation of the proposal;

- (2) identifies why the monitoring was capable of substantiating whether the proposal limitation and extents in Part A are exceeded;
- (3) for any environmental outcomes to which condition C3-1(2) applies, identifies why the monitoring was scientifically robust and capable of **detecting** whether the environmental outcomes in Part B are met;
- (4) outlines the results of the monitoring;
- (5) reports whether the proposal limitations and extents in Part A were exceeded and (for any environmental outcomes to which condition C3-1 (2) applies) whether the environmental outcomes in Part B were achieved, based on analysis of the results of the monitoring; and
- (6) reports any actions taken by the proponent to remediate any potential non-compliance.

C4 Environmental Management Plans: Conditions Relating to Monitoring and Adaptive Management for Outcomes Based Conditions

C4-1 The environmental management plan required under condition B1-2 must contain provisions which enable the substantiation of whether the relevant outcomes of those conditions are met, and must include:

- (1) **Environmental Quality Standards** and **Environmental Quality Guidelines** to protect the **marine environmental values** and levels of ecological protection;
- (2) monitoring parameters, sites, control/reference sites, methodology, timing and frequencies which will be used to measure **Environmental Quality Standards** and **Environmental Quality Guidelines**. Include methodology for determining alternate monitoring sites as a contingency if proposed sites are not suitable in the future;
- (3) baseline data;
- (4) data collection and analysis methodologies;
- (5) adaptive management methodology;
- (6) **contingency measures** which will be implemented if **Environmental Quality Standards** or **Environmental Quality Guidelines** are not met; and
- (7) reporting requirements.

C4-2 Without limiting condition C3-1, failure to achieve an environmental outcome, or the exceedance of an **Environmental Quality Standards**, regardless of

whether **contingency measures** have been or are being implemented, represents a non-compliance with these conditions.

C5 Environmental Management Plans: Conditions Related to Management Actions and Targets for Objective Based Conditions

C5-1 The environmental management plans required under condition B3-2 must contain provisions which enable the achievement of the relevant objectives of those conditions and substantiation of whether the objectives are reasonably likely to be met, and must include:

- (1) **management actions**;
- (2) **management targets**; and
- (3) **contingency measures** if **management targets** are not met; and
- (4) reporting requirements.

C5-2 The environmental management plan required under condition B3-2 is also required to include:

- (1) discussion and consideration of current best practice in relation to removal and **decommissioning** of buried pipelines unless, if agreed in writing by the vested land manager and in consultation with relevant stakeholders, retention of plant and infrastructure;
- (2) identification of any contaminated areas, including provision of evidence of notification and proposed management measures to the requirements of the **CEO**.

C5-3 Without limiting condition C2-1, the failure to achieve an environmental objective, or implement a **management action**, regardless of whether **contingency measures** have been or are being implemented, represents a non-compliance with these conditions.

PART D – COMPLIANCE, TIME LIMITS, AUDITS AND OTHER CONDITIONS

D1 Non-compliance Reporting

D1-1 If the proponent becomes aware of a potential non-compliance, the proponent must:

- (1) report this to the **CEO, DBCA** and **DoH** within seven (7) days;
- (2) implement **contingency measures**;
- (3) investigate the cause;
- (4) investigate environmental impacts;
- (5) advise rectification measures to be implemented;
- (6) advise any other measures to be implemented to ensure no further impact; and
- (7) provide a report to the **CEO, DBCA** and **DoH** within twenty-one (21) days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(2) to D1-1(6) above.

D1-2 Failure to comply with the requirements of a condition, or with the content of an environmental management plan required under a condition, constitutes a non-compliance with these conditions, regardless of whether the **contingency measures**, rectification or other measures in condition D1-1 above have been or are being implemented.

D2 Compliance Reporting

D2-1 The proponent must provide an annual Compliance Assessment Report to the **CEO, DBCA** and **DoH** for the purpose of determining whether the implementation conditions are being complied with.

D2-2 Unless a different date or frequency is approved by the **CEO**, the first annual Compliance Assessment Report must be submitted within fifteen (15) months of the date of this Statement, and subsequent plans must be submitted annually from that date.

D2-3 Each annual Compliance Assessment Report must be endorsed by the proponent's Chief Executive Officer, or a person approved by proponent's Chief Executive Officer to be delegated to sign on the Chief Executive Officer's behalf.

D2-4 Each annual Compliance Assessment Report must:

- (1) state whether each condition of this Statement has been complied with, including:

- (a) exceedance of any proposal limits and extents;
 - (b) achievement of environmental outcomes;
 - (c) achievement of environmental objectives;
 - (d) requirements to implement the content of environmental management plans;
 - (e) monitoring requirements;
 - (f) implement **contingency measures**;
 - (g) requirements to implement adaptive management; and
 - (h) reporting requirements;
- (2) include the results of any monitoring (inclusive of any raw data) that has been required under Part C in order to demonstrate that the limits in Part A, and any outcomes or any objectives are being met;
 - (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance;
 - (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance;
 - (5) be provided in a form suitable for publication on the proponent's website and online by the Department of Water and Environmental Regulation;
 - (6) be prepared and published consistent with the latest version of the Compliance Assessment Plan required by condition D2-5 which the **CEO** has confirmed by notice in writing satisfies the relevant requirements of Part C and Part D.

D2-5 The proponent must prepare a Compliance Assessment Plan which is submitted to the **CEO** at least six (6) months prior to the first Compliance Assessment Report required by condition D2-2, or prior to implementation of the proposal, whichever is sooner.

D2-6 The Compliance Assessment Plan must include:

- (1) what, when and how information will be collected and recorded to assess compliance;
- (2) the methods which will be used to assess compliance;
- (3) the methods which will be used to validate the adequacy of the compliance assessment to determine whether the implementation conditions are being complied with;

- (4) the retention of compliance assessments;
- (5) the table of contents of Compliance Assessment Reports, including audit tables; and
- (6) how and when Compliance Assessment Reports will be made publicly available, including usually being published on the proponent's website within sixty (60) days of being provided to the **CEO**.

D3 Contact Details

- D3-1 The proponent must notify the **CEO** of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

D4 Public Availability of Data

- D4-1 Subject to condition D4-2, within a reasonable time period approved by the **CEO** upon the issue of this Statement and for the remainder of the life of the proposal, the proponent must make publicly available, in a manner approved by the **CEO**, all validated environmental data collected before and after the date of this Statement relevant to the proposal (including sampling design, sampling methodologies, monitoring and other empirical data and derived information products (e.g. maps)), environmental management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

D4-2 If:

- (1) any data referred to in condition D4-1 contains trade secrets; or
- (2) any data referred to in condition D4-1 contains particulars of confidential information (other than trade secrets) that has commercial value to a person that would be, or could reasonably be expected to be, destroyed or diminished if the confidential information were published,

- D4-3 the proponent may submit a request for approval from the **CEO** to not make this data publicly available and the **CEO** may agree to such a request if the **CEO** is satisfied that the data meets the above criteria.

- D4-4 In making such a request the proponent must provide the **CEO** with an explanation and reasons why the data should not be made publicly available.

- D4-5 Proponent must publish the boundaries for the **zone/s for the management of seafood** in addition to the results of monitoring undertaken to determine compliance with the **Environmental Quality Guidelines** and **Environmental Quality Standards** relevant to those zones.

D5 Independent Audit

- D5-1 The proponent must arrange for an independent audit of compliance with the conditions of this statement, including achievement of the environmental outcomes and/or the environmental objectives and/ or environmental performance with the conditions of this statement, as and when directed by the **CEO**.
- D5-2 The independent audit must be carried out by a person with appropriate qualifications who is nominated or approved by the **CEO** to undertake the audit under condition D5-1.
- D5-3 The proponent must submit the independent audit report with the Compliance Assessment Report required by condition D2, or at any time as and when directed in writing by the **CEO**. The audit report is to be supported by credible evidence to substantiate its findings.
- D5-4 The independent audit report required by condition D5-1 is to be made publicly available in the same timeframe, manner and form as a Compliance Assessment Report, or as otherwise directed by the **CEO**.

Table 1: Abbreviations and definitions

Acronym or abbreviation	Definition or term
Adverse impact / adversely impacted	Negative change that is neither trivial nor negligible that could result in a reduction in health, diversity or abundance of the receptor/s being impacted, or a reduction in environmental value. Adverse impacts can arise from direct or indirect impacts, or other impacts from the proposal.
Detecting/ Detectable	The smallest statistically discernible effect size that can be achieved with a monitoring strategy designed to achieve a statistical power value of at least 0.8 or an alternative value as determined by the CEO .
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or the CEO's delegate.
Confirmed	<p>In relation to a plan required to be made and submitted to the CEO, means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p> <p>In relation to a plan required to be implemented without the need to be first submitted to the CEO, means that plan until it is revised, and then means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p>
Contingency measures	Planned actions for implementation if it is identified that an environmental outcome, environmental objective, threshold criteria, Environmental Quality Standard or management target are likely to be, or are being, exceeded. Contingency measures include changes to operations or reductions in disturbance or adverse impacts to reduce impacts and must be decisive actions that will quickly bring the impact to below any relevant threshold, management target and to ensure that the environmental outcome and/or objective can be met.
Decommissioning	Removal of any infrastructure, or preparatory works for the removal of any infrastructure, used for the implementation of this proposal and outlined in the Proposal Content Document referred to the introduction to this Statement.

DBCA	Department of Biodiversity, Conservation and Attractions
DoH	Department of Health
Environmental Quality Guidelines	Threshold numerical values or narrative statements which if met indicate there is a high degree of certainty that the associated environmental quality objective has been achieved.
Environmental Quality Objectives	A management objective that describe what must be achieved to protect each marine environmental value , which are defined in Table 1 of the <i>Technical Guidance Protecting the Quality of Western Australia's Marine Environment</i> , as amended from time to time, and available at www.epa.wa.gov.au .
Environmental Quality Standards	Threshold numerical values or narrative statements that indicate a level which if not met indicates there is a significant risk that the associated environmental quality objective has not been achieved and a management response is required.
Irreversible	Adverse impact which is unlikely to or does not return to pre-impact state within five (5) years.
Low Ecological Protection Area	The area shown in Figure 1 and spatially defined by coordinates in Schedule 1.
M	Metres
Management action(s)	The identified actions implemented with the intent of achieving the environmental objective.
Management target(s)	A type of indicator to evaluate whether an environmental objective is being achieved.
Marine environmental values	Particular value or uses of the marine environment that are important for a healthy ecosystem or for public benefit, welfare, safety or health and which require protection from the effects of pollution, waste discharges and deposits as defined in the <i>Technical Guidance Protecting the Quality of Western Australia's Marine Environment</i> , as amended from time to time, and available at www.epa.wa.gov.au .
Marine Water Quality Technical Guidance	<i>Technical Guidance for protecting the quality of Western Australia's marine environment</i> , as amended from time to time, and available at www.epa.wa.gov.au .
ML/day	Megalitres per day
Mm	Millimetres

Primary Contact Management Zone	The area shown in Figure 1 and spatially defined by coordinates in Schedule 1.
Zone/s for the management of seafood	Zones uses to measure the Maintenance of Seafood for Human Consumption Environmental Quality Objective, and spatially defined in the Marine Environmental Management Plan (Version 11, October 2023)

Figures (attached)

Figure 1 Proposal location, Low Ecological Protection Area and Primary Contact Management Zone (This map is a representation of the co-ordinates referenced in Schedule 1)



Figure 1: Proposal location, Low Ecological Protection Area and Primary Contact Management Zone

Schedule 1

All co-ordinates are in metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geocentric Datum of Australia 2020 (GDA2020).

Spatial data depicting the figures are held by the Department of Water and Environmental regulation. Record no. DWERDT824391.

Appendix C: Decision-making authorities

The decision-making authorities in the table below have been identified for the purposes of s. 45 as applied by s. 46(8) of the *Environmental Protection Act 1986*.

Decision-Making Authority	Legislation (and approval)
1. Minister for Fisheries	<i>Fish Resources Management Act 1994</i>
2. Minister for Water	<i>Water Corporations Act 1995</i> , <i>Water Services Act 2012</i>
3. Minister for Planning	<i>Planning and Development Act 2005</i>
4. Director General, Department of Biodiversity, Conservation and Attractions	<i>Conservation and Land Management Act 1984</i>

Note: In this instance, agreement is only required with DMAs 1–3 since these DMAs are Ministers.

References

City of Joondalup 2016, Ocean Reef Marina Public Environmental Review. Strategen Environmental Consultants Pty Ltd, Perth, WA.

DAL Science & Engineering Pty Ltd 2004, *Perth Long Term Ocean Outlet Monitoring (PLOOM) 3.2, 2003/2004 Metals and Pesticides Surveys at Ocean Reef and Sepia Depression and 12-year Review of the Ocean Reef Programme*, Prepared for Water Corporation, Report No 361/2.

DBCA 2023, *Marmion Marine Park*, accessed on 6 September 2023 via <https://www.dbca.wa.gov.au/management/parks/plan-our-parks/marmion-marine-park>, Department of Biodiversity, Conservation and Attractions.

EPA 1990, *Proposed Beenyup Wastewater Ocean Outlet Duplication into Marmion Marine Park*, Report and Recommendations of the EPA 393, Perth, WA.

EPA 1994, *Change of Environmental Conditions – Beenyup Ocean Outfall Duplication*, Report and Recommendations of the EPA 762, Perth, WA.

EPA 1995, *Beenyup Ocean Outlet – Proposal Under S46 of the EP Act to Increase Phosphorous Discharge Limit*, Report and Recommendations of the EPA # 1012, Perth, WA.

EPA 2016a, *Environmental factor guideline – Benthic communities and habitats*, Environmental Protection Authority, Perth, WA.

EPA 2016b, *Environmental factor guideline – Marine environmental quality*, Environmental Protection Authority, Perth, WA.

EPA 2016c, *Environmental factor guideline – Marine fauna*, Environmental Protection Authority, Perth, WA.

EPA 2016d, *Technical guidance – Protecting the quality of Western Australia's marine environment*, Environmental Protection Authority, Perth, WA.

EPA 2016e, *Technical guidance – Protection of benthic communities and habitats*, Environmental Protection Authority, Perth, WA.

EPA 2019, *Ocean Reef Marina*, Report and Recommendations of the EPA # 1629, Perth, WA

EPA 2021, *Environmental impact assessment (Part IV Divisions 1 and 2) procedures manual*, Environmental Protection Authority, Perth, WA.

EPA 2023a, *Environmental factor guideline – Greenhouse Gas Emissions*, Environmental Protection Authority, Perth, WA.

EPA 2023b, *Statement of environmental principles, factors, objectives and aims of EIA*, Environmental Protection Authority, Perth, WA.

Water Corporation 2016, *Beenyup Ocean Outlets Discharge, Section 46 Assessment Document*. Water Corporation, Perth, WA.

Water Corporation 2023a, *Beenyup Advanced Water Recycling Plant, section 45C application for change to proposal, 4 August 2023*. Water Corporation, Perth, WA.

Water Corporation 2023b, *Beenyup Ocean Outlets Marine Environmental Management Plan, Version 10*. Water Corporation, Perth, WA.

Water Corporation 2023c, *Beenyup Ocean Outlets Proposal Content Document, August 2023*. Water Corporation, Perth, WA.

Water Corporation 2023d, *Perth Long Term Ocean Outlet Monitoring Program, Annual Reports, Ocean Reef*, accessed at [Water Corporation website](#), 15 August 2023.

State of Western Australia 2021, *Western Australia Government Gazette, No. 180, Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2021*, 22 October 2021.