



# Environmental Protection Authority

## Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.

EPA REFERRAL  
FORM  
PROPONENT

### PURPOSE OF THIS FORM

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

### CHECKLIST

Before you submit this form, please check that you have:

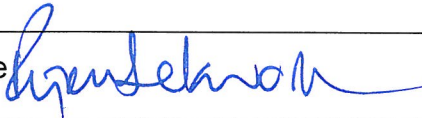
	Yes	No
Completed all the questions in Part A (essential).	X	
Completed all applicable questions in Part B.	X	
Included Attachment 1 – location maps.	X	
Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).	X	
Included Attachment 3 – confidential information (if applicable).	N/A	
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information.	X	

Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Not sure	
If yes, what level of assessment?	
<input type="checkbox"/> Assessment on Proponent Information	<input type="checkbox"/> Public Environmental Review

**PROPONENT DECLARATION** (to be completed by the proponent)

I, RUPERT DUCKWORTH, (full name) declare that I am authorised on behalf of WATER CORPORATION (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 	Name (print) <u>RUPERT DUCKWORTH</u>
Position <u>ACTING MANAGER E+R BRANCH</u>	Company <u>WATER CORPORATION</u>
Date <u>19 December 2012</u>	

## PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

### 1 PROPONENT AND PROPOSAL INFORMATION

#### 1.1 Proponent

Name	Water Corporation
Joint Venture parties (if applicable)	N/A
Australian Company Number (if applicable)	28 003 434 917
Postal Address (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)	629 Newcastle Street Leederville Western Australia 6007
Key proponent contact for the proposal: <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	Andrew Baker 629 Newcastle Street Leederville WA 6007 (08) 9420 2114 Andrew.baker@watercorporation.com
Consultant for the proposal (if applicable): <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	GHD Pty Ltd 239 Adelaide Terrace Perth 6004 WA (08) 6222 8560 Graeme.eade@GHD.com

#### 1.2 Proposal

Title	Dawesville Areas 1B, 5A & Pump Station(No.7) and Pressure Main and Area 4A & Pump Station (No.13) and Pressure Main
Description	The Water Corporation proposes to construct a gravity-fed reticulated sewer system in the suburb of Dawesville, south of Mandurah. The sewer system will be part of Water Corporation's Infill Sewerage Program whereby established areas using septic tanks for wastewater disposal are connected to the existing sewerage scheme. The reticulated sewer system will enable sewerage to gravitate from residential buildings to the proposed pump stations 7 or 13 (see Figure 1; Attachment 1). Majority of the sewer will be installed in the Water Corporation easement on private properties or in Road Reserves (see Attachment 2).

	<p>The sewerage pipes will be 150 and 225 mm in diameter and will be installed using a combination of open trenching and trenchless technology. Open trenching will involve installing pipes (both sewer and pressure mains) into trenches left open for a period of time. Installation of pipes (both sewer and pressure mains) by trenchless tunnelling is a 'no dig' method whereby pipes are installed using a micro-tunnelling boring machine in approximately 60 to 100 m sections.</p> <p>Dewatering will be required during construction works, in particular for open trench excavations for pipelines, access chambers, and both pump stations. To limit excavations and dewatering operations for this infrastructure, circular caissons (4.2 m diameter and up to 6.0 m depth) will be constructed.</p> <p>Excess water from pipe and caisson installation works will be pumped back into the existing sewerage system via temporary pipes and fed to the Caddadup Wastewater Treatment Plant (WWTP).</p> <p>Three temporary pump stations and their associated pressure mains are to be decommissioned upon completion of the proposal (see Figure 2). Decommissioning of the temporary pressure mains will involve flushing the pipes with clean water prior to being disconnected from the sewerage scheme. The internal systems of each temporary pump station will also be removed (including above ground electrical boxes) after which each of the voids will be backfilled with clean sand fill.</p>
Extent (area) of proposed ground disturbance.	<p>Length of proposed alignment  <u>Trenchless:</u> 3.30 km  <u>Open Trench:</u> 9.66 km</p> <p>Total area of ground disturbance (excluding trenchless) is approximately 3.60 hectares (ha)</p>



Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	March 2013 to June 2014
Details of any staging of the proposal.	Staged construction of the proposal will occur to allow pressure mains to be brought online as construction progresses for use to dispose dewatered product.
Is the proposal a strategic proposal?	No
Is the proponent requesting a declaration that the proposal is a derived proposal? If so, provide the following information on the strategic assessment within which the referred proposal was identified: <ul style="list-style-type: none"> <li>• title of the strategic assessment; and</li> <li>• Ministerial Statement number.</li> </ul>	No
Please indicate whether, and in what way, the proposal is related to other proposals in the region.	The proposal is not related to any other proposals in the region.
Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?	Water Corporation does not own the land upon which the proposal is to be established. Consultation has occurred between the Water Corporation, property owners, City of Mandurah, Department of Environment and Conservation (DEC), Peel Inlet Management Authority, Main Roads WA, Department of Planning and other relevant stakeholders.
What is the current land use on the property, and the extent (area in hectares) of the property?	The proposal extends across the following land uses: <ul style="list-style-type: none"> <li>• Crown Land;</li> <li>• Easements;</li> <li>• Free Hold;</li> <li>• Reserve;</li> <li>• Road Reserve; and</li> <li>• Building Strata.</li> </ul> Lot numbers and land types are listed in Attachment 2.

### 1.3 Location

Name of the Shire in which the proposal is located.	City of Mandurah
For urban areas: <ul style="list-style-type: none"> <li>• street address;</li> <li>• lot number;</li> <li>• suburb; and</li> <li>• nearest road intersection.</li> </ul>	Suburb: Dawesville  See Attachment 2 for Lot Numbers and Reserve Numbers.
For remote localities: <ul style="list-style-type: none"> <li>• nearest town; and</li> <li>• distance and direction from that town to the proposal site.</li> </ul>	Not Applicable
Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> <li>• GIS: polygons representing all activities and named;</li> <li>• CAD: simple closed polygons representing all activities and named;</li> <li>• datum: GDA94;</li> <li>• projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>• format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD.</li> </ul>	Attachment 1: Figure 1 – Project Locality Figure 2 – Environmental Context  Electronic copy of spatial data attached.

### 1.4 Confidential Information

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	No
If yes, is confidential information attached as a separate document in hard copy?	No

### 1.5 Government Approvals

Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	No		
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, please complete the table below.	Yes		
<b>Agency/Authority</b>	<b>Approval required</b>	<b>Application lodged Yes / No</b>	<b>Agency/Local Authority contact(s) for proposal</b>
City of Mandurah	To construct sewers in reserves vested with the council	Preliminary approval resulting from Preliminaries to Works notification	CEO City of Mandurah

## PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

### 2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the information.

#### 2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

- (please tick)     Yes            **If yes**, complete the rest of this section.  
                          No            **If no**, go to the next section

2.1.2 How much vegetation are you proposing to clear (in hectares)?

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

- Yes             No            **If yes**, on what date and to which office was the application submitted of the DEC?

2.1.4 Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.1.5 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

Yes

No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

A search of the DEC's *NatureMap* database was queried in August 2012 to identify the presence of rare or priority flora within the Project area. Information presented in *NatureMap* is drawn from a wide variety of sources, in particular the most current Western Australian Herbarium and Western Australian Museum specimen databases.

A search of *Natural Resource Management: Shared Land Information Platform* (NRM: SLIP) database was undertaken in August 2012 to identify the presence of threatened ecological communities. Information presented in NRM: SLIP is derived from databases maintained by the DEC and is updated as information becomes available (annual minimum).

2.1.6 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

Yes

No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

The *Natural Resource Management: Shared Land Information Platform* database identified a large Threatened Ecological Community (TEC) (ID 1347) which is assumed to be associated with the Yalgorup National Park, situated 2 km south-west of the proposal.

A search of the DEC's *NatureMap* databases did not identify any records of priority flora or threatened ecological communities within the proposal area.

## References

Department of Agriculture and Food W.A (2012) *Natural Resource Management: Shared Land Information Platform*. Available from <http://spatial.agric.wa.gov.au/slip/contacts.asp>

2.1.7 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

Yes

No

**If yes**, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

2.1.8 What is the condition of the vegetation at the site?

The site is situated within the established residential suburb of Dawesville, with the development primarily contained within cleared road reserves and within private properties. The condition of the vegetation across the site is mainly disturbed or introduced (e.g. cleared road reserves and lawns). Sewer is located in firebreak access track.

## 2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

The proposal area is located within the established residential area of Dawesville. Disturbance associated with the proposal will be linear in nature.

Approximately 3.3 km's of sewer installation will be installed using trenchless technology in an attempt to minimise ground disturbance. Negligible impacts to fauna and fauna habitat are anticipated.

2.2.2 Describe the nature and extent of the expected impact.

Linear open trench excavation is required to install pipes, 150 mm in diameter. Approximately, 9.66 km of open trench excavation will be undertaken within cleared road reserves, lawns, pavements and road surfaces and some cleared firebreak access tracks.

2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

Yes

No

(please tick)

A search of the NRM: SLIP database was undertaken in August 2012 to identify the presence of threatened fauna. Information presented in NRM: SLIP is

derived from databases maintained by the DEC and is updated as information becomes available (annual minimum).

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

- Yes       No      **If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

A search of the NRM: SLIP database did not identify any records of threatened fauna within the proposal area.

### 2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

- (please tick)       Yes      **If yes**, complete the rest of this section.  
 No      **If no**, go to the next section.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

- Yes       No      **If yes**, please describe the extent of the expected impact.

The sewer line will be installed using a combination of open trenches and trenchless technology as shown in see Figure 2. As illustrated in Figure 2, trenchless techniques will be carried out along the foreshore, where possible, to minimise disturbance.

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

Conservation Category Wetland	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Perth's Bush Forever site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
The management area as defined in s4(1) of the <i>Swan River Trust Act 1988</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure

Approximately 100 m of the proposed sewer and pressure main is located within the area mapped as being a Conservation Category Wetland. This includes sections of pipeline being installed via both open trench and trenchless methods.

## 2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

Yes       No      **If yes**, please provide details.

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

Yes       No      **If yes**, please provide details.

The proposal area extends across the Environmentally Sensitive Area associated with the *Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992*.

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

Yes       No      **If yes**, please provide details.



## 2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300metres of a coastal area?

- (please tick)       Yes      **If yes**, complete the rest of this section.  
                                  No      **If no**, go to the next section.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

- Yes       No      **If yes**, please describe the extent of the expected impact.

## 2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

- Yes       No      **If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

- Yes       No      **If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).

## 2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area?

(You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

The proposal is located within the South-West Coastal proclaimed groundwater area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The proposal is not situated within a proclaimed Surface Water protection area.

The Water Corporation is not required to obtain either a Section 5C or Section 26D licence under the RIWI Act in regards to dewatering. The power given to the Water Corporation by Section 83(2)(b) of the *Water Agencies (Powers) Act 1984*.

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

Yes       No      **If yes**, please describe what category of area.

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

Yes       No      (please tick)

2.7.5 Will the proposal require drainage of the land?

Yes       No      **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

Thirty-two water-tight caissons (4 m diameter and up to 6.m depth) will be constructed to allow for the trenchless installation of the pipeline network. The construction of each caisson may require initial dewatering during caisson installation, however the volume of dewatering will be limited to the volume inside the caisson only. The dewatering effluent will be discharged into existing Water Corporation sewer mains and treated at Caddadup Wastewater Treatment Plant (WWTP).

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.7.7 What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

1,000kL per year

2.7.8 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

Water Corporation supply system

## 2.8 Pollution

2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick)       Yes      **If yes**, complete the rest of this section.  
 No      **If no**, go to the next section.

Temporary noise, vibration and dust emissions are anticipated during construction, however these impacts are expected to be localised and minor. Noise, vibration and dust emissions would be managed in accordance with a Construction Environmental Management Plan.

2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

Yes       No      **If yes**, please describe what category of prescribed premise.

2.8.3 Will the proposal result in gaseous emissions to air?

Yes       No      **If yes**, please briefly describe.

Gaseous emissions would be limited to vehicle emissions associated with operation of vehicles and machinery during construction.

2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

Yes       No      **If yes**, please briefly describe.

2.8.5 Will the proposal result in liquid effluent discharge?

Yes       No      **If yes**, please briefly describe the nature, concentrations and receiving environment.

Staged construction of the proposal is to start from the existing Water Corporation sewer main, situated to the west of the proposal. As constructed, the proposal will be brought on-line to the existing sewer main as stages of proposal become available. Limited dewatering from pipe installation works will be discharged into the nearest existing Water Corporation sewer main via a temporary pipe. The dewatering effluent will be pumped to and treated at the Caddadup WWTP along with existing sewerage effluent.

2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

Yes       No      **If yes**, please describe.

2.8.7 Will the proposal produce or result in solid wastes?

Yes

No

**If yes**, please briefly describe the nature, concentrations and disposal location/ method.

It is anticipated that there will be some general construction waste and excess excavated soil during the construction and installation of the proposal. All wastes generated will be disposed of at an appropriate waste disposal facility.

2.8.8 Will the proposal result in significant off-site noise emissions?

Yes

No

**If yes**, please briefly describe.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

Yes

No

**If yes**, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations?

Please attach the analysis.

No analysis has been carried out to demonstrate that the proposal will comply with Regulations, however, construction work is anticipated to be carried out between 7.00 am and 7.00 pm on any day, which is not a Sunday or public holiday. The works will be carried out in accordance with control of environmental noise practices set out in Section 6 of *Australian Standard (AS) 2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*.

2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other "sensitive premises" such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

Yes

No

**If yes**, please describe and provide the distance to residences and other "sensitive premises".

Construction of the proposal may temporarily affect the amenity of nearby residents, as anticipated excavation works may generate off-site, air quality impacts, dust odour or another pollutant. Where required, dust suppression using water trucks will be used.

2.8.11 If the proposal has a residential component or involves "sensitive premises", is it located near a land use that may discharge a pollutant?

Yes

No

Not Applicable

**If yes**, please describe and provide the distance to the potential pollution source

## 2.9 Greenhouse Gas Emissions

2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

Yes

No

**If yes**, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

## 2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

Yes       No       Unsure      **If yes, please describe.**

A search of the DEC's Contaminated Sites database identified no registered contamination sites within the proposal area.

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

Yes       No      **If yes, please describe.**

An Acid Sulfate Soil (ASS) and Groundwater Investigation was undertaken by GHD in 2011. The ASS investigation indicated that potential acid sulphate soils (PASS) are present from approximately 0.5 m – 3 m below ground level along Estuary drive. Deep pipelines along this area will be constructed using trenchless techniques to reduce the amount of ASS and groundwater removal and treatment.

PASS has the potential to become acidic when exposed to oxygen, however it should be noted that limestone is present below the acidic layer. Previous surveys conducted by GHD, in 2005, identified ASS present at Pump Station 7 and 13.

An ASS management plan has been prepared as result of the potential acidity in soils present along the proposed alignment. The management plan will allow the development works to commence with minimal environmental impact.

### References

GHD (2011a) *Report for Dawesville 5A: Acid Sulphate Soils and Groundwater Investigation*. Unpublished Report for Water Corporation.

GHD (2011b) *Report for Dawesville 4A: Acid Sulphate Soils and Groundwater Investigation*. Unpublished Report for Water Corporation

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

Yes       No      **If yes, please describe.**

## 2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

Yes       No       Unsure      **If yes, please describe.**

A search of the Department of Indigenous Affairs: Aboriginal Heritage Inquiry System (August, 2012) identified four sites upon which the proposal overlaps (see Table below).



Table 1

**Aboriginal ethnographic and/or archaeological sites overlapping the proposal (Department of Indigenous Affairs, 2012)**

Site ID	Status	Site Name	Site Type	Additional Info
3239	Stored Data	Harvey Estuary 09:yu	Artefacts / Scatter	Camp, [other: ?]
3288	Insufficient Information	Harvey Estuary 07: seaview2	Artefacts / Scatter	Camp, [other: ?]
3287	Insufficient Information	Harvey Estuary 06: seaview1	Artefacts / Scatter	Camp, [other: ?]
3242	Stored Data	Harvey Estuary 12: crossrds	Artefacts / Scatter	Camp, [other: ?]

The status of site ID's 3239 and 3242 indicate these heritage sites need not be referred to the Aboriginal Cultural Material Committee for assessment. The status of site ID's 3288 and 3287 indicate that information lodged with the Registrar does not have sufficient information to complete an assessment; however the provisions of the *Aboriginal Heritage Act 1972* apply to these places until they are assessed as not applicable.

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

Yes       No      **If yes**, please describe.

A major boat ramp servicing the area is situated adjacent part of the proposed pipeline alignment (see Figure 2). Proposed construction activities around this public recreational area will be restricted during holiday periods. Trenchless techniques will be used during construction to reduce the duration and impact upon the nearby recreational area.

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

Yes       No      **If yes**, please describe.

### 3. PROPOSED MANAGEMENT

#### 3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- |  |   |                             |
|--|---|-----------------------------|
| 1. The precautionary principle.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. The principle of intergenerational equity.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms.        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. The principle of waste minimisation.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

Yes       No

#### 3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

Yes       No      **If yes**, please list those consulted and attach comments or summarise response on a separate sheet.

A letter and plan of the proposed sewerage works was mailed to all property owners and government agencies affected by the works for comment and any issues have been resolved.

Additionally, a presentation of the Dawesville Infill Sewerage project was delivered by the Water Corporation on the 7th June 2012 to the City of Mandurah officers and government agencies. The presentation was well received by all attending parties listed below:

- City of Mandurah;
- Peel Inlet Management Authority;
- Office of Environmental Protection Authority;
- Department of Water; and
- Department of Planning.

Affected residents within the suburb of Dawesville have been notified of the proposal and will continue to be informed of upcoming works via letterbox drops prior to proposed construction.

Attachment 1

## Figures

Attachment 2

## Intersecting Lot Numbers and Land Types

Land Type	Lot Number / Reserve Number / Strata Number
CROWN	2025
CROWN	1695
CROWN	2359
CROWN	2216
CROWN	1664
CROWN	1656
FREEHOLD	207
FREEHOLD	209
FREEHOLD	106
FREEHOLD	157
FREEHOLD	85
FREEHOLD	46
FREEHOLD	32
FREEHOLD	504
FREEHOLD	215
FREEHOLD	214
FREEHOLD	112
FREEHOLD	37
FREEHOLD	1
FREEHOLD	40
FREEHOLD	147
FREEHOLD	229
FREEHOLD	156
FREEHOLD	39
FREEHOLD	22
FREEHOLD	46
FREEHOLD	60
FREEHOLD	110
FREEHOLD	58
FREEHOLD	11
FREEHOLD	2
FREEHOLD	147
FREEHOLD	100
FREEHOLD	36
FREEHOLD	45
FREEHOLD	53
FREEHOLD	110
FREEHOLD	60
FREEHOLD	52
FREEHOLD	240
FREEHOLD	52
FREEHOLD	44
FREEHOLD	42
FREEHOLD	211
FREEHOLD	107
FREEHOLD	114
FREEHOLD	88

Land Type	Lot Number / Reserve Number / Strata Number
FREEHOLD	159
FREEHOLD	43
FREEHOLD	91
FREEHOLD	61
FREEHOLD	33
FREEHOLD	502
FREEHOLD	41
FREEHOLD	22
FREEHOLD	205
FREEHOLD	203
FREEHOLD	16
FREEHOLD	57
FREEHOLD	48
FREEHOLD	66
FREEHOLD	216
FREEHOLD	213
FREEHOLD	128
FREEHOLD	84
FREEHOLD	200
FREEHOLD	1
FREEHOLD	117
FREEHOLD	208
FREEHOLD	238
FREEHOLD	89
FREEHOLD	41
FREEHOLD	42
FREEHOLD	4
FREEHOLD	66
FREEHOLD	43
FREEHOLD	24
FREEHOLD	54
FREEHOLD	27
FREEHOLD	108
FREEHOLD	146
FREEHOLD	109
FREEHOLD	112
FREEHOLD	40
FREEHOLD	41
FREEHOLD	58
FREEHOLD	126
FREEHOLD	86
FREEHOLD	87
FREEHOLD	202
FREEHOLD	26
FREEHOLD	55
FREEHOLD	143
FREEHOLD	17



Land Type	Lot Number / Reserve Number / Strata Number
FREEHOLD	118
FREEHOLD	60
FREEHOLD	42
FREEHOLD	242
FREEHOLD	148
FREEHOLD	116
FREEHOLD	500
FREEHOLD	56
FREEHOLD	218
FREEHOLD	106
FREEHOLD	127
FREEHOLD	107
FREEHOLD	125
FREEHOLD	502
FREEHOLD	149
FREEHOLD	220
FREEHOLD	109
FREEHOLD	113
FREEHOLD	52
FREEHOLD	5
FREEHOLD	62
FREEHOLD	801
FREEHOLD	154
FREEHOLD	200
FREEHOLD	111
FREEHOLD	71
FREEHOLD	241
FREEHOLD	93
FREEHOLD	23
FREEHOLD	306
FREEHOLD	91
FREEHOLD	38
FREEHOLD	10
FREEHOLD	152
FREEHOLD	145
FREEHOLD	206
FREEHOLD	108
FREEHOLD	19
FREEHOLD	86
FREEHOLD	35
FREEHOLD	29
FREEHOLD	35
FREEHOLD	101
FREEHOLD	47
FREEHOLD	44
FREEHOLD	19
FREEHOLD	30

Land Type	Lot Number / Reserve Number / Strata Number
FREEHOLD	38
FREEHOLD	43
FREEHOLD	9500
FREEHOLD	20
FREEHOLD	201
FREEHOLD	132
FREEHOLD	94
FREEHOLD	113
FREEHOLD	503
FREEHOLD	25
FREEHOLD	101
FREEHOLD	501
FREEHOLD	212
FREEHOLD	102
FREEHOLD	501
FREEHOLD	160
FREEHOLD	210
FREEHOLD	113
FREEHOLD	81
FREEHOLD	126
FREEHOLD	36
FREEHOLD	47
FREEHOLD	31
FREEHOLD	26
FREEHOLD	144
FREEHOLD	125
FREEHOLD	115
FREEHOLD	61
FREEHOLD	61
FREEHOLD	24
FREEHOLD	50
FREEHOLD	217
FREEHOLD	111
FREEHOLD	208
FREEHOLD	37
FREEHOLD	25
FREEHOLD	4002
FREEHOLD	101
FREEHOLD	25
FREEHOLD	111
FREEHOLD	36
FREEHOLD	36
FREEHOLD	110
FREEHOLD	207
FREEHOLD	155
FREEHOLD	148
FREEHOLD	112

Land Type	Lot Number / Reserve Number / Strata Number
FREEHOLD	18
FREEHOLD	23
FREEHOLD	21
FREEHOLD	20
FREEHOLD	26
FREEHOLD	115
FREEHOLD	22
FREEHOLD	21
FREEHOLD	20
FREEHOLD	124
FREEHOLD	105
FREEHOLD	101
FREEHOLD	203
FREEHOLD	501
FREEHOLD	243
FREEHOLD	64
FREEHOLD	51
FREEHOLD	51
FREEHOLD	25
FREEHOLD	45
FREEHOLD	43
RESERVE	R33128
RESERVE	R48803
RESERVE	R48027
RESERVE	R34226
RESERVE	R2851
RESERVE	R2851
RESERVE	R36027
BUILDING STRATA	S008700
BUILDING STRATA	S043327
BUILDING STRATA	S011670
BUILDING STRATA	S009903
BUILDING STRATA	S030930
BUILDING STRATA	S029358
BUILDING STRATA	S014644
BUILDING STRATA	S039259
EASEMENT	0
ROAD	0