

REFERRAL DOCUMENT

WHITBY PRESSURE MAIN

Project Number EP13-067(15)

**Prepared for Gold Fusion Pty Ltd
December 2014**

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Executive Summary

Gold Fusion Pty Ltd (herein referred to as 'the proponent') proposes to construct a pressure main to enable the provision of wastewater services for urban development within the Whitby Local Structure Plan (LSP) area. The Whitby LSP area is owned by the proponent (also referred to as 'the proponent landholdings'). The pressure main is located within Route 4 of the *Southern Sources Integration Assets (SSIA) Pipeline Corridor* strategic proposal (Water Corporation 2009) which was strategically assessed by the EPA (herein referred to as 'the SSIA strategic proposal').

Emerge Associates have been engaged to prepare a referral, pursuant to the *Environmental Protection Act 1986* (EP Act), requesting the pressure main within Route 4 of the SSIA strategic proposal (herein referred to as 'the proposal') be declared a derived proposal in accordance with *Section 39B(i)* of the EP Act in the context of the approved the SSIA strategic proposal (Ministerial Statement 845, dated 3 November 2010). The structure and content of this document has been developed in accordance with advice provided by the Environmental Protection Authority (EPA). This report is intended to:

- Provide a summary of the SSIA strategic proposal and assessment.
- Provide a summary of the currently referred proposal.
- Determine if there has been any change in the environmental context which may have occurred post the EPA assessment of the SSIA strategic proposal, and where such changes may have occurred, evaluate whether they are of a sufficient significance to require full assessment of the referred proposal.
- Outline whether all relevant environmental factors have been considered to the satisfaction of the EPA.
- Detail the likely impact associated with the currently referred proposal in comparison to the impacts considered acceptable within Ministerial Statement 845.
- Outline management requirements during the construction of the wastewater pump station and pressure main.

Within this document, the proponent has also included information regarding a portion of the wastewater infrastructure that is located within the proponent's landholdings. This is to provide general context for the wastewater infrastructure and how this infrastructure relates to the pressure main proposed within a portion of Route 4 of the SSIA strategic proposal. The proponent is not referring the portion of the wastewater infrastructure within the proponent landholdings to the EPA. This is for information only and given the environmental characteristics of this area the proponent does not believe that this portion of the wastewater infrastructure needs to be referred to the EPA as it does not have the potential to have a significant impact on the environment.

To assist in understanding the environmental impacts associated with the proposal, the information in this document and the *Section 38 Referral* (Emerge Associates 2014) has been presented based on the following:

- *Within proposal area* – This includes approximately 3.9 kilometres of the pressure main.
- *Within proponent landholdings* – This includes the wastewater pump station and approximately 1.6 kilometres of the pressure main.

The proposal has been considered in the context of comparing the environmental impacts of the proposal to the environmental impacts associated with the SSIA strategic proposal, as detailed within

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Ministerial Statement 845. Overall, the proponent considers that the impacts as a result of the currently referred proposal is in accordance with those deemed acceptable by the Minister for the Environment and can achieve the objectives of the relevant environmental factor. Specifically:

- No Threatened flora or Priority Flora (PF) will be impacted as part of the construction of the proposal.
- No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) will be impacted as part of the construction of the proposal.
- The portion of the mapped Conservation Category Wetlands intersected by the proposal have been historically modified and is now comprised of road pavement and/or cleared road reserve/road formation associated with Soldiers Road and does not support wetland attributes or values. Conservation Category Wetland values are unlikely to be impacted by the construction and operation of the proposal.
- No areas of riparian vegetation will be impacted as part of construction of the proposal.
- No areas of regionally significant vegetation in 'Degraded' or better condition will be cleared and/or impacted as part of implementing the proposal. Horizontal direction drilling and/or micro-tunnelling will be utilised where the proposal intersects intact remnant vegetation (i.e. TECs within Bush Forever Site 350).
- A maximum of 15 scattered remnant trees are likely to be cleared as part of implementing the proposal. The predicted clearing impacts are considerably less than that outlined within the SSIA strategic proposal.
- A maximum 3 metre-wide area of disturbance is likely to be associated with implementation of the proposal. This is considerably less than the area identified by the Water Corporation as potentially requiring clearing, which included a corridor between 15 metres and 60 metres wide.

The proponent will adopt the *Construction Environmental Management System* (CEMS) submitted by the Water Corporation (2008) as part of the strategic assessment of the SSIA strategic proposal and outlined within Ministerial Statement 845, and will include environmental incident and compliance reporting. The appointed contractor will be required to maintain works within the construction footprint that has been specified within the currently referred proposal. This is discussed further in **Section 5**.

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1 Introduction

Gold Fusion Pty Ltd (herein referred to as 'the proponent') propose to construct a wastewater pump station and pressure main to enable the provision of wastewater services for urban development within the Whitby Local Structure Plan (LSP) area. The location of the wastewater pump station and pressure main is provided in **Figure 1**. A significant portion of the pressure main (approximately 3.9 kilometres of the 5.6 kilometre pressure main alignment) is located within Route 4 of the *Southern Sources Integration Assets (SSIA) Pipeline Corridor* strategic proposal (herein referred to as 'the SSIA strategic proposal'). The remainder of the wastewater infrastructure is located within the Whitby LSP area, on land which is owned by the proponent (also referred to as 'the proponent's landholdings').

The Whitby LSP area is comprised of several lots within the Mundijong- Whitby District Structure Plan area, in the Shire of Serpentine-Jarrahdale. The lots include Lot 22 to 27 (inclusive), 29 and 45 South Western Highway and Lots 302 and 399 Reilly Road, Whitby, and are shown within **Figure 2**. The Whitby LSP area is located approximately 39 kilometres south-east of the Perth central business district and forms the entirety of Precinct A under the Mundijong-Whitby District Structure Plan. Precinct A is bound by Norman Road to the north, South West Highway to the east, Mandejal Brook to the south and Soldiers Road to the west.

The Western Australian Planning Commission (WAPC) has granted conditional subdivision approval for the first two precincts (stages) within the Whitby LSP area, and is provided within:

- Precinct 1 – subdivision approval WAPC reference 149237
- Precinct 2 – subdivision approval WAPC reference 150526

As part of the detailed engineering design process to support subdivision within the Whitby LSP area, Water Corporation indicated that the Whitby LSP will be serviced by the future (not yet constructed) 'Mundijong A Pump Station', and this would be provided when sufficient sewer capacity was achieved (*Wastewater Scheme Planning Series: Byford – SD86 Conceptual Planning Long Term Scheme – Sheet 7 of 10*). In the meantime, Water Corporation advised that their preferred approach is for the first 800 lots within the Whitby LSP area to be accommodated by the existing wastewater infrastructure in the nearby Byford area. The nearest discharge point into the existing wastewater infrastructure is located 5.6 kilometres north of the Whitby LSP area, within Soldiers Road reserve.

The proponent will be responsible for the construction of the wastewater pump station and pressure main on behalf of the Water Corporation, with the Water Corporation responsible for the ongoing operation and maintenance of the infrastructure following construction and commissioning.

1.1 Purpose of this report

Emerge Associates have been engaged by Gold Fusion to provide advice on the management of environmental attributes and values associated with the construction of the wastewater pump station and pressure main.

In addition, Emmerge Associates have been engaged to prepare a referral, pursuant to the *Environmental Protection Act 1986* (EP Act), requesting the portion of the pressure main within Route 4 of the SSIA strategic proposal ('the proposal') be declared a derived proposal in accordance with Section 39B(i) of the EP Act in the context of the approved the SSIA strategic proposal (Ministerial Statement 845, dated 3 November 2010). The SSIA strategic proposal and associated strategic

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assessment was undertaken by Water Corporation to assist in the identification of corridors of land throughout the southern metropolitan suburbs of the Perth Metropolitan Region for future installation of water and/or wastewater pipelines and associated infrastructure.

The structure and content of this referral document has been developed in accordance with advice provided by the Environmental Protection Authority (EPA). This report is intended to:

- Provide a summary of the SSIA strategic proposal and assessment.
- Provide a summary of the currently referred proposal.
- Determine if there has been any change in the environmental context which may have occurred post the EPA assessment of the SSIA strategic proposal, and where such changes may have occurred, evaluate whether they are of a sufficient significance to require full assessment of the referred proposal.
- Outline whether all relevant environmental factors have been considered to the satisfaction of the EPA.
- Detail the likely impact associated with the currently referred proposal in comparison to the impacts considered acceptable within Ministerial Statement 845.
- Outline management requirements during the construction of the wastewater pump station and pressure main.

1.2 Context for proposal

As part of implementing the proposal, the proponent will be constructing a wastewater pump station and 5.6 kilometre long pressure main to service the Whitby LSP area. The wastewater infrastructure to be constructed includes:

- Type 10 wastewater pump station
- Rising pressure main.

The wastewater pump station and approximately 1.6 kilometres of the pressure main are located within the proponent's landholdings (Whitby LSP area). The remainder of the pressure main is located within Route 4 of the SSIA strategic proposal and is the subject of the *Section 38 Referral* (Emerge Associates 2014).

While Route 4 of the SSIA strategic proposal is located immediately west of the proponent's landholdings (see **Figure 2**), the proponent has specifically sought to locate a portion of the pressure main with the proponent's landholdings in order to minimise the clearing of remnant scattered trees (approximately 160 individual trees), which would have occurred if the pressure main had remained within the spatial footprint of Route 4 of the SSIA strategic proposal. The proponent landholding has been historically cleared of remnant vegetation, however a number of scattered paddock trees (described as 'Parkland Cleared' (Pc) plant community) and planted non-endemic trees are located within the western portion of the proponent's landholdings, in the vicinity of the proposed pressure main alignment and is shown in **Figure 3a** and **Figure 3b**. An example of the vegetation within the proponent's landholdings is provided in **Plate 1** and **Plate 2**. The vegetation condition within this portion of the proponent landholdings has been determined as being 'Completely Degraded' (Cardno 2010) as shown in **Figure 4a** and **Figure 4b**.

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Plate 1: Within proponent landholdings near proposed wastewater pump station site, looking north towards Norman Road



Plate 2: Within proponent landholdings adjacent to western boundary and proposed pressure main alignment. Non-native planted trees are located on the right-hand side of the photograph.

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To provide an overall general context for the wastewater infrastructure and how this infrastructure relates the proposal (the portion of the pressure main proposed within Route 4 of the SSIA strategic proposal), within this document and the *Section 38 Referral* (Emerge Associates 2014), the proponent has included information regarding the portion of the wastewater infrastructure that is located within the proponent's landholdings. The proponent is not referring the portion of the wastewater infrastructure within the proponent landholdings pursuant to the EP Act. This information has been provided for information purposes only and given the environmental characteristics of this area the proponent does not believe that the portion of the wastewater infrastructure within the proponent landholdings needs to be referred to the EPA as it does not have the potential to have a significant impact on the environment.

To assist in understanding the environmental impacts associated with the proposal, the information in this document and the *Section 38 Referral* (Emerge Associates 2014) has been presented based on the following:

- *Within proposal area* – This includes approximately 3.9 kilometres of the pressure main (of the total 5.6 kilometre pressure main). This is the portion of the proposal that the proponent requests be declared a derived proposal.
- *Within proponent landholdings* – This includes the wastewater pump station and approximately 1.6 kilometres of the pressure main, the section that the proponent does not believe needs to be referred to the EPA

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2 Southern Sources Integration Assets Pipeline Corridor Strategic Assessment

2.1 Strategic proposal and assessment

The SSIA strategic proposal is part of Water Corporation's forward planning approach for the delivery of water and wastewater infrastructure within the Integrated Water Supply Scheme area until 2050. Water Corporation referred the SSIA proposal to the EPA and requested that the SSIA strategic proposal be assessed via a strategic assessment level of assessment. Subsequently, the 'SSIA strategic proposal' was assessed by the EPA as a Strategic Environmental Assessment, in accordance with *Section 16* of the EP Act.

The SSIA strategic proposal was undertaken to assist in the identification of corridors of land throughout the southern metropolitan suburbs of the Perth Metropolitan Region for future installation of water and/or wastewater pipelines and associated infrastructure. The SSIA strategic proposal is proposed to direct water from the southwest to the northeast metropolitan areas, intercepting existing key water supply infrastructure, including Tamworth Hill Reservoir, dams located within the Darling Range and a system of sewers flowing from east to west.

The key infrastructure of the SSIA strategic proposal included:

- Tamworth Hill Reservoir duplication and upgrade of chlorination and pumping facilities.
- Pipeline corridors up to 100 metres wide, within which the area of disturbance will be limited to between 15 to 60 metres, for potable water and/or wastewater pipelines.
- Associated regulation valves.
- Intermediate booster pump station.

As part of the strategic assessment, the EPA considered the following:

- Draft Strategic Environmental Assessment Report and supporting appendices (Water Corporation 2009).
- Response to public submissions, prepared by the proponent.

A number of potential corridors were identified as part of the SSIA strategic proposal, and have been summarised in **Table 1** and shown in **Plate 3**. These corridors were identified in order to provide alternate alignments should any unforeseen constraints emerge during the future implementation of the SSIA strategic proposal. The demand for water and wastewater services would dictate the number of pipelines required and the staging and timing of development.

Table 1: Summary of pipeline corridors, based on SSIA (Water Corporation 2009)

ROUTE	DESCRIPTION OF ROUTE
A	Predominantly East-West alignment from Tamworth Hill in Baldivis in the West, along Zig Zag Road and along St Albans Road, Baldivis, and then travelling for the most part adjacent to Mundijong Road all the way to Soldiers Road, Mundijong, in the East.
B	East-West alignment adjacent to Leipold Road, Oldbury, between existing Water Corporation easement and Kargotich Road.
C	East-West alignment adjacent to Bishop Road, Cardup, between Kargotich and Hopkinson Roads.
D	East-West alignment adjacent to Abernethy Road, Byford, between Hopkinson and Soldiers Roads.

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ROUTE	DESCRIPTION OF ROUTE
E	Predominantly East-West alignment adjacent to Thomas Road, from Nicholson Road in the west to Alexander Road in the east, then North adjacent to Railway Reserve to Mitchell Street, Wungong.
1	North-South alignment with two potential pathways. One is through an existing Water Corporation easement, and one is through rural land parcels. Both are from Mundijong Road in the south, to Thomas Road in the north and then both run adjacent to Nicholson Road to the Nicholson Road Pump Station (NRPS).
2	North-South alignment adjacent to Kargotich Road, from Mundijong Road in the south to Thomas Road in the north.
3	North-South alignment adjacent to the future Tonkin Highway extension reserve, from Mundijong Road in the south to Thomas Road in the North.
4	North-South alignment beginning at the intersection of Soldiers and Mundijong Roads in Mundijong and running within the road reserve along Soldiers and Patterson Roads to Abernethy Road, then adjacent to railway reserve and along South West Highway to Mitchell Street, Wungong.
5	North-South alignment adjacent to the existing Tonkin Highway, between Thomas Road in the south and Forrest Road in the north.
6	North-South alignment adjacent to Wright Road, Mardella, from Mundijong Road in the north to Summerfield Road in the south.

Water Corporation investigated a corridor 100 metre in width for each of the proposed pipeline alignments and included the following:

- Level 2 flora and vegetation survey (Maunsell AECOM 2006).
- Level 1 fauna survey (Maunsell AECOM 2006).
- Wetland and wetland buffer study (360 Environmental 2008).
- Aboriginal heritage survey, including archaeological and ethnographic investigations (Western Heritage Research Pty Ltd 2006).

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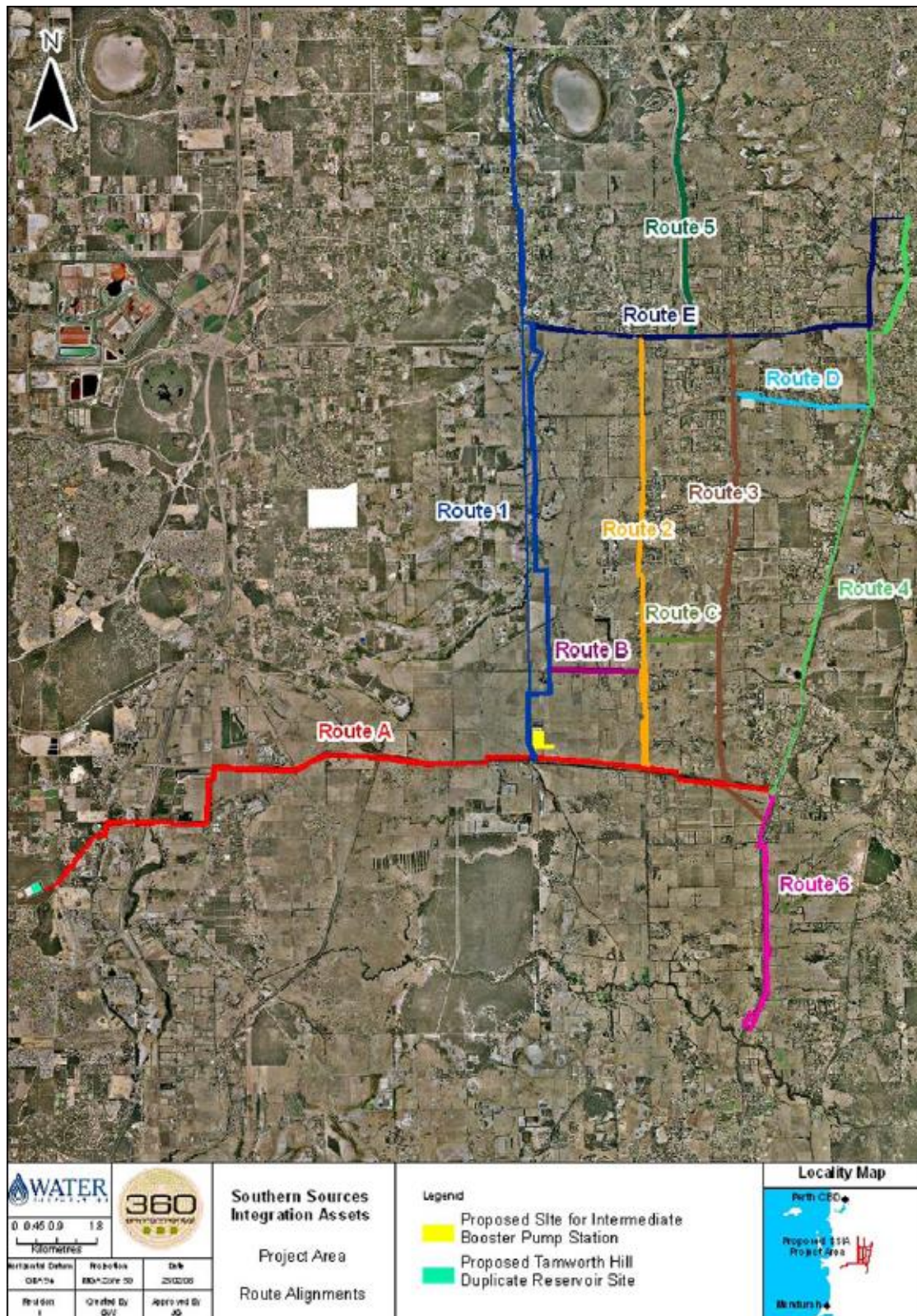


Plate 3: Proposed pipeline alignment for SSIA project (Source: Water Corporation 2009)

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2.2 Derived proposal

The proposal is located within Route 4 of the SSIA strategic proposal, which was strategically assessed by the EPA. In accordance with *Section 39B(i)* of the EP Act, the proponent that the proposal be declared a derived proposal. The proponent considers that the proposal has appropriately addressed the environmental factors identified as relevant for the SSIA strategic proposal, and does not impact any environmental factors that were not previously considered.

The proponent understands that following referral, the EPA will consider the proposal to be a derived proposal if:

- The referral proposal was identified in the strategic proposal that has been assessed by the EPA.
- A decision was made that the strategic proposal could be implemented.

The EPA may choose to not declare a derived proposal if:

- The environmental issues raised by the referral proposal were not adequately assessed when the strategic proposal was assessed (*Section 39B(4)(a)* of the EP Act).
- There is significant new or additional information that justifies reassessment of the issues raised by the referred proposal (*Section 39B(4)(b)* of the EP Act).
- There has been a significant change in the relevant environmental factors since the strategic proposal was assessed (*Section 39B(4)(c)* of the EP Act).

If the EPA declares the referred proposal to be a derived proposal, there will be no further assessment by the EPA, however the EPA may enquire, under *Section 39B(6)* of the EP Act whether or not the implementation conditions relating to the proposal should be changed.

With regard to the SSIA strategic proposal, Ministerial Statement 845 outlines that derived proposals are expected to:

- Include the construction of:
 - Pipelines along various routes (A,B,C,D,E,1,2,3,4,5,6)
 - A pump station
 - A reservoir at Tamworth Hill.
- Be consistent with the description of:
 - Location
 - Proposed environmental management
 - Predicated environmental impacts.

This referral document is intended to address the requirements of Ministerial Statement 845. To assist with consideration of the environmental impacts, this document and the Section 38 Referral (Emerge Associates 2014) have considered the environmental impacts associated with the proposal separately for the following areas:

- *Within proposal area* – This includes approximately 3.9 kilometres of the pressure main (of the total 5.6 kilometre pressure main). This is the portion of the proposal that the proponent requests be declared a derived proposal.
- *Within proponent landholdings* – This includes the wastewater pump station and approximately 1.6 kilometres of the pressure main, the section that the proponent does not believe needs to be referred to the EPA.

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3 The Proposal

3.1 Overview

Gold Fusion Pty Ltd (herein referred to as 'the proponent') proposes to construct a pressure main to enable the provision of wastewater services for urban development within the Whitby Local Structure Plan (LSP) area. The pressure main is located within a portion of Route 4 of the SSIA strategic proposal and is herein referred to as 'the proposal'. Route 4 is described as 'North-South alignment beginning at the intersection of Soldiers and Mundijong Roads in Mundijong and running within the road reserve along Soldiers and Patterson Roads to Abernethy Road, then adjacent to railway reserve and along South West Highway to Mitchell Street, Wungong'. The location of the proposal is provided in **Figure 2**.

The proponent will be responsible for the construction of the pressure main on behalf of the Water Corporation, with the Water Corporation responsible for the ongoing operation and maintenance of the infrastructure following construction and commissioning. The pressure main will be constructed in accordance with Water Corporation design standards, with the detailed design currently being progressed.

An overview of the proposal and the proposed construction method has been provided below.

3.2 The Pressure Main

The pressure main (approximately 3.9 kilometres of the 5.6 kilometre pressure main alignment) is located within the western portion of the Soldiers Road reserve, within either the road pavement or cleared road reserve/road formation. The majority of vegetation along this portion of Soldiers Road has been historically cleared. As part of the SSIA strategic assessment, the portion of Soldiers Road where the pressure main is located was described as 'Clear' or 'degraded remnants consisting of only trees or large shrubs over pasture, weeds or horticultural grasses' (Water Corporation 2009). The vegetation condition within this portion of the proposed pressure main alignment was described as being 'Degraded to Completely Degraded' and 'Completely Degraded' (Maunsell AECOM 2006; Water Corporation 2009) and is shown in **Figure 4c** to **Figure 4j**.

Emerge Associates undertook a detailed reconnaissance survey (January 2014) and found that the description of environmental attributes and values in Maunsell AECOM (2006) and Water Corporation (2009) remains relevant. **Plate 4** to **Plate 9** show vegetation values within the western portion of Soldiers Road.

No Threatened flora, PF, TECs or PECs will be impacted by the proposal, with TECs located within the vicinity of Route 4 shown in **Figure 3a** to **Figure 3j**. Where the proposal traverses the proponent landholdings to the western portion of Soldiers Road, a TEC (FCT 3a) occurs within Bush Forever Site 350. The proposal will involve micro-tunnelling/horizontally directionally drilling this portion of the proposal in order to avoid clearing areas of remnant vegetation (i.e. any vegetation in 'Degraded' or better condition).

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Plate 4: Looking north along Soldiers Road, near the intersection with Norman Road. This section to be horizontally directionally drilled.



Plate 5: Looking north along Soldiers Road, south of Karbro Road. Pressure main alignment is located directly adjacent to bituminised portion of road, given width in cleared road reserve/road formation this section to be trenched.

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Plate 6: Looking north along Soldiers Road, south of Bushlark Court. Pressure main alignment is located directly adjacent to bituminised portion of road, this section to be horizontally directional drilled.



Plate 7: Looking north along Soldiers Road, south of Daisy Road. Pressure main alignment is located directly adjacent to the bituminised portion of Soldiers Road, this section to be trenched.

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Plate 8: Looking north along Soldiers Road, south of Daisy Road. This section includes residential verges and is likely to be trenched.



Plate 9: Looking north along Soldiers Road, adjacent to Bush Forever Site 321 (far left of photograph). Pressure main alignment is located within bituminised portion of Soldiers Road, this section likely to be trenched likely.

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3.3 Proposed construction of the pressure main

Emerge Associates have undertaken a detailed review of the location of the pressure main alignment and have worked closely with the project engineer (JDSi Consulting Engineers) to determine a suitable construction methodology to minimise impacts on environmental attributes and values occurring within the vicinity of the proposal area. The construction techniques employed to install the proposal will include a mixture of horizontal directional drilling and trenching. Trenching is proposed in areas where no environmental values are likely to be impacted by this construction method. Horizontal directional drilling (and/or micro-tunnelling) is proposed in areas where ground disturbance needs to be avoided.

The pressure main will not rely on gravity to operate, and therefore will be installed near to the natural ground surface complying with the Water Corporation's minimum cover requirements. Generally the depth of the pressure main will be between 1.1 metres and 2.8 metres below the natural ground surface. The pressure main is not expected to be installed below the permanent groundwater levels across its alignment.

The construction of the proposed pressure main will include the following:

- Trenching for the majority of the proposed pressure main alignment, as shown in **Figure 3a to Figure 3j and Figure 4a to Figure 4j**. A maximum three metre-wide area of disturbance is likely to be associated with the trenching process, with construction to be managed within areas already cleared of remnant vegetation, or the bituminised portion of Soldiers Road.
- Where intact remnant vegetation is present, the proponent proposes to utilise construction techniques that will avoid clearing (i.e. trenchless technology). Horizontal directional drilling and/or micro-tunnelling will be utilised in a number of locations, namely:
 - Where the pressure main crosses from the proponent landholdings to the western portion of Soldiers Road, through the vegetated portion of Bush Forever Site 350 in order to avoid clearing of TECs identified within the Bush Forever Sites.
 - Approximately one kilometre of the pressure main alignment along the western portion of Soldiers Road, to minimise clearing of remnant native trees. While the remnant native trees are not considered to be intact remnant vegetation (or form part of a TEC), this is an impact that has been seen as desirable to avoid.
- Thrust and receiver pits associated with the horizontal directional drilling and/or micro-tunnelling process. The pits will vary in size, with the intention to manage these within areas already cleared of remnant vegetation, or the bituminised portion of Soldiers Road.
- The majority of the footprint associated with the construction of the pressure main (associated with machinery operation, spoil material etc.) will be contained within:
 - The Whitby LSP area, which is cleared of remnant vegetation.
 - Areas along Soldiers Road which will not result in an impact on environmental values, including areas within the road reserve that are presently cleared of vegetation, and/or the bituminised portion of Soldiers Road.

Where the pressure main is located along Soldiers Road, a portion of Soldiers Road will be closed to traffic by the civil contractor. This will enable a portion of the construction works footprint to be contained within the bituminised portion of Soldiers Road, minimising the requirement to clear vegetation adjacent to the road verge.

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4 Environmental Outcomes

4.1 Environmental factors

The EPA identifies environmental factors and the associated objectives for each factor to assist in assessing whether the environmental impact from a proposal is acceptable. Environmental factors underpin the environmental impact assessment process. Generally as part of an environmental impact assessment the EPA will identify the key environmental factors that will be assessed in order to determine the acceptability of a proposal. As part of this process, a proponent is required to demonstrate that the objectives of the EPA for each relevant factor can be achieved.

A summary of the environmental factors identified by the EPA, as outlined within *Environmental Assessment Guideline No. 8 Environmental Factors and Objectives* (EPA 2013) has been provided in **Table 2** below and includes detail on whether the environmental factor was considered as part of the SSIA strategic proposal as well as this referral.

Table 2: Summary of environmental factors considered as part of the strategic assessment

ENVIRONMENTAL FACTORS	CONSIDERED BY SSIA (Y/N)	KEY FACTORS IDENTIFIED BY EPA	CONSIDERED WITHIN THIS REFERRAL
Sea			
Benthic communities and habitat	Not applicable	Not applicable	Not applicable
Coastal processes	Not applicable	Not applicable	Not applicable
Marine environmental quality	Not applicable	Not applicable	Not applicable
Marine fauna	Not applicable	Not applicable	Not applicable
Land			
Flora and vegetation	Yes	Yes	Yes.
Landforms	Yes	No	Yes
Subterranean fauna	Not applicable	Not applicable	Not applicable
Terrestrial environmental quality	Yes	No	Yes.
Terrestrial fauna	Yes	No	Yes
Water			
Hydrological processes.	Yes	Yes	Yes
Inland waters environmental quality	Yes	No	Yes
Air			
Air quality	Yes	No	Yes
People			
Amenity	Yes	No	Yes.
Heritage	Yes	No	Yes
Human health	Yes	No	Yes

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ENVIRONMENTAL FACTORS	CONSIDERED BY SSIA (Y/N)	KEY FACTORS IDENTIFIED BY EPA	CONSIDERED WITHIN THIS REFERRAL
Integrating factors			
Offsets	Yes	Yes	Yes
Rehabilitation and closure	Yes	No	Yes

4.2 Relevant environmental factors for the proposal

Of the environmental factors identified within **Table 2**, the EPA identified flora and vegetation and wetlands as key attributes that any future derived proposals would need to be able to demonstrate that the relevant environmental objectives of the EPA could be achieved. The Minister for the Environment endorsed the EPA's consideration of the key environmental factors, issuing Ministerial Statement 845 which conditioned a number of requirements associated with the key environmental factors.

A number of the environmental factors considered by the SSIA project were viewed as relevant environmental factors by the EPA, however were not considered to require evaluation beyond that provided in the SSIA. These included:

- Fauna.
- Pollution.
- Acid sulfate soils.
- Contaminated sites.
- Air quality.
- Noise.
- Waste management.
- Aboriginal heritage.
- European heritage.
- Recreation.
- Visual amenity.

In accordance with *Section 39B(4)* of the EP Act, Emerge Associates have considered whether any changes in the environmental context has occurred since the EPA assessment of the SSIA strategic proposal (i.e. additional new information that may change consideration of an environmental factor, or introduce a new environmental factor not previously considered), and in particular whether these changes mean that a full assessment of the referred proposal will be required.

No new key environmental factors have been identified for the proposal, nor has any additional information been identified which would mean that the previously identified environmental factors would need to be reconsidered. This is based on the following:

- A review of EPA policy and guidelines, including the relevant Environmental Assessment Guidelines.
- A review of the most recent available federal, state and local government databases and regional mapping.
- A review of previous investigations including:
 - *Southern Source Integration Assets Spring Flora and Fauna Survey Report Southern Source Integration Assets Pipeline Corridor* (Maunsell AECOM 2006).

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- *Southern Source Integration Assets Project Wetland and Wetland Buffer Study* (360 Environmental 2007)
- *Southern Sources Integration Assets, Strategic Environmental Assessment Report* (Water Corporation 2009).
- *Environmental Assessment and Justification Report* (Cardno 2010), prepared for the Whitby LSP.
- *Preliminary Acid Sulfate Soil Assessment and Management Strategy* (Cardno 2010), prepared for the Whitby LSP.
- *Preliminary Site Investigation* (Cardno 2010), prepared for the Whitby LSP.
- *Whitby LSP Flora and Vegetation Survey* (Cardno 2010).
- *Whitby Various Lots Local Water Management Strategy* (Cardno 2011)
- *Fauna Assessment (Level 1): Lots 22-27, 29 & 45 South Western Highway and Lots 302 & 399 Reilly Road, Whitby, Western Australia* (Harewood 2010).
- *Targeted Chuditch Survey: Lots 22-27, 29 & 45 South Western Highway and Lots 302 & 399 Reilly Road, Whitby, Western Australia* (Harewood 2010)
- *Black Cockatoo Habitat Survey: Lots 22-27, 29 & 45 South Western Highway and Lots 302 & 399 Reilly Road, Whitby, Western Australia* (Harewood 2010)
- *Urban development of Lots 22 to 24, 26, 27, 29 and part of Lot 25 South Western Highway and Lot 302 Reilly Road, Whitby* (Emerge Associates 2014)
- A number of detailed reconnaissance site visits, undertaken by Emerge Associates recently (2014) to verify environmental attributes and values and to consider the potential impacts associated with the construction of the wastewater pump station and pressure main.

A number of additional geomorphic wetlands were identified within the vicinity of the proposal compared to those outlined within Ministerial Statement 845, however the additional geomorphic wetlands appear to be related to a reconsideration of the boundaries and management categories of the geomorphic wetlands previously identified as part of the SSIA strategic proposal. The geomorphic wetland dataset, which is maintained by the Department of Parks and Wildlife (DPaW), is continually updated with site specific wetland surveys providing new and relevant information. None of the additional geomorphic wetlands introduce wetland values that were not previously considered by the EPA or Minister for the Environment.

The environmental factors identified by the EPA within *Southern Source Integration Assets Pipeline Corridor Report and Recommendations of the Environmental Protection Authority* (EPA 2010) and within Ministerial Statement 845 are considered to be relevant, with no new additional environmental factors considered to be applicable.

4.3 Predicted environmental impacts

The environmental impacts associated with the proposal have been considered in the context of comparing the characteristics of the derived proposal with the predicted environmental impacts associated with implementation of the proposal.

Overall, the proponent considers that the impacts as a result of the currently referred proposal (including the proportion within the proponent landholdings) is in accordance with those deemed acceptable by the Minister for the Environment and can achieve the objectives of the relevant environmental factor. Specifically:

- No Threatened flora or PF will be impacted as part of the construction of the proposal.

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- No TECs or PECs will be impacted as part of the construction of the proposal.
- The portion of the mapped Conservation Category Wetlands intersected by the proposal have been historically modified and is now comprised of road pavement and/or cleared road reserve/road formation associated with Soldiers Road and does not support wetland attributes or values. Conservation Category Wetland values are unlikely to be impacted by the construction and operation of the proposal.
- No areas of riparian vegetation will be impacted as part of construction of the proposal.
- No areas of regionally significant vegetation in 'Degraded' or better condition will be cleared and/or impacted as part of implementing the proposal. Horizontal direction drilling and/or micro-tunnelling will be utilised where the proposal intersects intact remnant vegetation (i.e. TECs within Bush Forever Site 350).
- A maximum of 15 scattered remnant trees are likely to be cleared as part of implementing the proposal. The predicted clearing impacts are considerably less than that outlined within the SSIA strategic proposal.
- A maximum 3 metre-wide area of disturbance is likely to be associated with implementation of the proposal. This is considerably less than the area identified by the Water Corporation as potentially requiring clearing, which included a corridor between 15 metres and 60 metres wide.

The predicted impact compared to the derived proposal decision criteria detailed within Ministerial Statement 845 has been outlined within **Table 3**.

For the additional environmental factors that were not considered to be key environmental factors, these environmental factors will be managed in accordance with the management framework detailed within *Southern Sources Integration Assets, Strategic Environmental Assessment Report* (Water Corporation 2009). The proponent will adopt the *Construction Environmental Management System* (CEMS) submitted by the Water Corporation (2008) as part of the strategic assessment of the SSIA strategic proposal and outlined within Ministerial Statement 845. The appointed contractor will be required to maintain works within the construction footprint that has been specified in order to minimise the environmental impact of the proposal, in accordance with **Table 3**, and therefore ensure compliance with the requirements specified in Ministerial Statement 845. This is discussed further in **Section 5** below.

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Table 3: Comparison of the key proposal characteristics identified in Ministerial Statement 845 (as per Schedule 1) and the proposal

MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
Location	As per Figure 1 Route Alignments proposed in the project area and the document Southern Sources Integration Assets, Strategic Environmental Assessment Report, Water Corporation, October 2009 and as recorded in the OEPA spatial database of EIA referrals from data provided by the proponent.	<p>Approximately 4 kilometres of the 5.6 kilometre pressure main alignment is located within the Route 4 alignment, as originally identified by Water Corporation. The remainder of the proposed pressure main alignment is located within the proponent's landholdings. This deviation from the assessed Route 4 alignment has been made solely for the purpose of avoiding environmental impacts.</p> <p>The location of the proposed wastewater pump station and pressure main alignment has been provided in Figure 2.</p>	
Significant flora and vegetation			
Site	Potential impact		
Bush Forever Site 350 – Soldiers Road, Robertson Road, Patterson Road	No clearing of significant vegetation at this site. The remnant vegetation is considered to be suitable habitat for Carnaby's Black Cockatoo. Pipeline will be instated underneath the road along Soldiers and Patterson Roads.	<p>Ministerial Statement 845 states that the pipeline will be instated beneath the road along Soldiers and Patterson Road.</p> <p>Overall, the proponent considers that the objectives of this environmental factor have been achieved with no clearing of significant vegetation within Route 4 as a result of the proposal. The construction techniques employed to install the proposal will include a mixture of horizontal directional drilling and trenching. Trenching is proposed in areas where no environmental values are likely to be impacted by this construction method. This construction technique, while different to that outlined within Ministerial Statement 845, has been proposed in order to minimise the disturbance to overall traffic in the wider area (i.e. only one lane of Soldiers Road will be closed during the proposed construction works) and accommodate the design requirements of the Shire of Serpentine-Jarrahdale and Water Corporation in the location of scour valves and similar. Horizontal directional drilling (and/or micro-tunnelling) is proposed in areas where ground disturbance needs to be avoided, and therefore ensures no significant vegetation is impacted.</p>	
		<i>Within proposal area</i>	
		<ul style="list-style-type: none"> The proposal footprint is located within Bush Forever Site 350. <ul style="list-style-type: none"> The proposal footprint is located within the western side of the Soldiers Road reserve, where the majority of vegetation has been historically cleared or modified associated with the construction of the road. This portion of the Soldiers Road reserve was described as being 'Clear' or 'degraded remnants consisting of only trees or large shrubs over pasture, weeds or 	A maximum of 15 trees to be cleared within Bush Forever Site 350, and no clearing of any vegetation previously determined as being in 'Degraded' or better

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		<p>horticultural grasses' (Maunsell AECOM 2006).</p> <ul style="list-style-type: none"> o No Threatened flora, PF, TECs or PECs will be impacted by the proposal. o No intact remnant vegetation (vegetation in 'Degraded' or better condition) will be impacted. o A maximum of 15 <i>Corymbia calophylla</i> trees to be cleared as part of implementing the proposal. 	condition.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> • The proposal is not located within Bush Forever Site 350 within the proponent landholdings; however the proposal is located within Bush Forever Site 354. <ul style="list-style-type: none"> o No Threatened flora, PF, TECs or PECs will be impacted by the proposal. o No intact remnant vegetation or vegetation in 'Degraded' or better condition will be impacted. o The proposal will be horizontally directionally drilled under areas of intact remnant vegetation to avoid clearing. • The thrust and receiver pit will be located within an area already cleared of remnant vegetation and is currently maintained as a firebreak (in accordance with Shire of Serpentine-Jarrahdale Firebreak Notice. This is shown in Figure 3c. 	No impact on vegetation within Bush Forever Site 354.
TECs SCP08, SCP09 Soldiers and Patterson Roads	No impact as the pipeline will be going underneath existing bitumen and tunnel boring techniques will be implemented at crossings.	Overall no impact on TECs.	
		<i>Within proposal area</i>	
		<ul style="list-style-type: none"> • The majority of the proposed alignment is located within the western side of Soldiers Road where no TECs have been identified. <ul style="list-style-type: none"> o TECs have been identified within the Robertson Road reserve, the railway reserve and the eastern portion of Soldiers Road reserve. These are shown in Figure 3a to Figure 3j. Where the proposal crosses from the proponent landholdings to the western side of Soldiers Road, micro-tunnelling and/or horizontal directional drilling will be utilised. No impact on any TECs expected. 	None.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> • A state listed TEC (likely to be FCT 3b) has been identified within the northern portion of the proponent's landholdings (within Bush Forever Site 354). In order to avoid impacting of intact remnant vegetation and/or vegetation in 'Degraded' or better condition: <ul style="list-style-type: none"> o The proposal will be horizontally directionally drilled under these areas. o The works area associated with the thrust and receiver pits associated with the horizontal 	None.

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		<p>directional drilling and/or micro-tunnelling will be managed within areas already cleared and maintained as a firebreak (in accordance with Shire of Serpentine-Jarrahdale Firebreak Notice), and is shown within Figure 3c.</p> <ul style="list-style-type: none"> No intact remnant vegetation (vegetation in 'Degraded' or better condition) will be impacted. 	
Heddles Vegetation Complex-Forrestfield	Clearing of approximately 1.78 hectares of vegetation assessed as 'degraded' or 'better' condition. No vegetation will be cleared along Soldiers and Patterson Roads as the pipeline will go underneath the road. Where the route crosses the railway reserve, tunnel boring techniques will be employed.	<i>Within proposal area</i>	
		<ul style="list-style-type: none"> Approximately 0.5 km of proposal located within an area generally identified as being Forrestfield Complex. No clearing of any vegetation assessed as being in 'Degraded' or better condition. 	None.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> Approximately 0.8 kilometre of the proposal is located within an area generally identified as being Forrestfield Complex. Within the proponent landholdings: <ul style="list-style-type: none"> No vegetation assessed as being in 'Degraded' or better condition will be cleared. 5 scattered paddock trees are likely to be cleared including <i>Eucalyptus marginata</i>, <i>Corymbia calophylla</i> and <i>Xanthorrhoea preissii</i>. Cardno (2010) described this portion of the proposal area as 'Parkland Cleared' and consisted of scattered paddock trees over pasture grasses and weeds. The vegetation is identified as in 'Completely Degraded' condition (Cardno 2010). Within the SSIA strategic proposal (Water Corporation 2009), significant vegetation was described as 'vegetation in 'Degraded' or better condition'. No significant vegetation will be impacted. 	None. No clearing of vegetation in 'Degraded' or better condition.
Heddles Vegetation Complex-Guildford	Clearing of approximately 0.5 hectares of vegetation assessed as 'degraded' or better condition. No vegetation will be cleared along Soldiers and Patterson Roads as pipeline will go underneath the road. Where the route crosses the railway reserve, tunnel boring techniques will be employed.	<i>Within proposal area</i>	
		<ul style="list-style-type: none"> Approximately 3.7 km of proposal located within an area generally identified as being Guildford Complex. A maximum of 15 <i>Corymbia calophylla</i> trees to be cleared as part of implementing the proposal. The vegetation is identified as in 'Completely Degraded' or 'Degraded to Completely Degraded' condition (Maunsell AECOM 2006). Within the SSIA strategic proposal (Water Corporation 2009), significant vegetation was described as 'vegetation in 'Degraded' or better condition'. No significant vegetation will be impacted. No clearing of any vegetation determined as being in 'Degraded' or better condition. 	None. No clearing of vegetation in 'Degraded' or better condition.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> Approximately 0.6 kilometre of the proposal is located within an area generally identified as being 	None. No clearing of vegetation in

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		<p>Guildford Complex. Within the proponent landholdings:</p> <ul style="list-style-type: none"> No vegetation assessed as being in 'Degraded' or better condition will be cleared. 5 scattered paddock trees are likely to be cleared including <i>Eucalyptus marginata</i>, <i>Corymbia calophylla</i> and <i>Xanthorrhoea preissii</i>. Cardno (2010) described this portion of the proposal area as 'Parkland Cleared' and consisted of scattered paddock trees over pasture grasses and weeds. The vegetation is identified as in 'Completely Degraded' condition (Cardno 2010). Within the SSIA strategic proposal (Water Corporation 2009), significant vegetation was described as 'vegetation in 'Degraded' or better condition'. No significant vegetation will be impacted. 	'Degraded' or better condition.
Wetlands			
Site	Potential Impact		
UFI 7115, 7841, 7992, 8008, 12152, 12154, 13010, 14268, 14271 CCW.	Pipeline corridor intersects these wetlands.	UFI 13010 is the only mapped CCW identified within Ministerial Statement 845 that is intersected by the proposal. The mapped CCW's UFI 15462 and UFI 15463 are also intersected by the proposal.	
		<i>Within proposal area</i>	
		<ul style="list-style-type: none"> The mapped CCW's UFI 15462 and UFI 15463 are identified within the proposal. <ul style="list-style-type: none"> No clearing of vegetation likely to occur as this portion of the pressure main will be micro-tunnelled or horizontally directional drilled, as shown within Figure 3c. Mapped CCW UFI 13010 identified within the proposal. <ul style="list-style-type: none"> The proposal occurs within a portion of the mapped CCW that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. These areas do not support wetland attributes or values. No clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition associated with the mapped CCW will occur. 	None.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> No mapped CCW areas are identified in the proposal. 	None.
UFI 7835, 7837, 7874, 12158, 13001, 13002, 13005, 13006, 14265, 14273 CCW	Buffer of the wetland is intersected by pipeline corridor.	Of the wetlands identified in Ministerial Statement 845, the buffer associated with the mapped CCW UFI 7835 is the only CCW buffer intersected by the proposal. In addition, the wetland buffer associated with the mapped CCW's UFI 14503, UFI 14506, UFI 14498, UFI 15184, UFI 15462 and UFI 15463 are intersected by the proposal.	
		<i>Within proposal area</i>	

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		<ul style="list-style-type: none"> A portion of the buffer associated with the mapped CCW UFI 7835 is intersected by the proposal. <ul style="list-style-type: none"> The proposal occurs within a portion of the CCW buffer that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. No clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition is proposed. A portion of the buffer associated with the mapped CCW 's UFI 14503, UFI 14506, UFI 14498 and UFI 15184, is intersected by the proposal. <ul style="list-style-type: none"> The proposal occurs within a portion of the CCW buffer that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. No clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition is proposed. A portion of the buffer associated with the mapped CCW UFI 15462 is intersected by the proposal. <ul style="list-style-type: none"> The proposal occurs within a portion of the CCW buffer that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. No clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition is proposed. 	None.
		<i>Within proponent landholdings</i>	
		<ul style="list-style-type: none"> A portion of the buffer associated with the mapped CCW UFI 15463 is intersected by the proposal. Within the buffer no clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition is proposed. 	None.
UFI 13004,13008 RE	Pipeline corridor intersects these wetlands.	None of the wetlands identified by Ministerial Statement 845 occur within the proposal, however the mapped RE UFI 14499 has been identified within the proposal.	
		<i>Within proposal area</i>	
		<ul style="list-style-type: none"> The mapped RE wetland UFI 14499 is identified within a portion of the proposal. <ul style="list-style-type: none"> The proposal occurs within a portion of the mapped RE that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. These areas do not support wetland attributes of values. No clearing of intact remnant vegetation or vegetation in 'Degraded' or better condition is 	None.

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		proposed.	
		Within proponent landholdings	
		• No mapped RE wetlands are impacted by the proposal footprint.	None.
UFI 13009, 13911 RE	Buffer of the wetland is intersected by pipeline corridor.	None of the wetlands identified by Ministerial Statement 845 occur within the proposal footprint, however the buffer associated with RE UFI 15384 is intersected by the proposal footprint.	
		Within proposal area	
		• The buffer associated with mapped RE wetland UFI 15384 is intersected by the proposal footprint. <ul style="list-style-type: none">• The proposal occurs within a portion of the wetland buffer that has been historically modified and now comprises road pavement and/or cleared road reserve/road formation associated with Soldiers Road. • No clearing of intact remnant vegetation or vegetation in ‘Degraded’ or better condition is proposed.	None.
		Within proponent landholdings	
		• No RE wetland buffers are impacted by the proposal footprint.	None.
Contamination			
Site	Potential Impacts		
Registered contaminated site adjacent to the proposed Route E and Route 4 pipeline corridors in Byford.	No contaminants will be drawn from the site by dewatering activities. Site will be subject to a detailed geotechnical site investigation prior to construction. A hydrological assessment to confirm no contaminants will be drawn from the site will be undertaken at time of the derived proposal.	Within proposal area	
		Water Corporation (2009), as part of the SSIA strategic proposal reviewed the potential for contamination to occur within the proposed pipeline corridors. While a potentially contaminated site was identified as occurring within the vicinity of Route 4, this site is located approximately 2.8 kilometres north of the proposal area and will not be impacted by the proposal.	None.
		Within proponent landholdings	
		The proponent has historically undertaken a preliminary site investigation within the proponent landholdings to support the local structure planning process for the Whitby LSP area (Cardno	None.

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MINISTERIAL STATEMENT 845		PROPOSED PRESSURE MAIN	
Summary of Key Proposal Characteristics for Pipeline Route 4		Summary of likely impacts	Likely Impact
		2010). The proposal is unlikely to disturb areas of potential contamination.	
Offsets			
Environmental Offsets for clearing CCW and their buffers, RE and their buffers, TEC and Bush Forever will be provided prior to submission of the derived proposal.		Given none of the vegetation identified within Ministerial Statement 845 (vegetation in 'Degraded' or better condition) will be cleared, environmental offsets are not considered to be required.	

5 Environmental Management

5.1 Management Actions

Section 5 is intended to provide an outline of the proposed framework for the management of the environmental factors identified in **Section 4** and the *Section 38 Referral* (Emerge Associates 2014).

The Water Corporation, as part of the SSIA strategic proposal, prepared an environmental management framework, as contained within the *Construction Environmental Management System* (CEMS) (Water Corporation 2008). The purpose of the CEMS was to:

- Address the statutory environmental requirements for the SSIA strategic proposal.
- Identify the actions to be undertaken to manage the environmental impacts of the construction works.
- Address community and government expectations of transparency and accountability by identifying the management actions and making this CEMS publicly available.

To ensure compliance with the requirements specified in Ministerial Statement 845, the construction works associated with the proposal will be managed in accordance with the CEMS (Water Corporation 2008), which will be adopted by the proponent with the appointed contractor required to implement the relevant actions accordingly.

Table 4 provides a summary of the applicable management actions, in accordance with the management elements outlined with the CEMS (Water Corporation 2008). The management actions detailed within **Table 4** have been considered in the context of the proposal, as outlined in **Section 3**, and how construction would need to be managed to be in accordance with the impacts outlined within **Section 4**. Additional actions or clarifications have been included where required that are specific to the proposal, but are in accordance with the SSIA strategic proposal.

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Table 4: Summary of management actions to be implemented as part of the proposal, based on the CEMS (Water Corporation 2008)

MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
Land Clearing and Trench Management	<ul style="list-style-type: none"> • Flora and Vegetation • Landforms • Terrestrial Environmental Quality • Terrestrial Fauna • Air Quality • Amenity • Human Health 	<ul style="list-style-type: none"> • Vegetation clearing is limited to within pre-determined clearing widths. • Habitat trees will be marked prior to construction and retained where possible. • Protected flora and fauna will not be disturbed without approval under the <i>Wildlife Conservation Act 1950</i> and/or the EPBC Act (as appropriate). • Topsoil is managed to maximise germination of native vegetation contained in the topsoil. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • All staff and contractors to be inducted regarding environmental conditions within the site and management actions. • Trees to be retained are to be clearly marked. Potential habitat trees will be marked with a different coloured flagging tape (or other suitable marking method) prior to clearing with a view to retaining the habitat trees. • Boundary of clearing extent to be clearly marked with flagging tape and/or temporary fencing. <p>Construction</p> <ul style="list-style-type: none"> • Clearing of native vegetation will only commence once approval is received by onsite supervisor. • Vegetation to be cleared is to be mulched and stockpiled and will be used within the proponent landholdings or as agreed with the Shire of Serpentine-Jarrahdale. • The construction works associated with the proposal will be maintained within the proposal area, as shown within Figure 3a and Figure 3j or within areas already cleared of remnant vegetation, or within the bituminised portion of Soldiers Road. • All retained trees to be avoided and protected during construction. • Cleared vegetation will not be burned. • The overburden will be returned to the trench in layers, with each layer compacted at a thickness of no greater than 150mm to minimise soil consolidation in the trench following construction. • Where the local soil profile is impermeable, clay cut-off walls will be installed across the pipeline trench generally at a distance of no greater than 500m apart, in agricultural land, at the edge of wetland boundaries, irrigated paddocks, property boundaries and steeply sloping areas. The clay cut-off walls will be constructed of low to medium plasticity nondispersive clay, sandy clay or silty clay with a nominal width of 1000mm and compacted in 150mm layers to minimise soil consolidation in the trench following construction • The stockpiled topsoil will be evenly respread over the construction area as soon as reasonably practicable. <p>Post-Construction</p> <ul style="list-style-type: none"> • Excess overburden will be disposed of to a suitable location agreed, or disposed of to landfill.
		<ul style="list-style-type: none"> • Trapped fauna are removed from the trench and released without harm 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • All staff and contractors to be inducted regarding environmental conditions within the site and management actions.

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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<p>Construction</p> <ul style="list-style-type: none"> The construction works associated with the proposal will be maintained within the proposal area, as shown within Figure 3a and Figure 3j or within areas already cleared of remnant vegetation, or within the bituminised portion of Soldiers Road. The trench will be left open for the minimum time practicable to minimise the chance of fauna entering the trench and becoming trapped. A temporary security fence will be installed of approximately 1.8m height around any open trench greater than 0.5m depth at the end of each construction day. The purpose of the fence will be to prevent access to the open trench by large terrestrial fauna (such as kangaroos). The fence base will have a continuous fabric shroud (such as shade cloth) pegged to the ground with a minimum height of 0.25m to prevent access to the construction site by small terrestrial fauna (such as snakes and lizards). No pets, traps or firearms permitted on site. If any injured fauna encountered, contact DPaW 'Wildcare' on 08 9474 9055. <p>Post-Construction</p> <ul style="list-style-type: none"> Any fauna injured or killed to be reported within compliance report.
		<ul style="list-style-type: none"> No visible dust leaving the construction area. No public complaints received regarding dust. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> All staff and contractors to be inducted regarding environmental conditions within the site and management actions. <p>Construction</p> <ul style="list-style-type: none"> Minimise area disturbed or open for construction of proposal. Water trucks and/or water cannons will be used to dampen areas identified as being potentially dust generating (sandy soils, soil stockpiles, unsealed access roads etc.). The frequency of dampening will be determined based on weather conditions. Where required, apply surface treatments (i.e. mulch, ground cover) to stabilise areas that may be prone to wind erosion. Ensure mobile and static plants are provided with dust extraction, shielding or filtration systems as appropriate. When winds are sufficiently strong to negate the effects of dust management, operations will cease until conditions improve and compliance can be achieved.
Watercourse Crossing Management	<ul style="list-style-type: none"> Hydrological Processes Inland Waters Environmental Quality 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> The proposal is not located within a proclaimed surface water area or a surface water management area. No bed and banks permit pursuant to the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act) is

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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<p>required.</p> <p>Construction, if required:</p> <ul style="list-style-type: none"> Vegetation clearing will be undertaken in accordance with the Land Clearing and Trench Management actions. The flow of the watercourse will be diverted by channel or by diversion pipeline. If a watercourse contains water that is not flowing or flowing slowly, it will be temporarily dammed with any minor water flow to be transferred to other side of construction activities by pump and pipeline. A continuous row of sterile hay bales will be installed and maintained approximately 10 metres downstream of the construction works for sediment filtration and flow velocity reduction. The bales will be fixed using stakes to the base of the watercourse during construction. <p>Post-Construction</p> <ul style="list-style-type: none"> Any installed bales and stakes will be removed within seven days following the completion of construction works at the watercourse. The banks of the watercourse will be re-contoured using construction equipment so that the banks are returned to the original profile with equivalent pre-construction stability. The banks of the watercourse will be rehabilitated as documented in the Rehabilitation Management actions, with cleared and cut vegetation placed on the banks to minimise erosion and encourage microclimates for seed germination.
Dewatering and Acid Sulfate Soil Management	<ul style="list-style-type: none"> Landform Terrestrial Environmental Quality Hydrological Processes Inland Waters Environmental Quality 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> If required, a dewatering licence, pursuant to the RIWI Act will be obtained. <p>Construction</p> <p><u>Dewatering</u></p> <ul style="list-style-type: none"> The rate of dewatering will be limited to the minimum rate required for the infrastructure to be installed. The volume of dewatering effluent will be monitored and recorded daily. A weekly report outlining the following will be provided by the contractor: <ul style="list-style-type: none"> Volume of dewatering. Location of dewatering effluent discharge. Volume of ASS material excavated and neutralised. Dewatering effluent will be infiltrated within the proponent landholdings or within areas cleared of intact remnant vegetation, and where required the area will be bunded (with an earthen bund). The pH and acidity of the dewatering effluent will be monitored and recorded daily. The pH and acidity will be managed in accordance with Department of Water guidance and the RIWI Act. If pH or

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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<p>acidity exceeds the recommended limits (pH of the dewatering effluent should be >6.0 and total acidity <40mg/L), the effluent will be treated in accordance with Department of Environment Regulation (DER) (formerly Department of Environment and Conservation (DEC)) guidelines (DEC 2011).</p> <p><u>Acid Sulfate Soils (ASS) management</u></p> <ul style="list-style-type: none"> • If ASS is identified, ASS material will be stockpiled separately within the proponent landholdings on a pad of Aglime (pulverized limestone) of no less than 100 millimetres depth. • Stockpiled ASS material will be neutralized by thorough mixing with the relevant ratio of Aglime. • Neutralised ASS material will be disposed of in the excavated trench, within the proponent landholdings or a local landfill as inert waste.
Dieback and Weed (Hygiene) Management	<ul style="list-style-type: none"> • Flora and Vegetation • Landforms • Terrestrial Environmental Quality 	<ul style="list-style-type: none"> • Compliance with the management actions (hygiene procedures) to minimise the spread of plant pathogen and weeds. • Weed distribution and density post-construction compared to pre-construction records. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • Ensure vehicles and machinery (including wheels, racks, undercarriage and inside cabins) and footwear are inspected and cleaned of sods of dirt and slurry prior to entry to the construction areas. <p>Construction</p> <ul style="list-style-type: none"> • The construction works associated with the proposal will be maintained within the proposal area, as shown within Figure 3a and Figure 3j or within areas already cleared of remnant vegetation, or within the bituminised portion of Soldiers Road. • Construction materials (e.g. soil, revegetation material) will not be sourced from areas known to contain forest diseases or high weed infestations. • No machinery, vehicles or personnel permitted within vegetated portion of Bush Forever Sites unless approved by onsite supervisor. • Soil stockpiles to be located outside conservation areas <p>Post-Construction</p> <ul style="list-style-type: none"> • The construction area will be visually monitored for 12 months following completion of the construction works. Where weed infestations exist more than 50 percent greater than pre-construction levels, these areas will be sprayed.
Fire Management	<ul style="list-style-type: none"> • Flora and Vegetation • Terrestrial Fauna • Human Health 	<ul style="list-style-type: none"> • Absence of fires generated during construction. • Response to fires in accordance with the management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • Training will be provided to construction staff on the proper use of fire extinguishers. <p>Construction</p> <ul style="list-style-type: none"> • The lighting and smoking of cigarettes will be prohibited except in designated cleared areas and immediately outside of site buildings.

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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<ul style="list-style-type: none"> Cleared vegetation from the construction area will not be burned. Dry chemical or carbon dioxide fire extinguishers will be located in close proximity to all cutting, grinding or welding (or any other spark generating activity). Flammable liquids and materials (including explosives) will only be stored in designated areas fitted with a dry chemical or carbon dioxide fire extinguisher. On the advice of the Department of Fire and Emergency Services (DFES), construction work that may present a high risk of ignition (e.g. cutting, grinding or welding) may be temporarily terminated on days declared to have a "high", "very high" or "extreme" fire danger and if there are a number of fires in close proximity in order to avoid the potential for further depletion of fire-fighting resources.
Waste Management	<ul style="list-style-type: none"> Amenity Human Health 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> All staff and contractors to be inducted regarding environmental conditions within the site and management actions. <p>Construction</p> <ul style="list-style-type: none"> Work area to be maintained in a clean and tidy manner to ensure that feral and other species are not attracted to site. All wastes will be removed from all construction sites following the completion of construction works. Waste to be removed to an appropriate waste facility, based on category of material. <p>Post-Construction</p> <ul style="list-style-type: none"> Any waste that is identified post-construction will be removed.
Aboriginal Heritage Management	<ul style="list-style-type: none"> Heritage 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. 	<p>No Aboriginal heritage sites were identified within the proposal.</p> <p>Although no Aboriginal heritage sites were identified within the site, if during construction Aboriginal artefacts or sites are uncovered, works will cease and a suitably qualified expert will be brought in to survey the potential site. If required based on the outcome of the survey, permission pursuant to the <i>Aboriginal Heritage Act 1972</i> (AHA) to manage and disturb the sites will be sought.</p>
Traffic and Public Safety Management	<ul style="list-style-type: none"> Amenity Human Health 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> A Traffic Management Plan will be submitted to the Shire of Serpentine-Jarrahdale for approval. <p>Construction</p> <ul style="list-style-type: none"> The use of local roads by semi-trailers and road trains will be limited for the transport of construction materials and equipment to daylight hours (nominally 0700 and 1900 hours) to minimise noise

REFERRAL DOCUMENT
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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<p>impacts on residences positioned on local roads.</p> <ul style="list-style-type: none"> • Road signage will be displayed within all construction areas in accordance with Australian Standard 1742.3-2002 <i>Manual of Uniform Traffic Control Devices - Part 3: Traffic control devices for works on roads</i>. • Construction vehicles will not exceed 40km/h on non-bituminised roads or access tracks outside of the active construction area. • The public will be excluded from accessing all construction areas where practicable. Open excavations (such as trenches and dewatering pits) will be fenced or otherwise demarcated where there is a risk of public access. • Advisory warning boards identifying hazards, risks, safety requirements and emergency phone numbers will be installed at each entry to all construction areas. • Machinery and plant that is located in publicly accessible locations will be secured (in a locked compound where practicable) when the construction site is not occupied.
Noise Management	<ul style="list-style-type: none"> • Amenity • Human Health 	<ul style="list-style-type: none"> • Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • Consult with landowners within 100 metres of the proposal regarding the proposed construction works. <p>Construction</p> <ul style="list-style-type: none"> • Construction works associated with the proposal will be managed in accordance with <i>Division 2 of the Environmental Protection (Noise) Regulations 1997</i>, with works to occur between 0700 and 1900 hours and to be managed in accordance with <i>Australian Standard (AS) 2436-2010 Guide to noise and vibration control on construction, maintenance and demolition sites</i>. • If construction works are required to be undertaken on Sundays or after 1900 hours, a Noise Management Plan will be prepared pursuant to the <i>Environmental Protection (Noise) Regulations 2004</i>.
Vibration Management	<ul style="list-style-type: none"> • Amenity • Human Health 	<ul style="list-style-type: none"> • Compliance with the prescribed management actions. 	<p>Vibration is unlikely to be a consideration as no blasting is proposed. If vibration becomes a consideration, the CEMS (Water Corporation 2008) should be referred to for the relevant actions.</p>
Dangerous Goods and Explosives Management	<ul style="list-style-type: none"> • Amenity • Human Health • Terrestrial Environmental Quality • Inland Waters Environmental Quality 	<ul style="list-style-type: none"> • Compliance with the prescribed management actions. 	<p>Pre-Construction</p> <ul style="list-style-type: none"> • Licence pursuant to the <i>Dangerous Goods Safety Act 2004 (WA) - Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i> (section 26), will be obtained prior to any storage of dangerous goods. • All construction staff will be trained on identification, storage and handling procedures for dangerous goods and explosives

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WHITBY PRESSURE MAIN

MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<p>Construction</p> <ul style="list-style-type: none"> Liquid dangerous goods will be stored in a bund or compound capable of containing 110 percent of the volume of the dangerous goods stored. For packaged liquid dangerous goods (goods in a number of smaller containers), the goods shall be stored in a bund or compound capable of containing 110% of the volume of the largest container. Dangerous goods will be stored in minimum quantities (where possible) to minimise the environmental impact if spillage occurs. Dangerous goods will be segregated to ensure incompatible dangerous goods are not collocated (refer Figure 15.1). Dangerous goods will not be stored within 25 metres of any watercourse or wetland. <p>Post-Construction</p> <ul style="list-style-type: none"> All dangerous goods will be removed from the proposal area following completion of construction.
Discharge of Pipeline Pressure Testing and Disinfection Waters Management	<ul style="list-style-type: none"> Terrestrial Environmental Quality Hydrological Processes Inland Waters Environmental Quality 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. Results of pH and chlorine monitoring in compliance with the discharge criteria. 	<p>Construction</p> <ul style="list-style-type: none"> Pressure test water will be preferentially discharged within the proponent landholdings, or where appropriate local drains via scour valves. The water will be field tested to ensure that the quality of the water meets the discharge objectives. The discharge water should have a pH between 6.0 and 8.5. The pH of the discharge water will be neutralised with sulphuric acid if the pH of the discharge does not meet the pH discharge criteria. Consideration will be given to the reuse of the pressure test water by a transfer of the water from one section of the pressure main to the next.
Rehabilitation Management	<ul style="list-style-type: none"> Offsets Rehabilitation and Closure 	<ul style="list-style-type: none"> Compliance with the prescribed management actions. For 'agricultural land' the rehabilitation objective is as follows: <i>Rehabilitation will achieve a post-construction agricultural condition that is equal or better than the pre-construction agricultural condition, and is acceptable to the landowner.</i> 	<p>Within the proponent landholdings</p> <ul style="list-style-type: none"> Topographic contours of excavated areas to be compatible with existing contours within portions of the landholding not subject to the construction of the proposal. Where required, seed for pasture will be spread to maximise growth and ensure 90 per cent pasture cover is achieved to stabilise the soil. <p>Within Route 4</p> <ul style="list-style-type: none"> Where available and/or required, re-spread topsoil stockpiled as part of the clearing works. Revegetation requirements to be determined through liaison with the Shire of Serpentine-Jarrahdale. If required, this will involve the replacement of any scattered individual trees removed from the western portion of Soldiers Road. Species planted to be in accordance with the Shire of Serpentine-Jarrahdale <i>Keeping It Local</i> or as otherwise agreed.

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MANAGEMENT ELEMENT	EPA ENVIRONMENTAL FACTOR ADDRESSED	PERFORMANCE INDICATORS	APPLICABLE MANAGEMENT ACTIONS
			<ul style="list-style-type: none">• Local provenance material to be used where possible. The seed or seedlings will be sourced from collected seed or nurseries where available.• The revegetation works will be monitored for growth, cover and vigour for two full years following seeding and fertilising. Supplementary seeding, direct planting, fertilising and/or irrigation will be undertaken where required. A report on the monitoring undertaken will be prepared and submitted to the Shire of Serpentine-Jarrahdale.

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5.2 Incident and Compliance Reporting

Environmental incidents have the potential to occur on construction sites due to the scale and type of works being undertaken. In accordance with the CEMS (Water Corporation 2008), environmental incidents will be reported to the onsite supervisor and the proponent (and their environmental consultant). An environmental incident is defined as the following (Water Corporation 2008):

Any event or impact on the environment involving actions or assets associated with the project that is capable of:

- Causing harm to the environment or any person
- Causing pollution
- Coming to the attention of the public or an environmental regulatory agency.

Environmental incidents include matters such as:

- Chemical spills (including hydrocarbons)
- Fires
- Discharges of contaminated waters to the environment
- Environmental monitoring results indicating an impact to the environment or any person (water quality, noise, etc.)
- Death or injury of terrestrial fauna.

An outline of the environmental incident reporting procedure has been provided in Plate 10 and is based the actions, criteria and objectives outlined in **Table 4** (and where applicable the CEMS (Water Corporation 2008)). If required, an Improvement Notice will be issued for any non-conformities identified with the actions, criteria and objectives outlined in **Table 4** (and where applicable the CEMS (Water Corporation 2008)).

A copy of the Water Corporation Improvement Notice has been provided in **Appendix B**. The Improvement Notice details:

- The nature of the non-conformity.
- An assessment of the environmental impact.
- A decision on the corrective action(s) required. This may include revision of the actions, criteria or objectives identified in the CEMS.
- The timeframes allowed to implement the corrective actions.
- Any requirements to inform contracting staff of the corrective actions to prevent reoccurrence.
- Close-out of corrective actions.

A copy of all completed Improvement Notices will be maintained at the construction site office.

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Plate 10: Summary of environmental incident reporting protocol, as outlined within the CEMS (Water Corporation 2008)

Incident Reporting

1. All suspected environmental incidents will be reported to the onsite supervisor. A determination by the environmental consultant for the proponent will be made (based upon professional experience) on whether the suspected environmental incident is confirmed.
 2. The environmental consultant for the proponent will determine if the incident is likely to have a continued environmental impact if construction work continues.
 3. Based on that advice, construction work that would continue to have an environmental impact will temporarily cease. Other construction works not related to the environmental incident and environmental impact will continue.
 4. Construction works at the affected area will only recommence on the approval of the environmental consultant.
 5. The incident will be investigated and an Incident Report, provided in Appendix A, will be completed as soon as reasonably practicable (generally within 24 hours). The Incident Report will be provided to the onsite supervisor and the environmental consultant.
 6. All Incident Reports will be logged on a file retained at the construction site office.
 7. Environmental incidents will be reported to the DER by phone as soon as reasonably practicable following the environmental incident if the environmental incident has caused or is likely to cause pollution, or material or serious environmental harm (in accordance with s72(1) of the EP Act). Written confirmation of the environmental incident will be provided to the CEO of the DEC, based on the Incident Report.
 8. Environmental incidents will be reported to the Shire of Serpentine-Jarrahdale, DFES and the Police as appropriate and will be dependent upon the incident.
 9. All environmental incidents will be reported to the DER as part of annual compliance reporting required under the Minister for the Environment's Statement of Conditions imposed under the EP Act, irrespective of whether the environmental incidents have caused or is likely to cause pollution, or material or serious environmental harm.
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6 Consultation

The proposal is being undertaken by the proponent on behalf of the Water Corporation. As part of the detailed engineering design process to support subdivision within the Whitby LSP area, the Water Corporation indicated that the Whitby LSP area will be serviced by the future Mundijong A Pump Station, and this would be provided when sufficient sewer capacity was achieved (*Wastewater Scheme Planning Series: Byford – SD86 Conceptual Planning Long Term Scheme – Sheet 7 of 10*). In the interim, Water Corporation advised that the first 800 lots within the Whitby LSP area would need to be accommodated within the current wastewater infrastructure in the broader Byford area. This requires the construction of the proposal to connect future residents with the existing wastewater infrastructure located 5.6 kilometres to the north of the Whitby LSP area, located within Soldiers Road reserve.

The proponent is undertaking the works in accordance with the requirements of the Water Corporation, in accordance with the *Water Services Act 2012* and outlined within the *External Approvals Manual* (Water Corporation 2013).

In addition to approvals, the Water Corporation 'Prerequisites to Works' process requires the proponent to consult with the owner and occupier of any land affected by the proposed works as well as a range of stakeholders, including state and local government, agencies and other organisations. The proponent has provided a copy of the 'Prerequisites to Works' and/or met with the following stakeholders:

- Western Australian Planning Commission
- Department of Fire and Emergency Services
- Office of the Environmental Protection Authority
- Public Transport Authority
- Main Roads Western Australia
- Western Power
- ATCO Gas
- Local government, which for the proposal is the Shire of Serpentine-Jarrahdale
- Land owners potentially impacted by the proposal.

The Shire of Serpentine-Jarrahdale have provided support for the proposal through written correspondence (subject to a number of conditions) and have been supportive of the proponents efforts to minimise the clearing of remnant vegetation and scattered remnant trees located along Soldiers Road. A copy of the letter correspondence has been provided in the Section 38 Referral (Emerge Associates 2014).

7 Applicable Ministerial Conditions

In accordance with *Section 40B* and *Section 45* of the EP Act, if a declaration is made that the referred proposal is a derived proposal, subject to the Minister for Environment's identification of relevant conditions, the implementation of the proposal will be subject to the conditions and procedures listed in the Ministerial Statement.

Under *Section 46(4)* of the EP Act, the EPA may inquire into whether or not the implementation conditions relating to the proposal should be changed. The proponent considers that none of the conditions set for the SSIA strategic proposal require modification under *Section 46(4)*. The requirements of the CEMS will be implemented in accordance with those management actions outlined within **Table 4**.

In accordance with Ministerial Statement 845, the proponent will provide a compliance report to the Chief Executive of the Office of the Environmental Protection Authority within six months of the completion of construction of the proposal. This report will:

- Include a statement as to whether the proponent has complied with the conditions.
- Identify all potential non-compliances and describe corrective and preventative actions taken.
- Be made publicly available in accordance with the approved compliance assessment plan.
- Indicate any proposed changes to the compliance assessment plan, as summarised in **Section 5.2** of this document.

Given the proponent will only be responsible for the implementation of the proposal outlined within this document, no further reporting in accordance with Ministerial Statement 845 is proposed. Ongoing annual reporting will be addressed by the Water Corporation, who will be responsible for the ongoing maintenance of the wastewater infrastructure.

REFERRAL DOCUMENT
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Water Corporation, 2013, *External Approvals Manual: External Approvals for Engineering Infrastructure Projects*, Unpublished report prepared for Water Corporation, Perth

FIGURES



Figure 1: Location Plan

Figure 2: Gold Fusion Landholdings

Figure 3a to j: Plant Communities and Proposed Alignment

Figure 4a to j: Vegetation Condition and Proposed Alignment

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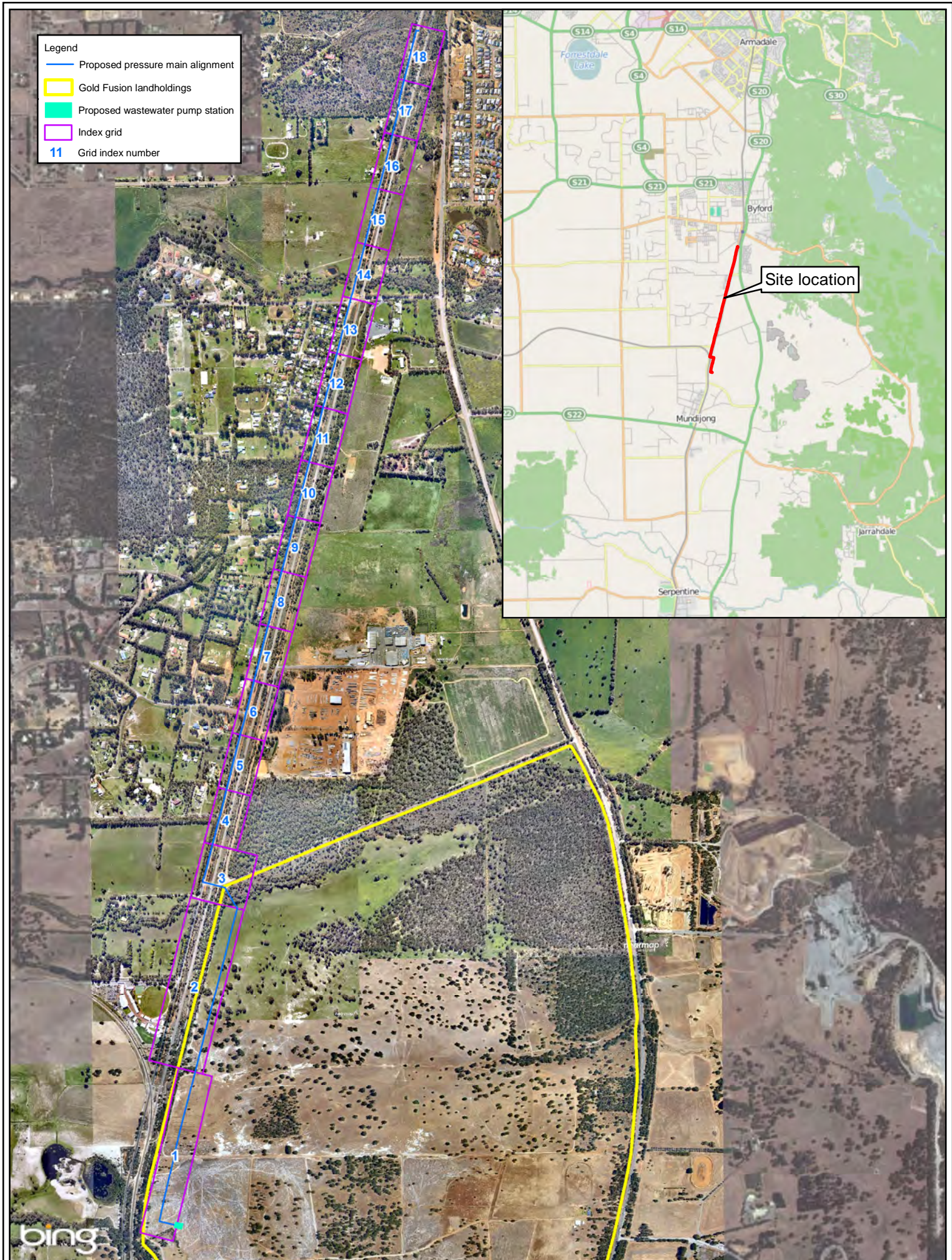


Figure 1: Location Plan

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F103

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale: 1:21,000@A4

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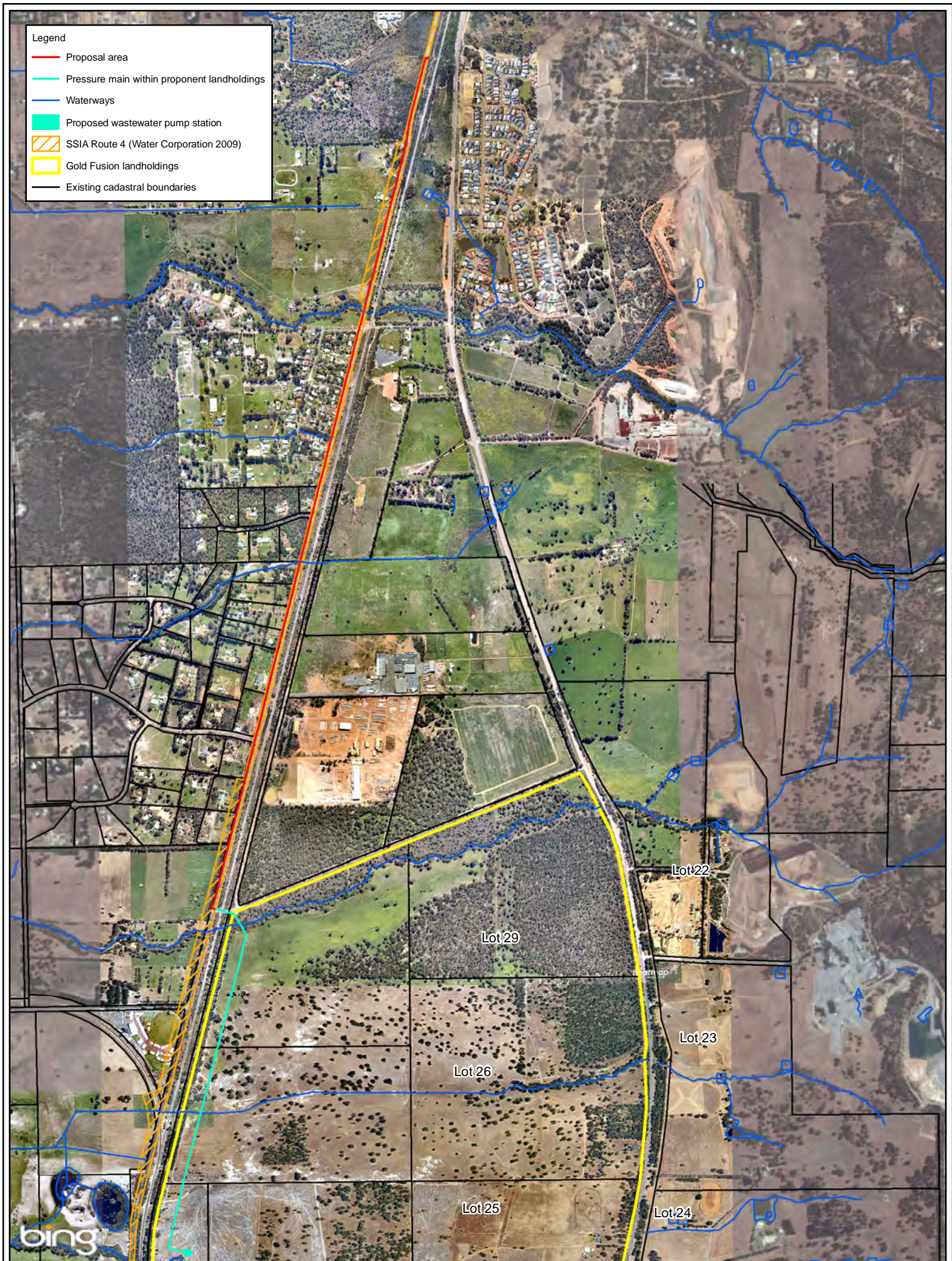


Figure 2: Gold Fusion Landholdings

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F104

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Approved: JDH	Date: 17/12/14
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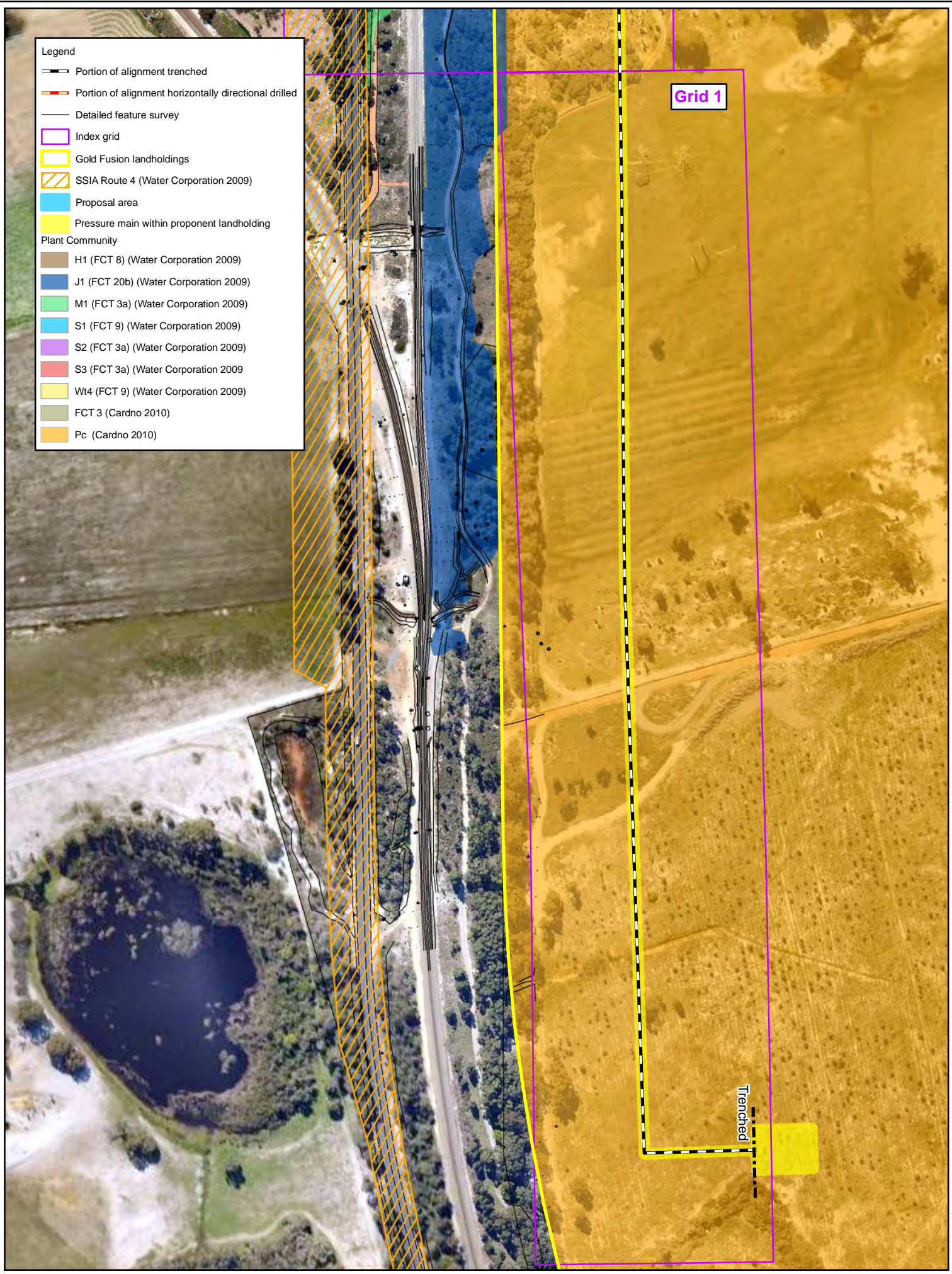


Figure 3a: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F105			
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Approved:	JDH	Date:	17/12/14
Checked:	KK	Scale:	1:3,000@A4



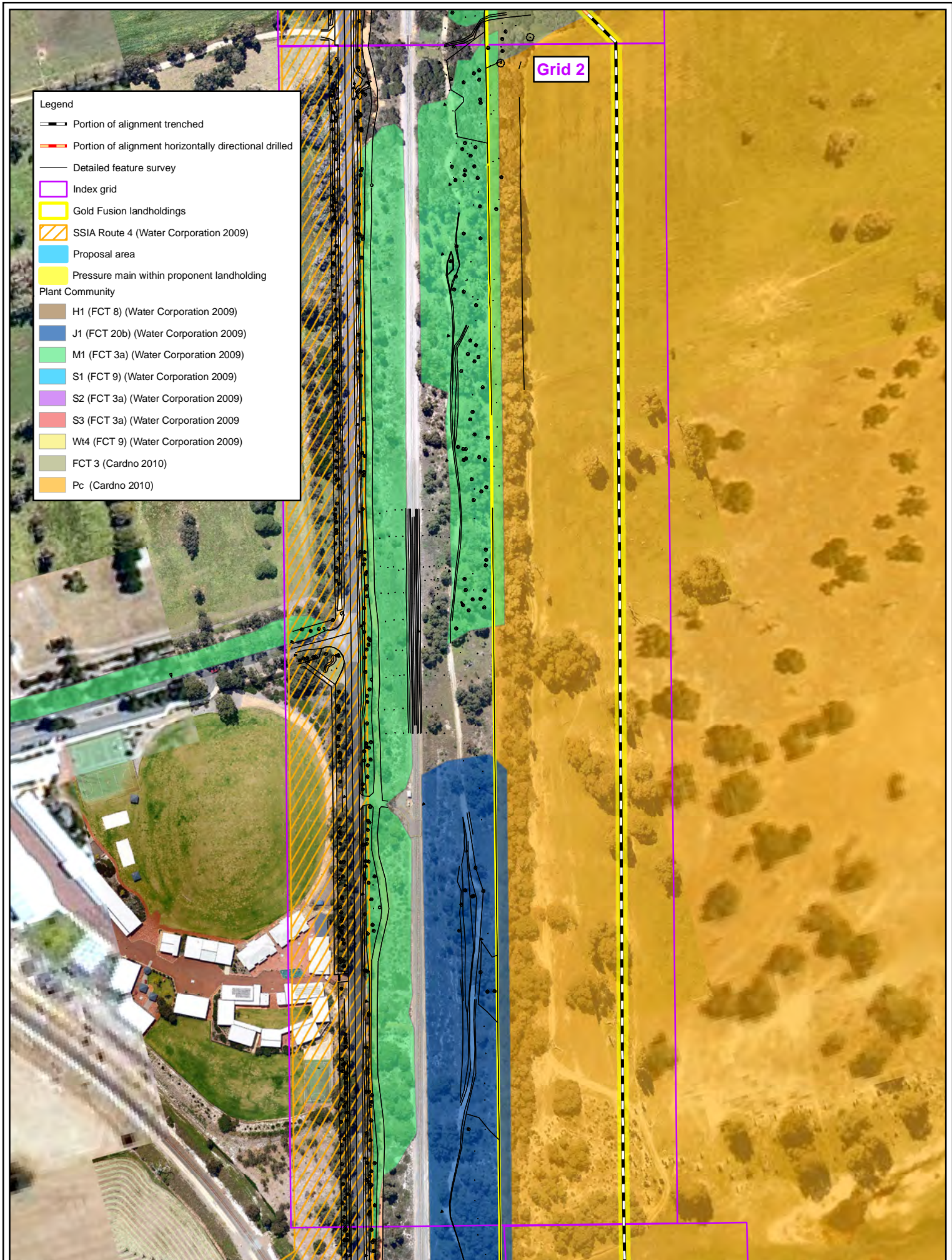


Figure 3b: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F106

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:3,000@A4

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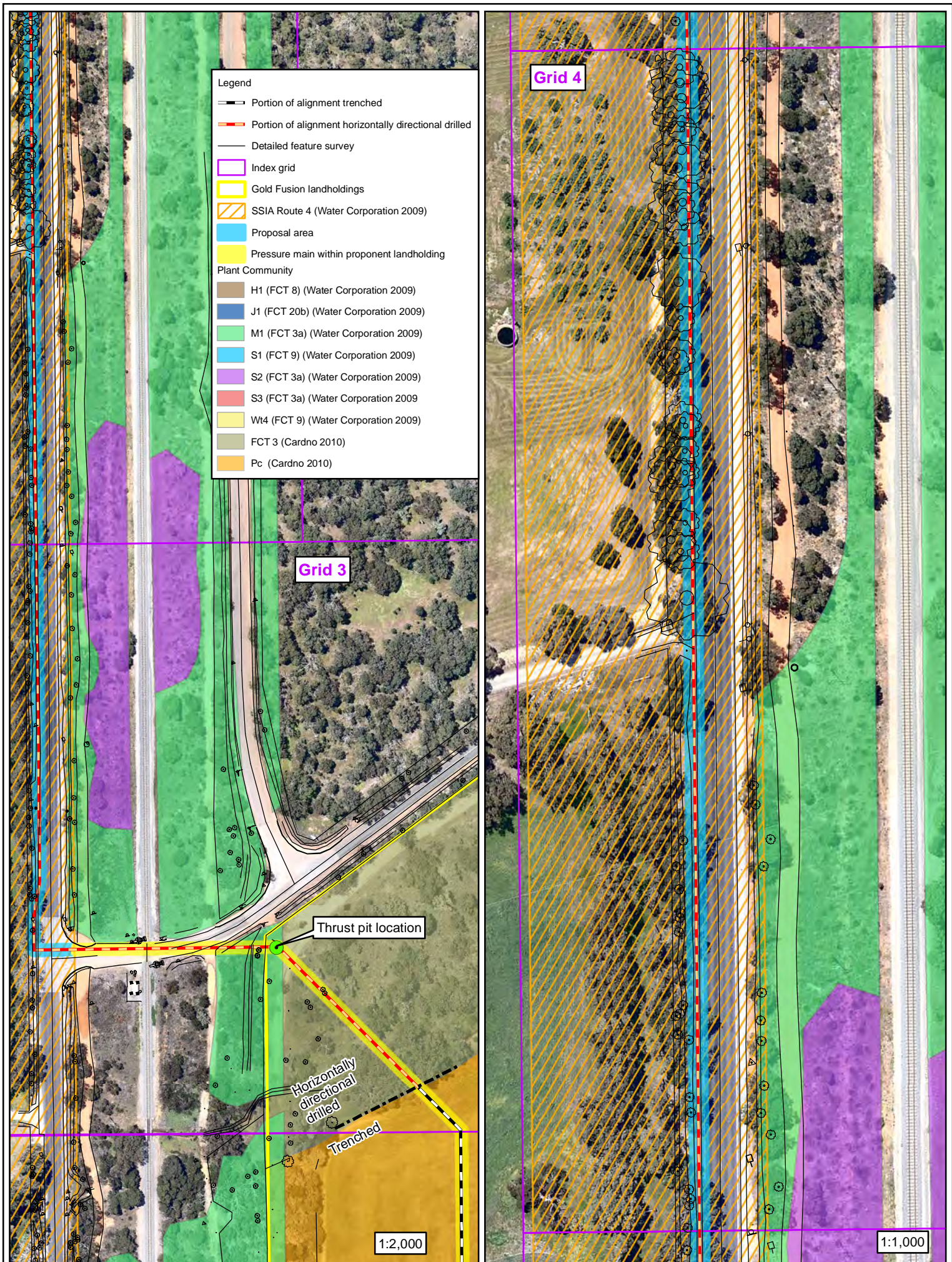


Figure 3c: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F107

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale:

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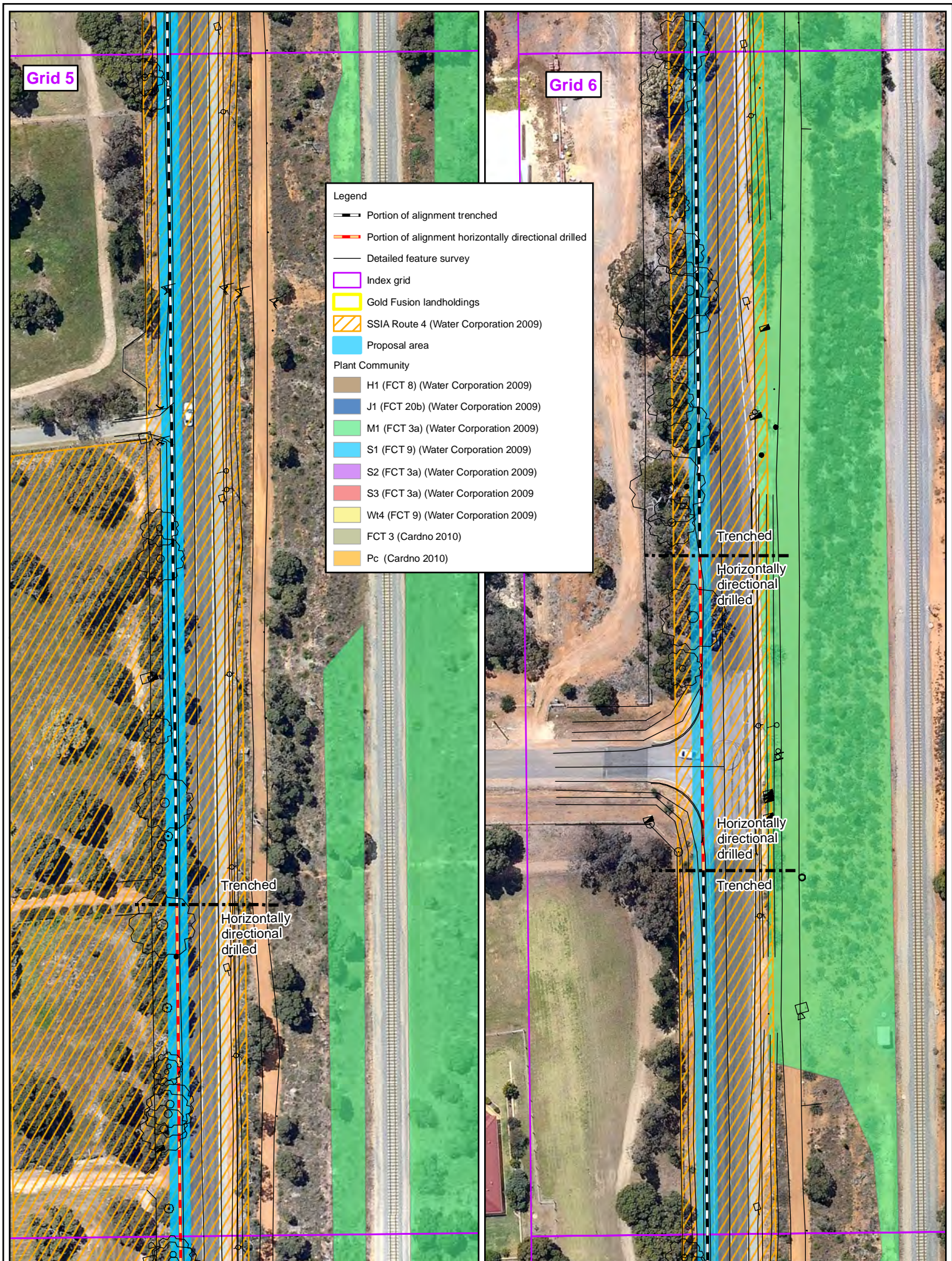


Figure 3d: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F114

Drawn: GRO Date: 11/12/14
Approved: JDH Date: 17/12/14
Checked: KK Scale: 1:1,000@A4

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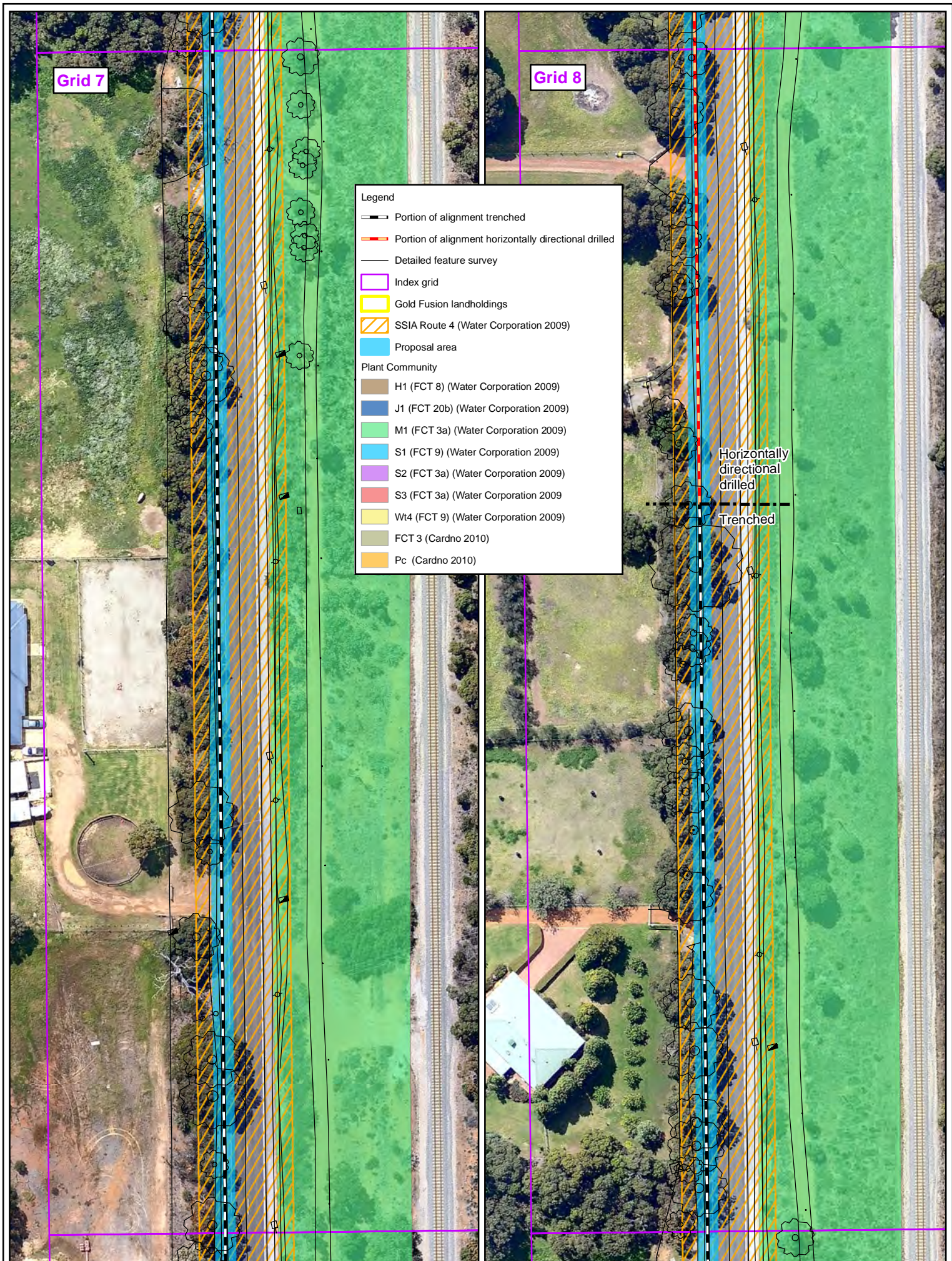


Figure 3e: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F108

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

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Figure 3f: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F109

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale: 1:1,000@A4

0 10 20 40 Metres

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Figure 3g: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F110

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
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0 10 20 40 Metres

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Figure 3h: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F111

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale: 1:1,000@A4

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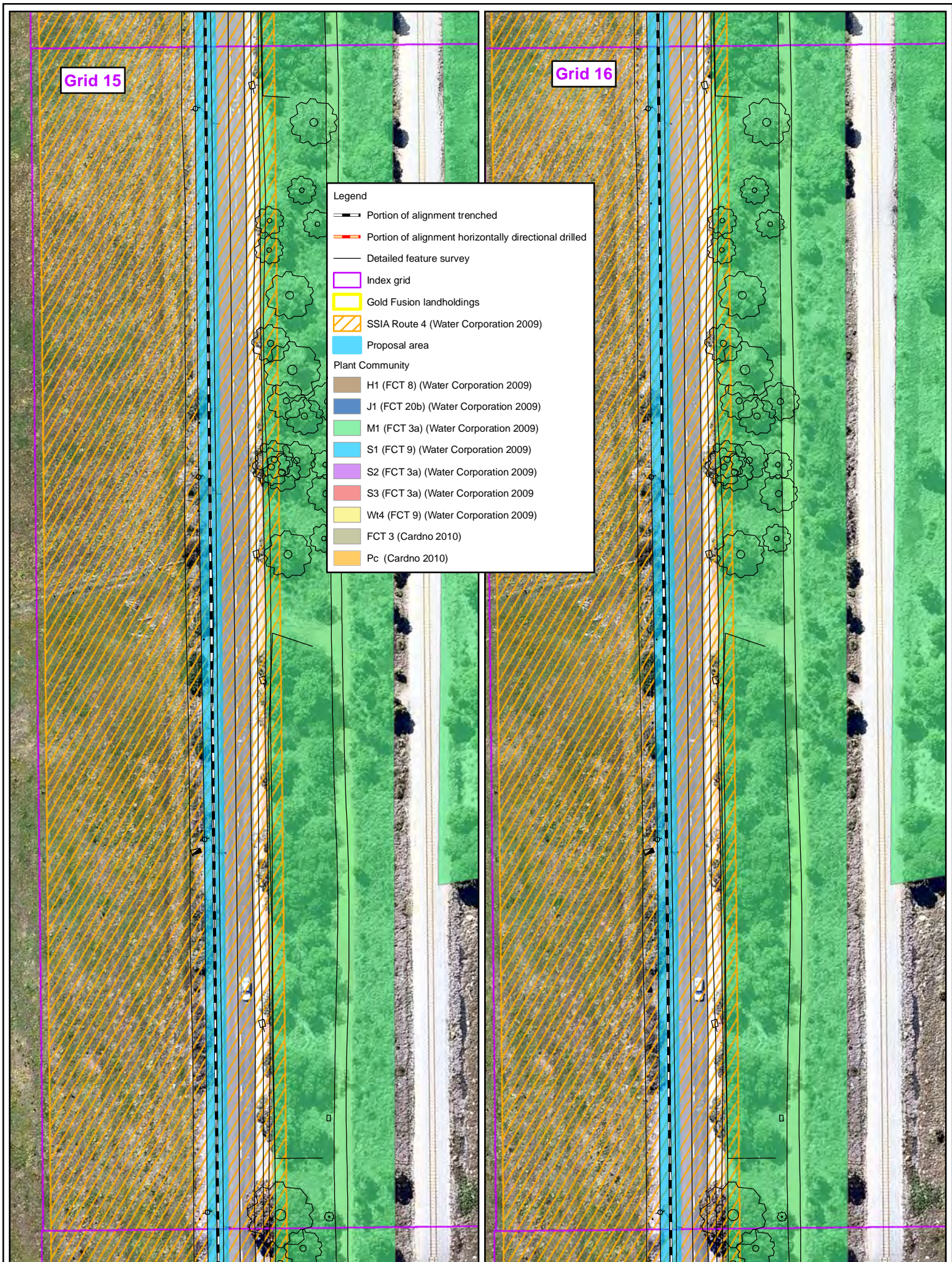


Figure 3i: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F112

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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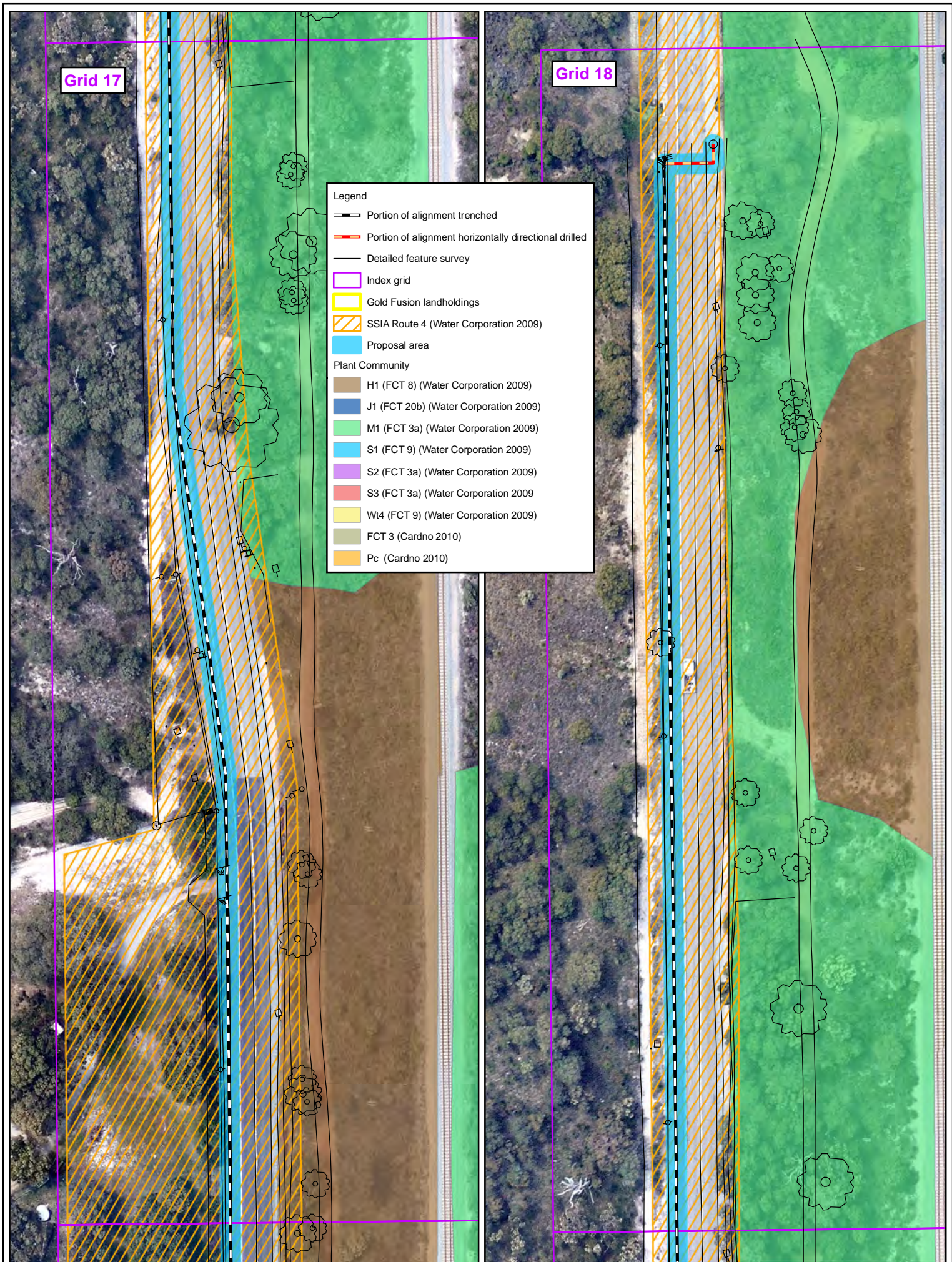


Figure 3j: Plant Communities and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F113

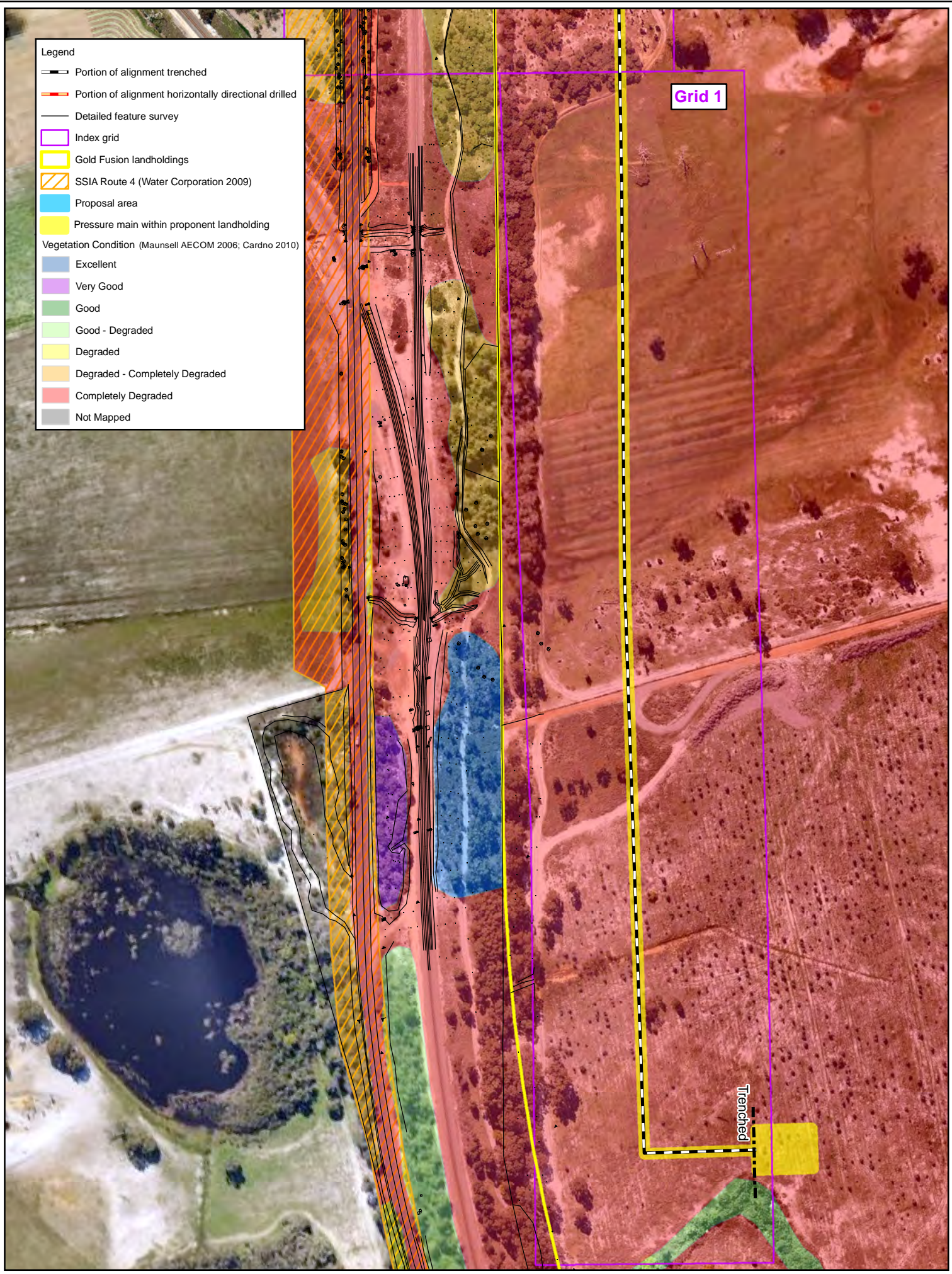
Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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- Legend**
- Portion of alignment trenched
 - Portion of alignment horizontally directional drilled
 - Detailed feature survey
 - Index grid
 - Gold Fusion landholdings
 - SSIA Route 4 (Water Corporation 2009)
 - Proposal area
 - Pressure main within proponent landholding
- Vegetation Condition (Maunsell AECOM 2006; Cardno 2010)**
- Excellent
 - Very Good
 - Good
 - Good - Degraded
 - Degraded
 - Degraded - Completely Degraded
 - Completely Degraded
 - Not Mapped

Grid 1

Trenched

Figure 4a: Vegetation Condition and Proposal Alignment

Project:	Section 38 Referral Whitby Wastewater Pump Station and Pressure Main
Client:	Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F115			
Drawn:	GRO	Date:	19/11/14
Approved:	JDH	Date:	17/12/14
Checked:	KK	Scale:	1:3,000@A4



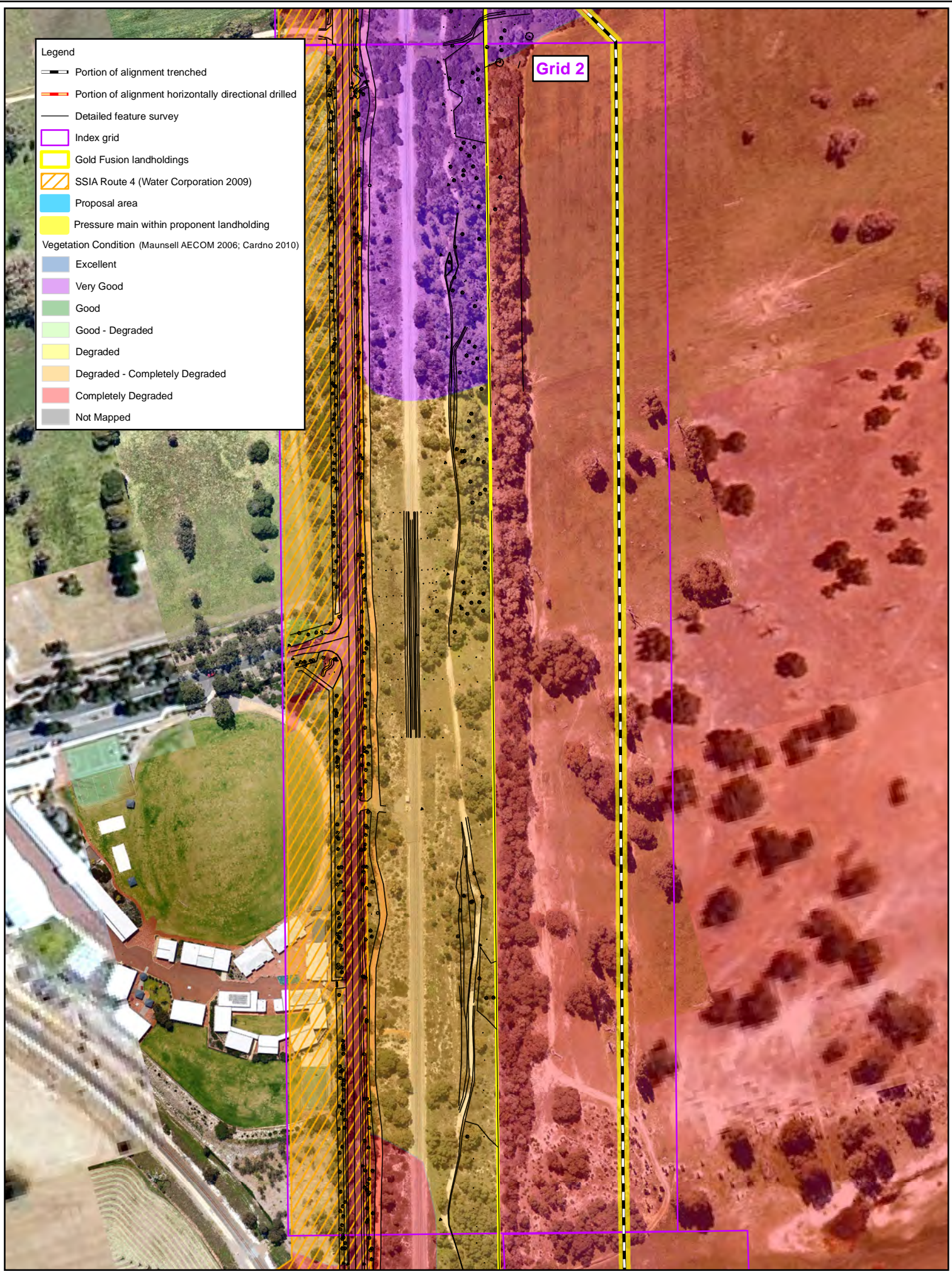


Figure 4b: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F116	
Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale: 1:3,000@A4



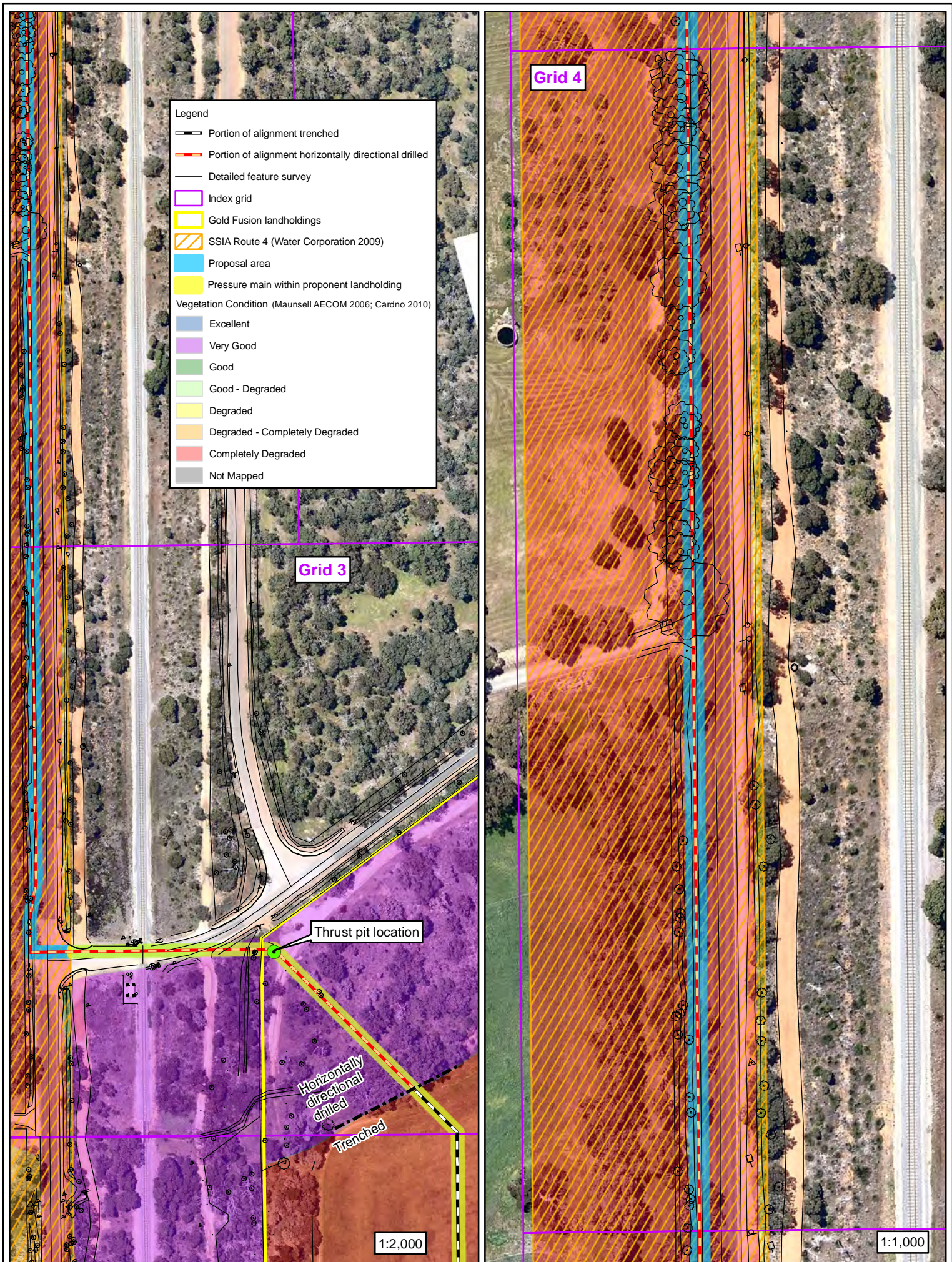


Figure 4c: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F117

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale:

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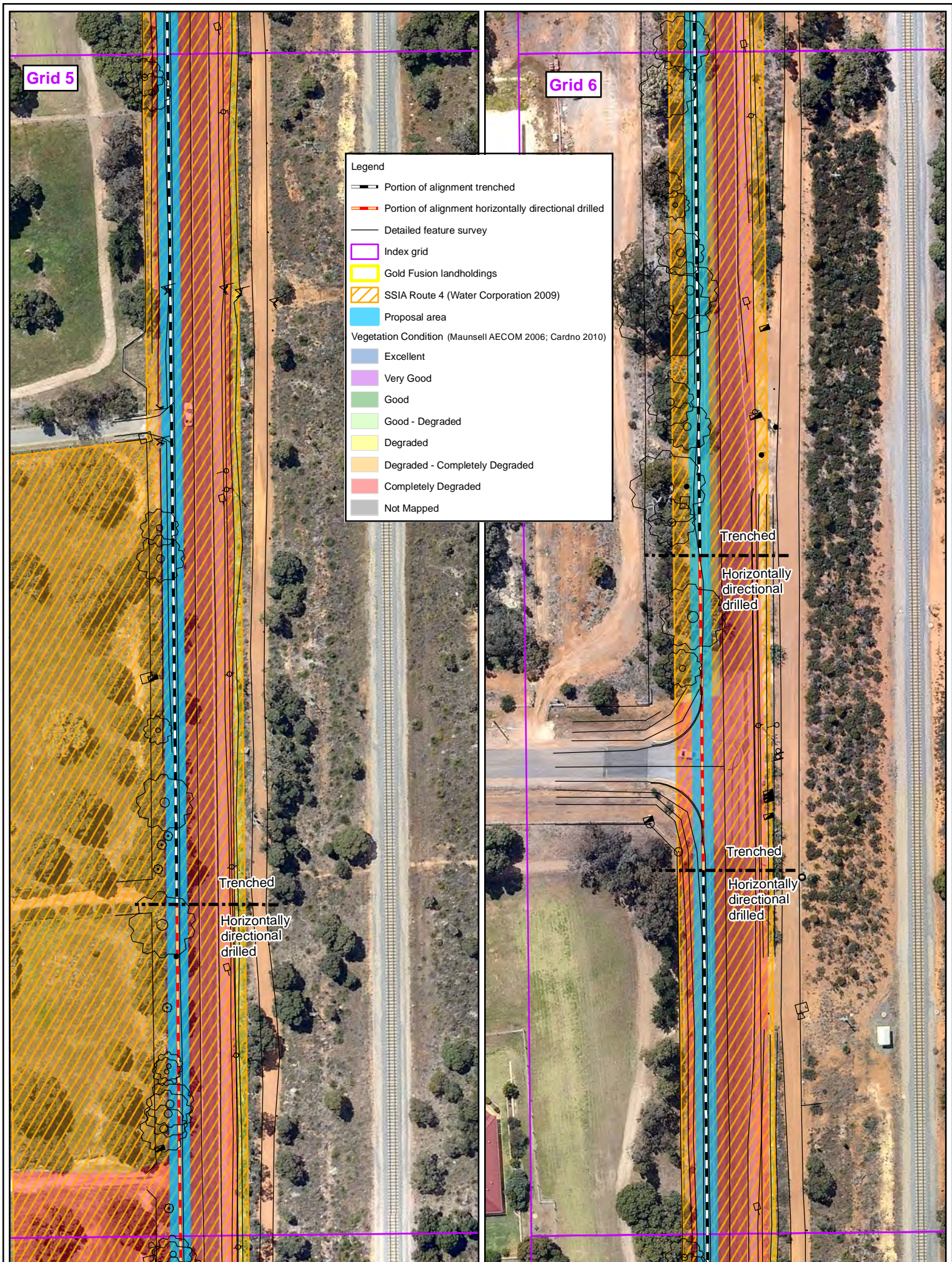


Figure 4d: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F118

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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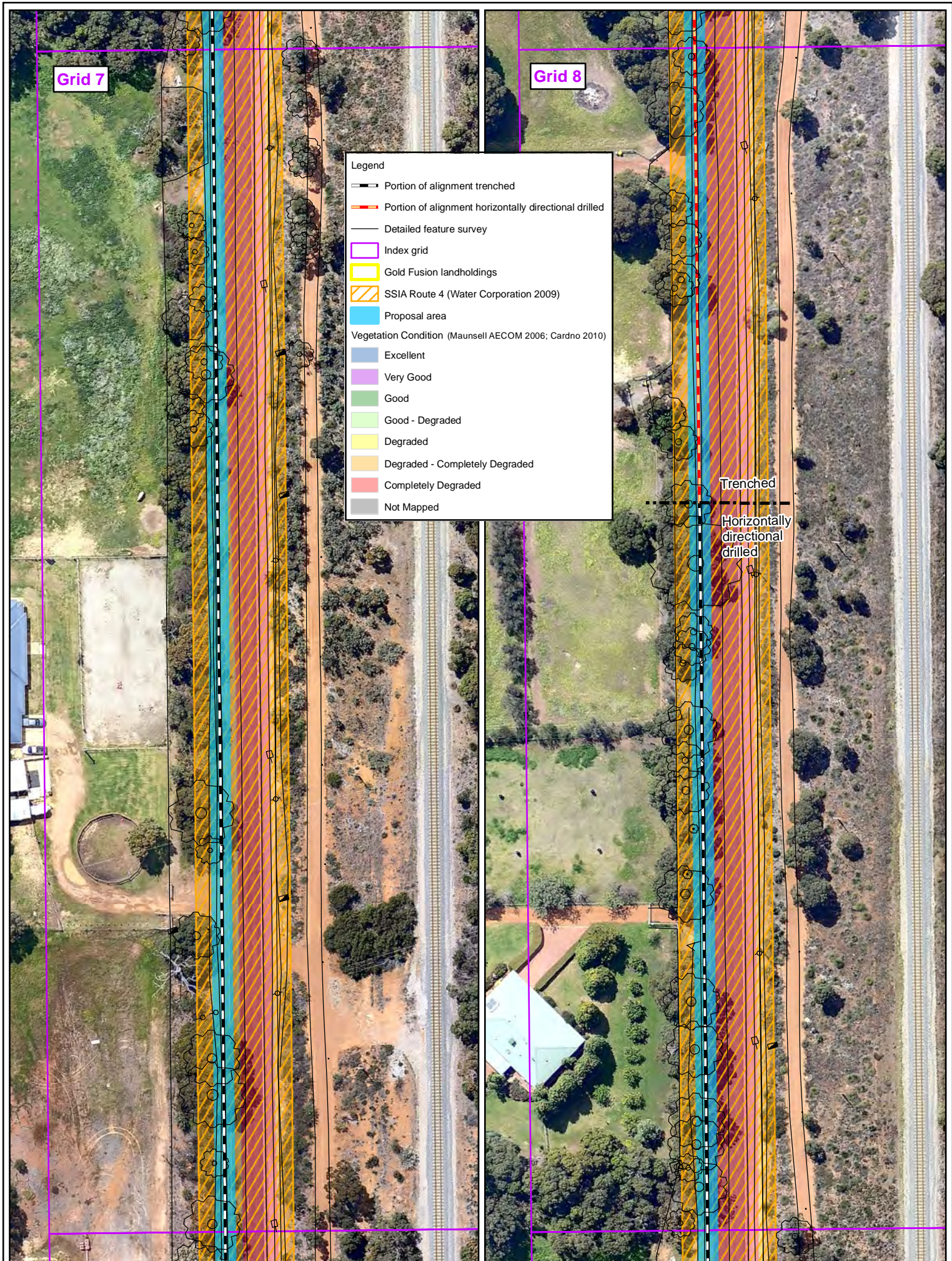


Figure 4e: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F119

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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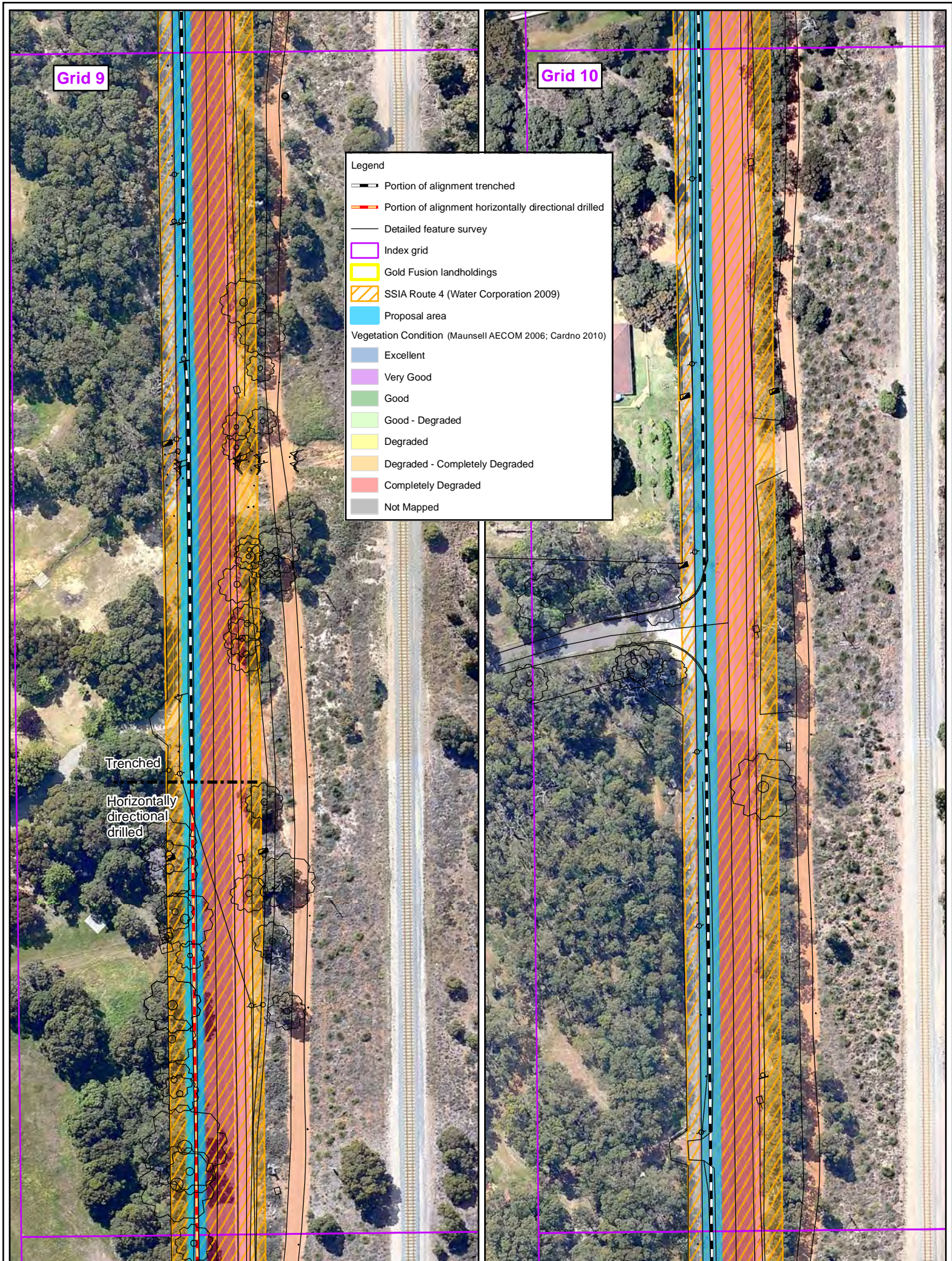


Figure 4f: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F120

Drawn: GRO	Date: 11/12/14
Approved: JDH	Date: 17/12/14
Checked: KK	Scale: 1:1,000@A4

0 10 20 40 Metres

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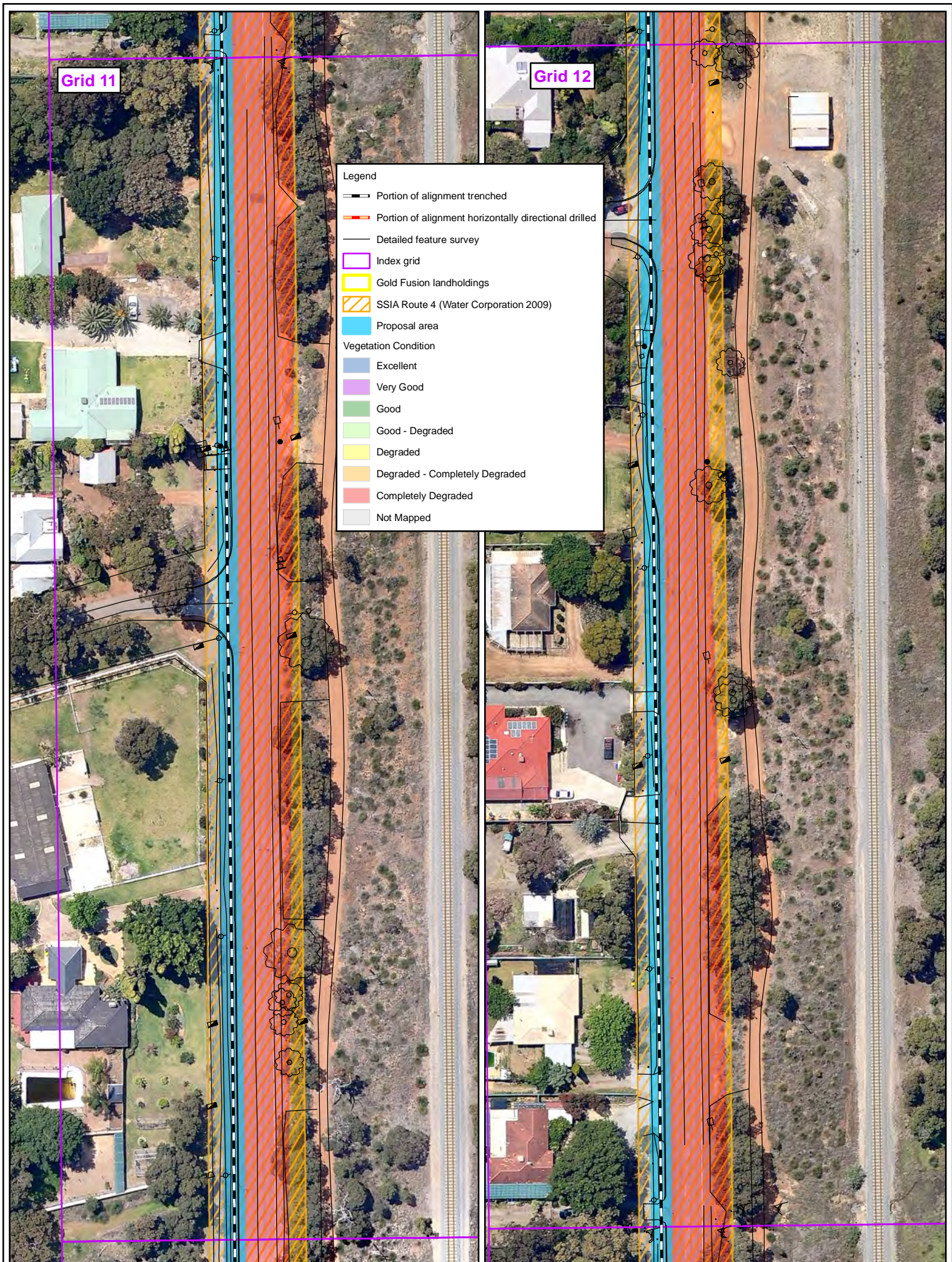


Figure 4g: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F124

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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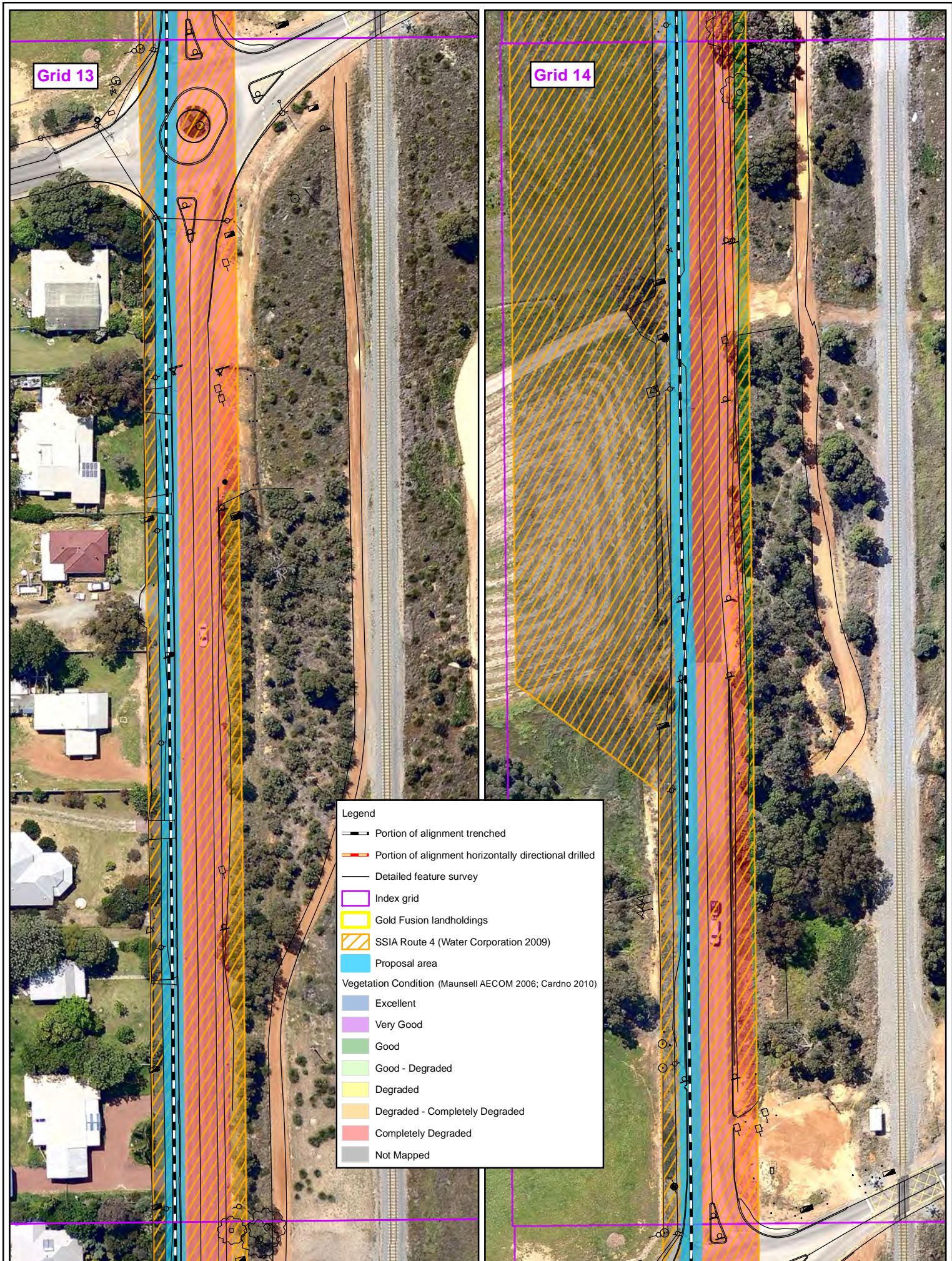


Figure 4h: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F121

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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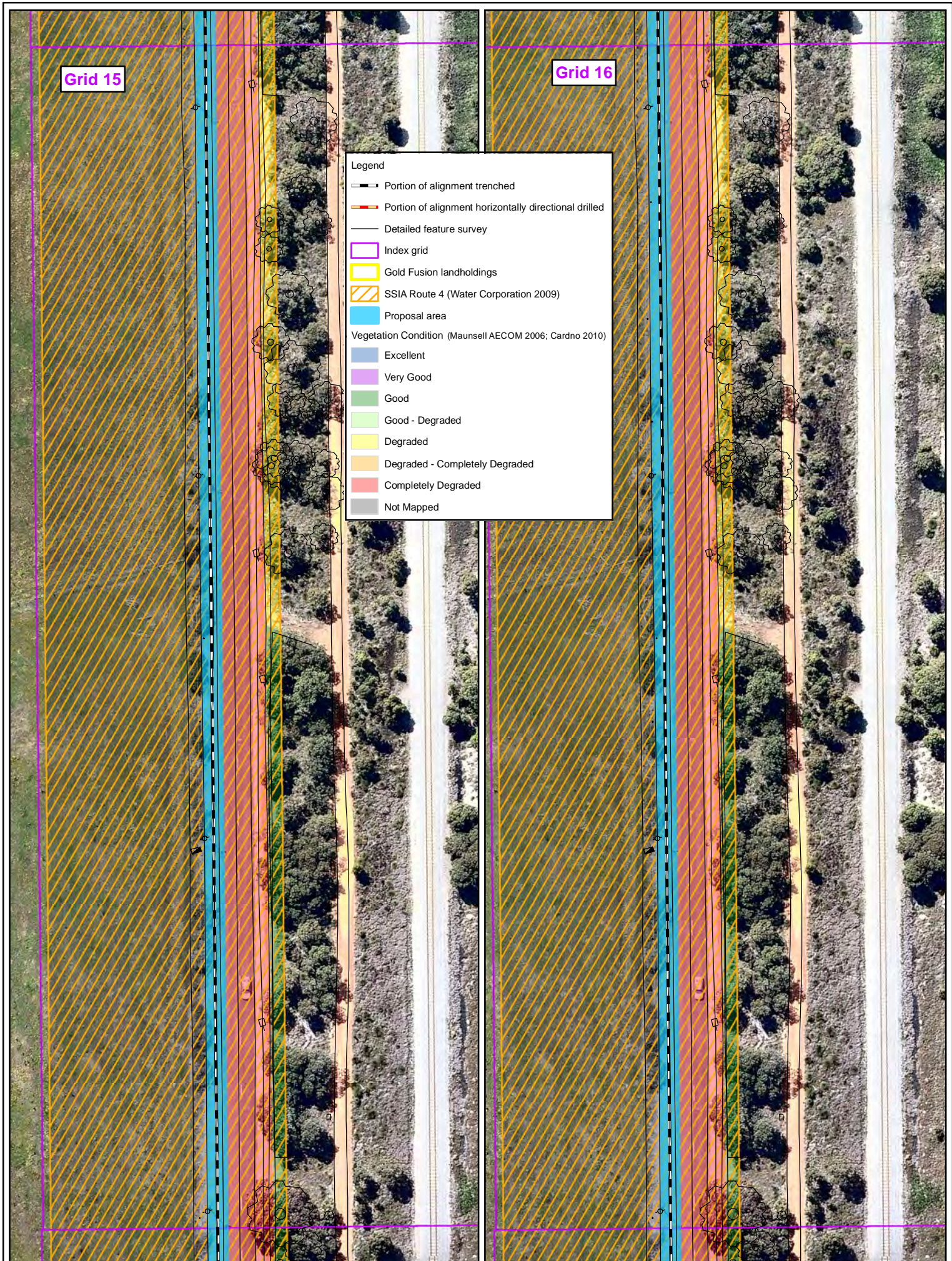


Figure 4i: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)--F122

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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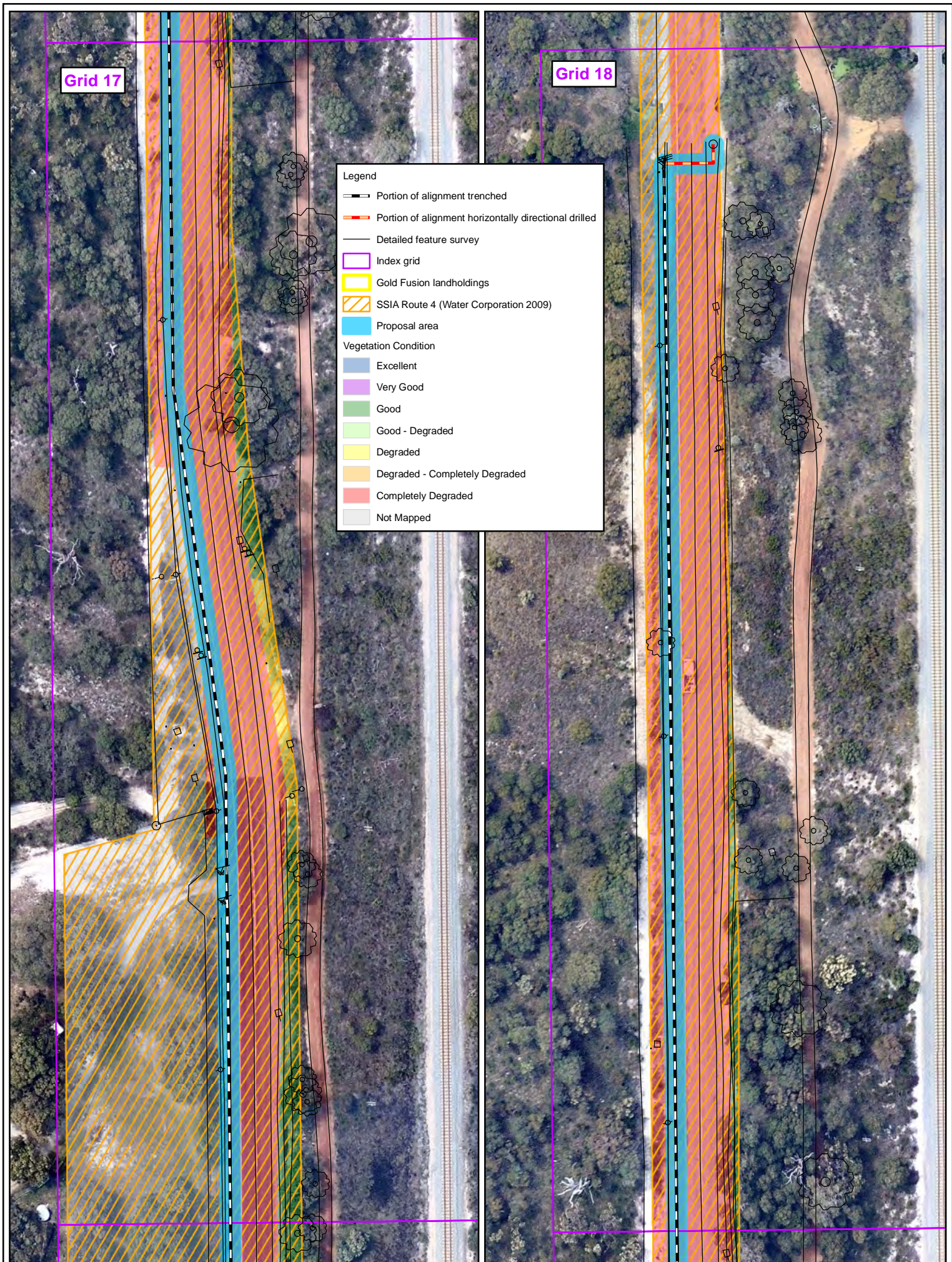


Figure 4j: Vegetation Condition and Proposal Alignment

Project: Section 38 Referral
Whitby Wastewater Pump Station and Pressure Main

Client: Gold Fusion Pty Ltd



Plan Number: EP13-067(15)-F123

Drawn: GRO Date: 11/12/14

Approved: JDH Date: 17/12/14

Checked: KK Scale: 1:1,000@A4

0 10 20 40 Metres

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APPENDIX A



INCIDENT REPORT

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INCIDENT REPORT

From: _____ Branch/Region: _____	
Description: _____	
REPORT	
WHAT HAPPENED: _____ _____ _____ _____	
WHY: _____	
WHEN: _____	
WHERE: _____	
EXTENT OF IMPACT - Actual _____ _____ _____	
Potential - (Consider; Secondary Effects, Environment, Customer, Community, Corporation's System) _____ _____ _____	
THOSE INFORMED OF THE INCIDENT (Internal & External) (When?) _____ _____	
PROGNOSIS - (Consider; Action Taken, Action Planned, Time to Resolution) _____ _____ _____	
DECISION and NOTIFICATION by BRANCH/REGION	
IS THE INCIDENT REPORTABLE? <input type="checkbox"/> NO <input type="checkbox"/> YES (provide details)	Notified Control Centre/CIMC Customer Contact & Scheduling/Manager
IS IT? <input type="checkbox"/> MINOR <input type="checkbox"/> SIGNIFICANT <input type="checkbox"/> MAJOR (Seek advice from senior management or the CIMC if unsure)	Report to (Name): _____
Decisions made by (Name): (print) _____	Date: ____/____/____ Time: _____
Designation: _____	Agreed report back (who & when) _____
	Report By: _____
Signed: _____ Date: _____	Contact Phone (24 hr) _____
Branch/Region: _____ Time: _____	Contact Fax (24 hr) _____
	Contact Callsign (24 hr) _____

*A copy of this form must be faxed/phoned to the
Corporate Incident Management Coordinator Fax (09) 420 2656 Mobile 0417 180 677*

Figure 18-1 Water Corporation's Incident Report Form

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APPENDIX B



IMPROVEMENT NOTICE (WATER CORPORATION 2008)

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Improvement Notice

Report - On-site environmental scientist and responsible construction personnel to complete

Date:	_____
Location:	_____
Contractor:	_____
Nature of Non-Compliance Reported:	_____ _____ _____
Is the Reported Non-Compliance Valid?	Yes / No (please circle)
Assessment of Environmental Impact:	_____ _____ _____
Corrective Actions to be Implemented:	_____ _____ _____
Timeframe for completion:	Immediately 24hrs 48hrs 7 days (please circle)
Contractor to Inform Staff:	Yes/No (please circle)
Issue Date and Time:	_____
Issued to (Name and Position):	_____

Close-out - Responsible construction personnel to complete

Describe the corrective actions implemented:	_____ _____ _____ _____	
Name:	Signature:	Date:

Close-out - On-site environmental scientist to complete

Corrective actions have been implemented?:	Yes / No (please circle)	
Are additional corrective actions required?	Yes / No (please circle)	
If Yes – complete a new Improvement Notice with the new corrective actions		
Name:	Signature:	Date:

A copy of the completed Improvement Notice is to be forwarded to the Site Management Team
Figure 19-1 Improvement Notice

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