

# Tipton Gathering & Wells

*Regional Planning Interests Act 2014 Assessment*  
Application Report

'Glenelg' Property (Lot 12 on SP134957 and Lot 2 on  
RP111930)

**Contents**

<b>1.</b>	<b>Purpose</b>	<b>4</b>
<b>1.1</b>	<b>Scope</b>	<b>4</b>
<b>1.2</b>	<b>Context</b>	<b>4</b>
<b>1.3</b>	<b>Applicant</b>	<b>5</b>
<b>1.4</b>	<b>Arrow activities</b>	<b>5</b>
<b>1.5</b>	<b>Applicant's Co-existence Commitments</b>	<b>5</b>
<b>1.6</b>	<b>Area wide planning</b>	<b>6</b>
<b>2.</b>	<b>Proposed Works</b>	<b>6</b>
<b>2.1</b>	<b>Description of Work Activities</b>	<b>6</b>
<b>2.2</b>	<b>Definition of Work Activities</b>	<b>7</b>
<b>2.3</b>	<b>The Land</b>	<b>8</b>
<b>2.4</b>	<b>Existing Authorities</b>	<b>9</b>
<b>2.5</b>	<b>Location of Tipton Gathering and Wells</b>	<b>10</b>
<b>3.</b>	<b>Areas of Regional Interest</b>	<b>10</b>
<b>3.1</b>	<b>Priority Agricultural Area</b>	<b>10</b>
<b>3.2</b>	<b>Strategic Cropping Area</b>	<b>12</b>
<b>4.</b>	<b>Extent and Duration of Disturbance</b>	<b>12</b>
<b>4.1</b>	<b>Expected Duration of Disturbance</b>	<b>13</b>
<b>5.</b>	<b>Management of Mitigation Measures</b>	<b>14</b>
<b>5.1</b>	<b>Assessment of Alternatives</b>	<b>14</b>
<b>5.2</b>	<b>Construction Activities</b>	<b>14</b>
<b>5.3</b>	<b>Reinstatement &amp; Rehabilitation</b>	<b>15</b>
<b>5.4</b>	<b>Gathering Markers</b>	<b>16</b>
<b>5.5</b>	<b>Commissioning</b>	<b>16</b>
<b>5.6</b>	<b>Operational Activities</b>	<b>16</b>
<b>5.7</b>	<b>Decommissioning</b>	<b>17</b>
<b>6.</b>	<b>Public Notification</b>	<b>17</b>
<b>7.</b>	<b>Assessment Application Fees</b>	<b>17</b>
<b>8.</b>	<b>Required Outcome Assessment</b>	<b>18</b>

<b>8.1</b>	<b>Priority Agricultural Area</b>	<b>18</b>
<b>9.</b>	<b>Abbreviations and Acronyms</b>	<b>22</b>
	<b>Appendix A – Resource Authority</b>	<b>23</b>
	<b>Appendix B – Title Search</b>	<b>24</b>
	<b>Appendix C – Survey Plan</b>	<b>25</b>
	<b>Appendix D - Locality Plan</b>	<b>26</b>
	<b>Appendix E – Site Plan</b>	<b>27</b>
	<b>Appendix F – Forage Crop Frequency Reports</b>	<b>28</b>
	<b>Appendix G – Standard Drawing: CSG Well</b>	<b>29</b>
	<b>Appendix H – Operational Area</b>	<b>30</b>
	<b>Appendix I – Queensland Land Use Mapping 1999, 2006, 2012</b>	<b>31</b>
	<b>Appendix J – Surrounding Land Uses</b>	<b>32</b>
	<b>Appendix K – Detailed Surface Information</b>	<b>33</b>
	<b>Schedule 1 – Surrounding Landholders</b>	<b>34</b>

## 1. Purpose

The Applicant proposes to undertake petroleum activities within an Area of Regional Interest including Priority Agricultural Area (PAA) and Strategic Cropping Area (SCA). This report provides the required supporting information for an application for a Regional Interest Development Approval (RIDA) under the *Regional Planning Interests Act 2014* (RPI Act).

### 1.1 Scope

The Applicant is undertaking a project described as “Tipton Gathering and Wells” within PL198. This application’s scope describes the petroleum activities which support the project and are proposed to occur on the ‘Glenelg’ property located on Lot 12 on SP134957 and Lot 2 on RP111930 owned by Arrow (Tipton) Pty Ltd (together “the Land”). The proposed works occur wholly within Petroleum Lease (PL) 198 and have an associated Environmental Authority (EA) EPPG00972513.

Additional parts of the Tipton Gathering and Wells project is occurring on PAA and SCA, located on private properties where the Applicant has Conduct and Compensation Agreements (CCAs) with relevant landholders. In such circumstances, the proposed works on private properties are considered an *exempt resource activity* pursuant to Section 22 of the RPI Act (see Appendix I – Surrounding Landholders (commercial in confidence) for further details).

### 1.2 Context

Section 29 of the RPI Act requires that a RIDA be accompanied by a report that:

- Assesses the resource activity or regulated activity’s impact on the area of regional interest; and
- Identifies any constraints on the configuration or operation of the activity.

The *RPI Act Guideline 01/14 - How to make an assessment application for a regional interests development approval under the Regional Planning Interests Act 2014* and supplemental guidelines describe the matters to be addressed by an assessment application report. Table 1-1 lists these requirements and a reference to the sections of this report where they are addressed.

**Table 1-1 - Assessment Report Information Requirements**

Information Requirement	Where Addressed
The location, nature, extent (in hectares) and duration of the surface impacts of the proposed activity.	Sections 2, 3, 4
A description of the impact of the proposed activities on the feature, quality, characteristic or other attribute of the area.	Sections 3, 4

Information Requirement	Where Addressed
Include a table identifying the location and surface area of each of the proposed activities.	Table 2-2
The report must also include an explanation of how the proposed activity will meet the required outcome/s and address the prescribed solution/s contained in the assessment criteria for the area of regional interest.	Section 8

### 1.3 Applicant

The Applicant for this assessment application is the resource authority holder for PL198, Arrow CSG (Australia) Pty Ltd ABN 54 054 260 650; Arrow (Tipton Two) Pty Ltd ABN 36 117 853 755 and Arrow (Tipton) Pty Ltd ABN 17 114 927 507 (see Appendix A).

The owner of the Land that is subject to this application is Arrow (Tipton) Pty Ltd ACN 114 927 507 (also described as Arrow (Tipton) Pty Ltd ABN 17 114 927 507 (“the Landowner”)) (see Appendix B).

### 1.4 Arrow activities

Arrow Energy produces CSG from fields in the Surat Basin in southern Queensland and the Bowen Basin in central Queensland. It has been safely and sustainably developing CSG since 2000 and supplying it commercially since 2004.

Arrow owns one of Queensland's largest power stations, Braemar 2 near Dalby, and has interests in a further two, providing enough generation capacity to power around 800,000 homes.

Arrow's first Surat Basin tenure was granted in March 2000 and drilled its first exploration well in the Surat Basin in June 2001.

### 1.5 Applicant's Co-existence Commitments

The Applicant (“Arrow”) considers coexistence to mean allowing Australia to enjoy the full benefits from both agricultural and resource industries. Arrow has made 12 commitments to coexistence on Intensively Farmed Land (“IFL”) in the Surat Basin:

1. No permanent alienation
2. Minimised operational footprint – less than 2% of total IFL area
3. Flexibility on CSG well locations, but all wells located by edge of farm paddocks
4. Pad drilling (up to 8 wells from a single pad) used where coal depth and geology allows

5. Spacing between wells maximised (average of between 800m – 1500m)
6. Pitless drilling only
7. No major infrastructure facilities on IFL (dams, compression stations, gas gathering stations, water treatment)
8. Treated CSG water used to substitute existing users' allocations on IFL
9. No brine/salt treatment or disposal on IFL
10. Flexibility on power supply option – above or below ground
11. Fair compensation – including elements of 'added value'
12. Continued proactive engagements with community and transparency on coexistence field activities

\*Commitment 8 refers to the area of greatest predicted drawdown on the Condamine Alluvium resulting from CSG extraction by Arrow Energy.

## 1.6 Area wide planning

Area Wide Planning (AWP) is a unique program developed by Arrow to incorporate landholders' knowledge into its field development plans. Landholders and Arrow staff work together to identify locations for infrastructure, such as well pads, gathering lines and access tracks, across farming districts and on flood plains. The process strengthens Arrow's ability to coexist with agricultural activities. Planning occurs one-on-one with landholders and, where appropriate, in local area meetings with neighbouring landholders. Specific landholder agreements are then formalised in Conduct and Compensation Agreements ("CCAs"). The program demonstrates a commitment to genuine engagement and a commitment to preserving the values that are important to landholders.

The Area Wide Planning process has been incorporated into CCA negotiations with surrounding Landholders in support of the Tipton Gathering and Wells project. It has also been used to incorporate consultation with those same Landholders regarding this Application.

The Area Wide Planning process has also been used to consider the location of infrastructure in the CCA between the Applicant and the Landholder for the Land the subject of this application.

## 2. Proposed Works

### 2.1 Description of Work Activities

Arrow, in support of the Tipton Gathering and Wells project, is developing further gas production on its PL198 including additional buried gathering (gas & water) lines and production wells (see Appendix C to E for further details).

The proposed petroleum activities to occur on the Land include the construction of approximately 8,262 metres of low pressure gathering (gas & water) lines and sixteen well pads, including:

- Site preparation utilising the existing access track and disturbed areas
- Digging trenches within the identified Right of Way (“ROW”) and stockpiling of existing materials
- Installation of gathering (gas & water) lines via high density polyethylene pipes (HDPEs) up to 450mm diameter
- Backfill of the trench using existing materials
- Undertaking reinstatement and rehabilitation of the ROW
- Installation of well pads, wells and well head facilities (comprising of Sixteen (16) well pads of which thirteen (13) are single-well pads and three (3) are multi-well pads)
- Undertaking inspections and monitoring on a periodic basis
- Operation of the wells and gathering pipelines

The above activities are the subject of this application.

The majority of the proposed petroleum activities for the Tipton Gathering and Wells are not subject to a RIDA. This includes proposed petroleum activities on surrounding properties which are therefore exempt from a RIDA under section 22 (2) (a) (ii) of the RPI Act applies in this instance. See Schedule 1 – Surrounding Landholders (commercial in confidence) for further details.

## 2.2 Definition of Work Activities

The table below outlines the definition of work activities:

**Table 2-1 – Definitions**

<b>Activity</b>	<b>Definition</b>
<b>Construction of Gathering</b> Installation and commissioning the gathering within the ROW. Reinstatement and rehabilitate the expected area of impact. Gathering network is being constructed on both lots of the Land.	Construction of gathering that allows for the transfer of both gas and water (pipelines approximately 8,262 meters in length) on the Land.  Digging pipeline trenches within the ROW before the HDPE pipes are installed and buried to a minimum depth of cover of 900mm in a stand-alone trench located within a 30m wide ROW.  Reinstatement and rehabilitate the ROW.  Complete commissioning of the gathering system.

<p><b>Construction of Wells</b> Installation of well pads and wells at locations indicated in Appendix D.</p>	<p>Construction of:</p> <ul style="list-style-type: none"> <li>- Two new single well pads (Tipton 284 &amp; Tipton 262)</li> <li>- Extension of 11 single well pads (approx. 0.2Ha disturbance per pad)</li> <li>- Extension of 3 multi-well pads (approx. 0.4 ha disturbance per pad).</li> </ul>
<p><b>Post-construction</b> Rehabilitation or ROW back to current state for grazing or cropping. Inspect, operate and maintain the installed gathering lines and wells. Inspect and maintain the rehabilitated ROW.</p>	<p>Carry out regular inspections of the condition of the ROW and wells and signage. Carry out maintenance as required. Monitor rehabilitation activities as required.</p>

## 2.3 The Land

The Land is described in Table 2-2:

Table 2-2 – The Land

Item	Description
<b>Land</b>	Lot 12 on SP134957 and Lot 2 on RP111930
<b>Address</b>	662 Hennings Road, Springvale QLD 4405
<b>Area of Land</b>	158.40 ha (Lot 12 on SP134957) 326.10 ha (Lot 2 on RP111930) Total = <b>484.5 ha</b>
<b>Property Name</b>	Glengelg
<b>Land Owner</b>	Arrow (Tipton) Pty Ltd ABN 17 114 927 507
<b>Land Purchased</b>	Lot 12 on SP14957 & Lot 2 on RP111930 18 May 2007
<b>Local Government</b>	Western Downs Regional Council (formerly Wambo Shire Council)
<b>Zoning</b>	Rural
<b>Regional Plan</b>	Darling Downs Regional Plan
<b>Area of Regional Interest</b>	Priority Agricultural Area (PAA) and Strategic Cropping Area (SCA)
<b>Land</b>	Portion of Lot 2 on RP111930 Portion of Lot 12 on SP134957



<b>Expected Area of Impact on the Land</b>	<b>Construction: 42.8 ha or 8.8% of the Land</b> (Construction period is less than 12 months)  <b>Operations: 4.8 ha or 1.0% of property area</b>
--	--

### 2.3.1 Current Land Use

The current land use of the Land includes infrastructure related to existing petroleum activities:

- Production wells
- Access tracks
- Water pipelines
- Gas pipelines
- Dams

A portion of the balance of the Land is used by the Landowner (or leased) for agricultural production, cropping and grazing from time to time. Due to the nature, duration and limited extent of the expected area of impact the proposed petroleum activities there will not be significant impact on the use of the Land for agricultural purposes. To this extent, the design and location of infrastructure was done to minimise the impacts on the agricultural use of the Land including PALA and SCL.

### 2.3.2 Surrounding Land Uses

The existing surrounding land uses comprise areas used for ongoing operation of existing petroleum activities as well as for productive rural purposes, such as cropping and grazing of beef cattle. The Land also shares the western boundary with Lot 69 on Plan DY1009 (Lake Broadwater Resources Reserve), a Regional Park. The area of the Regional Park adjacent to the Land does not include public facilities. Refer to Appendix J – Surrounding Land Uses.

## 2.4 Existing Authorities

The Land is subject to existing authorities described in Table 2.3 below:

Table 2-3: Existing authorities

<b>Tenure</b>	PL198
<b>Tenure granted</b>	09.12.2004
<b>Tenement Holder</b>	Arrow (Tipton) Pty Ltd – 42% Arrow (Tipton Two) Pty Ltd – 28% Arrow CSG (Australia) Pty Ltd – 30%

<b>Environmental Authority</b>	Permit No: EPPG00972513 (effective 10 May 2018)
--------------------------------	---

## 2.5 Location of Tipton Gathering and Wells

Please see the following Appendices in relation to the Locality Map and Site Plan:

Appendix D – Locality Plan – Tipton Gathering – showing the Land the subject of the assessment application.

Appendix E - Site Plan – Tipton Gathering and Wells – showing the location of the additional gathering (gas & water) lines (approximately 8262 metres) with the existing pipelines on the Applicant's land with an expected area of construction impact of **25.46ha** (30m wide ROW), and well pads (**17.35ha**).

## 3. Areas of Regional Interest

### 3.1 Priority Agricultural Area

PAA's are strategic areas, identified on a regional scale, that contain significant clusters of the regions' high value intensive agricultural land uses. The PAA surrounding the Land does include areas of high value intensive agricultural land uses, in particular areas of dryland and irrigated cropping.

Within the PAA, Priority Agricultural Land Use (PALU) is given priority by ensuring that the location of resource activities can coexist with these uses.

#### 3.1.1 Assessment of Priority Agricultural Land Use

The RPI Act Guideline 07/14: *How to identify a priority agricultural land use* (PALU) was consulted to determine if the Land within the Darling Downs Regional Plan is, or has been, utilised as PALU. This is summarised in Section 3.1.4.

#### 3.1.2 Australian Land Use Management

A search at the secondary level of the Australian Land Use Management (ALUM) classification for the Land generally identifies the area within the cropping and irrigated cropping classes.

The Land is located within the Darling Downs Regional Plan and the Western Downs Planning Scheme (Lot 12 on SP134957 & Lot 2 on RP111930). The PALUs specific to the PAA's mapped in the Darling Downs regional plan are largely land uses and practices associated with Class 2 (Production from Relatively Natural Environments) (Lot 12 on SP134957), and Class 4 (Production from Irrigated Agriculture and Plantations) (Lot 2 on RP111930 and Lot 12 on SP134957) in accordance with the Australian Land Use Management (ALUM) classification Version 8 (October 2016).

### 3.1.3 Frequency of Agricultural Activity

Schedule 2 of the RPI Regulation states that:

For land or property in relation to PALU, means the land or property has been used for a PALU for at least 3 years during the 10 years immediately before an assessment application is made in relation to the land.

To determine the frequency of agricultural activity, Forage Crop Frequency Reports (Reports) (see Appendix F) were obtained for the Land. The results of the Reports conclude the following:

Lot 2 on RP111930: Approximately 3-6 crops were recorded between 2008 and 2016

Lot 12 on SP134957: Approximately 0-3 crops were recorded between 2008 and 2016

However, the Land (i.e. 484.5 ha) that is the subject of this assessment application is restricted to specific locations that typically have no history of being cropped whilst within the ownership of the Applicant (i.e. since 2007).

Lot 2 on RP111930, whilst also containing existing gas wells, has been used for dryland cropping at various times over the previous decade, and contains a 480m centre-pivot irrigator in the north-western corner which has been avoided by the existing petroleum activities, and will continue to be avoided by the proposed gathering and well infrastructure so as avoid impact on this infrastructure. The Applicant has developed the location of the proposed infrastructure in accordance with the co-existence commitments. This in turn minimises any impact on PALU.

Queensland Land Use Mapping (“Qlump”) assessments have been undertaken as follows:

- 1999 – see Appendix I - Queensland Land Use Mapping – showing predominant land uses of Production from Relatively Natural Environments for Lot 12 on SP134957 and Production from Irrigated Agriculture and Plantations for Lot 2 on RP111930;
- 2006 – see Appendix I - Queensland Land Use Mapping – showing predominant land uses of Production from Relatively Natural Environments for Lot 12 on SP134957 and Production from Irrigated Agriculture and Plantations for Lot 2 on RP111930; and
- 2012 – see Appendix I - Queensland Land Use Mapping – showing predominant land uses of Production from Relatively Natural Environments for Lot 12 on SP134957 and Production from Irrigated Agriculture and Plantations and Production from Dry land Agriculture and Plantations for Lot 2 on RP111930.

The historical Qlump maps confirm Lot 12 on SP134957 has little evidence of previous cropping activity, with existing wells in-situ on the Lot as described in Section 2.3.1. In relation to Lot 2 on RP111930 the Qlump mapping for 2012 reflects the existence of the centre pivot irrigation system in the north-west corner of the lot and is more consistent with the current (2018) land use or land use potential of that lot. As stated above, the location of the petroleum activities have been designed to minimise impacts and preserve the existing land use.

### 3.1.4 Conclusions on PALU

The proposed petroleum activities will only temporarily impact on PALU, as defined under the RPI Act, in relation to a portion of Lot 2 on RP111930. This is because the majority of the proposed works within the area of the PALU are for gathering network that, once installed the surface of the land will be rehabilitated and returned to its original use, and therefore will not prevent future agricultural use of the land. Additionally, the proposed wells on have been located so as to minimise any significant impact on PALU. Lot 12 on SP134957 has not been used for a PALU and therefore will not be impacted by the proposed works.

## 3.2 Strategic Cropping Area

The SCA consists of the areas shown on the strategic cropping land (SCL) trigger map as SCL.

Though part of the Land is within the mapped SCA, in accordance with the transitional provisions of the RPI Act, specifically Section 99, the proposed works meet the definition of an *exempt resource activity*, as tenure was granted prior to 30 January 2012 (PL198 – 09/12/2004).

## 4. Extent and Duration of Disturbance

Generally, land within the Tipton area is used for productive rural purposes, including cropping and grazing of beef cattle as well as for existing petroleum activities. However, the Land that is the subject of this application is in specific areas that have no recent history of being grazed or cropped other than those outlined in section 3.1.3 above.

Therefore, the proposed activities will result in no direct disturbance of cropping and grazing lands during construction, and as outlined in 3.1 above will not result in permanent impacts to the current uses of the Land.

During the gathering network and well operational phase, Arrow Energy will:

- Ensure that routine and scheduled maintenance activities are conducted so that they cause minimum disruption to potential agricultural operations by managing vehicle movements,
- Minimise the probability of transport of weeds from property to property as a consequence of the proposed construction and operational activities,

- Mitigate the likely increases in the volume and intensity of noise, and
- Minimise the likelihood of any dislocation of existing farming practices and stock injury and loss in adjacent properties.

The extent and duration of the proposed petroleum activities is as follows:

### **Expected Area of Impact**

Priority Agricultural Area – Construction **42.8 ha**, Operations **4.8 ha**

Strategic Cropping Area – Construction **32.4 ha**, Operations **4.0ha**

Appendix K – Detailed Surface Information for details regarding each proposed well pad, the current level of disturbance, the expected area of disturbance for any increased well pad and the mitigation measures used in the design and construction of the well pad and associated gathering network. Justification for the well pad location (such as to avoid impacts of locating a well pad on neighbouring land PALU) has also been included in Appendix K.

## **4.1 Expected Duration of Disturbance**

The proposed petroleum activities will be constructed for the entire project on the Land (gathering and proposed wells) within a period of approximately 6-11 months. Construction of the gathering (gas and water) lines that tie-in to the existing pipeline may occur at intervals during the overall construction period, as will surface facilities on the Well pads. These durations mean that the expected impacts from the gathering network will be short term and limited to specific areas, noting those areas have been strategically located to minimise the impacts as outlined above. Disturbance attributable to well installation on PAA land has been calculated to be 16.885 ha or 4.85%.

The proposed work activities will be in operation for approximately 30 years, prior to being decommissioned and rehabilitated in accordance with the Environmental Authority and relevant legislation.

Refer to Section 5 for further details on the management of mitigation measures.

At the completion of the construction phase of the project, the land impacted by gathering installation will be rehabilitated in accordance with 5.3 below and returned to its former state and reduce to the operational footprint, see Appendix H – Operational Area.

## 5. Management of Mitigation Measures

### 5.1 Assessment of Alternatives

As the new gathering is proposed to tie-in to the existing gathering network, there are no alternative locations for the gathering. Where possible new gathering been routed adjacent to the existing pipelines, along fence lines or in existing disturbed areas to minimise impacts on PALU and SCL.

To the greatest extent possible and in accordance with the co-existence commitments, the construction and operation footprint of the proposed petroleum activities has been minimised. Fourteen of the sixteen new wellpads are co-located and overlap with existing wellpads minimising the area of land required for these activities and consequentially minimising the impact on PALU and SCL. As stated above, the location of the infrastructure has been designed to minimise impacts on the future use of the land including PALU and SCL.

The location of wells on the Land has been designed with a view to maintaining the productive agricultural capacity of the Land in the future, when it is undertaken at a later date. Wherever possible well locations have been located along fence lines, away from key farm infrastructure (such as the pivot irrigation system) and in locations that allow farming activities to continue unabated.

### 5.2 Construction Activities

#### 5.2.1 Gathering

Arrow will construct and operate the proposed petroleum activities within the expected area of impact during construction (25.5 ha). The new gathering will be constructed in accordance with the requirements APGA Code of Practice, Upstream Polyethylene Gathering Networks – CSG Industry, Version 4 and Arrow's Standard ORG:ARW:PIP-DET-0001 and ORG:ARW:PPL:DET:00055 (see Appendix G & H).

The construction of the new gathering is similar to that of other buried linear infrastructure. The length of time that construction activities pass any one point is limited due to construction techniques and scheduling designed to minimise the time trenches are open prior to rehabilitation of the land surface. This minimises the risk of alienating part of the property while trenches are open. Pre-existing land use will continue to be uninterrupted following the completion of construction, reinstatement and rehabilitation.

The 30m wide ROW will provide access along the proposed gathering for activities associated with the construction and delivering of the pipe and supplies, and for personnel to safely and efficiently carry out and complete construction.

The gathering trench on the Land that is the subject of this assessment application will be open for the minimum time practicable and will be backfilled and restored within approximately six weeks of the trench excavation (also see section 4.1).

Construction will temporarily cease during wet weather to minimise impacts to the land and soil runoff.

### 5.2.2 Wells

Drilling and completion of vertical and/or deviated wells will be performed at sixteen (16) well pads on the Land.

The vertical well pads will be sized depending on whether they contain a single well or a multi well layout. On the Land, thirteen single well pads, and three multi well pads will be constructed.

Two construction methods will be used, which is either minimal ground disturbance (slashing and light grading only) or formed (heavy grading to form a level pad with light and/or heavy compaction of soil as required).

Existing access tracks to well sites will be used with only 500 m of new access track required on the Land. Access Tracks will be approximately 5 to 6 m wide. Utilising existing access tracks minimises any additional impact on the Land.

The flat to gently undulating terrain in the area suggests that most of the existing tracks will require minimal disturbance to upgrade during construction to enable the necessary equipment to access the land.

Wellhead facility and infrastructure to be constructed on the well pads will consist of wellhead skid(s) and gas engine generator set(s) (genset) as appropriate.

## 5.3 Reinstatement & Rehabilitation

Reinstatement and rehabilitation measures will be applied to all areas disturbed during construction as soon as practical following the completion of the construction of proposed petroleum activities.

All reinstatement and rehabilitation will be carried out in accordance with the Environmental Authority requirements. Generally, this will include:

- Stockpiling of grasses, woody vegetation after clearing and prior to construction
- Segregation of topsoil to ensure topsoil integrity when soil clearing is required as part of construction
- Backfilling of pipeline trenches once pipelines are installed and constructed
- Reinstatement of the land contours/land surface and drainage
- Reinstatement of topsoils
- Implementation of stabilisation measures (which may include re-seeding for local grass species if applicable).

The land will be returned to its previous general state and use once construction is completed and rehabilitation is undertaken, and the land will be visually consistent with the surrounding land features. Periodic monitoring will be undertaken to ensure integrity of the rehabilitation.

Detailed erosion and sediment control measures will also be implemented and maintained consistent with the Environmental Authority during construction, and as required following construction.

Other reinstatement activities will include:

- Removal of any foreign construction material and waste
- Restoration of fencing as required
- Reinstatement of existing access track

#### **5.4 Gathering Markers**

Above ground markers will be designed and installed in accordance with APGA Code of Practice, Upstream Polyethylene Gathering Networks – CSG Industry, Version 4. They will indicate the location of the gathering, and will be installed during ROW reinstatement.

The markers will be erected at intervals along the pipeline where they are visible and will be positioned at points which do not interfere, either directly or indirectly, with the Areas of Regional Interest (including PALU) in that they will not be installed on cultivation land or in a way that inhibits ongoing use of the land.

#### **5.5 Commissioning**

Commissioning of the new gathering will commence at the completion of construction. Commissioning will occur following the flow of gas and water to the pressures determined by the gathering specifications to allow operation.

#### **5.6 Operational Activities**

The gathering will be operated in accordance with APGA Code of Practice, Upstream Polyethylene Gathering Networks – CSG Industry, Version 4 and the APIA Code.

Operational maintenance activities will ensure that the integrity of the gathering infrastructure is maintained over the life of the project. Skilled staff will be deployed to undertake scheduled or unscheduled maintenance activities.

Other ongoing activities will be required to support its operation, including:

- Monitoring and maintenance associated with the existing access track and ROW
- Slashing and weed management



Access to the site for operations and maintenance will be undertaken according to the Land Access Code (September 2016) and the requirements of the relevant legislation.

Generally, works will temporarily cease during wet weather to minimise impacts to the land and soil erosion.

In accordance with the co-existence commitments, operational activities will be undertaken in consultation with the Landholder in a manner (timing) to minimise impacts on the Land including PALU and SCL.

## 5.7 Decommissioning

Any decommissioning of inactive buried gathering will be undertaken in accordance with the requirements of the APGA Code of Practice, Upstream Polyethylene Gathering Networks – CSG Industry, Version 4.

## 6. Public Notification

The Land is not mapped as Priority Living Area (PLA). Accordingly this assessment application does not meet the definition of a notifiable application pursuant to Section 34(2) of the RPI Act,. However, it is noted pursuant to s.34(4) of the RPI act the Chief Executive may require public notification to be made. In anticipation of this Arrow is undertaking notification in accordance with s.35 of the RPI Act.

Arrow has also undertaken consultation with the relevant landholders as part of an Area-Wide planning process and negotiations related to those agreements executed and referenced in Section 2.1

## 7. Assessment Application Fees

This assessment application is accompanied by the fee prescribed under the RPI Regulation 2014.

Schedule 4 of the RPI Regulation provides a definition of the expected area of impact for an assessment application, which means the area in which:

- The activity is proposed to be carried out; and
- Carrying out the activity is likely to have an impact

Given the proposed petroleum activities and the expected area of impact (**4.0 ha**), the following assessment application fees have been calculated.

Area of Regional Interest	Nature of assessment application	Fee
Priority Agricultural Area	Complies with the prescribed solution for required outcome 1	\$3131.00
Strategic Cropping Area	Expected area of impact of less than 30 hectares	\$6261.00

## 8. Required Outcome Assessment

### 8.1 Priority Agricultural Area

The PAA Assessment Criteria provides a required outcome for activities in PAAs that deals with impacts on a property level.. As the proposed petroleum activities are limited to the Land, impacts on a regional level (Required Outcome 2) are not applicable for the purposes of this assessment application.

Schedule 2, Part 2 of the RPI Regulation sets out the Required Outcome and prescribed solutions for activities carried out in a PAA. Please refer to Table 8-1 for evidence associated with the prescribed solution of Required Outcome 1.

**Table 8-1 - PAA Assessment Criteria – Required Outcome 1**

Required Outcome 1 - Managing impacts on use of property for priority agricultural land use in a priority agricultural area	
The activity will be carried out on a property in a priority agricultural area and will not result in a material impact on the use of the property for a priority agricultural land use.	
Prescribed Solution	Evidence/Response
The application demonstrates the activity will not be located on land that is used for a priority agricultural land use	

<p>a) If the applicant is not the owner of the land and has not entered into a voluntary agreement with the owner:</p> <ul style="list-style-type: none"> <li>i. The applicant has taken all reasonable steps to consult and negotiate with the owner about the expected impact of carrying out the activity on each priority agricultural land use for which the land is used; and</li> <li>ii. Carrying out the activity on the property will not result in a loss of more than 2% of both:             <ul style="list-style-type: none"> <li>A. The land on the property used for a priority agricultural land use; and</li> <li>B. The productive capacity of any priority agricultural land use on the property</li> </ul> </li> </ul>	<p>Not applicable - the applicant is the owner of the land and has entered into a voluntary Conduct and Compensation Agreement in relation to the proposed petroleum activities between Arrow (Tipton) Pty Ltd A.C.N 114 927 507); Arrow (Tipton Two) Pty Ltd ABN 36 117 853 755; Arrow CSG (Australia) Pty Ltd 54 054 260 650 and Arrow (Tipton) Pty Ltd A.C.N 114 927 507 101998 CNT dated 18 October 2013 and 102142CNT dated 21 December 2016</p>
<p>b) the activity cannot be carried out on other land that is not used for a priority agricultural land use, including for example, land elsewhere on the property, on an adjacent property or at another nearby location;</p> <p>c) the construction and operation footprint of the activity on the part of the property used for a priority agricultural land use is minimised to the greatest extent possible.</p>	<p>As evidenced by Section 3.1 not all of the land is currently being used as PALU. To meet engineering requirements the gathering (gas and water) lines require connection to the existing pipelines at the proposed locations. The majority of wells have been collocated on existing wellpads.</p> <p>Five vertical well locations that would have been located on cropped areas (on this property or neighbouring properties) have been relocated to multiwell pads using deviated wells to access these locations.</p> <p>Consequently, the expected area of impact is minimised to the greatest extent possible.</p>

<p>d) the activity will not constrain, restrict or prevent the ongoing conduct on the property of a priority agricultural land use, including, for example, everyday farm practices and an activity or infrastructure essential to the operation of a priority agricultural land use on the property</p>	<p>As evidenced by Section 3.1 not all of the land is currently being used as PALU. In any case, outside the construction period, the proposed petroleum activity will not constrain, restrict or prevent the ongoing use of the Land within the expected area of impact.</p> <p>The nearest mapped PALU is adjacent to the Land (ie. Up to the property boundary) however, as outlined in this application the activities have been designed not to impact surrounding PALU.</p> <p>Refer to Appendix J – Surrounding Land Uses.</p>
<p>e) the activity is not likely to have a significant impact on the priority agricultural area</p>	<p>As evidenced by Section 3.1 not all of the land is currently being used as PALU. Although it is identified within the PAA, the proposed petroleum activities will not have a significant impact on PAA as the expected area of impact is minimised to the greatest extent possible and the existing use of the Land is not agricultural activities or cropping.</p>

<p>f) the activity is not likely to have an impact on land owned by a person other than the applicant or the land owner mentioned in paragraph (a).</p>	<p>The proposed petroleum activities, due to the nature and extent of the expected area of impact, will not have an impact upon the adjoining landowners.</p> <p>One adjoining landowner has existing petroleum activities on their land which are subject to an existing voluntary Conduct and Compensation Agreement as detailed in Schedule 1.</p> <p>The location of infrastructure, construction methods and rehabilitation have taken into consideration any potential impacts on water overland flow. No impact on overland flow is expected from the proposed development.</p>
---	--

## 9. Abbreviations and Acronyms

Definitions of terms used in this report:

Term	Definition
Applicant	Arrow (Tipton) Pty Ltd A.C.N. 114 927 507
EHP	Department of Environment and Heritage Protection
EP Act	<i>Environmental Protection Act 1994</i>
ha	Hectare
HDPE	High Density Polyethylene
IFL	Intensively farmed land is a subset of the Queensland Government's Strategic Cropping Land. It is premium cropping land that is being actively used for broad acre cropping with either dry land or irrigated farming practices, and having been altered to suit those cropping purposes (e.g. laser leveled, irrigation channels and existing dams).
Land	Lot 2 on RP111930 and Lot 12 on SP134957
PAA	Priority Agricultural Area
PALU	Priority Agricultural Land Use
PALU 3.3.0	Primary Production from Dryland Agriculture and Plantations
PALU 4.3.0	Primary Production from Irrigated Agriculture and Plantations
PL	Petroleum Lease
Property	Lot 2 on RP111930 and Lot 12 on SP134957
Proposed petroleum activities	Please see Section 2.
Reports	Forage Crop Frequency Reports
RIDA	Regional Interests Development Approval
ROW	Right of Way
RPI Act	<i>Regional Planning Interests Act 2014</i>
RPI Regulation	Regional Planning Interests Regulation 2014
SCA	Strategic Cropping Area
SCL	Strategic Cropping Land
Land	Lot 2 on RP111930, Lot 12 on SP134957, and 1SP194537

**Appendix A – Resource Authority**

**Appendix B – Title Search**



## Appendix C – Survey Plan

## Appendix D - Locality Plan

**Appendix E – Site Plan**

## Appendix F – Forage Crop Frequency Reports

**Appendix G – Standard Drawing: CSG Well**

## Appendix H – Operational Area

**Appendix I – Queensland Land Use Mapping 1999, 2006, 2012**

**Appendix J – Surrounding Land Uses**



**Appendix K – Detailed Surface Information**

**Schedule 1 – Surrounding Landholders**

**Commercial in Confidence – not for publication**

The following CCAs were negotiated with surrounding Landholders:

Landholder	Land	CCA Infrastructure	Negotiations
		<ul style="list-style-type: none"> <li data-bbox="741 794 757 805">•</li> <li data-bbox="741 1161 757 1173">•</li> </ul>	

		<ul style="list-style-type: none"><li>•</li><li>•</li></ul>	
--	--	---	--



		<ul style="list-style-type: none"><li>•</li><li>•</li></ul>	
--	--	---	--

		<ul style="list-style-type: none"><li>•</li></ul>	
--	--	---	--

