Schedule 15 – Groundwater

Part A (TOC)

[***Drafting Note: Either Part A (TOC) or Part B (Fixed Price) of Schedule 15 should be selected. The Part that is not used should not be included in the contract. Whether fixed price or an ITC in respect of groundwater risk is appropriate should be considered on a project specific basis, noting that the default position should be fixed price. The schedule should be reviewed on a project specific basis to ensure it reflects the commercial intent.***]

Part A applies if specified in the Contract Particulars

# 1. Definitions

1. **Baseline Onsite Reuse Volume (Groundwater)** means the volume in litres identified as the Baseline Onsite Reuse Volume (Groundwater) in section 3 (as adjusted in accordance with this deed).
2. **Baseline Reinjection Volume** means the volume in litres identified as the Baseline Reinjection Volume in section 3 (as adjusted in accordance with this deed).

**Baseline Trade Waste Disposal Volume** means the volume in litres identified as the Baseline Trade Waste Disposal Volume in section 3 (as adjusted in accordance with this deed).

1. **Baseline Surface Water Disposal Volume** means the volume in litres identified as the Baseline Surface Water Disposal Volume in section 3 (as adjusted in accordance with this deed).
2. **Baseline Third Party Consignment Volume** means the volume in litres identified as the Baseline Third Party Consignment Volume in section 3 (as adjusted in accordance with this deed).
3. **Baseline Total Volume Cap (Groundwater)** means the volume in litres identified as the Baseline Total Volume Cap in section 3 (as adjusted in accordance with this deed).
4. **Baseline Volumes (Groundwater)** means the Baseline Total Volume Cap (Groundwater), Baseline Onsite Reuse Volume (Groundwater), Baseline Reinjection Volume, Baseline Trade Waste Disposal Volume, Baseline Surface Water Disposal Volume and the Baseline Third Party Consignment Volume.
5. **Cumulative Estimated Budget (Groundwater)** means the aggregate of the Estimated Budgets (Groundwater).
6. **Cumulative Revised Budget (Groundwater)** means the aggregate of the Revised Budgets (Groundwater).
7. **Estimated Budget (Groundwater)** means the mathematical products of each of the:

### Baseline Onsite Reuse Volume (Groundwater) and the Relevant Onsite Reuse Rate (Groundwater);

### Baseline Reinjection Volume and the Relevant Reinjection Rate;

### Baseline Trade Waste Disposal Volume and the Relevant Trade Waste Disposal Rate;

### Baseline Surface Water Disposal Volume and the Relevant Surface Water Disposal Rate; and

### Baseline Third Party Consignment Volume and the Relevant Third Party Consignment Rate.

1. **Excess Cost Sharing Adjustment** means the amount calculated in accordance with section 6.4.
2. **Groundwater Amount** has the meaning given in section 6.2(a).
3. **Groundwater Management Approach** means each of the approaches listed to manage groundwater (including any Contaminated groundwater) in the table in section 2.
4. **Groundwater Management Plan** means the Project Plan referred to as the Groundwater Management Plan in section 10.
5. **Groundwater Management Volume Register** means the register described in section 8(a).

**Management Rates** means the rates in $/litre shown as the Management Rates identified in section 4 which apply to each Groundwater Management Approach up to and including the Volume Discount Threshold, and each rate is the **Management Rate** for the corresponding Groundwater Management Approach in the table.

1. **Onsite Reuse** means the Groundwater Management approach listed as Onsite Reuse to manage groundwater (including any Contaminated groundwater) in the table in section 2.
2. **Onsite Reuse Rates (Groundwater)** means the rates in $/litre shown as the Onsite Reuse Rate (Groundwater) identified in section 4, and each of the Management Rates and Volume Discount Management Rates for Onsite Reuse are an **Onsite Reuse Rate (Groundwater)**.
3. **Reinjection** means the Groundwater Management approach listed as Reinjection to manage groundwater (including any Contaminated groundwater) in the table in section 2.
4. **Reinjection Rates** means the rates in $/litre shown as the Reinjection Rates identified in section 4 , and each of the Management Rates and Volume Discount Management Rates for Reinjection are a **Reinjection Rate (Groundwater)**.
5. **Trade Waste Disposal** means the Groundwater Management approach listed as Trade Waste Disposal to manage groundwater (including any Contaminated groundwater) in the table in section 2.
6. **Trade Waste Disposal Rates** meansthe rates in $/litre shown as the Trade Waste Disposal Rates identified in section 4, and each of the Management Rates and Volume Discount Management Rates for Trade Waste Disposal are a **Trade Waste Disposal Rate**.
7. **Surface Water Disposal** means the Groundwater Management approach listed as Surface Water Disposal to manage groundwater (including any Contaminated groundwater) in the table in section 2.
8. **Surface Water Disposal Rates** meansthe rates in $/litre shown as the Surface Water Disposal Rates identified in section 4, and each of the Management Rates and Volume Discount Management Rates for Surface Water Disposal are a **Surface Water Disposal Rate**.
9. **Third Party Consignment** means the Groundwater Management approach listed as Third Party Consignment to manage groundwater (including any Contaminated groundwater) in the table in section 2.
10. **Third Party Consignment Rates** meansthe rates in $/litre shown as the Third Party Consignment Rate identified in section 4, and each of the Management Rates and Volume Discount Management Rates for Third Party Consignment are a **Third Party Consignment Rate**. If there is more than one rate for Third Party Consignment, the Third Party Consignment Rate is the average of all applicable rates.
11. **Rates-Based Amount** means the amount calculated in accordance with section 6.3.
12. **Relevant Onsite Reuse Rate (Groundwater)** means:

### where the volume of groundwater to be managed using the Onsite Reuse Groundwater Management Approach does not exceed the Volume Discount Threshold for Onsite Reuse, the rate in $/litre shown as the Management Rate for Onsite Reuse (Groundwater) in section 4; or

### where the volume of groundwater to be managed using the Onsite Reuse Groundwater Management Approach exceeds the Volume Discount Threshold for Onsite Reuse, the rate in $/litre shown as the Volume Discount Management Rate for Onsite Reuse (Groundwater) in section 4.

1. **Relevant Rate** means each of the Relevant Onsite Reuse Rate (Groundwater), Relevant Reinjection Rate, Relevant Trade Waste Disposal Rate, Relevant Surface Water Disposal Rate and Relevant Third Party Consignment Rate.
2. **Relevant Reinjection Rate** means:

### where the volume of groundwater to be managed using the Reinjection Groundwater Management Approach does not exceed the Volume Discount Threshold for Reinjection, the rate in $/litre shown as the Management Rate for Reinjection in section 4; or

### where the volume of groundwater to be managed using the Reinjection Groundwater Management Approach exceeds the Volume Discount Threshold for Reinjection, the rate in $/litre shown as the Volume Discount Management Rate for Reinjection in section 4.

1. **Relevant Trade Waste Disposal Rate** means:

### where the volume of groundwater to be managed using the Trade Waste Disposal Groundwater Management Approach does not exceed the Volume Discount Threshold for Trade Waste Disposal, the rate in $/litre shown as the Management Rate for Trade Waste Disposal in section 4; or

### where the volume of groundwater to be managed using the Trade Waste Disposal Groundwater Management Approach exceeds the Volume Discount Threshold for Trade Waste Disposal, the rate in $/litre shown as the Volume Discount Management Rate for Trade Waste Disposal in section 4.

1. **Relevant Surface Water Disposal Rate** means:

### where the volume of groundwater to be managed using the Baseline Surface Water Disposal Groundwater Management Approach does not exceed the Volume Discount Threshold for Surface Water Disposal, the rate in $/litre shown as the Management Rate for Surface Water Disposal in section 4; or

### where the volume of groundwater to be managed using the Baseline Surface Water Disposal Groundwater Management Approach exceeds the Volume Discount Threshold for Surface Water Disposal, the rate in $/litre shown as the Volume Discount Management Rate for Surface Water Disposal in section 4.

1. **Relevant Third Party Consignment Rate** means:

### where the volume of groundwater to be managed using the Third Party Consignment Groundwater Management Approach does not exceed the Volume Discount Threshold for Third Party Consignment, the rate in $/litre shown as the Management Rate for Third Party Consignment in section 4; or

### where the volume of groundwater to be managed using the Third Party Consignment Groundwater Management Approach exceeds the Volume Discount Threshold for Third Party Consignment, the rate in $/litre shown as the Volume Discount Management Rate for Third Party Consignment in section 4.

1. **Risk Sharing Percentage** means the percentage identified as the Risk Sharing Percentage in section 5.
2. **Revised Budget (Groundwater)** means the mathematical products of each of the:

### Baseline Onsite Reuse Volume (Groundwater) as updated in the Revised Contamination Baseline Information and the Relevant Onsite Reuse Rate (Groundwater);

### Baseline Reinjection Volume as updated in the Revised Contamination Baseline Information and the Relevant Reinjection Rate;

### Baseline Trade Waste Disposal Volume as updated in the Revised Contamination Baseline Information and the Relevant Trade Waste Disposal Rate;

### Baseline Surface Water Disposal Volume as updated in the Revised Contamination Baseline Information and the Relevant Surface Water Disposal Rate; and

### Baseline Third Party Consignment Volume as updated in the Revised Contamination Baseline Information and the Relevant Third Party Consignment Rate.

**Volume Discount Management Rates** means the rates in $/litre shown as the Volume Discount Management Rates identified in section 4 which apply to the total volume of groundwater treated using each Groundwater Management Approach if the total volume treated exceeds the Volume Discount Threshold, and each rate is the **Volume Discount Management Rate** for the corresponding Groundwater Management Approach in the table.

**Volume Discount Threshold** means the volume in litres shown as the Volume Discount Threshold identified in section 3A.

# 2. Groundwater Management Approach

### The following Groundwater Management Approaches apply to the management of groundwater in accordance with clause [12.8] of this deed.

| 1. **Category number**
 | 1. **Groundwater Management Approach**
 |
| --- | --- |
|  | 1. Third Party Consignment
 |
|  | 1. Trade Waste Disposal
 |
|  | 1. Surface Water Disposal
 |
|  | 1. Reinjection
 |
|  | 1. Onsite Reuse (Groundwater)
 |

# 3. Baseline volumes [*Note to Tenderers: to be bid in returnable schedule*]

1. The Baseline Volumes (Groundwater) in respect of the [Site / Key Contamination Risk Areas] are specified in Table [1] below.
2. **Table [1] Baseline Volumes (Groundwater)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. **Baseline Total Volume Cap (Groundwater) (litres)**
 | 1. **Baseline Third Party Consignment Volume (litres)**
 | 1. **Baseline Trade Waste Disposal Volume (litres)**
 | 1. **Baseline Surface Water Disposal Volume (litres)**
 | 1. **Baseline Reinjection Volume (litres)**
 | 1. **Baseline Onsite Reuse Volume (Groundwater) (litres)**
 |
| 1. [x]
 | 1. [x]
 | 1. [x]
 | 1. [x]
 | 1. [x]
 | 1. [x]
 |

# 3A. Baseline volume discounts [*Note to Tenderers: to be bid in returnable schedule*]

A Volume Discount Management Rate will apply to the total volume of groundwater (including any Contaminated groundwater) managed using each Groundwater Management Approach [on Site / in the Key Contamination Risk Areas] where that total volume exceeds the Volume Discount Threshold for that Groundwater Management Approach specified in the Table [1] below.

**Table [1]: Volume Discount Thresholds for Groundwater Management Approaches**

|  |  |  |
| --- | --- | --- |
| 1. **Category number**
 | 1. **Groundwater Management Approach**
 | 1. **Volume Discount Threshold (litres)**
 |
|  | Third Party Consignment | 1. [x]
 |
|  | 1. Trade Waste Disposal
 | 1. [x]
 |
|  | Surface Water Disposal | 1. [x]
 |
|  | 1. Reinjection
 | 1. [x]
 |
|  | 1. Onsite Reuse (Groundwater)
 | 1. [x]
 |

# 4. Rates [*Note to Tenderers: to be bid in returnable schedule*]

|  |  |  |  |
| --- | --- | --- | --- |
| 1. **Category number**
 | 1. **Groundwater Management Approach**
 | **Management Rates ($ per litre)**  | 1. **Volume Discount Management Rates ($ per litre)**
 |
|  | Third Party Consignment | 1. [x]
 | 1. [x]
 |
|  | 1. Trade Waste Disposal
 | 1. [x]
 | 1. [x]
 |
|  | Surface Water Disposal | 1. [x]
 | 1. [x]
 |
|  | 1. Reinjection
 | 1. [x]
 | 1. [x]
 |
|  | 1. Onsite Reuse (Groundwater)
 | 1. [x]
 | 1. [x]
 |

* + - 1. The Management Rates and Volume Discount Management Rates for each Groundwater Management Approach are inclusive of all costs associated with the management of groundwater (including any Contaminated groundwater) using the given Groundwater Management Approach.
			2. The following:
				1. Contamination Investigation and testing costs; and
				2. profit and overhead,

are not included in the Management Rates or Volume Discount Management Rates (as applicable) and have been allowed for in the lump sum components of the Contract Sum.

# 5. Risk Sharing Percentage

|  |  |
| --- | --- |
| **Section** | **Risk Sharing Percentage (%)** |
| 6.1(a) (Cost saving sharing at Re-baseline Date) | [#]% |
| 6.1(b) (Cost increase sharing at Re-baseline Date) | [#]% |
| 6.4 (Excess Cost Sharing Adjustment) | [#]% |
| 6.5 (Cost saving sharing at Practical Completion) | [[#]%]  |

# 6. Payment amounts

## 6.1 Re-baselining payment

 If the Cumulative Revised Budget (Groundwater) is different to the Cumulative Estimated Budget (Groundwater), at the [Re-baseline Date], the Contractor will be entitled to make a payment claim for an amount calculated in accordance with the formula in paragraph (a) or (b) below (as applicable).

## (a) Cost saving sharing at [Re-baseline Date]

At the [Re-baseline Date], the Contractor will be entitled to a share of cost savings *CSS1* (if applicable). If the Cumulative Revised Budget (Groundwater) is less than the Cumulative Estimated Budget (Groundwater), the Contract Sum will be adjusted by, and the Contractor may, following [the Re-baseline Date], make a payment claim for an amount calculated in accordance with the following formula:

* 1. *CSS1 = p × EA*

Where:

* 1. *p* is the Risk Sharing Percentage.
	2. *EA* is the amount that the Cumulative Estimated Budget (Groundwater) exceeds the Cumulative Revised Budget (Groundwater).

## (b) Cost Increase sharing at [Re-baseline Date]

At the [Re-baseline Date], the Contractor will be entitled to a share of the cost increase *CI* (if applicable). If the Cumulative Revised Budget (Groundwater) is more than the Cumulative Estimated Budget (Groundwater), the Contract Sum will be adjusted by, and the Contractor may, following [the Re-baseline Date], make a payment claim for an amount calculated in accordance with the following formula:

* 1. *CI*= p× EA

Where:

* 1. *p*  is the Risk Sharing Percentage.
	2. *EA* is the amount that the Cumulative Revised Budget (Groundwater) exceeds the Cumulative Estimated Budget (Groundwater).

## 6.2 Monthly payment amount

* + - 1. The Groundwater Amounts are the sum of the *Pn* payable under section 6.
			2. The payment amount *Pn* that may be claimed in a monthly progress claim for Groundwater Works (including Contaminated groundwater) for each relevant month *n* is calculated according to the following formula:
	1. *Pn = An - ECSAn*
	2. Where:
	3. *An*  is the Rates-Based Amount calculated in accordance with section 6.3.
	4. *ECSAn*  is the Excess Cost Sharing Adjustment calculated in accordance with section 6.4.

## 6.3 Rates-Based Amount

The Rates-Based Amount *An*for each relevant month *n* is calculated as the sum of the product of volumes managed using each Groundwater Management Approach and the Relevant Rate according to the following formula:

* 1. *An = (Vreuse,n × Rreuse ) + (Vreinject,n × Rreinject ) + (Vsurface,n × Rsurface ) + (Vsewer,n × Rsewer ) + (Vthird-party,n × Rthird-party )*

Where:

* 1. *Vreuse,n*  is the volume in litres of groundwater (including any Contaminated groundwater) that is managed through Onsite Reuse in month *n*.
	2. *Rreuse* is the Relevant Onsite Reuse Rate (Groundwater).
	3. *Vreinject,n*  is the volume in litres of groundwater (including any Contaminated groundwater) that is managed through Reinjection in month *n*.
	4. *Rreinect* is the Relevant Reinjection Rate.
	5. *Vsurface,n*  is the volume in litres of groundwater (including any Contaminated groundwater) that is managed through Surface Water Disposal in month *n*.
	6. *Rsurface* is the Relevant Surface Water Disposal Rate.
	7. *Vsewer,n*  is the volume in litres of groundwater (including any Contaminated groundwater) that is managed through Trade Waste Disposal in month *n*.
	8. *Rsewer* is the Relevant Trade Waste Disposal Rate.
	9. *Vthird-party,n*  is the volume in litres of groundwater (including any Contaminated groundwater) that is managed through Third Party Consignment in month *n*.
	10. *Rthird-party* is the Relevant Third Party Consignment Rate.

## 6.4 Excess Cost Sharing Adjustment

The Excess Cost Sharing Adjustment for each relevant month *n* is calculated as the Risk Sharing Percentage multiplied by the payable amount that overruns the Cumulative Revised Budget (Groundwater) (taken at its value at the time of the claim), according to the following formula:

* 1. *ECSAn = p× EA*

Where:

* 1. *p* is the Risk Sharing Percentage.
	2. *EA* is the amount of the Rates-Based Amount *An*, that in aggregate with Rates-Based Amounts for previous months, exceeds the Cumulative Revised Budget (Groundwater) (taken at its value at the end of month *n*).

## 6.5 Cost saving sharing at Practical Completion

At [Practical Completion], the Contractor will be entitled to a share of cost savings *CSS2* (if applicable). If the aggregate of all monthly Rates-Based Amounts is less than the Cumulative Revised Budget (Groundwater), the Contractor may, following [Practical Completion], make a payment claim for an amount calculated in accordance with the following formula:

* 1. *CSS2 = p × (CTB - ∑i Ai)*

Where:

* 1. *p* is the Risk Sharing Percentage.
	2. *CTB* is the Cumulative Revised Budget (Groundwater) (taken at its value at Practical Completion).
	3. *Ai* is the Rates-Based Amount for month *i* calculated in accordance with section 6.3.]

# 7. Progress claims

* + - 1. For each payment claim made under clause 28.2, the Contractor must give the Principal Representative (at the same time as the claim is made):
				1. accurately calculated Groundwater Amounts and the Cumulative Revised Budget (Groundwater);
				2. a Groundwater Management Volume Register, that must be a tabulated register that clearly and accurately tracks and reports management quantities and that must:

include monthly tracking and cumulative volumes managedto date for all management volume types;

set out a clear breakdown by Groundwater Management Approach of cumulative totals of claimed volumes of groundwater (including any Contaminated groundwater) that have been managed;

include the Baseline Total Volume Cap (Groundwater), Baseline Third Party Consignment Volume, Baseline Trade Waste Disposal Volume, Baseline Surface Water Disposal Volume, Baseline Reinjection Volume and the Baseline Onsite Reuse Volume (Groundwater); and

track volumes in litres;

* + - * 1. for volumes managed, a justification for the volume claimed; and
				2. for volumes managed using a Groundwater Management Approach involving a third party, copies of information provided to the person involved in the management of the groundwater (including any Contaminated groundwater), and any information provided to the Environment Protection Authority for waste tracking, classification categorisation or designation and identifying the appropriate Groundwater Management Approach.
			1. The Contractor is not entitled to make any progress claim for Groundwater Amounts under this Schedule in respect of the reuse on the Site or disposal or consignment off-Site of any:
				1. Soil;
				2. liquids other than groundwater;
				3. materials encountered in any buildings and above ground structures that require demolition;
				4. materials encountered in any basement or building foundation structures; or
				5. general waste, on or above the ground surface.

# 8. Audit

* + - 1. The Contractor acknowledges and agrees that the Principal (or any other person nominated by the Principal) may on one Business Days' notice at any time carry out an audit of and copy the Contractor's documents, accounts and other records to the extent reasonably necessary to verify:
				1. the Contractor’s:

system for tracking groundwater management volumes; or

onsite practices; and

* + - * 1. that any amounts claimed by the Contractor under this Schedule [#] (Groundwater) have been properly calculated,
	1. except to the extent that the documents, accounts or records:
		+ - 1. are subject to legal professional privilege; or
				2. must not be disclosed in accordance with any Law.
			1. Each party will bear its own costs incurred in complying with this section 8, unless it is revealed, by the Principal exercising its rights under this section 8 that:
				1. the Contractor has committed a breach of its obligations under this Deed; or
				2. there is a material discrepancy between the information that has been disclosed to the Principal by the Contractor under this Deed and the result of any audit conducted under this section 8,
	2. in which case any costs incurred by the Principal in connection with the exercise of its rights under this section 8 will be a debt due and payable by the Contractor to the Principal.
		+ 1. The Contractor must:
				1. provide the Principal, and any other person authorised by the Principal with such assistance as they may reasonably require in connection with their audit, including making all relevant documents available; and
				2. supply to the Principal, and any other person authorised by the Principal, photocopies or electronic copies of information requested.

# 9. General requirements

* + - 1. The Contractor must ensure, and must ensure that its Subcontractors ensure, that their respective employees, agents and contractors (as applicable) are suitably trained in correct and safe methods of loading, unloading and handling any Contamination or other wastes and that they comply with all applicable Laws and Approvals.
			2. The Contractor must:
				1. perform the Works in a manner that minimises the amounts payable under this Schedule including by:

without limiting clause 12.8(e), carrying out all reasonable investigations on the Site as early as possible; and

limiting the volume of any groundwater (including any Contaminated groundwater) to be managed using a more expensive Groundwater Management Approach than is necessary; and

* + - * 1. keep complete, accurate and up to date records of all groundwater (including any Contaminated groundwater) that is managed.

10. Groundwater Management Plan

* + - 1. The minimum requirements for the Groundwater Management Plan are:
				1. an explanation of the process that has been used to calculate the volumes specified in section 3;
				2. key inputs that were used to calculate the volumes specified in section 3;
				3. the workings associated with the calculation of the volumes specified in section 3;
				4. written evidence to support the feasibility of the on-Site reuse, off-Site disposal or consignment in the volumes specified in section 3;
				5. written evidence to support the Rates specified in section 4;
				6. the approach that is proposed for the Groundwater Works for the duration of the Project, including quantities of groundwater that are proposed to the managed through each Management Approach during each month of the Project;
				7. remediation, treatment storage and containment methodologies and technologies that are proposed in respect of the Groundwater Works;
				8. details of any Approvals that are required in connection with the Groundwater Works;
				9. risk controls, trigger points, monitoring program and contingency measures that are proposed in respect of the Groundwater Works;
				10. the program for reporting to the Principal in respect of the Groundwater Works for the duration of the Project; and
				11. such other information reasonably requested by the Principal.
			2. The Contractor must comply with the Groundwater Management Plan.