COUNTRY-WIDE WATER pty ltd
Environmental Wastewater Management

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SITE & SOIL WASTEWATER EVALUATION REPORT

FOR
Salt Developments Pty Ltd

PROPOSED *EFFLUENT DISPOSAL* FOR

Proposed Residential Sub-division .
Proposed New 16 Residential Lots .

98 Glenmore Drive , Bonogin .
Qld 4213

Issue No. 3
Salt Development Projects
15th October 2026

CLIENT: Salt Developments Pty Ltd

PREPARED & DESIGNED BY:

David Lonergan
Office : (07) 5522 9559 Mobile : (0418) 230 850
Cert IV Domestic Waste Water & Environmental Plumbing . (Qld).
Building Services : Designer Hydraulic : Accreditation No : CC6068 G (Tas).
QBCC : Hydraulic Services Designer . QBCC Lic No : 1305650 , Lic No: 66575 , Lic No : 50064
GCCC Site & Soil Evaluator Registration No : ER075
Note : This Consultants Report Is Copyright Protected Under Copyright Act 1968 .

Country-Wide Water Pty. Ltd.
Professional Indemnity Insurance Policy No : 005705

ABN: 60 561 482 213

QBCC Lic No : 1305650

David M Lonergan Tas Accreditation No CC6068 G (Building Services : Designer Hydraulic).
Qualified in the States of : Queensland & Tasmania .
- ☒ Site Soil Evaluation
- ☒ On-site Sewerage Systems Designer
- ☒ Effluent Disposal Systems Designer
- ☒ Industrial Waste Water Filtration

Member
- ☒ Australian Society of Soil Science
- ☒ International Water Association
- ☒ Irrigation Australia

FILE No.CWW.4584.26

1 Introduction

1.1 Site Evaluator : David Lonergan : Hydraulic Services Designer .

Country-Wide Water Pty Ltd has been engaged by Salt Development Projects to conduct a site and soil evaluation and provide an on-site Wastewater Management Report for the Proposed Residential Sub-division within the property described as Lot 1 on RP218875 which is situated at 98 Glenmore Drive , Bonogin . 4213 . Qld

1.2 Site Details : Proposed Residential 16 Lot Sub-division :

Proposed Future Residential Dwellings C/w On-Site Wastewater Treatment Systems Required On Each New Proposed Lot For The Proposed Future Dwellings On Future 16 Residential Lots .

Location

Site Address:	**98 Glenmore Drive , Bonogin . Qld 4213**
RP Description:	Lot 1 on RP218875
Parish:	
Council :	**Gold Coast City Council**
Site Area:	Proposed Residential Sub-division
Dwelling Sizing:	Proposed Residential Sub-division
Building Envelope Sizing:	N/A
Other Buildings Structures Present:	Proposed Residential Sub-division

1.3 Report References

- AS/NZS 1547:2012 – On-Site Domestic Wastewater Management
- QPC – Queensland Plumbing and Wastewater Code Version 1 . 2024
- EPA Queensland Planning Guidelines – Determining Capacity Of Sewerage Treatment Plants Base On Use Conditions (Qld State Government) .
- Qld Dept Energy & Water Supply – Planning Guidelines For Water Supply & Sewerage . Chapter 6 March 2014 .
- On Site Wastewater Systems Code – SA Health Govt of South Australia
- Directors Guidelines For On Site Wastewater Management Systems – Tas Gov't
- AS/NZS 1546.3.2017 On Site Domestic Wastewater Treatment Units .
- AS/NZS 1546.1.2008 On Site Domestic Wastewater Treatment – Septic Tanks
- Local Council : (On-Site Sewerage Facility) Guidelines

1.4 Report Objectives

a) Identify sources and quantities of domestic effluent from the site.

b) Examine and identify the existing soil conditions in relation to any proposed effluent disposal and its suitability.

c) Provide information on any site constraints that may affect a proposed land application area.

d) Identify any environmental considerations and possible impact.

e) Provide detailed site specific recommendations for the treatment of wastewater and provide the most effective land application system for the effluent disposal installation.

f) Note – This is NOT a stormwater evaluation report , this report is NOT for stormwater mitigation and NOT for overland flow mitigation. Council may require under their Town Planning Requirements A " *stormwater drainage report* " – this is not the responsibility of Country-Wide Water Pty Ltd , this is the responsibility of others not Country-Wide Water Pty Ltd .

g) Note This Wastewater Report & Effluent Disposal Design Is Valid For A Period Of 12 Months From Date Of Issue .

1.5 Scope of Work

In order to provide to the client an effective solution in regards to on site wastewater management the following scope of work has been undertaken.

a) A desktop study including a review of the proposed or existing development, site plans, aerial photographs, soil mapping of the area and geology charts.

b) A site visit inspection was carried out by the site evaluator and an inspection of the surrounding environment to ascertain a proposed land application area and any potential on-site wastewater management constraints.

c) The site evaluator has carried out Twelve (12) borehole tests to a depth of 900/ 600mm mm below the ground level. Borehole tests to obtain recovery of the soil samples at horizon depths of 150mm , 300mm , 450mm , 600mm , 900mm. As required to prepare the required soil evaluation report.

2 Site and Soil Assessment Report

The site evaluator has identified the following tabled characteristics on the 29th day of March in the year 2026. Revised 10th August 2026.

These tabled characteristics relate to the proposed land application area.

2.1 Soil & Site Characteristics

Table 1 Soil & Site Characteristics

Feature	Description
Slope	Averaged <10%
Configuration	Linear Planar
Vegetation Present Detail Existing	Full / Filtered Sunlight , Open Area , LAA To Be Light Grass Coverage
Exposure	Full & Filtered Sunlight .
Run-off Potential	

Feature	Description
Environmental concerns present water-ways etc.	Watercourse was noted on the property . Proposed future land applications areas have been placed on the lots to achieve the required setback distances .
Buildings/Structures	Proposed Future Dwellings On The Proposed Future Dwellings . Proposed Sixteen Lots .
Site Drainage	Imperfectly Drained Soils . Multiple bore samples at cat 4 clay loam Across the property .
Aspect	Slope varies from proposed lot to lot …
Other	At dwelling construction stage on each lot – each new lot / new dwelling will require a wastewater evaluation report for each of the lots . This is a " sub-division wastewater evaluation report " ..

2.2 Site Soil Characteristics

On site the site evaluator has carried out a total of twelve borehole tests using a Dormer 75mm diameter soil Auger to aid in the determination of a soil textural classification assessment. The site soil characteristics identified during the site soil evaluation are detailed in table 2.2 below. **Hydraulic Powered Auger Used On Site .**

2.3 Soil Characteristics

Table 2: Soil Characteristics

Borehole	Depth (m)	Soil Type (Description)	Structure	Category	Dispersive
1 – 4	0.0 → 0.3	Clay Loam Soils	Moderately Structured	Cat 4	
	0.3 → 0.6	Clay Loam Soils	Moderately Structured	Cat 5	No
	0.6 → 0.9	Light Clay Soils	Moderately Structured	Cat 5	No
5 – 8	0.0 → 0.3	Clay Loam Soils	Moderately Structured	Cat 4	No
	0.3 → 0.6	Clay Loam Soils	Moderately Structured	Cat 4	
	0.6 → 0.9	Light Clay Soils	Moderately Structured	Cat 5	No

9 – 12	0.0 → 0.3	Clay Loam Soils	Moderately Structured	Cat 4	No
	0.3 → 0.6	Clay Loam Soils	Moderately Structured	Cat 4	No
	0.6 → 0.9	Light Clay Soils	Moderately Structured	Cat 5	No

The sub-soil examined during the site evaluators site inspection and testing have been classified in accordance with **AS/NZS 1547:2012 as Clay Loam Soils. Category Four (4) . These soils are described as Moderately Structured, Imperfectly Drained Soils with an indicative permeability Ksat . 0.5 – 1.5 AS/NZS 1547.2012 recommends a DIR : 3.5 mm /day of mm per for Clay Loam Soils . Full & Filtered Sunlight . Scattered Trees . Slope varies across the site . Note : Each dwelling at construction stage will require a separate wastewater report for each new dwelling on each proposed new Lot .**

2.4 Site Separation Distances

The recommended separation distances for land application areas are specified in the Queensland Plumbing & Wastewater Code (QPW). The tables below provide this information. Site specific separation distances are detailed on the attached plan that relates to this specific site soil assessment.

Table 3: Setback distances for (subsurface) land application area for a greywater treatment plant or an on-site sewage treatment plan

Feature	**Horizontal Separation Distance (mtrs)**		
Distance from the edge of trench/bed excavation or subsurface irrigation distribution pipework to the nearest point of the feature.	**Up Slope**	**Down Slope**	**Level**
Property boundaries, pedestrian paths, footings of buildings, walkways, recreation areas, retaining wall, footings.	2	4	2
In ground swimming pools.	6	6	6
In ground potable water tank.	6 *	6 *	6 *

Table 3.5 (surface spray)

Setback Distances : Surface Irrigated Land Application Areas : Advanced Secondary On Site Sewerage Treatment Plants

Feature	**Horizontal Separation Distance (mtrs)**
Distance from the edge of surface spray / irrigation distribution pipework to the nearest point of the feature.	**Metres**
Property boundaries, pedestrian paths, and walkways .	2
Water edge of In ground swimming pools.	6
In ground potable water tank. Dwellings , recreation areas	6 * 10

* Note:- For primary effluent the distance from an in-ground potable water tank must be 15 mtrs.

Table 4: Setback distances for on-site sewerage facilities and greywater use facilities. (Protection of surface water and groundwater)

Feature	Separation	Distance	(metres)
For On-Site – see Appendix 1	**Advanced Secondary**	**Secondary**	**Primary ***
For Greywater – see T1A or T1B	High	Medium	Low
Top of bank of permanent water course; or Top of bank of Intermittent water course; or Top of bank of a lake, bay or estuary or, Top water level of a surface water source used for agriculture , aquaculture or stock purposes or; Easement boundary of unlined open stormwater drainage channel or drain. Bore or a dam used or likely to used for human and or domestic consumption	10	30	50
Unsaturated soil depth to a permanent water table (vertically)	0.3	0.6	1.2

* Note:- Primary effluent typically has a BOD (Biochemical Oxygen Demand) of between 120-240 mg/L and Total Suspended Solids of between 65-180 mg/L.

2.5 On-Site Evaluation Assessment and Calculations : Proposed Future Dwellings .

On-site soil test procedures and evaluation at the site have determined that the most suitable form of on-site sewerage treatment is to HSTP Advanced Secondary On Site Sewerage Treatment Plant . Model / Brand To Be Advised On The Form 1 Compliance Permit Application ..

On-site soil testing procedures and evaluation of the land application area available, it is recommended that the following form of effluent disposal be adopted : Surface Spray .

Wastewater Flow Calculations

Site: 98 Glenmore Drive , Bonogin . Qld, 4213

Table 5 - proposed future dwellings on proposed future lots .

Number Bedrooms	Population Equivalent	Typical Wastewater Flow L/person/day	Daily Wastewater Flow (L/day)	Weekly Wastewater Flow (L/week)	DIR mm Day	LAA Sizing
4	7	150	1050		DIR : 3.5mm /day	300 m2

The Effluent Disposal System Will Be Installed As 307 m2. (per new dwelling on proposed lots)

The following Calculations will apply:

SITE SOILS

Category Four (4), Clay Loam Soil, Moderately Structured, Imperfectly Drained, Ksat : 0.5 - 1.5, DIR : 3.5mm/Day, Adopt DLR : 10mm/Day Slope <10% Averaged @ LAA, Full / Filtered Sunlight, Open Area
DIR Reduction : Due the Slope at Across Some of the Proposed Lots the DIR is to be Reduced as per AS/NZS1547:2012
<10% - DIR 3.5mm/Day
<20% - DIR 2.8mm/Day
<30% - DIR 1.75mm/Day

Existing Dwellings / Buildings
Note : The Existing Sewerage Systems is to be Decommissioned, Including the LAA & or Disposal System
Note : The Existing Sewerage Tanks are to be Decommissioned & or Removed from the Site as Required
Note : A Pumpout Certificate is Required to be Provided for the Removal of Sewerage or Wastewater by a Licensed Contractor

(1-16) Proposed (Future) **Example Only**
Four (4) Bedroom Dwelling
Note : Future Dwellings not Limited to Four (4) Bedrooms
Hence : Seven (7) Persons 7EP
Hence : 7 x 150L per Person per Day = 1050L/Day
Hence : 1050L/Day Divide by DIR : 3.5mm/Day = 300

LAND APPLICATION AREA

Note : The Below LAA Sizing & Recommendations are an Example Only for the purpose of this Sub Division Application, It has been Determined that Each Site can Sufficiently Dispose of Treated Effluent to an Advanced Secondary Standard
Note : Side Sections are Example Only, Each Blocks Site Conditions & Soil Type will Determined the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports

(1-15) Surface Spray QCV Valve System 307m2
Install As : Two (2) QCV Valve System
Install As : Hose Length 6.5m + 0.5m Plume – Radius

(16-) Surface Spray QCV Valve System 306m2
Install As : Three (3) QCV Valve System
Install As : Hose Length 5.2m + 0.5m Plume - Radius
Note : A Site Inspection by Country-Wide Wide Water Pty Ltd at the Cost of the Client may be Required After Earthworks are Completed to Prepare the LAA for the Installation of the Effluent Disposal System

Note : The layout of the Proposed Effluent Disposal System may Vary from Site to this Plan, It is at the Discretion of the Responsible Installer to Install the Pipework & Fittings to Suit the Site
Note : If there is any Earthworks or Fill Within or Around the Proposed LAA Contact Country-Wide Wide Water Pty Ltd for a Site Inspection at the Cost of the Client

Note : The Proposed LAA That is Located in an Area that is not Cut & Filled, No Large Trees are Rerquired to be Removed, Small Shrubs and Weeds may need to be Required at the Discretion of the Installer. It is Encouraged that the Existing Natural Grass is Utilised within the LAA

Note : The Proposed LAA that is Required to be Installed within an Area that uis Cut & Fill, Good Quality Topsoil is Required to be Spread Across the LAA & the LAA is to be Seeded & or Turfed Prior to the Plumbing Final.

Note : Side Sections are Example Only, Each Block's Site Conditions & Soil Type will Determine the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports
Note : This Wastewater Design is for the Sub Division Application Only, All Future Building Applications will Require an Individual Site & Soil Wastewater Evaluation Report

H.S.T.P.

(1-16) Proposed Advanced Secondary Sewerage Treatment Plant Model / Brand to be Advised on the Form 1
H.S.T.P. Installation : To be as per Manufacturers Recommendation for H.S.T.P. Installation, Installation to Comply with AS1546.3:2017, AS/NZS1546.1:2008 & Queensland Plumbing and Wastewater Code
Note : The Location of the H.S.T.P. is Indicative Only - It is at the Discretion of the Installer to Determine the Best Location for the H.S.T.P. to Suit the Site Conditions and Achieve Adequate Fall

NOTE

- Slope Averaged Across the Designated LAA, There may at some Point be an Area within the Proposed Lots That Exceed the Slope Indicated on this Plan, DIR Reduction is to be Utilised as per AS/NZS1547:2012
- If there are Significant Changes to the Site Conditions after this Report & Design are Compiled, Contact Country-Wide Water Pty Ltd Before Installing the Proposed Effluent Disposal System (LAA)

- Stormwater Management Plan may be Required by Others, It is not The Responsibility of Country-Wide Water Pty Ltd to Design or Manage Stormwater Solutions on Site, This is the Responsibility of the Builder & or Property Owner.

- Stormwater Diversion Works may be Required to be Carried Out to Divert Stormwater Upslope from the Proposed LAA, This is the Responsibility of the Builder & or Property Owner.

- Country-Wide Water Pty Ltd is not Responsible for Changes on Site that Affect the LAA & H.S.T.P. or Further Requests by The Council Before, During or After the Form 17 is Issued.
- A Site Inspection may be Required by Country-Wide Water Pty Ltd is to be Carried out After The Earthworks are Complete but Prior to the Installation of the Irrigation / Effluent Disposal System

- It is the Responsibility of the Installer to Achieve All Required Setbacks as per the QLD Plumbing and Wastewater Code

- If you are Unsure or Concerned about any part of this Wastewater Design & or Site & Soil Evaluation Report Before, During or After the Installation of the Proposed H.S.T.P. & Effluent Disposal System Contact Country-Wide Water Pty Ltd or the Local Council Authority for Clarification

- It is the Responsibility of the Builder & or Home Owner & Responsible Installer to Ensure the LAA is Prepared for the Installation of the Proposed Effluent Disposal System

Note : A Site Inspection by Country-Wide Water Pty Ltd is Required After the Earthworks have been Completed but Prior to the Installation of the Proposed Effluent Disposal System at the cost of Others.
Note : LAA to be Clear of Fruit Trees, Mulch Piles, Debris & the Proposed LAA should be Clear of Weeds, Tree Branches, Rubbish, Hose Taps, Cut or Fill & Building Materials

Note : If Site Conditions Change after the Initial Site Visit Carried out by Country-Wide Water then there may be a need for a Secondary Site Visit and Subsequent Amended Design Required. Country-Wide Water Should be Consulted about any Earthworks to be undertaken on Site BEFORE SITE EARTHWORKS BEGIN, So that a Suitable Outcome may be Achieved.

Note : It is very Important on all Sites / Properties that the Correct Drainage & Stormwater Mitigation Works are Carried out and Maintained both During and after the Construction or Building Works

Note : The LAA is to be Protected by the Property Owner & or the Builder & or the Responsible Installer, Any Works within the LAA or that directly affect the LAA that are not part of this wastewater design will Void the Ability to Comply with this Design and a Amended Design will be Required at the cost of others.

2.6 Proposed Land Application Area Required : Future Proposed Dwellings (18 lots)

The areas that will be required for the land application of effluent disposal via standard surface spray irrigation has been calculated to e **Installed As 307 m2**. Refer to the design drawings supplied with this report for the required installation criteria.

The above calculation along with the design provided is to be seen as a minimum requirement.

3 Site Wastewater Management

3.1 On-Site Wastewater Treatment System

It is proposed that an aerobic wastewater treatment plants be installed to cater for all wastewater produced by the proposed future dwellings on the proposed sub-division of the location 98 Glenmore Drive , Bonogin Qld, 4213. Each Lot / Dwelling Shall Require Its Own Individual on site sewerage treatment plant (secondary advanced) .

Table 6 below shows the effluent quality criteria for advanced secondary treated effluent.

Table 6: Advanced Secondary Effluent Quality

Parameter	Level
Biochemical Oxygen Demand (BODs)	10mg/L
Total Suspended Solids (SS)	10mg/L
Total Nitrogen (TN)	10mg/L
Total Phosphorous (TP)	5mg/L
Thermotolerant Coliform (org/100mL)	10 organisms

Note: - Under Section 91 of the Plumbing and Drainage Act. Chief Executive Approval is required for an On-Site Sewerage Treatment Plant where the sewerage generated on the property is less than that of 21 equivalent persons. Performance criteria - refer to the Queensland Plumbing and Wastewater Code Part 5 P1,P2, P3, P4 . Version 1. 2024 .

The Chief Executive Approval number will be noted on the effluent disposal design plans that make up part of this said report.

3.2 Proposed Land Application Area for Effluent Disposal Installation & Maintenance

A land application system must be constructed, installed and maintained in such a manner as to:-

a) complete the treatment, uptake and absorption of the final effluent within the boundaries of the approved application area.

b) Avoid the likelihood of the creation of unpleasant odours or the accumulation of offensive matter.

c) Avoid the likelihood of the ingress of effluent, foul air or gasses entering buildings.

d) Avoid the likelihood of stormwater run-off entering the system.

e) Avoid the likelihood of root penetration or ingress of ground water entering the system.

f) Protect against internal contamination.

g) Provide adequate access for maintenance.

h) Provide and incorporate adequate provisions for effective cleaning.

i) Avoid the likelihood of unintended or uncontrolled discharge.

j) Avoid the likelihood of blockage and leakage.

k) Avoid the likelihood of damage from superimposed loads or ground movement.

l) Provide ventilation to avoid the likelihood of foul air and gasses from accumulating in the system.

m) Minimise nuisance eg noise to the occupants of neighbouring properties and

n) Ensure that the installation throughout its design life will continue to satisfy the requirements of items (a) to (m).

The above detailed performance criteria is in accordance with the Queensland Plumbing and Wastewater Code Part 3. P1.

The required designed effluent disposal method will be detailed with all required relevant information and installation criteria on the site specific effluent design plan. That is to say the method of effluent disposal will be site relevant and detailed in depth on the design plans that relate directly to that site location.

4 Servicing and Maintenance

4.1 The Manufacturer

The manufacturer of the On-Site Sewerage Treatment System shall provide a comprehensive and detailed operation and maintenance instructions to authorised service personnel. The manual must be written in English and it must be written so that it can be easily understood.

The supplier/manufacturer will provide a registered maintenance contract to the home owner in accordance with the normal required schedule maintenance of the installed on-site sewerage treatment system.

4.2 Land Application Maintenance

- On-site systems generally operate more efficiently when the wastewater load is minimised and 'shock loads' are avoided. Heavy water use activities such as laundering and showering should be evenly spread over the day and week.
- Only detergents that are low in sodium and phosphorus should be used. Do not allow large volumes of bleaches, disinfectants, whiteners or spot removers to enter the system.
- Do not allow large volumes of food and cooking oils to enter the system and do not install an in-sink macerator.
- The in-line strainer must be cleaned every few service to prevent clogging, and serviced by the service provider on all regular servicing .
- Quarterly Or Monthly servicing must include measurement of the sludge and scum levels, and a check of the outlet and inlet junctions for blockages. Non Residential Systems To Be Serviced Monthly
- All Non Residential Sewerage Treatment Plants To Be Fitted With Flow Meter At The Discharge Point . Reading To Be Recorded With The Monthly Servicing .
- The service provider must flush and maintain the irrigation system at every service .
- Surface water diversion mounds and drains must be regularly maintained to prevent stormwater entering the irrigation area.
- The grass must be regularly mowed and the clippings removed from the site to maintain the nutrient uptake rate within the irrigation area.
- Ensure no livestock animals are within the LAA , fence off the LAA if required .
- Ensure the LAA is not used for any other purpose other than a land application area .

- Ensure no vegetable growing no livestock , pets or poultry no fruit trees no carparking , trailer storage , no caravans ect . . Nothing is permitted to be positioned with the LAA .

5 References and Data

5.1 Regulating Reference Material

- AS/NZS 1547:2012 – On-site domestic wastewater management. Standards Australia International Ltd and Standards NZ ISBN073373439.
- Queensland Plumbing and Wastewater Code Version 1 2024 . Department of Local Government, Planning, Sport and Recreation.
- Queensland Department of Natural Resources "On-site sewerage Facilities Guidelines for Vertical and Horizontal Separation Distance".
- EPA Queensland Planning Guidelines – Determining Capacity Of Sewerage Treatment Plants Base On Use Conditions (Qld State Government) .
- Qld Dept Energy & Water Supply – Planning Guidelines For Water Supply & Sewerage Chapter 6 March 2014.
- On Site Wastewater Systems Code – SA Health Govt of South Australia .
- Directors Guidelines For On Site Wastewater Management Systems – Tas Gov't .
- AS/NZS 1546.3.2017 On Site Domestic Wastewater Treatment Units .
- AS/NZS 1546.1.2008 On Site Domestic Wastewater Treatment – Septic Tanks .
- Refer to the Local Authority Standard Conditions and helpful hints for domestic wastewater treatment plant maintenance.

6 General

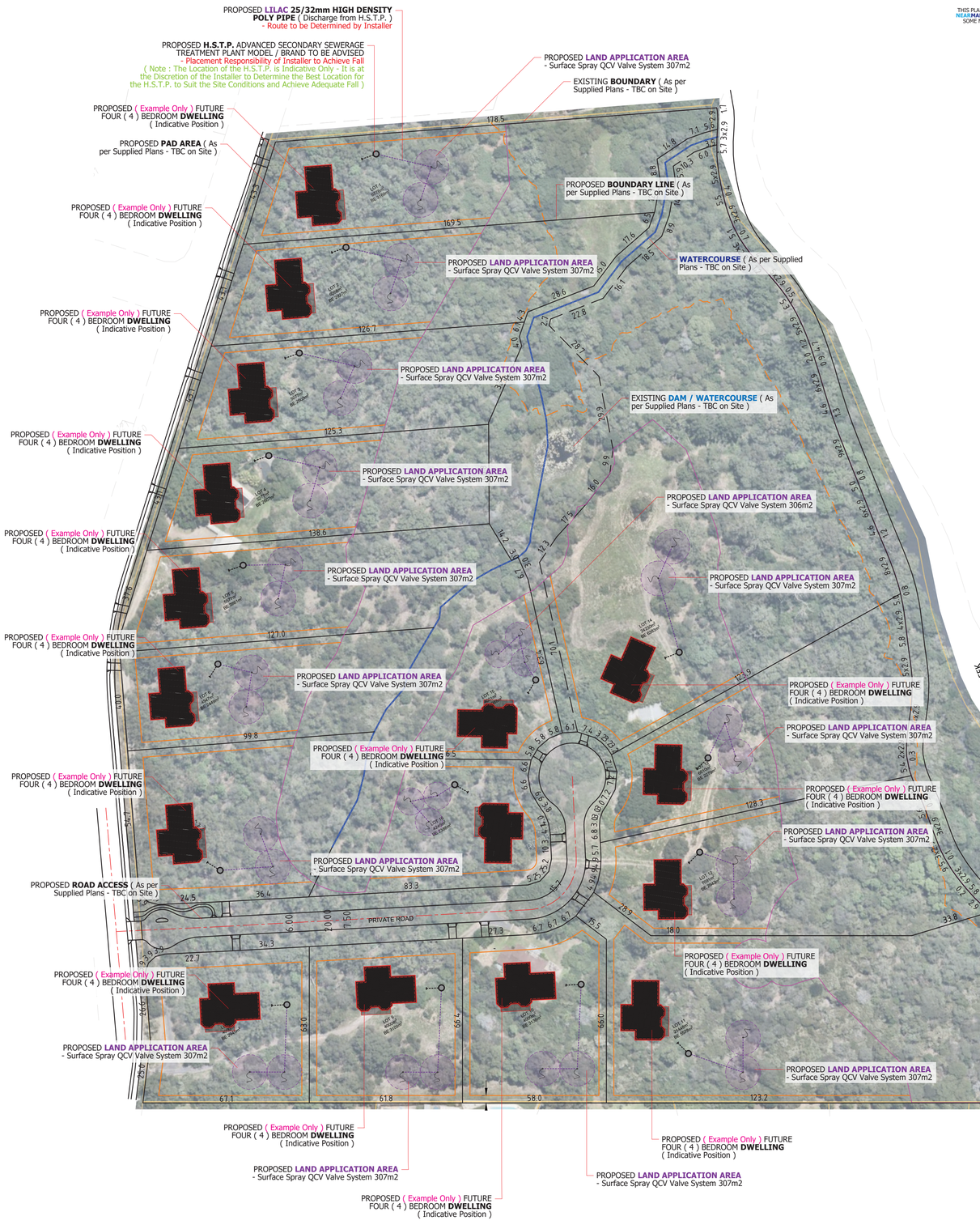
Should the location of the effluent disposal land application area not be installed in accordance with the guidelines set out in this report and or not in accordance with the attached detailed site plan notify Country-Wide Water Pty Ltd. Any amendments / additional plans required : redrawn due to new information or changes made to the design that may be required will be done so at the clients cost. **Note This Wastewater Report Is Valid For 12mths Only From Date Of Issue .**
Installation : Responsibility of Installer : Installer must only use council approved plans / report . Plans are diagrammatic : it is the installers responsibility to ensure even and efficient distribution of effluent with no leakage from the land application area . Note Indexing valves or control valves may be required : installer to determine on site if not indicated in the report or plans provided .

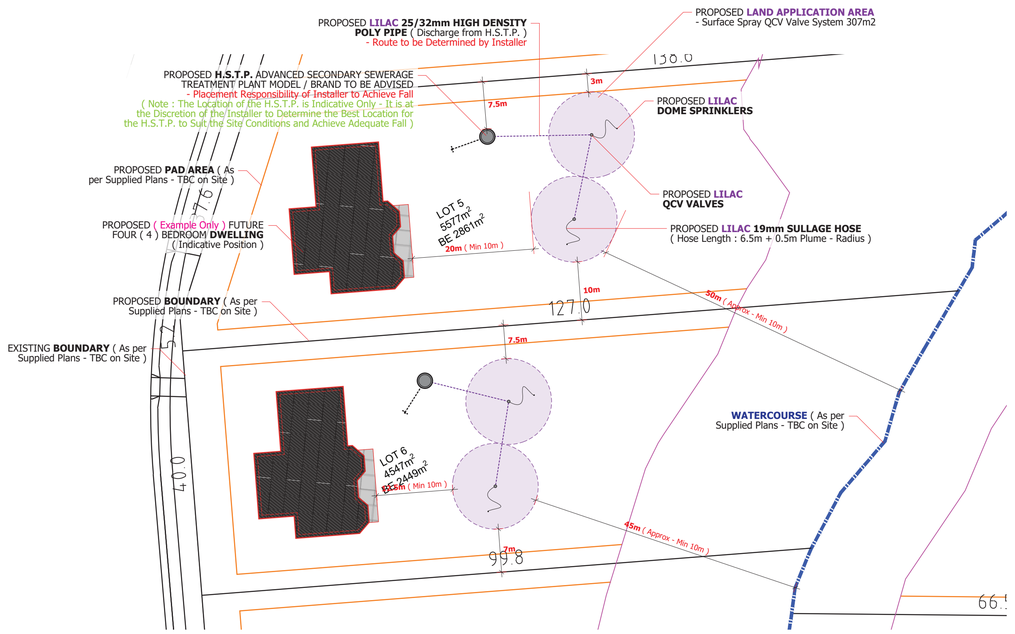
HSTPs to be installed to manufactures specifications and in accordance with the governing authority guidelines . Country-Wide Water Pty Ltd has been commissioned to design an appropriate effluent disposal design system for this property . The installation and ongoing maintenance of the HSTP and land application area is the responsibility of others .

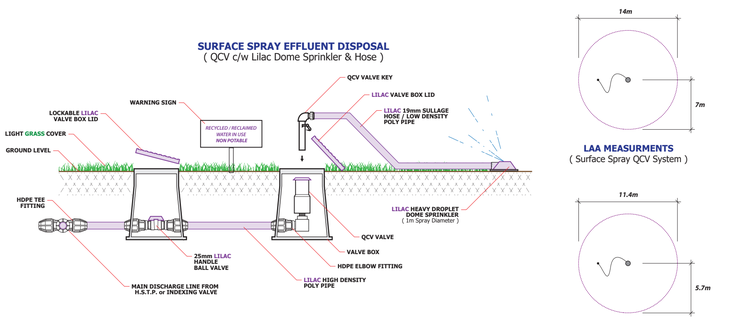
Copyright : Country-Wide Water Pty Ltd 2019
Excepted as permitted by the provisions of the *Copyright Act 1968* , you may not reproduce , publish, or communicate to the public , any of the content in this written report associated plans (including drawings and sketches) without the permission of the copyright owner .

Signed

David M Lonergan : site & soil evaluator : QBCC Lic No 1305650 .
Country-Wide Water Pty Ltd . ***Office - (07) 5522 9559***







LAA MEASURMENTS
(Surface Spray QCV System)

LAA MEASURMENTS
(Surface Spray QCV System)

PROPERTY DETAILS
Lot : 1
Plan : RP 218875

SITE SOILS
Category Four (4), Clay Loam Soil, Moderately Structured, Imperfectly Drained, Ksat : 0.5 - 1.5, DIR : 3.5mm/Day, Adopt DLR : 10mm/Day Slope <10% Averaged @ LAA, Full / Filtered Sunlight, Open Area
DIR Reduction : Due the Slope at Across Some of the Proposed Lots the DIR is to be Reduced as per AS/NZS1547:2012
<10% - DIR 3.5mm/Day
<20% - DIR 2.8mm/Day
<30% - DIR 1.75mm/Day

Existing Dwellings / Buildings
Note : The Existing Sewerage Systems is to be Decommissioned, Including the LAA & or Disposal System
Note : The Existing Sewerage Tanks are to be Decommissioned & or Removed from the Site as Required
Note : A Pumpout Certificate is Required to be Provided for the Removal of Sewerage or Wastewater by a Licensed Contractor

(1-16) Proposed (Future) **Example Only**
Four (4) Bedroom Dwelling
Note : Future Dwellings not Limited to Four (4) Bedrooms
Hence : Seven (7) Persons 7EP
Hence : 7 x 150L per Person per Day = 1050L/Day
Hence : 1050L/Day Divide by DIR : 3.5mm/Day = 300

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Note : Side Sections are Example Only, Each Blocks Site Conditions & Soil Type will Determined the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports
(1-14) Surface Spray QCV Valve System 307m2
Install As : Two (2) QCV Valve System
Install As : Hose Length 6.5m + 0.5m Plume - Radius
(15-16) Surface Spray QCV Valve System 306m2
Install As : Three (3) QCV Valve System
Install As : Hose Length 5.2m + 0.5m Plume - Radius
Note : A Site Inspection by Country-Wide Wide Water Pty Ltd at the Cost of the Client may be Required After Earthworks are Completed to Prepare the LAA for the Installation of the Effluent Disposal System
Note : The layout of the Proposed Effluent Disposal System may Vary from Site to this Plan, It is at the Discretion of the Responsible Installer to Install the Pipework & Fittings to Suit the Site
Note : If there is any Earthworks or Fill Within or Around the Proposed LAA Contact Country-Wide Water Pty Ltd for a Site Inspection at the Cost of the Client

Note : The Proposed LAA That is Located in an Area that is not Cut & Filled, No Large Trees are Required to be Removed, Small Shrubs and Weeds may need to be Required at the Discretion of the Installer. It is Encouraged that the Existing Natural Grass is Utilised within the LAA

Note : The Proposed LAA that is Required to be Installed within an Area that is Cut & Fill, Good Quality Topsoil is Required to be Spread Across the LAA & the LAA is to be Seeded & or Turfed Prior to the Plumbing Final.

Note : Side Sections are Example Only, Each Block's Site Conditions & Soil Type will Determine the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports
Note : This Wastewater Design is for the Sub Division Application Only, All Future Building Applications will Require an Individual Site & Soil Wastewater Evaluation Report

H.S.T.P.
(1-16) Proposed Advanced Secondary Sewerage Treatment Plant Model / Brand to be Advised on the Form 1
H.S.T.P. Installation : To be as per Manufacturers Recommendation for H.S.T.P. Installation, Installation to Comply with AS1546.3:2017, AS/NZS1546.1:2008 & Queensland Plumbing and Wastewater Code
Note : The Location of the H.S.T.P. is Indicative Only - It is at the Discretion of the Installer to Determine the Best Location for the H.S.T.P. to Suit the Site Conditions and Achieve Adequate Fall

NOTE
- Slope Averaged Across the Designated LAA, There may at some Point be an Area within the Proposed Lots That Exceed the Slope Indicated on this Plan, DIR Reduction is to be Utilised as per AS/NZS1547:2012
- If there are Significant Changes to the Site Conditions after this Report & Design are Compiled, Contact Country-Wide Water Pty Ltd Before Installing the Proposed Effluent Disposal System (LAA)
- Stormwater Management Plan may be Required by Others, It is not The Responsibility of Country-Wide Water Pty Ltd to Design or Manage Stormwater Solutions on Site, This is the Responsibility of the Builder & or Property Owner.
- Stormwater Diversion Works may be Required to be Carried Out to Divert Stormwater Upslope from the Proposed LAA, This is the Responsibility of the Builder & or Property Owner.
- Country-Wide Water Pty Ltd is not Responsible for Changes on Site that Affect the LAA & H.S.T.P. or Further Requests by The Council Before, During or After the Form 17 is Issued.
- A Site Inspection may be Required by Country-Wide Water Pty Ltd is to be Carried out After The Earthworks are Complete but Prior to the Installation of the Irrigation / Effluent Disposal System
- It is the Responsibility of the Installer to Achieve All Required Setbacks as per the QLD Plumbing and Wastewater Code
- If you are Unsure or Concerned about any part of this Wastewater Design & or Site & Soil Evaluation Report Before, During or After the Installation of the Proposed H.S.T.P. & Effluent Disposal System Contact Country-Wide Water Pty Ltd or the Local Council Authority for Clarification
- It is the Responsibility of the Builder & or Home Owner & Responsible Installer to Ensure the LAA is Prepared for the Installation of the Proposed Effluent Disposal System
Note : A Site Inspection by Country-Wide Water Pty Ltd is Required After the Earthworks have been Completed but Prior to the Installation of the Proposed Effluent Disposal System at the cost of Others.

Note : LAA to be Clear of Fruit Trees, Mulch Piles, Debris & the Proposed LAA should be Clear of Weeds, Tree Branches, Rubbish, Hose Taps, Cut or Fill & Building Materials

Note : If Site Conditions Change after the Initial Site Visit Carried out by Country-Wide Water then there may be a need for a Secondary Site Visit and Subsequent Amended Design Required. Country-Wide Water Should be Consulted about any Earthworks to be undertaken on Site BEFORE SITE EARTHWORKS BEGIN, So that a Suitable Outcome may be Achieved.
Note : It is very Important on all Sites / Properties that the Correct Drainage & Stormwater Mitigation Works are Carried out and Maintained both During and after the Construction or Building Works
Note : The LAA is to be Protected by the Property Owner & or the Builder & or the Responsible Installer, Any Works within the LAA or that directly affect the LAA that are not part of this wastewater design will Void the Ability to Comply with this Design and a Amended Design will be Required at the cost of others.

5m 10m 20m 50m

COUNTRY-WIDE WATER PTY LTD
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W: www.countrywidewater.com.au
M: 0418 230 850

Title: Site-Soil Evaluation Report No. CWW 4583.26 - ***Location Plan*** *(Wastewater)*	***Client:*** Salt Development Projects
Address: 98 Glenmore Drive Bonogin QLD 4213	***Project No:*** CWW 4583.26
Drawn: D. Lonergan : Site & Soil Evaluator & Designer ***QBCC Lic No. 1305650***	***Scale:*** 1:1000 & 1:500 @ A1
Date: 15/10/2026 **AMENDED #2**	***Document #: CWW*** 4583.26

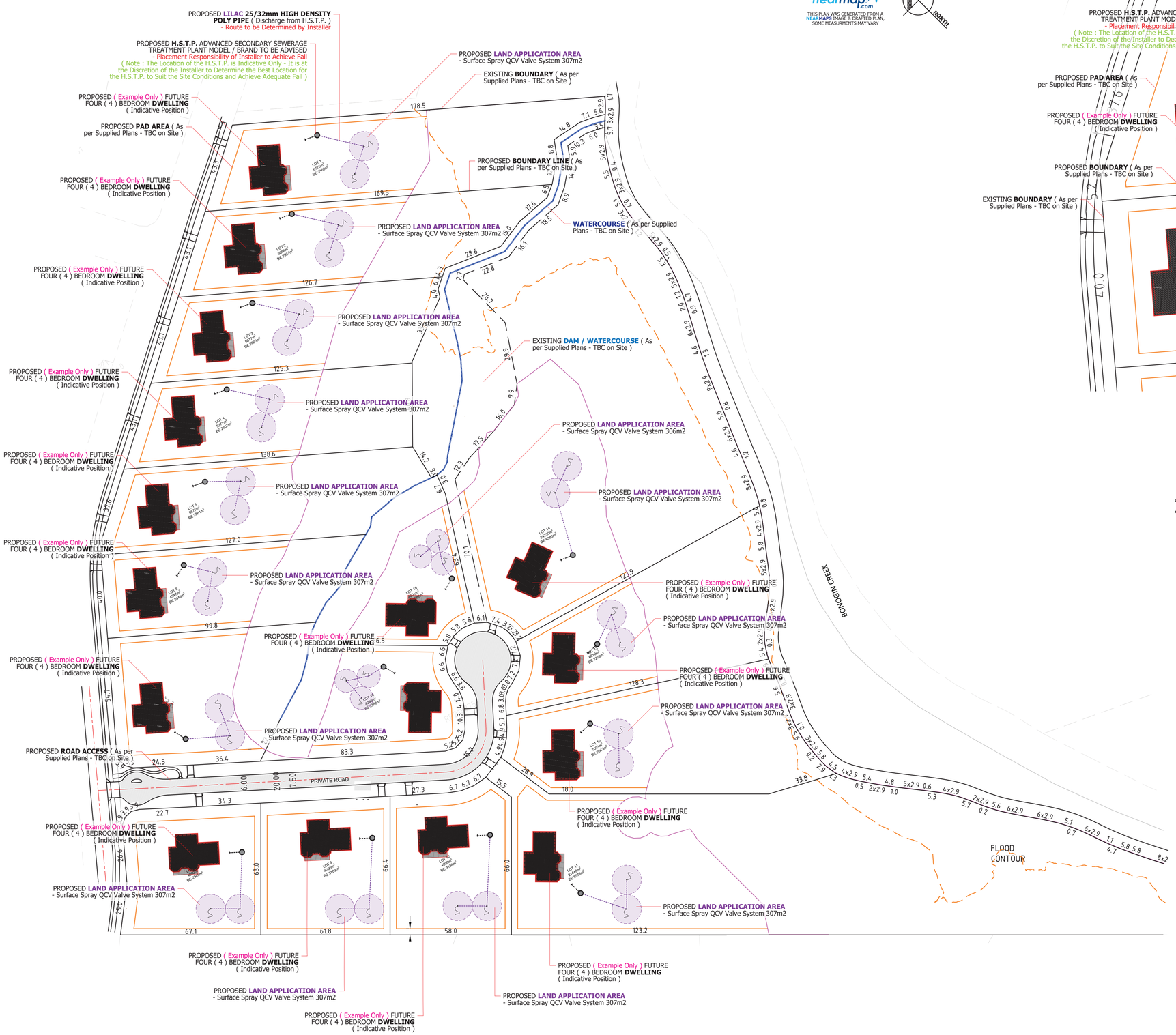
Disclaimer
Should the location of the effluent disposal land application area not be installed in accordance with the guidlines set out in this report,and or not in accordance with the attached detailed site plan notify Country Wide Water Pty Ltd. Any Amendments / additional plans required / redrawn due to new information or changes made to the design that may be done so at the clients cost.

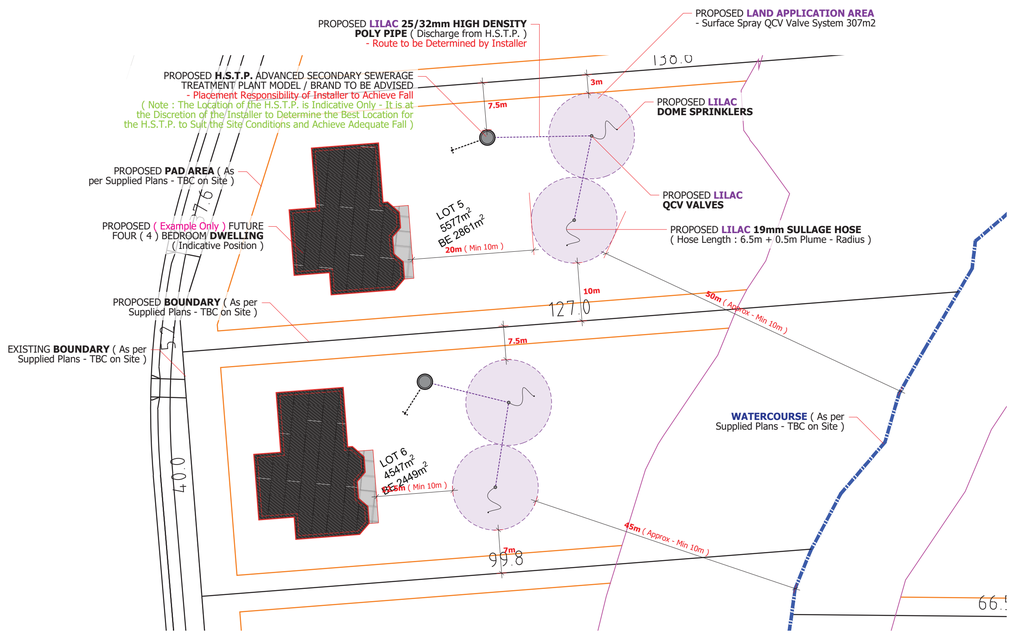
Installation : - Responsibility of installer - installer must only us council approved plans / report. Plans are diagrammatic : It is the installers responsibility to ensure even and efficient distribution of effluent with no leakage from the land application area. Note indexing valves or control valves may be required, installer to determine on site if not indicated in the report or plans provided.

HSTP : - to be installed to manufactures specifications and in accordance with the governing authority guidelines, Country Wide Water Pty Ltd has been comissioned to design and appropriate effluent disposal design system for this property. The installation and ongoing maintenance of the HSTP and land application area is the responsibility of others.

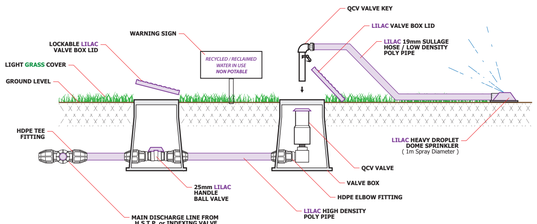
NOTES
- The Position of the Sewerage Treatment Plant is Schematic Only, It is the Responsibility of the Installer to Achieve Fall
- The Discharge / Distribution Line to the LAA shall be a Minimum Depth of 150mm to 150mm and be High Density Poly Pipe
- The Discharge Pump in the Effluent Pumpwell is to be Sized to Supple Adequate Pressure per Operating Requirements
- All Pipework & Fittings to Suit the Site Conditions & Layout of the LAA & Dwelling
- Construction of the Land Application Area may be Carried out by an Appropriately Qualified Persoe
- The LAA must be Planted with Appropiate Grasses and/or other Ground Cover that Tolerate Wet Conditions and have a High Evapotranspiration Capacity
- When Installing the LAA all care is to be taken to Avoide Damage to Existing Vegetation
- Vehicles and Stock to be Kept off Land Application Area
- The LAA is to be Sized as per the Design Load & Use a Disperse Treated Effluent
- All Header Underground Pipework to be Installed with Lilac HDPE, Backfilled with Sand & Lagged with Lilac Marking/Warning Tape
- All Setback Requirements to be met as per QLD Plumbing Wastewater Codes
- LAA to be Signed at Lease 2 Times with Adequate Warning Signs at Border of LAA Displaying 'Reclaimed / Recycled Water Do Not Drink' or Similar

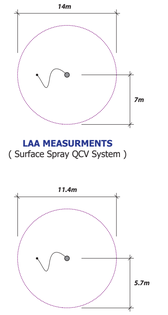
DIMENSIONS TAKE PRECEDENT OVER SCALE





SURFACE SPRAY EFFLUENT DISPOSAL
(QCV c/w Lilac Dome Sprinkler & Hose)





LAA MEASURMENTS
(Surface Spray QCV System)

LAA MEASURMENTS
(Surface Spray QCV System)

PROPERTY DETAILS
Lot : 1
Plan : RP 218875

SITE SOILS
Category Four (4) Clay Loam Soil, Moderately Structured, Imperfectly Drained, Ksat : 0.5 - 1.5, DIR : 3.5mm/Day, Adopt DLR : 10mm/Day Slope <10% Averaged @ LAA, Full / Filtered Sunlight, Open Area
DIR Reduction : Due the Slope at Across Some of the Proposed Lots the DIR is to be Reduced as per AS/NZS1547:2012
<10% - DIR 3.5mm/Day
<20% - DIR 2.8mm/Day
<30% - DIR 1.75mm/Day

Existing Dwellings / Buildings
Note : The Existing Sewerage Systems is to be Decommissioned, Including the LAA & or Disposal System
Note : The Existing Sewerage Tanks are to be Decommissioned & or Removed from the Site as Required
Note : A Pumpout Certificate is Required to be Provided for the Removal of Sewerage or Wastewater by a Licensed Contractor

(1-16) Proposed (Future) **Example Only**
Four (4) Bedroom Dwelling
Note : Future Dwellings not Limited to Four (4) Bedrooms
Hence : Seven (7) Persons 7EP
Hence : 7 x 150L per Person per Day = 1050L/Day
Hence : 1050L/Day Divide by DIR : 3.5mm/Day = 300

LAND APPLICATION AREA
Note : The Below LAA Sizing & Recommendations are an Example Only for the purpose of this Sub Division Application, It has been Determined that Each Site can Sufficiently Dispose of Treated Effluent to an Advanced Secondary Standard
Note : Side Sections are Example Only, Each Blocks Site Conditions & Soil Type will Determined the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports
(1-14) Surface Spray QCV Valve System 307m2
Install As : Two (2) QCV Valve System
Install As : Hose Length 6.5m + 0.5m Plume - Radius
(15-16) Surface Spray QCV Valve System 306m2
Install As : Three (3) QCV Valve System
Install As : Hose Length 5.2m + 0.5m Plume - Radius
Note : A Site Inspection by Country-Wide Wide Water Pty Ltd at the Cost of the Client may be Required After Earthworks are Completed to Prepare the LAA for the Installtion of the Effluent Disposal System
Note : The layout of the Proposed Effluent Disposal System may Vary from Site to this Plan, It is at the Discretion of the Responsible Installer to Install the Pipework & Fittings to Suit the Site
Note : If there is any Earthworks or Fill Within or Around the Proposed LAA Contact Country-Wide Wide Water Pty Ltd for a Site Inspection at the Cost of the Client

Note : The Proposed LAA That is Located in an Area that is not Cut & Filled, No Large Trees are Required to be Removed, Small Shrubs and Weeds may need to be Required at the Discretion of the Installer. It is Encouraged that the Existing Natural Grass is Utilised within the LAA

Note : The Proposed LAA that is Required to be Installed within an Area that is Cut & Fill, Good Quality Topsoil is Required to be Spread Across the LAA & the LAA is to be Seeded & or Turfed Prior to the Plumbing Final.

Note : Side Sections are Example Only, Each Block's Site Conditions & Soil Type will Determine the Appropriate Effluent Disposal Method, To be Determined on Individual Site & Soil Classification Reports
Note : This Wastewater Design is for the Sub Division Application Only, All Future Building Applications will Require an Individual Site & Soil Wastewater Evaluation Report

H.S.T.P.
(1-16) Proposed Advanced Secondary Sewerage Treatment Plant Model / Brand to be Advised on the Form 1
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NOTE
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THIS PLAN WAS GENERATED FROM A NEARMAPS IMAGE & DRAFTED PLAN, SOME MEASUREMENTS MAY VARY

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- The Pressure Rating of the Poly Pipe Shall be Suitable for the Pressure Required to Ensure per Operating Requirments
- All Irrigation Pipework and Fittings shall Comply with all Parts of AS1477 or AS2698.2
- Construction of the Land Application Area mus be Carried out by an Appropriately Qualified Person.
- The LAA must be Planted with Appropiate Grasses and/or other Ground Cover that Tolerate Wet Conditions and have a High Evapotranspiration Capacity
- When Installing the LAA all care is to be taken to Avoide Damage to Existing Vegetation
- LAA to be Free of Stormwater Diversion Works
- LAA not to be Used for any other Purpose other than to Disperse Treated Effluent
- All Header Underground Pipework to be Installed with Lilac HDPE, Backfilled with Sand & Lagged with Lilac Marking/Warning Tape
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- LAA to be Signed at Lease 2 Times with Adequate Warning Signs at Border of LAA Displaying 'Reclaimed / Recycled Water Do Not Drink' or Similar

DIMENSIONS TAKE PRECEDENT OVER SCALE

COUNTRY-WIDE WATER PTY LTD

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Title: Site-Soil Evaluation Report No. CWW 4583.26 - ***Boundary Plan*** *(Wastewater)*	***Client:*** Salt Development Projects
Address: 98 Glenmore Drive Bonogin QLD 4213	***Project No:*** CWW 4583.26
Drawn: D. Lonergan : Site & Soil Evaluator & Designer ***QBCC Lic No. 1305650***	***Scale:*** 1:1000 & 1:500 @ A1
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5m 10m 20m 50m