



Shire of Chittering

BINDOON WASTEWATER SCHEME – CONCEPT DESIGN

Proposal

Adelaide • Melbourne • Hong Kong

HDS Australia Pty Ltd

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December 2017

Key Features of Our Submission

- *A **thorough understanding** of the community wastewater industry.*
- *A **proven track record** in undertaking the type of investigations, scoping studies, functional and detailed designs likely to be required by local government authorities, having developed a sound reputation for competency in the provision of quality services in wastewater engineering.*
- *A project team having **extensive relevant experience** in the development of community based wastewater management solutions, covering numerous options including on-site processing, small community and township wide effluent and full sewer schemes, treatment plant upgrades and reclaimed water re-use opportunities.*
- *Staff possessing the required **technical skills** in wastewater system design, stakeholder consultation, obtaining of government approvals and overall project management.*
- *Organisational, quality and workplace health and safety **management systems**, underpinned by the security of public liability and professional indemnity **insurance**, promoting client confidence.*
- *A **cooperative approach** with clients and other stakeholders to ensure all aspects of any individual project are achieved and the expectations of every party are met.*
- ***Timely performance** to complete the proposed work, but **flexibility** when required to allow for delays associated with stakeholder engagement and government agency approval processes.*
- ***Competitive prices** to carry out the assigned work.*

Overall, our team has a unique blend of strategic and technical skills, together with extensive knowledge and experience of regional community wastewater management solutions, which is essential for successful completion of any community wastewater management project.

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1.0 INTRODUCTION

1.1 General

Further to our recent discussions regarding wastewater collection and treatment challenges within the community of Bindoon, we are pleased to submit our proposal to prepare a concept design and preliminary costing for a wastewater management scheme.

HDS Australia is a specialist civil engineering and project management consultancy practice with a high level of expertise in the investigation and design of regional community wastewater management systems and associated reclaimed water re-use projects.

HDS Australia has a long history of providing wastewater engineering investigation and design services for regional communities, including rural townships with 40 to 1000 connections, as well as smaller riverside and coastal shack owner communities. These activities commenced in 1995 with our involvement in the Port MacDonnell Septic Tank Effluent Disposal Scheme project in the south-east of South Australia, and continue today with work we are currently undertaking on numerous Community Wastewater Management Schemes in South Australia as well as various specialist investigations carried out for local government in Victoria and Western Australia.

We welcome the opportunity to assist the Shire of Chittering with a concept design for the Bindoon community. We believe our detailed knowledge of regional, decentralised wastewater management and the application of pragmatic design solutions will ensure that a highly cost effective outcome can be developed for Bindoon.

1.2 About HDS Australia Pty Ltd

HDS Australia is a well-established civil engineering and project management consultancy employing 12 full-time or part-time staff, two contract specialists and over 20 casual personnel in our offices located in Melbourne and Adelaide, with an affiliated office in Hong Kong. It is a registered Australian Company (ACN 008 214 266).

The company is founded on core civil engineering skills including planning, design and construction supervision. We currently provide specialist consulting services in water and wastewater engineering and municipal engineering, along with traffic engineering, road safety, road design and transport planning services to public and private sector organisations which have responsibility for the development and on-going management of civil engineering infrastructure.

In 2001, HDS Australia purchased the consulting business of DC Potter & Associates Pty Ltd, having formed a strong alliance with that company over a number of years. DC Potter & Associates was a small company highly regarded for its specialist skills in the planning and design of wastewater treatment facilities, as well as residential land development. HDS Australia has since transferred all those skills to our own team, which has further enhanced our reputation in the community water supply and wastewater management area.

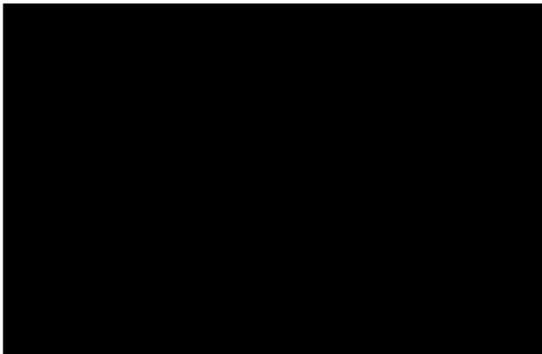
Staff at HDS Australia are committed to providing clients with high quality services in a timely and cost effective manner. Our continuing success is reflected in the company's growing client list and diversity of successful projects.

1.3 Format of this Proposal

The format and content of our proposal is structured as follows:

- Section 2 outlines our typical methodology for the provision of a concept design.
- Section 3 discusses the specialist services we offer and the key consultants/ engineers who will be providing these services.
- Section 4 provides details of our proposed lump sum fee for the project (inclusive of disbursements).
- Section 5 presents supporting information relating to our management systems.

We look forward to being able to assist the Shire of Chittering in this important wastewater design project.



Duncan Howie
Principal Consultant

2.0 METHODOLOGY

2.1 General

The outcomes and deliverables from this study will be as follows:

- an assessment of possible wastewater management options for Bindoon;
- early review of those options with Council and selection of a preferred option;
- development of the preferred option into a concept design; and
- preliminary costing of the concept design.

The aim of the concept design process and costing is to present sufficient detail to enable an informed decision on the feasibility of a wastewater management scheme for Bindoon.

A description of the various tasks in our methodology is set out in the following section.

2.2 Task Breakdown

In our previous discussions, we have already reviewed some of the background to the issues around wastewater management in Bindoon. Council has also supplied the layout of a scheme proposed by Water Corporation (Refer Bindoon SD269 February 2016).

Task 1: Collation and review of all available information

Council has requested additional detail of the existing Water Corporation design, including their cost estimates. While this information would certainly be useful and informative as a comparison exercise, it is not critical to progressing our concept design. All available input information, including any historic information Council may have on geotechnical detail or ground water levels in the town, would be collated as a first step in this study. Typical ages and depths of septic tanks around the town would be useful information, but we do not propose a separate exercise to collect detailed data.

Task 2: Establish and agree the Basis of Design

In this task, based on what we already understand about the town, we will propose the basis of the design which includes all of the design input aspects such as the boundary for the scheme, future development allowances such as the retirement villas, suitable design parameters, etc. For the concept stage, we do not propose any detailed survey of the area. The topography of the town and the available contours are adequate for a concept design stage.

Task 3: Prepare options for review

As discussed previously, there are a number of options available for wastewater management in Bindoon. We will prepare a broad outline of the most appropriate two or three options for review. These are high level combinations of options to get agreement on fundamentals, such as full sewer vs STEDS, likely asset ownership, pressure/gravity/hybrid collection, treatment options, re-use/disposal options etc.

These options and combinations thereof will be reviewed/discussed with Council at an early stage to ensure all parties are agreed on the most appropriate candidates for further design. High level costs will be presented for the options. Ideally, we will agree on a preferred combination of collection, treatment, re-use to proceed to the next stage.

Task 4: Concept design

The concept design of the preferred option will then be developed. We will prepare the horizontal layout of the network with approximate depths to allow appropriate cost estimation. The quantity take-off and cost estimation will be presented in sufficient detail to understand any areas of cost risk. Any key assumptions (pump station location, groundwater, rock) will be included to ensure the cost estimate is fully understood and realistic. The drawings presented in Appendix A are an example of the output style from our design software, although these are for a full design project. Treatment plant and re-use/disposal options will be included in the cost estimate to allow a properly informed decision on the feasibility of the scheme. Based on our experience of this size of system, we will also be able to provide high level, operating and maintenance cost estimates.

Task 5a (Reporting and presentation by phone/Skype)

The conclusions of the study will be presented in a summary report format that will allow external parties to understand the logic and design basis of the process. We understand that this output may be required for other purposes such applications for funding, etc. In order to control costs, we have offered the presentation of the report as a remote phone call/Skype exercise.

Task 5b (Optional site visit and presentation)

Our preference for presentation of the study results would be to attend site in person and discuss face to face with Council. We understand that this approach adds cost to the study, so we have therefore left this as an optional addition. The advantages of a site visit are that it offers us an opportunity to verify, in person, any queries that may have arisen during the design process.

3.0 PROJECT PERSONNEL AND RELEVANT EXPERIENCE

3.1 Personnel

The skills and capabilities of the specialist HDS Australia staff who will be involved in this project are described below. Further details are contained in their staff profiles, included as Appendix B.

Duncan Howie (Principal Engineer, Water and Wastewater / Project Manager)

Duncan has more than 20 years of experience in the field of water and wastewater management. His technical experience includes options assessment, concept development, preliminary and detailed engineering design of water and wastewater treatment technology and processes. In addition, he has extensive experience and chemical engineering skills in health, safety, quality and environmental issues. This experience has been predominantly water related with application across multiple sectors including urban and rural infrastructure, mining, fisheries, food & drink, consumer goods, fine chemical and pharmaceutical.

With regard to his non-technical skills, Duncan has extensive experience of budgeting, forecasting, planning and reporting to multiple levels of management and internal stakeholders. A number of his projects have required external management of customers, regulators, auditors, approval bodies, contractors, research bodies, funding agencies, consultants and suppliers. He has driven the establishment of a number of high profile, community interest groups including contaminated land consultation forums.

His project management experience has been gained across a range of applications ranging from remote, large scale civil construction projects to complex and high profile chemical wastewater treatment plants.

Duncan is a Chartered Professional Engineer and member of Engineers Australia and the Water Industry Alliance. He is a member of the leadership group at WaRDA (Wastewater for Regional and Decentralised Applications).

Duncan will manage the project and have a key input into the concept design. He will check all drawings before release.

Deshitha Senanayake (Senior Engineer)

Deshitha is an experienced wastewater engineer with several years of experience in design of community wastewater management systems at Mallala, Two Wells, Cowell and Port Vincent in South Australia, as well as the Joy Springs Community, Western Australia water and wastewater design project for the Department of Defence. Deshitha has acted as Superintendent's Representative for the construction phase of the community wastewater management schemes at Truro and Tulka in South Australia, so has also gained valuable site experience in relation to wastewater infrastructure construction processes.

Deshitha will provide specialist input into key technical areas during the project and will provide any technical review and engineering verification input.

Perry Cai (Design Engineer)

Perry is an engineer with varied experience in hydraulic design including clean water storage and distribution systems for SA Water and design of community wastewater collection systems for small communities in Victoria.

Perry will assist Duncan and Deshitha with the geometric design of the wastewater collection system layouts, as well as preparation of drawings.

Other Staff

In addition to the specific personnel mentioned above, other staff within our Wastewater Engineering Team also have knowledge of and experience with community wastewater projects. This includes Herman Zhou (Senior Civil Designer) who has extensive experience in wastewater system drafting.

Our Managing Director, John Olson, has also been involved in the development of community wastewater management systems for over 20 years. His broad knowledge of the industry provides an excellent sounding board for other company staff in terms of options being considered and concept designs as they evolve.

3.2 Relevant Experience

Relevant projects undertaken by HDS Australia (including those completed by the former DC Potter & Associates business), together with projects completed by present HDS Australia staff during their careers, are provided below.

More information on any of these projects may be obtained by contacting HDS Australia.

- Port MacDonnell STEDS
- Southend STEDS
- Pelican Point STEDS
- Kingston SE STEDS
- Renmark STEDS
- Effluent Wetland and Wastewater Recycling for DC Willunga
- Effluent Wetland Mount Pleasant Township
- Paringa STEDS
- Sturt Reserve Leased Shacks Waste Water Disposal Scheme
- Bookmark Creek Wetland Proposal for DC Renmark Paringa
- Review of Pump Stations etc. for DC Ceduna
- Paringa STEDS – Resizing Pumping Main
- Wami Kata Old Folks Home – Stormwater Dam Extension, DOSSA
- Aquaculture Park at Smoky Bay, DC Ceduna
- Oak Valley Water Management
- Pipalyatjara – Effluent Pond
- Black Point STEDS for PRODEC Design
- Port Victoria STEDS for DC Yorke Peninsula
- Idyll Acres Sewer Scheme
- Review of Kingscote STEDS for Kangaroo Island Council
- New STEDS for Loveday
- New STEDS for Kingston on Murray
- Review of Kapunda STEDS

- Review of Naracoorte STEDS
- New STEDS for Allendale East
- Concept Designs for Donovans, Point Turton and Coobowie STEDS
- Outlook Road, Black Point STEDS Extension
- Paringa STEDS Upgrade
- Biosolids Treatment Facility for Goolwa
- Biosolids Treatment Facility for Clare Valley Waste
- States Road, Hackham - Land Division
- Water Supply for Renmark Riverfront Caravan Park
- Review of Eudunda STEDS
- Water Supply and STEDS for Calperum Industrial Estate Expansion at Renmark
- Concept Designs for Dumbalk and Yanakie (VIC) STEDS
- STEDS Audits for Waikerie, Loxton, Renmark and Paringa
- Preliminary Design of Port Vincent STEDS
- Wedderburn (VIC) Wastewater Treatment and Re-use
- Review of Burra STEDS
- STEDS Audits for Allendale East, Port MacDonnell and Tarpeena
- Review of Tumbay Bay STEDS
- Axedale (VIC) Wastewater Treatment and Class A Golf Course Irrigation
- Final Design of Sewer Connection, Marine Parade, Port Vincent
- Expansion of Wastewater Treatment Facilities, Strath Hub, Strathalbyn
- Tumbay Bay CWMS Upgrade
- Coffin Bay CWMS Upgrade
- Cummins CWMS Upgrade
- Tulka CWMS Upgrade
- New CWMS for Cowell
- New CWMS for Two Wells
- New CWMS for Mallala
- Meningie CWMS Upgrade
- Taillem Bend CWMS Upgrade
- Tintinara CWMS Upgrade
- Kingston (SE) CWMS Upgrade
- Lyndoch CWMS Upgrade
- Eudunda Stormwater Capture
- Joy Springs Community Water Supply and Wastewater System Upgrade
- New CWMS for Peterborough
- Peterborough Stormwater Capture and Re-Use

4.0 PROPOSED FEE, SCHEDULE OF RATES AND AVAILABILITY

4.1 Proposed Fee

Our fixed fee price for development of a concept design and associated preliminary cost estimate is **\$ 8,200 (excluding GST)**. The relevant deliverables and assumptions have been discussed in Section 2 and include the following tasks:

- *Task 1: Collation and review of all available information*
- *Task 2: Establish and agree the Basis of Design*
- *Task 3: Prepare options for review*
- *Task 4: Concept design*
- *Task 5a (Reporting and presentation by phone/Skype)*

The optional additional cost for a site visit and presentation of the design in person (*Task 5b – Optional site visit and presentation*) would be **\$1,850 (excluding GST)**.

4.2 Deliverables

As discussed in our methodology, the deliverables from this study will be:

- an assessment of possible wastewater management options for Bindoon;
- early review of those options with Council and selection of a preferred option;
- development of the preferred option into a concept design; and
- costing of the concept design.

4.3 Project Schedule

For the concept design study, we do not anticipate a requirement for discussion with any parties other than Council themselves. In that case, we propose the following approximate timeline assuming a start date of mid to late December.

- *Task 1: Collation and review of all available information. Complete by end December 2017.*
- *Task 2: Establish and agree the Basis of Design. Complete by 12 January 2018.*
- *Task 3: Prepare options for review. Complete by 19 January 2018.*
- *Task 4: Concept design. Complete by 2 February 2018.*
- *Task 5a (Reporting and presentation by phone/Skype). Complete by 9 February 2018.*

If the option of Task 5b is preferred, then a site visit and presentation could be arranged for the week commencing 12 February 2018 to suit Council availability.

5.0 MANAGEMENT SYSTEMS AND INSURANCE

The project assignment will be conducted in accordance with our corporate management system covering quality, WHS and environmental management issues. This is a mature system that is reviewed on a regular basis. It is summarised below.

5.1 Quality Management

We operate under a quality system which is fully compliant with International Quality Standard AS/NZS ISO 9001:2015. This enables us to assure our clients that the quality of our services will meet or exceed their expectations. Through appropriate quality planning and quality control, together with our focus on continuous quality improvement, we are able to achieve our corporate goals of providing all our clients with professionalism and value for money.

Our quality policy and list of associated procedures is included in Appendix C. Further information on the quality component of our management system is available on request.

5.2 Work Health and Safety

We are committed to providing safe and healthy workplaces and to ensuring that our activities are not harmful to company personnel, clients or other visitors to the various premises which we occupy.

We have in place a formal workplace health and safety system, incorporating an on-going process of developing and implementing appropriate WHS principles and procedures. We encourage discussion of WHS issues in each workplace.

We have a very good record with health and safety. However, we recognise that this requires on-going vigilance, with continued awareness of potential hazards to maintain our objective of providing safe and healthy workplaces for all.

Our WHS policy and list of associated procedures is included in Appendix C. Further information on the workplace health and safety component of our management system is available on request.

5.3 Environmental Management

We are committed to providing services that reflect the importance of protection and enhancement of the environment. Our ethos of environmental best practice and principles of using best available control technology for environmental issues places us in a strong position to ensure that all of our infrastructure design projects produce suitable environmental outcomes.

5.4 Insurance

HDS Australia has professional indemnity insurance coverage for \$10 million and public liability coverage for \$20 million. Copies of our certificates of currency, along with our Workers Compensation registration details, are included in Appendix D.

Appendix A

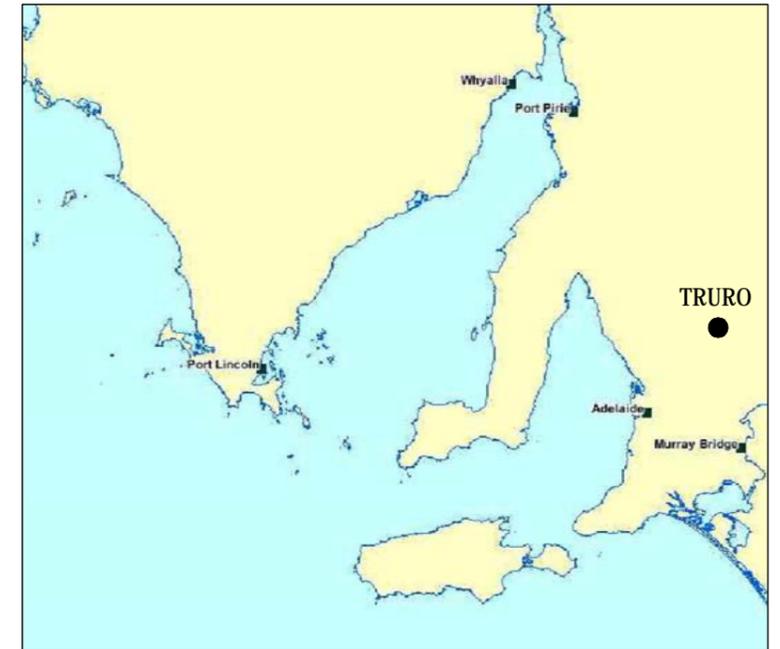
Example drawings

MID MURRAY COUNCIL

49 Adelaide Road, MANNUM SA 5238

Truro Community Wastewater Management System

HDS Australia Pty Ltd
277 Magill Road, TRINITY GARDENS SA 5068



LOCATION PLAN

INDEX OF "AS CONSTRUCTED" DRAWINGS

Drawing No. Title

CIVIL WORKS

| | |
|------------|---|
| CWMS259-00 | LOCATION PLAN AND INDEX OF DRAWINGS |
| CWMS259-01 | OVERALL LAYOUT AND TYPICAL TRENCH CROSS SECTION |
| CWMS259-02 | LAYOUT DETAIL SHEET 2 |
| CWMS259-03 | LAYOUT DETAIL SHEET 3 |
| CWMS259-04 | LAYOUT DETAIL SHEET 4 |
| CWMS259-05 | LAYOUT DETAIL SHEET 5 |
| CWMS259-06 | LAYOUT DETAIL SHEET 6 |
| CWMS259-07 | LAYOUT DETAIL SHEET 7 |
| CWMS259-08 | LAYOUT DETAIL SHEET 8 |
| CWMS259-09 | LAYOUT DETAIL SHEET 9 |
| CWMS259-10 | LAYOUT DETAIL SHEET 10 |
| CWMS259-11 | LONG SECTIONS G1A, G1E AND G1D |
| CWMS259-12 | LONG SECTIONS G1B, G1G AND G1H |
| CWMS259-13 | LONG SECTIONS G1I, G1J, G1K AND G1L |
| CWMS259-14 | LONG SECTIONS G1N, G1O, AND G1P |
| CWMS259-15 | PUMP STATION 1 LAYOUT, LEVEL DATA AND CROSS SECTION SCHEMATIC |
| CWMS259-16 | LAYOUT DETAIL SHEET 16 |
| CWMS259-17 | LAYOUT DETAIL SHEET 17 |
| CWMS259-18 | LAYOUT DETAIL SHEET 18 |
| CWMS259-19 | LAYOUT DETAIL SHEET 19 |
| CWMS259-20 | LAYOUT DETAIL SHEET 20 |

Drawing No. Title

LGA STANDARD DRAWINGS

| | |
|--------|--------------------------------------|
| SD-1A | FLUSHING POINT DETAILS |
| SD-2B | HOUSE CONNECTION DETAILS |
| SD-3A | FLUSHING POINT & HOUSE CONN. DETAILS |
| SD-4A | MANHOLE 1200Ø TO 2100Ø |
| SD-5A | DROP MANHOLE DETAILS |
| SD-6A | MANHOLE JUNCTION DETAILS |
| SD-7A | THRUST BLOCK DETAILS |
| SD-8B | PUMP OR VALVE CHAMBER ACCESS COVER |
| SD-9B | SUBMERSIBLE PUMPING STATION DETAILS |
| SD-10B | SUBMERSIBLE PUMPING STATION DETAILS |
| SD-12A | VENT DETAILS |
| SD-13A | PUMP STATION ELECTRICAL DETAILS |
| SD-18A | MARKER POST & WARNING SIGN DETAILS |
| SD-20A | AIR VALVE AND SCOUR VALVE DETAILS |

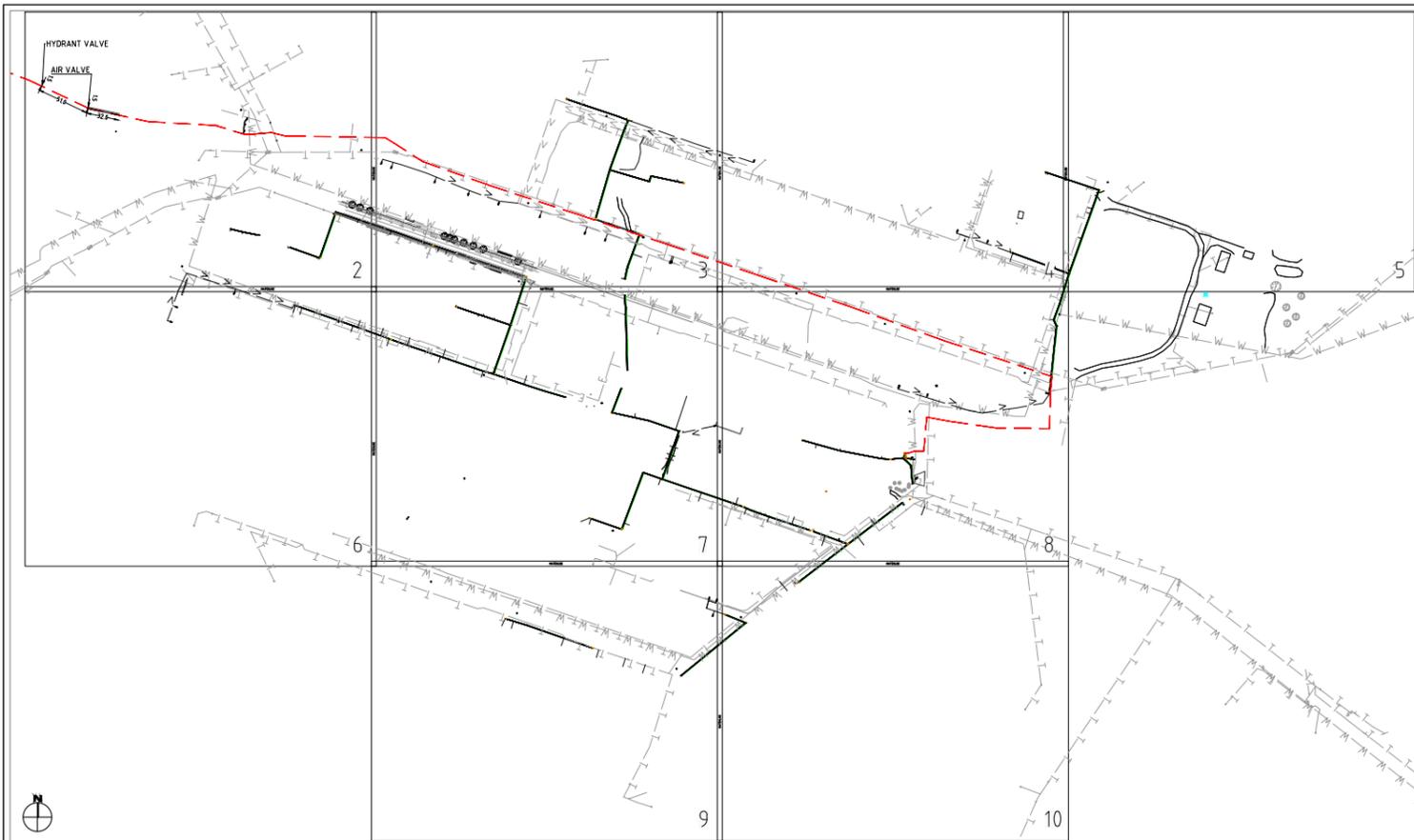
WSAA STANDARD DRAWINGS

| | |
|---------------|--|
| SEW-1315-V2.2 | MAINTENANCE SHAFTS: MS & VARIABLE BEND INSTALLATIONS |
| WAT-1302 | TYPICAL VALVE AND HYDRANT INSTALLATION: HYDRANTS AND AIR RELIEF VALVES |

SA WATER STANDARD DRAWINGS

| | |
|---------|--|
| SAW2100 | 100mm INSPECTION POINT COVER AND FRAME |
|---------|--|

| | | |
|--|--|----------------------------------|
| Letter | REVISIONS | Date |
| | | |
| Designed and Documented by 277 Magill Road Trinity Gardens SA 5068 Telephone: 08 8333 3760 Email: sa@hdsaustralia.com.au | | |
| Client MID MURRAY COUNCIL | | |
| Project TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM LOCATION PLAN AND INDEX OF DRAWINGS | | |
|  HDS AUSTRALIA | Duncan Howie MIEAust Chartered Professional Engineer Member No. 9638931 | Approved (Manager) Date _____ |
| | Drawn: DS | Checked: |
| Scales: As shown | Sheets in Set: 21 | |
| Drawing Number: CWMS259-00 March 2016 | | |



NOTES

EXISTING SERVICES

IT SHOULD BE NOTED THAT THERE MAY BE OTHER EXISTING UNDERGROUND SERVICES IN THE VICINITY OF THE WORKS NOT SHOWN ON THE DRAWINGS.

MINIMUM SEPARATION DISTANCES FOR CWMS PIPELINES TO EXISTING SERVICES AS PER TABLE BELOW.

| UTILITY (EXISTING SERVICE) | MINIMUM HORIZONTAL CLEARANCE (mm) | | MINIMUM VERTICAL CLEARANCE (mm) (1) |
|---------------------------------------|-----------------------------------|----------|--|
| | PIPELINE SIZE | | |
| | DN 200 | > DN 200 | |
| Water Mains | 1000 (2) | 1000 (2) | 500 (5) |
| Gas Mains | 300 (3) | 600 | 150 |
| Telecommunication conduits and cables | 300 (3) | 600 | 150 |
| Electricity conduits and cables (6) | 500 | 1000 | 215 |
| Drains | 300 (3) | 600 | 150 (4) |
| Sewers | 300 (3) | 600 | 500 (4,5) |
| Kerbs | 150 | 600 (4) | 150 (where practicable) |

NOTES:

- VERTICAL CLEARANCES APPLY WHEN CWMS PIPELINES CROSS OTHER UTILITY SERVICES, EXCEPT IN THE CASE OF WATER MAINS WHEN A VERTICAL SEPARATION SHALL ALWAYS BE MAINTAINED, EVEN WHEN THE CWMS PIPELINE AND WATER MAIN ARE PARALLEL. THE CWMS PIPELINE SHOULD ALWAYS BE LOCATED BELOW THE WATER MAIN TO MINIMISE THE POSSIBILITY OF BACKFLOW CONTAMINATION IN THE EVENT OF A CWMS PIPELINE BREAK.
- FOR AREAS WITH EXISTING WATER RETICULATION, CLEARANCES CAN BE FURTHER REDUCED TO 600mm WITH THE APPROVAL OF THE WATER MAIN OWNER.
- CLEARANCES CAN BE FURTHER REDUCED TO 150mm FOR DISTANCES UP TO 2m WHEN PASSING INSTALLATIONS SUCH AS POLES, PITS AND SMALL STRUCTURES, PROVIDING THE STRUCTURE IS NOT DESTABILISED IN THE PROCESS.
- CLEARANCE FROM KERBS SHALL BE MEASURED FROM THE NEAREST POINT OF THE KERB. FOR CWMS PIPELINES DN 375 CLEARANCES FROM KERBS CAN BE PROGRESSIVELY REDUCED UNTIL THE MINIMUM OF 150mm IS REACHED FOR CWMS PIPELINES DN 200.
- FOR CWMS PIPELINE LATERALS, MINIMUM VERTICAL CLEARANCES MAY BE REDUCED TO 150mm PROVIDED THERE IS NO JOINT IN THE LATERAL WITHIN 500mm OF EITHER SIDE OF THE SERVICE BEING CROSSED.
- MINIMUM HORIZONTAL SEPARATION TO STOBIE POLES IS 3.0m.

PIPEWORK AND FITTINGS

FITTINGS MATCH MAXIMUM PN RATING OF ADJACENT PIPE, WITH A MINIMUM OF PN12 USED.

ALL PRESSURE MAINS CONSTRUCTED WITH MINIMUM COVER AS FOLLOWS:

- NOT SUBJECTED TO VEHICULAR LOADING 500mm.
- IN ROADWAYS (INCL SHOULDERS) 750mm.

ALL CONNECTIONS IN VALVE BOX.

ALL VALVE BOXES FOR TRAFFICABLE AREAS PRECAST CONCRETE OR CAST IN SITU AS PER SPECIFICATION, WITH 120mm THICK REINFORCED CONCRETE BASE SLABS AND WALL THICKNESS AS PER SPECIFICATION.

ALL VALVE BOXES FOR NON-TRAFFICABLE AREAS ARE SA WATER APPROVED STREET BOX ASSEMBLY - LIGHTWEIGHT WITH ONE PIECE LID, POLYETHYLENE CHAMBER AND SPACER.

ALL AIR VALVES ARE AMIAD D-040 PN12.5 (OR EQUIVALENT). AIR VALVES WITHIN TOWNSHIP ARE LOCATED UNDER GROUND. AIR VALVES OUTSIDE TOWNSHIP ARE ABOVE GROUND.

MARKER POSTS PLACED AT CHANGE IN DIRECTION OR 200m INTERVALS ALONG ALL PRESSURE MAINS. LABELLED AS PER LGA SD-18A.

PIPEWORK IN ALL VALVE CHAMBERS BRACKETED IN PLACE.

REDUCING TEES TO SUIT PIPE DIAMETERS USED.

THRUST BLOCKS AS PER THE REQUIREMENTS DETAILED IN LGA SD-7A.

PROPERTY CONNECTIONS:

UNLESS OTHERWISE NOTED PROPERTY CONNECTIONS LOCATED 1m FROM THE DOWNSTREAM PROPERTY LINE TERMINATING IN INSPECTION POINT AS PER DETAIL ON LGA SD-2B.

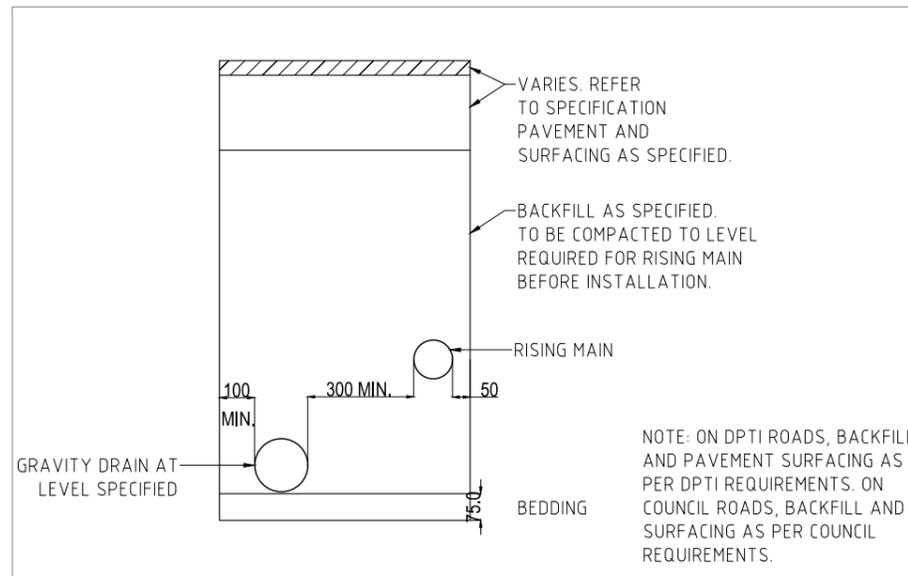
LAYOUT OF Y-CONNECTIONS AS PER LGA SD-3A.

PROPERTY CONNECTION INSPECTION POINT LIDS AS PER LGA STANDARD DRAWINGS FOR NON TRAFFICABLE AREAS.

PROPERTY CONNECTIONS IN TRAFFICABLE AREAS (E.G. DRIVEWAYS) TRAFFICABLE.

STRUCTURES:

MAINTENANCE HOLES AS PER LGA STANDARD DRAWINGS.



TYPICAL TRENCH CROSS SECTION

(NOT TO SCALE)

| | | |
|--|-------------------------------|-----------------------------------|
| Letter | REVISIONS | Date |
| | | |
| Designed and Documented by hds AUSTRALIA 277 Magill Road Trinity Gardens SA 5068 Telephone: 08 8333 3760 Email: sa@hdsaustralia.com.au | | |
| Client MID MURRAY COUNCIL | | |
| Project TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM OVERALL LAYOUT AND TYPICAL TRENCH CROSS SECTION (AS CONSTRUCTED) | | |
| Drawn: DS Scales: As shown | Checked: Sheets in Set: 21 | Approved (Manager) Date: _____ |
| Drawing Number: CWMS259-01 March 2016 | | |



NOTES:

- GRAVITY DRAIN 100Ø PVC-U UNLESS NOTED OTHERWISE.
- ALL RISING MAINS PN16 FOR PE100, PN12 FOR PVC-M UNLESS NOTED OTHERWISE. DIAMETER AND MATERIAL AS SHOWN.
- COMMON MAINS 50Ø PN12.5 PE100 UNLESS NOTED OTHERWISE.
- CONNECTION DEPTHS SHOWN ARE DEPTH TO INVERT.

CONTINUED SHEET 3

| Letter | REVISIONS | Date |
|--------|-----------|------|
| | | |



Designed and Documented by
hds AUSTRALIA
 277 Magill Road
 Trinity Gardens SA 5068
 Telephone: 08 8333 3760
 Email: sa@hdsaustralia.com.au

Client
MID MURRAY COUNCIL

Project
TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM
 LAYOUT DETAIL SHEET 2 (AS CONSTRUCTED)

| | |
|--|--------------------|
| Duncan Howie MIEAust Chartered Professional Engineer Member No. 3638931 | Approved (Manager) |
| | Date |

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| Drawn: DS | Checked: |
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| Scales: As shown | Sheets in Set: 21 |
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Drawing Number:
CWMS259-02
 March 2016

CONTINUED SHEET 6



LEGEND

- PUMP STATION
- GRAVITY DRAIN FLOW DIRECTION AND PROPERTY CONNECTIONS
- PRESSURE SYSTEM BOUNDARY KIT (AS SUPPLIED) AND COMMON MAIN
- RISING MAIN
- MAINTENANCE HOLE
- FLUSHING POINT
- EXISTING WATER SERVICE
- EXISTING TELSTRA SERVICE
- EXISTING UNDERGROUND POWERLINES
- EXISTING FENCE LINE (AS SURVEYED)
- EXISTING STORMWATER PIPE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING STOBIE POLE AND OVERHEAD POWERLINES
- SURVEY MARKER
- SEPTIC TANK LOCATION

NOTES:
 - GRAVITY DRAIN 1000 PVC-U UNLESS NOTED OTHERWISE.
 - ALL RISING MAINS PN16 FOR PE100, PN12 FOR PVC-M UNLESS NOTED OTHERWISE. DIAMETER AND MATERIAL AS SHOWN.
 - COMMON MAINS 500 PN12.5 PE100 UNLESS NOTED OTHERWISE.
 - CONNECTION DEPTHS SHOWN ARE DEPTH TO INVERT.

| Letter | REVISIONS | Date |
|--------|-----------|------|
| | | |

Designed and Documented by
hds AUSTRALIA
 277 Magill Road
 Trinity Gardens SA 5068
 Telephone: 08 8333 3760
 Email: sa@hdsaustralia.com.au

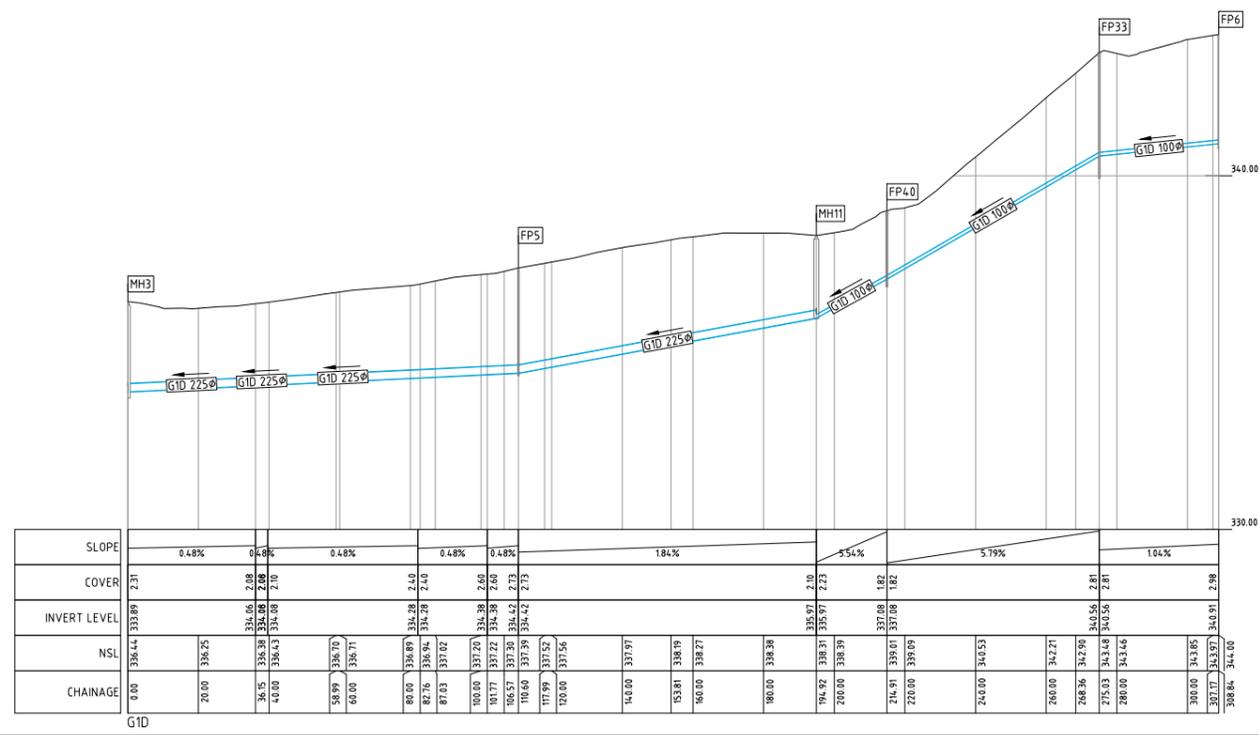
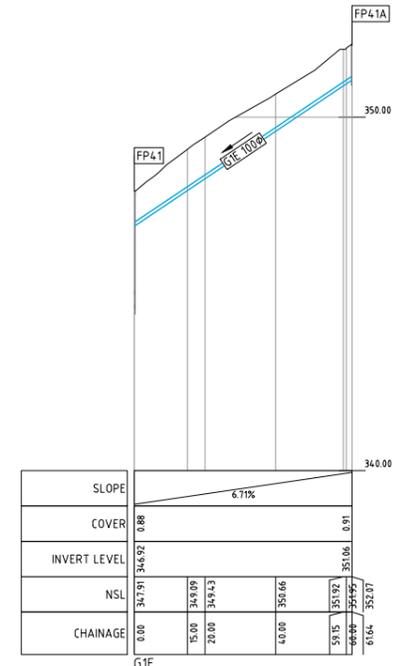
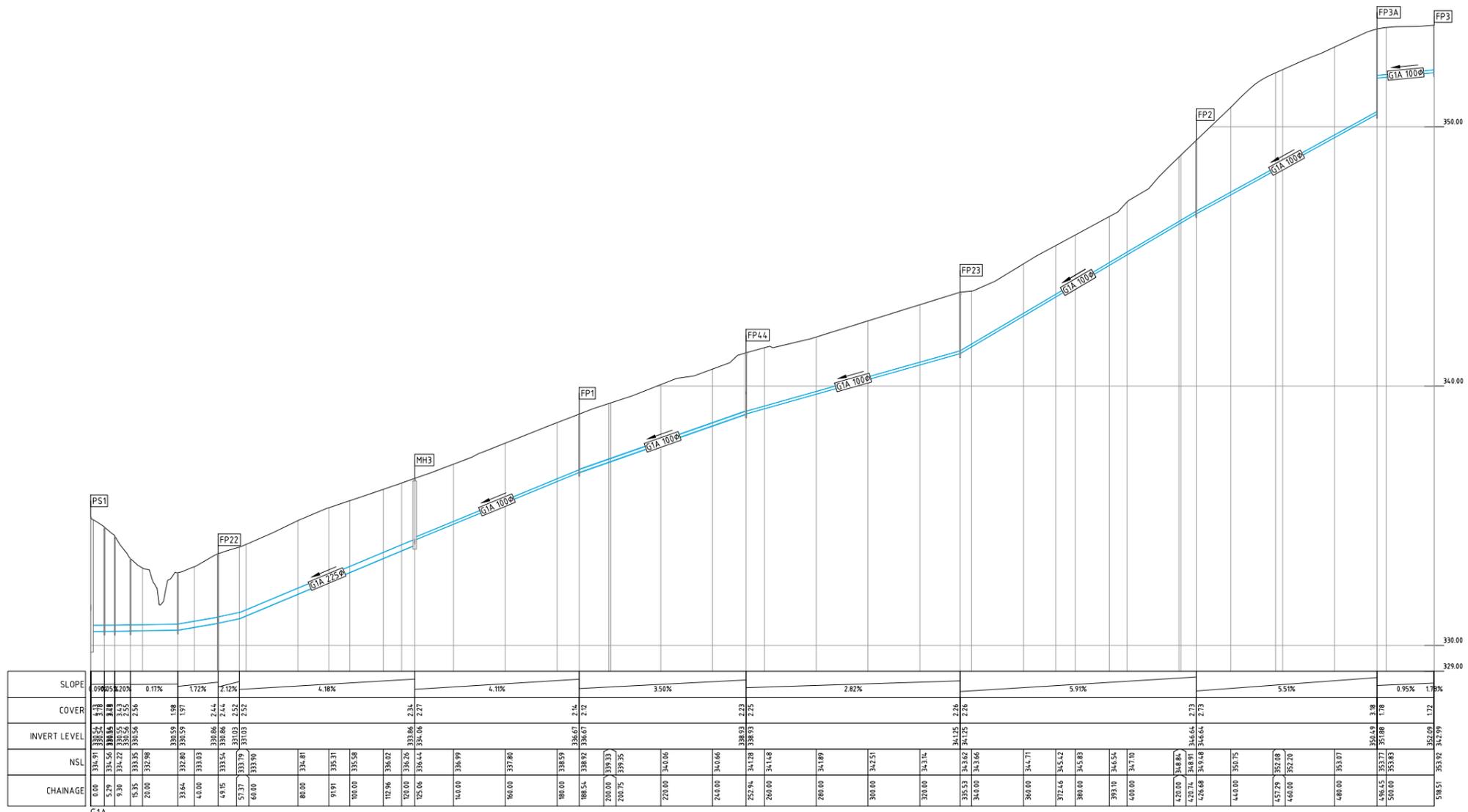
Client
MID MURRAY COUNCIL

Project
TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM
LAYOUT DETAIL SHEET 7 (AS CONSTRUCTED)

Duncan Howie
 MIEAust
 Chartered Professional Engineer
 Member No: 3638931

Approved (Manager)
 Date: _____
 Drawn: DS Checked: _____
 Scales: As shown Sheets in Set: 21

Drawing Number:
CWMS259-07
 March 2016



| Letter | REVISIONS | Date |
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hds AUSTRALIA
 277 Magill Road
 Trinity Gardens SA 5068
 Telephone: 08 8333 3760
 Email: sa@hdsaustralia.com.au

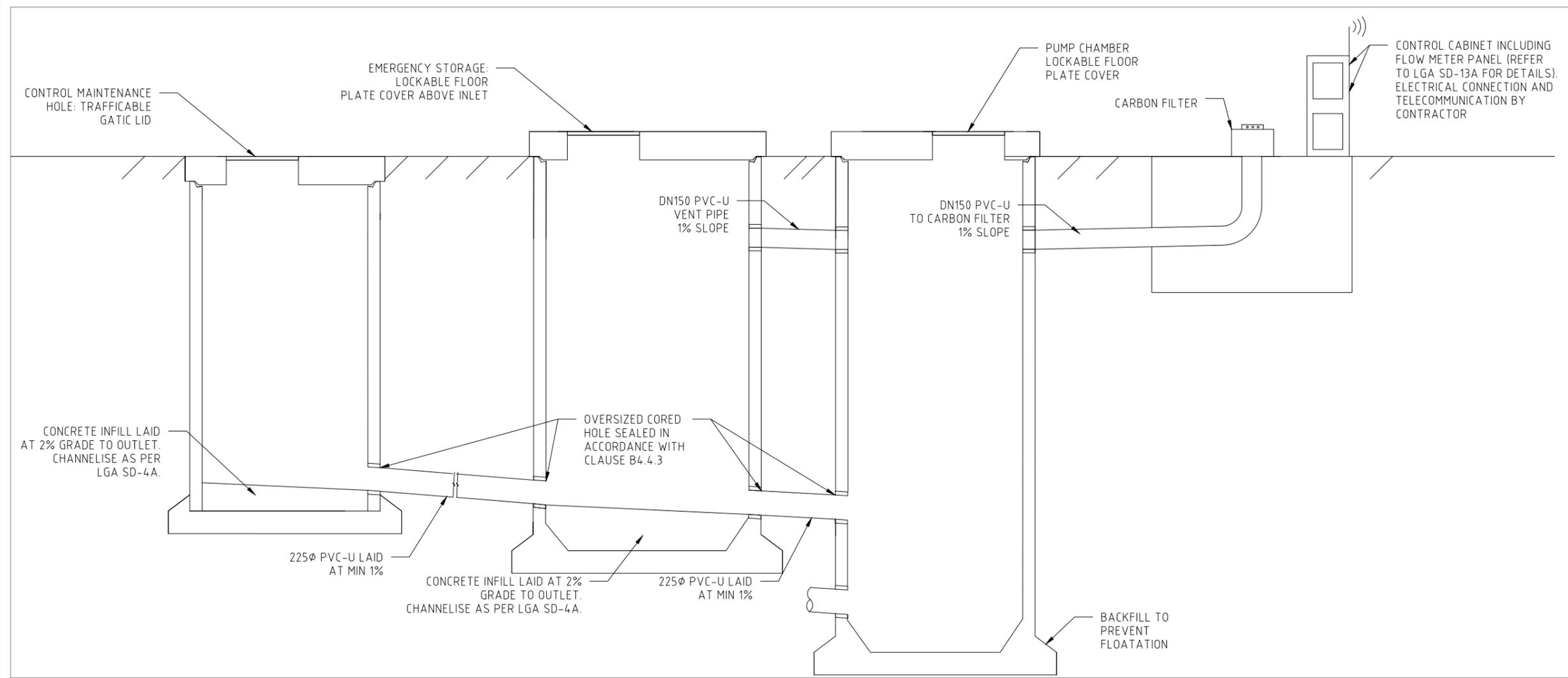
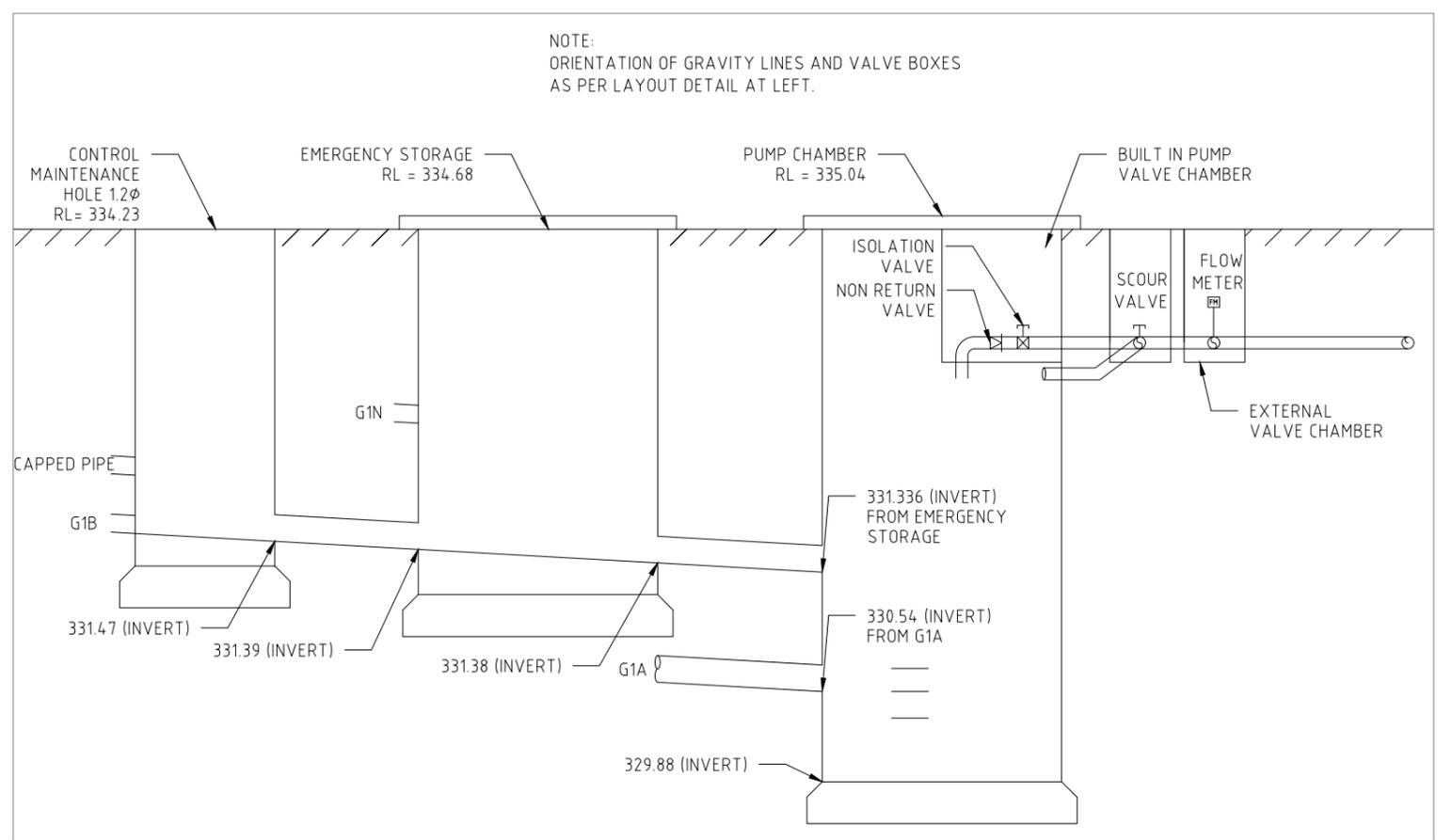
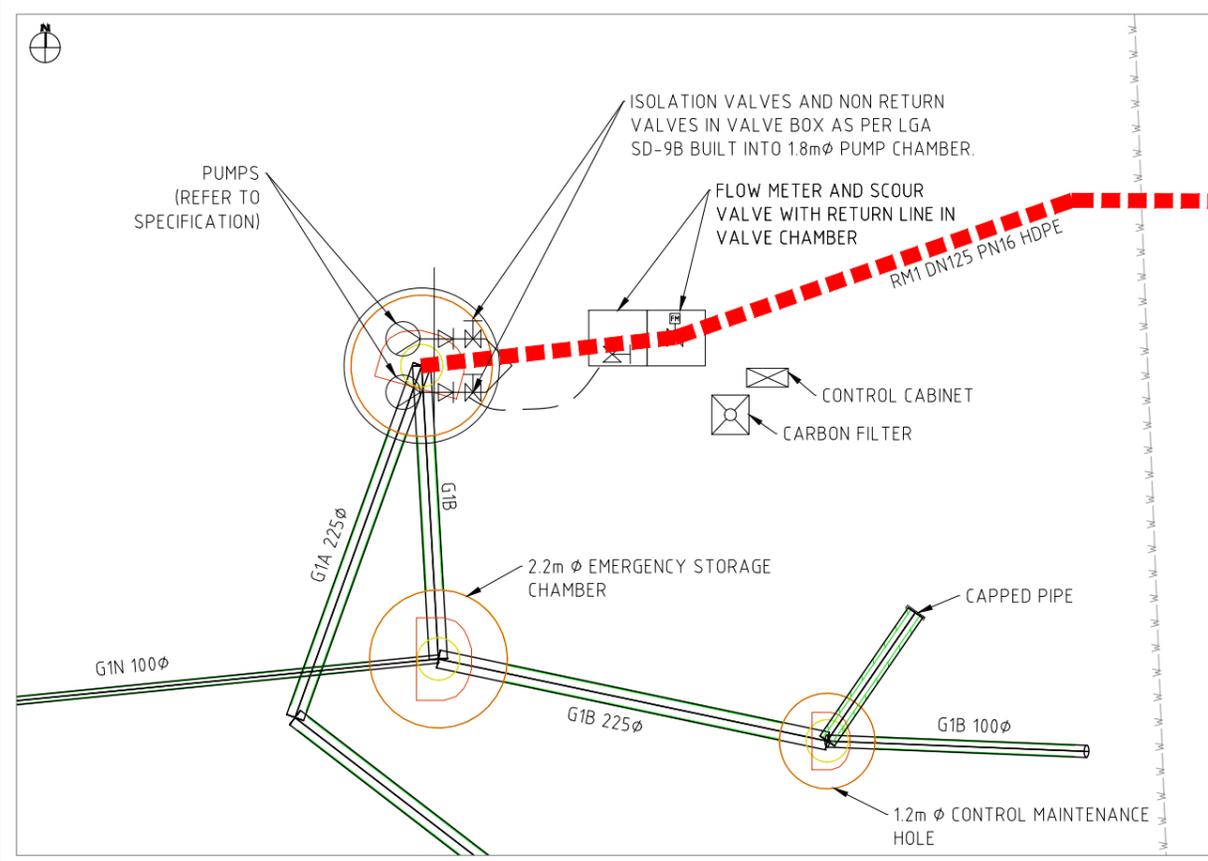
Client: **MID MURRAY COUNCIL**

Project: **TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM**
LONGSECTIONS G1A, G1E AND G1D (AS CONSTRUCTED)

| | |
|--|---|
| Duncan Howie MIEAust Chartered Professional Engineer Member No. 3638931 | Approved (Manager) _____ Date _____ |
|--|---|

Drawn: DS Checked: _____
 Scales: As shown Sheets in Set: 21

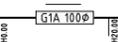
Drawing Number: **CWMS259-11**
 March 2016



| Letter | REVISIONS | Date |
|---|-------------------|---|
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| | | |
| | | |
| Designed and Documented by | | |
| 277 Magill Road Trinity Gardens SA 5068 Telephone: 08 8333 3760 Email: sa@hdsaustralia.com.au | | |
| Client | | |
| MID MURRAY COUNCIL | | |
| Project | | |
| TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM PUMP STATION 1 LAYOUT, LEVEL DATA AND CROSS SECTION SCHEMATIC (AS CONSTRUCTED) | | |
| Duncan Howie MIEAust Chartered Professional Engineer Member No. 3638931 | | Approved (Manager) _____ Date _____ |
| Drawn: DS | Checked: | |
| Scales: As shown | Sheets in Set: 21 | |
| Drawing Number: CWMS259-15 | | |
| March 2016 | | |



LEGEND

-  PUMP STATION
-  GRAVITY DRAIN FLOW DIRECTION AND PROPERTY CONNECTIONS
-  PRESSURE SYSTEM BOUNDARY KIT (AS SUPPLIED) AND COMMON MAIN
-  RISING MAIN
-  MAINTENANCE HOLE
-  FLUSHING POINT
-  EXISTING WATER SERVICE
-  EXISTING TELSTRA SERVICE
-  EXISTING UNDERGROUND POWERLINES
-  EXISTING FENCE LINE (AS SURVEYED)
-  EXISTING STORMWATER PIPE
-  EXISTING KERB
-  EXISTING EDGE OF BITUMEN
-  EXISTING STOBIE POLE AND OVERHEAD POWERLINES
-  SURVEY MARKER
-  SEPTIC TANK LOCATION

NOTES:
 - GRAVITY DRAIN 100φ PVC-U UNLESS NOTED OTHERWISE.
 - ALL RISING MAINS PN16 FOR PE100, PN12 FOR PVC-M UNLESS NOTED OTHERWISE. DIAMETER AND MATERIAL AS SHOWN.
 - COMMON MAINS 50φ PN12.5 PE100 UNLESS NOTED OTHERWISE.
 - CONNECTION DEPTHS SHOWN ARE DEPTH TO INVERT.

CONTINUED SHEET 18

| Letter | REVISIONS | Date |
|--------|-----------|------|
| | | |



Designed and Documented by
hds AUSTRALIA
 277 Magill Road
 Trinity Gardens SA 5068
 Telephone: 08 8333 3760
 Email: sa@hdsaustralia.com.au

Client
MID MURRAY COUNCIL

Project
TRURO COMMUNITY WASTEWATER MANAGEMENT SYSTEM

LAYOUT DETAIL SHEET19 (AS CONSTRUCTED)

| | | |
|---|--|----------------------------------|
|  | Duncan Howie MIEAust Chartered Professional Engineer Member No. 3638931 | Approved (Manager) Date _____ |
| | Drawn: DS | Checked: _____ |

Scales: As shown
 Sheets in Set: 21

Drawing Number:
CWMS259-19
 March 2016

CONTINUED SHEET 20

Appendix B

Management System Information

bsi.



By Royal Charter

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2008

This is to certify that:

HDS Australia Pty Ltd
277 Magill Road
Trinity Gardens SA 5068

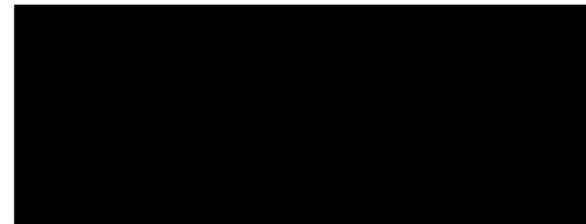
Holds Certificate Number:

FS 603768

and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the accompanying scope.

Engineering services for design, documentation, project management, contract administration and supervision related to traffic engineering (including traffic data collection), road safety audits, road design, road transport planning, water and wastewater engineering.

For and on behalf of BSI:



Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 04/12/2007

Latest Revision Date: 23/11/2016

Effective Date: 21/11/2016

Expiry Date: 14/09/2018

Page: 1 of 2



...making excellence a habit.™

This certificate was issued electronically and remains the property of BSI Group ANZ Pty Limited, ACN 078 659 211 and is bound by the conditions of contract. This certificate can be verified at www.bsi-global.com/clientdirectory. Printed copies can be validated at www.bsi-global.com/ClientDirectory. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
Information and Contact: BSI Group ANZ Pty Limited, ACN 078 659 211: Suite 2, Level 7, 15 Talavera Road, Macquarie Park, NSW 2113
A Member of the BSI Group of Companies.

Certificate No: **FS 603768**

| Location | Registered Activities |
|---|---|
| HDS Australia Pty Ltd 277 Magill Road Trinity Gardens SA 5068 | Engineering services for design, documentation, project management, contract administration and supervision related to traffic engineering (including traffic data collection), road safety audits, road design, road transport planning, water and wastewater engineering. |
| HDS Australia Pty Ltd Waverley Business Centre 21-23 Aristoc Road Glen Waverley VIC 3150 | Engineering services for design, documentation, project management, contract administration and supervision related to traffic engineering (including traffic data collection), road safety audits, road design, road transport planning, water and wastewater engineering. |

Original Registration Date: 04/12/2007

Effective Date: 21/11/2016

Latest Revision Date: 23/11/2016

Expiry Date: 14/09/2018

Page: 2 of 2

This certificate was issued electronically and remains the property of BSI Group ANZ Pty Limited, ACN 078 659 211 and is bound by the conditions of contract. This certificate can be verified at www.bsi-global.com/clientdirectory. Printed copies can be validated at www.bsi-global.com/ClientDirectory. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.

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Information and Contact: BSI Group ANZ Pty Limited, ACN 078 659 211: Suite 2, Level 7, 15 Talavera Road, Macquarie Park, NSW 2113
A Member of the BSI Group of Companies.

QUALITY

In establishing a vision for the future of HDS Australia and corporate goals to sustain that vision, the quality of service to our clients remains our foremost consideration.

Vision

To be recognised by our clients as the best provider of services in our chosen markets.

HDS Australia's four **core values** are to:

- Provide our clients with high quality services in a timely and cost effective manner;
- Maintain high ethical standards in our dealings with clients, staff, shareholders and the broader community;
- Maintain a positive working environment for our staff in which successful outcomes are encouraged and acknowledged, and
- Maintain a safe working environment for our staff and ensure that the services we provide produce safe outcomes for the community and the environment.

Quality Goal

To maintain an effective working quality system that is third party certified, drives continuous improvement and enables us to deliver products and services that meet client requirements thereby ensuring their satisfaction.

Quality Strategy

To improve the effectiveness of our quality system through process improvement techniques and increased client focus.

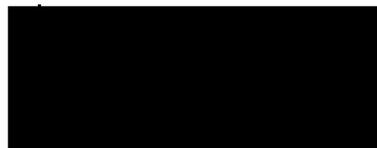
Quality Culture

Our culture is identified by the following characteristics:

- A cohesive and proactive management team committed to product and service quality, client focus and the wellbeing of employees;
- Motivated employees who take responsibility for product and service quality and continuous improvement based on objective and accurate measurement;
- Recognition that the output of sub-consultants, contract employees and other product and service providers that we engage, impacts directly on the quality of the deliverables that we present to our clients; and
- Honest and open communication between employees and with clients.



JOHN OLSON
Managing Director



SIMON CHARTIER
Operations Manager

WORKPLACE HEALTH AND SAFETY

HDS Australia is committed to providing safe and healthy workplaces and to ensuring that its activities are not harmful to company and contract personnel, sub-consultants, clients or the general public. The company is committed to compliance with current Work Health and Safety (WHS) legislation applicable to the states and territories in which we operate.

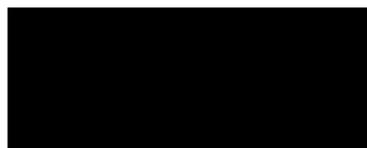
We have developed and are continually monitoring and improving a WHS system to facilitate:

- Recognition of the company's duty of care to all persons in the workplace;
- Compliance with WHS and Workers Compensation legislation along with any relevant Standards and Codes of Practice, as well as all relevant company policies and procedures that affect safety in the workplace, as far as is reasonably practicable to do so;
- Ensuring Persons Conducting a Business Undertaking (PCBUs), as well as all other officers and workers, are accountable and responsible for WHS performance;
- Adoption of a pro-active, risk managed approach to WHS and Injury Management for the company through the identification of hazards, risk assessment and elimination or control of the risk through risk management and consultative methods;
- Setting of meaningful measurable objectives and targets aimed at eliminating and controlling hazards;
- Provision and maintenance of operations, premises, equipment, plant and substances that are safe and without risk to health at all locations where company personnel operate;
- Effective internal and external consultation between all workers and interested parties;
- Effective communication on WHS issues to all workers and interested parties;
- Provision of such information, instruction, training and supervision as may be necessary to ensure the health and safety at work of all our workers;
- Use of appropriate internal and external expertise when required;
- Currency of information and robust controlled documentation and records management;
- Provision of adequate information and instruction for all PCBUs, workers and visitors; and
- Ensuring expeditious return to work of any injured workers to pre-injury duties with effective rehabilitation including consultation for rehabilitation and equitable claims management, all in accordance with the company's injury/accident management procedure.

The Directors of HDS Australia acknowledge that we have overall responsibility for guaranteeing a safe workplace and encourage the support and contribution of all workers.



JOHN OLSON
Director



SIMON CHARTIER
Operations Manager

ENVIRONMENT

HDS Australia recognises the importance of protecting and/or enhancing the environment. Its personnel are aware of the potential adverse impact which our business processes, and the projects we provide services for, may have on the environment and is conscience of the social and legal responsibility we have to deal with them.

HDS Australia management is committed to instilling an ethos of environmental best practice within the company and ensuring that appropriate actions are implemented to address all environmental issues applicable to our internal operations and service delivery.

The following key environmental issues require particular attention on an on-going basis:

- conservation of energy
- waste management (especially recycling and disposal of used office equipment and supplies)
- air and noise pollution control
- office and vehicle maintenance
- environmental consideration in design

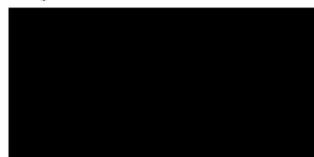
All HDS Australia personnel shall ensure that these and other relevant issues, including local environmental, community and project specific issues, are continually addressed. This will be achieved through actions such as conducting environmental awareness training sessions, preparing and implementing environmental management procedures and plans, and being aware of environmental legislation, regulations, codes of practices, Australian Standards and other relevant environmental documents.

HDS Australia management is committed to continually improving the company's environmental management processes and on-going performance. This will be achieved by progressively broadening the knowledge of company personnel on all relevant environmental matters, by auditing our environmental procedures, by identifying improvement opportunities and by taking appropriate corrective action where environmental deficiencies are identified.

The responsibility of protecting the environment rests not only with management, but with all company personnel. It is up to every individual to use their initiative in adopting environmentally responsible work practices. In this way, HDS Australia will satisfy the requirements of its clients, comply with relevant environmental legislation and regulations, and contribute to the well-being of the community and the environment.



JOHN OLSON
Managing Director



SIMON CHARTIER
Operations Manager

UNCONTROLLED

PRIVACY

HDS Australia is committed to collecting and maintaining personal information in accordance with the Privacy Amendment (Private Sector) Act 2000.

Personal information is collected and maintained for administrative and management reasons only and will not be disclosed or accessed for any other purpose. Personal information will not be released to any external person or organisation except where required by law.

Personal information maintained by HDS Australia includes:

- **Applications for Employment**

Name, address, age, phone contact, experience, qualifications.

- **Letters of Application for Specific Advertised Positions**

Personal information as above plus details of any existing employer, referees, hobbies, interests, reasons for applying.

- **Details in Employees Personal Files**

Name, address, phone contact, emergency contact, age, sex, marital status, qualifications, training certificates, counseling, discipline reports, performance appraisals, Workcover claims and related medical certificates, payroll details, superannuation details, tax file number, bank account details.

- **Payroll Records**

Name, address, phone number, rate of pay, allowances, overtime details, superannuation details, length of service, leave entitlements and requests, bank account details.

Information is collected from prospective and existing employees and maintained manually by the Operations Manager. Changes to personal information are advised to the Operations Manager who updates the records accordingly.

Payroll information is maintained on a database by the Operations Manager who is responsible for the preparation of monthly salary and contract service payments.

Any concerns or complaints relating to the use and/or maintenance of personal information should be directed to the Operations Manager in the first instance.



JOHN OLSON
Managing Director



SIMON CHARTIER
Operations Manager

UNCONTROLLED

EMPLOYEE RELATIONS

HDS Australia Pty Ltd recognises that we depend upon the capability, dedication, diligence and productivity of our employees (and also those of our sub consultants) and to this end will provide a safe, harmonious and productive workplace. As a responsible employer, we will provide conditions that encompass fairness, equity and safety.

Separate policies are in place for:

- Quality
- Workplace Health and Safety
- Environment
- Privacy

The focus of this policy is on employee relations.

HDS Australia will:

- Comply with relevant industrial, equal opportunity and employment laws, industrial agreements and other obligations placed upon the company;
- Promote open and effective communication between employees at all levels;
- Resolve disputes equitably and efficiently;
- Provide fair and reasonable management of industrial issues;
- Apply all policies and procedures in an equitable and fair manner regardless of position;
- Provide a work environment which is conducive to providing a work life balance to encourage employees to remain with the company;
- Maintain an open relationship with our employees and any elected representatives together with other relevant and interested parties;
- Respect the legal rights of employees in regard to freedom of association and their entitlement to representation in accordance with awards and agreements;
- Establish employment conditions and a workplace that is free of prejudice and bias;
- Expect any subcontractors and suppliers to comply with applicable awards, agreements and the law;
- Provide clear direction to staff and provide feedback on their performance; and
- Encourage and support the development of staff.

UNCONTROLLED

Appendix C

Staff Profiles of Key Personnel



John Olson

Managing Director

Education

Bachelor of Engineering, Civil (First Class Honours)
University of Adelaide, 1978
Registered Quality System Auditor/Assessor, PE Batalas, 1994
Company Directors Course Diploma, AICD, 2002

Professional Affiliations

Fellow, Institution of Engineers Australia (Member Civil College)
Chartered Professional Engineer, Engineers Australia
Engineering Executive, Engineers Australia
Fellow, Australian Institute of Company Directors
Alumni Member, The Executive Connection (TEC) Australia

Key Skills / Qualifications

Principal Engineer, Road Transport Planning
Principal Engineer, Road Asset Management
Engineering Specialist, Community Wastewater Management

Responsibilities and Experience

John was originally employed with the South Australian Highways Department (now Department of Planning Transport and Infrastructure) and, over a period of 7 years, worked on the design and construction of various urban and rural roads around the state. Following this, John spent two years with MacDonald Wagner Pty Limited in Sydney as a Senior Highways Engineer, before forming his own company (then called Highway Design Services) in May 1988.

John's key areas of expertise include:

- Corporate business management and strategic planning
- Road infrastructure planning and road asset management
- Strategic solutions for asset management
- Community Wastewater Management Systems (CWMS – previously known as STEDS)
- Municipal engineering and project management
- Civil construction contract management
- Development of quality management systems

As Managing Director of HDS Australia Pty Ltd, John is responsible for overall management of HDS Australia, a civil engineering and project management consultancy practice, which has offices in two Australian states (plus an allied office in Hong Kong).

Employment Summary

| | |
|----------------|--|
| 1987 – Present | Founder and Managing Director, HDS Australia Pty Ltd |
| 1985 – 1987 | Senior Highways Engineer, MacDonald Wagner Pty Limited |
| 1978 – 1985 | South Australian Highways Department (now Department of Planning Transport and Infrastructure) |





Duncan Howie

Principal Engineer, Water and Wastewater

Education

Bachelor of Science, Engineering (Chemical), 1987-1992
University of the Witwatersrand, Johannesburg, South Africa

Professional Affiliations

Member, Institution of Engineers Australia
Chartered Professional Engineer, Engineers Australia
Australian Institute of Company Directors
Australian Water Association
Water Industry Alliance

Key Skills / Qualifications

Water and wastewater treatment
Process engineering, environmental protection, technical safety
Project and contract management

Responsibilities and Experience

Duncan is the Principal Engineer, Water and Wastewater at HDS Australia Pty Ltd and a member of the Executive Team. He has more than 20 years' experience in the field and has worked in a number of different countries. His experience in water management covers a range of applications including community/domestic systems as well as industrial sectors such as mining, chemical, pharmaceutical, clinical waste, food/drink and consumer goods. His broader technical experience includes process optimisation, waste minimisation and technical safety studies such as hazardous area calculation and HAZOP studies. He has extensive and varied project management experience, in which he has worked on behalf of both government regulators and private sector business.

Duncan also has responsibilities and experience in the fields of Work Health Safety and as an internal auditor of the company quality management system. He is currently leading the company transition to the ISO9001:2015 standard.

Duncan's key areas of key technical expertise include:

- Water treatment, re-use and management
- Environmental protection and management
- Project management, public consultation and community liaison
- Process engineering and technical safety

Employment Summary

| | |
|----------------|--|
| 2012 - Present | HDS Australia Pty Ltd, Principal Engineer, Water and Wastewater |
| 2009 - 2012 | Strix Ltd, Isle of Man, British Isles, Project Engineering Manager |
| 2007 - 2009 | CEL International / WSP, UK, Principal Consultant and Associate |
| 2001 - 2007 | Sulatech Ltd, UK, Technical Director |
| 1997 - 2001 | CEL International, UK, Process and Environmental Consultant |
| 1993 - 1997 | PHD Ltd, South Africa, Graduate Environmental Consultant |





Deshitha Senanayake

Senior Design Engineer Senior Road Safety Auditor

Education

Master of Engineering (Civil), 2015
Bachelor of Engineering (Civil and Transport), 2010
University of South Australia, 2007

Professional Affiliations

Engineers Australia - MIEAust

Key Skills / Qualifications

Senior Road Safety Auditor
Road Design
Project Management

Responsibilities and Experience

Deshitha is actively involved in HDS Australia's road design, traffic and transport business unit. He has project managed and provided engineering input into the design and documentation of a number of road design projects for private client, local government and the Department of Planning, Transport and Infrastructure.

Deshitha is an accredited VicRoads Road Safety Auditor and an accredited DPTI Senior Road Safety Auditor; he has been involved in the audit process for a number of projects in South Australia at preliminary design, detailed design, pre-opening and post opening and construction traffic management stages; notable projects include the Southern Expressway duplication, the Northern Connector, Gateway South and the O-Bahn extension.

Deshitha has also been involved in the design of Community Wastewater Management Systems (CWMS) as a project engineer at concept, preliminary and final design stages. He has also overseen the construction of CWMS infrastructure for the townships of Tulka and Truro as a superintendent's representative.

His areas of expertise include:

- Review of SELGA member council funding applications
- Road Safety Auditing
- Road Design
- Project Management
- Community Wastewater Management Systems
- Stormwater drainage design

Employment Summary

| | |
|----------------|--|
| 2015 – Present | Senior Engineer, HDS Australia Pty Ltd |
| 2013 – 2015 | Experienced Engineer, HDS Australia Pty Ltd |
| 2010 – 2012 | Graduate Engineer, HDS Australia Pty Ltd |
| 2009 | Undergraduate Engineer, FMG Engineering |
| 2008 – 2009 | Undergraduate Engineer, Connell Wagner (Aurecon Group) |



Adelaide • Melbourne • Hong Kong



Perry Cai

Civil Design Assistant

Education

Bachelor of Civil Engineering, 2005
Beijing University of Technology, China

Professional Affiliations

Member, Institution of Engineers Australia

Key Skills / Qualifications

Proficient with AutoCAD, Civil 3d
SA Construction White Card

Responsibilities and Experience

Perry has ten years' experience in urban road and highway design for a variety of infrastructure projects from initial concept to the final design. He has a broad understanding of road alignment, pavement, geotechnical design and drafting.

As a designer his main duties include:

- Road alignment, traffic control design and drafting
- Water and Drainage drafting
- Site inspection and survey
- Traffic survey
- Progress reports

Major projects:

- Truro CWMS As Constructed drafting (SA Australia)
- Yorke Peninsula Council CWMS As Constructed drafting (SA Australia)
- Northern Area Council Delineation Plans (SA Australia)
- Geranium South Rd, Tauragat Well Rd and Pfeiffer Rd Junction upgrade (SA Australia)
- Tailern Bend / Stockwell Road / Mallee Highway traffic control (SA Australia)
- Intersection of South Road and Central West Shopping Centre entrance (Vic Australia)
- Hubei Xianning-Tongshan Highway (Hubei, China)
- Quanzhou Tonggang Road project (Fujian, China)
- Changzhou Bus Rapid Transit line1 project (Jiangsu, China)
- Wuhan Railway Station Municipal project (Hubei, China)

Employment Summary

2017 to Present – Civil Design Assistant – HDS Australia Pty Ltd

2005 to 2015 – Civil Designer - Beijing Urban Construction Design & Development Group



Adelaide • Melbourne • Hong Kong



Herman Zhou

Senior Road Designer Senior Road Safety Auditor



Education

Bachelor of Engineering (Internal Combustion Engine),
South China University of Technology, 1998

Key Skills / Qualifications

Computer Network, Hardware and Software Support
Data entry and data collection
MapInfo operator
AutoCAD package
MX Road design software

Responsibilities and Experience

Road Design & MX

Involved projects including:

8 km of Tauragat Well Road – Detailed Design and Documentation for Coorong District Council

Dukes Highway Rest Area MM159.4 & MM176.5 - Detailed Design and Documentation for DPTI

Murray Street, Angaston Road Linemarking Design Services

Moran St and Patons Rd Upgrade – Detailed Design and Documentation for City of Greater Bendigo

5 Way Intersection at Eudunda - Detailed Design and Documentation for Regional Council of Goyder

Upgrade of Lincoln Highway and Sullivan Drive Intersection, North Shield – Detailed Design and Documentation for District Council of Lower Eyre Peninsula

Kerb and Watertable Upgrade at Bedford Park and Colonel Light Gardens for City of Mitcham

AutoCAD

Involved projects including:

Tumby Bay CWMS Upgrade - Design, Tender & Construction Superintendency

Tintinara CWMS Wastewater Re-Use - Investigation, Design & Implementation

Edinburgh Park Industrial Estate PBS 3 Route Study Concept Design for 14 locations for Renewal SA

West Avenue and Third Avenue Intersection Concept Design for Renewal SA

Detail Design of Ashley Street and South Road Bicycle Path for Maribyrnong City Council

MapInfo

Involved projects including:

Southern & Hills Local Government Association 2020 Transport Plan

South East Local Government Association 2030 Transport Plan

Murray & Mallee Local Government Association 2030 Transport Plan

Employment Summary

2016 to Present – Senior Road Designer, HDS Australia Pty Ltd

2007 to 2015 – Civil Designer, HDS Australia Pty Ltd

Appendix D

Insurance Details

LAUW
LONDON AUSTRALIA UNDERWRITING

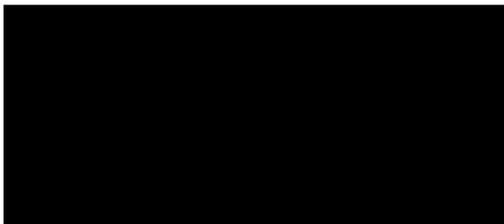


AFSL 295894 ABN 40 114 962 435

CERTIFICATE OF CURRENCY

Risk: Professional Indemnity
Insured: HDS Australia Pty Ltd
Certificate Number: LAUPI00000018311
Period of Insurance: From: 30 June 2017
To: 30 June 2018
Limit of Indemnity \$10,000,000
Our Proportion: 100%
Security: Certain Underwriters at Lloyd's

This certificate is furnished as a matter of information only and does not constitute an insurance contract upon which claims can be made. It is provided as a summary only of the cover provided and is current only at the date of issue. For full particulars, reference must be made to the current policy wording.



Signed on behalf of the company:

Dated: 23 June 2017

Hollard.

Certificate of Currency

Date of issue : 18 / 08 / 2017

Policy Number : BRE000890BUS

Underwritten by : The Hollard Insurance Company Pty Ltd
ABN 78 090 584 473 AFSL 241436

Policy Wording: Hollard Business Insurance

Period of Insurance : From 31 / 08 / 2017 To 31 / 08 / 2018 at 4.00pm

Insured Name : HDS AUSTRALIA PTY LTD

Interested Party : None

Insured Location(s) : 21-23 ARISTOC ROAD, GLEN WAVERLEY VIC 3150

Sum Insured/Limit of Liability

Public and Product Liability \$20,000,000

The policy referred to is current as at the date of issue of this certificate and whilst an expiry date has been indicated it should be noted that the policy may be cancelled in the future. Accordingly, reliance should not be placed on the expiry date.

This certificate is not a substitute for the policy that details your rights and obligations and the extent of your insurance cover.



David Simpson /
Head of Underwriting



Toll Free 1800 066 204
Fax (03) 8804 9406
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Web www.cgu.com.au
Mail GPO Box 2090, Melbourne VIC 3001
CGU Workers Compensation (VIC) Limited ACN 005 297 781
Authorised Agent of WorkSafe Victoria



WorkCover Insurance 2017/18

Date of Issue 9 June 2017
Employer Number 6346991

Certificate of Currency

This employer is registered for WorkCover Insurance to cover its liabilities under the *Workplace Injury Rehabilitation and Compensation Act 2013* (and amendments).

This certificate is valid from 1 July 2017 to 30 June 2018.

Employer Details

Employer Number: 6346991
Legal Name: HDS AUSTRALIA P/L
ABN: 72 008 214 266
ACN: 008 214 266

Yours faithfully,



Caterina Todarello
Policy Services Manager
CGU Workers Compensation (VIC) Limited
For and on behalf of WorkSafe Victoria