

HYDRUS ENGINEERING CONSULTANTS



1.0 BACKGROUND

Hydrus Engineering Consultants is a Business Unit of Rotorua District Council formed to provide professional engineering services to the Council and external clients. Hydrus developed out of the Council's Utilities Planning Department within its Engineering Group. It comprises a team of highly skilled engineering professionals specialising in planning, design, construction, supervision, management and commissioning of water utilities infrastructure. Hydrus has a track record of successfully undertaking multi-million dollar capital developments and replacement works.

2.0 SERVICES

Hydrus will work with each client to tailor a package of services to suit their needs, budgets, timeframes and outcomes. The professional services that Hydrus could offer are comprehensive and include the following.

a) Strategic planning for utility services including:

- Structure plans
- Infrastructure strategies
- Activity management plans
- Services assessments
- Capital works programmes
- Long-term council community planning
- Asset management plans

b) Development of policies for public sector organisations:

- Related to delivery of utility services

c) Investigative projects including:

- Pre-feasibility and feasibility studies
- Surveys
- Site investigations
- Preliminary design
- Evaluation of alternatives
- Preliminary estimates
- Economic studies
- Preparation of business cases
- Environmental impact assessments
- Inputs to consent processes

d) Design including:

- Developed design
- Obtaining consents and statutory approvals
- Detailed design and working drawings
- Specification
- Schedules of quantities
- Quality assurance procedures
- Procurement plans
- Tender documentation

e) Implementation including:

- Calling and evaluating tenders
- Negotiations
- Preparation of contract documents
- Administration of contracts
- Providing qualified personnel as 'Engineer to the Contract' or 'Engineer's Representative'
- Approving progress claims
- Testing materials and commissioning plant and equipment
- Monitoring of works

f) Commissioning and acceptance of works:

- Proof testing
- As-built drawings
- Asset attribute data collection
- Asset valuations
- Substantial completion certificates
- Operating manuals

3.0 RELEVANT EXPERIENCE AND TRACK RECORD

Hydrus Engineering Consultants has considerable experience in planning design and construction supervision/management of water and wastewater projects. Following is a list of some projects completed or being undertaken by the Hydrus team:

3.1 Pressure Sewer System Projects

Project Name/Client	Project Description	Capital Cost	Hydrus' Involvement
Hinemoa Point Sewerage Scheme (Rotorua District Council)	Low Pressure Grinder Pump Sewer System to service 60 properties	\$1.0M	Feasibility Study, Preliminary Design, Detailed Design and Construction Supervision
Brunswick/Rotokawa Sewerage Scheme (Rotorua District Council)	Sewerage Reticulation to service 207 properties with 41 properties serviced by Low Pressure Grinder Pump System	\$12.5M	Preliminary Design, Detailed Design and Construction Supervision
Lake Okareka Sewerage Scheme (Rotorua District Council)	Low Pressure Grinder Pump System to Service 260 properties. Includes Transfer Main and Pump Stations to connect area to an existing treatment plant.	\$9.7M	Preliminary Design, Detailed Design and Construction Supervision
Okere/Otaramarae/Whangamarino Sewerage Scheme (Rotorua District Council)	Low Pressure Grinder Pump System to service 300 properties. Includes Transfer Main and Pump Station to connect area to an existing treatment plant.	\$14.7M	Preliminary Design, Detailed Design and Construction Supervision
Wainui Beach Water and Wastewater Reticulation Options Peer Review of Cost Estimates (Gisborne District Council)	Water and Wastewater Reticulation for Wainui Beach. The Sewerage Scheme includes LPGP System as a servicing option.	-	Peer review of cost estimates

Project Name/Client	Project Description	Capital Cost	Hydrus' Involvement
Wainui Beach Wastewater Scheme Low Pressure Grinder Pump System (Gisborne District Council)	Low Pressure Grinder Pump System to service 1,908 properties and includes Transfer Main and Pump Station to connect the area to an existing Treatment Plant	\$29M	Concept Design and Cost Estimates including provision of summary for policy consideration regarding the implementation of LPGP System
Pressure Sewer System Policy for Rotorua District Council (Rotorua District Council)	Development and approval of policy to cover the implementation of Pressure Sewer systems in the Rotorua District	-	Scoping of issues, development of policy options, consultation finalisation and approval of policy document

3.2 General Wastewater Projects

Project Name/Client	Project Description	Capital Cost	Hydrus' Involvement
Mourea/Okawa Bay Sewerage Scheme (Rotorua District Council)	Gravity Reticulation system to service 200 properties	\$5M	Preliminary Design, Detailed Design Tender Documentation and Construction Supervision
Urban Sewer Network Rehabilitation (Rotorua District Council)	Sewer Network Replacement/Rehabilitation	\$1M per annum	Investigation and Scoping Design, Tender Documentation and Construction Supervision
Taupo Land Disposal Rising Main (Taupo District Council)	Sewer Rising Main that joins the Taupo WWTP to the new Land Disposal System	\$6M	Detailed Design and Tender Documentation (Subconsultant to AWT NZ Ltd)

3.3. Water Projects

Project Name/Client	Project Description	Capital Cost	Hydrus' Involvement
Urban Water Network Rehabilitation (Rotorua District Council)	Water Network Replacement/Rehabilitation	\$1 M per annum	Investigation and scoping, Design, Tender Documentation and Construction Supervision
UV Water Treatment Plant Installation (Rotorua District Council)	UV Water Treatment Plant Installation for Rotorua water supply sources	\$3.2 M	-Project Management of Planning and Design -Construction Supervision

4.0 TECHNICAL SKILLS

The Hydrus Team comprises a team of highly skilled engineering professionals specialising in planning, design construction supervision and commissioning of water and wastewater infrastructure.

Following are details of professional and work experience of the Hydrus Team.

Name:	Greg Manzano
Position:	General Manager
Education:	BE (Civil), 1980 BE (Env), 1982 GDip (Bus Studies), 2007
Professional Qualification:	CPEng, MIPENZ (Civil Env), Int PE (NZ)
Specialist Experience:	
	Wastewater Engineering, Water Supply Engineering, Stormwater Engineering, Contract Administration and Project Management, General Management
Summary of Work Experience:	
	Over 25 years professional experience in water and wastewater infrastructure development in Asia, Middle East and New Zealand. Project involvement includes from feasibility investigation to commissioning. Several sewerage schemes completed as Project Engineer/Project Manager. <ul style="list-style-type: none">- Waipu/Langs Beach Sewerage Scheme (Whangarei, 1998)- Whangarei Heads Sewerage Scheme Stage 1 (Whangarei, 1999)- Mourea/Okawa Bay Sewerage Scheme (Rotorua, 2005) Project Director for the following sewerage scheme projects: <ul style="list-style-type: none">- Hinemoa Point Sewerage Scheme (Rotorua – ongoing)- Brunswick/Rotokawa Sewerage Scheme (Rotorua – ongoing)- Lake Okareka Sewerage Scheme (Rotorua – ongoing)- Okere/Otaramarae/Whangamarino Sewerage Scheme (Rotorua – ongoing)- Wainui Beach Sewerage Scheme LPGP Concept Designs (Gisborne, 2007)

Name:	Paul Smith
Position:	Project Engineer
Education:	NZCE (Civil), 1982
Professional Qualification:	Registered Engineering Associate
Specialist Experience:	Wastewater Engineering, Sewer Network Modelling, Contract Administration and Project Management
Summary of Work Experience:	<p>Over 10 years in design and construction of roading and stormwater projects and over 20 years in design and construction of sewer reticulation projects including hydraulic modelling (7 years).</p> <p>Contract Supervisor (Engineers Representative) for Mourea/Okawa Bay Sewerage Scheme and Eastern Trunk Sewer Main Project.</p> <p>Project Manager for the installation of LPGP System at Hinemoa Point.</p> <p>Peer Review of all Tender Documents and Drawings and preparation of Details and Specifications for local Engineering Standards for all Utility Services.</p> <p>Project Engineer for Taupo Land Disposal pipeline project for design of 4.3km of Sewer Pressure Main.</p>

Name:	Mark Buckley
Position:	Senior Planner
Education:	MSc (Earth Science),
Professional Qualification:	New Zealand Society of Soil Science
Specialist Experience:	RMA Process, Policy Development, Public Construction
Summary of Work Experience:	<p>Fourteen years experience in consultancy and local government in environmental science and engineering. A range of experience from project conception to completion with respect to water and wastewater schemes. This includes site identification, community consultation, negotiations and procurement of legal easements, LGA and RMA consents, development of council policy on the application of low pressure grinder pump systems. The preparation and obtaining of Central and Regional Government funding. Statutory compliance for resource consents and district designations and the preparation of the Capital Project Funding Policies as required under the Local Government Rating Act (2004).</p> <p>Relevant experience in the development of the Hinemoa Point Sewerage Scheme, planning requirements for the Okareka, Rotokawa/Brunswick/Okere Falls/Otaramarae/Whangamarino and Eastern Trunk Main Sewerage Schemes.</p>

Name:	Riaan Rossouw
Position:	Senior Engineer
Education:	BEng (Civil)
Specialist Experience:	17 years experience in Water engineering, project management, optimize and improve water services to communities, including water meters, treatment plants and design of Internet based programme.
Summary of Work Experience:	Brings a wealth of experience to the Hydrus Team in a supporting management role.

Name:	Murray Callingham
Position:	Project Engineer
Specialist Experience:	38 years overall experience in Surveying, Calculations, Draughting, Civil Engineering and Design 10 years as Land Drainage Manager
Summary of Work Experience:	Engineering Projects, Design of roading layouts for Lakefront & Government Gardens. Design and construction and Supervision of Stormwater projects Urban & Rural. Management of the Upper Kaituna assets maintenance and Lake Okareka level control for Environment BOP.
Current work includes:	Preliminary design of Eastern Trunk Main Reservoir No: 3 Design U.V Plant installations

Name:	Arturo Pingol
Position:	Project Engineer
Education:	MSc Water Resources Eng. (Belgium), 1996 BE (Civil), 1981 BE (Sanitary), 1982
Professional Qualification:	Registered Civil and Sanitary Engineer (Philippines)
Specialist Experience:	Water Distribution and Sewer Network Pipeline Design Hydraulic Modelling, Contract and Project Management
Summary of Work Experience:	Over 25 years of professional work experience in water and wastewater infrastructure development from feasibility study to commissioning. Worked in Asia and New Zealand both in engineering consultancy and local authority/client environment. Projects completed or currently involved with: <ul style="list-style-type: none"> • Rotorua Urban Sewer Network Rehabilitation (2003 – 2006) <ul style="list-style-type: none"> - Investigation, Scoping, Detailed Design and Tender Documentation and Construction Supervision • Lake Tarawera Sewer Servicing Options Feasibility Investigation (2007) Rotorua Urban/Rural Sewer Extension Investigations (2007)

Name:	Efren Bandong
Position:	Project Engineer
Education:	BE (Civil), 1981 BE (Sanitary), 1982 MBA (Credits)
Professional Qualification:	Registered Civil and Sanitary Engineer (Philippines)
Specialist Experience:	
	Water and Wastewater Network Planning and Design, Contract Administration and Project Management
Summary of Work Experience:	
	Over 25 years of professional work experience in water and wastewater infrastructure development in Philippines, Saudi Arabia, Malaysia, New Zealand covering feasibility studies, preliminary engineering design, detailed engineering design, tender and contract documents preparation, contract administration and construction supervision.
	Projects completed or currently involved with:
	<ol style="list-style-type: none"> 1. Hinemoa Point Sewerage Scheme - Rotorua 2. Brunswick/Rotokawa Sewerage Scheme -Rotorua 3. Okere Falls/Otaramarae/Whangamarino Sewerage Scheme - Rotorua 4. Wainui Beach Sewerage Scheme Gisborne District (LPGP Concept Design)

Name:	Phil Bonney
Position:	Project Engineer
Education:	BE (Civil) Honours, 1997
Professional Qualification:	GIPENZ
Specialist Experience:	
	Contract and Project Management, Contract Administration, Water and Wastewater Engineering
Summary of Work Experience:	
	Eight years experience in consultancy and local government engineering within Australia and New Zealand. Involvement in preliminary design, detailed engineering design, tender and contract document preparation, contract administration and construction supervision.
	Projects completed or currently involved with:
	<ul style="list-style-type: none"> • Rotorua Urban Water Network Rehabilitation • Rotorua Urban Sewer Network Rehabilitation • RDC WWTP Inlet Screen replacement • Mamaku Water Supply new bore development
	RDC Water Supply Reservoir repair works

Name:	Chris Hattingh
Position:	Assistant Engineer
Education:	Dip Safety Management Dip Project Management
Professional Qualification:	SHEQ Auditor (ISO 9001, ISO 14001)
Specialist Experience:	Contract and Project Management, GIS Systems, Health and Safety Management
Summary of Work Experience:	Over 20 years experience in utilities engineering at technician level involved from feasibility investigation to commissioning.
Current work includes:	<ul style="list-style-type: none"> - Assistant Engineer supervising construction and commissioning of Low Pressure Grinder Pump System, at Hinemoa Point upgrading of water mains at several Rotorua sites and upgrading of inlet screen at Waste Water Treatment Plant. - Assisting with final design of LPGP System at Okere Falls, Whangamarino and Otaramarae (negotiating with owners on placement of LPGP Systems).

Name:	Lumon van Vuuren
Position:	Assistant Engineer
Education:	National Diploma Engineering (Civil) 1997 Diploma Project Management 1999
Specialist Experience:	Contract and Project Management, Site Supervision, Staff training and skills transfer.
Summary of Work Experience:	20 years experience working on projects which included water reticulation, sewer pump stations and water reservoirs. Experienced in construction supervision of projects, site management, together with tender evaluations and reporting.
Current work includes:	Assistant Engineer supervising of U.V Installation plants, Rotorua Urban Water Network Rehabilitation 2008/2009.

Name:	Asaf Rachmani
Position:	Project Engineer
Education:	BSc. Environmental Engineering (2005)
Specialist Experience:	3 years experience with Water and Environmental laboratory work, ensuring compliance with Drinking Water Standards, Resource Consents, Public Health Risk Management Plans, Annual Plans and Legislation. Developing and updating Sanitarian surveys and Public Health Risk Management Plans.