

HIGH PRESSURE CLEANING & CCTV INSPECTION OF SEWER PIPES 2016 - 2019

# 19

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# RELEVANT EXPERIENCE

#### **PROJECT 1**

Project/Contract: Village Exchange

Client: Hastings District Council/MWH Alliance

Contract Duration: 8 days Value: \$25k

Key Personnel involved: Evan Davies, Reon Hodge, Phil Carruthers and Steve Goss, Jamie Hughes

**Services provided:** High Pressure cleaning and CCTV contract

#### **PROJECT OVERVIEW**

This contract was the high pressure cleaning and CCTV of drains and sewer for the Village Exchange project. DWS worked day and night to get the work completed within the tight timeframe.

The works included:

- Site clearing
- Traffic management
- · High pressure cleaning
- CCTV Inspection including data collection.

#### **HIGH PRESSURE CLEANING**

DWS used a Hi-Vac combination unit which has been purpose built as a water cart, jet flushing and vacuum truck. We used this equipment for the high pressure cleaning that we carried out on this contract.

#### **CCTV INSPECTION**

DWS use state of the art Rausch CCTV equipment that has high technical software and laser profile capabilities. We carried out CCTV inspection of

pipelines before construction started on the Village Exchange project.

This included verification of pipe diameter and pipe material on site. We supplied HDC and MWH with CCTV footage, data and reports in an electronic format on USB flash drive.

#### **RECORDING OF INSPECTION DATA**

The data was recorded and given to HDC and MWH on USB stick.

#### **EMERGENCY CALLOUTS**

DWS has a phone manned 24/7 for emergency call outs. There were no callouts during this contract.

#### **HEALTH AND SAFETY**

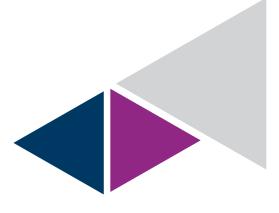
The works were completed with no serious injuries.

#### **QUALITY AND ENVIRONMENTAL**

All of the works were completed to the required quality standards with no environmental issues.



The DWS team worked day and night to complete these works on time.





We are committed to the health and safety of our team, our client and the public. Our staff are trained to maintain the highest levels of safety.

#### **PROJECT 2**

Project/Contract: Karamu Road Intersection
Client: Hastings District Council

**Contract Duration:** 7 days **Value:** \$12k

**Key Personnel involved:** Evan Davies, Reon Hodge, Phil

Carruthers and Steve Goss

Services provided: High Pressure cleaning and CCTV

contract

#### **GENERAL**

This project location was at a busy intersection in Hastings.

The works included:

- Site clearing
- Traffic management
- · High pressure cleaning
- CCTV Inspection including data collection.

#### **CCTV INSPECTION**

Davies Waste carried out the CCTV inspection of pipelines including verification of pipe diameter and pipe material on site. We supplied the CCTV footage, data and report to Hastings District Council in an electronic format on a USB stick.

#### **EMERGENCY CALLOUTS**

DWS has a phone manned 24/7 for emergency call outs. There were no callouts during this contract.

#### **HEALTH AND SAFETY**

The works were completed with no serious injuries.

#### **QUALITY AND ENVIRONMENTAL**

All of the works were completed to the required quality standards with no environmental issues.

#### **PROJECT 3**

Project/Contract: Multiple Sites in Napier City

Client: Napier City Council

Contract Duration: 5 days Value: \$4k

Key Personnel involved: Evan Davies, Reon Hodge,

Steve Goss, Greg Malot and Phil Carruthers, Jamie Hughes.

Services provided: High Pressure cleaning and

**CCTV** contract

#### **GENERAL**

This contract was for the high pressure cleaning and CCTV on multiple sites in Napier city. Napier City Council (NCC) contacted Davies Waste at short notice to check for pipe deterioration for planning their pipe replacement programme.

This work included shut down flows, the crew worked during the night to finish within the tight timeframe NCC had requested.

The works included:

- Site clearing
- Traffic management
- · High pressure cleaning
- CCTV Inspection including data collection.

#### **CCTV INSPECTION**

Davies Waste carries out CCTV inspection of pipelines using Rausch equipment. This includes verification of pipe diameter and pipe material on site. We supplied Napier City Council with the CCTV footage, data and reports electronically on USB flash Drive.

#### **EMERGENCY CALLOUTS**

DWS has a phone manned 24/7 for emergency call outs. There were no callouts during this contract.

#### **HEALTH AND SAFETY**

The works were completed with no serious injuries.

#### **QUALITY AND ENVIRONMENTAL**

All of the works were completed to the required quality standards with no environmental issues.





Davies have a fleet of specialised vehicles and equipment that enables us to provide quality professional drain maintenance services.



Protecting the environment.

We're committed to providing new and cost-effective ways to recycle waste materials.

#### **PROJECT 4**

Project/Contract: Havelock North Relief Sewer
Client: Higgins Contractors Contract

**Duration:** On call for 52 weeks

Value: \$23k

Key Personnel involved: Evan Davies, Reon Hodge, Greg Malot, Phil Carruthers and Steve Goss.

Services provided: CCTV Inspection

#### **GENERAL**

This project was the construction of approximately 7km of structural wall PE to provide a relief sewer from Havelock North to the Main Inland Trunk Sewer at Whakatu.

#### **CCTV INSPECTION**

DWS carried out the testing and CCTV of the proposed relief sewer and the portion of pipe that was being upgraded.

Purpose of CCTV inspection was to check the following:

- Y junctions meeting the required standards i.e. no displacement and rough edges
- · Pipe joint rubber seals are not displaced
- Correct compaction around connections occurred i.e. is pipe still round, not flattened
- Checking for debris in the pipes
- No dips in the line
- Has been constructed in accordance with the contract specifications.

#### **PROGRAMME**

These inspections were carried out in stages as the work progressed at intervals no greater than 500 metres.

DWS supplied the CCTV inspection video, pipe scoring sheets and summary report.

#### **EMERGENCY CALLOUTS**

DWS was contactable to Higgins 24/7 for any emergency call outs. There were no callouts during this contract.

#### **HEALTH AND SAFETY**

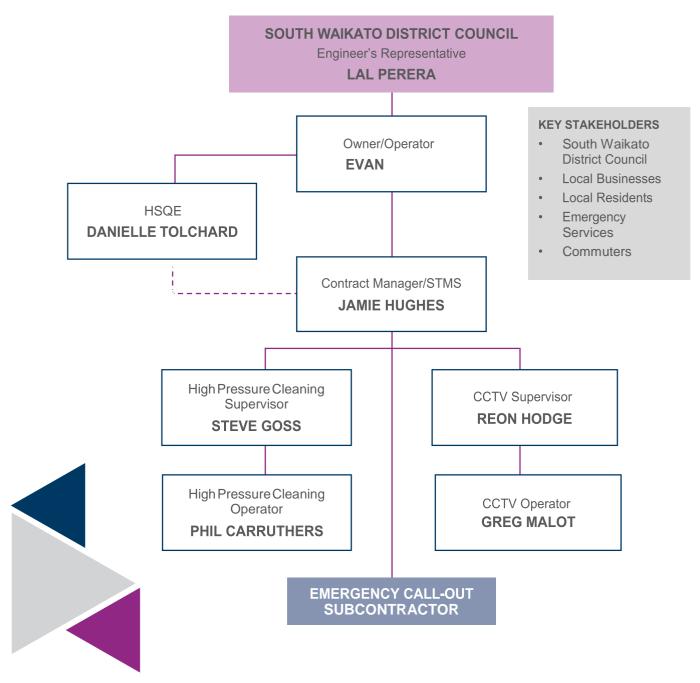
The works were completed with no serious injuries.

#### QUALITY AND ENVIRONMENTAL

All of the works were completed to the required quality standards with no environmental issues.

# **RELEVANT SKILLS**

#### **ORGANISATIONAL CHART**



Led by Evan Davies, Owner Operator, the Council will get a strong team with excellent technical expertise when choosing DWS as your contractor on this project.

All of our personnel possess skills in the technical areas required for the successful high pressure cleaning and CCTV projects.

DWS only recruit experienced personnel who are qualified to operate machinery. All DWS employees go through a vigorous induction process that includes health and safety and confined space training. All staff specialising in CCTV/drainage work have attend training in CCTV and trenchless drainpipe repairs.

#### **NOMINATED TEAM**



**EVAN DAVIES**Owner/Operator

Evan started Davies Waste in Hawke's Bay in 2006. Starting out with one liquid waste truck and a handful of customers, under Evans leadership, the business has grown to be able to service the North Island. The business now consists of 16 trucks, 24 full-time staff, the latest specialised plant and machinery and is Hastings District Council preferred drainage contractor.

Evan's management style is hands on and communicates with the team in an open and honest way. He is able to work closely with the team because he understands all technical and operational aspects of the business. He passes his knowledge and experience to his staff, facilitating the on-going effective management of each project.

Evan has been involved in managing every project for Davies Waste for the last 10 years.

#### **SKILLS**

- A thorough understanding of the NZ Pipe Inspection Manual
- Experienced in contract management
- · Experience of managing staff
- The ability to establish and maintain good working relationships
- Excellent understanding of health and safety standards.

#### **QUALIFICATIONS**

- · Confined Spaces Training
- Class 4 Heavy Vehicle Licence
- · First Aid Training.



JAMIE HUGHES
Contract Manager / STMS

Jamie will have responsibility for the day to day running of this contract and leadership of the team. He will also be in charge of any required Traffic Management as he is a qualified STMS.

Jamie will ensure that this project has the appropriate resources assigned to it so that the project can be completed to SWDC's timeframe and budget.

#### SKILLS

- Mechanical aptitude
- A good knowledge and understanding of the NZ Pipe Inspection manual
- Excellent organisational skills and the ability to manage multiple projects
- · Strong IT skills
- The ability to work to deadlines
- Good problem-solving skills
- Good understanding of health and safety issues.

#### QUALIFICATIONS

- STMS
- Class 4 Heavy Vehicle Licence
- Confined Spaces Training.



**DANIELLE TOLCHARD** 

**HSQE** 

Danielle has a key input into each contract specific contract management plan we develop.

As company HSQE she is responsible for the following:

- Monthly H&S Reporting
- H&S Committee Lead
- Developing and maintaining all compliance systems including Health and Safety, Quality and Environment
- Organise health, safety and quality training company wide
- Assist in the review and preparation of HSE procedures and systems
- Environmental compliance
- Prepares and distributes HSE information.

#### **SKILLS**

- Understanding of the Health and Safety Employment Act
- Strong communication and organisational skills
- Strong commitment to continuous improvement in HSE management systems
- Good analytical skills
- Sound computer skills.

#### **QUALIFICATIONS**

- Health and Safety Levels 1, 2, 3, 4
- First Aid Certificate
- HZNO Approved Handler Trained Trainer.

#### **STEVE GOSS**

High Pressure Cleaning Supervisor

Steve will ensure all duties are performed safely, responsibly, and proficiently, observing all safety and health rules.

Steve is our most experienced high-pressure cleaning Supervisor at DWS. He has worked on multiple contracts similar to SWDC's contract. He was the Drain Cleaning Supervisor for the relevant experience projects we have nominated in this tender.

#### **SKILLS**

- Able to train others
- Maintenance and assembly of high-pressure water cleaning systems – 20k PSI waterblasting for example
- Hydro excavation
- · Highly safety conscious
- · Inspecting and cleaning drains.

#### **QUALIFICATIONS**

- · Confined Spaces Training
- · Class 4 Heavy Vehicle Licence
- First Aid Course.

#### PHIL CARRUTHERS

High Pressure Cleaning Operator

Reporting directly to Reon Hodge, Phil will be operating the CCTV equipment for the SWDC contract.

Phil is new to Davies Waste but has already undertaken Confined Spaces Training and is booked to complete First Aid Training at the end of the month.

#### **SKILLS**

- Ability to learn and be adaptable to changes in procedures and technology
- Good IT skills
- · Knowledge of specialised plant and equipment
- Mechanical aptitude
- Good organisational skills.

#### **QUALIFICATIONS**

- Confined Spaces Training
- Class 4 Heavy Vehicle Licence
- First Aid Course.

#### **REON HODGE**

**CCTV** Supervisor

Reon will lead this aspect of the contract along with processing all data that is collected from the CCTV footage.

Reon is well respected in the industry and has worked on a number of similar contracts in the North Island. He was the CCTV Supervisor for the relevant experience projects we have nominated in this tender.

#### **SKILLS**

- Highly organised
- A good knowledge and understanding of the NZ Pipe Inspection manual
- Experience of supervising staff
- Proven ability to assess and react quickly to situations
- Ability to learn and be adaptable to changes in procedures and technology
- Strong IT skills
- Mechanical aptitude
- Knowledge of specialised plant and equipment.

#### **QUALIFICATIONS**

- Confined Spaces Training
- Traffic Management
- Class 4 Heavy Vehicle Licence
- First Aid Course.

#### **GREG MARLOT**

**CCTV** Operator

Perform duties safely, responsibly, and proficiently, observing all safety and health rules.

Greg has been carrying out this role on all of the relevant experience projects we have nominated for this tender.

#### **SKILLS**

- Ability to operate multiple pieces of equipment
- Highly safety conscious
- Knowledge of specialised plant and equipment
- Mechanical aptitude.

#### **QUALIFICATIONS**

- Confined Spaces Training
- · Class 4 Heavy Vehicle Licence
- First Aid Course.

# METHODOLOGY

DWS are specialists in high pressure cleaning and close circuit TV recording of drains. We have experienced staff and a fleet of specialised vehicles and equipment that enables us to provide quality professional drain maintenance services.

We have experience in working for councils for the detailed analysis of pipes for planning future works and are Hastings District Council's preferred contractor for this type of work.

From clearing, cleaning and surveying sewer, stormwater and tradewaste pipes to local authorities detailed analysis of their reticulated systems.

#### CONTRACT EXECUTION/ ESTABLISHMENT

DWS will make arrangements with appropriate landowners or service authority concerning any need for an area of land for establishment. This will be subject to local body by-laws and the approval of Council's Engineer.

DWS will make sure our site establishment will not interfere with access to any adjacent properties.

#### **SERVICES**

DWS will make arrangements for the temporary provision of a water, or power supply, or sanitary drainage, and pay any associated charges.

#### SITE FACILITIES

DWS will provide site huts for the use of our staff, and a sanitary toilet for use of all site personnel.

#### SITE MAINTENANCE

DWS will take all necessary measures to prevent dust nuisance to adjacent properties, pedestrians and road traffic.

#### NOISE AND VIBRATION

All of DWS plant and machinery and well maintained. We will ensure that vibrations produced by our activities do not exceed the limits specified in section 15.6 of the South Waikato District Council District Plan.

Davies Waste are experts in unblocking, cleaning and CCTV recording of sewer and stormwater pipes.

Davies Waste uses state of the art equipment.

The Rausch Lateral Launch Systemlaunches a small pan and tilt camera into laterals from the mainline.









DWS has 24 full-time staff, 16 trucks and the latest specialised plant and equipment.

#### **COMMUNICATIONS WITH COUNCIL**

#### **GENERAL COMMUNICATIONS**

SWDC will benefit from our open and honest approach to communications. Communication within the team happens during daily pre start meetings before work commences for the day. We will also use noticeboards and newsletters to keep the information flow up-to-date and relevant to all.

Communication between DWS and SWDC will be via email, phone or through Notices to Contractor (NTC) as appropriate. These will outline any changes or variations in a timely and efficient manner ensuring no surprises to SWDC.

#### PRE-START SITE MEETING

Not more than five days and not less than two days prior to commencement of work Evan Davies will arrange for and inspect the site with the Engineer to confirm the extent of construction work required. At this meeting, the following can be discussed in detail:

- the specification;
- the Cleaning and CCTV Inspection programme;
- proposed CCTV deliverables;
- requirements for establishment;
- suitable stock-pile areas;
- health and safety plan;
- quality management plan;
- pre-construction site photographs;
- liaison with property occupiers affected by the works.
- the Traffic Management Plan.

#### **LIAISON WITH PROPERTY OCCUPIERS**

Any time we have site establishment on private property, we will be contactable by mobile telephone 24 hours and available to meet with affected property owners.

#### MANAGEMENT OF WORKLOAD

#### **WORK PROGRAMME**

DWS's work programme will include a detailed programme (GANNT chart format) with respect to the work at each site. This will be submitted to Council's Engineer.

We will ensure the works are completed within the contract time and cost, in consideration of programme management, logistics, site hours, personnel management, weather conditions, and reporting.



Another example of our investment in specialised equipment - Drain Flushing Recycler.

Safety is increased with all controls being maintained at a distance by one remote control. There is no need for the operators to handle the high pressure hose during operation.

#### **MANAGEMENT OF HEALTH & SAFETY**

DWS are committed to providing our personnel with a safe working environment. DWS will ensure that all equipment is safe for use. To minimise the possibility of hazards being missed on site we undertake daily toolboxes. Every practicable step will be taken to safeguard our employees and the public affected by our activities.

DWS has developed procedures for dealing with emergencies that may arise. Please see our Health and Safety Policy in the Appendix.

#### **QUALITY CONTROL METHODS**

Quality control is key to the continual success of DWS business. Davies Waste's business has grown from strength to strength because we put quality first.

Danielle Tolchard, our nominated HSQE will develop a contract quality plan for the project. This will give our staff the site-specific information they need to complete the job to quality standards. We will also provide Council's Engineer a copy of the plan.



## **SEWER PIPES**

We understand the accuracy of sewer pipe information is not guaranteed by Council. We will verify on site and share this information with Council.

#### CCTV INSPECTION AT WORKS COMPLETION

DWS will supply the CCTV Inspection footage to the Engineer as soon as possible after completion of the work. The report will be provided to council in electronic format on memory stick, complete with a copy of the report.

#### PRACTICAL COMPLETION

DWS will give written notice to Councils Engineer after completion of work.

#### **SERVICES**

DWS will be responsible for locating, identifying and protecting all underground and overhead services within the work site.

#### MANHOLE ACCESS

DWS will confirm the location of all manholes. When buried manholes are located we will mark the position of the manhole on the ground surface.

Where a manhole cannot be located by surface visual inspection, we will carry out a CCTV from the manholes upstream and/or downstream of the manhole in question.

Buried manholes located this way will have their location marked on the ground either with a peg, spike or paint. Where this falls on a private property, we will consult with the owner in regard to an acceptable way of marking the location.

#### **CCTV INSPECTION**

#### **INSPECTION EQUIPMENT**

DWS use Rausch Lateral Launching equipment. The Rausch Lateral Launch System, the M150LL, launches a small pan and tilt camera, the KS60CL, into laterals from the mainline. It is a module for the L135 tractor / crawler. It is suitable for enabling a single pass inspection of a minimum 100m length of pipeline.

Main Features of the Lateral Launch System:

- Application range: 6 to 48 pipe diameters
- Up to 160 ft of lateral push distance.
- Up to 550 ft of mainline cable.
- Automatically synchronized cable reels.
- Electronic distance counter.
- Quick-Connect to the tractor for extremely easy and quick set up. (Plug & Play)
- · Connects to electric lift of the L135 tractor.
- ZKM135 auxiliary camera for direct observation of launch.
- High-power LED's in the PM135 for accurate positioning and camera insertion.
- PM135 can position the lateral camera to launch into angles greater than 90°.
- SKM135 launch module pushes the camera into the lateral, and can launch against the flow.

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DWS provide a complete pipeline inspection in accordance to the NZ Pipe Inspection manual.

#### **DIRECTION OF CAMERA TRAVEL**

Wherever possible, pipelines will be inspected from the upstream manhole heading downstream.

#### START AND FINISH OF INSPECTION

All inspections will start with a clear view of the entry to the pipeline at the manhole wall, and end with the camera at the Centre of the finish manhole.

### INSPECTIONS FROM BOTH ENDS OF A PIPELINE SECTION

Where inspections are carried out from both ends of a pipeline section, we will endeavour to terminate each part of the inspection at a common, readily identifiable, feature or defect.

#### **LOG SHEETS**

Davies Waste will ensure that log sheets include records of debris deposits, dips and/or roots where it is known these defects occurred. An estimate of the severity of any deposits, dips or root intrusions, will be made when necessary.

On the day prior to cleaning, DWS will notify all residents connected to the sewer lines to be cleaned, of the work being carried out. Householders shall be provided with appropriate instructions to minimise and contain blow-back of the water seal. Where such blow-back occurs, we will be responsible for cleaning up, including disinfecting the property to the satisfaction of the owners.

#### PIPE CLEANING

Prior to the CCTV inspections being undertaken the pipes are to be initially light cleaned. After light cleaning deposits or roots or protruding laterals still remain in the pipe that stop the CCTV camera, then the inspection is to be attempted from the opposite manhole. If the full length of the pipeline cannot be inspected then the contractor is to notify the Engineer.

When we are undertaking cleaning activities, we will undertake all necessary precautions to ensure that these activities do not:

- Damage or flood public property.
- Cause sewer overflows.
- Damage the sewer conduit being cleaned or any associated conduits or structures.
- Cleaning shall generally be carried out from a downstream manhole, in a downstream direction.

We will carry out CCTV inspections within seven days of cleaning (when cleaning has been specified). Any build-up of debris occurring between cleaning and inspection shall be attended to as necessary for a satisfactory picture quality.

#### REMOVAL AND DISPOSAL OF MATERIALS

All sludge, silt, debris, grease, roots, scales and other materials resulting from cleaning operations shall be collected at the manhole immediately downstream of the section being cleaned.

DWS will remove and dispose of the material dislodged from the operations such as cleaning, root removal, dredging, de-scaling etc.

#### **BLOCKAGES**

Blockages, which prevent the passage of equipment, shall be photographed. The inspection will then continue from the opposite direction, up to the same blockage if feasible.

We will keep the Councils customers fully informed when there will be disruptions at their property.



#### FINANCIAL MANAGEMENT

DWS will use our financial management and reporting systems in co-operation with the Engineers representative to ensure "no surprises". A thorough review of each site will be carried out at the beginning of the contract period. Should any ambiguities in site measurement/scope of works be found at this point they will be highlighted to the Engineer. Where possible variations will be priced prior to work being carried out, this will work towards to minimizing any additional costs.

#### **INVOICING**

DWS has a fully integrated comprehensive financial and cost accounting system. Costs are recorded for each individual job, and performance is able to be measured against revenue.

#### **QUALITY ASSURANCE**

In order to ensure the quality standards are met a comprehensive quality plan will be developed. This plan will be in line with the DWS's Health, Safety and Quality Policy and in accordance with Council's contract documents.

The quality plan will include the following:

- Implementation of the Quality Plan
- Management, Preparation, Submission and Implementation of Programmes
- · Preparing and Submitting Reports
- Identifying and Correcting Non Complying Work
- · Material and Site Testing
- Sub-Contractors and Suppliers
- Complying Records
- Environmental Compliance.

#### **ENVIRONMENTAL MANAGEMENT**

DWS is committed to maintaining and improving work methods and practices that minimise the impact of our operations on the environment. We ensure that plant and resources are used in a sustainable manner.

It is the responsibility of every DWS employee to ensure that their actions do not result in environmental damage. All employees will also ensure that waste of company material or resources is minimised.

Davies Waste care about the environment.

With the introduction of our Drain Flushing Recycler (Euro 5 machine), we are able to reduce our emissions footprint by more than half.

Where culvert cleaning would require a flusher, water cart, digger and tipper, all of these operations can be done with one machine.



# TRACK RECORD



Project/Contract	Village Exchange		
Client	Hastings District Council / MWH Alliance		
Value	\$25k		
Within timeframe	Yes	Within budget	Yes
Referee	Amy Patterson-Horner, MWH, 027 518 2382		

#### **PROJECT 2**

Project/Contract	Karamu Intersection		
Client	Hastings District Council		
Value	\$12k		
Within timeframe	Yes	Within budget	Yes
Referee	Ansonica Botha, Hastings District Council, 027 556 6482		

#### **PROJECT 3**

Project/Contract	Multiple Sites in Napier City		
Client	Napier City Council		
Value	\$4k		
Within timeframe	Yes	Within budget	Yes
Referee:	Kelsey Green, Napier City Council, 022 301 5026		

#### **PROJECT 4**

Project/Contract	Havelock North Relief Sewer		
Client:	Higgins		
Value	\$23k		
Within timeframe	Yes	Within budget	Yes
Referee	Graeme Clarke, Higgins, 027 247 8004		

## **APPENDICES**



#### HEALTH, SAFETY AND QUALITY MANAGEMENT POLICY

Davies Waste Solutions is committed to the development, management and supply of quality services and the provision and management of a safe, healthy working environment for their employees and all visitors to its business operations.

#### **Planning**

By establishing annual health, safety and business objectives and strategies for the delivery of quality and safe services to our customers.

#### **Safety and Quality Management Practices**

Through the implementation and management of health and safety legislation and recognized industry standards and applicable codes of best practice throughout the company's operations.

#### **Customer Focus and Satisfaction**

By providing quality client focused services that meet customers needs and expectations at all times. Measuring customer satisfaction for the improvement of services and products from customer feedback and communication.

#### **Proactive Health, Safety and Quality Management**

- By developing measurable business objectives and effective policies and procedures to meet the requirements of the Health and Safety at Work Act 2015, ISO9001:2015 and applicable codes of best practice.
- By delegating the responsibility for managing the company's quality systems to a senior member of management. And by encouraging all employees to take responsibility for their own health and safety.
- By systematically identifying, and implementing practicable and effective controls for managing any identified hazards that could cause harm to employees and others.
- By accurately recording and reporting all non-conforming events, incidents or accidents and
  to implement that required corrective and preventative actions to eliminate the event from
  recurring resulting in the minimizing of commercial risk to the business, its employees and
  others
- By actively managing and supporting the rehabilitation and early return to work of any injured employee.

#### **Staff Involvement Practices and Training**

- By reviewing and taking affirmative corrective and preventative action on any health, safety or
  quality issue for continuous improvement of the company's health, safety and quality plan and
  systems.
- By actively involving employees in the development and monitoring of the company's health, safety and quality management systems.
- By providing effective supervision and training for all employees so they can undertake their duties in a safe and professional manner at all times.

#### **Continuous Improvement Methods**

By reviewing and taking affirmative corrective and preventative action on any health, safety or quality issues for the continuous improvement of the company's health, safety and quality plan and systems.