
WATER SAFETY

FOREWORD

Water is an essential part of life. In schools, markets, offices and households water is vital. A human survives for two (2) to three (3) months as long as water is present.

Some of water's uses are for washing, cooking, bathing and drinking. The water source and provider should be very particular with the quality of water they are supplying. Pikit Water District as a sole water distributor in Pikit aims to continuously deliver safe, potable and affordable water. To keep its standard, having a Water Safety Plan is required. This serves as basis and status quo to be considered all the time.

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Background

"The number of water taps per 1000 person is better indicator of health than the number of hospital beds." – Dr. Halfdan Mahler, former WHO Director General. This is the importance of clean water.

The World Health Organization (WHO) in its last two editions (2004 and 2011) promoted the Guidelines for Drinking Water Quality, highlighted the importance of water safety plan (WSP). WSP is the most effective means of maintaining a safe supply of drinking water. This will aim to identify the risk from water source to its concessionaires so to implement the necessary precautions or solutions.

Purpose of Water Safety plan

As a response to the guidelines set by the World Health Organization (WHO), Pikit Water District (PWD) created this WSP manual.

Purpose of Water Safety Plan

1. Identify hazards and risks of water source.
2. Prevention of water contamination from the source.
3. Provides safety treatment to ensure safe water quality for the concessionaires.
4. Regular monitoring of water inspection results to confirm that DOH standards are met.
5. Assures that standard water quality is met at all times.
6. Assign and identify individuals responsible for implementing the task above.
7. Create a program that will prevent the occurrence of the events.
8. Religiously take notes, records and document procedures and outcome.
9. Carry on regular review and audits of the plan.
10. Consider the plan for a continual development.

Intended Benefits

The creation of WSP together with the commitment of PWD to the approach is expected to achieve a number of beneficial results.

- Creating and implementing a WSP demands necessity for an organized and specified assessment of PWD's proceedings and the prioritization of hazards and risk in all operations and facilities.
- In response of the risk assessment, PWD is obliged to organize operational boundaries to avoid or control hazardous incidents and carry out probability and alleviate measures to respond to adverse event.

- WSP aims to organize a structured system to deal immediately or at least minimize the chances of failure of its services caused by negligence or lapses in management decisions and to identify responsible parties.

WATER SAFETY PLAN TEAM

Name	Job title	Role in WSP	Contact detail
Cheryl D. Villarta	Engineer B	Team leader	0922 - 8068859
Edgar F. Alejo	WMM - B	Leader	0922 - 8049295
Alex P. Salcedo	WMM - B	Member	0922 - 8069316
Rey G. Giron	WRFO - B	Member	0922 - 8069198
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Armando O. Asuncion	UW - B	Member	0922 – 8099748
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Mildred G. Dugasan	ASA - C	Member	0922 – 8054674
Reby T. Tacusalme	Office Secretary	Secretary	0923 - 1001439

WSP STAKEHOLDER IDENTIFICATION AND INTERACTION

STAKEHOLDERS				INTERACTION MECHANISM	RECORD OF INTERACTION
NAME	RELATIONSHIP TO DRINKING WATER SUPPLY ISSUES	POINT OF CONTACT WITH WD/WSP TEAM	ISSUES WITH DRINKING WATER SUPPLY		
Department of Public Works and Highway	A	Customer Service Assistant	Damaged pipeline due to clearing of roads/ditchline	Information & scheduled meeting	Letter of information, minutes of meeting, attendance sheet
Municipal Health Unit	B	Engineering & Operation	Compliance of bacteriological quality of drinking water supplied	Submit monthly microbiological test results	Receiving copy of submitted reports
Residents	A	Customer Service Assistant	Damaged service line due to grass cutting, fence construction & other excavation works	Information & immediate action on reported leakages	Service Request & Maintenance Construction Order
Supplier	D	Purchaser	Supply of sub-standard and or inadequate materials	Quotation & Inspection and Acceptance Report	Purchase Request, Purchase Order & quality certificate
Contractors	D	Customer Service Assistant	Damaged pipeline due to excavation	Information & scheduled meeting	Letter of information, minutes of meeting, attendance sheet
Municipal Engineering Office, Municipal Planning & Development Office' LGU - Barangays	A	Customer Service Assistant	Damaged pipeline due to excavation	Information & scheduled meeting	Letter of information, minutes of meeting, attendance sheet
BFP	A	Customer Service Assistant	Damaged pipeline due to excavation	Information & scheduled meeting	Letter of information, minutes of meeting, attendance sheet

LEGEND:

A - Effluent contributor (source of contamination)
B - Regulator
C - Source of information/monitoring entity
D - Supplier/contractor
E - Policy maker/legislator
F - Police authority
G - Cross-concern entity

SYSTEM DESCRIPTION

Overview

Pikit Water District is the sole supplier of potable water in the entire town of Pikit. Its office is located at the National Highway, Poblacion, Pikit, Cotabato. They can be contacted through their hotline number 0922- 8068859 or email at pikitwaterdistrict@yahoo.com. Pikit is in the province of North Cotabato.

The Pikit Water District, was established thru the Sanguniang Bayan Resolution No.71 dated May 8, 1990, of the then Sanguniang Bayan of the Municipality of Pikit, Province of Cotabato with Presidential decree No. 198 as amended, as the enabling law to the creation of water districts. On May 22, 1991, the district was issued the Conditional Certificate of Conformance (CCC No. 495) by the Local Water Utilities Administration (LWUA). The mandates of the District are;

- To acquire, install, improve, maintain and operate water supply and distribution systems for domestic, industrial, municipal and agriculture uses of residents and land within the boundary of the district.
- To provide, maintain and operate waste water collection treatment and disposal facilities; and
- To conduct such other functions and operations incidental to water resource development, utilization and disposal within the district, as are necessary or incidental to said purpose.

Pikit Water District's office is located at National Highway, Poblacion, Pikit, Cotabato.

Population Served

Pikit Water District (PWD) is serving the Poblacion and some nearby barangays. At present Pikit Water District (PWD) is serving nine (9) out of forty- two (42) barangays with total population of 12,426. PWD is now on its process for expansion to serve more individual and families.

Water Sources

Pikit Water District at present has four (4) deepwells with a total capacity of 2,553.60 cubic meters per day. All deepwells are free from bacteria and other forms of contaminants since the wells are sealed with cement grout 30m below the ground and its casing uses galvanized iron and stainless steel screen. Pump stations are secure with concrete and wired fence.

Water Treatment

Water to be safe needs treatment, disease – causing micro – organism such as e-coli might get into the water supply. Chlorination is the most common and widely used means of disinfecting public water supplies. Pikit WD is using granular chlorine for disinfectant with a residual of 0.30 – 1.50ppm. This method of hypochlorination in which chlorine granules are dissolved in water and then injected into the discharge line going to the system.

PWD water's undergone hypochlorination process to ensure water safety. PWD delivers safe and potable water. This means that our water is for drinking and other domestic uses for our concessionaires.

Water Quality Targets and Performance

Pikit Water District aims to deliver sufficient, safe and clean water in accordance with the PNSDW. To achieve the said quality, meticulous process of treating the water had and has been conducted.

Common problem and difficulties encountered in achieving quality performance.

- Turbidity – is the cloudiness or haziness of a fluid caused by large numbers of individual particles that are generally invisible to the naked eye.
- The measurement of turbidity is a key test of water quality. Fluids can contain suspended solid material consisting of particle of many different sizes. Flushing is conducted to solve this problem.
- Leakage – an amount lost as the result of leaking;

The discharge of a fluid from some container. This caused non-revenue water.

Pikit Water District (PWD) has one (1) concrete ground reservoir on the elevated portion of the municipal hall with a capacity of 150 cubic meters that automatically supplies water to all our concessionaires. The operational system is on floating status wherein our sources will pump directly to our pipelines and the excess water to our reservoir.

Delivery Point

Since the pipes laid by Pikit Water District (PWD) were interconnected, shortage of water is a less threat. As the reservoir is located in an elevated place this can quickly supply water to any service point. Transmission line is six (6) inches in diameter PVC pipe is laid from the well source going to the main and distribution lines. Pikit Water District is using unplasticized Polyvinyl Chloride (uPVC), Polyethylene (PE), Galvanized Iron (GI) pipes ranging to $1^{1/4}$ to 6" in diameter.

Service Quality

The district is serving 24/7 water supply to the Poblacion and eight (8) nearby barangays maintaining a pressure of 10 – 45psi and a chlorine residual of 0.30ppm at end points.

Resource Constraints

Many factors may affect effective service, most common are;

- Illegal connections – these cause non – revenue waters;
- Peace and order situation – no matter how PWD reaches to some area for connection the present condition of the place prohibits.

System's Condition

PWD uses galvanized iron (GI), black iron (BI), unplasticisized polyvinyl chloride (uPVC) and polyethelyne (PE) since 1991 until now. PWD's reservoir which was constructed in 1982 by the Local Government Unit (LGU) of Pikit with a capacity of 150 cubic meters is still operational and in good condition. PWD conduct's preventive maintenance to ensure that all lines and system are in proper operational condition.

Pikit Water District or any organization won't stay in the business long if the system of operation and management is not placed in proper order. Management Procedures are necessary for a system to run smoothly both in normal operational conditions and on an emergency conditions.

Drinking Water Quality

Drinking water's quality should be at its best, so as to subscribe with the standards imposed by Philippine National Standard for Drinking Water Administrative Order (No. 2007 – 0012). The Water Quality Unit's aim is to conform to the Guidelines in Identifying Priority Drinking-Water Quality Parameters for Monitoring.

The following priority parameters for monitoring (PNSDW, 2007) – based on health significance and acceptability are as follows:

1. Microbiological test
2. Arsenic
3. Cadmium
4. Lead
5. Nitrate
6. Benzene
7. Color
8. Turbidity
9. Iron
10. Ph
11. Manganese
12. Chloride
13. Sulfate
14. Total Dissolve Solids (TDS)

To maintain the quality of water, it is very important that a sample of water will undergo regular bacteriological test. This process should be done with extra care as to not contaminate the water with other bacteria or chemicals.

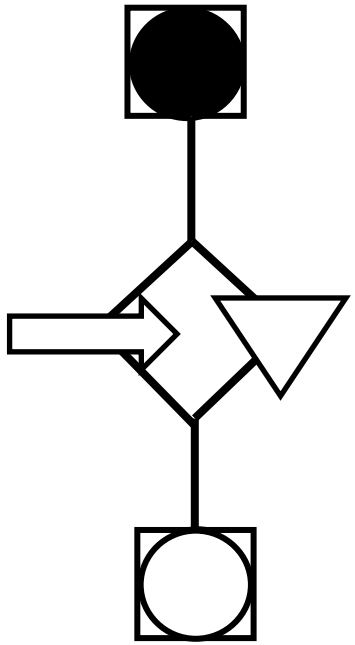
PWD has a monthly micro-biological and an annual physical and chemical (PhyChem) water analysis to ensure water safety for the concessionaires.

ENVIRONMENT – the physical and biological factors along with their chemical interactions that affect an organism or a group of organisms.

One factor to be considered in producing clean, safe and potable water is the environment itself. Away from sources that may contaminate the produced water such as feces of human and animals, septic tanks and factory waste. As for the Pikit Water District (PWD) all pump stations are located in vicinity that is secured from the said factors.

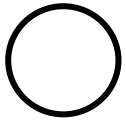
As the District aims to supply safe water, attending to line leaks report is very crucial as to avoid the water from getting contaminated.

SYSTEM FLOW CHART DIAGRAM

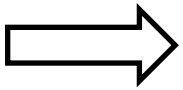
PROCESS/ STEP	SYMBOL	DESCRIPTION	RESPONSIBILTY
Source		Well/Ground Water	Pump Operator
Reservoir/ Distribution Line		Allow water to go to the distribution & reservoir	Pump Operator
Service Areas		Consumer	Commercial

LEGEND:

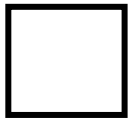
- Source



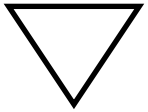
- Consumer



- Distribution Line



- Monitoring



- Reservoir

HAZARD ANALYSIS AND RISK ASSESSMENT

Risk Ref.		Hazardous Event (source	Raw Risk	Existing Control	Effectiveness of existing	Residu	

		of hazard)				Measure	control measure	al Risk		
			Likelihood	Severity	Score			Likelihood	Score	
Source	M	Seepage of leachate form septic tanks within the 25m radius	1	5	5	Well is sealed with a cement grout 15m from well surface	Negative result on the microbiological test of E. Coli as per standard on PNSDW	1	5	L
	M	Seepage of leachate from septic tanks and animal waste within the 25m radius	1	5	5	Well is sealed with a cement grout 15m from well surface	Negative result on the microbiological test of E. Coli as per standard on PNSDW	1	5	L
Treatment	M	Presence of contaminants due to power shortage	2	3	6	Utilized standby generator set	Negative result on the microbiological test of E. Coli as per standard on PNSDW	2	6	M
	M	Clogging of the chlorinator injector	3	1	3	Daily cleaning of the injector	Negative result on the microbiological test of E. Coli as per standard on PNSDW	3	3	L
	M	Underdosing of chlorine	4	1	4	Chlorine residual test daily	Negative result on the microbiological test of E. Coli as per standard on PNSDW	4	4	L
	P	Overdosing of chlorine	3	3	9	Chlorine residual test daily	Negative result on the microbiological test of E. Coli as per standard on PNSDW	3	9	M
	M	Malfunction of chlorinator equipment	5	1	5	Preventive maintenance on the chlorinator	Negative result on the microbiological test of E. Coli as per standard on PNSDW	5	5	L

Risk Ref.		Hazardous Event (source of hazard)	Raw Risk	Existing Control Measure	Effectiveness of existing control measure	Residual Risk	

			Likelihood	Severity	Score			Likelihood	Score	
Reservoir	M/P	Open access to human and animal intruders	1	5	5	Fencing of the perimeter area	No entry of human and animal intruders	1	5	L
	M/C	Contamination due to the corrosive screen of the air vent	1	5	5	Regular check-up and cleaning of air vents	No contamination from corrosive screen	1	5	L
	P	Presence of sediments	1	5	5	Regular cleaning of reservoir	No sediments or turbidity	1	5	L
Distribution	M	Intrusion of contaminants due to leakages along open canals	3	2	6	Immediate repair of reported leakages & flushing of lines	Negative result on the microbiological test of E. Coli as per standard on PNSDW	3	6	M
	M	Intrusion of contaminants due to leakages in deteriorated pipes	3	1	3	Immediate repair of reported leakages & flushing of lines	Negative result on the microbiological test of E. Coli as per standard on PNSDW	1	3	L
	M	Intrusion of contaminants due to leakages damaged by stakeholders	3	1	3	Immediate repair of reported leakages & flushing of lines	Negative result on the microbiological test of E. Coli as per standard on PNSDW	1	3	L
	M	Illegal connections on service lines	3	2	6	Inspection and proper disconnection	Negative result on the microbiological test of E. Coli as per standard on PNSDW	3	6	M
	P	Turbid water	2	3	6	Flushing at endpoints	Negative result on the microbiological test of E. Coli as per standard on PNSDW	2	6	M
	M	Intrusion of insects and animals waste at the open pipes & fittings at the stockyard	3	4	12	Capping of both ends of the pipes and fittings	Negative result on the microbiological test of E. Coli as per standard on PNSDW	3	12	M

CONTROL MEASURES AND OPERATIONAL MONITORING

Water sources, treatment process, and distribution system are the elements to be considered as requirements for evaluation of the current control points and operational monitoring strategies.

It is vital to define and validate the monitoring of control measures and established procedures demonstrating that the control continues to work and documented in the management procedures.

Monitoring of control point is also essential for supporting risk management by showing that:

- The control measure is effective, and
- If a deviation is detected, actions can be taken from being compromised.

Control point – a step at which control can be applied to prevent, remove or reduce the risks of a water safety hazard.

Points to consider:

Efficient monitoring depends on establishing:

- What will be monitored
- How it will be monitored
- The timing or frequency of monitoring
- Where it will be monitored
- Who will do the monitoring
- Who will do the analysis
- Who receives the results for action

CONTROL POINTS AND MONITORING TABLE

PCM REF.	PROCESS MONITORING	CRITICAL LIMITS	WHERE TO MONITOR	HOW	FREQUENCY (WHEN)	WHO	CORRECTIVE ACTION
Source	Elimination of human contaminants	All pump station must passed the microbiological test	Pump station & distribution line	Microbiological Test	Monthly	Peter Erick E. Omaña	Additional dosing of chlorine & system flushing
	Daily monitoring of ampere & voltmeter	As per specification of the pump and motor	Pump Station	Checklist	Daily	Pump Operator	Rehabilitation/Repair of pump & motor
	Pumps maintained to keep within specifications	Pump always in good working condition	Pump Station	Inspection, proper recording of data	Daily	Pump Operator	Repair/Replace of pump or motor
	Utilization of standby generator set	Generator set must be in good running condition	Pump Station	Checklist	Daily	Pump Operator	Repair, check-up & refuel of the unit
	Semi-annually evaluation of pump and well data	Pump efficiency is 80% - 100%	Pump Station	Checklist	Semi-annual	Maintenance Group	Rehabilitation of pump and motor
PCM REF.	**PROCESS MONITORING**	**CRITICAL LIMITS**	**WHERE TO MONITOR**	**HOW**	**FREQUENCY (WHEN)**	**WHO**	**CORRECTIVE ACTION**

Treatment	De-clogging of chlorinator injector	Unclogged injection points	Injection points	De-clogging of chlorinator injector	Daily	Pump Operator	De-clogging
	Residual Monitoring	Residual chlorine (1.0ppm – 2.50ppm)	Pump	Chlorine Residual Testing Kit	Daily	Pump Operator	Adjust chlorine dosing and re-testing
		Residual chlorine (0.3ppm – 1.50ppm)	Residential lines	Chlorine Residual Testing Kit	Monthly	Marlowe Y. Aglubat	Adjust chlorine dosing and re-testing
	Microbiological Test	Total & Fecal Coliform: <1.1MPN/100ml	Residential lines	Microbiological Analysis	Monthly	Peter Erick E. Omaña	Adjust chlorine dosing and re-testing
	Preventive maintenance schedule for chlorinator	Quarterly cleaning of chlorinator equipment	Pump Station	Refer to the preventive maintenance checklist	Quarterly	Pump Operator	Strict compliance of standard chlorinator set-up
Reservoir	Regular cleaning of reservoir	Accumulated sediments	Discharge pipe	Visual Inspection	Monthly	Peter Erick E. Omaña	Interior cleaning of reservoir
Distribution	Inspection of illegal connections & secure protection of exposed pipes	No illegal connection	Distribution pipelines	Visual Inspection	As reported	Marlowe Y. Aglubat/Jimuel G. Giron	Plug illegal tapping & impose appropriate penalty
	Pipeline rehabilitation/ repair	No sign of leaks on rehabilitated pipeline for identified pipes & must be in good condition	Identified pipelines in distribution network	Ocular Inspection	As reported and needed	Edgar F. Alejo	Rework on repair/ rehabilitated pipeline; add parallel pipeline
	Prevent cross connection of waterlines	No cross connections of waterline	Distribution pipeline	Ocular inspection	As reported	Edgar F. Alejo	Immediate repair of water mains
	Regular monitoring & maintenance of pipeline through leak detection and reports	No sign of leak and pipe deterioration	Distribution pipeline	Leak detection/ ocular inspection	Daily	Edgar F. Alejo/Jimuel G. Giron	Repair/Replacement of deteriorated pipes
	Flushing	Clean water coming out from the distribution pipelines	Distribution pipeline	Visual Inspection	As needed	Edgar F. Alejo	Increase length of time of flushing

VERIFICATION

Verification is necessary to establish procedures to verify that the water safety plan is working effectively and will meet the health – based targets. This aims for a long time plan to assure pleasant and safe water for the concessionaires.

This will also give an assessment of the overall performance of the system and the ultimate quality of drinking water being supplied to consumers.

Another important proceeding in adopting WSP is verification. This involves:

- Water quality monitoring
- Internal and external audit of operational activities
- Consumer satisfaction and
- Validation of system capability

Verifications were based on the following activities:

- Identification of activity
- Location of monitoring points
- Specific type of analysis
- Frequency of analysis
- Required methods of analysis for contaminants
- Party responsible for the conduct of analysis
- Record and documentation needed

VERIFICATION ACTIVITY PLAN

ACTIVITY	LOCATION OF ACTIVITY	TYPE OF ACTIVITY	FREQUENCY OF ACTIVITY	WHO WILL UNDERTAKE THE ACTIVITY	RECORDS
Microbial Testing	Concessionaire's Service Tap	Water quality testing	Monthly	Collection: Peter Erick E. Omaña	Record File

				Analysis: MKWD Lab	
Microbial Testing	Sources	Water quality testing	Quarterly	Collection: Peter Erick E. Omaña Analysis: MKWD Lab	Record File
Microbial Testing	Reservoir	Water quality testing	Quarterly	Collection: Peter Erick E. Omaña Analysis: MKWD Lab	Record File
Physical & Chemical Testing	Sources	Water quality testing	Bi-annually	Collection: Peter Erick E. Omaña Analysis: MKWD Lab	Record File
Field Activities (waterworks)	Along Distribution Network	Internal Audit	Anytime there is any field activity	Edgar F. Alejo	Record File
Leak Detection	Along Distribution Network	Consumer Assessment/ Management Team	Daily	Edgar F. Alejo	Record File
Regulatory Compliance	Concessionaire's Service Tap/ Water Sources	External Audit	Monthly	LWUA, MHO	Record File
Chlorine Residual Testing	Concessionaire's Service Tap	Water quality testing	Daily	Marlowe Y. Aglubat	Record File

VALIDATION

Validation is required where assumptions or statements are made in the development of the WSP with particular attention being given to why particular critical limits were chosen.

The WSP Validation process was developed to document its technical basis. The references used for the validation includes:

- Scientific literature;
- Trade association;
- Regulations;
- Legislation historical data;
- Professional bodies; and
- Supplier warranties.

In the validation step, all the inputs in the process are reviewed and compared to the available technical and scientific references. These are also benchmarked with the norms of the water industry and trade associations, regulatory and legislative measures, historical and statistical data, information from professional bodies and inputs from our suppliers and manufacturers.

VALIDATION PLAN

RISK REF.	ITEMS VALIDATED	VALIDATION	REFERENCES
Source	Physical, chemical, microbial and aesthetics parameters	Regulatory Requirement	Philippine National Standard Drinking Water 2007
	Pumps, motors and other electro-mechanical equipment	Product Specification	Technical Specification as Required or as Stipulated in the Purchase Request
Treatment	Microbiological	Regulatory Requirement	Philippine National Standard Drinking Water 2007
	Physical & Chemical	Regulatory Requirement	Philippine National Standard Drinking Water 2007
	Laboratory Reagents	Material Safety Data Sheet, Known Standard Reagents	Standard Methods for Examination of Water & Waste Water 20th Edition
Distribution	Water Quality (Microbial, Residual Testing)	Regulatory Requirement	Philippine National Standard Drinking Water 2007
	Illegal Connection	Protection from illegal connection	Pikit WD Policies & Regulations, PD No. 198
	Operational Pressure Limits (10psi for residential)	Regulatory Requirement	Decision is based on own monitoring results & PWD judgment, LWUA Standards
	Operational Limits on Status of Pipe Network (90psi max)	Regulatory Requirement	Decision is based on own monitoring results & PWD judgment, LWUA Standards

SUPPORTING PROGRAMS

Supporting programs are necessary as to ensure that the environment, machineries and the people (indulged in the project) or the concessionaires won't become a hazard contributor directly or indirectly to the quality of drinking water supply. The development of supporting programs by the district aims to support its goal to supply safe drinking water to every household. The program may not directly affect water quality but vital since it ensures that no source of potential hazards may occur.

SUPPORTING PROGRAM PLAN

ISSUE	PURPOSE	SUPPORTING PROGRAM
Catchment protection by educating and awareness activities for stakeholders	To ensure the water sources from potential contaminants	Sealing of Abandoned Well
		Implementation of appropriate security measures in access to water sources and facilities
		Tree planting around facility
Specifications for materials and chemicals used in water supplies	The control of chemical hazards derived from materials and chemicals used in water production is usually best achieved through product specification	Develop a standard specification for materials and chemicals.
Training of operation and maintenance staff	Poor operational practice may lead to large-scale contamination and increased public health risks	Training programs and ongoing supervision systems in place
Hygiene code of practice for work on the sys-tem developed and made available to all staff	Staff unaware of, and do not follow, satisfactory hygiene practices	Ensure hygiene code is clear and easy to follow, and copies kept in every vehicle used by operational teams who should be trained in their use
Training and hygiene education in communities	Poor hygiene practices increase risks within the home and may also affect environmental hygiene and cause contamination of supplies	.Develop participatory awareness-raising and education programs
		Implement a Septage Management Program

RECORD KEEPING AND DOCUMENTATION

Documentation and records need to be retained to provide retrospective proof of compliance and to support due diligence requirements. In summary, the following points should be covered:

Document information pertinent to important aspects of water quality management;

- Develop a document control system to ensure current versions are in use;
- Establish a records management system and provide support in keeping records of activities; and
- Periodically review documentation and revise as necessary.

Documentation pertaining to the WSP includes the elements set out in the following checklist (GDWQ):

- Description and assessment of the drinking-water system including programs to upgrade and improve existing water delivery;
- The plan for operational monitoring and verification of the drinking-water system;
- Water safety management procedures for normal operation, incidents (specific and unforeseen) and emergency situations; and
- Description of supporting programs

Records are necessary element of the WSP as they can be reviewed (through internal and external surveillance) to identify whether the WSP is adequate. These demonstrate adherence of the drinking-water system to the WSP. The following checklists are considered in developing the records:

- Documents and records are retained to provide an auditable system;
- Record includes product identification, operational and critical limits and signatures;
- A system for capturing and recording completion of improvement actions is required;
- Corrective action records are correlated to monitoring records and includes a description of the problem as well as record the method of contaminated water segregation and disposition; and
- Records are reviewed at appropriate intervals to identify any trends that may indicate the need for preventative action and/or review of the WSP.

Pikit Water District is currently developing a records and documentation management system in line of the WSP and its operations. For the meantime, most information and records are stored in the conventional filing system and some were backed up by digital and hard copies.