




REPUBLIC OF THE PHILIPPINES
METROPOLITAN NAGA WATER DISTRICT
40 J. MIRANDA AVENUE, NAGA CITY

PRODUCTION DEPARTMENT

PROCEDURES AND WORK INSTRUCTIONS MANUAL (PAWIM) (PDPW02) WATER QUALITY MONITORING

	METROPOLITAN NAGA WATER DISTRICT	Document Code: PDPW02	
	PROCEDURE	Revision No.:	0
	WATER QUALITY MONITORING	Effectivity Date:	March 2017
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1. PURPOSE

To determine alteration, problem or trends in water either existing or over a period of time. Monitoring also determines presence of pollution or whether pollution regulations are being complied of.

2. SCOPE

All Production Sources, distribution lines, observation wells, schools and establishments being supplied by MNWD.

3. DEFINITION OF TERMS AND ACRONYMS

Refer to "[Annex A](#)" for the ACRONYMS, and "[Annex B](#)" for DEFINITION OF TERMS

4. RESPONSIBILITIES

- 4.1. To monitor daily chlorine residual in the distribution lines.
- 4.2. To collect water samples for physical, chemical and bacteriological examination of production sources, distribution lines and observation wells.
- 4.3. To collect water samples regarding complaints of dirty water and zero chlorine residual.
- 4.4. To recommend areas as flushing points, dirty water complaints and low to zero chlorine residual.
- 4.5. Document and maintain quality system in storing results, data and other forms germane to water quality monitoring.
- 4.6. Follow standard procedures in collection of water samples, interpretation / reading of results.


5. PROCEDURES

5.1. DAILY CHLORINE RESIDUAL MONITORING:

- 5.1.1. Open water faucet of service connection and flush for 3-5 minutes.
- 5.1.2. Fill test cell with water from the faucet.
- 5.1.3. Add 5 drops of OTO solution to chlorine test cell.
- 5.1.4. Place cover over test cell and invert several times to mix.
- 5.1.5. Compare result with the color range found on the left side of test cell.
- 5.1.6. Document result as to date, time and chlorine residual result.

5.2. BACTERIOLOGICAL ANALYSIS: WATER SAMPLE COLLECTION.

- 5.2.1. Flame sampling tap.
- 5.2.2. Take sample from water tap, remove screen, if any,
- 5.2.3. Label bottle as name, date and time of collection.
- 5.2.4. Run water from 2-3 minutes then collect sample.

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- 5.2.5. Remove cap of sample bottle, hold near base of the tap to collect the sample. Fill up to shoulder of the bottle.
- 5.2.6. Bring sample to the laboratory for analysis.

5.3. PHYSICAL AND CHEMICAL ANALYSIS - WATER SAMPLE COLLECTION.

- 5.3.1. Label container as name, date and time of collection.
- 5.3.2. Allow water to run for 4-5 minutes. Rinse bottle and cap.
- 5.3.3. Collect water sample to top and cap tightly.
- 5.3.4. Place sample in a cooler until delivered to the laboratory, follow specifications as to number of hours sample should be tested.

5.4. SUBMISSION OF WATER SAMPLE FROM SITE TO LABORATORY.

- 5.4.1. From site, submit request form and water sample collected.

5.5. REQUEST FOR BACTERIOLOGICAL ANALYSIS – DIRTY WATER/ PDD REQUEST/ OBSERVATION WELLS.

- 5.5.1. Client fills out REQUEST FOR WATER COLLECTION FORM in two copies (one for lab and the other for WQS).
- 5.5.2. Client submits water collection form to the laboratory for pricing and other instructions.


5.6. STANDARD OPERATING PROCEDURE – DIRTY WATER

- 5.6.1. Inspect in house pipelines for leakage.
- 5.6.2. Verify if concessionaire uses same pipeline for MNWD and deep well source.
- 5.6.3. In case filter is in use, advice owner to wash/clean/change and disinfect filter.
- 5.6.4. Collect water sample for bacteriological examination before and after the meter.
- 5.6.5. Report to PLC / request flushing of source being complained of.
- 5.6.6. Collect water sample and submit to the laboratory for bacteriological analysis.


5.7. STANDARD OPERATING PROCEDURE – BELOW 0.3 – 0 CHLORINE RESIDUAL.

- 5.7.1. Report immediately (or submit zero residual report) to Production Division to inform the nearest source or pumping station concerned where the sampling point yielded a low to zero chlorine residual.
- 5.7.2. Report to Production Supervisor in charge of the area for possible increase in the amount of chlorine in order to meet the standard chlorine residual.
- 5.7.3. Advise PLC section to conduct Flushing. – (make request form)
- 5.7.4. Get water sample and take chlorine residual before and after flushing.

6. FORMS AND TEMPLATES

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- 6.1. Request for Water Collection Form - "[PDF07](#)"
- 6.2. Request for Water collection Form Flow - "[Figure 1](#)"
- 6.3. Chlorine Residual Monitoring Flow - "[Figure 2](#)"

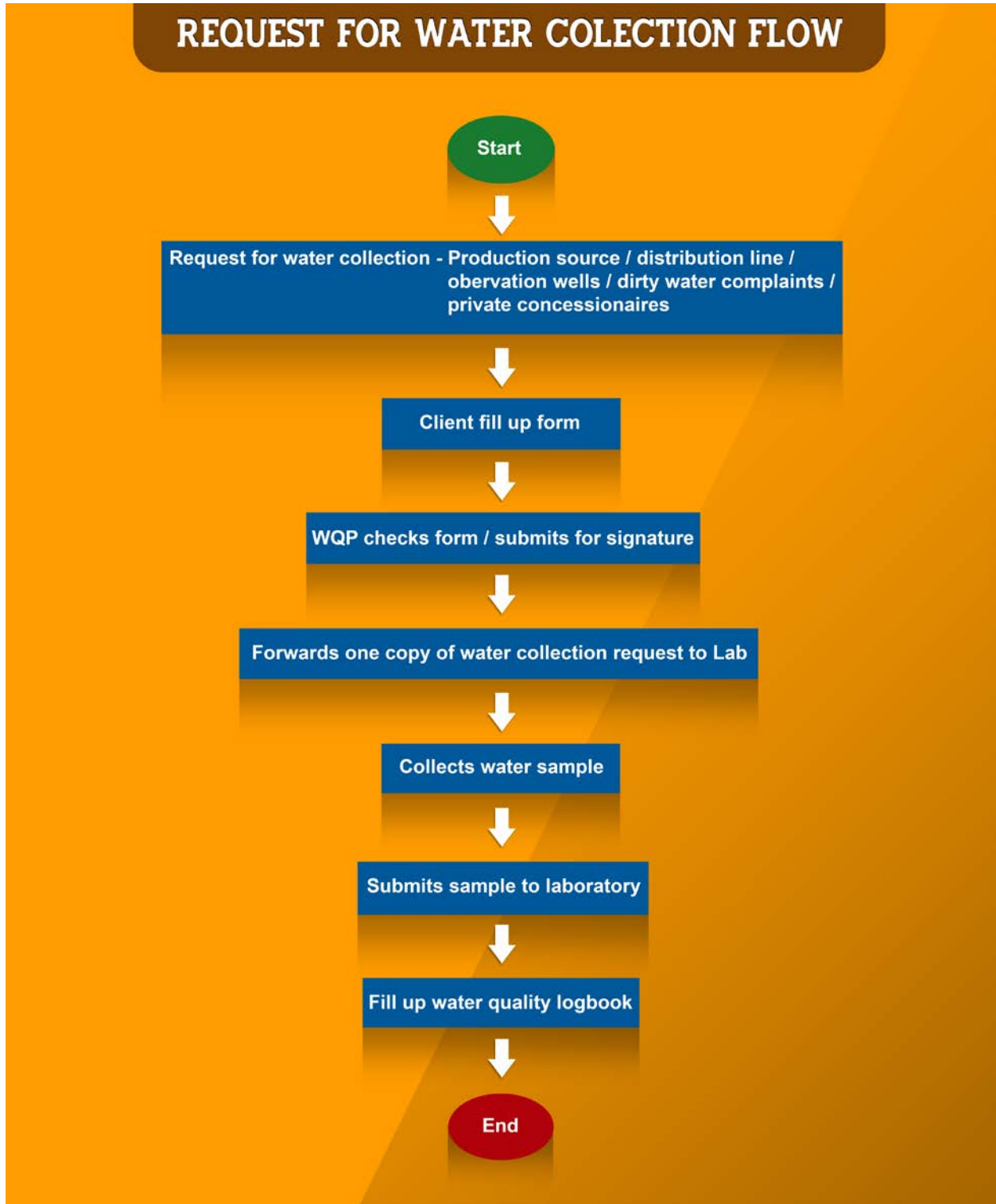
	METROPOLITAN NAGA WATER DISTRICT	Document Code:	
	ANNEX A	Revision No.:	0
	ACRONYMS	Effectivity Date:	15 Jan 2017
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ACRONYM	DEFINITION
MNWD	METROPOLITAN NAGA WATER DISTRICT
WQAS	WATER QUALITY ASSURANCE SECTION
LWUA	LOCAL WATER UTILITIES ADMINISTRATION
DMA	DIVISION MANAGER A
OTO SLN	ORTHOTOLIDINE SOLUTION
PLC	PIPELINE, LEAKAGE AND CONTROL
PDD	PLANNING AND DESIGN DIVISION
WQP	WATER QUALITY PERSONNEL



TERM	DEFINITION
CHLORINE	IS A CHEMICAL THAT, WHEN DISSOLVED IN SUFFICIENT QUANTITIES IN WATER WILL DESTROY DISEASE CAUSING ORGANISM
CHLORINE RESIDUAL	IS THE AMOUNT OF CHLORINE IN WATER AFTER CERTAIN PERIOD OR CONTACT TIME
CHLORINE RESIDUAL TEST	A TEST THAT DETERMINES THE AMOUNT OF REMAINING CHLORINE IN WATER
ORTHOTOLIDINE SOLUTION	A REAGENT TO TEST THE PRESENCE OF CHLORINE IN THE WATER
PRODUCTION SOURCE	MNWD WATER SOURCES SUCH AS, PUMPING STATION, RESERVOIR OR SPRINGS

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	FLOWCHART	Revision No.:	0
	REQUEST FOR WATER COLLECTION FLOW (FIGURE 1)	Effectivity Date:	March 2017
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	FLOWCHART		Revision No.: 0
	CHLORINE RESIDUAL MONITORING FLOW (FIGURE 2)		Effectivity Date: March 2017
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