

Drinking Water Distribution System Sampling Plan (DSSP)

Instructions to System

These instructions and template are provided by the New Mexico Environment Department (NMED) Drinking Water Bureau (DWB) as a guide for water systems that are revising or developing their Distribution System Sampling Plan (DSSP). DWB will use this template to provide technical assistance to systems that are revising or developing their DSSP and for system's compliance or capacity assessments.

DWB requires that drinking water systems maintain and implement a DWB-approved DSSP that reflects the current regulatory requirements and system conditions, describes sampling methods, and enables certified samplers or operators to collect all routine and repeat compliance distribution system samples according to sample schedules established by the DWB. The DSSP also must be included as an appendix in the system's Operation and Maintenance Plan. A general guideline to follow when developing or revising your DSSP is:

The DSSP needs to be specific enough that any certified sampler or operator could take the DSSP without any prior knowledge of your system and accurately implement it.

At a minimum, the DSSP must include:

- Cover page
 - Name and system's ID (confirm that it is accurate in "Water Watch")
 - Contact information
 - Name of author and dates of DSSP edition.
- Sampling plan needs to be certified by the plan preparer, water system owner, and licensed operator.
 - All parties have a responsible role in developing and/or implementing the DSSP
 - All parties shall review and sign off on the LCSP to acknowledge that the information provided is true and accurate to the best of their knowledge and belief.
 - Signature certification shall also include the date of certification, the title of the person providing certification, and license number (for licensed operators).
- Numbered pages
- A written description of the system
 - Type of public water system (e.g.: non-community, community, non-transient-non-community)
 - Can be the same one you use for both your Operation and Maintenance Plan and your Emergency Response Plan
- High quality and accurate map(s) of the distribution system showing the general layout of all system features and all sample sites
 - Bacteriological
 - Routine
 - Repeats
 - Triggered source(s) including facility ID #s

- Chlorine residual (if a chlorinated system)
 - Lead and copper (if required by regulation)
 - For standard monitoring and
 - For reduced monitoring
 - Disinfection By-Products (DBPs) (if required by regulation)
 - Asbestos (if required by regulation)
 - Turbidity (if required by regulation)
 - You may want to consider separate maps for specific groups of samples to keep any one map from getting too cluttered i.e.,
 - 1 map for bacteriological and chlorine residual
 - 1 map for lead and copper
 - 1 map for asbestos
 - 1 map for DBPs
 - 1 map for turbidity and TOC
- A written description of each sample site including:
 - contact info
 - location and directions
 - access info
 - sample(s) collected at each location
 - any other info required to get to the site and safely access and use the sample tap
- The name(s) of each laboratory the system uses for sample analysis
 - For a list of labs under contract with the DWB and approved to use NM Water Conservation Fee funds for routine compliance samples go to https://www.env.nm.gov/drinking_water/sampling-and-analysis/ and follow the links for sample collection and approved labs
- Review and approval by DWB

Keep in mind that your DSSP is a living document and should be updated to reflect changes at your Public Water System (PWS) such as:

- New sampling methods
- Regulatory changes that involve distribution system sampling
- Major changes in population
- A new or additional source
- Infrastructure changes such as
 - A change in the distribution system pressure zones or extended/abandoned lines
 - Changes in storage
 - Changes in disinfection
 - Treatment changes
 - Addition or removal of infrastructure
 - Changes in personnel

The template is organized with a title page, a revision tracking page, a table of contents, the body and appendices for support documents. Please note that all items within the body of the

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

plan may not apply to your water system (such as asbestos or disinfection by-product sampling), some items may be included as standard operating procedures (SOPs), as appendices or in multiple locations (provide once and reference back to original location).

Similarly, all appendices may not apply. For those that don't apply you can either delete all reference to them in the plan and reorder the remaining ones, or you can designate "N/A" next to any appendix's titles in the table of contents that don't apply, leave the references in the body of the plan as they are and include all appendix title pages. Those that are "N/A" will serve as placeholders.

Each section of the template has been formatted with some fundamental structure and information to help guide you in your write-up. You are welcome to copy & paste as long as the information you provide in your system's plan accurately represents your system. You are also welcome to change the formatting for your purposes, but keep in mind that your plan will be evaluated based on the information outlined in these instructions and requested in each section of the template.

DWB General Information

In January 2011 the NMED DWB transferred all drinking water distribution system sampling from the DWB sample collectors to the water system for bacteriological, chlorine residual, lead, copper, the disinfection by-products (DBPs) total trihalomethanes (TTHMs) and haloacetic acids (HAA5s), asbestos and turbidity (if a surface water or ground water under direct influence of surface water (GWUDI) system). Prior to this change, DWB samplers would collect all routine chemical compliance samples (except lead and copper) from distribution as well as source and Entry Point(s).

Previous changes required by the Ground Water Rule (GWR) incorporated system facility ID numbers and sampling point ID numbers onto lab forms. Facility ID numbers can be found by using the 'Water System Facilities' link from the water system detail page for your water system from [Drinking Water Watch](#). Sampling point ID numbers can be found by clicking on each specific facility ID number.

The DWB provides general sample schedule information for each Public Water System (PWS). That schedule can be found by using the 'Sample Schedules' link from the water system detail page for your water system from [Drinking Water Watch](#). In addition, system-specific sampling information, more detailed schedules and PWS sample tracking is available through the DWB online sampling tool. To use the online sampling tool, you must have a current NM operator or sampler certification and be registered with an appropriate PWS(s) in the NM Utility Operator Certification Program (UOCP) Database. To download instructions on how to register and use the tool go to https://www.env.nm.gov/drinking_water/utility-operator-certification-program/

The following sections provide specific guidance for each individual or group of samples you are required to collect from your distribution system. You will be expected to address this guidance when developing or revising your DSSP, and your DWB Compliance Officer (CO) will be using these instructions and the template to review your plan.

Bacteriological Sampling under the Revised Total Coliform Rule (RTCR)

All Systems

Under the RTCR, your DSSP must address the following requirements and include the following information:

- Your system's bacteriological sample collection schedule
 - All systems will be required to collect routine bacteriological samples on a monthly basis
 - PWSs that collect more than one sample per month (systems serving 1001 or more people) must collect samples at regular intervals throughout the month, **EXCEPT**
 - Ground water systems serving 4900 or fewer people (5 routine samples or fewer per month) may collect all required samples on a single day if they are taken from different sites
- All sample sites including locations for routine, repeat, triggered source and 'special' seasonal start-up sampling
 - Sample sites must be located in accessible locations and be representative of water quality throughout the distribution system
 - At a customer's premise
 - Dedicated sampling station
 - Other designated compliance sample site
 - For all routine Total Coliform positive (TC+) samples all systems are required to collect three (3) repeat samples for every TC+ from locations designated on DSSP
 - Original sample location
 - Upstream within 5 service connections (designated and DWB approved site)
 - Downstream within 5 service locations (designated and DWB approved site)
 - System may use alternate up- and downstream repeat sampling locations if they will be more representative of system conditions
 - Use of alternate repeat sampling locations must be based on an SOP approved by the system's DWB Compliance Officer (CO)
 - Repeat sample locations must also include all active sources that will be sampled as untreated triggered sources under the Ground Water Rule (GWR)
 - The DWB will not allow a triggered source water sample under the Ground Water Rule (GWR) to count as one of the distribution system repeats under the RTCR
 - Seasonal systems are systems that start up and shut down at the beginning and end of a specific operating season and may depressurize all or part of the water system at some point during the year
 - These systems are required to follow specific start-up procedures and prior to serving water certify that these procedures have been completed
 - The start-up procedure will require the system to collect one or more 'special' microbiological samples to verify water quality

- 'Special' samples are samples collected and paid for by the water system

Remember that all bacteriological samples (routine compliance, repeats, specials) must include chain-of-custody verification on the laboratory forms. Further, labs are instructed to reject any samples not collected by a certified sampler or operator.

The DWB is requiring systems to designate their minimum number of monthly routine sampling sites based on the following Table 1:

Population	Minimum number of samples per month required by RTCR	Minimum number of routine sample sites required on sampling plan
25 to 1000	1	4
1001 to 2500	2	8
2501 to 3300	3	9
3301 to 4100	4	12
4101 to 4900	5	15
4901 to 5800	6	18
5801 to 6700	7	21
6701 to 7600	8	24
7601 to 8500	9	27
8501 to 12,900	10	30
12,901 to 17,200	15	30
17,201 to 21,500	20	40
21,501 to 25,000	25	50
25,001 to 33,000	30	60
33,001 to 41,000	40	60
41,001 to 50,000	50	75
50,001 to 59,000	60	90
59,001 to 70,000	70	105
70,001 to 83,000	80	120
83,001 to 96,000	90	135
96,001 to 130,000	100	150
130,001 to 220,000	120	180
220,001 to 320,000	150	225
320,001 to 450,000	180	270
450,001 to 600,000	210	315
600,001 to 780,000	240	360
780,001 to 970,000	270	405
970,001 to 1,230,000	300	450
1,230,001 to 1,520,000	330	495
1,520,001 to 1,850,000	360	540
1,850,001 to 2,270,000	390	585
2,270,001 to 3,020,000	420	630
3,020,001 to 3,960,000	450	675
3,960,001 or more	480	720

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

That minimum number of monthly routine sites required on the DSSP increases the RTCR population-required minimums by the following Table 2 factors:

Population Range	Minimum number of samples per month required by RTCR	Multiplier to obtain minimum number of routine sample sites required on the DSSP
25 to 2500	1 - 2	4
2501 to 12,900	3 - 10	3
12,901 to 33,000	15 - 30	2
33,001 or more	40 - 480	1.5

This multiplier gives the system more DSSP-designated sample locations to choose from each month. These additional sample locations provide the system flexibility to avoid locations that may have been adversely impacted by line work, hydrant events (fire, flushing) or other activities that could have created a potential pathway for contamination into that section of the distribution system while still collecting representative samples from designated locations.

Systems are required to designate the physical address for each monthly routine and repeat sample location using the following Figure 1 example spreadsheet:

RTCR SAMPLE SITES				
Select PWS Name from Drop Down List First-----> PWS Name: ABC PRESCHOOL				
PWS Number: NM3503701				
Population: 25				
Number of Required Sample Sites	Routine Sample Site Name	Input Routine Sample Location (Physical Address or Physical Location)	Repeat Sample Site Name	Input Repeat Sample Location (Physical Address or Physical Location)
4	RT001		RP001O	
			RP001U	
			RP001D	
			RP001UA	SOP required for use of this site - refer to DSSP template instructions
			RP001DA	SOP required for use of this site - refer to DSSP template instructions
	RT002		RP002O	
			RP002U	
			RP002D	
			RP002UA	SOP required for use of this site - refer to DSSP template instructions
			RP002DA	SOP required for use of this site - refer to DSSP template instructions
	RT003		RP003O	
			RP003U	
			RP003D	
			RP003UA	SOP required for use of this site - refer to DSSP template instructions
			RP003DA	SOP required for use of this site - refer to DSSP template instructions
	RT004		RP004O	
			RP004U	
			RP004D	
			RP004UA	SOP required for use of this site - refer to DSSP template instructions
			RP004DA	SOP required for use of this site - refer to DSSP template instructions

Systems will first select their PWS from the drop-down alphabetical list of all PWS in NM. Once the PWS name is selected the spreadsheet will automatically populate with PWS # and population, and number of required sample sites, routine sample site names and repeat sample site names based on the population multiplier. The system is required to enter the physical address or physical location for each routine (RTxxx) & standard repeat site (RPxxxO, RPxxxU and RPxxxD) in the spreadsheet.

Note that systems can use alternate up- or downstream repeat sampling locations that are outside the five (5) connections from the original sample site. The DWB will **NOT** require systems to designate an address or location for these alternate up- or downstream repeat sites; RPxxxUA and RPxxxDA address cells in spreadsheet are locked. Instead, the DWB will require the system to specify their criteria for selecting these alternate repeat sampling sites on a situational basis in a standard operating procedure (SOP) provided in the DSSP. The system must design the SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations; however, the DWB may modify the SOP or require other alternate monitoring locations as needed.

The DWB will be verifying that the PWS is sampling from each routine and repeat sample location designated on their DSSP. Your Compliance Officer will also verify that the system is collecting the routine samples at regular intervals from month to month (i.e., same week each month) and is rotating through each major and minor portion of the distribution system every fourth month. This means that in general, a system could use the same sample locations for January/April/July/October, a second set of locations for February/May/August/November and a third set for March/June/September/December ***as long as this rotation provides representative sampling of the entire distribution system.***

Exceptions to the increased number of routine sampling locations based on the population range multiplier, sample rotation and alternate repeat SOP criteria will be applied to those systems with only one tap. These are typically transient, noncommunity systems such as campgrounds. These systems will be required to use that one tap every month for their routine sampling site. All three (3) repeats will also be sampled from that one tap. The water system will be allowed to collect the required set of repeat samples over a three-day period or to collect a larger volume repeat sample(s) in one or more sample containers of any size, as long as the total volume collected is at least 300 ml.

Systems with just two (2) taps will be required to alternate between each of those taps for their routine monthly sampling. One of those taps will more than likely be either in an up- or downstream location and will be sampled accordingly as a repeat. The other tap will be sampled twice over a two-day period or to collect a larger volume repeat sample(s) in one or more sample containers of any size, as long as the total volume collected is at least 200 ml.

The following RTCR guidance documents can be requested from the Revised Total Coliform Rule Administrator at NMENV.RTCR@env.nm.gov.

- RTCR Sample Sites Spreadsheet
- Requirements for Small Systems Fact Sheet
- Repeat Monitoring Requirements for Small Systems Fact Sheet
- Requirements for Seasonal Systems Fact Sheet
- Seasonal System Start-Up Procedure Guidance and Checklist

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

- Level 1 and Level 2 Assessments and Corrective Actions Fact Sheet
- Level 1 Assessment and Corrective Action Form
- Level 2 Assessment and Corrective Action Form
- List of Sanitary Defects
- Large System Guidance
- Training Presentation Slides (as handouts in pdf)
- DSSP Template & Instructions

Chlorine Residual Monitoring

Best management practices recommend that operators monitor chlorine residuals throughout their distribution systems on a regular basis. This is to ensure that injection dosages are sufficient to meet chlorine demand and maintain adequate residuals in the vulnerable portions of the distribution system. Vulnerable sections are anywhere you have increased water age or stagnant water (storage tanks, dead ends, low occupancy areas). This monitoring goes beyond the chlorine residual measurements you take when collecting your monthly routine bacteriological samples. Keep in mind though that elevated residuals combined with prolonged water age can lead to the formation of harmful disinfection by-products (DBPs), total trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Your DSSP needs to include all chlorine residual monitoring locations that you use – those associated with your monthly routine bacteriological sampling and those you use for disinfection process control.

The DWB is requiring systems to designate their minimum number of monthly chlorine monitoring sites based on the following table:

Population	Minimum number of sites per month based on population	Minimum number of chlorine monitoring sites required on sampling plan
25 to 1000	1	4
1001 to 2500	2	8
2501 to 3300	3	9
3301 to 4100	4	12
4101 to 4900	5	15
4901 to 5800	6	18
5801 to 6700	7	21
6701 to 7600	8	24
7601 to 8500	9	27
8501 to 12,900	10	30
12,901 to 17,200	15	30
17,201 to 21,500	20	40
21,501 to 25,000	25	50
25,001 to 33,000	30	60
33,001 to 41,000	40	60
41,001 to 50,000	50	75

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

50,001 to 59,000	60	90
59,001 to 70,000	70	105
70,001 to 83,000	80	120
83,001 to 96,000	90	135
96,001 to 130,000	100	150
130,001 to 220,000	120	180
220,001 to 320,000	150	225
320,001 to 450,000	180	270
450,001 to 600,000	210	315
600,001 to 780,000	240	360
780,001 to 970,000	270	405
970,001 to 1,230,000	300	450
1,230,001 to 1,520,000	330	495
1,520,001 to 1,850,000	360	540
1,850,001 to 2,270,000	390	585
2,270,001 to 3,020,000	420	630
3,020,001 to 3,960,000	450	675
3,960,001 or more	480	720

That minimum number of monthly monitoring sites required on the DSSP increases the population-required minimums by the following factors:

Population Range	Minimum number of samples per month required by population	Multiplier to obtain minimum number of routine monitoring sites required on the DSSP
25 to 2500	1 - 2	4
2501 to 12,900	3 - 10	3
12,901 to 33,000	15 - 30	2
33,001 or more	40 - 480	1.5

This multiplier gives the system more DSSP-designated chlorine monitoring locations to choose from each month. These additional monitoring locations provide the system flexibility to avoid locations that may have been adversely impacted by line work, hydrant events (fire, flushing) or other activities that could have created an unrepresentative chlorine residual in that section of the distribution system.

Remember that the Stage 1 Disinfectants/Disinfection By-Products Rule (S1DBPR) established a Maximum Residual Disinfectant Limit (MRDL) for chlorine of 4 mg/L, and requires systems to submit quarterly chlorine residual reports to their DWB CO. A copy of that disinfectant residual report can be found in Appendix A of these instructions. Include this report in Appendix E of your DSSP.

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

Also remember to report distribution chlorine residuals measured during routine microbiological sampling on monthly operating reports if surface water or groundwater under the influence of surface water is used as a source.

Lead and Copper Rule (LCR) Sampling

Lead and copper are typically not a source water issue; these metals are usually introduced through the system's or customer plumbing. The Lead and Copper Rule (LCR) (40 CFR 141.86) requires water systems to identify at risk customers, sample their tap water, and if high levels of lead and copper are found the system is required to implement what is called Optimal Corrosion Control Treatment (OCCT). The LCR applies to community water systems (C) and non-transient non-community water systems (NTNC) (systems).

The tap water monitoring sampling for lead and copper is designed to identify households or sampling locations with lead service lines, lead interior plumbing, or copper pipes with lead solder. Tap water monitoring for lead and copper not only allows the system to determine the lead and copper concentrations in drinking water, but if treatment is installed, monitoring allows the system to assess the effectiveness of corrosion control treatment and/or source water treatment. The system is required to identify "high risk" locations, using the a tiered system, whenever possible (versus collecting a random sample) to better ensure that if the water is corrosive action can be taken to institute treatment that provides uniform and adequate levels of health protection throughout the distribution system.

Tap water monitoring for lead and copper not only allows the CWS to determine the lead and copper concentrations in drinking water, but if treatment is installed, monitoring allows the CWS to assess the effectiveness of corrosion control treatment and/or source water treatment.

Monitoring schedule

Standard-6-month monitoring schedule:

All systems beginning lead and copper sampling under the LCR and any system that exceeds the lead and copper Action Level Exceedance (ALE) must complete at least two consecutive 6-month standard monitoring periods and not have any exceedances.

A system must begin or return to a 6-month monitoring periods at the standard number of sampling sites immediately following an ALE starting January 1st or July 1st, whichever is sooner.

Reduced-1-year monitoring schedule:

If the system has optimal water quality parameters concerning LCR, then DWB can approve a reduced monitoring schedule to a one-year schedule, if the samples do not exceed the lead and copper action levels, then DWB can approve a reduced monitoring schedule to a triennial one. Samples for reduced monitoring must be collected between the months of June and September. Any samples collected before June or after September will not count in meeting the reduced monitoring requirements.

Reduced3-year monitoring schedule:

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

After one year of lead/copper monitoring without any AL exceedances, the system may qualify for reduced (triennial) monitoring. For reduced monitoring, samples must be collected between the months of June and September and must be collected exactly at three-year intervals.

Sampling under reduced monitoring (annual or triennial) is required to be conducted between June–September. Samples collected before June or after September will not count in meeting the maintenance monitoring requirements.

If a system is on reduced or maintenance monitoring and gets an ALE, the system will return to 6-month standard monitoring status.

Sample size

The number of LCR samples you are required to collect is determined by your population served and whether the system is currently in a standard or reduced monitoring. You can determine your sample requirements by referencing your PWS sample schedule on [Drinking Water Watch](#) or by accessing the DWB online sampling tool. In addition to the minimum number of primary sites, it is recommended that the system also choose a fair number of “alternate” sites.

Tier system

System shall use the following LCR tier structure to determine where you need to sample; designate these locations on your sampling plan. The tier structure is based on your type of system and the age and types of structures you have in your community. Locations must be chosen based from three tiers of sampling sites, which are described below. These sites are considered to have a higher risk for elevated levels of lead and/or copper. All sample sites must be Tier 1, if possible. If all of your sites are not Tier 1 sites, you must include an explanation in your sample plan explaining why you had to use either Tier 2 or

Tier 3 sites.

LCR TIER STRUCTURE			
Community (CWS)		Non-Transient Non-Community (NTNCWS)	
Structures that have copper pipes with lead solder or lead pipes and/or served by lead service lines			
Tier 1	single family structures installed 1983 through 1987; or multi-family structures (1983-1985) that make up > 20% of total service connections	Tier 1	any structure installed from 1983 through 1985

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

Tier 2	multi-family structures installed by 1983-1987 and after that make up 20% or less of total service connections	Tier 2	N/A
Tier 3	single family structures installed by 1982 or before	Tier 3	any structure installed by 1982 or before
Other	structures with other plumbing materials	None-tier	structures with other plumbing materials

**General guidelines for lead and copper site selection, sampling and reporting are provided in Appendix B of these instructions. Include these guidelines in Appendix F of your DSSP.*

The following description table should help to determine the corresponding tier levels.

Description	Community Tier	Non-transient non-community Tier
Single family residence with lead service line, including lead goosenecks	1	Not Applicable (NA)
Single family residence with lead solder copper piping constructed after 1982	1	NA
Single family residence with lead pipes	1	NA
Multi-family residence with lead service line	2	NA
Multi-family residence with lead solder copper piping constructed after 1987	2	NA
Multi-family residence with lead pipes	2	NA
Single family home with lead solder copper piping constructed before 1987	3	NA
Single family home that does not meet Tier criteria	None-tier	NA
Multi-family home that does not meet Tier criteria	None-tier	NA

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

Non-residential building with lead service line	2	1
Non-residential building with lead solder copper piping constructed after 1987	2	1
Non-residential building with lead pipes	2	1
Non-residential building with lead solder copper piping constructed after 1987	None-tier	2
Non-residential building that does not meet Tier criteria	None-tier	None-tier

Once the C and NTNC systems have located and tiered their sites to the best of their knowledge they will need to include the listings in the sampling plan using the following table template.

Lead and copper tap sample sites:

Water system's population served:
Standard Number of Sites Required
Reduced Number of Sites Required:

#	Site name and address	Type of Tier	Type of site (standard, reduced, alternate)	Type of plumbing material	Date of construction/ notes
1					
2					

Site distribution system map

The lead and copper monitoring distribution map should clearly identify:

- All entry points to the distribution system.
- All Standard monitoring lead and copper sampling sites (differentiate your sampling sites for reduced monitoring). Sites should be representative of the community as a whole (refrain from clustering or placing all site on just certain parts of the systems distribution.
- Alternate lead and copper sampling sites.

Tap Sampling Methods

It is strongly recommended that lead and copper samples be collected early in the monitoring period to ensure samples arrive at the laboratory in a timely manner and are analyzed before the end of the monitoring period. To avoid problems with residents handling nitric acid, acidification of the first draw samples may be done up to 14 days after the sample is collected.

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

First draw samples may be collected by the system or the system may allow residents to collect first draw samples after providing the residents the sampling procedures. Sampling procedures must be provided to the individual collecting the sample.

Sample instructions must include the following procedures:

- Do not sample a location not in use or that has not been used for a significant period of time (i.e., while school is closed for the season, vacant building, etc.).
- Samples MAY NOT be taken from taps that have point of use or point of entry treatment devices designed to remove inorganic contaminants, such as an iron removal filter, reverse osmosis system, or water softener.
- Do not sample from outside hose spigots.
- First draw samples from residential housing must be collected from the cold-water kitchen or bathroom sink tap.
- First draw samples from NTNCWS must be collected at an interior tap from which water is typically drawn for consumption.
- Each first draw sample for lead and copper must be 1 liter in volume and have stood motionless in the plumbing system of each sampling site for at least six hours.
- Do not perform or recommend pre-stagnation flushing (flushing the tap for a specified period of time prior to starting the minimum 6-hour stagnation time).
- Wide-mouth bottles should be used for all Lead and Copper compliance samples.
- Do not remove and/or clean the aerators prior or during lead and copper sample collection.
- First draw samples must be collected at the same sampling sites used in the previous monitoring period unless a site is no longer accessible, a site no longer meets the Tier criteria, and/or a new site with a higher Tier criterion is now accessible.
- If the water system is a NTNC and operates 24 hours (i.e., a hospital), outline procedures to ensure the water stands motionless in the area of the tap for a minimum of 6 hours or identify the times and locations that would likely result in the longest standing time (if received written approval from the NJDEP to collect any non-first draw samples).
- Define how the sample collection is documented (i.e., chain of custody, customer fills out a form).
- Define how the water system will determine and document if any plumbing changes have occurred between sampling events.
- Define how the point of entry or point of use treatment will be identified and documented (i.e., chain of custody, customer fills out a form).

Change of sample site procedure

Changes to sample sites are allowed when a water system can no longer gain access to the site, if the original site location no longer meets the Tier selection criteria, and/or if a new site with a higher Tier criterion is now accessible. If the previous site no longer meets the Tier criteria and/or the sampled site needs to be added as a standard or alternate site, then the LCSP must be updated and submitted to the lead and copper rule administrator lcr.manager@env.nm.gov

Plan of Action when the Lead and/or Copper AL is Exceeded

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

A system must return to six-month monitoring periods at the standard number of sampling sites immediately following an ALE starting January 1st or July 1st, whichever is sooner.

Upon becoming aware of exceeding the lead and/or copper AL, the following actions will be required, and must be added and detailed in the Lead and Copper Sampling Plan section:

1. Notification of exceedance results to NMED Drinking water Bureau within 48 hours;
2. Return to standard lead and copper tap monitoring, if currently on reduced;
3. Water Quality Parameter (WQP) Monitoring (i.e., initial, follow-up, optimal);
4. Implementation of Source Water Sampling and Treatment Steps;
5. Implementation of Corrosion Control Treatment (CCT) Steps;
6. Public education (for lead AL only); and
7. Lead Service Line Replacement (for systems with lead AL and existing CCT)

Disinfectants/Disinfection By-Products (D/DBP) Sampling

Disinfection byproducts (DBPs) form when water that contains natural organic matter (NOM) is mixed with certain forms of chlorine. NOM, considered a DBP precursor, results from the decomposition of plant and animal material and is most commonly found in surface water or ground water under direct influence of surface water (GWUDI) where this organic matter frequently enters the water body from runoff. All public water systems using surface water must disinfect the water prior to delivery to the first customer, thereby bringing the NOM in contact with chlorine (the most commonly used disinfectant). DBPs are harmful to human health and are regulated under the Stage 1 and 2 Disinfectants/Disinfection By-Products Rule (S1/2 D/DBPR) of the Safe Drinking Water Act (SDWA).

DBPs generally continue to form over time so typically, the highest concentrations are found in distribution where the "oldest" water is found; this is where sampling locations are chosen (though DBPs can sometimes degrade with time). Other factors that influence DBP formation include pH (higher pH favors total trihalomethane production, lower pH favors haloacetic acid production) and temperature (higher temperature favors DBP production). This is why the third quarter of the year (July-September) is usually designated for DBP sampling for systems required to collect only 1 set of DBP samples per year.

The DWB fully implemented the Stage 2 D/DBP Rule on October 1, 2013, for community and non-transient non-community water systems (CWS and NTNCWS) that produce or deliver water that is treated with a primary disinfectant (chlorine). That implementation included sending correspondence to each regulated system that described the number and general location of each type of DBP sample, Total Trihalomethane (TTHM) and Haloacetic Acid (HAA5) the system is required to collect. Numbers and locations vary depending on whether your system uses ground water (GW) or surface water (SW), and population served, as follows:

- Certain GW or SW systems serving less than 500 population were instructed to collect one (1) DBP2 sample per year from their distribution system during a specific month
 - A DBP2 sample means that both the TTHM and HAA5 samples are to be collected from the same distribution system sample location

- The letter included a Sample Location Identification Checklist (SLIC) entitled “Distribution Sampling Location” that the water system was instructed to use to designate the distribution system sample location for the DBP2 samples
- Other GW or SW systems serving less than 500 population were instructed to collect one (1) TTHM-IND and one (1) HAA5-IND sample per year from their distribution system during a specific month
 - A TTHM-IND and HAA5-IND sample means that the TTHM sample is collected from one location and the HAA5 sample is collected from a different and separate location
 - The letter included a SLIC that the water system was instructed to use to designate the two (2) separate distribution system sample locations for the TTHM-IND and HAA5-IND samples
- GW systems serving 500-9999 population were instructed to collect one (1) TTHM-1 Dual and one (1) HAA5-1 Dual sample per year from their distribution system during a specific month
 - A TTHM-1 Dual and HAA5-1 Dual sample means that both TTHM and HAA5 samples are collected at the same time and location from two (2) different locations within distribution
 - The letter included a SLIC that the water system was instructed to use to designate the two (2) separate distribution system sample locations for the TTHM-1 Dual and HAA5-1 Dual samples
- SW systems serving 500-3300 population were instructed to collect one (1) TTHM-IND and one (1) HAA5-IND sample per quarter
 - A TTHM-IND and HAA5-IND sample means that the TTHM sample is collected from one location and the HAA5 sample is collected from a different and separate location
 - Quarterly samples must be collected at regular intervals
 - January, April, July and October, or
 - February, May, August and November, or
 - March, June, September and December
 - The letter included a SLIC that the water system was instructed to use to designate the two (2) separate distribution system sample locations for the TTHM-IND and HAA5-IND samples
- SW systems serving 3301-9999 population were instructed to collect one (1) TTHM-1 Dual and one (1) HAA5-1 Dual sample per quarter
 - A TTHM-1 Dual and HAA5-1 Dual sample means that both TTHM and HAA5 samples are collected at the same time and location from two (2) different locations within distribution
 - Quarterly samples must be collected at regular intervals

- January, April, July and October, or
 - February, May, August and November, or
 - March, June, September and December
- All other GW and SW systems serving 10,000 and greater population were instructed to collect anywhere from 4 to 20 Dual TTHM and HAA5 samples per quarter
 - Dual sampling means that both TTHM and HAA5 samples are collected at the same time and location quarterly
 - Sample locations are designated DBP-1 through 5, TTHM -1 through 8 and HAA5-1 through 7
 - DBP-1 through 5 are the distribution system sample locations the system has been using from the Stage 1 D/DBPR – they remain in use
 - TTHM-1 through 8 and HAA5-1 through 7 are new sample locations for S2 D/DBPR
 - Refer to **Appendix C** of these instructions for the Stage 2 Compliance Monitoring Inventory Action Form that shows the number of S1 and S2 locations that require DBP sampling for example:
 - GW systems serving 100,000-499,999 population are required to collect 6 Dual samples per quarter
 - One (1) set of TTHM and HAA5 samples will be collected from the old S1 site designated DBP-1
 - Three (3) sets of TTHM and HAA5 samples will be collected from the new S2 sites designated TTHM-1, TTHM-2 and TTHM-3
 - Two (2) sets of TTHM and HAA5 samples will be collected from the new S2 sites designated HAA5-1 and HAA5-2

Sample Collection and Handling

The chemicals that comprise the total trihalomethanes (TTHMs) are considered volatile; they would rather be in the vapor or gas phase than in the aqueous phase. This requires special consideration when collecting these samples. Samples must be collected without any “headspace” or air in the vial. Each lab certified to analyze these organic compounds may have a different definition of headspace. Some may reject your samples for any air bubbles; others may allow 1 or more tiny air bubbles. It is important to know your lab’s requirements for headspace acceptability. Use the following techniques when collecting your TTHM samples in the twin 40-mL clear glass vials:

- Open the tap and allow the water to flow for 5 minutes
- Adjust the flow to about 500 mL (1 pint) per minute
 - Any aerator device on faucet must be removed
- Take vials out their original plastic baggies
- Open one vial
- Slowly fill the vial to the very top so that the water surface bows up and above the rim of the vial
- Re-cap the vial

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

- Invert the capped vial to make sure no headspace or bubbles are present
- If headspace is present, then remove cap and carefully add a little more water from the tap and re-cap again
- Fill the second duplicate vial in the same manner
- Complete all lab forms and labels
- Place the two vials back into their original bag

Asbestos Sampling

Community and Non-Transient Non-Community water systems are required to collect for asbestos when the water system is known to use asbestos-cement piping as a distribution or service line or if there is a potential for asbestos contamination of the water source. You can determine your asbestos sample requirements by referencing your PWS sample schedule on [Drinking Water Watch](#) or by accessing the DWB online sampling tool.

The sample should be collected from a commonly used tap served by cement-asbestos piping and under conditions where asbestos contamination is most likely to occur. Within distribution, this is determined by the operators mapping and or history as to where the asbestos cement piping is being used. You may also want to discuss your DSSP asbestos sampling location(s) with your DWB CO. Asbestos is one of the contaminants the DWB samplers were responsible for collecting prior to the January 2011 transfer of distribution system sampling to the water systems and the DWB may have record of historical asbestos sample locations.

Turbidity Monitoring

Turbidity is the clay, silt, mud or other organic/inorganic material typically present in surface water as suspended solids. Turbidity does not represent a health risk by itself, but because it can shield pathogens (harmful microorganisms) from disinfection processes it is considered an acute health hazard (one of three – turbidity, E. coli and nitrates).

Springs and infiltration galleries are considered surface supplies if they are found to have ground water under the direct influence of surface water (GWUDI). The DWB, with coordination with the water system, will initiate a study of turbidity, physical parameters such as conductivity, pH, alkalinity, and temperature, in addition to microorganisms in the suspected source to determine GWUDI status.

Surface water treatment rules require that any system that uses surface water or GWUDI must provide treatment of the supply in order to stay below specific turbidity levels. Surface water or GWUDI systems must also monitor and report turbidity, chlorine concentrations, and inactivation of microorganisms. Total organic carbon is considered a precursor to known carcinogens such as disinfection byproducts and conventional treatment plants must be monitored for total organic carbon (TOC). Chlorine concentrations within the distribution system reported on Total Coliform/E. Coli analysis forms must be reported separately when reporting turbidity. You can determine your monitoring and reporting requirements by

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

referencing your PWS sample schedule on [Drinking Water Watch](#) or by accessing the DWB online sampling tool. Monitoring locations need to be identified in your DSSP.

Additional Resources:

- NMED DWB home page can be found at https://www.env.nm.gov/drinking_water/

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

DSSP INSTRUCTIONS APPENDIX A

Disinfectant Residual Report

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

MONTHLY DISINFECTANT RESIDUAL REPORT			
FOR PUBLIC WATER SYSTEMS			
SYSTEM NAME: _____			
WATER SYSTEM ID # _____		Number of Active Service _____	
Months _____	Year _____	Connections this Month: _____	
Chlorine Residual Readings (mg/L)			
Date	Month #1	Month #2	Month #3
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Avg			
Max			
Min			

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

Operator's _____

Signature: _____

	State of New Mexico ENVIRONMENT DEPARTMENT DRINKING WATER BUREAU PO Box 5469 Santa Fe, NM 87502 Tel. 505-476-8635 • Fax 505-476-8656 Toll Free 1-877-854-8720 www.env.nm.gov/dwb/index.htm		
DISINFECTANT LEVEL QUARTERLY OPERATING REPORT (DLQOR)			
Quarter: _____		Year: _____	
Water System Name: _____		System ID # _____	
First Month of Quarter: Monthly Summary			
Average of all disinfectant Residuals for this month	Number of residuals collected this month	Number of readings with NO Residual for this Month	
mg/L	readings	Readings %	
Second Month of Quarter: Monthly Summary			
Average of all disinfectant Residuals for this month	Number of residuals collected this month	Number of readings with NO Residual for this Month	
mg/L	readings	Readings %	
Third Month of Quarter: Monthly Summary			
Average of all disinfectant Residuals for this month	Number of residuals collected this month	Number of readings with NO Residual for this Month	
mg/L	readings	Readings %	
Quarterly Summary			
Average of all disinfectant Residuals for this Quarter	Lowest Residual for this Quarter	Highest Residual for this Quarter	
mg/L	mg/L	mg/L	
Running Annual Average Summary			
Average of all disinfectant Residuals for the previous 12 Months			
mg/L			
NAME: _____ TITLE: _____ LICENSE # _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP CODE _____ PHONE # _____			
SIGNATURE: _____		DATE: _____	
<i>DLQORs are required to be submitted to NMED-DWB No Later than the Dates Noted Below</i>			
Quarter 1	Quarter 2	Quarter 3	Quarter 4
Disinfectant Residuals for January, February, & March	Disinfectant Residuals for April, May, & June	Disinfectant Residuals for July, August, & September	Disinfectant Residuals for October, November, & December
Report due by April 10th	Report due by July 10th	Report due by October 10th	Report Due by January 10th

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

DSSP INSTRUCTIONS APPENDIX B

General Guidelines for Lead and Copper Site Selection, Sampling and Reporting



GUIDELINES FOR SITE SELECTION AND SAMPLING

The main objective of the lead and copper rule (LCR) is to protect the public from contaminants resulting from corrosion in the piping system. LCR requires the water served by all community and non-transient non-community public water systems to meet the "action levels" for lead and copper as measured at the consumer taps and/or provide optimum corrosion control treatment to minimize these corrosion by-products within the distribution system. If more than 10 percent (10%) of the tap water samples collected during any monitoring period contains more than 0.015 mg/L for lead and/or 1.3 mg/L for copper, the action level will have been exceeded (i.e., if the "90th percentile" lead level is greater than 0.015 mg/L or if the "90th percentile" copper level is greater than 1.3 mg/L).

Steps Needed To Complete the Lead and Copper Monitoring Requirements

A. SAMPLING SITE SELECTION

- From the table below, determine the number of samples, based on population, your public water system must collect (use Number of Sites (Standard)):

Number of Samples		
System Size (Population Served)	Number of Sites (Standard)	Number of Sites (Reduced)
> 100,000	100	50
10,001 - 100,000	60	30
3,301 - 10,000	40	20
501 - 3,300	20	10
101 - 500	10	5
≤ 100	5	5

- Complete the required construction materials report included with this package. (available on web site)
- Use information gathered to complete the construction materials report to select sample sites that have the highest probability of corrosion. Tier 1 sites have the highest probability of corrosion, decreasing to Tier 2, and then Tier 3. If no "Tier" sites are available, select "Other" sites as sample sites. See chart below to determine "Tier" of sample site:

LCR Tier Structure			
Community - Has Copper Pipes with Lead Solder or Lead Pipes and/or Served By Lead Service Lines		Non-Transient Non-Community - Has Copper Pipes with Lead Solder or Lead Pipes and/or Served By Lead Service Lines	
<u>Tier 1</u>	Structure-Installed 1983 through 1985 - Single-Family Structures Or - Multi-Family Structures - Make Up More Than 20% Of Total Service Connections	<u>Tier 1</u>	Any Structure- Installed From 1983 through 1985
<u>Tier 2</u>	Multi-Family Structures-Installed By 1983 and After That Make Up 20% or Less Of Total Service Connections	<u>Tier 2</u>	Not Applicable
<u>Tier 3</u>	Single Family Structures-Installed By 1982 or Before	<u>Tier 3</u>	Any Structure-Installed By 1982 or Before
<u>Other</u>	Structures with Other Plumbing Materials	<u>Other</u>	Structures with Other Plumbing Materials

B. SAMPLE SITING PLAN

1. Create a readable map, sketch or schematic of your distribution system. Clearly indicate the locations of the sampling sites. Be aware that it is in your best interests to select more sampling sites than strictly the minimum number required. The designation of more than the minimum number of sampling sites available will provide greater flexibility in performing additional sampling if necessary.
2. Assign each sampling site an alphanumeric identifier as a location code. The code for each sampling site must consist of three digits using letters, numbers, or a combination of both (for example: ABC, 123, or 1B3). Add the location code for each sampling site to the map or sketch.
3. Compile a listing of the sampling sites showing the location code, site address, Tier level, and a description of the site.
4. Add your seven digit public water supply identification number and the name of your public water supply system to both the listing and the plan or sketch. Submit the map or sketch and the listing of the sampling sites to the Lead and Copper Rule Manager for review.
5. Note that any future changes to the sample siting plan must be reviewed by the State and will require a written submittal of the requested change to the sample siting plan explaining the reason for the requested change and the submittal of a revised map or sketch and a revised site listing.

C. SAMPLE COLLECTION PROCEDURES

1. Collect each water sample in a one-liter bottle. {One-liter bottles can be acquired from a State-certified laboratory of your choosing.} The water shall stand motionless for at least 6 hours in the plumbing system before collection of the sample. Residential samples shall be collected from the cold-water kitchen tap or bathroom sink tap. Non-residential samples shall be collected at an interior tap from which water is typically drawn for consumption.
2. Collect the required number of samples for two consecutive six-month periods.
3. Calculate the 90th percentile as described below:
 - (a) Place the results (of lead or copper) in ascending numerical order with the lowest concentration at the top of the list and highest concentration at the bottom of the list.
 - (b) Multiply the number of samples x 0.9. The result is the sample that represents the 90th percentile.

Example: 20 samples x 0.9 = 18
Therefore, the analytical result for the 18th sample in the ascending list is the 90th percentile.

D. ACTIONS AFTER SAMPLING

If the 90th percentile for lead and/or the 90th percentile for copper are at or below the action level of 0.015 mg/L (lead) and/or 1.3 mg/L (copper), respectively, for both six-month periods, your water system may request reduced monitoring from the State via telephone, email, or postal mail.

If the 90th percentile for lead and/or the 90th percentile for copper exceed the action level of 0.015 mg/L (lead) and/or 1.3 mg/L (copper), respectively, for any six-month period, the following actions must be performed:

1. If the lead action level is exceeded, public education on lead in drinking water must be distributed within 60 days after exceedance and a copy of the distribution submitted to the State
2. Measure water quality parameters (WQPs) at the entry point after treatment and the distribution system.
3. Collect water samples at the entry point after treatment and analyze for lead and copper. (These samples are known as "Lead and Copper Source Water" samples.)

4. Within 6 months after exceedance, submit a Corrosion Control Treatment (CCT) Recommendation to the State stating your system's plans to rectify the corrosion problem.
5. If necessary, submit within 6 months after exceedance a Source Water Treatment (SOWT) recommendation to the State stating your system's plans to rectify any lead and/or copper contamination in your finished water.

Once treatment (CCT and/or SOWT) has been approved and installed, your water system shall perform follow-up monitoring by:

1. Monitoring the tap water in the distribution system for lead and copper;
2. Measure water quality parameters in the distribution system;
3. Monitor the water at the entry point after treatment for lead and copper (if necessary); and
4. Measure water quality parameters in the water at the entry point after treatment.

After two consecutive six-month periods of follow-up monitoring have been performed, your water system must submit the results (on Form 141-C2 as a summary) to the State for review and for designation of the operating ranges for acceptable corrosion control treatment. Once these ranges have been established, your water system must complete another two consecutive six-month periods of monitoring (as described in 1 through 4 above) to verify the ability of the installed treatment to meet the State-specified operating ranges.

If the lead and copper action levels are at or below the action levels, a system may request reduced monitoring from the State via telephone, email, or postal mail. However, if an action level is exceeded, the system must continue to conduct tap sampling, continue public education distribution if the lead action level is exceeded, and possibly begin a lead service line replacement program.

Last Update: 2-17-06

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). **IMPORTANT:** Flush water tap approximately 5-10 minutes prior to letting the water sit in pipes for the extended time. Due to this requirement, either early mornings or evenings upon returning from work are the best times for collecting samples. The collection procedure is described in more detail below.

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample bottle delivery and pick-up by water system staff.
2. A minimum 6-hour period during which there is no water use throughout the house must be achieved prior to sampling. The water department recommends that either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist.
3. A kitchen or bathroom cold-water faucet is to be used for sampling. If a collapsed sample container, (cubitainer) is provided, blow up the sample container (cubitainer). This can be done by placing your mouth over the opening of the cubitainer and blowing into it.
 - Please note: IF A 1 LITER SAMPLE BOTTLE IS PROVIDED INSTEAD OF A CUBITAINER, THE BOTTLE MAY CONTAIN AN ACIDIC PRESERVATION AND SHOULD BE HANDLED WITH EXTREME CARE.Place the blown up sample cubitainer or 1 liter sample bottle below the faucet and gently open the cold water tap. Fill the sample cubitainer/sample bottle to the lip of the bottle just below the opening and turn off the water.
4. Tightly cap the sample cubitainer/bottle and place in the sample kit. Please fill out the information below and make sure it is correct.
5. IF ANY PLUMBING REPAIRS OR REPLACEMENT HAS BEEN DONE IN THE HOME SINCE THE PREVIOUS SAMPLING EVENT, NOTE THIS INFORMATION BELOW.
6. Place the sample kit outside of the residence in the location of the delivery so that water system staff may pick up the sample kit.

NOTES: Has any plumbing repairs or replacements taken place in your home in the past 3 years? If so, please describe.

DO YOU HAVE A WATER SOFTENER? ☐ Yes ☐ No

DO YOU HAVE A POINT OF USE DEVICE TO REMOVE INORGANIC CONTAMINANTS: ☐ Yes ☐ No

TO BE COMPLETED BY RESIDENT

Water was last used: Time: _____ Date: _____

Sample was collected: Time: _____ Date: _____

I have read the above directions and have taken a tap sample in accordance with these directions.

Signature _____

Date _____

Name: Drinking Water Sampling Plan Instructions/Template

Effective date: August 17, 2023

Version: 2.0

DSSP INSTRUCTIONS AP

Stage 2 DBP Compliance Monitoring Inventory Action Form

			Distribution system monitoring location							
Source water type	Population size category	Monitoring frequency	Total per monitoring period	Highest TTHM location	Sample Point Name	Highest HAA5 locations	Sample Point Name	Existing Subpart L locations	Sample Point Name	Dual / Individual
Subpart H:	<500	per year	1	1	DBP-DIST	1	DBP-DIST			DUAL ₁
	<500	per year	2	1	TTHM-IND	1	HAA5-IND			INDIVIDUAL
	500-3300	per quarter	2	1	TTHM-IND	1	HAA5-IND			INDIVIDUAL
	3301-9999	per quarter	2	1	TTHM-1	1	HAA5-1			DUAL
	10000-49999	per quarter	4	2	TTHM-1, -2	1	HAA5-1	1	DBP-1	DUAL
	50000-249999	per quarter	8	3	TTHM-1, -2, -3	3	HAA5-1, -2, -3	2	DBP-1, -2	DUAL
	250000-999999	per quarter	12	5	TTHM-1, -2, ...-5	4	HAA5-1, -2, ...-4	3	DBP-1,-2,-3	DUAL
	1000000-4999999	per quarter	16	6	TTHM-1, -2, ...-6	6	HAA5-1, -2, ...-6	4	DPB-1,-2,-3,-4	DUAL
	>=5000000	per quarter	20	8	TTHM-1, -2, ...-8	7	HAA5-1, -2, ...-7	5	DPB-1,-2,-3,-4,-5	DUAL
Ground water:	<500	per year	1	1	DBP-DIST	1	DBP-DIST			DUAL ₁
	<500	per year	2	1	TTHM-IND	1	HAA5-IND			INDIVIDUAL
	500-9999	per year	2	1	TTHM-1	1	HAA5-1			DUAL
	10000-99999	per quarter	4	2	TTHM-1,-2	1	HAA5-1	1	DBP-1	DUAL
	100000-499999	per quarter	6	3	TTHM-1,-2, -3	2	HAA5-1,-2	1	DBP-1	DUAL
	>=500000	per quarter	8	3	TTHM-1,-2, -3	3	HAA5-1,-2, -3	2	DBP-1,-2	DUAL

₁ For systems serving fewer than 500 people, only one location with a dual sample set per monitoring period is needed if the highest TTHM and HAA5 concentrations occur at the same location and month.

The template begins on the next page.

<Highlighted text is either general information or are suggestions that need to be modified to reflect system-specific conditions or information or deleted if they do not apply >

TITLE PAGE

**DRINKING WATER DISTRIBUTION SYSTEM
SAMPLING PLAN (DSSP) FOR:**

**WATER SYSTEM NAME
PWS # NM35-XXX-XX**

**Address City Zip
Phone Email
County**

**Original Plan Prepared By Name & Title
Preparer's Contact Info
Date Prepared
Date Submitted to NMED DWB
Signature**

**Reviewed by DWB
Date Recommended for Approval
Signature**

INITIAL DSSP SECTION APPROVALS

☐ Approved ☐ Not-Approved ☐ Approved	RTCR and GWR Bacteriological Sampling Compliance Officer Signature: _____
☐ Approved ☐ Not-Approved ☐ Not Applicable	Disinfectant Residual Monitoring Compliance Officer Signature: _____
☐ Approved ☐ Not-Approved ☐ Not Applicable	Lead and Copper Rule (LCR) Sampling Rule Administrator Signature: _____
☐ Approved ☐ Not-Approved ☐ Not Applicable	Disinfectants/Disinfection By-Products Rule (D/DBP) Sampling Rule Administrator Signature: _____
☐ Approved ☐ Not-Approved ☐ Not Applicable	Entry Point (EP) Chemical Compliance Sampling for Organics, Inorganics and Radiologicals Compliance Officer Signature: _____
☐ Approved ☐ Not-Approved ☐ Not Applicable	Distribution System Asbestos Sampling Compliance Officer Signature: _____

REVISION TRACKING

Original Plan Prepared By
Date Prepared

1st Revision By
1st Revision Date
Date Submitted to NMED
Date Approved by NMED

2nd Revision By
2nd Revision Date
Date Submitted to NMED
Date Approved by NMED

TABLE OF CONTENTS

Page

Title Page

Revision Tracking

Table of Contents

Section 1	System Description and Contact Information
Section 2	RTCR and GWR Bacteriological Sampling
Section 3	Disinfectant Residual Monitoring
Section 4	Lead and Copper Rule (LCR) Sampling
Section 5	Disinfectants/Disinfection By-Products Rule (D/DBP) Sampling
Section 6	Entry Point (EP) Chemical Compliance Sampling for Organics, Inorganics and Radiologicals
Section 7	Distribution System Asbestos Sampling

Appendices

Appendix A	System Sample Schedule from Drinking Water Watch
Appendix B	RTCR Sample Sites Spreadsheet Spreadsheet Submittal Acknowledgement Form
Appendix C	Map(s) of Distribution System Showing: RTCR Routine Sample Sites RTCR Repeat Sample Sites RTCR Seasonal Start-Up Special Sample Sites (if a seasonal system) GWR Triggered Source Sample Sites Chlorine Residual Monitoring Sites (if a chlorinated system) Lead and Copper Sample Sites (if required) D/DBP Sample Sites (if a chlorinated system) Asbestos (if required)
Appendix D	Alternate RTCR Repeat Sampling Sites SOP
Appendix E	Disinfectant Residual Measurement Sampling Report
Appendix F	Guidelines for Lead and Copper Site Selection and Sampling

Suggested Directions to Homeowners for Sample Collection

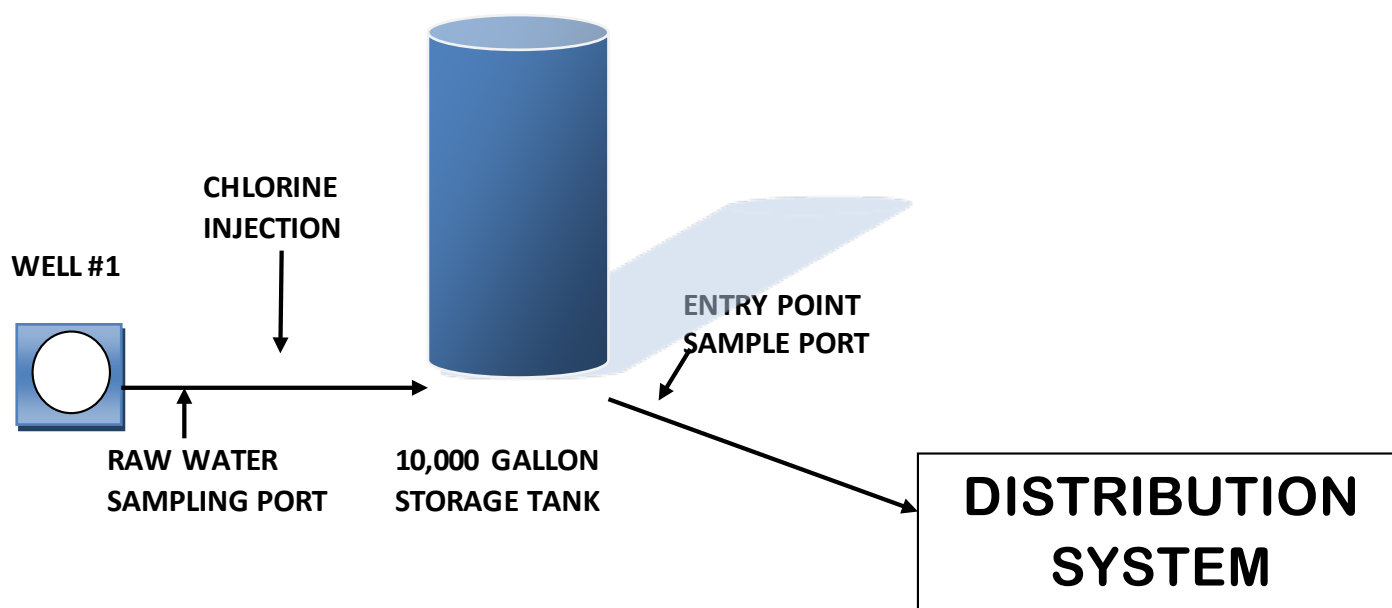
Section 1: System Description and Contact Information

The <Water System> owns and operates one groundwater well. The water system serves 125 people with 70 connections. Water from the well is disinfected with a 6% hypochlorite solution prior to being pumped to a 10,000 gallon ground storage tank. Water from the tank gravity flows to our distribution system.

Our current sample schedule from Drinking Water Watch is provided in **Appendix A**.

Administrative Contact:	name Address city state zip Phone(s) email
Certified Operator:	name Address city state zip Phone(s) email
NMED DWB Contact	Compliance Officer (CO) name Address city state zip Phone(s) email

Example System Schematic



Section 2: Bacteriological Sampling

Revised Total Coliform Rule (RTCR) Sampling

Frequency

Based on our population of **X** and the sample requirements provided in Tables 1 and 2 of the instructions, we are required to designate a minimum of **Y** routine sample locations per month and collect a minimum of **Z** routine bacteriological samples per month.

Location

We are required to identify each of our routine monthly bacteriological sample locations, and the three (3) repeat sites (original, up- and downstream) associated with each routine site with either a physical address or physical location. Those addresses/physical locations are listed on the RTCR Sample Site spreadsheet in **Appendix B**. That spreadsheet has been submitted to the DWB according to the instructions that accompanied the spreadsheet; the submittal acknowledgement is included in **Appendix B**.

Appendix C includes the map(s) showing where these routine and repeat sites are located throughout our distribution system.

We understand that the DWB will be verifying that we sample from each routine and repeat sample location designated on our DSSP. We further understand that our DWB Compliance Officer will also verify that we collect the routine samples at regular intervals from month to month (i.e., same week each month) and that we are rotating through each major and minor portion of the distribution system.

Alternate Repeat Sampling Locations

The RTCR Sample Site Spreadsheet in Appendix B designates repeat sample locations that are within the five (5) connections up- and downstream of the original routine sample location. However, we understand that we can use alternate up- or downstream repeat sampling locations that are outside the five (5) connections from the original sample site as long as we submit a Standard Operating Procedure (SOP) that specifies our criteria for selecting these alternate repeat sampling sites on a situational basis (i.e., for any time we are required to collect repeat distribution system samples and determine that the prescribed repeat locations do not adequately identify potential pathways of contamination).

We do not plan to use any alternate repeat sampling sites. OR

We do plan to use alternate repeat sampling sites, and our SOP is provided in **Appendix D**. The SOP has been designed to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations; however, we understand that the DWB may modify the SOP or require other alternate monitoring locations as needed.

Seasonal Systems

Seasonal systems are systems that start up and shut down at the beginning and end of a specific operating season and may depressurize all or part of the water system at some point during the year.

We are not a seasonal system. **OR**

We are a seasonal system, and as such, we are required to follow the DWB Seasonal System Start-up Procedure and submit our Seasonal Start-up Procedure Checklist to our CO at least 10 days prior to opening. The start-up procedure will require us to collect one or more Special bacteriological samples to verify water quality.

Special samples will be taken at the **X** sites listed in the table below which identifies the physical address or location of the Special sample and the system feature (i.e., storage tank, distribution system) the sample is associated with along with the Special sample number. These sites were chosen based on the requirements established in the seasonal start-up guidance provided by the DWB. They are also designated on the distribution system map(s) in **Appendix C**. We further understand that Special samples are samples collected and paid for by the water system.

<insert table here>

Groundwater Rule (GWR) Sampling

One (1) Triggered Source Water sample is required to be collected from every active well if any of our routine monthly samples test positive for Total Coliform (TC) or *E.Coli* (EC). These Triggered Source Water Samples will be collected directly from each of our wells prior to any treatment and are shown on the map(s) in **Appendix C**. Our sample points are labeled as “Raw Water” as shown in the photograph below. **Facility ID #s for each raw water sample point is listed here:**

<insert photo here>



<example photo>

Sampling Requirements

New Mexico Regulations require that a certified sampler or certified operator collect the RTRC and GWR samples. Because of this requirement, our certified <sampler/operator> will be required to collect our bacteriological samples. Once collected, our <sampler/operator> will submit the samples and their Chain-of-Custody (CoC) forms to the following certified laboratory within 24 hours of the sample being collected:

laboratory name
address
city state zip
phone(s)

Compliance Status

RTRC

Our water system triggers an assessment with the RTRC if:

- We get 2 or more TC+ samples in any one (1) month (for systems that take <40 samples/month);
- >5% of our routine samples are TC+ (for systems that take 40 or more samples/month);
- We fail to take all the required repeat samples
- Any one (1) of these conditions will trigger a required Level 1 assessment/correction action

A Level 2 assessment/corrective action is triggered if we get:

- An EC Maximum Contaminant Level (MCL) violation; or
- An EC monitoring violation; or
- We trigger two (2) Level 1 assessments within a rolling 12 month period

GWR

We are in compliance with the GWR if our Triggered Source Water sample(s) are free of EC.

We will immediately notify our DWB CO if any of our Triggered Source Water samples test positive for TC or EC. At that time, we can be required to conduct additional sampling, correct significant deficiencies, or disinfect our water to meet 4-log treatment requirements.

Section 3: Disinfectant Residual Monitoring

Frequency

We do not add chlorine to our water, and as such we are not required to monitor chlorine residual. **OR**

We are a chlorinated system, and as such we are required to measure chlorine residuals at the same time we collect our monthly routine RTCR samples. We also measure chlorine residuals throughout the month as part of our best management practices.

Based on our population of X and the requirements provided in Tables 1 and 2 of the DSSP template instructions, we are required to designate a minimum of Y chlorine residual monitoring locations per month.

Location

Chlorine residuals are measured at the same time and from the same locations where we collect our routine monthly RTCR samples. Results are recorded on each bacteriological CoC form and submitted to the lab with those samples. The sites were chosen based on the fact that they are representative of the entire distribution system, and are designated on the map(s) included in **Appendix C**.

We also measure chlorine residuals at the Y chlorine residual monitoring sites throughout the month as part of our best management practices. This is to ensure that injection dosages are sufficient to meet chlorine demand and maintain adequate residuals in the entire distribution system, including vulnerable portions of the system. Vulnerable areas are anywhere we might have increased water age or stagnant water (storage tanks, high elevation/low pressure, low occupancy, dead ends). We use these chlorine residual results along with other information to focus our best management practices such as line and hydrant flushing (along with valve exercising).

Methodology and Reporting

Our certified <operator/sampler> uses a <specify equipment here> to measure chlorine residuals and follows all sample collection, handling, measuring and equipment calibration protocol specified in the operation manual.

All chlorine residuals that are measured during RTCR routine and repeat sampling and for best management practices. These results are required to be recorded on the bacteriological chain of custody forms that are submitted to the lab and are also recorded on the Residual Disinfectant Residual Measurement Sampling Report (**Appendix E**). We submit this report to our DWB CO by the 10th day following each quarter, as required.

Compliance

Our water system is in compliance if:

- We maintain chlorine residuals less than or equal to 4.0 mg/L, the Maximum Residual Disinfectant Limit (MRDL)
- We submit our Residual Disinfectant Residual Measurement Sampling Report to our DWB CO no later than the 10th day following each quarter

Section 4: Lead and Copper Rule (LCR) Sampling

Frequency

We are required to collect **five (5)** Lead and Copper samples **once** every **three (3)** years. We use Drinking Water Watch to keep track of this sampling schedule (Appendix A).

Location

Sample locations are based on the age and types of structures we have in our community, including schools. We have included guidelines for site selection and sampling in **Appendix F** of this plan. Based on these criteria we have selected the main and alternate locations designated in the following table for every Lead and Copper sampling event. These locations are also designated on the map(s) in **Appendix C**.

Site Number	Address
1	246 Even Parkway
2	135 Odd Street
3	888 Water Way
4	753 Turkey Road
5	525 Marquez St
<6>	<add more rows for additional samples as required>
Alternate Sites	
ALT	2506 46 th Street
ALT	8616 Coral Drive
ALT	225 Vincent St
<ALT>	<add more rows for additional alt sites as needed>

Methodology

Sampling protocol requires that these samples are:

- Point-of-Use (POU) collected directly from the customer's tap
- Collected as a "first draw" sample before any other usage takes place at the sampling tap (no flushing of faucet or lines before collection)
- 6 to 18 hours old in customer's plumbing
- Typically collected by occupant of sampling location
- Typically collected during third quarter warm weather months July to September

In order to meet these sampling protocol our certified **<sampler/operator>** will obtain appropriate sample containers and CoC forms, deliver containers and forms to sample location occupants and provide instruction for sample collection (also included in **Appendix F**), arrange

for sample pick-up after sampling, complete CoC forms, and submit samples to the following appropriate certified laboratory:

laboratory name

address

city state zip

phone(s)

Compliance

Our water system is in compliance if we collect our Lead and Copper samples according to schedule and the sample results are below the 90th Percentile Action Level for each contaminant (Copper=1.3 mg/L, Lead=0.015 mg/L). We will notify our DWB CO of any violations; the DWB may require additional sampling.

Section 5: Disinfectants/Disinfection By-Products (D/DBP) Rule Sampling

Frequency and Location

Stage 2 Disinfectants/Disinfection By-Products Rule (S2D/DBPR) sampling requirements are based on system size (population served) and type (CWS/NTNC, GW/SW). Since we are a <GW/SW> system that serves a population of X people we are required to collect # Total Trihalomethane (TTHM) samples and # Haloacetic Acid (HAA5) samples <annually/quarterly> from our distribution system. We use Drinking Water Watch to keep track of this sampling schedule (Appendix A).

Specifically, we have been instructed by the DWB to collect our DBP samples as follows:

<choose one>:

Certain GW or SW systems serving less than 500 population:

Facility ID #xxxxxx000, Sample Point ID #DBP-DIST Dual

[Collect both TTHM **AND** HAA5 samples at the same time and location per year]

OR

Other GW or SW systems serving less than 500 population:

Facility ID #xxxxxx000, Sample Point ID #TTHM-IND

[Collect one TTHM sample per year at one site]

Facility ID #xxxxxx000, Sample Point ID #HAA5-IND

[Collect one HAA5 sample per year at another site]

OR

GW systems serving 500-9999 population:

Facility ID #xxxxxx000, Sample Point ID #TTHM-1 Dual and #HAA5-1 Dual

[Collect both TTHM **AND** HAA5 samples at the same time and location per year at two (2) different sites]

OR

SW systems serving 500-3300 population:

Facility ID #xxxxxx000, Sample Point ID #TTHM-IND

[Collect one (1) TTHM sample per quarter at one site]

Facility ID #xxxxx000, Sample Point ID #HAA5-IND

[Collect one (1) HAA5 sample per quarter at another site]

OR

SW systems serving 3301-9999 population:

Facility ID #xxxxx000, Sample Point ID #TTHM-1 Dual and #HAA5-1 Dual

[Collect both TTHM **AND** HAA5 samples at the same time and location per year at two (2) different sites]

OR

All other GW and SW systems serving 10,000 population or greater:

[Collect anywhere from 4 to 20 Dual TTHM and HAA5 samples per quarter; both TTHM and HAA5 samples are collected at the same time and location quarterly]

Our S2D/DBP sample locations are designated on the map(s) in **Appendix C**.

Sampling Method

The chemicals that comprise the total trihalomethanes (TTHMs) are considered volatile; they would rather be in the vapor or gas phase than in the aqueous phase. This requires special consideration when collecting these samples. Our certified <sampler/operator> will collect the TTHM samples without any “headspace” or air in the vial using the following techniques:

- Open the tap and allow the water to flow for 5 minutes
- Adjust the flow to about 500 mL (1 pint) per minute
 - Any aerator device on faucet must be removed
- Take twin 40-mL vials out their original plastic baggies
- Open one vial
- Slowly fill the vial to the very top so that the water surface bows up and above the rim of the vial
- Re-cap the vial
- Invert the capped vial to make sure no headspace or bubbles are present
- If headspace is present, then remove cap and carefully add a little more water from the tap and re-cap again
- Fill the second duplicate vial in the same manner
- Complete all lab CoC forms and labels
- Place the two vials back into their original bag

HAA5 vials can be filled with headspace since the chemical is not volatile.

Samples will be submitted to the following appropriate certified laboratory:

laboratory name
address
city state zip
phone(s)

Compliance

Our water system is in compliance if we meet the required sampling schedule and the locational running annual average (LRAA) is less than the MCL for each D/DBP (TTHM=80ug/L, HAA5=60ug/L). We are required to and will notify our DWB CO of any violations.

Section 6: Entry Point (EP) Chemical Compliance Sampling for Organics, Inorganics & Radiologicals

Frequency

Chemical samples are collected at a time frame and frequency that is established by the DWB. We keep track of our sampling schedules (Appendix A) for all SDWA primary drinking water contaminants using the DWB Drinking Water Watch website.

Location

These chemical compliance samples are required to be taken at the Entry Point (EP) to the distribution system, regulatorily defined as where potable water is first made available to our customers. Our EP sample point is a frost-free hydrant that is located on the downstream side of our storage tank as shown in the following photograph:

<insert photo here>



<example photo>

Sampling Method

We are subject to Conservation Fund payments to NM Taxation and Revenue at a rate of \$0.03 per thousand gallons produced per month, and as such DWB staff samplers collect our EP chemical compliance samples. They are responsible for arranging a visit with us for access to the EP, properly collecting the samples, filling out CoC forms and submitting the samples to an appropriate certified laboratory for analysis. However, we do understand that we are ultimately responsible for the collection of these samples. If the DWB staff sampler has not arranged for their collection within one (1) month of their due date we will either contact the

DWB to remind them that the sample(s) must be collected or we will arrange for a certified sampler or operator to collect the samples and submit them to a certified laboratory.

OR

We are a <federal/Tribal> facility and NOT subject to Conservation Fund payments. Consequently, we are responsible for our own EP chemical compliance sampling according to the DWB sample schedule (Appendix A). Our certified <sampler/operator> collects our EP chemical compliance samples and submits the samples and completed CoC forms to the following appropriate certified laboratory(s) for analysis:

laboratory name(s)
address
city state zip
phone(s)

Compliance

Our water system is in compliance if the EP chemical compliance samples are collected according to schedule and chemical concentrations meet all the MCL requirements set forth by the SDWA primary drinking water standards. We are required to and will notify our DWB CO of any violations and follow all Public Notification Rule and other regulatory requirements in the event of any MCL, sampling or reporting violations.

Section 7: Distribution System Asbestos Sampling

Frequency

We have reviewed our sample schedule on Drinking Water Watch (included in Appendix A) and verified that we are <not> required to sample our distribution system for asbestos.

Location (if applicable)

Refer to the map(s) in **Appendix C** for asbestos sample locations.

Sampling Method (if applicable)

Our certified <sampler/operator> will obtain appropriate sample containers and CoC forms, collect the sample(s), complete CoC forms, and submit samples to the following appropriate certified laboratory:

laboratory name
address
city state zip
phone(s)

Compliance (if applicable)

Our water system is in compliance if we meet the required sampling schedule and the sample results meet the asbestos MCL of 7,000,000 fibers/L. We are required to and will notify our DWB CO of any violations.

APPENDIX A

System Sample Schedule from Drinking Water Watch

APPENDIX B

RTCR Sample Sites Spreadsheet

Spreadsheet Submittal Acknowledgement Form

Appendix C

Map(s) of Distribution System Showing:

RTCR Routine Sample Sites

RTCR Repeat Sample Sites

RTCR Seasonal Start-Up Special Sample Sites (if a seasonal system)

GWR Triggered Source Sampling Sites

Chlorine Residual Monitor Sites (if a chlorinated system)

Lead and Copper Sample Sites (if required)

D/DBP Sample Sites (if a chlorinated system)

Asbestos (if required)

APPENDIX D

Alternate RTCR Repeat Sampling Sites SOP

APPENDIX E

Disinfectant Residual Report

APPENDIX F

Guidelines for Lead and Copper Site Selection and Sampling

Suggested Directions to Homeowners for Sample Collection