# General / Background Info

## Name/Location:

| | | | |
|---|---|---|---|
| 1 | Name of public water system: | Text | None |
| 2 | PWS number: | Text | None |
| 3 | Physical address: | Text | None |
| 4 | County: | Text | None |
| 5 | Local Health Department:: | DropDown | None |

# General / Background Info

## Classification:

| | | | |
|---|---|---|---|
| 1 | Total System - Design Water Production / Treatment Capacity (GPD): (ENTRIES MUST BE IN GALLONS PER DAY. DO NOT USE COMAS WITH NUMERIC ANSWER) | Numeric | None |
| 2 | What is the high peak daily demand (GPD)? (ENTRIES MUST BE IN GALLONS PER DAY. DO NOT USE COMAS WITH NUMERIC ANSWER) | Numeric | None |
| 3 | What is the low peak daily demand (GPD)? (ENTRIES MUST BE IN GALLONS PER DAY. DO NOT USE COMAS WITH NUMERIC ANSWER) | Numeric | None |
| 4 | SDWA classification of system: | DropDown | None |
| 5 | Number of service connections: | Header | None |
| 5.01 | Number of residential connections: | Numeric | None |
| 5.02 | Number of commercial and industrial connections: | Numeric | None |
| 5.03 | Number of Agricultural connections: | Numeric | None |
| 5.04 | Number of Combined connections: (SEPARATE CATEGORY - NOT TOTAL OF ALL OTHER TYPES OF CONNECTIONS) | Numeric | None |
| 6 | Population | Header | None |
| 6.01 | Residential population: | Numeric | None |
| 6.02 | Transient Population: | Numeric | None |
| 6.03 | Non-Transient: Population: | Numeric | None |
| 6.04 | Wholesale Population: | Numeric | None |
| 7 | Seasonal operation? | YesNoLeadin | None |
| 7.01 | Effective Begin Date: (Will be answered by DDW) | Date | None |
| 7.02 | Numeric Month of opening: | Numeric | None |
| 7.03 | Numeric Day of opening: | Numeric | None |
| 7.04 | Numeric Month of closing: | Numeric | None |
| 7.05 | Numeric Day of closing: | Numeric | None |
| 8 | Purchase water? | YesNoLeadin | None |
| 8.01 | Name of system purchased from: (IF MORE THAN ONE SYSTEM NAME, LIST FIRST SYSTEM IN FIELD AND OTHERS IN NOTES) | Text | None |

| | | | |
|---|---|---|---|
| 8.02 | PWS number of system purchased from: (IF MORE THAN ONE SYSTEM NUMBER, LIST FIRST SYSTEM IN FIELD AND OTHERS IN NOTES) | Text | None |
| 8.03 | Has this interconnection been approved by DDW? | YesNo | Yes |
| 9 | Sell water? | YesNoLeadin | None |
| 9.01 | Name of system sold to: IF MORE THAN ONE SYSTEM NAME, LIST FIRST SYSTEM IN FIELD AND OTHERS IN NOTES) | Text | None |
| 9.02 | PWS number of system(s) sold to: ( IF MORE THAN ONE SYSTEM NUMBER, LIST FIRST SYSTEM IN FIELD AND OTHERS IN NOTES) | Text | None |

## General / Background Info

### Owner:

| | | | |
|---|---|---|---|
| 1 | Owner type: | DropDown | None |
| 2 | Does the system have someone designated as Legal ownership | YesNo | Yes |
| 3 | Principal Executive or CEO, Last Name: | Text | None |
| 4 | Principal Executive or CEO, First Name: | Text | None |
| 5 | Owner's address: | Text | None |
| 6 | Owner's address - City: | Text | None |
| 7 | Owner's address - State: | DropDown | None |
| 8 | Owner's address - Zip code: | Text | None |
| 9 | Owner's telephone: | Text | None |
| 10 | Owner's email address: | Text | None |

## General / Background Info

### Staff:

| | | | |
|---|---|---|---|
| 1 | System Manager's Last name: | Text | None |
| 2 | System Manager's First name: | Text | None |
| 3 | System Manager's address: | Text | None |
| 4 | System Manager's address - City: | Text | None |
| 5 | System Manager's address - State: | DropDown | None |
| 6 | System Manager's address - Zip code: | Text | None |
| 7 | System Manager's telephone: | Text | None |
| 8 | System Manager's email address: | Text | None |
| 9 | Main Operator's Last name: | Text | None |
| 10 | Main Operator's First name: | Text | None |
| 11 | Main Operator's address: | Text | None |
| 12 | Main Operator's address - City: | Text | None |
| 13 | Main Operator's address - State: | DropDown | None |

| | | | |
|---|---|---|---|
| 14 | Main Operator's address - Zip code: | Text | None |
| 15 | Main Operator's telephone: | Text | None |
| 16 | Main Operator's email address: | Text | None |
| 17 | Emergency phone number: | Text | None |
| 18 | System FAX number: | Text | None |

# General / Background Info

## Previous Survey Info:

| | | | |
|---|---|---|---|
| 1 | Date of last sanitary survey: | Date | None |
| 2 | Last survey conducted by - name: | Text | None |
| 3 | Have all deficiencies noted during previous survey been corrected? (NOTE: Complete a current IPS report indicating all deficiencies that have been corrected during or prior to current survey. SUBMIT CORRECTIONS TO DDW WITH OTHER SURVEY INFORMATION!) | YesNo | None |

# General / SDWIS Site Visit Info

| | | | |
|---|---|---|---|
| 1 | Reason for the visit: | DropDown | None |
| 2 | Questions sent to water system on: | Date | None |
| 3 | Notify Local Health Department. (REQUIRED FOR ALL DEQ AND DDW STAFF AS PER DEPARTMENT POLICY). | Date | None |
| 4 | Date of the survey (IF SURVEY TAKES MORE THAN ONE DAY INDICATE FIELD SURVEY COMPLETION DATE IN NOTES SECTION) {A DATE MUST BE ENETERED IN ORDER TO MIGRATE SURVEY} | Date | None |
| 5 | Survey Status: | DropDown | None |
| 6 | Source Evaluation: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 7 | Treatment system evaluation: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 8 | Distribution system evaluatuion: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 9 | Finished water Storage evaluation: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 10 | Pump facility evaluation: ((SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 11 | Monitoring and reporting evaluation: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 12 | System management and operations: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 13 | Operator compliance with state requirements: (SURVEYOR - DO NOT ANSWER) | DropDown | None |
| 14 | Last name of surveyor: (LIST ADDITIONAL NAMES IN NOTES) | Text | None |
| 15 | First name of surveyor: (LIST ADDITIONAL NAMES IN NOTES) | Text | None |
| 16 | Surveyor's organization: | Text | None |
| 17 | Surveyor phone number: | Text | None |
| 18 | Surveyor e-mail: | Text | None |
| 19 | Water system representative(s) present during the survey: (LIST ONLY ONE NAME IN FIELD. ADD ADDITIONAL PARTIES PRESENT IN NOTES) | Text | None |

| | | | |
|---|---|---|---|
| 20 | Official notification of report results sent to water system. (DATE MUST BE ENTERED IN ORDER TO MIGRATE SURVEY) | Date | None |
| 21 | Did the surveyor review and discuss the master report, DWSP report and exception report with the system representatives? | YesNo | None |
| 22 | If the system has sample analysis data that DDW does not have did the surveyor obtain copies of the missing data and forward to DDW? | YesNo | None |
| 23 | Did the surveyor verify the correctness of all contact information in this section? | YesNo | None |
| 24 | Did the surveyor verify accuracy of populations and number of connections? | YesNo | None |
| 25 | Did the surveyor conduct an EXIT INTERVIEW with the system representatives including identifying all significant deficiencies at the conclusion of the survey? | YesNo | None |
| 26 | Upon completion of the survey, the time/cost elements associated with the survey shall be reported to the Division as follows: | Header | None |
| 26.01 | How many hours did the surveyor spend to prepare survey documents prior to field survey? (Round to closest quarter hour) | Numeric | None |
| 26.02 | What was the number of hours to complete the system field survey (arrival time to completion and should include travel time between water system facilities)?(Round up to nearest quarter hour) | Numeric | None |
| 26.04 | What was the total number of hours of travel from office to system and time to return to office at the end of the field survey? (Round up to nearest quarter hour) | Numeric | None |
| 27.05 | How much time did it take to finish the Survey Report? (Round to nearest quarter hour) | Numeric | None |
| 30 | Did you survey multiple water systems? | YesNoLeadin | None |
| 30.01 | If yes, how many? | Numeric | None |

## Regulations / Plans/Records

| | | | |
|---|---|---|---|
| 1 | Does the (TCR) sample site plan meet the minimum requirements? (REQUIRED FOR ALL SYSTEMS. ANSWER NO, if no plan is present) | YesNo | Yes |

## Management / General

| | | | |
|---|---|---|---|
| 1 | Does the system haul water? | YesNoLeadin | None |
| 1.01 | Is the water system a community water system? | YesNo | No |
| 1.02 | Has system received DDW approval to haul water? | YesNo | Yes |
| 1.03 | Are the DDW guidelines for water hauling followed? (ie draw water from an approved source, periodically clean and disinfect equipment, load, disinfect water and unload water properly) | YesNo | Yes |

## Management / Planning

### General:

| | | | |
|---|---|---|---|
| 1 | The system does not meet the required source capacity requirements? (Answer "No" if source capacity is adequate, use Excel spreadsheet for calculations) | YesNoLeadin | None |
| 1.01 | Does the system meet a minimum of 90% of the required source capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 1.02 | Does the system meet a minimum of 80% of the required source capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 1.03 | Does the system meet a minimum of 70% of the required source capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 1.04 | Does the system meet a minimum of 60% of the required source capacity? ( (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |

| | | | |
|---|---|---|---|
| 1.05 | Does the system meets less than 60% of the required source capacity? ( (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 2 | The system does not meet the required storage capacity requirements? (Answer "No" if storage capacity is adequate, use Excel spreadsheet for calculations) | YesNoLeadin | None |
| 2.01 | Does the system meet a minimum of 90% of the required storage capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 2.02 | Does the system meet a minimum of 80% of the required storage capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 2.03 | Does the system meet a minimum of 70% of the required storage capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 2.04 | Does the system meet a minimum of 60% of the required storage capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 2.05 | Does the system meet less than 60% of the required storage capacity? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | Yes |
| 3 | If the system is a community system that serves 100 or more connections does the system have at least 2 water sources? | YesNo | Yes |
| 4 | Has there been any recent modifications to the water system? | YesNoLeadin | None |
| 4.01 | Does the system have evidence of DDW review of recent modifications or are there any undocumented water system facilities, excluding sources? (i.e. tanks, pump stations, treatment facilities, etc.) | YesNo | No |
| 4.02 | Recent modifications - Briefly describe modifications or undocumented facilities | Text | None |
| 5 | Local Fire Authority - last name: | Text | None |
| 6 | Local Fire Authority - first name: | Text | None |
| 7 | Local Fire Authority -Address: | Text | None |
| 8 | Local Fire Authority - City: | Text | None |
| 9 | Local Fire Authority - State: | DropDown | None |
| 10 | Local Fire Authority - Zip Code: | Text | None |
| 11 | Local Fire Authority - Telephone #: | Text | None |
| 12 | Local Fire Authority - Email address: | Text | None |

## Management / Emergency Response

| | | | |
|---|---|---|---|
| 1 | Does your system serve less than 3300 in population? | YesNoLeadin | None |
| 1.01 | Does your system have a written Emergency Response Plan? (Credit points given for "yes" answer) | YesNo | No |
| 1.02 | Has your Emergency Response Plan been updated within the last 3 years? | YesNo | None |
| 2 | Does your system serve a population of 3300 or greater? | YesNoLeadin | None |
| 2.01 | Does your system have the EPA required Emergency Response Plan? | YesNo | Yes |
| 2.02 | Has your Emergency Response Plan been updated within the last 3 years? (Credit points given for "yes" answer) | YesNo | No |
| 3 | Is there a procedure in place to respond immediately to customer complaints? | YesNoLeadin | None |
| 3.01 | What type(s) of complaints do you receive? | Text | None |
| 3.02 | How do you respond to customer complaints? | Text | None |

## Management / Cross-Connections

| | | | |
|---|---|---|---|
| 1 | Are there any unprotected connections between the distribution system and any location whereby unsafe water or other contaminating materials may be discharged or drawn into the system? Discribe cross- conn. in notes (lack of a hose bibb vacuum breaker is | YesNo | No |
| 2 | Does the water system have all 5 of the following elements of a written cross-connection control program ? (ALL SYSTEMS ARE REQUIRED TO HAVE DOCUMENTATION OF ALL FIVE ELEMENTS - NO EXCEPTIONS) | Header | None |
| 2.01 | Legally adopted authority statement? (ALL SYSTEMS ARE REQUIRED TO HAVE A DOCUMENTED AND SIGNED STATEMENT - NO EXCEPTIONS) | YesNo | Yes |
| 2.02 | Documentation of annual public awareness and/or employee training? (ALL SYSTEMS ARE REQUIRED TO DOCUMENT THEIR ACTIVITIES - NO EXCEPTIONS) | YesNo | Yes |
| 2.03 | Documentation of personnel trained to manage the program? (Completion of DDW approved Backflow 101 training OR Class I Backflow Technician Certification IS REQUIRED) | YesNo | Yes |
| 2.04 | Records of hazards found, protection required and installed, enforcement actions, assembly testing etc.? (ALL SYSTEMS ARE REQUIRED TO DOCUMENT ACTIVITIES ANNUALLY - NO EXCEPTIONS) | YesNo | Yes |
| 2.05 | Documentation of on-going program enforcement? (ie records of periodic hazard assessments, annual test report, updated assembly inventory, etc. The system must have ALL FOUR of the other elements in order to answer this question as "yes" ) | YesNo | Yes |

## Management / Staffing

| | | | |
|---|---|---|---|
| 1 | Main Operator's Treatment Certification Level: | DropDown | None |
| 2 | Main Operator's Distribution Certification Level: | DropDown | None |
| 3 | Is the main operator properly certified at the level required for the system? (IF NO CERTIFIED OPERATOR IS REQUIRED DO NOT ANSWER) | YesNo | Yes |
| 4 | If there is a certified operator, is he or she available within 1 hour travel time at all times as required by R309-300? (IF NO CERTIFIED OPERATOR IS REQUIRED DO NOT ANSWER) | YesNo | Yes |

## Management / Source Protection

| | | | |
|---|---|---|---|
| 1 | All systems: Has the system appointed a designated person for their source protection program and notified the Division of Drinking Water who that person is? (PLEASE INDICATE CURRENT DESIGNATED PERSON IN NOTES AREA BELOW) | YesNo | Yes |
| 2 | Is their phone number and address different from the water system? | YesNoLeadin | None |
| 2.01 | Updated address: | Text | None |
| 2.02 | Updated phone number: | Text | None |
| 3 | All systems: Does the system have any active sources with disapproved PERs or disapproved DWSPs? | YesNo | No |
| 4 | All systems: Does the system have any active sources with PERs that have not been upgraded to full DWSP plans? | YesNo | No |
| 5 | All systems:All systems: Does the system have any new, active sources for which a PER has not been submitted? | YesNo | No |
| 6 | : All systems: Does the system have any existing (old, pre-1993), active sources for which a DWSP Plan has not been submitted? | YesNo | No |
| 7 | All systems: Is the system current on all required updates of source protection plans for active sources? | YesNo | Yes |

| | | | | |
|---|---|---|---|---|
| 8 | | All systems: Has the system submitted revised DWSP plan for all active wells that have been reconstructed? | YesNo | Yes |

## Sources / General

### General:

| | | | | |
|---|---|---|---|---|
| 1 | *3* | Are there any undocumented source(s) physically connected to the drinking water system? (If source is not on system inventory mark "yes") | YesNo | No |

## Sources / Groundwater

### Wells / General:

| | | | |
|---|---|---|---|
| 1 | Is this a seasonal source? | YesNoLeadin | None |
| 1.02 | Numeric month of beginning operation: | Numeric | None |
| 1.03 | Numeric day of beginning operation: | Numeric | None |
| 1.04 | Numeric month of ending operation: | Numeric | None |
| 1.05 | Numeric day of ending operation: | Numeric | None |

## Sources / Groundwater

### Wells / Construction:

| | | | |
|---|---|---|---|
| 1 | The well casing does NOT extend a minimum of 18 inches above the finished ground surface or 12 inches above the well house floor? (Answer "No" IF STANDARD IS MET) | YesNoLeadin | None |
| 1.01 | Is the well site in a flood plain or area likely to be flooded? | YesNo | No |
| 2 | Is the sanitary seal properly installed and maintained? (Note: If this is a pitless adapter DO NOT ANSWER) | YesNo | Yes |
| 3 | Is there a pitless adapter? | YesNoLeadin | None |
| 3.01 | Does the pitless adapter appear to be water tight including the cap, cover, casing extension and other attachments? | YesNo | Yes |
| 4 | Is the well casing vented? (Included in rule guidance. A casing vent is not required but must meet requirements if present) | YesNoLeadin | None |
| 4.01 | Is the open end of the vent screened with a #14 mesh screen? | YesNo | Yes |
| 4.02 | Is the open end of the vent down-turned? | YesNo | Yes |
| 4.03 | Is the open end of the vent have adequate clearance to prevent contamination from entering the well? | YesNo | Yes |
| 5 | Does the well have a pump to waste line? (Included in rule guidance. A pump to waste line is not required but must meet requirements if present) | YesNoLeadin | None |
| 5.01 | Does the pump to waste line discharge with a minimum of 12-inch clearance to the flood rim? | YesNo | Yes |
| 5.02 | Is the pump to waste line equipped with a #4 non-corrodible mesh screen? | YesNo | Yes |
| 5.03 | Does the pump to waste line discharge to a sanitary sewer without proper local authorization? | YesNo | No |
| 6 | Is there a means to periodically measure water levels? | YesNo | Yes |
| 7 | Is the wellhead properly secured to protect the quality of the well water? | YesNo | Yes |

## Sources / Groundwater

### Wells / Pumps:

| | | | |
|---|---|---|---|
| 1 | Where does this pumping station pump from and to? | Text | None |

| | | | |
|---|---|---|---|
| 2 | What type of pump(s) are at this pumping station? | DropDown | None |
| 3 | Is the building and equipment protected from flooding? | YesNo | Yes |
| 4 | What is the actual pumping capacity of this well in gallons per minute (GPM)? | Numeric | None |
| 5 | Are cross-connections present in the well discharge piping? (Lack of Hose Bibb Vacuum breaker is NOT considered a cross-connection) | YesNo | No |
| 6 | Is adequate drainage provided? | YesNo | Yes |
| 7 | Are toxic chemicals, hazardous or flammable materials or lubricants stored inside the pumping station? | YesNo | No |
| 8 | Is the pump discharge line (excluding naturally flowing wells) equipped with: | Header | None |
| 8.01 | Pump discharge piping: a smooth-nosed sampling tap? | YesNo | Yes |
| 8.02 | Pump discharge piping: a positive-acting check valve between the sample tap and the isolation valve? | YesNo | Yes |
| 8.03 | Pump discharge piping: pressure gauge? | YesNo | Yes |
| 8.04 | Pump discharge piping: a means of measuring flow? | YesNo | Yes |
| 8.05 | Pump discharge piping shut off valve? | YesNo | Yes |
| 9 | Where a well pumps directly into a distribution system, is there a means to release trapped air from the pump discharge piping? (If well pumps directly to a tank, has an air release valve or pump to waste line answer "yes" explain in notes (Answer 9.01, | YesNoLeadin | Yes |
| 9.01 | For a well with an air vacuum relief valve on the well discharge piping, is the discharge piping downturned? | YesNo | Yes |
| 9.02 | For a well with an air vacuum relief valve on the well discharge piping, is the discharge screened with a #14 mesh screen? | YesNo | Yes |
| 9.03 | For a well with an air vacuum relief valve on the well discharge piping, is the discharge piping have a 6 inch clearance to prevent contamination from entering the the piping? | YesNo | Yes |
| 10 | Are the correct types of lubricant used (ANSI/NSF 60)? | YesNo | Yes |
| 11 | Is rotating and electrical equipment provided with protective guards? | YesNo | Yes |

# Sources / Groundwater

## Springs / General:

| | | | |
|---|---|---|---|
| 1 | Is this a seasonal source? | YesNoLeadin | None |
| 1.01 | Numeric month of beginning operation: | Numeric | None |
| 1.02 | Numeric day of beginning operation: | Numeric | None |
| 1.03 | Numeric month of ending operation: | Numeric | None |
| 1.04 | Numeric day of ending operation: | Numeric | None |

# Sources / Groundwater

## Springs / Construction:

| | | | |
|---|---|---|---|
| 1 | Is the area upgradient within 50 feet of the spring collection devices fenced to prevent access by livestock and sources of contamination? | YesNo | Yes |
| 2 | Is surface water and drainage diverted from the 50 feet protection zone around the spring? | YesNo | Yes |
| 3 | Is the overflow or a combined overflow/ drain discharge screened with a #4 mesh screen? | YesNo | Yes |
| 4 | Does the overflow line have 12 to 24 inches freefall? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 5 | Does the drain have a proper air gap of at least 2 times the pipe diameter? | YesNo | Yes |
| 6 | Is the spring collection area subject to ponding of surface water? | YesNoLeadin | None |
| 6.01 | Is there evidence of surface water ponding? (water stains, sediment erosion, water-loving plants, presence of moss or algae indicating duration of ponding, etc). | YesNo | No |
| 6.02 | Is there surface water ponding present at the time of the survey? | YesNo | Yes |
| 6.03 | Is there evidence that this spring may be subject to the influence of surface Water (UDI)? | YesNo | No |
| 7 | Does the spring have 10 feet of impervious soil cover or an acceptable alternate design with liner or the spring collection area shows evedence of damaged liner or imvervious soil cover? | YesNo | Yes |
| 8 | Is the spring collection area void of deep rooted vegetation within the fenced collection area? | YesNo | Yes |
| 9 | Is there any evidence of roots in the collection lines? | YesNo | No |
| 10 | Is a spring collection box present? | YesNoLeadin | None |
| 10.01 | Does the spring box have a proper shoe box type lid? | YesNo | Yes |
| 10.02 | Spring box: Is the lid properly gasketed? | YesNo | Yes |
| 10.03 | If a vent is not present does the lid gasket show signs of being subject to vacuum conditions or does the overflow show signs of use? | YesNo | No |
| 10.04 | Is the access to the spring box at least 4 inches above the spring box or 18 inches above the earthen cover? | YesNo | Yes |
| 10.05 | Is the spring box secured against unauthorized entry? | YesNo | Yes |
| 10.06 | Are there any unsealed openings in the spring collection box? | YesNo | No |
| 11 | If a spring box is present, is a vent also present? (IF NO VENT IS PRESENT DO NOT ANSWER QUESTION) | YesNoLeadin | Yes |
| 11.01 | Is the collection box vent down-turned or inverted? | YesNo | Yes |
| 11.02 | Is the collection box vent properly screened with a #14 mesh screen? | YesNo | Yes |
| 11.03 | Does the collection box vent have sufficient clearance to prevent ice blockage or at least 24 inches above the earthen cover? | YesNo | Yes |
| 13 | Is a flow meter or other flow measuring device provided? | YesNo | Yes |
| 14 | What is the high flow capacity of this spring in gallons per minute (GPM)? | Numeric | None |
| 15 | What is the low flow capacity of this spring in gallons per minute (GPM)? | Numeric | None |

# Treatment / General

## General:

| | | | |
|---|---|---|---|
| 1 | Is this plant operated on seasonal basis? | YesNoLeadin | None |
| 1.01 | Numeric month of beginning operation | Numeric | None |
| 1.02 | Numeric day of beginning operation | Numeric | None |
| 1.03 | Numeric month of ending operation | Numeric | None |
| 1.04 | Numeric day of ending operation | Numeric | None |
| 2 | Does the treatment plant have any treatment processes other than disinfection or fluoridation? | YesNoLeadin | None |
| 2.01 | Is a schematic of the treatment facility readily available and up to date? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 2.02 | Is the facility performing adequate process control testing consistent with the specific treatment process? | YesNo | Yes |
| 2.03 | Is there any recycling being performed from waste stream? | YesNo | None |
| 2.04 | If there is any recycling being performed where does the recycle water re-enter the treatment plant? | Text | None |
| 2.05 | For all surface water plants that serve a population greater than 3300, do they have equipment to measure chlorine residuals continuously entering the distribution system? | YesNo | Yes |
| 2.06 | Are pre- and post-chlorination systems, for all facilities treating surface water, independent to prevent possible siphoning of raw or partially treated water into the clear well? | YesNo | Yes |
| 2.07 | Is cross connection control provided in the in-plant water supply? | YesNo | Yes |
| 2.08 | Total System - Design Water Production / Treatment Capacity (GPD): | Text | None |
| 2.09 | What is the high peak daily demand (GPD?) | Text | None |
| 2.1 | What is the Low peak daily demand (GPD?) | Text | None |

# Treatment / General

## Chemical Use:

| | | | |
|---|---|---|---|
| 1 | Are liquid chemicals used? | YesNoLeadin | None |
| 1.01 | Is cross-connection control provided on the service water lines that feed the solution tanks? | YesNo | Yes |
| 1.02 | Do overflow pipes, when provided, have free fall discharge? | YesNo | Yes |
| 1.03 | Are there adequate spill containment provisions? | YesNo | Yes |
| 1.04 | Are acid storage and day tanks provided with separate screened vents? | YesNo | Yes |
| 1.05 | Are tanks and tank refilling line entry points properly labled to designate the correct chemical? | YesNo | Yes |
| 1.06 | Is cross-connection control provided so that no direct connections exist between any sewer and a drain or overflow from the feeder, solution chamber or tank? | YesNo | Yes |
| 1.07 | Are spare parts available for all chemical feeders? | YesNo | Yes |
| 1.08 | Are incompatible chemicals stored separately? | YesNo | Yes |
| 1.09 | Do daily operating records reflect chemical dosages and total quantities used? | YesNo | Yes |
| 1.1 | Are all chemical feeders properly verified for accuracy? | YesNo | Yes |
| 1.11 | Are all chemicals and water contact materials approved by an ANSI/NSF accredited organization? | YesNo | Yes |

# Treatment / Activated Carbon

## Granular:

| | | | |
|---|---|---|---|
| 1 | Are granular activated carbon (GAC) filters used for removal of organic material that may be available as DBP precursors? | YesNoLeadin | None |
| 1.01 | If yes, what is the depth of the GAC media in feet? | Numeric | None |
| 1.02 | What is the frequency of GAC regeneration? | Text | None |
| 2 | What type of filtration media system is being utilized? | DropDown | None |
| 3 | When was the last time the filters were evaluated to determine the condition of the media? | Date | None |

| | | | |
|---|---|---|---|
| 4 | Are filter run times consistent throughout the year? | YesNo | None |
| 5 | What criteria is used to determine when a filter backwash is required? | DropDown | None |
| 6 | Are the filters equipped with a surface wash or air scour system to enhance the efficiency of the backwash process? | YesNo | None |
| 7 | Has there been any violation in the effulent turbidity in the past 12 months? | YesNo | No |

# Treatment / Activated Carbon

## Powdered:

| | | | |
|---|---|---|---|
| 1 | Is PAC being added for removal of organic material ? | YesNoLeadin | None |
| 1.01 | Is PAC added as early as possible in the treatment process to provide maximum contact time? | YesNo | None |
| 1.02 | Is the PAC applied before the application point of chlorine or any other oxidant? | YesNo | None |
| 1.03 | Is the addition of PAC provided at several points in the system? | YesNo | None |
| 1.04 | Is the PAC stored in a room separate from any other chemicals? | YesNo | None |
| 2 | Are the feeders manually or automatically controlled? | DropDown | None |
| 3 | Are feed lines labeled or color coded according to accepted standards? | YesNo | Yes |
| 4 | Are the chemical storage areas clean and dry? | YesNo | None |
| 5 | Are vents from feeders, storage facilities and equipment exhaust discharged to the outside atmosphere above grade and remote from air intakes? | YesNo | Yes |
| 6 | Do the operators know where all of the chemical application points are and which points are being utilized? | YesNo | None |

# Treatment / Chlorination

## General:

| | | | |
|---|---|---|---|
| 1 | What disinfectant residual is maintained at the entry point of the distribution system? | Text | None |
| 2 | During the past year, has the disinfection process operated uninterrupted while water was being produced? If no, describe in comments. (Answer question 2.00 or 4.00 but not both) | YesNo | Yes |
| 3 | Have any new connections been added to the system between the point of disinfection and an existing first customer that would change contact time that would affect compliance with regulatory requirements? | YesNoLeadin | None |
| 3.01 | How many new connections have been added between the point of disinfection and the first customer? | Numeric | None |
| 4 | Is chlorination continuous? (Answer question 2.00 or 4.00 but not both) | YesNo | Yes |
| 5 | Are the chlorine (i.e., gas, hypochlorite solution, hypochlorite tablets, granules, and powder), chloramines, and chemicals used to generate chlorine dioxide, certified as complying with ANSI/NSF Standard 60, Drinking Water Treatment Chemicals? | YesNo | Yes |
| 6 | Is cross-connection control provided on the service water lines that feed the solution tanks? | YesNo | Yes |
| 7 | Is there a means to measure the volume of water treated? | YesNo | Yes |
| 8 | Is chlorine residual test equipment available capable of measuring residuals to the nearest 0.1 mg/l in the range below 0.5 mg/l, to the nearest 0.3 mg/l between 0.5 mg/l and 1.0 mg/l and to the nearest 0.5 mg/l above 1.0 mg/l? | YesNo | Yes |
| 9 | Are spare parts available to replace parts subject to wear and breakage? | YesNo | Yes |

# Treatment / Chlorination

## Chlorine Dioxide:

| | | | |
|---|---|---|---|
| 1 | Are combustible or reactive materials (such acids, powdered metals, organics) stored in the operating area? | YesNo | No |
| 2 | Is personal protective equipment stored nearby? | YesNo | Yes |
| 3 | Is an emergency eyewash and shower immediately outside the operating area? | YesNo | Yes |
| 4 | Is there an emergency shutoff for flows to the chlorine dioxide generator? | YesNo | Yes |
| 5 | Are chlorite and chlorine dioxide tanks vented outdoors away from operating area? | YesNo | Yes |
| 6 | Is a distinguishable alarm triggered by an ambient air chlorine dioxide sensor available? | YesNo | Yes |
| 7 | Is wash down water available in the operating area? | YesNo | Yes |
| 8 | Is the temperature of the chlorine dioxide operating area maintained between 60 and 100 °F? | YesNo | Yes |
| 9 | Does the Operation and Maintenance Manual include safety and emergency response procedures? | Text | None |
| 10 | Do operators have ongoing training in safety and emergency response procedures? | YesNo | Yes |

# Treatment / Chlorination

## Gaseous Chlorination:

| | | | |
|---|---|---|---|
| 1 | Is there standby chlorination equipment of sufficient capacity available to replace the largest unit? | YesNo | Yes |
| 2 | Are the chlorinator rooms heated, and protected from excessive heat? | YesNo | Yes |
| 3 | Is automatic switch over of chlorine cylinders provided, where necessary, to assure continuous disinfection? | YesNo | Yes |
| 4 | Does the ventilating fan take suction near the floor as far as practical from the door and air inlet, with the point of discharge so located as not to contaminate air inlets to any rooms or structures? | YesNo | Yes |
| 5 | Are all air inlets located near the ceiling and fitted with louvers? | YesNo | Yes |
| 6 | Are vents from feeders and storage discharged to the outside atmosphere, above grade, screened with #14 mesh screen and cleared? | YesNo | Yes |
| 7 | Is this a treatment plant? | YesNoLeadin | None |
| 7.01 | Is the chlorine room (when at a water treatment plant) constructed in such a manner that all openings between the chlorine room and the remainder of the plant are sealed? | Text | Yes |
| 7.02 | Are outward-opening doors present and equipped with panic bars to facilitate a means of easy and rapid exit to the building exterior? | YesNo | Yes |
| 7.03 | Do floor drains discharge to the outside of the building and are not connected to other internal or external drain systems? | YesNo | Yes |
| 8 | Is chlorine gas feed and storage enclosed and separated from other operating areas? | YesNo | Yes |
| 9 | Are full and empty cylinders of chlorine gas restrained in position to prevent upset? | YesNo | Yes |
| 10 | Are full and empty cylinders of chlorine gas stored in areas that are not in direct sunlight or exposed to excessive heat? | YesNo | Yes |
| 11 | Is a weight scale provided for weighing chlorine gas cylinders / containers? | YesNo | Yes |
| 12 | Is respiratory protection equipment, available where chlorine gas is handled, and is it stored at a convenient location, but not inside any room where chlorine is stored? | YesNo | Yes |
| 13 | Is the chlorine cylinder utilized 150 pounds in capacity? | YesNoLeadin | None |

| | | | |
|---|---|---|---|
| 13.01 | Is a type "A" leak repair kit approved by the Chlorine Institute available? | YesNo | Yes |
| 13.02 | Is a bottle of ammonium hydroxide (56 per cent ammonia solution) available for chlorine leak detection? | YesNo | Yes |
| 14 | Is the chlorine cylinder utilized 1 ton in capacity? | YesNoLeadin | None |
| 14.01 | Is a type "B" leak repair kit approved by the Chlorine Institute available? | YesNo | Yes |
| 14.02 | Is a means of leak detection provided? | YesNo | Yes |
| 14.03 | Does the water supply to each injector have a separate shut-off valve? | YesNo | Yes |

## Treatment / Chlorination

### Hypochlorination:

| | | | |
|---|---|---|---|
| 1 | Is the storage tank covered to minimize corrosive vapors? | YesNo | Yes |

## Treatment / Coagulation

### General:

| | | | |
|---|---|---|---|
| 1 | Does the water contain high turbidity and require pretreatment (sedimentation)? | YesNo | None |
| 2 | Does the pre-sedimentation process use the addition of a coagulation chemical? | YesNoLeadin | None |
| 2.01 | If yes, what is the coagulation chemical? | Text | None |

## Treatment / Coagulation

### Coagulation:

| | | | |
|---|---|---|---|
| 1 | Is a primary coagulant used at all times the plant is in operation? | YesNo | Yes |
| 2 | What primary coagulant is being used? | DropDown | None |
| 3 | Is a coagulant aid or filter aid being added? | YesNo | None |
| 4 | Do you have a plan to determine coagulant dosage? | YesNo | Yes |

## Treatment / Filtration

### General:

| | | | |
|---|---|---|---|
| 1 | Are instrumentation and controls for the process operational, and in service? | YesNo | Yes |
| 2 | Is settled backwash water recycled? | YesNo | None |
| 3 | What are the filter effluent quality goals? | Text | None |
| 4 | What type of filtration media system is being utilized? | DropDown | None |
| 5 | What is the maximum filtration rate utilized throughout the year? | Text | None |
| 6 | What criteria is used to determine when a filter backwash is required? | DropDown | None |

## Treatment / Filtration

### Cartridge:

| | | | |
|---|---|---|---|
| 1 | What filter element is used in the cartridge? | DropDown | None |

## Treatment / Filtration

### Diatomaceous Earth:

| | | | |
|---|---|---|---|
| 1 | Is the filter a pressure or vacuum type? | DropDown | None |
| 2 | What are typical filter run times in minutes? | Numeric | None |
| 3 | Is the filter septum inspected periodically? | YesNo | Yes |
| 4 | Is the filter septum cleaned regularly? | YesNo | Yes |

## Treatment / Filtration

### Rapid Sand:

| | | | |
|---|---|---|---|
| 1 | What are the filter effluent quality goals? | Text | No |
| 2 | What type of filtration media system is being utilized? | DropDown | None |
| 3 | What is the average and maximum filtration rate utilized throughout the year? | Text | None |
| 4 | What criteria is used to determine when a filter backwash is required? | DropDown | None |
| 5 | Are the filters equipped with a surface wash or air scour system to enhance the efficiency of the backwash process? | YesNo | None |

## Treatment / Filtration

### Slow Sand:

| | | | |
|---|---|---|---|
| 1 | What is the average and maximum filtration rate employed? | Text | None |
| 2 | Are head loss gauges used to determine when a filter is to be cleaned? | YesNo | Yes |

## Treatment / Filtration

### Microfiltration & Ultrafiltration:

| | | | |
|---|---|---|---|
| 1 | Which membrane filtration process is being used? | DropDown | None |
| 2 | What is the treatment objective for this particular membrane? | DropDown | None |
| 3 | What is the typical turbidity of the influent water? | Text | None |
| 4 | What is the typical turbidity of the filter effluent? | Text | None |
| 5 | Is pretreatment being utilized? | YesNoLeadin | None |
| 5.01 | Is there a screen or pre-filter in place prior to the membranes? | Text | None |
| 6 | Is there a way to release trapped air from the membrane skid (i.e. air release or manual valves)? | YesNo | None |
| 7 | Is there a filter to waste line on each filter? | YesNo | Yes |
| 8 | What criteria are used for initiating a backwash? | Text | None |
| 9 | Is there a backwash storage tank, separate from the finished water storage? | YesNoLeadin | None |
| 9.01 | Does the backwash storage tank provide only finished drinking water for backwash? | YesNo | Yes |
| 9.02 | Is the backwash storage tank of sufficient volume to backwash at least two filters, consecutively? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 9.03 | Does the backwash storage tank perform in conjuction with the filter to waste system prior to refilling? | YesNo | Yes |
| 10 | Is backwash waste water recycled to the front of the treatment plant prior to re-entering the filter? | YesNoLeadin | None |
| 11 | Is this plant equipped with clean-in-place (CIP) function? | YesNoLeadin | None |
| 11.01 | What criteria are used for initiating a clean-in-place (CIP) sequence? | Text | None |
| 11.02 | How is the CIP sequence initiated? | DropDown | None |
| 11.03 | What chemicals are available for a CIP sequence? | Text | None |
| 11.04 | Are all CIP chemicals ANSI / NSF 60 approved? | YesNo | Yes |
| 11.05 | Where does the CIP waste discharge? | Text | None |
| 12 | Are membrane fiber repairs performed with an ANSI / NSF 60 approved adhesive? | YesNo | Yes |
| 13 | What is the procedure used for membrane repairs? | Text | None |

# Treatment / Flocculation

## Flocculation:

| | | | |
|---|---|---|---|
| 1 | Is there an SOP for adjusting flocculator speed? | YesNo | None |

# Treatment / Fluoridation

## Fluoridation:

| | | | |
|---|---|---|---|
| 1 | Is fluoridation regulated by a local health department? | YesNoLeadin | None |
| 1.01 | Identify the name of the local health department. | DropDown | None |
| 1.02 | Are fluoride concentrations tested as required by the local health department? | YesNo | Yes |
| 2 | Is this fluoridation facility operated on seasonal basis? | YesNoLeadin | None |
| 2.01 | Numeric month of beginning operation | Numeric | None |
| 2.02 | Numeric day of beginning operation: | Numeric | None |
| 2.03 | Numeric month of ending operation: | Numeric | None |
| 2.04 | Numeric day of ending operation: | Numeric | None |
| 3 | Background fluoride level before adding fluoride (in ppm): | Numeric | None |
| 4 | Target dose of fluoride added (in ppm): | Numeric | None |
| 5 | Typical fluoride level after adding fluoride (in ppm): | Numeric | None |
| 6 | Is there a sampling location for measuring the final fluoride level? | YesNoLeadin | None |
| 6.01 | Identify the sampling location of the measured final fluoride level: | Text | None |
| 7 | Is there a means to measure the flow of water to be treated? | YesNo | Yes |
| 8 | Are fluoride concentrations, including chemical dosage and total water quantity, calculated daily? Do daily operating records reflect chemical dosages and total quantities used? | YesNo | Yes |
| 9 | When was the fluoride feed system last calibrated to ensure accuracy? | Date | None |

| | | | |
|---|---|---|---|
| 10 | Are fluoride testing instruments properly verified (zeroed & recorded split samples) or calibrated? | YesNo | Yes |
| 11 | When was the fluoride testing instrument last verified (zeroed & recorded split samples) or calibrated? | Date | None |
| 12 | Do the chemicals used for fluoridation meet the NSF/ANSI 60 standard or applicable AWWA standards? | YesNo | Yes |
| 13 | Are the fluoride chemicals stored in covered or unopened shipping containers and are stored inside a building? (The fluoride chemicals should be isolated from other chemicals to prevent contamination or unintended chemical reaction.) | YesNo | Yes |
| 14 | Are there any fluoride compounds added before lime-soda softening or ion exchange softening process? | YesNo | No |
| 15 | Is the electrical outlet used for fluoride feed pump a non-standard receptable type and is interconnected with a well or a service pump? (This is to ensure that the fluoride feed pump can be turned on only when the well or service pump is on.) | YesNo | Yes |
| 16 | Are there adequate spill containment provisions? | YesNo | Yes |
| 17 | Is there a vent for the chemical storage areas that vents to the atmoshpere? | Text | None |
| 18 | Is cross connection control provided so that no direct connections exist between any sewer and a drain or overflow from the feeder, solution chamber or tank? | YesNo | Yes |
| 19 | Are there incompatible chemicals stored in the fluoride storage or injection areas? | YesNo | No |
| 20 | Is fluorosilicic acid used for the fluoridation system? | YesNoLeadin | None |
| 20.01 | Is the acid solution tank mounted on a scale or have other means of measurement (such as level indicator or loss-of-weight recorder), so the total quantity of fluoride used each day can be calculated or recorded? | YesNo | Yes |
| 20.02 | Are unsealed storage units for fluorosilicic acid vented to the atmosphere at a point outside any building? (This vent should not be near any building air intake.) | Text | None |
| 20.03 | Is neutralizing chemical available for immediate use in case of acid spill? | YesNo | Yes |
| 20.04 | Are there deluge shower and eye wash station at a location close but outside of the fluorosilicic acid operating area? (Deluge shower and eye wash station within the fluorosilicic acid operating area may not be accessible in acid spill conditions.) | YesNo | Yes |
| 20.05 | Is appropriate personal protective equipment provided for operators, such as acid resistent rubbler gloves, apron or coverall, eye or face protection gear for handling fluorosilicic acid? | YesNo | Yes |
| 20.06 | If acid bulk storage tank and day tank both exist, are acid storage and day tanks provided with separate screened vents? | YesNo | Yes |
| 20.07 | If there is a transfer pump between the acid bulk storage tank and the day tank, is there a way to stop the transfer of the acid from the acid bulk tank to the day tank in case of transfer pump failure? | YesNo | Yes |
| 20.08 | Is there an emergency shutoff near the entrance of the fluoride operating area to turn off the transfer pump or injection pump in case of acid spill? | YesNo | Yes |
| 20.09 | Is there a provision for handling catastrophic failure of acid bulk storage tank? | YesNo | Yes |
| 20.1 | Is there a seismic restraint system for acid bulk storage tank? | YesNo | Yes |
| 21 | Is a saturator used for the fluoridation system? | YesNoLeadin | None |
| 21.01 | Are the chemicals stored on pallets? | YesNo | Yes |
| 21.02 | Is the water used for sodium fluoride dissolution properly treated for hardness? (The hardness of the makeup water shall be less than 75 mg/l as calcium carbonate.) | YesNo | Yes |
| 21.03 | Is there an adequate level of fluoride crystals in the saturator? | YesNo | Yes |
| 21.04 | Is there backflow protection on the dilution water line? Is the dilution water line protected from the potential for backflow conditions to exist? | YesNo | Yes |
| 21.05 | Is appropriate personal protective equipment provided for operators, such as respiratory protection, safety goggles, acid resistent rubber gloves, and apron for handling dry fluoride compounds? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 21.06 | If a hopper is used, is the hopper equipped with an exhaust fan and dust filter and under a negative pressure during transfer of dry fluoride compounds? | YesNo | Yes |
| 21.07 | Does air exhausted from fluoride handling equipment discharge through a dust filter to the outside atmosphere of the building for dust control during transfer of dry fluoride compounds? | YesNo | Yes |
| 21.08 | Is disposing of empty bags, drums or barrels handled in a manner which minimizes operators' exposure to fluoride dusts? | YesNo | Yes |
| 21.09 | Is there a floor drain to facilitate the washdown of floors? | YesNo | Yes |
| 21.1 | Is there a flowmeter on the inlet or outlet line to a saturator giving both a flow rate and totalized flow, so the operator can track chemical usage? | YesNo | Yes |

# Treatment / Inhibitor Addition

## Bimetallic Phosphate:

| | | | |
|---|---|---|---|
| 1 | Are phosphates fed into the drinking water for corrosion control? | YesNo | None |
| 2 | Is ph/alkalinity adjustment used as a corrosion control strategy? If so what chemicals are being utilized? | Text | None |
| 3 | Are phosphates fed into the drinking water in conjunction with pH adjustment? | YesNo | None |
| 4 | Have all proprietary compounds received the specific approval of the reviewing authority before use? | YesNo | Yes |
| 5 | Is phosphate testing conducted in the distribution system? | YesNo | None |

# Treatment / Inhibitor Addition

## Hexametaphosphate:

| | | | |
|---|---|---|---|
| 1 | Are phosphates fed into the drinking water for corrosion control? | YesNo | None |
| 2 | Is ph/alkalinity adjustment used as a corrosion control strategy? If so what chemicals are being utilized? | Text | None |
| 3 | Are phosphates fed into the drinking water in conjunction with pH adjustment? | YesNo | None |
| 4 | Have all proprietary compounds received the specific approval of the reviewing authority before use? | YesNo | Yes |
| 5 | Is phosphate testing conducted in the distribution system? | YesNo | None |

# Treatment / Inhibitor Addition

## Orthophosphate:

| | | | |
|---|---|---|---|
| 1 | Are phosphates fed into the drinking water for corrosion control? | YesNo | Yes |
| 2 | Is ph/alkalinity adjustment used as a corrosion control strategy? If so what chemicals are being utilized? | Text | None |
| 3 | Have all proprietary compounds received the specific approval of the reviewing authority before use? | YesNo | Yes |
| 4 | Are satisfactory chlorine residuals maintained in the distribution system when phosphates are used? | Text | None |
| 5 | Is phosphate testing conducted in the distribution system? | YesNo | None |

# Treatment / Inhibitor Addition

## Polyphosphate:

| | | | |
|---|---|---|---|
| 1 | Are phosphates fed into the drinking water for corrosion control? | YesNo | None |
| 2 | Is ph/alkalinity adjustment used as a corrosion control strategy? If so what chemicals are being utilized? | Text | None |

| | | | |
|---|---|---|---|
| 3 | Are phosphates fed into the drinking water in conjunction with pH adjustment? | YesNo | None |
| 4 | Have all proprietary compounds received the specific approval of the reviewing authority before use? | YesNo | Yes |
| 5 | Is phosphate testing conducted in the distribution system? | YesNo | None |

# Treatment / Ion Exchange

## General:

| | | | |
|---|---|---|---|
| 1 | Are backwash, rinse and air relief discharge pipes installed in such a manner as to prevent any possibility of back-siphonage? | YesNo | Yes |
| 2 | Is the salt that is used for the brine solution approved by an ANSI/NSF accredited organization? | YesNo | Yes |
| 3 | Is the make-up water inlet protected from back-siphonage? | YesNo | Yes |
| 4 | Are overflows protected with corrosion resistant screens and terminate with either a turned downed bend having a proper free fall discharge? | YesNo | Yes |

# Treatment / Ion Exchange

## Ion Exchange:

| | | | |
|---|---|---|---|
| 1 | If iron or manganese is removed using ion exchange, does the water contain more than 0.3 milligrams per liter of iron, manganese or a combination thereof? | YesNo | No |
| 2 | When iron, manganese, or a combination of the two, is 1 milligram per liter or more is pre-treatment being used? | YesNoLeadin | Yes |
| 2.01 | If yes, is the automatic regeneration based on volume of water softened? | YesNo | Yes |

# Treatment / Ozonation

## Ozonation:

| | | | |
|---|---|---|---|
| 1 | What is the primary purpose for using ozone? | DropDown | None |
| 2 | What is the target dose of ozone in mg/l? | Numeric | None |
| 3 | Manufacturer, Model, and Number of the Ozone Generators? | Text | None |
| 4 | What is the primary backup capability if there is a failure to provide ozone for disinfection? | DropDown | None |
| 5 | What is the source of feed gas for the ozone generators? | DropDown | None |
| 6 | Is the dew point of the feed gas  less than -76 oF (-60 oC)? | Text | None |
| 7 | Are there two or more ozone aqueous residual analyzers used? | YesNo | Yes |
| 8 | How often are the ozone aqueous residual analyzers calibrated? | Text | None |
| 9 | Is there an ozone quench system to destroy remaining ozone in the water at the end of the contactor? | YesNoLeadin | Yes |
| 9.01 | How often is the ozone quench system used? | Text | None |
| 9.02 | Do all chemicals used to quench the residual ozone meet ANSI/NSF Standard 60? | YesNo | Yes |
| 10 | Are ozone off-gas blowers from the contactor functioning properly? | YesNo | Yes |
| 11 | Are ozone off-gas destruction units provided and functioning properly? | YesNo | Yes |

# Treatment / Sequestration

## Sequestration:

| | | | |
|---|---|---|---|
| 1 | Is iron and/or manganese being sequestered by the addition of a phosphate? | YesNoLeadin | None |
| 1.01 | If yes, is the iron, manganese or combination thereof less than 1 milligram per liter in the raw water? | YesNo | Yes |
| 2 | Does the total phosphate applied exceed 10 milligrams per liter as PO4? | YesNo | No |
| 3 | Are taps located on each raw water source, each treatment unit influent and each treatment unit effluent? | YesNo | No |
| 4 | Where phosphate sequestration is practiced, is appropriate phosphate testing equipment provided? | YesNo | Yes |
| 5 | Do all chemicals used for polyshosphate sequesttation meet ANSI/NSF Standard 60? | YesNo | Yes |

# Treatment / Ultraviolet Radiation

## Ultraviolet Radiation:

| | | | |
|---|---|---|---|
| 1 | Brand and model information of the UV system | Text | None |
| 2 | Number of UV reactor(s) | Numeric | None |
| 3 | High flow treated by each UV reactor | Text | None |
| 4 | Low flow treated by each UV reactor | Text | None |
| 5 | The UV disinfection system is used for treating: | DropDown | None |
| 6 | Is there an operating procedure in place to handle UV lamp breakage, power supply interruption, response to alarms, etc.? | YesNo | Yes |
| 7 | Is there a UV intensity sensor? | YesNoLeadin | Yes |
| 7.01 | How often is the UV intensity sensor calibrated? | Text | None |
| 7.02 | Is the UV intensity sensor calibrated per manufacturer's instruction or the operation & maintenance guidelines stated in the UV Disinfection Guidanece Manual by EPA? | YesNo | Yes |
| 8 | How often is the UV quartz sleeve inspected and cleaned? | Text | None |
| 9 | Do chemicals used in the cleaning of UV reactor components in contact with the drinking water meet the ANSI/NSF standard 60? | YesNo | Yes |
| 10 | Does the water system claim disinfection credit for using UV disinfection? | YesNoLeadin | Yes |
| 10.01 | Is it possible to isolate the UV disinfection system or each UV reactor for maintenance | YesNo | Yes |
| 10.02 | Is there backup power source for the UV disinfection system? | YesNo | Yes |
| 10.03 | Is there a redundant primary disinfection mechanism in place that will provide primary disinfection when the UV system fails or is out of service? | YesNo | Yes |

# Pump Stations / Operation

| | | | |
|---|---|---|---|
| 1 | Is there any unexpected leakage of water from the piping or appurtenances? | YesNo | No |
| 2 | Is rotating and electrical equipment provided with protective guards? | YesNo | Yes |

## Pump Stations / Design

| | | | |
|---|---|---|---|
| 1 | What type of pump(s) are at this pumping station? | DropDown | None |
| 2 | Is there at least two functioning pumping units? (If pumps are used to transfer water from one tank to another only - DO NOT ANSWER. If used to pressurize system two or more pumps are required) | YesNo | Yes |
| 3 | Can the demand be met by the remaining pump(s) when the largest pumping unit is out of service? | YesNo | Yes |
| 4 | Are the building and equipment protected from flooding? | YesNo | Yes |
| 5 | Is adequate drainage provided? | YesNo | Yes |
| 6 | Are cross-connections present in pumping stations? ( Lack of a Hose Bibb Vacuum breaker is not cosidered a cross-connection) | YesNo | No |
| 7 | Is each pump discharge line equipped a standard pressure gauge on the discharge piping?: | YesNo | None |
| 8 | Does the pumping facility have an air relief valve located on the discharge piping? | YesNoLeadin | None |
| 8.01 | For a pumping facility with an air vacuum relief valve on the discharge piping, is the discharge piping downturned? | YesNo | Yes |
| 8.02 | For a pumping facility with an air vacuum relief valve on the discharge piping, is the discharge piping screened with a #14 mesh screen? | YesNo | Yes |
| 8.03 | For a pumping facility with an air vacuum relief valve on the discharge piping, does the discharge piping terminate at least 6 inches above the floor? | YesNo | Yes |

## Storage / Gravity

### Design:

| | | | |
|---|---|---|---|
| 1 | What is the name of this storage facility? | Text | None |
| 2 | What is the total capacity for this storage facility in gallons? (DO NOT USE COMAS IN NUMERIC ANSWER) | Numeric | None |
| 3 | Is the area surrounding the ground-level storage structure graded in a manner that will prevent surface water from standing within 50 feet of it? | YesNo | Yes |
| 4 | Does the storage tank roof cover show evidence of ponding with deterioration? | YesNo | No |

## Storage / Gravity

### Components:

| | | | |
|---|---|---|---|
| 1 | Does the water storage tank have a safe access (such as ladders for tanks in excess of 20 feet, ladder guards,railings) or safely located entrance hatches? | YesNo | Yes |
| 2 | Are air vents present? | YesNoLeadin | Yes |
| 2.01 | Air Vents: Turned downward or covered from rain and dust? | YesNo | Yes |
| 2.02 | Air Vents: Terminated at a minimum of 24 inches above the surface of a storage tank roof if the tank is a buried structure? | YesNo | Yes |
| 2.03 | Air Vents: Screened with #14 non-corrodible mesh screen? | YesNo | Yes |
| 3 | Are access openings present? | YesNoLeadin | Yes |
| 3.01 | Access opening covers at least 4 inches above the tank roof surface or a minimum of 18 inches above any earthen cover? | YesNo | Yes |
| 3.02 | Access openings: Is the access of the shoe box type with a minimum of a 2 inch overlap? | YesNo | Yes |
| 3.03 | Access openings: Is the lid properly gasketed? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 4 | Are outside access hatches locked? | YesNo | Yes |
| 5 | Are there any roof or wall penetrations that are not sealed? (ie a water level indicator cable, holes, etc.) | YesNo | No |
| 6 | Are overflow pipes present?<br>(IF COMBINED WITH DRAIN LINE INDICATE IN NOTES. DO NOT ANSWER QUESTIONS 7 AND 8) | YesNoLeadin | Yes |
| 6.01 | Overflow pipes: Terminated 12 to 24 inches above the ground? | YesNo | Yes |
| 6.02 | Overflow pipes: Screened with #4 mesh non-corrodible screen? | YesNo | Yes |
| 6.03 | Overflow pipes: Directly connected to a sanitary sewer? | YesNo | No |
| 7 | If a drain line is present, does it discharge through a physical air gap of at least 2 pipe diameters? (IF COMBINED WITH OVERFLOW DO NOT ANSWER) | YesNo | Yes |

## Storage / Gravity

### Maintenance:

| | | | |
|---|---|---|---|
| 1 | Are there cracks in the walls or covers of the storage tanks? (ANSWER ONLY ONCE IN THIS SECTION) | YesNoLeadin | None |
| 1.01 | Does the tank show evidence of mild deterioration or spalling? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.02 | Does the tank exterior show evidence of moderate deterioration or spalling? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.03 | Does the tank show evidence of water leakage such as water marks or stains? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.04 | Is the tank leaking? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.05 | Is there evidence of possible water intrusion into the tank through cracks or other openings? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.06 | Does the reservoir have a significant opening that would allow animals or debris to enter the tank? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 2 | Is the storage structure interior coating or liner peeling or cracked? | YesNo | No |

## Storage / Clear-Wells

### Design:

| | | | |
|---|---|---|---|
| 1 | What is the name of this storage facility? | Text | None |
| 2 | What is the total capacity for this storage facility in gallons? (DO NOT USE COMAS IN NUMERIC ANSWER) | Numeric | None |
| 3 | Is the area surrounding the ground-level storage structure graded in a manner that will prevent surface water from standing within 50 feet of it? | YesNo | Yes |
| 4 | Does the storage tank roof cover show evidence of ponding with deterioration? | YesNo | Yes |

## Storage / Clear-Wells

### Components:

| | | | |
|---|---|---|---|
| 1 | Does the water storage tank have a safe access (such as ladders for tanks in excess of 20 feet, ladder guards,railings) or safely located entrance hatches? | YesNo | Yes |
| 2 | Are air vents present? | YesNoLeadin | Yes |
| 2.01 | Air Vents: Turned downward or covered from rain and dust? | YesNo | Yes |
| 2.02 | Air Vents: Terminated at a minimum of 24 inches above the surface of a storage tank roof if the tank is a buried structure? | YesNo | Yes |
| 2.03 | Air Vents: Screened with #14 non-corrodible mesh screen with a larger gauge protection screen? | YesNo | Yes |

| | | | |
|---|---|---|---|
| 3 | Are access openings present? | YesNoLeadin | Yes |
| 3.01 | Access opening covers at least 4 inches above the tank roof surface or a minimum18 inches above any earthen cover? | YesNo | Yes |
| 3.02 | Access openings: Is the access of the shoe box type with a minimum of a 2 inch overlap? | YesNo | Yes |
| 3.03 | Access openings: Is the lid properly gasketed? | YesNo | Yes |
| 4 | Are outside access hatches locked? | YesNo | Yes |
| 5 | Are there any roof or wall penetrations that are not sealed? (ie a water level indicator cable, holes, etc.) | YesNo | No |
| 6 | Are overflow pipes present?<br>(IF COMBINED WITH DRAIN LINE INDICATE IN NOTES. DO NOT ANSWER QUESTIONS 7 AND 8) | YesNoLeadin | Yes |
| 6.01 | Overflow pipes: Terminated 12 to 24 inches above the ground? | YesNo | Yes |
| 6.02 | Overflow pipes: Screened with #4 mesh non-corrodible screen? | YesNo | Yes |
| 6.03 | Overflow pipes: Directly connected to a sanitary sewer? | YesNo | No |
| 7 | If a drain line is present, does it discharge through a physical air gap of at least 2 pipe diameters? (IF COMBINED WITH OVERFLOW DO NOT ANSWER) | YesNo | Yes |

## Storage / Clear-Wells

### Maintenance:

| | | | |
|---|---|---|---|
| 1 | Are there cracks in the walls or covers of the storage tanks? (ANSWER ONLY ONCE IN THIS SECTION) | YesNoLeadin | None |
| 1.01 | Does the tank show evidence of mild deterioration or spalling? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.02 | Does the tank exterior show evidence of moderate deterioration or spalling? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.03 | Does the tank show evidence of water leakage such as water marks or stains? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.04 | Is the tank leaking? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.05 | Is there evidence of possible water intrusion into the tank through cracks or other openings? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 1.06 | Does the reservoir have a significant opening that would allow animals or debris to enter the tank? (ANSWER ONLY ONCE IN THIS SECTION) | YesNo | No |
| 2 | Is the storage structure interior coating or liner peeling or cracked? | YesNo | No |

## Storage / Hydropneumatic

### Design:

| | | | |
|---|---|---|---|
| 1 | Is the hydropneumatic tank(s) located below ground without adequate provisions for drainage, maintenance and flood protection? | YesNo | No |

## Distribution / Design

| | | | |
|---|---|---|---|
| 1 | Do all water mains (installed after 1995) that provide fire flow have a diameter of at least 8 inches? ( If no new lines have been added after 1995 answer "yes") | YesNo | Yes |
| 2 | Is there any asbestos/cement pipe in use in the system? | YesNoLeadin | No |
| 2.1 | When was last asbestos anaylis performed? | Date | None |
| 3 | Do all materials used in the system meet NSF 61 standards? | YesNo | Yes |

## Distribution / Pressure/Flow

| | | | |
|---|---|---|---|
| 1 | Are all areas of the system capable of providing sufficient water during maximum hourly demand conditions to maintain a minimum pressure of 20 psi within the system measured at all points of connections during normal system operation? | YesNo | Yes |
| 2 | Was the system constructed or new portions added after January 1, 2007. | YesNoLeadin | None |
| 2.01 | Does the system maintain at all points of connection the following pressures:<br>(a) 20 psi during conditions of fire flow and fire demand experienced during peak day demand; (b) 30 psi during peak instantaneous demand; and (c) 40 psi during peak day deman | YesNo | Yes |

## Distribution / Air & Vacuum Release Valves

| | | | |
|---|---|---|---|
| 1 | Are air release valves used in the system? | YesNoLeadin | None |
| 1.01 | Is the vent line properly screened (#14 mesh) and down turned? | YesNo | Yes |
| 1.02 | If located in a chamber, does the discharge piping on air relief valve terminates more than 12 inches above grade or more than one foot above the pipe where the chamber is not subject to flooding?<br><br>Ors extend a proper distance above ground and flood lev | YesNo | Yes |
| 1.03 | Does the valve chamber lack a drain, adequate sump, or show evidence of flooding? | YesNo | No |
| 1.04 | Does the valve chamber show evidence of flooding? Note: answer either 1.04 or 1.05 but not both. | YesNo | No |
| 1.05 | Is the chamber flooded at the time of the inspection? Note: answer either 1.04 or 1.05 but not both. | YesNo | No |

## Distribution / Cross-Connections

| | | | |
|---|---|---|---|
| 1 | Does any portion of the distribution system cross under any surface water body? | YesNoLeadin | None |
| 1.01 | Were all the following precautions taken?<br>A min. of 2 ft of cover over the pipe; and if the crossing is greater than 15 ft: special construction with restrained joints; valves at each side for pipeline isolation; and permanent taps to allow leakage testi | YesNo | Yes |
| 2 | Does the water system have a program to control the use of fire hydrants? | YesNo | Yes |
| 3 | Are blow offs or air relief valves directly to a sewer or do not have a proper air gap or do they exit below flood level in ditches or streams? | YesNo | No |

## Distribution / Disinfection

| | | | |
|---|---|---|---|
| 1 | Do your water facility disinfection procedures meet the AWWA C 651 (Water Mains), 652 (Water Storage Facilities) Standards for disinfection for new facilities and O&M including seasonal operation where applicable? | YesNo | Yes |
| 2 | Do you practice "batch" disinfection? | YesNoLeadin | No |