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# Surveys Review



OHA Drinking Water Services  
Silver Falls Conference  
April 19, 2017



DRINKING WATER SERVICES  
Public Health Division

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# Surveys Review

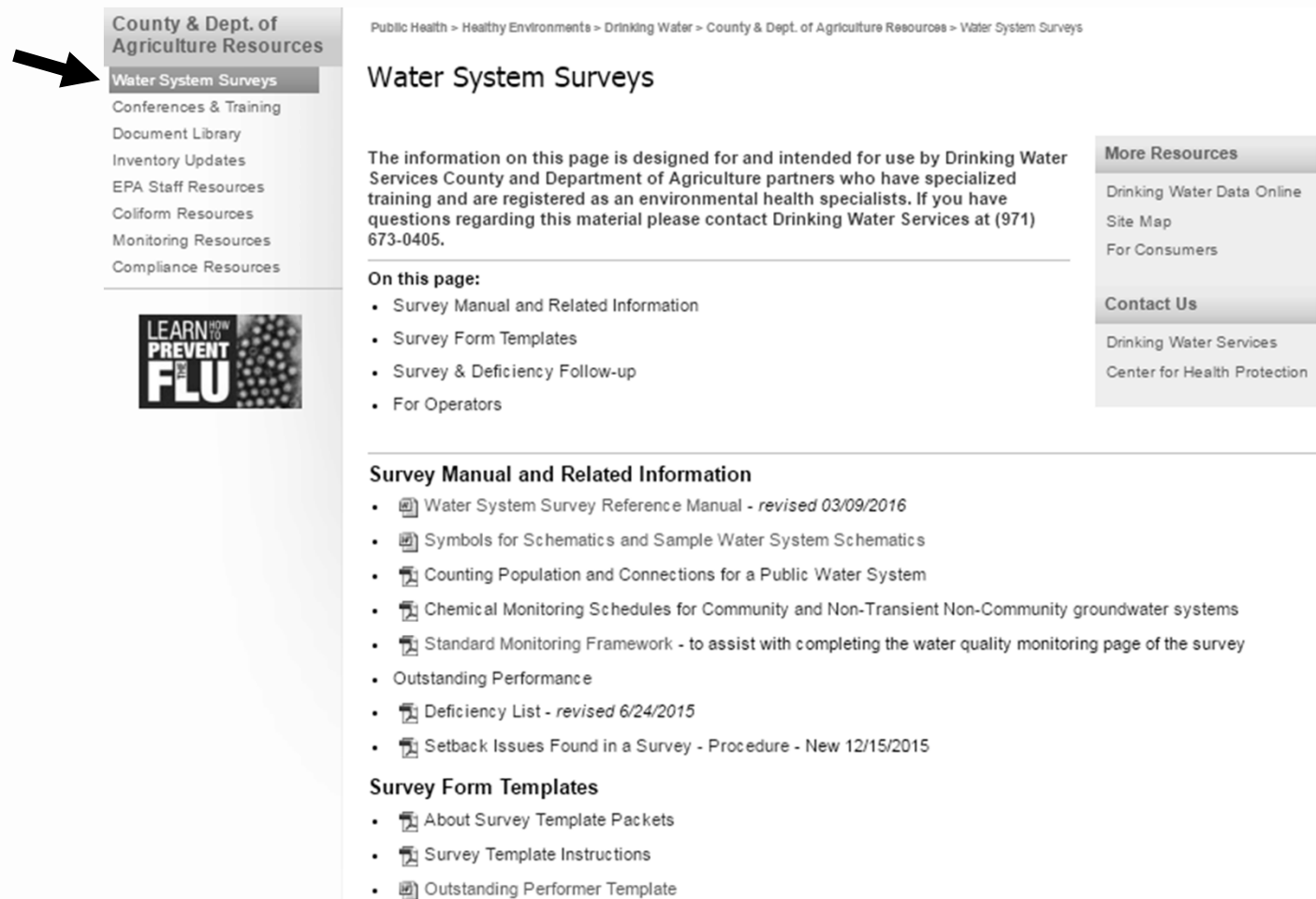
- Survey basics
- Preparing for survey
- On-site inspection
- Deficiency review
- Survey write-up tips
- Data Online updates
- Post survey follow-up
- Corrective action



Artesian emergency well

# Survey basics – where to find forms

<https://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Partners/Pages/index.aspx>



County & Dept. of Agriculture Resources

Water System Surveys

Conferences & Training

Document Library

Inventory Updates

EPA Staff Resources

Coliform Resources

Monitoring Resources

Compliance Resources

Public Health > Healthy Environments > Drinking Water > County & Dept. of Agriculture Resources > Water System Surveys








## Water System Surveys

The information on this page is designed for and intended for use by Drinking Water Services County and Department of Agriculture partners who have specialized training and are registered as an environmental health specialists. If you have questions regarding this material please contact Drinking Water Services at (971) 673-0405.




**On this page:**

- Survey Manual and Related Information
- Survey Form Templates
- Survey & Deficiency Follow-up
- For Operators

**Survey Manual and Related Information**

-  Water System Survey Reference Manual - revised 03/09/2016
-  Symbols for Schematics and Sample Water System Schematics
-  Counting Population and Connections for a Public Water System
-  Chemical Monitoring Schedules for Community and Non-Transient Non-Community groundwater systems
-  Standard Monitoring Framework - to assist with completing the water quality monitoring page of the survey
- Outstanding Performance
-  Deficiency List - revised 6/24/2015
-  Setback Issues Found in a Survey - Procedure - New 12/15/2015

**Survey Form Templates**


-  About Survey Template Packets
-  Survey Template Instructions
-  Outstanding Performer Template

**More Resources**

- Drinking Water Data Online
- Site Map
- For Consumers

**Contact Us**

- Drinking Water Services
- Center for Health Protection



# Survey basics

- Survey Reference Manual
- Prior DWS conferences & trainings

## Water System Survey Procedure

Tia Skerbeck, REHS  
Partner Services Coordinator  
Drinking Water Partners  
–Fall Training–  
September 22, 2015

Oregon  
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PUBLIC HEALTH DIVISION  
Drinking Water Services

Oregon Health Authority  
Drinking Water Services

## Water System Survey Reference Manual

February 2016

## DW 101 – Surveys

OHA-Drinking Water Services  
Silver Falls Conference  
April 22, 2015

Oregon  
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Authority



# Survey basics

- Modifying survey forms
  - Survey Template Instructions
  - 2016 Fall Training presentation
  - Turning on/off restricted editing, add/remove pages, adjusting formatting
  - <https://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Partners/Pages/index.aspx>


**Survey Forms, Contact Reports,  
and Triennial Review Schedule  
Updates (SFCRTRSU)**

Tia Skerbeck, REHS  
Partner Services Coordinator  
Drinking Water Partners  
–Fall Training–  
September 21, 2016

**Oregon Health Authority**  
PUBLIC HEALTH DIVISION  
Drinking Water Services

**Turning Off Restriction**

1. Click on: Review tab      2. Click on: Restrict Editing



XYZ Water System  
Water System Survey  
OHA Drinking Water Services

PWS ID: 41  
Survey Date: mm/dd/yyyy  
Page 1 of 15

**Deficiency Summary**

Surveyor: \_\_\_\_\_  
Date Corrective Action Plan is due: \_\_\_\_\_  
County: Choose an item



Yes No Significant Deficiencies and Rule Violations: \_\_\_\_\_ Date to be \_\_\_\_\_ Date \_\_\_\_\_

# Survey form templates & resources




- See “About Survey Template Packets” on which pages to use
- Forms are password protected

## Survey Form Templates





•  About Survey Template Packets

-  Survey Template Instructions
-  Outstanding Performer Template



The following documents are password protected (they currently open best in Firefox)

-  Packet 1: C-NTNC Groundwater Survey Template - revised 10/12/2016
-  Packet 2: C-NTNC Surface Water Survey Template - revised 10/12/2016
-  Packet 3: TNC-NP Survey Template - revised 10/12/2016

### Templates for Survey Cover Letters:

-  Community Groundwater Systems - includes outstanding performer information la
-  NTNC, TNC, and Non-EPA Groundwater Systems
-  Community Surface Water Systems - includes outstanding performer information
-  NTNC, TNC, and Non-EPA Surface Water Systems

### Survey Deficiency Follow-up

-  Failure to Take Corrective Action Template for Groundwater Systems
-  Follow-Up of Deficiencies Procedure - New 12/15/2015

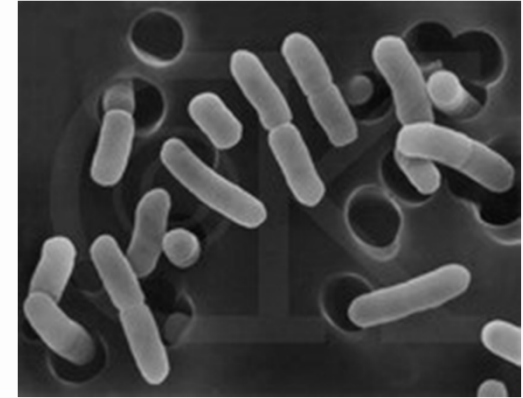
### For Operators

Resources to assist operators with preparing for surveys and inspections are located on the main site Operations.

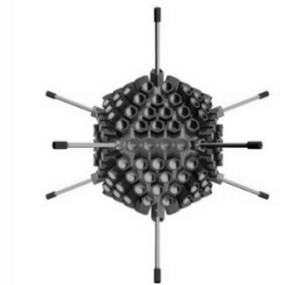
Survey Page	Packet 1 C/NTNC Ground water	Packet 2 C/NTNC Surface water	Packet 3 TNC/Non-EPA
Deficiency Summary	X	X	X
Inventory and Narrative	X	X	X
Water System Schematic	X	X	X
Source Information*	X	X	X
Well Information	X	X	X
Spring/Other Source	X	X	
Conventional and Direct Treatment Plant Inspection		X	
Alternative Technology Treatment Plant Inspection		X	
Disinfection	X	X	X
Treatment*	X	X	
Storage & Pressure Tanks	X	X	X
Distribution System Information	X	X	
Water Quality Monitoring	X	X	
Management & Operations	X	X	
Transient (TNC) & State Regulated (Non-EPA)			X

# Survey elements

- Sources (wells, springs)
- Treatment (filtration, disinfection)
- Distribution systems
- Finished water storage
- Monitoring & reporting
- Management & operations
- Operator certification



*E. Coli* photo credit: photo bucket



*Adenovirus* photo credit:  
<http://cronodon.com/>

*Multi-barrier Approach*

# Survey forms

- Significant deficiencies & rule violations shown as *bulleted items*


Source ID#: SRC-		XYZ Water System		PWS ID: 41 #####	
Source Name		Water System Survey		Survey Date: mm/dd/yy	
Well log available?		OHA Drinking Water Services		Page 7 of 15	
Well log ID (e.g., COLU123, L12345)					
<b>Well Information</b>					
Well active? .....		Yes	No	Yes	No
Pitless adaptor? .....		Yes	No	Yes	No
● Sanitary seal & casing watertight? .....		Yes	No	Yes	No
● Raw water sample tap? .....		Yes	No	Yes	No
● Treated water sample tap? <input type="checkbox"/> N/A .....		Yes	No	Yes	No
● If vented, properly screened? .....		Yes	No	Yes	No
● Wellhead protected from flooding? .....		Yes	No	Yes	No
Concrete slab around casing? .....		Yes	No	Yes	No
Casing height ≥12-in. above slab/grade? .....		Yes	No	Yes	No
Flowmeter? .....		Yes	No	Yes	No
Pressure gauge? .....		Yes	No	Yes	No
Pump to waste piping? .....		Yes	No	Yes	No
● Well meets setbacks from hazards? .....		Yes	No	Yes	No
If no, identify list of hazard(s) within the setback and the distance to the hazard? .....		HAZARD: .....			
DISTANCE (ft) .....		DISTANCE (ft): .....			
Protective housing? .....		Yes	No	Yes	No
If yes, does it have:					
Heat? .....		Yes	No	Yes	No
Light? .....		Yes	No	Yes	No
Floor drain? .....		Yes	No	Yes	No
Well pump removal provision? .....		Yes	No	Yes	No
Pump Type: .....		Choose an item.	Choose an item.	Choose an item.	Choose an item.
Bearing lubrication: .....		Choose an item.	Choose an item.	Choose an item.	Choose an item.
Pumping capacity (gpm): .....		Choose an item.	Choose an item.	Choose an item.	Choose an item.
*If no well log available, record any known information regarding depth of well, depth of grout seal, year of installation, or casing diameter in the comments section below.					
Comments: .....					


- Sanitary seal & casing watertight .....
- If vented, properly screened .....
- Wellhead protected from flooding .....
- Well meets setbacks from hazards .....

See OAR 333-061-0076  
Sanitary Surveys

# Preparing for survey

- Review PWS data in Data Online

 Oregon Public Health  
**Drinking Water Data Online**



Introduction :: Data Search Options :: WS Name Look Up :: WS ID Look Up :: DWS Home ::

**Water System Inventory**

Please enter the PWS ID number below:  
OR41


For further information on this public water system, click on the area of interest below:

[System Info](#) :: [Report for Lenders](#) :: [Alerts](#) :: [Violations](#) :: [Compliance & Enforcement](#) :: [Contacts](#) :: [Site Visits](#) :: [Public Notice](#) :: [Plan Review](#)  
[Coliform Summary](#) :: [Coliform Results](#) :: [Sampling Schedule for Coliform](#) :: [Groundwater/GWUDI Source Details](#)  
[Chemical Group Summary](#) :: [Latest Chemical Results](#) :: [Entry Point Detects](#) :: [Single Analyte Results](#)  
[Chemical Schedule Summary](#) :: [Chemical Schedule Details](#)  
[Lead & Copper](#) :: [Corrosion Control \(LCR\)](#) :: [Nitrate](#) :: [Arsenic](#) :: [Radionuclides](#) :: [GWR 4-Log](#) :: [LT2](#)  
[DBPs](#) :: [TOC & Alkalinity](#) :: [DBP Sample Sites](#) :: [FANLs](#) :: [MRDL](#) :: [Turbidity](#) :: [SWTR](#) :: [RAA](#) :: [LRAA](#)

Information by county:  
[Inventory](#) :: [Surface Water Systems](#) :: [Water System Surveys](#) :: [Outstanding Performers](#) :: [Plan Reviews](#) :: [System Scores](#) :: [Exceedances](#)  
[Alerts](#) :: [Violations](#) :: [Compliance & Enforcement](#) :: [Significant Deficiencies](#) :: [Cross Connection ASRs](#) :: [Treatment Plant Inspections](#) :: [Fluoride](#)


[Inventory List](#) for all Oregon Drinking Water Systems in Excel or printable screen format  
[Lab Help: Tools for Laboratories](#)

Introduction :: Data Search Options :: WS Name Look Up :: WS ID Look Up :: DWS Home



# Preparing for survey

- Review WS file
- Schedule survey at least 2 weeks before site visit
- Provide materials to prepare operator
  - Survey prep handout
  - Deficiency checklist
  - Outstanding performance criteria
  - Other resources & templates

 <b>Significant Deficiencies and Rule Violations</b> OHA Drinking Water Services	
<input type="checkbox"/> <b>Source Deficiencies:</b>	
<i>Well Construction Deficiencies:</i>	
<input type="checkbox"/> Sanitary seal and casing not watertight <input type="checkbox"/> Does not meet setbacks from hazards <input type="checkbox"/> Wellhead not protected from flooding <input type="checkbox"/> No raw water sample tap <input type="checkbox"/> No treated sample tap (if applicable) <input type="checkbox"/> No screen on existing well vent	
<i>Spring Source Deficiencies:</i>	
<input type="checkbox"/> Springbox not impervious durable material <input type="checkbox"/> No watertight access hatch/entry <input type="checkbox"/> No screened overflow <input type="checkbox"/> Does not meet setbacks from hazards <input type="checkbox"/> No raw water sample tap <input type="checkbox"/> No treated sample tap (if applicable)	
<input type="checkbox"/> <b>Treatment Deficiencies/Violations:</b>	
<i>Surface Water Treatment Deficiencies:</i>	
<input type="checkbox"/> Turbidity standards not met - 0030(3) <input type="checkbox"/> Turbidimeters not calibrated per manufacturer or at least quarterly - 0036(5)(b)(A)(ii) <input type="checkbox"/> Incorrect location for compliance turbidity monitoring <input type="checkbox"/> If serving > 3,300 people no alarm or auto plant shut off for low chlorine residual <input type="checkbox"/> For conventional or direct filtration: No alarm or plant shut off for high turbidity <input type="checkbox"/> For conventional filtration: Settled water not measured daily <input type="checkbox"/> For conventional or direct filtration: Turbidity profile not conducted on individual filters at least quarterly <input type="checkbox"/> For cartridge filtration: No pressure gauges before and after cartridge filter <input type="checkbox"/> For cartridge filtration: Filters not changed according to manufacturer's recommended pressure differential <input type="checkbox"/> For diatomaceous earth filtration: Body feed not added with influent flow <input type="checkbox"/> For membrane filtration: Turbidimeter not present on each unit - 0050(4)(c)(G) <input type="checkbox"/> For membrane filtration: Direct integrity testing not done at least daily - 0036(5)(b)(F)	
<input type="checkbox"/> pH, Temperature, and chlorine residual not measured daily at first user - 0036(5)(a/b) <input type="checkbox"/> Failure to calculate CT values correctly <input type="checkbox"/> No means to adequately determine disinfection contact time under peak flow and minimum storage conditions <input type="checkbox"/> Annual raw water sampling past due - 0036(6)(w)	
<i>UV Disinfection Violations (OAR 333-0050(5)(k)):</i>	
<input type="checkbox"/> Bypass around UV system <input type="checkbox"/> Lamp sleeve not cleaned <input type="checkbox"/> Lamp not replaced per manufacturer <input type="checkbox"/> No intensity sensor with alarm or shut-off <input type="checkbox"/> Annual raw water sampling past due - 0036(6)(w)	
<i>Other Treatment Violations:</i>	
<input type="checkbox"/> Non-NSF approved chemicals - 0087(6) <input type="checkbox"/> Corrosion control parameters not met - 0034	
<input type="checkbox"/> <b>Distribution System Violations:</b>	
<input type="checkbox"/> System pressure < 20 psi - 0025(7)	
<i>Cross Connection (OAR 333-061-0070):</i>	
<input type="checkbox"/> No ordinance or enabling authority (CWS) <input type="checkbox"/> Annual Summary Report not issued (CWS) <input type="checkbox"/> Testing records not current (CWS, NTNC, TNC) <input type="checkbox"/> No Cross Connection Control Specialist (CWS ≥ 300 connections)	
<input type="checkbox"/> <b>Finished Water Storage Deficiencies:</b>	
<input type="checkbox"/> Hatch not locked or adequately secured <input type="checkbox"/> Roof and access hatch not watertight <input type="checkbox"/> No flap valve, screen, or equivalent on drain <input type="checkbox"/> No screened vent	
<input type="checkbox"/> <b>Monitoring Violations:</b>	
<input type="checkbox"/> Monitoring not current - 0025(1) <input type="checkbox"/> MCL violations - 0030 <input type="checkbox"/> No Coliform Sampling Plan - 0036(6)(a)(G)	
<input type="checkbox"/> <b>Management &amp; Operations Violations:</b>	
<input type="checkbox"/> No operations and maintenance manual - 0065(4) <input type="checkbox"/> Emergency response plan not completed - 0064(1) <input type="checkbox"/> Major modifications not approved (plan review) - 0050 <input type="checkbox"/> Master plan not current (≥ 300 con.) - 0060(5) <input type="checkbox"/> Annual CCR not submitted (CWS) - 0043(1)(a)	

# Preparing for survey

## For Water System Operators: Preparing for a Water System Survey

A water system survey is an on-site review of sources, treatment facilities, and reservoirs, as well as office time to review the following records:

For all water systems:

1. Written coliform sampling plan.
2. A map of the distribution system.
3. Operation and Maintenance Manual, and other written procedures.
4. Emergency Response Plan.
5. Chemical dosage records if treatment is applied.
6. Proof of NSF Standard 60 certification for each chemical added to the drinking water.
7. Chlorine residual monitoring records if the system is chlorinated.
8. Results of any tracer study to verify disinfection contact time, if applicable.
9. Photos or other documents that provide enough detail to determine the current condition of storage reservoir features:
  - a. Access hatch in open and closed/locked positions,
  - b. Air vents that show all screening is secure with no gaps, and
  - c. Any other openings into the tank interior such as telemetry ports and cathodic protection.

In addition, for Community water systems:

10. Cross-connection control program plan, records, latest Annual Summary Report, etc.
11. Written protocols for under-certified operators, if applicable.

# On-site inspection

Verify inventory information with operator:

- Population & service connections
- Contact person's information
- Operating period
  - seasonal vs. year-round
- Changes in sources/treatment
- Changes to WS classification
- Operator certification



Unmaintained pump building



# On-site inspection

- Review sampling plans & procedures:
  - # of samples collected at appropriate sites
    - Chemical & coliform
    - Lead & copper tap sites
  - DBP sampling sites (chlorinated only)
    - Need physical address or site description
    - No DBP MAX01
  - Represents WQ throughout service area
- Discuss data reporting issues with operator
  - Sample labeling
  - Sample timing



Photo credit: Virginia Household Water Quality Program  
<http://www.wellwater.bse.vt.edu>

**Disinfection Byproducts (DBP) Sample Sites - PWS ID:**

See DBP (TTHM & HAA5) monitoring schedule

**Stage 2 Waiver: Very Small System**

Sample Point ID	Location
2DBP-01	MUDDY STATION



Oregon  
**Health**  
Authority

# On-site inspection

Review WQ monitoring schedules with operator:

- Discuss sampling frequency changes (arsenic, IOC, nitrite)
- Updated population may change sampling requirements
- Last sample results may change future sampling (radionuclides)
  - Check Data Online results

Chemical Sampling Schedule Status									
Facility ID	Analyte or Group		Sampling Interval	Monitoring Period Start	Monitoring Period End	Days Until End	Samples Required	Samples Received	Last Sample Date
DIST-A Distribution System	LEAD & COPPER	notes	3 Years			5	done		07/28/2015
Seasonal sampling period: 06/01 thru 09/30									
EP-A EP FOR WELL #2 & WELL #1	ARSENIC	notes	9 Years	01/01/2017 - 12/31/2025	3187	1	incomplete		03/15/2016
EP-A EP FOR WELL #2 & WELL #1	IOC	notes	9 Years	01/01/2011 - 12/31/2019	995	1	incomplete		10/28/2010
EP-A EP FOR WELL #2 & WELL #1	NITRATE		Yearly	01/01/2017 - 12/31/2017	265	1	incomplete		03/15/2016
EP-A EP FOR WELL #2 & WELL #1	NITRITE	notes	9 Years	01/01/2011 - 12/31/2019	995	1	incomplete		10/28/2010
EP-A EP FOR WELL #2 & WELL #1	RAD - GROSS ALPHA	notes	9 Years	01/01/2017 - 12/31/2025	3187	1	incomplete		09/19/2012
EP-A EP FOR WELL #2 & WELL #1	RAD - RADIUM 226/228	notes	9 Years	01/01/2017 - 12/31/2025	3187	1	incomplete		09/19/2012
EP-A EP FOR WELL #2 & WELL #1	RAD - URANIUM		9 Years	01/01/2014 - 12/31/2022	2091	1	incomplete		09/19/2012
EP-A EP FOR WELL #2 & WELL #1	SOC		3 Years	01/01/2017 - 12/31/2019	995	1	incomplete		03/15/2016
EP-A EP FOR WELL #2 & WELL #1	VOLATILE ORGANICS		3 Years	01/01/2017 - 12/31/2019	995	1	incomplete		03/15/2016

# On-site inspection

- Discuss open or pending plan review projects
  - Relay information to your PR engineer
- Review O&M manual, emergency response plan
- Cross Connection Control program (CWS)
- Consumer confidence reports completed yearly (CWS)
- Review log books
  - Chlorine residual logs, customer complaints

Plan Review Records								
Plan ID	Project Name	Date All Received	Request for Additional Info	Conditional Approval	Preliminary Approval	Date Abandoned	Final Approval	Reviewer
44-2015	New Reservoir/Distribution Improvements	03/25/2015		03/27/2015				BG
168-2012	Master Plan	11/08/2012					11/30/2012	BG
244-2005	Mountain View Subdivision - Waterlines	09/14/2005		09/07/2006		09/30/11		BG
305-1996	Highlands Subdivision			10/24/1996		03/21/05		GB

# Review violations/system score

- Returning violations to compliance (RTC)
- Do violations require public notice?
  - Check Data Online WS public notice page

Violation History								
Violation Number	Auto-RTC?	Monitoring Period		Facility ID	Analyte Group	Violation Type - Analyte Count <i>Show analytes for all violations</i>	Enforcement Action - Date <i>Show history</i>	Points
Begin	End							
901619714	N	Sep 06, 2016			GWR	Failure to Correct Source Contamination - 1 <i>Show analyte</i>		5
901619713	Y	May 01, 2016	May 31, 2016		TCR	Routine Coliform - Did Not Report ANY - 1	Returned To Compliance - Jun 16, 2016	1
901619710	N	Apr 01, 2016	Apr 30, 2016		TCR	Acute MCL for Fecal Coliform or E. coli - 1	Returned To Compliance - Jul 22, 2016	10
901619707	Y	Jul 01, 2014	Jul 31, 2014		TCR	Routine Coliform - Did Not Report Enough - 1	Returned To Compliance - Aug 14, 2014	1
901619708	N	Jun 01, 2014	Jun 30, 2014		TCR	Public Notice Late/Nonreporting (Viol # 901619705) - 1	Returned To Compliance - Aug 14, 2014	1
901619705	Y	Jun 01, 2014	Jun 30, 2014		TCR	Total Coliform MCL - 1	Returned To Compliance - Sep 11, 2014	5
901619706	N	Jun 05, 2014	Jun 20, 2014	DIST-A	GWR	Source Sample - Late/Nonreporting - 1 <i>Show analyte</i>	Returned To Compliance - Aug 14, 2014	1

## SYSTEM SCORE SUMMARY

Unaddressed Points:	5
Number of years the oldest violation has been unaddressed (n):	0
<b>System Score:</b>	<b>5</b>
Points under formal enforcement:	0
Points RTC'd:	19

# Deficiency review

- Surveys evaluate direct pathways for contaminants to enter DW
  - Multi-barrier concept to reduce human health risk
- Emphasis on significant deficiencies & rule violations
- List other issues as comments & recommendations



# Deficiency review – wells

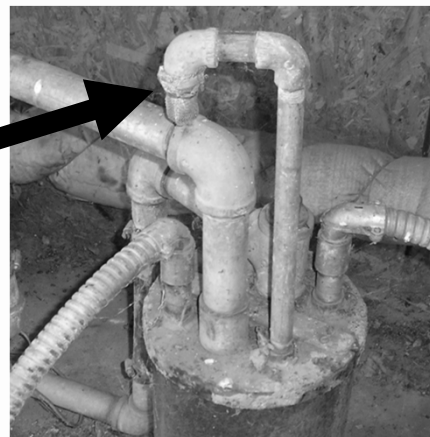
Significant deficiencies:

- **Sanitary seal & casing not watertight**
- No raw water sample tap
- No treated water sample tap (if applicable)
- **No screen on existing well vent** (if applicable)
- Well not protected from flooding
- Hazards within well's setback distance



Broken sanitary seal

Downturned  
screened vent



Broken collar

# Deficiency review – wells

- Provide comment to clarify deficiency

Well Information						
Source ID#: SRC-	AA					
Source Name:	Well					
Well log available?*	No		Choose an item.		Choose an item.	
Well log ID (e.g., COLU123, L12345)						
	Yes	No	Yes	No	Yes	No
Well active? .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitless adaptor? .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Sanitary seal & casing watertight? .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Raw water sample tap? .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Treated water sample tap? <input checked="" type="checkbox"/> N/A .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• If vented, properly screened? .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Wellhead protected from flooding? .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concrete slab around casing? .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Casing height ≥12-in. above slab/grade? .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
or casing diameter in the comments section below. <b>Comments:</b> Hole in side of casing (see photo 1).  						



Photo 1. Wellhead

# Deficiency review – springs

Significant deficiencies:

- **Springbox not impervious durable material**
- **Access hatch or entry not watertight**
- No raw water sample tap
- No treated water sample tap
- **No screen on overflow**
- Hazards within spring's setback distance



Surface water around springbox



Springbox inflow, outflow & overflow



# Deficiency review – disinfection

Chlorine residual significant deficiencies:

- No DPD or other EPA method used
- No NSF 60/61 certified product/equipment
- Distribution residuals not recorded at least 2x weekly



Non-NSF approved bleach



# Deficiency review – disinfection

Recent Coliform Test Results - PWS ID: 00369 ---- HEPPNER, CITY OF									
Sample Date	# Samples	Sample Type	Coliform Type	Results ID	Repeat of Sample ID	Sample Site	Facility	CI Residual	Receive Date
Mar 08, 2017	1	RT	Total	Absent--X026060B-2			DIST-A	0.05	Mar 24, 2017
Mar 08, 2017	1	RT	Total	Absent--X026060B-1			DIST-A	0.05	Mar 24, 2017
Feb 07, 2017	1	RT	Total	Absent--X025654B-2			DIST-A	0.06	Feb 15, 2017
Feb 07, 2017	1	RT	Total	Absent--X025654B-1			DIST-A	0.06	Feb 15, 2017
Jan 10, 2017	1	RT	Total	Absent--X025325B-2			DIST-A	0.02	Jan 26, 2017
Jan 10, 2017	1	RT	Total	Absent--X025325B-1			DIST-A	0.02	Jan 26, 2017
Dec 13, 2016	1	AS	Total	Absent--X024960B		WELL #2	SRC-AC		Dec 23, 2016
Dec 08, 2016	1	RT	Total	Absent--X024839B			DIST-A	0.05	Dec 23, 2016
Dec 08, 2016	1	RT	Total	Absent--X024838B			DIST-A	0.07	Dec 23, 2016
Nov 21, 2016	1	RT	Total	Absent--X024604B			DIST-A	0.05	Nov 30, 2016
Nov 21, 2016	1	RT	Total	Absent--X024603			DIST-A	0.11	Nov 30, 2016
Oct 05, 2016	1	RT	Total	Absent--X024056B-2			DIST-A	0.07	Oct 21, 2016
Oct 05, 2016	1	RT	Total	Absent--X024056B-1			DIST-A	0.07	Oct 21, 2016
Sep 13, 2016	1	RT	Total	Absent--X023736B-2			DIST-A	0.09	Sep 23, 2016
Sep 13, 2016	1	RT	Total	Absent--X023736B-1			DIST-A	0.09	Sep 23, 2016
Aug 09, 2016	1	RT	Total	Absent--X023334B-2			DIST-A	0.08	Aug 24, 2016

Review Data Online chlorine residuals measured with coliform samples

# Deficiency review – disinfection

UV light significant deficiencies:

- **No intensity sensor alarm or shut-off**
- Not all water is in contact with UV light (by-pass)
- Lamp sleeve not cleaned
- Lamp not replaced per manufacturer

Chlorine contact Time significant deficiencies:

- CT not based on tracer study or acceptable alternative
  - See Disinfection Verification Form (4-log)
- No effluent flow meter on contact tank
- CT values not calculated correctly
- CT minimum not met at all times
- Entry point residuals not measured daily



# Deficiency review – disinfection (4-log)

- Data Online GWR (4-Log)

Treatment			
State ID	Facility Name	Treatment Process	Treatment Objective
WTP-A	TP FOR SPRINGS (1, 2 & 3)	RESID. MAINT. GAS CHLORINATION	OTHER
WTP-A	TP FOR SPRINGS (1, 2 & 3)	GWR 4-LOG VIRUS COMPLIANCE MON	DISINFECTION

## GWR 4-Log Compliance Monitoring - PWS ID: 00510 ---- MAUPIN, CITY OF

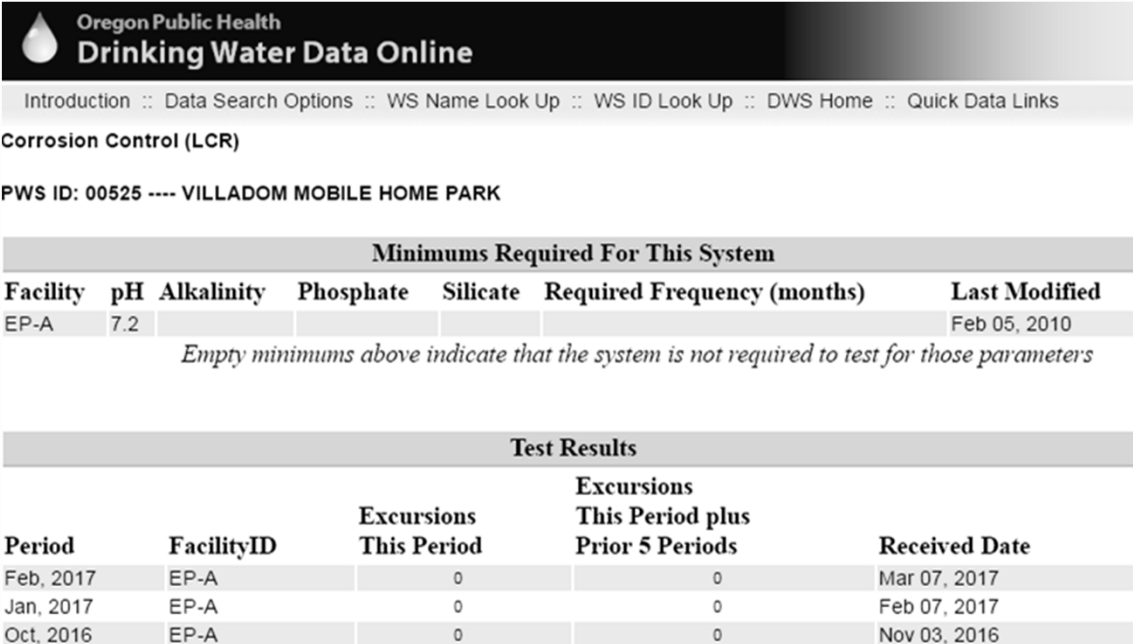
WTP-A (TP FOR SPRINGS (1, 2 & 3)) - Minimum Chlorine Level: 0.30 mg/L

Monitoring Period	Received	Entry Point	Required Disinfection Met	Hours Below Minimum
Feb 01, 2017	Mar 02, 2017	WTP-A	Y	0.00
Jan 01, 2017	Feb 02, 2017	WTP-A	Y	0.00
Dec 01, 2016	Jan 06, 2017	WTP-A	Y	0.00
Nov 01, 2016	Dec 01, 2016	WTP-A	Y	0.00
Oct 01, 2016	Nov 03, 2016	WTP-A	Y	0.00
Sep 01, 2016	Oct 05, 2016	WTP-A	Y	0.00
Aug 01, 2016	Sep 02, 2016	WTP-A	Y	0.00
Jul 01, 2016	Aug 04, 2016	WTP-A	Y	0.00
Jun 01, 2016	Jul 05, 2016	WTP-A	Y	0.00
May 01, 2016	Jun 06, 2016	WTP-A	Y	0.00
Apr 01, 2016	May 02, 2016	WTP-A	Y	0.00
Mar 01, 2016	Apr 01, 2016	WTP-A	Y	0.00
Feb 01, 2016	Mar 07, 2016	WTP-A	Y	0.00
Jan 01, 2016	Feb 03, 2016	WTP-A	N	26.00
Dec 01, 2015	Jan 05, 2016	WTP-A	Y	0.00

# Deficiency review – treatment

Significant deficiencies:

- Chemicals not NSF standard 60 certified or equivalent
- Corrosion control not operated within set parameters



The screenshot shows the Oregon Public Health Drinking Water Data Online interface. It includes a navigation bar with links like 'Introduction', 'Data Search Options', 'WS Name Look Up', 'WS ID Look Up', 'DWS Home', and 'Quick Data Links'. The main content area is titled 'Corrosion Control (LCR)' and shows 'PWS ID: 00525 ---- VILLADOM MOBILE HOME PARK'. A table titled 'Minimums Required For This System' lists parameters: Facility (EP-A), pH (7.2), Alkalinity, Phosphate, Silicate, Required Frequency (months), and Last Modified (Feb 05, 2010). A black arrow points to the 'Facility' column. Below this table is a note: 'Empty minimums above indicate that the system is not required to test for those parameters'. Another table titled 'Test Results' shows data for three periods: Feb, 2017; Jan, 2017; and Oct, 2016, all for Facility ID EP-A, with zero excursions recorded.

Minimums Required For This System						
Facility	pH	Alkalinity	Phosphate	Silicate	Required Frequency (months)	Last Modified
EP-A	7.2					Feb 05, 2010

*Empty minimums above indicate that the system is not required to test for those parameters*

Test Results				
Period	FacilityID	Excursions This Period	Excursions This Period plus Prior 5 Periods	Received Date
Feb, 2017	EP-A	0	0	Mar 07, 2017
Jan, 2017	EP-A	0	0	Feb 07, 2017
Oct, 2016	EP-A	0	0	Nov 03, 2016

# Deficiency review – storage reservoirs

Significant deficiencies:

- Access hatch not secured
- **Roof & access hatch not watertight**
- **Overflow not protected**
  - Flap valve or screen
- **No screened vent**



Drilled hole in concrete tank



Storage tank overflow flap valve

# Deficiency review – storage air vents



Vent not protected from rain or windborne contaminants



Mushroom-style screened vent



Vent not completely screened

# Deficiency review – distribution system

Distribution system significant deficiency:

- System pressure < 20 psi

Cross Connection Control significant deficiencies:

- No Annual Summary Report (CWS)
  - Online survey now available
- Devices not tested yearly
- No ordinance or enabling authority (CWS)
- No certified specialist on staff (CWS only if  $\geq 300$  connections)



Buried double-check valve assembly



# Cross connection control – more info

**Cross Connection & Backflow Prevention**  
[Tester and Specialist Certification](#)  
[Online Payments](#)  
[List of Backflow Testers](#)  
[List of Approved Assemblies](#)  
[Cross Connection Advisory Board](#)  
**[Annual Summary Reports](#)**  
[Annual Fee](#)  
[Administrative Rules](#)

Public Health > Healthy Environments > Drinking Water > Cross Connection & Backflow Reports  

## Annual Summary Reports

The Cross Connection Annual Summary Report is a requirement for community water systems in Oregon. Community water systems must provide requested information on their cross connection control programs to the Oregon Health Authority on the forms provided below.

**The Annual Summary Report is due each year by March 31**

### 2016 Annual Summary Report

You can complete the 2016 ASR using Survey Monkey or by filling out the form. If you complete your ASR using Survey Monkey you will be emailed a completed report within a few weeks.

[2016 Survey Monkey](#)

- [2016 Annual Summary Report - Fillable PDF](#)

### 2015 Annual Summary Report

- [2015 Annual Summary Report - Fillable](#)

### 2014 Annual Summary Report

- [Annual summary report form for systems with 300 or more connections](#)
- [Annual summary report form for systems with fewer than 300 connections](#)

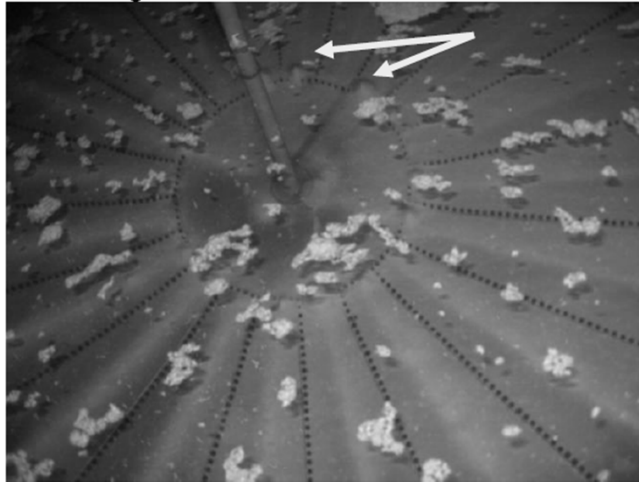
PO BOX 229 BOARDMAN, OR 97818		County: MORROW	
Population: 3,500		Activity Status: ACTIVE -- History	
Operating Period: January 1 to December 31		Number of Connections: 839	
Certified Operator(s)		Regulating Agency: REGION 1	
Required: Y		Owner Type: LOCAL GOVERNMENT	
Distribution class: 2		Licensed By: N/A	
Treatment class: None		Approved Drinking Water Protection Plan: No	
Filtration Endorsement Required: No		Source Water Assessment: Yes	
		Last Survey Date: Apr 30, 2015	
Sources			
Facility ID	Facility Name - Well Logs	Activity Status	Availability
EP-A	EP FOR RANNEY WELLS	A	
SRC-AA	RANNEY WELL #1 (COLUMBIA RIVER)	A	Permanent
SRC-AB	RANNEY WELL #2 (COLUMBIA RIVER) - L42611	I	Emergency
EP-B	EP FOR EMERGENCY WELL 1-64	I	
SRC-BA	EMERGENCY WELL 1-64 - MORR745	I	Emergency
Treatment			
State ID	Facility Name	Treatment Process	Treatment Objective
WTP-A	TP FOR RANNEY WELLS	RESID. MAINT. HYPOCHLORINATION	OTHER
Consumer Confidence Reports (Last 5 Years)			
For Year	Date Received	Date Certified	
2016	Due 7/1/2017		
2015	Jul 05, 2016	Jul 05, 2016	
2014	Jul 06, 2015	Jun 30, 2015	
2013	Jul 02, 2014	Jul 02, 2014	
2012	May 08, 2013	May 08, 2013	
Cross Connection/Backflow Prevention Information (Last 3 Records)			
Enabling Authority Received	Annual Summary Report Received	Fee Invoice Paid	
Yes (PDF)	2015	2017	
	2014	2016	
	2013	2015	

Cross connection questions? Talk to Molly Keller (971) 673-0418

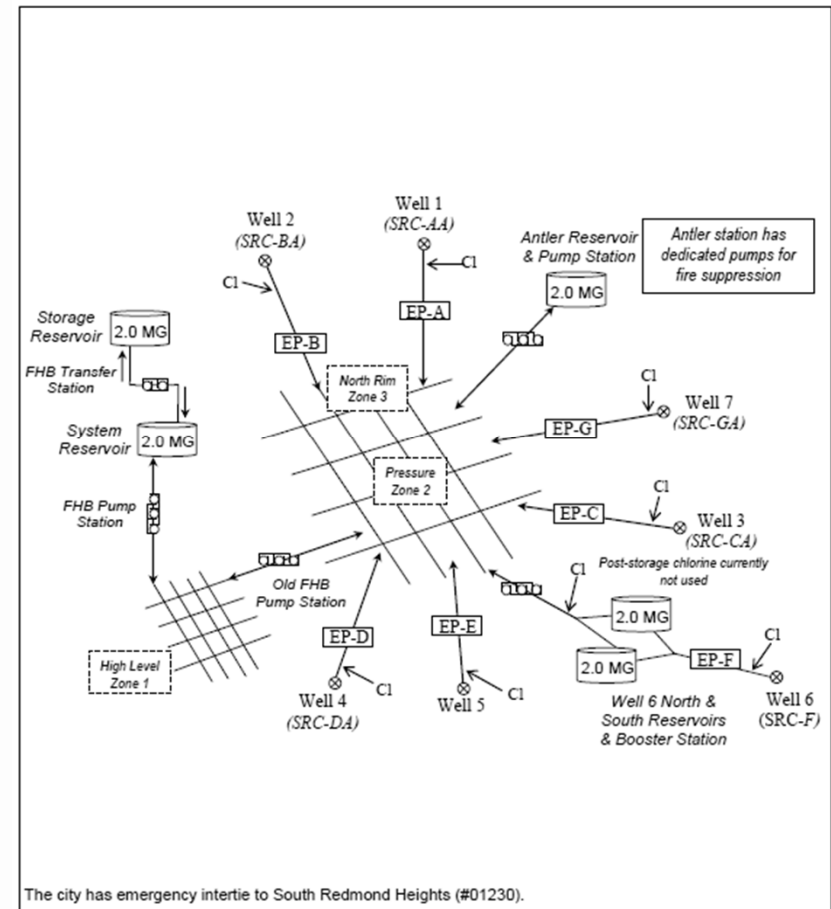
# Survey write-up tips

- Check all boxes or indicate NA
- Label all facilities on schematic
- Label or describe photos showing deficiencies

Photo 8: Inside South Reservoir. Note areas above center column. Coating may be detaching from the floor




Water System Schematic




# Survey write-up tips

- Make sure deficiencies in survey match those in cover letter
- Ask someone to review survey & letter before sending to WS
  - spelling errors, readability

<small>PUBLIC HEALTH DIVISION Environmental Public Health Office, Drinking Water Program John A. Kitzhaber, MD, Governor</small>	
September 28, 2011	<small>800 NE Oregon Street, Suite #640 Portland, OR 97232-2162 (971) 673-0405 (971) 673-0694 – FAX (971) 673-0372 – TTY</small>
 Tom Spier City of Spray PO Box 83 Spray, OR 97874	
Re: <u>Water System Survey for City of Spray, PWS #4100832</u>	
Dear Mr. Spier:	
<p>I would like to thank you for your time to assist during the <i>City of Spray Water System Survey</i> on August 4, 2011. The main purpose of the survey is to evaluate the entire water system in terms of supplying safe drinking water to the public. A copy of the report is enclosed for your records. Please let me know if any corrections need to be made.</p>	
<p>The first page of the report lists significant deficiencies and rule violations identified during the survey. Please notify the Drinking Water Program by November 2, 2011, with a plan of how the deficiencies will be corrected. <b>All deficiencies must be corrected by January 25, 2012, or be on an approved corrective action schedule.</b></p>	
<p>The significant deficiencies/rule violations are described in further detail below.</p>	
<b>Significant Deficiencies/Rule Violations</b>	
<ol style="list-style-type: none"><li>1. <b>No lock on steel reservoir hatch.</b> Adding a lock to the hatch will discourage access to finished water.</li><li>2. <b>No written Coliform Sampling Plan.</b> The plan is to document routine, repeat, and source water coliform sample sites, along with a site rotation schedule that is representative of the entire distribution system. Sampling procedures, in addition to a site map showing sampling sites must be included.</li></ol>	

# Data Online updates

- Sending WS changes to DMCE
  - Inventory, new sources/treatment, WQ schedules, etc.
  - Highlight items, add post-it notes, or attach a note



City of Heppner  
Water System Survey  
OHA Drinking Water Program

PWS ID: 41 00369  
Survey Date: 11/06/14  
Page 3 of 17

### Inventory and Narrative

☐ Outstanding Performer County: Morrow

Type	Status	Size	Season
<input checked="" type="checkbox"/> Community (C)	Population: 1,291	683	<input checked="" type="checkbox"/> All year <input type="checkbox"/> Seasonal
<input type="checkbox"/> Non Transient Non-Community (NTNC)	Connections: 683		Begins: (mm/dd) ____ / ____
<input type="checkbox"/> Transient Non-Community (TNC)	Service Chars: MU		Ends: (mm/dd) ____ / ____
<input type="checkbox"/> State Reg/Non EPA (NP)	Ownership: 4		<b>Coliform Sampling</b>
<b>License</b>		Period: <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Quarterly	
<input checked="" type="checkbox"/> Not Lic <input type="checkbox"/> HD <input type="checkbox"/> Ag		Samples Required: 2	
<b>Operator Certification Required</b>			<b>Responsible Agency</b>
WD 1	WT	FE <input type="checkbox"/> Small WS <input type="checkbox"/>	<input checked="" type="checkbox"/> State <input type="checkbox"/> County <input type="checkbox"/> Dept of Agriculture

**Primary Administrative Contact (Mailing Address):**

Contact Name: Chad Doherty Phone: (541) 676-9620

Title: Public Works Director Cell: (541) 980-3402

Street Address: PO Box 756 Emergency #: ( )

City/State/Zip: Heppner, OR 97836 Email: cdohertyheppner@centurytel.net

**Legal/Owner Address:**

Contact Name: A Kim Cutsforth Phone: (541) 676-9618 (city hall)

Title: City Manager Cell: ( )

Street Address: 111 N Main St Emergency #: ( )

City/State/Zip: Heppner, OR 97836 Email: heppner@centurytel.net

**System Physical Address:**

Contact Name: Phone: ( )

Title: Cell: ( )

Street Address: Emergency #: ( )

City/State/Zip: Email: ( )

**Emergency Systems Available:**

See  
changes

# Post Survey follow-up

Groundwater systems have...

- **30 days** to respond to survey deficiencies
  - Ensure report was received & corrective action understood
  - Document WS communication in a contact report
- **18 weeks** from cover letter date to correct deficiencies or have approved Corrective Action Plan
  - If it falls on a holiday go to next business day
  - Date calculator <https://www.timeanddate.com/date/dateadd.html>
- Refer to Deficiency Follow-up procedure on website
  - <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Partners/Documents/deficiency-followup.pdf>

# Post Survey follow-up

Subject:	<b>Procedure for Follow-up of Deficiencies identified in the Water System Survey</b>	Date:	8/6/12
Unit:	Technical services & DMCE (CM, TS, KS, CL)	Revised:	8/20/15
Purpose & Scope: The purpose of this procedure is to provide guidance on actions to be taken in the follow-up to deficiencies identified in the water system survey.			

1. This procedure is preceded by the Water System Survey procedure, which includes details on how to conduct the survey and necessary information for the cover letter.
2. Significant Deficiencies and rules violations listed on the survey forms will be referred to as "deficiencies" in this document.
3. When the completed survey and cover letter are submitted to DWS, due dates for the correction of deficiencies or a corrective action plan will be entered, exactly 7 or 18 weeks from the date of the letter. This date needs to match the due date specified in the letter. If this date falls on a holiday go to the next business day. This schedule will be viewable on Data On-line under "Site Visits", or "Last Survey Date" hyperlink on PWS main page.
4. Groundwater systems are required to respond to the survey within 30 days of the date of the letter by contacting the regulating agency. The purpose of this requirement is to confirm that the PWS received the water system survey report, and understands their responsibility to correct the deficiencies identified in the report. This date is not tracked in SDWIS, so the regulator needs to track it themselves. In the event that the PWS fails to contact the regulating agency, the following actions should be taken:
  - Contact the PWS by telephone/email and document contact by writing and submitting a contact report.
  - The Agency should discuss the deficiencies cited in the survey report with the PWS, and remind the PWS of the 18 week deadline to either correct the rule deficiencies or have an approved corrective action plan in place.
5. The system should submit documentation that they corrected the deficiencies or submit their corrective action plan to the regulating agency. If the corrective action plan is acceptable, the regulating agency needs to submit documentation to DMCE by sending an email to [Compliance.DW@state.or.us](mailto:Compliance.DW@state.or.us) that lists the following:
  - the water system name and ID#
  - each deficiency (or "all" if applicable), the status and following date:
    - For corrected deficiencies: the date you were notified by the system
    - For approved corrective action plan: the approved due date.

7. Deficiencies do not have a point value associated to them and are not listed on the violations page or in the system score.
8. A tier 2 public notice is required within 30 days of missing a deadline of correcting a deficiency, or not submitting a corrective action plan. Reminding a system of this can help encourage compliance, as the system may not want to issue the public notice. However, violations will not be issued in SDWIS for not issuing a public notice.
9. If a due date is overdue by 1 month, DMCE will send a reminder email to the regulating agency that this deadline has passed. The regulating agency needs to continue to work with the water system to either correct the deficiencies and if needed be on a corrective action plan. Use the template letter found at the end of this procedure to assist in follow up with the water system.
10. Formal enforcement by DWS will only be done for systems with priority deficiencies (see list in #11). Priority deficiencies will be presented in red on Data-Online. DWCE staff will review systems with uncorrected priority deficiencies and determine if formal enforcement is warranted. Enforcement, including issuing violations in SDWIS, will proceed as workload allows. The regulating agency may advise DMCE if they feel certain situations are more serious and enforcement would result in compliance more so than technical assistance, or if the significant deficiency or violation priority should be increased or decreased based on the specific circumstance.
11. Priority deficiencies are as follows. These are generally categorized as a direct pathway for contamination or inability to determine treatment effectiveness.
  - Well: Sanitary seal or casing not watertight
  - Well: No screen on existing well vent
  - Spring: No screen on overflow
  - Spring: Spring box not impervious durable material
  - Spring: Access hatch / entry not watertight
  - Storage: No screened vent
  - Storage: Roof and access hatch not watertight
  - Storage: No flap valve, screen, or equivalent on overflow
  - Treatment (UV): No intensity sensor with alarm or shut-off
  - Treatment (SW): Incorrect location for compliance turbidity monitoring
  - Treatment (Conventional/Direct filtration): No alarm or plant shut off for high turbidity
  - Treatment (Cartridge filtration): No pressure gauges before and after cartridge filter
  - Treatment (Cartridge filtration): Filters not changed according to manufacturer's recommended pressure differential
  - Treatment (Membrane filtration): Direct integrity testing not done at least daily
  - Treatment (DE filtration): Body feed not added with influent flow

# Corrective action

Documenting corrected deficiencies:

- WS needs to document in writing each deficiency & when correction was completed
- Send information on corrected deficiencies to DMCE [compliance.dw@state.or.us](mailto:compliance.dw@state.or.us)
- Data Online will display corrective action dates for deficiencies

Most Recent Water System Survey				
Survey Date:	Nov 06, 2014			
Notification Date:	Dec 19, 2014			
Regulating Agency:	DWS (REGION 1)			
Survey Frequency:	3 YR - Visit the Water System Surveys page to see the list of surveys due each year.			
Deficiencies:	Category	Deficiency	Due Date	Resolved Date
	Finished Water Storage	Roof and access hatch not watertight	Apr 17, 2015	Apr 13, 2015
	Finished Water Storage	No flap valve, screen, or equivalent on overflow	Apr 17, 2015	Apr 13, 2015
	Finished Water Storage	No screened vent	Apr 17, 2015	Apr 13, 2015
	Management & Operations	No operations and maintenance manual	Jul 31, 2016 *	Jul 11, 2016
	Well Construction	Sanitary seal and casing not watertight	Oct 17, 2016 *	Oct 04, 2016
	Well Construction	Does not meet setbacks from hazards	Oct 17, 2016 *	Oct 04, 2016
	Well Construction	No screen on existing well vent	Oct 17, 2016 *	Apr 14, 2015
*Corrective Action Plan has been submitted for this deficiency.				

# Corrective action

## Contact reports:

- Provide details on deficiency correction
- Fill in compliance schedule update section
- Be sure to include action completed or revised due date
- DMCE updates WS site visit page

<b>Compliance Schedule Update, if applicable:</b>	
Compliance schedule type:	
<input type="checkbox"/> Significant Deficiency	
<input type="checkbox"/> Coliform Investigation	
<input type="checkbox"/> Formal Enforcement	
Activity:	
Date Action Completed:	or Revised Date Due:

<b>Contact Report/Assistance Actions</b>		
OHA Drinking Water Services		
Submit completed report to: <u>Compliance Drinking Water</u>		
<b>Water System Name:</b> USFS	CG	<b>PWS ID:</b> 41
<b>Contact and Phone:</b>		<b>County:</b>
<b>Date:</b> 3/8/2017		
<b>Who Responded:</b>		
Staff: <input type="checkbox"/> State	<input checked="" type="checkbox"/> County	<input type="checkbox"/> Dept. of Ag
Contact Location: <input checked="" type="checkbox"/> By Phone	<input type="checkbox"/> In Office	<input type="checkbox"/> In Field
<b>SUMMARY: Corrections from survey deficiencies.</b>		
Assistance Action Type	<b>Water System Survey Follow-up (IF)</b>	Alert ID: COLI 16340
Reason/Rule 1	<b>Other</b>	
Reason/Rule 2	<b>Optional *</b>	
<b>Details:</b>		
The significant deficiencies and rule violations noted are as follows:		
1. Plan review was not completed on chlorination system that was set up in 2006 OAR 333-061-0060. Please complete the plan review information (enclosed) and submit a copy to the State for review. Please contact Rebecca Templin about your plan review, she is your contact for plan review. Rebecca can be reached at 541-726-2587 ext. 29 her email is rebecca.a.templin@state.or.us		
<b>Next Steps:</b>		
Plan review has been completed and submitted to Rebecca Templin. If approved no further actions are necessary. If there are corrections operator will need to make the corrections prior to plan review approval Deficiency is in the process of being completed..		

<b>Compliance Schedule Update, if applicable:</b>	
Compliance schedule type: <b>Pick Compliance Schedule Type</b>	
Activity:	
Date Action Completed:	or Revised Date Due:



# Corrective action

Corrective action plans:

- List deficiency & date to be corrected
- Document how deficiency will be corrected
- Importance of WS identifying correction due dates
  - Is it reasonable?
  - Enforcement
- Email, spreadsheet formats acceptable

**Corrective action plans & timelines  
approved by WS regulator**

**From:** billwhitemore@frontier.com  
**Sent:** Friday, January 13, 2017 4:55 PM  
**To:** Byrd Michelle P; Michael Lockhart  
**Subject:** Re: Wallowa Lake Tramway 2016 water system survey  
**Attachments:** 2016 Wallowa Lake Tramway Survey Letter.pdf

**Follow Up Flag:** Follow up  
**Due By:** Wednesday, June 14, 2017 4:00 PM  
**Flag Status:** Flagged

Michelle,  
Good talking with you on the phone. 1-7 deficiencies that you have in yo those as of January 13, 2017 are as follows:

1. This will be welded in the spring when the weather is appropriate and water system.
2. This was completed October 2016.
3. This was completed October 2016.
4. I have discussed this with Bill Goss and we will be compliant 2017.
5. This will be completed before the water system comes in for the 2017
6. This will be completed before the water system comes in for the 2017
7. This will be completed before the water system comes in for the 2017

# Corrective action

## Water System Survey Deficiency Action Plan

2016 Water System Survey	Significant Deficiencies	Actions Being Taken to Correct Deficiencies	Complete	Work in Progress
1 Verify conditions on the top of the storage reservoir. Provide photos on top of the storage reservoir of the following:		Will rent crane middle of July to access storage reservoir this will address issues on A, B, and C		WIP
	a. Access hatch in both the open and closed/locked positions			WIP
	b. Verify all vents are completely screened to prevent animal/insect entry			WIP
	c. Verify all other openings into the tank are protected from rain			WIP
2 Well #2 is not watertight.	The opening into the well to measure static water level is poorly screened and should be sealed to prevent contaminants from entering	Cascade pump will come and address this issue for the City.		WIP
3 Sanitary Hazards in Well 2 building.	Evidence of rodent activity was found inside the well building. Sealing and screening the building will help prevent rodent access.	Staff investigated and did not find any rodent activity . Staff will continue to monitor this area.		WIP
4 Coliform Sampling Plan is incomplete.	The plan must have a brief narrative, triggered source sampling, and reference to E. coli MCL and triggers for coliform investigations that took effect April 1, 2016. Information describing the new requirements is enclosed.	Staff is researching and compiling information to create the needed narrative.		WIP
5 No operations and maintenance manual.	The city must maintain a current water system operations manual that outlines procedures on how to operate and maintain wells, storage, and distribution system components. Instructions should be provided to staff on how to use the manual for consistency in operations and maintenance.	The City Engineer will create an operations and maintenance manual on how to operate wells, storage and distribution system components. When this is complete we will submit a copy to OHA		WIP
6 Verify water main extension projects are approved by DWS.	I understand the water system has ongoing and planned water main extension projects. If the water system does not have an exemption to install water main extensions, plan review approve is required prior to use. It would be in the water system's benefit to apply for this exemption. Information about the plan review exemption is enclosed. If you have questions about plan review requirements, contact Carrie Gentry at 971-673-0191.	The city has an approved water master plan and staff qualified to effectively supervise projects therefore the city engineer will be requesting for a plan review exemption.		WIP

# Corrective action

DMCE will email regulator 2 weeks before corrective action due date:

- Remind WS of due date & deficiencies to correct
- Emphasize need to eliminate direct pathways for contaminant entry
- Ask if additional resources are needed
  - handouts, templates, circuit rider assistance
- Document WS communication in contact report
- If corrective action is overdue by 1 month
  - DMCE will send email reminder to regulator
  - What happens next?

# Corrective action

- Send follow-up letter to WS
  - Corrective action not completed by due date
  - Template letter on website
- Requires 30-day (Tier 2) public notice
  - Informs consumers of WS failure to correct deficiencies
- Enforcement may be needed
  - Priority deficiency focus
  - Issue violations

[Month Date, Year]

[PWS CONTACT]  
[PWS ADDRESS]

Re: Water System Survey Significant Deficiencies/Rule Violations  
[PWS NAME], [PWS NUMBER]

Dear [PWS CONTACT]:

A water system survey was completed for [PWS NAME] on [SURVEY DATE] identifying significant deficiencies and rule violations to be corrected. A letter and copy of the survey report were mailed to your attention on [SURVEY LETTER DATE]. Oregon Administrative Rule (OAR) 333-061-0076(6) and OAR 333-061-0032(6)(e) requires water systems that use groundwater sources to have completed corrective action or be in compliance with a Department-approved corrective action plan within 120 days of receiving written notice of a significant deficiency.

The [PWS NAME] was to complete corrective action by [+18 WEEKS FROM SURVEY LETTER DATE] or have a Department-approved corrective action plan with a reasonable timeframe to complete the corrective action. To date, this information has not been received. As a result, the [PWS NAME] is in violation and is now subject to formal enforcement which could include the assessment of civil penalties. In order to return to compliance and avoid formal enforcement action, your corrective action plan to the water system survey report **must be received and approved by [+30 DAYS FROM LETTER DATE]**. Please send information to: [DWP/COUNTY CONTACT NAME AND ADDRESS]. A copy of the survey letter is enclosed for your reference.

Since [PWS NAME] failed to take action within the required timeframe, you **must provide notification** to all persons served by the water system as soon as practical and by no later than 30 days after the date of this letter. The public notice must include the mandatory language and corrective action taken. You are also required to issue a repeat notice every three months until all deficiencies are corrected or you are in compliance with an approved corrective action plan. A copy of the Tier 2 public notice instructions and template are enclosed.

A copy of the public notice must be sent to the Oregon Health Authority - Drinking Water Program, PO Box 14350, Portland, OR 97293-0350 within ten (10) days after completion to certify that the [PWS NAME] has fully complied with the distribution and public notification requirements.

Please contact me by phone at [CONTACT PHONE] or via email at [CONTACT EMAIL] if you have questions or comments.

I appreciate your immediate attention to this matter.

Sincerely,

[DWP OR COUNTY CONTACT]

Enclosures: Tier 2 public notice template

# Top 10 deficiencies in 2016 surveys

1. No operations & maintenance manual
2. Emergency response plan not completed
3. No coliform sampling plan
4. Annual summary report not issues (CWS)
5. Monitoring not current
6. Annual CCR not submitted (CWS)
7. Chlorine not measured & reported as required
8. Cross connection testing records not current (CWS, NTNC, TNC)
9. Does not meet setback from hazards
10. No certified operator at required level

# Summary

- Surveys evaluate any changes since the previous survey
- Pre-survey preparation is key to an effective survey
- Focus on significant deficiencies/rule violations - *bulleted items*
- Review survey forms before ending the on-site inspection
- Follow-up with WS soon after survey to discuss deficiencies & ensure corrective action is understood
- Send follow-up letter if corrective action due date is missed
- Document all WS communications in case further action is needed

**Check with your DWS contact if you have questions!**

# Questions?



Michelle Byrd  
Drinking Water Services  
[michelle.p.byrd@state.or.us](mailto:michelle.p.byrd@state.or.us)  
(971) 673-0425

Drinking Water Services  
Phone Duty (971) 673-0405  
[dwp.dmce@state.or.us](mailto:dwp.dmce@state.or.us)