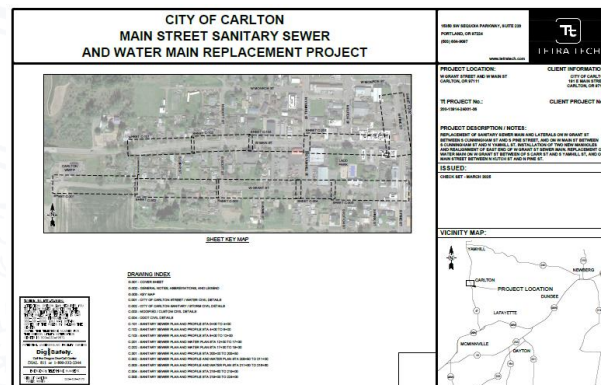


March 27, 2025

Hunter Bennett-Daggett, PE, ENV SP  
Tetra Tech  
[Hunter.Bennett-Daggett@tetrattech.com](mailto:Hunter.Bennett-Daggett@tetrattech.com)

*Letter sent by email only*

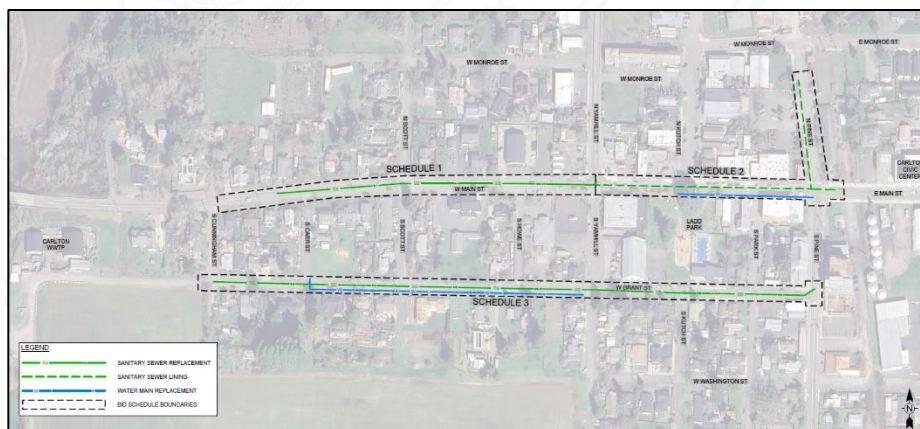
**Re: Main Street Waterlines (PR#45-2025)**  
**City of Carlton (PWS ID#00171)**  
**Conditional Approval**



Dear Mr. Bennett-Daggett:

Thank you for your submittal on March 21, 2025 of the Tetra Tech technical memorandum entitled *City of Carlton – PWSID# 4100171 Main Street Sanitary Sewer and Water Main Replacement Project OHA PRE-CONSTRUCTION PLAN REVIEW SUBMITTAL March 2025*, plans, and specifications for the waterline replacement project in the City of Carlton. This project, assigned plan review # 45-2025, is not associated with a subdivision or new development, therefore a Land Use Compatibility Statement (LUCS) is not required. A plan review fee payment in the amount of \$3,300 was requested on March 25, 2025 (payment pending and required prior to Final).

This project (Tetra Tech Project #200-13914-24001-36) involves replacing approximately 1,300 lineal feet of existing 4" diameter water main with new 8" and 12" AWWA C900, DR 18 PVC water main in the City of Carlton's water distribution system.



All work for the project is located with public right-of-way (ROW) on Main Street, Pine Street and Grant Street. Portions of the work on Main Street and Pine Street are within ODOT ROW and an ODOT permit is being obtained for this work.

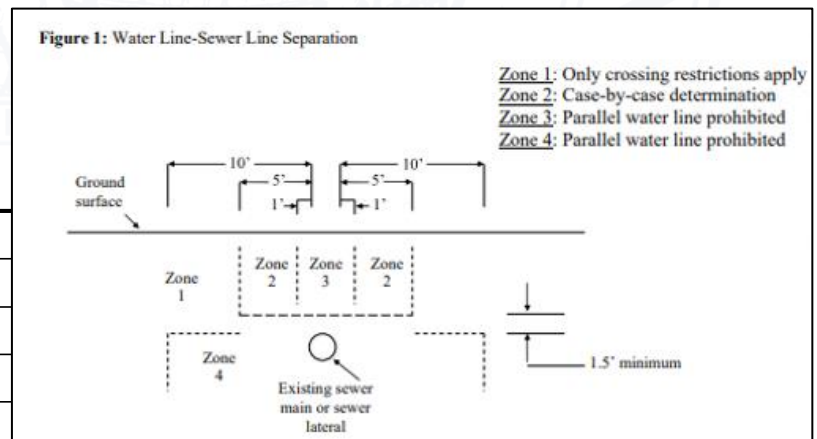
The replacement water main will be installed parallel to the existing main, which will be abandoned in place. Fire hydrant connections and service laterals will be retained, disconnected from the existing line, and reconnected to the new line. The water main replacement (project schedules 2 and 3) is included as part of a larger *MAIN STREET SANITARY SEWER AND WATER MAIN REPLACEMENT PROJECT* (schedules 1, 2 & 3) that will also be replacing sanitary sewer infrastructure.

The plans are approved with the following conditions needing to be met prior to Final Approval:

1. All items in contact with potable water must meet NSF Standard 61 or equivalent.
2. The design must allow for 20 psi to be maintained at all service meters.
3. Water and sewer line crossings conform to construction standards under OAR 333-061-0050(9). Waterlines running parallel to newer lines must also meet OAR 333-061-0050(9) – see enclosure. The April 2025 Construction Documents did not specify sewer/waterline separations. It is not clear how the utility separation requirements in Table 1 of the technical memorandum and the general water construction notes in Drawing G-002 meet these construction standards. Drawings did appear to show adequate vertical separation with waterlines falling in Zone 1 per Figure 1 of OAR 333-061-0050(9) shown below.

**Table 1: Water Distribution Main Design Parameters**

Parameter	Parameters
Service	Municipal potable water, treated
Number of Pressure Zones	One
Nominal Pipe Diameter	8" and 12"
Approximate Total Length of pipe	1,300 linear feet
Utility separation Requirements	<ul style="list-style-type: none"> <li>• 3' horizontal clearance from potable water</li> <li>• 5' horizontal clearance from sanitary and storm sewer. Water line must not cross under sewer and maintain minimum clearance above sewer lines as practicable.</li> <li>• 3' horizontal clearance from franchise utilities</li> <li>• 18" vertical clearance</li> </ul>
Depth of cover	3-feet to 4-feet

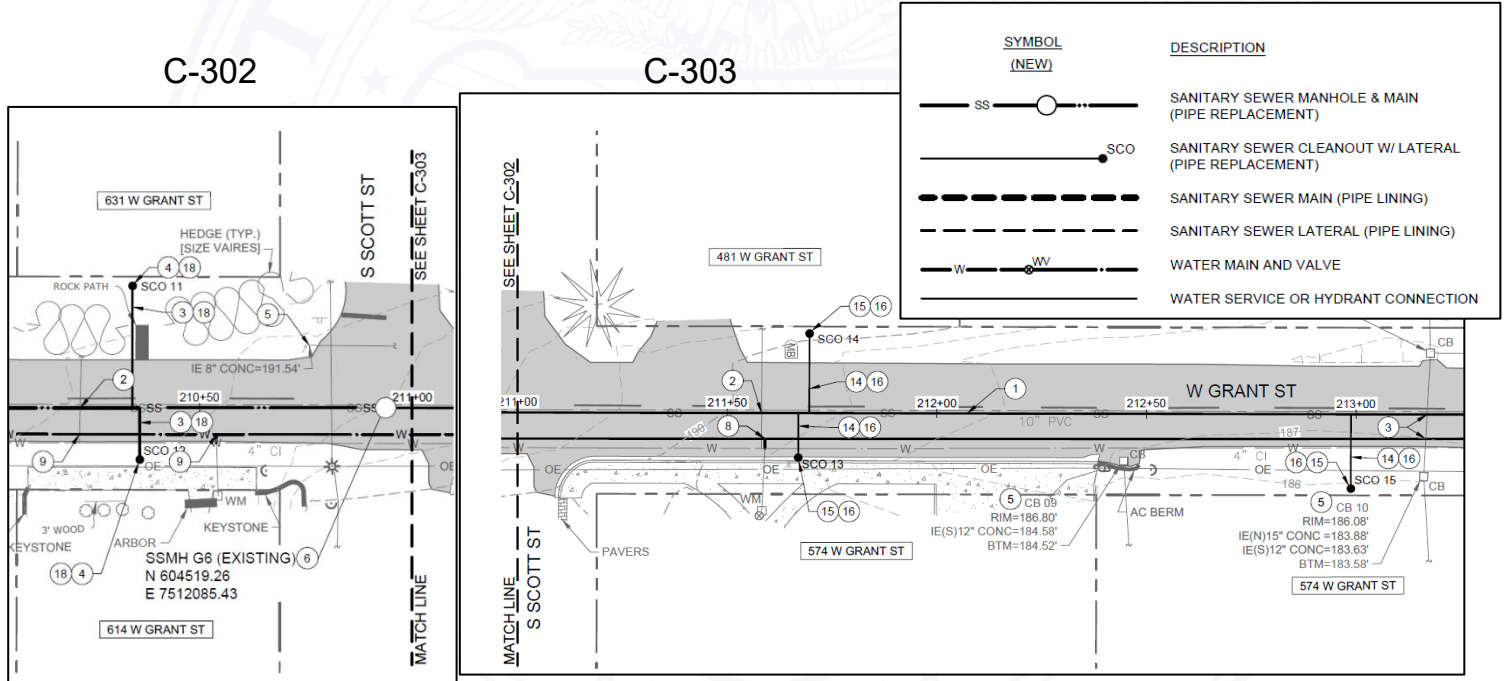


## Water Construction Notes on Drawing G-002

### WATER CONSTRUCTION NOTES

1. PIPE SHALL CONFORM TO AWWA C900, DR 18 PVC.
2. PIPE SHALL BE CONTINUALLY MARKED WITH THE MANUFACTURER'S NAME, PIPE SIZE, CELL CLASSIFICATION, SDR RATING, AND ASTM CLASSIFICATION.
3. THE JOINTS SHALL CONFORM TO ASTM D-3139, JOINTS FOR PLASTIC PRESSURE PIPES USING FLEXIBLE ELASTOMERIC SEALS.
4. UNDERGROUND WARNING TAPE SHALL BE DETECTABLE OR NON-DETECTABLE ACID AND ALKALI RESISTANT SAFETY WARNING TAPE. THE TAPE SHALL BE BLUE AND SHALL BE PROVIDED WITH THE LEGEND "CAUTION BURIED WATER LINE BELOW".
5. WATER MAINS SHALL BE SEPARATED FROM ALL OTHER UTILITIES BY A MINIMUM OF 5 FEET CLEAR.

**Note:** The line symbology on Drawing C-303 does not distinguish between new sewer line, which appears to be the upper thick line with the new waterline (lower thick line) along Grant Street.



4. Air-relief valves must be installed at high points where air can accumulate. The breather tube on air-relief valves must be extended above ground surface and provided with a screened, downward facing elbow.



- (k) Nonconductive water pipe (plastic or other material) that is not encased in conductive pipe or casing must have an electrically conductive wire or other approved conductor for locating the pipe when the pipeline is underground. The wire shall be No. 18 AWG (minimum) solid copper with blue colored insulation. Ends of wire shall be accessible in water meter boxes, valve boxes or casings, or outside the foundation of buildings where the pipeline enters the building. The distance between tracer lead access locations shall not be more than 1,000 feet. Joints or splices in wire shall be waterproof.

Drawing C-001

[illegible]

- |                |     |          |             |
|----------------|-----|----------|-------------|
| CALC. BOOK NO. | N/A | SDR DATE | 14-JUL-2014 |
|----------------|-----|----------|-------------|

**OREGON STANDARD DRAWINGS**  
**TRENCH BACKFILL, BEDDING,**  
**PIPE ZONE AND MULTIPLE**  
**INSTALLATIONS**


2021

2021	
DATE	REVISION DESCRIPTION

6. Disinfection of the waterline must be completed according to AWWA C651. Results from the coliform sampling must be provided to our office.
7. A plan review fee payment in the amount of \$3,300 is submitted. This payment was requested on March 25, 2025 and is still pending.

Until we receive verification that the conditions have been met and Final Approval has been issued, the waterlines are not approved for use. Upon completion of the project, the engineer must verify in writing that construction was completed according to the submitted plans and conditions listed above.

***Project Final Approval Request Form***

To close out the project and request final approval from DWS, please fill out the Project Final Approval  [request form](#) and email the completed form and a set of as-builts to me at [evan.e.hofeld@oha.oregon.gov](mailto:evan.e.hofeld@oha.oregon.gov). Please be sure to reference Plan Review #45-2025.

If you have any questions, please feel free to email or call me at (971) 200-0288.


Sincerely,



Evan Hofeld, Regional Engineer  
OHA-Drinking Water Services  
[Evan.e.hofeld@oha.oregon.gov](mailto:Evan.e.hofeld@oha.oregon.gov)

CC: Bryan Burnham, Public Works Director  
City of Carlton  
[bburnham@ci.carlton.or.us](mailto:bburnham@ci.carlton.or.us)

Encl. - *Project Final Approval Request Form*  
- OAR 333-061-0050(9) Crossings – Sanitary Sewers and Water Lines

	<b>Drinking Water Services  Project Final Approval Request Form</b>	<div style="background-color: #0072bc; color: white; padding: 5px; display: inline-block;">Print</div>
Project Name <input style="width: 350px;" type="text"/>	PR# <input style="width: 80px;" type="text"/>	
Public Water System ID# 41- <input style="width: 100px;" type="text"/>		
PWS Name <input style="width: 350px;" type="text"/>	<div style="background-color: #0072bc; color: white; padding: 2px 5px; display: inline-block;">Click to locate PWS ID#</div>	
	YES	NO
	DATE	
1. Was the project undertaken? If so, what was the starting date?	<input type="checkbox"/>	<input type="checkbox"/> <input style="width: 60px;" type="text"/>
2. If project was not undertaken, has the project been abandoned?	<input type="checkbox"/>	<input type="checkbox"/>
3. Was the project completed? If so, when?	<input type="checkbox"/>	<input type="checkbox"/> <input style="width: 60px;" type="text"/>
If project not complete, estimated completion date: <input style="width: 100px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. If completed, was the work accomplished in conformance with all conditions listed in the Conditional Approval letter and DWS Construction Standards, Oregon Administrative Rule (OAR) 61-0050? <b>In the comments below or on a separate sheet please make clear how all conditions specified in the Conditional Approval letter were met.</b>	<input type="checkbox"/>	<input type="checkbox"/>
5. If the project was completed, were there any differences between what is shown on the plans and what was actually installed?	<input type="checkbox"/>	<input type="checkbox"/>
6. If the completed project is different from what is shown on the plans, were the plans modified to show as-built conditions?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have as-builts been sent to Drinking Water Services? <b>NOTE: As-builts are not required if there were no significant changes noted in 5.</b>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are the facilities operating? If so, starting when?	<input type="checkbox"/>	<input type="checkbox"/> <input style="width: 60px;" type="text"/>
Signature of Engineer <input style="width: 300px;" type="text"/>	Date <input style="width: 120px;" type="text"/>	
Name <input style="width: 300px;" type="text"/>	OR PE# <input style="width: 120px;" type="text"/>	
Firm <input style="width: 300px;" type="text"/>	Phone <input style="width: 120px;" type="text"/>	
Comments <div style="background-color: #e6f2ff; height: 150px; border: 1px solid #add8e6; margin-top: 5px;"></div>		
<div style="display: flex; justify-content: space-between;"> <span>Revised date 10/2021</span> <span>Page 1 of 2</span> </div>		

## **OAR 333-061-0050(9) Crossings – Sanitary Sewers and Water Lines**

- (9) Crossings-Sanitary sewers and water lines:
- (a) All reference to sewers in this section shall mean sanitary sewers;
  - (b) In situations involving a water line parallel to a sewer main or sewer lateral, the separation between the two shall be as indicated in Figure 1;
  - (c) In situations where a water line and a sewer main or sewer lateral cross, the separation between the two shall be as follows:
    - (A) Wherever possible, the bottom of the water line shall be 1.5 feet or more above the top of the sewer line and one full length of the water line shall be centered at the crossing;
    - (B) Where the water line crosses over the sewer line but with a clearance of less than 1.5 feet, the sewer line shall be exposed to the sewer line joints on both sides of the crossing to permit examination of the sewer pipe. If the sewer pipe is in good condition and there is no evidence of leakage from the sewer line, the 1.5-foot separation may be reduced. However, in this situation, the water supplier must center one length of the water line at the crossing and must prepare a written report of the findings and indicating the reasons for reducing the separation. If the water supplier determines that the conditions are not favorable or finds evidence of leakage from the sewer line, the sewer line shall be replaced with a full length of pipe centered at the crossing point, of PVC pressure pipe (ASTM D-2241, SDR 32.5), high-density PE pipe (Drisco pipe 1000), ductile-iron Class 50 (AWWA C-51), or other acceptable pipe; or the sewer shall be encased in a reinforced concrete jacket for a distance of 10 feet on both sides of the crossing.
    - (C) Where the water line crosses under the sewer line, the water supplier shall expose the sewer line and examine it as indicated in paragraph (9)(c)(B) of this rule. If conditions are favorable and there is no evidence of leakage from the sewer line, the sewer line may be left in place, but special precautions must be taken to assure that the backfill material over the water line in the vicinity of the crossing is thoroughly tamped in order to prevent settlement which could result in the leakage of sewage. In this situation, the water supplier must center one length of the water line at the crossing and must prepare a written report recording the manner in which the sewer line was supported at the crossing and the material and methods used in backfilling and tamping to prevent settlement of the sewer. If the water supplier determines that conditions are not favorable or finds evidence of leakage from the sewer line, the provisions of paragraph (9)(c)(B) of this rule apply.
  - (d) When a water main is installed under a stream or other watercourse, a minimum cover of 30 inches shall be provided over the pipe. Where the watercourse is more than 15 feet wide, the pipe shall be of special construction with flexible watertight joints, valves shall be provided on both sides of the crossing so that the section can be isolated for testing or repair, and test cocks shall be provided at the valves.

Table 1. from the submitted tech memo

Table 1: Water Distribution Main Design Parameters

Parameter	Parameters
Service	Municipal potable water, treated
Number of Pressure Zones	One
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Depth of cover	3-feet to 4-feet

Figure 1: Water Line-Sewer Line Separation

