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March 26, 2018

Brian Sato Toxics Cleanup Program Dept. of Ecology 3190 160th AVE SE Bellevue, WA 98008-5452

RE: Draft 2017 As-Built Completion Report Transmittal Consent Decree No. 07-2-33672-9 SEA: Site Name: BNSF Former Maintenance and Fueling Facility Site Address: Skykomish, WA Facility/Site ID No.: 2104 Cleanup Site ID No.: 34

Dear Mr. Sato:

Enclosed is the Final 2017 As-Built Completion Report. We appreciate Ecology's acceptance of this report.

Sincerely,

all

Shane C. DeGross Manager Environmental Remediation, BNSF Railway

cc: Mr. Craig Trueblood, K&L Gates Ms. Amy Essig Desai, Farallon Consulting



Washington Issaquah | Bellingham | Seattle

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2017 AS-BUILT COMPLETION REPORT

BNSF FORMER MAINTENANCE AND FUELING FACILITY SKYKOMISH, WASHINGTON CONSENT DECREE NO. 07-2-33672-9 SEA

Submitted by: Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, Washington 98027

Farallon PN: 683-067

For:



RAILWAY 605 Puyallup Avenue Tacoma, Washington

March 26, 2018

Prepared by:

Kyle Korbines, E.I.T. Project Engineer

Reviewed by:

South Lod

Rob Leet, Ph.D., L.G. Senior Geologist

Quality Service for Environmental Solutions | farallonconsulting.com



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FIGURE

Figure 1 Site Layout

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Appendix A	Site Photographs
Appendix B	Sixth Street Water Main Replacement As-Built Drawings
Appendix C	Laboratory Analytical Report – Drinking Water Sample



ACRONYMS AND ABBREVIATIONS

AECOM	AECOM Environment			
As-Built Report	2017 As-Built Completion Report, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington dated February 28, 2018 prepared by Farallon Consulting, L.L.C. (this report)			
BNSF	BNSF Railway Company			
Ecology	Washington State Department of Ecology			
Farallon	Farallon Consulting, L.L.C.			
Glacier	Glacier Environmental Services, Inc.			
Gray & Osborne	Gray & Osborne, Inc.			
Site BNSF Former Maintenance and Fueling Facility in Skykomish, Washing				
Town	Town of Skykomish, Washington			



1.0 INTRODUCTION

This 2017 As-Built Completion Report (As-Built Report) describes the construction activities completed during 2017 for the BNSF Railway Company (BNSF) in support of the ongoing cleanup action underway at the BNSF Former Maintenance and Fueling Facility in Skykomish, Washington (herein referred to as the Site). The Site includes BNSF property and public and private properties in the Town of Skykomish, Washington (Town), and encompasses an area of approximately 40 acres (Figure 1).

This As-Built Report has been prepared to meet the documentation requirements of Section 400 of Chapter 173-340 of the Washington Administrative Code, and in accordance with the *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated October 18, 2007, prepared by the Washington State Department of Ecology (Ecology) (2007). The Site cleanup action is being conducted by BNSF pursuant to Consent Decree No. 07-2-33672-9 SEA between BNSF and Ecology. The overall cleanup approach for the Site is described in the *Master Engineering Design Report, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* (The RETEC Group, Inc. 2008).

Construction activity at the Site in 2017 consisted of installing a new 6-inch-diameter water main beneath Sixth Street to replace an existing 2-inch-diameter water main. The general location of the 2017 construction activity is shown on Figure 1.

The remainder of this As-Built Report is organized into the following sections:

- Section 2, Project Management and Organization, identifies the general contractor and the consultants to BNSF and the Town, and describes the services they provided. Section 2 also provides the dates of the 2017 construction activity.
- Section 3, Temporary Facilities and Utility Locating, describes general construction site preparation activities completed prior to the start of construction, including establishment of temporary facilities and controls, and location of underground utilities.
- Section 4, Construction Activities, describes the construction activities performed during the water main replacement work.
- Section 5, Summary, provides a summary of the 2017 construction activity.
- Section 6, References, provides a list of the documents referenced in this As-Built Report.



2.0 PROJECT MANAGEMENT AND ORGANIZATION

2.1 GENERAL CONTRACTOR

Glacier Environmental Services, Inc. of Mukilteo, Washington (Glacier) performed the Sixth Street water main replacement work under contract to BNSF.

Subcontractors to Glacier and the services they provided were as follows:

- Applied Professional Services of North Bend, Washington utility location;
- Marine Vacuum Services, Inc. of Seattle, Washington potholing to expose existing water main connections;
- Salinas Construction Inc. of Mukilteo, Washington asphalt saw-cutting; and
- Lakeridge Paving Co. of Covington, Washington asphalt paving.

2.2 CONSULTANTS TO BNSF

Farallon Consulting, L.L.C. of Issaquah, Washington (Farallon) provided the following services under contract to BNSF in support of this project: project management; construction management; and liaison between BNSF and the Town, contractors, and local stakeholders.

2.3 CONSULTANTS TO THE TOWN OF SKYKOMISH

The following firms provided the services indicated below under contract to the Town in support of this project:

- Gray & Osborne, Inc. of Seattle, Washington (Gray & Osborne) engineering design, construction observation, and preparation of as-built drawings; and
- AmTest Laboratories of Kirkland, Washington drinking water sample analysis.

2.4 2017 CONSTRUCTION SCHEDULE

The Sixth Street water main replacement work was performed from August 7 to 22, 2017, during seasonal low groundwater conditions.



3.0 TEMPORARY FACILITIES AND UTILITY LOCATING

This section describes the temporary facilities and controls established, and the utility locating activities conducted, prior to the start of the 2017 construction activity.

3.1 TEMPORARY FACILITIES AND CONTROLS

3.1.1 Temporary Site Security

A 6-foot-high temporary chain-link fence was installed along the eastern edge of Sixth Street to delineate the work area and prevent pedestrians from walking into the work area from the adjacent sidewalk. Site visitors were briefed via a construction site orientation and safety meeting prior to obtaining access to the work area.

3.1.2 Temporary Traffic Control

Sixth Street was closed during the water main replacement work. Emergency access was maintained along Railroad Avenue.

3.1.3 Temporary Erosion and Sediment Control

A spill kit, plastic sheeting, and sandbags for stormwater control and protection were available on the construction site throughout the duration of the project. Paved areas were swept clean of loose soil and tracked dirt as needed.

3.2 UTILITY LOCATING

Public and private underground utilities in the work area were located and marked prior to the start of construction activities. Public utilities were located by calling the Washington State Utility Notification Center. Applied Professional Services performed the private utility location.



4.0 CONSTRUCTION ACTIVITIES

As part of the Town's ongoing effort to upgrade its sanitary sewer system, a sanitary sewer line extension was installed under Sixth Street in 2016 (Farallon 2017). During the 2016 construction activities, it was discovered that portions of the water main adjacent to the Sixth Street sanitary sewer line extension were not installed per the Sixth Street Utility Plan prepared by AECOM Environment (AECOM) (2009) (Sixth Street Utility Plan). The Sixth Street Utility Plan specified 6-inch ductile iron pipe for the Sixth Street water main; it was discovered that the water main was instead constructed of 2-inch high-density polyethylene (HDPE) pipe.

In 2017, BNSF contracted Glacier to install new 6-inch ductile iron pipe beneath Sixth Street to replace the existing 2-inch HDPE water main pipe. Gray & Osborne prepared the project specifications, construction plans, and as-built drawings for the water main replacement work. Photographs of the construction work are provided in Appendix A. As-built drawings stamped by a professional engineer are provided in Appendix B.

A pre-construction meeting for the Sixth Street water main replacement work was held at the Skykomish School on August 3, 2017. Meeting attendees included representatives of BNSF, Farallon, Glacier, Gray & Osborne, and the Town. The construction work conducted from August 7 to 22, 2017 included the following activities:

- Potholing to depths of approximately 4.5 feet below ground surface to expose connection points between the Town water system and the existing 2-inch HDPE water main pipe in the Sixth Street right-of-way;
- Asphalt saw-cutting and trenching for the new Sixth Street water main;
- Installing approximately 233 linear feet of 6-inch ductile iron pipe for the new Sixth Street water main, replacing water service laterals up to the edge of the roadway, and connecting the new water main to the Town water system;
- Abandoning the existing 2-inch HDPE water main pipe in place;
- Backfilling the new water main trench and compacting the fill material; and
- Repaying Sixth Street over the trench to match the existing road grade.

Before connecting the new water main to the Town water system, Glacier pressure-tested the new pipe and collected a drinking water sample to confirm the absence of coliform bacteria in water conveyed by the pipe. The drinking water sample was collected on August 11, 2017 from a temporary riser pipe at the northern end of the new water main, and was submitted to AmTest Laboratories for analysis. Coliform bacteria were not detected in the drinking water sample. The laboratory analytical report for the drinking water sample is provided in Appendix C.

Following installation of the new water main, the trench excavation in Sixth Street was backfilled with aggregate fill material and compacted using a hydraulic plate compactor. The road surface



was restored by placing new asphalt pavement along the trench to match the existing road grade. The edges of the new pavement were sealed with an asphalt sealant.



5.0 REFERENCES

- AECOM Environment (AECOM). 2009. *Utility Plan Sixth Street, NWDZ Remediation*. Drawing No. C416, Revision 0 (Draft–Issued For Bid), Burlington Northern Former Maintenance and Fueling Facility, Skykomish, Washington. February 16.
- Farallon Consulting, L.L.C. (Farallon). 2017. 2016 As-Built Completion Report. Prepared for BNSF Railway Company. June.
- The RETEC Group, Inc. 2008. Master Engineering Design Report, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington. Prepared for BNSF Railway Company. January.
- Washington State Department of Ecology. 2007. Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington. Exhibit B of Consent Decree No. 07-2-33672-9 SEA Between the Washington State Department of Ecology and BNSF. October 18.

FIGURE

2017 AS-BUILT COMPLETION REPORT BNSF Former Maintenance and Fueling Facility Skykomish, Washington

Farallon PN: 683-067



APPENDIX A SITE PHOTOGRAPHS

2017 AS-BUILT COMPLETION REPORT BNSF Former Maintenance and Fueling Facility Skykomish, Washington

Farallon PN: 683-067



Washington Issaquah | Bellingham | Seattle

> Oregon Portland | Bend | Baker City

California Oakland | Sacramento | Irvine

SITE PHOTOGRAPHS 2017 As-Built Completion Report BNSF Former Maintenance and Fueling Facility Skykomish, Washington Farallon PN: 683-067

- Photograph 1: Traffic control, fencing, and asphalt saw-cutting, looking east.
- Photograph 2: Installation of new 6-inch ductile iron water main, looking north on Sixth Street.
- Photograph 3: Installed new water main below storm sewer line, looking south on Sixth Street.
- Photograph 4: Trench backfill and compaction activities at southern end of Sixth Street.
- Photograph 5: Installation of lateral connection fittings on new water main.
- Photograph 6: Installation of water service laterals in Sixth Street.
- Photograph 7: Compacted backfill placement, looking east.

Photograph 8: New asphalt pavement and sealant, looking east.



SITE PHOTOGRAPHS (continued) 2017 As-Built Completion Report BNSF Former Maintenance and Fueling Facility Skykomish, Washington



Photograph 1: Traffic control, fencing, and asphalt saw-cutting, looking east.



Photograph 2: Installation of new 6-inch ductile iron water main, looking north on Sixth Street.

2



SITE PHOTOGRAPHS (continued) 2017 As-Built Completion Report BNSF Former Maintenance and Fueling Facility Skykomish, Washington



Photograph 3: Installed new water main below storm sewer line, looking south on Sixth Street.



Photograph 4: Trench backfill and compaction activities at southern end of Sixth Street.



SITE PHOTOGRAPHS (continued) 2017 As-Built Completion Report BNSF Former Maintenance and Fueling Facility Skykomish, Washington



Photograph 5: Installation of lateral connection fittings on new water main.



Photograph 6: Installation of water service laterals in Sixth Street.

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SITE PHOTOGRAPHS (continued) 2017 As-Built Completion Report BNSF Former Maintenance and Fueling Facility Skykomish, Washington



Photograph 7: Compacted backfill placement, looking east.



Photograph 8: New asphalt pavement and sealant, looking east.

APPENDIX B SIXTH STREET WATER MAIN REPLACEMENT AS-BUILT DRAWINGS

2017 AS-BUILT COMPLETION REPORT BNSF Former Maintenance and Fueling Facility Skykomish, Washington

Farallon PN: 683-067





GENERAL NOTES:

- 1. ATTEMPTS HAVE BEEN MADE TO ACCURATELY LOCATE THE EXISTING UTILITIES, HOWEVER, THE EXACT LOCATION, SIZE, PIPE TYPE AND/OR DEPTH IS UNKNOWN IN MOST INSTANCES IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE EXISTING UTILITIES AND THEIR RESPECTIVE DEPTHS, AT NO ADDITIONAL COST TO THE CONTRACTING AGENCY.
- 2. EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL A SUCCESSFUL PURITY AND PRESSURE TEST HAS BEEN WITNESSED AND APPROVED BY THE OWNER, AND THE EXISTING WATER SERVICES HAVE BEEN TRANSFERRED TO THE NEW SYSTEM. THE EXISTING WATER SYSTEM SHALL THEN BE ABANDONED IN PLACE. (SEE SPECIFICATIONS)
- 3. RESTORE THE SITE TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION.
- 4. CONTRACTOR SHALL SAWCUT EXISTING SIDEWALK, PAVEMENT, AND/OR CURB TO NEAREST JOINT AND PROVIDE CLEAN EDGE.
- 5. CONTRACTOR SHALL FURNISH & INSTALL HMA PAVEMENT REPAIR AS NEEDED TO RESTORE CONSTRUCTION AREAS TO ORIGINAL CONDITIONS AS PER DETAILS AND SPECIFICATIONS.
- 6. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND TEMPORARY BLOW-OFF ASSEMBLIES NECESSARY TO DISINFECT & TEST NEW WATER MAIN. (SEE SPECIFICATIONS)
- 7. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN AND AROUND EXISTING UTILITIES/STRUCTURES.
- 8. CONTRACTOR SHALL REPLACE WATER SERVICE LINE UP TO EDGE OF ROADWAY.

CONSTRUCTION NOTES:

- (1) CAUTION: POTENTIAL UTILITY CONFLICT. CONTRACTOR TO POTHOLE AND FIELD VERIFY EXACT LOCATION AND DEPTH OF EXISTING UTILITY.
- 2 POTHOLE AND LOCATE EXISTING WATER MAIN AT POINT OF CONNECTION TO VERIFY CONNECTION POINTS AT EXISTING WATER MAIN AND AT TEMPORARY WATER LINE, AND TO DETERMINE EXACT FITTINGS REQUIRED TO MAKE CONNECTIONS.
- $\langle 3 \rangle$ CAP AND ABANDON EXISTING WATER MAIN IN-PLACE AFTER NEW WATER MAIN AND SERVICES ARE ACTIVE. CONTRACTOR SHALL POTHOLE TO VERIFY LOCATION AND CONNECTION POINT OF TEMPORARY WATER LINE
- (4) COORDINATE CONNECTION TO THE EXISTING WATER SYSTEM WITH CITY STAFF. CITY STAFF SHALL BE GIVEN 48-HOUR NOTICE PRIOR TO ANY CONNECTIONS. CITY STAFF SHALL OPERATE ALL EXISTING VALVES.
- $\langle 5 \rangle$ CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES TO NEW WATER PIPE. CONTRACTOR SHALL POTHOLE TO VERIFY SERVICE LINE LOCATIONS AND DEPTHS AND TO IDENTIFY EXACT PIPE SIZE.

RECORD DRAWING

Based upon best available information

Date: 9/12/17

obtained during construction.

D.S.S.

	Checked By: K.A.S.
RIGHT-OF-WAY DISCLAIMER	CALL 2 DAYS BEFORE YOU DIG 1-800-424-5555
THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.	0 1" 2"



WANTER_REPLACEMENT-6TH_S



ΙΤΕΜ

BRASS NIPPLE (3" MIN., 6" MAX.)



VALVE BOX

EXTENSION PLUG, GATE OR -

5 <u>2" POLY PIPE (IPS) 200 PSI</u>

6 COUPLING, FORD OR EQUAL

NO.

٦.

4

1. MAKE CONNECTION TO EXISTING SERVICE PIPE AT EDGE OF CURB.

ROMAC STYLE 202S STAINLESS STEEL DOUBLE STRAP TYPE SADDLE

2" RESILIENT WEDGE GATE VALVE WITH 2" OPERATING NUT

STANDARD CAST-IRON VALVE BOX (RICH NO. 940)



FITTING	
SIZE	-
4"	2
6"	4
8"	7



NOTES:





DWGATER_DETAILS-6TH_S





			Grav & Oshorne. Inc.	CONSULTING ENGINEERS	701 DEXTER AVENUE NORTH SUITE 200 SEATTLE, WASHINGTON 98109 • (206) 284–0860
	DATE: SEPT 2017	SCALE: NOTED	DRAWN: D.S.S.	CHECKED: K.A.S.	APPROVED: A.J.M.
					DATE APPD
					REVISION
					No.
		HILL AND	UN ON US PF	CO 4 38803 4 5 FE	
	TOWN OF SKYKOMISH	KING COUNTY WASHINGTON	SKYKOMISH SCHOOL HOT WATER FLUSHING REMEDIATION, FORMER MAINTENANCE AND	FUELING FACILITY	WATER REPLACEMENT DETAILS - 6TH STREET
2"	Sł	HEET: OF:	3		

RECORD DRAWING					
Based upon best available information obtained during construction.					
	9/12/17 D.S.S.	-			
-	K.A.S.	-			
0	1 "	2			
	INCHES AT FULL DT, SCALE ACCOF				

APPENDIX C LABORATORY ANALYTICAL REPORT – DRINKING WATER SAMPLE

2017 AS-BUILT COMPLETION REPORT BNSF Former Maintenance and Fueling Facility Skykomish, Washington

Farallon PN: 683-067



AmTest Laboratories 13600 NE 126th PL STE C, Kirkland, WA 98034 425-885-1664 www.amtestlab.com

COLIFORM BACTERIA ANALYSIS

Date Sample Collected 08/11/2017	Time Samp Collected			County:		
Month Day Year	1:55	₫P	М	King		
Type of Water System (check only one box) ☐ Group A Public ☐ Private Household ☐ Group B Public ☐ Other:						
Group A and Group B Sys	tems Provide	from Wate	er Fa	acilities Inventory (WFI):		
	ID# 801	00c				
System Name: TOWN	N OF SK	YKOM	ISł	4		
Contact Person: Ste	ve Larner					
Day Phone: 360 67	7 2497	Cell Ph	non	e: 425 275 1855		
Eve. Phone:		FAX:				
Send results to: (Print full name, address and zip code) Town of Skykomish Steve Larner PO Box 308 Skykomish, WA, 98288						
Data Delivery: D MAIL	EMAIL:					
	SAMPLE		RM	ATION		
Sample collected by (name	e): GLAIER					
Specific location where sar 6TH STREET SI	KYKOMIS	SH				
Special Instructions or Com Type of Sample (must check			1h #4	listed below)		
1. Routine Distribution San		2. 🗖 Rep	eat S	Sample (after unsat. routine)		
Chlorinated: □ Yes □ No Chlorine Residual: Total	 Distribution System Source Groundwater Rule (GWR) (Population of 1,000 or less) 					
3. Raw Water Source Sampl E. coli - GWR source sam Fecal - Surface, GWI, so Other	nple	Unsatisfactory routine lab number:				
	1 1	Unsalisia	,	,		
Dublia Sustana must annida Saura Nur	Chlorinated: YesNo					
4. Z Sample Collected for I	Public Systems must provide Source Number from (WFI) Chlorine Resid: Total Free 4. If Sample Collected for Information Only Construction Repairs Private Residence Other					
LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY						
Dunsatisfactory Total Coliform Present and	ł		Τ	☑ Satisfactory		
□ E. coli present □ E. coli absent □ Fecal coliform present □ Fecal coliform absent						
□ Replacement Sample Required Sample not tested because Test unsuitable because: □ Sample too old (>30 hours) □ TNTC □ Improper Container □ Turbid Culture □ □						
Bacterial Density Results: Plate Count / ml. E.coli /100 ml. Total Coliform /100 ml. Fecal Coliform /100 ml.						
Method Code: SM 9223B			Date Received: 8/11/2017			
Date Analyzed: 8/11/2017		Date Reported: 8/12/17				
06605189 Sample Number (DOH number plus five digits)			Lab Use Only:			

DOH Form #331-319 (revised 02/16)