

# CITY OF KALAMA

COWLITZ COUNTY

WASHINGTON



## NE DOWNTOWN SEWER REHABILITATION CONSTRUCTION QUALITY ASSURANCE PLAN



3/31/25

G&O #22230  
MARCH 2025



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- Attachment 2 – Preliminary Construction Schedule
- Attachment 3 – Materials Testing Schedule and Requirements
- Attachment 4 – Project Change Order Form
- Attachment 5 – Inspection Report Forms
- Attachment 6 – Inspector Resume

## I. INTRODUCTION

The purpose of this Construction Quality Assurance Plan (QA Plan) is to describe the construction management being provided by the City of Kalama (City) during the construction of the NE Downtown Sewer Rehabilitation project. The QA Plan has been prepared consistent with the Washington State Department of Ecology guidelines and is a requirement of the Washington State Administration Code (WAC 173-240-075).

A combination of individuals from the Project Engineer, Gray & Osborne, Inc., and City staff will manage the construction of the NE Downtown Sewer Rehabilitation. Identification of each position is provided below. An organization chart of the Project's construction management team is included as Attachment 1.

**Owner** – City of Kalama

**Mayor** – Mike Reuter

**City Administrator** – Adam Smee

**Director of Public Works** – Kelly Rasmussen

**Engineering Consultant** - Gray & Osborne, Inc.

**Client Manager** – Mike Johnson, P.E. (Gray & Osborne, Inc.)

**Construction Manager** – Shari Gaer, E.I.T. (Gray & Osborne, Inc.)

**Resident Inspector** – William Bato (Gray & Osborne, Inc.)

**Contractor** – Advanced Excavating Specialists, LLC

**Project Manager** – Justin LaFave (Advanced Excavating Specialists)

Construction of the improvements to the City's sewer infrastructure is to be managed by the Engineer, Gray & Osborne, Inc., through the efforts of an on-site Resident Inspector, in conjunction with inspection and engineering staff located in the Seattle and Olympia offices. Office staff is qualified to support field activities because the same individuals that designed the facilities will provide the engineering support. Construction management services are provided to the City under the scope of the Engineer's construction management contract. Plans and Specifications for the improvements will be approved by the Washington State Department of Ecology prior to construction.

The construction contract documents detail the contractual requirements of the construction contractor, in building the improvements, as well as demolition and abandonment of existing structures.

This QA Plan addresses the project description, construction schedules, construction organization, quality control testing, change order process, construction administration and technical records handling, and periodic construction inspection efforts. These items are described below.

## **II. PROJECT DESCRIPTION / SUMMARY OF WORK**

The City's NE Downtown Sewer Rehabilitation project is focused on aging sewer infrastructure that is contributing to infiltration and inflow, which is taking up capacity at the City's WWTP. Work will be completed using a combination of open-cut and trenchless methods. The project consists of the improvements listed below, divided by sewer basin areas under Schedules A through F. The project will be completed in 200 working days.

### **A. SCHEDULE A: BASIN 7**

1. Furnish and install 1,950 LF of 8" PVC and DI sewer main on N 3rd Street, Fir Street, N 3rd Place, and Taylor Road.
2. Furnish and install 32 side sewers.
3. Furnish and install 775 LF of 8" PVC water main, fire hydrant, and 12 water services on N 3rd Street.
4. Concrete curbs, sidewalks, walkways, curb ramps, steps, walls, and driveways repair.
5. HMA repair.
6. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

### **B. SCHEDULE B: BASIN 8**

1. Furnish and install 600 LF of 8" HDPE sewer main on Fir Street via pipe bursting.
2. Furnish and install 1,000 LF of 8" PVC sewer main in Alley off Fir Street and N 2nd Street.
3. Furnish and install 16 side sewers.
4. Concrete curb, sidewalks, and driveways repair.
5. HMA repair.
6. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

C. SCHEDULE C: BASIN 13

1. Furnish and install 170 LF of 8" HDPE sewer main above ground in prescriptive easement on steep slope.
2. Furnish and install 1,200 LF of 8" PVC sewer main on N 2nd Street, Juniper Street, N 2nd Place, N 3rd Place, Alley and prescriptive easement.
3. Furnish and install 320 LF of 8" HDPE sewer main on prescriptive easement via pipe bursting.
4. Furnish and install 22 side sewers.
5. Concrete sidewalks and driveways repair.
6. HMA repair.
7. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

D. SCHEDULE D: BASIN 14

1. Furnish and install 190 LF of 12" PVC sewer main on Kingwood Street.
2. Concrete curbs sidewalks and curb ramp repair.
3. HMA repair.
4. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

E. SCHEDULE E: BASIN 16

1. Furnish and install 765 LF of 8" PVC sewer main on N 2nd Street and Holly Boulevard.
2. Furnish and install 9 side sewers.
3. Concrete curb and sidewalks repair.
4. HMA repair.

5. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

**F. SCHEDULE F: BASIN 21**

1. Furnish and install 510 LF of 8" PVC sewer main on Nectarine Drive.
2. Furnish and install 6 side sewers.
3. Concrete curb repair.
4. HMA repair.
5. Repair and restore all surfaces disturbed by construction activities, as shown on the Plans and specified herein.

### **III. CONSTRUCTION SCHEDULE**

The project General Conditions 3.04.15 requires the Contractors to prepare and routinely update their construction schedules. See Attachment 2 for initial overall schedule. Schedules will be reviewed by the Engineer for adequacy and revised by the Contractors in accordance with specified requirements. The summary of work and phasing of the construction components is detailed above in Section II and in Specification Section 01110. Television inspection requirements of the work are detailed in Specification Section 02533. Pressure Testing and Disinfection are detailed in Specification Section 02500. The allowable duration of the construction contract is 200 working days to physical completion, by approximately December 2025. (Note: These dates are approximate and are subject to change when the Contractor submits the construction schedule.)

### **IV. CONSTRUCTION ORGANIZATION**

Construction management will be provided by the Engineer, Gray & Osborne, Inc. The management procedures used by the Engineer are described in the General Conditions and Technical Specifications. William Bato will be the Gray & Osborne full-time Resident Inspector and will attend weekly meetings.

Kelly Rasmussen, Director of Public Works, will be the primary contact for the City of Kalama. Adam Smee, City Administrator will be the secondary point of contact. As overall Construction Manager, Gray & Osborne will schedule and oversee the activities required to carry out the required level of field inspection.

The authority of the Construction Manager will be as follows: The Construction Manager is a representative of the City employed to act as an advisor and

consultant to the City in construction matters related to this construction contract. The City has delegated its authority to the Construction Manager to make initial decisions regarding questions, which may arise as to the quality or acceptability of materials furnished and work performed and as to the manner of performance and rate of progress of the work under the Contract. The Construction Manager shall interpret the intent and meaning of the Contract and make initial decisions with respect to the Contractor's fulfillment of the Contract requirements and the Contractor's entitlement to compensation. The Construction Manager's decisions are subject to review and concurrence by the City.

The Construction Manager shall have access to the work, to the work site, and to the places where work is being prepared or where materials, equipment, and machinery are being obtained for the work. If requested by the Construction Manager, the Contractor shall provide the assistance necessary for obtaining such access, and shall provide information related to the inspection of the construction activities.

The Construction Manager has the authority to initiate or recommend change orders in accordance with 40 CFR 33.1030, Clause 3. Such change orders and pricing are subject to review and approval by the City.

The Client Manager has the authority to perform all of the Construction Manager's duties.

## **V. QUALITY CONTROL TESTING**

Quality control testing on the project is to be managed and coordinated by the Contractor. The materials testing schedule and requirements are described in Specifications Section 01400 (Attachment 3). For soils and materials testing, the Contractor is required to select a testing company to conduct various quality control tests on soils, concrete, and asphalt materials. Test results are to be reviewed by Gray & Osborne for conformance with the Plans and Specifications.

## **VI. CHANGE ORDERS**

Change orders are initiated, reviewed, and processed by Gray & Osborne. Costs are evaluated and negotiated between the Contractor and the Resident Inspector with Gray & Osborne office staff assistance.

Gray & Osborne will present the change order proposals to the City Administrator and Director of Public Works for consideration. The City has the responsibility for approving all change orders prior to execution. Ecology will be notified if the change order is pertinent to the performance of the sewer system or if the change order is operational in nature.

Additional requirements and instructions for change orders are described in the Project Specifications - General Conditions of the Contract, Section 3.

A copy of the project change order format is attached (Attachment 4).

## **VII. CONSTRUCTION ADMINISTRATION AND TECHNICAL RECORDS HANDLING**

All project document records, including project correspondence, Plans and Specifications, Addenda, Inspection Reports and Daily Inspection Logs, Weekly Reports, Meeting Minutes, Shop Drawings, and Change Orders are to be kept in a central file at Gray & Osborne's engineering home office in Olympia, with duplicate files maintained by the Resident Inspector in the field trailer at the project site, and at the City public works department. "As-built" drawings are to be maintained by the Contractor until project completion, whereupon those record drawings will be submitted to Gray & Osborne for production of final "as-built" plans in AutoCAD format, which will be provided to the City.

## **VIII. CONSTRUCTION INSPECTION**

Construction inspection is provided on a full-time basis by a Resident Inspector, who inspects the Contractors' work for compliance with the Plans and Specifications and represents the City as its authorized agent. The Resident Inspector schedules and conducts regular construction meetings with the Contractors and City and prepares daily construction inspection reports, weekly manpower and equipment utilization forms, and weekly contract days forms. Copies of these construction management forms are attached (Attachment 5). Project status is reviewed at construction meetings for the purpose of monitoring the Contractors' progress and coordinating issues. The project construction engineer will attend the construction meetings.

Additional details of the inspection requirements are described in the General Conditions of the Contract Documents. The Resident Inspector is responsible for requesting the Contractor to repair deficiencies or to correct any defective work and to assist in resolving any construction disputes.

The Resident Inspector's (William Bato) qualifications to provide inspection of the construction work are outlined in Attachment 6 Inspectors Resume.

The total project budget for construction engineering services includes costs for contract administration, a full-time Resident Inspector, construction management, and preparation of record drawings.

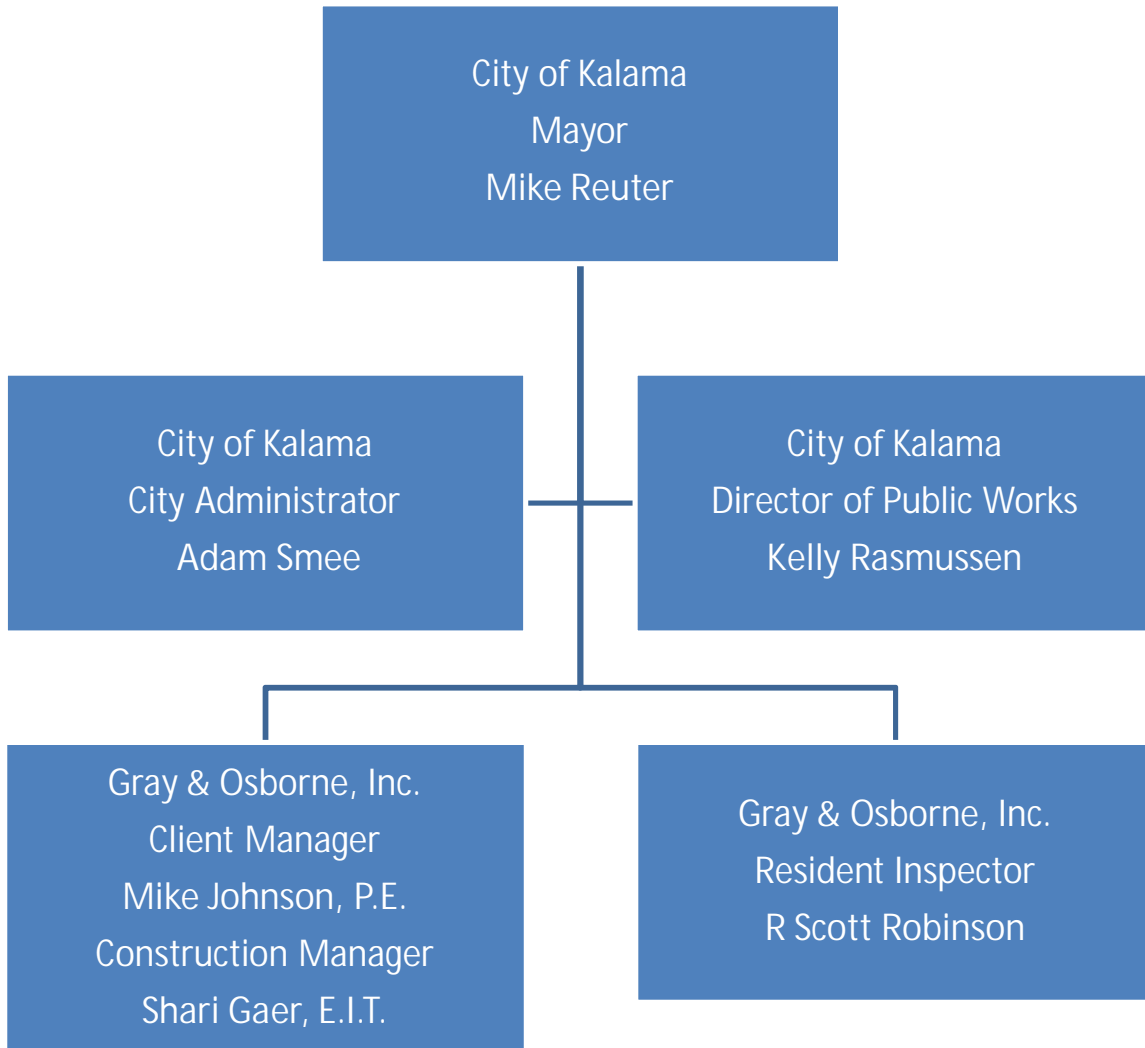


## **ATTACHMENT 1**

### **PROJECT ORGANIZATIONAL CHART**

# NE DOWNTOWN SEWER REHABILITATION

## ORGANIZATIONAL CHART



**ATTACHMENT 2**

**PROJECT CONSTRUCTION SCHEDULE**



Preliminary Construction Schedule - Preconstruction Meeting

RIGHT-OF-WAY DISCLAIMER

THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.

Gray & Osborne, Inc.  
CONSULTING ENGINEERS  
2102 CARRIAGE DRIVE SW,  
BUILDING 1  
OLYMPIA, WA 98502  
(360) 292-7481



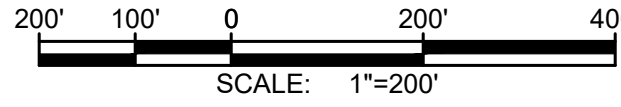
CITY OF KALAMA  
NE DOWNTOWN  
SEWER  
REHABILITATION  
COWLITZ COUNTY

No.	DATE	REVISION
ISSUED FOR:		
BID SET		
ISSUE DATE:		
JANUARY 2025		
APPROVED BY:		
MBJ		
CHECKED BY:		
SLG		
DRAWN BY:		
JPW		
DESIGNER:		
SLG		
G & O JOB NO.:		
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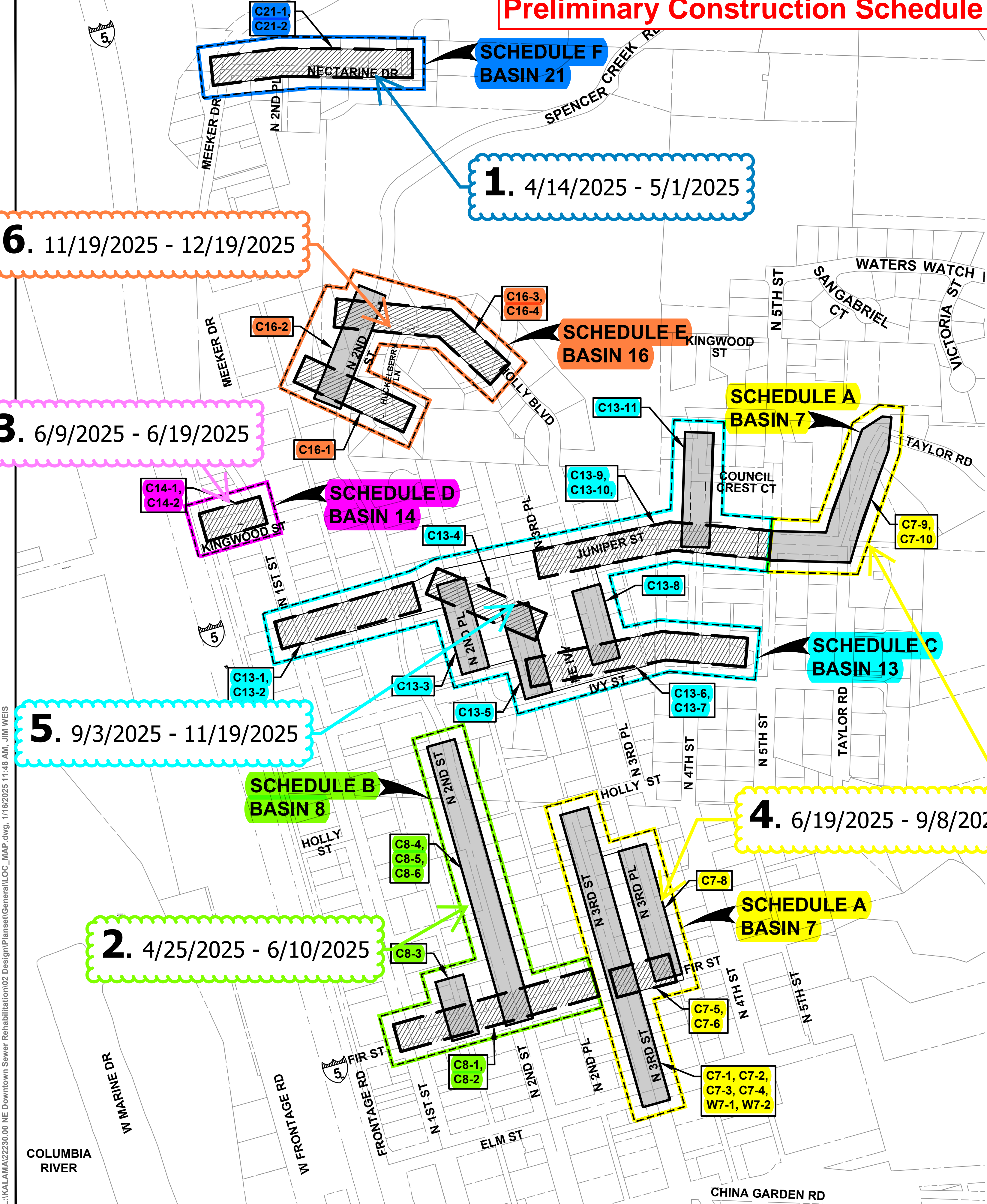
GENERAL  
  
PROJECT LOCATION  
MAP AND SHEET  
INDEX

DRAWING: G-2 OF: 9


















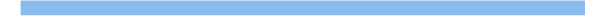
























































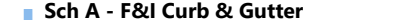





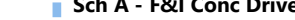


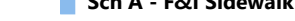











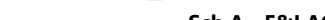








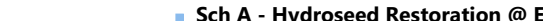










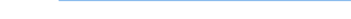


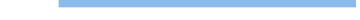
























SHEET INDEX	
SHEET NO	DESCRIPTION
-	COVER SHEET
GENERAL	
G-1	SYMBOL LEGEND, ABBREVIATIONS, GENERAL NOTES, AND VICINITY MAP
G-2	PROJECT LOCATION MAP AND SHEET INDEX
G-3	SURVEY CONTROL POINT PLAN
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C7-2	SCHEDULE A BASIN 7: STA 34+00 TO 38+00 N 3RD ST, PLAN AND PROFILE
C7-3	SCHEDULE A BASIN 7: CONCRETE REPAIR N 3RD ST
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C7-6	SCHEDULE A BASIN 7: CURB RAMP AND TRAIL FIR ST
C7-7	SCHEDULE A BASIN 7: TRAIL STAIRCASE DETAIL
C7-8	SCHEDULE A BASIN 7: STA 60+00 TO 64+00 N 3RD PL, PLAN AND PROFILE
C7-9	SCHEDULE A BASIN 7: STA 280+00 TO 284+00 TAYLOR RD, PLAN AND PROFILE
C7-10	SCHEDULE A BASIN 7: STA 284+00 TO 288+00 TAYLOR RD, PLAN AND PROFILE
C8-1	SCHEDULE B BASIN 8: STA 70+00 TO 74+00 FIR ST, PLAN AND PROFILE
C8-2	SCHEDULE B BASIN 8: STA 74+00 TO 76+80 FIR ST, PLAN AND PROFILE
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C13-6	SCHEDULE C BASIN 13: STA 150+00 TO 154+00 IVY ST, PLAN AND PROFILE
C13-7	SCHEDULE C BASIN 13: STA 154+00 TO 158+00 IVY ST, PLAN AND PROFILE

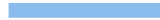


















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SHEET NO	DESCRIPTION
C13-8	SCHEDULE C BASIN 13: STA 160+00 TO 162+60 N 3RD PL, PLAN AND PROFILE
C13-9	SCHEDULE C BASIN 13: STA 180+00 TO 184+00 JUNIPER ST, PLAN AND PROFILE
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CD-3	SEWER DETAILS
CD-4	WATER DETAILS
CD-5	WATER DETAILS
CD-6	RESTORATION DETAILS
CD-7	ROAD DETAILS
CD-8	CURB RAMP DETAILS
CD-9	CURB RAMP DETAILS
CD-10	CURB RAMP DETAILS
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MD-2	SCHEDULE A BASIN 7: MANHOLE CONNECTION DETAILS
MD-3	SCHEDULE A BASIN 7: MANHOLE CONNECTION DETAILS
MD-4	SCHEDULE B BASIN 8: MANHOLE CONNECTION DETAILS
MD-5	SCHEDULE B BASIN 8: MANHOLE CONNECTION DETAILS
MD-6	SCHEDULE C BASIN 13: MANHOLE CONNECTION DETAILS
MD-7	SCHEDULE C BASIN 13: MANHOLE CONNECTION DETAILS
MD-8	SCHEDULE C BASIN 13: MANHOLE CONNECTION DETAILS
MD-9	SCHEDULE C BASIN 13: MANHOLE CONNECTION DETAILS
MD-10	SCHEDULE D BASIN 14 AND SCHEDULE E BASIN 16: MANHOLE CONNECTION DETAILS
MD-11	SCHEDULE E BASIN 16: MANHOLE CONNECTION DETAILS
MD-12	SCHEDULE F BASIN 21: MANHOLE CONNECTION DETAILS




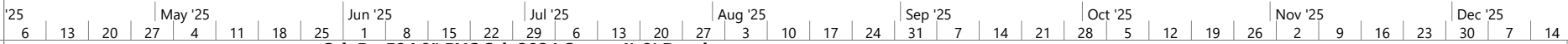























































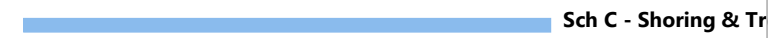


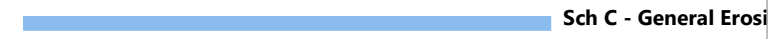





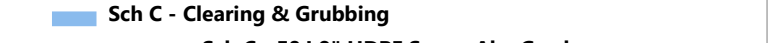














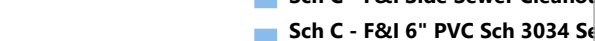





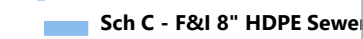











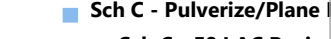


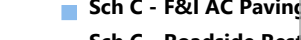


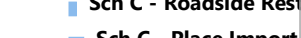


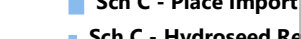


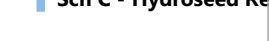
































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ID		Task Mode	Task Name	Duration	Start	Finish																																																
1			NE Downtown Sewer Rehab	180 days	Mon 4/14/25	Fri 12/19/25																																																
2			Schedule A - Basin 7 - N 3rd St/Fir & Taylor	58 days	Thu 6/19/25	Mon 9/8/25																																																
3			Sch A - Survey Job Site Complete	2 days	Thu 6/19/25	Fri 6/20/25																																																
4			Sch A - Mobilization - General	56 days	Fri 6/20/25	Fri 9/5/25																																																
5			Sch A - Minor Change (Bid Form)	56 days	Fri 6/20/25	Fri 9/5/25																																																
6			Sch A - Traffic Control	56 days	Fri 6/20/25	Fri 9/5/25																																																
7			Sch A - Shoring & Trench Safety	56 days	Fri 6/20/25	Fri 9/5/25																																																
8			Sch A - General Erosion Control	56 days	Fri 6/20/25	Fri 9/5/25																																																
9			Sch A - Pothole for Utilities	15 days	Fri 6/20/25	Thu 7/10/25																																																
10			Sch A - Saw Cut AC Paving & Misc Conc	5 days	Fri 6/20/25	Thu 6/26/25																																																
11			Sch A - Removal of Structures & Obstructions	4 days	Mon 6/23/25	Thu 6/26/25																																																
12			Sch A - F&I 8" PVC Sch 3034 Sewer 4'-8' Depth	25 days	Tue 6/24/25	Mon 7/28/25																																																
13			Sch A - F&I 8" DI Sewer	2 days	Tue 7/1/25	Wed 7/2/25																																																
14			Sch A - F&I Side Sewer Cleanout 4-6"	5 days	Mon 7/28/25	Fri 8/1/25																																																
15			Sch A - F&I 6" PVC Sch 3034 Sewer 0-4' Depth	5 days	Mon 7/28/25	Fri 8/1/25																																																
16			Sch A - F&I CDF	1 day	Fri 8/1/25	Fri 8/1/25																																																
17			Sch A Water - Pothole for utilities	1 day	Fri 8/1/25	Fri 8/1/25																																																
18			Sch A Water - Cut in Water Connection	1 day	Fri 8/1/25	Fri 8/1/25																																																
19			Sch A Water - F&I 8" PVC C900 Water	5 days	Mon 8/4/25	Fri 8/8/25																																																
20			Sch A Water - F&I Fire Hydrant Assembly	1 day	Wed 8/6/25	Wed 8/6/25																																																
21			Sch A Water - Salvage Eixst. Fire Hydrant Assembly	1 day	Wed 8/6/25	Wed 8/6/25																																																
22			Sch A Water - F&I 2" Poly Water	1 day	Fri 8/8/25	Fri 8/8/25																																																
23			Sch A Water - F&I Thrust Block	1 day	Fri 8/8/25	Fri 8/8/25																																																
24			Sch A Water - Cut & Cap Waterline	1 day	Thu 8/14/25	Thu 8/14/25																																																
25			Sch A Water - F&I Type 1 Water Service	3 days	Mon 8/11/25	Wed 8/13/25																																																
26			Sch A Water - F&I Type 2 Water Service	2 days	Wed 8/13/25	Thu 8/14/25																																																
27			Sch A - F&I Curb & Gutter	1 day	Fri 8/15/25	Fri 8/15/25																																																
28			Sch A - F&I Traffic Curb	1 day	Mon 8/18/25	Mon 8/18/25																																																
29			Sch A - F&I Conc Driveway	1 day	Tue 8/19/25	Tue 8/19/25																																																
30			Sch A - F&I Sidewalk	2 days	Wed 8/20/25	Thu 8/21/25																																																
31			Sch A - F&I Curb Ramp	2 days	Fri 8/22/25	Mon 8/25/25																																																
32			Sch A - F&I Curb Wall	2 days	Mon 8/25/25	Tue 8/26/25																																																
33			Sch A - F&I Conc Steps & Handrail	3 days	Wed 8/27/25	Fri 8/29/25																																																
34			Sch A - Pulverize/Plane Existing AC N 3rd St	2 days	Mon 9/1/25	Tue 9/2/25																																																
35			Sch A - F&I AC Paving for Roadway	2 days	Wed 9/3/25	Thu 9/4/25																																																
36			Sch A - Roadside Restoration/General Site Cleanup	1 day	Thu 9/4/25	Thu 9/4/25																																																
37			Sch A - Place Strippings @ Easement Areas	2 days	Fri 9/5/25	Mon 9/8/25																																																
38			Sch A - Hydroseed Restoration @ Easement Areas	1 day	Fri 9/5/25	Fri 9/5/25																																																
39			Schedule B - Basin 8 - N 2nd St & Fir	33 days	Fri 4/25/25	Tue 6/10/25																																																
40			Sch B - Survey Job Site Complete	1 day	Fri 4/25/25	Fri 4/25/25																																																
41			Sch B - Mobilization - General	29 days	Thu 5/1/25	Tue 6/10/25																																																
42			Sch B - Minor Change (Bid Form)	29 days	Thu 5/1/25	Tue 6/10/25																																																
43			Sch B - Traffic Control	29 days	Thu 5/1/25	Tue 6/10/25																																																
44			Sch B - Shoring & Trench Safety	29 days	Thu 5/1/25	Tue 6/10/25																																																
45			Sch B - General Erosion Control	29 days	Thu 5/1/25	Tue 6/10/25																																																
46			Sch B - Pothole for Utilities	9 days	Thu 5/1/25	Tue 5/13/25																																																
47			Sch B - Saw Cut AC Paving & Misc Conc	4 days	Thu 5/1/25	Tue 5/6/25																																																
48			Sch B - Removal of Structures & Obstructions	4 days	Fri 5/2/25	Wed 5/7/25																																																

Project: 25017 - Kalama - NE D Date: Thu 3/27/25	Task		Summary		Inactive Milestone		Duration-only		Start-only		External Milestone		Manual Progress	
	Split		Project Summary		Inactive Summary		Manual Summary Rollup		Finish-only		Deadline			
	Milestone		Inactive Task		Manual Task		Manual Summary		External Tasks		Progress			

Page 1

ID		Task Mode	Task Name	Duration	Start	Finish																																																
49			Sch B - F&I 8" PVC Sch 3034 Sewer 4'-8' Depth	14 days	Wed 5/7/25	Mon 5/26/25																																																
50			Sch B - F&I 8" HDPE Sewer (Pipe Burst)	4 days	Tue 5/27/25	Fri 5/30/25																																																
51			Sch B - Pipe Bursting Pit Exc & BF	4 days	Mon 5/26/25	Thu 5/29/25																																																
52			Sch B - F&I Side Sewer Cleanout 4-6"	4 days	Mon 5/26/25	Thu 5/29/25																																																
53			Sch B - F&I 6" PVC Sch 3034 Sewer 0-4' Depth	4 days	Mon 5/26/25	Thu 5/29/25																																																
54			Sch B - F&I CDF	1 day	Fri 5/30/25	Fri 5/30/25																																																
55			Sch B - Pulverize/Plane Existing AC	1 day	Fri 5/30/25	Fri 5/30/25																																																
56			Sch B - F&I Curb & Gutter	1 day	Mon 6/2/25	Mon 6/2/25																																																
57			Sch B - F&I Conc Driveway	2 days	Mon 6/2/25	Tue 6/3/25																																																
58			Sch B - F&I Sidewalk	1 day	Tue 6/3/25	Tue 6/3/25																																																
59			Sch B - Remove and Reinstall Ex Sign	1 day	Wed 6/4/25	Wed 6/4/25																																																
60			Sch B - F&I AC Paving for Roadway	2 days	Mon 6/9/25	Tue 6/10/25																																																
61			Sch B - Roadside Restoration/General Site Cleanup	1 day	Tue 6/10/25	Tue 6/10/25																																																
62			Sch B - Place Import Topsoil	1 day	Tue 6/10/25	Tue 6/10/25																																																
63			Sch B - Hydroseed Restoration	1 day	Tue 6/10/25	Tue 6/10/25																																																
64			Schedule C - Basin 13 - Juniper Area	56 days	Wed 9/3/25	Wed 11/19/25																																																
65			Sch C - Survey Job Site Complete	3 days	Wed 9/3/25	Fri 9/5/25																																																
66			Sch C - Mobilization - General	53 days	Mon 9/8/25	Wed 11/19/25																																																
67			Sch C - Minor Change (Bid Form)	53 days	Mon 9/8/25	Wed 11/19/25																																																
68			Sch C - Traffic Control	53 days	Mon 9/8/25	Wed 11/19/25																																																
69			Sch C - Shoring & Trench Safety	53 days	Mon 9/8/25	Wed 11/19/25																																																
70			Sch C - General Erosion Control	53 days	Mon 9/8/25	Wed 11/19/25																																																
71			Sch C - Pothole for Utilities	12 days	Mon 9/8/25	Tue 9/23/25																																																
72			Sch C - Clearing & Grubbing	4 days	Fri 9/12/25	Wed 9/17/25																																																
73			Sch C - F&I 8" HDPE Sewer Abv Grnd	12 days	Mon 9/15/25	Tue 9/30/25																																																
74			Sch C - Saw Cut AC Paving & Misc Conc	4 days	Wed 10/1/25	Mon 10/6/25																																																
75			Sch C - Removal Structures & Obstructions	3 days	Wed 10/1/25	Fri 10/3/25																																																
76			Sch C - F&I 8" PVC Sch 3034 Sewer 4'-8' Depth	26 days	Thu 10/2/25	Thu 11/6/25																																																
77			Sch C - F&I Side Sewer Cleanout 4-6"	3 days	Mon 11/3/25	Wed 11/5/25																																																
78			Sch C - F&I 6" PVC Sch 3034 Sewer 0-4' Depth	3 days	Mon 11/3/25	Wed 11/5/25																																																
79			Sch C - F&I CDF	1 day	Wed 11/5/25	Wed 11/5/25																																																
80			Sch C - F&I 8" HDPE Sewer (Pipe Burst)	4 days	Thu 11/6/25	Tue 11/11/25																																																
81			Sch C - Pipe Bursting Pit Exc & BF	4 days	Thu 11/6/25	Tue 11/11/25																																																
82			Sch C - F&I Conc Driveway	2 days	Wed 11/12/25	Thu 11/13/25																																																
83			Sch C - F&I Sidewalk	1 day	Wed 11/12/25	Wed 11/12/25																																																
84			Sch C - Pulverize/Plane Existing AC	2 days	Thu 11/13/25	Fri 11/14/25																																																
85			Sch C - F&I AC Paving for Roadway	2 days	Mon 11/17/25	Tue 11/18/25																																																
86			Sch C - Roadside Restoration/General Site Cleanup	1 day	Tue 11/18/25	Tue 11/18/25																																																
87			Sch C - Place Import Topsoil	2 days	Tue 11/18/25	Wed 11/19/25																																																
88			Sch C - Hydroseed Restoration	1 day	Tue 11/18/25	Tue 11/18/25																																																
89			Schedule D - Basin 14 - Kingwood	9 days	Mon 6/9/25	Thu 6/19/25																																																
90			Sch D - Survey Job Site Complete	1 day	Mon 6/9/25	Mon 6/9/25																																																
91			Sch D - Mobilization - General	8 days	Tue 6/10/25	Thu 6/19/25																																																
92			Sch D - Minor Change (Bid Form)	8 days	Tue 6/10/25	Thu 6/19/25																																																
93			Sch D - General Erosion Control	8 days	Tue 6/10/25	Thu 6/19/25																																																
94			Sch D - Traffic Control	8 days	Tue 6/10/25	Thu 6/19/25																																																
95			Sch D - Shoring & Trench Safety	8 days	Tue 6/10/25	Thu 6/19/25																																																
96			Sch D - Pothole for Utilities	2 days	Tue 6/10/25	Wed 6/11/25																																																

Project: 25017 - Kalama - NE D

Date: Thu 3/27/25

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

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ID		Task Mode	Task Name	Duration	Start	Finish
97			Sch D - Saw Cut AC Paving & Misc Conc	1 day	Tue 6/10/25	Tue 6/10/25
98			Sch D - F&I 12" PVC Sch 3034 Sewer 4'-8' Depth	5 days	Thu 6/12/25	Wed 6/18/25
99			Sch D - F&I CDF	1 day	Tue 6/17/25	Tue 6/17/25
100			Sch D - Demo Sidewalk, Curb Ramp, C&G	1 day	Mon 6/16/25	Mon 6/16/25
101			Sch D - F&I Curb & Gutter	1 day	Mon 6/16/25	Mon 6/16/25
102			Sch D - F&I Sidewalk	1 day	Mon 6/16/25	Mon 6/16/25
103			Sch D - F&I Curb Ramp	1 day	Mon 6/16/25	Mon 6/16/25
104			Sch D - Plane AC Paving - Misc	1 day	Wed 6/18/25	Wed 6/18/25
105			Sch D - F&I AC Paving for Roadway	1 day	Thu 6/19/25	Thu 6/19/25
106			Sch D - Roadside Restoration/General Site Cleanup	1 day	Thu 6/19/25	Thu 6/19/25
107			Schedule E - Basin 16 - N 2nd St & Holly Blvd	23 days	Wed 11/19/25	Fri 12/19/25
108			Sch E - Survey Job Site Complete	1 day	Wed 11/19/25	Wed 11/19/25
109			Sch E - Mobilization - General	22 days	Thu 11/20/25	Fri 12/19/25
110			Sch E - Minor Change (Bid Form)	22 days	Thu 11/20/25	Fri 12/19/25
111			Sch E - Traffic Control	22 days	Thu 11/20/25	Fri 12/19/25
112			Sch E - Shoring & Trench Safety	22 days	Thu 11/20/25	Fri 12/19/25
113			Sch E - General Erosion Control	22 days	Thu 11/20/25	Fri 12/19/25
114			Sch E - Pothole for Utilities	9 days	Thu 11/20/25	Tue 12/2/25
115			Sch E - Saw Cut AC Paving & Misc Conc	2 days	Thu 11/20/25	Fri 11/21/25
116			Sch E - Removal Structures & Obstructions	1 day	Fri 11/21/25	Fri 11/21/25
117			Sch E - F&I 8" PVC Sch 3034 Sewer 4'-8' Depth	12 days	Mon 11/24/25	Tue 12/9/25
118			Sch E - F&I Side Sewer Cleanout 4-6"	3 days	Thu 12/4/25	Mon 12/8/25
119			Sch E - F&I 6" PVC Sch 3034 Sewer 0-4' Depth	3 days	Thu 12/4/25	Mon 12/8/25
120			Sch E - F&I CDF	1 day	Mon 12/8/25	Mon 12/8/25
121			Sch E - F&I Traffic Curb	1 day	Tue 12/9/25	Tue 12/9/25
122			Sch E - F&I Sidewalk	1 day	Wed 12/10/25	Wed 12/10/25
123			Sch E - Pulverize/Plane Existing AC	3 days	Thu 12/11/25	Mon 12/15/25
124			Sch E - F&I AC Paving for Roadway	2 days	Tue 12/16/25	Wed 12/17/25
125			Sch E - Roadside Restoration/General Site Cleanup	1 day	Thu 12/18/25	Thu 12/18/25
126			Sch E - Place Import Topsoil	1 day	Thu 12/18/25	Thu 12/18/25
127			Sch E - Hydroseed Restoration	1 day	Fri 12/19/25	Fri 12/19/25
128			Schedule F - Basin 21 - Nectarine Area	14 days	Mon 4/14/25	Thu 5/1/25
129			Sch F - Survey Job Site Complete	1 day	Mon 4/14/25	Mon 4/14/25
130			Sch F - Mobilization - General	14 days	Mon 4/14/25	Thu 5/1/25
131			Sch F - Minor Change (Bid Form)	14 days	Mon 4/14/25	Thu 5/1/25
132			Sch F - Traffic Control	14 days	Mon 4/14/25	Thu 5/1/25
133			Sch F - Shoring & Trench Safety	14 days	Mon 4/14/25	Thu 5/1/25
134			Sch F - General Erosion Control	14 days	Mon 4/14/25	Thu 5/1/25
135			Sch F - Pothole for Utilities	4 days	Mon 4/14/25	Thu 4/17/25
136			Sch F - Saw Cut AC Paving & Misc Conc	3 days	Mon 4/14/25	Wed 4/16/25
137			Sch F - F&I 8" PVC Sch 3034 Sewer 4'-8' Depth	8 days	Tue 4/15/25	Thu 4/24/25
138			Sch F - F&I Side Sewer Cleanout 4-6"	2 days	Wed 4/23/25	Thu 4/24/25
139			Sch F - F&I CDF	1 day	Fri 4/25/25	Fri 4/25/25
140			Sch F - F&I Curb & Gutter	1 day	Fri 4/25/25	Fri 4/25/25
141			Sch F - Pulverize/Plane Existing AC	1 day	Mon 4/28/25	Mon 4/28/25

## **ATTACHMENT 3**

### **MATERIAL TESTING SCHEDULE AND REQUIREMENTS**



## **SECTION 01400**

### **QUALITY CONTROL**

#### **PART 1 GENERAL**

##### **1.1 SCOPE**

The work specified in this Section includes the control tests, test sample collection, required field-testing, and special inspections as specified herein, and indicated on the Plans.

##### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

<u>Section</u>	<u>Item</u>
02300	Earthwork
02700	Gravel Materials
02710	Gravel Surfacing
02740	Hot Mix Asphalt
03300	Reinforced Concrete

##### **1.3 PAYMENT**

All testing as required by this Section shall be paid for by the Contractor. All costs to prepare and implement the sample and testing program shall be included in the bid prices for the various items associated with the sampling and testing program.

Retesting and reinspection required because of defective work and testing performed for the convenience of the Contractor shall also be paid for by the Contractor.

Testing requirements shall not be cause for claims of delay by the Contractor and all expenses accruing therefrom shall be deemed incidental to the performance of the Contract.

## **PART 2 PRODUCTS**

### **2.1 GENERAL**

The Contractor shall be responsible for all material testing specified in the Contract Documents and any applicable permits and codes. The materials testing laboratory shall be accredited for performing the various testing methods either by AASHTO R18, AASHTO 150/IEC 17025 or the American Association for Laboratory Accreditation and further approved by the Owner. The materials testing laboratory shall send test results directly to the Engineer.

#### **A. HOT MIX ASPHALT TESTING**

The materials testing laboratory shall be accredited for performing the various testing methods either by AASHTO R18, AASHTO 150/IEC 17025, or the American Association for Laboratory Accreditation and further approved by the Owner. Test methods shall be completed in accordance with the current WSDOT Standard Specifications and Construction Manual. The Engineer or the Inspector shall specify the items or areas to be tested. The materials testing laboratory shall send test results directly to the Owner. Any area that does not meet the material gradation and/or compaction test requirements shall be repaired/replaced at the Contractor's expense. Areas that do not meet compaction test requirements shall be retested at the Contractor's expense. Locations for testing and retesting shall be selected and marked by the Engineer.

### **2.2 EARTHWORK AND GRANULAR MATERIALS**

#### **A. COMPACTION CONTROL**

Optimum moisture content and maximum density tests shall be determined by the following method:

ASTM D1557 – Laboratory Compaction Characteristics of Soil Using Modified Effort

#### **B. IN-PLACE TESTS**

In-place density and moisture content tests shall be made by an independent testing laboratory according to the following methods:

ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

## **2.3 AGGREGATES**

All aggregates shall be tested in accordance with applicable WSDOT test methods:

<b><u>Title</u></b>	<b><u>Test Method</u></b>
Sampling	AASHTO T2
Sieve Analysis of Fine and Coarse Aggregates	104A
Material Finer than No. 200 Sieve in Aggregates	102A
Percentage of Particles Smaller than 0.025 mm and 0.005 mm	603A
Organic Impurities	111A
Abrasion of Coarse Aggregates by Use of the Los Angeles Machine	101A
Sand Equivalent	109A

## **2.4 CAST-IN-PLACE CONCRETE**

Cast-in-place concrete shall be tested in accordance with applicable parts of Chapter 16 of ACI 301. Concrete reinforcement and concrete special inspections shall be performed in accordance with local Building Official and WABO requirements.

## **2.5 HOT MIX ASPHALT**

Paving asphalt shall be tested in accordance with the current version of WSDOT Standard Specification Section 9-02.

## **PART 3 EXECUTION**

### **3.1 SAMPLING AND TESTING FREQUENCY**

#### **A. GENERAL**

The Contractor shall provide the following quality control tests at the number and frequency described herein. On-site testing technicians and testing laboratories shall be WABO-certified. The precise location of the tests shall be designated by the Engineer. The Contractor shall cooperate

with laboratory personnel employed to conduct the density testing, sampling of material(s), and special inspections. The Contractor shall provide safe access within the work site for laboratory personnel such that density testing and visual inspection can be performed. The Contractor shall provide samples of materials to be tested in the quantities required and herein specified to the appropriate laboratory personnel. The Contractor shall furnish all labor, equipment, tools, and materials necessary to obtain and deliver samples as herein designated. They shall also provide and repair any test holes required in order to facilitate the testing and sampling and to provide for the testing laboratory's exclusive use for storage and curing of test samples until removed to the laboratory.

Any areas tested and further failing compliance with the Specifications shall be recompacted and retested at the Contractor's expense, until a successful density test indicating compliance with these Specifications has been achieved.

#### B. SOIL TESTING

The following soil quality control tests shall be completed at the given frequency:

<u>Material</u>	<u>Test</u>	<u>Minimum Sampling &amp; Testing Frequency</u>
Backfill for foundations, walls, trenches and roads	Gradation <sup>1</sup>	One every 500 cy or one per day for quantities exceeding 25 cy. For trenches, one every 750 feet of trench.
	In-Place Density <sup>2,3,4</sup>	One every 500 cy or one per day for each type of soil or fill material with quantities exceeding 25 cy. For trenches, one per day and one every 250 feet of trench.
	Moisture-Density Relationship <sup>3</sup>	One prior to start of backfilling operation, one every 20 densities and any time material type changes.
Pipe Bedding	Gradation <sup>1</sup>	One every 750 feet of trench.
Subgrade and Fills	In-Place Density <sup>2,3</sup>	One every 500 cy of each type material.
	Moisture-Density Relationship	One for every 20 densities for each material.

<u>Material</u>	<u>Test</u>	<u>Minimum Sampling &amp; Testing Frequency</u>
-----------------	-------------	-------------------------------------------------

Gradation	One for every moisture-density.
-----------	---------------------------------

1. All acceptance tests shall be conducted from in-place samples.
2. Additional tests shall be conducted when variations occur due to the Contractors, operations, weather conditions, site conditions, etc.
3. The nuclear densometer, if properly calibrated, may be used but only to supplement the required testing frequency and procedures. The densometer shall be calibrated and is recommended for use when the time for complete results becomes critical.
4. Depending on soil conditions, it is anticipated that compaction tests shall be required at depths of 2 feet above the pipe and at each additional 5 feet to the existing surface plus a test at the surface.

### C. HOT MIX ASPHALT TESTING FREQUENCY

The following hot mix asphalt quality control tests shall be completed at the given frequency:

#### Hot Mix Asphalt

Material	Test	Minimum Sampling & Testing Frequency
HMA Cl. 1/2" PG 58H-22 Project Quantity > 800 tons	Rice Density, Gradation, Asphalt Binder Content and Percent Air Voids (Va)	1 – 1,000 TN. <sup>(2)</sup>
Commercial HMA, HMA Cl. 1/2" PG 58H-22	Compaction <sup>(1)</sup>	1 – 100 TN.

#### Hot Mix Asphalt Aggregate<sup>(3)</sup>

Material	Test	Minimum Sampling and Testing Frequency
Aggregate	SE, Fracture	1 – 2,000 TN.
Blend Sand	SE	1 – Project.
Mineral Filler	Sp. G and Pl	Certificate.

- (1) All acceptance tests shall be conducted from in place samples.
- (2) A minimum of three samples, on a random basis, shall be taken and tested
- (3) Hot mix asphalt aggregate tests are not required for Commercial HMA or for HMA Cl. 1/2" PG 58H-22 that has a project quantity of < 400 tons.

#### D. CONCRETE TESTING

All testing shall conform to applicable portions of ACI. Special inspections of concrete and concrete reinforcement shall comply with WABO requirements.

All concrete must meet the specified requirements for minimum 28-day compressive strength.

All concrete cylinders shall be molded and tested for strength by an independent testing laboratory employed by the Contractor.

The Contractor shall furnish all concrete required for molding of the cylinders. In cases where cylinders are stored at the project site, the Contractor shall provide storage and protection for the cylinders in accordance with ACI requirements.

Concrete tests and testing frequency shall be in accordance with the more stringent of the testing requirements specified in Section 03300-3.17 of these Specifications, and the following table:

<u>Material</u>	<u>Test</u>	<u>Minimum Sampling &amp; Testing Frequency</u>
Coarse Aggregate (for each grading size) <sup>1</sup>	Gradation	One test every 500 cy of concrete.
	Deleterious Substances	One test initially and thereafter when appearance makes the material suspect.
	L.A. Abrasion	One every 2,000 tons of aggregate.
	Moisture specific gravity and absorption <sup>1</sup>	One initially and every 250 cy thereafter. One moisture to be conducted prior to any batching and more frequently if hauling and storage does not provide a consistent moisture content.
Fine Aggregate <sup>1</sup>	Gradation and fineness modules	One every 250 cy of concrete.
	Deleterious Substances	(same as coarse aggregate).
	Moisture, specific gravity and	(same as coarse aggregate).

<u>Material</u>	<u>Test</u>	<u>Minimum Sampling &amp; Testing Frequency</u>
	absorption <sup>1</sup>	
Concrete	Slump	Conduct one test every day of placement and one additional test for every 50 cy placed and more frequently if batching appears inconsistent. Conduct in conjunction with taking concrete cylinders.
	Entrained Air	Conduct with each slump test.
	Ambient and concrete temperatures	Conduct with each slump test.
Concrete	Compressive strength and evaluation of results per ACI 214. (includes unit weight of each cylinder)	For all concrete placement, take one set of four cylinders per day and one additional set of cylinders for every 50 cy of each class of structural concrete. Cylinders shall be 4 inch by 8 inch. Test one cylinder at 7 days and two at 28 days. Fourth cylinder shall be held in reserve. A plot and statistical evaluation shall be maintained in accordance with ACI 214 for compressive strength results. Field cure cylinders shall be made when insitu strengths are required to be known.
1. Aggregate moisture tests are to be conducted in conjunction with concrete strength tests for water/cement (w/c) calculations.		

**\*\*\* END OF SECTION \*\*\***

**ATTACHMENT 4**

**PROJECT CHANGE ORDER FORM**



## CHANGE ORDER

**Project Title** NE Downtown Sewer Rehabilitation

**Owner** City of Kalama **Contractor Name** \_\_\_\_\_

**Change Order No.** \_\_\_\_\_ **Contractor Address** \_\_\_\_\_

**Change Order Date** \_\_\_\_\_

**G&O No.** 22230.00 \_\_\_\_\_

The following changes are hereby made to the Contract Documents:

**SCHEDULE A:** [TITLE] (Place items under appropriate Schedules and Additive Bid Items, Provide a direct tie from the change order to the progress estimate.)

**ITEM 1:** [Description/Title (e.g., Install Overlay)] (COP No. \_\_\_\_)

Provide a description of the work. (e.g., Install an air gap, Relocate the sanitary sewer...)

The lump sum cost for this work is:.....\$+/(deduct)

**Justification:** The [additional or deductive work] is [the result of changed site conditions/at the request of the Owner/at the request of the Contractor/the result of the Building Official's determination/L&I electrical code determination/etc.]. (If additional information is necessary, describe, concisely, the reason for the change to the contract. **If the change is due to design issues, the justification must be coordinated with the office manager or Mike Johnson.** Sample language: Thermal overload protection is required for pumps to prevent motor damage in the event of high temperature. This cost was not included in the bids and this work provides added value to the Owner.)

**Working Days:** \_\_\_\_\_ working days are (added/deleted) to the Substantial and Physical Completion Contract Times.

**ITEM 2:** [Description/Title, (e.g., Relocate Gravity Sewer)]

Provide a description of the work. (Install 200 linear feet of 12-inch-diameter sanitary sewer main as shown on the attached plans.)

The following payment items are added/deleted to the Contract:

**For Lump Sum and/or New Bid Items**

No.	Description	Quantity	Unit Price	Total

The following payment items are revised:

**For Unit Bid Items – Quantity Change**

No.	Description	Current Contract Quantity	Unit Contract Price	New Contract Quantity	Quantity Revision	Contract Price Revision

**For Unit Bid Items – Quantity and Price Change**

No.	Description	Current Contract Quantity	Unit Contract Price	New Contract Quantity	New Unit Contract Price	Quantity Revision	Contract Price Revision

The Contractor will be paid based on the actual quantities installed.

The estimated cost for this work is: .....\$+/(deduct)

**Justification:** The [additional or deductive] work is [the result of changed site conditions/at the request of the Owner/at the request of the Contractor/the result of the Building Official's determination/L&I electrical code determination/etc.]. *(If additional information is necessary, describe, concisely, the reason for the change to the contract. **If the change is due to design issues, the justification must be coordinated with the office manager or Mike Johnson.** Sample language: Thermal overload protection is required for pumps to prevent motor damage in the event of high temperature. This cost was not included in the bids and this work provides added value to the Owner.)*

**Working Days:** \_\_\_\_\_ working days are (added/deleted) to the Substantial and Physical Completion Contract Times.

**ITEM 3: CONTRACT TIME** *(use this item if material/equipment is delayed)*

The Substantial and Physical Contract Times are increased by (number) of working days.

The estimated cost for this work is: .....\$+/(deduct)

**Justification:** The delivery of (describe material/ equipment) is delayed due to the supplier and is beyond the reasonable control of the Contractor.

**Working Days:** \_\_\_\_\_ working days are (added/deleted) to the Substantial and Physical Completion Contract Times.

**ITEM 3: DELAY** *(use this item if the Owner and Contractor agree to resolve liquidated damages/project delays through a negotiated settlement)*

The Contractor shall compensate the City for costs incurred resulting from delays in project completion.

The total lump sum credit for this change is: ..... \$(deduct)

**Justification:** The City incurred additional costs due to delays in project completion.

**Working Days:** \_\_\_\_\_ working days are added to the Substantial and Physical Completion Contract Times

## CHANGE TO CONTRACT PRICE

Original Contract Amount (without tax): .....\$ \_\_\_\_\_  
Current Contract Amount, as adjusted by previous change orders: .....\$ \_\_\_\_\_  
The Contract Amount due to this Change Order will be [increased][decreased] by: .....\$ \_\_\_\_\_  
The new Contract Amount (without tax) due to this Change Order will be: .....\$ \_\_\_\_\_

## CHANGE TO CONTRACT TIME

The Substantial Completion Contract Time will be [increased][decreased] by \_\_\_\_\_ working days, for a total of \_\_\_\_\_ working days.

The Physical Completion Contract Time will be [increased][decreased] by \_\_\_\_\_ working days, for a total of \_\_\_\_\_ working days.

This document will become a supplement to the Contract and all provisions in the Contract will apply hereto. The Contractor acknowledges and agrees that by executing this change order he foregoes all rights and privileges of acquiring any additional compensation for any known or unknown claims of any type or nature, to include but not be limited to, any additional work, delays, extended office overhead, design omissions, changed site conditions, or any oral directions as of the date of the execution of this change order.

**GRAY & OSBORNE, INC.**  
**(RECOMMENDED)**

\_\_\_\_\_ Date \_\_\_\_\_

**(CONTRACTOR)**  
**(ACCEPTED)**

\_\_\_\_\_ Date \_\_\_\_\_

**(OWNER)**  
**(ACCEPTED)**

\_\_\_\_\_ Date \_\_\_\_\_

**ATTACHMENT 5**

**INSPECTION REPORT FORMS**



## WEEKLY WORKING DAYS REPORT

CITY OF KALAMA  
NE DOWNTOWN SEWER REHABILITATION  
G&O #22230

ADVANCED EXCAVATING SPECIALISTS, LLC  
CONTRACTOR

WEEK ENDING: 01/01/01

1.	NOTICE TO PROCEED DATE:		
2.	OFFICIAL START DATE:		
3.	CONTRACT TIME ALLOWED:		
	SUBSTANTIAL COMPLETION:	180.0	WORKING DAYS
	PHYSICAL COMPLETION:	200.0	WORKING DAYS
4.	TIME INCREASED BY CHANGE ORDERS		WORKING DAYS
5.	TOTAL TIME ALLOWED (SUM OF ITEMS 3 AND 4)		
	SUBSTANTIAL COMPLETION:	180.0	WORKING DAYS
	PHYSICAL COMPLETION:	200.0	WORKING DAYS
6.	TOTAL PREVIOUS EXPIRED DAYS FROM START (FROM PRECEDING REPORT, ITEM 8):		WORKING DAYS
7.	TOTAL DAYS FOR WEEK ENDING (WEEK COVERED BY THIS REPORT):		WORKING DAYS
8.	TOTAL DAYS EXPIRED SINCE START (SUM OF ITEMS 6 AND 7):	0.0	WORKING DAYS
9.	BALANCE OF DAYS REMAINING IN CONTRACT: (ITEM 5 - ITEM 8)		
	SUBSTANTIAL COMPLETION:	180.0	WORKING DAYS
	PHYSICAL COMPLETION:	200.0	WORKING DAYS

EXPLANATION OF WORKING DAYS LOST THIS WEEK:

COPIES TO: GRAY & OSBORNE, INC.  
CITY OF KALAMA  
ADVANCED EXCAVATING  
SPECIALISTS, LLC

RESIDENT INSPECTOR (Signature)

DATE:

REPORT NO.:





## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

ADVANCED EXCAVATING SPECIALISTS, LLC

WEEK ENDING:

06/05/07

**CONTRACTOR**

Item No.	Description	Bid Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE A: BASIN 7												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Clearing and Grubbing	1	LS								0.00%	
6	Removal of Structures and Obstructions	1	LS								0.00%	
7	Trench Excavation Safety Systems	1	LS								0.00%	
8	Unsuitable Excavation	20	CY								0.00	
9	Rock Excavation	100	CY								0.00	
10	Erosion/Pollution Control	1	LS								0.00%	
11	Manhole, 48 In. Diam.	9	EA								0.00	
12	Manhole Additional Height Over 8 Feet	1	VF								0.00	
13	Saddle Manhole, 48 In. Diam.	1	EA								0.00	
14	Manhole, 24 In. Diam.	5	EA								0.00	
15	8-Inch DI Outside Drop	1	EA								0.00	
16	Remove Existing Manhole	9	EA								0.00	
17	Abandon Existing Manhole	1	EA								0.00	
18	PVC Sanitary Sewer Pipe, 8 In. Diam.	1,685	LF								0.00	
19	DI Sanitary Sewer Pipe, 8 In. Diam.	265	LF								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
20	Locate Additional Existing Side Sewer	9	EA								0.00	
21	Side Sewer Cleanout	32	EA								0.00	
22	PVC Sanitary Sewer Pipe, 6 In. Diam.	765	LF								0.00	
23	PVC Water Main, 8 In. Diam.	775	LF								0.00	
24	8-Inch Gate Valves	4	EA								0.00	
25	Fire Hydrant Assembly	1	EA								0.00	
26	Type 1 Water Service	7	EA								0.00	
27	Type 2 Water Service	5	EA								0.00	
28	Crushed Surfacing Top Course	500	TN								0.00	
29	Crushed Surfacing Base Course	890	TN								0.00	
30	Bank Run Gravel for Trench Backfill	3,320	TN								0.00	
31	Foundation Gravel	130	CY								0.00	
32	Pulverize Existing Asphalt	3,265	SY								0.00	
33	HMA Cl. 1/2" PG 58H-22	560	TN								0.00	
34	Restoration and Landscaping	1	LS								0.00%	
35	Cement Concrete Curb and Gutter	415	LF								0.00	
36	Cement Concrete Traffic Curb	275	LF								0.00	
37	Cement Concrete Driveway	15	SY								0.00	
38	Cement Concrete Sidewalk	245	SY								0.00	
39	Cement Concrete Curb Ramp	4	EA								0.00	
40	Cement Concrete Wall Curb	140	LF								0.00	





## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
41	Cement Concrete Steps and Handrail	3	EA								0.00	
42	Controlled Density Fill	20	CY								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE B: BASIN 8												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Removal of Structures and Obstructions	1	LS								0.00%	
6	Trench Excavation Safety Systems	1	LS								0.00%	
7	Unsuitable Excavation	20	CY								0.00	
8	Rock Excavation	50	CY								0.00	
9	Erosion/Pollution Control	1	LS								0.00%	
10	Manhole, 48 In. Diam.	1	EA								0.00	
11	Manhole, 24 In. Diam.	6	EA								0.00	
12	Sewer Main Cleanout, 8 In. Diam.	2	EA								0.00	
13	Remove Existing Manhole/Cleanout	9	EA								0.00	
14	PVC Sanitary Sewer Pipe, 8 In. Diam.	1,015	LF								0.00	
15	Pipe Bursting HDPE Sewer Pipe, 8 In. Diam.	600	LF								0.00	
16	Side Sewer Cleanout	16	EA								0.00	
17	PVC Side Sewer Pipe, 6 In. Diam.	310	LF								0.00	
18	Crushed Surfacing Top Course	110	TN								0.00	
19	Crushed Surfacing Base Course	220	TN								0.00	
20	Bank Run Gravel for Trench Backfill	910	TN								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
21	Foundation Gravel	70	CY								0.00	
22	Pulverize Existing Asphalt	720	SY								0.00	
23	HMA Cl. 1/2" PG 58H-22	170	TN								0.00	
24	Restoration and Landscaping	1	LS								0.00%	
25	Cement Concrete Curb and Gutter	90	LF								0.00	
26	Cement Concrete Driveway Repair	50	SY								0.00	
27	Cement Concrete Sidewalk	90	SY								0.00	
28	Controlled Density Fill	20	CY								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE C: BASIN 13												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Clearing and Grubbing	1	LS								0.00%	
6	Removal of Structures and Obstructions	1	LS								0.00%	
7	Trench Excavation Safety Systems	1	LS								0.00%	
8	Unsuitable Excavation	20	CY								0.00	
9	Rock Excavation	100	CY								0.00	
10	Erosion/Pollution Control	1	LS								0.00%	
11	Manhole, 48 In. Diam.	10	EA								0.00	
12	Manhole, 24 In. Diam.	6	EA								0.00	
13	8-Inch DI Outside Drop	2	EA								0.00	
14	Sewer Main Cleanout, 8 In. Diam.	2	EA								0.00	
15	Remove Existing Manhole/Cleanout	14	EA								0.00	
16	Abandon Existing Manhole/Cleanout	1	EA								0.00	
17	PVC Sanitary Sewer Pipe, 8 In. Diam.	1,200	LF								0.00	
18	HDPE Sanitary Sewer Pipe, 8 In. Diam.	170	LF								0.00	
19	Pipe Bursting HDPE Sewer Pipe, 8 In. Diam.	320	LF								0.00	
20	Side Sewer Cleanout	22	EA								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
21	PVC Sanitary Sewer Pipe, 6 In. Diam.	400	LF								0.00	
22	Crushed Surfacing Top Course	120	TN								0.00	
23	Crushed Surfacing Base Course	345	TN								0.00	
24	Bank Run Gravel for Trench Backfill	1,300	TN								0.00	
25	Foundation Gravel	90	CY								0.00	
26	Pulverize Existing Asphalt	955	SY								0.00	
27	HMA Cl. 1/2" PG 58H-22	245	TN								0.00	
28	Restoration and Landscaping	1	LS								0.00%	
29	Cement Concrete Driveway Repair	40	SY								0.00	
30	Cement Concrete Sidewalk Repair	10	SY								0.00	
31	Controlled Density Fill	10	CY								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE D: BASIN 14												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Removal of Structures and Obstructions	1	LS								0.00%	
6	Trench Excavation Safety Systems	1	LS								0.00%	
7	Unsuitable Excavation	10	CY								0.00	
8	Rock Excavation	10	CY								0.00	
9	Erosion/Pollution Control	1	LS								0.00%	
10	Manhole, 48 In. Diam.	1	EA								0.00	
11	Manhole, 24 In. Diam.	1	EA								0.00	
12	12-Inch DI Outside Drop	1	EA								0.00	
13	Remove Existing Manhole	2	EA								0.00	
14	PVC Sanitary Sewer Pipe, 12 In. Diam.	195	LF								0.00	
15	Crushed Surfacing Top Course	30	TN								0.00	
16	Crushed Surfacing Base Course	50	TN								0.00	
17	Bank Run Gravel for Trench Backfill	180	TN								0.00	
18	Foundation Gravel	10	CY								0.00	
19	HMA Cl. 1/2" PG 58H-22	25	TN								0.00	
20	Cement Concrete Curb and Gutter	40	LF								0.00	



## WEEKLY QUANTITY REPORT

CITY OF KALAMA  
NE DOWNTOWN SEWER REHABILITATION  
G&O #22230

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
21	Cement Concrete Sidewalk Repair	35	SY								0.00	
22	Cement Concrete Curb Ramp	1	EA								0.00	
23	Controlled Density Fill	10	CY								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE E: BASIN 16												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Clearing and Grubbing	1	LS								0.00%	
6	Removal of Structures and Obstructions	1	LS								0.00%	
7	Trench Excavation Safety Systems	1	LS								0.00%	
8	Unsuitable Excavation	10	CY								0.00	
9	Rock Excavation	100	CY								0.00	
10	Erosion/Pollution Control	1	LS								0.00%	
11	Manhole, 48 In. Diam.	6	EA								0.00	
12	Manhole, 24 In. Diam.	1	EA								0.00	
13	Remove Existing Manhole	2	EA								0.00	
14	Abandon Existing Manhole	1	EA								0.00	
15	PVC Sanitary Sewer Pipe, 8 In. Diam.	800	LF								0.00	
16	Locate Additional Existing Side Sewer	7	EA								0.00	
17	Side Sewer Cleanout	9	EA								0.00	
18	PVC Sanitary Sewer Pipe, 6 In. Diam.	220	LF								0.00	
19	Crushed Surfacing Top Course	80	TN								0.00	
20	Crushed Surfacing Base Course	160	TN								0.00	





## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
21	Bank Run Gravel for Trench Backfill	1,330	TN								0.00	
22	Foundation Gravel	50	CY								0.00	
23	Pulverize Existing Asphalt	2,450	SY								0.00	
24	HMA Cl. 1/2" PG 58H-22	420	TN								0.00	
25	Cement Concrete Traffic Curb	10	LF								0.00	
26	Cement Concrete Sidewalk Repair	15	SY								0.00	
27	Restoration and Landscaping	1	LS								0.00%	
28	Controlled Density Fill	10	CY								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
SCHEDULE F: BASIN 21												
1	Mobilization and Demobilization	1	LS								0.00%	
2	Minor Change	1	CALC								0.00%	
3	Project Temporary Traffic Control	1	LS								0.00%	
4	Locate Existing Utilities	1	LS								0.00%	
5	Removal of Structures and Obstructions	1	LS								0.00%	
6	Trench Excavation Safety Systems	1	LS								0.00%	
7	Unsuitable Excavation	10	CY								0.00	
8	Rock Excavation	10	CY								0.00	
9	Erosion/Pollution Control	1	LS								0.00%	
10	Manhole, 48 In. Diam.	1	EA								0.00	
11	Manhole Additional Height Over 8 Feet	1	VF								0.00%	
12	Shallow Manhole, 48 In. Diam.	1	EA								0.00	
13	Manhole, 24 In. Diam.	3	EA								0.00	
14	Remove Existing Manhole	5	EA								0.00	
15	PVC Sanitary Sewer Pipe, 8 In. Diam.	390	LF								0.00	
16	Side Sewer Cleanout	6	EA								0.00	
17	PVC Sanitary Sewer Pipe, 6 In. Diam.	140	LF								0.00	
18	Crushed Surfacing Top Course	70	TN								0.00	
19	Crushed Surfacing Base Course	135	TN								0.00	
20	Bank Run Gravel for Trench Backfill	675	TN								0.00	



## WEEKLY QUANTITY REPORT

**CITY OF KALAMA**  
**NE DOWNTOWN SEWER REHABILITATION**  
**G&O #22230**

Item No.	Description	Qty.	Unit	Prev. Total	5/31	6/1	6/2	6/3	6/4	6/5	Total to Date	Comments
					M	T	W	T	F	S		
21	Foundation Gravel	30	CY								0.00	
22	Pulverize Existing Asphalt	570	SY								0.00	
23	HMA Cl. 1/2" PG 58H-22	100	TN								0.00	
24	Restoration and Landscaping	1	LS								0.00%	
25	Cement Concrete Traffic Curb and Gutter	10	LF								0.00	
26	Controlled Density Fill	10	CY								0.00	

Reviewed Contractor's Record Drawings for conformity with fieldwork. ☐ Yes ☐ No

COPIES TO: GRAY & OSBORNE, INC.  
CITY OF KALAMA  
RESIDENT INSPECTOR

RESIDENT INSPECTOR (Signature)

DATE:

REPORT NO. :

**ATTACHMENT 6**

**INSPECTOR RESUME**

# William Bato

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360-772-5725 ▪ bill.bato@gmail.com

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## **Lead QA/QC Inspector / Owners Representative**

*Successful management through professionalism and dedication.*

- **Construction Inspector ▪ Plant Commissioning**
- **Contractor Management ▪ High Voltage Electrical Transmission Systems**
- **Waste Water Treatment Plants ▪ Civil**

## **PROFESSIONAL SUMMARY**

- Extensive experience in large commercial power plants including water plant construction, commissioning and startup.
- Proven history of successful project management, team building, personnel supervision, construction oversight and operations administration.
- Familiar with WSDOT standard plans.
- Proficient in Siemens controls systems, G.E. control systems Mark V.
- Capable in Windows operating systems and Microsoft Office Suite (Word, Outlook, Excel).

---

## **Professional Experience**

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### **Field Inspector**

July 2019 –April 2023

**Gray & Osborne, Inc, Seattle WA.**

Inspected wastewater treatment plant upgrade projects for the City of North Bend and the City of Morton.

### **Lead QA/QC Inspector / Contract Owners Representative**

June 2016 –June 2019

**Mackay Sposito, Vancouver, WA.**

GCPUD – Civil construction inspector for new sewer system, lift station and domestic water piping installations. Inspector of new waste water treatment plant installation designed by Gray & Osborne. PGE - Owner's Representative for two 115kv high voltage electrical substation upgrade, retrofit. Oversaw contractors on the installation of new transformers, 15kv switchgear, circuit switchers and capacitor banks. Civil work of all underground utilities and final finish of substation surface rock installation.

### **Plant Superintendent / Contract Owners Representative** **Southern Montana Electric Co-op, Great Falls, MT**

January 2011 – February 2016

Owner's Representative during construction start up and commissioning of GE LM 6000 peaking plant. Managed daily operations and maintenance and budget including oversight of plant state and federal regulatory compliance. Supervise a full time staff of 4 employees and

contractors. Oversaw the construction of new 230 kV substation and 4.4 miles of 230 kV transmission line. Waste water lift station installation and connection to sewer. Civil oversight of underground piping, utilities installation and site preparation.

**Senior Resident Project Representative**

October 2007-January 2011

**Stanley Consultants, Inc., Denver, CO**

*Global engineering service provider specializing in energy, environmental, transportation and water systems.*

Support engineering design review, represent owners on construction site, monitor day to day progress, and resolve problems on work site as liaison between construction and engineering. Successfully completed projects ahead of schedule and under budget.

- **Honolulu Electric Cycling Study / 3 Oil fired units:** Testing current operating plant's response to wind generation addition.
- **Alliant Energy / Cedar Rapids Aux Boiler Installations Project:** Emergency installation of auxiliary boilers due to town flooding and power plant damage. Supplied town hospitals and businesses with needed steam for heating and operations.
- **Xcel Energy / Substation Transformer Cooling Replacement / Chiller Addition:** Replaced an out dated well water cooling system with a new, more efficient closed cooling water system. Oversaw construction, startup and commissioning.

**Mechanical Startup Engineer**

July 2006-July 2007

**Black & Veatch Corporation, Kansas City, MO**

*Global engineering, consulting, construction and Operations Company.*

Mechanical commissioning and startup of a 650 megawatt Coal plant including on site mechanical liaison for construction and engineering to resolve problems.

- Worked as mechanical facilitator during construction.

**Calpine Corporation, Multiple Locations**

June 1989-June 2006

*Fortune 500 Power Company*

**Mechanical Commissioning Lead Engineer**

August 2005 – June 2006

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***Valladolid Energy III project (550mw), Yucatan, Mexico***

Administered plant mechanical commissioning of G.E. Frame 7FA Single Fuel gas turbines including balance of plant mechanical startup as well as operations and maintenance. Directly supervised 10 personnel and 25 indirectly. Oversaw daily commissioning activities, commissioning budget, subcontractors and vendors. Installation of onsite sewer system and lift station.

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**Mechanical Commissioning Lead Engineer**

November 2004 – July 2005

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***Metcalf Energy Center project (600mw), San Jose, CA***

Oversaw plant mechanical and electrical commissioning of Siemens Westinghouse 501FD Gas Turbine and Siemens Westinghouse KN Steam Turbines. Managed the remainder of the plant mechanical startup and supervised construction contractors, as well as 14 personnel and 24 employees indirectly. Oversaw 230 kV initial testing and line energization back feed for the

*Calpine cont....*

plant. Successfully completed projects including through performance testing to commercial operation.

**Mechanical Commissioning Lead Engineer**

February 2004 – October 2004

***Goldendale Energy Center project (248mw), Goldendale, WA***

Administered the plant mechanical commissioning of G.E. Frame 7FA single-fuel gas turbine and facilitated the commissioning of Demineralized Aquatech water plant (115mw Hitachi steam turbine). Provided oversight of the balance of plant mechanical startup and maintenance processes. Supervised 10 direct and 25 indirect personnel. Installation of sewer system and lift station. Oversaw initial 230kv testing commissioning and energization for the plant.

- Efficiently completed project through performance testing and commercial operation.

**Mechanical Commissioning Engineer**

July 2003 – January 2004

***Riverside Energy Center project (565mw), Beloit, WI***

Oversaw plant mechanical commissioning of G.E. Frame 7FA dual-fuel gas turbines, commissioned US Filter water treatment plant with Siemens Westinghouse KN steam turbine. Administered mechanical and operations startup. Supervised 5 personnel as well as commissioning budget, subcontractors and vendors.

**Mechanical Commissioning Lead Engineer**

March 2003 – July 2003

***Zion Energy Center project (185mw), Zion, IL; Supervised 12 personnel direct and 22 indirect.***

Oversaw plant mechanical and electrical commissioning of G.E. Frame 7FA dual- fuel gas turbines. Commissioned balance of plant equipment. Administered mechanical and operations startup. Supervised 9 personnel as well as commissioning budget, subcontractors and vendors. Oversaw all functional testing into commercial operation.

**Additional Positions with Calpine Corporation, Inc.**

**Mechanical Commissioning Lead Engineer**

September 2002 – March 2003

***Oneta Energy Center (1100mw), Broken Arrow, OK. Supervised 12 personnel direct.***

**Commissioning Owners Representative**

December 2001 – September 2002

***Goldendale Energy Center (248mw), Goldendale, WA.***

**Mechanical Commissioning Engineer**

December 2000 – November 2001

*Sutter Energy Center (545mw), Yuba City, CA. Supervised 9 personnel direct.*

**Senior Control Room Operator** October 1992 – December 2000  
*Sumas Cogeneration, Inc. (125mw), Sumas, WA. Shift Supervisor duties, 9 personnel.*

**Senior Control Room Operator** June 1991 – September 1992  
*Bear Canyon Power Plant, (38mw), Lake County, CA.*

**Power Plant Operator** June 1989 – May 1991  
*Aidlin Geothermal, Inc. (29mw), Lake County, CA.*

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### **Education & Technical Training**

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#### **PRE-ENGINEERING COURSEWORK** **Santa Rosa Junior College, Santa Rosa, CA**

**OSHA Construction Safety Training** (10 hour course)

**OSHA 501 Safety Training** (30 hour course)

**CPR/First Aid Training**, Certified

**Commonwealth-Edison:** Power Plant Electrical Distribution Systems.

**Toshiba:** Steam Turbine Training.

**Mitsubishi:** Steam Turbine Training.

**North Dakota Rural Electric Cooperative:** Power Plant Operator Skill Improvement Program.

**Flowserve Pump:** Pump Technical Training.

**Fisher Controls:** Valve Training.

**PCS:** Electrical Relay Training.

**ITT Technical Institute:** Instrumentation and Controls, Electrical Protective Relay Training.

**Alstom:** Flue Gas Desulfurization System Training.

**Virginia Transformer Corp.** Transformer Training.

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### **Professional Associations**

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**Linked in Power Generation and Commissioning**, Member -2010

**Association of Energy Services**, Participant - 2008

**Electric and Gas Utility Associations**, Participant - 2008

**Fluid Power Industry Organizations**, Participant – 2007