



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300  
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July 31, 2019

Mike Olden, P.E.  
City of Montesano  
112 N. Main Street  
Montesano, WA 98563

Re: Technical Memorandum and Plans and Specifications for the City of Montesano 2019  
Wastewater Treatment Plant Improvements

Dear Mike Olden:

Pursuant to RCW 90.48.110 and WAC 173-240-030, the *2019 Wastewater Treatment Plant Improvements Technical Memorandum* (April 2019) and the *2019 Wastewater Treatment Plant Improvements Contract Documents* (April 2019) have been reviewed and are hereby approved. One copy of the cover page of the approved document is being returned for your records. The improvements include biosolids lagoon modification and relocation, UV disinfection, and effluent pumping.

This approval is given on the basis that the documents were prepared by a professional engineer licensed in the State of Washington, and that the documents are in conformance with Chapter 173-240 WAC, State of Washington, and the Criteria for Sewage Works Design.

This approval shall not relieve the owners of this facility from any responsibilities or liabilities as a result of noncompliance with the discharge permit during construction or in operation of facilities approved herein.

Upon completion of the above-referenced project or portions thereof, the enclosed Declaration of Construction of Water Pollution Control Facilities shall be completed and returned with one complete set of as-builts by the professional engineer in responsible charge of inspection of construction of the project.

If you have any questions concerning this approval, please contact Dave Dougherty, P.E. by email at [david.dougherty@ecy.wa.gov](mailto:david.dougherty@ecy.wa.gov) or (360) 407-6278.

Sincerely,

Richard Doenges  
Southwest Region Manager  
Water Quality Program

Enclosures

**Southwest Regional Office  
Water Quality Program**

**Recommendation to Approve Technical Memorandum and Plans &  
Specifications**

TO: Richard Doenges, Southwest Region Section Manager  
FROM: Dave Dougherty, P.E., Facility Manager  
THROUGH: Greg Zentner, P.E., Municipal Operations Unit Supervisor  
DATE: July 24, 2019

The following Plans & Specifications were submitted to the Department of Ecology for review and approval as required by Chapter 173-240 of the Washington Administrative Code:

NAME OF REPORT: 2019 Wastewater Treatment Plant Improvements Technical Memorandum (April 2019) and  
2019 Wastewater Treatment Plant Improvements Contract Documents (April 2019)

OWNER/OPERATOR: City of Montesano, Washington

PREPARED BY: Parametrix, Inc.

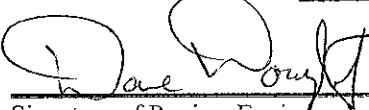
DATE SUBMITTED: June 3, 2019

As a licensed engineer in the State of Washington, I reviewed the report against the following review standards:

To be approved, an engineering report must demonstrate that the wastewater collection, treatment, and disposal facilities proposed will be designed, constructed, operated, and maintained to meet effluent limits and conditions of a NPDES or state waste discharge permit, be consistent with good engineering practice, and adequately protect the quality of state waters. Municipal facility documents are also examined for reasonable consistency with the state *Criteria for Sewage Works Design*.

Detailed findings, comments, or questions, if any, are attached to this memo. I hereby recommend the following disposition:

RECOMMENDATION: Approve

  
\_\_\_\_\_  
Signature of Review Engineer

32007 11/29/19  
License Number Expiration Date

Recognized Design Capacity for the System Described:

	Flow GPD	BOD Loading Lbs/day	TSS Loading Lbs/day
Peak Day	_____	_____	_____
Maximum Month	_____	_____	_____

The Technical Memorandum and Plans & Specifications describe improvements at the Montesano WWTP to shift the location of the biosolids lagoon away from the river, reducing the size of the biosolids lagoon and installing a new HDPE liner system; relocating the disinfection process and upgrading to UV; and new effluent pumps.

Montesano has funding to proceed with the relocation of the biosolids lagoon and effluent pumps. The UV system described in the plans is presently not funded. Besides the work described in these documents, the city plans to install more log jacks to protect the WWTP from the Wynoochee River.

With the relocation of the biosolids lagoon away from the river, the continued river migration should not cause a catastrophic release of stored biosolids anytime soon.

## TECHNICAL MEMORANDUM

DATE: April 10, 2019  
TO: Mike Olden, PE, City of Montesano  
FROM: Brandon Moss, EIT; Will Smythe, EIT;  
Connor Wittman, PE; Matt Austin, PE  
SUBJECT: Basis of Design Memorandum  
CC: Kevin Hegel, City of Montesano  
Doug Berschauer, PE, Parametrix; JC Hungerford, PE, Parametrix  
PROJECT NUMBER: 217-1678-044  
PROJECT NAME: 2019 Wastewater Treatment Plant Improvements



### INTRODUCTION

The primary objectives of the City of Montesano (City) Wastewater Treatment Plant (WWTP) Improvements project are to move crucial infrastructure away from the migration path of the Wynoochee River. Key aspects of the improvements include:

- Shifting the location of the biosolids holding lagoon away from river.
- Reducing the size of the biosolids lagoon and installing a new HDPE liner system.
- Relocating disinfection processes and upgrading to a more compact ultraviolet (UV) light treatment system.
- Various I&C improvements to accommodate the UV system and update annunciator and alarm capabilities.

The WWTP improvements are part of a multi-faceted project to protect the treatment plant from Wynoochee River migration. The river has meandered east toward the plant and has eroded the river bank such that it is nearly touching the treatment plant. Continued river migration could breach the WWTP causing catastrophic failure and allowing stored biosolids to spill into the river. The project not only includes WWTP improvements, but also in-river work to help divert the flow path away from the WWTP. The purpose of this memorandum is to summarize design criteria for the WWTP modifications.

### LAGOON MODIFICATIONS (BIOSOLIDS RELOCATION)

The WWTP has an existing 2.5-million-gallon biosolids lagoon which accepts waste activated sludge (WAS) from the treatment process for storage and additional facultative treatment. The western portion of the lagoon is currently within the path of the Wynoochee River migration and therefore is at an increased risk for failure. Thus, the WWTP modifications include reducing the lagoon size by approximately half, effectively relocating the lagoon away from the western corner of the plant.

REVIEWED BY: <i>Dave Douglas</i>	<i>JC Hungerford</i>
7/24/19	DATE 7/30/19
DEPARTMENT OF ECOLOGY WATER QUALITY PROGRAM SOUTHWEST REGIONAL OFFICE	

RECEIVED

JUN 03 2019

WA State Department  
of Ecology (SWRO)

# 2019 Wastewater Treatment Plant Improvements Contract Documents

REVIEWED BY:	APPROVED BY:
<i>Paul Day</i>	<i>Querry</i>
7/24/19	7/30/19
DEPARTMENT OF ECOLOGY WATER QUALITY PROGRAM SOUTHWEST REGIONAL OFFICE	

Prepared for



April 2019

Prepared by  
**Parametrix**

REVIEWED BY: *De Dought* APPROVED BY: *De Dought*  
7/24/19 DATE 7/30/19  
DEPARTMENT OF ECOLOGY  
WATER QUALITY PROGRAM  
SOUTHWEST REGIONAL OFFICE

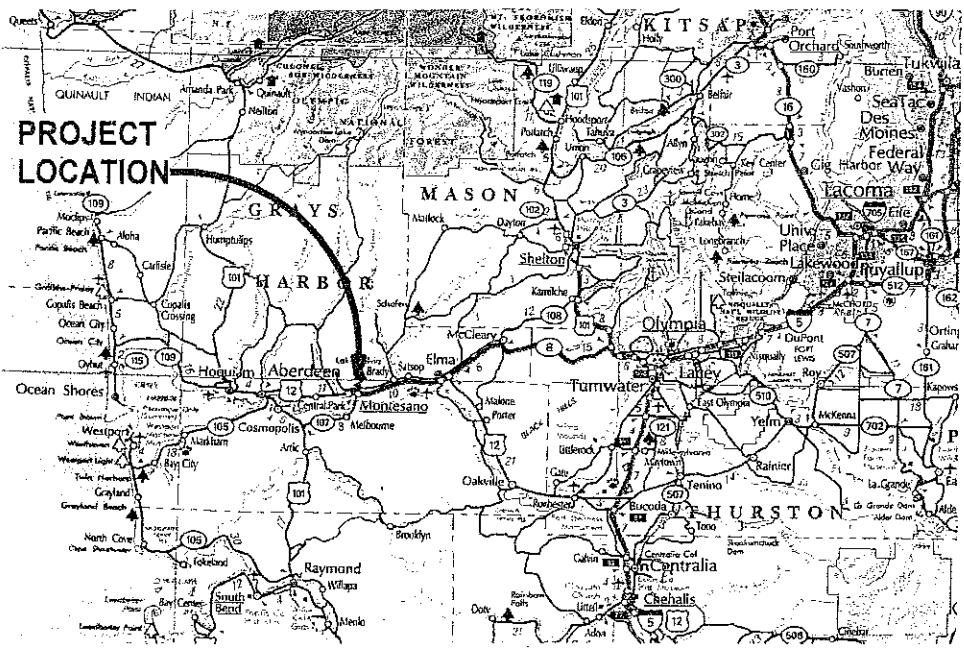
# CITY OF MONTESANO

## SCHEDULE 1 - WWTP IMPROVEMENTS

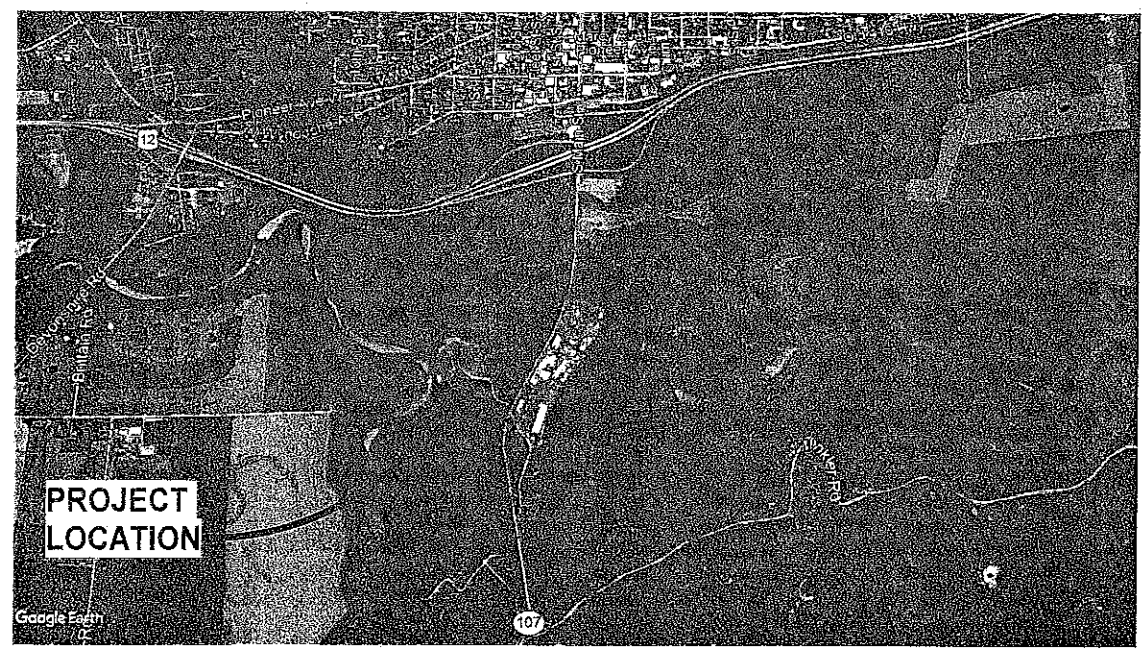
MONTESANO, WASHINGTON

### CITY COUNCIL

MAYOR: VINI SAMUEL  
COUNCIL: CLINT BRYSON  
IAN COPE  
KIM CRISTOBAL  
DAVE SKARAMUCA  
TYLER TRIMBLE  
DAN WOOD  
PUBLIC WORKS DIRECTOR: MIKE OLDEN



VICINITY MAP  
SCALE: NONE



LOCATION MAP  
SCALE: NONE

### SHEET INDEX

SHEET NUMBER	DRAWING NUMBER	DRAWING NAME
GENERAL		
1	G1	TITLE SHEET, VICINITY MAP, LOCATION MAP, AND SHEET INDEX
2	G2	STAGING PLAN
P&ID		
3	P1	P&ID PROCESS LEGEND AND ABBREVIATIONS
4	P2	P&ID ANOXIC BASIN, AERATOR BASIN AND BLOWER BUILDING
5	P3	P&ID CLARIFIERS, RASWAS STATION AND DRAIN STATION
6	P4	P&ID UV DISINFECTION BASIN
7	P5	P&ID EFFLUENT PUMPS AND ON-SITE PUMP STATION
8	P6	P&ID Mg(OH)2 SLURRY AND SLUDGE HOLDING LAGOONS
DEMOLITION		
9	D1	DEMOLITION / CONSTRUCTION SEQUENCING PLAN
10	D2	LIME SYSTEM DEMOLITION
11	D3	EFFLUENT PUMPS DEMOLITION
12	D4	DEMOLITION - ELECTRICAL
CIVIL		
13	C1	PROJECT CONTROL
14	C2	CONSTRUCTION SEQUENCING PLAN
15	C3	CONSTRUCTION SEQUENCING PLAN
16	C4	CIVIL IMPROVEMENTS PLAN
17	C5	CIVIL LAGOON MODIFICATIONS PLAN
18	C6	CIVIL LAGOON SECTIONS AND DETAILS
19	C7	CIVIL LAGOON DETAILS
20	C8	CIVIL DETAILS
STRUCTURAL		
21	S1	STRUCTURAL NOTES
22	S2	POLISHING POND STRUCTURAL PLAN
23	S3	POLISHING POND STRUCTURAL ROOF PLAN
24	S4	STRUCTURAL SECTION
25	S5	STRUCTURAL SECTION
26	S6	STRUCTURAL SECTIONS AND DETAILS
27	S7	EFFLUENT PUMP CHAMBER STRUCTURAL PLAN AND SECTIONS
28	S8	STRUCTURAL DETAILS
MECHANICAL		
29	M1	POLISHING POND MECHANICAL PLAN
30	M2	UV MECHANICAL PLANS
31	M3	UV MECHANICAL SECTIONS
32	M4	EFFLUENT PUMP CHAMBER MECHANICAL PLAN, SECTION, AND DETAILS
33	M5	POLISHING POND HVAC
34	M6	MECHANICAL DETAILS
ELECTRICAL		
35	E0	ELECTRICAL LEGEND AND ABBREVIATIONS
36	E1	ELECTRICAL SITE PLAN
37	E2	ELECTRICAL CONTROL BUILDING
38	E3	ELECTRICAL BLOWER BUILDING
39	E4	UV ELECTRICAL PLAN
40	E5	UV LIGHTING PLAN
41	E6	ELECTRICAL EFFLUENT PUMP CHAMBER PLAN, SECTION, AND DETAILS
42	E7	ELECTRICAL ONE-LINE DIAGRAM
43	E8	ELECTRICAL MCC ELEVATIONS
44	E9	ELECTRICAL SCHEDULES
45	E10	ELECTRICAL SCHEDULES
45a	E11	ELECTRICAL SCHEDULES
46	E20	CONTROL PANEL CP-100 WIRING DIAGRAM
47	E21	CONTROL PANEL CP-100 DIGITAL INPUT CARD 1
48	E22	CONTROL PANEL CP-100 DIGITAL INPUT CARD 2
49	E23	CONTROL PANEL CP-100 DIGITAL INPUT CARD 3
50	E24	CONTROL PANEL CP-100 DIGITAL INPUT CARD 4
51	E25	CONTROL PANEL CP-100 DIGITAL INPUT CARD 5
52	E26	CONTROL PANEL CP-100 DIGITAL OUTPUT CARD 1
53	E27	CONTROL PANEL CP-100 ANALOG INPUT CARD 1
54	E30	GO-NO-GO PANEL CP-104 WIRING DIAGRAM

CONFORMED SET  
THIS DRAWING IS A CONFORMED DRAWING AND IS NOT PART OF THE CONTRACT DOCUMENTS. THIS DRAWING IS PROVIDED AS A COUNTERPART TO THE CONTRACTOR. IN THE EVENT OF A DISCREPANCY BETWEEN THE CONFORMED DRAWING AND THE CONTRACT DOCUMENTS, THE CONTRACT DOCUMENTS SHALL PREVAIL.

REVISIONS	DATE	BY	DESIGNED
1	3/30/19	JH	B. MOSS
CONFORMED SET			
DRAWN A. PETERSON			
CHECKED D. BERSCHAUER			
APPROVED J. HUNGERFORD			

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME: WWTP Upgrade Design.rvt
JOB No: 217-1678-044 PH3
DATE: APRIL 2019



Parametrix  
ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
1019 39TH AVENUE SE, SUITE 100 | RYDALUP, WA 98147  
P 253.604.6000  
WWW.PARAMETRIX.COM

PROJECT NAME  
CITY OF MONTESANO  
SCHEDULE 1 - WWTP IMPROVEMENTS  
MONTESANO, WASHINGTON

TITLE SHEET, VICINITY MAP,  
LOCATION MAP, AND SHEET INDEX

DRAWING NO.  
1 OF 54  
G1