J-U-B ENGINEERS, INC.

J-U-B COMPANIES THE LANGDON GROUP GATEWAY MAPPING INC.

ADDENDUM NO. 1

DATE: January 21, 2026
FROM: Matt Filla, PE, on behalf of the Town of Palisade
TO: All Bidders of Record
RE: Sewer Transfer Project

All Bidders of Record responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Question: Will Town or Contractor be responsible for salvaging equipment at WWTF?

   Response: The Town will be responsible for salvaging equipment including aerators and screens.

2. Question: Will Contractor be required to coordinate with landowners?

   Response: Contractor is responsible for coordination with Landowners as required by the Drawings (including C-400 sheets) and Specifications.

3. Question: At the lagoons, will we remove headgates, liftstation, chlorine structures?

   Response: No.

4. Question: Will the electrical in middle of lagoons be removed?

   Response: Any electrical appurtenances in lagoons shall be abandoned in place.

5. Question: Can you confirm how and where to plug/abandon the lagoon outlet pipe?

   Response: Outlet pipe shall be plugged outside the lagoon fence perimeter in accordance with Detail 2 C-508.

6. Question: Will Town vac out the wastewater vaults upstream of the headworks building?

   Response: Yes.

7. Question: For precast concrete manholes, does the corrosion protection coating need to be shop applied? If so, does NACE inspection need to occur both at the shop (after coating application to precast parts) and in the field (after field coating the seams)?

   Response: Shop application is not required.

8. Question: Due to the low liquid limit clay soils, can a force account be set up for mitigating difficult to excavate soils if they are encountered?

   Response: No. Geotechnical data has been provided to assist the Bidder in including all costs in the bid items. A pay item for Minor Contract Revisions is included to account for unforeseen costs.

9. Question: The erosion control plan is the responsibility of the Contractor, but due to the linear nature of the project there may be a variety of control measures needed depending on conditions along the alignment. Without knowing what measures are needed, can known items (such as inspections and CDPHE permit) be identified as separate bid items?

   Response: Additional erosion control bid items will not be added.

10. Question: Regarding the potential use of fusible PVC pipe for the forcemain, what will be required to be signed/sealed by a Professional Engineer?

    Response: Whatever is necessary to demonstrate that the Fusible PVC complies with AWWA standards, specifications and manufacturer's recommendations/requirements for use as a sewer force main. Additionally, installation procedures, testing requirements, fusion logs or other necessary documentation must be a part of the sealed package. Engineer must also provide documentation that the horizontal and vertical alignment as indicated by the Plans can be maintained while utilizing this material.

11. Question: I understand this is just the pre-bid but wanted to reach out and touch base regarding some of the material listed on this project. I'm seeing 59ea 60in manhole comes with our spec is there anything else that will be on the project that I may need to quote out?

    Response: Bidder is responsible for reviewing Plans and Specifications for applicable items.

12. Question: Would galvanized sleeves be an equal substitute over stainless steel in the pump station? To my understanding stainless steel sleeves are hard to come by. Reference page # on drawings is D-502 / D-15005.

    Response: No, please provide stainless steel sleeves as detailed on D-502.

13. Question: Do you have a bidders list for this project?

    Response: Pre-bid sign-in list has been posted on BidNet.

14. Question: Is Contech A-2000 pipe acceptable?

    Response: Contech's A-2000 Profile Wall pipe appears to meet the requirements provided in Technical Section 2 – 102.7a of the Specifications for sewer lines 15" and larger in diameter, and therefore would be permitted. The minimum utility and casing clearances provided in the Drawings must still be maintained, and pipe types must be consistent manhole to manhole.

15. Question: Per the attached RFQ could you please send over the revised drawings and specifications. Triangle provided a quote on the first round with MPCs and would like to review the updated plans. Also, if you have a list of plan holders I would like to grab that list.

Response: Plans and specifications are available on Bidnet, as well as the pre-bid sign-in sheet.

16. Question: Can you please tell me if the controls engineer has set up the Scada PLC Panel, Odor Control Panel and the sensors with a manufacturer and distributor? These are very specialized panels and will need to be specified and built specifically for the Palisade project.

    Response: Panel specifications have not been provided to a manufacturer or distributor. The Contractor shall provide the SCADA PLC panel as designed in the drawings and specifications. The pump control panel is to be provided by the pump manufacturer (Flygt) and the odor control panels are to be provided by their manufacturers (Heartland and Vapex). The Electrical Controls sheets (EC-1,2,3) and the P&ID sheets (I-1,2) have been updated to reflect this. Specification 40 95 00 has also been modified to show the updated I/O list.

17. Question: We are interested in putting a bid for the project. We do welding, fabrication, any structural work, ect. I want to get more information on the pipeline side of the project. If I could get any information on it, I would greatly appreciate it.

    Response: Project information is available on Bidnet.

18. Question: Regarding polymer concrete manholes, can you please confirm whether the requested scope includes all manholes shown on sheets C-201 through C-226? I'd like to clarify this before requesting a revised quote from our estimating team to ensure we are fully aligned with the project requirements.

    Response: The manholes designated to be polymer concrete include MH-1 (72", sheet C-201), MH-9 (60", C-202), MH-23 (60" force main discharge manhole, C-208, detail 1 C-508), MH-25 (60", C-212), and MH-65 (60", C-226). So, one 72" manhole, three 60" manholes, and one 60" force main discharge manhole.

19. Question: There appears to be frequent pools of water in the canal when it is not running, indicating that there is a very high level of ground water even when the canal is not running.

    Response: Geotechnical data has been provided to assist the Bidder in estimating all costs in the bid items.

20. Question: There was a test hole that one of the residents dug that I looked at when we walked the alignment. This test hole showed a silty slurry that was about six feet down even in the middle of winter. If that is the case, is there some kind of method you plan to use to stabilize the pipe, i.e. helical piers?

    Response: Geotechnical data has been provided to assist the Bidder in estimating all costs in the bid items. Pay Items are included (such as Granular Stabilization Material) to account for unstable soils.

21. Question: With the lead arsenate that was used on the trees back in the early history of the valley, will we have to plan on treating the water for heavy metals that comes out of the ground before discharging?

    Response: No.

22. Question: Does the town have more funding than the last time around? The opinion of cost shown in the new documents is significantly lower than the low bid on the last go around. We do not see the price going down from that level to anywhere near the opinion of cost shown.

    Response: At this time, the Town does not have additional funding beyond what was available during the previous cycle. However, if it becomes apparent that more funding is necessary to support the project, the Town will actively pursue additional opportunities. The Town's goal is to ensure the project has the resources it needs to move forward successfully.

23. Question: Does the ditch company require metering prior to discharging groundwater into the canal?

    Response: No.

24. Question: The Landfill has revealed sample requirements that could be detrimental to the project. What can be done to rectify this?

    Response: According to Mesa County Landfill, testing is required for every 100 cubic yards of sludge. Mesa County Landfill has indicated that they would like to seek an exemption to this requirement from CDPHE for the purpose of this Project. Further information will be provided in an upcoming addendum.

25. Question: Will you extend the Question Deadline and Bid Date both by 14 days?

    Response: Question Deadline will not be extended. Bid Submittal Due Date shall be extended 14 days to February 18, 2026 while landfill requirements are reviewed by CDPHE. Notice of Award shall be extended 14 days to March 4, 2026.

26. Question: Is the only ingress/egress to the site across the canal bridge at the park? If so, who is responsible for damage to the bridge?

    Response: Yes, the bridge is the only ingress/egress route. Contractor shall be responsible for protecting County, Town, and private infrastructure.

27. Question: Can we take down portions of the lagoon fence in order to access the lagoon site with truck traffic?

    Response: Yes, provided that the fence is restored after completion of the work.

28. Question: Can we alter the grade on the lagoons to allow trucks to gain access to the various lagoons? If so, will we be required to return it back to original grade?

    Response: Yes, provided that any excavated material is neatly stockpiled and doesn't interfere with Town facilities/operations outside the WWTP.

29. Question: Can we utilize the roads through the park for ingress/egress due to tractor trailer not being able to make the corner at the canal bridge onto canal road?

    Response: The canal road is the only ingress/egress route for tractor trailers. Tractor trailers may use the Riverbend Park parking lot to turn as needed to navigate the bridge corner.

30. Question: Section 03 30 00 – Cast In Place Concrete, 2.1 Concrete Materials, requires the cement to be Type I or Type II. Will Type IL be allowed?

    Response: Type IL is acceptable with 10% max limestone.

31. Question: "Article 2 - Attachments to this Bid. H. Manufacturer's Certification letter of compliance with Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference for all equals or substitutes approved by Addenda for American Iron and Steel products as provided in these Contract Documents. Will it be necessary to include a Manufacturer's Certification of Compliance on all materials for the bidding process?

    Response: No, Manufacturer's Certification of Compliance is not required during the bidding process. Please note that BABAA applies and supersedes AIS requirements and updates to the relevant specifications will be provided in a future addendum.

32. Question: Article 4.02 Contract Times, States final completion is May 15, 2027. Is this a hold-over date from the previous bid? If so, what is the actual completion date?

    Response: The punchlist items required to transport wastewater to the CSD WWTP (pipeline and lift station) will be substantially complete on or before March 15, 2028, with surface restoration punchlist items substantially complete by April 15, 2028. Substantial completion for the Lagoon Decommissioning portion of the Project will be March 15, 2030.

33. Question: Please clarify which items within the headworks building and amongst the lagoons must be salvaged/saved for the owner.

    Response: Owner will be responsible for salvaging items in advance of the Lagoon Decommissioning work.

34. Question: Please confirm whether Bid Item 24 (Manhole Coating, 590 VLF) represents full interior coating of all precast concrete sanitary sewer manholes from invert to cone.

    Response: This is correct.

35. Question: Please confirm whether polymer concrete manholes are excluded from the coating requirement.

    Response: Polymer concrete manholes are excluded from the coating requirement.

36. Question: Please confirm whether Traffic Control (Bid Item 53) is required only during active pipeline construction operations, or if traffic control must remain in place during periods of inactivity, inspections, or delays.

    Response: Traffic Control is required any time traffic is impacted by the Project.

37. Question: Question: Are all the answers to the questions from the addendums from the previous bid as shown in the Section 01100 'Summary' of the specs still valid?

Response: Yes.

38. Question: Concerning question #5 in section 01100 part 1.6, where do the water main encasements get paid for?

    Response: Concrete encasement of pipes is considered incidental to the Work and will not be measured or paid for separately.

39. Question: Does the Town have a place that will take the export material from the Lagoon Abandonment?

    Response: The Mesa County Solid Waste Management Facility.

40. Question: Has the gas main relocation mentioned in question #19 of the 'Summary" been completed?

    Response: No. Xcel has stated that they need six weeks notice before they relocate the gas line.

41. Question: If the answer to question #44 is still valid, how much material will the landowner be willing to take?

    Response: Assume that the landowner will only take the excess material generated on their own property.

42. Question: To get the costs of the bid proposal lower this time around, is the Town willing to use alternate or equivalent items during bidding this time? Namely an equivalent to the FLYGT pumps, from a local manufacture such as Munro pump?

    Response: Alternates will not be permitted unless otherwise stated in the Plans and Specifications.

Please make note of the following bid document modifications:

1. Contract Documents will be updated to reflect the above changes in an upcoming addendum.

2. The Electrical Control sheets (EC-1, EC-2, EC-3) and the P&ID sheets (I-1, I-2) shall be deleted and replaced with the attached updated drawings.

The original solicitation for the project noted above is amended as noted. All other conditions of the subject remain the same.

Respectfully,

Matt Filla, PE
Project Engineer – Lead, J-U-B Engineers, Inc.

SCHEMATIC SYMBOLS

- WIRE CONNECTION POINT
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- STARTER, CONTACTOR OR RELAY COIL
- NORMALLY OPEN PUSH BUTTON
- NORMALLY CLOSED PUSH BUTTON
- MAINTAINED PUSH BUTTON
- NORMALLY CLOSED GEARED LIMIT SWITCH
- NORMALLY OPEN GEARED LIMIT SWITCH
- INDICATING LIGHT
- FUSE
- CONTROL POWER TRANSFORMER
- SWITCH
- MS MANUAL STARTER
- OL OVERLOAD
- FLOAT SWITCH (CLOSING ON RISING LEVEL)
- FLOAT SWITCH (OPENING ON RISING LEVEL)
- PRESSURE SWITCH (CLOSING ON RISING PRESSURE)
- PRESSURE SWITCH (OPENING ON RISING PRESSURE)
- VACUUM SWITCH (CLOSING ON INCREASING VACUUM)
- VACUUM SWITCH (OPENING ON INCREASING VACUUM)
- TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)
- TEMPERATURE SWITCH (OPENING ON RISING TEMPERATURE)
- FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)
- FLOW ACTUATED SWITCH (OPENING ON INCREASE IN FLOW)
- ON TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY CLOSING AFTER COIL IS ENERGIZED)
- ON TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY OPENING AFTER COIL IS ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY OPENING AFTER COIL IS DE-ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY CLOSING AFTER COIL IS DE-ENERGIZED)
- TORQUE SWITCH (NORMALLY OPEN)
- TORQUE SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY OPEN)
- LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED, HELD OPEN)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY OPEN, CLOSING ON INCREASING DIFF.)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY CLOSED, OPENING ON INCREASING DIFF.)
- SUPX 24 VDC SURGE PROTECTION

NETWORKING LEGEND

- OPERATOR INTERFACE TERMINAL, (OIT)
- PROGRAMMABLE LOGIC CONTROLLER, (PLC)
- VARIABLE FREQUENCY DRIVE, (VFD)
- RACK SERVER
- PC
- CAMERA
- MODEM
- ROUTER
- NETWORK SWITCJ
- MEDIA CONVERTER
- WIRELESS ACCESS POINT
- RADIO
- RADIO TOWER
- PP PATCH PANEL
- —CAT5— CAT5 CABLE
- —CAT6— CAT6 CABLE
- - - - - - CELLULAR
- XXXXX FIBER
- —SERIAL— SERIAL
- WIRELESS

ABBREVIATIONS

A	AMBER, AMPERE, ALARM
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AM	AMMETER
ATO	AUTOMATIC THROWOVER
AWG	AMERICAN WIRE GAUGE
C	CLOSE, COUNTER, CONTACTOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CD	CONTROL DAMPER
CKT	CIRCUIT
CL2	CHLORINE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL STATION
CT	CYCLE TIMER, CURRENT TRANSFORMER
CTM	CYCLE TIMER MOTOR
2/C	2 CONDUCTOR
4"C	4" CONDUIT
DC	DIRECT CURRENT
DM	DAMPER MOTOR, DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DPS	DIFFERENTIAL PRESSURE SWITCH
DS	DISCONNECT SWITCH
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE
EMH	ELECTRICAL MANHOLE
ETM	ELAPSED TIME METER
EX	EXISTING
F	FORWARD
FS	FLOW SWITCH
G	GREEN, GROUND
GFI	GROUND FAULT INTERRUPTER
GLS	GEARED LIMIT SWITCH
#8G	#8 GROUND WIRE
H	HIGH, HUMIDISTAT
HH	HANDHOLE
HMT	HIGH MOTOR TEMPERATURE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HP	HORSEPOWER
HWCO	HIGH WATER CUTOFF
HZ	HERTZ (CYCLE)
I/O	INPUT/OUTPUT
J	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR
KW	KILOWATT
KWH	KILOWATT HOUR
L	LOW, LEVEL
LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LP	LIGHTING PANEL
LS	LIMIT SWITCH, LEVEL SWITCH
LWCO	LOW WATER CUTOFF
M	MAGNETIC MOTOR STARTER
M	MAGNETIC MOTOR
MA	STARTER
MCB	MILLIAMPERE
MCC	MAIN CIRCUIT BREAKER
MCM	MOTOR CONTROL CENTER
MD	THOUSAND CIRCULAR MIL
MH	MOISTURE DETECTOR MANHOLE, MOUNTING HEIGHT
MOV	MOTOR OPERATED VALVE
MS	MANUAL MOTOR STARTER
MSH	MOTOR SPACE HEATER
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN, NUMBER
O	OPEN
OL	OVERLOAD
PB	PUSH BUTTON, PULL BOX
PF	POWER FACTOR METER
PH	PHASE (CHEMICAL TERM)
PLC	PROGRAMMABLE LOGIC CONTROLLER
PP	PATCH PANEL
PS	POWER SUPPLY
PT	PRESSURE SWITCH POTENTIAL TRANSFORMER, PROGRAM TIMER
2P	2 POLE
R	RED, RAISE, RELAY, REVERSE
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RTD	RESISTANCE TYPE TEMP DETECTOR
RTU	REMOTE TERMINAL UNIT
RVSS	REDUCED VOLTAGE SOLID STATE STARTER
S2	SIZE 2 STARTER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SP	SINGLE POLE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	SELECTOR SWITCH
SV	SOLENOID VALVE
SWB	SWITCHBOARD
SWGR	SWITCHGEAR
T	THERMOSTAT, TIMER, TOTALIZER
TACH	TACHOMETER
TB	TERMINAL BLOCK
TD	TIME DELAY RELAY
TEMP	TEMPERATURE
TQ	TORQUE
TS	TEMPERATURE SWITCH
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPERE
VLS	VALVE LIMIT SWITCH
VM	VOLTMETER
W	WHITE, WATTS
WH	WATTHOUR METER
WM	WATT METER
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
Y	YELLOW
Z	AUXILIARY RELAY
ZS	POSITION SWITCH

GENERAL NOTES

1. SOLID LINES —— INDICATE NEW WORK OR EQUIPMENT.
2. GRAYSCALED INDICATE EXISTING WORK OR EQUIPMENT.
3. DASHED LINES —— INDICATE FUTURE WORK OR EQUIPMENT.
4. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
5. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
   - A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
   - B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
   - C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
   - D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
6. CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.

J-U-B ENGINEERS, INC.

BROWNS HILL ENGINEERING AND CONTROLS
8130 SHAFFER PARKWAY SUITE #A
LITTLETON, COLORADO 80127
720.344.7771 720.344.7460 FAX

BID SET

COLORADO REGISTERED THEODORE WILTSEY 30647 7-11-25 PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	APPD.	DATE
	REVISION			

SEWER TRANSFER PROJECT
TOWN OF PALISADE

ELECTRICAL CONTROLS
LEGEND

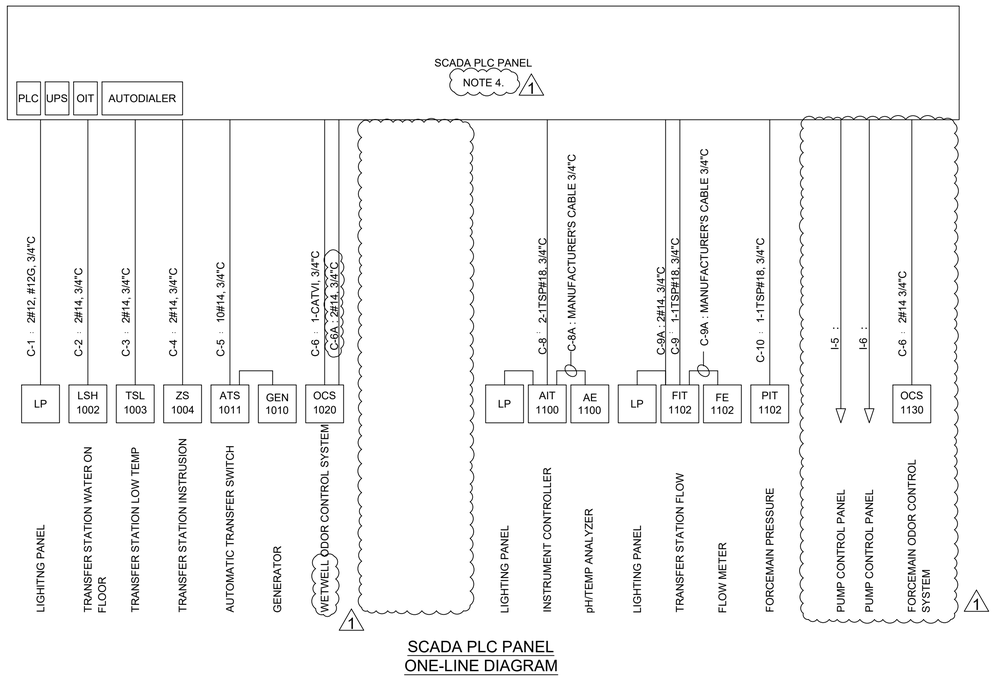
FILE : E02 ONELINES
JUB PROJ. # : 81-23-029
DRAWN BY: BAC
DESIGN BY: BAC
CHECKED BY: TFW

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

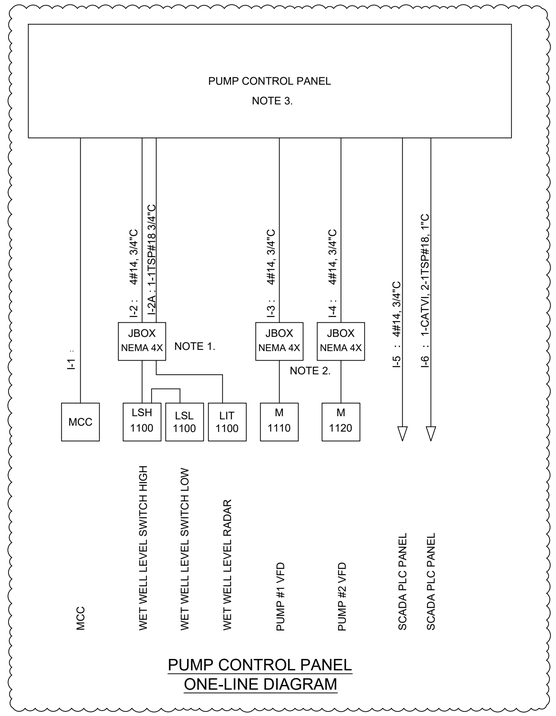
LAST UPDATED: 7/16/2025

SHEET NUMBER:
EC-1

Plot Date:7/17/2025 10:23 AM Plotted By: Brittanny B. Christianson
Date Created:7/16/2025 X:\BH OFFICE CLIENTS\PALISADE\ENGINEERING\2025 SEWER TRANSFER STATION\DRAWINGS\E02 ONELINES.DWG



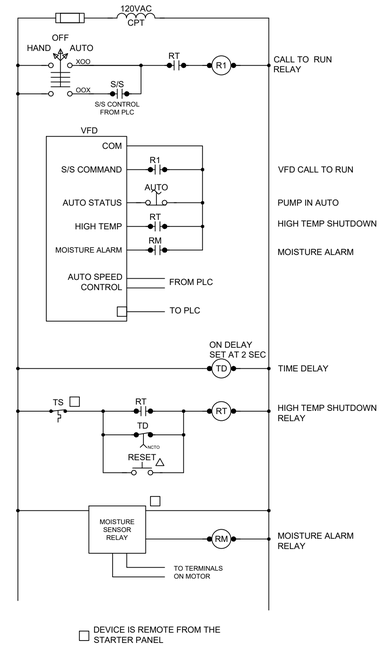
SCADA PLC PANEL
ONE-LINE DIAGRAM



PUMP CONTROL PANEL
ONE-LINE DIAGRAM

NOTES:
1. J-BOX TO BE LOCATED NEAR WET WELL
2. J-BOX TO BE LOCATED NEAR PUMP MOUNTING BASE.
3. FLYGT IS TO PROVIDE PUMP CONTROL PANEL.
4. SCADA CONTROL PANEL IS PROVIDED BY CONTRACTOR

1



PUMP #1 & #2

ALL CONTROL SHALL BE HARDWIRED. SIGNALS BACK TO THE PLC SHALL BE OVER ETHERNET.
*FLYGT TO PROVIDE VFD CONTROL PANEL

J-U-B ENGINEERS, INC.

BROWNS HILL ENGINEERING AND CONTROLS
8130 SHAFFER PARKWAY SUITE #A
LITTLETON, COLORADO 80127
720.344.7771 720.344.7460 FAX

BID SET

COLORADO REGISTERED THEODORE WILLIAM 30647 7-17-25 PROFESSIONAL ENGINEER

NO.	REVISION / DESCRIPTION	BY	APP'D	DATE
1	ADDENDUM #1	BAC	BAC	01/22/26

SEWER TRANSFER PROJECT
TOWN OF PALISADE

ELECTRICAL CONTROLS

ONE-LINES & SCHEMATICS

FILE :	E02 ONELINES
JUB PROJ. # :	81-23-029
DRAWN BY:	BAC
DESIGN BY:	BAC
CHECKED BY:	TFW

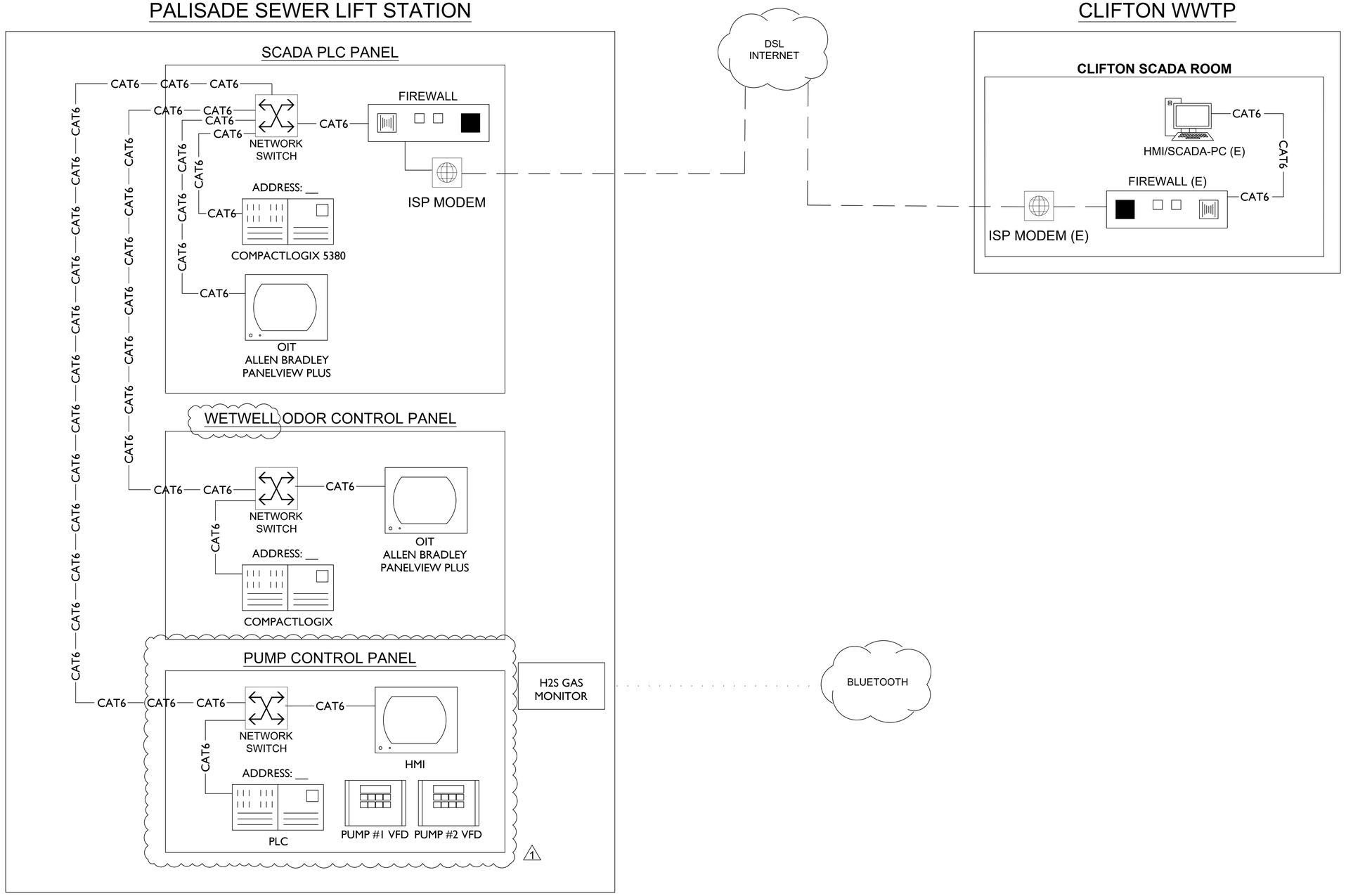
ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED: 7/17/2025

SHEET NUMBER:

EC-2

Plot Date:1/14/2026 11:12 AM Plotted By: Brittanny B. Christianson
Date Created:7/17/2025 Z:\SHARED\FILES\02\BH OPERATIONS\BH OFFICE CLIENTS\PALISADE\ENGINEERING\2025 SEWER TRANSFER STATION\DRAWINGS\E02 ONELINES.DWG



PALISADE SEWER LIFT STATION
NETWORK DIAGRAM

J-U-B ENGINEERS, INC.

BROWNS HILL ENGINEERING AND CONTROLS
8130 SHAFFER PARKWAY SUITE #A
LITTLETON, COLORADO 80127
720.344.7771 720.344.7460 FAX

BID SET

COLORADO REGISTERED THEODORE WILLIAM 30647 7-17-25 PROFESSIONAL ENGINEER

NO.	REVISION / DESCRIPTION	BY	APP'D	DATE
1	ADDENDUM #1	BAC	BAC	01/22/26

SEWER TRANSFER PROJECT
TOWN OF PALISADE

ELECTRICAL CONTROLS

NETWORKING DIAGRAM

FILE :	E02 ONELINES
JUB PROJ. # :	81-23-029
DRAWN BY:	BAC
DESIGN BY:	BAC
CHECKED BY:	TFW

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED: 7/17/2025

SHEET NUMBER:

EC-3

Plot Date:1/14/2026 11:14 AM Plotted By: Brittanny B. Christianson
Date Created:7/17/2025 Z:\SHARED FILES\02 B1 OPERATIONS\B1 OFFICE CLIENTS\PALISADE\ENGINEERING\2025 SEWER TRANSFER STATION\DRAWINGS\E02 ONELINES.DWG

PROCESS LEGEND

1/G1.2 — NUMBER INDICATES SHEET OF PROCESS OR CONTROL CONTINUATION; PROCESS IDENTIFICATION NUMBER

- MAIN PROCESS LINE
- EXIST MAIN PROCESS LINE
- FUTURE MAIN PROCESS LINE
- CHANNEL
- EXIST CHANNEL
- SECONDARY PROCESS LINE
- EXIST SECONDARY PROCESS LINE
- FUTURE SECONDARY PROCESS LINE
- BUILDING
- HARDWIRED SIGNAL
- DATA LINK OR SOFTWARE SIGNAL

VALVE SYMBOLS

CLOSED OPEN

- GATE VALVE
- PLUG VALVE
- GLOBE VALVE
- BALL VALVE
- DIAPHRAGM VALVE
- BUTTERFLY VALVE
- SWING CHECK VALVE
- BALL CHECK VALVE
- GLOBE CHECK VALVE
- WAFER CHECK VALVE
- DUCKBILL CHECK VALVE
- HAND OPERATED VALVE
- PILOT OPERATED PRESSURE REDUCING VALVE W/ DOWNSTREAM PRESSURE SETTING
- PILOT OPERATED PRESSURE REDUCING VALVE W/ UPSTREAM PRESSURE SETTING
- SPRING PRESSURE RELIEF W/ PRESSURE RELIEF
- AIR RELEASE VALVE (ARV)
- SOLENOID OPERATED VALVE (S)
- MOTOR OPERATED VALVE (M)
- BACKFLOW PREVENTER
- STOP LOGS
- SLIDE GATE

P&ID EQUIPMENT SYMBOLS

- DRY PIT / WET PIT
- CENTRIFUGAL PUMPS
- SUBMERSIBLE PUMP
- PROGRESSIVE CAVITY PUMP
- METERING PUMP
- PERISTALTIC PUMP
- VERTICAL TURBINE PUMP
- SUBMERSIBLE WELL PUMP
- DOUBLE DISC DIAPHRAGM PUMP (POSITIVE DISPLACEMENT)
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- ROTARY LOBE PUMP
- HANDLE OR THROTTLE
- MOTOR DRIVER (M)
- PRESSURE GAUGE
- DIAPHRAGM SEAL
- MANUAL DRAIN
- CAM-LOCK FITTING/QUICK CONNECT
- BLIND FLANGE
- FLUSHING PORT
- SAMPLE VALVE/PORT
- FLOW METER (M)
- THERMAL MASS FLOW METER (T)
- LASER FLOW METER
- STATIC INLINE MIXER
- ULTRASONIC LEVEL INDICATOR
- ULTRASONIC FLOW SENSOR
- HYDROSTATIC LEVEL SENSOR
- DISOLVED OXYGEN SENSOR
- PH SENSOR
- RADAR LEVEL INDICATOR
- FLOAT SWITCH
- EMERGENCY EYEWASH
- CALIBRATION COLUMN
- CHEMICAL FEED SYSTEM
- POLYMER INJECTION RING
- FAN
- MIXER
- WEIR
- FLOW RESTRICTOR
- PH/TEMP ANALYZER
- TURBIDIMETER (TURB)
- ORP METER (ORP)
- PARSHALL FLUME
- INLINE GRINDER
- RADIO TRANSMITTER
- RADIO RECEIVER
- DRAIN
- DIFFUSERS
- PRESSURE INDICATING TRANSMITTER

PROCESS SERIES TAGGING

HEADWORKS	100S
AERATION	200S
CLARIFICATION	300S
WAS,RAS,SCUM	400S
UV	500S
DIGESTION/TWAS	600S
POLYMER	700S
WWTP DRAIN	800S

INSTRUMENT IDENTIFICATION LETTERS
(INSTRUMENT SOCIETY OF AMERICA)

	FIRST – LETTER		SUCCEEDING – LETTERS		
	MEASURED OR INITIATING VARIABLE		READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONTROL			CONTROL SWITCH	CLOSED
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE MOTOR	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	FAILURE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	COMMAND
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

P&ID INSTRUMENT SYMBOLS

PROCESS CONTROL SYSTEM INTERFACE SYMBOLS

YYY

INPUT/OUTPUT TO/FROM PLC, INSIDE PLC PANEL
YYY – INDICATES FUNCTION TYPE
XXX – INDICATES PANEL WHERE DEVICE IS LOCATED

GENERAL INSTRUMENT SYMBOLS

- FIELD MOUNTED INSTRUMENT
- XXX — INSTRUMENT MOUNTED ON FACE OF PANEL NORMALLY ACCESSIBLE TO THE OPERATOR. XXX – INDICATES PANEL WHERE DEVICE IS LOCATED
- XXX — INSTRUMENT MOUNTED BEHIND OR INSIDE PANEL. XXX – INDICATES PANEL WHERE DEVICE IS LOCATED
- SINGLE INSTRUMENT HOUSING CONTAINING TWO OR (MORE) INSTRUMENTATION FUNCTIONS
- PLC I/O

PANEL NOMENCLATURE

CP-XXX:	CONTROL PANEL (AREA CONTROL)
LCP-XXXA:	LOCAL CONTROL PANEL (SPECIFICATION PROCESS CONTROL) LETTERS A, B, C DENOTES VENDER SUPPLIED EQUIPMENT
LP-X	LIGHTING PANEL

GENERAL NOTES:

1. THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
2. P & ID INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION.
3. P & ID DOES NOT REPRESENT CONTROL STRATEGIES OR INTERACTIONS. REFERENCE SECTION 16950, CONTROL NARRATIVES, FOR THIS INFORMATION.
4. P & ID DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY, REFER TO SECTION 16950 FOR COMPLETE DESCRIPTION.

COMMON INSTRUMENT DESIGNATIONS

TAG	DESIGNATION
YL	EQUIPMENT RUNNING STATUS
YS	EQUIPMENT IN AUTO OR REMOTE STATUS
YY	EQUIPMENT RUN COMMAND
UA	EQUIPMENT FAULT STATUS
HC	HAND CONTROL
HS	HAND SWITCH
SI	SPEED INDICATION
SC	SPEED COMMAND
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
FE	FLOW ELEMENT
FIT	FLOW INDICATOR/TRANSMITTER
ZSO	VALVE POSITION FULL OPEN
ZSC	VALVE POSITION FULL CLOSE
ZSI	VALVE POSITION INDICATOR
SP	SET POINT
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
HOA	HAND-OFF-AUTO
OCA	OPEN-CLOSE-AUTO
LCP	LOCAL CONTROL PANEL

ABBREVIATIONS

P-XXX	PUMP
MX-XXX	MIXER
MBS-XXX	MECHANICAL BAR SCREEN
MS-XXX	MANUAL BAR SCREEN
BL-XXX	BLOWERS
GC-XXX	GRIT CLASSIFIER
WC-XXX	WASHER COMPACTOR
RDT-XXX	ROTARY DRUM THICKENER
UV-XXX	ULTRA VIOLET
CV-XXX	CHECK VALVE
BV-XXX	BALL VALVE
PV-XXX	PLUG VALVE
BFV-XXX	BUTTERFLY VALVE
MV-XXX	MOTOR OPERATED VALVE
SV-XXX	SOLENOID OPERATED VALVE
M-XXX	MOTOR
OC-XXX	ODOR CONTROL SYSTEM
G-XXX	INLINE GRINDER
SP-XXX	DEWATERING SCREW PRESS
ST-XXX	STRAINER

J-U-B ENGINEERS, INC.

BROWNS HILL ENGINEERING AND CONTROLS
8130 SHAFFER PARKWAY SUITE #A
LITTLETON, COLORADO 80127
720.344.7771 720.344.7460 FAX

BID SET

COLORADO REGISTERED THEODORE WILLIAMS 30647 7-11-25 PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	APP'L	DATE
REVISION				

SEWER TRANSFER PROJECT
TOWN OF PALISADE

PIPING AND INSTRUMENTATION DIAGRAM

LEGEND

FILE : I-1 & I-2
JUB PROJ. # : 81-23-029
DRAWN BY: TRW
DESIGN BY: TRW
CHECKED BY: TFW
ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY
LAST UPDATED: 7/17/2025

SHEET NUMBER:

I-1

Plot Date:7/17/2025 10:38 AM Plotted By: Brittanny B. Christianson
Date Created:7/17/2025 X:\BH OFFICE CLIENTS\PALISADE\ENGINEERING\2025 SEWER TRANSFER STATION\DRAWINGS\I-1 & I-2.DWG

REFER TO CONTROL DESCRIPTIONS FOR CONTROL INTERLOCKS

HMI

SCADA PLC PANEL

FIELD

UTILITY PWR FAIL	UPS FAIL	BLDG WOF	BLDG LOW TEMP	DOOR SWITCH OPEN	UTILITY PWR FAIL	UPS FAIL	BLDG WOF	BLDG LOW TEMP	DOOR SWITCH OPEN	ODOR CONTROL FAULT	WW HIGH LEVEL ALARM	WW LOW LEVEL ALARM	PUMP #1 FAULT	PUMP #2 FAULT	RUN	FAULT	FAULT	IN EMERG. POSITION	WETWELL LEVEL	WETWELL HIGH LEVEL ALARM	WETWELL LOW LEVEL ALARM	STATUS	MISC MON. SIGNALS	WETWELL PH	WETWELL TEMP.	S/S CNTRL
JA 1000	JA 1001	LSH 1002	TSL 1003	ZS 1004	XA 1000	XA 1001	LAH 1002	TAL 1003	ZA 1004	XA 1020	LSH 1100	LSL 1100	XA 1110	XA 1120	YI 1010	YA 1010	LSL 1010	ZS 1011	LI 1100	LSH 1100	LSL 1100	M 1020	M 1020	AI 1100	TI 1100	HC 1130
DI	DI	DI	DI	DI	DO	DO	DO	DO	DO	DO	DO	DO	DO	DO	DI	DI	DI	DI	AI	DI	DI	DI	DI	AI	AI	DO

SPEED CNTRL	S/S CNTRL	SPEED FDBK	AUTO	RUN	FAULT	MOTOR MOISTURE FAULT	MOTOR TEMP FAULT	SPEED CNTRL	S/S CNTRL	SPEED FDBK	AUTO	RUN	FAULT	MOTOR MOISTURE FAULT	MOTOR TEMP FAULT	FORCEMAIN PRESSURE	STATION FLOW	FLOW TOTAL
SC 1110	HC 1110	SI 1110	HS 1110	M 1110	MA 1110	YA 1110	TA 1110	SC 1120	HC 1120	SI 1120	HS 1120	M 1120	MA 1120	YA 1120	TA 1120	PI 1101	FI 1102	FT 1102
AO	DO	AI	DI	DI	DI	DI	DI	AO	DO	AI	DI	DI	DI	DI	DI	AI	AI	

JA 1000 JA 1001

AUTODIALER

LSH 1002 TSL 1003 ZS 1004

GENERATOR

ATS

PUMP CONTROL PANEL

WW ODOR CONTROL SYSTEM

FM ODOR CONTROL SYSTEM

PUMP CONTROL PANEL

BLUETOOTH

AIT 1100 AI 1103

LIT 1100 LSH 1100 LSL 1100 AE 1100

AE 1103

PH/TEMP

H2S

LSH

LSL

WET WELL

FROM COLLECTION SYSTEM

18" – SAN – D.I.

QUICK CONNECT

PV-1103

8" – SSFM – D.I.

8" – SSFM – PVC

TO EXISTING FORCE MAIN

D.I. TO PVC TRANSITION COUPLING

FIT 1102

PV-1102

PI 1101 PIT 1101 FE 1102 M

TE 1110 YE 1110

10" D.I. PV-1110A

PUMP #1

4" X 6" CV-1110 PV-1110B

TE 1120 YE 1120

6" – SSFM – DI

10" D.I. PV-1120A

PUMP #2

4" X 6" CV-1120 PV-1120B

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REVISION			
NO.	DESCRIPTION	BY	APP'D	DATE
1	ADDENDUM #1	BAC	BAC	01/22/26

SEWER TRANSFER PROJECT
TOWN OF PALISADE

PIPING AND INSTRUMENTATION DIAGRAM

TRANSFER STATION

FILE :	I-1 & I-2
JUB PROJ. # :	81-23-029
DRAWN BY:	TRW
DESIGN BY:	TRW
CHECKED BY:	TFW

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED: 1/14/2026

SHEET NUMBER:

I-2

Plot Date:1/14/2026 11:40 AM Plotted By: Brittanny B. Christianson
Date Created:1/14/2026 Z:\SHARED\FILES\02\BH OPERATIONS\BH OFFICE CLIENTS\PALISADE\ENGINEERING\2025 SEWER TRANSFER STATION\DRAWINGS\I-1 & I-2.DWG