

**MEMORANDUM**

**TO:** Board of Trustees

**THROUGH:** Brad Underwood, Director of Public Works

**FROM:** Bree Waters, District Project Manager

**SUBJECT:** Review, discuss and possibly approve a professional services agreement with DOWL LLC for the preparation of revised bidding documents associated with the Sewer Pump Station (SPS) #1 CIP#2599DI1703 project (Requesting Staff Member: Director of Public Works Brad Underwood)

**RELATED STRATEGIC PLAN BUDGET INITIATIVE(S):** **LONG RANGE PRINCIPLE #5 – ASSETS AND INFRASTRUCTURE**

The District will practice perpetual asset renewal, replacement and improvement to provide safe and superior long term utility services and recreation venues, facilities, and services.

**Strategies**

- Maintain, renew, expand and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- Maintain and execute a 5-year and 20-year capital improvement program.

**RELATED DISTRICT POLICIES, PRACTICES, RESOLUTIONS OR ORDINANCES** Board Policy 3.1.0.5(f) - Conduct Meetings of the Board of Trustees; Board Policy 12.1.0 - Multi-Year Capital Planning; Board Policy 13.1.0 - Capital Project Budgeting

**DATE:** May 25, 2023

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**I. RECOMMENDATION**

1. Review, discuss and possibly approve a professional services agreement with DOWL LLC, in the amount not to exceed \$42,303 for the preparation of revised bidding documents associated with the Sewer Pump Station (SPS) #1 CIP#2599DI1703 project.
2. Authorize Director of Public Works to execute the contract in substantially the form presented.

## **II. BACKGROUND**

The Sewer Pump Station (SPS) #1 Improvements project, CIP#2599DI1703 (Attachment A), has been a proposed capital improvement since 2019. In 2019, the project was designed and bid; however the bids well exceeded the available budget at the time. In 2021, PW Staff revisited the project with the engineering firm, Jacobs, and the Board of Trustees approved a contract to rebid the project. Due to unfilled positions in the Engineering Division, this work with Jacobs was not initiated.

In 2022, Staff met with a number of electrical engineers and contractors to reevaluate the original scope of the project. Also in 2022, staff began working with DOWL LLC on the Water and Sewer Masterplan Project. Since a high level review of all sewer pump stations was being completed as part of the Masterplan, staff requested they perform an in-depth review of the Jacobs plans, condition assessment of the SPS#1 existing equipment, and provide a prioritized list of work which is presented in a technical memo (Attachment B). Staff also requested an increase in the CIP budget FY22/23 since material and labor costs have risen sharply following the Covid pandemic.

Based on the technical memorandum provided by DOWL LLC, staff requested that Jacobs provide a cost proposal to re-package the documents to include Base Bid, Bid Alternate A and a Bid Alternate B. Jacob's cost for the re-packaging of the scaled down design was \$73,100. Staff deemed this cost proposal too high for the work to be performed. Therefore, staff contacted DOWL LLC for a cost proposal which was received in the amount of \$42,303 (Attachment C).

This item is placed on the Consent Calendar in accordance with Policy 3.1.0.4.

## **III. BID RESULTS**

This item is not subject to competitive bidding within the meaning of the Nevada Revised Statute (NRS) 332.115 as described in subsection (b) Professional Services.

Additionally, per NRS 625.530, selection of a professional engineer or registered architect to perform work on public works projects, where the complete project costs exceed \$35,000, is to be made solely on the basis of the competence and qualifications of the engineer or architect and not the basis of competitive fees.

Dowl is currently contracted for the Water and Sewer Masterplan project, and as part of that project DOWL LLC is performing a high level review of the electrical infrastructure within the District's pump stations. Dowl completed the condition assessment and provided a technical memorandum regarding the proposed work at SPS#1.

#### **IV. FINANCIAL IMPACT AND BUDGET**

This project has been listed as a Capital Improvement Project for several years. An increased budget was approved by the Board of Trustees at the May 26, 2022 meeting and with the carry forward funding, the total budget for this project is \$1,538,370.

#### **V. ALTERNATIVES**

Not authorize the work and re-bid the project as is.

#### **VI. COMMENTS**

The professional services contract has been approved substantially to the form presented by District Legal Counsel.

#### **VII. BUSINESS IMPACT/BENEFIT**

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

The project is necessary to replace aging electrical infrastructure that has outlived its useful life. Maintaining SPS#1 is a high priority for the District since it is the main sewer pump station and its close proximity to the shores of Lake Tahoe. The functionality of this specific sewer pump station is key to providing sewer service to properties within the District.

#### **VIII. ATTACHMENTS**

1. Attachment A\_2599DI1703 -SPS 1 Data Sheet
2. Attachment B\_Technical Memo 1.02
3. Attachment C\_DOWL\_Agreement - Sewer Pump Station #1 Improvements

#### **IX. DECISION POINTS NEEDED FROM THE BOARD OF TRUSTEES**

1. Review, discuss and possibly approve a professional services agreement with DOWL LLC, in an amount not to exceed \$42,303 for the preparation of revised bidding documents associated with the Sewer Pump Station (SPS) #1 CIP#2599DI1703 project.
2. Authorize Director of Public Works to execute the contract in substantially the form presented.

Project Summary



**Project Number:** 2599D11703  
**Title:** Sewer Pump Station #1 Improvements  
**Project Type:** D - Capital Improvement - Existing Facilities  
**Division:** 99 - General Administration - Sewer  
**Budget Year:** 2023  
**Finance Options:**  
**Asset Type:** SS - Sewer System  
**Active:** Yes

|   |   |  |   |
|---|---|--|---|
| <p><b>Project Description</b></p>   | <p>The District owns 18 sewer pumping stations in Incline Village and Crystal Bay. Sewer Pump Station #1 collects and transports 50% of the raw sewage and transports it to the WRRF on Sweetwater Road. If something were to happen to Sewer Pump Station #8 there is a direct bypass that would send all of the raw sewage to Sewer Pump Station #1, thus accounting for 75% of the raw sewage in the District. Constructed in the early 1970s this station has provided reliable service. The station contains the mechanical and electrical equipment to pump sewage to the WRRF. The equipment in the station to be replaced as a part of this project are the variable frequency drives and motor control centers for the three pump sets plus instrumentation and controls. This will enhance the condition and reliability of our aging infrastructure to collect and pump sewage to the WRRF and to protect the environment.</p> |  |   |
| <p><b>Project Internal Staff</b></p>  | <p>Staff will work with an outside design consultant and the project will be publicly bid. (Supply Chain delays with electrical equipment maybe a concern)</p>  |  |   |
| <p>Staff involvement is the coordination and contracting of the removal, procurement, and replacement of equipment with rebuilt or new equipment.</p> |   |  |   |
| <p><b>Project Justification</b></p>   | <p>This project funds the replacement of the equipment listed above at sewer pumping station #1. The age of the equipment, the number of hours of operation and other equipment analyses dictate replacement or rehabilitation of the equipment to maintain this reliability to provide continuous service. The project was bid in the summer/fall 2019 and one bid was received that was substantially above budget. All bids were rejected. The design team is considering modifications to the design. The construction estimate is based on the bid received and current cost escalation. There will be carry forward funds from 2019-20 CIP.</p>   |  |   |
| <p><b>Forecast</b></p>  | <p>Carry Forward Funding</p>  | <p>FY21/22 Approved by BOT 8/31/22</p> | <p>TOTAL PROJECT FUNDING \$1,538,370.00</p> |
| <p><b>Budget Year 2023</b></p>  | <p>Total Expense</p>  | <p>Total Revenue</p>                   | <p>Difference</p>                           |
| <p>Construction</p>   | <p>500,000</p>  | <p>0</p>                               | <p>500,000</p>                              |
| <p>Year Total</p>   | <p>500,000</p>  | <p>0</p>                               | <p>500,000</p>                              |
| <p><b>Year Identified</b></p>   | <p><b>Start Date</b></p>  | <p><b>Est. Completion Date</b></p>     | <p><b>Manager</b></p>                       |
| <p>2017</p>   | <p>Jul 1, 2020</p>  | <p>Jun 30, 2021 October 2024</p>       | <p>Principal Engineer</p>                   |
|   |   |  | <p><b>Project Partner</b></p>               |



## TECHNICAL MEMORANDUM #1

### INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT

#### SEWAGE PUMPING STATION NO. 1

**Prepared For:** Kate Nelson – Engineering Manager

**Prepared By:** Matthew Bodge, P.E.

**Reviewed By:** Lucas Tipton, P.E.

**Date:** 12/6/2022

**Subject:** Sewage Pumping Station 1 Bid Package

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#### 1.0 INTRODUCTION

The Incline Village General Improvement District (IVGID) Sewer Pump Station 01 (SPS-01) project went to bid in early 2020 with an engineer's estimate of probable construction cost between \$300,000 and \$400,000. The lowest bid came in over \$800,000; this exceeded the budget set aside by IVGID and prompted the project postponement.

In an effort to investigate ways to reduce the cost of this project, IVGID met with the apparent low bidder. The items listed below were identified as main factors contributing to the disparity in price between the engineer's estimate and official bids.

- Unique construction of the sewage pump station made it extremely difficult to move equipment in and out.
- The importance and critical nature of this facility required additional equipment to minimize downtime and allow the facility to remain operational during construction.
- The importance and critical nature of this facility required the contractor to assume additional risk.
- The proximity of this pump station to bodies of water required the contractor to assume additional risk.

IVGID determined that reducing the overall work included as part of this project would be the best approach to reduce total cost. Farr West Engineering (Farr West) has been contracted by IVGID to evaluate the documents listed in Section 1.1 and outline the critical items that should remain part of the project and identify items that are not as high a priority.

Farr West appreciates this opportunity to provide IVGID recommendations for reducing overall costs related to the bid package for SPS-01.

#### 1.1 BASIS

The IVGID SPS-01 bid set drawings dated August 2019 and IVGID SPS-01 conceptual design report dated January 2019 were submitted by IVGID for review by Farr West and serve as the basis of recommendations within this memo. These documents have been attached to the end of this memo for reference. Notes have been added to the IVGID SPS-01 bid set drawings to clearly identify items listed within Table 1.

**2.0 STRATEGIC REPLACEMENT**

The electrical equipment at SPS-01 is functional but has been in service over 20 years and approaching manufacturer’s rated lifetimes and anticipated life expectancy as discussed in “IEEE Gold Book – Recommended Practice for the Design of Reliable Industrial and Commercial Power Systems”. Some equipment has exceeded these expectations.

Reliable and constant operation of the electrical system at SPS-01 is crucial and demands replacement of key items prior to inherent unplanned outages. Evaluating the documents identified in Section 1.1 prompted a priority list be created to assist IVGID in strategic replacement of all equipment outlined within the plan set drawings. This list can be seen in Table 1. Section 2.1 has a brief summary behind the priority rankings given to each piece of equipment.

**Table 1: SPS 01 Electrical Equipment Priority List**

| Equipment  | Priority             |
|--|----------------------|
| <b>Motor Control Center C W/ Variable Frequency Drives SPS-01 through SPS-03</b> | 1                    |
| <b>Local Control Panel LCP-SPS1</b>  | 1                    |
| <b>Surge Protection Device*</b>  | 1*                   |
| <b>Shunt Trip**</b>  | 1**                  |
| <b>Kirk Key Interlock***</b>   | 1***                 |
| <b>Chlorine Analyzer AIT-SPS1-1 &amp; AE-SPS1-1</b>                              | 2                    |
| <b>Wet Well Level Switches LSL-SPS1-01 &amp; 02 and LSH-SPS1-02</b>              | 2                    |
| <b>Wet Well Level Transducers LET-SPS1-01 &amp; 02</b>                           | 2                    |
| <b>Power Panel PP-1</b>  | 3                    |
| <b>Power Panel PP-2</b>  | 3                    |
| <b>Motor Control Center D W/ Panel-LL &amp; Panel-HH</b>                         | 4                    |
| <b>Main Service and Metering Switchboard MSC</b>                                 | 4                    |
| <b>ATS Relocation</b>  | 4                    |
| <b>Flow Meter FIT-SPS1-01 &amp; FE-SPS1-01</b>                                   | See Section<br>2.1.5 |

\* Down grade to priority 4 if existing unit is functional and not in fault condition.

\*\* This upgrade may require additional modules or replacement of main breaker.

\*\*\* Kirk key interlock to be added as necessary to prevent paralleling of “Trailer Generator” with ATS source.

**2.1 EQUIPMENT PRIORITY RANKING**

**2.1.1 Priority 1 Equipment**

Priority 1 equipment should remain part of this project.

**Motor Control Center C W/ Variable Frequency Drives SPS-01 through SPS-03:**

These VFDs are over 20 years old, unserviceable, and likely to not have replacement parts readily available. They are a critical part of the electrical infrastructure and most prone to experience problems with age compared to other major electrical equipment outlined for replacement. Additionally, upgrading these motor controllers will allow for updating the control algorithms and communication protocol to the SCADA network as part of future projects when necessary. Replacement of the existing MCC C, SWBD, and VFDs with a single unit as outlined within the bid set drawings is recommended.

**Local Control Panel LCP-SPS1:**

SCADA system RTUs are often robust but become significantly outdated within 10 years. Replacement of the RTU with LCP-SPS1 is recommended to be kept in this project and will allow for incorporating any additional functionality offered by the new VFDs and instrumentation as well as future expansions and capabilities required to be incorporated into the SCADA system.

**Surge Protection Device:**

Surge protection is cheap insurance and should be a requirement for this facility given its nature and importance. The existing surge protection device is recommended for replacement if faulty or no longer functional.

**Shunt Trip Device:**

The ability to shunt trip the electrical system is recommended for all facilities where the main breaker is located indoors. This safety device allows for quick de-energization of the electrical distribution system during an emergency without having to enter the building.

It is likely that the main breaker will require a module be added. Given the age of the main breaker, the module may not be available. If the module is not available, it would prompt a replacement of the main breaker; replacement of main breaker may require utility coordination and involvement.

**Kirk Key Interlock:**

A Kirk key interlock will be required to prevent catastrophic failure from paralleling the "Trailer Generator" and ATS source. If proposed system is altered for bidding purposes, it should be evaluated to prevent any and all paralleling.

**2.1.2 Priority 2 Equipment**

Priority 2 equipment should be replaced as part of this project. Priority 2 equipment carries relatively minimal cost while adding the benefits of increased reliability and functionality.

**Chlorine Analyzer AIT-SPS1-1 & AE-SPS1-1:**

It is recommended to keep the addition of the chlorine analyzer as part of this project.

**Wet Well Level Switches LSL-SPS1-01 & 02 and LSH-SPS1-02:**

It is recommended to keep the addition of the float switches as part of this project.

**Wet Well Level Transducers LET-SPS1-01 & 02**

It is recommended to keep the addition of the level transducers as part of this project.

**2.1.3 Priority 3 Equipment**

Priority 3 equipment should be added to this project as a bid alternate. Priority 3 equipment represents equipment that is not necessary but desired by IVGID and carries relatively moderate cost.

**Power Panel PP-1:**

It is recommended that the addition of Power Panel PP-1 remain in this project as a bid alternate.

**Power Panel PP-2:**

It is recommended that the addition of Power Panel PP-2 remain in this project as a bid alternate.

#### 2.1.4 Priority 4 Equipment

Priority 4 equipment should be removed as part of this project unless IVGID regularly experiences issues and cannot find replacement parts. Priority 4 equipment represents the electrical equipment of lease concern and carries significant cost.

##### **Motor Control Center D W/ Panel-LL and Panel-HH:**

Motor Control Center D replacement is recommended to be removed from this project. Motor Control Centers typically last 20-30 years without issue but can last well over this when routine regular maintenance takes place. The replacement of this motor control center adds little to no increase in desired functionality. This motor control center should be planned for replacement within the next ten years.

##### **Main Service and Metering Switchboard MSC:**

Main Service and Metering Switchboard MSC replacement is recommended to be removed from this project. Switchboards typically last 20-30 years without issue but can last well over this when routine regular maintenance takes place. The replacement of this Switchboard adds little to no increase in desired functionality. This motor control center should be planned for replacement within the next ten years.

##### **ATS Relocation:**

The ATS relocation would be unnecessary unless required to fit LCP-SPS1. This work is recommended to be removed from this project.

#### 2.1.5 Flow Meter

The flow meter was brought up as a point of concern in previous discussions and meetings. The flow meter was not planned for replacement in this project but should be added to Priority 1 if necessary. Further clarification from IVGID is required to properly place a priority level on this device.



**Attachment 1**  
**Bid Set Drawings**

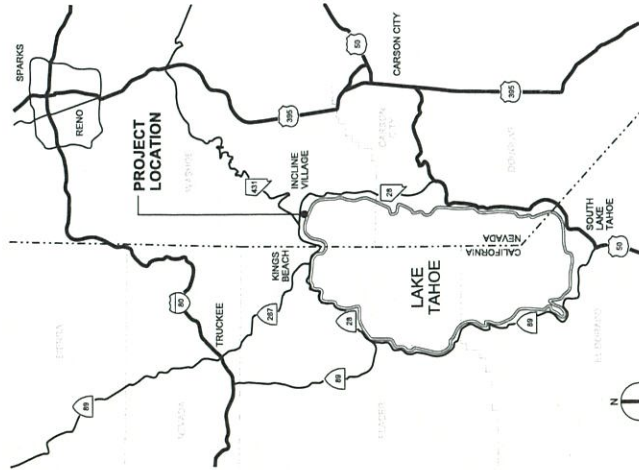
# INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT SEWAGE PUMPING STATION NO. 1

**INCLINE VILLAGE WASHOE COUNTY NEVADA**  
**IVGID PROJECT NO.: 2599DI1703**  
**PWP NO.: WA-2019-192**

**AUGUST 2019**



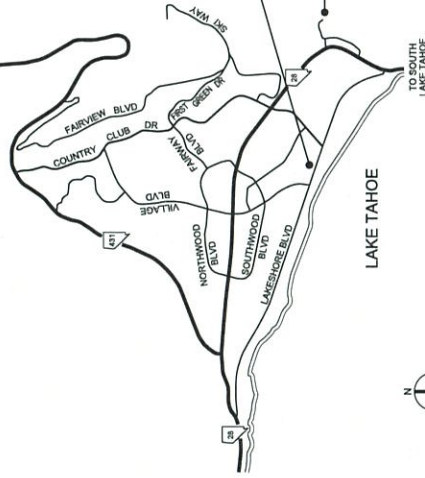
**GENERAL IMPROVEMENT DISTRICT  
ONE DISTRICT ~ ONE TEAM**



**LOCATION MAP**

**INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT  
BOARD OF TRUSTEES:**

- |                       |               |
|-----------------------|---------------|
| <b>KENDRA WONG</b>    | CHAIRWOMAN    |
| <b>PHILIP HORAN</b>   | VICE CHAIRMAN |
| <b>MATTHEW DENT</b>   | TREASURER     |
| <b>TIM CALLICRATE</b> | SECRETARY     |
| <b>PETER MORRIS</b>   | TRUSTEE       |



**VICINITY MAP**

**SEWAGE PUMP STATION NO. 1**  
**TAHOE BLVD**  
**INCLINE VILLAGE, NV 89451**  
**COORDINATES: 39.240837, -119.947111**  
**INCLINE VILLAGE WWTP**  
**1250 SWEETWATER ROAD**  
**INCLINE VILLAGE, NV 89451**

VOLUME 2 OF 2  
DRAWINGS

**INDEX TO DRAWINGS**

| SHEET NO. | DRAWING NO. | TECHNOLOGY      | TITLE                                   |
|-----------|-------------|-----------------|---|
| 1         | G-1001      | GENERAL         | COVER SHEET AND DRAWING INDEX           |
| 2         | G-1002      | GENERAL         | ELECTRICAL LEGEND                       |
| 3         | G-1003      | GENERAL         | INSTRUMENTATION AND CONTROL LEGEND      |
| 4         | G-1004      | GENERAL         | ELECTRICAL LEGEND                       |
| 5         | D-1001      | ELECTRICAL      | PUMP BUILDING DEMOLITION PLAN           |
| 6         | D-1002      | ELECTRICAL      | PUMP BUILDING DEMOLITION PLAN           |
| 7         | E-1001      | ELECTRICAL      | SITE PLAN                               |
| 8         | E-1002      | ELECTRICAL      | PUMP BUILDING PLAN                      |
| 9         | E-1003      | ELECTRICAL      | PUMP BUILDING PLAN AND SECTION          |
| 10        | E-1004      | ELECTRICAL      | ONE LINE DIAGRAM                        |
| 11        | E-1005      | ELECTRICAL      | MCC ELEVATIONS AND PANEL SCHEDULE       |
| 12        | E-1006      | ELECTRICAL      | ELECTRICAL PANEL SCHEDULE               |
| 13        | E-1007      | ELECTRICAL      | CONTROL DIAGRAM - 1                     |
| 14        | E-1008      | ELECTRICAL      | CONTROL DIAGRAM - 2                     |
| 15        | E-1009      | ELECTRICAL      | SECTION AND DETAILS - 1                 |
| 16        | E-1010      | ELECTRICAL      | SECTION AND DETAILS - 1                 |
| 17        | E-2002      | ELECTRICAL      | DETAILS - 2                             |
| 18        | E-2003      | ELECTRICAL      | CONCRETE                                |
| 19        | N-1002      | INSTRUMENTATION | CONTROL PANEL - TYPICAL WIRING DIAGRAMS |

**INCLINE VILLAGE**  
GENERAL IMPROVEMENT DISTRICT  
ONE DISTRICT ~ ONE TEAM

**JACOBS**  
GENERAL

COVER SHEET AND DRAWING INDEX

VERIFY SCALE

DATE: AUGUST 2019

PROJ: 702648

DWG: G-1001

SHEET: 1 OF 19

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FILENAME: 001-G-001.dgn PLOT DATE: 20190822





# INSTRUMENTATION IDENTIFICATION

## EXAMPLE SYMBOLS



# INSTRUMENT IDENTIFICATION LETTERS TABLE

| LETTER | FUNCTION                              | INSTRUMENT IDENTIFICATION LETTERS |
|--------|---------------------------------------|-----------------------------------|
| A      | ANALOG INPUT (4-20mA DC)              | MODIFIER                          |
| B      | BINARY INPUT (24 VDC OR 120VAC)       | MODIFIER                          |
| C      | CONTROL POINT                         | MODIFIER                          |
| D      | DISCRETE OUTPUT (DRY CONTACT, 120VAC) | MODIFIER                          |
| E      | EDUCTOR                               | MODIFIER                          |
| F      | FLOW RATE                             | MODIFIER                          |
| G      | GAS                                   | MODIFIER                          |
| H      | HAND SWITCH                           | MODIFIER                          |
| I      | INDICATOR                             | MODIFIER                          |
| J      | POWER                                 | MODIFIER                          |
| K      | TIME OR SCHEDULE                      | MODIFIER                          |
| L      | LEVEL                                 | MODIFIER                          |
| M      | MECHANICAL                            | MODIFIER                          |
| N      | MOISTURE                              | MODIFIER                          |
| O      | ORIFICE                               | MODIFIER                          |
| P      | PRESSURE (OR VACUUM)                  | MODIFIER                          |
| Q      | QUANTITY                              | MODIFIER                          |
| R      | RATED OR FREQUENCY                    | MODIFIER                          |
| S      | TEMPERATURE                           | MODIFIER                          |
| T      | TEMPERATURE                           | MODIFIER                          |
| U      | UNCLASSIFIED (I)                      | MODIFIER                          |
| V      | VACUUM OR GORGE                       | MODIFIER                          |
| W      | WEIGHT OR FORCE                       | MODIFIER                          |
| X      | UNCLASSIFIED (I)                      | MODIFIER                          |
| Y      | EVENT                                 | MODIFIER                          |
| Z      | EVENT                                 | MODIFIER                          |

TABLE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARD.

(\*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS.

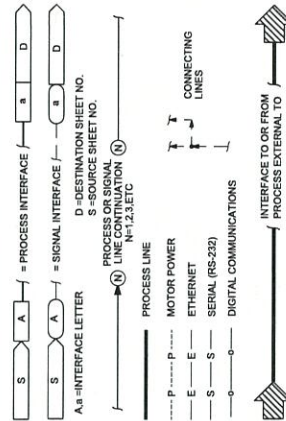
## PLC INTERFACES

- ▲ ANALOG INPUT (4-20mA DC)
- ▼ ANALOG OUTPUT (4-20mA DC)
- △ DISCRETE INPUT (24 VDC OR 120VAC)
- ▽ DISCRETE OUTPUT (DRY CONTACT, 120VAC)

## FLOW STREAM IDENTIFICATION

- DR DRAIN
- RS RAW SEWAGE
- SRS SCREENED RAW SEWAGE

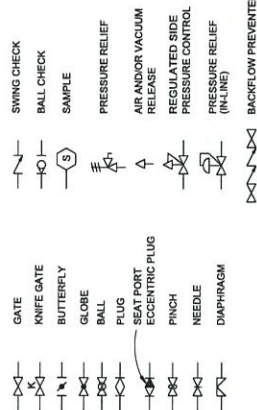
## INTERFACE SYMBOLS & LINE LEGEND



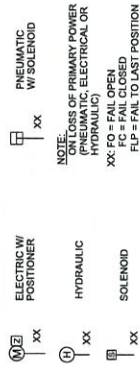
## SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

- D: ARV = AIR RELEASE VALVE
- ASV = AIR SEPARATOR
- ASW = ANTI-SIPHON VALVE
- BPOV = BACK PRESSURE OPERATING VALVE
- E = EDUCTOR
- ESV = EXHAUST VALVE
- FAN = FAN, SUPPLY OR EXHAUST
- FOV = FLOW CONTROL VALVE
- G = GATE CONTROL VALVE
- LOV = LOGIC CONTROL VALVE
- M = MECHANICAL EQUIPMENT
- MXR = MIXER
- MVR = MOTOR VALVE
- PQV = PRESSURE CONTROL VALVE
- PRV = PRESSURE/ACCUM RELIEF VALVE
- PRD = PRESSURE REDUCING VALVE
- SV = SOLENOID VALVE
- T = TANK
- TOV = TEMPERATURE CONTROL VALVE
- W = FACILITY DESIGNATION
- X = COMPONENT NUMBER
- Y = UNIT NUMBER

## VALVE SYMBOLS



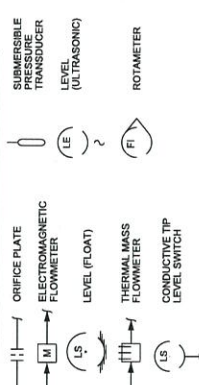
## ACTUATOR SYMBOLS



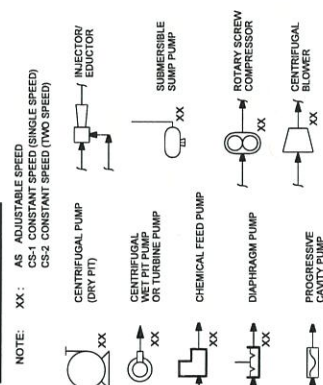
## GATE SYMBOLS



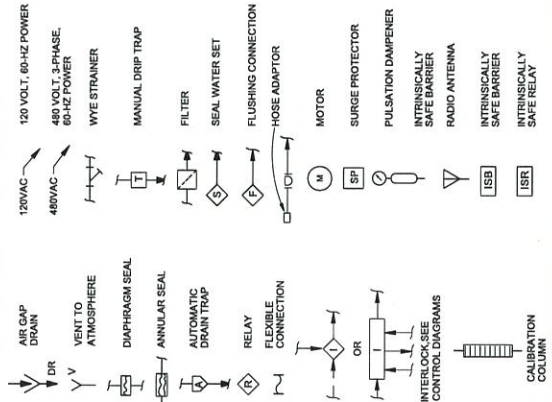
## PRIMARY ELEMENT SYMBOLS



## PUMP SYMBOLS



## MISCELLANEOUS SYMBOLS



## ABBREVIATIONS

- ACK ACKNOWLEDGE
- ADJ ADJUSTABLE FREQUENCY DRIVE
- AUT AUTO
- ATS AUTOMATIC TRANSFER SWITCH
- BTD BURNER TEMPERATURE DETECTOR
- CL2 CHLORINE
- CMD COMMAND PANEL
- CSP CONSTANT SPEED CONTROL STATION
- EMERG EMERGENCY
- FWD FORWARD
- GEN GENERATOR
- GP GP
- HOA HAND-OFF-AUTO
- IPS2 INFLUENT PUMP STATION #2
- LCP LOCAL CONTROL PANEL
- LOR LOCAL-REMOTE
- LOS LOCKOUT STOP
- LR LOCAL-REMOTE
- MA MANUAL-AUTO
- MCC MOTOR CONTROL CENTER
- MPC MOTOR PROTECTION DEVICE
- MPS MOTOR STARTER
- MLD MOTOR LEAKAGE DETECTOR
- MSC MOTOR FACTOR SUPPLIED CABLE
- MTD MOTOR TEMPERATURE DETECTOR
- OC OPEN-CLOSE (I)
- OCC OPEN-CLOSE-AUTO
- OIA OVERLOAD INTERFACE TERMINAL
- OL OVERLOAD
- OO ON-OFF-AUTO
- OOR ON-OFF-REMOTE
- OSC OPEN-STOP-CLOSE
- PCP PLANT CONTROL PANEL
- PH HYDROGEN PUMP
- PIP PRIMARY INFLUENT PUMP STATION
- PLC PROGRAMMABLE LOGIC CONTROLLER
- POS POSITION
- PS PUMP STATION
- QTY QUANTITY
- REV REVERSE
- RIO REMOTE IO
- RTU REMOTE TELEMETRY UNIT
- RVSX REDUCED VOLTAGE SOLID STATE SEQUENCE
- SEQ SEQUENCE
- SPD SPEED
- SS START-STOP
- TJB TERMINAL JUNCTION BOX
- UNINT UNINTERRUPTIBLE POWER SUPPLY
- UV ULTRAVIOLET
- VFD VARIABLE FREQUENCY DRIVE

## GENERAL NOTES

1. THIS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE (#\*#) ARE PART OF A PACKAGE SYSTEM. SEE EQUIPMENT SPECIFICATIONS.

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**JACOBS**

GENERAL INSTRUMENTATION AND CONTROL LEGEND

INCLINE VILLAGE  
GENERAL IMPROVEMENT DISTRICT  
SEWAGE PUMP STATION NO. 1

DATE: AUGUST 22, 2019  
DWG: 702448  
SHEET: 4 OF 19

VERIFY SCALE: 1" = 1'-0"

| NO. | DATE | BY | REVISION |
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FILENAME: 001-G-004.dgn PLOT DATE: 20190922

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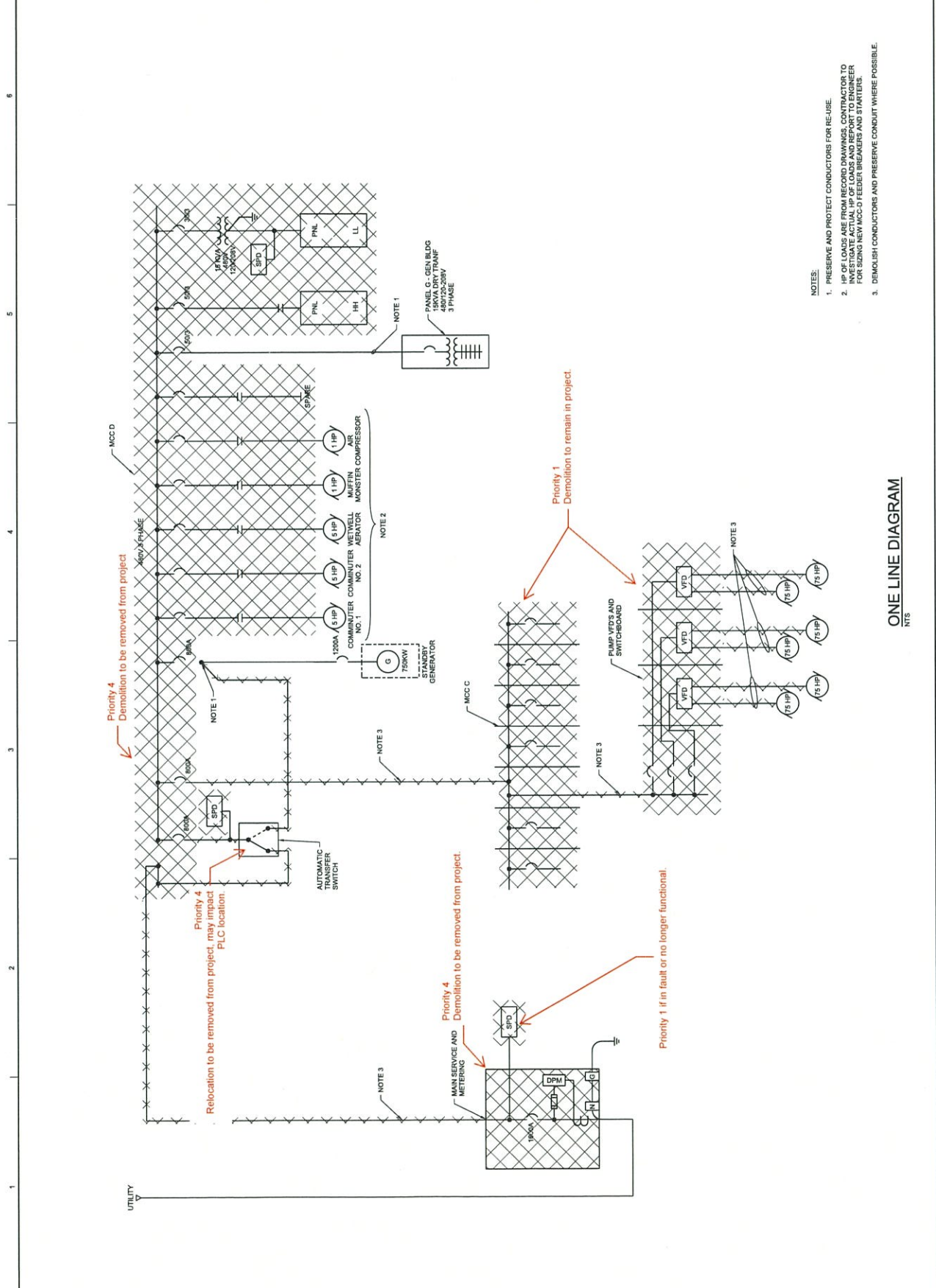
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| DATE      | AUGUST 2018 |
| PROJ      | 703948      |
| DWG       | D-1021      |
| SHEET     | 5 OF 18     |
| PLOT DATE | 20190622    |

FILENAME: 094-d-1001.dgn



- NOTES:
1. PRESERVE AND PROTECT CONDUCTORS FOR REUSE.
  2. HP OF LOADS ARE FROM RECORD DRAWINGS. CONTRACTOR TO INVESTIGATE ACTUAL HP OF LOADS AND REPORT TO ENGINEER FOR SIZING NEW MCC-D FEEDER BREAKERS AND STARTERS.
  3. DEMOLISH CONDUCTORS AND PRESERVE CONDUIT WHERE POSSIBLE.

ONE LINE DIAGRAM  
 NTS



| NO. | DATE | BY | APVD | REVISION |
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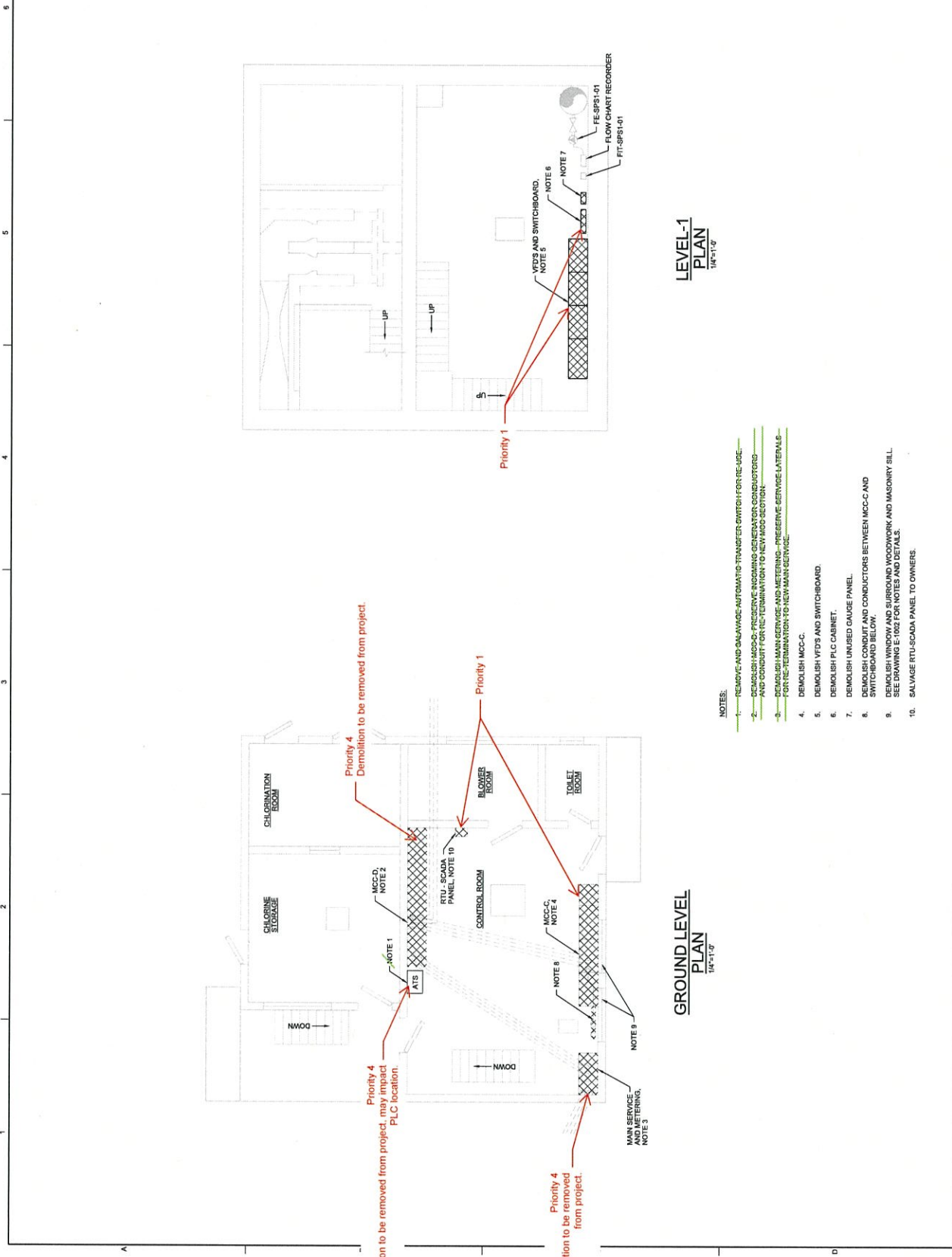


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JACOBS  
 ELECTRICAL

PUMP BUILDING  
 DEMOLITION PLAN

|       |             |
|-------|-------------|
| DATE  | AUGUST 2019 |
| PROJ  | 703649      |
| DWG   | D-1002      |
| SHEET | 6 OF 19     |



PUMP BUILDING  
DEMOLITION PLAN

ELECTRICAL

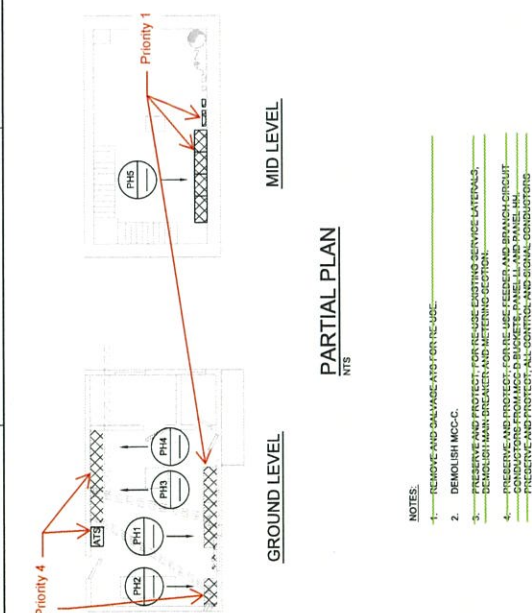
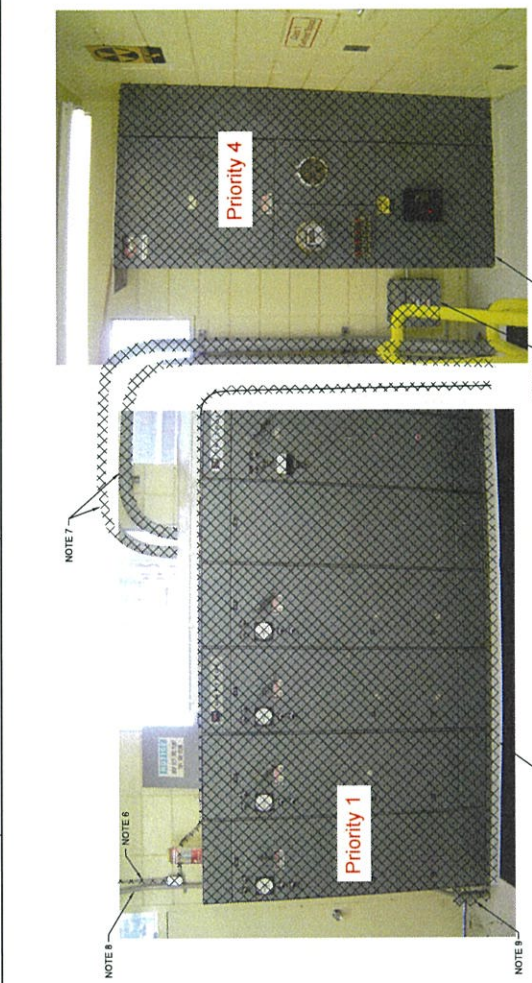
**JACOBS**

INCLINE  
VILLAGE  
GENERAL IMPROVEMENT DISTRICT ONE TEAM  
SEWAGE PUMP STATION NO. 1  
IMPROVEMENT PROJECT

VERIFY SCALE  
DATE: AUGUST 2019  
PROJ: 705648  
DWG: D-1003  
SHEET: 7 OF 19

PLOT DATE: 20190922  
FILENAME: 004-D-1003.dgn

Page 15 of 19



- NOTES:**
1. REMOVE AND GALVANIZE ATS FOR RE-USE.
  2. DEMOLISH MCC-C.
  3. PRESERVE AND PROTECT FOR RE-USE EXISTING SERVICE LATERALS, CABLES AND TRUNKS AND METRIC SECTION.
  4. PRESERVE AND PROTECT FOR RE-USE FIBER AND SIGNAL CIRCUIT TRUNKS AND METRIC SECTION.
  5. PRESERVE AND PROTECT ALL CONTROL AND SIGNAL CONDUCTORS TO FIELD DEVICES FOR RE-USE BEFORE DEMOLISHING MCC-D.
  6. SALVAGE LPT TO OWNER.
  7. DEMOLISH CONDUIT AND CONDUCTORS BACK TO LOAD SOURCE.
  8. DEMOLISH CONDUIT AND CONDUCTORS, PROVIDE TEMPORARY POWER TO 480V SWITCHBOARD PER SEQUENCING DOCUMENTATION IN SPECIFICATIONS.
  9. DETERMINE IF CONDUIT AND CONDUCTORS ARE REQUIRED. RE-ROUTE CONDUIT AND CONDUCTORS AS REQUIRED.
  10. DEMOLISH CONDUIT AND CONDUCTORS BACK TO LOADSOURCE.
  11. DEMOLISH SURGE PROTECTION DEVICES TO OWNER.
  12. DEMOLISH 120V AND 208V EXTRACTOR FAN AND BLOWER MOTOR CONTROLS. DETERMINE WHICH EXTRACTOR FAN AND BLOWER ARE PRELIMINARY AND WHICH ARE PERMANENT. PRESERVE CONDUCTORS FOR THE TERMINATION TO NEW PANEL.
- Replace-in-kind if in fault or no longer functional.
- PHOTO 1** NTS
- PHOTO 2** NTS
- PHOTO 3** NTS
- PHOTO 4** NTS
- PHOTO 5** NTS

PUMP BUILDING  
DEMOLITION PLAN

ELECTRICAL

**JACOBS**

INCLINE  
VILLAGE  
GENERAL IMPROVEMENT DISTRICT ONE TEAM  
SEWAGE PUMP STATION NO. 1  
IMPROVEMENT PROJECT

VERIFY SCALE  
DATE: AUGUST 2019  
PROJ: 705648  
DWG: D-1003  
SHEET: 7 OF 19

PLOT DATE: 20190922  
FILENAME: 004-D-1003.dgn

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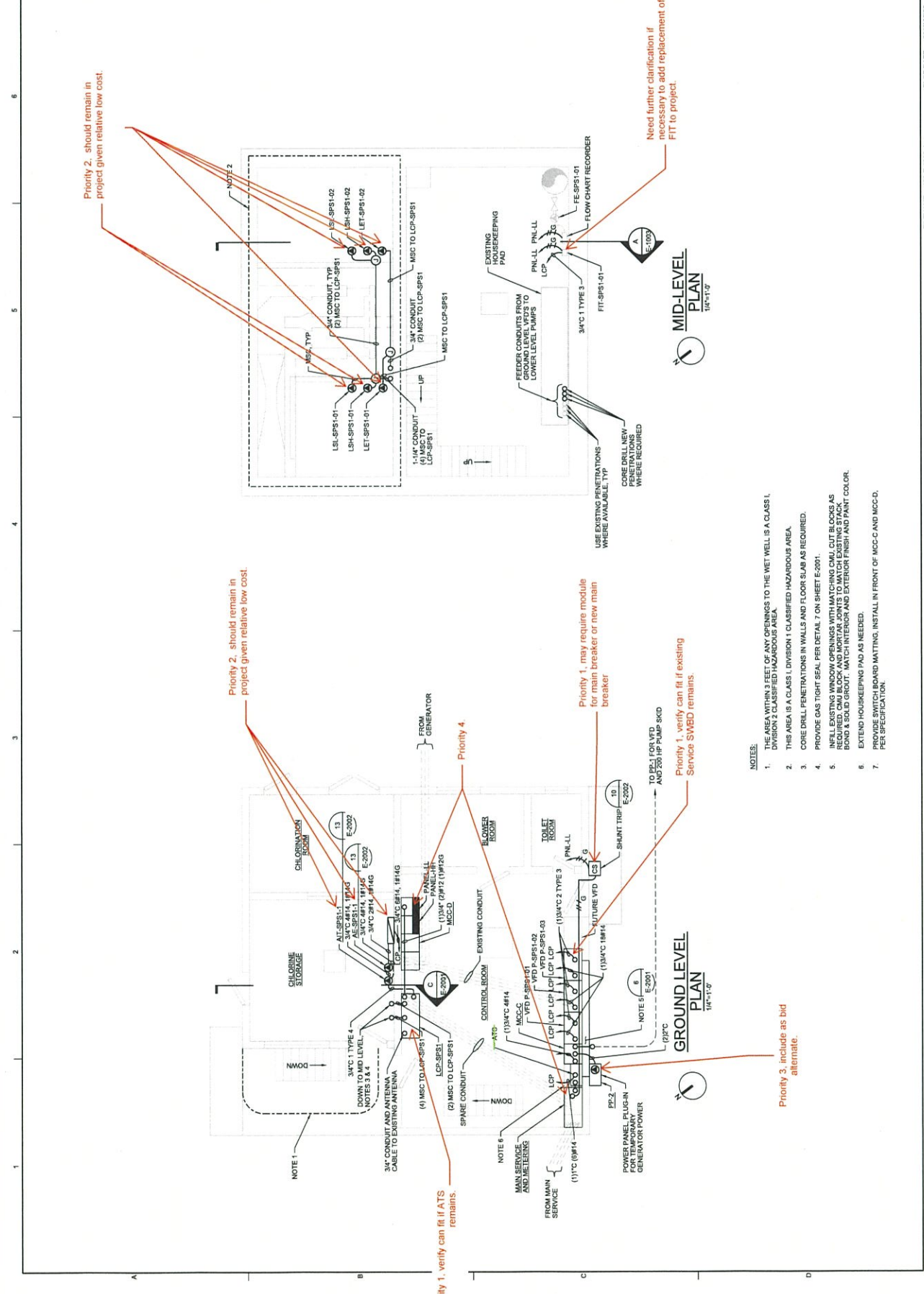
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JACOBS  
ELECTRICAL/ARCHITECTURAL  
PUMP BUILDING  
PLAN  
IMPROVEMENT PROJECT  
GENERAL IMPROVEMENT DISTRICT  
ONE DISTRICT ONE TEAM

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| VERIFY SCALE | DATE        | PROJ   | DWG    | SHEET   |
| 1/4" = 1'-0" | AUGUST 2019 | 703649 | E-1002 | 9 OF 19 |

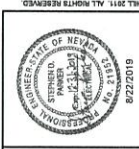
FILENAME: 120-E-1002.dgn  
PLOT DATE: 20190822



**MID-LEVEL PLAN**  
1/4"=1'-0"

- NOTES:
1. THE AREA WITHIN 3 FEET OF ANY OPENINGS TO THE WET WELL IS A CLASS I, DIVISION 2 CLASSIFIED HAZARDOUS AREA.
  2. THE AREA IS A CLASS I, DIVISION 1 CLASSIFIED HAZARDOUS AREA.
  3. CORE DRILL PENETRATIONS IN WALLS AND FLOOR SLAB AS REQUIRED.
  4. PROVIDE GAS TIGHT SEAL PER DETAIL 7 ON SHEET E-2001.
  5. INFILL EXISTING WINDOW OPENINGS WITH MATCHING CHAU CUT BLOCKS AS BOND & SOLID GROUT. MATCH INTERIOR AND EXTERIOR FINISH AND PAINT COLOR.
  6. EXTEND HOUSEKEEPING PAD AS NEEDED.
  7. PROVIDE SWITCH BOARD MATTING. INSTALL IN FRONT OF MCC-C AND MCC-D. PER SPECIFICATION.

**GROUND LEVEL PLAN**  
1/4"=1'-0"

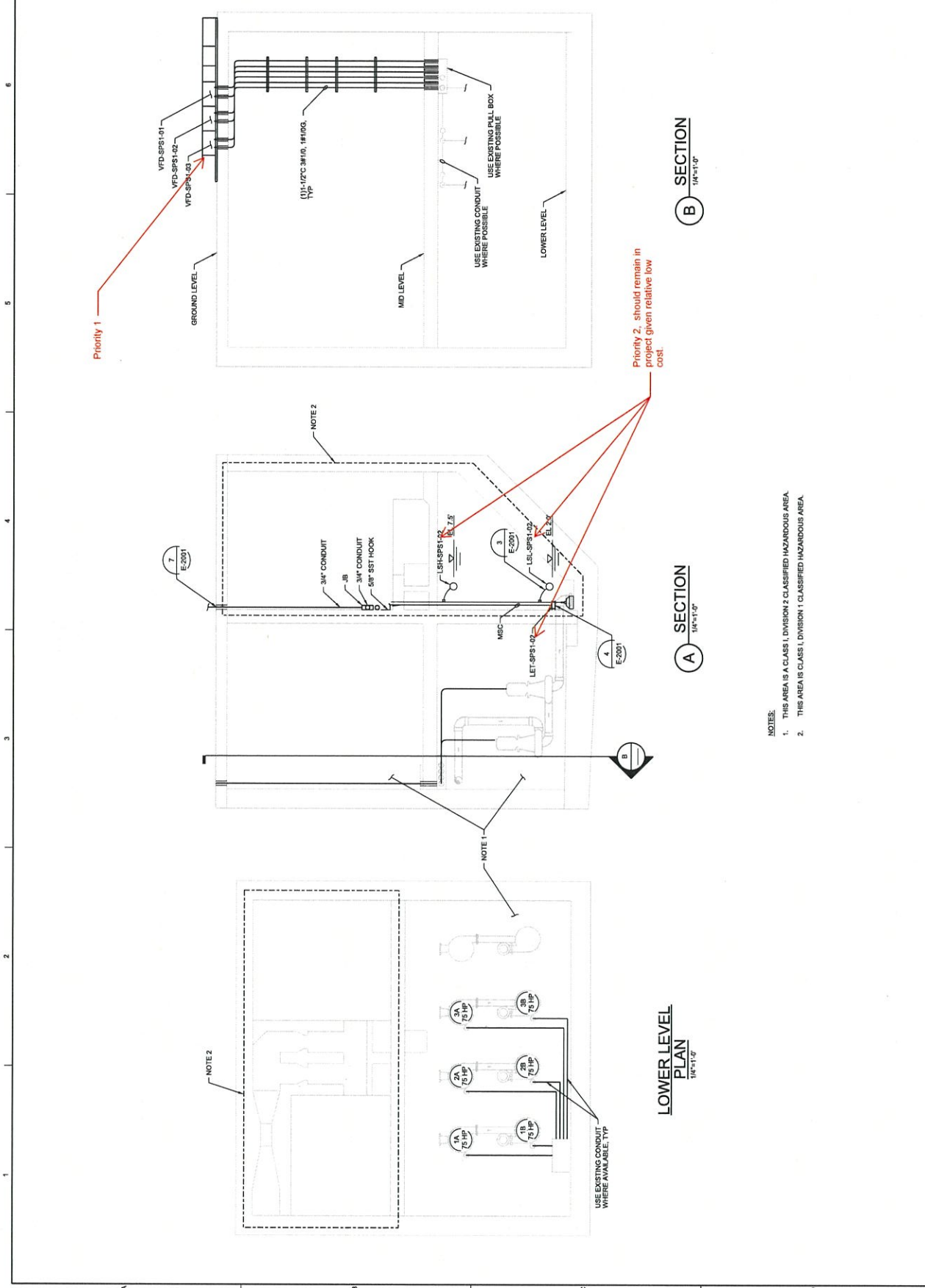


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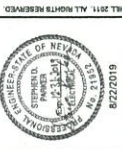
INCLINE VILLAGE  
 GENERAL IMPROVEMENT DISTRICT  
 SEWAGE PUMP STATION NO. 1  
 IMPROVEMENT PROJECT

JACOBS  
 ELECTRICAL  
 PUMP BUILDING  
 PLAN AND SECTIONS

|              |             |             |          |            |
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| VERIFY SCALE | DATE        | DESIGNED BY | DRAWN BY | CHECKED BY |
|              | AUGUST 2019 |             |          |            |
|              |             |             |          |            |
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|              |             |             |          |            |



- NOTES:
1. THIS AREA IS A CLASS 1, DIVISION 2 CLASSIFIED HAZARDOUS AREA.
  2. THIS AREA IS CLASS 1, DIVISION 1 CLASSIFIED HAZARDOUS AREA.



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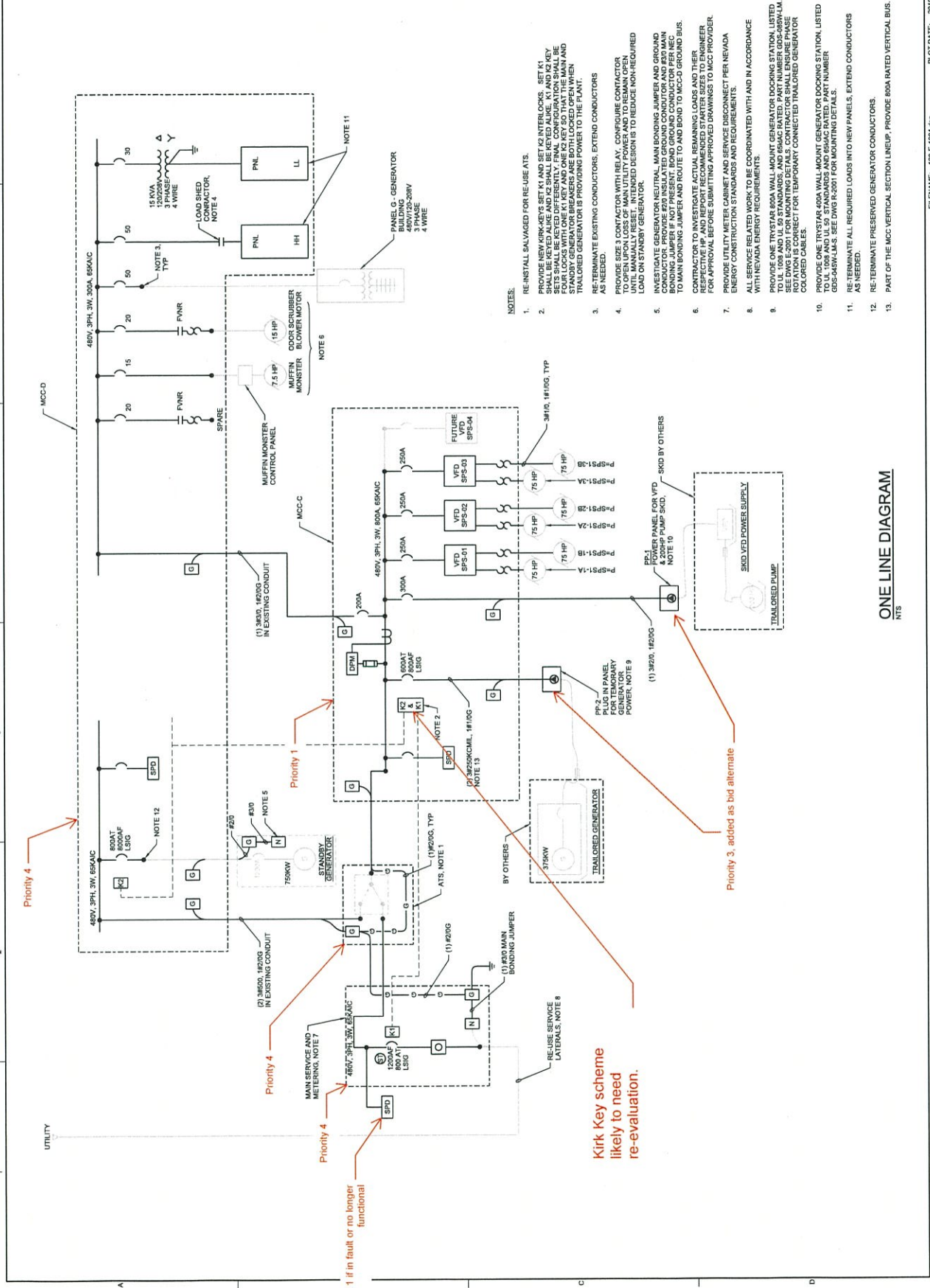
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INCLINE VILLAGE  
GENERAL IMPROVEMENT DISTRICT  
ONE DISTRICT ONE TEAM  
SEWAGE PUMP STATION NO. 1  
IMPROVEMENT PROJECT

JACOBS  
ELECTRICAL  
ONE LINE DIAGRAM

|              |             |
|--------------|-------------|
| VERIFY SCALE |             |
| DATE         | AUGUST 2019 |
| PROJ.        | 709449      |
| DWG          | E-1004      |
| SHEET        | 11 OF 10    |

FILENAME: 120-E-1004.dgn PLOT DATE: 2019/08/22



Priority 4 - if in fault or no longer functional

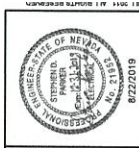
Priority 4 - Main Service and Metering, Note 7

Priority 4 - Kirk Key scheme likely to need re-evaluation.

Priority 3 - added as bid alternate

- NOTES:
- RE-INSTALL SALVAGED FOR RE-USE ATS.
  - PROVIDE NEW KIRK-KEYS SET K1 AND SET K2 INTERLOCKS. SET K1 SETS SHALL BE KEYS DIFFERENTLY. FINAL CONFIGURATION SHALL BE FOUR LOCKS WITH ONE KEY AND ONE KEY SO THAT THE MAIN AND TRANSFER GENERATOR IS PROVIDING POWER TO THE PLANT.
  - RE-TERMINATE EXISTING CONDUCTORS, EXTEND CONDUCTORS AS NEEDED.
  - PROVIDE SIZE 1 CONTACTOR WITH RELAY. CONFIGURE CONTACTOR TO OPEN UPON LOSS OF MAIN UTILITY POWER AND TO REMAIN OPEN UNTIL MANUALLY RESET.
  - MAN BUSBARS, JUMPER BUS, GROUNDING BUS, INSULATED GROUND CONDUCTOR AND 250 MAN CONDUCTOR PROVIDE 600 INSULATED GROUND CONDUCTOR PER NEC TO MAIN BONDING JUMPER AND ROUTE TO AND BOND TO MCC-GROUND BUS.
  - CONTRACTOR TO INVESTIGATE ACTUAL REMAINING LOADS AND THEIR LOCATION. PROVIDE 600V INSULATED GROUND CONDUCTOR PER NEC FOR APPROVAL BEFORE SUBMITTING APPROVED DRAWINGS TO MCC PROVIDER.
  - PROVIDE UTILITY METER CABINET AND SERVICE DISCONNECT PER NEVADA ENERGY REQUIREMENTS.
  - ALL SERVICE RELATED WORK TO BE COORDINATED WITH AND IN ACCORDANCE WITH NEVADA ENERGY REQUIREMENTS.
  - PROVIDE ONE TRNSTAR 400A WALL MOUNT GENERATOR DOCKING STATION, LISTED TO UL 1009 AND UL 50 STANDARDS, AND 60KVA RATED. PART NUMBER GDS-400W-LM. SEE DWG E-2001 FOR MOUNTING DETAILS. CONTRACTOR SHALL ENSURE PHASE CORRECT FOR TEMPORARY CONNECTED TRANSFER GENERATOR COLORED CABLES.
  - PROVIDE ONE TRNSTAR 400A WALL MOUNT GENERATOR DOCKING STATION, LISTED TO UL 1009 AND UL 50 STANDARDS AND 60KVA RATED. PART NUMBER GDS-400W-LMS. SEE DWG R-2001 FOR MOUNTING DETAILS.
  - RE-TERMINATE ALL REQUIRED LOADS INTO NEW PANELS, EXTEND CONDUCTORS AS NEEDED.
  - RE-TERMINATE PRESERVED GENERATOR CONDUCTORS.
  - PART OF THE MCC-VERTICAL SECTION LINEUP, PROVIDE 600A RATED VERTICAL BUS.

ONE LINE DIAGRAM  
NTS



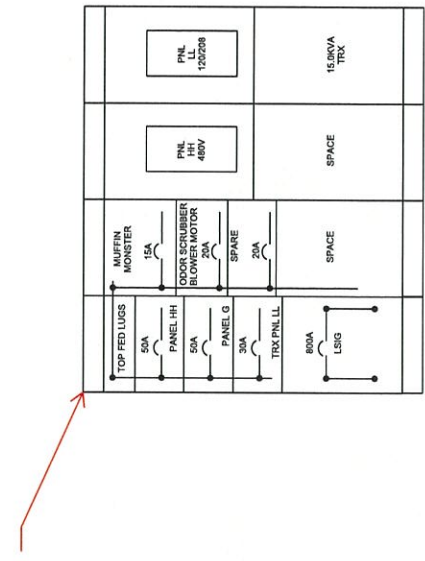
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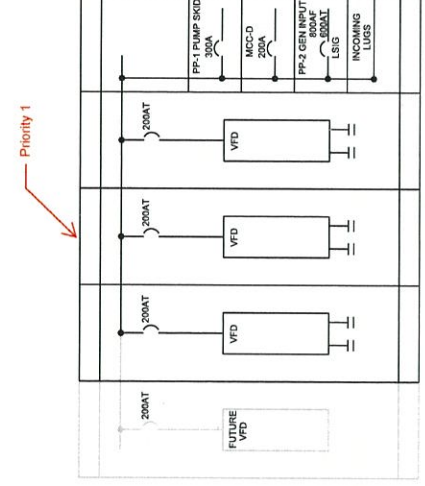
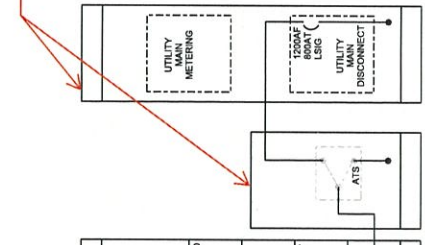
JACOBS  
ELECTRICAL  
MCC ELEVATIONS  
PANEL SCHEDULE

|       |             |
|-------|-------------|
| DATE  | AUGUST 2018 |
| PROJ  | 709648      |
| DWG   | E-1005      |
| SHEET | 12 OF 13    |

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MCC-D ELEVATION



MCC-C ELEVATION

PNL-LL LOCATION: SPS-01 WIRE: 4  
SERVICE VOLTAGE: 208/120V PHASE: 3 MAIN SIZE: N/A  
TOTAL LOAD KVA: 14.9 NEUTRAL: 100A MOUNTING: MCC

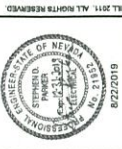
| LOAD IN KVA | CIRCUIT DESCRIPTION |      |       | BKR | CKT | DKT | IBKR | CIRCUIT DESCRIPTION     | LOAD IN KVA |      |      |
|-------------|---------------------|------|-------|-----|-----|-----|------|-------------------------|-------------|------|------|
|             | A                   | B    | C     |     |     |     |      |                         | A           | B    | C    |
| 0.30        | 0.20                | 0.20 | 0.20  | 201 | 1   | 2   | 201  | EXH FAN #2              | 0.30        |      |      |
| 0.30        | 0.20                | 0.20 | 0.20  | 201 | 3   | 4   | 201  | EXH FAN #1              | 0.40        |      |      |
| 0.80        | 0.30                | 0.30 | 0.30  | 201 | 5   | 6   | 201  | FT-SERS-01              | 0.20        |      |      |
| 0.80        | 0.30                | 0.30 | 0.30  | 201 | 7   | 8   | 201  | MAIN SERVICE SHUNT TRIP | 0.10        |      |      |
| 1.00        | 0.40                | 0.40 | 0.40  | 201 | 9   | 10  | 201  | CHLORINA TOR            | 0.10        |      |      |
| 1.00        | 0.40                | 0.40 | 0.40  | 201 | 11  | 12  | 201  | SPARE                   | 1.20        |      |      |
| 0.80        | 0.80                | 0.80 | 0.80  | 201 | 13  | 14  | 201  | LIGHTS CONTROL RM       | 0.90        |      |      |
| 0.80        | 0.80                | 0.80 | 0.80  | 201 | 15  | 16  | 201  | LIGHTS CONTROL RM       | 1.20        |      |      |
| 0.80        | 0.80                | 0.80 | 0.80  | 201 | 17  | 18  | 201  | LIGHT PUMP RM           | 0.05        |      |      |
| 0.33        | 0.33                | 0.33 | 0.33  | 201 | 19  | 20  | 201  | SPFD                    | 0.05        |      |      |
| 0.33        | 0.33                | 0.33 | 0.33  | 201 | 21  | 22  | 201  | SPFD                    | 0.05        |      |      |
| 0.33        | 0.33                | 0.33 | 0.33  | 201 | 23  | 24  | 151  | SPFD                    | 0.33        |      |      |
| 0.30        | 0.30                | 0.30 | 0.30  | 153 | 25  | 26  | 201  | #2 HOIST                | 0.33        |      |      |
| 0.30        | 0.30                | 0.30 | 0.30  | 201 | 27  | 28  | 151  | F-24                    | 0.20        |      |      |
| 3.5         | 2.8                 | 2.7  | TOTAL |     |     |     |      |                         | 1.83        | 2.08 | 1.83 |

|                     |       |
|---------------------|-------|
| PHASE A LOAD (VA) = | 5.36  |
| PHASE B LOAD (VA) = | 4.91  |
| PHASE C LOAD (VA) = | 4.61  |
| TOTAL LOAD (VA) =   | 14.88 |

PNL-IH LOCATION: SPS-01 WIRE: 3 MAIN SIZE: N/A  
SERVICE VOLTAGE: 480V PHASE: 3 MAIN SIZE: N/A  
TOTAL LOAD KVA: 29.7 NEUTRAL: N/A MOUNTING: MCC

| LOAD IN KVA | CIRCUIT DESCRIPTION |      |       | BKR | CKT | DKT | IBKR | CIRCUIT DESCRIPTION  | LOAD IN KVA |      |      |
|-------------|---------------------|------|-------|-----|-----|-----|------|----------------------|-------------|------|------|
|             | A                   | B    | C     |     |     |     |      |                      | A           | B    | C    |
| 3.00        | 3.00                | 3.00 | 3.00  | 203 | 1   | 2   | 203  | DUCT HEATER          | 3.00        |      |      |
| 2.50        | 2.50                | 2.50 | 2.50  | 202 | 3   | 4   | 202  | HEATER - BATHROOM    | 0.75        |      |      |
| 1.25        | 1.25                | 1.25 | 1.25  | 202 | 5   | 6   | 202  | HEATER - BLOWER ROOM | 1.25        |      |      |
| 0.05        | 0.05                | 0.05 | 0.05  | 203 | 7   | 8   | 203  | SPARE                |             |      |      |
| 6.8         | 5.6                 | 4.3  | TOTAL |     |     |     |      |                      | 5.00        | 3.75 | 4.25 |

|                     |       |
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| PHASE A LOAD (VA) = | 10.55 |
| PHASE B LOAD (VA) = | 8.80  |
| PHASE C LOAD (VA) = | 4.30  |
| TOTAL LOAD (VA) =   | 24.05 |



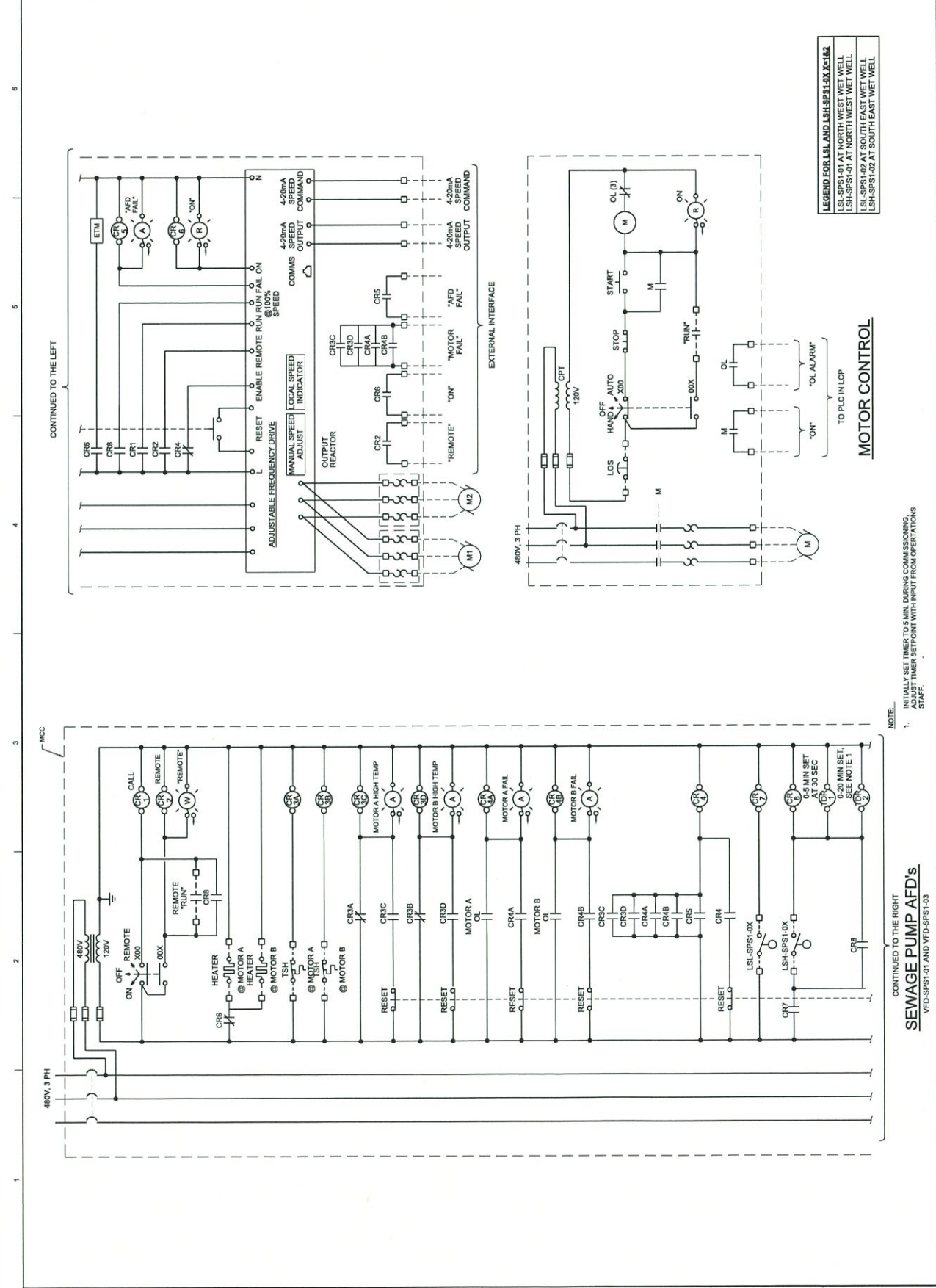
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INCLINE  
 GENERAL IMPROVEMENT DISTRICT  
 SEWAGE PUMP STATION NO. 1  
 IMPROVEMENT PROJECT  
 T. HILL  
 K. BISHOP  
 S. PARKER  
 B. ISBELL  
 02/22/2019

**JACOBS**  
 ELECTRICAL  
 CONTROL DIAGRAM - 1

|       |             |
|-------|-------------|
| DATE  | AUGUST 2019 |
| PROJ. | 702648      |
| DWG.  | E-1006      |
| SHEET | 13 OF 19    |

FILENAME: 129-E-1006.dgn  
 PLOT DATE: 20190822



CONTINUED TO THE LEFT

MCC

480V, 3 PH

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**LEGEND FOR LSH AND LSH-SPS1-0X-1&2**  
 LSH-SPS1-01 AT NORTH WEST WET WELL  
 LSH-SPS1-01 AT NORTH WEST WET WELL  
 LSH-SPS1-02 AT NORTH EAST WET WELL  
 LSH-SPS1-02 AT SOUTH EAST WET WELL

MOTOR CONTROL

NOTE:  
 1. INITIALLY SET TIMER TO 5 MIN. DURING COMMISSIONING.  
 2. SET TIME TO 15 MIN. AFTER 15 MIN. OPERATION.  
 3. REPORT WITH RPT FROM OPERATIONS STAFF.

CONTINUED TO THE RIGHT  
**SEWAGE PUMP AFD's**  
 VFD-SPS1-01 AND VFD-SPS1-02



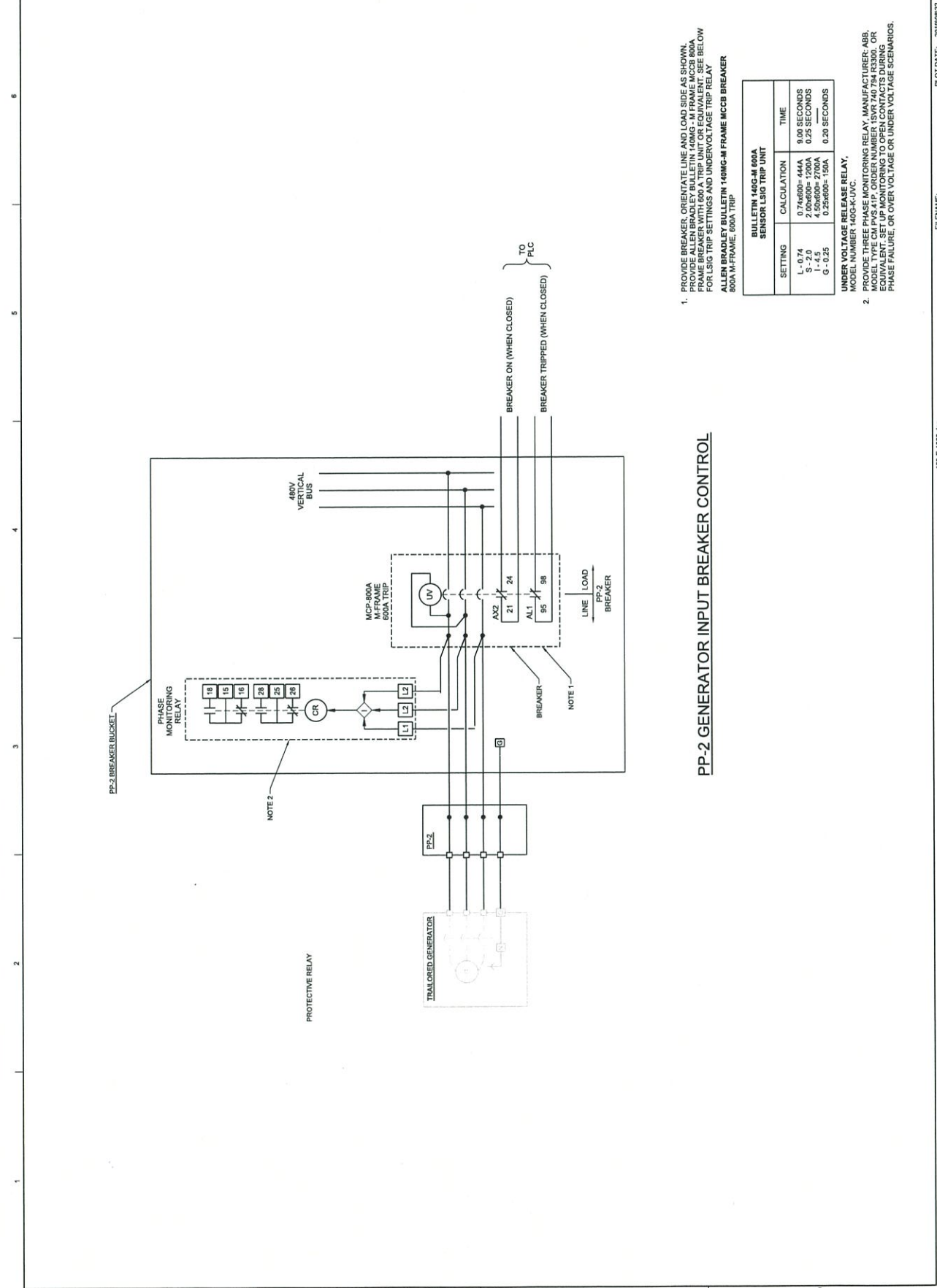


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**JACOBS**  
ELECTRICAL  
CONTROL DIAGRAM - 3

|                    |             |
|--------------------|-------------|
| VERIFY SCALE       |             |
| MAIL ROOM LOCATION |             |
| DATE               | AUGUST 2018 |
| PROJ.              | 703648      |
| DWG                | E-1008      |
| SHEET              | 15 OF 18    |



1. PROVIDE BREAKER, ORIENTATE LINE AND LOAD SIDE AS SHOWN. PROVIDE ALLEN BRADLEY BULLETIN 140MG-M FRAME MCCB 800A FOR LSIG TRIP SETTINGS AND UNDERVOLTAGE TRIP RELAY. ALLEN BRADLEY BULLETIN 140MG-M FRAME MCCB BREAKER 800A M-FRAME, 800A TRIP
2. PROVIDE THREE PHASE MONITORING RELAY MANUFACTURER, JOB. PROVIDE THREE PHASE MONITORING RELAY MANUFACTURER, JOB. EQUIVALENT SET UP MONITORING TO OPEN CONTACTS DURING OR PHASE FAILURE, OR OVER VOLTAGE OR UNDER VOLTAGE SCENARIOS.

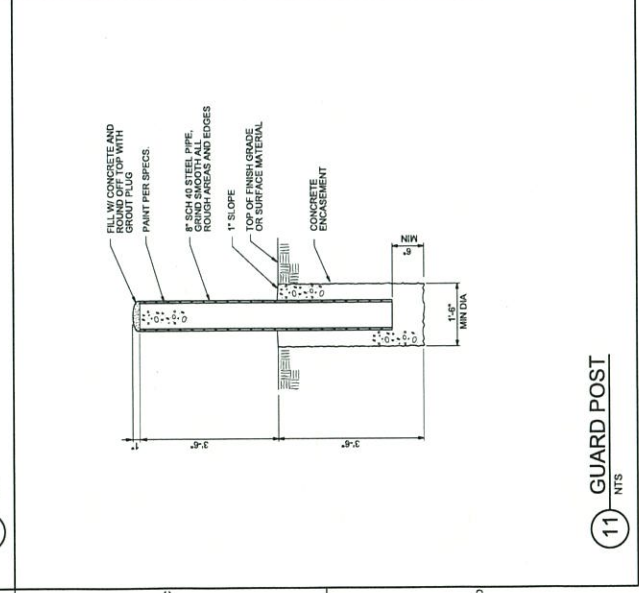
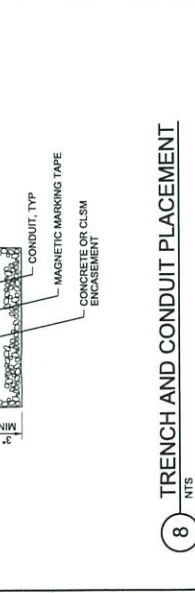
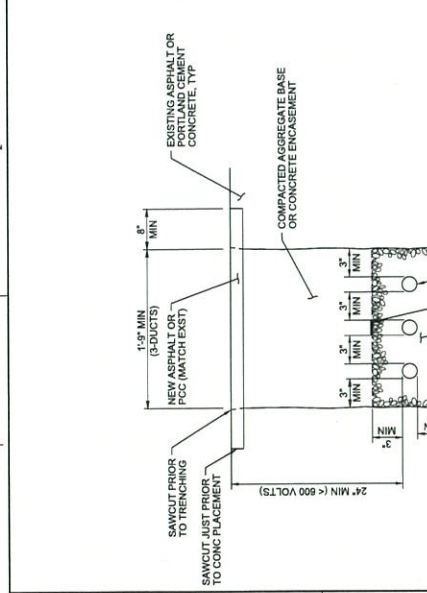
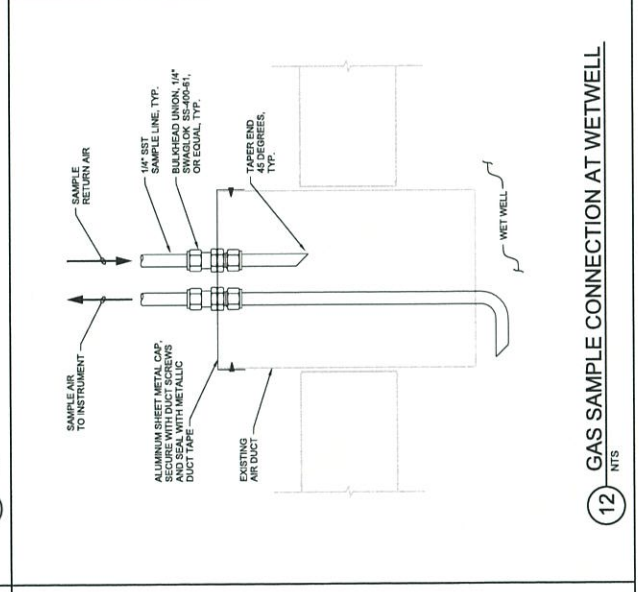
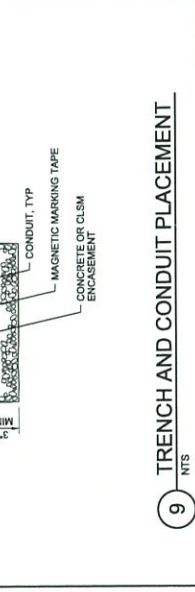
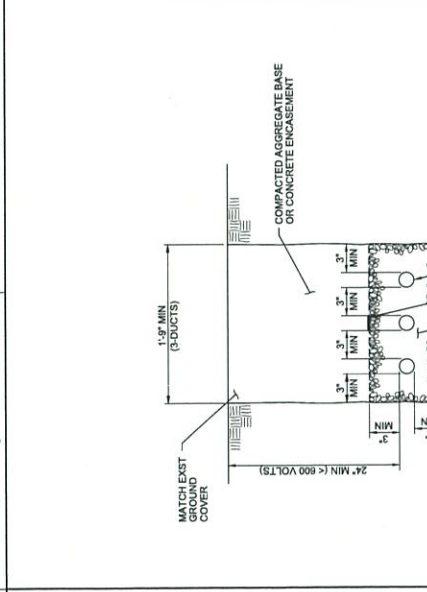
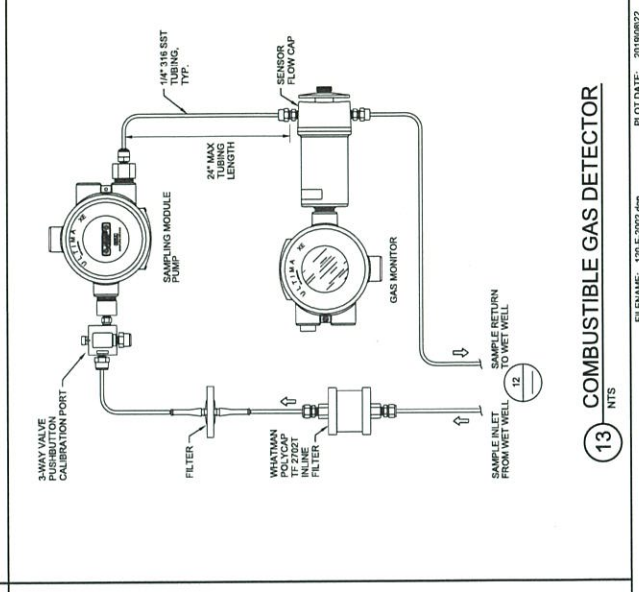
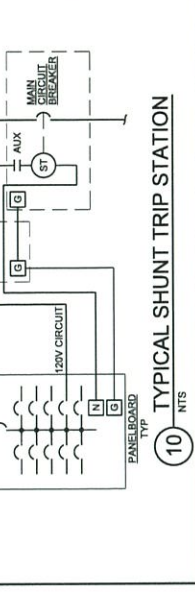
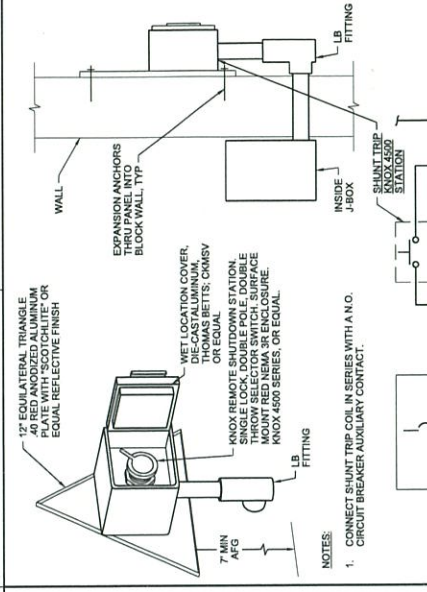
| SETTING  | CALCULATION    | TIME         |
|----------|----------------|--------------|
| L - 0.74 | 0.74x600= 444A | 9.00 SECONDS |
| S - 2.0  | 2.0x600= 1200A | 0.25 SECONDS |
| G - 0.25 | 0.25x600= 150A | 0.20 SECONDS |

**UNDER VOLTAGE RELEASE RELAY.**  
MODEL NUMBER: 16G-K-UVC.

**PP-2 GENERATOR INPUT BREAKER CONTROL**







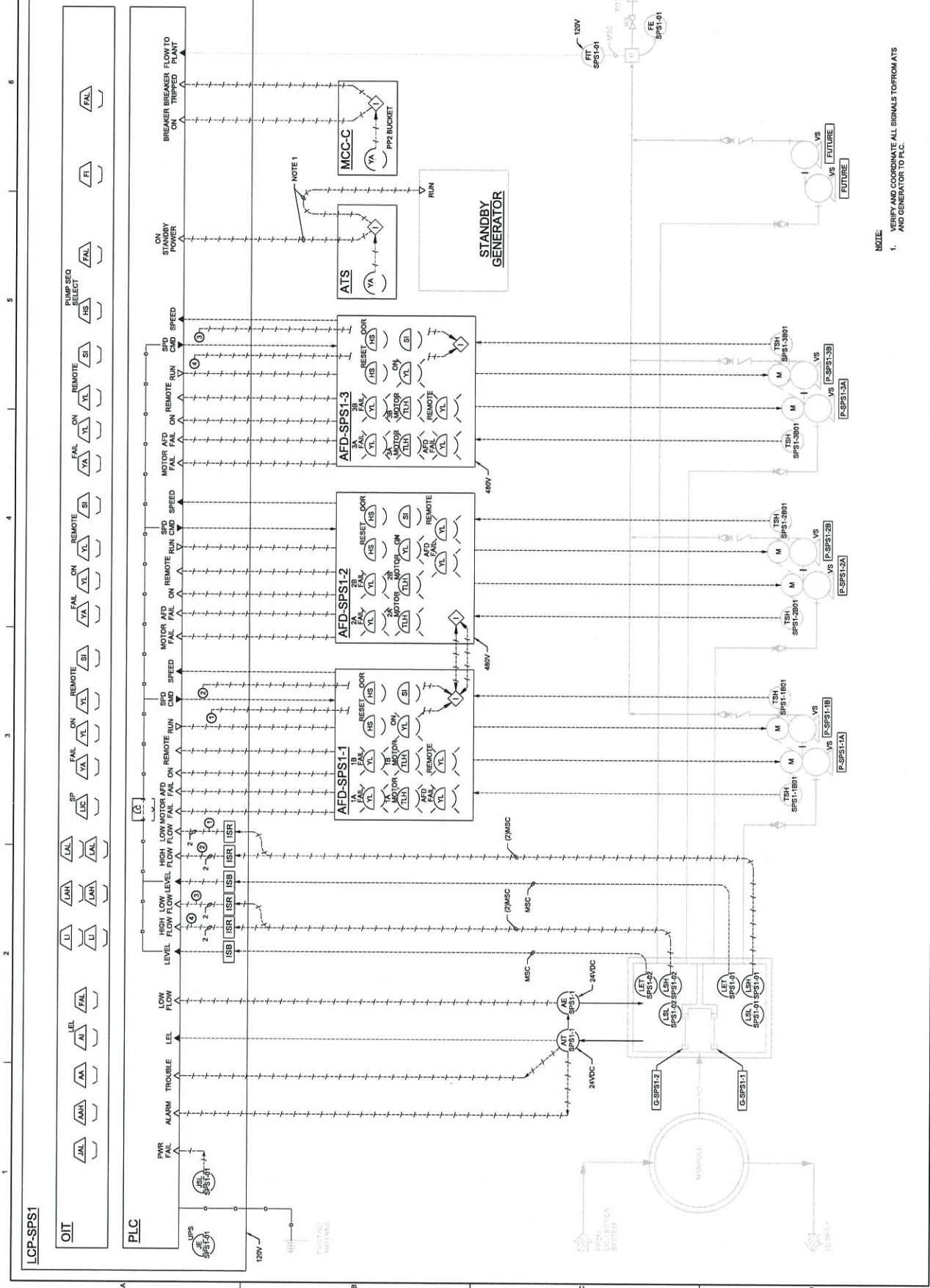


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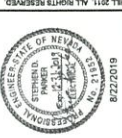
**JACOBS**  
ELECTRICAL  
PUMP STATION PAID

|              |             |
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| VERIFY SCALE |             |
| DATE         | AUGUST 2019 |
| PROJ         | 705648      |
| DWG          | N-1001      |
| SHEET        | 15 OF 19    |



NOTE:  
1. VERIFY AND CORRECT ALL SIGNALS TO/FROM ATS AND GENERATOR TO P.C.

1 2 3 4 5 6



| NO. | DATE | BY | APPROVED |
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**JACOBS**  
ELECTRICAL  
TYPICAL WIRING DIAGRAMS  
CONTROL PANEL

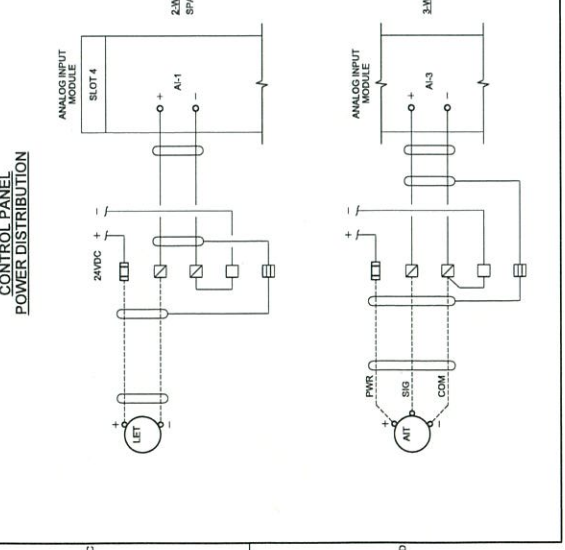
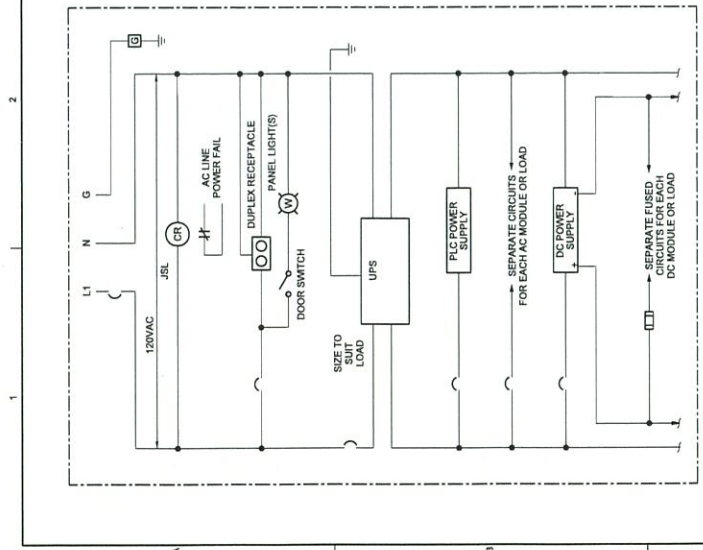
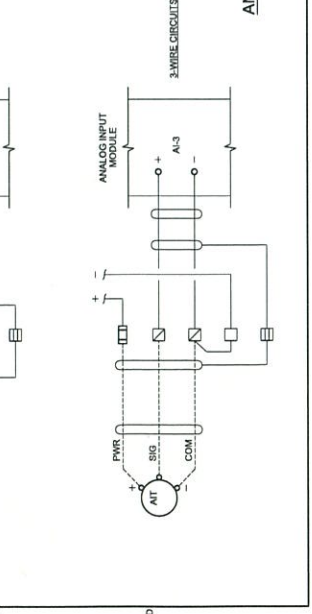
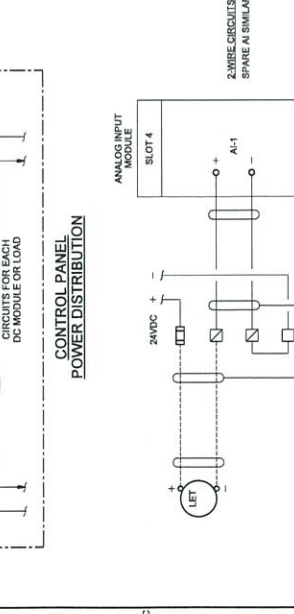
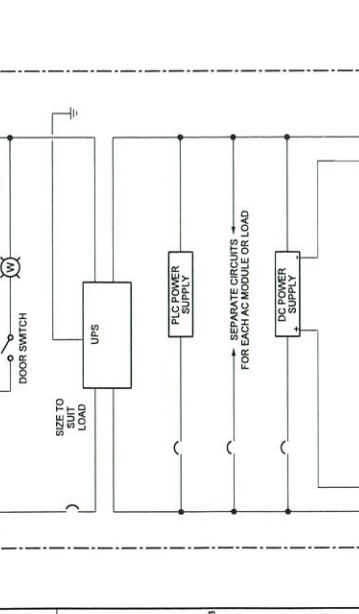
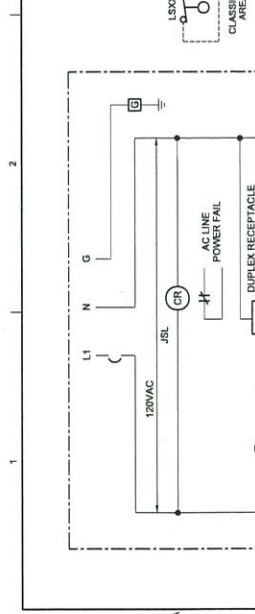
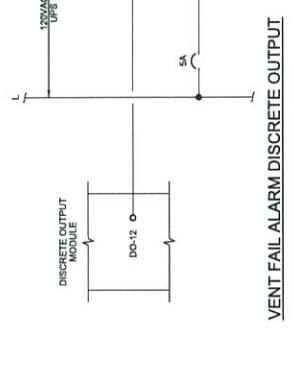
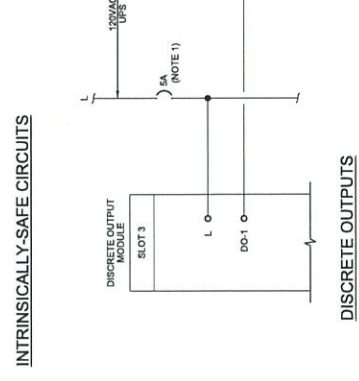
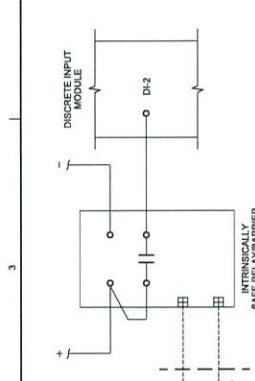
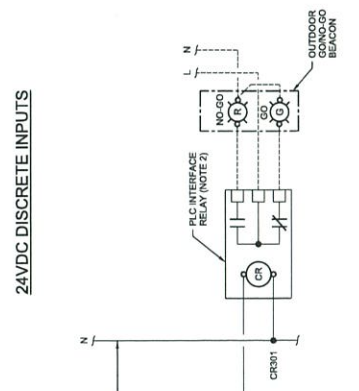
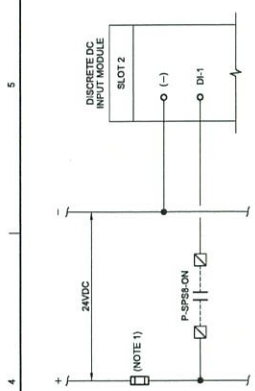
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| DATE  | AUGUST 2019 |
| PROJ  | 7036248     |
| DWS   | N-1002      |
| SHEET | 19 OF 19    |

FILENAME: 156-N-1002.dgn PLOT DATE: 20190822 Page 27 of 76

**GENERAL NOTES:**

- TYPICAL WIRING DIAGRAMS SHOW GENERAL REQUIREMENTS, BUT DO NOT SHOW ALL DETAILS REQUIRED FOR SHOP DRAWINGS AND PANEL IDENTIFICATION REQUIREMENTS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE A FUSE OR CIRCUIT BREAKER ON DISCRETE IO MODULE.
- USE PLC INTERFACE RELAY FOR DISCRETE OUTPUTS, INCLUDING SPARES. PROVIDE SPARE NAME AND POINT NUMBER AND POINT NUMBER AND POINT NUMBER.
- INTRINSICALLY-SAFE RELAY/BARRIER INSTALLATION AND WIRING ACCORDING TO NATIONAL ELECTRICAL CODE AND MANUFACTURER'S INSTRUCTIONS.

- LEGEND**
- DEVICE TERMINAL
  - TERMINAL FOR FIELD CONNECTION
  - ▣ TERMINAL WITH DISCONNECT
  - ▤ GROUNDING TERMINAL
  - ▥ FUSED DISCONNECT TERMINAL
  - ▧ INTRINSICALLY-SAFE CIRCUIT TERMINAL
  - ▨ PANEL WIRING
  - FIELD WIRING
  - ▩ SHIELDED CABLE



# **Attachment 2**

## **Conceptual Design Report**

2525 Airpark Drive  
Redding, California 96001  
United States  
T +1.530.243.5831

www.jacobs.com

---

**Subject** Sewage Pump Station No. 1 Electrical Improvements  
Project Definition and Preliminary Design Report

**Project Name** Incline Village General Improvement District

**Attention** Joe Pomroy/Incline Village General Improvement District (IVGID)  
Charley Miller/IVGID  
Keith Rudd/IVGID

**From** Timothy Hill/Jacobs  
Steve Parker/Jacobs  
Brett Isbell/Jacobs

**Date** January 23, 2019

**Copies to** 393670

---

## 1. Overview

Sewage Pump Station No. 1 (SPS-1) conveys wastewater from IVGID's collection system to IVGID's water resource recovery facility. SPS-1, IVGID's largest sewage lift station, is a critical component of IVGID's wastewater conveyance and advanced treatment system; reliable operation and performance of SPS-1 is essential. This technical memorandum presents the conceptual design, approach, and construction cost estimate for electrical system and pumping improvements at SPS-1, including removing and replacing pump variable frequency drives (VFDs) and modernizing pump controls. Additionally, an external power connection for a skid-mounted backup pump will be provided for increased reliability.

SPS-1 was originally constructed in 1962 and has been modified since original construction. The pump configuration comprises three sets of two pumps in series, which were originally controlled by a Unitrol motor control center (MCC). Approximately 20 years ago the original Unitrol MCC was decommissioned and a new switchboard and VFDs were installed for pumping control. These existing VFDs are currently operable, but unserviceable, and must be replaced to mitigate the risk of component failure and to improve pumping reliability.

The preliminary design presented herein and shown on the preliminary design drawings (Attachment 1) defines the electrical components that will be upgraded and outlines an approach for replacing existing equipment without having SPS-1 inoperable for extended durations. Also, a conceptual-level construction cost estimate is presented for budgetary planning.

## 2. Design Development

A summary of project components that will be included in the final design drawings and specifications for construction by a qualified electrical contractor follows:

- Existing Unitrol MCC (labeled "Old Motor Controller" on drawings), switchboard, and drive controls will be demolished. The existing motor controller is located on the Main Level, and the existing

switchboard and three VFDs are located on Level 2. The extent of demolition is conceptually shown on the demolition drawings (Attachment 1).

- A new MCC (MCC-02) will be fitted and installed on the Main Level and will include a programmable logic controller (PLC) panel with an operator interface terminal, three VFDs, space for power and lighting panels, and a plug-in for temporary power will be fitted and installed on the Main Level. Feeders from the emergency power panel (powered by a diesel generator) will also be connected to the MCC.
- A new PLC will be connected to IVGID’s supervisory control and data acquisition system (SCADA) and will provide pump control and data logging. Pumping controls will be similar to Sewage Pump Station No. 8. New wet well level instruments will be installed and connected to the new PLC and SCADA system.
- Electrical plugs compatible with a 1,200-amp diesel generator will be provided.
- Additionally, the contractor will provide and install a power panel for a 200-horsepower skid-mounted pump. The power panel will be located near the access road and will include new conduits and conductors to the SPS-1 pump building. This is conceptually shown on the site plan drawing (Attachment 1).

Preliminary engineering drawings are provided in Attachment 1.

**2.1 Construction Considerations, Temporary Power, and Sequencing**

It is critical that the SPS-1 remain in operation during construction. Temporary power for switchgear and VFDs will be needed and will require a brief (approximately 2 hours) shutdown of the electrical supply to connect temporary power. Temporary power will be supplied through the existing system to the existing switchboard and VFDs allowing pumps to operate while select existing equipment is demolished and new equipment is installed. It will be necessary and mandatory for the contractor to adhere to the following construction sequencing:

- 1) Provide Temporary Power to Existing VFD Switchboard
- 2) Demolish Existing Motor Controller
- 3) Install New MCC-02
- 4) Connect New Conductors to New MCC-02 and Energize
- 5) Route Conduit and Conductors from New VFDs, located in MCC-02, to Pump Motors
- 6) Cut-over Power One Pump Set at a Time; Commission and Test
- 7) Disconnect Temporary Power
- 8) Demolish Old Switchboard and VFDs

**2.2 Future Improvements**

Mechanical improvements such as pump replacement, pipe header replacement and reconfiguration, and wet well modifications are not included in this contract. The new MCC includes capacity for power and lighting panels and additional motor control, to be designed and constructed in a future contract.

**3. Delivery and Implementation Schedule**

Final design development will be based on the concepts discussed with IVGID and defined in this technical memorandum. Bid documents will include signed and sealed drawings and specifications in preparation for public bid advertisement. Project implementation includes the following milestones:

- Draft bid documents submitted to IVGID                      March 21, 2019
- Bid documents submitted to IVGID                              May 17, 2019
- Bid advertisement (approximate)                                June 6, 2019
- Contractor Notice to Proceed                                    August 7, 2019
- Construction phase    August 2019–February 2020
- Substantial completion     January 2020

### 3.1 Estimated Construction Cost

Table 1 presents planning-level construction costs based on preliminary design information. Note that line item subtotals include contractor markup and profit. A construction cost contingency of approximately 10 percent is included.

**Table 1. Planning-level Construction Costs**

| Construction Activity  | Cost             |
|--|------------------|
| Temporary Power to Existing VFD Switchboard  | \$10,000         |
| Demolish Existing Unitrol MCC  | \$5,000          |
| Procure and Install a New MCC-02 (includes three new VFDs, MCC components, and breakers) | \$120,000        |
| Connect New Conductors to New MCC-02 and Energize  | \$10,000         |
| Route Conduit and Conductors from New VFDs to Motors                                     | \$10,000         |
| Change Over One Pump Set at a Time to New VFD  | \$5,000          |
| Disconnect Temporary Power; Demolish Old Switchboard and VFDs                            | \$10,000         |
| Trench and Install Conduit and Conductors, Backfill and Restore                          | \$30,000         |
| Install Plug-in Panel for Skids and Terminals Trailered VFD and Pump                     | \$15,000         |
| Install Plug-in Terminals for Trailered Generator  | \$10,000         |
| Construction Contingency (10%)   | \$25,000         |
| <b>TOTAL</b>   | <b>\$250,000</b> |

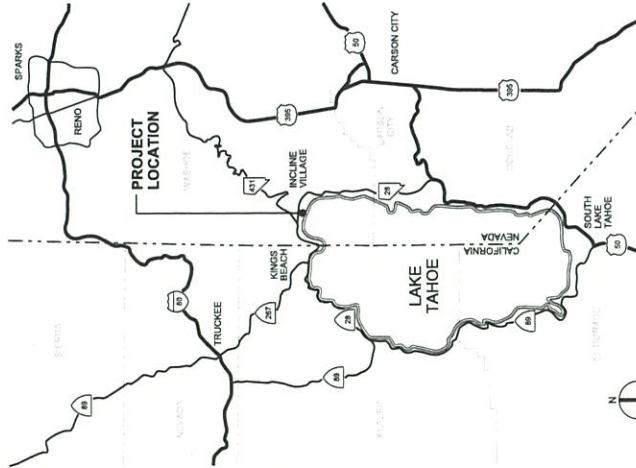


**Attachment 1**  
**Preliminary Engineering Drawings**

# INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT SEWAGE PUMPING STATION NO. 1 IMPROVEMENTS PROJECT

INCLINE VILLAGE    WASHOE COUNTY    NEVADA  
IVGID PROJECT NO.:

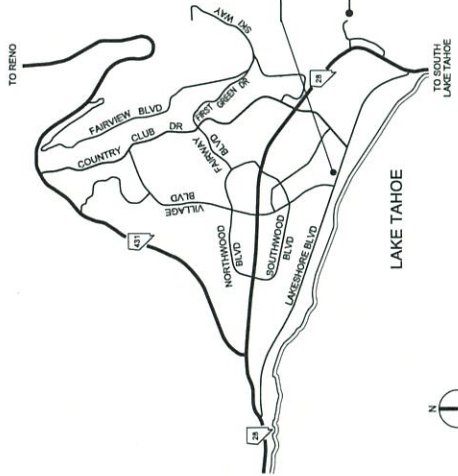
NOVEMBER 2018



LOCATION MAP

**INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT  
BOARD OF TRUSTEES:**

- KENDRA WONG    CHAIRWOMAN
- PHILIP HORAN    VICE CHAIRMAN
- MATTHEW DENT    TREASURER
- TIM CALLICRATE    SECRETARY
- PETER MORRIS    TRUSTEE



VICINITY MAP

**SEWAGE PUMP STATION NO. 1**  
TAHOE BLVD  
INCLINE VILLAGE, NV 89451  
COORDINATES: 39.240837, -119.947111  
INCLINE VILLAGE WWTP  
1250 SWEETWATER ROAD  
INCLINE VILLAGE, NV 89451

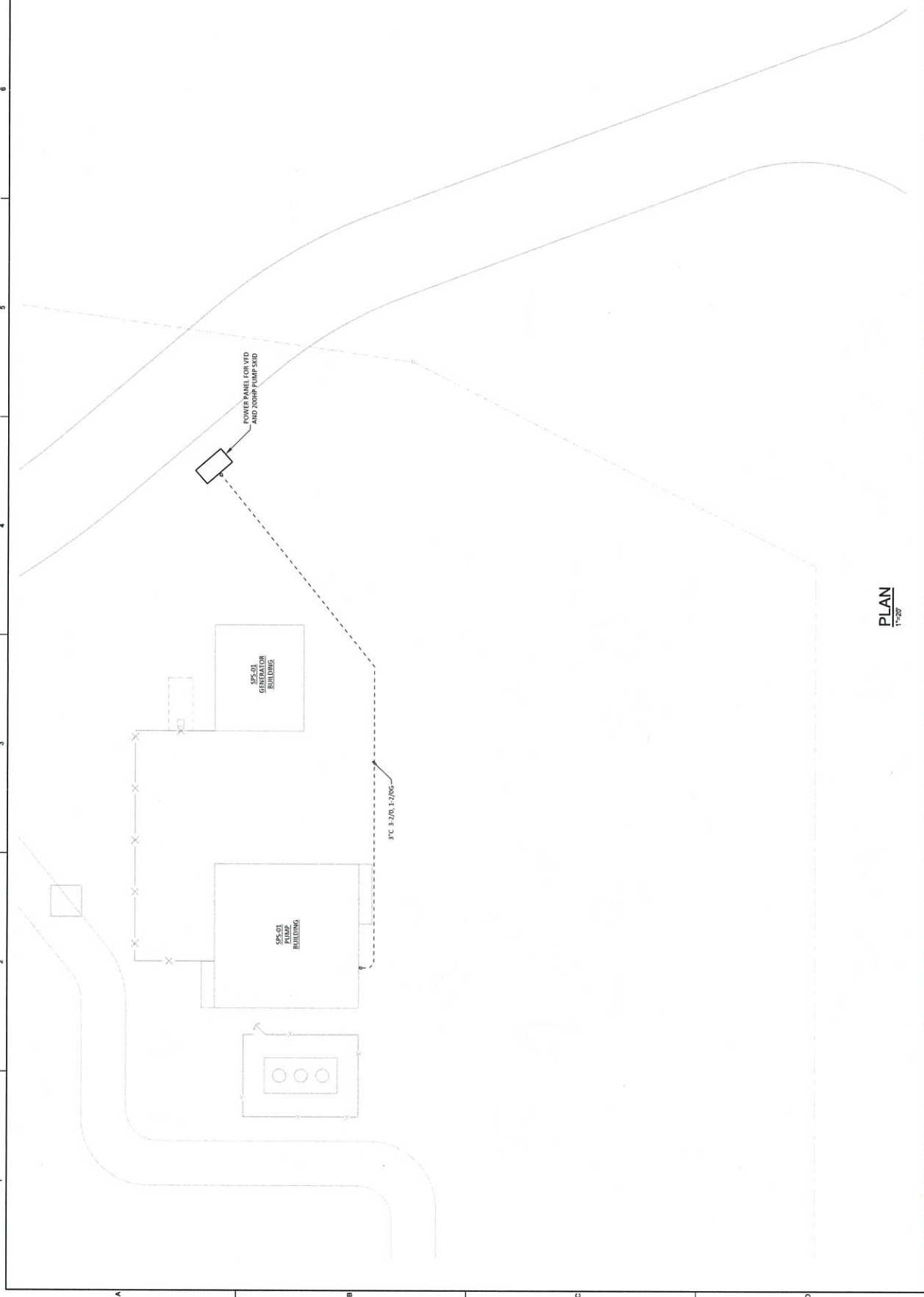
INDEX TO DRAWINGS

| SHEET NO. | DRAWING NO. | TECHNOLOGY | TITLE                         |
|-----------|-------------|------------|-------------------------------|
| 1         | G-1         | GENERAL    | COVER SHEET AND DRAWING INDEX |

|  |   |   |
|--|---|---|
|  | AREA OFFICE:<br>RENO, NV 89501<br>50 WEST LIBERTY ST, STE. 205<br>REDDING, CA 96001<br>(775) 329-7300<br>(530) 243-5831   | COVER SHEET AND DRAWING INDEX<br>GENERAL<br>VERIFY SCALE<br>DATE: FEBRUARY 2017<br>PROJ: 39870.58<br>DWG: C-1<br>SHEET: 1 OF 19                           |
|  | DESIGN OFFICE:<br>RENO, NV 89501<br>50 WEST LIBERTY ST, STE. 205<br>REDDING, CA 96001<br>(775) 329-7300<br>(530) 243-5831 | PRELIMINARY - NOT FOR CONSTRUCTION<br>CH2MHILL<br>RENO, NV 89501<br>50 WEST LIBERTY ST, STE. 205<br>REDDING, CA 96001<br>(775) 329-7300<br>(530) 243-5831 |

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**PLAN**  
 1"=20'



**ch2m**  
ELECTRICAL  
DEMOLITION PLAN  
PUMPING PLANT

30% DOCUMENT

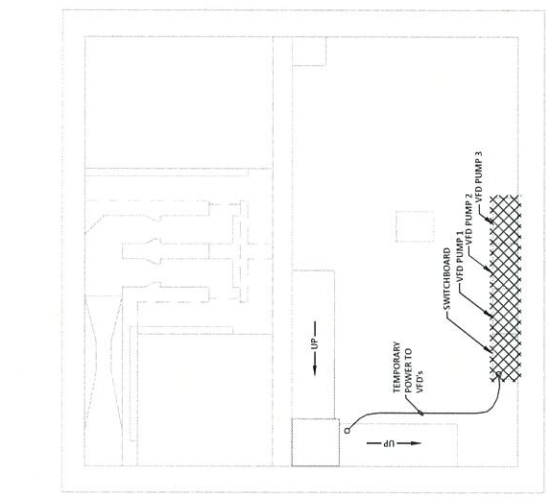
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PROJECT: 123-X-101\_338370.dgn  
SHEET: 4



GENERAL IMPROVEMENT DISTRICT ONE DISTRICT - ONE TEAM  
BRIGHT CLEAN ELECTRICAL  
IMPROVEMENT PROJECT

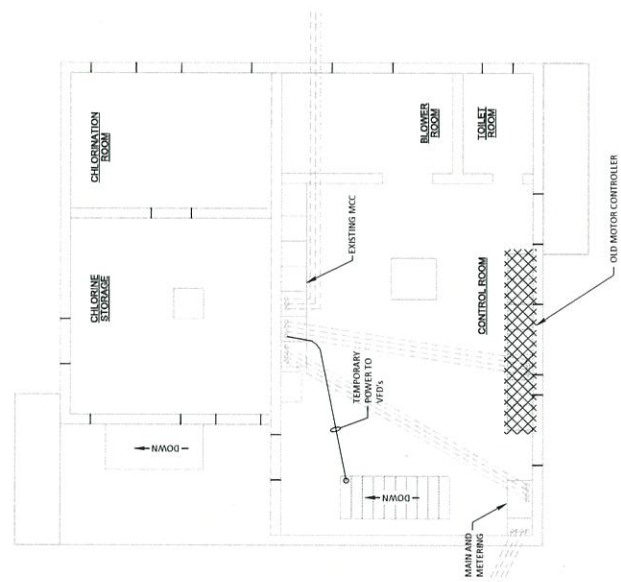
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**LEVEL 2  
PLAN**  
1/8"=1'-0"

- PHASE 1
- 1 - PROVIDE TEMPORARY POWER TO EXISTING VFD SWITCHBOARD.
  - 2 - DEMOLISH OLD MOTOR CONTROLLER.
  - 3 - INSTALL NEW MCC (O).
  - 4 - INSTALL NEW MCC (O).
  - 5 - ROUTE CONDUIT AND CONDUCTORS FROM NEW VFDs TO MOTORS.
  - 6 - CHANGE OVER ONE PUMP SET AT A TIME TO NEW VFD.
  - 7 - DEMOLISH OLD SWITCHBOARD AND VFDs.
  - 8 - DEMOLISH OLD SWITCHBOARD AND VFDs.



**MAIN LEVEL  
PLAN**  
1/8"=1'-0"

| NO. | DATE | REVISION | CHK | DR | T HILL | J MINOR |
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VERIFY SCALE  
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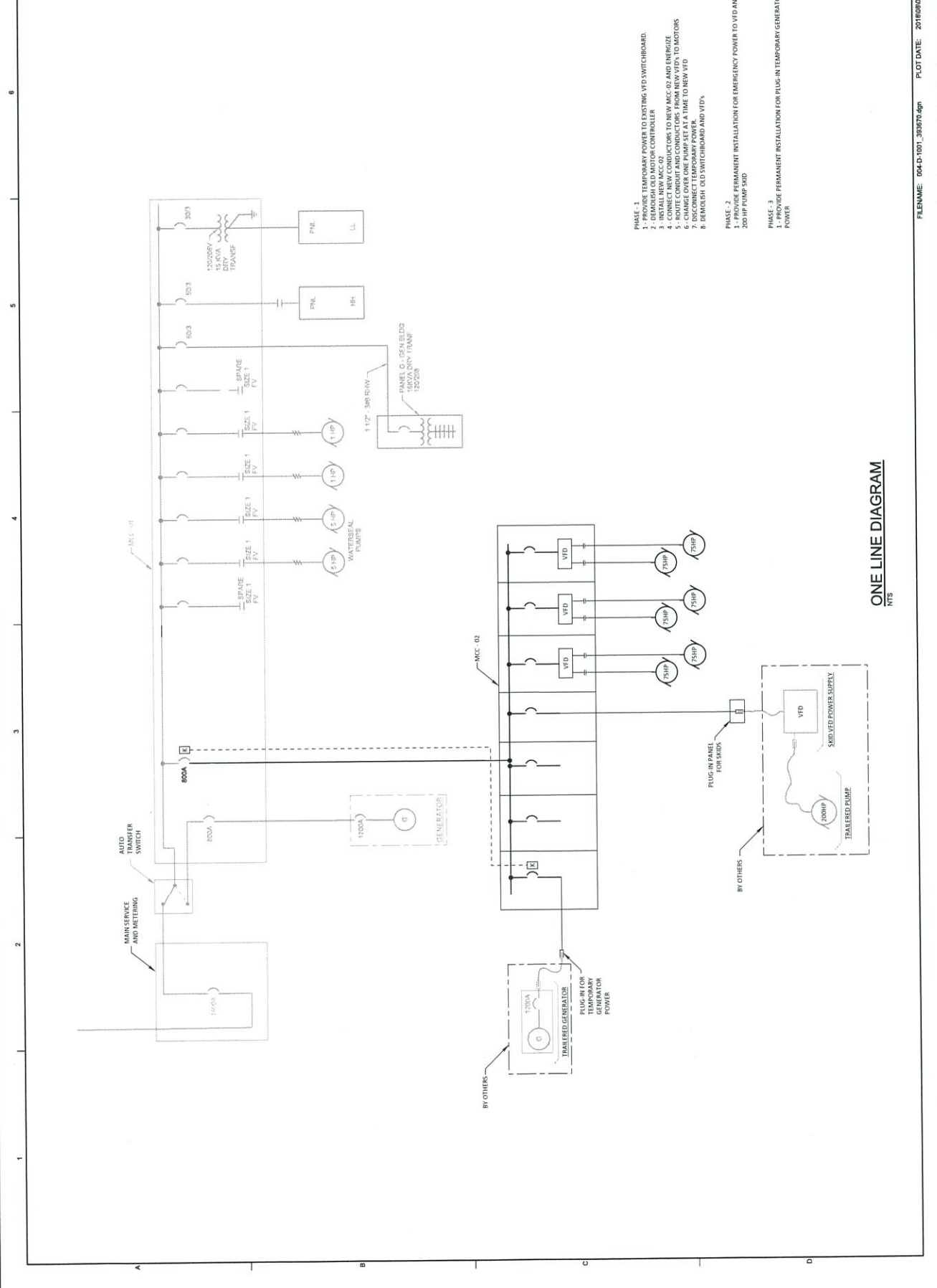
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- PHASE - 1
- 1- PROVIDE TEMPORARY POWER TO EXISTING VFD SWITCHBOARD.
  - 2- INSTALL NEW MCC-02 CONTROLLER.
  - 3- INSTALL NEW MCC-02.
  - 4- CONNECT NEW CONDUCTORS TO NEW MCC-02 AND ENERGIZE.
  - 5- ROUTE CONDUIT AND CONDUIT RINGS TO MOTORS.
  - 6- DEMOLISH EXISTING MCC-02 AND MAKE AS NEAR VFD.
  - 7- DISCONNECT TEMPORARY POWER.
  - 8- DEMOLISH OLD SWITCHBOARD AND VFD'S.
- PHASE - 2
- 1- PROVIDE PERMANENT INSTALLATION FOR EMERGENCY POWER TO VFD AND 200 HP PUMP SMD.
- PHASE - 3
- 1- PROVIDE PERMANENT INSTALLATION FOR PLUG-IN TEMPORARY GENERATOR POWER.

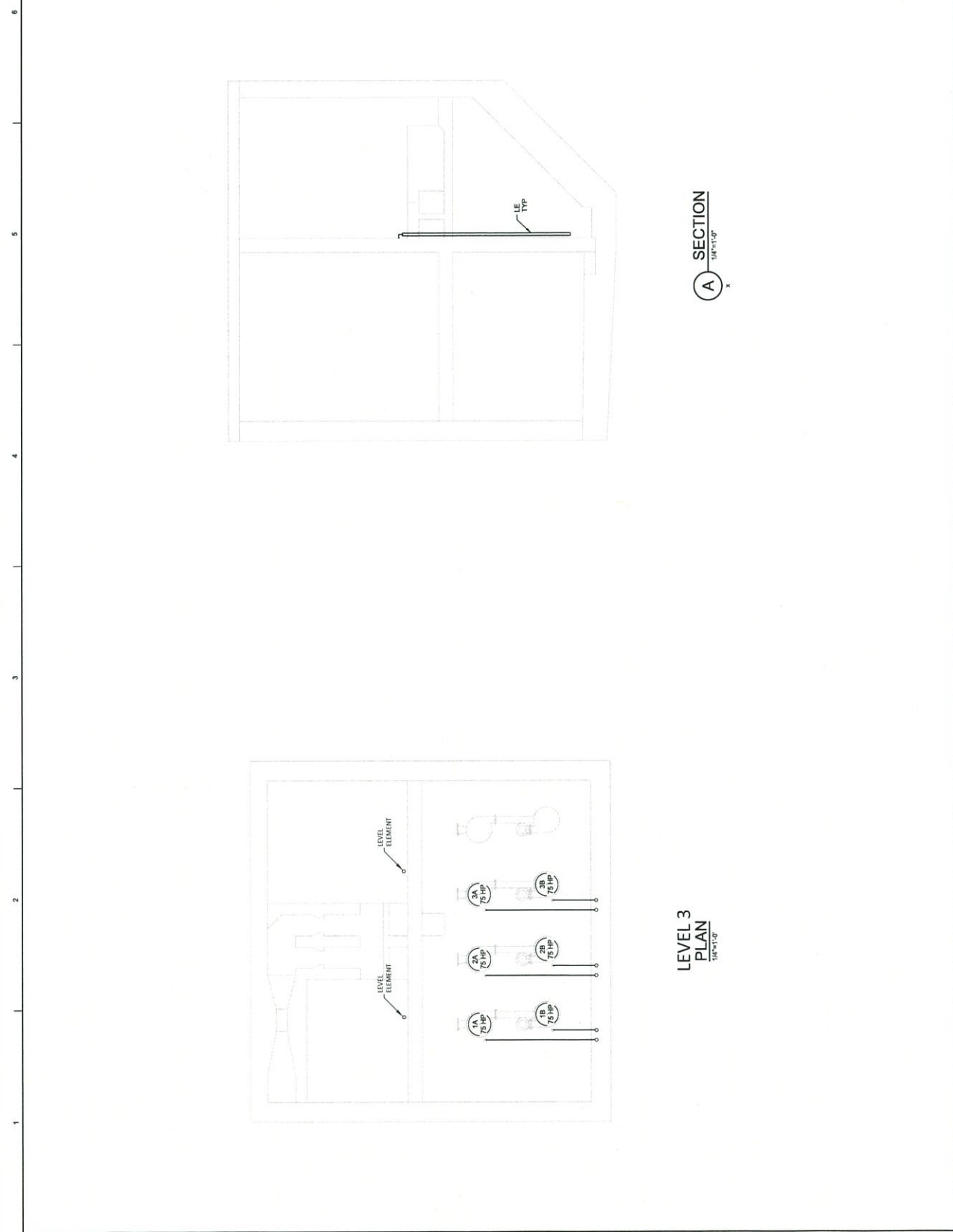


**ch2m**  
 ELECTICAL  
 PUMPING PLANT  
 PLAN AND SECTION



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**LEVEL 3  
 PLAN**  
 1/4"=1'-0"

**SECTION  
 A**  
 1/4"=1'-0"

1 2 3 4 5 6

A B C D



## INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT PROFESSIONAL SERVICES AGREEMENT

### 1. PARTIES AND DATE.

This Agreement is made and entered into as of May 25, 2023 by and between the Incline Village General Improvement District, a Nevada general improvement district ("District") and **DOWL, LLC, a Delaware Limited Liability Corporation**, with its principal place of business at 5442 Longley Lane, Suite A, Reno, Nevada ("Consultant"). The District and Consultant are sometimes individually referred to as "Party" and collectively as "Parties."

### 2. RECITALS.

2.1 District. District is a general improvement district organized under the laws of the State of Nevada, with power to contract for services necessary to achieve its purpose.

2.2 Consultant. Consultant desires to perform and assume responsibility for the provision of certain professional engineering services required by the District on the terms and conditions set forth in this Agreement. Consultant represents that it is experienced in providing surveying services to public clients, is licensed in the State of Nevada, and is familiar with the plans of the District.

2.3 Project. District desires to engage Consultant to render modeling services for the District's upcoming Sewer Pump Station #1 Improvements ("Project.")

### 3. TERMS.

#### 3.1 Scope of Services and Term.

3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the District, all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately supply services consisting of developing Bid Set Documents for replacing aging electrical infrastructure within the existing Sewer Pump Station #1 facility. A consultant had previously prepared plans and specifications for this project, however IVGID would like to break the project up into four priority levels of upgrades to the facility. The consultant shall review the prior design and develop bidding documents that include the Base Bid - Priorities #1 and #2, Bid Alternate A - Priority #3 and Bid Alternate B - Priority #4. (the "Services.") The Services to be provided are more particularly described in Exhibit A, Consultant's Scope of Work, attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations. As described in Section 3.3, the District shall pay for such services in accordance with the Schedule of Charges set forth in Exhibit B, Consultant's fee schedule.

3.1.2 Term. The term of this Agreement shall be from May 26, 2023 to March 30, 2024, unless earlier terminated as provided herein. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary to complete the Project.

## **3.2 Responsibilities of Consultant.**

- 3.2.1 Control and Payment of Subordinates; Independent Contractor. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement and such directions and amendments from District as herein provided. The District retains Consultant on an independent contractor basis and not as an employee. No employee or agent of Consultant shall become an employee of District. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall also not be employees of the District and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.
- 3.2.2 Schedule of Services. Consultant shall perform its services in a prompt and timely manner and shall commence performance upon receipt of written notice from the District to proceed ("Notice to Proceed"). Consultant shall complete the services required hereunder by July 25, 2023.
- 3.2.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the District's approval.
- 3.2.4 Substitution of Key Personnel. Consultant has represented to the District that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence subject to the District's written approval. In the event that the District and Consultant cannot agree as to the substitution of key personnel, the District shall be entitled to terminate this Agreement for cause. As discussed below, any personnel who fail or refuse to perform the Services in a manner acceptable to the District, or who are determined by the District to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project or a threat to the safety of persons or property, shall be promptly removed from the Project by the Consultant at the request of the District. The key personnel for performance of this Agreement are as follows: [Matt Van Dyne](#).
- 3.2.5 District's Representative. The District hereby designates [Engineering Manager Kate Nelson](#) or her designee, to act as its representative for the performance of this Agreement ("District's Representative"). The District's Representative shall have the power to act on behalf of the District for all purposes under this Contract. Consultant shall not accept direction or orders from any person other than the District's Representative or her designee.
- 3.2.6 Consultant's Representative. Consultant hereby designates [Matt Van Dyne](#) or his designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

- 3.2.7 Coordination of Services. Consultant agrees to work closely with the District staff in the performance of Services and shall be available to the District's staff, consultants and other staff at all reasonable times.
- 3.2.8 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of Nevada. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, including a Washoe County Business License, and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Consultant shall perform, at its own cost and expense and without reimbursement from the District, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its sub-consultants who is determined by the District to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the District, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.
- 3.2.9 Laws and Regulations. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, and shall give all notices required by law. If required, Consultant shall assist District, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies. Consultant shall be liable for all violations of local, state and federal laws, rules and regulations in connection with the Project and the Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the District, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold the District, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.
- 3.2.10 Insurance.
- 3.2.10.1 Time for Compliance. Consultant shall not commence the Services under this Agreement until it has provided evidence satisfactory to the District that it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section.
- 3.2.10.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance meeting the requirements set forth herein. Consultant shall also require all of its subcontractors to procure and maintain the same insurance for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

- (A) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) *General Liability:* A minimum of \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability:* A minimum of \$1,000,000 combined single limit (each accident) for bodily injury and property damage; and (3) *Industrial Insurance:* Workers' Compensation limits as required by the Labor Code of the State of Nevada. Employer's Liability limits of \$1,000,000 per accident for bodily injury or disease; and (4) *Professional Liability/Errors and Omissions:* Consultant shall procure and maintain, and require its sub-consultants to procure and maintain, for a period of five (5) years following completion of the Services, professional liability/errors and omissions liability insurance appropriate to their profession. Such insurance shall be in an amount not less than \$1,000,000 per claim, and shall be endorsed to include contractual liability. "Covered Professional Services" as designated in the Professional Liability/Errors and Omissions policy must specifically include work performed under this Agreement.

Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as additional insured pursuant to this Agreement. Defense costs shall be payable in addition to the limits.

3.2.10.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms supplied or approved by the District to add the following provisions to the insurance policies:

- (A) Commercial General Liability. The commercial general liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.
- (B) Automobile Liability. The automobile liability policy shall be endorsed to provide the following: (1) the District, its directors, officials, officers, employees, agents and volunteers shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents and volunteers, or if excess, shall

stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way; and (3) the insurance coverage shall contain or be endorsed to provide waiver of subrogation in favor of the District, its directors, officials, officers, employees, agents and volunteers or shall specifically allow Consultant to waive its right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

- (C) Industrial (Workers' Compensation and Employers Liability) Insurance. The insurer shall agree to waive all rights of subrogation against the District, its directors, officials, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.
- (D) All Coverages. Each insurance policy required by this Agreement shall be endorsed to state that: (A) coverage shall not be suspended, voided, reduced or canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District; and (B) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.4 Separation of Insureds; No Special Limitations. All insurance required by this Section shall contain standard separation of insureds provisions. In addition, such insurance shall not contain any special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents and volunteers.

3.2.10.5 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the District. Consultant shall guarantee that, at the option of the District, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its directors, officials, officers, employees, agents and volunteers; or (2) the Consultant shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

3.2.10.6 Acceptability of Insurers. Insurance is to be placed with insurers duly licensed or authorized to do business in the state of Nevada and with an "A.M. Best" rating of not less than A-VII. The District in no way warrants that the above-required minimum insurer rating is sufficient to protect the Consultant from potential insurer insolvency.

3.2.10.7 Verification of Coverage. Consultant shall furnish the District with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms provided by the District if requested. All certificates and endorsements must be received and approved by the District before work commences. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

- 3.2.10.8 Subconsultants. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the District that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the District as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, District may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.
- 3.2.10.9 Compliance with Coverage Requirements. If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Consultant or District will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, District may terminate this Agreement for cause.
- 3.2.11 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed.

### **3.3 Fees and Payments.**

- 3.3.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement in accordance with the Schedule of Charges set forth in Exhibit B, attached hereto and incorporated herein by reference. The total compensation to be provided under this Agreement shall not exceed **Forty Two Thousand Three Hundred Three (\$42,303.00)** without written approval of District's Engineering Manager. Extra Work may be authorized, as described below; and if authorized, said Extra Work will be compensated at the rates and manner set forth in this Agreement.
- 3.3.2 Payment of Compensation. Consultant shall submit to District a monthly itemized invoice which indicates work completed and hours of Services rendered by Consultant. The invoice shall describe the amount of Services and supplies provided since the initial commencement date of Services under this Agreement, and since the start of the subsequent billing periods, through the date of the invoice. Invoices shall be sent to [invoices@ivgid.org](mailto:invoices@ivgid.org), with a copy to [rlr@ivgid.org](mailto:rlr@ivgid.org). Consultant shall include a Project Task Tracking Sheet with each invoice submitted. District shall, within thirty (30) days of receiving such invoice and Project Task Tracking Sheet, review the invoice and pay all approved charges thereon.
- 3.3.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized under Exhibit A, or otherwise in writing by the District.
- 3.3.4 Extra Work. At any time during the term of this Agreement, the District may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by the District to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from the District's Representative. Where Extra Work is deemed

merited by the District, an amendment to the Agreement shall be prepared by the District and executed by both Parties before performance of such Extra Work, or the District will not be required to pay for the changes in the scope of work. Such amendment shall include the change in fee and/or time schedule associated with the Extra Work. Amendments for Extra Work shall not render ineffective or invalidate unaffected portions of this Agreement.

### **3.4 Accounting Records.**

3.4.1 Maintenance and Inspection. Consultant shall maintain accurate and complete books, documents, accounting records and other records pertaining to the Services for six (6) years (or longer as required by applicable law) from the date of final payment under this Agreement. Consultant shall make such records available to the District for inspection, audit, examination, reproduction, and copying at Consultant's offices at all reasonable times. However, if requested, Consultant shall furnish copies of said records at its expense to the District, within seven (7) business days of the request.

### **3.5 General Provisions.**

#### 3.5.1 Termination of Agreement.

3.5.1.1 Grounds for Termination. The District may, by written notice to Consultant, terminate the whole or any part of this Agreement at any time and without cause by giving written notice to Consultant of such termination, and specifying the effective date thereof, at least seven (7) days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those services which have been adequately rendered to the District, and Consultant shall be entitled to no further compensation. Consultant may not terminate this Agreement except for cause. Consultant shall not be entitled to payment for unperformed Services, and shall not be entitled to damages or compensation for termination of this Agreement by District except for the amounts authorized herein.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, the District may require Consultant to provide all finished or unfinished Documents and Data (defined below) and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such documents and other information within fifteen (15) days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, the District may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.5.2 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

**District**

Incline Village General Improvement District  
893 Southwood Blvd.  
Incline Village, NV 89451  
Attn: Kate Nelson

**Consultant**

DOWL, LLC  
5442 Longley Lane, Suite A  
Reno, Nevada 89511  
Attn: Matt Van Dyne

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

### 3.5.3 Ownership of Materials and Confidentiality.

3.5.3.1 Documents & Data. All source code, reports, programs, manuals, disks, tapes, and any other material prepared by or worked upon by Consultant for the Services shall be the exclusive property of the District, and the District shall have the right to obtain from Consultant and to hold in District's name copyrights, trademark registrations, patents, or whatever protection Consultant may appropriate to the subject matter. Consultant shall provide District with all assistance reasonably required to perfect the rights in this subsection.

3.5.3.2 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents and Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of the District, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use the District's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of the District.

3.5.4 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.5.5 Attorney's Fees. If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and all other costs of such action.

3.5.6 Indemnification. To the fullest extent permitted by law, Consultant shall defend, indemnify and hold the District, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or relating to any negligence or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project, or this Agreement, including without limitation the payment of all consequential damages, expert witness fees, and attorney's fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District, its directors, officials, officers, employees, agents, or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officials, officers, employees, agents, or volunteers, in any



such suit, action or other legal proceeding. Consultant shall reimburse District and its directors, officials, officers, employees, agents, and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided, including correction of errors and omissions. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its directors, officials, officers, employees, agents or volunteers.

- 3.5.6.1 Design Professional. To the extent required by NRS 338.155, Consultant's obligation to defend, indemnify, and hold District, its officials, officers, employees, volunteers, and agents free and harmless shall not include any liability, damage, loss, claim, action or proceeding caused by the negligence, errors, omissions, recklessness or intentional misconduct of the employees, officers or agents of the District. Moreover, Consultant's obligation to defend, indemnify, and hold District, its officials, officers, employees, volunteers, and agents free and harmless from any liability, damage, loss, claim, action or proceeding caused by the negligence, errors, omissions, recklessness or intentional misconduct of the Consultant or the employees or agents of the Consultant which are based upon or arising out of the professional services of the Consultant. If the Consultant is adjudicated to be liable by a trier of fact, the trier of fact shall award reasonable attorney's fees and costs to be paid to the District, as reimbursement for the attorney's fees and costs incurred by the District in defending the action, by the Consultant in an amount which is proportionate to the liability of the Consultant. This Section shall only apply to the extent required by NRS 338.155 and shall not otherwise limit Consultant's obligation to defend, indemnify and hold the District harmless as required under Section 3.5.6.
- 3.5.7 Entire Agreement. This Agreement contains the entire Agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both Parties.
- 3.5.8 Governing Law. This Agreement shall be governed by the laws of the State of Nevada. Venue shall be in Washoe County.
- 3.5.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.
- 3.5.10 District's Right to Employ Other Consultants. The District reserves right to employ other consultants in connection with this Project.
- 3.5.11 Successors and Assigns. This Agreement shall be binding on and shall inure to the benefit of the successors in interest, executors, administrators and assigns of each Party.
- 3.5.12 Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the District. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.
- 3.5.13 Subcontracting. Consultant shall not subcontract any portion of the work required by this Agreement, except as expressly stated herein, without prior written approval of District. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

- 3.5.14 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents, and subcontractors of Consultant, except as otherwise specified in this Agreement. All references to the District include its officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.
- 3.5.15 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.
- 3.5.16 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.
- 3.5.17 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.
- 3.5.18 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.
- 3.5.22 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.
- 3.5.23 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.
- 3.5.24 Limitation of Liability. The District does not and will not waive and expressly reserves all available defenses and limitations contained in Chapter 41 of the Nevada Revised Statutes. Contract liability of both parties shall not be subject to punitive damages.
- 3.5.25 Non-Appropriations. The District may terminate this Agreement, effective immediately upon receipt of written notice on any date specified if for any reason the District's funding source is not appropriated or is withdrawn, limited, or impaired.
- 3.5.26 Compliance with Laws. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services. Consultant shall not discriminate against any person on the grounds of race, color, creed, religion, sex, sexual orientation, gender identity or gender expression, age, disability, national origin or any other status protected under any applicable law. Consultant is not currently engaged in, and during the duration of the Agreement shall not engage in, a Boycott of Israel. The term "Boycott of Israel" has the meaning ascribed to that term in NRS 332.065. Consultant shall be responsible for all fines, penalties, and repayment of any State of Nevada or federal funds (including those

that the District pays, becomes liable to pay, or becomes liable to repay) that may arise as a direct result of the Consultant's non-compliance with this subsection.

3.5.27 Prohibited Interests. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, District shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of District, during the term of his or her service with District, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

**OWNER:**  
**INCLINE VILLAGE G. I. D.**  
**Agreed to:**

**CONTRACTOR:**  
**DOWL, LLC**  
**Agreed to:**

By: \_\_\_\_\_  
Brad B. Underwood, P. E.  
Director of Public Works

By: \_\_\_\_\_  
*Signature of Authorized Agent*

\_\_\_\_\_  
*Print or Type Name and Title*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Date*

**Reviewed as to Form:**

\_\_\_\_\_  
Joshua Nelson  
District General Counsel

If Contractor is a corporation,  
attach evidence of authority to  
sign.

\_\_\_\_\_  
*Date*

## EXHIBIT A

### CONSULTANT'S SCOPE OF WORK

Consultant will provide IVGID with the following services:

1. Review of Constructability and Existing Design Materials.
  - 1.1. Investigate the possibility of removing MCC-D entirely in an effort to save cost and make the system more intuitive to IVGID and maintenance personnel.
  - 1.2. Explore alternate design material avenues given current extended lead time for procuring major electrical equipment.
  - 1.3. Review and potentially revise construction phasing information in accordance with market conditions and IVGID's needs. Suggested phasing is as follows:
    - 1.3.1. Provide temporary power to (E) VFD SWBD directly from (E) MCC-D, allowing removal of (E) MCC-C and installation of (N) MCC-C.
    - 1.3.2. Hook up a pump to (N) VFD within (N) MCC-C while keeping other two (E) pumps connected to (E) MCC-D.
    - 1.3.3. At this point either use IVGID's mobile pump, VFD, and generator to provide bypass pumping or connect the sites 750kW generator directly to MCC-D. It is critical that the ATS is locked out to prevent paralleling sources.
    - 1.3.4. Verify both pumps are able to run on the 750kW generator.
    - 1.3.5. Disconnect ATS from (E) MCC-D and connect to (N) MCC-C. Verify (N) MCC-C and (N) VFD are operational on utility power. Fire up the one pump connected to MCC C and verify operation.
    - 1.3.6. Shut down 750kW generator and start cutting over the remaining two pumps one at a time to MCC-C.
    - 1.3.7. Connect 750kW generator back to ATS.
    - 1.3.8. Remove part of all of MCC-D depending on if bid alternates are being performed.
    - 1.3.9. Once the system is running off MCC-C, last step would be to phase the installation of the Service SWBD with utility. Could use bypass pump skid system or 750kW generator while waiting for utility to set the meter in the new SWBD.

2. Anticipated Deliverables and Schedule.

2.1. Consultant will complete its work in accordance with the following schedule, subject to reliance on IVGID for questions that may come up during the design phase.

| Description                               | Date              |
|---|-------------------|
| Notice to Proceed                         | May 24, 2023      |
| 90% Design Document Submission for Review | June 16, 2023     |
| 90% Design Document Review Meeting        | Week of June 19th |
| 90% Design Document Comments Received     | June 23, 2023     |
| Bid Set Documents                         | July 6, 2023      |

3. Project Manager and Key Project Personnel.

3.1. David Oto, PE will serve as the project manager. His primary role will be to monitor the schedule and budget, and provide QA/QC for the electrical design.

3.2. Other key personnel include Matt Bodge, PE, Dakota Dreyer, and Tommy Garate.

**EXHIBIT B**  
**CONSULTANT'S FEE SCHEDULE**

| <b>Category</b>                         | <b>Fee</b>      |
|---|-----------------|
| Design Review                           | \$1,120         |
| Design Development of Bidding Documents | \$30,643        |
| Bidding Services                        | \$2,070         |
| Construction Administration Services    | \$8,470         |
| <b>Total</b>                            | <b>\$42,303</b> |