



DISTRICT BOARD

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Rabi Elias
Russ Greenfield
Craig K. Murray
Judy Schriebman

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Chris DeGabriele,
General Manager
Michael Cortez,
District Engineer
Mel Liebmann,
Plant Manager
Susan McGuire,
Administrative Services Manager
Greg Pease,
Collection System/Safety Manager

ADDENDUM NO. 3

Date: September 7, 2018
Project: **Secondary Treatment Plant Upgrade & Recycled Water Expansion**
Job No.: 12600-07/16650-02

To: All Planholders and Prospective Bidders

This addendum consists of **thirty-seven (37) pages** including this page and all attachments with cover sheets broken down as follows:

- Main Addendum #3 Document (including cover, signature page, and this sheet) – 9 pages
- Attachment A – 8 pages (including cover sheet)
- Attachment B – 20 pages (including cover sheet)

Acknowledge receipt of this addendum in the space provided on page 2-5, Proposal Cover Page and Bid Schedule, of the Bid Forms, and by signing in the space provided below. Submit original copy of this addendum cover page along with the bid. Failure to do so may disqualify the bidder.

Las Gallinas Valley Sanitary District: Bidder: _____

Michael P. Cortez, PE, District Engineer (Authorized Signature) _____ (Date)
Tel. No. (415) 472-1033, ext. 18

The following changes and/or clarifications are hereby made to the Contract Documents, and shall become a part of the Contract Documents dated July 2018.

Volumes 1 & 2:

1. No updates or clarifications noted.

Volume 3A

1. No updates or clarifications noted.

Volume 3B

1. **Section 22052:** Paragraph 2.8 (for air/vacuum release valves) is revised as follows:
 - a. Add the following sentence to paragraph D of 2.8: “The main valve body shall be constructed of stainless steel.”
 - b. Paragraph K of 2.8 is modified to the following:
 - K. Available Manufacturers
 1. International Valve Vent-Tech
 2. Or Equal

Specific models are discussed below in the valve schedule of Volume 4A.

2. **Section 263213:** The reference to “Division 16” in paragraph 3.2.F is errant and should reference Division 26. There is no Division 16 in the bid set.
3. **Section 312000:** Regarding over excavation in bedrock, the following clarifications are added as items “g” and “h” to Paragraph 3.4.A.1 of this section:
 - g. **For excavations into bedrock, the full 24” over excavation is not required. If excavation reaches “competent” bedrock, the subgrade shall be over excavated a minimum of 6” then backfilled with 6” of Caltrans Class 2 Aggregate Base compacted to 90% relative compaction.**
 - h. **In areas where excavation encounters soft bay mud, the subgrade shall be stabilized. The stabilization shall be implemented by a minimum 18” over excavation and placement of a layer of biaxial Tensar geogrid over filter fabric. The over excavated area should then be backfilled with 18” Caltrans Class 2 Aggregate Base, compacted to 85% relative compaction.**

Volume 4A

1. **Sheets C-22 and C-23:** The pipe sleeve diameter callouts on detail #116 (C-22) and detail 115 (sheet C-23) are incorrect. The pipe sleeve detail, as provided in detail 566 on sheet MD-2, lists the correct sleeve size for each pipe diameter. For example, a 14-inch diameter pipe requires a 30-inch diameter sleeve.
2. **Sheet AM-8:** All stainless pipe listed in the pipe schedule as schedule 10 (SCH 10) is **now required to be 316L schedule 40 stainless steel pipe**. This applies to the stainless steel air piping associated with the anoxic basin blowers
3. **Sheets SCM-3, SCM-4, and SCM-5:** The 4” stainless steel pipe noted for the scum line is **now required to be 316L schedule 40 stainless steel pipe** rather than schedule 20.

4. **Sheets UVS-1, UVS-10, UVM-1, and UVM-2:** The 18" line shown exiting from the influent end of the UV channel (that serves as the recycled water treatment facility splitter line to water storage (Pipe #96 on sheet C-18) is shown with a 90-degree bend as it exits the building/channel wall. Per the yard piping plan on Sheet C-18, this line should continue straight out of the building, with no 90-degree bend required immediately adjacent to the building. In other words, the layout/route for Pipe #96 as shown on Sheet C-18 is correct. The UVS/UVM sheets listed with this item will be updated to match C-18 in the construction set.
5. **Sheets RMD-2, RM-1 and RM-8:** The following updates are made to the demolition/removal instructions on this sheet:
 - a. Owner now requires two (2) of the chemical process skids to be relocated to the outdoor enclosure rather than one. Thus, two of the three chemical dosing skids (citric acid as already indicated and now sodium hydroxide) are to be removed and relocated to the outdoor awning area, including their associated chemical storage and containment stands. The third skid and its associated chemical storage/containment stand is still to be removed and salvaged to Owner.
 - b. Owner has elected to replace the pumps on the two relocated chemical pump skids rather than reusing the pumps. Thus, on the two (2) skids that are to be relocated to the outdoor awning, the chemical pumps on these skids are to be removed and disposed of. New peristaltic pumps, of the same make included elsewhere on the project, are to be installed on these existing pump skids. The third skid that is to just be salvaged to Owner does not require a replacement pump.

The two (2) replacement pumps shall be BlueWhite Model # M-324-TK, 115V. Note that these pumps will also be added to the pump schedule as discussed below in this addendum.

Revised versions of sheets RMD-2, RM-1 and RM-8 are provided with this addendum for reference. Note that other sheets in this area (RMD-1 thru RM-8) will be updated to incorporate these changes for the construction set.

6. **Sheet HBD-1:** The District now requires the contractor to **salvage** the three diaphragm pumps to be removed in this building, rather than disposing of the pumps. Note also that the 2-inch tank fill line will need to be modified (i.e. removed and reinstalled) to accommodate a new basket strainer and bag filter, as described in the changes for sheet HBM-1 below.
7. **Sheet HBM-1:** The design of the chemical fill tank piping (to be adjusted to accommodate raising the tank pads) has been revised to incorporate a basket strainer and a bag filter on the 2-inch fill line with the existing quick connection. These additional filters are required as part of this work. **A revised copy of this sheet is included as an attachment to this addendum.** The design-basis make/model of the basket strainer and bag filter are noted in the revised drawing and stated again here for reference:

- Basket Strainer -Hayward Model SB2200ST132 (2" CPVC basket strainer with 1/32" perforations in CPVC strainer) or equal.
 - Bag Filter – Hayward Model FLV22S20STV (2" CPVC basket strainer with Viton gaskets) or equal.
 - Bag for Bag Filter: 25 mesh bag model PO025G2PFWF) or equal.
8. **Sheet DCM-1 and DCM-3:** The design of the chemical tank fill line in this area has been revised to incorporate a basket strainer and a bag filter. These additional filters are required as part of this work. The design-basis make/model of the basket strainer and bag filter are noted in the revised drawing and stated again here for reference:
- Basket Strainer -Hayward Model SB1200ST132 (2" PVC basket strainer with 1/32" perforations in CPVC strainer) or equal.
 - Bag Filter – Hayward Model FLV12S20STV (2" PVC basket strainer with Viton gaskets) or equal.
 - Bag for Bag Filter: 25 mesh bag model PO025G2PFWF) or equal.

Revised versions of these sheet are included as an attachment to this addendum

9. **Sheet DCM-7:** ½" PVC isolation ball valves have been added to the pulsation dampeners installed on the chemical pump discharge line. **A revised version of Section G, as shown on sheet DCM-7 is provided with this addendum for reference.** One isolation valve is required for each pulsation dampener (one associated with each pump), for a total of 3 additional ½" PVC ball valves.
10. **Sheets SCH-7 thru SCH-11:** The District has elected to change the preferred design-basis brand of combination air/vac valves from the make listed in the valve schedule. The preferred brand of valve is the stainless steel **International Valve Vent-Tech type SWG (for sewage applications) Series B.** The size requirements listed in the valve schedule are to remain as currently shown. The specifications for these valves are modified accordingly as discussed above for Volume 3B.
11. **Sheet SCH-12:** Two (2) additional peristaltic pumps are hereby added to the schedule, in reference to the two replacement chemical dosing pumps required for the citric acid and sodium hydroxide dosing skids associated with the recycled water membrane building (reference Item #5 for Volume 4A above). The two pumps added to the schedule are as follows:

Tag: **52-P-3110**; Location: RWTF Membrane Building Awning; Service: Citric Acid Chemical Dosing Pump; Type: Peristaltic; HP: 115V; TDH: 30 psig; Remarks: BlueWhite Flex-Pro Proseries-M Model M-324-TK – NO EQUAL.

Tag: **52-P-3120**; Location: RWTF Membrane Building Awning; Service: Sodium Hydroxide Chemical Dosing Pump; Type: Peristaltic; HP: 115V; TDH: 30 psig; Remarks: BlueWhite Flex-Pro Proseries-M Model M-324-TK – NO EQUAL.

Volume 4B

1. **Sheet PI-06:** IO has been updated for the Pond Storage Pumps. **Refer to re-issued sheet for details.**
2. **Sheet PI-09:** IO has been updated for Primary PS level floats, which were shown as analog inputs. They have been updated to be shown as discrete inputs. IO for Primary Pump Station pumps has been updated to show the check valve position as hardwired as well as all bypass contactor IO. **Refer to re-issued sheet for details.**
3. **Sheet PI-13:** IO connection for secondary clarifiers has been changed to hardwired connection from ethernet connection.
4. **Sheets I-02 to I-04:** IO sheets have been updated. **Refer to re-issued sheet for details.**
5. **Sheet SE-03:** Remove sheet notes number 4 and 5.
6. **Sheet SE-06:** Detail callout for mounting disconnect added. **Refer to re-issued sheet for details.**
7. **Sheet LE-14:** Added locations of DS-51-V-2510, 51-V-2510, and LP-RWDP. **Refer to re-issued sheet for details.**
8. **Sheet LE-16:** The callout for LP-UV has been changed to LP-UV-2. The reference to E-18 on note 13 should reference drawing E-19.
9. **Sheet E-01:** Feeder breaker for SWBD-AB1 frame size was shown as 2500 AT and has been corrected to 2500 AF. Feeder breaker for DP-AB2 was listed at 200 AT and has been changed to 600 AT.
10. **Sheet E-02:** Digester Supernatant Pump Station has been changed to show as existing equipment to match site conditions.
11. **Sheet E-04:** Phase 1 deleted off of MCC-RW1 oneline diagram and note 4 deleted.
12. **Sheet E-05:** Feeder breaker for DP-RWDP was listed at 1000 AT and has been changed to 800 AT to match calculations.
13. **Sheet E-06:** The callout for LP-UV has been changed to LP-UV-2 on note 3. Bypass overflow control valve added to DP-AB2 oneline diagram. Note 4 added to sheet. **Refer to re-issued sheet for details.**
14. **Sheet E-07:** LP-MCC3 added to MCC-3 oneline diagram and notes 3 and 4 added. **Refer to re-issued sheets for details.**
15. **Sheet E-09:** DP-MCC3 service size changed to 30 Amps from 50 Amps.
16. **Sheet E-10:** Calculations for MCC-3 added and MCC-AB3 updated. **Refer to re-issued sheets for details.**
17. **Sheet E-12:** LP-AB schedule previously listed Sampling Pump on lines 58, 59, and 61 and showed spare on line 66. Line 58 now shows Sampling Pump (43-P-2300), line 59 now shows Sampling Pump (43-P-2100), line 61 now shows Sampling Pump (43-P-2200), and line 66 now shows (43-P-2400).
18. **Sheet E-23:** New conduits added for power to 23-G-3120. **Refer to re-issued sheets for details.**
19. **Sheet E-25:** New conduits added for sampling pump power feeds. **Refer to re-issued sheets for details.**
20. **Sheet E-31:** New conduits added controls and signal of 23-G-3120. **Refer to re-issued sheets for details.**
21. **Sheet E-37:** Conduit P016 deleted.
22. **Sheet E-42:** Conduits S23-3120A, P23-3120A, P23-3120B, and P23-3120C added and 23-G-3120 added. **Refer to re-issued sheets for details.**

23. **Sheet E-43:** Power conduits added for sampling pumps (43-P-2100, 43-P-2200, 43-P-2300, 43-P-2400). Refer to re-issued sheets for details.
24. **Sheet E-44:** Ductbank schedule updated to accommodate conduits added for sampling pumps (43-P-2100, 43-P-2200, 43-P-2300, 43-P-2400). Refer to re-issued sheets for details.
25. **Sheet E-45:** Ductbank schedule updated to accommodate conduits added for gate 23-G-3120. **Refer to re-issued sheets for details.**
26. **Sheet E-46:** Ductbank cross sections updated to accommodate conduits added for sampling pumps (43-P-2100, 43-P-2200, 43-P-2300, 43-P-2400). **Refer to re-issued sheets for details.**
27. **Sheet E-48:** Ductbank cross sections updated to accommodate conduits added for gate 23-G-3120. **Refer to re-issued sheets for details.**

Questions:

The following questions were listed in a previous addendum but the responses were deferred to this addendum.

1. Section 31 20 00, 3.4, c, requires over excavation of 24" below grade beams in the Basin Structure. Is this full over excavation required in areas where the existing bedrock is within 24" of the bottom of the grade beams?

As clarified above, for excavations into bedrock, the full 24" over excavation is not required. If excavation reaches "competent" bedrock, the subgrade shall be over excavated a minimum of 6" then backfilled with 6" of Caltrans Class 2 Aggregate Base compacted to 90% relative compaction.

2. Section 31 20 00, 3.4, contains several sections that require scarification and compaction of existing material. It is highly unlikely that the existing bay mud or other unsuitable materials can be re-compacted in order to achieve 90% density. Please confirm the applicability of this requirement.

As clarified above, in areas where excavation encounters soft bay mud, the subgrade shall be stabilized. The stabilization shall be implemented by a minimum 18" over excavation and placement of a layer of biaxial Tensar geogrid over filter fabric. The over excavated area should then be backfilled with 18" Caltrans Class 2 Aggregate Base, compacted to 85% relative compaction.

3. DAC Geotechnical Report indicates that surcharging is recommended in several plant areas to a depth of 15' over 8 to 12 months. Please confirm the applicability of this recommendation. If applicable, please detail the required surcharge locations, along with depths and timeframes.

The recommendations referenced here are an option to reduce potential settlement presented by the geotechnical engineer. The project timeline does not allow for these recommendations to be completely implemented while allowing construction activity to proceed as anticipated. Other construction methods (e.g. caissons/piles) have been implemented on critical structures to mitigate this. The roadway will be temporary graded gravel which will be built-up and regraded over the duration of the project as stockpile and suitable overex material become available. As the roadway is not anticipated to be paved until Phase 3, this allows over 2 years for the graded roadway to settle as material is deposited and heavy construction activity is conducted. The settlement in this area will be monitored over the first 2 phases. If the area has not sufficiently stabilized (as observed by a 3rd party Geotech), additional measures outside of the bid-basis scope of this project may be implemented at that time.

4. Section 26 32 13, 3.2, F, references Division 16. Division 16 was not provided with the bid documents. Please confirm applicability of this reference.
The reference should be to Division 26, as provided in Volume 3B.
5. Section 40 91 13, 2.3 & 2.4, require temperature control equipment in areas of outside of the -4F to 122F range. Please define any areas that lie outside of this temperature range.
There is not any equipment or installations associated with this project with temperatures outside of these ranges.
6. Section 40 94 43, 1.1, B, requires the contractor to provide one full version of PLC programming software. Section 40 96 00, 2.1, A, indicates that PLC programming software will be provided by the owner's SI. Please confirm who is to supply the PLC programming software.
Final review of programming and software requirements is currently underway. Clarification will be provided in a future addendum.
7. Will plant water be acceptable for use during Functional Acceptance Testing?
Plant water is acceptable, assuming the Functional Acceptance Testing is for hydraulic testing and not performance testing.

The following questions were submitted on 8/31/2018:

1. Is a good faith effort required? There is no mention on the bidders checklist of the forms provided in the spec and listed below. If so can you please provide the requirements and any deadline information [*This question is in reference to the minority and women owned business forms that are provided in Exhibit G of Volume 2*].
The requirements are the same as written in the current bid documents. Forms 1, 2, 4, and 5 are to be submitted with Bid Package and Form 3 to be submitted within 10 days after bid opening.
2. Per section 10 of the project Instructions to Bidders, we request that Engine Generators from Caterpillar, Cummins, and Generac meeting requirements found in Section 263213 be considered for use on this project.
With regards to this and any other equipment that is not specifically "Owner Selected" or otherwise indicated as "NO EQUAL" in the specifications:

The intent is to be open and welcome manufacturers to provide bids on all equipment as long as they meet the requirements in the specifications and performance criteria in the schedules. Time does not allow for a detailed review and approval of each manufacturer that is not specifically listed. Thus, we recommend that suppliers/manufacturers interested in providing equipment review the specification section(s) associated with their equipment. If any specific

requirements are of concern, we are available to discuss those details if alternative requirements/wording would allow for additional competition at equal quality and performance.

The following questions were submitted on 9/05/2018:

1. The 18" UV telescopic valve effluent varies between Dwg C-18 and UVM-1, with a 90 degree bend shown on drawing UVM-1. Which drawing is correct?
The UVM-1 drawing was not updated to match late-design changes to the yard piping configuration. The yard piping drawing on sheet C-18 shows the intended route (and associated fittings) required for this 18-inch line. Sheet UVM-1 will be updated accordingly as discussed above.
2. Drawing UVM-1 has an arrow drawn to the 18" 90 indicating HDPE pipe. Drawing UVS-1 indicates the 18" 90 is MJ DIP. Which is correct?
Per the response to question #1 and as discussed above in the clarifications for Volume 4A, a 90-degree bend is not required for this line as it exits the UV building.
3. Dwg MD-2, pipe sleeve, detail 566, has the sleeve for 14" pipe as 30". Dwg C-22, detail 116 has the sleeve as 18" and Dwg C-23, detail 115 has the sleeve as 16". Which is correct?
The sleeve sizes listed in the general detail (Detail 566 on Sheet MD-2 of Volume 4A) are the correct sizes. For example, the required sleeve size for a 14-inch diameter pipe is 30-inch diameter per the detail.

END OF QUESTIONS SECTION FOR ADDENDUM #3

LIST OF ATTACHMENTS

Attachment A: Revised drawing sheets from Volume 4A, total of seven (7) sheets:

Sheet RMD-2	Sheet DCM-1
Sheet RM-1	Sheet DCM-3
Sheet RM-8	Sheet DCM-7
Sheet HBM-1	

Attachment B: Revised drawing sheets from Volume 4B, total of seven (7) sheets:

Sheet PI-06	Sheet E-23
Sheet PI-09	Sheet E-25
Sheet I-02	Sheet E-31
Sheet I-03	Sheet E-42
Sheet I-04	Sheet E-43
Sheet SE-06	Sheet E-44
Sheet LE-14	Sheet E-45
Sheet E-06	Sheet E-46
Sheet E-07	Sheet E-48
Sheet E-10	

END OF ADDENDUM #3

See following Sheets for Attachments

Attachment A

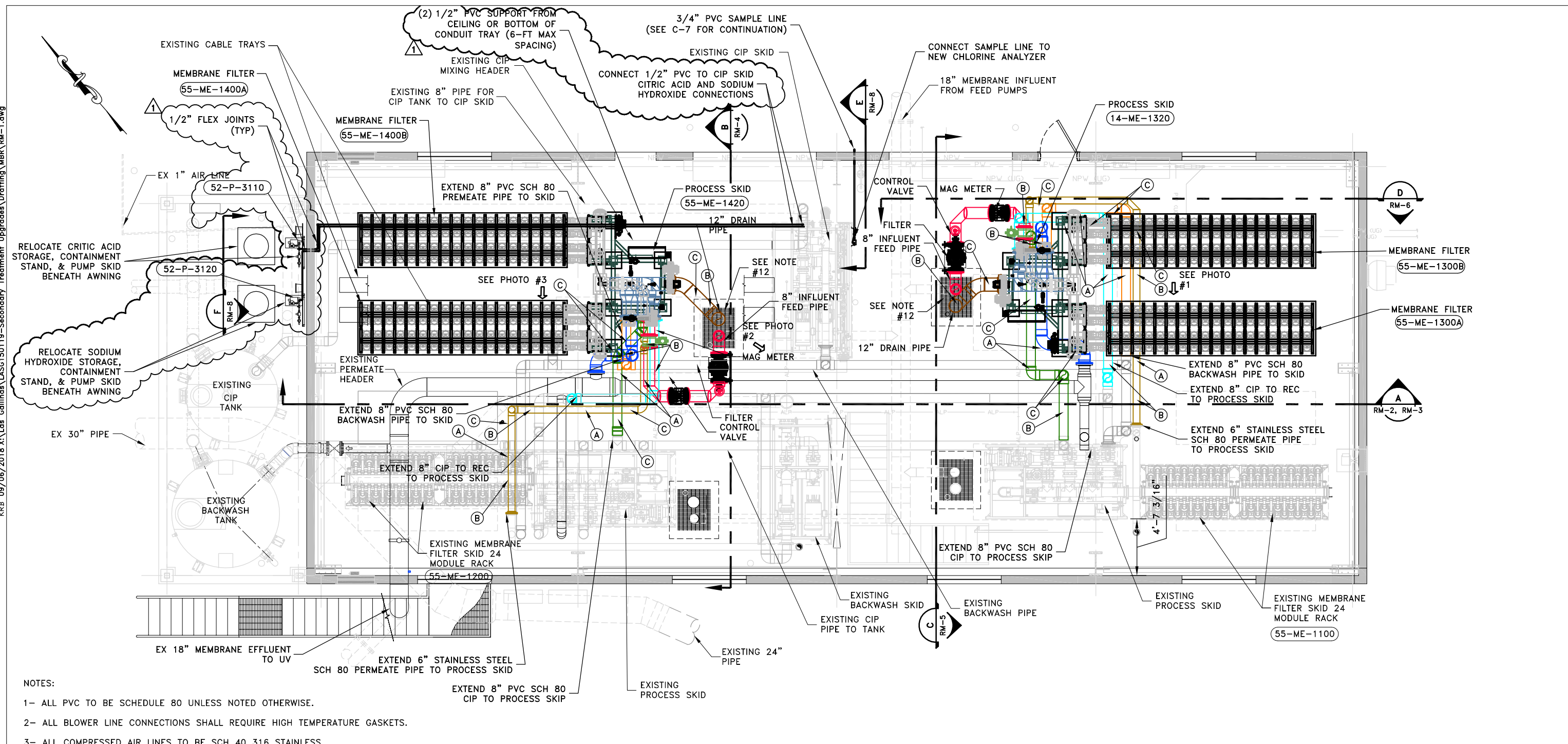
Revised Design Drawings From Volume 4A

**Sheet RMD-2
Sheet RM-1
Sheet RM-8
Sheet HBM-1
Sheet DCM-1
Sheet DCM-3
Sheet DCM-7**

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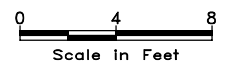
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100 0.70MM
210 0.60MM



- NOTES:
- 1- ALL PVC TO BE SCHEDULE 80 UNLESS NOTED OTHERWISE.
 - 2- ALL BLOWER LINE CONNECTIONS SHALL REQUIRE HIGH TEMPERATURE GASKETS.
 - 3- ALL COMPRESSED AIR LINES TO BE SCH 40 316 STAINLESS.
 - 4- PROVIDE PIPE SUPPORTS AND/OR HANGERS SHOWN IN STANDARD DETAILS AS NEEDED. (A)(B)(C) INDICATE TYPE OF PIPE HANGER.
 - 5- FOR MECHANICAL, VALVE AND PUMP SCHEDULES SEE SCHEDULE SHEETS.
 - 6- ALL PIPING & FITTINGS TO BE SUPPLIED BY CONTRACTOR UNLESS NOTED OTHERWISE.
 - 7- ALL OUTDOOR PVC/CPVC TO BE COATED PER SECTION 09800.
 - 8- ALL HDPE PIPING SHALL BE STANDARD DIMENSION PIPE SIZES.
 - 9- PIPE SCHEDULE IS GIVEN FOR CONVENIENCE. CONTRACTOR SHALL VERIFY & SUPPLY ALL FITTINGS TO PROVIDE COMPLETE PIPING SYSTEM, WHETHER LISTED OR NOT.
 - 10- CONTRACTOR SHALL PROVIDE 6" MINIMUM STUB @ EACH PVC CAP FOR FUTURE USE.
 - 11- SEE SHEET RM-7 FOR PHOTO'S REFERENCING.
 - 12- CONTRACTOR TO MODIFY EXISTING GRATE TO ACCOMMODATE FOR PIPE PENETRATIONS OF (1) 8" PVC SCH 80 PIPE (INFLUENT) AND (1) 12" PVC SCH 80 PIPE (DRAIN). SEE SPECIFICATIONS FOR REQUIREMENTS.
 - 13- CONTRACTOR SHALL REPLACE MOTORS FOR (2) AIR SCOUR BLOWERS (ON SECOND LEVEL). SEE ELECTRICAL DRAWINGS FOR DETAILS. BLOWER UNITS AND ASSOCIATED EQUIPMENT/PIPING/VALVING SHALL REMAIN IN TACT.

1st FLOOR MECHANICAL PLAN

SCALE: 1/4"=1'-0"



PRINT SHEET IN COLOR

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT AND RW EXPANSION

PROCESS BUILDING 1ST FLOOR MECHANICAL PLAN

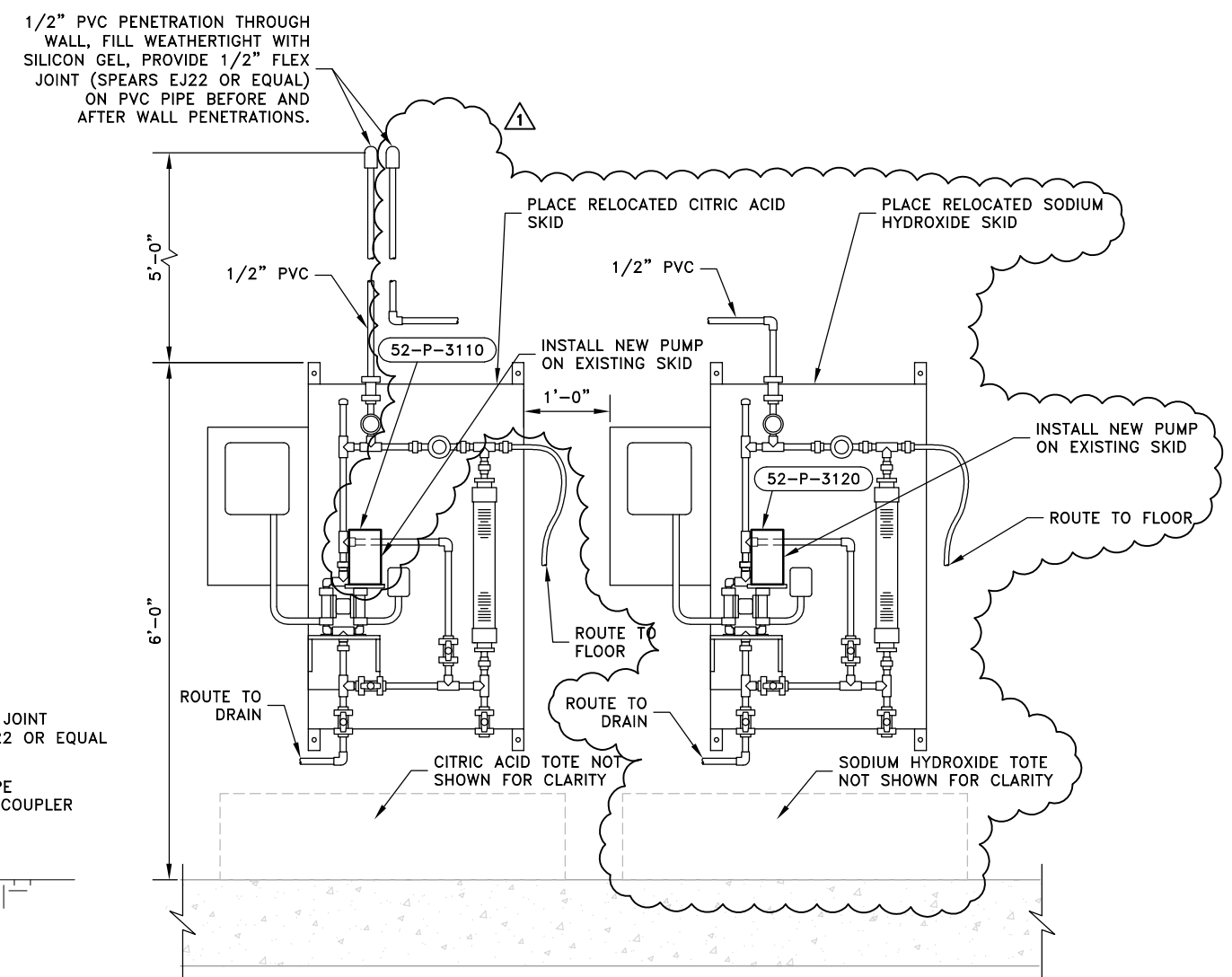
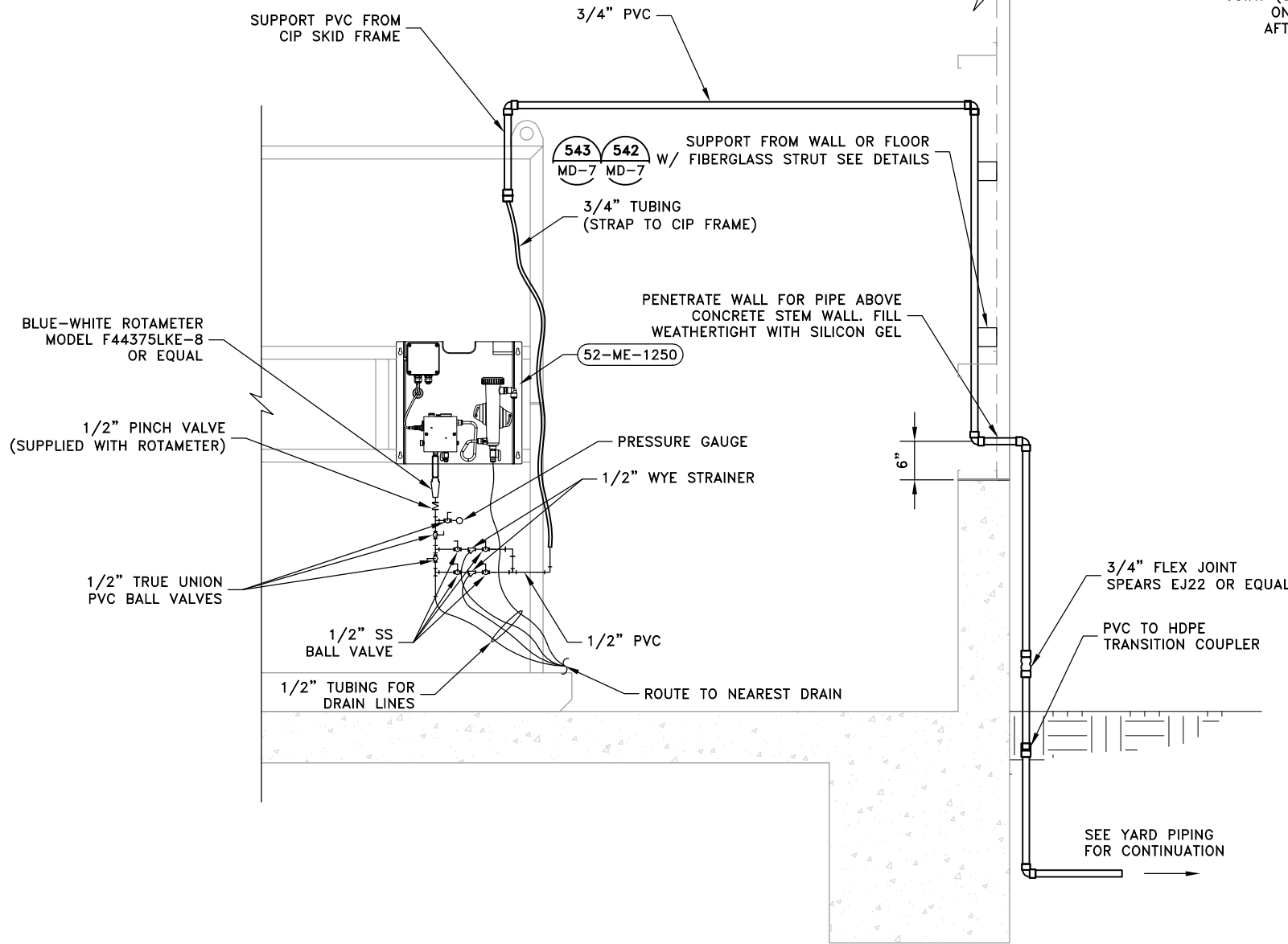
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		GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez
		RCE # 54038		
NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDED CHEMICAL SKID	KRB/EES	JRL
REVISIONS				
			DRAWING NO. RM-1	REVISION NO. B



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SAVED:

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10 1.00MM
100 0.70MM
210 0.60MM



SECTION F
SCALE: 1"=1'-0"
RM-1
0 1 2
Scale in Feet

SECTION E
SCALE: 1"=1'-0"
RM-1
0 1 2
Scale in Feet

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

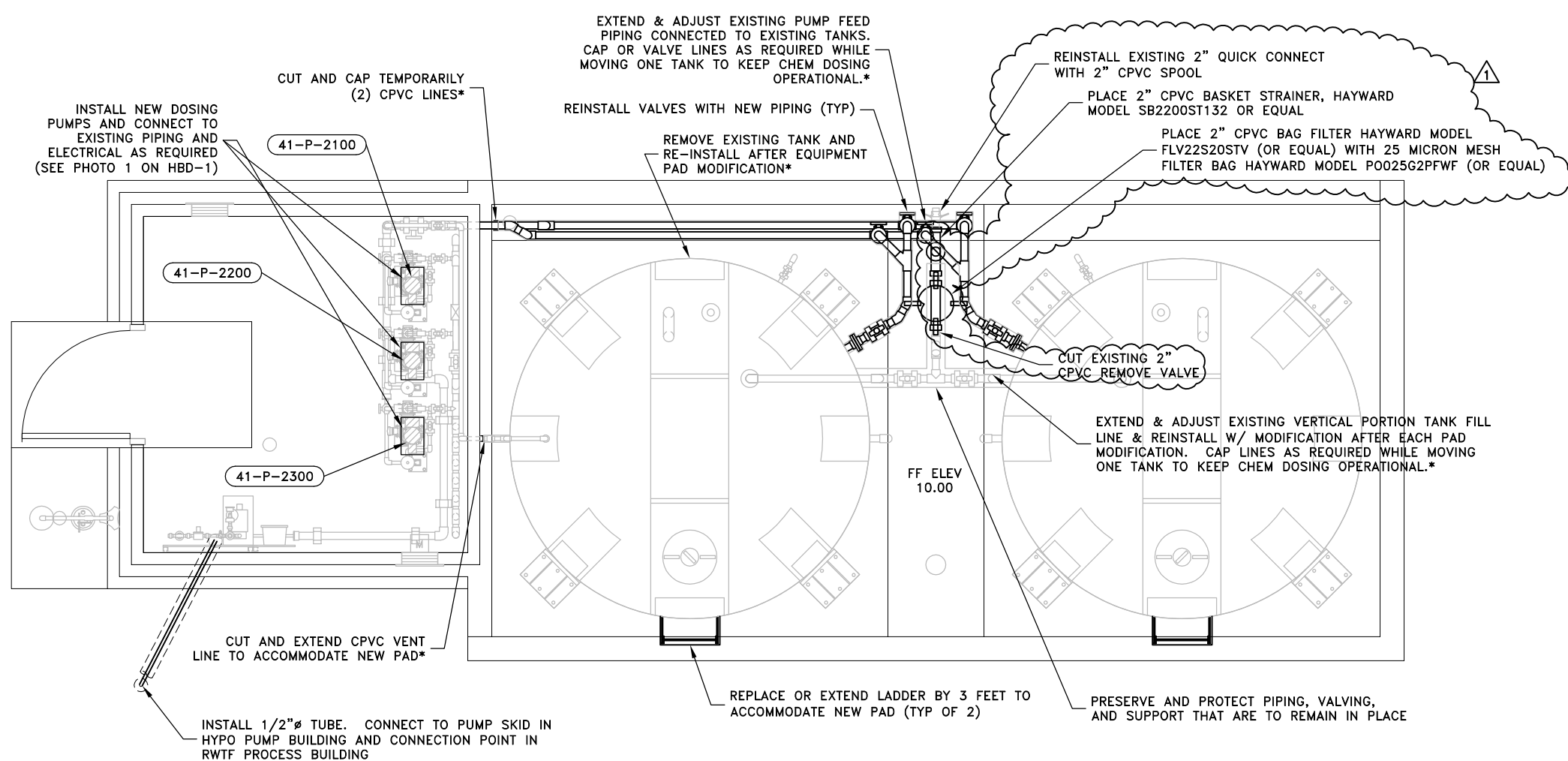
SECONDARY TREATMENT PLANT AND RW EXPANSION

**PROCESS BUILDING
MECHANICAL SECTIONS**

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		APPROVED JRL	DESIGNED EES	DATE 7/26/18
		GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez	
		BY KRB/EES	APPR'D JRL	
NO.	DATE	DESCRIPTION		
REVISIONS				
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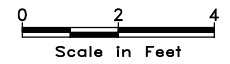


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REMOVAL PLAN

SCALE: 1/2"=1'-0"



*TANK PAD & PIPING MODIFICATIONS TO BE COMPLETED ONE TANK AT A TIME TO ALLOW FOR CONTINUOUS OPERATION OF CHEMICAL DOSING. MINOR DOWN TIME TO CUT/CAP & ADJUST PIPING AS REQUIRED IS PERMITTED BUT MUST BE COORDINATED WITH OPERATORS.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT AND RW EXPANSION

**HYPOCHLORITE PUMP BUILDING
MECHANICAL PLAN**

WBS 340	CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
	APPROVED JRL	DESIGNED NG	DATE 07/26/18
	GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez	
		RCE # 54038	

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9-7-18	ADDED STRAINER AND BAG FILTER	KRB/EES	JRL

REVISIONS SHEET PLAN NO. DRAWING NO. **HBM-1** REVISION NO. **B**

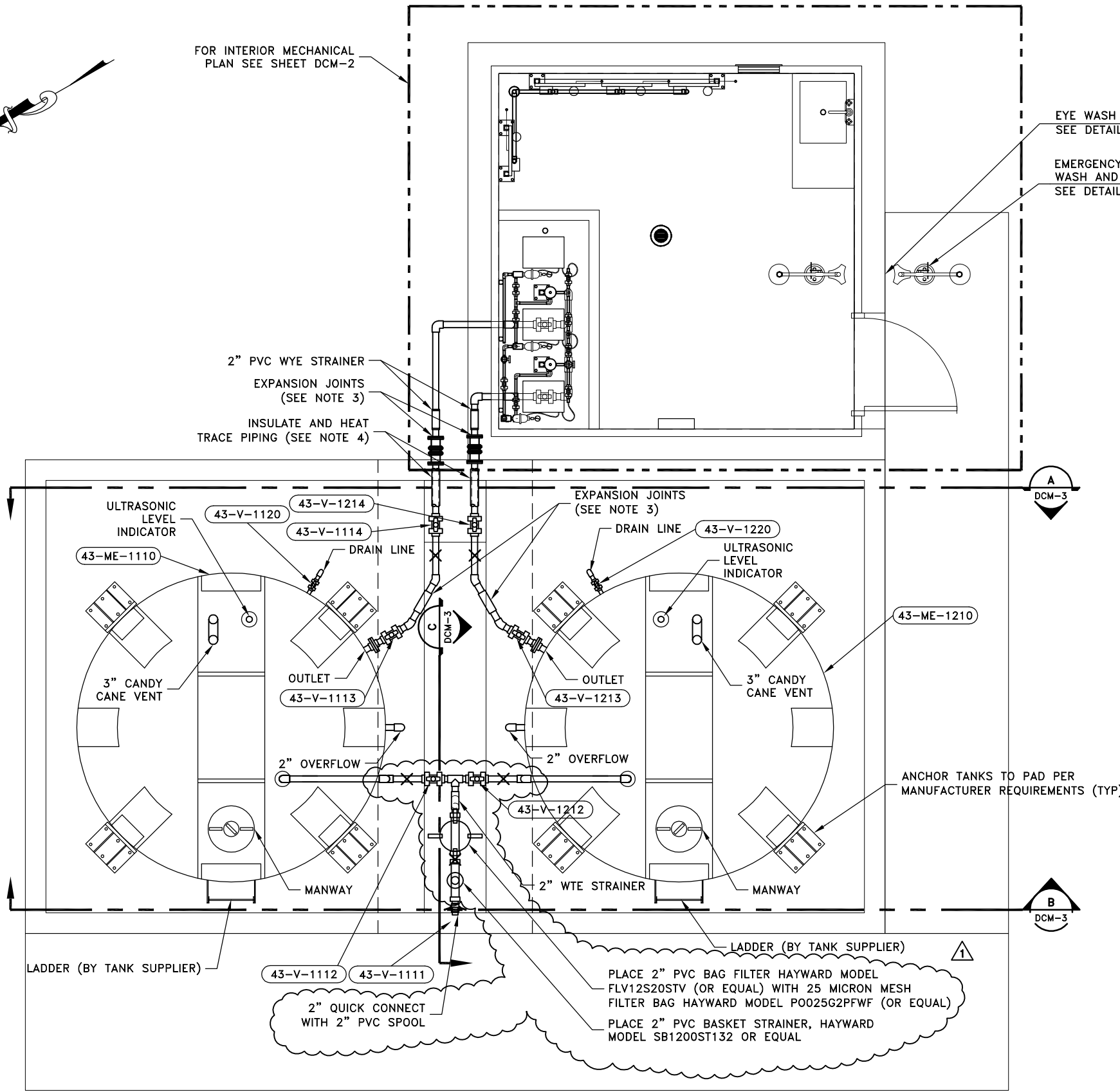


533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

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9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

PLOTTED:
SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
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WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



EYE WASH SIGN (266)
SEE DETAIL (TYP) AD-5
EMERGENCY EYE WASH AND SHOWER (508)
SEE DETAIL (TYP) MD-2

FOR INTERIOR MECHANICAL PLAN SEE SHEET DCM-2

2" PVC WYE STRAINER
EXPANSION JOINTS (SEE NOTE 3)
INSULATE AND HEAT TRACE PIPING (SEE NOTE 4)

NOTES:

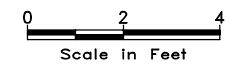
- 1- SEE SCHEDULE SHEETS FOR VALVES, PUMPS, MECHANICAL, AND HVAC.
- 2- COAT ALL EXPOSED PVC AND CPVC PER SECTION 098000.
- 3- EXPANSION JOINTS SHALL BE SPEARS TRUE UNION ELASTOMER EXPANSION JOINTS MODEL EJ22 WITH EPDM OR PTFE ELASTOMER OR EQUAL.
- 4- INSULATE AND HEAT TRACE EXTERIOR DISCHARGE PIPING BETWEEN TANK AND BUILDING. INSTALL TO PENETRATION AT EXTERIOR BUILDING WALL.
- 5- PROVIDE PIPE SUPPORTS AS SHOWN WITH AN "X".
- 6- CONNECT TANK LEAK DETECTION PRE MANUFACTURER REQUIREMENTS AND PER ELECTRICAL DRAWINGS.
- 7- TO BE REMOVED FROM SCOPE IF UV BUILDING BID ALTERNATE IS AWARDED.

ANCHOR TANKS TO PAD PER MANUFACTURER REQUIREMENTS (TYP)

PLACE 2" PVC BAG FILTER HAYWARD MODEL FLV12S20STV (OR EQUAL) WITH 25 MICRON MESH FILTER BAG HAYWARD MODEL PO025G2PFWF (OR EQUAL)
PLACE 2" PVC BASKET STRAINER, HAYWARD MODEL SB1200ST132 OR EQUAL

MECHANICAL PLAN

SCALE: 1/2"=1'-0"



533 W. 2600 S. SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT AND RW EXPANSION

DECHLORINATION CHEMICAL STORAGE MECHANICAL PLAN

CHECKED JRL	SCALE CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED NG	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDED STRAINER AND BAG FILTER	KRB/EES	JRL

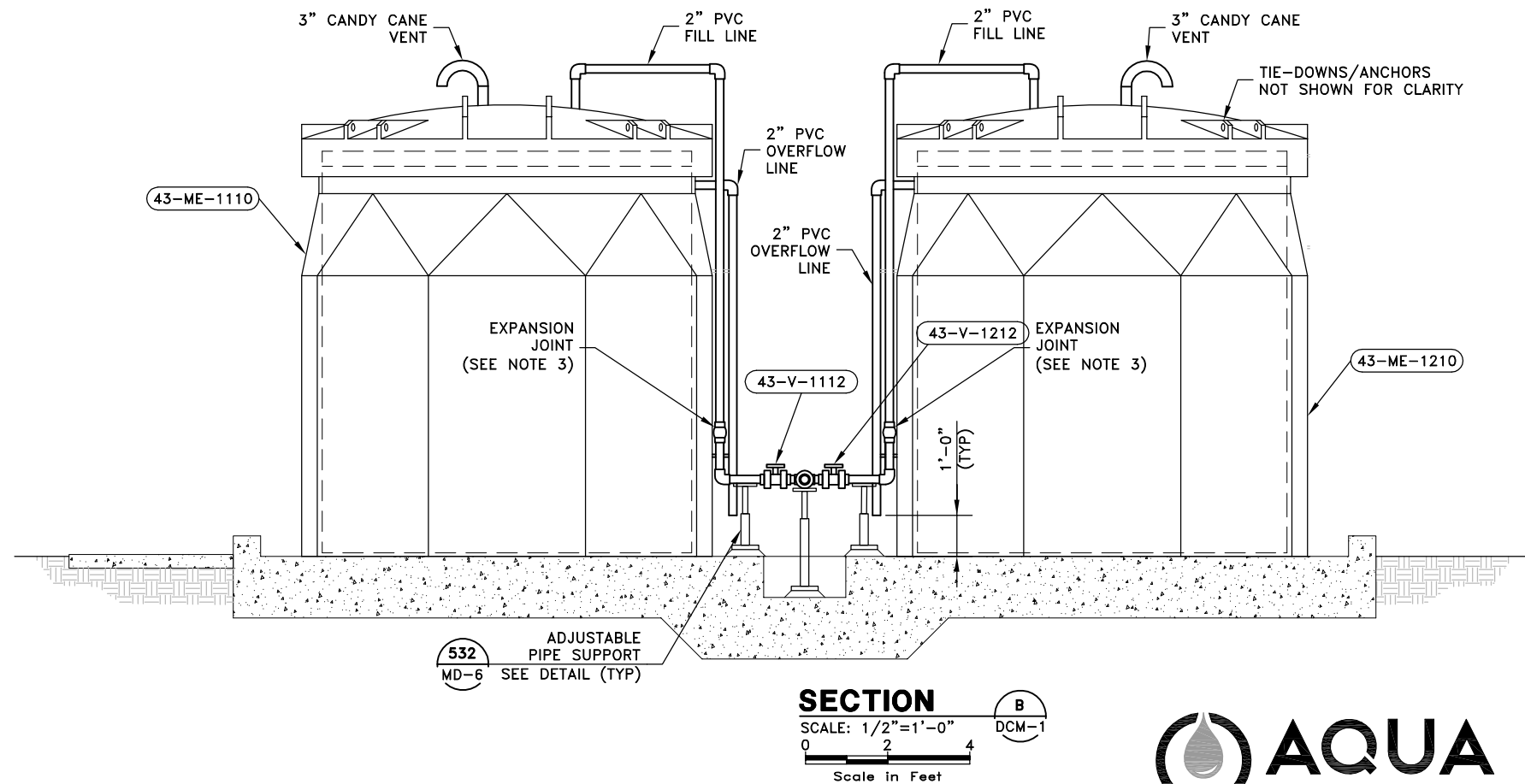
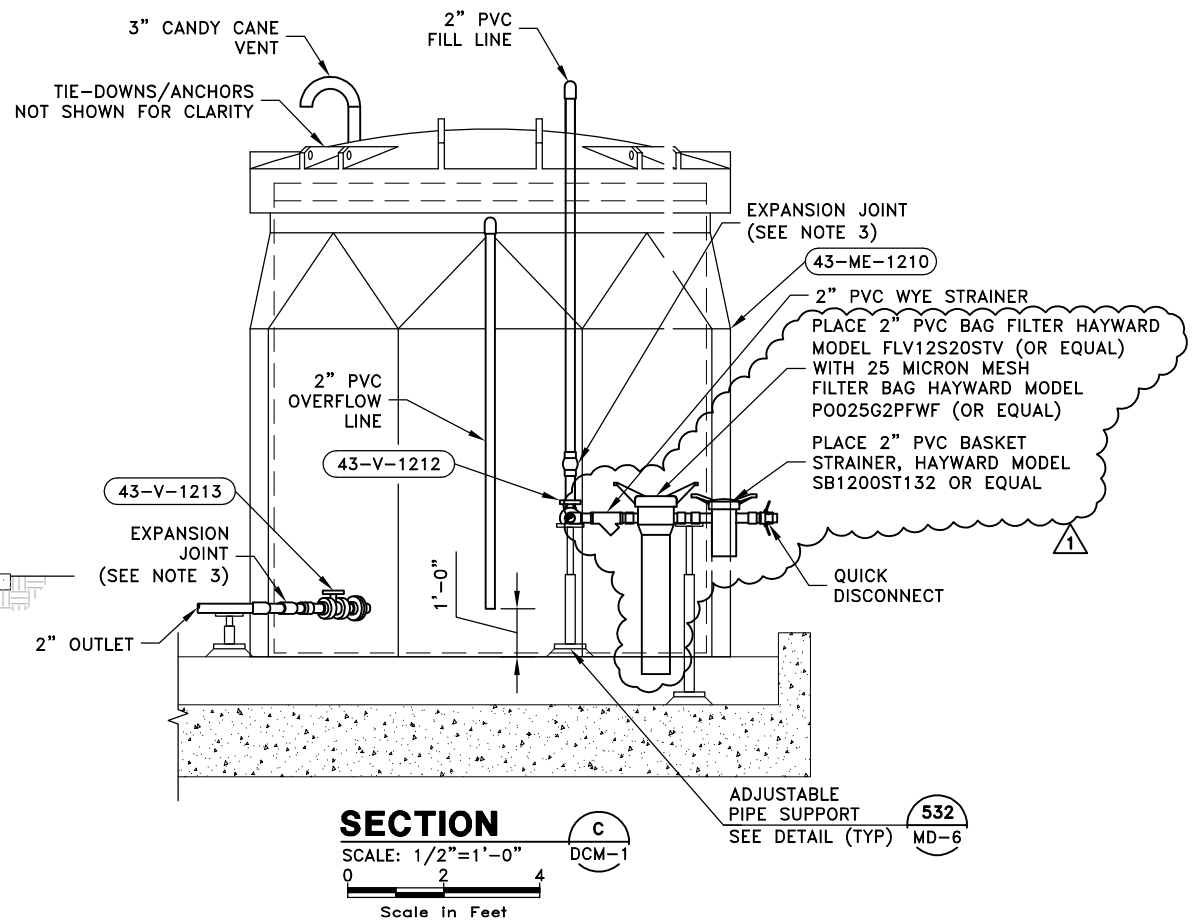
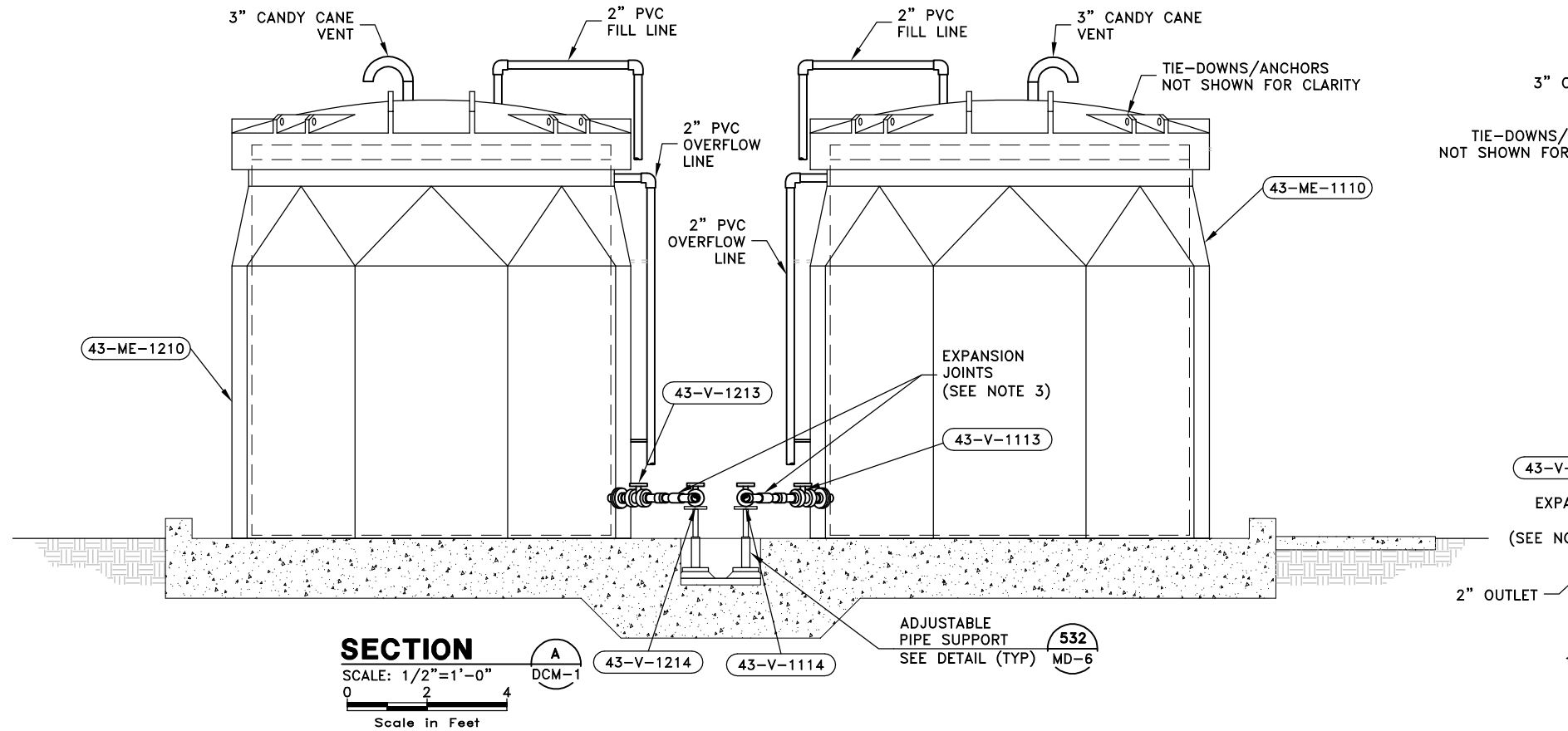
SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
		DCM-1	B

KRB_09/06/2018 X:\Las Gallinas\LASG150119-Secondary Treatment Upgrades\Drafting\DE-CHLORINATION\DCM-3.dwg

PLOTTED:
SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
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RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



NOTES:

- 1- ALL PVC PIPING IS SCH 80.
- 2- COAT ALL EXPOSED PVC PER SECTION 098000.
- 3- EXPANSION JOINTS SHALL BE SPEARS TRUE UNION ELASTOMER EXPANSION JOINTS MODEL EJ22 WITH EPDM OR PTFE ELASTOMER OR EQUAL.
- 4- SUPPORT OVERFLOW AND FILL LINES FROM TANK. COORDINATE WITH TANK SUPPLIER.
- 5- INSULATE AND HEAT TRACE EXTERIOR DISCHARGE PIPING BETWEEN TANK AND BUILDING. INSTALL TO PENETRATION AT EXTERIOR BUILDING WALL.
- 6- FOR PLUMBING SCHEDULE SEE SHEET SCH-2.
- 7- TO BE REMOVED FROM SCOPE IF UV BUILDING BID ALTERNATE IS AWARDED.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT AND RW EXPANSION

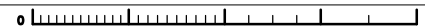
DECHLORINATION CHEMICAL STORAGE
MECHANICAL SECTIONS

WBS 360		CHECKED JRL	DRAWN BDP	SCALE AS SHOWN										
		APPROVED JRL	DESIGNED NG	DATE 07/26/18										
		GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez											
		BY KRB/EES	APPR'D JRL	REVISION NO. DCM-3 B										
<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APPR'D</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>9/7/18</td> <td>ADDED STRAINER AND BAG FILTER</td> <td>KRB/EES</td> <td>JRL</td> </tr> </tbody> </table>					NO.	DATE	DESCRIPTION	BY	APPR'D	1	9/7/18	ADDED STRAINER AND BAG FILTER	KRB/EES	JRL
NO.	DATE	DESCRIPTION	BY	APPR'D										
1	9/7/18	ADDED STRAINER AND BAG FILTER	KRB/EES	JRL										



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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



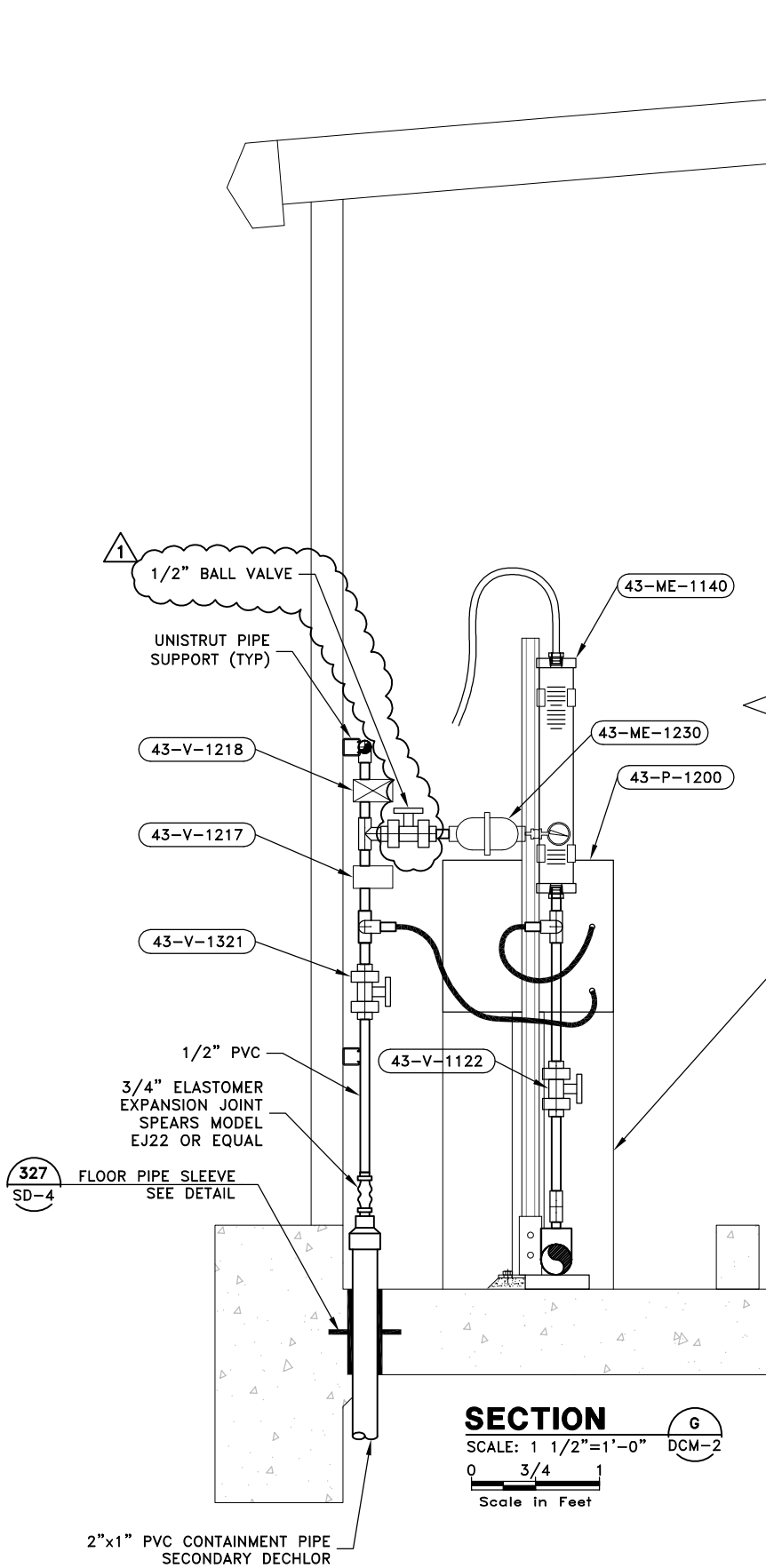
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SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

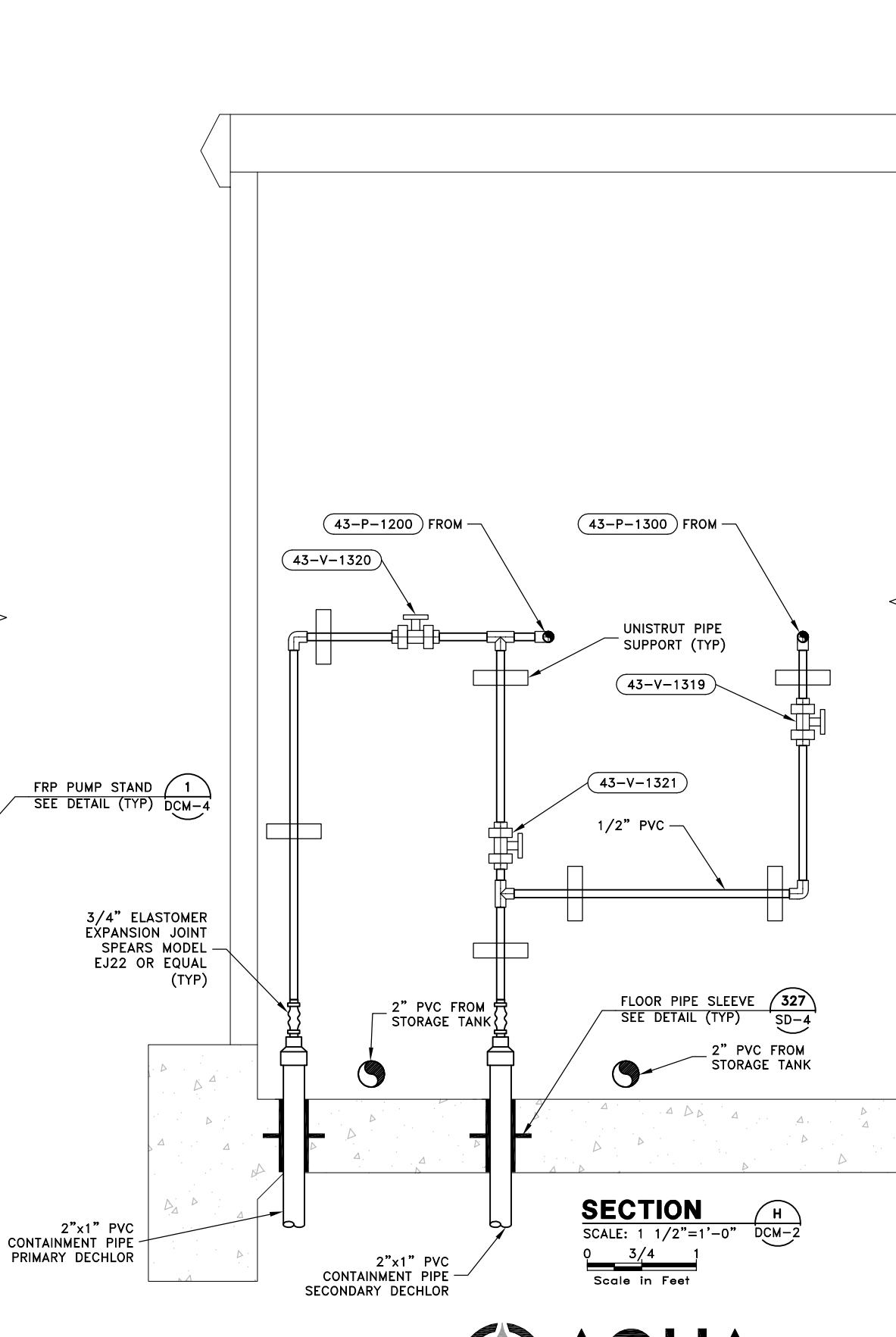
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

NOTES:

1- TO BE REMOVED FROM SCOPE IF UV BUILDING BID ALTERNATE IS AWARDED.



SECTION G
SCALE: 1 1/2"=1'-0" DCM-2
0 3/4 1
Scale in Feet



SECTION H
SCALE: 1 1/2"=1'-0" DCM-2
0 3/4 1
Scale in Feet

2"x1" PVC CONTAINMENT PIPE PRIMARY DECHLOR

2"x1" PVC CONTAINMENT PIPE SECONDARY DECHLOR



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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT AND RW EXPANSION

**DECHLORINATION CHEMICAL STORAGE
MECHANICAL SECTION**

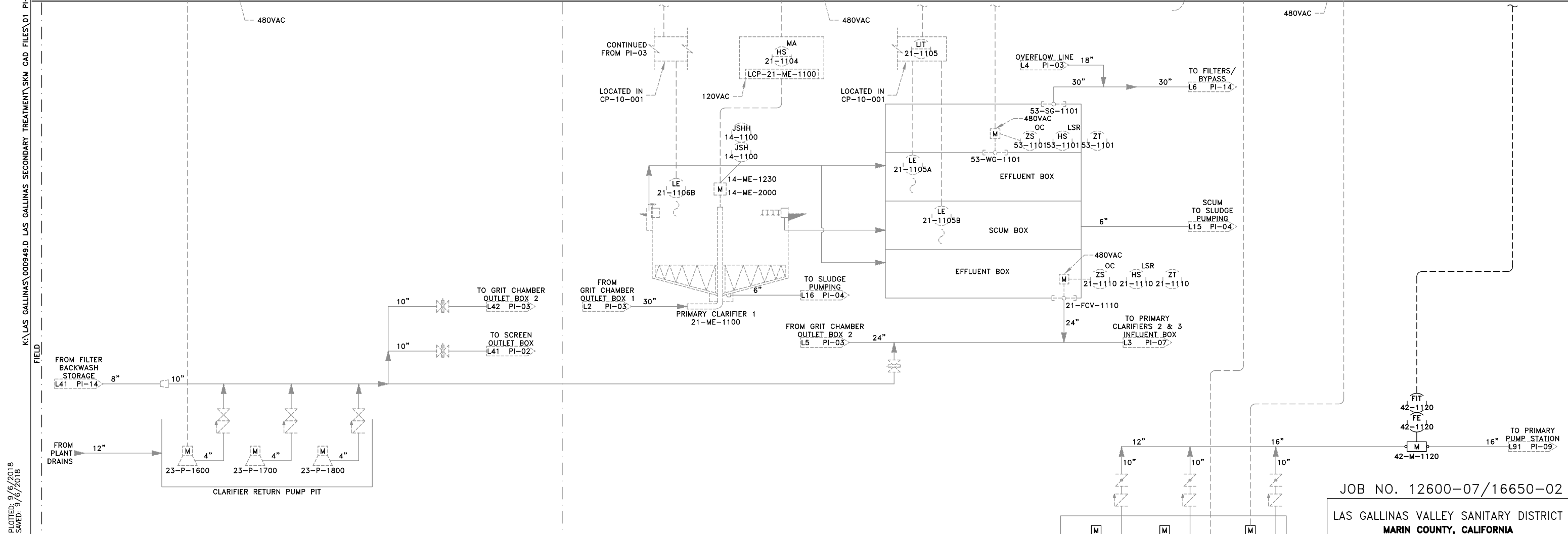
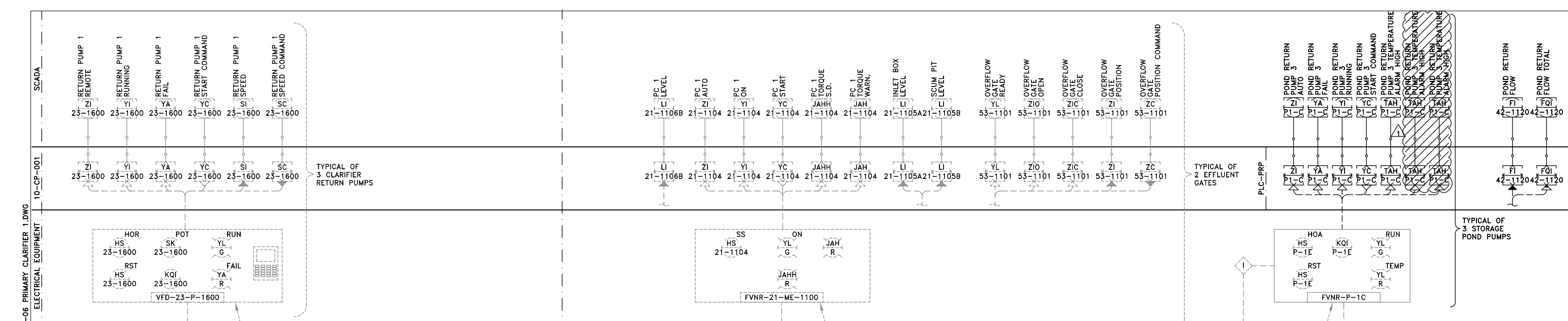
WBS 360	CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
	APPROVED JRL	DESIGNED NG	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez	
RCE # 54038		DRAWING NO. DCM-7	
NO. DATE DESCRIPTION BY APPR'D		SHEET PLAN NO. REVISION NO.	
1 9/7/18 ADDED VALVE KRB/EES JRL		DCM-7 B	

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDED VALVE	KRB/EES	JRL

Attachment B

Revised Design Drawings From Volume 4B

Sheet PI-06
Sheet PI-09
Sheet I-02
Sheet I-03
Sheet I-04
Sheet SE-06
Sheet LE-14
Sheet E-06
Sheet E-07
Sheet E-10
Sheet E-23
Sheet E-25
Sheet E-31
Sheet E-42
Sheet E-43
Sheet E-44
Sheet E-45
Sheet E-46
Sheet E-48



POND RETURN PUMPS 1, 2, 3
 P-1C, P-1D, P-1E
 EXISTING PRIMARY CLARIFIER 1 21-ME-1100
 EFFLUENT BOX OVERFLOW GATE 53-WG-1101
 FLOW CONTROL VALVE 21-FCV-1110
 LOOPS 21-1100, 21-1104, 21-1105, 21-1106, 21-1110

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 Bountiful, Utah 84010
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AQUA ENGINEERING
 533 W. 2600 S, SUITE 275, BOUNTIFUL, UT 84010
 PHONE (801) 299-1327 FAX (801) 299-0153

REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 No. E68627
 Exp. 12-31-18

NO.	DATE	DESCRIPTION	BY	APPRD
1	9/7/18	ADDENDUM #3	MGJ	LAR

CHECKED: MPJ
 APPROVED: MPJ
 GENERAL MANAGER: Chris DeGabriele

DRAWN: DCL
 DESIGNED: MPJ
 DISTRICT ENGINEER: Michael P Cortez

RCE # 54038

SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
10 OF 159		PI-06	B

PLOTTED: 9/8/2018
 SAVED: 9/16/2018
 PLOT: EXTEND
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 YELLOW 0.20MM
 GREEN 0.25MM
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 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

EXISTING CLARIFIER RETURN PUMP PIT
 PUMPS 1, 2, 3
 23-P-1600, 23-P-1700, 23-P-1800
 LOOPS 23-1600, 23-1700, 23-1800

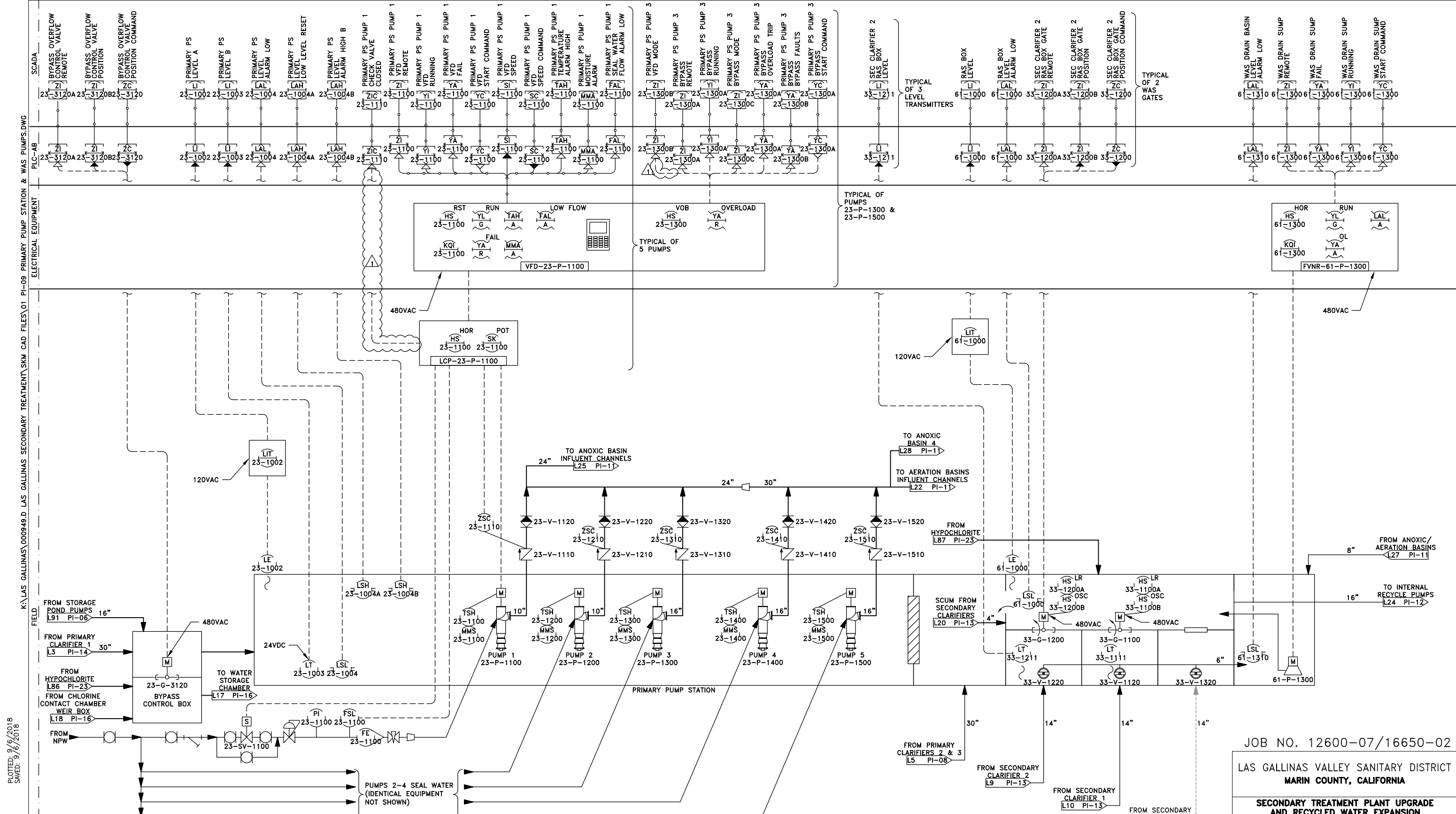
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

JOB NO. 12600-07/16650-02
 LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

**SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION**
INSTRUMENTATION - P&IDS
PRIMARY CLARIFIER 1

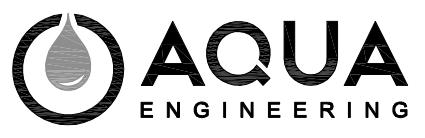
NO.	DATE	DESCRIPTION	BY	APPRD
1	9/7/18	ADDENDUM #3	MGJ	LAR



PLOT: EXTEND
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 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

PRIMARY PUMP STATION PUMPS 1, 2, 3, 4, 5
 23-P-1100, 23-P-1200, 23-P-1300, 23-P-1400, 23-P-1500
 WAS DRAIN SUMP 61-P-1300
 BYPASS CONTROL BOX ACTUATED VALVE 23-G-3120
 RAS BOX GATES 33-G-1100, 33-G-1200
 LOOPS 23-1002, 23-1003, 23-1004, 23-1100, 23-1110, 23-1200, 23-1210
 23-1300, 23-1310, 23-1400, 23-1410, 23-1500, 23-1510, 23-3120,
 33-1100, 33-1200, 33-1211, 61-1000, 61-1300, 61-1310

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NO.	DATE	DESCRIPTION	BY	APPRD
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				
13	of 159			

JOB NO. 12600-07/16650-02
 LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA
 SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION
INSTRUMENTATION - P&IDS
PRIMARY PUMP STATION & WAS PUMPS

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez	
RCE # 54038	DRAWING NO. PI-09	REVISION NO. B

K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\04 I-02 PLC IO LIST 1.DWG

PLOTTED: 9/8/2018
 SAVED: 9/16/2018

PLOT: EXTEND
 SCALE: 1:1
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 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB ANALOG INPUTS				
PI-07	AI	LI-21-1204A	PC 2 LEVEL	
PI-07	AI	LI-21-1204B	PC 2 OVERFLOW WEIR LEVEL	
PI-07	AI	LI-21-1205A	PC 2 SCUM PIT LEVEL	
PI-07	AI	LI-51-1101	PC 2 EFFLUENT BOX LEVEL	
PI-07	AI	ZI-51-1101B	PC 2 OVERFLOW GATE POSITION	
PI-07	AI	PI-22-2200	SCUM PUMP 1 OUTLET PRESSURE	
PI-07	AI	ZI-22-2201B	SCUM PUMP 1 3-WAY SCUM VALVE POSITION	
PI-07	AI	LI-21-1101	PC 2,3 INFLUENT BOX LEVEL	
PI-07	AI	ZI-21-1210B	PC 2 INFLUENT FLOW CONTROL VALVE POSITION	
PI-07	AI	ZI-21-1310B	PC 3 INFLUENT FLOW CONTROL VALVE POSITION	
PI-07	AI	ZI-21-1410B	PC 4 INFLUENT FLOW CONTROL VALVE POSITION	
PI-08	AI	LI-21-1304A	PC 3 LEVEL	
PI-08	AI	LI-21-1304B	PC 3 OVERFLOW WEIR LEVEL	
PI-08	AI	LI-21-1305A	PC 3 SCUM PIT LEVEL	
PI-08	AI	LI-21-1305B	PC 3 EFFLUENT BOX LEVEL	
PI-08	AI	PI-22-2300	SCUM PUMP 2 DISCHARGE PRESSURE	
PI-08	AI	ZI-22-2301B	SCUM PUMP 2 3-WAY SCUM VALVE POSITION	
PI-08	AI	ZI-22-2202B	SLUDGE PUMP 1 3-WAY SCUM VALVE POSITION	
PI-08	AI	ZI-22-2302B	SLUDGE PUMP 2 3-WAY SCUM VALVE POSITION	
PI-17	AI	FI-62-2620	THICKENER INFLUENT FLOW	
PI-17	AI	FI-62-2640	THICKENER INFLUENT FLOW	
SUM		21		

PLC-MCC3 ANALOG INPUTS

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB ANALOG OUTPUTS				
PI-07	AO	ZC-51-1101	PC 2 OVERFLOW GATE POSITION COMMAND	
PI-07	AO	ZC-22-2201	SCUM PUMP 1 3-WAY SCUM VALVE POSITION COMMAND	
PI-07	AO	ZC-21-1210	PC 2 INFLUENT FLOW CONTROL VALVE POSITION COMMAND	
PI-07	AO	ZC-21-1310	PC 3 INFLUENT FLOW CONTROL VALVE POSITION COMMAND	
PI-07	AO	ZC-21-1410	PC 4 INFLUENT FLOW CONTROL VALVE POSITION COMMAND	
PI-08	AO	ZC-22-2301	SCUM PUMP 2 3-WAY SCUM VALVE POSITION COMMAND	
PI-08	AO	ZC-22-2202	SLUDGE PUMP 1 3-WAY SCUM VALVE POSITION COMMAND	
PI-08	AO	ZC-22-2302	SLUDGE PUMP 2 3-WAY SCUM VALVE POSITION COMMAND	
SUM		8		

PLC-MCC3 ANALOG OUTPUTS

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB DISCRETE INPUTS				
PI-07	DI	ZI-21-1204	PC 2 REMOTE	
PI-07	DI	YI-21-1204	PC 2 RUNNING	
PI-07	DI	JAH-21-1204	PC 2 TORQUE ALARM HIGH	
PI-07	DI	JAHH-21-1204	PC 2 TORQUE ALARM HIGH-HIGH	
PI-07	DI	ZI-51-1101A	PC 2 OVERFLOW GATE REMOTE	
PI-07	DI	ZIO-51-1101	PC 2 OVERFLOW GATE OPEN	
PI-07	DI	ZIC-51-1101	PC 2 OVERFLOW GATE CLOSED	
PI-07	DI	ZI-22-2200	SCUM PUMP 1 REMOTE	
PI-07	DI	YI-22-2200	SCUM PUMP 1 RUNNING	
PI-07	DI	YA-22-2200	SCUM PUMP 1 FAIL	
PI-07	DI	ZI-22-2201A	SCUM PUMP 1 3-WAY SCUM VALVE REMOTE	
PI-07	DI	ZIO-22-2201	SCUM PUMP 1 3-WAY SCUM VALVE OPEN	
PI-07	DI	ZIC-22-2201	SCUM PUMP 1 3-WAY SCUM VALVE CLOSED	
PI-07	DI	ZI-21-1210A	PC 2 INFLUENT FLOW CONTROL VALVE REMOTE	
PI-07	DI	ZIC-21-1210	PC 2 INFLUENT FLOW CONTROL VALVE CLOSED	
PI-07	DI	ZIO-21-1210	PC 2 INFLUENT FLOW CONTROL VALVE OPEN	
PI-07	DI	ZI-21-1310A	PC 3 INFLUENT FLOW CONTROL VALVE REMOTE	
PI-07	DI	ZIC-21-1310	PC 3 INFLUENT FLOW CONTROL VALVE CLOSED	
PI-07	DI	ZIO-21-1310	PC 3 INFLUENT FLOW CONTROL VALVE OPEN	
PI-07	DI	ZI-21-1410A	PC 4 INFLUENT FLOW CONTROL VALVE REMOTE	
PI-07	DI	ZIC-21-1410	PC 4 INFLUENT FLOW CONTROL VALVE CLOSED	
PI-07	DI	ZIO-21-1410	PC 4 INFLUENT FLOW CONTROL VALVE OPEN	
PI-08	DI	ZI-21-1304	PC 3 REMOTE	
PI-08	DI	YI-21-1304	PC 3 RUNNING	
PI-08	DI	JAH-21-1304	PC 3 TORQUE ALARM HIGH	
PI-08	DI	JAHH-21-1304	PC 3 TORQUE ALARM HIGH-HIGH	
PI-08	DI	ZI-22-2300	SCUM PUMP 2 REMOTE	
PI-08	DI	YI-22-2300	SCUM PUMP 2 RUNNING	
PI-08	DI	YA-22-2300	SCUM PUMP 2 FAIL	
PI-08	DI	ZI-22-2301A	SCUM PUMP 2 3-WAY SCUM VALVE REMOTE	
PI-08	DI	ZIO-22-2301	SCUM PUMP 2 3-WAY SCUM VALVE OPEN	
PI-08	DI	ZIC-22-2301	SCUM PUMP 2 3-WAY SCUM VALVE CLOSED	
PI-08	DI	ZI-22-1200	SLUDGE PUMP 1 REMOTE	
PI-08	DI	YI-22-1200	SLUDGE PUMP 1 RUNNING	
PI-08	DI	YA-22-1200	SLUDGE PUMP 1 FAIL	
PI-08	DI	ZI-22-1300	SLUDGE PUMP 2 REMOTE	
PI-08	DI	YI-22-1300	SLUDGE PUMP 2 RUNNING	
PI-08	DI	YA-22-1300	SLUDGE PUMP 2 FAIL	
PI-08	DI	ZI-22-2202A	SLUDGE PUMP 1 3-WAY SCUM VALVE REMOTE	
PI-08	DI	ZIO-22-2202	SLUDGE PUMP 1 3-WAY SCUM VALVE OPEN	
PI-08	DI	ZIC-22-2202	SLUDGE PUMP 1 3-WAY SCUM VALVE CLOSED	
PI-08	DI	ZI-22-2302A	SLUDGE PUMP 2 3-WAY SCUM VALVE REMOTE	
PI-08	DI	ZIO-22-2302	SLUDGE PUMP 2 3-WAY SCUM VALVE OPEN	
PI-08	DI	ZIC-22-2302	SLUDGE PUMP 2 3-WAY SCUM VALVE CLOSED	
PI-17	DI	FAH-62-5010	THICKENER EYEWASH FLOW ALARM HIGH	
PI-17	DI	FQI-62-2620	THICKENER INFLUENT FLOW TOTAL	
PI-17	DI	FQI-62-2640	THICKENER INFLUENT FLOW TOTAL	
SUM		47		

PLC-MCC3 DISCRETE INPUTS

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB DISCRETE OUTPUTS				
PI-07	DO	YC-21-1204	PC 2 START COMMAND	
PI-07	DO	YC-22-2200	SCUM PUMP 1 START COMMAND	
PI-08	DO	YC-22-2300	SCUM PUMP 2 START COMMAND	
PI-08	DO	YC-21-1304	PC 3 START COMMAND	
PI-08	DO	YC-22-1200	SLUDGE PUMP 1 START COMMAND	
PI-08	DO	YC-22-1300	SLUDGE PUMP 2 START COMMAND	
SUM		6		

PLC-MCC3 DISCRETE OUTPUTS

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

INSTRUMENTATION – PLC DRAWINGS
 PLC IO LIST 1

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				
SHEET 40 of 159		PLAN NO.	DRAWING NO. I-02	REVISION NO. B

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 PHONE (801) 299-1327 FAX (801) 299-0153



K:\LAS GALLINAS\000949 D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\04 -03 PLC IO LIST 2.DWG

PLOTTED: 9/8/2018
 SAVED: 9/16/2018

PLOT: EXTEND
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 BORDER: 22,34
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 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB ANALOG INPUTS				
PI-09	AI	ZI-23-3120B	BYPASS OVERFLOW CONTROL VALVE POSITION	
PI-09	AI	LI-23-1002	PRIMARY PS LEVEL A	
PI-09	AI	LI-23-1003	PRIMARY PS LEVEL B	
PI-09	AI	LI-33-1111	SECONDARY CLARIFIER 1 RAS BOX LEVEL	
PI-09	AI	LI-33-1211	SECONDARY CLARIFIER 2 RAS BOX LEVEL	
PI-09	AI	LI-61-1000	RAS BOX LEVEL	
PI-09	AI	ZI-33-1200B	SECONDARY CLARIFIER 2 RAS BOX GATE POSITION	
PI-09	AI	ZI-33-1100B	SECONDARY CLARIFIER 1 RAS BOX GATE POSITION	
PI-10	AI	AI-31-1010	ANOXIC BASIN 1 ORP	
PI-10	AI	AI-31-2010	ANOXIC BASIN 2 ORP	
PI-10	AI	AI-31-3010	ANOXIC BASIN 3 ORP	
PI-10	AI	AI-31-1001	AERATION BASIN 1 DISSOLVED OXYGEN 1	
PI-10	AI	AI-31-1002	AERATION BASIN 1 DISSOLVED OXYGEN 2	
PI-10	AI	AI-31-2001	AERATION BASIN 2 DISSOLVED OXYGEN 1	
PI-10	AI	AI-31-2002	AERATION BASIN 2 DISSOLVED OXYGEN 2	
PI-11	AI	FI-23-1010	ANOXIC BASIN INFLUENT CHANNEL FLOW	
PI-11	AI	FI-23-1020	ANOXIC BASIN INFLUENT CHANNEL FLOW	
PI-11	AI	ZI-31-4550B	ANOXIC INFLUENT CHANNEL INLET GATE POSITION	
PI-11	AI	ZI-31-4560B	AERATION INFLUENT CHANNEL INLET GATE POSITION	
PI-11	AI	AI-31-4010	ANOXIC BASIN 4 ORP	
PI-11	AI	AI-31-3001	AERATION BASIN 3 DISSOLVED OXYGEN 1	
PI-11	AI	AI-31-3002	AERATION BASIN 3 DISSOLVED OXYGEN 2	
PI-11	AI	AI-31-4001	AERATION BASIN 4 DISSOLVED OXYGEN 1	
PI-11	AI	AI-31-4002	AERATION BASIN 4 DISSOLVED OXYGEN 2	
PI-12	AI	FI-36-1000	INTERNAL RECYCLE PUMPS FLOW	
PI-12	AI	PI-31-5000	ANOXIC BLOWER HEADER PRESSURE	
PI-13	AI	FI-44-1000	SECONDARY CLARIFIER EFFLUENT FLOW	
PI-14	AI	LI-23-1020	STORM DRAIN STORAGE LEVEL	
PI-16	AI	LI-43-1011	DECHLOR TANK 1 LEVEL	
PI-16	AI	LI-43-1012	DECHLOR TANK 2 LEVEL	
PI-16	AI	SI-43-1100	DECHLORINATION PUMP 1 SPEED	
PI-16	AI	SI-43-1200	DECHLORINATION PUMP 2 SPEED	
PI-16	AI	SI-43-1300	DECHLORINATION PUMP 3 SPEED	
PI-16	AI	FI-51-1009	UV BYPASS FLOW	
PI-16	AI	ZI-41-1100B	CONTACT CHAMBER WEIR BOX SLIDE GATE POSITION	
PI-16	AI	AI-43-1001	CHLORINE ANALYZER 1	
PI-16	AI	AI-43-1002	CHLORINE ANALYZER 2	
PI-16	AI	AI-43-1003	CHLORINE ANALYZER 3	
PI-16	AI	AI-43-1004	CHLORINE ANALYZER 4	
PI-27	AI	PI-51-1009	NMWD PUMP PRESSURE	
PI-27	AI	PI-51-1010	MMWD PUMP PRESSURE	
PI-27	AI	FI-51-1006	RECYCLE WATER TO NON-POTABLE WATER FLOW	
PI-27	AI	FI-51-1007	RECYCLE WATER NMWD DIST. SYS. FLOW	
PI-26	AI	AI-52-1250	MMWD TANK SUPPLY LINE TOTAL CHLORINE	
PI-26	AI	AI-52-1260	MMWD TANK TOTAL CHLORINE	
PI-26	AI	AI-43-1650	CHLORINE ANALYZER 1	
PI-26	AI	AI-43-1660	CHLORINE ANALYZER 2	
PI-26	AI	SI-43-1400	BISULFITE FEED PUMP 1 SPEED	
PI-26	AI	SI-43-1500	BISULFITE FEED PUMP 2 SPEED	
PI-28	AI	ZI-44-1350B	RTWF SPLITTER BOX OVERFLOW GATE POSITION	
PI-29	AI	TI-44-1530	UV BUILDING INSIDE TEMPERATURE	
PI-29	AI	AI-44-1540	UV BUILDING INSIDE HUMIDITY	
PI-29	AI	TI-44-1550	UV BUILDING OUTSIDE TEMPERATURE	
PI-29	AI	AI-44-1560	UV BUILDING OUTSIDE HUMIDITY	
SUM		54		

PLC-AB ANALOG INPUTS

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB ANALOG OUTPUTS				
PI-09	AO	ZC-23-3120	BYPASS OVERFLOW CONTROL VALVE POSITION COMMAND	
PI-09	AO	ZC-33-1100	SECONDARY CLARIFIER 1 RAS BOX GATE POSITION COMMAND	
PI-09	AO	ZC-33-1200	SECONDARY CLARIFIER 2 RAS BOX GATE POSITION COMMAND	
PI-11	AO	ZI-31-4550	ANOXIC INFLUENT CHANNEL INLET GATE POSITION COMMAND	
PI-11	AO	ZI-31-4560	AERATION INFLUENT CHANNEL INLET GATE POSITION COMMAND	
PI-16	AO	SC-43-1100	DECHLORINATION PUMP 1 SPEED COMMAND	
PI-16	AO	SC-43-1200	DECHLORINATION PUMP 2 SPEED COMMAND	
PI-16	AO	SC-43-1300	DECHLORINATION PUMP 3 SPEED COMMAND	
PI-16	AO	ZC-41-1100	CONTACT CHAMBER WEIR BOX SLIDE GATE POSITION COMMAND	
PI-26	AO	SC-43-1400	BISULFITE FEED PUMP 1 SPEED	
PI-26	AO	SC-43-1500	BISULFITE FEED PUMP 2 SPEED	
PI-28	AO	ZC-44-1350B	RTWF SPLITTER BOX OVERFLOW GATE POSITION COMMAND	
SUM		12		

PLC-AB ANALOG OUTPUTS

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB DISCRETE INPUTS				
PI-09	DI	LAL-23-1004	PRIMARY PS LEVEL ALARM LOW	
PI-09	DI	LAH-23-1004A	PRIMARY PS LEVEL ALARM HIGH A	
PI-09	DI	LAH-23-1004B	PRIMARY PS LEVEL ALARM HIGH B	
PI-09	DI	ZIC-23-1110	PRIMARY PS PUMP 1 CHECK VALVE CLOSED	
PI-09	DI	ZIC-23-1210	PRIMARY PS PUMP 2 CHECK VALVE CLOSED	
PI-09	DI	ZIC-23-1310	PRIMARY PS PUMP 3 CHECK VALVE CLOSED	
PI-09	DI	ZIC-23-1410	PRIMARY PS PUMP 4 CHECK VALVE CLOSED	
PI-09	DI	ZIC-23-1510	PRIMARY PS PUMP 5 CHECK VALVE CLOSED	
PI-09	DI	ZI-23-1300A	PRIMARY PS PUMP 3 BYPASS REMOTE	
PI-09	DI	YI-23-1300A	PRIMARY PS PUMP 3 BYPASS RUNNING	
PI-09	DI	ZI-23-1300B	PRIMARY PS PUMP 3 VFD MODE	
PI-09	DI	ZI-23-1300C	PRIMARY PS PUMP 3 BYPASS MODE	
PI-09	DI	YA-23-1300A	PRIMARY PS PUMP 3 BYPASS OVERLOAD TRIP	
PI-09	DI	YA-23-1300B	PRIMARY PS PUMP 3 BYPASS BYPASS FAULTS	
PI-09	DI	ZI-23-1500A	PRIMARY PS PUMP 5 BYPASS REMOTE	
PI-09	DI	YI-23-1500A	PRIMARY PS PUMP 5 BYPASS RUNNING	
PI-09	DI	ZI-23-1500B	PRIMARY PS PUMP 5 VFD MODE	
PI-09	DI	ZI-23-1500C	PRIMARY PS PUMP 5 BYPASS MODE	
PI-09	DI	YA-23-1500A	PRIMARY PS PUMP 5 BYPASS OVERLOAD TRIP	
PI-09	DI	YA-23-1500B	PRIMARY PS PUMP 5 BYPASS BYPASS FAULTS	
PI-09	DI	LAL-61-1000	RAS BOX LEVEL ALARM LOW	
PI-09	DI	ZI-33-1100A	SECONDARY CLARIFIER 1 RAS BOX GATE REMOTE	
PI-09	DI	ZI-33-1200A	SECONDARY CLARIFIER 2 RAS BOX GATE REMOTE	
PI-09	DI	LAL-61-1310	WAS DRAIN BASIN LEVEL ALARM LOW	
PI-09	DI	ZI-61-1300	WAS DRAIN SUMP REMOTE	
PI-09	DI	YA-61-1300	WAS DRAIN SUMP FAIL	
PI-09	DI	YI-61-1300	WAS DRAIN SUMP RUNNING	
PI-11	DI	FQI-23-1010	ANOXIC BASIN INFLUENT CHANNEL TOTAL FLOW	
PI-11	DI	FQI-23-1020	ANOXIC BASIN INFLUENT CHANNEL TOTAL FLOW	
PI-11	DI	ZI-31-4550A	ANOXIC INFLUENT CHANNEL INLET GATE REMOTE	
PI-11	DI	ZI-31-4560A	AERATION INFLUENT CHANNEL INLET GATE REMOTE	
PI-12	DI	ZI-36-1400	AERATION BASIN EFFLUENT BOX VALVE REMOTE	
PI-12	DI	ZIO-36-1400	AERATION BASIN EFFLUENT BOX VALVE OPEN	
PI-12	DI	ZIC-36-1400	AERATION BASIN EFFLUENT BOX VALVE CLOSED	
PI-12	DI	ZI-36-1410	AERATION BASIN EFFLUENT BOX VALVE REMOTE	
PI-12	DI	ZIO-36-1410	AERATION BASIN EFFLUENT BOX VALVE OPEN	
PI-12	DI	ZIC-36-1410	AERATION BASIN EFFLUENT BOX VALVE CLOSED	
PI-12	DI	ZIC-36-1102	RECYCLED PUMP 1 CHECK VALVE CLOSED	
PI-12	DI	ZIC-36-1202	RECYCLED PUMP 2 CHECK VALVE CLOSED	
PI-12	DI	ZIC-36-1302	RECYCLED PUMP 3 CHECK VALVE CLOSED	
PI-12	DI	FQI-36-1000	INTERNAL RECYCLE PUMPS TOTAL FLOW	
PI-13	DI	ZI-32-1100	SECONDARY CLARIFIER 1 REMOTE	
PI-13	DI	YI-32-1100	SECONDARY CLARIFIER 1 RUNNING	
PI-13	DI	YA-32-1100	SECONDARY CLARIFIER 1 FAIL	
PI-13	DI	JAH-32-1100	SECONDARY CLARIFIER 1 TORQUE ALARM HIGH	
PI-13	DI	JAHH-32-1100	SECONDARY CLARIFIER 1 TORQUE ALARM HIGH HIGH	
PI-13	DI	ZI-32-1200	SECONDARY CLARIFIER 2 REMOTE	
PI-13	DI	YI-32-1200	SECONDARY CLARIFIER 2 RUNNING	
PI-13	DI	YA-32-1200	SECONDARY CLARIFIER 2 FAIL	
PI-13	DI	JAH-32-1200	SECONDARY CLARIFIER 2 TORQUE ALARM HIGH	
PI-13	DI	JAHH-32-1200	SECONDARY CLARIFIER 2 TORQUE ALARM HIGH HIGH	
PI-13	DI	LAH-44-1010	SC EFFLUENT VAULT FLOOD SWITCH ALARM HIGH	
PI-13	DI	FQI-44-1000	SECONDARY CLARIFIER EFFLUENT FLOW TOTAL	
PI-14	DI	LAL-23-1020	STORM DRAIN STORAGE LEVEL ALARM LOW	
PI-14	DI	LAH-23-1020	STORM DRAIN STORAGE LEVEL ALARM HIGH	
PI-14	DI	LAHH-23-1020	STORM DRAIN STORAGE LEVEL ALARM HIGH HIGH	
PI-14	DI	ZI-23-2100	STORM DRAIN PUMP 1 REMOTE	
PI-14	DI	YI-23-2100	STORM DRAIN PUMP 1 RUNNING	
PI-14	DI	YA-23-2100	STORM DRAIN PUMP 1 FAIL	
PI-14	DI	ZI-23-2200	STORM DRAIN PUMP 2 REMOTE	
PI-14	DI	YI-23-2200	STORM DRAIN PUMP 2 RUNNING	
PI-14	DI	YA-23-2200	STORM DRAIN PUMP 2 FAIL	
PI-14	DI	ZI-23-2300	STORM DRAIN PUMP 3 REMOTE	
PI-14	DI	YI-23-2300	STORM DRAIN PUMP 3 RUNNING	
PI-14	DI	YA-23-2300	STORM DRAIN PUMP 3 FAIL	

PLC-AB DISCRETE INPUTS



P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB DISCRETE INPUTS				
PI-16	DI	LAH-43-1011	DECHLOR TANK 1 LEAK DETECTION ALARM HIGH	
PI-16	DI	LAH-43-1012	DECHLOR TANK 2 LEAK DETECTION ALARM HIGH	
PI-16	DI	YA-43-1100	DECHLORINATION PUMP 1 FAIL	
PI-16	DI	FQI-43-1100	DECHLORINATION PUMP 1 FLOW TOTAL	
PI-16	DI	YA-43-1200	DECHLORINATION PUMP 2 FAIL	
PI-16	DI	FQI-43-1200	DECHLORINATION PUMP 2 FLOW TOTAL	
PI-16	DI	YA-43-1300	DECHLORINATION PUMP 3 FAIL	
PI-16	DI	FQI-43-1300	DECHLORINATION PUMP 3 FLOW TOTAL	
PI-16	DI	FAH-43-1400	DECHLOR EYEWASH ALARM HIGH	
PI-16	DI	FQI-51-1009	UV BYPASS FLOW TOTAL	
PI-16	DI	ZI-41-1100A	CONTACT CHAMBER WEIR BOX SLIDE GATE REMOTE	
PI-16	DI	ZIO-41-1100	CONTACT CHAMBER WEIR BOX SLIDE GATE OPEN	
PI-16	DI	ZIC-41-1100	CONTACT CHAMBER WEIR BOX SLIDE GATE CLOSED	
PI-16	DI	ZI-41-2110	POND SUPPLY ISOLATION GATE REMOTE	
PI-16	DI	ZIO-41-2110	POND SUPPLY ISOLATION GATE OPEN	
PI-16	DI	ZIC-41-2110	POND SUPPLY ISOLATION GATE CLOSED	
PI-16	DI	ZI-41-2120	POND SUPPLY ISOLATION GATE REMOTE	
PI-16	DI	ZIO-41-2120	POND SUPPLY ISOLATION GATE OPEN	
PI-16	DI	ZIC-41-2120	POND SUPPLY ISOLATION GATE CLOSED	
PI-16	DI	ZI-51-1210	POND SUPPLY ISOLATION GATE REMOTE	SAYS TYPICAL OF 3 GATES BUT ONLY
PI-16	DI	ZIO-51-1210	POND SUPPLY ISOLATION GATE OPEN	SEE TWO
PI-16	DI	ZIC-51-1210	POND SUPPLY ISOLATION GATE CLOSED	
PI-26	DI	ZI-43-1400	BISULFITE FEED PUMP 1 REMOTE	
PI-26	DI	YI-43-1400	BISULFITE FEED PUMP 1 RUN	
PI-26	DI	YA-43-1400	BISULFITE FEED PUMP 1 FAIL	
PI-26	DI	ZI-43-1500	BISULFITE FEED PUMP 2 REMOTE	
PI-26	DI	YI-43-1500	BISULFITE FEED PUMP 2 RUN	
PI-26	DI	YA-43-1500	BISULFITE FEED PUMP 2 FAIL	
PI-27	DI	ZIC-51-2120	NMWD DIST. PUMP 1 CHECK VALVE CLOSE	
PI-27	DI	ZIC-51-2220	NMWD DIST. PUMP 2 CHECK VALVE CLOSE	
PI-27	DI	ZIC-51-2320	MMWD DIST. PUMP 1 CHECK VALVE CLOSE	
PI-27	DI	ZIC-51-2420	MMWD DIST. PUMP 2 CHECK VALVE CLOSE	
PI-27	DI	FQI-51-1006	RECYCLE WATER TO NON-POTABLE WATER FLOW	
PI-27	DI	FQI-51-1007	RECYCLE WATER NMWD DIST. SYS. FLOW	
PI-27	DI	ZI-51-2510	NMWD DRAIN VALVE REMOTE	
PI-27	DI	ZIO-51-2510	NMWD DRAIN VALVE OPEN	
PI-27	DI	ZIC-51-2510	NMWD DRAIN VALVE CLOSED	
PI-28	DI	ZI-44-1350A	RTWF SPLITTER BOX OVERFLOW GATE REMOTE	
PI-29	DI	FAH-44-1500	BIO ASSAY ROOM EYEWASH SWITCH ALARM HIGH	
PI-29	DI	ZI-44-1510	UV BUILDING EXHAUST FAN REMOTE	
PI-29	DI	YI-44-1510	UV BUILDING EXHAUST FAN RUNNING	
PI-29	DI	YA-44-1510	UV BUILDING EXHAUST FAN FAIL	
PI-29	DI	YC-44-1510	UV BUILDING EXHAUST FAN START COMMAND	
PI-29	DI	ZI-44-1520	UV BUILDING EXHAUST FAN REMOTE	
PI-29	DI	YI-44-1520	UV BUILDING EXHAUST FAN RUNNING	
PI-29	DI	YA-44-1520	UV BUILDING EXHAUST FAN FAIL	
PI-29	DI	YC-44-1520	UV BUILDING EXHAUST FAN START COMMAND	
SUM		111		

PLC-AB DISCRETE INPUTS (CONTINUED)

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

INSTRUMENTATION - PLC DRAWINGS
 PLC IO LIST 2

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
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K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\04 I-04 PLC IO LIST 3.DWG

PLOT: 9/8/2018
SCALE: 1:1
BORDER: 22,34

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-AB DISCRETE OUTPUTS				
PI-09	DO	YC-23-1300A	PRIMARY PS PUMP 3 BYPASS START COMMAND	
PI-09	DO	YC-23-1500A	PRIMARY PS PUMP 5 BYPASS START COMMAND	
PI-09	DO	YC-61-1300	WAS DRAIN SUMP START COMMAND	
PI-12	DO	ZCO-36-1400	AERATION BASIN EFFLUENT BOX VALVE OPEN COMMAND	
PI-12	DO	ZCC-36-1400	AERATION BASIN EFFLUENT BOX VALVE CLOSE COMMAND	
PI-12	DO	ZCO-36-1410	AERATION BASIN EFFLUENT BOX VALVE OPEN COMMAND	
PI-12	DO	ZCC-36-1410	AERATION BASIN EFFLUENT BOX VALVE CLOSE COMMAND	
PI-13	DO	YC-32-1100	SECONDARY CLARIFIER 1 START COMMAND	
PI-13	DO	YC-32-1200	SECONDARY CLARIFIER 2 START COMMAND	
PI-14	DO	YC-23-2100	STORM DRAIN PUMP 1 START COMMAND	
PI-14	DO	YC-23-2200	STORM DRAIN PUMP 2 START COMMAND	
PI-14	DO	YC-23-2300	STORM DRAIN PUMP 3 START COMMAND	
PI-16	DO	YC-43-1100	DECHLORINATION PUMP 1 START/STOP COMMAND	
PI-16	DO	YC-43-1200	DECHLORINATION PUMP 2 START/STOP COMMAND	
PI-16	DO	YC-43-1300	DECHLORINATION PUMP 3 START/STOP COMMAND	
PI-16	DO	ZCO-41-2110	POND SUPPLY ISOLATION GATE OPEN COMMAND	
PI-16	DO	ZCC-41-2110	POND SUPPLY ISOLATION GATE CLOSE COMMAND	
PI-16	DO	ZCO-41-2120	POND SUPPLY ISOLATION GATE OPEN COMMAND	
PI-16	DO	ZCC-41-2120	POND SUPPLY ISOLATION GATE CLOSE COMMAND	
PI-16	DO	ZCO-51-1210	POND SUPPLY ISOLATION GATE OPEN COMMAND	
PI-16	DO	ZCC-51-1210	POND SUPPLY ISOLATION GATE CLOSE COMMAND	
PI-27	DO	ZCO-51-2510	NMWD DRAIN VALVE OPEN COMMAND	
PI-27	DO	ZCC-51-2510	NMWD DRAIN VALVE CLOSE COMMAND	
PI-29	DO	ZCO-44-1611	UV BUILDING DAMPER 1 OPEN COMMAND	
PI-29	DO	ZCO-44-1621	UV BUILDING DAMPER 2 OPEN COMMAND	
PI-29	DO	ZCO-44-1631	UV BUILDING DAMPER 3 OPEN COMMAND	
SUM		26		

PLC-AB DISCRETE OUTPUTS

PLC-PRP ANALOG INPUTS				
PI-06	AI	FI-42-1120	POND RETURN FLOW	
SUM		1		
PLC-PRP DISCRETE INPUTS				
PI-06	DI	ZI-P1-C	POND RETURN PUMP 1 AUTO	
PI-06	DI	YA-P1-C	POND RETURN PUMP 1 FAIL	
PI-06	DI	YI-P1-C	POND RETURN PUMP 1 RUNNING	
PI-06	DI	TAH-P1-C	POND RETURN PUMP 1 TEMPERATURE ALARM HIGH	
PI-06	DI	ZI-P2-C	POND RETURN PUMP 2 AUTO	
PI-06	DI	YA-P2-C	POND RETURN PUMP 2 FAIL	
PI-06	DI	YI-P2-C	POND RETURN PUMP 2 RUNNING	
PI-06	DI	TAH-P2-C	POND RETURN PUMP 2 TEMPERATURE ALARM HIGH	
PI-06	DI	ZI-P3-C	POND RETURN PUMP 3 AUTO	
PI-06	DI	YA-P3-C	POND RETURN PUMP 3 FAIL	
PI-06	DI	YI-P3-C	POND RETURN PUMP 3 RUNNING	
PI-06	DI	TAH-P3-C	POND RETURN PUMP 3 TEMPERATURE ALARM HIGH	
PI-06	DI	FQI-42-1120	POND RETURN FLOW TOTAL	
SUM		13		
PLC-PRP DISCRETE OUTPUTS				
PI-06	DO	YC-P1-C	POND RETURN PUMP 1 START COMMAND	
PI-06	DO	YC-P2-C	POND RETURN PUMP 2 START COMMAND	
PI-06	DO	YC-P3-C	POND RETURN PUMP 3 START COMMAND	
SUM		3		

PLC-PRP

PLC-PRP ANALOG INPUTS				
PI-27	AI	LI-21-1000	POND SUPERNATANT PUMP STATION LEVEL	
SUM		1		
PLC-PRP DISCRETE INPUTS				
PI-27	DI	ZI-21-1100	POND SUPERNATANT PS PUMP 1 REMOTE	
PI-27	DI	YI-21-1100	POND SUPERNATANT PS PUMP 1 RUN	
PI-27	DI	YA-21-1100	POND SUPERNATANT PS PUMP 1 FAIL	
PI-27	DI	TAH-21-1100	POND SUPERNATANT PS PUMP 1 TEMP ALARM HIGH	
PI-27	DI	ZI-21-1200	POND SUPERNATANT PS PUMP 2 REMOTE	
PI-27	DI	YI-21-1200	POND SUPERNATANT PS PUMP 2 RUN	
PI-27	DI	YA-21-1200	POND SUPERNATANT PS PUMP 2 FAIL	
PI-27	DI	TAH-21-1200	POND SUPERNATANT PS PUMP 2 TEMP ALARM HIGH	
SUM		8		
PLC-PRP DISCRETE OUTPUTS				
PI-27	DO	YC-21-1100	POND SUPERNATANT PS PUMP 1 START COMMAND	
PI-27	DO	YC-21-1200	POND SUPERNATANT PS PUMP 2 START COMMAND	
SUM		2		

PLC-PSP

P&ID	TYPE	TAG	DESCRIPTION	NOTES
PLC-RW ANALOG INPUTS				
PI-25	AI	PI-52-1225	DISTRIBUTION PUMP HEADER PRESSURE	RE-LOCATED
PI-25	AI	FI-52-1227	MMWD TANK FEED FLOW	RE-LOCATED
PI-24	AI	AI-52-1200	COMBINED FILTER CFE	NEW
PI-26	AI	AI-52-1250	MMWD TANK LINE CHLORINE RESIDUAL	NEW
SUM		2		
PLC-RW DISCRETE INPUTS				
PI-25	DI	FQI-52-1227	MMWD TANK FEED FLOW TOTAL	RE-LOCATED
SUM		1		

PLC-RW

NOTE:

- ① THIS REPRESENTS I/O THAT IS BEING RELOCATED AND IS NOT A COMPREHENSIVE LIST OF PLC-RW

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
AND RECYCLED WATER EXPANSION

INSTRUMENTATION - PLC DRAWINGS
PLC IO LIST 3

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez
SHEET 42 OF 159		DRAWING NO. I-04
REVISIONS		REVISION NO. B

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533 W 2600 S, Suite 25
Bountiful, Utah 84010
Phone: (801) 677-0011
www.skmeng.com



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153



LGVSD 1 FILE:
FD144793

ADDENDUM 3

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

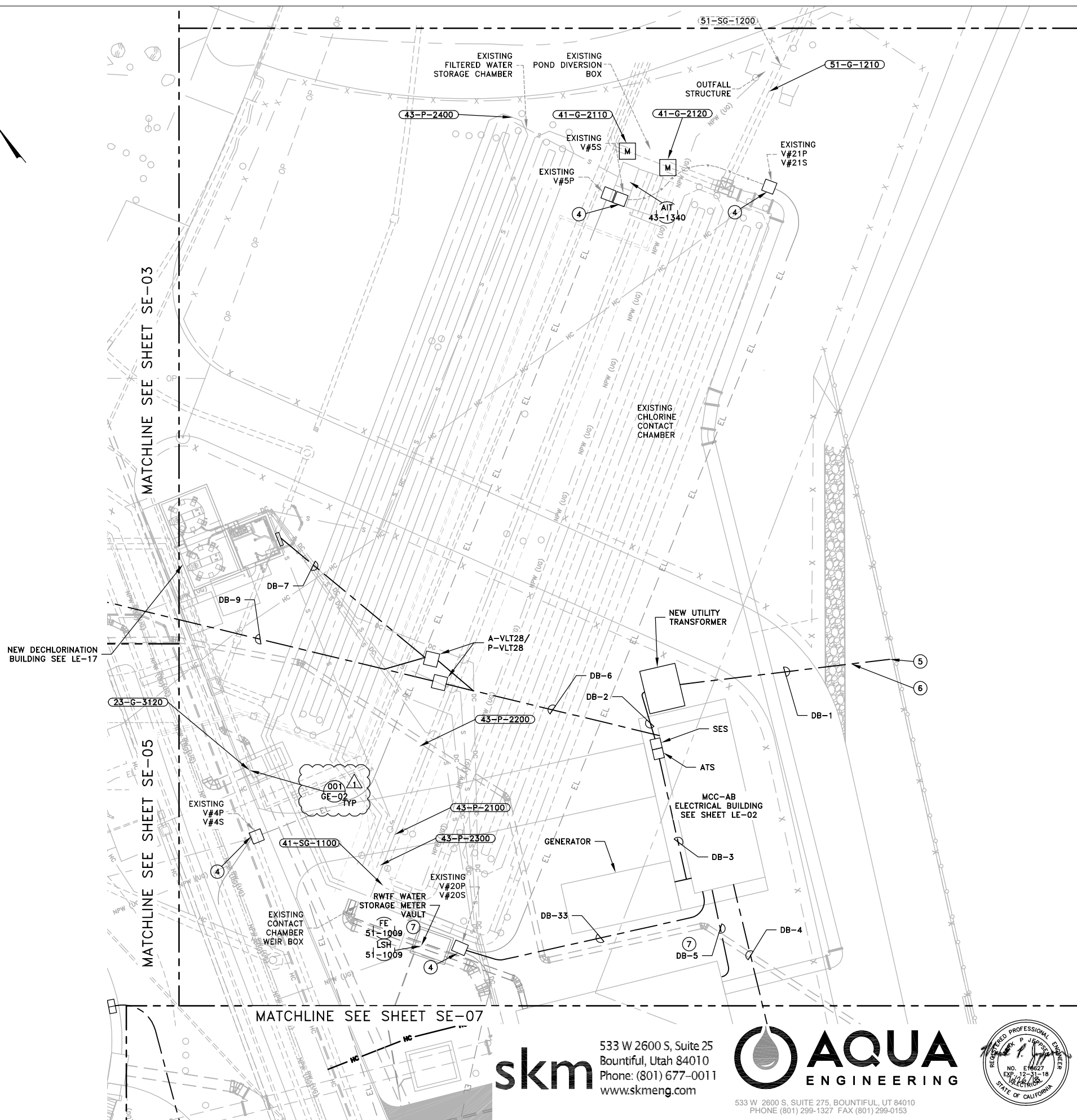


K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\12 SE-06 SITE PLAN 5.DWG

PLOTTED: 9/6/2018
 SAVED: 9/16/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

LGVSD 1 FILE:
 FD144793

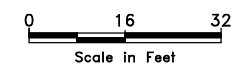


- NOTES:**
- ① CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED GR. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
 - ② CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
 - ③ LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
 - ④ ALL EXISTING VAULTS ARE TO REMAIN ACCESSIBLE.
 - ⑤ EXACT LOCATION OF POWER POLE TO BE DETERMINED BY PG&E.
 - ⑥ DUCTBANK PER PG&E REQUIREMENTS.
 - ⑦ PART OF UV BID ALTERNATE

ELECTRICAL LEGEND

- ⊗ EXISTING SITE LIGHT
- ⊗ RELOCATED EXISTING OR NEW 15' SITE LIGHT. EXISTING LIGHT IS LUMEC MODEL LEN4-82LED63L6K-4-240-14-NP. EXISTING 15' POLE IS LUMEC MODEL APR4F-15-LBC3-NP. MATCH EXISTING LIGHT & POLE AND INSTALL PHOTOCCELL OR EQUAL.

SITE PLAN 5



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

**ELECTRICAL - SITE
 SITE PLAN 5**

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez
RCE # 54038		

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				
90	OF	159		

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 ENGINEERING

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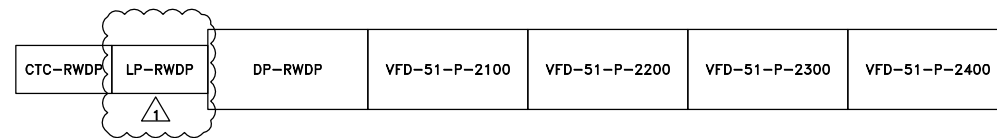
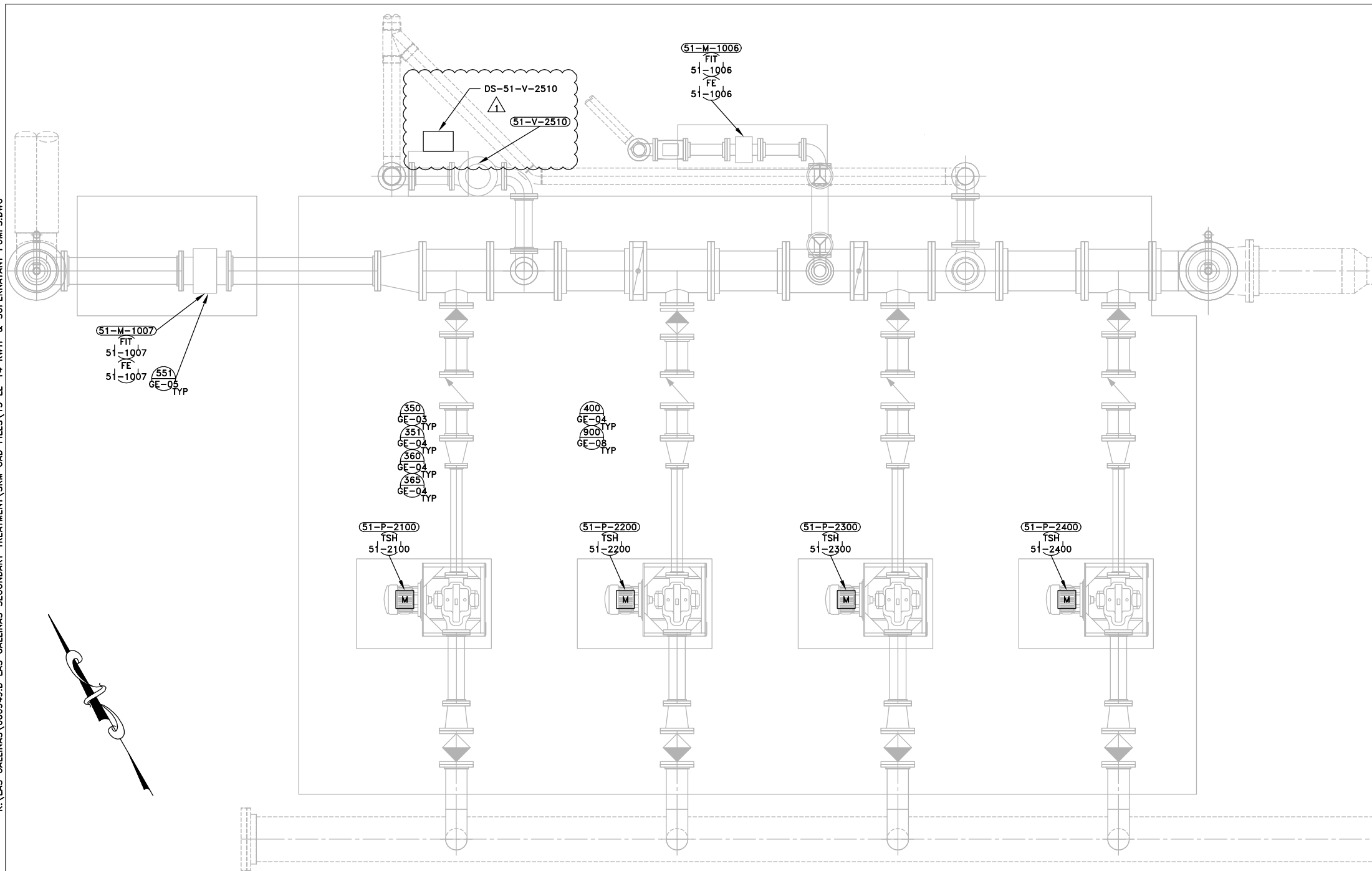


FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

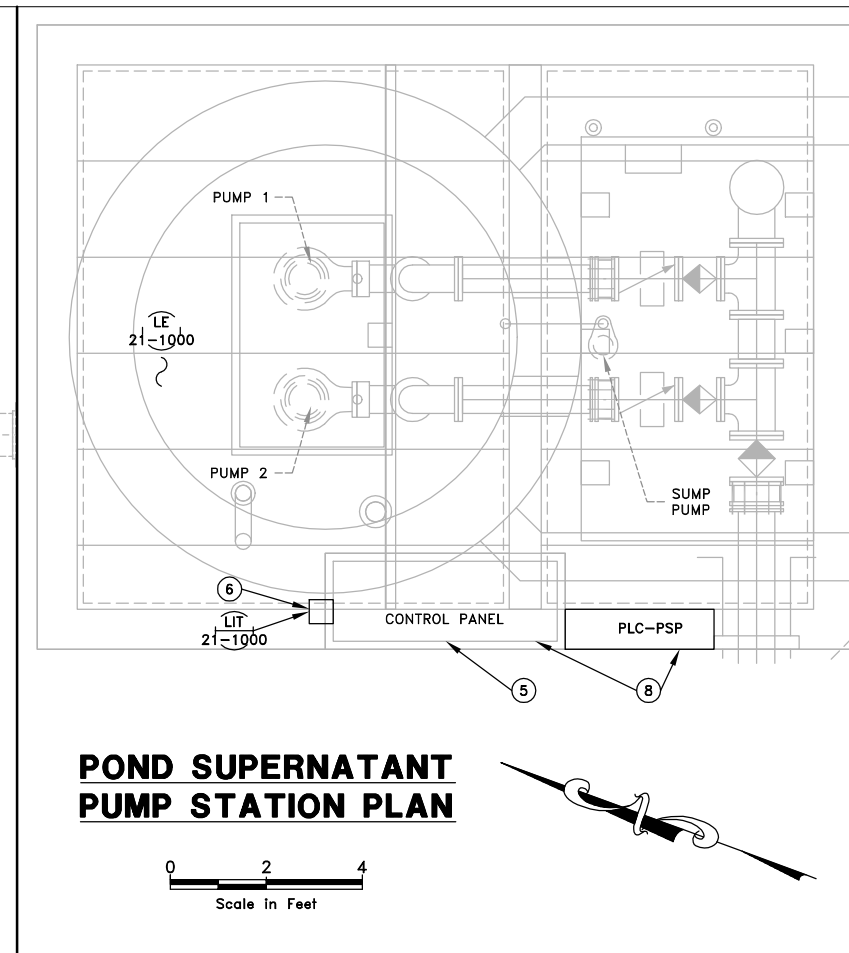
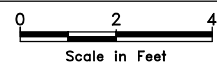
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PLOTTED: 9/8/2018
 SAVED: 9/29/2018

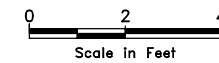
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 BORDER: 22,34
 COLOR: No.
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 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM



**RECYCLED WATER
 DISTRIBUTION
 PUMP STATION PLAN**



**POND SUPERNATANT
 PUMP STATION PLAN**



NOTES:

- ① CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED GR. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
- ② CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
- ③ LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
- ④ CONTRACTOR TO KEEP APPROPRIATE SEPERATION BETWEEN 480VAC, 120VAC, 50VDC, AND 24VDC IN ALL JUNCTION AND PULL BOXES.
- ⑤ REINSTALLED CONTROL PANEL. SEE SHEET DE-12 FOR PREVIOUS LOCATION. SEE SCHEMATIC ON E-16 FOR MODIFICATIONS.
- ⑥ LIT-21-1100 IS TO BE POWERED OUT OF PANELBOARD 1LA THAT IS LOCATED IN THE CONTROL PANEL.
- ⑦ ALL ELECTRONIC DISPLAYS SUBJECT TO OUTDOOR EXPOSURE SHALL BE PROTECTED AS PER DETAIL 901 GE-08 TYP ON SHEET GE-08.
- ⑧ MODIFY EXISTING CONTROL PANEL TO ALLOW REMOTE CONTROL OF PUMPS. ROUTE WIRING TO PLC-PSP.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

ELECTRICAL - LAYOUT
 RWTF & SUPERNATANT PUMPS

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				
106	of 159	SHEET		PLAN NO.
		DRAWING NO.		REVISION NO.
		LE-14		B



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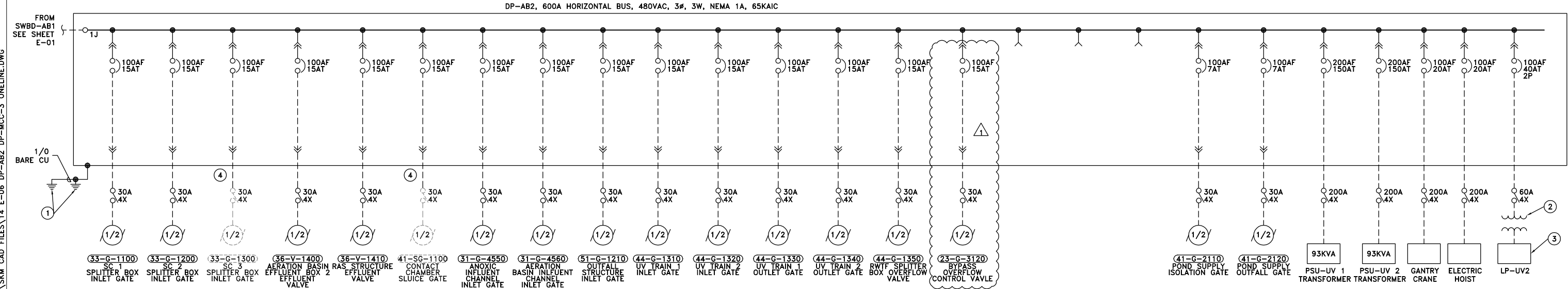
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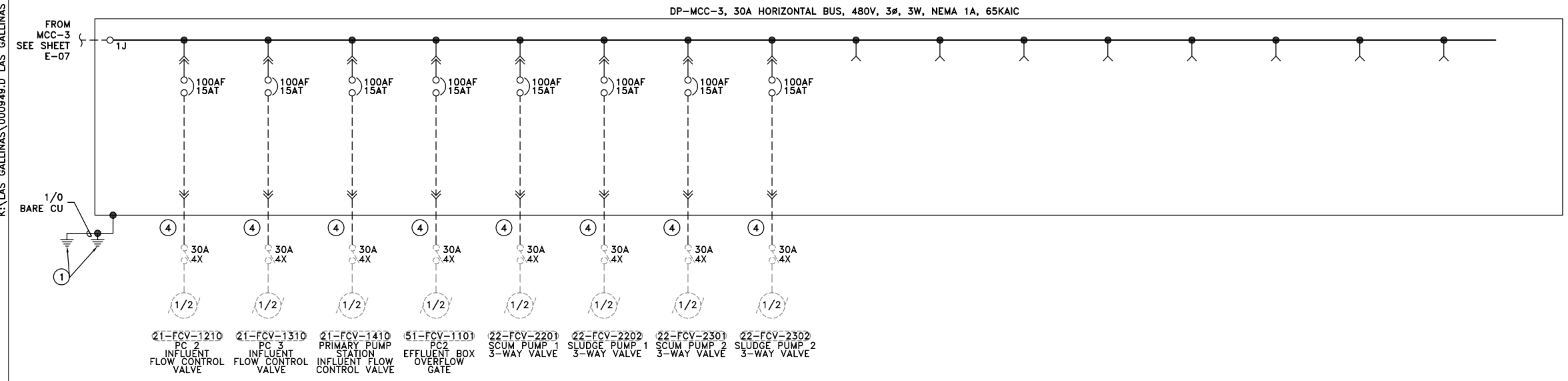
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PLOT: 9/8/2018
SCALE: 1:1
BORDER: 22,34

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



DP-AB2 ONELINE DIAGRAM



DP-MCC-3 ONELINE DIAGRAM

- NOTES:**
- ① GROUND GRID
 - ② 15KVA XFMR-UV, 480V PRIMARY, 120/208V 3Ø SECONDARY, NEMA 1
 - ③ LIGHTING PANEL LP-UV-2, 120/208V, 3Ø, 3W
 - ④ INSTALL NEW CABLE TO EXISTING EQUIPMENT

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REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
AND RECYCLED WATER EXPANSION

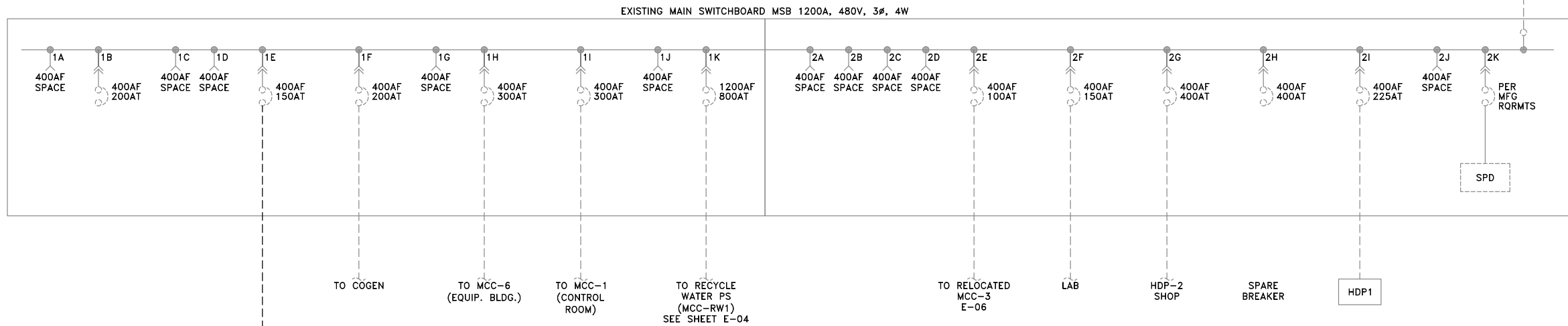
ELECTRICAL - POWER DISTRIBUTION
DP-AB2 DP-MCC-3 ONELINE

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

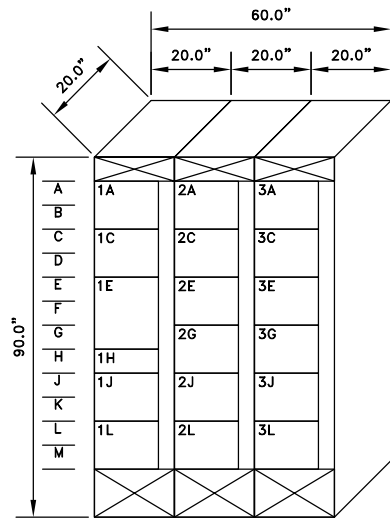
SHEET 115 OF 159	PLAN NO.	DRAWING NO. E-06	REVISION NO. B
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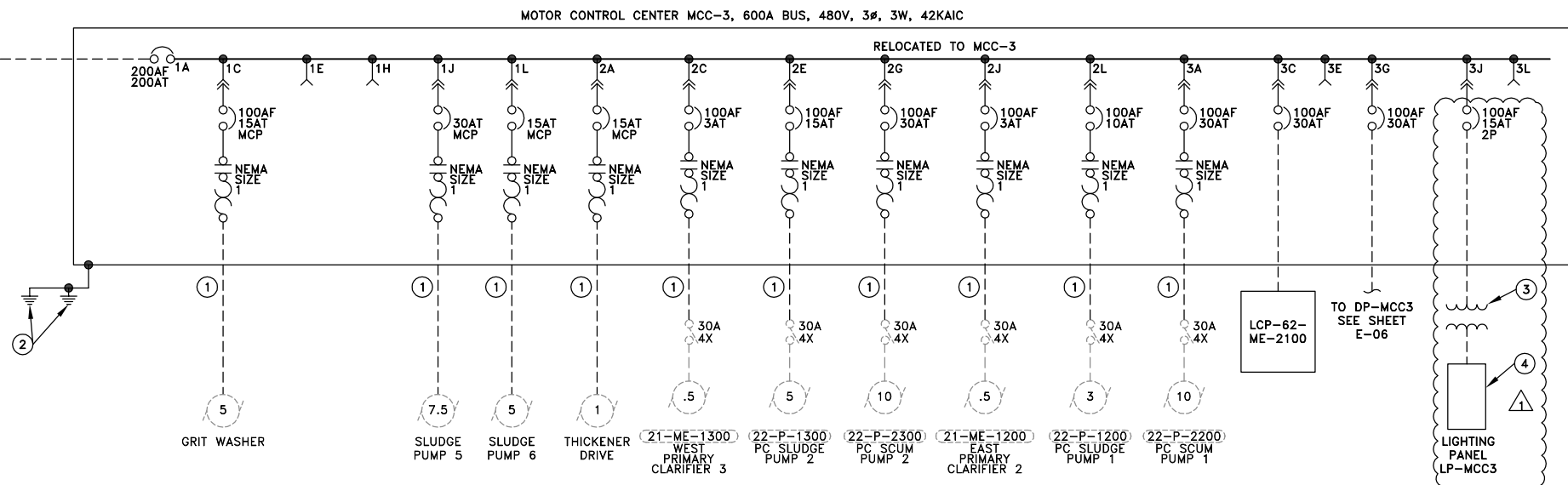
PLOTTED: 9/8/2018
 SAVED: 9/16/2018



EXISTING MSB ONELINE DIAGRAM



NEW MCC3
 SCALE: 1/2" = 1'-0"



MCC-3 ONELINE DIAGRAM

NOTES:

- ① INSTALL NEW CABLE TO EXISTING EQUIPMENT
- ② EXISTING GROUNDING GRID
- ③ 15kVA XFMR, 480V PRIMARY, 120/240V 1φ SECONDARY, NEMA 1
- ④ LIGHTING PANEL LP-MCC3, 120/240V, 1φ, 3W

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

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NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

**ELECTRICAL – POWER DISTRIBUTION
 MSB & MCC3 ONELINE**

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez
SHEET 116 OF 159		REVISION NO. E-07

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PLOTTED: 9/6/2018
 SAVED: 9/29/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

LGVSD 1 FILE:
 FD144793
ADDENDUM 3

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
PRIMARY LIFT STATION PUMP 1 (23-P-1100)		20.0	*
PRIMARY LIFT STATION PUMP 3 (23-P-1300)		40.0	52.0
PRIMARY LIFT STATION PUMP 4 (23-P-1400)		40.0	52.0
NON-MOTOR LOADS			
SUBTOTAL 104.0			
+ 25% OF LARGEST MOTOR 13.0			
TOTAL AMPS @ 480V/3PHASE 117.0			
SERVICE SIZE (AMPS) 400.0			

MCC-AB1 CALCULATIONS

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
AERATION BASIN 1 WHEEL 1 (31-ME-1100)		15.0	21.0
AERATION BASIN 1 WHEEL 2 (31-ME-1200)		15.0	21.0
AERATION BASIN 1 WHEEL 3 (31-ME-1300)		15.0	21.0
AERATION BASIN 1 WHEEL 4 (31-ME-1400)		15.0	21.0
AERATION BASIN 2 WHEEL 1 (31-ME-2100)		15.0	21.0
AERATION BASIN 2 WHEEL 2 (31-ME-2200)		15.0	21.0
AERATION BASIN 2 WHEEL 3 (31-ME-2300)		15.0	21.0
AERATION BASIN 2 WHEEL 4 (31-ME-2400)		15.0	21.0
INTERNAL RECYCLE PUMP 1 (36-P-1100)		20.0	27.0
INTERNAL RECYCLE PUMP 2 (36-P-1200)		20.0	27.0
ANOXIC BLOWER 1 (31-BLR-5300)		15.0	21.0
STORM DRAIN PUMP 1 (23-P-2100)		10.0	14.0
STORM DRAIN PUMP 2 (23-P-2200)		10.0	14.0
WAS PUMP 1 (61-P-1100)		5.0	7.6
61-P-1300 WAS DRAIN BOX SLUMP		10.0	14.0
UV EXHAUST FAN 1 (44-H-1510)		0.8	1.7
SECONDARY CLARIFIER 2 (32-ME-1200)		1.5	3.0
SUPERNATANT PUMP STATION	25.0		52.1
NON-MOTOR LOADS			
SUBTOTAL 349.4			
+ 25% OF LARGEST MOTOR 13.0			
TOTAL AMPS @ 480V/3PHASE 362.4			
SERVICE SIZE (AMPS) 600.0			

MCC-AB2 CALCULATIONS

NOTES:
 (1) ASTERISKS "*" DENOTE STANDBY EQUIPMENT

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
AERATION BASIN 3 WHEEL 1 (31-ME-3100)		15.0	21.0
AERATION BASIN 3 WHEEL 2 (31-ME-3200)		15.0	21.0
AERATION BASIN 3 WHEEL 3 (31-ME-3300)		15.0	21.0
AERATION BASIN 3 WHEEL 4 (31-ME-3400)		15.0	21.0
AERATION BASIN 4 WHEEL 1 (31-ME-4100)		15.0	21.0
AERATION BASIN 4 WHEEL 2 (31-ME-4200)		15.0	21.0
AERATION BASIN 4 WHEEL 3 (31-ME-4300)		15.0	21.0
AERATION BASIN 4 WHEEL 4 (31-ME-4400)		15.0	21.0
SECONDARY CLARIFIER 1 (32-ME-1100)		1.5	3.0
FUTURE SECONDARY CLARIFIER 3 (32-ME-1300)		1.5	3.0
INTERNAL RECYCLE PUMP (36-P-1300)		20.0	27.0
ANOXIC BLOWER 2 (31-BLR-5400)		15.0	21.0
STORM DRAIN PUMP 3 (23-P-2300)		10.0	14.0
UV EXHAUST FAN 2 (44-H-1520)		0.8	1.8
NON-POTABLE WATER PUMP 4 (61-P-1400)		10.0	14.0
WAS PUMP 2 (61-P-1200)		5.0	7.6
NON-MOTOR LOADS			
SUBTOTAL 259.2			
+ 25% OF LARGEST MOTOR 6.8			
TOTAL AMPS @ 480V/3PHASE 266.0			
SERVICE SIZE (AMPS) 600.0			

MCC-AB3 CALCULATIONS

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
PRIMARY LIFT STATION PUMP 2 (23-P-1200)		20.0	*
PRIMARY LIFT STATION PUMP 5 (23-P-1500)		40.0	52.0
NON-MOTOR LOADS			
SUBTOTAL 52.0			
+ 25% OF LARGEST MOTOR 13.0			
TOTAL AMPS @ 480V/3PHASE 65.0			
SERVICE SIZE (AMPS) 600.0			

MCC-AB4 CALCULATIONS

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
GRIT WASHER		5.0	7.6
SLUDGE PUMP 5		7.5	11.0
SLUDGE PUMP 6		5.0	7.6
THICKENER DRIVE		1.0	2.1
EAST PRIMARY CLARIFIER 2 (21-ME-1200)		0.5	1.1
WEST PRIMART CLARIFIER 3 (21-ME-1300)		0.5	1.1
PC SLUDGE PUMP 1 (22-P-1200)		3.0	4.8
PC SLUDGE PUMP 2 (22-P-1300)		5.0	7.6
PC SCUM PUMP 1 (22-P-2200)		10.0	14.0
PC SCUM PUMP 2 (22-P-2300)		10.0	14.0
NON-MOTOR LOADS			
LCP-62-ME-2100			30.0
DP-MCC3			8.8
SUBTOTAL 109.7			
+ 25% OF LARGEST MOTOR 3.5			
TOTAL AMPS @ 480V/3PHASE 113.2			
SERVICE SIZE (AMPS) 600.0			

MCC-3 CALCULATIONS

CIRCUIT/DESCRIPTION	KW	KVA	HP	FLA
EXISTING MOTOR LOAD				
DP-V-10			0.5	1.1
UV-V-1			0.5	1.1
UV-V-2			0.5	1.1
UV-V-7 (FUTURE)			0.5	*
UV-V-8 (FUTURE)			0.5	*
EXISTING NON-MOTOR LOADS				
MCC-RW2				464.0
LIGHTING TRANSFORMER		75.0		90.3
LCP-AC			10.0	14.0
PDC-UV-M1		18.4		22.2
PDC-UV-M2		18.4		22.2
PDC-UV-M3 (FUTURE)		18.4		*
PDC-UV-M4 (FUTURE)		18.4		*
HEATER (MC-M-2)		81.0		97.5
CRANE (MB-M-1)				2.7
NEW MOTOR LOADS				
UV SYSTEM 2 BYPASS VALVE (52-V-1229)			0.5	1.1
UV SYSETM 1 BYPASS VALVE (52-V-1228)			0.5	1.1
NEW NON-MOTOR LOADS				
SUBTOTAL 718.3				
+ 25% OF LARGEST MOTOR 24.0				
TOTAL AMPS @ 480V/3PHASE 742.3				
EXISTING SERVICE SIZE (AMPS) 800.0				

EXISTING MCC-RW1 CALCULATIONS

CIRCUIT/DESCRIPTION	KW	KVA	HP	FLA
EXISTING MOTOR LOADS				
FEED PUMP 1			75.0	96.0
FEED PUMP 2			75.0	*
BACKWASH PUMP 1			60.0	77.0
BACKWASH PUMP 2			60.0	*
CIP PUMP 1			25.0	34.0
CIP PUMP 2			25.0	*
NEW MOTOR LOADS				
BLOWER 1 (63-BLR-0003)			50.0	65.0
BLOWER 2 (63-BLR-0004)			50.0	*
MMWD CLEARWELL SUPPLY PUMP 1 (62-P-1221)			75.0	96.0
MMWD CLEARWELL SUPPLY PUMP 2 (62-P-1222)			75.0	96.0
MMWD CLEARWELL SUPPLY PUMP 3 (62-P-1223)			75.0	*
NEW NON-MOTOR LOADS				
SUBTOTAL 464.0				
+ 25% OF LARGEST MOTOR 24.0				
TOTAL AMPS @ 480V/3PHASE 488.0				
EXISTING SERVICE SIZE (AMPS) 600.0				

EXISTING MCC-RW2 CALCULATIONS

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

ELECTRICAL – POWER DISTRIBUTION
 MCC CALCULATIONS

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR

SHEET 119 of 159	PLAN NO.	DRAWING NO. E-10	REVISION NO. B
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SHEET	CONDUIT	SIZE	CONDUCTORS	SERVICE	AG MATERIAL	UG MATERIAL	FROM	TO	DUCTBANKS	NOTES
E-40	P23-1100A	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	MCC-AB1	P-VLT25	DB-4	
E-40	P23-1100B	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	
E-40	P23-1100C	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT26	DS-23-P-1100	DB-15	
E-40	P23-1100D	3/4"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-23-P-1100	23-P-1100		
E-40	P23-1200A	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	MCC-AB4	P-VLT25	DB-4	
E-40	P23-1200B	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	
E-40	P23-1200C	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT26	DS-23-P-1200	DB-15	
E-40	P23-1200D	3/4"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-23-P-1200	23-P-1200		
E-40	P23-1300A	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	MCC-AB1	P-VLT25	DB-4	
E-40	P23-1300B	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	
E-40	P23-1300C	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT26	DS-23-P-1300	DB-15	
E-40	P23-1300D	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	DS-23-P-1300	23-P-1300		
E-40	P23-1400A	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	MCC-AB1	P-VLT25	DB-4	
E-40	P23-1400B	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	
E-40	P23-1400C	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT26	DS-23-P-1400	DB-15	
E-40	P23-1400D	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	DS-23-P-1400	23-P-1400		
E-40	P23-1500A	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	MCC-AB4	P-VLT25	DB-4	
E-40	P23-1500B	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	
E-40	P23-1500C	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	P-VLT26	DS-23-P-1500	DB-15	
E-40	P23-1500D	1.5"	3 #3 W/ #8 GND	480VAC	PVC GRS	PVC 40	DS-23-P-1500	23-P-1500		
E-36	P23-2100A	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT28	DB-6	
E-42	P23-2100B	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	P-VLT28	JB-23-2000	DB-9	
E-42	P23-2100C	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	JB-23-2000	DS-23-2100		
E-36	P23-2200A	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT28	DB-6	
E-42	P23-2200B	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	P-VLT28	JB-23-2000	DB-9	
E-42	P23-2200C	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	JB-23-2000	DS-23-2200		
E-38	P23-2300A	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT28	DB-6	
E-42	P23-2300B	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 40	P-VLT28	JB-23-2000	DB-9	
E-42	P23-2300C	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	JB-23-2000	DS-23-2300		
E-42	P23-3120A	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	DB-AB2	V#20P		
E-42	P23-3120B	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	V#20P	DS-23-G-3120		
E-42	P23-3120C	1"	3#12 W/#12 GND	480VAC	PVC GRS	PVC 41	DS-23-G-3120	23-G-3120		
E-39	P31-1001A	2"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT25	DB-4	SERVES 31-AIT-1001/31-AIT-1002
E-39	P31-1001B	2"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	P-VLT25	JB-31-1000		SERVES 31-AIT-1010
E-39	P31-1001C	3/4"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	P-VLT25	31-AIT-1001/31-AIT-1002		SERVES 31-AIT-1001/31-AIT-1002
E-39	P31-1010	3/4"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	JB-31-1000	31-AIT-1010		SERVES 31-AIT-1010
E-36	P31-1100A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-1000
E-36	P31-1100B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-1000		VIA CABLE TRAY 31-1000
E-36	P31-1100C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-1100		VIA CABLE TRAY 31-1000
E-36	P31-1100D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-1100	31-ME-1100		
E-36	P31-1200A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-1000
E-36	P31-1200B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-1000		VIA CABLE TRAY 31-1000
E-36	P31-1200C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-1200		VIA CABLE TRAY 31-1000
E-36	P31-1200D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-1200	31-ME-1200		
E-36	P31-1300A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-1000
E-36	P31-1300B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-1000		VIA CABLE TRAY 31-1000
E-36	P31-1300C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-1300		VIA CABLE TRAY 31-1000
E-36	P31-1300D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-1300	31-ME-1300		
E-36	P31-1400A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-1000
E-36	P31-1400B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-1000		VIA CABLE TRAY 31-1000
E-36	P31-1400C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-1400		VIA CABLE TRAY 31-1000
E-36	P31-1400D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-1400	31-ME-1400		
E-39	P31-2001A	2"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT25	DB-4	SERVES 31-AIT-2001/31-AIT-2002
E-39	P31-2001B	2"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000		SERVES 31-AIT-2010/31-AIT-3010
E-39	P31-2001C	3/4"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	P-VLT25	31-AIT-2001, 31-AIT-2002		SERVES 31-AIT-2001/31-AIT-2002
E-39	P31-2010	3/4"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	JB-31-2000	31-AIT-2010, 31-AIT-3010		SERVES 31-AIT-2010/31-AIT-3010
E-36	P31-2100A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-36	P31-2100B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-36	P31-2100C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-2100		VIA CABLE TRAY 31-2000
E-36	P31-2100D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-2100	31-ME-2100		
E-36	P31-2200A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-36	P31-2200B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-36	P31-2200C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-2200		VIA CABLE TRAY 31-2000
E-36	P31-2200D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-2200	31-ME-2200		
E-36	P31-2300A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-36	P31-2300B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-36	P31-2300C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-2300		VIA CABLE TRAY 31-2000
E-36	P31-2300D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-2300	31-ME-2300		
E-36	P31-2400A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB2	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-36	P31-2400B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-36	P31-2400C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-2400		VIA CABLE TRAY 31-2000
E-36	P31-2400D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-2400	31-ME-2400		
E-39	P31-3001	3/4"	1 - #12 3C TC	120VAC	PVC GRS	PVC 40	JB-31-2000	31-AIT-3001, 31-AIT-3002		VIA CABLE TRAY 31-2000
E-38	P31-3100A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-38	P31-3100B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-38	P31-3100C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-3100		VIA CABLE TRAY 31-2000
E-38	P31-3100D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-3100	31-ME-3100		
E-38	P31-3200A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-38	P31-3200B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-38	P31-3200C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-3200		VIA CABLE TRAY 31-2000
E-38	P31-3200D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-3200	31-ME-3200		
E-38	P31-3300A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-38	P31-3300B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-38	P31-3300C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-3300		VIA CABLE TRAY 31-2000
E-38	P31-3300D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-3300	31-ME-3300		
E-38	P31-3400A	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT25	DB-4	VIA CABLE TRAY 31-2000
E-38	P31-3400B	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	JB-31-2000	DB-14	VIA CABLE TRAY 31-2000
E-38	P31-3400C	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	P-VLT25	DS-31-ME-3400		VIA CABLE TRAY 31-2000
E-38	P31-3400D	1"	VFD RATED TRAY CABLE (3 #10 W/ #10 GND)	480VAC	PVC GRS	PVC 40	DS-31-ME-3400	31-ME-3400		

NOTES:
 ① CONDUIT DEVELOPMENT IS NOT ALL INCLUSIVE. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE TO PROVIDE A FULLY FUNCTIONAL FACILITY. INTERCONNECTION OF LOW VOLTAGE DEVICES MAY NOT BE SHOWN. CONDUIT AND CONDUCTORS TO LIGHTS AND RECEPTACLES ARE NOT INCLUDED IN THE CONDUIT DEVELOPMENT.

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM

K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-25 CONDUIT SCHEDULE 5.DWG

PLOT: 9/8/2018
SCALE: 1:1
BORDER: 22,34

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSJ 1 FILE:
FD144793
ADDENDUM 3

POWER CONDUIT										
SHEET	CONDUIT	SIZE	CONDUCTORS	SERVICE	AG MATERIAL	UG MATERIAL	FROM	TO	DUCTBANKS	NOTES
E-41	P36-1300A	1"	3 #8 W/ #10 GND	480VAC	PVC GRS	PVC 40	MCC-AB3	P-VLT25	DB-4	SERVES 36-P-1300
E-41	P36-1300B	1"	3 #8 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT25	DB-14	SERVES 36-P-1300
E-41	P36-1300C	1"	3 #8 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT26	P-VLT27	DB-15	SERVES 36-P-1300
E-41	P36-1300D	1"	3 #4 W/ #10 GND	480VAC	PVC GRS	PVC 40	P-VLT27	DS-36-P-1300	DB-36	SERVES 36-P-1300
E-41	P36-1300E	1"	3 #4 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-36-P-1300	36-P-1300		
E-41	P36-1400A	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	DP-AB2	P-VLT25	DB-4	SERVES 36-V-1400
E-41	P36-1400B	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	P-VLT25	P-VLT26	DB-14	SERVES 36-V-1410
E-41	P36-1400C	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	P-VLT26	P-VLT27	DB-15	SERVES 36-V-1400
E-41	P36-1400D	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	P-VLT27	DS-36-V-1400	DB-36	SERVES 36-V-1400
E-41	P36-1400E	3/4"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	DS-36-V-1400	36-V-1400		
E-41	P36-1410A	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	P-VLT27	DS-36-V-1410	DB-36	SERVES 36-V-1410
E-41	P36-1410B	3/4"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	DS-36-V-1410	36-V-1410		
E-41	P41-1000	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	V#20P	DB-33	CONTRACTOR TO INTERCEPT EXISTING ROUTE (V#20P -> V#21P) TO LIGHT AND PULL NEW WIRE
E-42	P41-1100	1"	3 #12 W/ #10 GND	480VAC	PVC GRS	PVC 40	DB-AB2	V#20P	DB-33	CONTRACTOR TO INTERCEPT EXISTING ROUTE (V#19P -> V#20P -> V#21P) TO RECEPTACLE AND PULL NEW WIRE
E-42	P41-2110	1"	3 #12 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-41-G-2110	41-G-2110		CONTRACTOR TO VERIFY EXISTING ROUTE (V#20P -> DS-41-SG-1100; USES CONDUIT P#30) AND PULL NEW WIRE, SERVES 41-SG-1100
E-42	P41-2120	1"	3 #12 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-41-G-2120	41-G-2120		CONTRACTOR TO VERIFY EXISTING ROUTE (V#20P -> V#21P -> DS-41-SG-2110; USES CONDUIT SP25 AND P#23) AND PULL NEW WIRE, SERVES 41-SG-2110
E-42	P42-1120	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	PLC-PRP	42-FIT-1120		CONTRACTOR TO VERIFY EXISTING ROUTE (V#20P -> V#21P -> V#21P) THEN P#25 TO DISCONNECT, SERVES 41-G-2120
E-43	P43-1000A	1.5"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28	DB-6	VIA TRENCH
E-43	P43-1000B	1.5"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	JB-43-1000	DB-7	SERVES 43-LIT-1101
E-43	P43-1100A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28	DB-6	SERVES 43-LIT-1102
E-43	P43-1100B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	JB-43-1000	DB-7	SERVES 43-LIT-1300
E-38	P43-1200A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28	DB-6	SERVES 43-AIT-1310
E-38	P43-1200B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	JB-43-1000	DB-7	SERVES 43-AIT-1320
E-38	P43-1200C	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	SODIUM BISULFITE TANK HEAT TRACE		SERVES 43-LIT-1101
E-43	P43-1400A	2"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28	DB-6	SERVES 43-LIT-1102
E-43	P43-1400B	2"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	JB-43-1000	DB-7	SERVES 43-AIT-1300
E-43	P43-1100C	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-P-1100		SERVES 43-AIT-1310
E-43	P43-1200	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-P-1200		SERVES 43-AIT-1320
E-43	P43-1101	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-LIT-1101		SERVES 43-ME-1510
E-43	P43-1102	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-LIT-1102		SERVES INDOOR LIGHTING
E-43	P43-1300	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-AIT-1300		SERVES INDOOR RECEPTACLES
E-43	P43-1310	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-AIT-1310		SERVES OUTDOOR LIGHTING
E-43	P43-1320	3/4"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	JB-43-1000	43-AIT-1320		SERVES OUTDOOR RECEPTACLES
E-43	P43-2100A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28		SERVES 43-ME-1510
E-43	P43-2100B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	43-P-2100		
E-43	P43-2200A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28		
E-43	P43-2200B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	43-P-2200		
E-43	P43-2300A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28		
E-43	P43-2300B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	43-P-2300		
E-43	P43-2400A	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	P-VLT28		
E-43	P43-2400B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	P-VLT28	43-P-2400		
E-43	P43-H1510	3/4"	3 #12 W/ #12 GND	240VAC	PVC GRS	PVC 40	JB-43-1000	43-ME-1510		
E-43	P43-H1520A	1"	3 #12 W/ #12 GND	240VAC	PVC GRS	PVC 40	LP-AB	P-VLT28	DB-6	
E-43	P43-H1520B	1"	3 #12 W/ #12 GND	240VAC	PVC GRS	PVC 40	P-VLT28	JB-43-1000	DB-7	
E-43	P43-H1520C	1"	3 #12 W/ #12 GND	240VAC	PVC GRS	PVC 40	JB-43-1000	43-ME-1520		
E-43	P43-H1510	1"	3 #12 W/ #12 GND	240VAC	PVC GRS	PVC 40	JB-43-1000	43-ME-1520		
E-42	P44-1000A	1"	3 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	44-FIT-1000		
E-42	P44-1000B	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	LP-AB	V#20P	DB-33	SERVES 44-M-1000 VAULT SUMP PUMP
E-42	P44-1000C	1"	2 #12 W/ #12 GND	120VAC	PVC GRS	PVC 40	V#20P	SPARE	DB-21	DEDICATED OUTLET INSIDE VAULT
E-41	P44-1100A	1"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	MCC-AB2	DS-44-H-1100	DB-5	SERVES 44-M-1000 VAULT SUMP PUMP
E-41	P44-1100B	3/4"	3 #10 W/ #10 GND	480VAC	PVC GRS	PVC 40	DS-44-H-1100	44-H-1100		
E-41	P44-1310A	1"	#12 4C TC	480VAC	GRS	PVC 40	DP-AB2	DS-44-G-1310	DB-5	VIA CABLE TRAY 44-1000;
E-41	P44-1310B	3/4"	#12 4C TC	480VAC	GRS	PVC 40	DS-44-G-1310	44-G-1310		
E-41	P44-1320A	1"	#12 4C TC	480VAC	GRS	PVC 40	DP-AB2	DS-44-G-1320	DB-5	VIA CABLE TRAY 44-1000;
E-41	P44-1320B	3/4"	#12 4C TC	480VAC	GRS	PVC 40	DS-44-G-1320	44-G-1320		
E-41	P44-1330A	1"	#12 4C TC	480VAC	GRS	PVC 40	DP-AB2	DS-44-G-1330	DB-5	VIA CABLE TRAY 44-1000;
E-41	P44-1330B	3/4"	#12 4C TC	480VAC	GRS	PVC 40	DS-44-G-1330	44-G-1330		
E-41	P44-1340A	1"	#12 4C TC	480VAC	GRS	PVC 40	DP-AB2	DS-44-G-1340	DB-5	VIA CABLE TRAY 44-1000;
E-41	P44-1340B	3/4"	#12 4C TC	480VAC	GRS	PVC 40	DS-44-G-1340	44-G-1340		
E-41	P44-1350A	1"	#12 4C TC	480VAC	GRS	PVC 40	DP-AB2	DS-44-G-1350	DB-5	VIA CABLE TRAY 44-1000;
E-41	P44-1350B	3/4"	#12 4C TC	480VAC	GRS	PVC 40	DS-44-G-1350	44-G-1350		
E-38	P44-1510A	1"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	MCC-AB2	DS-44-H-1510	DB-5	
E-38	P44-1510B	3/4"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	DS-44-H-1510	44-H-1510		
E-38	P44-1520A	3/4"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	MCC-AB3	DS-44-H-1520	DB-5	
E-38	P44-1520B	3/4"	3 #12 W/ #12 GND	480VAC	PVC GRS	PVC 40	DS-44-H-1520	44-H-1520		

NOTES:
 ① CONDUIT DEVELOPMENT IS NOT ALL INCLUSIVE. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE TO PROVIDE A FULLY FUNCTIONAL FACILITY. INTERCONNECTION OF LOW VOLTAGE DEVICES MAY NOT BE SHOWN. CONDUIT AND CONDUCTORS TO LIGHTS AND RECEPTACLES ARE NOT INCLUDED IN THE CONDUIT DEVELOPMENT.

CONDUIT SCHEDULE

skm
 533 W 2600 S, Suite 25
 Bountiful, Utah 84010
 Phone: (801) 677-0011
 www.skmeng.com



NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				

JOB NO. 12600-07/16650-02
 LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE AND RECYCLED WATER EXPANSION

ELECTRICAL - POWER DISTRIBUTION CONDUIT SCHEDULE 5

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez	

SHEET 134 of 159	PLAN NO.	DRAWING NO. E-25	REVISION NO. B
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K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-31 CONDUIT SCHEDULE 11.DWG

PLOT: 9/8/2018
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

SHEET	CONDUIT	SIZE	CONDUCTORS	SERVICE	AG MATERIAL	UG MATERIAL	SIGNAL CONDUIT		DUCTBANKS	NOTES	
							FROM	TO			
E-39	S23-1000C	2"	1 - #18 TSP 1 - #18 TSP 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 1 - #18 TSP 1 - #18 TSP 1 - #18 TSP 6 #14 1 - #18 TSP 1 - #18 TSP, 2 #14 1 - #18 TSP, 2 #14 1 - #18 TSP, 2 #14	SIGNAL	PVC GRS	PVC 40	A-VLT28	JB-23-1001		SERVES 23-LT-1003 SERVES 31-PIT-5000 SERVES 33-G-1100 SERVES 33-G-1200 SERVES 33-G-1300 SERVES 33-LT-1111 SERVES 33-LT-1211 SERVES 33-LT-1311 SERVES 23-LSL-1004/LSH-1004A/LSH-1004B SERVES 23-LIT-1002 SERVES 23-FIT-1010 SERVES 23-FIT-1020 SERVES 61-LIT-1000/LSL-1000	
E-39	S23-1002A	3/4"	1 - #18 TSP	SIGNAL	PVC GRS	PVC 40	JB-23-1001	23-LIT-1002			
E-39	S23-1002B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	23-LIT-1002	23-LE-1002			
E-39	S23-1003	3/4"	1 - #18 TSP, 6 #14	SIGNAL	PVC GRS	PVC 40	JB-23-1001	LT-23-1003, 23-LSL-1004/LSH-1004A/LSH-1004B			
E-39	S23-1010A	3/4"	1 - #18 TSP, 2 #14	SIGNAL	PVC GRS	PVC 40	JB-23-1001	23-FIT-1010			
E-39	S23-1010B	2-3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	23-FIT-1010	23-FE-1010			
E-39	S23-1020A	3/4"	1 - #18 TSP, 2 #14	SIGNAL	PVC GRS	PVC 40	JB-23-1001	23-FIT-1020			
E-39	S23-1020B	2-3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	23-FIT-1020	23-FE-1020			
E-40	S23-1020C	1"	1 - #18 TSP, 8 #14 1 - #18 TSP 15 #14	SIGNAL	PVC GRS	PVC 40	PLC-AB	A-VLT28	DB-6	23-LT/LSL/LSHA/LSHB-1020 SERVES 81-PIT-1000 SERVES 81-FIT-1001 23-LT/LSL/LSHA/LSHB-1020 SERVES 81-PIT-1000	
E-42	S23-1020D	1"	1 - #18 TSP 1 - #18 TSP, 2 #14 1 - #18 TSP, 8 #14	SIGNAL	PVC GRS	PVC 40	A-VLT28	JB-23-2001	DB-9	23-LT/LSL/LSHA/LSHB-1020 SERVES 81-PIT-1000	
E-42	S23-1020E	3/4"	1 - #18 TSP, 8 #14	SIGNAL	PVC GRS	PVC 40	JB-23-2001	23-LT/LSL/LSHA/LSHB-1020			
E-40	S23-1100A	Z"	5 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	MCC-AB1/MCC-AB4	A-VLT28	DB-4		
E-40	S23-1100B	Z"	5 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	A-VLT28	DB-14		
E-40	S23-1100C	1"	1 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	LCP-23-P-1100	DB-15		
E-40	S23-1200	1"	1 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	LCP-23-P-1200	DB-15		
E-40	S23-1300	1"	1 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	LCP-23-P-1300	DB-15		
E-40	S23-1400	1"	1 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	LCP-23-P-1400	DB-15		
E-40	S23-1500	1"	1 - #18 TRIPLEX	SIGNAL	PVC GRS	PVC 40	A-VLT28	LCP-23-P-1500	DB-15		
E-42	S23-3120A	1"	2 - #18 TSP, 2 #14	SIGNAL	PVC GRS	PVC 40	PLC-AB	V#20S			
E-42	S23-3120B	1"	2 - #18 TSP, 2 #14	SIGNAL	PVC GRS	PVC 40	V#20S	23-G-1320			
E-39	S31-1001A	2"	4 - #18 TSP ITC 2 - #18 TSP, 2 #14 4 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	A-VLT28	JB-31-1001		SERVES 31-AIT-1001/31-AIT-1002, 31-AIT-1010 SERVES 31-G-1540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES LCP-31-ME-1100, LCP-31-ME-1200, LCP-31-ME-1300, LCP-31-ME-1400 VIA CABLE TRAY 31-1000	
E-39	S31-1001B	3/4"	2 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	31-AIT-1001/31-AIT-1002			
E-39	S31-1001C	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-1001, 31-AIT-1002	31-AE-1001			
E-39	S31-1002	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-1001, 31-AIT-1002	31-AE-1002			
E-39	S31-1010A	3/4"	1 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	31-AIT-1010		VIA CABLE TRAY 1001	
E-39	S31-1010B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-1010	31-AE-1010			
E-39	S31-1100A	3"	4 - #18 TSP ITC 7 - #18 TSP ITC 4 - #18 TSP ITC 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 4 - #18 TRIPLEX ITC 4 - #18 TRIPLEX ITC 4 - #18 TRIPLEX ITC 4 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	PLC-AB MCC-AB2 MCC-AB3	A-VLT28		DB-4	SERVES 31-AIT-1001/31-AIT-1002, 31-AIT-1010 SERVES 31-AIT-2010/31-AIT-3010, 31-AIT-2001/31-AIT-2002, 31-AIT-3001/31-AIT-3002 SERVES 31-AIT-4010, 31-AIT-4001/31-AIT-4002, 31-LT-4010 SERVES 31-G-1540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-2540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-3540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-4540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-4550 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-4560 (REMOTE, POSITION IND, POSITION COMMAND) SERVES LCP-31-ME-1100, LCP-31-ME-1200, LCP-31-ME-1300, LCP-31-ME-1400 SERVES LCP-31-ME-2100, LCP-31-ME-2200, LCP-31-ME-2300, LCP-31-ME-2400 SERVES LCP-31-ME-3100, LCP-31-ME-3200, LCP-31-ME-3300, LCP-31-ME-3400 SERVES LCP-31-ME-4200, LCP-31-ME-4200, LCP-31-ME-4300, LCP-31-ME-4400 VIA CABLE TRAY 31-1000 VIA CABLE TRAY 31-1000 VIA CABLE TRAY 31-1000 VIA CABLE TRAY 31-1000
E-36	S31-1100B	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	LCP-31-ME-1100		VIA CABLE TRAY 31-1000	
E-36	S31-1200	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	LCP-31-ME-1200		VIA CABLE TRAY 31-1000	
E-36	S31-1300	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	LCP-31-ME-1300		VIA CABLE TRAY 31-1000	
E-36	S31-1400	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-1001	LCP-31-ME-1400		VIA CABLE TRAY 31-1000	
E-39	S31-2001A	3"	4 - #18 TSP ITC 4 - #18 TSP ITC 2 - #18 TSP, 2 #14 2 - #18 TSP, 2 #14 4 - #18 TRIPLEX ITC 4 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	A-VLT28	JB-31-2001	DB-14	SERVES 31-AIT-2001/31-AIT-2002, 31-AIT-2010, 31-LT-2010 SERVES 31-AIT-3001/31-AIT-3002, 31-AIT-3010, 31-LT-3010 SERVES 31-G-2540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES 31-G-3540 (REMOTE, POSITION IND, POSITION COMMAND) SERVES LCP-31-ME-2100, LCP-31-ME-2200, LCP-31-ME-2300, LCP-31-ME-2400 SERVES LCP-31-ME-3100, LCP-31-ME-3200, LCP-31-ME-3300, LCP-31-ME-3400 VIA CABLE TRAY 31-2000	
E-39	S31-2001B	3/4"	2 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	31-AIT-2001/31-AIT-2002			
E-39	S31-2001C	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-1001/31-AIT-1002	31-AE-2001			
E-39	S31-2002	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-1001/31-AIT-1002	31-AE-2002			
E-39	S31-2010A	3/4"	2 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	31-AIT-2010/31-AIT-3010		VIA CABLE TRAY 2001	
E-39	S31-2010B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-2010/31-AIT-3010	31-AE-2010			
E-36	S31-2100	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-2100		VIA CABLE TRAY 31-2000	
E-36	S31-2200	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-2200		VIA CABLE TRAY 31-2000	
E-36	S31-2300	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-2300		VIA CABLE TRAY 31-2000	
E-36	S31-2400	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-2400		VIA CABLE TRAY 31-2000	
E-39	S31-3001A	3/4"	2 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	31-AIT-3001/31-AIT-3002		VIA CABLE TRAY 31-2000	
E-39	S31-3001B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-3001/31-AIT-3002	31-AE-3001			
E-39	S31-3002	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-3001/31-AIT-3002	31-AE-3002			
E-39	S31-3010A	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-2010/31-AIT-3010	31-AE-3010			
E-39	S31-3010B	3/4"	1 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	31-LT-3010		VIA CABLE TRAY 31-2000	
E-36	S31-3100	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-3100		VIA CABLE TRAY 31-2000	
E-36	S31-3200	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-3200		VIA CABLE TRAY 31-2000	
E-36	S31-3300	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-3300		VIA CABLE TRAY 31-2000	
E-36	S31-3400	3/4"	1 - #18 TRIPLEX ITC	SIGNAL	PVC GRS	PVC 40	JB-31-2001	LCP-31-ME-3400		VIA CABLE TRAY 31-2000	
E-39	S31-4001A	3/4"	2 - #18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-4001	31-AIT-4001/31-AIT-4002		VIA CABLE TRAY 31-4000	
E-39	S31-4001B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-4001/31-AIT-4002	31-AE-4101			
E-39	S31-4002	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-4001/31-AIT-4002	31-AE-4102			
E-39	S31-4010A	3/4"	#18 TSP ITC	SIGNAL	PVC GRS	PVC 40	JB-31-4001	31-AIT-4010		VIA CABLE TRAY 31-4001	
E-39	S31-4010B	3/4"	MFG CABLE	SIGNAL	PVC GRS	PVC 40	31-AIT-4010	31-AE-4110			

NOTES:
 ① CONDUIT DEVELOPMENT IS NOT ALL INCLUSIVE. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE TO PROVIDE A FULLY FUNCTIONAL FACILITY. INTERCONNECTION OF LOW VOLTAGE DEVICES MAY NOT BE SHOWN. CONDUIT AND CONDUCTORS TO LIGHTS AND RECEPTACLES ARE NOT INCLUDED IN THE CONDUIT DEVELOPMENT.

CONDUIT SCHEDULE

skm
 533 W 2600 S, Suite 25
 Bountiful, Utah 84010
 Phone: (801) 677-0011
 www.skmeng.com



NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

**SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION**

**ELECTRICAL - POWER DISTRIBUTION
 CONDUIT SCHEDULE 11**

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

REVISIONS: 140 OF 159

E-31

B

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

ABOVE GROUND CONDUIT
 BELOW GROUND CONDUIT
 CABLE TRAY

NOTES:

- CONDUIT DEVELOPMENT IS NOT ALL INCLUSIVE. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE TO PROVIDE A FULLY FUNCTIONAL FACILITY. INTERCONNECTION OF LOW VOLTAGE DEVICES MAY NOT BE SHOWN. CONDUIT AND CONDUCTORS TO LIGHTS AND RECEPTACLES ARE NOT INCLUDED IN THE CONDUIT DEVELOPMENT.
- CONDUIT DEVELOPMENT AND SCHEDULE DOES NOT SHOW ALL CONDUIT INTERCONNECTS FOR EXISTING SERVICE, ONLY THOSE THAT ARE MODIFIED.



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 Bountiful, Utah 84010
 Phone: (801) 677-0011
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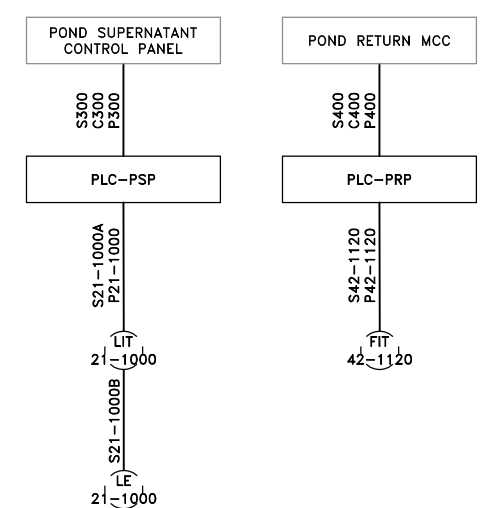
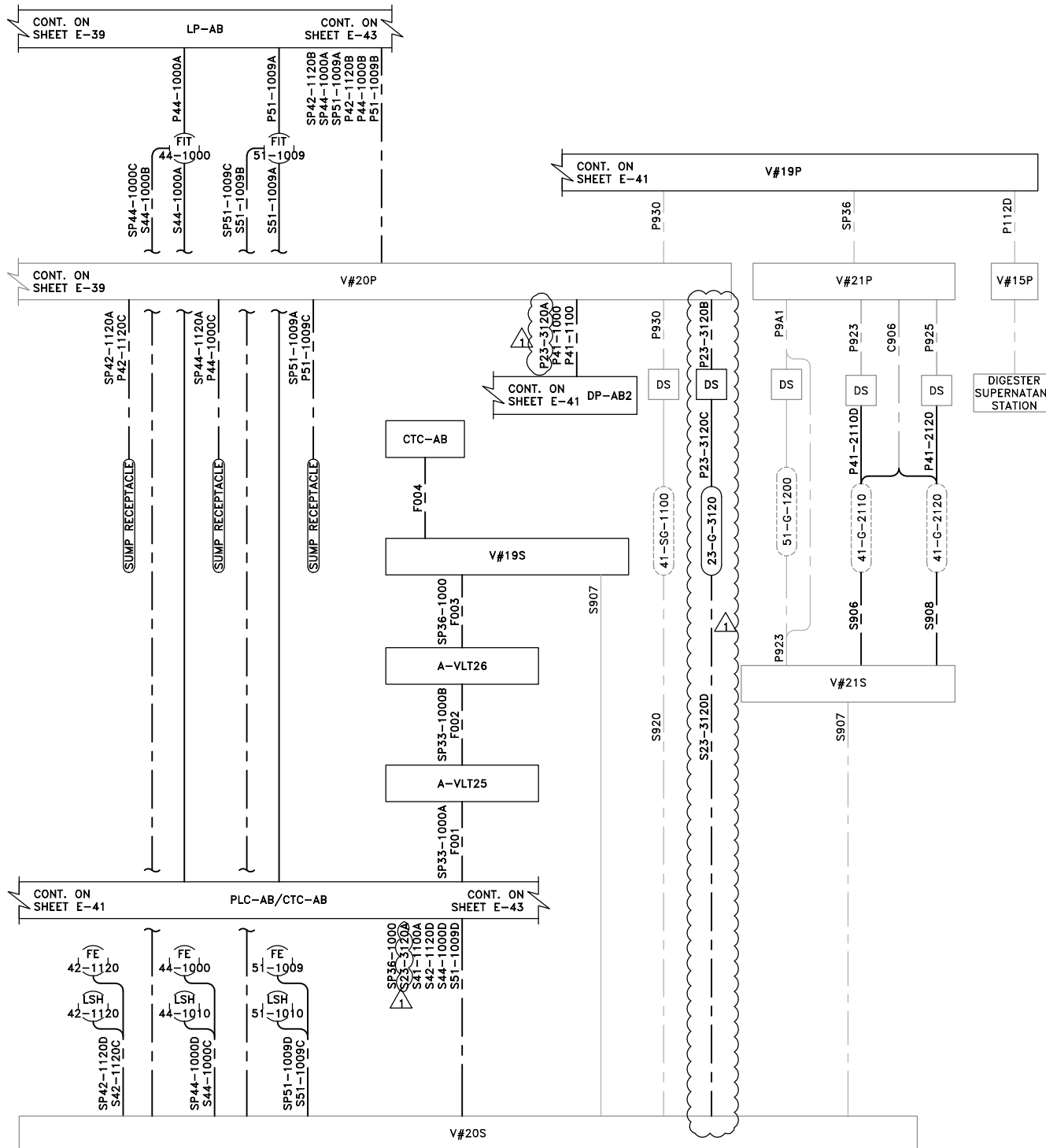
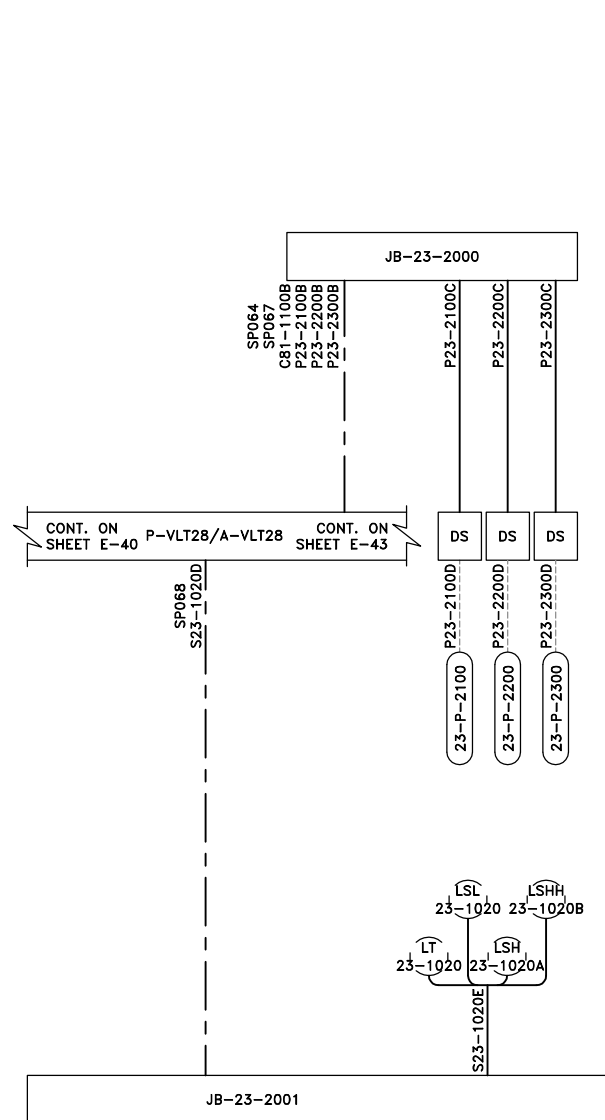


533 W. 2600 S, SUITE 275, BOUNTIFUL, UT 84010
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NO.	DATE	DESCRIPTION	BY	APPRD
1	9/7/18	ADDENDUM #3	MGJ	LAR
REVISIONS				

JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
SECONDARY TREATMENT PLANT UPGRADE AND RECYCLED WATER EXPANSION			
ELECTRICAL - POWER DISTRIBUTION CONDUIT DEVELOPMENT 7			
CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN	
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18	
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez	
SHEET 151 of 159	PLAN NO.	DRAWING NO. E-42	REVISION NO. B



K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-43 CONDUIT DEVELOPMENT 8.DWG

PLOTTED: 9/8/2018
 SAVED: 9/16/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

ABOVE GROUND CONDUIT
 BELOW GROUND CONDUIT
 CABLE TRAY

NOTES:

- CONDUIT DEVELOPMENT IS NOT ALL INCLUSIVE. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE TO PROVIDE A FULLY FUNCTIONAL FACILITY. INTERCONNECTION OF LOW VOLTAGE DEVICES MAY NOT BE SHOWN. CONDUIT AND CONDUCTORS TO LIGHTS AND RECEPTACLES ARE NOT INCLUDED IN THE CONDUIT DEVELOPMENT.
- CONDUIT DEVELOPMENT AND SCHEDULE DOES NOT SHOW ALL CONDUIT INTERCONNECTS FOR EXISTING SERVICE, ONLY THOSE THAT ARE MODIFIED.



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NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/7/18	ADDENDUM #3	MGJ	LAR

JOB NO. 12600-07/16650-02

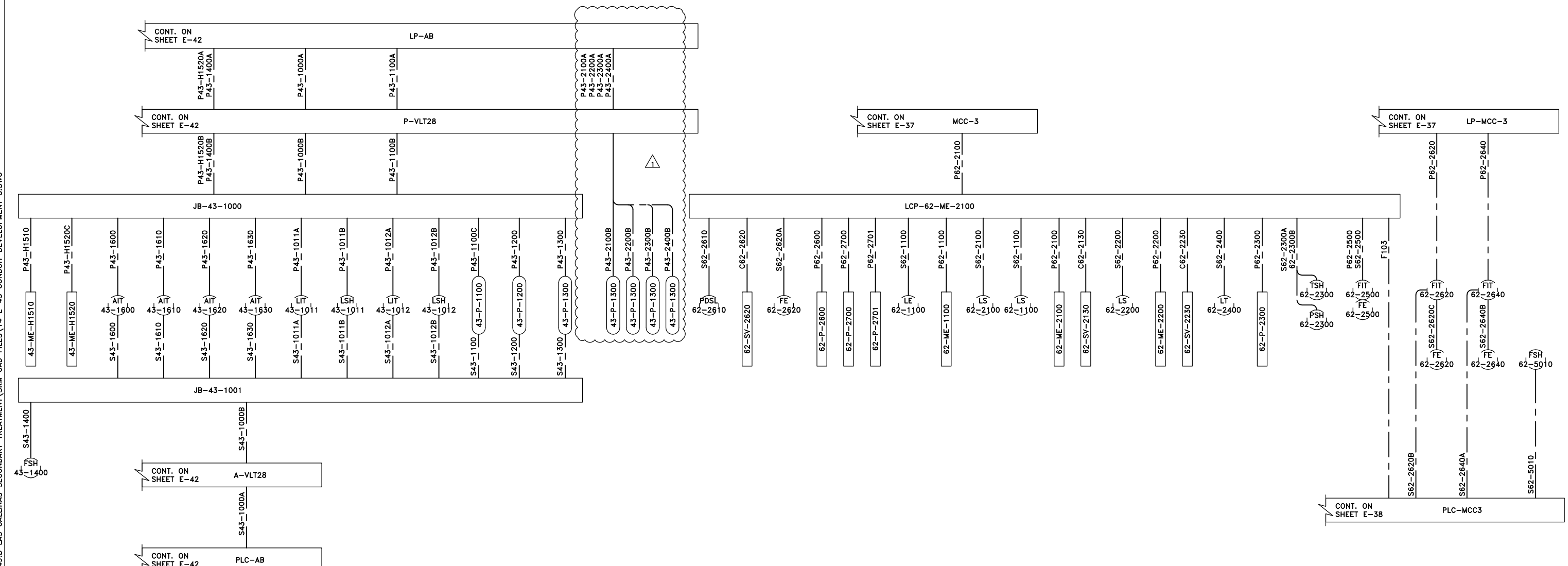
LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

ELECTRICAL - POWER DISTRIBUTION
 CONDUIT DEVELOPMENT 8

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

SHEET 152 of 159	PLAN NO.	DRAWING NO. E-43	REVISION NO. B
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K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-44 DUCTBANK SCHEDULE 1.DWG

PLOTTED: 9/6/2018
 SAVED: 9/6/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

DUCTBANK	CONDUIT	SERVICE	FROM	TO	CONDUITS	NOTES
DB-1	8-4"	480VAC	NEW TRANSFORMER	MAIN SES	P001A	
DB-2	8-4"	480VAC	MAIN SES	MAIN SES	P001B	
DB-3	6-3"	480VAC	NEW GENERATOR	MAIN ATS	P002A	
	1"	120VAC	NEW GENERATOR	EB TRENCH	P002C	
	1"	CONTROL	NEW GENERATOR	EB TRENCH	C002B	
	1"	SIGNAL	NEW GENERATOR	EB TRENCH	S002A	
	1"					
DB-4	1"	480VAC	DP-AB2		P051	
	1"		SWBD-AB1		P112A	
	1"		SWBD-AB1		P121	
	1"		MCC-AB1		P23-1100A	
	1"		MCC-AB1		P23-1200A	
	1"		MCC-AB4		P23-1300A	
	1"		MCC-AB1		P23-1400A	
	1"		MCC-AB4		P23-1500A	
	1"		MCC-AB2		P31-1100A	
	1"		MCC-AB2		P31-1200A	
	1"		MCC-AB2		P31-1300A	
	1"		MCC-AB2		P31-1400A	
	1"		MCC-AB2		P31-2100A	
	1"		MCC-AB2		P31-2200A	
	1"		MCC-AB2		P31-2300A	
	1"		MCC-AB2		P31-2400A	
	1"		MCC-AB3		P31-3100A	
	1"		MCC-AB3		P31-3200A	
	1"		MCC-AB3		P31-3300A	
	1"		MCC-AB3		P31-3400A	
	1"		MCC-AB3		P31-4100A	
	1"		MCC-AB3		P31-4200A	
	1"		MCC-AB3		P31-4300A	
	1"		MCC-AB3		P31-4400A	
	2"		DP-AB2		P31-3540A	
	2"		DP-AB2		P31-4550A	
	1"		MCC-AB2		P31-5300A	
	1"		MCC-AB3		P31-5400A	
	1"		MCC-AB2		P32-1100A	
	1"		MCC-AB3		P32-1200A	
	1"		MCC-AB3		P32-1300A	
	2"		DP-AB2		P33-1100A	
	1"		MCC-AB2		P36-1100A	
	1"		MCC-AB2		P36-1200A	
	1"		MCC-AB3		P36-1300A	
	1"		DP-AB2		P36-1400A	
	4-4"		SWBD-AB1		P51A	
	1"		MCC-AB2		P61-1100A	
	1"		MCC-AB3		P61-1200A	
	1"		MCC-AB2		P61-1300A	
1"	DP-AB2		SP23-1000A			
1"	MCC-AB		SP23-1000C			
2"	MCC-AB		SP31-1100A			
2"	MCC-AB		SP31-2100A			
2"	MCC-AB		SP31-4100A			
1"	MCC-AB		SP31-5300A			
1.25"	LP-AB		P23-1000A			
1"	LP-AB		SP23-1000B			
2"	LP-AB		P31-1001A			
2"	LP-AB		P31-2001A			
1"	LP-AB		P31-5500A			
1"	LP-AB		P32-1101A			
1"	LP-AB		P36-1000A			
1"	LP-AB		SP31-1000A			
1"	LP-AB		SP31-2000A			
1"	LP-AB		SP31-4000A			
1.5"	DP-AB2		SP32-1100A			
1.5"	DP-AB2		SP32-1200A			
1"	MCC-AB1		C23-1100A			
1"	MCC-AB4		C23-1200A			
1"	MCC-AB1		C23-1300A			
1"	MCC-AB1		C23-1400A			
1"	MCC-AB4		C23-1500A			
2"	MCC-AB2		C31-1100A			
2"	MCC-AB2		C31-2100A			
2"	MCC-AB3		C31-3100A			
2"	MCC-AB3		C31-4100A			
1"	MCC-AB2		C31-5300A			
1.5"	MCC-AB2/MCC-AB3		C32-1100A			
1.5"	PLC-AB		C36-1400A			
1"	MCC-AB2		C61-1100A			
1"	MCC-AB3		C61-1200A			
1"	MCC-AB2		C61-1300A			
2"	PLC-AB/MCC-AB2/MCC-AB3		SP31-1101A			
1.5	PLC-AB		S121A			
3"	PLC-AB		S23-1000A			
2"	MCC-AB1/MCC-AB4		S23-1100A			
2"	MCC-AB2/MCC-AB3		C31-1100E			
3"	PLC-AB/MCC-AB1/MCC-AB4		S31-1100A			
1"	PLC-AB		S31-5510A			
2"	PLC-AB		SP31-1110A			
2"	CTC-AB		F001			
2"	CTC-AB		F010			

DUCTBANK	CONDUIT	SERVICE	FROM	TO	CONDUITS
DB-5	2"	480VAC	DP-AB2	LP-UV-2 TXFR	P108A
	2"		DP-AB2	DS-PSU-UV-1	P105A
	2"		DP-AB2	DS-PSU-UV-2	P106A
	1"		MCC-AB2	DS-44-H-1100	P44-1100A
	1"		DP-AB2	DS-44-G-1310	P44-1310A
	1"		DP-AB2	DS-44-G-1320	P44-1320A
	1"		DP-AB2	DS-44-G-1330	P44-1330A
	1"		DP-AB2	DS-44-G-1340	P44-1340A
	1"		DP-AB2	DS-44-G-1350	P44-1350A
	1"		MCC-AB2	DS-44-H-1510	P44-1510A
	1"		MCC-AB3	DS-44-H-1520	P44-1520A
	1"		PLC-AB	44-H-1611	P44-1611
	1"		PLC-AB	44-H-1621	P44-1621
	1"		PLC-AB	44-H-1621	P44-1621
	1"		PLC-AB	LP-UV-2 TXFR	P110
	1"		PLC-AB	44-G-1310	C44-1310
	1"		PLC-AB	44-G-1320	C44-1320
	1"		PLC-AB	44-G-1330	C44-1330
	1"		PLC-AB	44-G-1340	C44-1340
	DB-6		1"	120VAC	PLC-AB
1"		PLC-AB	44-FSH-1500		S44-1500
1"		PLC-AB	44-G-1310		S44-1310
1"		PLC-AB	44-G-1320		S44-1320
1"		PLC-AB	44-G-1330		S44-1330
1"		PLC-AB	44-G-1340		S44-1340
1"		PLC-AB	44-G-1350		S44-1350
1"		PLC-AB	44-TT-1530/44-AE-1530		S44-1530
1"		PLC-AB	44-TT-1550/44-AE-1550		S44-1550
1"		PLC-AB	HVAC INSTRUMENTATION		S44-1900
DB-7	1"	120VAC	MCC-AB2		P23-2100A
	1"		MCC-AB3		P23-2200A
	1"		MCC-AB3		P23-2300A
	2"		VFD-52-P-1013		P52-1013B
	2"		VFD-52-P-1014		P52-1014B
	2"		MCC-AB		SP52-1100A
	1"		LP-AB		P066
	1.5"		LP-AB		P43-1000A
	1"		LP-AB		P43-1100A
	1"		LP-AB		P43-1200A
DB-9	1"	480VAC	LP-AB		P43-1400A
	1"		LP-AB		P43-2100A
	1"		LP-AB		P43-2200A
	1"		LP-AB		P43-2300A
	1"		LP-AB		P43-2400A
	1"		LP-AB		P43-H1520A
	2"		VFD-52-P-1013/VFD-52-P-1014		C52-1013A
	1"		MCC-AB		SP52-1000A
	1"		PLC-AB		S23-1020C
	1.5"		PLC-AB		S43-1000A
DB-10	1"	120VAC	VFD-52-P-1013		S52-1013A
	1"		VFD-52-P-1014		S52-1014
	2"		CTC-AB		F015
	1"		PLC-AB		SP52-1001A
	1.5"				P067
	1"				JB-43-1000
	1"				JB-43-1000
	1"				JB-43-1000
	2"				JB-43-1000
	1"				JB-43-1000
DB-11	1"	480VAC	JB-43-1001		S43-1000B
	1"		JB-23-2000		P23-2100B
	1"		JB-23-2000		P23-2200B
	1"		JB-23-2000		P23-2300B
	2"		52-P-1013		P52-1013C
	2"		52-P-1013		P52-1014C
	1"		JB-23-1000		SP066
	2"		LCP-52-1001		SP52-1100B
	2"		LCP-52-1001		C52-1013B
	1"		JB-23-2000		SP067
DB-12	1"	120VAC	LCP-52-1001		SP52-1000B
	1"		JB-23-2001		S23-1020D
	1"		LCP-52-1001		S52-1013B
	2"		LCP-52-1001		F016
	1"		JB-23-2001		SP068
	1"		LCP-52-1001		SP52-1001B
	2"		MCC-3		P21-1200A
	2"		DP-MCC3		P21-1210A
	2"		MCC-3		P21-1300A
	2"		DP-MCC-3		P22-2201A
DB-13	2"	480VAC	LP-MCC3		P21-1204A
	2"		LP-MCC3		P22-1204A
	2"		PLC-MCC3		S21-1210A
	2"		PLC-MCC3		S22-2201A
	2"				
	2"				

DUCTBANK	CONDUIT	SERVICE	FROM	TO	CONDUITS	NOTES
DB-14	1"	480VAC			P052	
	1"			P112B		
	1"			P23-1100B		
	1"			P23-1200B		
	1"			P23-1300B		
	1"			P23-1400B		
	1"			P23-1500B		
	1"			P31-2100B		
	1"			P31-2200B		
	1"			P31-2300B		
	1"			P31-2400B		
	1"			P31-3100B		
	1"			P31-3200B		
	1"			P31-3300B		
	1"			P31-3400B		
	1"			P31-4100B		
	1"			P31-4200B		
	1"			P31-4300B		
	1"			P31-4400B		
	2"			P31-3540B		
	2"			P31-4550B		
	1"			P31-5300B		
	1"			P31-5400B		
	1"			P32-1100B		
	1"			P32-1200B		
	1"			P32-1300B		
	2"			P33-1100B		
	1"			P36-1100B		
	1"			P36-1200B		
	1"			P36-1300B		
	1"			P36-1400B		
	1"			P51B		
	1"			P61-1100B		
	1"			P61-1200B		
	1"			P61-1300B		
	1"			SP23-1000E		
	1"			SP23-1000G		
	2"			SP31-2100B		
	2"			SP31-4100B		
	1"			SP31-5300B		
1"		P23-1000B				
1"		P31-2000A				
1"		P31-5500B				
1"		P32-1101B				
1"		P36-1000B				
1"		SP31-2000B				
1"		SP23-1000F				
1"		SP31-4000B				
1"		SP32-1100B				
1"		SP32-1200B				
1"		C23-1100B				
1"		C23-1200B				
1"		C23-1300B				
1"		C23-1400B				
1"		C23-1500B				
2"		C31-2100B				
2"		C31-3100B				
2"		C31-4100B				
1"		C31-4100F				
1"		C31-5300B				
1.5"		C32-1100B				
1"		C36-1400B				
1"		C61-1100B				
1"		C61-1200B				
1"		C61-1300B				
2"		JB-23-2001				
2"		P-VLT26				
3"		JB-23-2001				
1.5		S31-2001A				
2"		S121B				
2"		S23-1000B				
2"		S23-1100B				
2"		S31-4100A				
1"		S31-5510B				
1"		SP23-1000H				
2"		SP31-2110				
2"		SP31-4110A				
2"		F002				
2"		F011				

DUCTBANK

K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-45 DUCTBANK SCHEDULE 2.DWG

PLOTTED: 9/6/2018
 SAVED: 9/6/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

LGVSD 1 FILE:
 FD144793

DUCTBANK	CONDUIT	SERVICE	FROM	TO	CONDUITS	NOTES	
DB-15	1"	480VAC	P-VLT26	P-VLT27	P051C		
	1"			DS-23-P-1100	P23-1100C		
	1"			DS-23-P-2100	P23-1200C		
	1"			DS-23-P-3100	P23-1300C		
	1"			DS-23-P-4100	P23-1400C		
	1"			DS-23-P-5100	P23-1500C		
	1"			DS-31-BLR-5300	P31-5300C		
	1"			DS-31-BLR-5400	P31-5400C		
	2"				P36-1300C		
	1"				P36-1100C		
	1"		P36-1200C				
	1"		P36-1300C				
	1"		P36-1400C				
	4-4"		P51C				
	1"		DS-61-P-1100	P61-1100C			
	1"		DS-61-P-1200	P61-1200C			
	1"		DS-61-P-1300	P61-1300C			
	1"	120VAC	JB-23-1000	P23-1000C			
	1"		P-VLT27	P36-1000C			
	DB-15	1"	CONTROL	A-VLT26	LCP-23-P-1100	C23-1100C	
1"		LCP-23-P-1200			C23-1200C		
1"		LCP-23-P-1300			C23-1300C		
1"		LCP-23-P-1400			C23-1400C		
1"		LCP-23-P-1500			C23-1500C		
1"		DS-31-BLR-5300			C31-5300C		
1.5"					P-VLT27	C36-1100A	
1.5"					P-VLT27	C36-1400C	
1"					LCP-61-P-1100	C61-1100C	
1"					LCP-61-P-1200	C61-1200C	
1"		LCP-61-P-1300	C61-1300C				
DB-15	3"	SIGNAL	A-VLT26	JB-23-2001	S31-2001A		
	1.5"			A-VLT27	S121C		
	1"			LCP-23-P-1100	S23-1100C		
	1"			LCP-23-P-1200	S23-1200C		
	1"			LCP-23-P-1300	S23-1300C		
	1"			LCP-23-P-1400	S23-1400C		
	1"			LCP-23-P-1500	S23-1500C		
	1"			31-PIT-5000	S31-5000C		
	1"			A-VLT27	S36-1000A		
	1"			JB-31-2001	S31-5510C		
	2"			A-VLT27	S51-1000A		
	1"			31-BLR-5300	SP31-5300C		
	1"			31-BLR-5400	SP31-5400C		
	2-1"			A-VLT27	SP51-2000A		
	2"			COMM	A-VLT27	F012	

DUCTBANK	CONDUIT	SERVICE	FROM	TO	CONDUITS	NOTES		
DB-16	1"	480VAC	P-VLT26	JB-32-1100	P32-1101C			
	1"				P32-1100C			
	1.5"				P32-1200C			
	1.5"				SP32-1100C			
	1"				SP32-1200C			
	1.5"				C32-1100C			
DB-17	1"	120VAC	A-VLT26	JB-32-1200	SP32-1101			
	1"				SP32-1201A			
	1"				P32-1200D			
	1"				P32-1201			
	1.5"				SP32-1200D			
	1.5"				C32-1200A			
DB-18	1"	480VAC	P-VLT27	DP-RWDP	P51D			
	1"				JB-51-2000	C51-2100A		
	1.5"				A-VLT30	S121D		
	2"				JB-51-2001	S51-1000B		
	2"				COMM	CTC-RWDP	F013	
	2"						P120	
DB-19	2"	120VAC	LP-RWDP	P-VLT30	P121			
	1"				P122			
	1"				P123			
	2"				SIGNAL	A-VLT27	A-VLT30	F014
	1.5"				SIGNAL	A-VLT27	A-VLT30	S121D
	1"				SIGNAL	A-VLT27	A-VLT30	S121D
DB-21	1"	SIGNAL	V#20P	POND RETURN METER VAULT	P44-1000			
	1"				120VAC	V#20P	SECONDARY EFFLUENT VAULT	P51-1009C
	1"					42-FE-1120	S42-1120C	
	1"					42-LSH-1120	S42-1120C	
	1"					44-FE-1000	S44-1000C	
	1"					44-LSH-1000	S42-1120D	
	1"					51-FE-1009	S51-1009C	
	1"					51-LSH-1009	S51-1000D	
	4-4"				480VAC	MCC-3	LCP-62-ME-2100	P62-2100
	1"				120VAC	LP-MCC3	SITE LIGHTS	P71
DB-25	1"	COMM	PLC-MCC3	LCP-62-ME-2100	P62-2620			
	1"				62-FIT-2620	P62-2620		
	1"				62-FIT-2640	P62-2640		
	2"					F103		
	1"				480VAC	P-VLT26	V#19P	F053
	1"				480VAC	DP-AB2	V#20P	F112C
DB-33	1"	120VAC	LP-AB	V#20P	P23-3120A			
	1"				P41-1000			
	1"				P41-1100			
	1"				P44-1000A			
	2"				SIGNAL	42-FIT-1110	SP36-1002	
	2"				SIGNAL	44-FIT-1000	S42-1120B	
	2"				SIGNAL	51-FIT-1009	S44-1000B	
	1"				SIGNAL	V#20S	S51-1009B	
	1"				SIGNAL	PLC-AB	S23-3120A	
	1"				SIGNAL	PLC-AB	SP36-1001	
DB-36	1"	480VAC	P-VLT27	DS-36-P-1100	P36-1100D			
	1"				DS-36-P-1200	P36-1200D		
	1"				DS-36-P-1300	P36-1300D		
	1"				DS-36-V-1400	P36-1400D		
	1"				DS-36-V-1410	P36-1410A		
	1"				LIGHTING	P36-1000D		
	1"				LCP-36-P-1100	C36-1100B		
	1"				LCP-36-P-1200	C36-1200A		
	1"				LCP-36-P-1300	C36-1300A		
	1"				36-V-1400	C36-1400D		
	1"				36-V-1410	C36-1410		
	1"				36-FIT-1000	S36-1000B		
	1"				SIGNAL	A-VLT27	36-V-1400	S36-1400
	2"						36-V-1410	S36-1410

DUCTBANK SCHEDULE 2

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 Phone: (801) 677-0011
 www.skmeng.com



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
 PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	ADDENDUM #3	MGJ	LAR
REVISIONS				
1	9/7/18			

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
 AND RECYCLED WATER EXPANSION

ELECTRICAL - POWER DISTRIBUTION
 DUCTBANK SCHEDULE 2

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele	DISTRICT ENGINEER Michael P Cortez	

SHEET 154 of 159	PLAN NO.	DRAWING NO. E-45	REVISION NO. B
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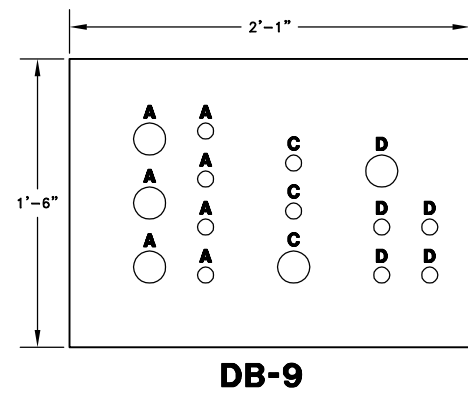
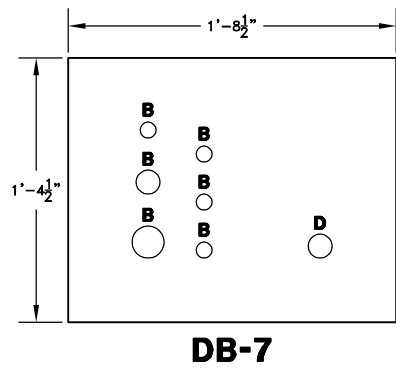
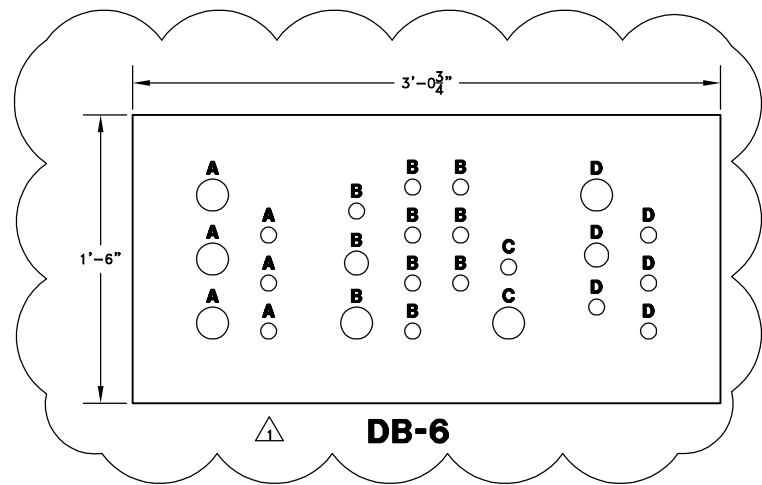
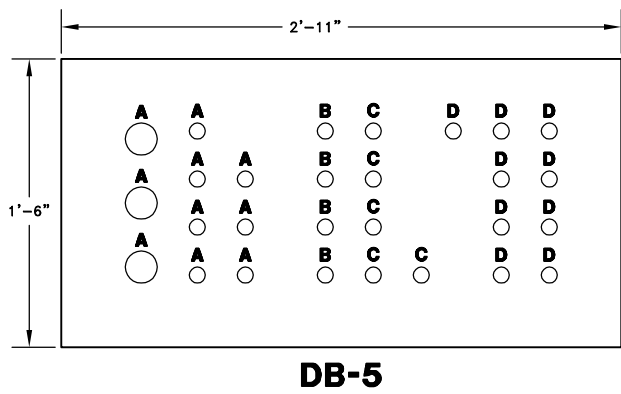
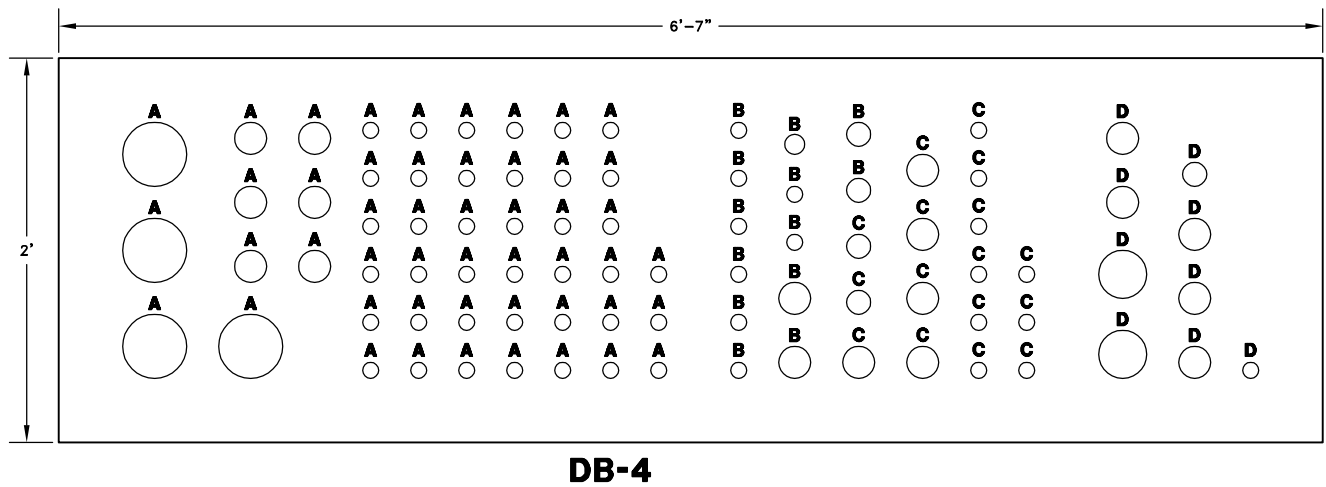
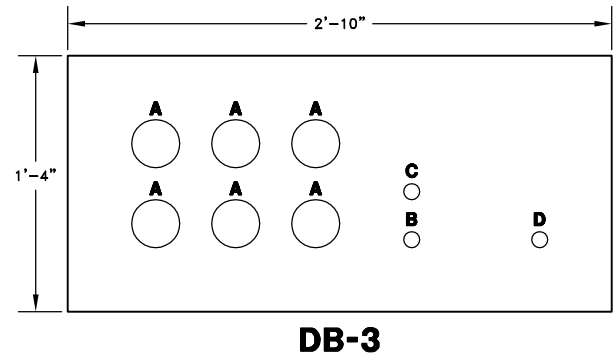
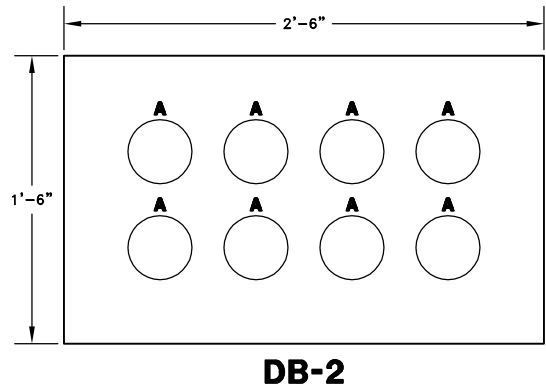
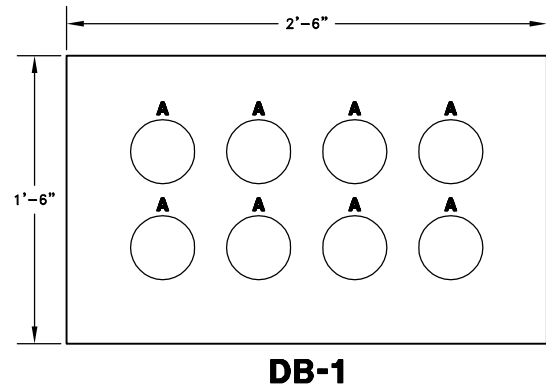
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-46 DUCTBANK CROSS SECTIONS 1.DWG

PLOT: 9/8/2018
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



DUCTBANK CROSS SECTIONS

CONDUIT DESIGNATION KEY:

- A 480VAC
- B 120/208/240VAC
- C 120VAC CONTROL
- D SIGNAL, COMMUNICATION, OR 50VDC

	480VAC	120VAC	120VAC CONTROL	SIGNAL	EDGE OF CONCRETE DB
480VAC	2"	4"	4"	12"	4"
120/208/240VAC	4"	2"	2"	6"	4"
120VAC CONTROL	4"	2"	2"	4"	4"
SIGNAL/COMMS/50VDC	12"	6"	4"	2"	4"
EDGE OF CONCRETE DB	4"	4"	4"	4"	NA

NOTES:

- ① DUCTBANK CROSS SECTION DRAWING
- ② CONDUITS FOR LIGHTING AND RECEPTACLES ARE NOT SHOWN IN DUCTBANK CROSS SECTIONS



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Bountiful, Utah 84010
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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE
AND RECYCLED WATER EXPANSION

ELECTRICAL – POWER DISTRIBUTION
DUCTBANK CROSS SECTIONS 1

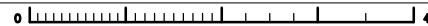
CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
1	9/7/18	ADDENDUM #3	MGJ	LAR	155 of 159		E-46	B

LGVSD 1 FILE:
FD144793

ADDENDUM 3

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-48 DUCTBANK CROSS SECTIONS 3.DWG

PLOTTED: 9/8/2018
 SAVED: 9/16/2018

PLOT: EXTEND
 SCALE: 1:1
 BORDER: 22,34

COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

CONDUIT DESIGNATION KEY:

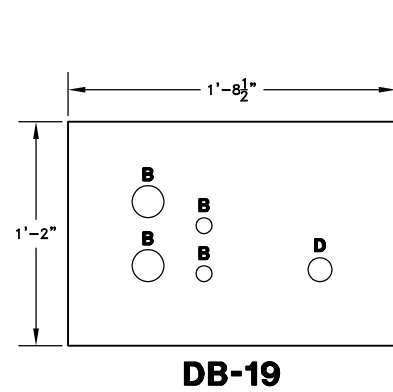
- A 480VAC
- B 120/208/240VAC
- C 120VAC CONTROL
- D SIGNAL, COMMUNICATION, OR 50VDC

DUCTBANK CROSS SECTIONS

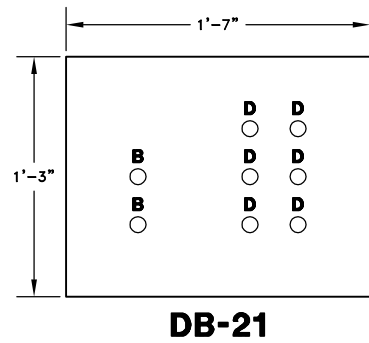
	DISTANCES BETWEEN CONDUITS IN DUCTBANKS				EDGE OF CONCRETE DB
	480VAC	120VAC	120VAC CONTROL	SIGNAL	
480VAC	2"	4"	4"	12"	4"
120/208/240VAC	4"	2"	2"	6"	4"
120VAC CONTROL	4"	2"	2"	4"	4"
SIGNAL/COMMS/50VDC	12"	6"	4"	2"	4"
EDGE OF CONCRETE DB	4"	4"	4"	4"	NA

NOTES:

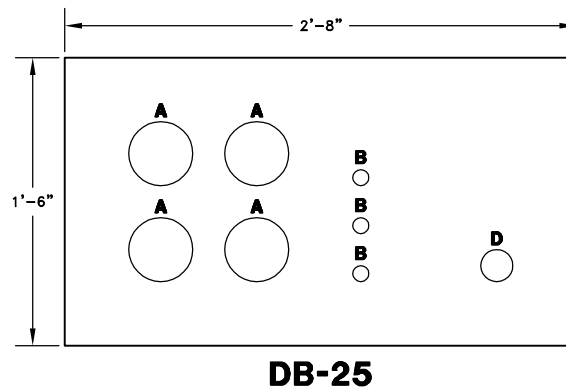
- ① DUCTBANK CROSS SECTION DRAWING
- ② CONDUITS FOR LIGHTING AND RECEPTACLES ARE NOT SHOWN IN DUCTBANK CROSS SECTIONS



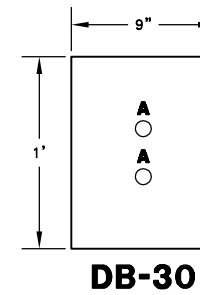
DB-19



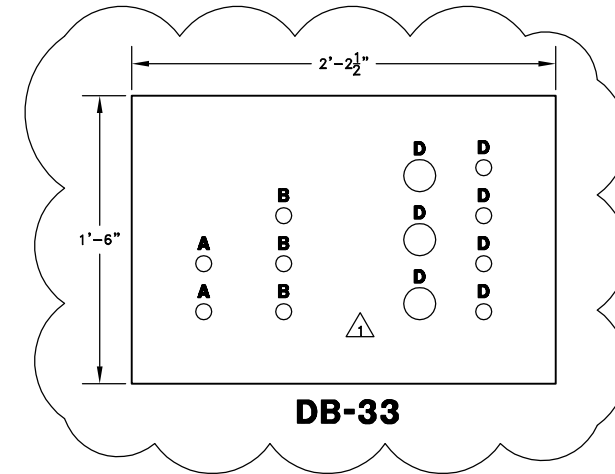
DB-21



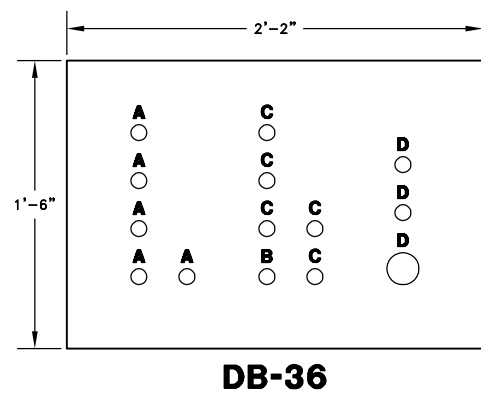
DB-25



DB-30



DB-33



DB-36

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 DUCTBANK CROSS SECTIONS 3

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NO.	DATE	DESCRIPTION	BY	APPR'D	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
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