

CITY OF IMPERIAL
IMPERIAL, CALIFORNIA

ADDENDUM NO. 2

TO THE PLANS AND SPECIFICATIONS FOR
LA BRUCHERIE LIFT STATION IMPROVEMENTS
BID NO. 2015-07

Bidders are advised that the plans and specifications for the above referenced contract are hereby amended in the following manner and the following manner only:

A. GENERAL

1. All provisions of this Addendum No. 2 are hereby incorporated into the Contract Documents and bidders shall account for all provisions pursuant to this Addendum No. 2 in submitting their bid proposals. **Each Bidder shall include a dated and signed copy of this Addendum No. 2 with his sealed bid proposal.**

B. SPECIFICATIONS

1. A Revised Bidding Schedule is provided in **Attachment A**.
2. Section 11370

2.06 - B. Panel Enclosure

1. Electrical control equipment shall be mounted within a NEMA 4X stainless steel air conditioned, dead front type, control enclosure. Air conditioner shall be a 2000 BTU unit by Pentair (Catalog No. T200216G100). Door shall be hinged and sealed with a neoprene gasket and equipped with captive closing hardware. Control components shall be mounted on a removable steel back panel secured to enclosure with collar studs.

Control panel shall also be equipped with VFD motors, speed potentiometers, and NEMA/RVSS starters to bypass the VFDs as required.

3. Section 11400

- 1.02 - C. Principal items of equipment shall include the following:

- g. Two (2) - DO Sensor assemblies with controls (Probes to be inserted post confluence blend point of oxygenated Gener-Ox flow with raw sewage and in wet well)

- 1) Wet well DO sensor assembly to be hard wired to SCADAPack314
- 2) Post confluence DO sensor assembly to be solar operated and connected via radio telemetry (TrioKSeries 900mHz) to SCADAPack314, located inside the Gener-Ox control panel.

Location of "post confluence DO sensor" not shown on the plans, however City's selected Contractor shall install provided DO sensor in an existing "goose neck" in the existing force main constructed by the City. Contractor shall provide a 3' x 5' vault for installation of the DO sensor and radio at this location. Installation of the DO meter may require taping the existing steel pipe if no corp is provided. Costs for installation of the vault and equipment shall be included in Bid Item No. 5b.

C. PLANS/DRAWINGS (Attachment B)

1. Sheet 4 (Attached) – Proposed fence dimensions have been extended to the south. Location of Electrical Panels has been revised. See Dwg. No. LE-1 for additional details.
2. Sheet 6 (Attached and Sheet 7) – 6" Quick Connect Detail has been added. Proposed below grade force main material has been changed from ductile iron to PVC C-900.
3. Sheet 8 (Attached and Sheet 7) – 4-inch Ductile Iron Pipe on left side of Mechanical Section B-B has been revised to be above grade. Ductile iron tee has been removed from right side of the same Section.
4. Sheet 10, Detail C – Sump Pump shall be a 1/3 hp, 115 Volt stainless steel submersible sump pump by Dayton or approved equal and operate off of a float attached to the pump.
5. Sheet 14 – Detail A and B, "Steel Sheeting Partition Wall" has been removed.
6. Sheets 19 (Attached) – Wet Well Level and Alarms have been revised.
7. Sheet 22 (Attached) – Detail 509 has been replaced with Detail 522, a transducer will be utilized for level monitoring. Detail 510, 3/8" tubing shall be Schedule 80 PVC.

8. Sheet 23 (Attached) – Location of Electrical Panels has been revised. Note Addition of two (2) 10 ft. diameter, 480 Volt Powerfoil X2.0 ceiling mounted fans, by BigAss Fans. Fans and fan controls will be provided by the City and installed by the Contractor. City will also provide and install the CT/Meter Panel, Main Breaker Panel, Manual Transfer Switch, DP-B, Lighting XFMR, and LP-B. Also note that lighting and lighting circuits have been revised.
9. Sheets 24 and 25(Attached) – Oneline Diagram, DP-B and LP-B Calculations have been revised and a lighting bypass has been added. Conduit Schedule on Sheet 25 has been updated.

D. QUESTIONS

1. Specification Section 09875-2.01 specifically calls out two approved material manufacturers without an “or equal”. Section 09875-3.06-B list application procedures specifically for the Tnemec coating system. Is there a similar specific specification procedure for the Raven 404 system listed in 09875-2.01?

Answer: No coating is required for this project

2. Specification section 09875-3.07 calls for the interior surfaces of the Wet Well, Diversion Structure and Junction Manhole to be coated. I am unable to locate these structures in the plans. Are there any drawings for the Diversion Structure and Junction Manhole and is the Wet Well that is referenced the existing Wet Well?

Answer: No coating is required for this project.



By: Shane Bloomfield 5/12/15
 Shane Bloomfield date
 P. E. CA77435

By: _____
 (Bidder's Company Name)

Date Received by Bidder:

 (Bidder's Signature)

 (Type or Print Name)

Bidder shall include a signed copy of this Addendum No. 2 with the bid proposal.

Attachment A

BIDDING SCHEDULE
LA BRUCHERIE LIFT STATION IMPROVEMENTS
CITY OF IMPERIAL

Item No.	Description	Unit Price	Total Item Price
1	Mobilization; including bonds, insurance, potholing of existing utilities prior to commencing construction, site cleanup and restoration, and demobilization ⁽¹⁾ .	Lump Sum	\$ _____ *
2	Demolition and By-Pass; Removal and disposal to include; Existing chemical tank and all related appurtenances, chain link fencing, existing valve vault and piping, existing submersible pumping units, piping, and slide rails, existing pump controls, and all wet well appurtenances, fill existing wet well with concrete to level shown on plans, conduit and conductors; removal of all excess excavated material as required to meet design grades; finish grading as required to meet design grades as shown on the design drawings and Specifications; and Implementation of Sewage Spill Containment Plan and Sewer Bypass/Phasing Plan as described in the Special Requirements.	Lump Sum	\$ _____ *
3	Concrete Slab/Vault and Canopy; Construct reinforced concrete vault equipped with stairs, handrails, and sump Construct reinforced concrete slab for dissolved oxygen equipment and canopy as shown on the design drawings and as stated in the Specifications.	Lump Sum	\$ _____ *
4a	Lift Station; Provide base mounted triplex self-priming pumps, controls, fittings, and connections as stated in the Specifications Section 11370 and as shown on the design drawings.	Lump Sum	\$ _____ *
4b	Lift Station; Install the triplex self-priming system (Bid Item 4a); provide and install, suction piping, concrete encasement, discharge piping, fittings, and connection to existing 10-inch force main as shown on the design drawings and as stated in the Specifications.	Lump Sum	\$ _____ *
5a	Dissolved Oxygen System; Provide dissolved oxygenation generation system to include contactor/reactors, rotary screw air compressor, oxygen generator, oxygen booster system, control panel, ultrasonic flow monitors, flow transmitter, dissolved oxygen sensors, plug valves, etc. as shown on the design drawings and as stated in the Specifications Section 11400.	Lump Sum	\$ _____ *

Item No.	Description	Unit Price	Total Item Price
5b	Dissolved Oxygen System; Install dissolved oxygenation generation system (Bid Item 5a); provide and install interconnecting piping, fitting, and appurtenances as shown on the design drawings and as stated in the Specifications.	Lump Sum	\$ _____ *
6	Electrical Work; City will provide and install electrical panels shown on Sheet 23. Contractor shall provide and install all required panels, ducts, conduits and wiring necessary for operation of the proposed mechanical equipment associated with the proposed facility, lights, ceiling mounted fans and controls; provide and install level sensor, level transducers/transmitters, etc. as shown on the design drawings and as stated in the Specifications.	Lump Sum	\$ _____ *
7	Site Work; Including: excavation as required for construction of concrete vault and to meet design grades; asphalt paving, installation of new chain link fencing and gates, removal and disposal of any excess excavated material as required to meet design grades and all other site work as shown on the design drawings and as stated in the Specifications.	Lump Sum	\$ _____ *
8	Miscellaneous Work; Including: hydro-static pressure testing and miscellaneous testing; trench shoring, sheeting, bracing, and dewatering per California Labor Code and OSHA requirements; field start-up, testing, operational demonstrations and operation and maintenance manuals; preparation of SWPPP, and <u>including</u> the cost of all contract work not specifically listed in any other Bid Item (Nos. 1 through 7) herein.	Lump Sum	\$ _____ *
9	Field Orders; The Engineer, with concurrence from the Owner, may make appropriate modifications in the Scope or quantity of contract work to be provided. Bid Item No. 9 shall be utilized for change in work only when written "field ordered" changes are authorized by the Engineer on behalf of the Owner. Should it become necessary to exceed the allowance amount listed in Bid Item No. 9, a formal change shall be made by written Change Order between the Contractor and Owner. Payment for force account work for this contract work will be based on actual quantities furnished, installed, or constructed in accordance with the prices bid for various lump sum or unit price items; or in accordance with prices mutually agreed upon between the Engineer and Contractor, with concurrence from the Owner.	Lump Sum	\$25,000*

* Prices include any amount payable by the City for taxes by reason of the Contract

TOTAL BID PRICE – ITEMS 1-9 \$ _____ *

TOTAL BID PRICE FOR BID SCHEDULE _____

_____ DOLLARS

(DOLLAR AMOUNT IN WRITTEN FORM)

* Prices include any amount payable by the City for taxes by reason of the Contract

The undersigned agrees that these Proposal/Bid Forms constitute a firm offer to the Owner which cannot be withdrawn for the number of Calendar Days indicated in the Notice Inviting Bids from and after the bid opening date, or until a Contract for the Work is fully executed by the Owner and a third party, whichever is earlier. The undersigned also agrees that if there is a discrepancy between the written amount of the Bid Price and the numerical amount of the Bid Price, the written amount shall govern.

Acknowledgement of reading above statement:

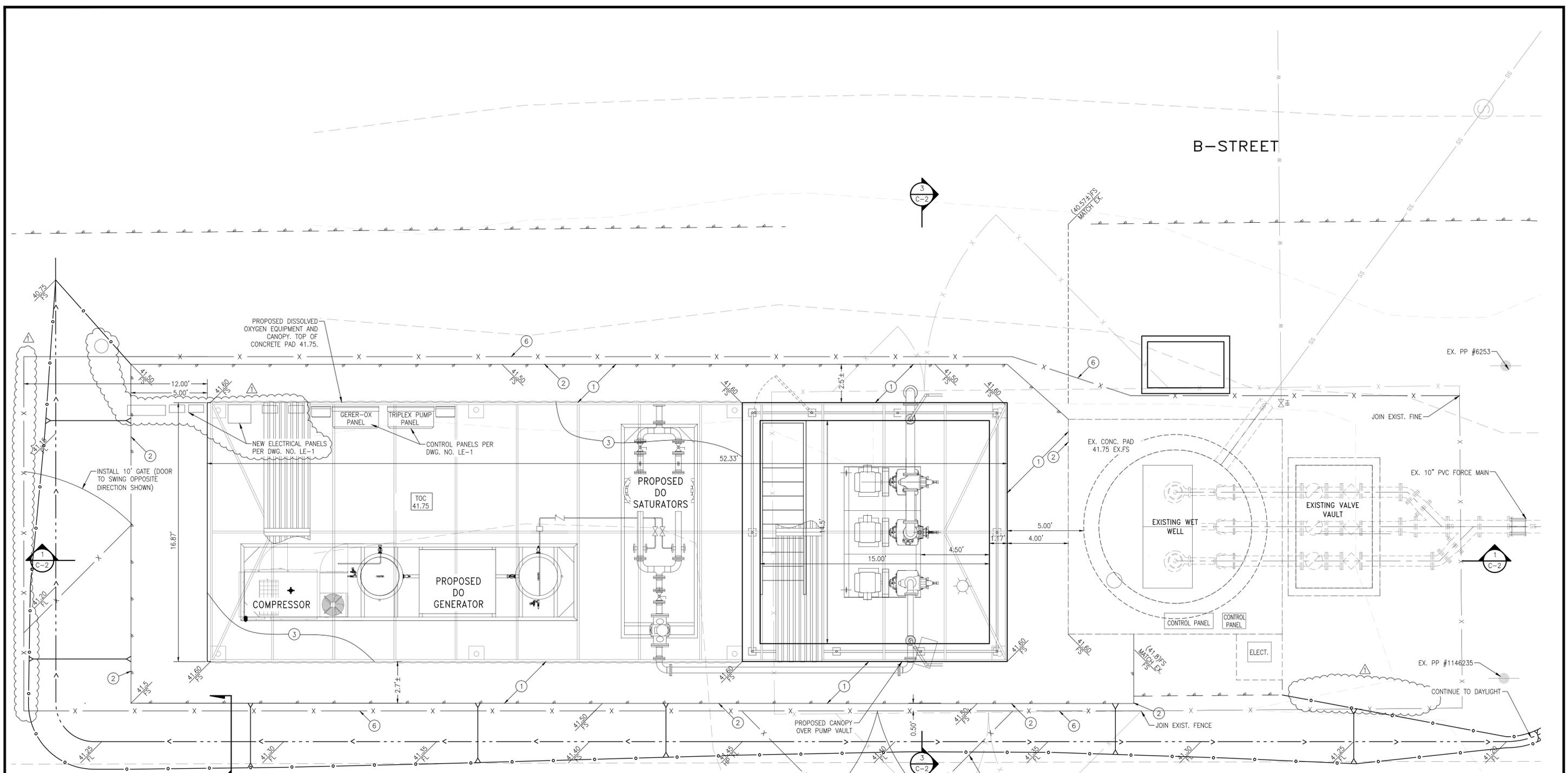
By: _____
Signature Date

CERTIFIED DATA SHEET

(Supplemental Instructions: The Bidder shall indicate, opposite each item of equipment or material listed below, the name of the manufacturer or supplier of the equipment or material proposed to be furnished under the bid. Awarding of a contract under this bid will not imply approval by the City of Imperial of the manufacturers and/or suppliers listed by the bidder. No substitution will be permitted after award of contract unless equipment or material of the listed manufacturer or supplier cannot meet the specifications.)

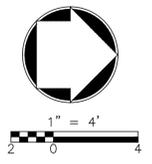
<u>Item</u>	<u>Manufacturer and Supplier</u>
1. Ductile Iron Pipe	_____
2. Plug Valves	_____
3. Triplex Pumping Units	_____
4. Dissolved Oxygen System	_____
5. Metal Canopy	_____

Attachment B



SITE AND GRADING NOTES

- ① CONSTRUCT 3" AC PAVEMENT OVER 3" AB
- ② CONSTRUCT REDWOOD HEADER PER DETAIL "A" ON DWG. NO. C-2
- ③ CONSTRUCT 8" THICK PCC SLAB W/ CONTROL JOINTS AT 10'
- ⑤ SAWCUT & OVERLAY EX. AC PAVEMENT PER DETAIL "B" ON DWG. NO. C-2
- ⑥ INSTALL 8' CHAINLINK FENCE WITH BARBED WIRE TO MATCH EXISTING



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
1	5/15	SB	MOVED ELEC. PANELS TO SOUTH END OF CANOPY MOVED FENCE FURTHER SOUTH	5/4/2015



CITY OF IMPERIAL

CITY ENGINEER _____ DATE _____

REFERENCES



ALBERT A. WEBB ASSOCIATES

ENGINEERING CONSULTANTS
36951 COOK STREET #103
PALM DESERT, CA 92211
PH. (760) 568-5005
FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF:

SHAWN L. BLOOMFIELD
REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	4/23/13
DRAWN: BTE	4/23/13
TRACED: -	N/A
CHECKED: SLB	4/23/13
SUBMITTED: -	---

SCALE:
HORIZ. SCALE: 1" = 2'
VERT. SCALE: N/A

CITY OF IMPERIAL
IMPERIAL COUNTY, CALIFORNIA

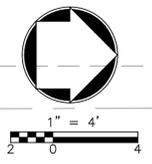
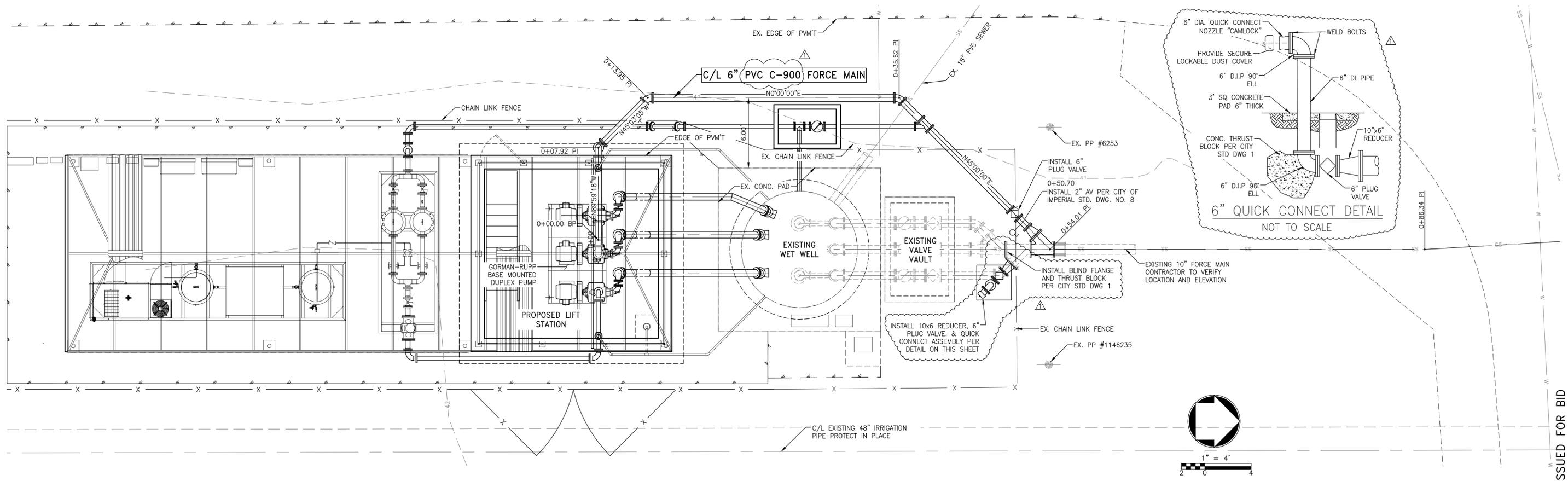
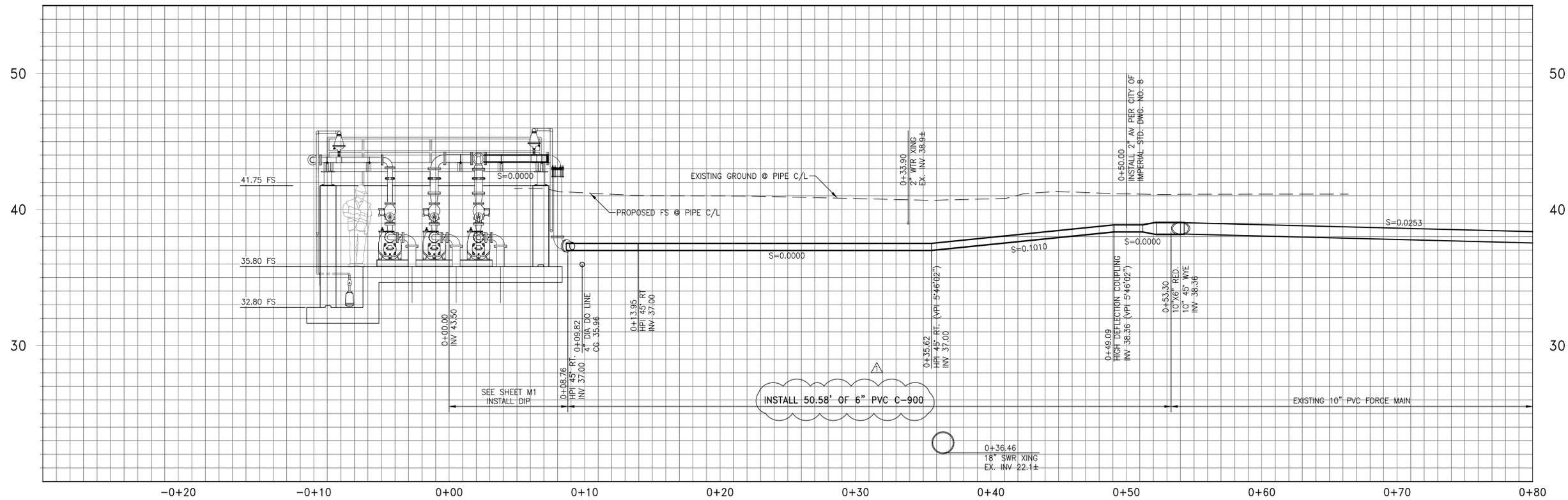
**LA BRUCHERIE LIFT STATION IMPROVEMENTS
GRADING & SITE PLAN**

BID NO.
2015-07

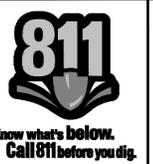
SHEET
4
OF 25

DWG. NO.
C-1

ISSUED FOR BID
G:\2012\12-0081\URAWINS\B STREET LS\12-0081-C-LS-1-C1.DWG 5/4/2015 11:56 AM



ISSUED FOR BID



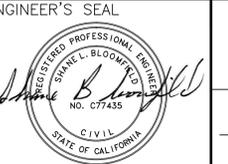
REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
Δ	5/15	SLB	ADDED QUICK CONNECT ASSEMBLY & CHANGED DISCHARGE PIPING TO PVC	5/4/2015



CITY OF IMPERIAL

CITY ENGINEER _____ DATE _____

REFERENCES



ALBERT A. WEBB ASSOCIATES

ENGINEERING CONSULTANTS
 36951 COOK STREET #103
 PALM DESERT, CA 92211
 PH. (760) 568-5005
 FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF:

SMARL L. BLOOMFIELD
 REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	4/23/13
DRAWN: BTE	4/23/13
TRACED: -	N/A
CHECKED: SLB	4/23/13
SUBMITTED: -	-/-/-

SCALE:
 HORIZ. SCALE: N/A
 VERT. SCALE: N/A

CITY OF IMPERIAL
 IMPERIAL COUNTY, CALIFORNIA

LA BRUCHERIE LIFT STATION IMPROVEMENTS
FORCE MAIN PLAN & PROFILE

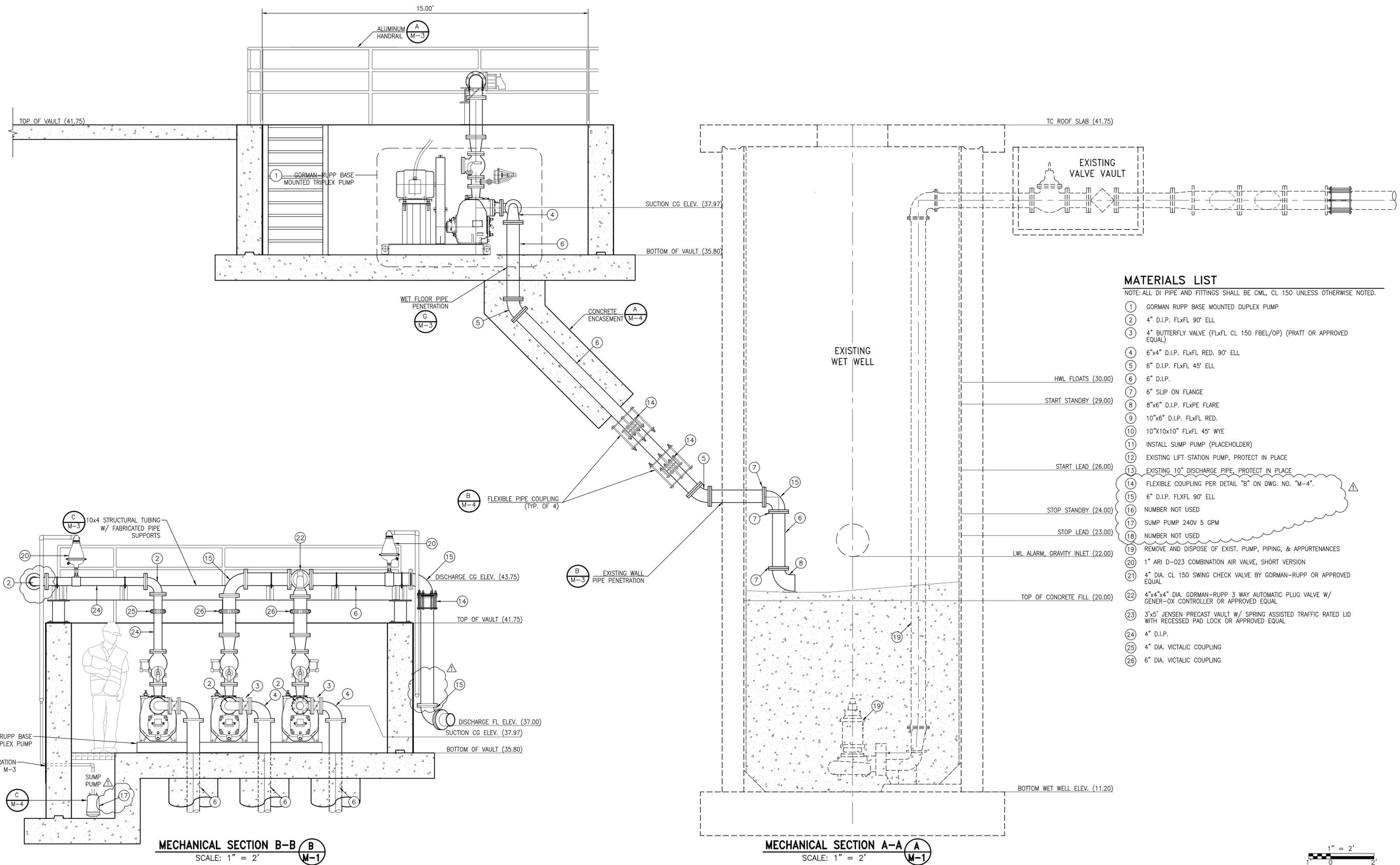
DWG. NO. _____

BID NO. 2015-07

SHEET 6 OF 25

C-3

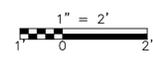
G:\2012\12-0081\URAWINS\B STREET LS\12-0081-C-LS-1-C3.DWG 5/4/2015 4:56 PM



- MATERIALS LIST**
 NOTE: ALL DI PIPE AND FITTINGS SHALL BE CML, CL 150 UNLESS OTHERWISE NOTED.
- 1 GORMAN RUPP BASE MOUNTED DUPLEX PUMP
 - 2 4" D.I.P. FLXFL 90° ELL
 - 3 4" BUTTERFLY VALVE (FLXFL CL 150 FBEL/OP) (PRAIT OR APPROVED EQUAL)
 - 4 6"x4" D.I.P. FLXFL RED. 90° ELL
 - 5 6" D.I.P. FLXFL 45° ELL
 - 6 6" D.I.P.
 - 7 6" SLIP ON FLANGE
 - 8 8"x6" D.I.P. FLXPE FLARE
 - 9 10"x6" D.I.P. FLXFL RED.
 - 10 10"x10"x10" FLXFL 45° WYE
 - 11 INSTALL SUMP PUMP (PLACEHOLDER)
 - 12 EXISTING LIFT STATION PUMP, PROTECT IN PLACE
 - 13 EXISTING 10" DISCHARGE PIPE, PROTECT IN PLACE
 - 14 FLEXIBLE COUPLING PER DETAIL "B" ON DWG. NO. "M-4".
 - 15 6" D.I.P. FLXFL 90° ELL
 - 16 NUMBER NOT USED
 - 17 SUMP PUMP 240V 5 GPM
 - 18 NUMBER NOT USED
 - 19 REMOVE AND DISPOSE OF EXIST. PUMP, PIPING, & APPURTENANCES
 - 20 1" ARI D-023 COMBINATION AIR VALVE, SHORT VERSION
 - 21 4" DIA. CL 150 SWING CHECK VALVE BY GORMAN-RUPP OR APPROVED EQUAL
 - 22 4"x4"x4" DIA. GORMAN-RUPP 3 WAY AUTOMATIC PLUG VALVE W/ GENER-OX CONTROLLER OR APPROVED EQUAL
 - 23 3'x5' JENSEN PRECAST VAULT W/ SPRING ASSISTED TRAFFIC RATED LID WITH RECESSED PAD LOCK OR APPROVED EQUAL
 - 24 4" D.I.P.
 - 25 4" DIA. VICTALIC COUPLING
 - 26 6" DIA. VICTALIC COUPLING

MECHANICAL SECTION B-B
 SCALE: 1" = 2'

MECHANICAL SECTION A-A
 SCALE: 1" = 2'



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
Δ	5/15	SLB	CHANGED DISCHARGE PIPING TO ABOVE GROUND, REMOVED 6"x4"x6" TEE, & ADDED SUMP PUMP CALLOUT	5/4/2015
DESIGNED BY:	DRAWN BY:	CHECKED BY:		



CITY OF IMPERIAL
 CITY ENGINEER _____ DATE _____
 REFERENCES _____



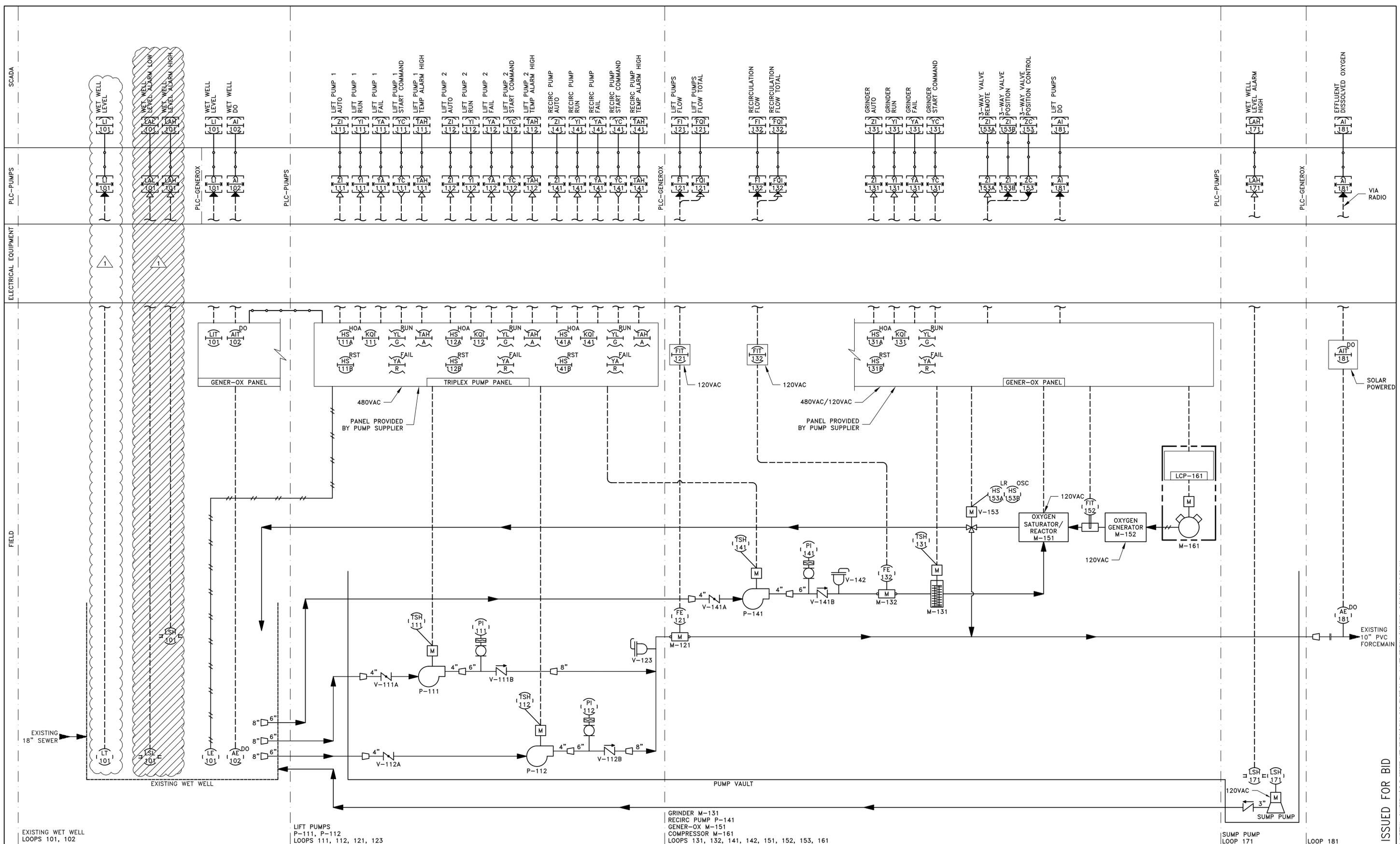
ALBERT A. WEBB ASSOCIATES
 ENGINEERING CONSULTANTS
 36951 COOK STREET #103
 PALM DESERT, CA 92211
 PH. (760) 568-5005
 FAX (760) 568-3443
 PLANS PREPARED UNDER THE SUPERVISION OF:
 SHAWN L. BLOOMFIELD
 REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	4/23/13
DRAWN: BTE	4/23/13
TRACED: -	N/A
CHECKED: SLB	4/23/13
SUBMITTED: -	4/23/13
SCALE:	
HORIZ. SCALE: 1" = 2'	
VERT. SCALE: N/A	

CITY OF IMPERIAL
 IMPERIAL COUNTY, CALIFORNIA
 LA BRUCHERIE LIFT STATION IMPROVEMENTS
 MECHANICAL SECTIONS & DETAILS
 DWG. NO. _____

BID NO. 2015-07
 SHEET 8 OF 25
 M-2

ISSUED FOR BID
 G:\2012\12-0081\URAWINGS\B STREET LS\12-0081-M-LS-3-M2.DWG 5/4/2015 5:10 PM



EXISTING WET WELL
LOOPS 101, 102

LIFT PUMPS
P-111, P-112
LOOPS 111, 112, 121, 123

GRINDER M-131
RECIRC PUMP P-141
GENER-OX M-151
COMPRESSOR M-161
LOOPS 131, 132, 141, 142, 151, 152, 153, 161

SUMP PUMP
LOOP 171

LOOP 181



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
1	05/15	DCL	LEVEL TRANSDUCER	MPJ 05/01/15
DESIGNED BY:			DRAWN BY:	CHECKED BY:



CITY OF IMPERIAL

CITY ENGINEER _____ DATE _____

REFERENCES



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

DESIGNED:	DATE
MPJ	6/11/13
DRAWN:	TR
TRACED:	N/A
CHECKED:	MPJ
SUBMITTED:	6/11/13
SCALE:	---

CITY OF IMPERIAL
IMPERIAL COUNTY, CALIFORNIA

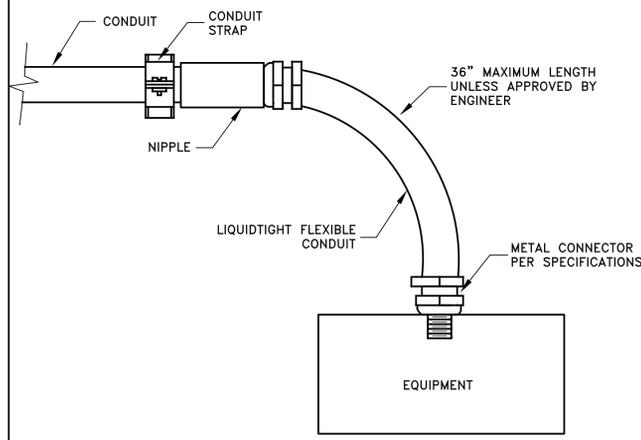
LA BRUCHERIE LIFT STATION IMPROVEMENTS
INSTRUMENTATION - P&ID
DUPLEX PUMPS

BID NO.
2015-07

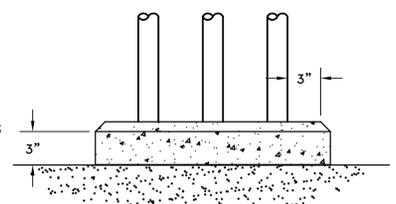
SHEET
19
of 25

DWG. NO. PI-1

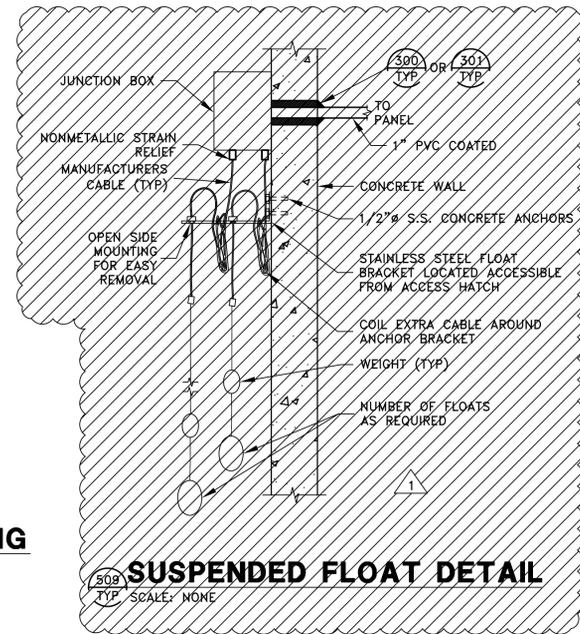
ISSUED FOR BID
S:\PROJECTS\ENGINEERING\000\0689 IMPERIAL, CALIFORNIA\3 B STREET LIFT STATION\SKM CAD FILES\01 PI-1 LIFT STATION (19).DWG 9/12/2012 9:20 AM



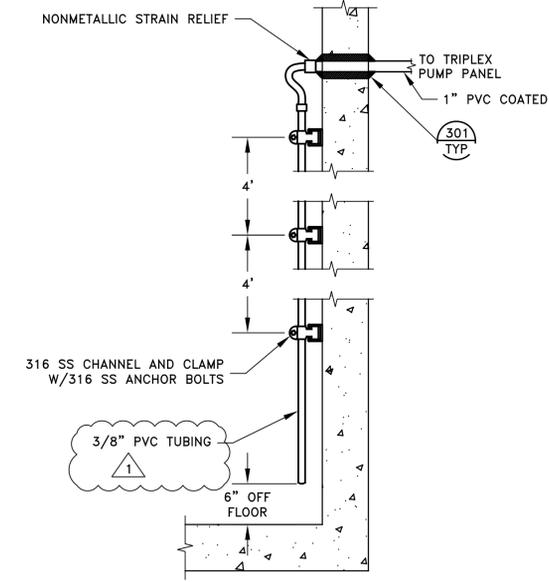
365 TYP **FLEXIBLE CONDUIT DETAIL**
SCALE: NONE



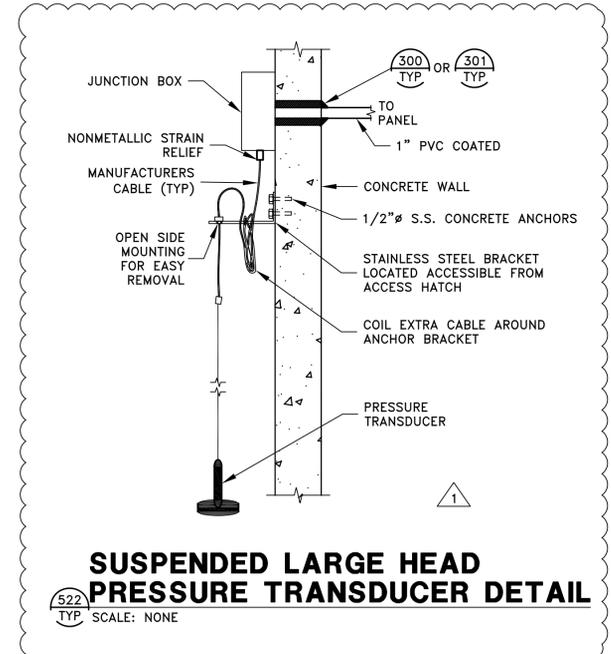
420 TYP **CONCRETE HOUSEKEEPING CURB DETAIL**
SCALE: NONE



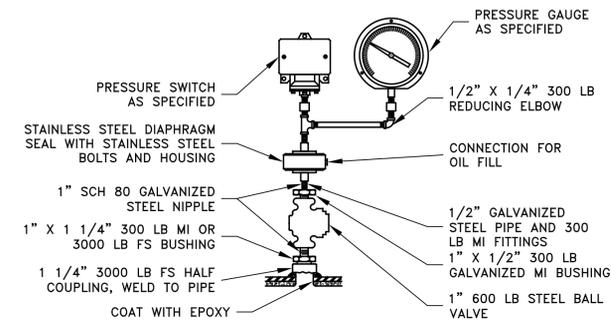
509 TYP **SUSPENDED FLOAT DETAIL**
SCALE: NONE



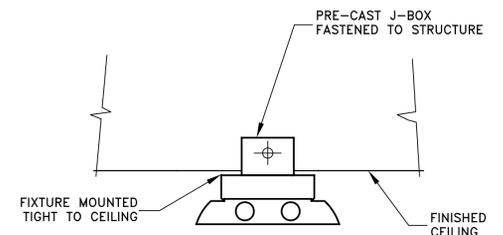
510 TYP **BUBBLE LINE DETAIL**
SCALE: NONE



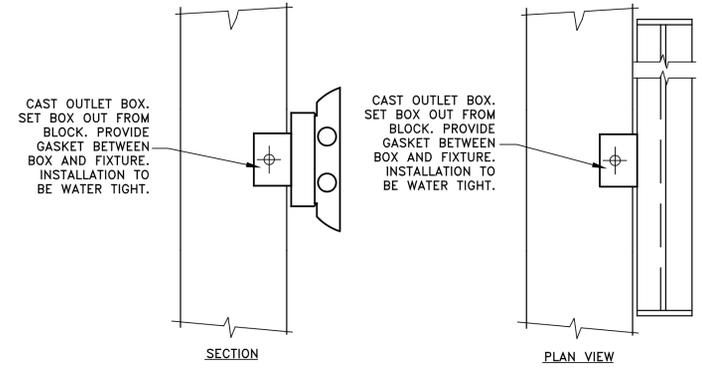
522 TYP **SUSPENDED LARGE HEAD PRESSURE TRANSDUCER DETAIL**
SCALE: NONE



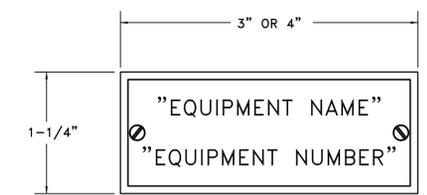
592 TYP **PRESSURE SWITCH AND GAUGE**
SCALE: NONE



800 TYP **CEILING HUNG FIXTURE DETAIL**
SCALE: NONE



801 TYP **WALL HUNG FIXTURE DETAIL**
SCALE: NONE



900 TYP **NAMEPLATE DETAIL**
SCALE: NONE

NOTES:
1. ALL LETTERS TO BE 1/4" UNLESS NOTED OTHERWISE.
2. ALL NAMEPLATES TO BE MOUNTED ON THE VERTICAL CENTERLINE OF THE CUBICAL OR DEVICE.
3. ATTACH ALL NAMEPLATES WITH STAINLESS STEEL SCREWS.
4. PROVIDE BLANK NAMEPLATES FOR ALL SPARE AND FUTURE DEVICES.



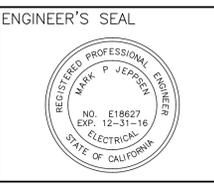
REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
1	05/15	DCL	PRESSURE TRANSDUCER DETAIL ADDED	MPJ 05/01/15
DESIGNED BY:	DRAWN BY:	CHECKED BY:		



CITY OF IMPERIAL

CITY ENGINEER _____ DATE _____

REFERENCES



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

	DATE
DESIGNED: MPJ	6/11/13
DRAWN: TR	6/11/13
TRACED: N/A	-
CHECKED: MPJ	6/11/13
SUBMITTED: ---/--/--	
SCALE:	NONE

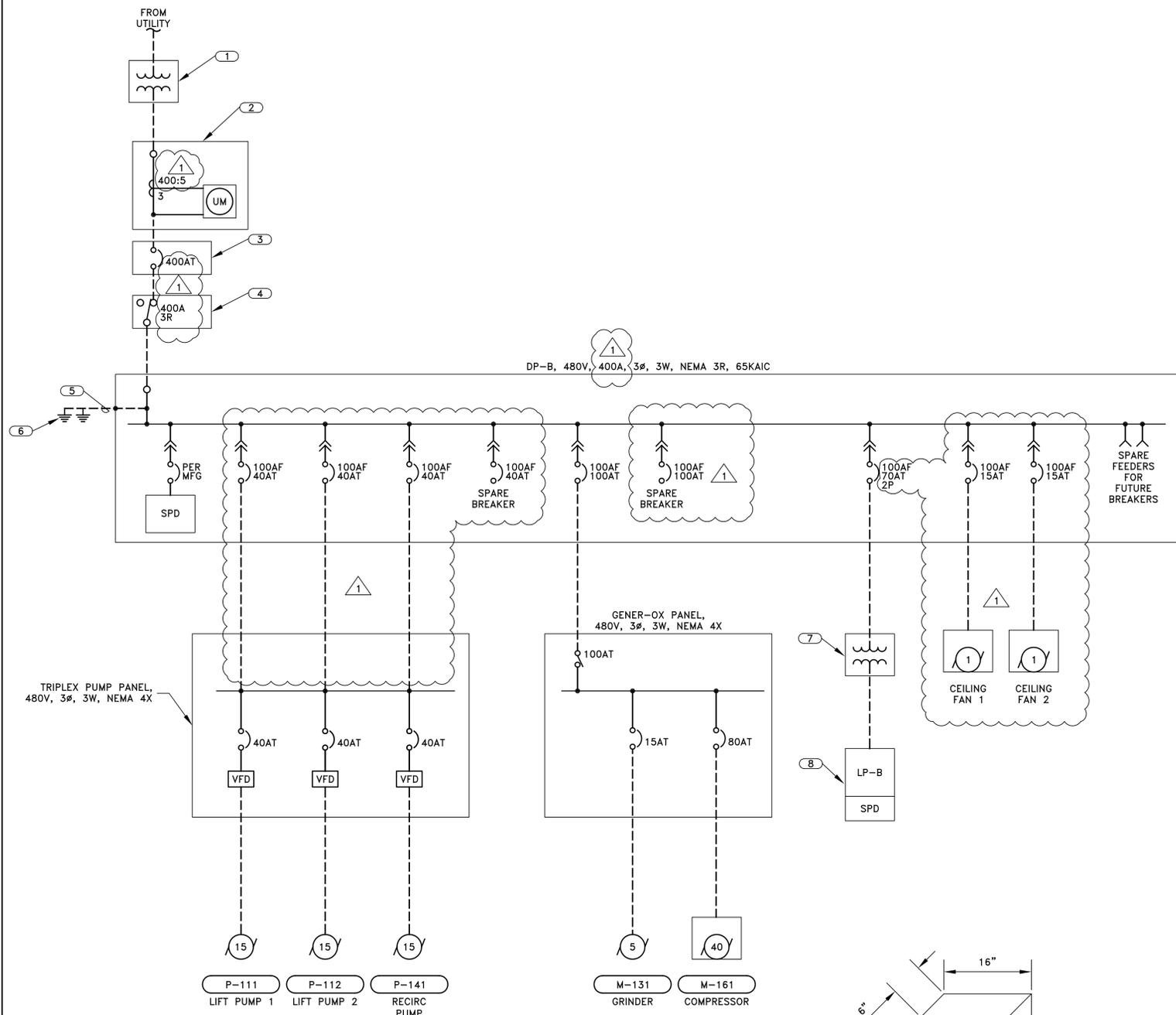
CITY OF IMPERIAL
IMPERIAL COUNTY, CALIFORNIA

LA BRUCHERIE LIFT STATION IMPROVEMENTS
ELECTRICAL
DETAILS

DWG. NO. _____

BID NO. 2015-07
SHEET 22 OF 25

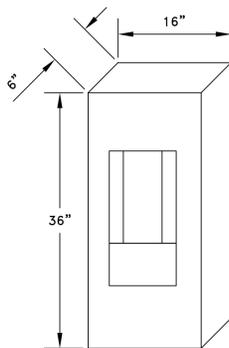
ISSUED FOR BID



LIFT STATION ONELINE DIAGRAM

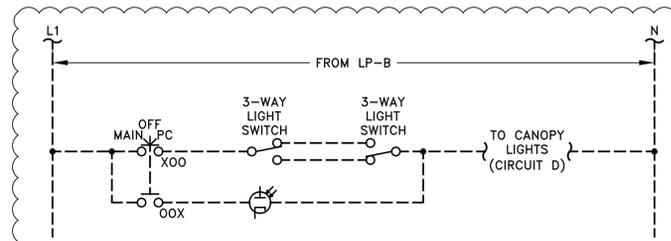
NOTES:

- 1 POLE MOUNTED UTILITY TRANSFORMER
- 2 CT AND METER COMBINATION CABINET PER EUSERC 313 AND IID REQUIREMENTS
- 3 MAIN BREAKER
- 4 MANUAL TRANSFER SWITCH WITH GENERATOR PLUG
- 5 MAIN BONDING JUMPER PER UTILITY REQUIREMENTS
- 6 GROUND GRID
- 7 LIGHTING XFMR 25KVA, 480V PRIMARY 120V/240V SECONDARY 1Ø, NEMA 3R
- 8 LIGHTING PANEL LP-B, 120/240V, 1Ø, 4W NEMA 4 100A, 10KAIC



DP-B SECTION

SCALE: 1" = 1'



LIGHTING BYPASS SCHEMATIC

ADDED 1

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
CEILING FAN 1		1.0	2.1
CEILING FAN 2		1.0	2.1
NON-MOTOR LOADS			
LIGHTING TRANSFORMER	15.0		12.7
TRIPLEX PANEL			59.5
GENER-OX PANEL			60.9
SUBTOTAL			137.3
+ 25% OF LARGEST MOTOR			0.5
TOTAL AMPS @ 480V/3PHASE			137.8
SERVICE SIZE (AMPS)			400.0

DP-B CALCULATIONS

UPDATED 1

PANEL:	LP-B	VOLTAGE:	120/240	MAIN CB:	100 AMP	BUS AMPS:	100 AMP
CB TYPE:	BOLT-ON	MOUNTING:	MCC	BUS BRACING:	10KA	BKR AIC:	10KA
CIRCUIT DESCRIPTION	BKR	CIRCUIT	LINE 1	LINE 2	CIRCUIT	BKR	CIRCUIT DESCRIPTION
CANOPY LIGHTS (A, 6)	20/1	1	642		2	20/1	CANOPY LIGHTS (D, 6)
RECEPTACLES (C, 3)	20/1	3		540			
PUMP VAULT LIGHTS (B, 4)	20/1	5	428	1595	4	20/1	GENER-OX PANEL
SPARE	20/1	7	100		6	20/1	FIT-121
FIT-132	20/1	9	100	1000	8	20/1	TRIPLEX PANEL AC UNIT
SPARE	20/1	11	300		10	20/1	TRIPLEX PANEL CONTROL
SUMP PUMP	20/1	13	173		12	20/1	SPARE
SPARE	20/1	15			14	20/1	SPARE
SPARE	20/1	17			16	20/1	SPARE
SPARE	20/1	19			18	20/1	SPARE
SPACE					20		SPACE
SPACE					22		SPACE
SPACE					24		SPACE
SPACE					26		SPACE
SPACE					28		SPACE
SPACE					30		SPACE
CONNECTED VA PER PHASE			2384.5	3135.0	NOTES:		
CONNECTED AMPS PER PHASE			19.9	26.1			
25% OF CONTINUOUS & LIGHTING LOAD (VA)			553.0	0.0			
LARGEST MOTOR (25%)			43.1	0.0			
CODE VA PER PHASE			2980.6	3135.0			
CODE AMPS PER PHASE			24.8	26.1			

LP-B CALCULATIONS

UPDATED 1



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
1	05/15	DCL	SERVICE SIZE AND CALCULATIONS UPDATED	MPJ 05/01/15



CITY OF IMPERIAL

CITY ENGINEER _____ DATE _____

REFERENCES

ENGINEER'S SEAL



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

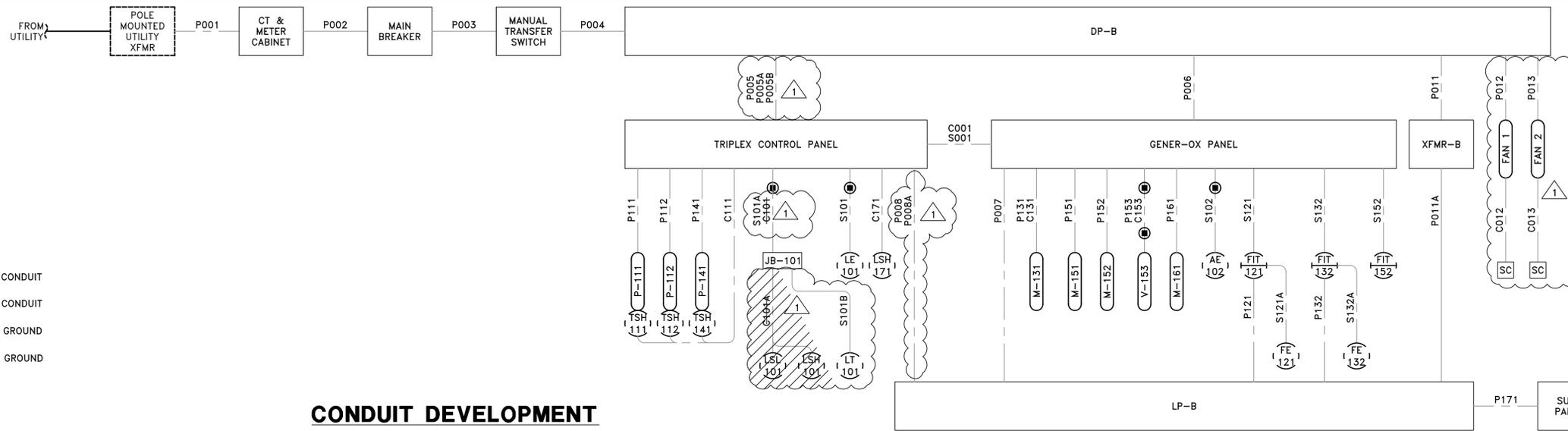
DESIGNED:	DATE
MPJ	6/11/13
TR	6/11/13
N/A	
MPJ	6/11/13
SCALE:	NONE

CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA	
LA BRUCHERIE LIFT STATION IMPROVEMENTS ELECTRICAL ONELINE & CALCULATIONS	
DWG. NO.	E-1

BID NO.
2015-07

SHEET
24
of 25

ISSUED FOR BID



LINETYPE LEGEND

- ABOVE GROUND CONDUIT
- - - BELOW GROUND CONDUIT
- EXISTING ABOVE GROUND CONDUIT
- - - EXISTING BELOW GROUND CONDUIT
- EXPOSED WIRE

CONDUIT DEVELOPMENT

ADDED
REMOVED
UPDATED

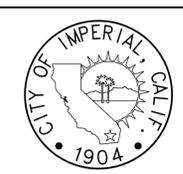
CONDUIT	SIZE	CONDUCTORS	SERVICE	VOLTAGE	ABOVE GROUND MATERIAL	UNDERGROUND MATERIAL	FROM	TO	DUCTBANKS	COMMENTS
C001	1"	5 #14	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	GENER-OX PANEL		
C012	1"	CAT 5	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	CEILING FAN 1	SPEED CONTROLLER 1		
C013	1"	CAT 5	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	CEILING FAN 2	SPEED CONTROLLER 2		
C101	1"	5 #14	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	JB-101		
C101A	1"	2 - MFG CABLE	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	JB-101	LSL-101; LSH-101		
C111	1"	6 #14	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	P-111; P-112; P-141 (LIFT & RECIRC PUMP TSH'S)		
C131	1"	2 #14	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	M-131 (GRINDER)		
C153	1"	5 #14	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	V-153 (ACTUATED VALVE)		
C171	1"	1 - MFG CABLE	CONTROL	120VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	LSH-171		
P001	3"	WIRE BY UTILITY	POWER	480VAC	PER UTILITY REQ.	PVC SCH 40	UTILITY TRANSFORMER	CT & METER CABINET	DB-1	
P002	2-3"	2 SETS OF 3 3/0 W/ #3 GND	POWER	480VAC	PVC COATED GRS		CT & METER CABINET	MAIN BREAKER		
P003	2-3"	2 SETS OF 3 3/0 W/ #3 GND	POWER	480VAC	PVC COATED GRS		MAIN BREAKER	MANUAL TRANSFER SWITCH		
P004	2-3"	2 SETS OF 3 3/0 W/ #3 GND	POWER	480VAC	PVC COATED GRS		MANUAL TRANSFER SWITCH	DISTRIBUTION PANEL (DP-B)		
P005	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	TRIPLEX CONTROL PANEL	DB-2	P-111
P005A	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	TRIPLEX CONTROL PANEL	DB-2	P-112
P005B	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	TRIPLEX CONTROL PANEL	DB-2	P-141
P006	1.5"	3 #3 W/ #6 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	GENER-OX PANEL	DB-2	
P007	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LP-B	GENER-OX PANEL	DB-2	
P008	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LP-B	TRIPLEX PANEL	DB-2	CONTROL POWER
P008A	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LP-B	TRIPLEX PANEL	DB-2	AC UNIT
P011	1.5"	3 #4 W/ #10 GND	POWER	480VAC	PVC COATED GRS		DISTRIBUTION PANEL (DP-B)	LIGHTING TRANSFORMER (XFMR-B)		
P011A	2"	3 #1 W/ #6 GND	POWER	120/240VAC	PVC COATED GRS		LIGHTING TRANSFORMER (XFMR-B)	LIGHTING PANEL (LP-B)		
P012	1"	3 #12 W/ #12 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	CEILING FAN 1		
P013	1"	3 #12 W/ #12 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	DISTRIBUTION PANEL (DP-B)	CEILING FAN 2		
P111	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	P-111 (LIFT PUMP 1)		
P112	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	P-112 (LIFT PUMP 2)		
P121	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LIGHTING PANEL (LP-B)	FIT-121		
P131	1"	3 #12 W/ #12 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	M-131 (GRINDER)		
P132	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LIGHTING PANEL (LP-B)	FIT-132		
P141	1"	3 #10 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	P-141 (RECIRCULATION PUMP)		
P151	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	M-151 (OXYGEN BOOSTER SYSTEM)		
P152	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	M-152 (OXYGEN GENERATOR UNIT)		
P153	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	V-153 (ACTUATED VALVE)		
P161	1"	3 #6 W/ #10 GND	POWER	480VAC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	M-161 (COMPRESSOR)		
P171	1"	2 #12 W/ #12 GND	POWER	120VAC	PVC COATED GRS	PVC SCH 40	LIGHTING PANEL (LP-B)	SUMP PANEL		
P171A	1"	1 - MFG CABLE	POWER	120VAC	PVC COATED GRS		SUMP PANEL	SUMP PUMP		
S001	1"	CAT6	COMM		PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	GENER-OX PANEL		
S101	1"	BUBBLER TUBE	SIGNAL		PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	LE-101		
S101A	1"	1 - TSP	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	JB-101		
S101B	1"	MFG CABLE	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	JB-101	LT-101		
S102	1"	1 - MFG CABLE	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	AE-102		
S121	1"	1 - TSP	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	TRIPLEX CONTROL PANEL	FIT-121		
S121A	1"	1 - MFG CABLE	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	FIT-121	FE-121 (M-121)		
S132	1"	1 - TSP	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	FIT-132		
S132A	1"	1 - MFG CABLE	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	FIT-132	FE-132 (M-132)		
S152	1"	2 - TSP	POWER/SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	GENER-OX PANEL	FIT-132		
S181	1"	1 - MFG CABLE	SIGNAL	24VDC	PVC COATED GRS	PVC SCH 40	AIT-181	AE-181		

CONDUIT SCHEDULE

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.



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
1	05/15	DCL	CONDUIT UPDATED AND ADDED	MPJ 05/01/15



CITY OF IMPERIAL
 CITY ENGINEER _____ DATE _____
 REFERENCES _____



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

DESIGNED:	DATE
MPJ	6/11/13
TR	6/11/13
N/A	-
MPJ	6/11/13
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CITY OF IMPERIAL
 IMPERIAL COUNTY, CALIFORNIA
 LA BRUCHERIE LIFT STATION IMPROVEMENTS
 ELECTRICAL
 CONDUIT DEVELOPMENT & SCHEDULE
 DWG. NO. _____

BID NO. 2015-07
 SHEET 25 of 25
 E-2

ISSUED FOR BID