



**LINE TYPE LEGEND**

	PROPOSED UNDERGROUND PIPE
	PROPOSED ABOVE GROUND PIPE
	DAYLIGHT LINE
	PROPOSED CURB
	DIRECTION OF DRAINAGE FLOW
	SHEET BOUNDARY LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED WATER LINE
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING SEWER LINE
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING UNDERGROUND ELECTRIC LINES
	EXISTING OVERHEAD LINES
	PROPOSED CHAINLINK FENCING
	EXISTING CHAINLINK FENCING
	SANITARY SEWER

**LABELING LEGEND**

	CROSS REFERENCE TO CONSTRUCTION NOTES
	1 DENOTES DETAIL NO. C-4 DENOTES SHEET NO. WHERE SHOWN
	B DENOTES CROSS SECTION LETTER C-12 DENOTES SHEET NO. WHERE SHOWN

**HATCHING LEGEND**

	PROPOSED CUT OR FILL SLOPE
	EXIST. 2:1
	EXISTING CUT OR FILL SLOPE
	PROPOSED A.C. PAVEMENT OR WATER
	EARTH OR GRADE
	PROPOSED CONCRETE
	CLASS II BASE
	SAND
	RIP-RAP
	WALLS AND SECTIONS

**LEGEND**

	EXISTING GATE VALVE		PROPOSED YARD LIGHT
	PLUG VALVE, ECCENTRIC		EXISTING YARD LIGHT
	FLOW METER		WARF HEAD
	CHECK VALVE		EXISTING MANHOLE
	PRESSURE RELIEF VALVE		CLEANOUT
	BUTTERFLY VALVE		AIR VALVE
	REDUCER		945.6 EXISTING SPOT ELEVATIONS

**GRADING & GENERAL CONSTRUCTION NOTES**

- ALL GRADING SHALL CONFORM TO DIVISION 2 OF THE SPECIFICATIONS, AND THE CURRENT UNIFORM BUILDING CODE.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF IMPERIAL, ATTN: JACKIE LOPER A MINIMUM OF 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION.
- NO FILL SHALL BE PLACED ON EXISTING GROUND UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS AND OTHER DELETERIOUS MATERIAL.
- ALL NATIVE FILL SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF RELATIVE COMPACTION IN ACCORDANCE WITH THE ASTM D1557-78 TEST METHOD.
- ALL PROPOSED CUT AND FILL SLOPES ARE 2:1 UNLESS SHOWN OTHERWISE
- DURING GRADING OPERATIONS, TEMPORARY DRAINAGE CONTROL SHALL BE PROVIDED BY CONTRACTOR TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES AND EXISTING FACILITIES.
- DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
- HOURS OF OPERATION SHALL BE FROM 7 A.M. TO 4 P.M. MONDAY THROUGH FRIDAY.
- ALL TRENCH AND SLAB BACKFILLS SHALL BE TESTED AND CERTIFIED BY THE SOILS ENGINEER TO A MINIMUM OF 95% RELATIVE COMPACTION UNDER SLABS AND 5' OUTSIDE SLABS IN ALL DIRECTIONS. A MIN. OF 90% RELATIVE COMPACTION SHALL BE MAINTAINED ELSEWHERE, UNLESS OTHERWISE NOTED.
- SURPLUS EXCAVATED MATERIAL SHALL BE DISPOSED OF ONSITE PER THE OWNERS INSTRUCTIONS UNLESS SPECIFICALLY STATED OTHERWISE IN THE CONTRACT DOCUMENTS, AND SHALL NOT CREATE A NUISANCE. THE MOVING OR DISPOSAL OF EXCESS MATERIAL ONSITE SHALL BE DONE AT NO ADDITIONAL COST TO THE CITY.
- PROPOSED CONTOURS AND ELEVATIONS SHOWN ON PLANS INDICATE FINISHED EARTH SURFACE OR FINISHED TOP OF ASPHALT AS INDICATED IN THE PLANS.
- ALL CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE AT THE CLOSE OF EACH WEEK.
- ANY CONTRACTOR/SUB CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY OR INDIRECTLY FROM HIS OPERATIONS. SAID EXISTING IMPROVEMENTS SHALL INCLUDE BUT ARE NOT LIMITED TO BERMS, DITCHES, DRIVEWAYS, FENCES, PLANTS, PIPES, CONDUITS AND STRUCTURES. ANY REMOVAL OR DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE AND SHALL BE APPROVED BY THE OWNER.
- THE CONTRACTOR/SUB-CONTRACTOR SHALL EXAMINE CAREFULLY THE SITE OF THE WORK CONTEMPLATED, AS WELL AS THE PLANS AND SPECIFICATIONS. THE SUBMISSION OF A BID SHALL BE CONCLUSIVE EVIDENCE THAT THE CONTRACTOR/SUB-CONTRACTOR HAS INVESTIGATED THE PROJECT SITE AND REVIEWED THE PLANS AND SPECIFICATIONS AND IS SATISFIED AS TO THE CONDITIONS TO BE ENCOUNTERED, AS TO THE CHARACTER, QUALITY AND SCOPE OF THE WORK TO BE PERFORMED, THE QUANTITIES OF MATERIALS TO BE FURNISHED, AND AS TO THE REQUIREMENTS OF THE BID PROPOSAL, PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL FURNISH POTABLE WATER FOR HIS EMPLOYEES, WHICH SHALL MEET ALL THE REQUIREMENTS OF THE COUNTY AND STATE HEALTH DEPARTMENTS.
- THE CONTRACTOR SHALL PROVIDE AT HIS OWN COST ALL TEMPORARY ELECTRICAL POWER NECESSARY FOR CONSTRUCTION, TESTING, GENERAL AND SECURITY LIGHTING AND ALL OTHER PURPOSES.
- PRIOR TO CONSTRUCTION OF THE PIPE LINES, THE CONTRACTOR SHALL EXPOSE THE EXISTING PIPE LINES WHERE CONNECTIONS WILL OCCUR AND VERIFY THEIR ELEVATION, LOCATION, AND SIZE. APPROVAL OF A PROPOSED CONNECTION TO A CITY OF IMPERIAL FACILITY DOES NOT IMPLY APPROVAL OR CORRECTNESS OF THE ELEVATION AND/OR LOCATION SHOWN ON THESE PLANS.
- CONTRACTOR SHALL NOT BACKFILL TRENCHES UNTIL THE INSPECTOR HAS OBTAINED AS-BUILT STATIONING ON ALL STRUCTURES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE ACCURATE "RECORD DRAWINGS" TO THE OWNER IMMEDIATELY AFTER CONSTRUCTION.
- ALL CONSTRUCTION SHALL CONFORM TO CURRENT CAL-OSHA SAFETY REQUIREMENTS. IF CONSTRUCTION ACTIVITIES ARE INTERRUPTED OR HALTED DUE TO OSHA VIOLATIONS THE CONTRACTOR WILL NOT BE ELIGIBLE FOR A TIME EXTENSION FOR THE DAY OR DAYS LOST DUE TO THAT VIOLATION.
- CONTRACTOR SHALL DESIGNATE A QUALIFIED SUPERINTENDENT WITH FULL AUTHORITY TO ACT ON BEHALF OF THE CONTRACTOR. SAID SUPERINTENDENT SHALL BE ON THE JOB SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
- ALL EXPOSED PIPING AND METAL SURFACES, SHALL BE FIELD PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI, TYPE II CEMENT. SEE SOILS REPORT. ALL THICKNESSES ARE MINIMUMS
- REINFORCING STEEL FOR CONCRETE SHALL CONFORM TO ASTM A615, GRADE 60 DEFORMED BARS, EXCEPT STIRRUPS AND TIES WHICH SHALL BE GRADE 40. SPIRAL REINFORCING SHALL BE GRADE 60. FURNISH AND ERECT IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315.

**GENERAL PIPELINE NOTES**

- PIPELINE AND APPURTENANT CONSTRUCTION SHALL BE IN ACCORDANCE W/ MANUFACTURER'S AND CITY'S RECOMMENDATIONS.
- ALL NEW PIPES SHALL BE INSTALLED W/ LOCATOR WIRE. LOCATOR WIRE IS TO BE 14 GAUGE SOLID COPPER WIRE UF. THWN. OR THHN. WIRE TO BE CONTINUOUS STRAND, SPLICES TO BE DONE W/ A CRIMPABLE BUTT CONNECTOR. FOR PIPE DEPTHS GREATER THAN 8 FT, LOCATOR WIRE SHALL BE PLACED AT MAX 8 FT DEPTH. MARKER TAPE SHALL BE PLACED 1 FT ABOVE THE LOCATOR WIRE. A LOCATABILITY TEST IS TO BE PERFORMED ON ALL LOCATOR WIRES, BY THE CONTRACTOR PRIOR TO FACILITY ACCEPTANCE.
- THRUST BLOCKS SHALL BE POURED AT ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT IN ORDER TO PREVENT PIPELINE MOVEMENT
- DUCTILE IRON PIPE AND FITTINGS SHALL BE CEMENT MORTAR LINED CL 53 UNLESS OTHERWISE SPECIFIED. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED PER AWWA C105 CONTRACTOR TO PROVIDE WRAP. ALL ABOVE GRADE STEEL PIPE SHALL BE FUSION BONDED EPOXY LINED AND OUTSIDE PAINTED UNLESS OTHERWISE SPECIFIED. ALL BELOW GRADE STEEL PIPE SHALL BE CEMENT MORTAL LINED AND COATED.
- PIPE AND FITTINGS SHALL BE HANDLED SO AS TO PROTECT PIPE JOINTS, LINING AND COATING, AND CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOATATION AT ALL TIMES. OPEN ENDS SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS IN PROGRESS.
- TEST PRESSURE SHALL BE 1.5 TIMES THE PRESSURE CLASS AND SHALL BE UNDER CONTINUOUS INSPECTION AND SHALL BE IN ACCORDANCE WITH AWWA STANDARD PROCEDURES. CITY INSPECTOR TO INSPECT TEST USING APPROVED PRESSURE GAUGE. INSPECTOR'S TIME SPENT INSPECTING ANY REQUIRED RETESTS (INCLUDING RATE AND OVERHEAD) SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
- CONNECTIONS TO EXISTING PIPELINES SHALL ONLY BE MADE WITH THE CITY INSPECTOR PRESENT. TEST PLUGS SHALL ONLY BE REMOVED UPON DIRECTION OF THE CITY.
- ALL PIPELINES LESS THAN 12" DIA. SHALL BE INSTALLED WITH A MINIMUM 36 INCH COVER AT THE FINISH GRADE OVER THE PIPE, AND ALL PIPELINES 12" DIA. OR GREATER SHALL HAVE 48 INCH MINIMUM COVER, UNLESS OTHERWISE NOTED.
- ALL VAULT AND MANHOLE KNOCKOUTS SHALL BE SEALED WITH NON-SHRINK GROUT AFTER PIPES AND CONDUITS HAVE BEEN INSTALLED. ALL VAULTS AND MANHOLES ARE TO BE WATERTIGHT
- ALL BURIED VALVES SHALL BE INSTALLED WITH AN ADJUSTABLE VALVE BOX AND RISER STEM, WHICH SHALL BRING THE VALVE NUT TO WITHIN 3 FT OF THE FINAL GROUND SURFACE.
- MEGALUGS ARE REQUIRED WHERE JOINT MOVEMENT IS NOT PREVENTED BY THRUST BLOCKS.

**PVC AND DI PIPE NOTES:**

- ALL PVC PIPE THROUGH 12-INCH DIAMETER SHALL BE TYPE C-900, CLASS 150. ALL PVC PIPE GRATER THAN 12-INCH DIAMETER SHALL BE TYPE C-905, CLASS 235, DR 25. PIPE SHALL CONFORM TO AWWA SPECIFICATIONS
- FITTINGS FOR C-900 OR C-905 PVC PIPE SHALL BE DUCTILE OR GRAY IRON AS SHOWN ON THE CONSTRUCTION PLANS PER THE CITY'S REQUIREMENTS.
- ALL DUCTILE OR GRAY IRON FITTINGS SHALL BE POLYETHYLENE ENCASED AT THE TIME OF INSTALLATION PER AWWA C105. CONTRACTOR TO PROVIDE WRAP

**CML&C STEEL PIPE NOTES:**

- ALL STEEL CYLINDER PIPE SHALL BE BONDED AT RUBBER GASKET JOINTS IN ACCORDANCE WITH THE CITY'S REQUIREMENTS.
- ALL DESIGNATED PIPELINE WELDS SHALL BE FULL WELD DOUBLE PASS AT EACH PIPE JOINT WITHIN DESIGNATED WELD LENGTH LIMITS.
- SHOP DRAWINGS FOR CML&C STEEL PIPE SHALL BE SUBMITTED AND APPROVED BY THE CITY PRIOR TO FABRICATION.
- ALL CML&C STEEL PIPE SHALL BE CLASS 150, EXCEPT WHERE NOTED OTHERWISE. PIPE SHALL CONFORM TO AWWA SPECIFICATIONS.
- INSULATED JOINTS AND TEST STATIONS SHALL BE INSTALLED PER CITY'S RECOMMENDATIONS WHERE INDICATED ON THE PLANS. IN ADDITION, COPPER OR BRASS PARTS SHALL BE ELECTRICALLY INSULATED FROM STEEL PIPE.
- LINE CURRENT TEST STATION SHALL BE INSTALLED PER CITY'S REQUIREMENTS WHERE INDICATED ON THE PLANS.
- MAIN LINE APPURTENANCES (SUCH AS BLOW-OFFS) SHALL USE NON-METALLIC PIPE WHERE POSSIBLE. IRON PARTS SHALL BE PROTECTED PER CITY'S REQUIREMENTS.

**UTILITIES COORDINATION**

- NO LESS THAN 3 WORKING DAYS PRIOR TO ANY EXCAVATION OR TRENCHING, EACH CONTRACTOR DOING SUCH WORK SHALL CONTACT OR TELEPHONE THE FOLLOWING AGENCIES SO THAT EXISTING UNDERGROUND UTILITIES MAYBE LOCATED AND, IF REQUIRED BY THE AGENCY AN INSPECTOR MAY BE PRESENT.

**ABBREVIATIONS**

ABAND	ABANDONED	LP LT	LOW POINT
AC	ASPHALTIC CONCRETE	MAX	LEFT
ACP	ASBESTOS CEMENT PIPE	MIN	MAXIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MOC	MINIMUM
APPROX	APPROXIMATE	MTG	MIDDLE OF CURVE
AR	AIR VALVE	MVC	MOUNTING
AV	AIR VALVE	NIS	MIDDLE OF VERTICAL CURVE
ASTM	AMERICAN NATIONAL STANDARDS INSTITUTE	OD	NOT TO SCALE
BC	BEGINNING OF CURVE	O&M	OUTSIDE DIAMETER
BVC	BEGINNING OF VERTICAL CURVE	OC	OPERATIONS AND MAINTENANCE
BO	BLOW OFF	ON CENTER	ON CENTER
BOT	BOTTOM	PCC	OCCUPATIONAL SAFETY & HEALTH ADMIN.
C&G	CURB & GUTTER	PDC	PORTLAND CEMENT CONCRETE
CB	CATCH BASIN	PE PI	POWER DISTRIBUTION CENTER
CF	CURB FACE	PP	PAD ELEVATION OR POLYETHYLENE
CG	CENTER GRADE	PRC	POINT OF INTERSECTION
CL	CENTERLINE OR CLASS	PROP	EXISTING POWER POLE
CLR	CLEARANCE	PVC	POINT OF REVERSE CURVE
CMC	CEMENT MORTAR COATING	RAD	PROPOSED
CML	CEMENT MORTAR LINING	RAS	POLY VINYL CHLORIDE
CML&C	CEMENT MORTAR LINED AND COATED	RC	RADIUS
CML&P	CEMENT MORTAR LINED AND OUTSIDE PAINTED	REQD	RETURN ACTIVATED SLUDGE
CMP	CORRUGATED METAL PIPE	REV	RELATIVE COMPACTION
CMU	CONCRETE MASONRY UNITS	RSGV	REQUIRED
CO	CLEANOUT	RT	REVISION, REVISED
CONC	CONCRETE	R/W	RESILIENT SEAT GATE VALVE
CONT	CONTINUES	SCC	RIGHT
CPLG	COUPLING	SDR	RIGHT-OF-WAY
CTF	CUT TO FIT	SG	SYSTEM CONTROL CENTER
DBL	DOUBLE	SHD	STANDARD DIMENSION
DD	DRAIN DITCH	SCHED	RATIO
DI	DUCTILE IRON	SD SP	SUBGRADE
DIA	DIAMETER	SPEC	SCHEDULE
DIP	DUCTILE IRON PIPE	SS	SCHEDULE
DIV	DIVISION	STA	STORM DRAIN
DWG	DRAWING	STD	SPACE
EC	END OF CURVE	STL	SPECIFICATION
EL, ELEV	ELEVATION	SWR	STAINLESS STEEL
EP	EDGE OF PAVEMENT	TOB	STATION
EQ	EQUAL	TC TD	STANDARD
EVC	END OF VERTICAL CURVE	TG	STEEL
EX, EXIST	EXISTING	THK	SEWER
FAB	FABRICATED	TOP	TOP OF BERM
FBEL	FUSION BONDED EPOXY LINED	TS	TOP OF CURB
FF	FINISHED FLOOR	TOW	TOP OF DIKE
FG	FINISHED GRADE	TYP	TOP OF GRATE
FH	FIRE HYDRANT	UBC	THICK
FL	FLOWLINE	VC	TOP
FLG	FLANGE	VERT	OF
FLG'D	FLANGED	VFD	PIPE
FS	FINISHED SURFACE	VPI	TOP
FT	FOOT, FEET	WAS	OF
FUT	FUTURE	WSP	SLAB
GA	GAUGE	WS	TOP
GALV	GALVANIZED	WT	OF
GB	GRADE BREAK	WTR	WALL
HORIZ	HORIZONTAL	WMM	TYPICAL
HP	HIGH POINT	WWT	UNIFORM
HPI	HORIZONTAL POINT OF INTERSECTION	W	BUILDING
HSC	HYDRAULIC SYSTEM CENTER	W/LY	CODE
ID	INSIDE DIAMETER		CURVE
IN	INCHES		VERTICAL
INV	INVERT		VARIABLE
LF	LINEAL FOOT (FEET)		FREQUENCY
LG	LONG		DRIVE
			VERTICAL
			POINT
			OF
			INTERSECTION
			WASTE
			ACTIVATED
			SLUDGE
			WELDED
			STEEL
			PIPE
			WATER
			SURFACE
			WEIGHT
			WATER
			WELDED
			WIRE
			MESH
			WASTEWATER
			TREATMENT
			PLANT
			WITH
			WESTERLY

<p>Know what's below. Call 811 before you dig.</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INITIAL</th> <th>DESCRIPTION</th> <th>APPROVED/DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE																<p>CITY OF IMPERIAL IMPERIAL COUNTY, CALIF. 1904</p>	<p>CITY ENGINEER</p> <p>DATE</p>	<p>ENGINEER'S SEAL REGISTERED PROFESSIONAL ENGINEER SHANE L. BLOOMFIELD NO. C77435 CIVIL STATE OF CALIFORNIA</p>	<p>ALBERT A. WEBB ASSOCIATES</p> <p>ENGINEERING CONSULTANTS 36951 COOK STREET #103 PALM DESERT, CA 92211 PH. (760) 568-5005 FAX (760) 568-3443</p> <p>PLANS PREPARED UNDER THE SUPERVISION OF: <i>Shane L. Bloomfield</i> SHANE L. BLOOMFIELD REGISTERED CIVIL ENGINEER NO. C77435</p> <p>DATE: 3/17/14</p>	<table border="1"> <thead> <tr> <th>DATE</th> </tr> </thead> <tbody> <tr><td>DESIGNED: -</td><td>5/16/12</td></tr> <tr><td>DRAWN: BTE</td><td>5/16/12</td></tr> <tr><td>TRACED: -</td><td>N/A</td></tr> <tr><td>CHECKED: SLB</td><td>5/16/12</td></tr> <tr><td>SUBMITTED: -</td><td>--/--/--</td></tr> </tbody> </table> <p>SCALE: HORIZ. SCALE: 1"=4' VERT. SCALE: N/A</p>	DATE	DESIGNED: -	5/16/12	DRAWN: BTE	5/16/12	TRACED: -	N/A	CHECKED: SLB	5/16/12	SUBMITTED: -	--/--/--	<p>CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA</p> <p>WASTEWATER TREATMENT PLANT MODIFICATIONS COARSE SCREEN INSTALLATION GENERAL NOTES</p> <p>DWG. NO.</p>	<p>BID NO. 2014-02</p> <p>SHEET 2 OF 26</p> <p>G-2</p>
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**GENERAL DEMOLITION NOTES**

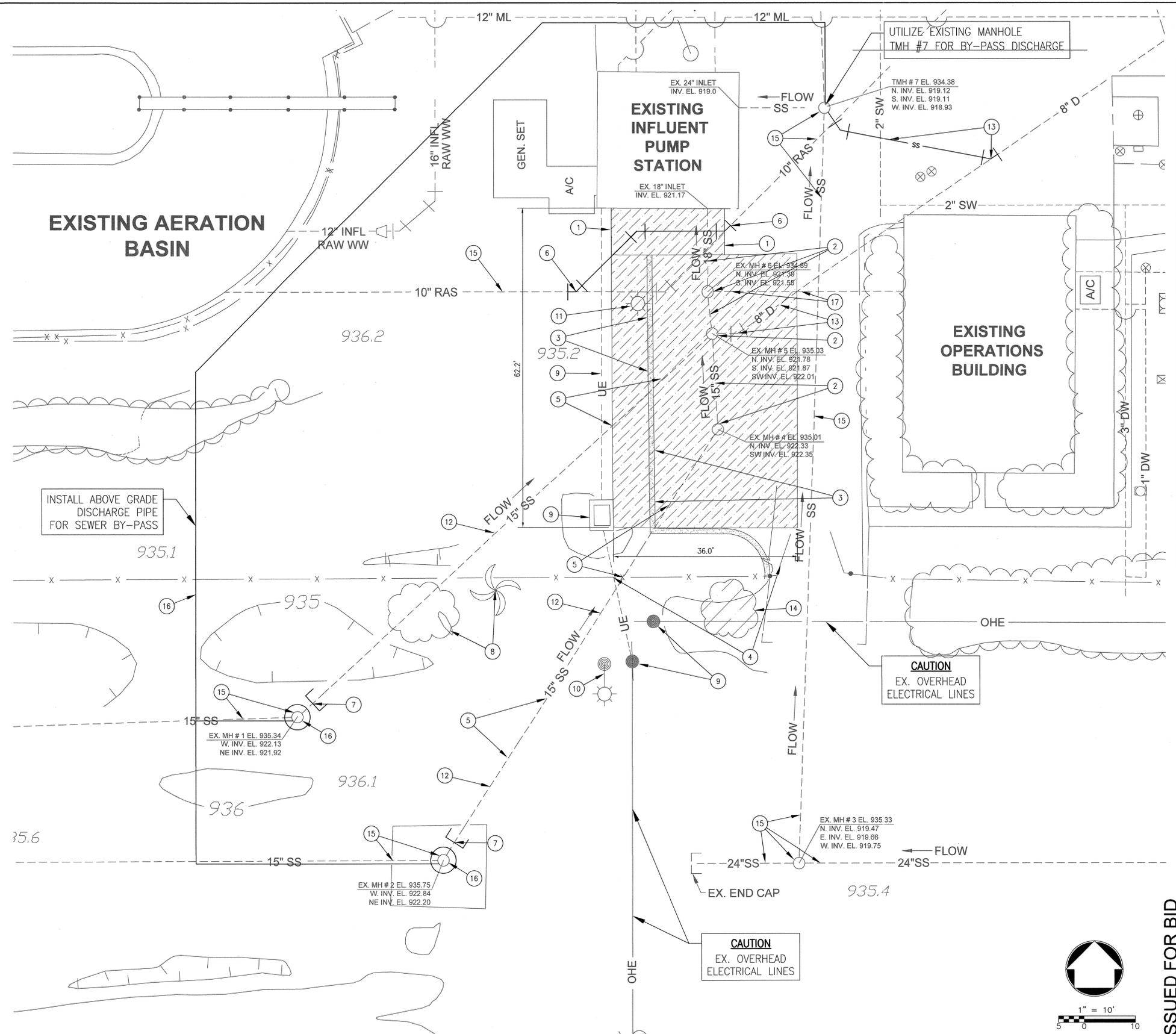
1. ALL DEMOLITION WORK SHALL BE COMPLETED IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
2. CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE EXISTING FACILITIES PRIOR TO BIDDING. ALL DEMOLITION, REMOVAL AND ABANDONMENT WORK MUST BE PROVIDED AND ALL COST MUST BE INCLUDED IN THE BID AMOUNT.
3. THE CONTRACTOR SHALL PERFORM ALL DEMOLITION WORK NECESSARY FOR THE COMPLETE DEMOLITION, REMOVAL, DISPOSAL, REGRADING, AND REPLACEMENT OF THE EXISTING STRUCTURES, PIPING, ASSOCIATED ITEMS, AND MISCELLANEOUS CONCRETE, EQUIPMENT, AND MATERIAL. THE DEMOLITION WORK SHALL INCLUDE THE REMOVAL AND LEGAL OFF-SITE DISPOSAL.
4. THE SCOPE OF DEMOLITION WORK SHALL NOT BE LIMITED TO ONLY THOSE ITEMS DEFINED ON THE DEMOLITION DRAWINGS BUT SHALL ALSO INCLUDE ALL ASSOCIATED ELECTRICAL PANELS, CONDUITS, WIRING, MECHANICAL EQUIPMENT, MISCELLANEOUS CONCRETE, TREES, RUBBISH VEGETATION, AND ANY OTHER ITEM OR MATERIAL NECESSARY FOR PERFORMANCE OF THIS CONTRACT.
5. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND EQUIPMENT FROM THE SITE AND LEAVE THE GROUND CLEAR OF ALL MATERIALS, RUBBISH OR DEBRIS, AND IN A CLEAN AND NEAT CONDITION, AS DEMOLITION OF EACH STRUCTURE IS COMPLETED.
6. THE CONTRACTOR SHALL ERECT AND MAINTAIN BARRIERS AROUND ALL OPERATIONS AND ALL OPENINGS IN THE GROUND, SO LONG AS SUCH OPERATIONS AND OPENINGS CONSTITUTE A HAZARD OR DANGEROUS CONDITION.
7. ALL DISTURBED/EXCAVATED AREAS TO BE FILLED AND COMPACTED TO THE REQUIRED RELATIVE COMPACTION AS CALLED FOR IN THE DESIGN SPECIFICATIONS. THE CONTRACTOR SHALL FILL TO GRADE ALL OPEN AREAS BELOW GRADE ONLY WITH SOUND COMPACTED FILL. FILL SHALL BE MADE OR COMPLETED OF CLEAN EARTH BORROW OR NATIVE BACKFILL IN ACCORDANCE WITH THE SPECIFICATIONS. SEE POST DEMO GRADING DRAWINGS FOR FINAL GRADES.
8. ALL EXISTING SITE FEATURES INCLUDING UTILITIES, BUILDINGS, PAVEMENT AND STORM DRAINS SHOULD BE PROTECTED IN PLACE UNLESS SPECIFICALLY STATED OTHERWISE. CONTRACTOR WILL REPAIR/REPLACE IN KIND UTILITIES/STRUCTURES DAMAGED DURING DEMOLITION/CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
9. ASPHALT PAVEMENT SHALL BE REMOVED TO APPROXIMATE EXTENTS SHOWN ON THE PLANS AND REPAVED FOLLOWING CONSTRUCTION.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL STRUCTURES, PIPES, MECHANICAL DEVICES, ELECTRICAL PANELS/CONDUITS, AND RELATED APPURTENANCES THAT ARE NOTED AS TO BE REMOVED. REFER TO SPECIFICATIONS FOR INFORMATION REGARDING THE DISPOSAL OF HAZARDOUS MATERIALS, INCLUDING, BUT NOT LIMITED TO: ASBESTOS, LEAD PAINT, ASBESTOS CONCRETE PIPE, AND CHEMICAL DISPOSAL.
11. CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT. A COPY OF THE GEOTECHNICAL REPORT IS INCLUDED IN THE SPECIFICATIONS.
12. CONTRACTOR SHALL REFER TO PIPING PLANS FOR PIPELINE MATERIALS. ALL ASBESTOS CEMENT PIPE (ACP) SHALL BE INCLUDED IN THE COST FOR REMOVAL.
13. CONTRACTOR SHALL REFER TO PIPING AND GRADING PLANS, AND COORDINATE NECESSARY REMOVALS IN SUCH A WAY AS TO FACILITATE PROPOSED FACILITY INSTALLATIONS.
14. ALL COSTS ASSOCIATED WITH TRANSITE PIPE REMOVAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

**DEMOLITION CONSTRUCTION NOTES**

1. REMOVE AND DISPOSE OF EXISTING PATIO COVER, SUPPORTS, AND CONCRETE PAD
2. REMOVE AND DISPOSE OF EXISTING MANHOLES AND ASSOCIATED PIPING BETWEEN MANHOLES
3. REMOVE AND DISPOSE OF EXISTING ASPHALT AND CURB AND GUTTER
4. REMOVE AND REPLACE EXISTING FENCE AND GATE AS NECESSARY FOR CONSTRUCTION
5. REMOVE AND DISPOSE OF EXISTING 15" DIA. SEWER PIPE AS NECESSARY FOR INSTALLATION OF STRUCTURE AND PIPELINES
6. EXISTING 10" DIA. DI RAS LINE TO BE RELOCATED AROUND STRUCTURE, REMOVE AND DISPOSE OF ABANDONED PORTION
7. CUT AND CAP EXISTING SEWER LINE WITH CONCRETE PLUG
8. PROTECT IN PLACE EXISTING TREE
9. PROTECT IN PLACE EXISTING ELECTRICAL VAULT, POWER POLES, AND UNDERGROUND ELECTRICAL
10. PROTECT IN PLACE EXISTING LIGHT POLE
11. REMOVE AND RELOCATE EXISTING LIGHT POLE
12. ABANDON IN PLACE EXISTING SEWER LINE
13. REMOVE AND REPLACE EXISTING 8" DIA. DRAIN LINE AS NECESSARY FOR CONSTRUCTION, RE-ROUTE LINE TO EXISTING TMH #7.
14. REMOVE AND DISPOSE OF EXISTING TREE
15. PROTECT IN PLACE EXISTING MANHOLE AND SEWER LINE
16. CONTRACTOR TO PROVIDE TEMPORARY BY-PASS PUMPS AND PIPING FOR MANHOLES INDICATED. DETAILED BY-PASS PLAN TO BE SUBMITTED PRIOR TO CONSTRUCTION.
17. REMOVE AND REPLACE EXISTING 4" DIA. SEWER AND 2" DIA. DRAIN LINE AS NECESSARY FOR CONSTRUCTION, RE-ROUTE LINES TO EXISTING TMH #7.

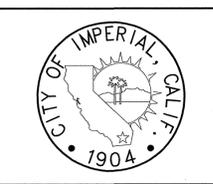
**SEWER BY-PASS NOTES**

1. CONTRACTOR SHALL PROVIDE A DETAILED "SEWAGE SPILL CONTAINMENT PLAN AND SEWER BY-PASS PLAN" SHOWING THE PROPOSED LAYOUT OF THE TEMPORARY FACILITIES AS SPECIFIED IN THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL ARRANGE FOR, FURNISH, INSTALL AND MAINTAIN ALL REQUIRED BY-PASS EQUIPMENT, PUMP, GENERATORS, PIPING, FITTINGS, CONNECTIONS, ETC. REQUIRED TO BY-PASS THE EXISTING SEWER FLOWS DURING CONSTRUCTION. ALL BY-PASS EQUIPMENT SHALL BE INSTALLED AND BE MADE IMMEDIATELY OPERABLE TO PROVIDE COMPLETE REDUNDANCY (PRIMARY AND BACKUP SYSTEM) TO HANDLE PEAK FLOWS. CONTRACTOR SHALL PROVIDE FOR PERSONNEL TO CONTINUOUSLY MONITOR THE BY-PASS SYSTEM.
3. EXISTING MANHOLES SHOWN MAY NOT PROVIDE CONTRACTOR WITH ADEQUATE ROOM FOR BY-PASS OPERATIONS AND MODIFICATION OF MANHOLE, THEREFORE CONTRACTOR MAY NEED TO INSTALL NEW MANHOLES IN EACH LINE FOR BY-PASS OPERATIONS. CONTRACTOR SHALL EVALUATE METHOD TO BY-PASS AND INCLUDE ALL COSTS IN HIS BID.



REVISIONS			
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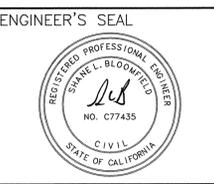
DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_



**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:  
*Shane Bloomfield* 5/17/14  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. 077435

DATE	DATE
DESIGNED: -	4/1/13
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TRACED: -	N/A
CHECKED: SLB	4/1/13
SUBMITTED: -	-/-/-
SCALE:	
HORIZ. SCALE: AS NOTED	
VERT. SCALE: N/A	

CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

**WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
DEMOLITION AND BY-PASS PLAN**

DWG. NO. \_\_\_\_\_

BID NO. 2014-02

SHEET **3** OF 26

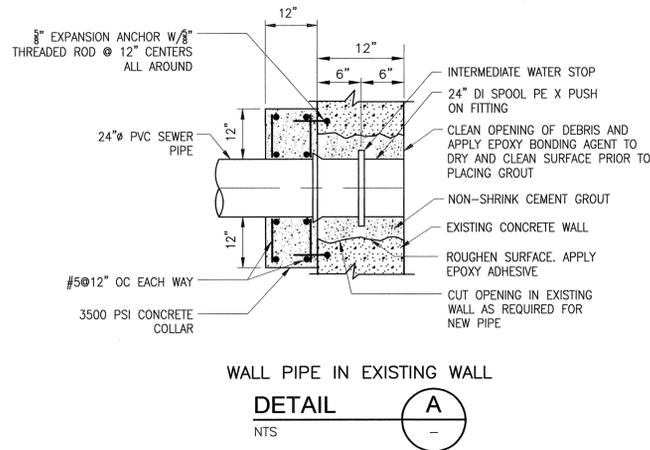
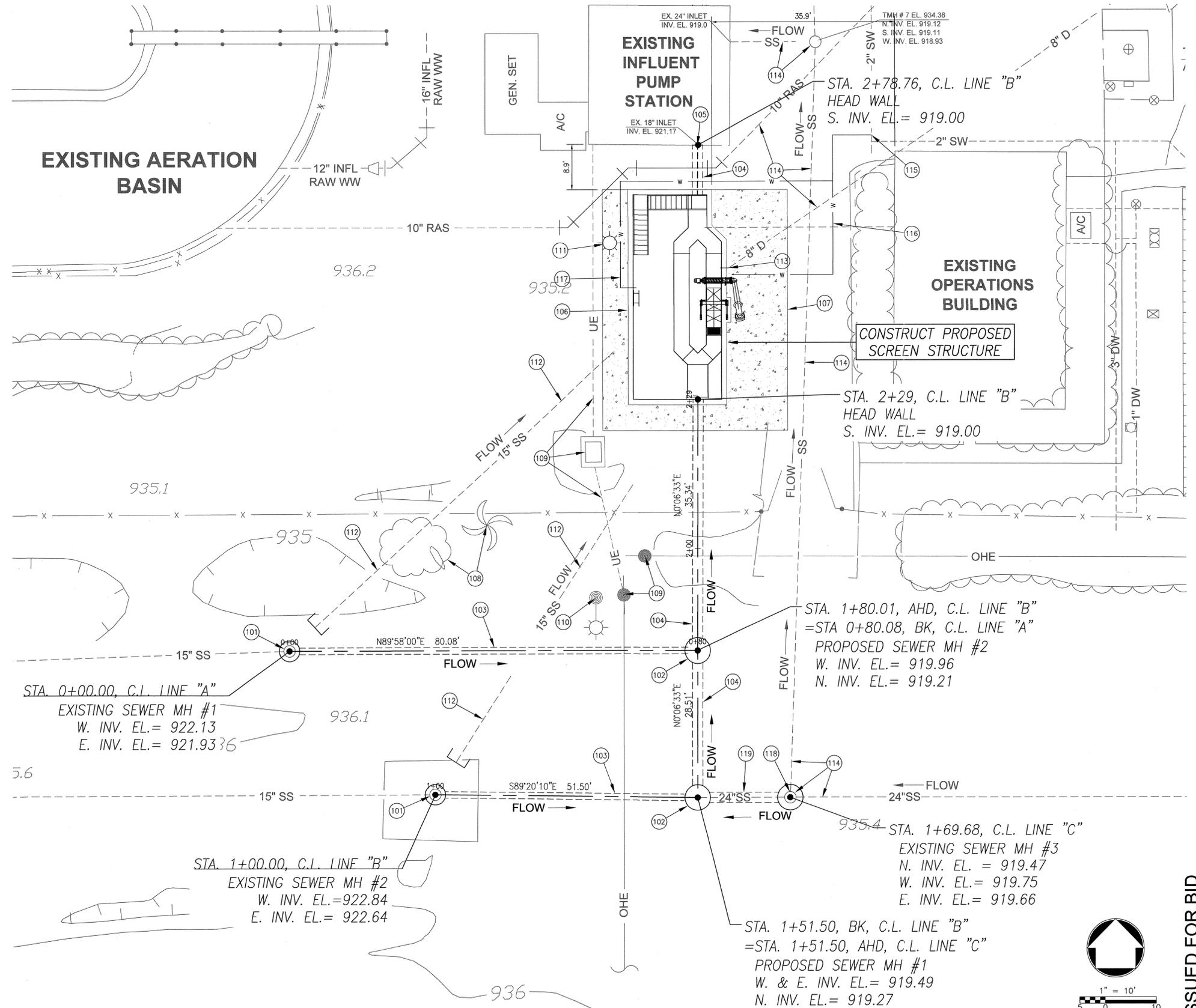
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ISSUED FOR BID  
6/2012/12-0081/DRAWINGS/COARSE SCREENS/12-0081-C-09-1-D1.DWG

**CONSTRUCTION NOTES**

- 101— MODIFY EXISTING MANHOLE BASE
- 102— INSTALL NEW 5' DIA. MANHOLE PER CITY OF IMPERIAL STD. DWGS.
- 103— INSTALL 15" DIA. PVC SEWER PIPE
- 104— INSTALL 24" DIA. PVC SEWER PIPE
- 105— MODIFY EXISTING PUMP STATION INLET FOR 24" DIA. PVC INLET PER DETAIL A BELOW. EXISTING 18" DIA. PIPE TO BE CUT FLUSH WITH WALL AND FILLED WITH NON-SHRINK GROUT.
- 106— CONSTRUCT REINFORCED CONCRETE SCREEN STRUCTURE PER STRUCTURAL SHEETS
- 107— CONSTRUCT 6" THICK REINFORCED CONCRETE SLAB
- 108— PROTECT IN PLACE EXISTING TREE
- 109— PROTECT IN PLACE EXISTING ELECTRICAL VAULT, POWER POLES, AND UNDERGROUND ELECTRICAL
- 110— PROTECT IN PLACE EXISTING LIGHT POLE
- 111— RELOCATE EXISTING LIGHT POLE TO THIS LOCATION
- 112— ABANDON IN PLACE EXISTING SEWER LINE
- 113— RE-ROUTE EXISTING 8" DIA. DRAIN LINE TO STRUCTURE ABOVE WATER SURFACE ONCE STRUCTURE IS COMPLETED
- 114— PROTECT IN PLACE EXISTING MANHOLE AND SEWER LINES
- 115— CONNECT TO EXIST. PLANT WATER WITH 2" DIA. PVC WATERLINE FOR SCREEN AND WASHPACTOR WATER SUPPLY.
- 116— INSTALL 2" DIA. PVC WATERLINE AND FITTINGS AS NECESSARY FOR SCREEN AND WASHPACTOR WATER SUPPLY.
- 117— INSTALL 1-1/2" DIA. PVC WATERLINE, FITTINGS AS NECESSARY, AND HOSE BIBB WITH HOSE RACK AT FLOOR LEVEL OF STRUCTURE.
- 118— CONSTRUCT MORTAR DIVERSION DAM IN NORTH CHANNEL TO AN ELEVATION OF 920.0 SO FLOW GOES FROM EAST TO WEST.
- 119— EXISTING 24" PIPE MAY NEED TO BE MODIFIED TO ADJUST FOR DESIRED INVERT ELEVATIONS, CONTRACT TO VERIFY IN FIELD.



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION

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:  
*Shane L. Bloomfield*  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. 277435

DATE: 5/17/14

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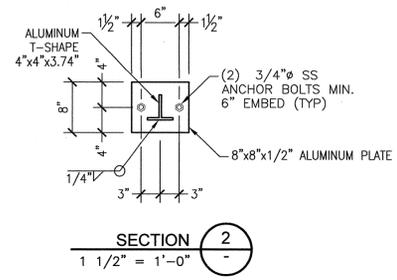
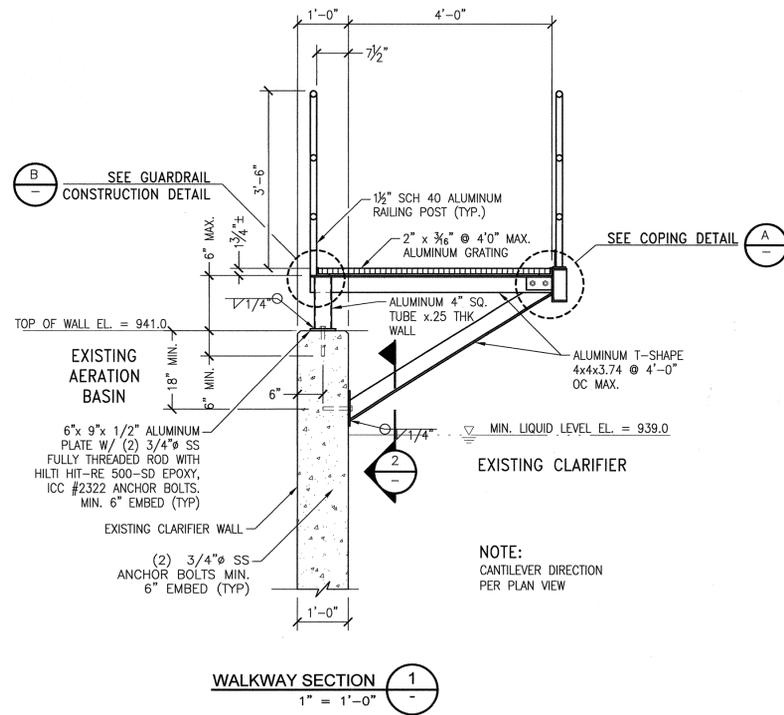
CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
SCREEN SITE AND PIPING PLAN

DWG. NO. \_\_\_\_\_

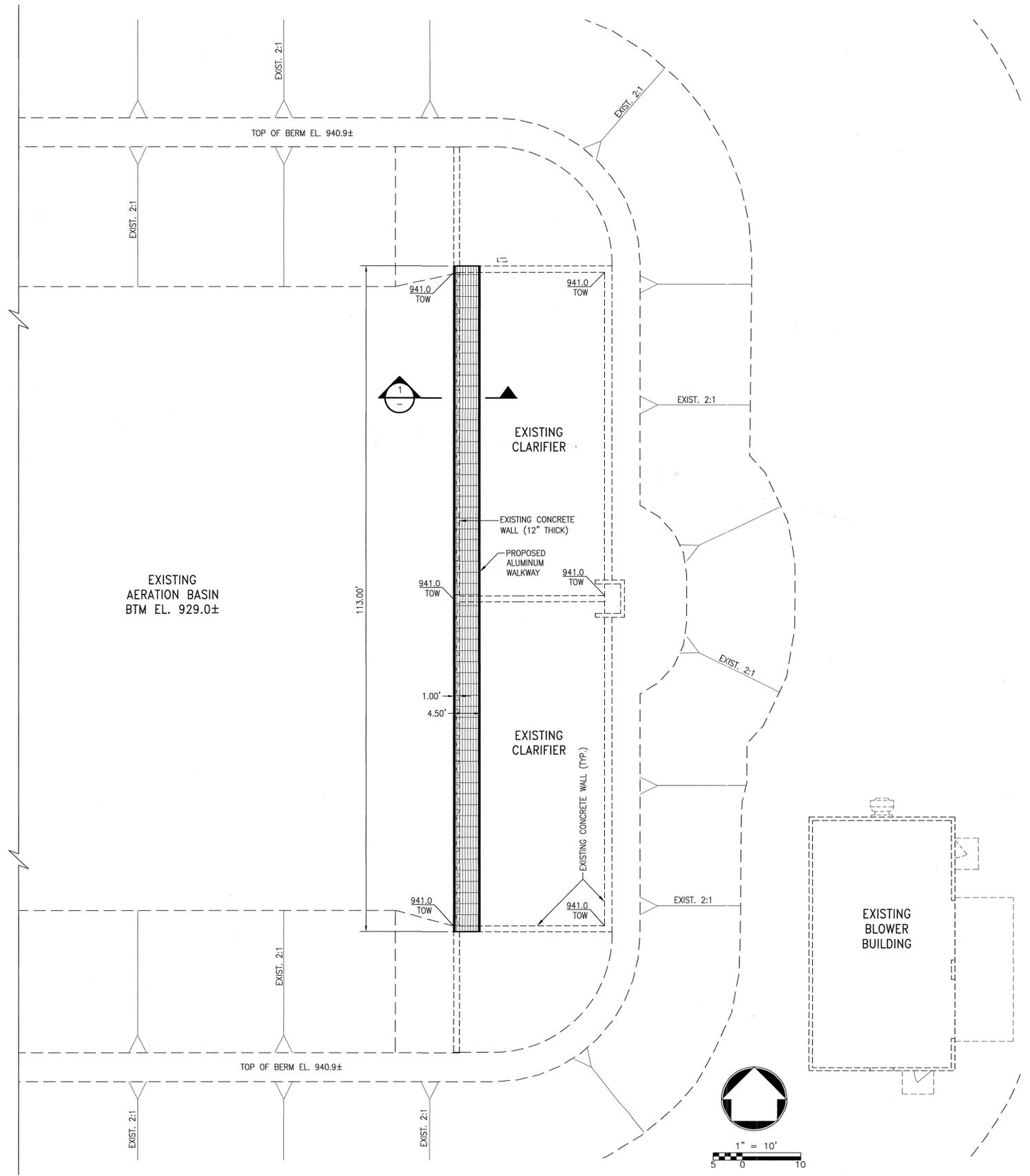
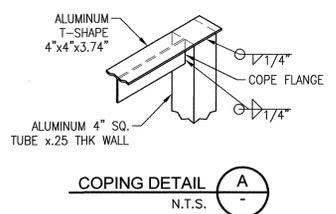
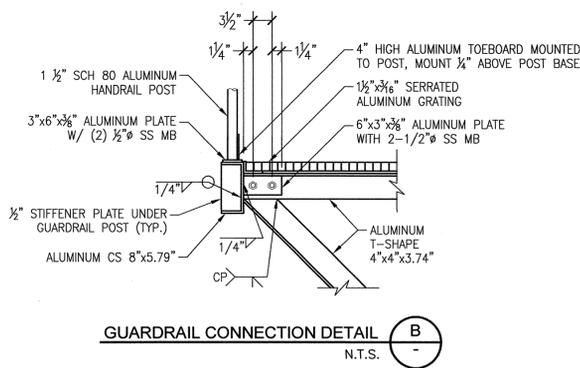
BID NO. 2014-02  
SHEET 4 OF 26  
C-1

ISSUED FOR BID



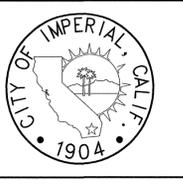
**NOTES:**

- 1- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FROM METAL FABRICATOR FOR ALL MISCELLANEOUS METALS, WALKWAY, SUPPORTS, ETC. (SEE SPECIFICATIONS).
- 2- ALUMINUM IN CONTACT WITH OTHER METALS AND/OR CONCRETE SHALL BE COATED PER SPECIFICATIONS.
- 3- ALL ANCHOR BOLTS AND BOLTS IN CONTACT WITH ALUMINUM SHALL BE 304 STAINLESS STEEL.



REVISIONS				
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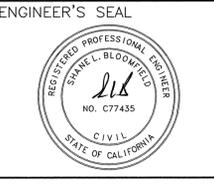
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PLANS PREPARED UNDER THE SUPERVISION OF:  
*Shane L. Bloomfield*  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

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CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

**WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
BIOLAC WALKWAY SITE PLAN**

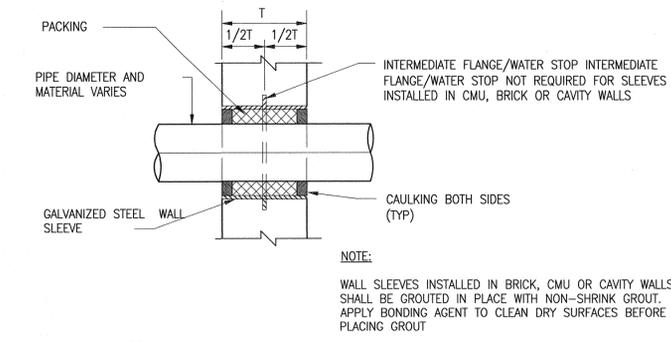
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SHEET 5 OF 26

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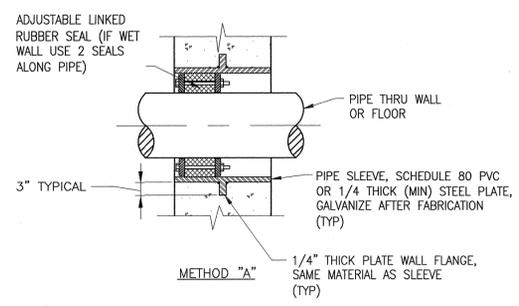
**MECHANICAL AND PIPING GENERAL NOTES**

- PROCESS EQUIPMENT DIMENSIONS, LOCATIONS AND PIPING SYSTEM LAYOUTS ARE BASED ON EQUIPMENT SELECTED AND SPECIFIED AND BY THE DESIGN ENGINEER. IF THE CONTRACTOR PROPOSES TO FURNISH EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACE DIFFERING FROM THAT INDICATED ON THE DRAWINGS OR SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL DETAILED ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, INSTRUMENTATION, HVAC AND ELECTRICAL DRAWINGS AND EQUIPMENT LISTS SHOWING ALL NECESSARY CHANGES AND EMBODYING ALL FEATURES OF THE EQUIPMENT AND/OR PROCESS SYSTEM PROPOSED. THIS INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO PLANS, SECTIONS, DETAILS AND SCHEMATICS OF ALL APPURTENANCES REQUIRED.
  - SIZES OF EQUIPMENT FOUNDATIONS AND EQUIPMENT PADS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT FURNISHED. ALL FLOOR MOUNTED EQUIPMENT SHALL BE SET ON CONCRETE PADS CONFORMING TO DETAILS SHOWN ON THE STRUCTURAL AND/OR MECHANICAL DRAWINGS.
  - STRUCTURAL BACKGROUND AND DIMENSIONAL DATA ON MECHANICAL PIPING DRAWINGS ARE FOR REFERENCE ONLY. SEE APPLICABLE STRUCTURAL DRAWINGS FOR ACTUAL DESIGN INFORMATION.
  - ALL PROCESS PIPING TO AND FROM "YARD", SHOWN AND LOCATED ON YARD PIPING DRAWINGS SHALL AGREE WITH MECHANICAL PIPING LOCATING DIMENSIONS. UNLESS SPECIFICALLY NOTED OTHERWISE, OR NOT SHOWN, MECHANICAL LOCATION SHALL TAKE PRECEDENCE.
  - PROTECTED WATER SUPPLY CONNECTIONS TO PROCESS EQUIPMENT AND PROCESS PIPES ARE SHOWN ON THE MECHANICAL DRAWINGS. DETAILS OF CONTROL VALVE STATIONS, MAKE-UP WATER CONNECTIONS, FLUSHING CONNECTIONS, ETC. ARE SHOWN ON THE MECHANICAL DRAWINGS. IF APPLICABLE, LIMITS OF WORK ARE SHOWN ON THE MECHANICAL AND THE PLUMBING DRAWINGS.
  - WASH HOSE STATIONS ARE SHOWN ON THE PLUMBING DRAWINGS.
  - DIELECTRIC COUPLINGS, FLANGES OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS BETWEEN DISSIMILAR METAL PIPING.
  - MECHANICAL PLANS AND SECTIONS DO NOT SHOW ALL VALVES, GAUGES, SWITCHES, OPERATORS, DRAINS, VENTS, ETC. REQUIRED FOR THE COMPLETE SYSTEM. CERTAIN SMALL DIAMETER PROCESS PIPING RUNS MAY NOT BE SHOWN IN THEIR ENTIRETY. GENERALLY SMALL PIPING IS SHOWN DIAGRAMMATICALLY IN THE PROCESS SCHEMATICS. FIELD ROUTE TO AVOID INTERFERENCES, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL PIPING SYSTEMS AS INDICATED ON THE PROCESS FLOW SCHEMATICS AND/OR AS DEFINED IN PROCESS PIPING SCHEDULES TO PROVIDE THE COMPLETE SYSTEM.
- UNLESS OTHERWISE SHOWN ON THE MECHANICAL DRAWINGS ALL FLOOR SLAB, WALL AND TANK PENETRATIONS SHALL BE AS SHOWN ON THE PENETRATION DETAILS INCLUDED IN THE MECHANICAL CONSTRUCTION DETAILS. ABOVE GROUND EXTERIOR WALL AND ROOF PENETRATIONS SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY SUBSTITUTE ALTERNATE METHODS PROVIDING THEY MEET INTENDED DESIGN REQUIREMENTS.
  - PIPE SUPPORTS SHOWN ON THE DRAWINGS ARE USED TO SHOW THE CONTRACTOR THE DESIGN INTENT. CONTRACTOR SHALL DESIGN AND PROVIDE ALL PIPE SUPPORTS THAT ARE REQUIRED FOR A COMPLETE SYSTEM, WHETHER SHOWN ON THE DRAWINGS ARE NOT. SUPPORTS SHALL BE BRACED AS REQUIRED FOR SEISMIC RESTRAINT.
  - ANCHOR BOLTS OR EXPANSION TYPE ANCHORS SHOWN ON PIPE SUPPORT DRAWINGS ARE FOR REFERENCE ONLY. FOR APPROVED TYPE AND INSTALLATION REQUIREMENTS, SEE SPECIFICATIONS.
  - CONTRACTOR SHALL COORDINATE PIPE SUPPORT CONFIGURATION AND INSTALLATION WITH WORK OF ALL OTHER TRADES, INCLUDING ARCHITECTURAL, PRIOR TO ANY FABRICATION OR INSTALLATION.
  - ALL EQUIPMENT BASES AND PIPING HAVING DRAIN OUTLETS SHALL BE PIPED TO THE NEAREST OPEN END DRAIN (OED) OR TRENCH DRAIN USING GALVANIZED STEEL PIPE OF APPROPRIATE DIAMETER AS INDICATED ON THE DRAWINGS OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
  - UNLESS OTHERWISE SHOWN ALL PIPES UNDER CONCRETE SLABS SHALL BE ENCASED IN CONCRETE AS SHOWN ON THE STRUCTURAL DRAWINGS.
  - NOT ALL VALVES AND GATE OPERATORS ARE SHOWN (I.E. HAND WHEELS, CRANKS, CHAIN WHEELS, MOTORS OR LEVERS). OPERATORS SHALL BE LOCATED TO ALLOW CONVENIENT OPENING AND CLOSING OF VALVES OR GATES. ORIENTATION OF OPERATORS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. NO VALVE SHALL BE INSTALLED WITH THE OPERATING STEM IN THE VERTICAL DOWNWARD POSITION.
  - PIPING SHALL BE INSTALLED SO THAT ANY PIPE, LAYER OF PIPING OR EQUIPMENT CAN BE REMOVED WITHOUT DISTURBING REMAINING PIPES AND SUPPORTS.
  - THE NUMBER OF UNIONS AND OTHER TYPES OF DISMANTLING COUPLINGS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL PROVIDE UNIONS OR DISMANTLING COUPLINGS WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT ON ALL PIPELINES WITH WELDED, THREADED OR SOLVENT CEMENTED JOINTS: AT ALL EQUIPMENT CONNECTIONS, AT A MINIMUM EVERY 50 FEET AND IN BRANCH LINES TO ALLOW CONVENIENT REMOVAL OF PIPING, EQUIPMENT AND APPURTENANCES.



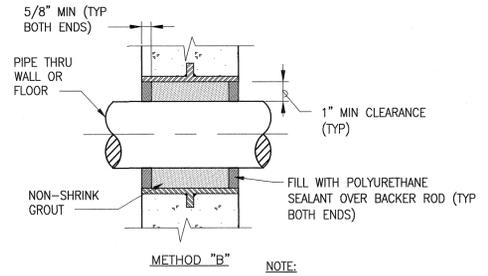
CAULKED WALL SLEEVE FOR CONCRETE, CMU, BRICK OR CAVITY WALLS

**DETAIL A**  
NTS



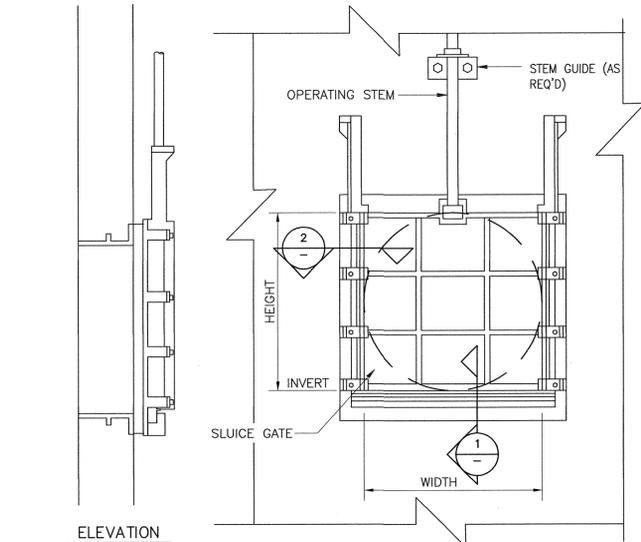
PIPE PENETRATION IN NEW WALL

**DETAIL B**  
NTS



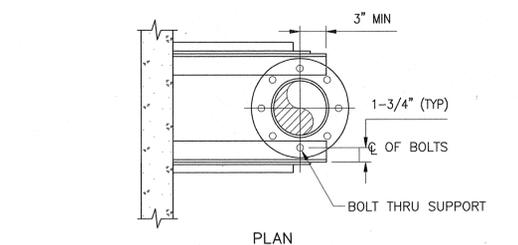
PIPE ANGLE BRACKET

**DETAIL C**  
NTS



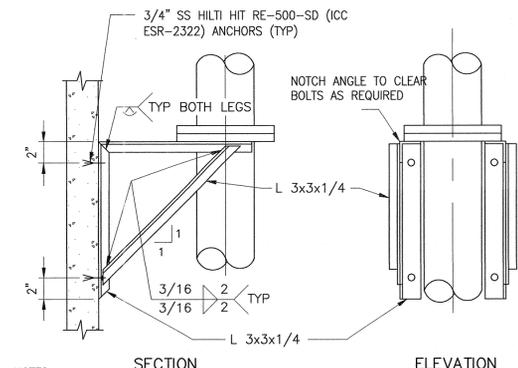
SLUICE GATE

**DETAIL E**  
NTS



PIPE SUPPORT

**DETAIL D**  
NTS



FACE MOUNTED

FLUSH MOUNTED

**SECTION 1**  
NTS

FACE MOUNTED GUIDE

OPEN CHANNEL GUIDE

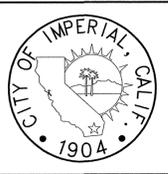
**SECTION 2**  
NTS

- NOTES:
- ALL SLUICE GATES SHALL HAVE WALL THIMBLES. FOR THOSE GATES WHERE A PIPE ENTERS THE STRUCTURE, A WALL THIMBLE WITH A MJ CONNECTION SHALL BE PROVIDED. DOUBLE JOINT SHALL STILL BE REQUIRED.



REVISIONS				
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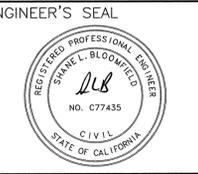
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**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES



ALBERT A. WEBB ASSOCIATES  
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36951 COOK STREET #103  
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PLANS PREPARED UNDER THE SUPERVISION OF:  
*Shane L. Bloomfield*  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

DATE: 7/17/14

DATE	DESIGNED	DRAWN	TRACED	CHECKED	SUBMITTED	SCALE
5/16/12	---	BTE	---	SLB	---	---

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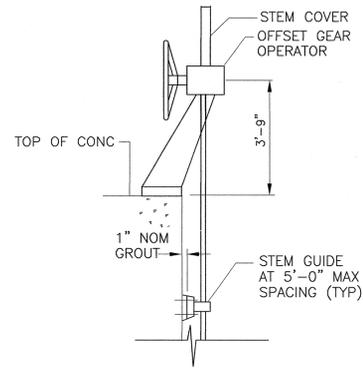
CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
MECHANICAL NOTES AND DETAILS

DWG. NO. \_\_\_\_\_

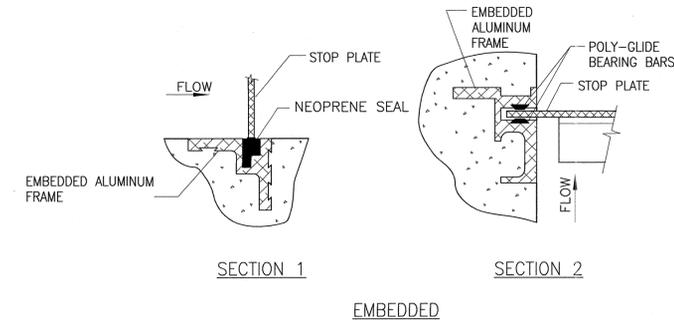
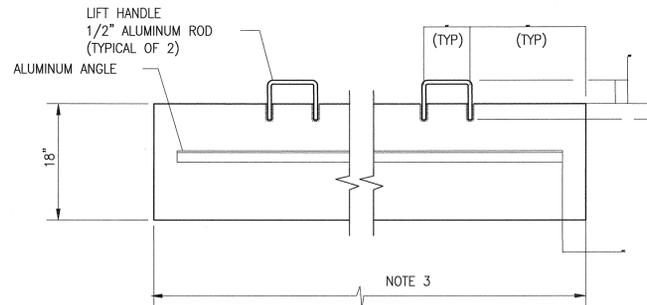
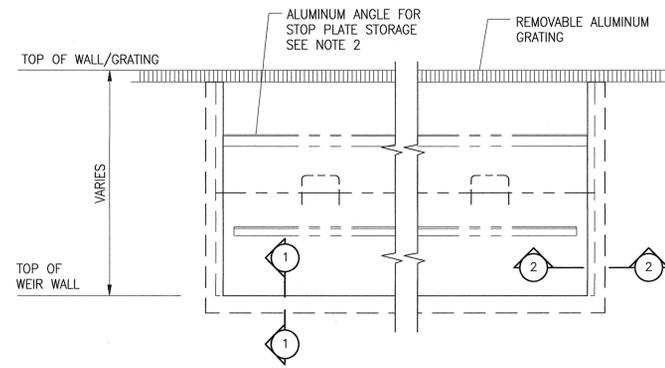
BID NO. 2014-02  
SHEET 6 OF 26  
M-1

ISSUED FOR BID  
G:\2012\12-0081\DRAWINGS\COARSE SCREENS\12-0081-M-01-DWG



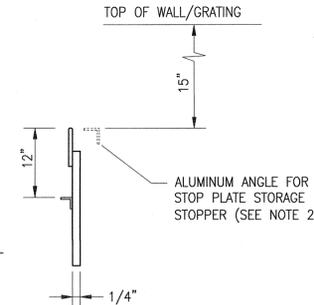
OFFSET OPERATOR

GATE OPERATOR  
DETAIL A  
NTS

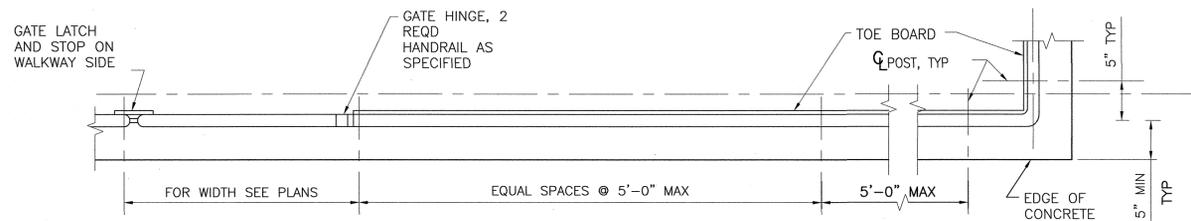


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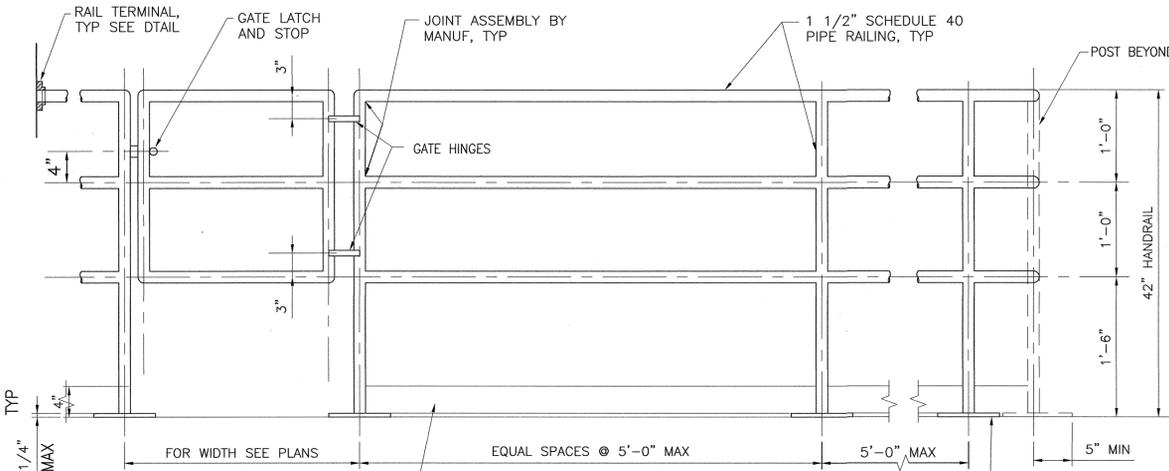
- STOP PLATE SHALL BE MIN 1/4" ALUMINUM PLATE.
- CONTRACTOR TO PROVIDE ALUMINUM ANGLE AND PLACE IT AT A LOCATION WHERE THE STOP PLATE CAN REST ON THE ANGLE WHILE REMAINING IN THE EMBEDDED GUIDE FRAME. SEE DETAIL THIS SHEET.
- STOP PLATES STORAGE ANGLE ON PLATE AND ACROSS OPENING SHALL BE POSITIONED TO ALLOW NO MORE THAN 2" FROM BOTTOM OF GRATING TO HANDLE FOR ACCESS. REFER TO DETAIL ON THIS SHEET.



STOP PLATE WITH FRAME ASSEMBLY  
DETAIL B  
NTS



PLAN

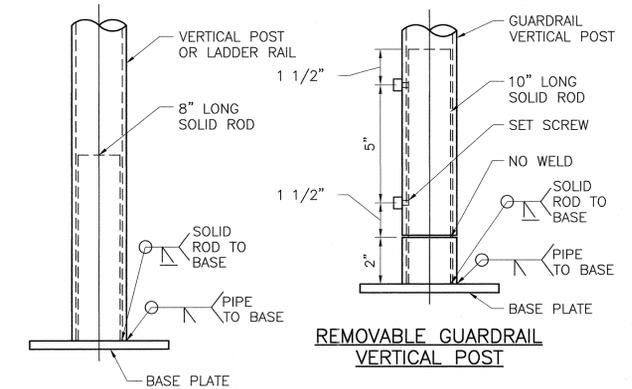


ELEVATION

RAIL TERMINAL

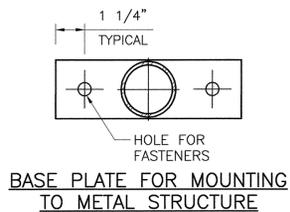
- NOTES:
- FASTEN RAIL TO WALL BRACKET PER MANUFACTURERS RECOMMENDATIONS.
  - PROVIDE ISOLATION WASHER BETWEEN S.S. BOLT AND ALUMINUM MEMBER FOR PROTECTION OF DISSIMILAR METALS

ALUMINUM HANDRAIL  
DETAIL C  
NTS

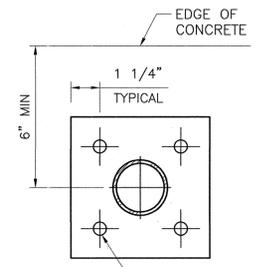


TYPICAL VERTICAL POST

REMOVABLE GUARDRAIL VERTICAL POST



BASE PLATE FOR MOUNTING TO METAL STRUCTURE



BASE PLATE FOR MOUNTING TO CONCRETE

- NOTE:
- TOEBOARD NOT SHOWN.

VERTICAL POST BASE  
DETAIL D  
NTS



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES \_\_\_\_\_



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SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

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CITY OF IMPERIAL  
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WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
MECHANICAL DETAILS

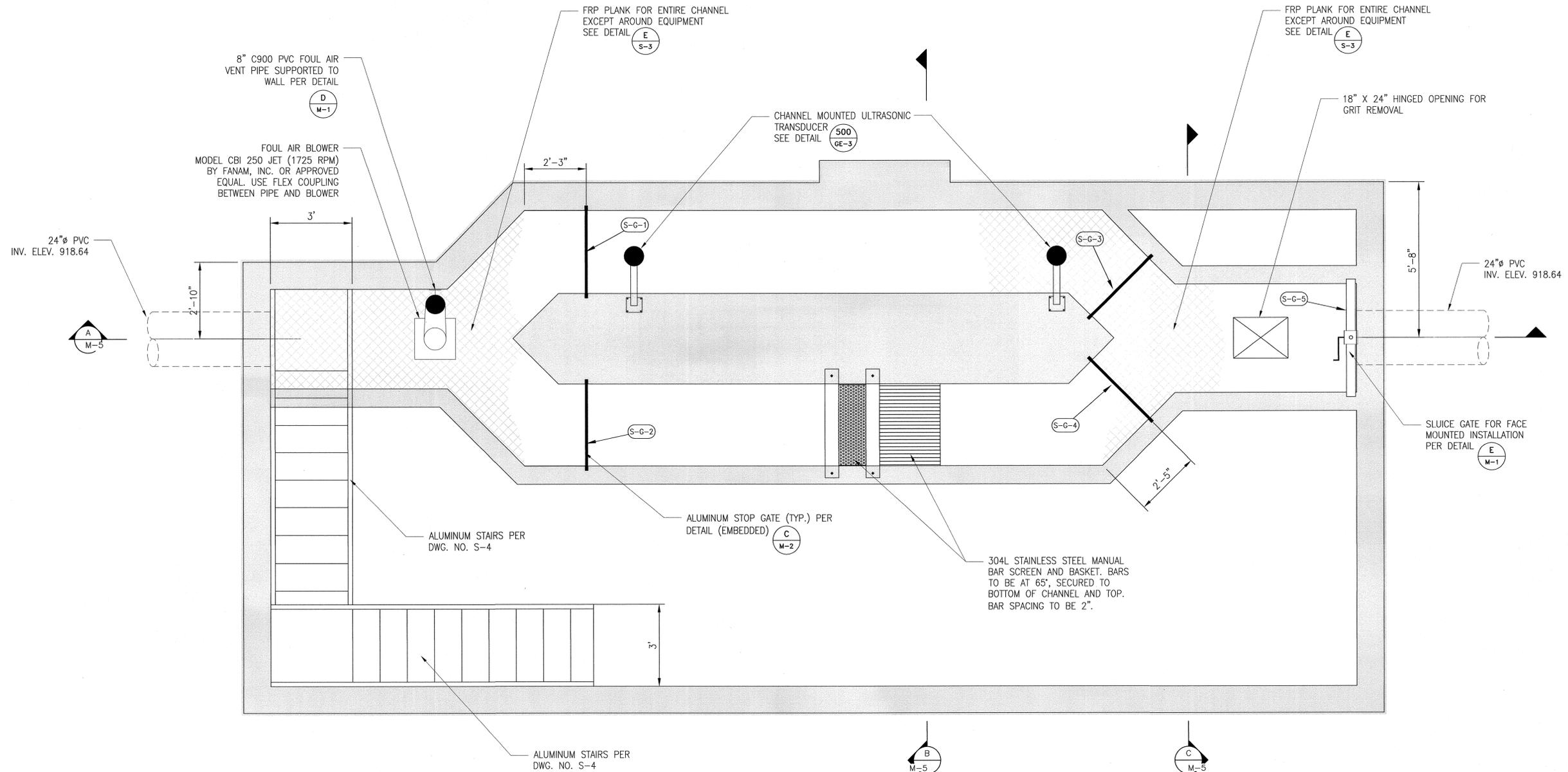
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2014-02

SHEET  
**7**  
OF 26

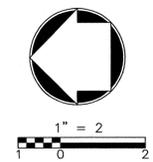
DWG. NO. M-2

ISSUED FOR BID

GATE SCHEDULE			
EQUIP. NO.	SERVICE	SIZE	REMARKS
S-G-1	PROPOSED SCREEN ISOLATION	36" X 36"	ALUMINUM STOP GATE GOLDEN HARVEST MODEL MD GH-36 WITH FIXED HANDLE OR EQUAL
S-G-2	FUTURE SCREEN ISOLATION	36" X 36"	ALUMINUM STOP GATE GOLDEN HARVEST MODEL MD GH-36 WITH FIXED HANDLE OR EQUAL
S-G-3	PROPOSED SCREEN ISOLATION	36" X 36"	ALUMINUM STOP GATE GOLDEN HARVEST MODEL MD GH-36 WITH FIXED HANDLE OR EQUAL
S-G-4	FUTURE SCREEN ISOLATION	36" X 36"	ALUMINUM STOP GATE GOLDEN HARVEST MODEL MD GH-36 WITH FIXED HANDLE OR EQUAL
S-G-5	CHANNEL ISOLATION	48" X 36"	STAINLESS STEEL SLUICE GATE GOLDEN HARVEST MODEL MD GH-100-250



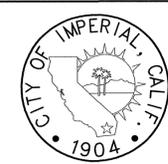
MECHANICAL  
PLAN  
1"=2'-0"



ISSUED FOR BID



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**CITY OF IMPERIAL**

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VERT. SCALE:	N/A

**CITY OF IMPERIAL**  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
MECHANICAL PLAN - CHANNEL ELEVATION

BID NO.  
2014-02

SHEET  
**8**  
OF 26

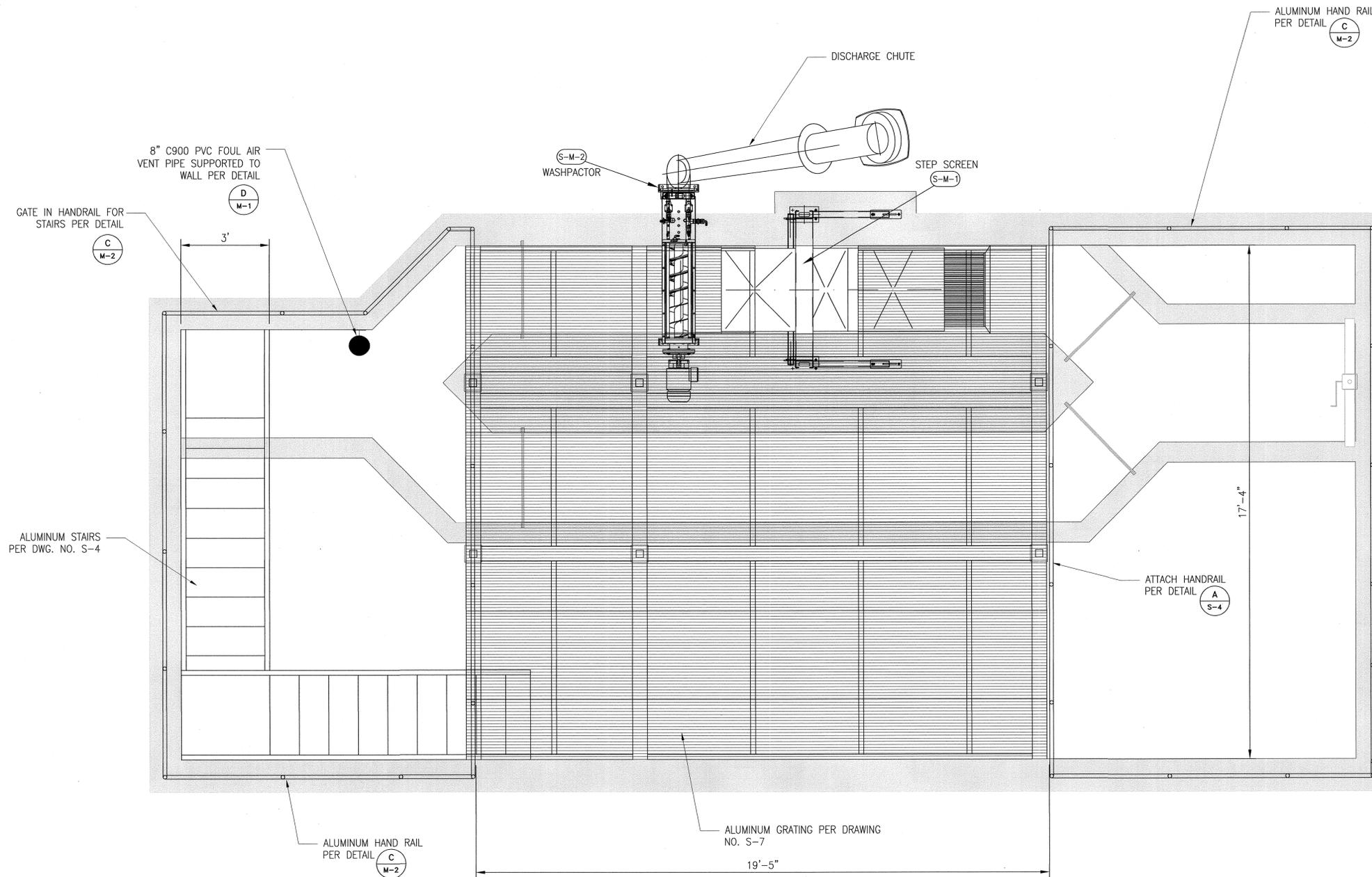
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6/20/12 12:08:11 DRAWINGS\COARSE SCREENS\12-COBS1-3-01-1-W3.DWG

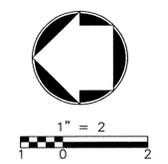
**SCREEN AND WASHPACTOR NOTES**

- SCREEN AND WASHING SYSTEM UNITS WILL REQUIRE CONNECTION TO THE EXISTING PLANT WATER SYSTEM. CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPING, VALVES, AND FITTINGS TO MAKE SUCH CONNECTIONS AND ROUTE EXISTING PLANT WATER TO THE FINE SCREEN AND WASHING SYSTEM'S PLANT WATER MANIFOLD.
- CONTRACTOR TO INSTALL 5-INCH DRAIN FROM WASHING SYSTEM AND ROUTE WASH WATER BACK DOWN TO CHANNEL BELOW. CONTRACTOR TO PROVIDE ALL PIPE, FITTINGS, SUPPORTS, ETC. FOR INSTALLATION OF DRAIN.
- FINE SCREEN AND WASHING SYSTEM UNITS SHALL BE INSTALLED AND MOUNTED PER MANUFACTURER'S RECOMMENDATIONS. LOCATION OF STRUCTURAL MEMBERS MAY NEED TO BE ADJUSTED PENDING EQUIPMENT MOUNTING LOCATIONS.

GATE SCHEDULE			
EQUIP. NO.	SERVICE	HP (KW)	REMARKS
S-M-1	INFLUENT SCREENING	2 HP	HUBER STEP SCREEN MODEL SSV 7300, 70", 1/4" BAR SPACING OR EQUAL
S-M-2	SCREENINGS WASHER/COMPACTOR	5 HP	HUBER WAP 2 OR EQUAL

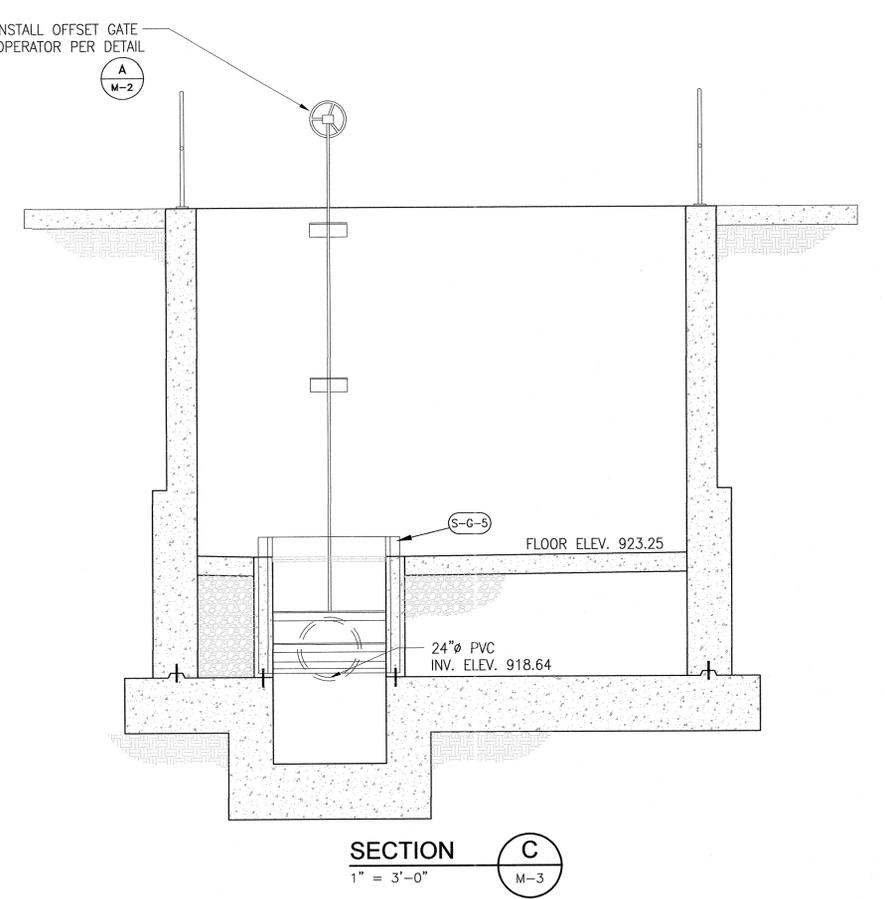
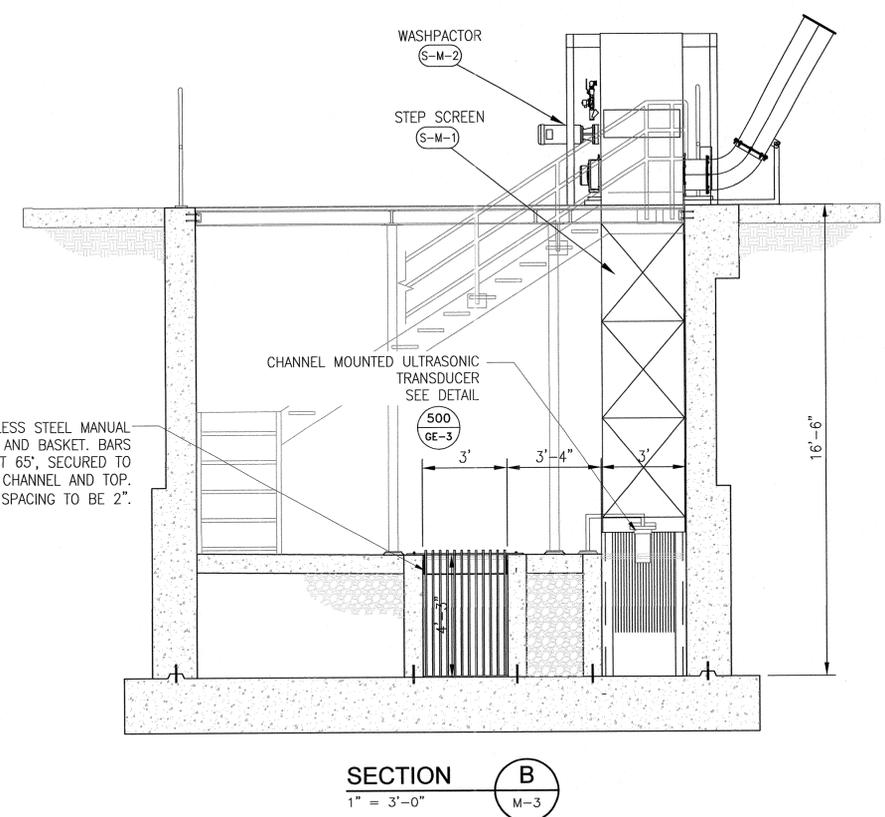
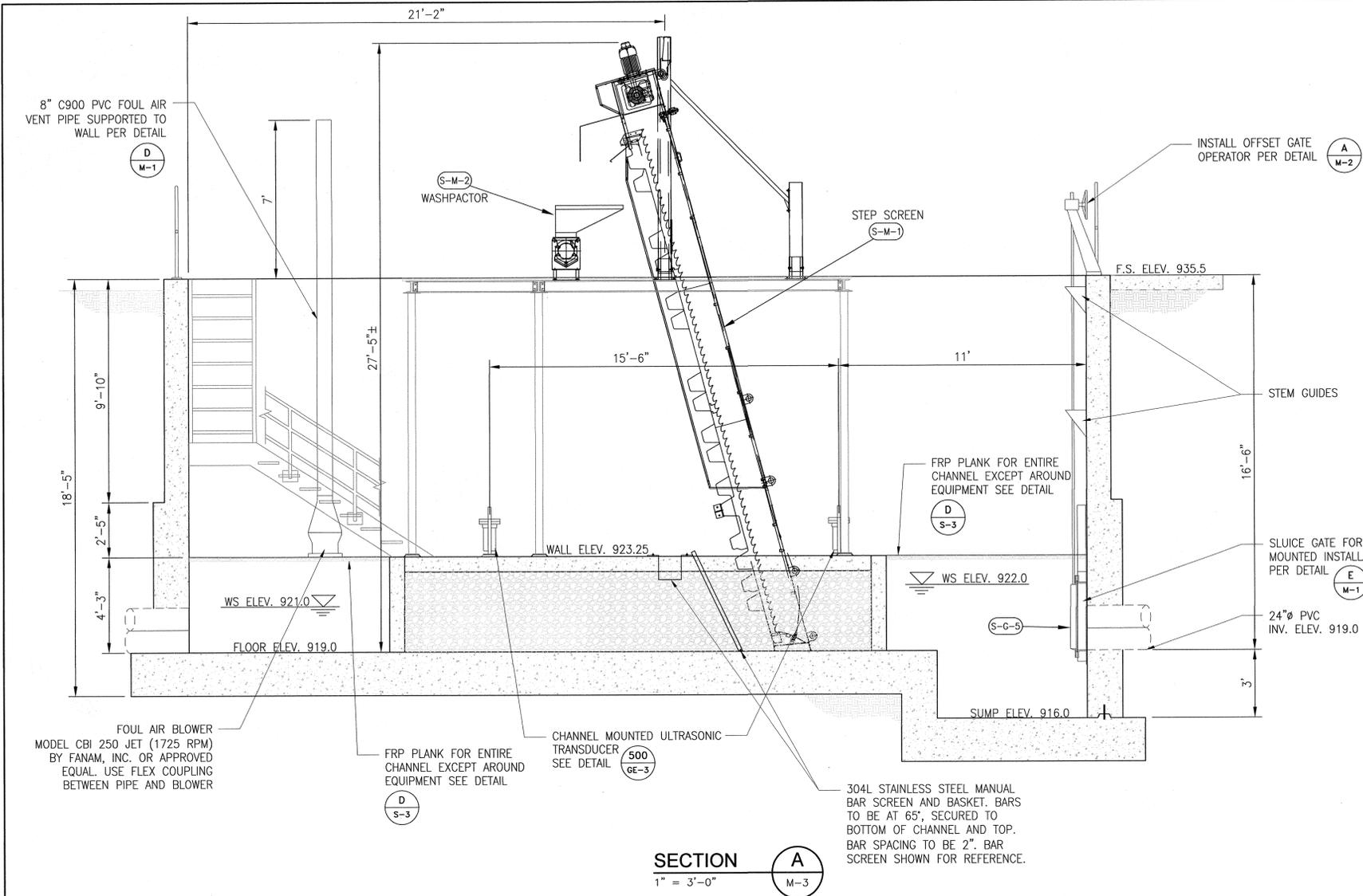


**MECHANICAL PLAN**  
1"=2'-0"



ISSUED FOR BID

<p>Know what's below. Call 811 before you dig.</p>	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>INITIAL</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS			NO.	DATE	INITIAL								<p><b>CITY OF IMPERIAL</b></p> <p>CITY ENGINEER _____ DATE _____</p> <p>REFERENCES _____</p>	<p>ENGINEER'S SEAL</p>	<p><b>ALBERT A. WEBB ASSOCIATES</b></p> <p>ENGINEERING CONSULTANTS 36951 COOK STREET #103 PALM DESERT, CA 92211 PH. (760) 568-5005 FAX (760) 568-3443</p> <p>PLANS PREPARED UNDER THE SUPERVISION OF: <i>Shane L. Bloomfield</i> 5/17/14 SHANE L. BLOOMFIELD REGISTERED CIVIL ENGINEER NO. C77435</p>	<table border="1"> <thead> <tr> <th> </th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>DESIGNED: -</td> <td>5/16/12</td> </tr> <tr> <td>DRAWN: BTE</td> <td>5/16/12</td> </tr> <tr> <td>TRACED: -</td> <td>N/A</td> </tr> <tr> <td>CHECKED: SLB</td> <td>5/16/12</td> </tr> <tr> <td>SUBMITTED: -</td> <td>--/--/--</td> </tr> </tbody> </table> <p>SCALE: HORIZ. SCALE: 1"=4' VERT. SCALE: N/A</p>		DATE	DESIGNED: -	5/16/12	DRAWN: BTE	5/16/12	TRACED: -	N/A	CHECKED: SLB	5/16/12	SUBMITTED: -	--/--/--	<p>CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA</p> <p>WASTEWATER TREATMENT PLANT MODIFICATIONS COARSE SCREEN INSTALLATION MECHANICAL PLAN - GROUND ELEVATION</p> <p>DWG. NO. M-4</p>	<p>BID NO. 2014-02</p> <p>SHEET 9 OF 26</p>
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FOUL AIR BLOWER  
MODEL CBI 250 JET (1725 RPM)  
BY FANAM, INC. OR APPROVED  
EQUAL. USE FLEX COUPLING  
BETWEEN PIPE AND BLOWER

FRP PLANK FOR ENTIRE  
CHANNEL EXCEPT AROUND  
EQUIPMENT SEE DETAIL

CHANNEL MOUNTED ULTRASONIC  
TRANSDUCER  
SEE DETAIL

304L STAINLESS STEEL  
BAR SCREEN AND BASKET. BARS  
TO BE AT 65°, SECURED TO  
BOTTOM OF CHANNEL AND TOP.  
BAR SPACING TO BE 2". BAR  
SCREEN SHOWN FOR REFERENCE.

INSTALL OFFSET GATE  
OPERATOR PER DETAIL

STEM GUIDES

SLUDGE GATE FOR FLUSH  
MOUNTED INSTALLATION  
PER DETAIL

24"Ø PVC  
INV. ELEV. 919.0

304L STAINLESS STEEL  
BAR SCREEN AND BASKET. BARS  
TO BE AT 65°, SECURED TO  
BOTTOM OF CHANNEL AND TOP.  
BAR SPACING TO BE 2".

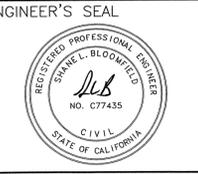
CHANNEL MOUNTED  
ULTRASONIC  
TRANSDUCER  
SEE DETAIL



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
DESIGNED BY:	DRAWN BY:	CHECKED BY:		



<b>CITY OF IMPERIAL</b>	
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:  
*Shane L. Bloomfield* 5/17/12  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

	DATE
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CHECKED: SLB	5/16/12
SUBMITTED: -	--/--
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HORIZ. SCALE: 1"=4'	
VERT. SCALE: N/A	

CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA	
WASTEWATER TREATMENT PLANT MODIFICATIONS COARSE SCREEN INSTALLATION MECHANICAL SECTIONS	
DWG. NO.	M-5

BID NO. 2014-02
SHEET <b>10</b> OF 26

ISSUED FOR BID  
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**STEEL:**

- FABRICATION AND ERECTION TO CONFORM TO A.I.S.C. LATEST EDITION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.
- A.W.S. CERTIFIED WELDERS SHALL BE USED FOR ALL WELDING. WELDING TO BE PERFORMED IN AISC CERTIFIED FABRICATOR SHOP OR EQUAL. ALL WELDING TO CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE A.W.S. D1.1.
- MATERIALS:
 

ROLLED SHAPES	ASTM A992 GRADE 50
WIDE FLANGES	ASTM A36
CHANNELS, ANGLES & OTHER PLATES	ASTM A572 GRADE 50
BEAM COVER/SIDE PLATES	ASTM A572 GRADE 50
COLUMN CONTINUITY PLATES	ASTM A572 GRADE 50
COLUMN BASE PLATES	ASTM A36
OTHER UON	ASTM A53 GRADE B
STEEL PIPES	ASTM A500, GRADE B (Fy=46 KSI)
STEEL TUBING	ASTM A325
HIGH STRENGTH BOLTS	ASTM A307
MACHINE BOLTS	ASTM F1554, GRADE 36 UON
ANCHOR BOLTS	ASTM A307
THREADED AND HANGER ROD	ASTM A108 GRADE 1015 THRU 1020
WELDED SHEAR CONNECTORS	ASTM A123
GALVANIZING	TT-P-645 ASTM
RUST-INHIBITING PRIMER	
- HOT-DIPPED GALVANIZE PER ASTM A123, A153, A385 AFTER FABRICATION OF ALL STRUCTURAL STEEL AND CONNECTORS EXPOSED TO WEATHER. REPAIR PER ASTM A780.
- CONNECTED MEMBERS SHALL BEAR ONLY UPON UNTHREADED PORTIONS OF BOLTS.
- BURNING OF HOLES IS NOT ALLOWED.
- INSPECTION OF WELDING SHALL CONFORM TO C.B.C. REQUIREMENTS (CHAPTER 17).
- THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
- BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL SURFACES TO RECEIVE SPRAY-APPLIED FIREPROOFING OR TO BE ENCASED IN CONCRETE OR MASONRY SHALL BE LEFT UNPAINTED.
- STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.
- OPENING SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED.

**CONCRETE:**

- ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF A.C.I. 318-LATEST EDITION "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS CONTAINED HEREIN OR SHOWN ON THE DRAWINGS.
- ALL CONCRETE SHALL BE 150 P.C.F. HARDROCK, MIXED PER A.S.T.M. C-94 FOR READY MIX CONCRETE, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 P.S.I. AT 28 DAYS.
- THE MAXIMUM SIZE AGGREGATE IN FOUNDATION AND MASS CONCRETE WORK SHALL BE 1 INCH. THE MAXIMUM SIZE AGGREGATE IN SLABS ON GRADE, WALLS, AND ALL OTHER CONCRETE SHALL BE 3/4 INCH.
- CEMENT SHALL CONFORM TO A.S.T.M. C-150, TYPE V, LOW ALKALI. AGGREGATES FOR NORMAL WEIGHT SHALL CONFORM TO A.S.T.M. C-33.
- ADMIXTURES AND COLORS (EXCEPT AS NOTED HEREIN) SHALL NOT BE USED UNLESS SUBSTANTIATING DATA IS SUBMITTED TO AND REVIEWED BY THE ENGINEER AND ARCHITECT OF RECORD.
- CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. THE MIX DESIGNS SHALL CONFORM TO C.B.C. SEC. 1905 UNLESS OTHERWISE NOTED.
- NON-STRUCTURAL STEEL EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.
- PROVIDE 2-#5 DIAGONAL BARS AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF FLOORS.
- PROVIDE WATERSTOPS IN ALL BELOW GRADE FOUNDATION WALL CONSTRUCTION JOINTS.
- READY MIXED CONCRETE SHALL CONFORM TO A.S.T.M. C-94.
- PLACEMENT OF CONCRETE SHALL CONFORM TO A.C.I. 304. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE FOR ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
- ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM, CLASS I, EXT-A.P.A. PLYWOOD.
- ALL SLABS SHALL HAVE A TROWELED FINISH EXCEPT AS NOTED ON THE DRAWINGS.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- IF THE CONTRACTOR DESIRES TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, HE SHALL SUBMIT DETAILS OF CHANGES TO THE ENGINEER OF RECORD FOR REVIEW BEFORE STARTING WORK.
- NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OFF THE GROUND.
- PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, U.O.N.
- SLEEVE PLUMBING OPENINGS IN SLABS WITH NON-CORROSIVE SLEEVE BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
- ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE MINIMUM COVER:
 

FOOTINGS CAST AGAINST EARTH	4"
FORMED CONCRETE EXPOSED	4"
TO EARTH, WEATHER OR LIQUID	1 1/2"
BEAMS AND GIRDERS	2"
WALLS	1 1/2"
COLUMN TIES	3/4"
SLABS (#11 AND SMALLER)	3/4"
- CONCRETE CURING: TYPICALLY REQUIRED A MINIMUM OF 10 DAYS.

**WELDING:**

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY CODE D1.1. (LATEST EDITION).
- ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS.
- ALL WELDS SHALL HAVE A WELD CONTROLLED SEQUENCE AND TECHNIQUE IN ORDER TO MINIMIZE SHRINKAGE, STRESSES AND DISTORTION.
- ALL ELECTRODES FILLER MATERIAL SHALL BE A MINIMUM OF E70XX.
- WELDING OF REINFORCING BARS TO BE IN ACCORDANCE WITH A.W.S. D1.4. REINFORCING STEEL TO BE WELDED SHALL HAVE A CARBON EQUIVALENT (CE) OF 0.75. SPECIAL INSPECTION IS REQUIRED.
- WELDING OF SHEET METAL SHALL BE IN ACCORDANCE WITH A.W.S. D1.3.
- SPECIAL INSPECTION IS REQUIRED FOR ALL FIELD WELDING.
- ALL SHOP AND FIELD WELDING OF MOMENT CONNECTIONS OR MOMENT RESISTING FRAMES, AND ALL COLUMN SPLICE WELDS, SHALL BE TESTED AS PER C.B.C.

**STRUCTURAL OBSERVATION:**

- PER C.B.C. CHAPTER 17 SECTION 1709, THE OWNER SHALL EMPLOY A LICENSED ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN, OR HIS DESIGNATED ENGINEER OR ARCHITECT TO MAKE SITE VISITS TO OBSERVE GENERAL COMPLIANCE WITH THE APPROVED STRUCTURAL PLANS, SPECIFICATIONS AND CHANGE ORDERS. THE ENGINEER SHALL SUBMIT A STATEMENT IN WRITING TO THE BUILDING OFFICIAL STATING THAT THE SITE VISIT HAS BEEN MADE AND THAT ANY DEFICIENCIES NOTED HAVE BEEN CORRECTED. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE INSPECTIONS REQUIRED BY SECTIONS 109, 1704 OR OTHER SECTIONS OF THE CODE.

**SPECIAL INSPECTION**

- CONCRETE OVER 2500 PSI.
- POST-INSTALLED CONCRETE ANCHORS.

**FOUNDATION:**

- ATTACH ONE COPY OF SOILS REPORT TO THE APPROVED SET OF CONSTRUCTION DOCUMENTS. SOILS REPORT SHALL BE PART OF THESE NOTES. PRIOR TO THE POURING OF CONCRETE AND PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS. HE SHALL POST NOTICE ON THE JOB SITE AND ADVISE THE BUILDING INSPECTOR IN WRITING THAT THE WORK SO INSPECTED MEETS THE CONDITIONS OF THE REPORT. A WRITTEN CERTIFICATION TO VERIFY THAT:
  - THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED, AND
  - THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
- SOILS REPORT PREPARED BY: LANDMARK GEO-ENGINEERS AND GEOLOGISTS  
IMPERIAL WASTEWATER TREATMENT PLANT UPGRADES - NEC 15TH STREET AND NORTH N STREET DATED APRIL 2006
- SOIL REMOVAL AND RECOMPACTION SHALL BE DONE PER PROJECT SPECIFICATIONS UNDER GEOTECHNICAL ENGINEER'S SUPERVISION AND INSPECTION.
- TYPE OF FOOTING:
  - SHALLOW FOOTING SYSTEM-MINIMUM EMBEDMENT 24" BELOW LOWEST ADJACENT GRADE.

DESIGN SOIL PRESSURE:

FOR SITE CLASS D	STATIC BEARING PRESSURE
FOOTING TYPE	
SPREAD FOOTING	3,000 P.S.F.
CONTINUOUS FOOTING	3,000 P.S.F.
MAT FOOTING	3,000 P.S.F.
- SLAB BASE AND COMPACTION TO BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- NO PIPES OR DUCTS SHALL BE PLACED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.
- FOR ALL DIMENSIONS, CURBS, SLAB DEPRESSIONS, STEPS, FLOOR DRAINS, FLOOR SINKS, TRENCHES, UNDER FLOOR DUCTS AND CONDUITS, SEE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS, TRENCH BACK FILL AS PER PROJECT SPECIFICATIONS.
- ALL WALLS RETAINING EARTH SHALL DRAIN TO DAYLIGHT OR OTHER DRAINAGE.
- ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
- THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
- ALL PLANTERS IN CLOSE PROXIMITY TO THE STRUCTURE SHALL HAVE ADEQUATE DRAINAGE OF SURFACE WATER TO PREVENT SATURATION OF SOIL UNDER FOUNDATION.

**REINFORCING:**

- ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE C.B.C., AND THE "MANUAL OF STANDARD PRACTICE" BY THE C.R.S.I. OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
- REINFORCING BARS SHALL CONFORM TO A.S.T.M. A-615, DEFORMED GRADE 60, EXCEPT #3 BARS MAY BE GRADE 40. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO A.S.T.M. A-706, DEFORMED GRADE 60.
- WELDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH A.S.T.M. A-706 WITH LOW HYDROGEN ELECTRODES AND STRUCTURAL WELDING CODE REINFORCING STEEL SHALL CONFORM TO A.N.S.I. / A.W.S. D1.4. MINIMUM TENSILE STRENGTH OF WELD METAL SHALL BE 90 K.S.I. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD, UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL.
- WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A-185, AND SHALL BE LAPPED 1 SPACE AND 12" MINIMUM.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE LAPPED WITH THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE VERTICAL REINFORCEMENT.
- REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
- ALL VERTICAL REINFORCING SHALL BE CONTINUOUS BETWEEN TWO LEVELS, UNLESS OTHERWISE NOTED.
- SLAB ON GRADE REINFORCING SHALL BE POSITIONED AT MID-DEPTH, UNLESS OTHERWISE NOTED.
- PROVIDE #3 SPACER TIES AT 2'-6" ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, UNLESS OTHERWISE NOTED.
- PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED. A.C.I. SECTION 6.3.12

**GENERAL NOTES:**

- THE PROJECT SPECIFICATIONS SHALL BE PART OF THE CONTRACT DOCUMENTS.
- THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL HVAC, AND ELECTRICAL DRAWINGS.
- THE CONTRACTOR SHALL REVIEW EXISTING CONDITIONS ON THE SITE DURING THE BIDDING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
- UNLESS NOTED OR SHOWN OTHERWISE, ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE CALIFORNIA BUILDING CODE (2010 EDITION), AND ANY A.S.T.M. SPECIFICATIONS ON WHICH THESE STANDARDS ARE BASED. WHERE CONFLICT BETWEEN BUILDING CODES AND SPECIFICATIONS OCCUR, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
- ALL A.S.T.M. DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
- ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL HVAC, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS, SUCH AS:
  - SIZE AND LOCATION OF ALL OPENINGS.
  - SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, AND FLOOR DRAINS, SLOPES, DEPRESSED SLAB AREAS, ETC.
  - FLOOR, AND WALL FINISHES.
  - DIMENSIONS WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS NOTED OTHERWISE, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- NEITHER THE OWNER NOR THE ARCHITECT/STRUCTURAL ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. SITE OBSERVATION VISITS BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
- SATISFACTORY EXECUTION OF CONSTRUCTION IS DEPENDANT UPON CONFORMANCE WITH THE INTENT OF THESE DRAWINGS. THE OWNER OR CONTRACTOR SHALL RETAIN A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER DURING CONSTRUCTION TO OBSERVE THE CONSTRUCTION AND STATE THAT THE STRUCTURE HAS BEEN BUILT IN GENERAL CONFORMANCE WITH THE INTENT OF THESE DRAWINGS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH PARTICULAR LEVEL. WHEN WEIGHT OF MATERIALS OR EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK. THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

**DESIGN BASIS:**

CODE: 2010 C.B.C. (CALIFORNIA BUILDING CODE) CCR, TITLE 24, PART 2.

**GRAVITY LOADS:**

- FLAT ROOF LIVE LOAD : 20 P.S.F.
- FLOOR LIVE LOAD : 100 P.S.F.

**LATERAL LOADS:**

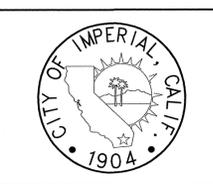
- SEISMIC LOAD

SEISMIC SITE CLASS = D  
BUILDING OCCUPANCY = III  
SITE CLASS = D  
Ss = 1.7  
S1 = 0.65  
F0 = 1.0  
Fv = 1.5  
Sms = 1.7  
Sm1 = 0.97  
Sds = 1.14  
Sd1 = 0.65  
I = 1.5

- WIND LOAD:  
BASIC WIND SPEED = 100  
EXPOSURE C  
w = 1.15

- GROUNDWATER ELEVATION = 925.00

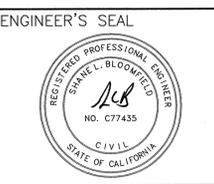
REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
DESIGNED BY:	DRAWN BY:	CHECKED BY:		



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES \_\_\_\_\_



**ALBERT A. WEBB ASSOCIATES**

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PH. (760) 568-5005  
FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF:  
*Shane L. Bloomfield* 5/17/14  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	5/16/12
DRAWN: BTE	5/16/12
TRACED: -	N/A
CHECKED: SLB	5/16/12
SUBMITTED: --/--/--	
SCALE:	
HORIZ. SCALE: 1"=4'	
VERT. SCALE: N/A	

CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

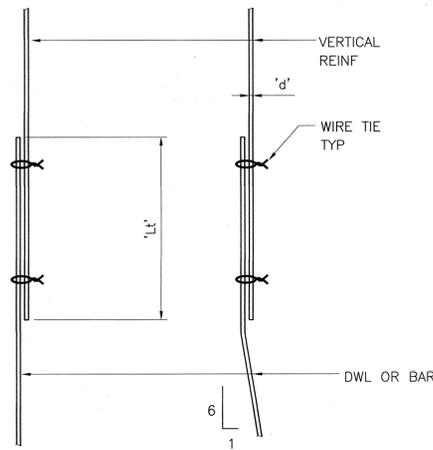
**WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
STRUCTURAL NOTES**

DWG. NO. \_\_\_\_\_

BID NO. 2014-02  
SHEET **11**  
OF 26  
S-1



ISSUED FOR BID  
G:\2012\12-0081\DRAWINGS\COARSE SCREENS\12-0081-S-01-01.DWG



BAR SIZE	TENSION LAP "Lt" (IN.)			HOOK EMBED (IN.)
	F'c=3,000 PSI	F'c=4,000 PSI	F'c=5,000 PSI	
#3	22	19	17	8
#4	29	25	23	11
#5	36	31	28	14
#6	43	37	34	16
#7	63	54	49	19
#8	72	62	56	22
#9	81	70	63	25
#10	91	79	70	28
#11	101	87	78	31

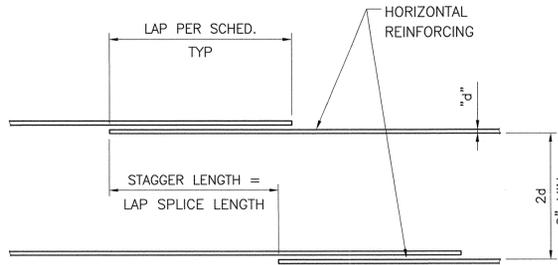
F'y = 60 KSI

NOTES:

- ALL VERTICAL REINFORCING FOR COLUMN, PIERS AND WALLS SHALL BE DOWELED AS SHOWN UON.
- MINIMUM CLEAR SPACING 2d, MINIMUM COVER 1.5".
- DOWELS SHALL BE THE SAME GRADE, SIZE, QUANTITY AND/OR SPACING AS VERTICAL REINFORCING.

TYP VERTICAL REINF LAP SPICE

DETAIL **A**  
NO SCALE



NOTES:

- SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
- MINIMUM COVER 1.5", MINIMUM BAR CLEAR SPACING 2 BAR DIAMETERS.
- TOP BARS ARE DEFINED AS BARS WITH 12" OR MORE OF FRESH CONCRETE PLACED BELOW THEM.
- CONCRETE MASONRY UNITS LAP 48d MIN HORIZ & VERT REINF.
- Lt VALUES IN SCHEDULE SHALL BE MULTIPLIED BY 1.3 FOR LIGHT WEIGHT CONCRETE.
- SEE **A** FOR HOOK EMBEDMENT.

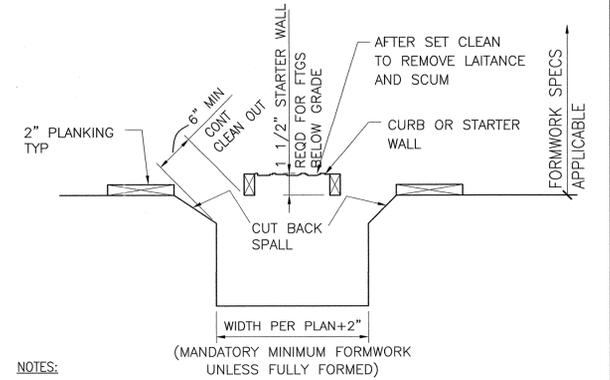
TYP HORIZONTAL REINF LAP SPICE

DETAIL **B**  
NO SCALE

BAR SIZE	TENSION LAP "Lt" (IN.)					
	F'c=3,000 P.S.I.		F'c=4,000 P.S.I.		F'c=5,000 P.S.I.	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	29	23	25	20	22	17
#4	38	30	33	26	29	23
#5	47	37	41	32	36	28
#6	56	44	49	38	44	34
#7	82	64	71	55	63	49
#8	94	73	81	63	72	56
#9	106	82	91	70	81	63
#10	119	92	103	80	91	70
#11	131	101	113	87	101	78

HARDROCK CONCRETE

F'y = 60,000 P.S.I. (CLASS "B")

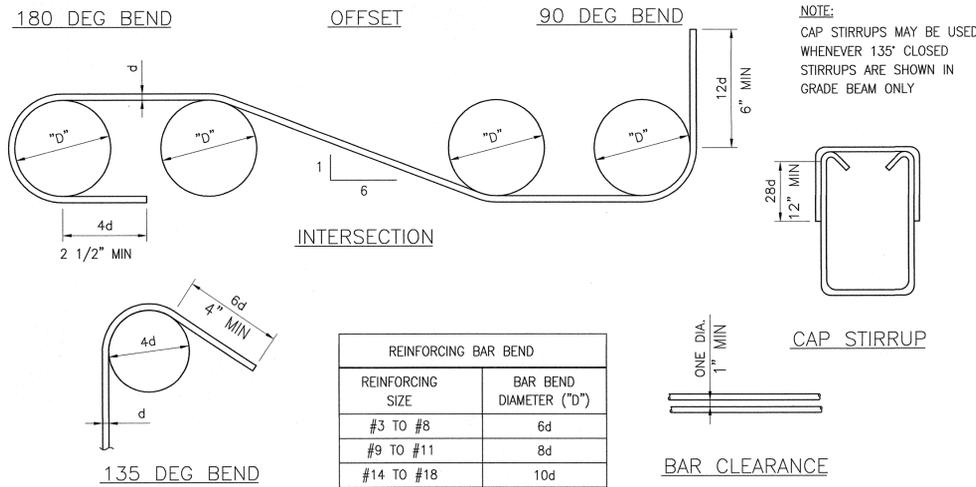


NOTES:

- FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ENGINEER (STRUCTURAL ENGINEER). IN SUCH CASE THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO ENSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO THE PLACING OF CONCRETE.
- FORMWORK IS NOT PERMITTED WITHIN FOOTING SECTION, UNLESS FULLY FORMED.
- STAKES ARE NOT PERMITTED WITHIN FOOTING SECTION.

TYP MIN FORMWORK

DETAIL **C**  
NO SCALE

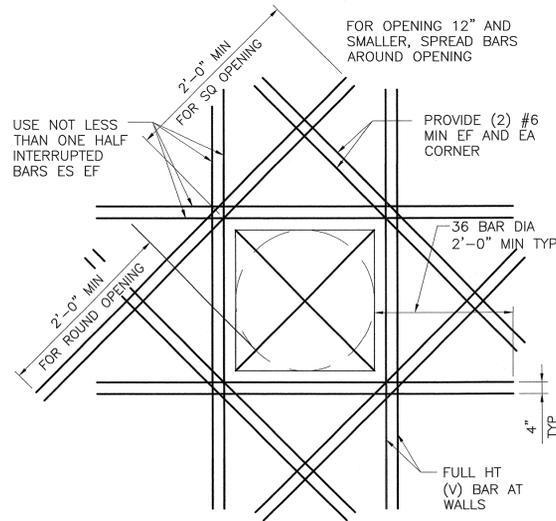


REINFORCING BAR BEND	
REINFORCING SIZE	BAR BEND DIAMETER ("D")
#3 TO #8	6d
#9 TO #11	8d
#14 TO #18	10d

NOTE: ALL BENDS SHALL BE MADE COLD

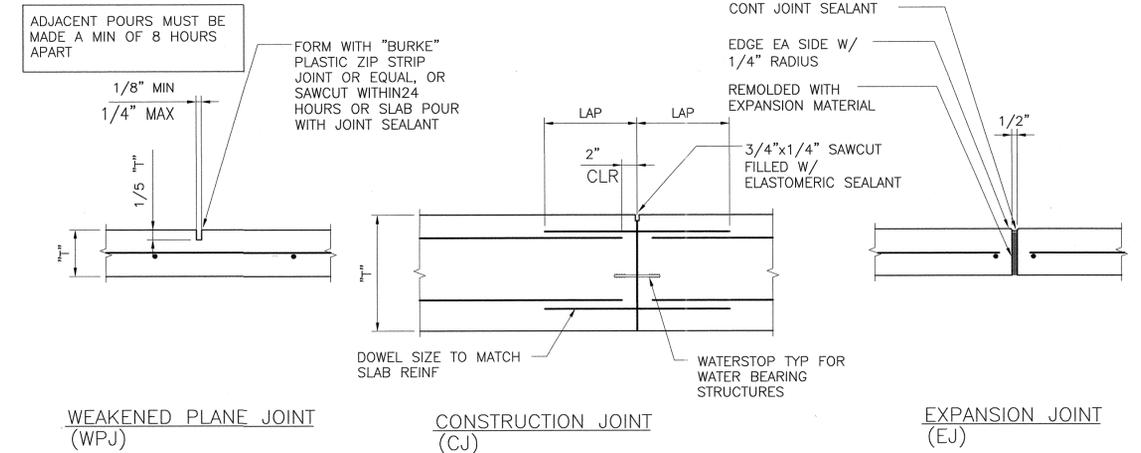
TYP REINF BAR BENDS

DETAIL **D**  
NO SCALE



TYP REINF AT LARGE WALL OPENING

DETAIL **E**  
NO SCALE



WEAKENED PLANE JOINT (WPJ)

CONSTRUCTION JOINT (CJ)

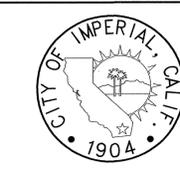
EXPANSION JOINT (EJ)

TYP SLAB JOINTS

DETAIL **F**  
NO SCALE



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE



<b>CITY OF IMPERIAL</b>	
CITY ENGINEER	DATE
REFERENCES	



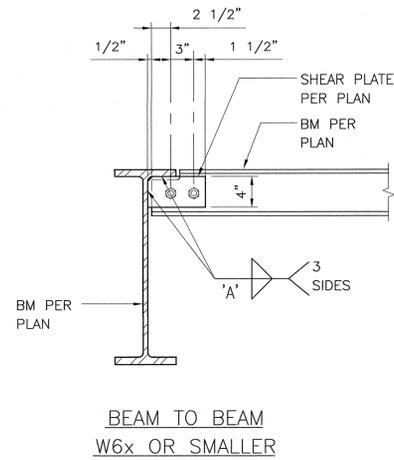
ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 36951 COOK STREET #103 PALM DESERT, CA 92211 PH: (760) 568-5005 FAX: (760) 568-3443
PLANS PREPARED UNDER THE SUPERVISION OF: <i>Shane L. Bloomfield</i> DATE: 5/17/14	
SHANE L. BLOOMFIELD REGISTERED CIVIL ENGINEER NO. C77435	

	DATE
DESIGNED: -	5/16/12
DRAWN: BTE	5/16/12
TRACED: -	N/A
CHECKED: SLB	5/16/12
SUBMITTED: -	-
SCALE:	
HORIZ. SCALE: 1"=4'	
VERT. SCALE: N/A	

CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA	
WASTEWATER TREATMENT PLANT MODIFICATIONS COARSE SCREEN INSTALLATION STRUCTURAL DETAILS	
DWG. NO.	S-2

BID NO. 2014-02
SHEET <b>12</b> OF 26

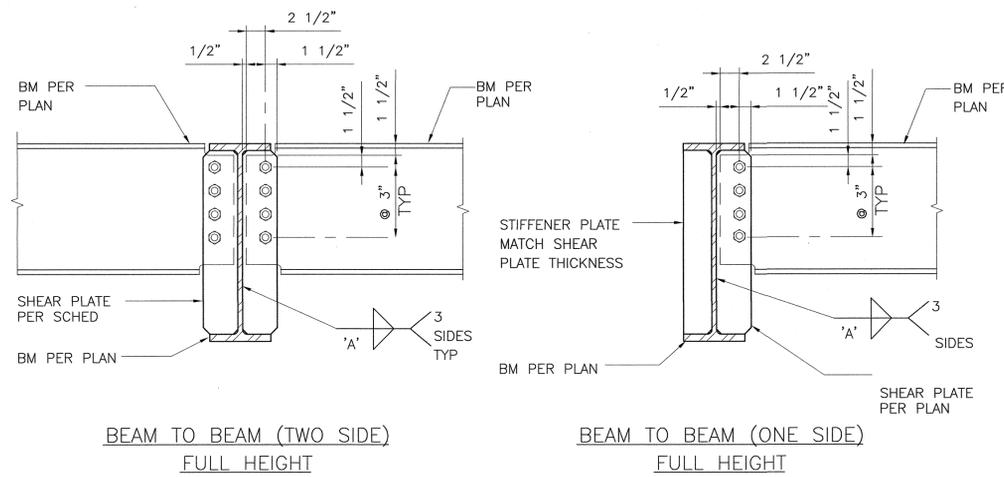
ISSUED FOR BID  
6/2012/12-0081/URBANS/CS-COARSE SCREENS/12-0081-S-01-0-SZ.DWG



STEEL BEAM CONNECTION SCHEDULE						
STEEL BEAM DEPTH	SHEAR PLATE THICKNESS	BOLTS			WELD 'A'	REMARKS
		NUMBER	DIAMETER	TYPE		
W 6x	1/4"	2	3/4"	A325N	1/4"	
W 8x	1/4"	2	3/4"	A325N	1/4"	
W 10x	1/4"	2	3/4"	A325N	1/4"	
W 12x	1/4"	3	7/8"	A325N	1/4"	
W 14x	3/8"	3	7/8"	A325N	1/4"	
W 16x	3/8"	4	7/8"	A325N	1/4"	
W 18x	3/8"	5	7/8"	A325N	5/16"	
W 21x	3/8"	6	7/8"	A325N	5/16"	
W 24x	3/8"	7	7/8"	A325N	5/16"	
W 27x	3/8"	8	7/8"	A325N	3/8"	
W 30x	1/2"	9	7/8"	A325N	3/8"	
W 33x	1/2"	10	7/8"	A325N	3/8"	
W 36x	1/2"	10	1"	A325N	7/16"	

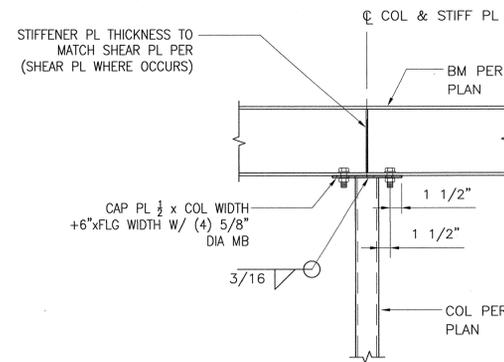
NOTES:

- FOR SPECIAL STEEL CONNECTIONS NOT NOTED, SEE FRAME ELEVATIONS, SECTIONS AND DETAILS
- SLOTTED HOLES ARE NOT PERMITTED, UON.
- SPECIAL INSPECTION IS REQUIRED FOR HIGH STRENGTH BOLTS (A-325)

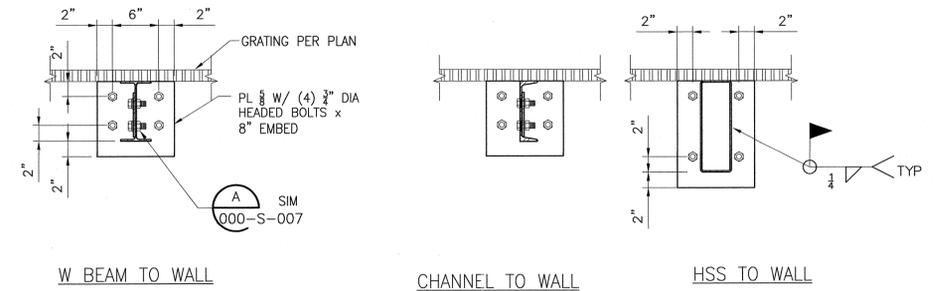


TYP STEEL BEAM CONNECTION & SCHEDULE

DETAIL A  
NTS

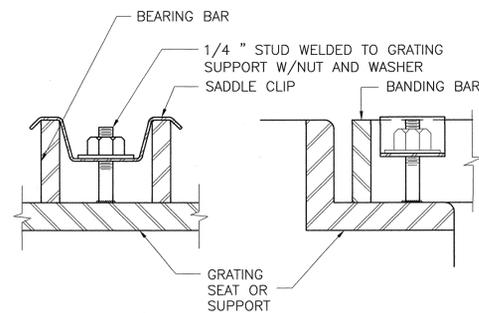


DETAIL B  
NTS



SUPPORT TO WALL CONN

DETAIL C  
NTS

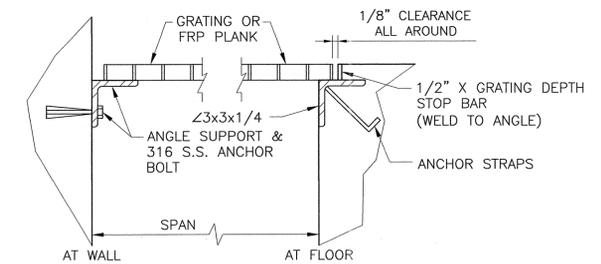


DETAIL D  
NTS

NOTES:

- PROVIDE 4 CLIPS PER GRATING PANEL, APPROX 4" FROM PANEL CORNERS. MAXIMUM CLIP SPACING AT 36" OC
- STUD, NUT, WASHER AND CLIP TO BE THE SAME MATERIAL AS THE GRATING EXCEPT FOR ALUMINUM USE SST
- AT FRP GRATING USE 1/4" FRP ALL THREAD BOLTS AND EPOXY ANCHORS AS APPROPRIATE

SPAN	DEPTH (MIN)	ANGLE SUPPORT	ANCHOR BOLT (SIZE & SPACING)
0'-0" - 2'-11"	1 3/4x3/16	3x3x3/8	1/2"Øx5-1/2" @ 18"
3'-0" - 4'-11"	2 1/4x3/16	3-1/2x3-1/2x3/8	1/2"Øx5-1/2" @ 15"
5'-0" - 7'-0"	2 1/2x3/16	4x4x1/2	5/8"Øx6" @ 15"



GRATING NOTES

- MATERIAL
  - A. GRATING, & FASTENER T6061-T6 OR 6063-T6 ALUMINUM.
  - B. FIBERGLASS PLANKS SHALL BE PER THE SPECS.
  - C. INSULATION (REQUIRED ONLY WHEN SUPPORT MEMBER IS STEEL). 1/16" THICK "MICARTA" OR APPROVED EQUAL.
- ALUMINUM FRAME IN CONTACT WITH CONCRETE SHALL BE PAINTED. SEE SPECIFICATIONS.
- SEE SPECIFICATION SECTION: METAL GRATINGS AND COVER PLATES GRATING MANUFACTURE AND FINISH.
- ALL JOINTS IN FRAME SHALL BE MITERED & CONTINUOUS WELD BOTH SIDES, GRIND EXPOSED WELD SMOOTH.
- EDGE BAND ALL OPENINGS & PERIMETER OF EACH GRATING SECTION.
- FASTENERS SHALL BE SUPPLIED TO ANCHOR TYPE GRATING FURNISHED.
- ALUM GRATING BEARING BARS SHALL BE SPACED @ 1 3/16" O.C.

TYP PLANK/GRATING SUPPORT

DETAIL E  
NTS

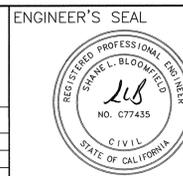


REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION

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  
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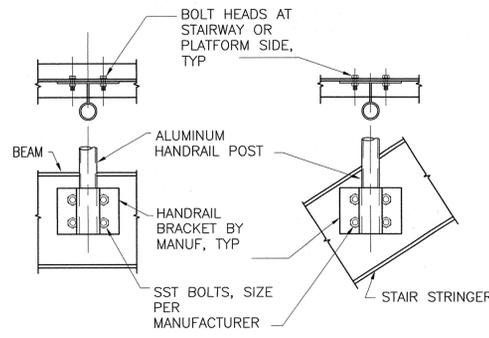
PLANS PREPARED UNDER THE SUPERVISION OF:  
*Shane L. Bloomfield*  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	5/16/12
DRAWN: BTE	5/16/12
TRACED: -	N/A
CHECKED: SLB	5/16/12
SUBMITTED: -	-/-/-

SCALE:  
HORIZ. SCALE: 1"=4'  
VERT. SCALE: N/A

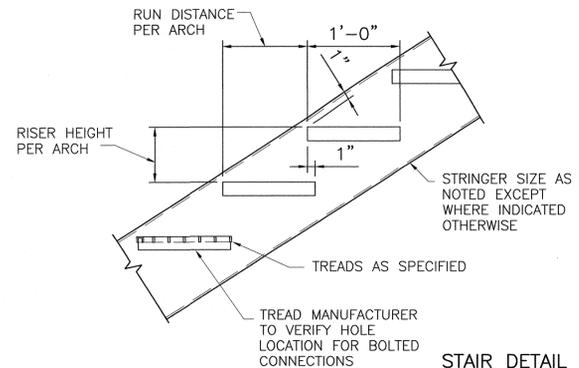
CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA		BID NO. 2014-02
WASTEWATER TREATMENT PLANT MODIFICATIONS COARSE SCREEN INSTALLATION STRUCTURAL DETAILS		SHEET 13 OF 26
DWG. NO.	S-3	

ISSUED FOR BID  
6/2012\12-0081\DRAWINGS\COARSE SCREENS\12-0081-3-01-0-53.DWG



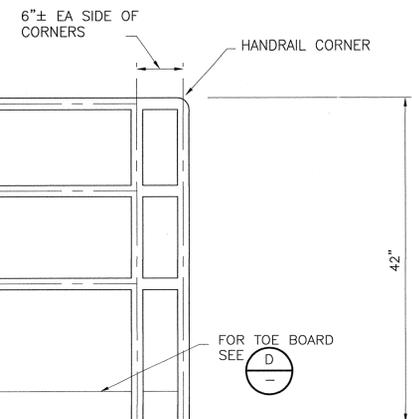
NOTE:  
PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.

HANDRAIL POST ANCHORAGE  
**DETAIL A**  
NTS

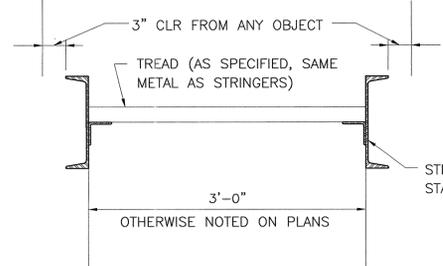


NOTES:  
1. USE ALUMINUM C12x7.41 MIN OR PER MANUF UON ON THE DRAWINGS.  
2. STAIR HANDRAIL NOT SHOWN.

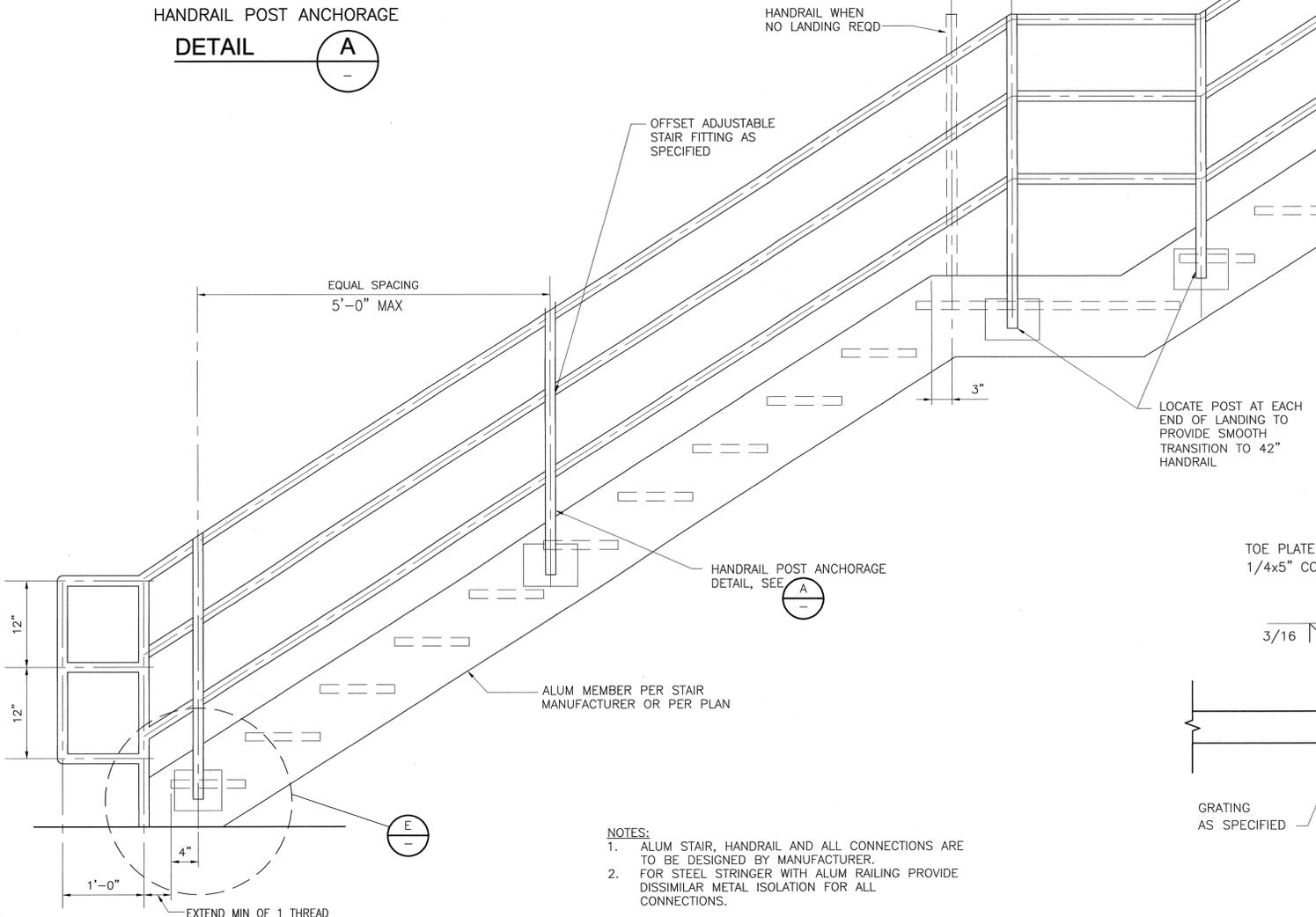
STAIR DETAIL  
**DETAIL B**  
NTS



STAIRWAY WIDTH	BEARING BARS
2'-3" OR LESS	ALUMINUM TREAD 1"x3/16"
2'-9" OR LESS	1 1/4"x3/16"
3'-3" OR LESS	1 1/2"x3/16"
4'-7" OR LESS	1 3/4"x3/16"

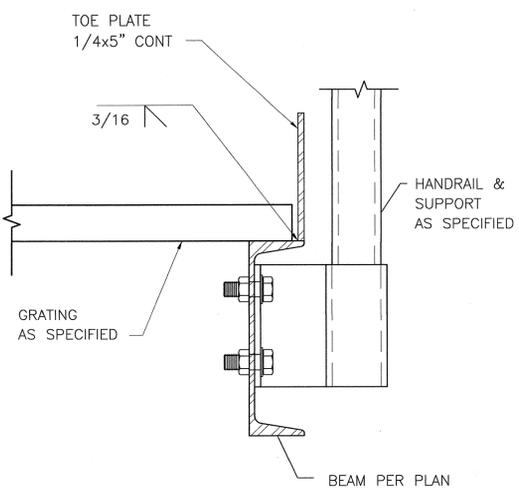


STAIR DETAIL  
**DETAIL C**  
NTS

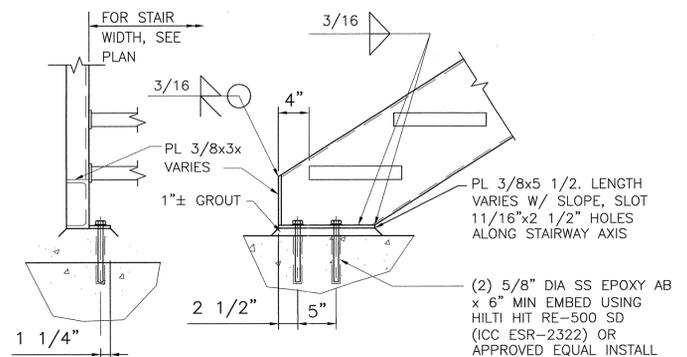


NOTES:  
1. ALUM STAIR, HANDRAIL AND ALL CONNECTIONS ARE TO BE DESIGNED BY MANUFACTURER.  
2. FOR STEEL STRINGER WITH ALUM RAILING PROVIDE DISSIMILAR METAL ISOLATION FOR ALL CONNECTIONS.

ALUMINUM STAIR AND PLATFORM HANDRAIL  
**ELEVATION**  
NO SCALE



TOE BOARD  
**DETAIL D**  
NTS

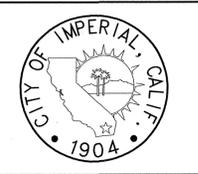


NOTES:  
1. USE BASE PL OF SAME METAL AS STRINGER.  
2. PROVIDE ISOLATION WASHER BETWEEN S.S. BOLT AND ALUMINUM MEMBER FOR PROTECTION OF DISSIMILAR METALS.  
3. STAIR HANDRAIL NOT SHOWN.  
4. STAIR ORIENTATION PER PLAN.

STAIR BOTTOM CONN  
**DETAIL E**  
NTS



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION



**CITY OF IMPERIAL**  
CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
REFERENCES \_\_\_\_\_



**ALBERT A. WEBB ASSOCIATES**  
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PLANS PREPARED UNDER THE SUPERVISION OF:  
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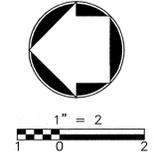
DESIGNED:	DATE
BTE	5/16/12
SLB	5/16/12
SCALE:	HORIZ. SCALE: 1"=4' VERT. SCALE: N/A

**CITY OF IMPERIAL**  
IMPERIAL COUNTY, CALIFORNIA  
WASTEWATER TREATMENT PLANT MODIFICATIONS  
COARSE SCREEN INSTALLATION  
STRUCTURAL DETAILS  
DWG. NO. \_\_\_\_\_

BID NO. 2014-02  
SHEET 14 OF 26  
S-4

ISSUED FOR BID

46'-11"



6" THICK CONCRETE PAD W/#4'S  
@ 12" OC EACH WAY

6" THICK CONCRETE PAD W/#4'S  
@ 12" OC EACH WAY

FRP PLANK FOR ENTIRE CHANNEL  
EXCEPT AROUND EQUIPMENT

FRP PLANK FOR ENTIRE CHANNEL  
EXCEPT AROUND EQUIPMENT

14'-9"

3'-8"

16'-8"

1'-1"

10'-2"

1'-1"

1'-1"

1'-1"

7'-1"

1'-1"

3'-8"

8"

6'-3"

10'-2"

1'-1"

1'-1"

1'-1"

1'-1"

1'-1"

1'-1"

1'-1"

21'-8"

9"

1'

2'-4"

18'-8"

21'-9"

7'-4"

3'-4"

42'

46'-11"

4'-11"

4'-11"

4'-11"

32'-1"

4'-9"

3'

3'-4"

3'

7'-4"

3'

3'-4"

7'-4"

42'

46'-11"

4'-11"

4'-11"

4'-11"

21'-8"

9"

1'

2'-4"

18'-8"

21'-9"

7'-4"

3'-4"

42'

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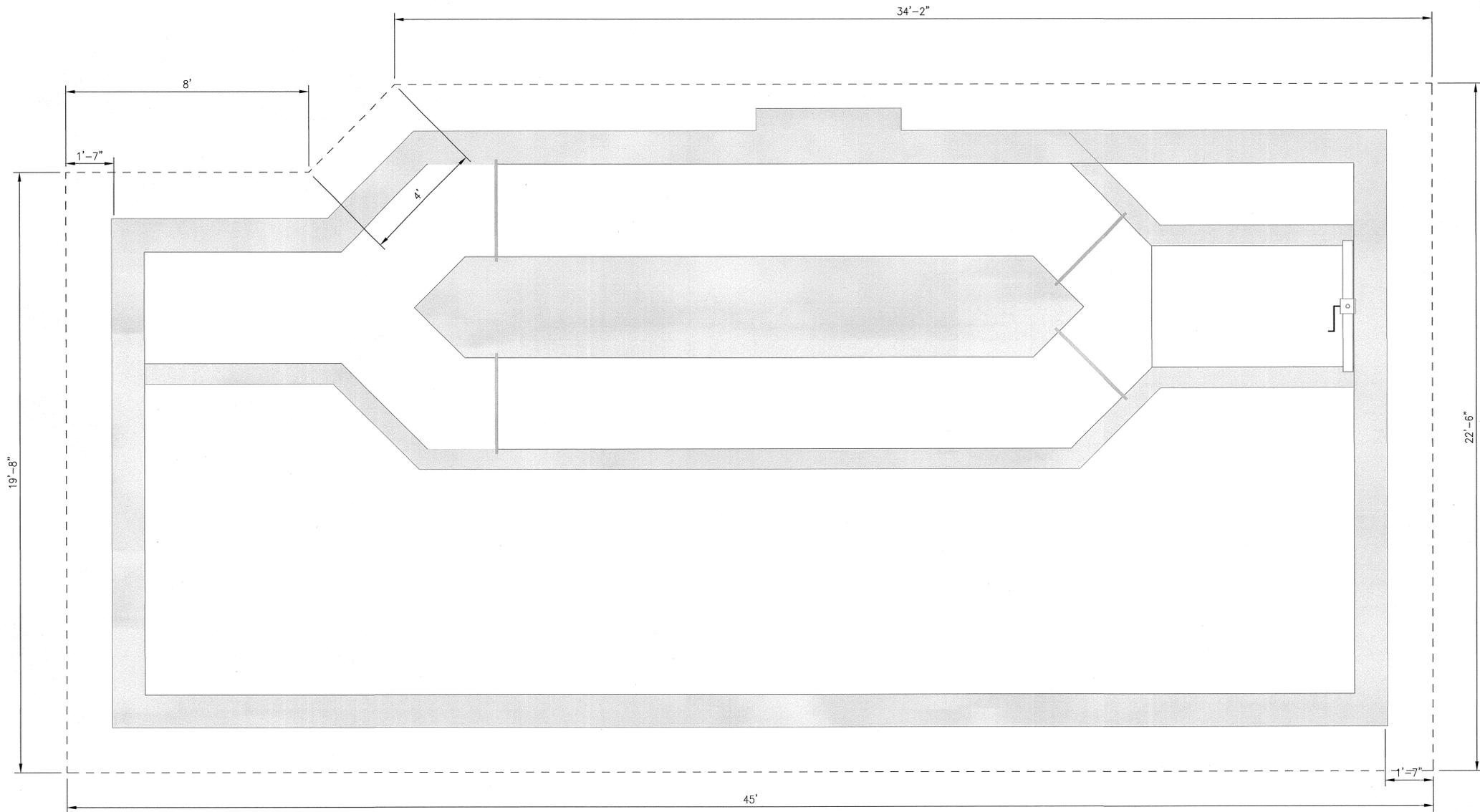
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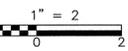
1'-1"

1'-1"

1'-1"</



FOUNDATION  
PLAN  
1"=2'-0"

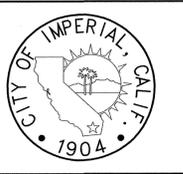


ISSUED FOR BID



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_



<b>CITY OF IMPERIAL</b>	
CITY ENGINEER	DATE
REFERENCES	



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

**WEBB ASSOCIATES**

PLANS PREPARED UNDER THE SUPERVISION OF:  
*Shane L. Bloomfield* 5/17/14  
SHANE L. BLOOMFIELD REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: -	5/16/12
DRAWN: BTE	5/16/12
TRACED: -	N/A
CHECKED: SLB	5/16/12
SUBMITTED: -	--/--/--

SCALE:  
HORIZ. SCALE: 1"=4'  
VERT. SCALE: N/A

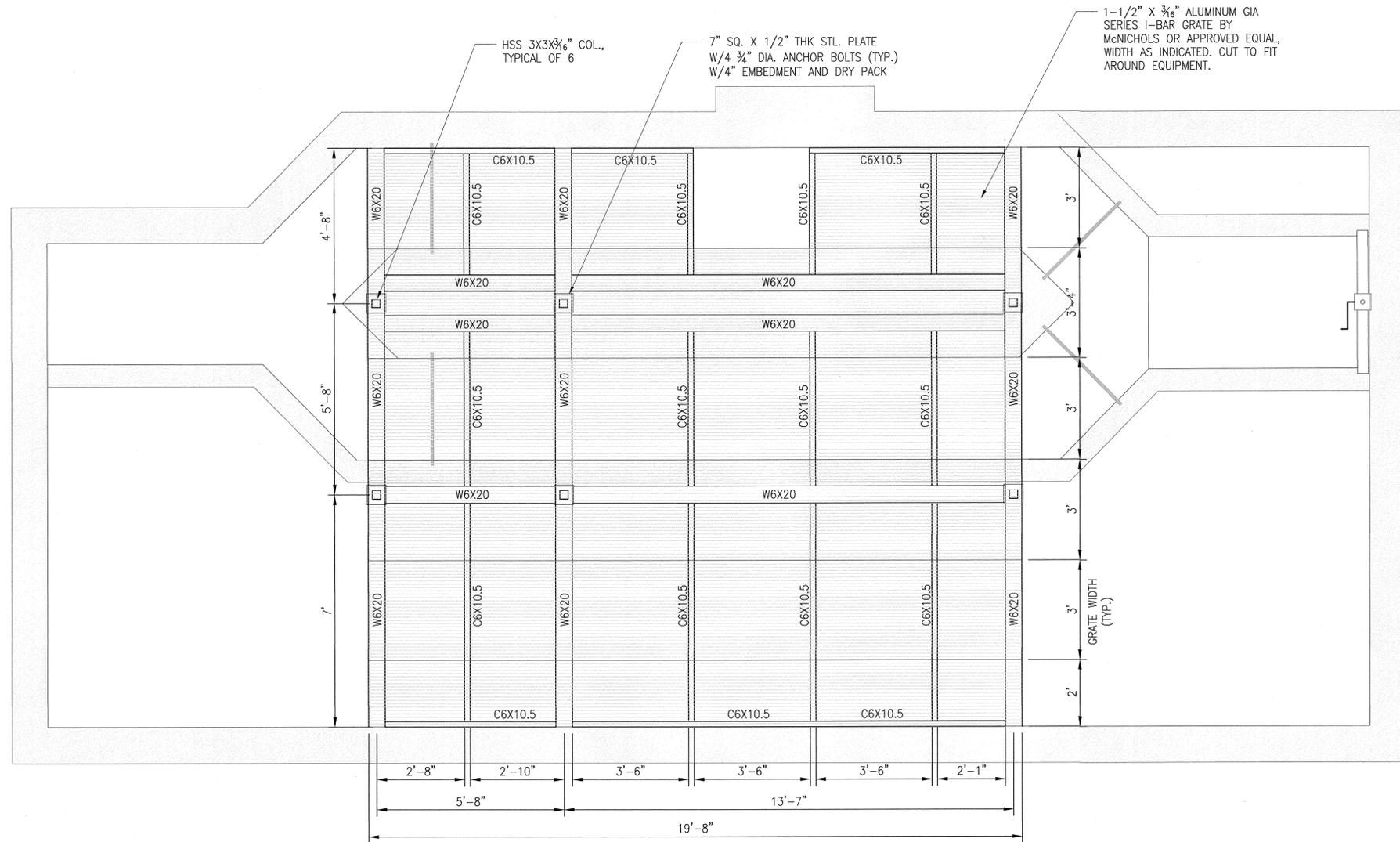
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DWG. NO.	S-6

BID NO. 2014-02	SHEET <b>16</b> OF 26
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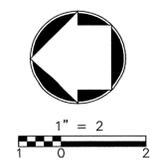
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**STRUCTURAL STEEL AND GRATING PLAN NOTES**

1. GRATING DIMENSIONS ARE FOR ESTIMATING PURPOSES ONLY. FINAL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AND SHALL BE SUBMITTED FOR FINAL APPROVAL.
2. GRATING SHALL BE REMOVABLE. GRATE SHALL BE SUPPORTED PER MANUFACTURER'S RECOMMENDATIONS.
3. C6X10.5 STRUCTURAL MEMBERS ARE FOR GRATING SUPPORT AND SHALL BE ADJUSTED AS NECESSARY TO PROVIDE ADEQUATE SUPPORT AROUND EQUIPMENT.
4. W6X20 STRUCTURAL MEMBERS ARE FOR MOUNTING OF SCREEN AND WASHING SYSTEM AND SHALL BE ADJUSTED AS NECESSARY PENDING APPROVED SCREEN AND WASHING SYSTEMS.



STRUCTURAL FRAMING AND GRATING  
**PLAN**  
 1"=2'-0"



ISSUED FOR BID

	REVISIONS				
	NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
DESIGNED BY:	DRAWN BY:	CHECKED BY:			

**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES \_\_\_\_\_

ENGINEER'S SEAL

**ALBERT A. WEBB ASSOCIATES**

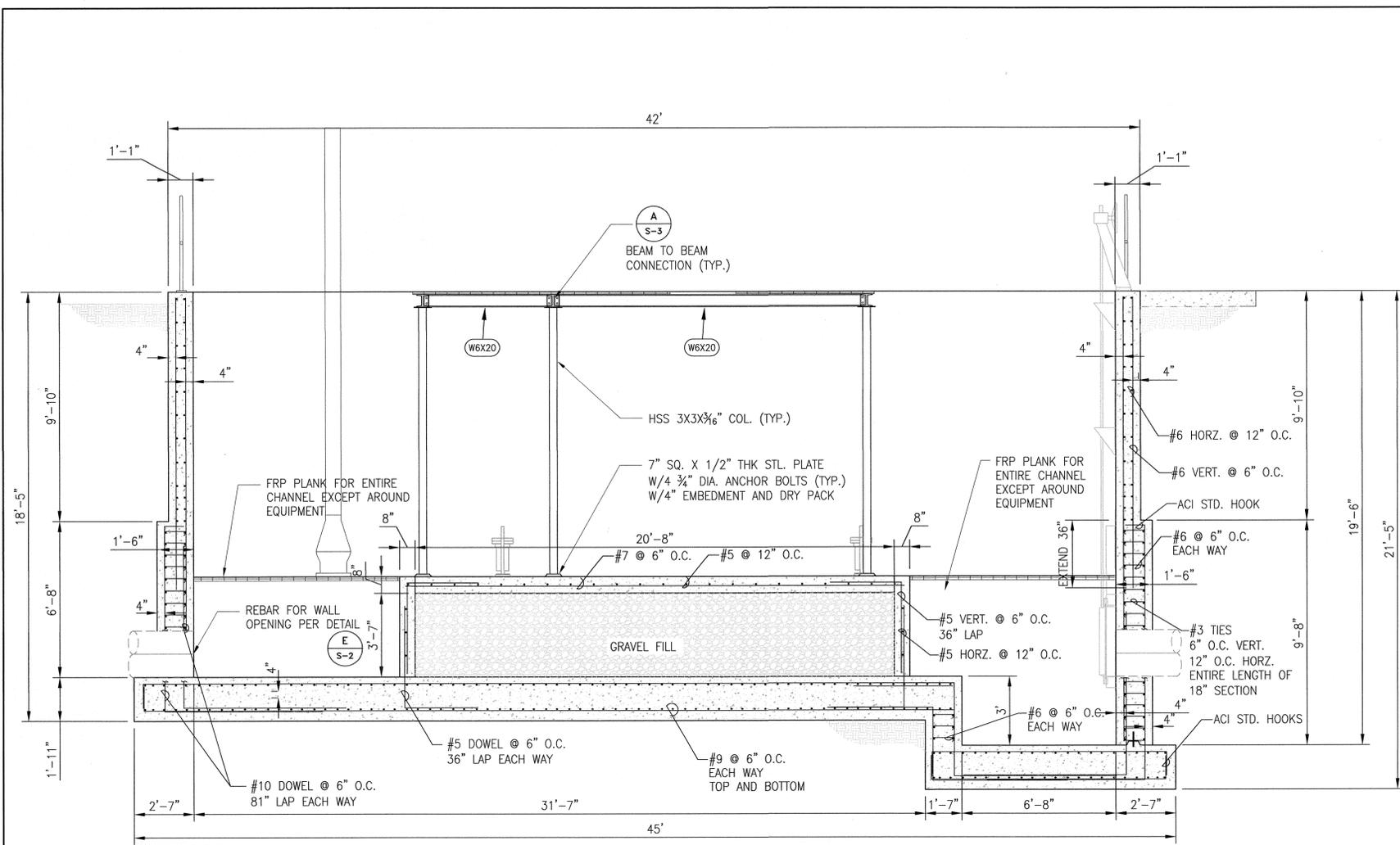
ENGINEERING CONSULTANTS  
 36951 COOK STREET #103  
 PALM DESERT, CA 92211  
 PH. (760) 568-5005  
 FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF:  
  
 SHANE L. BLOOMFIELD  
 REGISTERED CIVIL ENGINEER NO. C77435

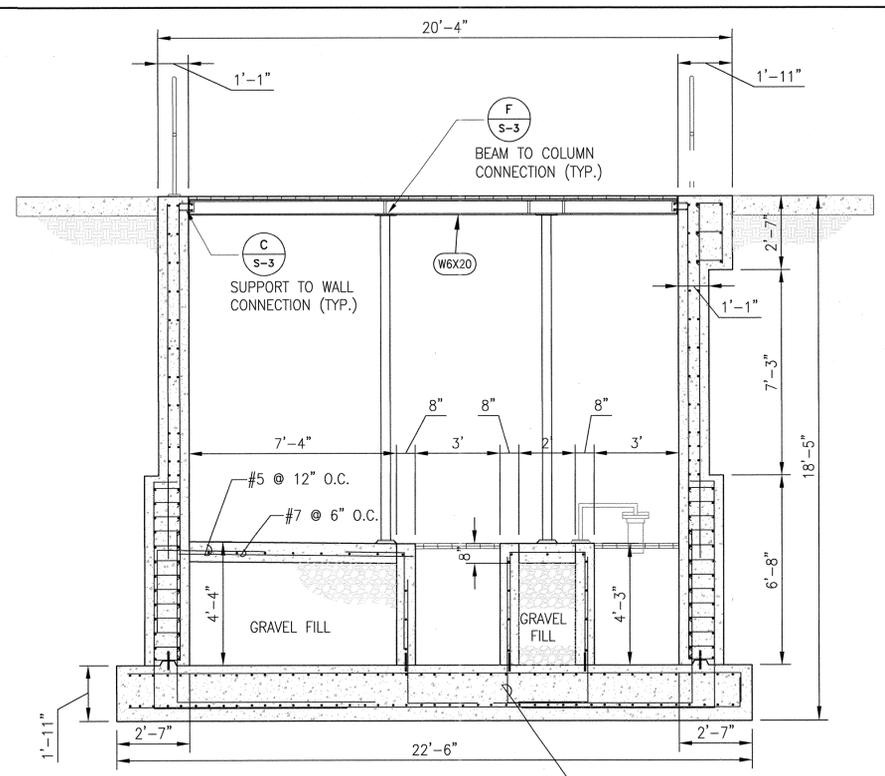
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DRAWN: BTE	5/16/12		SHEET <b>17</b>
TRACED: -	N/A		OF 26
CHECKED: SLB	5/16/12		DWG. NO. S-7
SUBMITTED: -	-/-/-		
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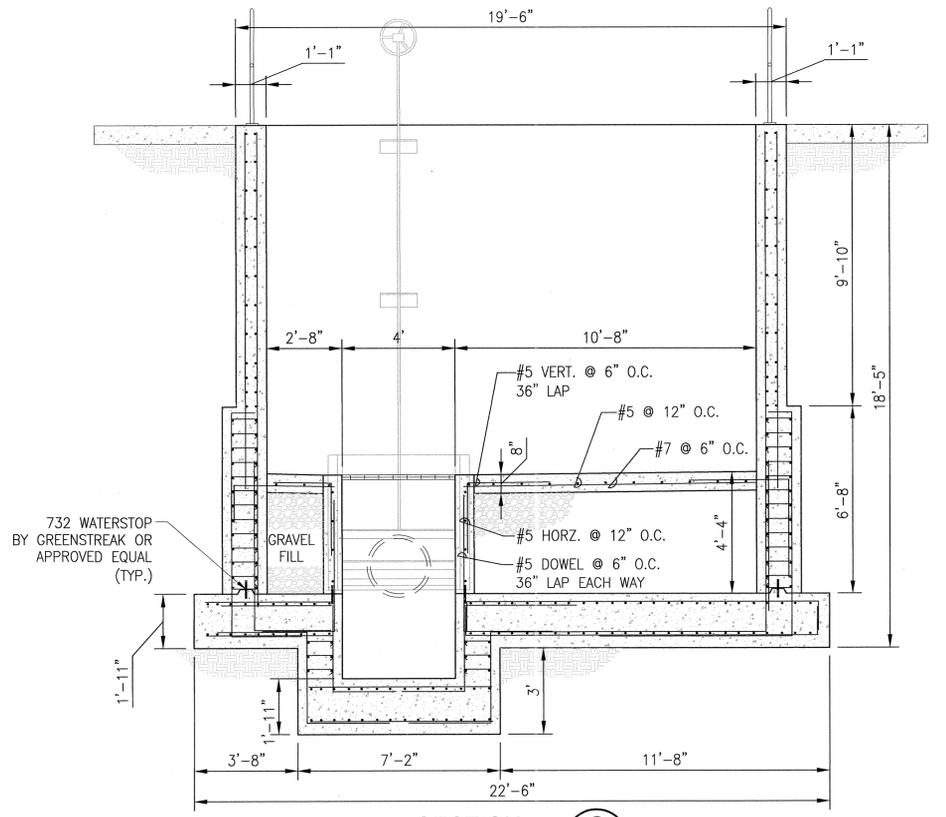
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**SECTION A**  
1" = 3'-0" S-5



**SECTION B**  
1" = 3'-0" S-5

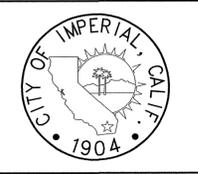


**SECTION C**  
1" = 3'-0" S-5



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES



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*Shane L. Bloomfield* 5/17/14  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

DATE	DESCRIPTION
5/16/12	DESIGNED: -
5/16/12	DRAWN: BTE
N/A	TRACED: -
5/16/12	CHECKED: SLB
-/-/-	SUBMITTED: -

SCALE:  
HORIZ. SCALE: 1"=4'  
VERT. SCALE: N/A

**CITY OF IMPERIAL**  
IMPERIAL COUNTY, CALIFORNIA

**WASTEWATER TREATMENT PLANT MODIFICATIONS**  
COARSE SCREEN INSTALLATION  
STRUCTURAL SECTIONS

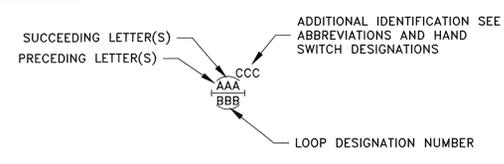
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BID NO. 2014-02  
SHEET 18 OF 26

ISSUED FOR BID  
6:\2014\12-0081\DRAWINGS\COARSE SCREENS\12-0081-35-SC-3-38.DWG

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

### TAG NUMBERS AND ADDITIONAL DESIGNATIONS



### P&ID INTERFACE SYMBOLS

- NOTE: REFER TO ISA INSTRUMENT IDENTIFICATION TABLE FOR DEFINITION OF LETTERS AAA INSIDE THE BUBBLES. BBB REPRESENTS LOOP ID (IF USED). SEE ABBREVIATIONS LIST FOR SUPERSCRIPIT CCC.
- CCC (AAA BBB) PILOT LIGHT  
X= LENS COLOR, R=RED, G=GREEN, A=AMBER B=BLUE
  - CCC (AAA BBB) FIELD DEVICE
  - CCC (AAA BBB) PANEL DEVICE
  - CCC (AAA BBB) DEVICE MOUNTED IN SUBPANEL
  - CCC (AAA BBB) PLC I/O TERMINAL
  - CCC (BBB CCC) SCADA FUNCTION

### INPUT/OUTPUT SYMBOLS

- ▲ ANALOG INPUT
- △ DISCRETE INPUT
- ▲ PULSE INPUT
- ▼ ANALOG OUTPUT
- ▽ DISCRETE OUTPUT
- ▼ PULSE OUTPUT

### P&ID LINETYPES

- CHANNEL
- ELECTRICAL SIGNAL
- EQUIPMENT
- EXISTING/FUTURE PIPING AND EQUIPMENT
- HYDRAULIC SIGNAL
- INTERNAL SYSTEM SIGNAL LINK (SOFTWARE OR DATA LINK)
- LOOP DIVIDER
- PNEUMATIC SIGNAL
- PROCESS PIPING
- SUBPROCESS PIPING
- VENDOR SUPPLIED

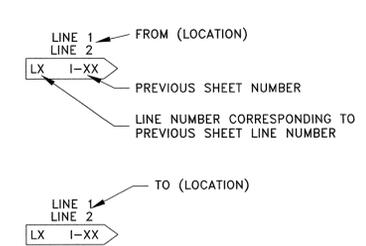
### P&ID ABBREVIATIONS

- AI ANALOG INPUT
- AO ANALOG OUTPUT
- ARV AIR RELIEF VALVE
- AS AIR SUPPLY
- BWL BOTTOM WATER LEVEL
- CLZ CHLORINE
- CV CONTROL VALVE/CONTROL VARIABLE
- DCS DISTRIBUTED CONTROL SYSTEM
- DI DISCRETE INPUT
- DO DISSOLVED OXYGEN
- DP DIFFERENTIAL PRESSURE
- DWG DRAWING
- ETM ELAPSED TIME METER
- ETMf ELAPSED TIME METER (FAST SPEED)
- ETMs ELAPSED TIME METER (SLOW SPEED)
- ES EMERGENCY STOP
- FA FOUL AIR
- FC FAIL CLOSED
- FE FLOW ELEMENT
- FVNR FULL VOLTAGE NON-REVERSING
- FVR FULL VOLTAGE REVERSING
- GA GALLONS
- GCP GENERATOR CONTROL PANEL
- GND GROUND
- GPD GALLONS PER DAY
- GPH GALLONS PER HOUR
- GPM GALLONS PER MINUTE
- H2S HYDROGEN SULFIDE
- HMI HUMAN MACHINE INTERFACE
- IO INPUT/OUTPUT
- ISB INTRINSICALLY SAFE BARRIER
- LAN LOCAL AREA NETWORK
- LOH LOW, OFF, HIGH
- LCP LOCAL CONTROL PANEL
- M MOTOR
- MA MILLIAMPS
- MCC MOTOR CONTROL CENTER
- MFR(S) MANUFACTURER(S)
- MGD MILLION GALLONS PER DAY
- MGL MILLIGRAMS PER LITER
- MLR MIXED LIQUOR RETURN
- MO MOISTURE
- MOD MODULATING
- MTU MASTER TELEMETRY UNIT
- NTU TURBIDITY
- N/S NORTH/SOUTH
- OIT OPERATOR INTERFACE TERMINAL
- OL OVERLOAD
- PER PERMISSIVE
- PLC PROGRAMMABLE LOGIC CONTROLLER
- PNL PANEL
- POS POSITION
- POT POTENTIOMETER
- PPM PARTS PER MILLION
- PR PAIR
- PSI POUNDS PER SQUARE INCH
- PV PROCESS VARIABLE
- RF RADIO-FREQUENCY
- RH RELATIVE HUMIDITY
- RIO REMOTE INPUT OUTPUT
- RST RESET
- RTU REMOTE TELEMETRY UNIT
- RVSS REVERSE VOLTAGE SOFT START
- SB SLUDGE BLANKET
- SD SMOKE DETECTOR
- SLC SINGLE LOOP CONTROLLER
- SO2 SULFUR DIOXIDE
- SP SET POINT/SPARE
- SPD SPEED
- SV SOLENOID OPERATED VALVE
- T/M TEMPERATURE AND/OR MOISTURE
- TSS TOTAL SUSPENDED SOLIDS
- TWL TOP WATER LEVEL
- UG UNDERGROUND
- VFD VARIABLE FREQUENCY DRIVE
- VTP VERTICAL TURBINE PUMP

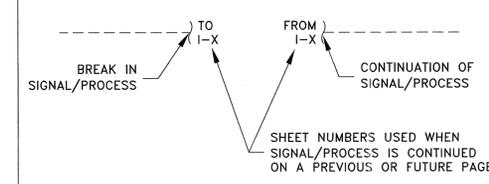
### GENERAL NOTES

- ADDITIONAL INSTRUMENTATION AND CONTROL SYMBOLS MAY BE USED AS REQUIRED. SYMBOLS AND NOMENCLATURE ARE BASED ON ISA STANDARD S-5.1.
- SEE ASSOCIATED ELECTRICAL SYMBOL SHEETS FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.

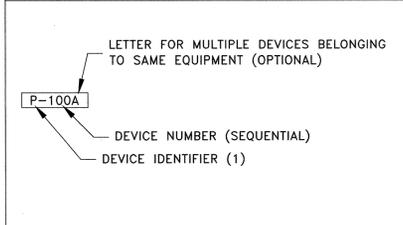
### PROCESS/SIGNAL LINE TO/FROM A PRECEDING SHEET



### CONTINUATION



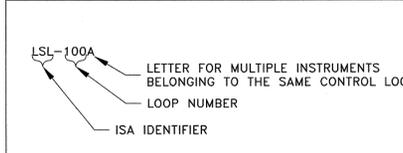
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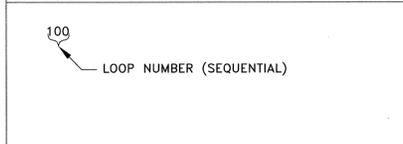
### (1) DEVICE IDENTIFIERS

- G GATE
- H HVAC
- M MECHANICAL
- P PUMP
- V VALVE

### INSTRUMENT/SCADA TAG



### LOOP NUMBER CRITERIA



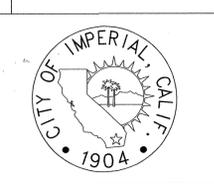
### HAND SWITCH DESIGNATIONS

- ES EMERGENCY STOP
- FOR FORWARD-OFF-REVERSE
- FR FORWARD-REVERSE
- HOA HAND-OFF-AUTO
- HOR HAND-OFF-REMOTE
- HORA HAND-OFF-REMOTE-AUTO
- IOE INTERNAL-OFF-EXTERNAL
- JOA JOG-OFF-AUTO
- LOAR LOWER-OFF-AUTO-RAISE
- LOR LOCAL-OFF-REMOTE
- LR LOCAL-REMOTE
- MA MANUAL-AUTO
- MOA MANUAL-OFF-AUTO
- MOR MOMENTARY-OFF-RUN
- OC OPEN-CLOSE
- OCA OPEN-CLOSE-AUTO
- OCR OPEN-CLOSE-REMOTE
- OO ON-OFF
- OOA ON-OFF-AUTO
- OOC ON-OFF-CLOSE
- OOR ON-OFF-REMOTE
- OSC OPEN-STOP-CLOSE
- POT POTENTIOMETER
- ROO RESET-OFF-ON
- RST RESET PUSHBUTTON
- SS START-STOP



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE

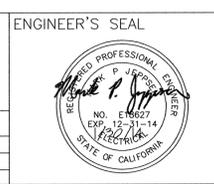
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**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES \_\_\_\_\_



ENGINEER'S SEAL

**ALBERT A. WEBB ASSOCIATES**

ENGINEERING CONSULTANTS  
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PH. (760) 568-5005  
FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF: \_\_\_\_\_

SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

DATE \_\_\_\_\_

	DATE
DESIGNED: MPJ	1/17/14
DRAWN: DCL	1/17/14
TRACED: N/A	-
CHECKED: MPJ	1/17/14
SUBMITTED: _____	-
SCALE: NONE	-

CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLAN MODIFICATIONS  
COARSE SCREEN INSTALLATION,  
INSTRUMENTATION - GENERAL  
LEGEND

BID NO. 2014-02

SHEET 19 OF 26

DWG. NO. GI-1

ISSUED FOR BID

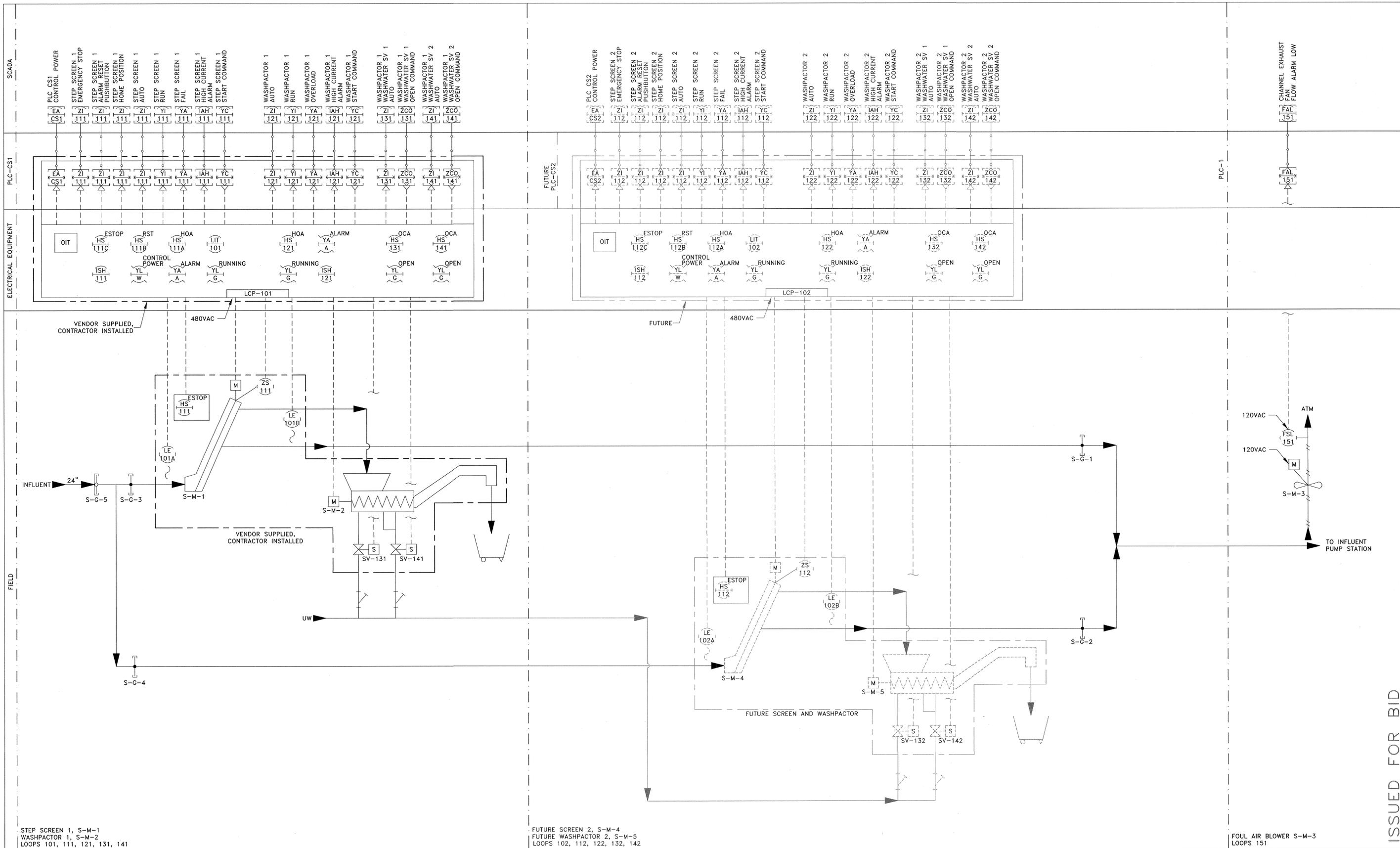
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VALVES	PUMPS	PIPING	FLOW ELEMENTS	MISCELLANEOUS	PRIMARY ELEMENT SYMBOLS
3 WAY VALVE 4 WAY VALVE ANGLE VALVE BACK PRESSURE RELIEF VALVE BALANCING VALVE BALL VALVE BUTTERFLY VALVE CHECK VALVE DIAPHRAGM VALVE ECCENTRIC PLUG VALVE GATE VALVE GLOBE VALVE KNIFE VALVE LUBRICATED PLUG VALVE MIX VALVE MUD VALVE NEEDLE VALVE PINCH VALVE PRESSURE REDUCING VALVE PRESSURE RELIEF VALVE SLEEVE VALVE	CENTRIFUGAL PUMP MECHANICAL DIAPHRAGM PUMP METERING PUMP PERISTALTIC PUMP PROGRESSIVE CAVITY PUMP ROTARY LOBE PUMP SUBMERSIBLE PUMP VERTICAL TURBINE PUMP	BLIND FLANGE CAPPED OR PLUGGED END DRAIN QUICK CONNECT/DISCONNECT REDUCER Y-STRAINER	MAGNETIC FLOW ELEMENT MASS FLOW ELEMENT ANNUBAR (INSERTION) MASS FLOW ELEMENT ANNUBAR (SPOOL) PROPELLER FLOW ELEMENT (INSERTION) PROPELLER FLOW ELEMENT (SPOOL) ROTAMETER THERMAL MASS FLOW ELEMENT (INSERTION) THERMAL MASS FLOW ELEMENT (SPOOL) ULTRASONIC FLOW ELEMENT (INSERTION) ULTRASONIC FLOW ELEMENT (SPOOL)	SCREEN WASHFACTOR	ANALYZER ELEMENT DO ANALYZER DO SENSOR FLOAT SWITCH ORP ANALYZER ORP SENSOR pH ANALYZER pH SENSOR ULTRASONIC OR RADAR LEVEL TRANSDUCER
<b>HVAC</b> AIR COMPRESSOR AIR FILTER DAMPER EXHAUST FAN FILTER GUIDE VANES HEAT EXCHANGER LOUVER WITH HOOD SILENCER UNIT HEATER					
<b>GATES</b> SLIDE GATE SLUICE GATE STOP GATE					
<b>ACTUATORS</b> ACTUATOR: H=HYDRAULIC, M=MOTOR, P=PNEUMATIC, S=SOLENOID MANUAL PNEUMATIC DIAPHRAGM PNEUMATIC DIAPHRAGM WITH POSITIONER					

ISSUED FOR BID

	<b>REVISIONS</b> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INITIAL</th> <th>DESCRIPTION</th> <th>APPROVED/DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE																						<b>CITY OF IMPERIAL</b> CITY ENGINEER _____ DATE _____ REFERENCES _____	<b>ENGINEER'S SEAL</b> 	<b>ALBERT A. WEBB ASSOCIATES</b> ENGINEERING CONSULTANTS 36951 COOK STREET #103 PALM DESERT, CA 92211 PH: (760) 568-5005 FAX: (760) 568-3443 PLANS PREPARED UNDER THE SUPERVISION OF: SHANE L. BLOOMFIELD REGISTERED CIVIL ENGINEER NO. C77435	<table border="1"> <thead> <tr> <th>DESIGNED:</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>MPJ</td> <td>1/17/14</td> </tr> <tr> <td>DRAWN:</td> <td>DCL</td> </tr> <tr> <td>TRACED:</td> <td>N/A</td> </tr> <tr> <td>CHECKED:</td> <td>MPJ</td> </tr> <tr> <td>SUBMITTED:</td> <td>1/17/14</td> </tr> <tr> <td>SCALE:</td> <td>NONE</td> </tr> </tbody> </table>	DESIGNED:	DATE	MPJ	1/17/14	DRAWN:	DCL	TRACED:	N/A	CHECKED:	MPJ	SUBMITTED:	1/17/14	SCALE:	NONE	CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA WASTEWATER TREATMENT PLAN MODIFICATIONS COARSE SCREEN INSTALLATION INSTRUMENTATION - GENERAL SYMBOLS	BID NO. 2014-02 SHEET <b>20</b> OF 26 DWG. NO. GI-2
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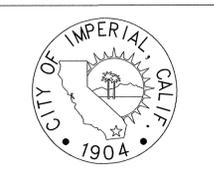


**811**  
Know what's below.  
Call 811 before you dig.

NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_

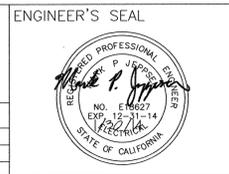
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CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES



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TRACED:	N/A
CHECKED:	MPJ
SUBMITTED:	1/17/14
SCALE:	NONE

CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLAN MODIFICATIONS  
COARSE SCREEN INSTALLATION  
INSTRUMENTATION  
PROCESS AND INSTRUMENTATION DIAGRAM

DWG. NO. \_\_\_\_\_

BID NO. 2014-02

SHEET **21** OF 26

PI-1

ISSUED FOR BID

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ELECTRICAL PLAN LINETYPES	
	EXPOSED CONDUIT
	EXISTING OR FUTURE EXPOSED CONDUIT
	UNDERGROUND CONDUIT
	EXISTING OR FUTURE UNDERGROUND CONDUIT
	BARE COPPER GROUND CONDUCTOR
	ELECTRICAL EQUIPMENT
	EXISTING OR FUTURE ELECTRICAL EQUIPMENT
	DEMOLITION
	CAPPED UNDERGROUND CONDUIT

SCHEMATIC LINETYPES	
	ELECTRICAL BUS
	EXISTING OR FUTURE ELECTRICAL BUS
	MANUFACTURER/SHOP WIRE TYPICALLY INSTALLED OFF-SITE
	EXISTING OR FUTURE MANUFACTURER/SHOP WIRE
	FIELD/CONTRACTOR INSTALLED WIRE

ABBREVIATIONS	
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT
AI	AMPS INTERRUPTING CAPACITY
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CL2	CHLORINE
CPT	CONTRAD - POWER TRANSFORMER
CU	COPPER, BARE
CV	CONTROL VALVE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
DV/DT	DIFFERENTIAL VOLTAGE/TIME
DWG	DRAWING
ETM	ELAPSED TIME METER
EOL	ELECTRONIC OVERLOAD
FE	FLOW ELEMENT
FLA	FULL LOAD AMPS
FOC	FIBER OPTIC CABLE
FOR	FORWARD-OFF-REVERSE
FS	FLOW SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GPM	GALLONS PER MINUTE
GRS	GALVANIZED RIGID STEEL
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE CURRENT
I	CURRENT
IC	INSTRUMENTATION CABLE
IN	INPUT/OUTPUT
ISC	SHORT CIRCUIT CURRENT
J	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LCF	LOCAL CONTROL PANEL
LOS	LOCK-OUT-STOP
LP	LIGHTING PANEL
LR	LOCAL/REMOTE
LS	LEVEL SWITCH
LTC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
M	MOTOR
MA	MANUAL/AUTO, MILLIAMPS
MCB	MANUFACTURER'S CABLE
MCC	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MOV	MOTOR OPERATED VALVE
MTU	MASTER TELEMETRY UNIT
NEC	NATIONAL ELECTRICAL CODE
NOTC	NORMALLY OPEN TIMED CLOSED
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
NTU	TURBIDITY
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
ON/OFF	ON/OFF (MAINTAINED)
OR	OFF-REMOTE
PB	PULL BOX
PC	PERSONAL COMPUTER
PFR	PHASE/POWER FAILURE RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PPM	PARTS PER MILLION
PR	PAIR
PS	PRESSURE
PSI	PRESSURE SWITCH
PV	POUNDS PER SQUARE INCH
PCP	PROCESS VARIABLE
RF	REMOTE CONTROL PANEL
RF	RADIO FREQUENCY
RIQ	REMOTE INPUT OUTPUT
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RVSS	REDUCED VOLTAGE SOFT STARTER
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLOS	START-LOCK-OFF-STOP
SMC	SUBMERSIBLE MANUFACTURER CABLE
SO2	SULFUR DIOXIDE
SP	SET POINT/SPARE
SPD	SURGE PROTECTION DEVICE
SS	START/STOP
ST	SHUNT TRIP
TC	TELEPHONE CABLE
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UG	UNDERGROUND
V	VOLT
VA	VOLTAMP
VFD	VARIABLE FREQUENCY DRIVE
W	WATT, WIRE
WP	WEATHERPROOF
WTR	TRANSFORMER
ZS	POSITION SWITCH

NOTES	
1.	THE COMPLETED INSTALLATION SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE COMPLETED IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE LATEST NEC STANDARDS OF INSTALLATION UNDER COMPETENT SUPERVISION. INSTALL GROUNDING PER NEC.
2.	VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OTHER FACTORS, WHICH MAY AFFECT THE EXECUTION OF THE WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
3.	THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITIES PROVIDING SERVICES ON THIS PROJECT, AND SHALL COMPLY WITH ALL THEIR INSTALLATION REQUIREMENTS.
4.	ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, UL, OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS' NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE.
5.	PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER PREVENTABLE CAUSES. EQUIPMENT DAMAGED DURING SHIPPING OR CONSTRUCTION, PRIOR TO ACCEPTANCE BY THE ENGINEER OR THE OWNER, WILL BE REJECTED AS DEFECTIVE.
6.	LEAVE THE SITE CLEAN. REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS. LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. DAMAGED PAINT AND FINISHES SHALL BE TOUCHED UP OR REPAINTED WITH MATCHING COLOR PAINT AND FINISH.
7.	CIRCUIT CONDUCTORS #6 AWG OR SMALLER SHALL BE THWN STRANDED COPPER. #4 AWG THROUGH #2 AWG SHALL BE XHHW STRANDED COPPER. #1 AWG OR LARGER SHALL BE XHHW-2 STRANDED COPPER. MINIMUM POWER CONDUCTOR SIZE SHALL BE #12 AWG WITH #12 AWG GROUND. ALL WIRE TO BE SIZED PER NEC TABLE 316-10, 75° C BASED ON A 30° C AMBIENT.
8.	UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM CONDUIT DEPTH SHALL BE 24 INCHES. MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1 INCH. MINIMUM CONDUIT DEPTH UNDER SLAB SHALL BE 1 INCH.
9.	CONDUITS SHALL BE MARKED AT EACH END WITH MATCHING NUMBERED BRASS OR NYLON TAGS. SPARE CONDUITS SHALL HAVE A PULL STRING INSTALLED AND SECURED.
10.	EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL (GRS). MINIMUM SIZE 3/4 INCH, UNLESS OTHERWISE NOTED ON THE PLANS.
11.	SAFETY SWITCHES, ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, AND OTHER ELECTRICAL DEVICES SHALL BE UL LISTED, AND RATED FOR HEAVY DUTY SERVICE.
12.	WIRING DEVICES SHALL BE SPECIFICATION GRADE.
13.	THE CONTRACTOR IS RESPONSIBLE FOR MANAGING, SCHEDULING, DOCUMENTING, AND PERFORMING THE WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM FOR THE FACILITY IS PROVIDED. ACCURATE SHOP AND RECORD DRAWINGS, AND OEM MANUALS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK.
14.	TYPICAL DETAILS SHALL APPLY IN ALL CASES, WHETHER SPECIFICALLY REFERRED TO OR NOT.

ELEC. PLAN SYMBOLS	
SITE PLAN DEVICES	
	X = (SEE BELOW)
	AE - ANALYZER ELEMENT
	AIT - ALALYZING INDICATING TRANSMITTER
	FE - FLOW ELEMENT
	FIT - FLOW INDICATING TRANSMITTER
	FS - FLOW SWITCH
	J - JUNCTION BOX
	JS - TORQUE SWITCH
	LE - LEVEL ELEMENT
	LIT - LEVEL INDICATING TRANSMITTER
	LS - LEVEL SWITCH
	M - MOTOR
	MH - MANHOLE
	MV - MOTOR OPERATED VALVE
	PB - PULLBOX
	PIT - PRESSURE INDICATING TRANSMITTER
	PS - PRESSURE SWITCH
	PT - PRESSURE TRANSMITTER
	SV - SOLENOID VALVE
	TS - TEMPERATURE SWITCH
	WE - WEIGHT ELEMENT
	WIT - WEIGHT INDICATING TRANSMITTER
	ZS - LIMIT SWITCH
	GROUND ROD
	DUPLEX RECEPTACLE
	DENOTES RECEPTACLE TYPE (BLANK) = STANDARD INDOORS GFCI = GND FLT CURRENT INT. WP = WEATHER PROOF & GFCI
	QUADRAPLEX RECEPTACLE
	DUPLEX RECEPTACLE MOUNTED AT 44" AFF
	DATA JACK
	SINGLE POLE SWITCH
	3-WAY SWITCH
	4-WAY SWITCH
	CONDUIT SEALOFF
	LTC CONNECTION
	MC CONNECTION
	DISCONNECT SWITCH
	THERMOSTAT
	CONDUIT HOME RUN NUMBER INDICATES QUANTITY OF CONDUCTORS INCLUDING GROUND

PLC SYMBOLS	
LOCAL PANEL OR DEVICE TERMINAL BLOCK	
	TERMINAL LABEL (SECONDARY)
	TERMINAL LABEL (SIZE PERMITTING)
PLC PANEL TERMINAL BLOCK	
	TERMINAL LABEL
MCC TERMINAL BLOCK	
	TERMINAL LABEL
PLC DISCRETE INPUT	
	DISCRETE INPUT LABEL
	DISCRETE OUTPUT LABEL
PLC DISCRETE OUTPUT (NORMALLY OPEN)	
	DISCRETE OUTPUT LABEL
PLC DISCRETE OUTPUT (NORMALLY CLOSED)	
	DISCRETE OUTPUT LABEL
PLC ANALOG INPUT	
	ANALOG INPUT LABEL
PLC ANALOG OUTPUT	
	ANALOG OUTPUT LABEL
PLC RTD	
	RTD LABEL

SCHEMATIC SYMBOLS	
	DEVICE CONNECTION LUG OR TERMINAL
	SCHEMATIC POINT OF CONNECTION
	POWER STABS BUS CONNECTION
	POWER STABS LOAD CONNECTION
CIRCUIT BREAKER	
	100AF ← FRAME SIZE 50AT ← TRIP RATING MCP ← BREAKER TYPE
DISCONNECT	
	30A ← AMPERE RATING 4X ← NEMA RATING
FUSE	
	30A ← AMPERE RATING R ← FUSE TYPE
FUSED DISCONNECT	
	30A ← AMPERE RATING 4X ← NEMA RATING
	30A ← AMPERE RATING R ← FUSE TYPE
TRANSFORMER	
	CURRENT TRANSFORMER
	100:5 ← CT TURNS RATIO 3 ← NUMBER OF CT'S
	POTENTIAL TRANSFORMER
	480:120 ← PT VOLTAGE RATIO 3 ← NUMBER OF PT'S
METERING EQUIPMENT	
	METER TYPE DESIGNATION AM = AMMETER SSM = SOLID STATE METER UM = UTILITY METER VM = VOLTMETER WHM = WATT HOUR METER WM = WATT METER
GENERATOR	
MANUAL OR AUTOMATIC TRANSFER SWITCH	
	600A ← AMPERE RATING 3R ← NEMA RATING
TRANSIENT VOLTAGE SURGE SUPPRESSOR	
	TVSS CLASS C ← TVSS CLASSIFICATION
MOTOR OVERLOAD RELAY	
	NEMA SIZE ← STARTER TYPE AND SIZE
FULL VOLTAGE NON-REVERSING STARTER (FVNR)	
	NEMA SIZE ← STARTER TYPE AND SIZE
FULL VOLTAGE REVERSING STARTER (FVR)	
	NEMA SIZE ← STARTER TYPE AND SIZE
TWO-SPEED STARTER	
	NEMA SIZE ← STARTER TYPE AND SIZE
	PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN
	INSTANTANEOUS SHORT-CIRCUIT TRIP DEVICE
	TIME OVERCURRENT TRIP DEVICE
	GROUND FAULT TRIP DEVICE
	HARMONIC FILTER
	LOAD REACTOR
	VARIABLE FREQUENCY DRIVE
	REDUCED VOLTAGE SOFT STARTER
	GROUND CONNECTION
	MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE
	MOTOR STARTER, CONTACTOR, RELAY OR TIMER COIL
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	SOLENOID VALVE
	TERMINAL BLOCK
	EQUIPMENT PROGRAMMING CONSOLE
	2 POSITION SELECTOR SWITCH POSITION LEGEND: X=CLOSED O=OPEN
	3 POSITION SELECTOR SWITCH HAND - OFF - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	3 POSITION SELECTOR SWITCH OPEN - CLOSE - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	3 POSITION SELECTOR SWITCH FORWARD - OFF - REVERSE POSITION LEGEND: X=CLOSED O=OPEN
	NORMALLY CLOSED PUSH BUTTON
	NORMALLY OPEN PUSH BUTTON
TYPICAL SWITCH CONFIGURATION	
	FLOAT SWITCH - MAKE ON FALL
	FLOAT SWITCH - MAKE ON RISE
	FLOAT SWITCH - BREAK ON FALL
	FLOAT SWITCH - BREAK ON RISE
	SWITCH TYPE SYMBOL (SEE BELOW)
	LEVEL SWITCH
	PRESSURE SWITCH
	FLOW OR TORQUE SWITCH
	TEMPERATURE SWITCH
	LIMIT SWITCH
	TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE
	ELAPSED TIME METER
	CONTROL RELAY
	TIME DELAY RELAY
	ALARM RELAY
	PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN
	INSTANTANEOUS SHORT-CIRCUIT TRIP DEVICE
	TIME OVERCURRENT TRIP DEVICE
	GROUND FAULT TRIP DEVICE

SCHEMATIC SYMBOLS	
	OFF-ON
	ON-OFF
	3 POSITION SELECTOR SWITCH HAND - OFF - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	3 POSITION SELECTOR SWITCH OPEN - CLOSE - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	3 POSITION SELECTOR SWITCH FORWARD - OFF - REVERSE POSITION LEGEND: X=CLOSED O=OPEN
	STOP
	START

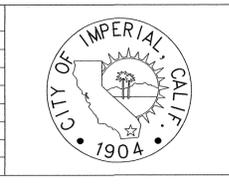
ABBREVIATIONS	
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT
AI	AMPS INTERRUPTING CAPACITY
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
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HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE CURRENT
I	CURRENT
IC	INSTRUMENTATION CABLE
IN	INPUT/OUTPUT
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J	JUNCTION BOX
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NOTC	NORMALLY OPEN TIMED CLOSED
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NTS	NOT TO SCALE
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OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
ON/OFF	ON/OFF (MAINTAINED)
OR	OFF-REMOTE
PB	PULL BOX
PC	PERSONAL COMPUTER
PFR	PHASE/POWER FAILURE RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PPM	PARTS PER MILLION
PR	PAIR
PS	PRESSURE
PSI	PRESSURE SWITCH
PV	POUNDS PER SQUARE INCH
PCP	PROCESS VARIABLE
RF	REMOTE CONTROL PANEL
RF	RADIO FREQUENCY
RIQ	REMOTE INPUT OUTPUT
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RVSS	REDUCED VOLTAGE SOFT STARTER
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLOS	START-LOCK-OFF-STOP
SMC	SUBMERSIBLE MANUFACTURER CABLE
SO2	SULFUR DIOXIDE
SP	SET POINT/SPARE
SPD	SURGE PROTECTION DEVICE
SS	START/STOP
ST	SHUNT TRIP
TC	TELEPHONE CABLE
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UG	UNDERGROUND
V	VOLT
VA	VOLTAMP
VFD	VARIABLE FREQUENCY DRIVE
W	WATT, WIRE
WP	WEATHERPROOF
WTR	TRANSFORMER
ZS	POSITION SWITCH

CONDUIT CALLOUT	
	GROUPED CONDUIT AND CIRCUIT IDENTIFICATION TAGS. REFER TO THE POWER ONE-LINE AND CONTROL ONE-LINE DIAGRAMS OR CONDUIT SCHEDULES FOR CONDUIT SIZES AND CONTENTS. C-CONTROL/INSTRUMENTATION P-POWER F-FIBER OPTIC/NETWORK SP-SPARE CONDUITS
	CXXX PXXX FXXX SPXXX

EQUIPMENT CALLOUT	
	EQUIP. TAG EQUIPMENT CALLOUT
	DESCRIPTOR #1 DESCRIPTOR #2 DESCRIPTOR #3
	100 TYP DETAIL CALLOUT
	FE 101 FIELD INSTRUMENT CALLOUT

Know what's below. Call 811 before you dig.

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE



CITY OF IMPERIAL	
CITY ENGINEER	DATE
REFERENCES	

ENGINEER'S SEAL

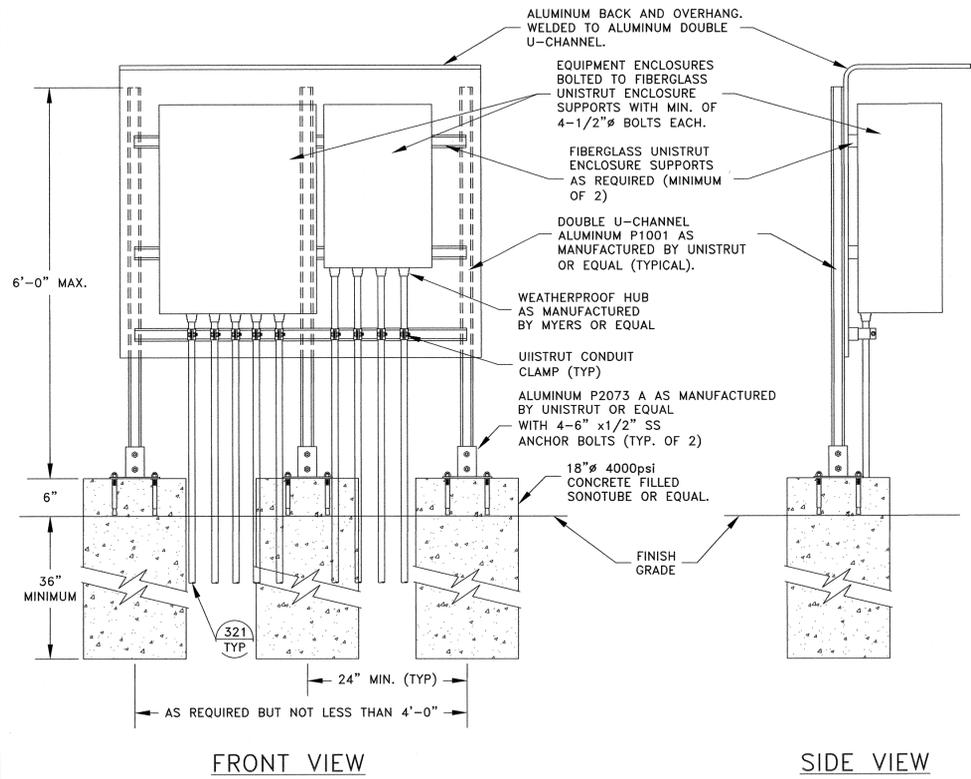
ALBERT A. WEBB ASSOCIATES

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

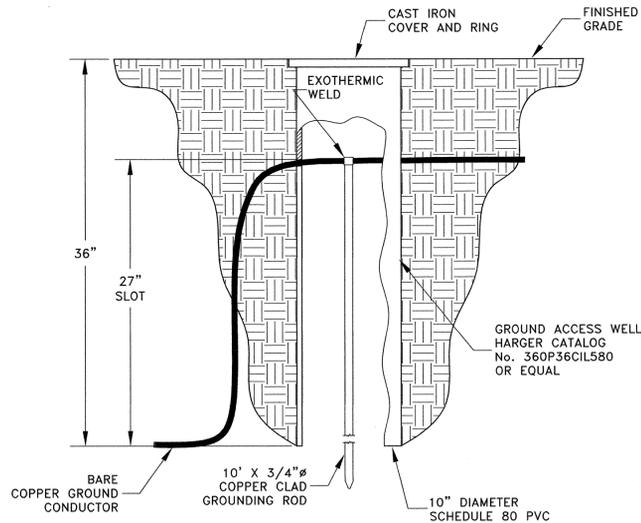
PLANS PREPARED UNDER THE SUPERVISION OF:

SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

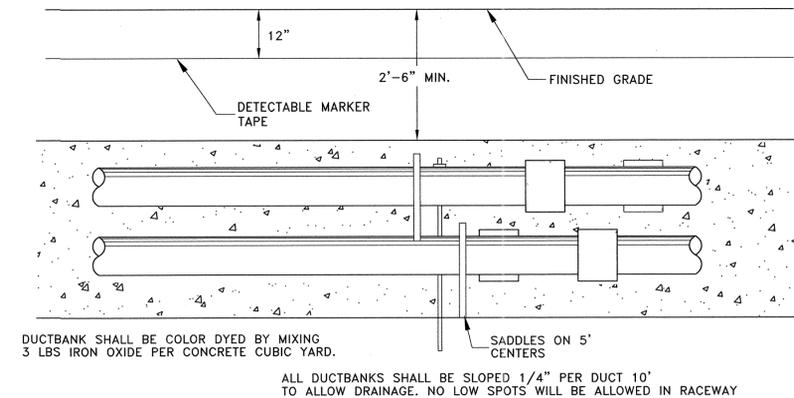
DESIGNED:	DATE
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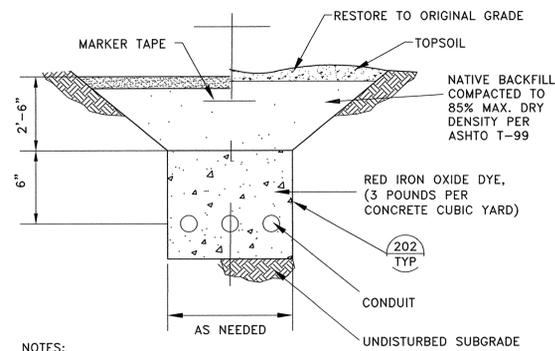
**012 TYP** **EQUIPMENT RACK DETAIL**  
NO SCALE



**100 TYP** **GROUND ROD WITH ACCESS WELL**  
SCALE: NONE

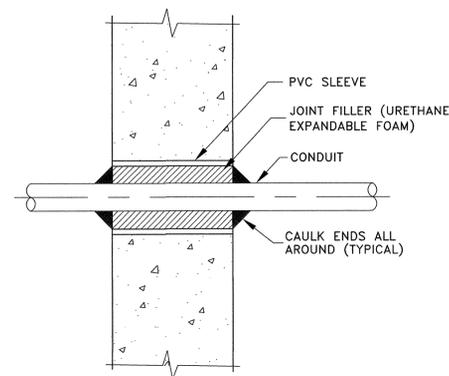


**203 TYP** **DUCTBANK DETAIL**  
SCALE: NONE

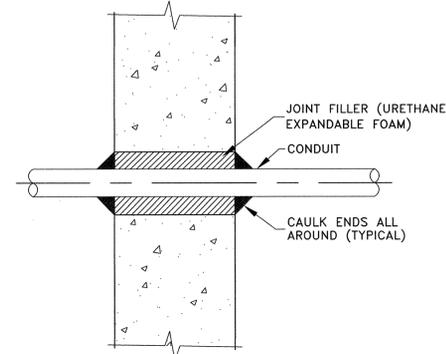


NOTES:  
DIMENSIONS ARE MINIMUM.  
THE GROUND CONDUCTOR SHALL RUN CONTINUOUSLY THROUGH MANHOLES AND PULL BOXES AND SHALL CONTINUE FROM THE DUCTBANK INTO THE ELECTRICAL EQUIPMENT OR BUILDING GROUNDING SYSTEM AND SHALL BE BONDED TO EACH RIDGID METAL CONDUIT.

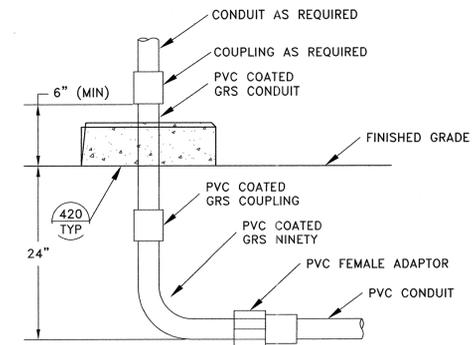
**204 TYP** **TYPICAL TRENCH DETAIL FOR BELOW 600 VOLTS**  
SCALE: NONE



**300 TYP** **CONDUIT PENETRATION AT NEW WALL OR SLAB**  
SCALE: NONE



**301 TYP** **CONDUIT PENETRATION AT EXISTING WALL OR SLAB**  
SCALE: NONE



NOTES:  
1. WHERE CONDUITS ARE INSTALLED IN OR UNDER A CONCRETE SLAB, THE 24" DIMENSION DOES NOT APPLY. CONDUITS SHALL BE INSTALLED BETWEEN REBAR MATS OR UNDER A SINGLE REBAR MAT.  
2. IN CORROSIVE AREAS, PVC COATED GRS SHALL BE USED.  
3. SCOTCHWRAP PER SPECIFICATIONS, MAY BE SUBSTITUTED FOR PVC COATING.

**321 TYP** **STUB UP DETAIL**  
SCALE: NONE



REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES



**ALBERT A. WEBB ASSOCIATES**

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36951 COOK STREET #103  
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PLANS PREPARED UNDER THE SUPERVISION OF:

SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

	DATE
DESIGNED: MPJ	1/17/14
DRAWN: DCL	1/17/14
TRACED: N/A	-
CHECKED: MPJ	1/17/14
SUBMITTED: _____	-
SCALE:	NONE

CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

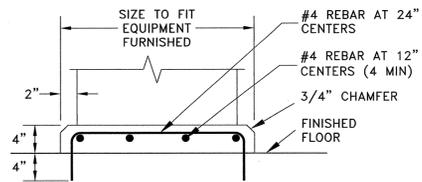
WASTEWATER TREATMENT PLAN MODIFICATIONS  
COARSE SCREEN INSTALLATION  
ELECTRICAL - GENERAL  
DETAILS

DWG. NO. \_\_\_\_\_

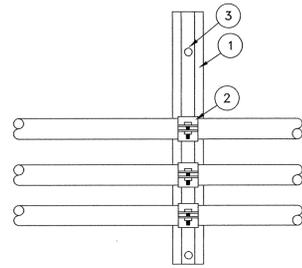
BID NO. 2014-02  
SHEET 23 OF 26  
GE-2

ISSUED FOR BID

S:\PROJECTS\ENGINEERING\GOV\0688 IMPERIAL CALIFORNIA\1 WWP COARSE SCREENING\SKM CAD FILES\10 GE-2 DETAILS.DWG 9/12/2012 9:19 AM

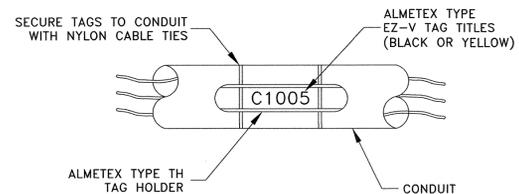


**400 TYP** **EQUIPMENT PAD DETAIL**  
SCALE: NONE

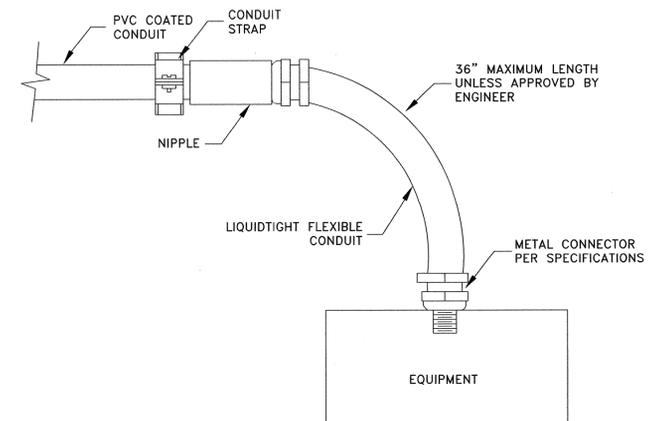


- ① UNISTRUT P1000-ST CHANNEL 316SS
- ② UNISTRUT CONDUIT STRAP 316SS
- ③ 3/8"x3-1/2" 316SS ANCHOR BOLT GROUTED INTO CONCRETE (1 PER FOOT 2 MINIMUM)

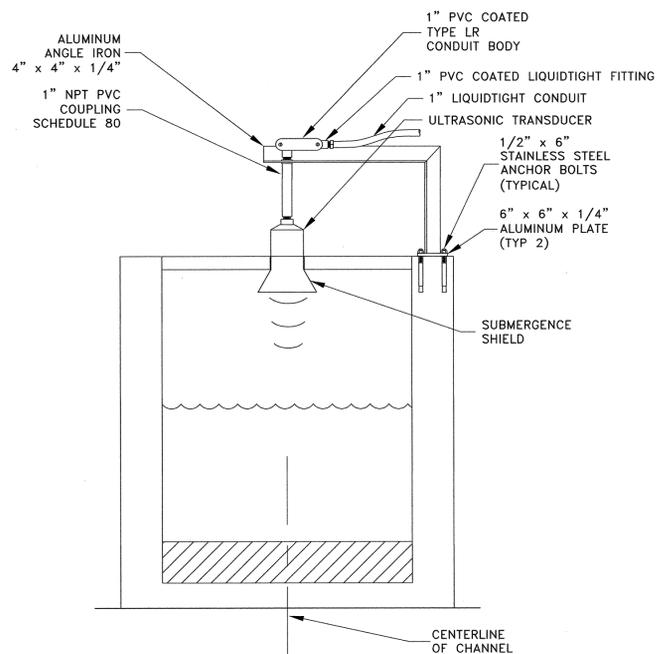
**351 TYP** **EXPOSED SURFACE CONDUIT**  
SCALE: NONE



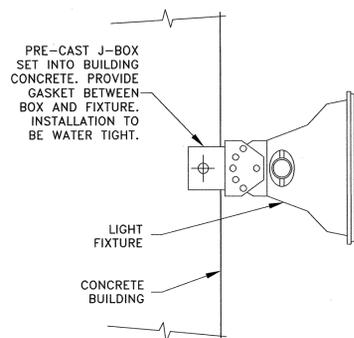
**360 TYP** **CONDUIT MARKING SYSTEM**  
SCALE: NONE



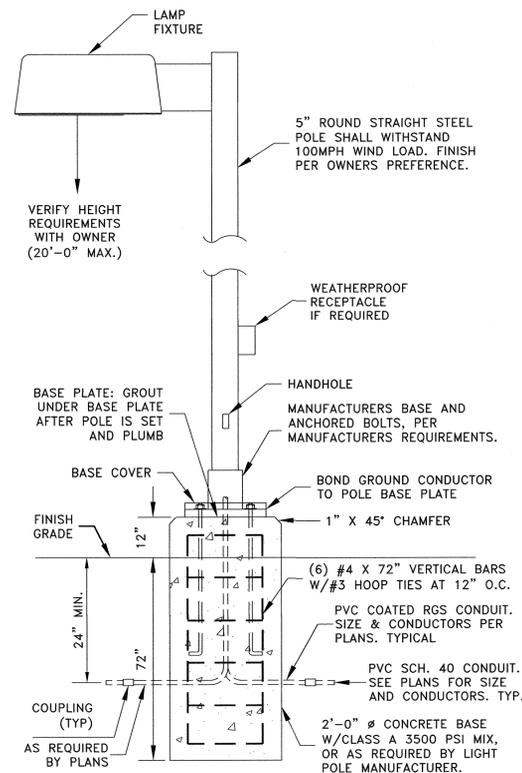
**365 TYP** **FLEXIBLE CONDUIT DETAIL**  
SCALE: NONE



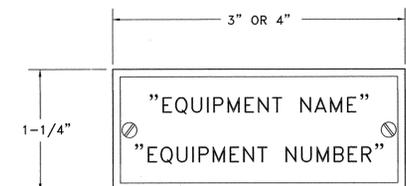
**500 TYP** **ULTRASONIC LEVEL SENSOR**  
SCALE: NONE



**811 TYP** **INTERIOR WALL HUNG LIGHT FIXTURE DETAIL**  
SCALE: NONE



**852 TYP** **AREA/SITE LIGHT DETAIL W/ RECEPTACLE**  
SCALE: NONE



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

**900 TYP** **NAMEPLATE DETAIL**  
SCALE: NONE



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
REFERENCES \_\_\_\_\_

**ENGINEER'S SEAL**



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

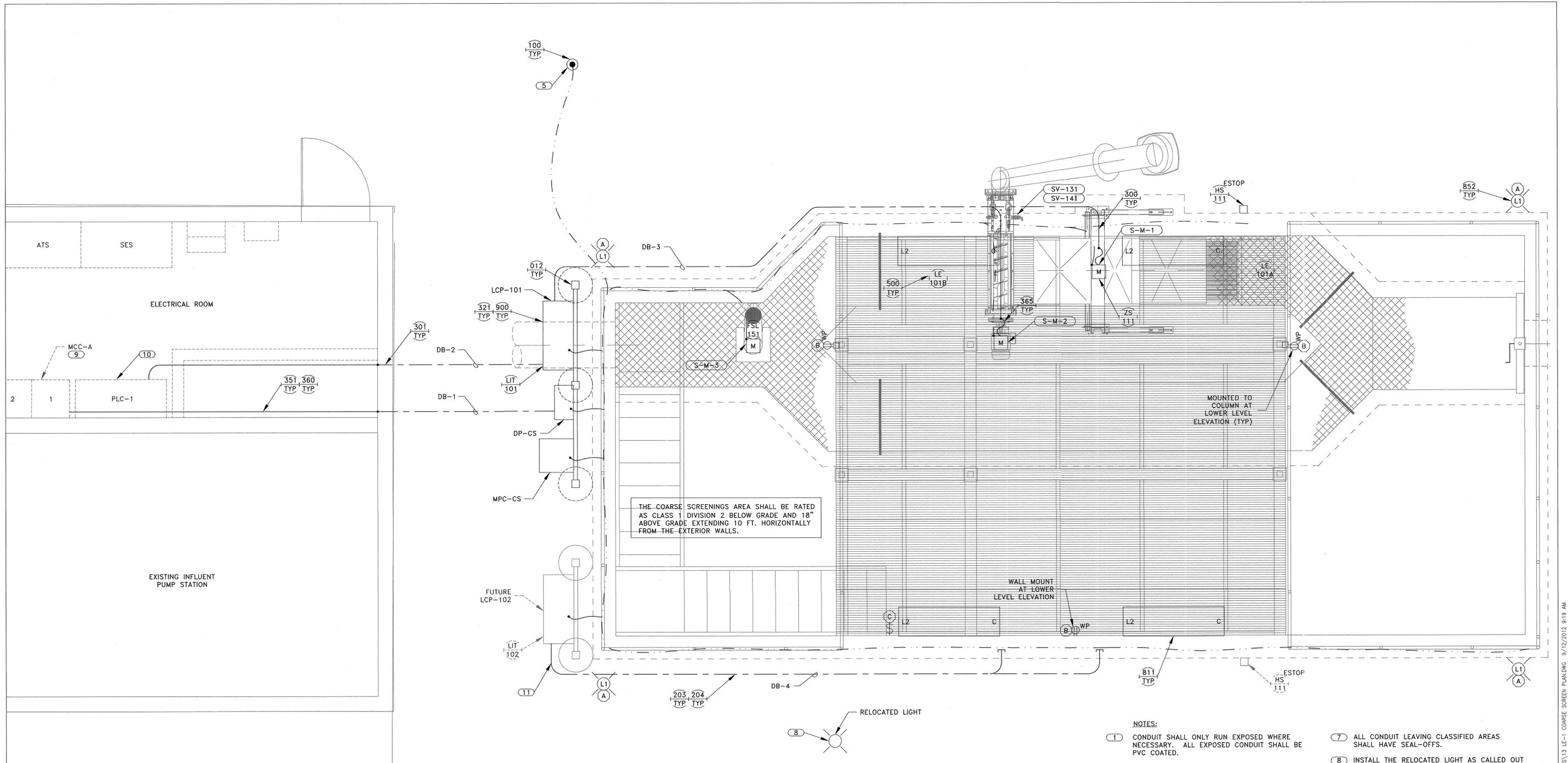
PLANS PREPARED UNDER THE SUPERVISION OF:  
SHANE L. BLOOMFIELD  
REGISTERED CIVIL ENGINEER NO. C77435

DESIGNED:	DATE
MPJ	1/17/14
DRAWN:	DCL 1/17/14
TRACED:	N/A
CHECKED:	MPJ 1/17/14
SUBMITTED:	-
SCALE:	NONE

CITY OF IMPERIAL IMPERIAL COUNTY, CALIFORNIA	BID NO. 2014-02
WASTEWATER TREATMENT PLAN MODIFICATIONS COARSE SCREEN INSTALLATION ELECTRICAL - GENERAL DETAILS	SHEET <b>24</b> OF 26
DWG. NO.	GE-3

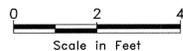
ISSUED FOR BID

S:\PROJECTS\ENGINEERING\600\0689 IMPERIAL CALIFORNIA\1 WWP COARSE SCREENING\SKM CAD FILES\10 GE-3 DETAILS.DWG 9/12/2012 9:19 AM



THE COARSE SCREENINGS AREA SHALL BE RATED AS CLASS 1 DIVISION 2 BELOW GRADE AND 18" ABOVE GRADE EXTENDING 10 FT. HORIZONTALLY FROM THE EXTERIOR WALLS.

**COURSE SCREEN PLAN**



**ELECTRICAL LEGEND**

- Ⓛ: DUPLEX OUTLET
- Ⓜ: GFCI PROTECTED OUTLET
- Ⓜ: WEATHER-PROOF OUTLET GFCI PROTECTED.
- Ⓛ: DEVICES WITH SAME LETTER CODE (I.E. A,B,C) REPRESENT DEVICES ON SAME CIRCUIT.
- Ⓛ: 10' POLE MOUNTED AREA LIGHT. LITHONIA MODEL# KAD 150M R4 120 SCWA SPD12 PER PE1 LP1, WITH PHOTOCCELL CONTROL, OR EQUAL
- L2: RICALITE 4' CLASS 1 DIVISION 2 WET LOCATION T5 FLUORESCENT FIXTURE. MODEL HEFT5HO-2-TM-U (48" DUAL ELEMENT SURFACE MOUNT WET LOCATION FLUORESCENT FIXTURE).

- NOTES:**
- 1 CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED.
  - 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 SHALL PROVIDE 2 CONCRETE ENCASED ELECTRODES IN FOOTINGS PER SPECIFICATIONS 60' PER CONDUCTOR.
  - 5 CONTRACTOR SHALL INSTALL 10'X3/4" #8 COPPER GROUND ROD 10' MINIMUM FROM STRUCTURE.
  - 6 BOND ALL BUILDING OR STRUCTURAL STEEL TO GROUND PER NEC. BOND HANDRAIL AND GRATING TO GROUND.
  - 7 ALL CONDUIT LEAVING CLASSIFIED AREAS SHALL HAVE SEAL-OFFS.
  - 8 INSTALL THE RELOCATED LIGHT AS CALLED OUT ON SHEET 3 NOTE 11 HERE. CONTRACTOR IS RESPONSIBLE TO RELOCATE THE POLE AND EITHER REUSE THE CONCRETE BASE OR INSTALL A NEW CONCRETE BASE. CONTRACTOR SHALL EXTEND CONDUIT AND WIRE AND VERIFY THE LIGHT'S FUNCTIONALITY.
  - 9 THE EXISTING MCC-A IS A WESTINGHOUSE SERIES 2100 MCC HUSD22480 IT.003. INSTALL SPARE 12" SECTION A NEW 100A FEEDER BREAKER FOR FEEDING DP-CS.
  - 10 THE EXISTING PLC-1 HAS AN EXISTING 5-PORT ETHERNET SWITCH THAT SHOULD BE REPLACED WITH AN 8-PORT ETHERNET SWITCH. THE NEW SWITCH SHOULD BE A PHOENIX CONTACT 2891002 OR APPROVED EQUAL
  - 11 THE CONTRACTOR SHALL INSTALL ALL CONDUIT IN THE GROUND FOR THE FUTURE LCP-102 AND CORRESPONDING COARSE SCREEN 2 AND WASHFACTOR 2.



REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
DESIGNED BY:	DRAWN BY:	CHECKED BY:		



**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REFERENCES \_\_\_\_\_



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 36951 COOK STREET #103  
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 FAX (760) 568-3443

PLANS PREPARED UNDER THE SUPERVISION OF: \_\_\_\_\_ DATE \_\_\_\_\_

SHANE L. BLOOMFIELD  
 REGISTERED CIVIL ENGINEER NO. C77435

	DATE
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DRAWN: DCL	1/17/14
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SUBMITTED: _____	
SCALE: NONE	

CITY OF IMPERIAL  
 IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLAN MODIFICATIONS  
 COARSE SCREEN INSTALLATION  
 ELECTRICAL - LAYOUT  
 SCREENINGS PLAN

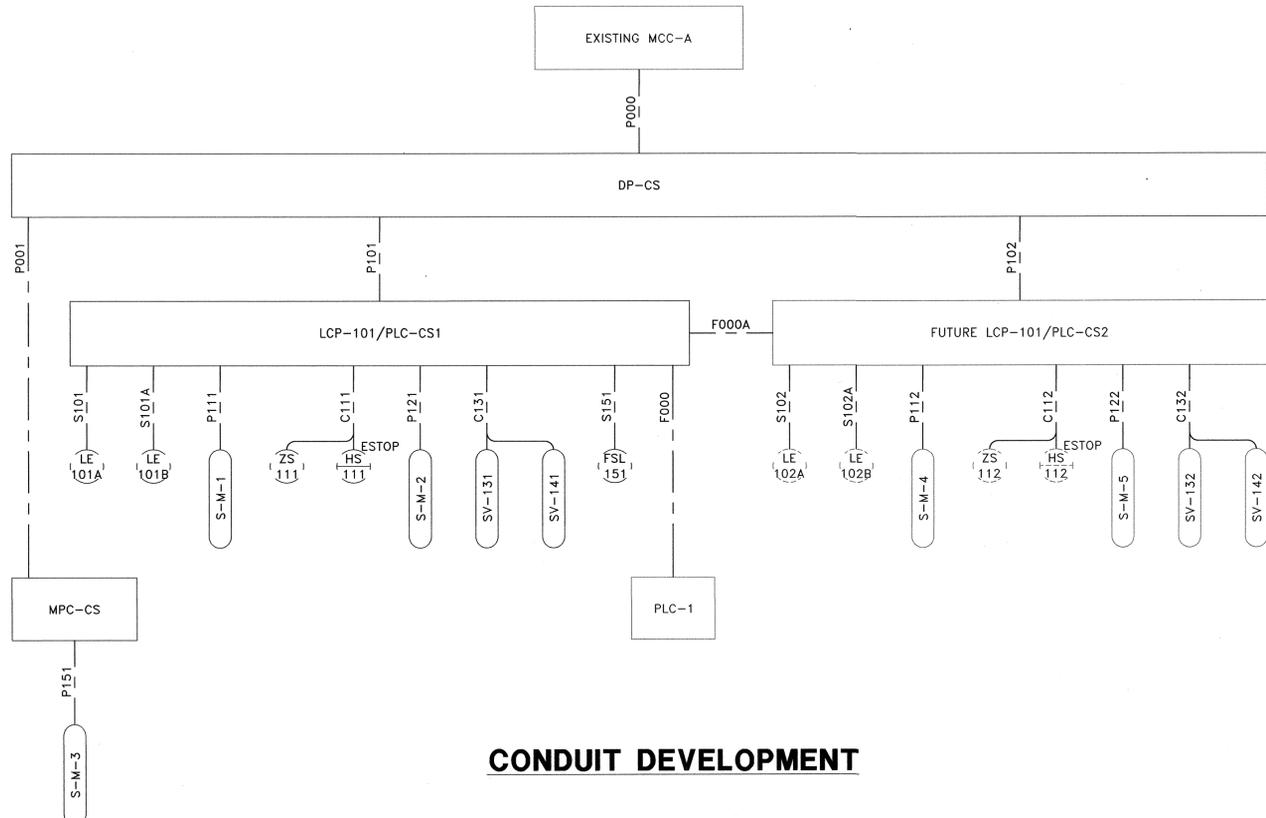
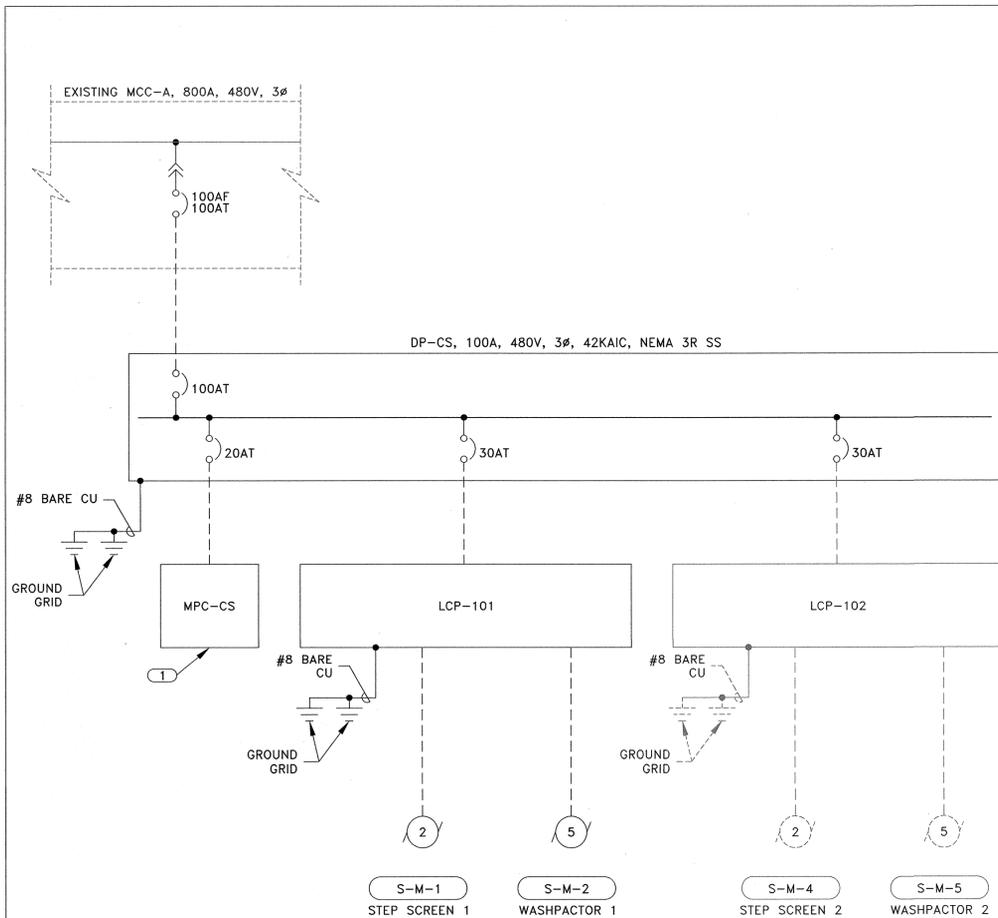
DWG. NO. \_\_\_\_\_

BID NO. 2014-02

SHEET **25** OF 26

LE-1

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**LINETYPE LEGEND**

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

**NOTE:**  
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**

**NOTES:**  
1 MINI-POWER CENTER MPC-CS, 10KVA, 120/240VAC, 1 $\phi$ , 3W, 10CKT, NEMA 3R

**ONELINE DIAGRAM**

CIRCUIT/DESCRIPTION	KVA	HP	FLA
DP-CS MOTOR LOADS			
NON-MOTOR LOADS			
LCP-101			12.0
FUTURE LCP-102			12.0
MPC-CS			2.5
SUBTOTAL			26.5
+ 25% OF LARGEST MOTOR			0.0
TOTAL AMPS @ 480V/3PHASE			26.5
SERVICE SIZE (AMPS)			100.0

**DP-CS CALCULATIONS**

PANEL: MPC-CS	VOLTAGE: 120/240	MAIN CB: 20 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	CIRCUIT DESCRIPTION
S-M-3	20/1	1	600		2	WALL LIGHTS (4, C)
OUTDOOR POLE LIGHTS (4, A)	20/1	3	600		4	RECEPTACLES (3, B)
SPARE	20/1	5	540		6	SPARE
SPARE	20/1	7			8	SPARE
SPARE	20/1	9			10	SPARE
CONNECTED VA PER PHASE			1032.0	1140.0		NOTES:
CONNECTED AMPS PER PHASE			8.6	9.5		
25% OF CONTINUOUS & LIGHTING LOAD (VA)			258.0	150.0		
LARGEST MOTOR (25%)			0.0	0.0		
CODE VA PER PHASE			1290.0	1290.0		
CODE AMPS PER PHASE			10.8	10.8		

**MPC-CS CALCULATIONS**

DUCTBANK	CONDUIT	SIZE	CONDUCTORS	SERVICE	FROM	TO	NOTES
DB-1	P000	1.5"	3 #3 W/ #8 GND	480VAC	MCC-A	DP-CS	
	P001	1"	3 #12 W/ #12 GND	480VAC	DP-CS	MPC-CS	
	P101	1"	3 #10 W/ #10 GND	480VAC	DP-CS	LCP-101	
	P102	1"	PULL STRING, WIRE FUTURE	480VAC	DP-CS	FUTURE LCP-102	STUB UP AND CAP CONDUIT
DB-3	P111	1"	3 #12 W/ #12 GND	480VAC	LCP-101	S-M-1	
DB-4	P112	1"	FUTURE	480VAC	FUTURE LCP-102	FUTURE S-M-4	STUB UP AND CAP CONDUIT
DB-3	P121	1"	3 #12 W/ #12 GND	480VAC	LCP-101	S-M-2	
DB-4	P122	1"	FUTURE	480VAC	FUTURE LCP-102	FUTURE S-M-5	STUB UP AND CAP CONDUIT
	P151	1"	2 #12 W/ #12 GND	120VAC	MPC-CS	S-M-3	
DB-3	C111	1"	5 #14	CONTROL	PLC-CS1	ESTOP: ZS-111	
DB-4	C112	1"	FUTURE	CONTROL	FUTURE PLC-CS2	FUTURE ESTOP: ZS-112	STUB UP AND CAP CONDUIT
DB-3	C131	1"	2 #12 W/ #12 GND	CONTROL	PLC-CS1	SV-131, SV-141	
DB-4	C132	1"	FUTURE	CONTROL	FUTURE PLC-CS2	FUTURE SV-132, SV-142	STUB UP AND CAP CONDUIT
DB-2	F000	1"	1 CAT6 W/ SHD	COMMS	PLC-1	PLC-CS1	
	F000A	1"	FUTURE	COMMS	PLC-CS1	FUTURE PLC-CS2	STUB UP AND CAP CONDUIT
DB-3	S101	1"	MFG CABLE	SIGNAL	PLC-CS1	LE-101A	
DB-3	S101A	1"	MFG CABLE	SIGNAL	PLC-CS1	LE-101B	
DB-4	S102	1"	PULL STRING, WIRE FUTURE	SIGNAL	FUTURE PLC-CS2	FUTURE LE-102A	STUB UP AND CAP CONDUIT
DB-4	S102A	1"	PULL STRING, WIRE FUTURE	SIGNAL	FUTURE PLC-CS2	FUTURE LE-102B	STUB UP AND CAP CONDUIT
	S151	1"	5 #14	SIGNAL	PLC-CS1	FSL-151	

**CONDUIT SCHEDULE**

TAG	DESCRIPTION	MAKE	MODEL	SUPPLY	RANGE	COMMENTS
FSL-151	CHANNEL EXHAUST FLOW SWITCH	FCI	FLT93S	24VDC		OR APPROVED EQUAL

**INSTRUMENT SCHEDULE**

**811**  
Know what's below. Call 811 before you dig.

REVISIONS				
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**CITY OF IMPERIAL**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

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CITY OF IMPERIAL  
IMPERIAL COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLAN MODIFICATIONS  
COARSE SCREEN INSTALLATION  
ELECTRICAL - POWER DISTRIBUTION  
ONLINE

BID NO. 2014-02

SHEET 26 OF 26

DWG. NO. E-1

ISSUED FOR BID

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