CITY OF SANTA ROSA

IMPROVEMENT PLANS FOR

Laguna Treatment Plant
Primary Treatment Structure Upgrade Phase 1

MAY 2016

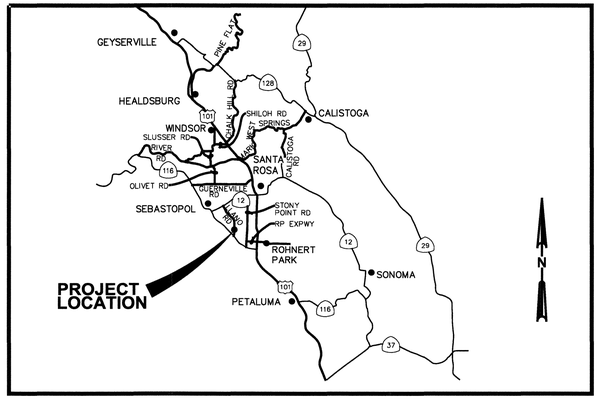
CONTRACT No. C02064

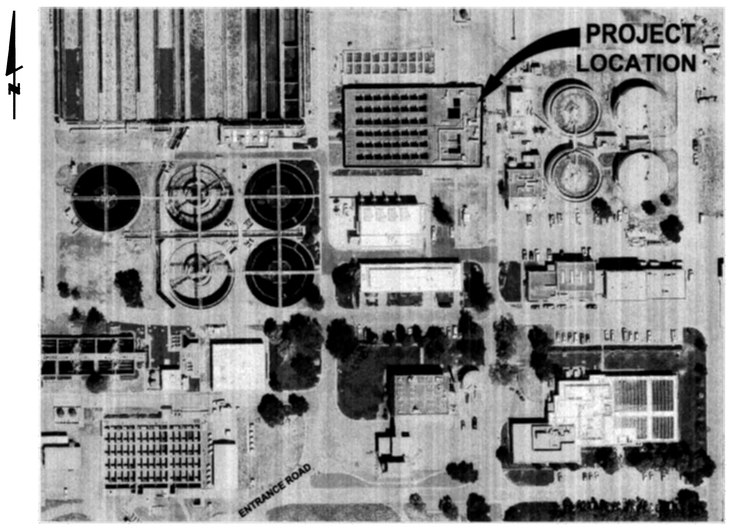
NOTES:

DEFERRED APPROVAL ITEMS

THE CITY OF SANTA ROSA WILL OBTAIN THE BUILDING PERMIT. THE FOLLOWING CONTRACTOR SUBMITTALS WILL BE REVIEWED BY THE ENGINEER/ARCHITECT AND THE CITY OF SANTA ROSA BUILDING DEPARTMENT:

1. HANDRAILS AND GUARDRAILS ENGINEERING DESIGN CONTRACTOR SHALL COORDINATE INSPECTIONS BY THE CITY OF SANTA ROSA BUILDING DEPARTMENT.





LOCATION MAP
NOT TO SCALE

DRAWING INDEX, SEE G02

GENERAL NOTES:

1. ALL WORKMANSHIP, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF SANTA ROSA STANDARD PLANS, THE CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS FOR THIS PROJECT AND THE STATE STANDARD SPECIFICATIONS AND STANDARD PLANS. THE CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING ALL STANDARDS PERTAINING TO THIS PROJECT.

2. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 NO LESS THAN 2 WORKING DAYS PRIOR TO ANY EXCAVATION FOR MARK OUTS OF EXISTING UNDERGROUND FACILITIES IN ACCORDANCE WITH SECTION 8-1.10 OF THE SPECIAL PROVISIONS.

3. THE LOCATIONS OF UNDERGROUND UTILITIES AND OTHER OBSTACLES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL POTHOLE AND DETERMINE THE EXACT LOCATION OF ALL POTENTIAL CONFLICTS IN ACCORDANCE WITH U.S.A. LAWS AND THESE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS. IF ANY UNMARKED UTILITIES ARE ENCOUNTERED, OR IF UNABLE TO LOCATE A MARKED UTILITY AFTER POT HOLING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THAT UTILITY AND THE CITY ENGINEER.

4. ELECTRONIC RECORD DRAWINGS (PDF) OF THE EXISTING PRIMARY TREATMENT STRUCTURE MAY BE OBTAINED VIA EMAIL FROM THE CITY BY REQUEST, ARE FOR REFERENCE ONLY PURPOSES, AND ARE NOT CONSIDERED PART OF THE CONTRACT DOCUMENTS.

BEFORE EXCAVATING
CALL U.S.A.
UNDERGROUND SERVICE ALERT
800-642-2444
TWO WORKING DAYS BEFORE ALL
PLANNED WORK OPERATIONS

REGISTERED PROFESSIONAL ENGINEER
DOUGLAS W. WING
No. 38950
CIVIL
STATE OF CALIFORNIA

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No.	Date	Revision	By	Dept.	Signature	Date
				Design/Construction		
				Survey	N/A	
				Materials Lab	N/A	
				Subregional Operations		5/9/16

City of Santa Rosa

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE
UPGRADE PHASE 1

COVER SHEET

SCALE: NO SCALE | DATE: MAY 2016
DWN BY: RYW | CHK BY: DW
APPROVED: Deputy Director – Engineering
By _____ Date 5/9/2016
Colleen Ferguson

CONTRACT NO. C02064
DRAWING NO. G01
SHEET 1 OF 30
FILE NO. 2016-0018

LAGUNA TREATMENT PLANT PRIMARY STRUCTURE SEISMIC UPGRADE

PROJECT NO. 8871F.10 FILE NAME: _R8871F10G001.dgn

DRAWING INDEX

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
		GENERAL
1	G01	COVER SHEET
2	G02	DRAWING INDEX AND SURVEY CONTROL NOTES
3	G03	ABBREVIATIONS
4	G04	SYMBOLS
5	G05	OVERALL SITE PLAN
		TYPICAL DETAILS
6	TG01	TYPICAL DETAILS - GENERAL
7	TA01	TYPICAL DETAILS - ARCHITECTURAL
8	TA02	TYPICAL DETAILS - ARCHITECTURAL
9	TA03	TYPICAL DETAILS - ARCHITECTURAL
10	TS01	TYPICAL DETAILS - STRUCTURAL
11	TS02	TYPICAL DETAILS - STRUCTURAL
12	TM01	TYPICAL DETAILS - MECHANICAL
13	TM02	TYPICAL DETAILS - MECHANICAL
14	TE01	TYPICAL DETAILS - ELECTRICAL
		DEMOLITION
15	D01	OVERALL ROOF PLAN
16	D02	SOUTH PRIMARY SEDIMENTATION ROOF PLAN
17	D03	NORTH PRIMARY SEDIMENTATION ROOF PLAN
18	D04	OVERALL TOP PLAN
19	D05	INFLUENT DISCHARGE BOX PIPE PLAN & SECTIONS
20	D06	INFLUENT DISCHARGE BOX PLAN & SECTIONS
		STRUCTURAL
21	GS01	GENERAL NOTES
22	S01	OVERALL PLAN
23	S02	INFLUENT DISCHARGE BOX SECTIONS & DETAILS
		MECHANICAL
24	M01	MECHANICAL PHOTOS & DETAILS
25	M02	MECHANICAL PHOTOS
		ELECTRICAL
26	GE01	LEGEND
27	GE02	ABBREVIATIONS AND GENERAL NOTES
28	04E01	SCHEDULES
29	10E01	PRIMARY TREATMENT BUILDING UPPER LEVEL LIGHTING PLAN
30	10E02	PRIMARY TREATMENT BUILDING LOWER LEVEL PLAN

SURVEY CONTROL NOTES:

1. TOPOGRAPHIC SURVEY AND SURVEY CONTROL PROVIDED BY THE CITY OF SANTA ROSA.
2. LOCAL CONTROL WAS SET WITH THE GPS BASE SET AT CSR #1 AND UTILIZING THE GPS ROVER TO SURVEY PREVIOUS CONTROL POINTS FROM CITY OF SANTA ROSA JOB NO 168-07 WERE HELD FOR HORIZONTAL CONTROL.
3. VERTICAL ELEVATIONS WERE DETERMINED BY A LEVEL RUN FROM BM (90.58) THROUGH THE CONTROL POINTS THENCE CHECKING INTO BM3 (86.35) AND BM5 (86.74) SEE CITY FILE NO 1994-0060, SHEET 5.

SURVEY CONTROL				
PT #	NORTHING	EASTING	ELEV	DESCRIPTION
3	1897100.217	6342185.964	91.37	CHISELED X ON LANDING
1	1897117.424	6342102.970	102.23	NAIL & SHINER ON ROOF

SEE DRAWINGS D01 AND D04 FOR CONTROL POINT LOCATIONS.

CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WING No. 38950 CIVIL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

DRAWING INDEX AND SURVEY CONTROL NOTES

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES DWW DATE: 5-1-16

Drw No. G02 Sheet 2 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

	@	AT (MEASUREMENT)
	△	DEFLECTION ANGLE, CENTRAL ANGLE
	#	NUMBER (REBAR Ø)
A		
	AB	ANCHOR BOLT
	ABC	AGGREGATE BASE COURSE
	ABS	ACRYLONITRILE BUTADIENE STYRENE
	AC	ASPHALTIC CONCRETE
	ACB	AIR CIRCUIT BREAKER
	ACI	AMERICAN CONCRETE INSTITUTE
	ACP	ASBESTOS CEMENT PIPE
	ACU	AIR CONDITIONING UNIT
	AD	AREA DRAIN
	ADDL	ADDITIONAL
	ADJ	ADJACENT, ADJUST, ADJUSTABLE
	ADMIN	ADMINISTRATION
	ADR	ACCESS DOOR
	AED	AREA EQUIPMENT DRAIN
	AER	AERAT(ION)(OR)
	AFC	AFTERCOOLER
	AFF	ABOVE FINISHED FLOOR
	AFM	AIR FLOW MONITOR
	AHU	AIR HANDLING UNIT
	AIC	AIR COMPRESSOR
	AIL	AIR INTAKE LOUVER
	ALT	ALTERNATE
	AL	ALUMINUM
	ANCH	ANCHOR
	ANV	ANGLE VALVE
	APPROX	APPROXIMATE, APPROXIMATELY
	ARCH	ARCHITECTURAL
	ARV	AIR RELEASE VALVE
	ASSY	ASSEMBLY
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	AV	ACID VENT
	AVG	AVERAGE
	AVV	AIR AND VACUUM VALVE
	AW	ACID WASTE
B		
	BC	BEGIN CURVE, BRASS CAP, BACK OF CURB, BOLT CIRCLE
	BCKR	BACKER BOARD
	BCM	BATCHMETER
	BD	BOARD
	BDD	BACKDRAFT DAMPER
	BDR	BASIN DRAIN LINE
	BF	BLIND FLANGE
	BFG	BELOW FINISHED GRADE
	BFP	BELT FILTER PRESS
	BFV	BUTTERFLY VALVE
	BG	BREAK GLASS HAND SWITCH
	BKW	BACKWASH
	BLDG	BUILDING
	BLK	BLOCK
	BLKHD	BULKHEAD
	BLR	PROCESS BLOWER
	BM	BEAM, BENCH MARK
	BOTT	BOTTOM
	BOTTS	BOTTOM SLUDGE
	BPV	BACK PRESSURE VALVE
	BRG	BEARING
	BSP	BLACK STEEL PIPE
	BTU	BRITISH THERMAL UNITS
	BTWN	BETWEEN
	BV	BALL VALVE
C		
	C	CLOSE, CONDUIT CHANNEL (STRUCTURAL)
	CA	CONCRETE ANCHOR
	CAUSTIC	CAUSTIC SOLUTION (CONCENTRATED OR DILUTE)
	CB	CATCH BASIN
	CC	CENTER OF CURVATURE, CENTER TO CENTER
	CCB	CHLORINE CONTACT BASIN
	CD	CEILING DIFFUSER, CONDENSATE DRAIN
	CDL	CHEMICAL DRAIN LINE
	CDT	CONDUIT
	CEF	CEILING EXHAUST FAN
	CF	CUBIC FEET
	CFM	CUBIC FEET PER MINUTE
	CFS	CUBIC FEET PER SECOND
	CHEMD	CHEMICAL DRAIN
	CHF	CHEMICAL FEEDER
	CHKD PL	CHECKERED PLATE
	CI	CAST IRON
	CIP	CAST IRON PIPE
	CIRC	CIRCUMFERENTIAL/CIRCUMFERENCE
	CJ	CONSTRUCTION JOINT
	CKA	CHECK VALVE, ANGLE
	CKB	CHECK VALVE, BALL
	CKF	CHECK VALVE, FLAP
	CKS	CHECK VALVE, SWING
	CL	CENTER LINE
	CLK	CHAIN LINK
	CLD	CHLORINE LEAK DETECTOR
	CLL	CHLORINE LIQUID
	CLP	CHLORINE GAS (PRESSURE)
	CLR	CLEAR
	CLS	CHLORINE SOLUTION
	CLSM	CONTROLLED LOW STRENGTH MATERIAL
	CLV	CHLORINE GAS (VACUUM)
	CML	CEMENT MORTAR LINED
	CMLC	CEMENT MORTAR LINED AND COATED
	CMP	CORRUGATED METAL PIPE
	CMU	CONCRETE MASONRY UNIT
	CNV	CONVEYOR
	CO	CLEANOUT
	COL(S)	COLUMN(S)
	CONC	CONCRETE
	CONN	CONNECT, CONNECTION
	CONST	CONSTRUCTION
	CONT	CONTINUOUS OR CONTINUATION OR (D) (OUS)
	CORR	CORRUGATE(D), CORROSION
	CP	CONTROL POINT
	CPLG	COUPLING
	CPT	CARPET
	CPVC	CHLORINATED POLYVINYL CHLORIDE
	CS	CARBON STEEL, CIRCULATING SLUDGE
	CSP	CHEMICAL SUMP PUMP, CORRUGATED STEEL PIPE
	CT	CURRENT TRANSFORMER, CERAMIC TILE
	CTJ	CONTROL JOINT
	CTL	CONTROL
	CTR	CENTER, CENTERED
	CTSK	COUNTERSUNK
	CU	CUBIC
	CUP	COPPER PIPE
	CV	CHECK VALVE
	CW	COLD WATER
	CWV	COMBINATION WASTE AND VENT
	CY	CUBIC YARD
D		
	D	DEPTH, DIGITAL OR DISCRETE, DRAIN
	D/W	DRIVEWAY
	DBL	DOUBLE
	DDR	DESICCANT DRYER
	DEG or °	DEGREE
	DEMO	DEMOLISH, DEMOLITION
	DET	DETAIL
	DFL	DECANT/FILTRATE
	DG	DOOR GRILLE
	DIA or Ø	DIAMETER
	DIAG	DIAGONAL
	DIF	DIFFUSER
	DIG	DIGESTER
	DIM	DIMENSION
	DIP	DUCTILE IRON PIPE
	DISCH	DISCHARGE
	DIW	DEIONIZED WATER
	DL	DEAD LOAD, DRAIN LINE
	DLV	DOOR LOUVER
	DMP	DAMPER
	DMS	DIAPHRAGM SEAL
	DN	DOWN
	do	DITTO
	DO	DOOR OPENING
	DP	DEEP (OR DEPTH)
	DPV	DIAPHRAGM VALVE
	DR	DOOR, DRAIN
	DRT	DRIP TRAP
	DRV	DRAIN VALVE
	DS	DIGESTED SLUDGE, DOWN SPOUT
	DSW	DISTILLED WATER, DOOR SWITCH
	DUC	DUST COLLECTOR
	DUH	DUCT HEATER UNIT
	DW	DISTILLED WATER
	DWD	DEWATERING DRAIN
	DWG(S)	DRAWING(S)
	DWL(S)	DOWEL(S)
E		
	E	EAST
	EA	EACH
	EC	END OF CURVE
	ECC RED	ECCENTRIC REDUCER
	ECU	EVAPORATOR COOLING UNIT
	ED	EQUIPMENT DRAIN
	EF	EXHAUST FAN, EACH FACE
	EFF	EFFLUENT
	EG	EXHAUST GRILLE
	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
	EJ	EXPANSION JOINT
	EJR	INJECTOR/EDUCTOR
	EL	ELEVATION
	ELEC	ELECTRICAL
	ELL	ELBOW
	EMBED	EMBEDMENT
	EMH	ELECTRICAL MANHOLE
	EP	EDGE OF PAVEMENT
	EPS	EXPANDED POLYSTYRENE
	EPV	ECCENTRIC PLUG VALVE
	EQ	EQUAL
	EQUIP	EQUIPMENT
	ER	EXHAUST REGISTER
	ES	EACH SIDE
	ESEW	EMERGENCY SHOWER AND EYE WASH
	ESS	EMERGENCY HAND SWITCH
	ET	ELECTRICALLY HEAT TRACED
	EUH	ELECTRIC UNIT HEATER
	EVR	EVAPORATOR
	EW	EACH WAY
	EWC	ELECTRIC WATER COOLER
	EWEF	EACH WAY EACH FACE
	EWH	ELECTRIC WATER HEATER, EXHAUST
	EX	EXISTING
	EXIST	EXISTING
	EXP	EXPANSION, EXPANSION TANK
	EXPO	EXPOSED
	EXT	EXTERIOR
F		
	FACT	FACTORY
	FAD	FOUL AIR DUCT
	FB	FLAT BAR
	FBW	FILTER BACKWASH
	FC	FACE OF CURB, FLEXIBLE COUPLING
	FCA	FLANGE COUPLING ADAPTER
	FCO	FLOOR CLEANOUT
	FCU	FAN COIL UNIT
	FD	FIRE DAMPER, FLOOR DRAIN, FOUND
	FDC	FIRE DEPARTMENT CONNECTION
	FDL	FLOOR DRAIN LINE
	FDR	FEEDER
	FEFF	FINAL EFFLUENT
	FG	FLAP GATE
	FH	FIRE HYDRANT
	FILT	FILTRATE
	FIN	FINISH
	FIN FL	FINISHED FLOOR
	FIN GR	FINISHED GRADE
	FL	FLOOR, FLOW LINE
	FLA	FOUL AIR
	FLD	FILTER DRAIN
	FLE	FILTER EFFLUENT
	FLEX	FLEXIBLE
	FLG	FLANGE, OR FLANGED
	FLR	FILTER
	FM	FORCE MAIN
	FND	FOUNDATION
	FO	FUEL OIL
	FPM	FEET PER MINUTE
	FPP	FLEXIBLE PLASTIC PIPE
	FRP	FIBERGLASS REINFORCED PLASTIC
	FRPP	FIBERGLASS REINFORCED PLASTIC PIPE
	FRS	FROTH SPRAY
	FS	FAR SIDE
	FSTN	FASTEN(ED)
	FT or '	FOOT, FEET
	FTG	FOOTING
	FUP	FUEL DISPENSER
	FV	FLAP VALVE
	FW	FLUSHING WATER
	FX	FIRE EXTINGUISHER
	FXC	FIRE EXTINGUISHER CABINET
	FXE	FIRE EXTINGUISHER - ELECTRICAL
G		
	G	GAS, GROUND, GUTTER
	GA	GAUGE or GAGE
	GAL	GALLONS
	GALV	GALVANIZE(D)
	GAV	GRAVITY VENTILATOR
	GB	GRADE BREAK
	GBT	GRAVITY BELT THICKENER
	GC	GROOVED COUPLING
	GEL	GRAVITY EXHAUST LOUVER
	GEN	GENERAL, GENERATOR
	GL	GLASS
	GLV	GLOBE VALVE
	GM	GAS METER
	GND	GROUND
	GPD	GALLONS PER DAY
	GPM	GALLONS PER MINUTE
	GR	GRADE
	GRTG	GRATING
	GRV	GRAVITY VENTILATOR
	GSP	GALVANIZED STEEL PIPE
	GV	GATE VALVE
	GYP	GYPSUM
H		
	H	EXPLOSION-PROOF, HIGH, HORIZONTAL
	H1E	HOOK ONE END
	H2E	HOOK TWO ENDS
	HAS	HEADED ANCHOR STUD
	HB	HOSE BIBB
	HCS	SODIUM HYPOCHLORITE
	HDPE	HIGH DENSITY POLYEHTYLENE
	HDW	HARDWARE
	HDWL	HEADWALL
	HEF	HOOD EXHAUST FAN
	HGT	HEIGHT
	HORIZ	HORIZONTAL
	HP	HEAT PUMP, HORSEPOWER, HIGH PRESSURE
	HPA	HIGH PRESSURE AIR
	HPT	HIGH POINT
	HPU	HEAT PUMP UNIT AIR
	HR	HANDRAIL, HOSE REEL, HOUR
	HSF	HOOD SUPPLY FAN
	HSS	HOLLOW STRUCTURAL SECTION (STEEL)
	HTX	HEAT EXCHANGER
	HV	HOSE VALVE
	HW	HOT WATER
	HWL	HIGH WATER LEVEL
	HWR	HOT WATER RETURN
	HWS	HOT WATER SUPPLY
	HxW	HEIGHT BY WIDTH
	HYD	HYDRANT
I		
	IA	INSTRUMENT AIR
	ID	INSIDE DIAMETER, INSIDE DIMENSION, IDENTIFICATION
	I.F.	INSIDE FACE
	IN or "	INCHES
	INCL	INCLUDE, INCLUDING
	INF	INFLUENT
	INJ	INJECTOR
	INSTR	INSTRUMENTATION
	INSUL	INSULAT(E)(ED)(ING)(ION)
	INT	INTERIOR
	INV	INVERT
	IP	IRON PIPE
	ISR	INTRINSICALLY SAFE RELAY
J		
	JST	JOIST
	JT	JOINT
K		
	KGV	KNIFE GATE VALVE
L		
	L	ANGLE (STRUCTURAL), LENGTH, LOUVER
	LAB	LABORATORY
	LAV	LAVATORY
	LB(S)	POUND(S)
	LDF	LIQUID DIESEL FUEL
	LDFR	LIQUID DIESEL FUEL RETURN
	LF	LINEAL FEET
	LG	LONG
	LH	LEFT HAND
	LHR	LEFT HAND REVERSE
	LHRA	LEFT HAND REVERSE ACTIVE
	LHRB	LEFT HAND REVERSE BEVEL
	LL	LIVE LOAD
	LLH	LONG LEG HORIZONTAL
	LLV	LONG LEG VERTICAL
	LP	LOW PRESSURE
	LPA	LOW PRESSURE AIR
	LPG	LIQUIFIED PROPANE GAS
	LPT	LOW POINT
	LR	LONG RADIUS
	LS	LAB SINK
	LT	LEFT
	LWL	LOW WATER LEVEL
M		
	M	MOTOR
	MAINT	MAINTENANCE
	MAN	MANUAL
	MASY	MASONRY
	MATL	MATERIAL
	MAU	MAKE-UP AIR UNIT
	MAX	MAXIMUM
	MB	MACHINE BOLT
	MC	MECHANICAL COUPLING
	MCJ	MASONRY CONTROL JOINT
	MD	MOTORIZED DAMPER
	MECH	MECHANICAL
	MET	METAL
	MFR	MANUFACTURER
	MG/L	MILLIGRAMS PER LITER
	MGD	MILLION GALLONS PER DAY
	MH	MANHOLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MIX	MIXER
	MJ	MECHANICAL JOINT
	MK	MARK
	ML	MIXED LIQUOR
	MO	MASONRY OPENING
	MOD	MODIFIED
	MOIST	MOISTURE
	MON	MONUMENT
	MOS	MOISTURE SEPARATOR
	MPM	METERING PUMP
	MS	MOP SINK
	MTD	MOUNTED
N		
	N	NORTH, NEUTRAL
	NA	NOT APPLICABLE
	NC	NORMALLY CLOSED
	NEV	VALVE, NEEDLE
	NG	NATURAL GRADE, NATURAL OR LP GAS
	NIC	NOT IN CONTRACT
	NO., #	NUMBER
	NOM	NOMINAL
	NPT	NATIONAL PIPE THREAD
	NPW	NON-POTABLE WATER
	NS	NEAR SIDE
	NTS	NOT TO SCALE
O		
	O	OPEN
	OBD	OPPOSED BLADE DAMPER
	OC	ON CENTER
	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
	OED	OPEN EQUIPMENT DRAIN
	O.F.	OUTSIDE FACE
	OFL	OVERFLOW
	OPNG	OPENING
	OPP	OPPOSITE
	OPP HND	OPPOSITE HAND
	OZ	OUNCE
P		
	P	POLE
	PBL	POLYMER BLENDER
	PC	POINT OF CURVATURE
	PCC	PLANT CONTROL CENTER
	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
	PCP	PROGRESSIVE CAVITY PUMP
	PD	POSITIVE DISPLACEMENT, PLANT DRAIN
	PD, PLD	PULSATION DAMPENER
	PDP	POSITIVE DISPLACEMENT PUMP
	PE	PLAIN END
	PERP	PERPENDICULAR
	PG	PRESSURE GAUGE
	PH	PHASE, PHYSICALLY HANDICAPPED
	PI	POINT OF INTERSECTION
	PIV	POST INDICATOR VALVE
	PL	PLATE, PROPERTY LINE
	PLAS	PLASTIC
	PLCS	PLACES
	PLS	POLYMER SOLUTION
	PLWD	PLYWOOD
	PMP	PUMP
	PNL(S)	PANEL(S)
	POL	POLYMER
	POLY	POLYETHYLENE
	POS	POSITION
	POW	POTABLE WATER
	PP	POWER POLE
	PPMV	PARTS PER MILLION (VOLUME)
	PRC	POINT OF REVERSE CURVATURE
	PREFAB	PREFABRICATED
	PRG	PRESSURE REGULATOR
	PRI	PRIMARY
	PROJ	PROJECTION
	PRR	PRESSURE OR VACUUM RELIEF VALVE
	PRV	PRESSURE REDUCING VALVE, PRESSURE REGULATION VALVE, PRESSURE RELIEF VALVE
	PS	PUMP STATION, PIPE SUPPORT
	PSF	POUNDS PER SQUARE FOOT
	PSG	PRESSURE GAUGE
	PSI	POUNDS PER SQUARE INCH
	PSIG	POUNDS PER SQUARE INCH GAUGE
	PT	POINT, POINT OF TANGENCY
	PV	PLUG VALVE
	PVC	POINT OF VERTICAL CURVATURE, POLYVINYL CHLORIDE
	PVDF	POLYVINYLIDENEFLUORIDE
	PVI	POINT OF VERTICAL INTERSECTION
	PVMT	PAVEMENT
	PVT	POINT OF VERTICAL TANGENCY
	PLW	PLANT WATER
Q		
	QTY	QUANTITY
R		
	R/W	RIGHT OF WAY
	RAD	RADIUS, RADIAL
	RAS	RETURN ACTIVATED SLUDGE
	RCP	REINFORCED CONCRETE PIPE
	RD	ROOF DRAIN
	RDL	ROOF DRAIN LINE
	RDOF	ROOF DRAIN OVERFLOW
	RECIRC	RECIRCULATING
	RED	REDUCER, ROOF EQUIPMENT DRAIN
	REF	REFERENCE
	REG	REGULATOR, REGULATING
	REINF	REINFORCE(D)(ING)(MENT)
	REJ	RUBBER EXPANSION JOINT
	REQD	REQUIRED
	RER	REACTOR
	RES	RESERVOIR
	REV	REVISION, REVERSE
	RF	RETURN FAN
	RG	RETURN GRILLE RUBBER GASKET
	RH	RIGHT HAND
	RHR	RIGHT HAND REVERSE
	RHRA	RIGHT HAND REVERSE ACTIVE
	RHRB	RIGHT HAND REVERSE BEVEL
	RLS	REGISTERED LAND SURVEYOR
	RM	ROOM
	RO	ROUGH OPENING
	ROT	ROTAMETER
	RP	RADIUS POINT
	RPM	REVOLUTIONS PER MINUTE
	RPMP	REINFORCED PLASTIC MORTAR PIPE
	RR	RETURN REGISTER
	RSR	RISER
	RT	RIGHT
	RTF	ROTARY FEEDER
	RTU	ROOF TOP UNIT
	RUD	RUPTURE DISK
	RW	RECLAIMED WATER, REUSE WATER
	RWR	RECLAIMED WATER RETURN
	RWW	RAW WASTEWATER
S		
	S/W	SIDEWALK
	S	SOUTH, SWITCH, SLOPE
	SA	SAMPLE
	SC	SECONDARY CLARIFIER
	SCB	SCRUBBER
	SCD	SMOKE CONTROL DAMPER
	SCFM	STANDARD CUBIC FEET PER MINUTE
	SCH	SCHEDULE
	SCO	SURFACE CLEANOUT
	SCR	BAR SCREEN
	SCR	SILICON CONTROL RECTIFIER
	SD	SMOKE DETECTOR, SPLITTER DAMPER, STORM DRAIN
	SDL	SUMP DISCHARGE DRAIN LINE
	SDO	SLUDGE DRAWOFF
	SE	SECONDARY EFFLUENT
	SEC	SECONDARY, SECOND
	SECT	SECTION
	SED	SEDIMENTATION
	SEP	SEPTAGE
	SF	SUPPLY FAN
	SFW	SOFTENED WATER
	SG	SUPPLY GRILLE
	SGS	STORE FRONT GLAZING SYSTEM
	SHD	SHOWER DRAIN
	SHDR	SOLIDS HANDLING-RECYCLE
	SHR	SHOWER
	SHT	SHEET
	SIM	SIMILAR
	SK	SKIMMINGS
	SL	SLOPE, SLUDGE
	SLC	SLUDGE COLLECTOR DRIVE
	SLG	SLIDE GATE
	SLV	SLEEVE VALVE
	SMP	SAMPLER, SUMP PUMP
	SN	SUPERNATANT OR SUBNATANT
	SOL	SOLUTION
	SP	STATIC PRESSURE, SET POINT
	SPD	SUMP PUMP DRAIN
	SPDT	SINGLE POLE DOUBLE THROW
	SPEC(S)	SPECIFICATION(S)
	SPL	SPLITTER BOX
	SPR	SPARE
	SPS	SAMPLE SINK
	SPW	SAMPLE WATER
	SQ	SQUARE
	SQ FT	SQUARE FEET
	SQ IN(S)	SQUARE INCH(ES)
	SR	SHORT RADIUS, SUPPLY REGISTER
	SRL	SCRUBBER RECIRCULATION LIQUID (CAUSTIC)
	SS	SANITARY SEWER, SELECTOR SWITCH
	SSK	SERVICE SINK
	SSL	SECONDARY SLUDGE
	ST	SLUDGE TRANSFER
	ST STL	STAINLESS STEEL
	STA	STATION
	STB	STABILIZER
	STD(S)	STANDARDS(S)
	STIFF	STIFFENER
	STIR	STIRRUPS
	STL	STEEL
	STM	STEAM
	STP	STEEL PIPE
	STR	STRAINER
	STRUCT	STRUCTURAL
	SUG	SLUICE GATE
	SUPT	PIPE SUPPORT, SUPPORT
	SV	SERVICE VALVE, SHUTOFF VALVE, SOLENOID VALVE
	SW	SANITARY WASTE
	SWR	SEAL WATER
	SYM	SYMMETRICAL
	SYN	SYNTHETIC
T		
	T	TANGENT LENGTH, THERMOSTAT, TIMER
	T&B	TOP AND BOTTOM
	TAS	THREADED ANCHOR STUD
	TBM	TEMPORARY BENCHMARK
	TC	TOP OF CURB
	TCV	TEMPERATURE CONTROL VALVE
	TDH	TOTAL DYNAMIC HEAD
	TDR	TIME DELAY RELAY, TOWEL DISPENSER/RECEPTACLE
	TEL	TELEPHONE
	TH	TEST HOLE
	THK	THICKENER, THICKNESS, THICK
	TKS	THICKENED SLUDGE
	TLV	TELESCOPING VALVE
	TMH	TELEPHONE MANHOLE
	TMP	TEMPERATURE
	TNK	TANK
	T.O.	TOP OF
	TOC	TOP OF CONCRETE
	TOG	TOP OF GRATING
	TOM	TOP OF MASONRY
	TOS	TOP OF STEEL
	TOW	TOP OF WALL
	TR	TRIAD (THREE CONDUCTOR SHIELDED CABLE), TIMING RELAY
	TRD	TREAD
	TS	THICKENER SUPERNATANT OR SUBNATANT
	TSD	THICKENED SLUDGE DECANT
	TSPL	TURBIDIMETER SAMPLE
	TSTAT	THERMOSTAT
	TTB	TELEPHONE TERMINAL BOARD
	TUR	TURBINE
	TV	TURNING VANES
	TWV	THREE-WAY VALVE
	TYP	TYPICAL
U		
	UC	UNDERCUT
	UG	UNDERGROUND
	UHMWPE	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE
	UHMW	ULTRA HIGH MOLECULAR WEIGHT
	UNO	UNLESS NOTED OTHERWISE
	US	UTILITY SINK
V		
	V	VALVE
	VAR	VARIES
	VB	VALVE BOX
	VCP	VITRIFIED CLAY PIPE
	VEC	VINYL ESTER COATING
	VERT	VERTICAL
	VFR	VOLUMETRIC FEEDER
	VG	VACUUM GAUGE, VALLEY GUTTER
	VOL	VOLUME
	VRV	VACUUM REGULATING VALVE
	VTR	VENT THROUGH ROOF
W		
	W	WEST, WIDTH
	W/	WITH
	W/O	WITHOUT
	WAS	WASTE ACTIVATED SLUDGE
	WCO	WALL CLEANOUT
	WEF	WALL EXHAUST FAN
	WF	WALL FITTING, WASH FOUNTAIN
	WH	WATER HEATER
	WI	WEIGHT INDICATOR
	WL	WALL LOUVER, WATER LEVEL
	WM	WATER METER
	WOD	WASTE OIL DRAIN
	WP	WEATHERPROOF, WATERPROOF
	WPT	WORKING POINT
	WRG	WEIR GATE
	WRS	WATER SOFTENER
	WS	WATER SURFACE
	WSTP	WATERSTOP
	WT	WALK THROUGH, WEIGHT
	WTF	WATER TREATMENT FACILITY
	WTP	WATER TREATMENT PLANT
	WTR	WATER
	WV	WATER CONTROL VALVE
	WW	WASTEWATER
	WWF	WELDED WIRE FABRIC
	WWTF	WASTEWATER TREATMENT FACILITY
	WWTP	WASTEWATER TREATMENT PLANT
Y		
	Y	WYE
	YCO	YARD CLEANOUT
	YH	YARD HYDRANT

VERIFY SCALES

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REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WING No. 38950 CIVIL STATE OF CALIFORNIA

	Date	Revision	By

CONTRACT NO. C02064

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

ABBREVIATIONS

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES DWW DATE: 5-1-16

Drw No. G03 Sheet 3 of 30

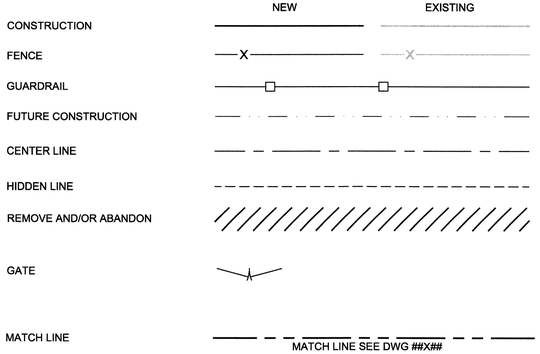
File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

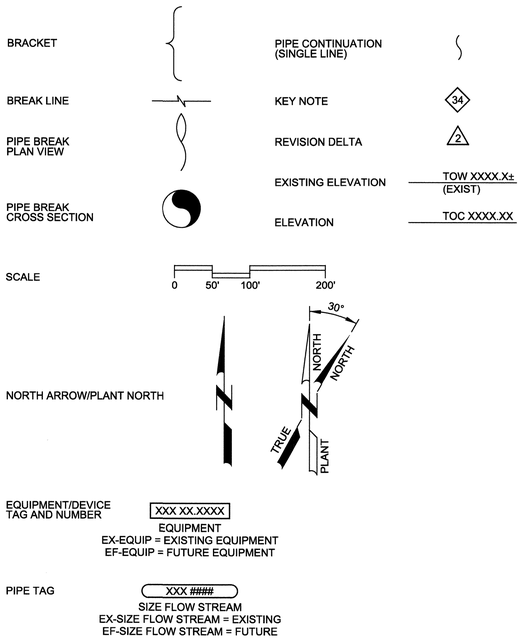
GENERAL NOTES

1. FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES.
3. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK. DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILIAR WORK.
5. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
6. PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
8. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
12. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
13. ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
14. CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
15. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
16. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
17. CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
18. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

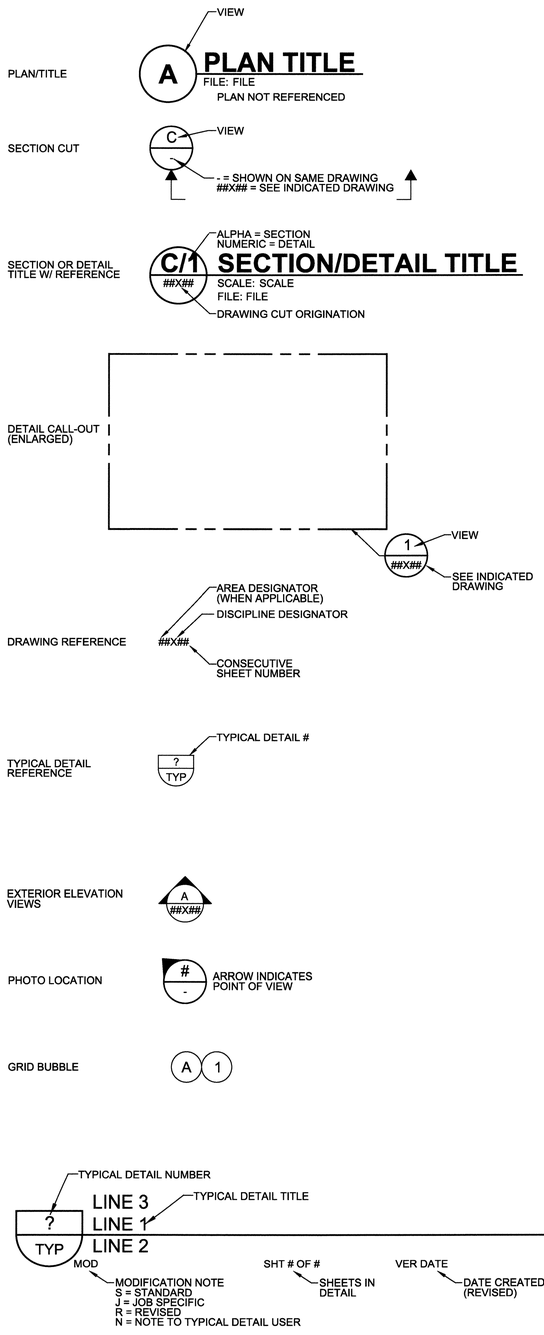
LINE WORK



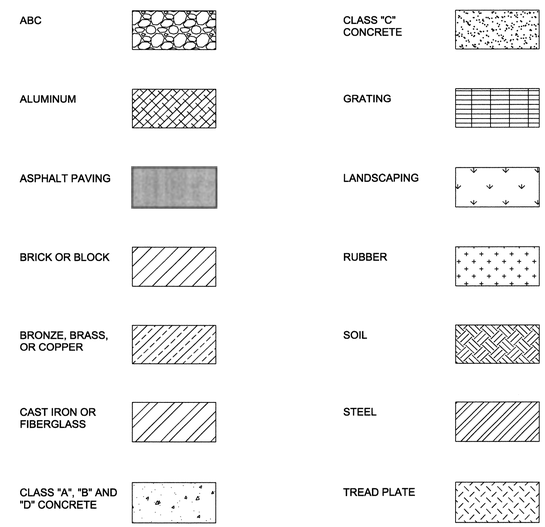
SYMBOLS



DETAIL REFERENCES



HATCH PATTERNS



MISCELLANEOUS

CONTRACT NO. C02064

VERIFY SCALES

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REGISTERED PROFESSIONAL ENGINEER
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No. 38950
CIVIL
STATE OF CALIFORNIA

	Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

SYMBOLS

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

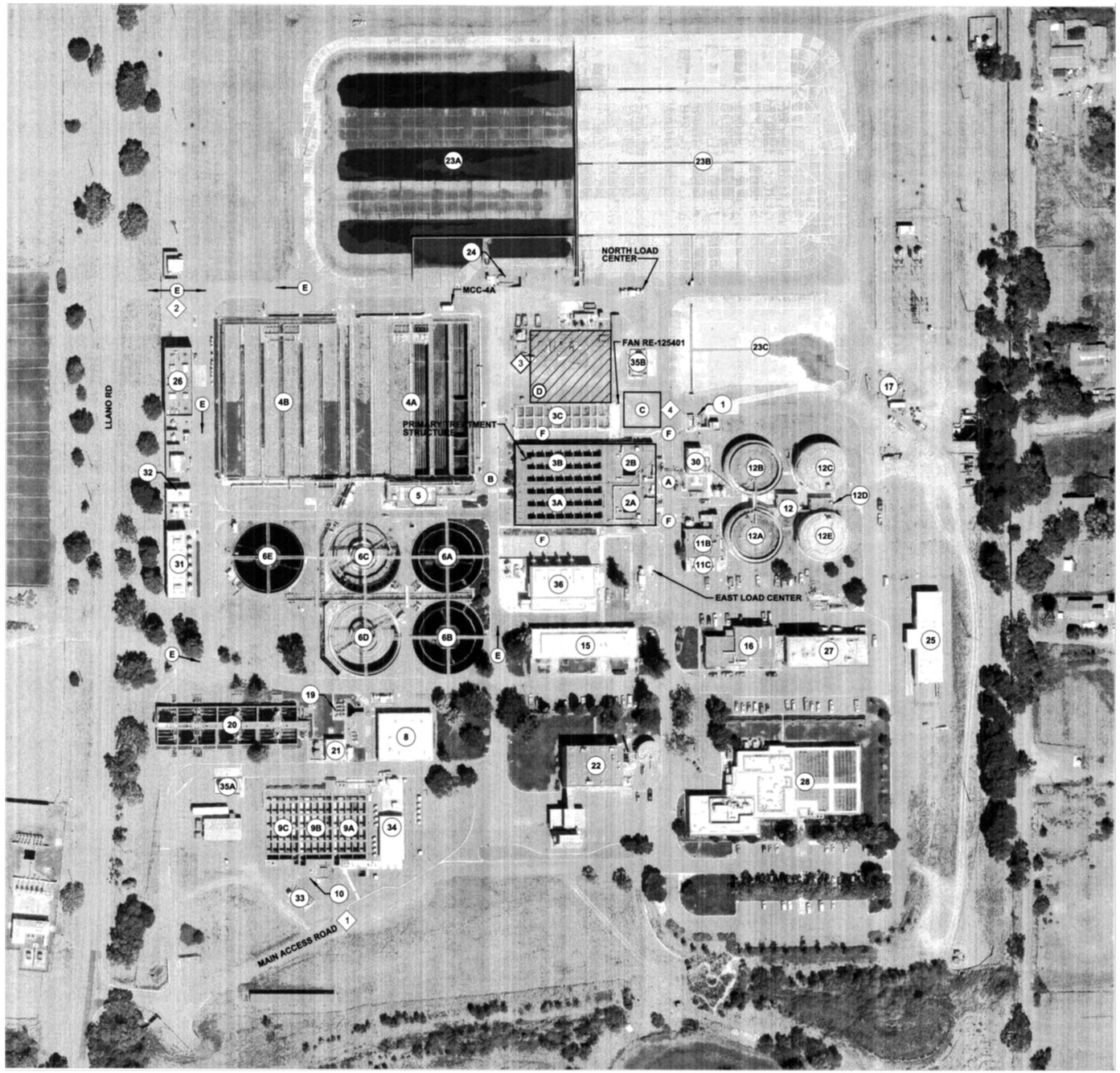
By Jill Ellen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES DWW DATE: 5-1-16

Drw No. G04 Sheet 4 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A **SITE PLAN**
SCALE: NO SCALE
FILE: 2013 LTP aerial

EXISTING STRUCTURES:

1	SEPTAGE HANDLING FACILITY
2A,B	INFLUENT PUMP STRUCTURE AND GRIT CHAMBER
3A,B,C	PRIMARY SEDEMENTATION BASINS
4A,B	AERATION BASINS
5	COGENERATION BUILDING
6	RAS PUMP STATION
6A,B,C,D,E	SECONDARY CLARIFIERS
7	WAS PUMP STATION
8	CHEMICAL BUILDING
9A,B,C	DIVERSION TANKS
10	DECHLORINATION AND EFFLUENT METERING
11B,C	SLUDGE THICKENER BUILDING
12	DIGESTER GAS BUILDING AND GALLERY
12A,B,C,E	ANAEROBIC DIGESTERS
12D	DIGESTER GAS BUILDING AND GALLERY EXTENSION
15	LAGUNA ANNEX
16	MAINTENANCE BUILDING
17	DIGESTER GAS FLARE
19	FILTER SUPPLY PUMP STATION
20	FILTERS
21	FILTER CONTROL BUILDING
22	BIOSOLIDS DEWATERING FACILITY
23A,B	PRIMARY EFFLUENT EQUALIZATION BASIN
23C	EMERGENCY HOLDING BASIN
24	RETURN PUMP STATION
25	MAINTENANCE WAREHOUSE
26	EMERGENCY GENERATOR FACILITY
27	MAINTENANCE BUILDING EXTENSION
28	ADMINISTRATION BUILDING
30	GAS BOOSTER BUILDING
31	BLOWER BUILDING
32	BLOWER ELECTRICAL BUILDING
33	W3 PUMP STATION
34	UV DISINFECTION FACILITY
35A	SODIUM HYPOCHLORITE FACILITY
35B	FERRIC CHLORIDE FACILITY
36	COMBINED HEAT AND POWER BUILDING

LEGEND:

- (A) EAST ROAD
- (B) WEST ROAD
- (C) HIGH STRENGTH WASTE RECEIVING FACILITY PROJECT
- (D) STAGING AREA
- (E) CONTRACTOR ACCESS
- (F) POTENTIAL CRANE LOCATIONS

GENERAL NOTES:

1. NOT ALL LAGUNA TREATMENT PLANT AREA NUMBERING DESIGNATIONS ARE SHOWN.
2. SEE SECTION 1500 FOR TEMPORARY FACILITY REQUIREMENTS.
3. CONTRACTOR SHALL PROVIDE ACCESS TO ALL TREATMENT PLANT PROCESS AREAS FOR MAINTENANCE AND OPERATION OF THE EXISTING FACILITY, SEE SECTION 01140 WORK RESTRICTIONS.
4. IT IS INTENDED THAT THE NATURAL RESOURCES WITHIN THE PROJECT BOUNDARIES AND OUTSIDE THE LIMITS OF PERMANENT WORK PERFORMED UNDER THIS CONTRACT BE PRESERVED IN THEIR EXISTING CONDITION OR BE RESTORED TO AN EQUIVALENT OR IMPROVED CONDITION UPON COMPLETION OF THE WORK. CONFINE CONSTRUCTION ACTIVITIES TO AREAS DEFINED BY THE STAGING AREA BOUNDARY AND ACCESS ROAD LIMITS SHOWN ON THE PROJECT PLANS. MAINTAIN NATURAL DRAINAGE PATTERNS. DURING THE PROGRESS OF THE WORK, KEEP THE WORK AREAS OCCUPIED BY THE CONTRACTOR IN A NEAT AND CLEAN CONDITION AND PROTECT THE ENVIRONMENT BOTH ONSITE AND OFFSITE, THROUGHOUT AND UPON COMPLETION OF THE CONSTRUCTION PROJECT.

   CONSTRUCTION ACTIVITIES SHALL ALSO BE IN ACCORDANCE WITH THE FOLLOWING CONSTRAINTS:

   1. NO CONSTRUCTION EQUIPMENT WILL BE ALLOWED TO BE PARKED WITHIN THE ROAD RIGHT-OF-WAY DURING OFF-CONSTRUCTION HOURS.
   2. CONSTRUCTION, STAGING OR STOCKPILING ACTIVITIES WILL BE ALLOWED ONLY WITHIN THE CITY PROPERTY UNLESS OTHERWISE STATED. NO MATERIALS WILL BE ALLOWED TO BE STOCKPILED WITHIN THE ROAD RIGHT-OF-WAY.
   3. WORK AND ACCESS FOR EQUIPMENT OUTSIDE OF THE HARDSCAPE WILL ONLY BE ALLOWED IN THE AREAS INDICATED AS LIMITS OF WORK ON THE PLANS.

KEY NOTES:

(1) CONTRACTOR ACCESS IS PROHIBITED ON MAIN ACCESS ROAD, EXCEPT AS ALLOWED BY ENGINEER.

(2) CONTRACTOR SHALL USE ALTERNATIVE CONTRACTOR ACCESS ROAD FOR ALL SITE ACCESS INCLUDING DELIVERIES, EQUIPMENT ACCESS, AND DEMOLITION WASTE REMOVAL, EXCEPT AS ALLOWED BY ENGINEER.

(3) STAGING AREA LIMITS ARE APPROXIMATE. AREAS USED BY CONTRACTOR OUTSIDE OF THESE LIMITS SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL RESTORE THE STAGING AREA TO THE SAME CONDITION PRIOR TO START OF CONSTRUCTION. STAGING ON EXISTING GRASSY LAND PROHIBITED. STAGING AREA SHOWN WILL BE LOCATED WITHIN A RESTRICTED ZONE OCCUPIED BY ANOTHER CONTRACTOR. ACCESS TO STAGING AREA WILL BE BETWEEN STRUCTURE 35B, FERRIC CHLORIDE FACILITY, AND STRUCTURE C, HIGH STRENGTH WASTE RECEIVING FACILITY PROJECT.

CONTRACT NO. C02064

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

OVERALL SITE PLAN

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering
By Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES DWW DATE: 5-1-16

Drw No. G05 | Sheet 5 of 30 | File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

VIEW IN SECTION

MATERIAL	EXISTING	REMOVE	NEW
CLASS "A", "B", AND "D" CONCRETE			
CLASS "C" CONCRETE			
STEEL			
CAST IRON, DUCTILE IRON, OR FIBERGLASS			
ALUMINUM			
BRICK OR BLOCK			
CROSS GRAIN, FINISH WOOD			
STRUCTURAL WOOD			
BRONZE, BRASS, OR COPPER			
ABC			
RUBBER			
SOIL			

VIEW IN PLAN (NEW SHOWN - EXISTING SCREENED)

FINISH WOOD GRAIN

TREAD PLATE

GRATING (SPAN / LENGTH)

PAVEMENT

G030 TYP S BUILDING MATERIALS LEGEND

07/31/08

CIVIL DRAWINGS

NEW STRUCTURES
EXISTING STRUCTURES
NEW PIPING (TRIPLE LINES)
NEW PIPING (SINGLE LINE)
EXISTING PIPING (TRIPLE LINES)
EXISTING PIPING (SINGLE LINE)
HIDDEN LINE
HIDDEN LINE (EXISTING)
CENTER, MONUMENT, OR SURVEY LINE
GUARDRAIL
EXISTING CONTOURS — 308
NEW CONTOURS — 308
NEW FENCE — X — X — X
EXISTING FENCE — X — X — X
REMOVE (CROSS HATCHING: FENCE SHOWN AS EXAMPLE)
POWER POLE & LINE — E — PP — E
PROPERTY LINE OR RIGHT OF WAY
SLOPE — TOP / TOE
RAILROAD
CITY LIMITS
FUTURE ROAD
EXISTING ROAD
CURB & GUTTER — OR
SHORING

G032 TYP S LINE WORK

SHEET 1 OF 3 08/01/05

MECHANICAL AND HVAC DRAWINGS

NEW OR EXISTING STRUCTURES
NEW OR EXISTING STRUCTURES HIDDEN
NEW PIPING (TRIPLE LINES)
NEW PIPING HIDDEN (TRIPLE LINES)
NEW PIPING (SINGLE LINE)
NEW PIPING HIDDEN (SINGLE LINE)
EXISTING PIPING (TRIPLE LINES)
EXISTING PIPING HIDDEN (TRIPLE LINES)
EXISTING PIPING (SINGLE LINE)
EXISTING PIPING HIDDEN (SINGLE LINE)
NEW EQUIPMENT OR PIPING CENTERLINE
EXISTING EQUIPMENT OR PIPING CENTERLINE
NEW EQUIPMENT
NEW EQUIPMENT HIDDEN
EXISTING EQUIPMENT
NEW FITTING
EXISTING TO BE REMOVED
SHORING
NEW PIPING CALL-OUT — 3 PW (SIZE (DIA) IN INCHES; PROCESS DESIGNATION)
EXISTING PIPING CALL-OUT — EX-12 RAS

G032 TYP S LINE WORK

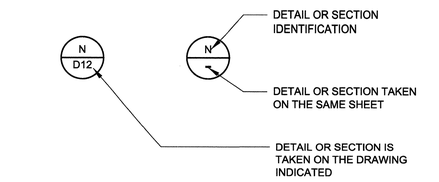
SHEET 2 OF 3 10/03/12

STRUCTURAL DRAWINGS

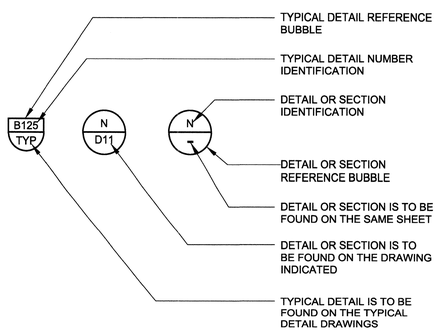
NEW STRUCTURES
EXISTING STRUCTURES
NEW PIPING UNDER SLAB (TRIPLE LINES)
NEW PIPING UNDER SLAB (SINGLE LINE)
EXISTING PIPING UNDER SLAB (TRIPLE LINES)
EXISTING PIPING UNDER SLAB (SINGLE LINE)
HIDDEN LINE
EXISTING HIDDEN LINE
NEW CENTERLINE
EXISTING CENTERLINE
GUARDRAIL
EXISTING TO BE REMOVED
STRUCTURAL OPENING
REINFORCING BARS
SLOPE LINE
SHORING

G032 TYP S LINE WORK

SHEET 3 OF 3 08/01/05



AT TITLE



AT CROSS REFERENCE

G034 TYP S DRAWING CROSS REFERENCE

09/27/12

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Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
GENERAL

Date: MAY 2016 Scale: AS SHOWN

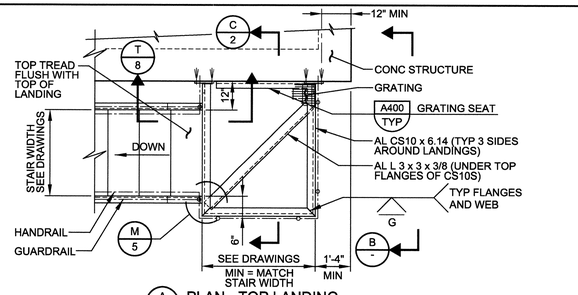
APPROVED: Deputy Director – Engineering
By Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES DWW DATE: 5-1-16

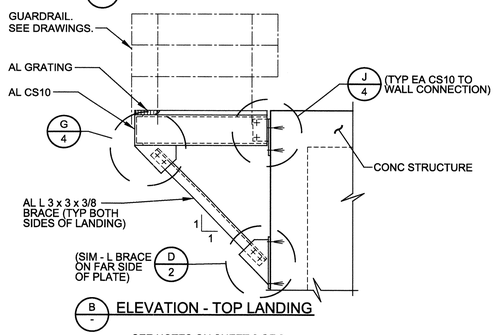
Drw No. TG01 Sheet 6 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A - PLAN - TOP LANDING

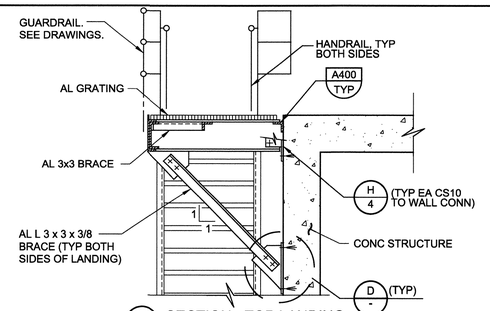


B - ELEVATION - TOP LANDING

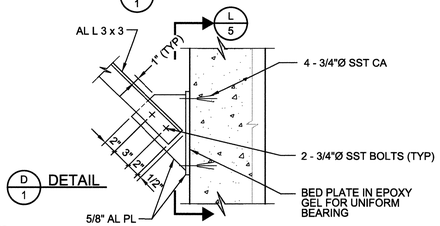
SEE NOTES ON SHEET 2 OF 8

A220 TYP — ALUMINUM STAIR LANDINGS

NR — SHEET 1 OF 8 — 04/12/16



C 1 SECTION - TOP LANDING



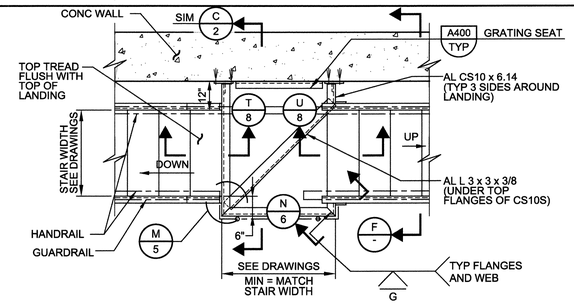
D 1 DETAIL

NOTES:

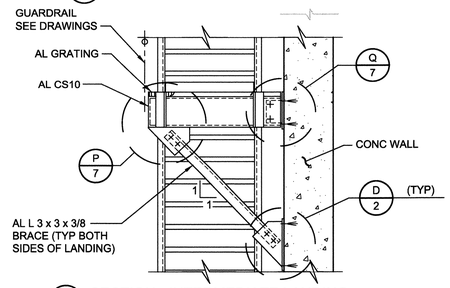
1. BEFORE DRILLING CONCRETE FOR ANCHORS, LAY OUT ALL ANCHOR PLATES AND HOLES. FIELD LOCATE REINFORCEMENT WITHIN 6" OF EACH HOLE. ADJUST PLATE LOCATIONS HORIZONTALLY TO AVOID MAXIMUM NUMBER OF BARS.
2. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE, AND INSTALL ISOLATION SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.

A220 TYP — ALUMINUM STAIR LANDINGS

NS — SHEET 2 OF 8 — 09/04/13



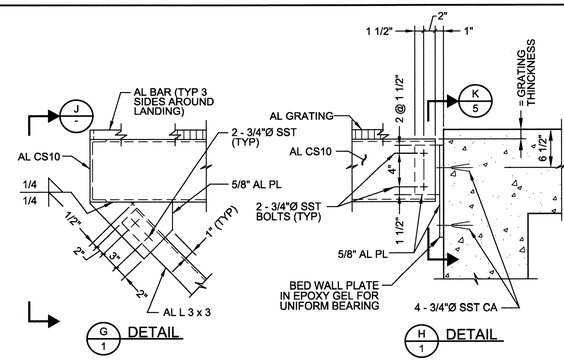
E - PLAN - INTERMEDIATE LANDING

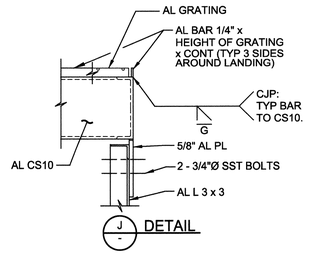


F - SECTION - INTERMEDIATE LANDING

A220 TYP — ALUMINUM STAIR LANDINGS

NR — SHEET 3 OF 8 — 04/15/16



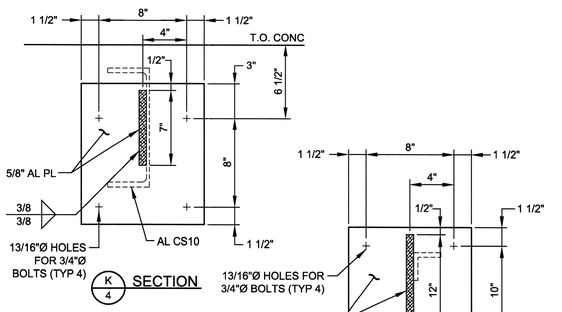


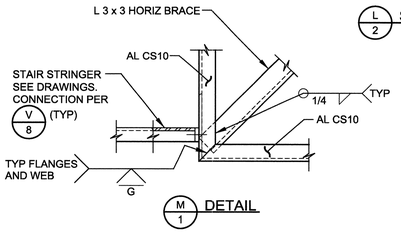
NOTES:

1. COAT ALL AL SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.

A220 TYP — ALUMINUM STAIR LANDINGS

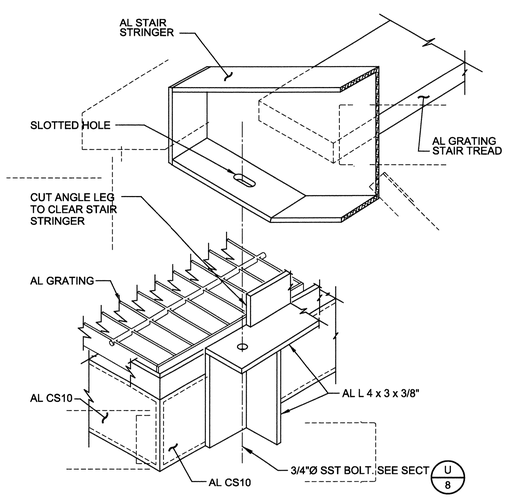
NS — SHEET 4 OF 8 — 09/04/13





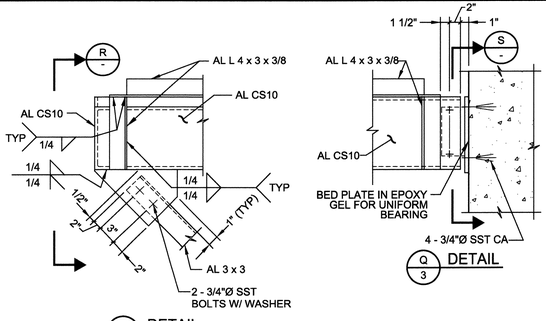
A220 TYP — ALUMINUM STAIR LANDINGS

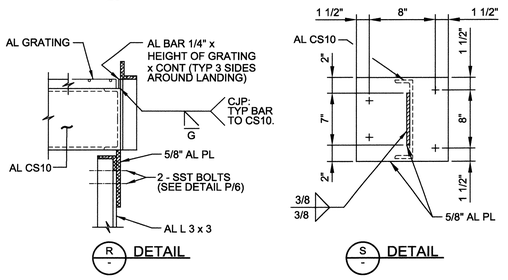
NS — SHEET 5 OF 8 — 09/04/13



A220 TYP — ALUMINUM STAIR LANDINGS

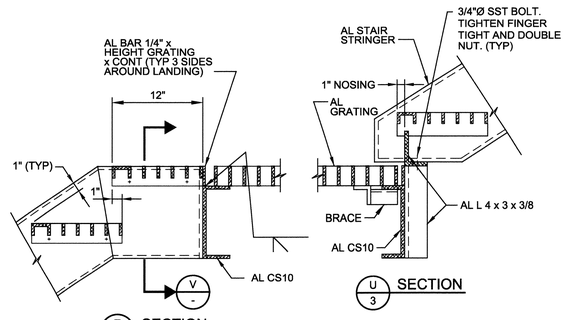
NS — SHEET 6 OF 8 — 09/04/13

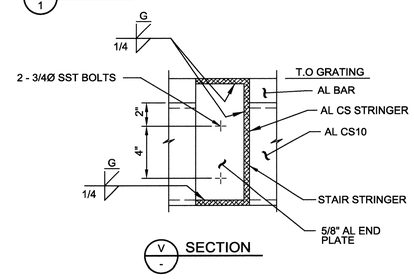




A220 TYP — ALUMINUM STAIR LANDINGS

NS — SHEET 7 OF 8 — 09/04/13





A220 TYP — ALUMINUM STAIR LANDINGS

NS — SHEET 8 OF 8 — 09/04/13 — CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 — 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WINGER No. 38950 CIVIL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
ARCHITECTURAL

Date: MAY 2016 — Scale: AS SHOWN

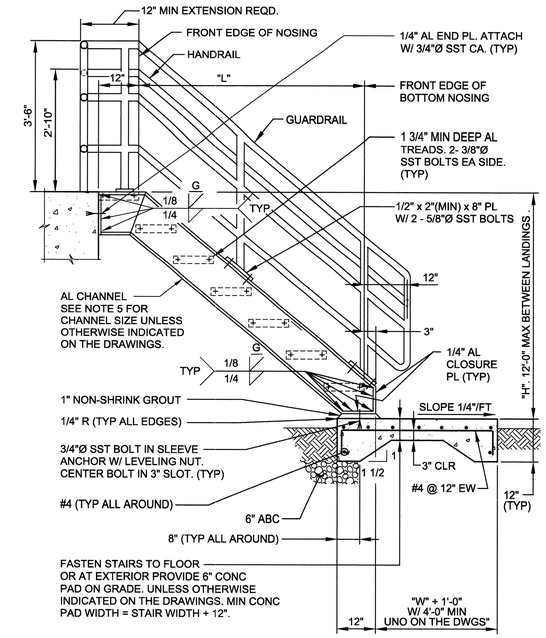
APPROVED: Deputy Director – Engineering

By: Colleen Ferguson — Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

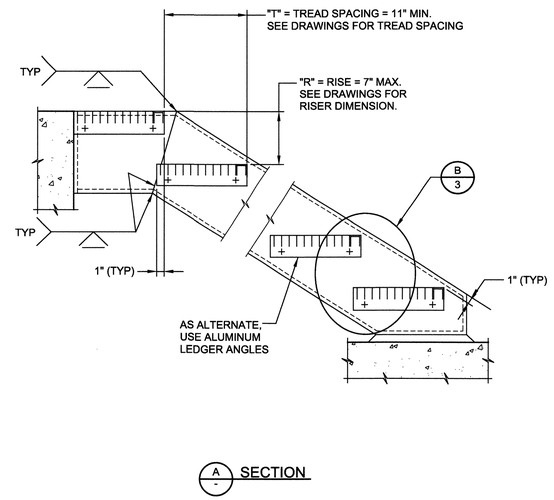
Drw No. TA01 — Sheet 7 of 30 — File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A235 TYP — ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL

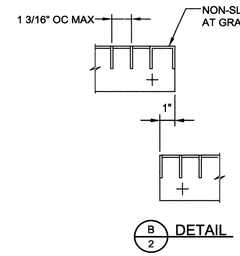
NS SHEET 1 OF 3 09/12/13



A - SECTION

A235 TYP — ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL

NS SHEET 2 OF 3 09/12/13



B 2 DETAIL

NOTES:

1. THIS DETAIL IS FOR USE AT (PRIVATE) PROCESS AREA STAIRWAYS THAT ARE NOT OPEN TO THE GENERAL PUBLIC.
2. SEE DRAWINGS FOR DIMENSIONS "H", "L", "R", "T", AND STAIR WIDTH "W". STAIR WIDTH = 3'-8" CLR BETWEEN CHANNELS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. SEE A340 TYP FOR GUARDRAIL NOTES AND A343 TYP FOR GUARDRAIL DETAILS.
4. COAT ALL AL SURFACES IN CONTACT W/ CONC, AND INSTALL ISOLATON SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
5. AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
6. TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
7. FOR PROJECTS LOCATED IN CALIFORNIA PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

A235 TYP — ALUMINUM STAIRWAY WITH FLUSH TOP TREAD AND THREE RAIL GUARDRAIL

NS SHEET 3 OF 3 09/12/13

NOTES:

1. GUARDRAIL SHALL BE PROVIDED AT STAIRS AND OPEN SIDED WALKING SURFACES WHEN THEY ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
2. ROOFS (WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM ROOF EDGE) ELEVATED GREATER THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION SHALL BE PROVIDED WITH A 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. A PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
3. SEE DRAWINGS OR SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
4. HANDRAIL SHALL BE PROVIDED AT BOTH SIDES OF EVERY STAIR HAVING TWO OR MORE RISERS.
5. HANDRAIL SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIR.
6. HANDRAIL EXTENSIONS SHALL BE PROVIDED AT BOTH SIDES OF STAIRS AND AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
7. INSIDE HANDRAIL ON SWITCHBACK STAIRS SHALL BE CONTINUOUS.
8. WALL MOUNTED HANDRAILS SHALL BE SINGLE RAILS WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS, MATCHING RAILING ON OPPOSITE SIDE.
9. ALL GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. PLACE CENTER OF EMBEDDED POSTS 4" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
12. FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
13. PROVIDE SLIP JOINTS AT 24' MAX CENTERS FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE RAIL SLIP JOINTS AT FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL (3/8" GAP AT 25°F, 0" GAP AT 100°F). AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM OF 1" GAP IN SLIP JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. INSERT SLEEVES SHALL BE LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
14. MATERIAL FOR SLIP JOINT PLATE AND KICKPLATE CHANNEL SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
15. ALL JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
16. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 5/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM 1/4" CLEAR FROM FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK. SPLICES SHALL ACCOMMODATE TEMPERATURE EXPANSION PER NOTE 12.
17. COAT ALL SURFACES OF ALUMINUM THAT COME IN CONTACT WITH CONCRETE AS SPECIFIED. PLACE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

A340 TYP — GUARDRAIL/HANDRAIL NOTES

NS 08/01/05

CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WING No. 38950 CIVIL STATE OF CALIFORNIA

	Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
ARCHITECTURAL

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

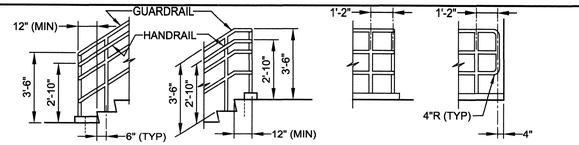
By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

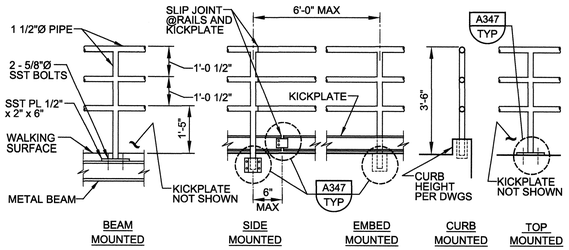
Drw No. TA02
Sheet 8 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



BOTT OF STAIR | TOP OF STAIR | CORNER | END



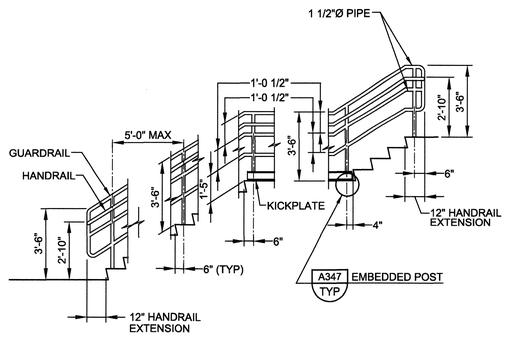
GUARDRAIL ELEVATION

NOTES:

1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESSIBILITY IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATIONS AND A340 TYP.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS FOR SPECIFIC MOUNTING REQUIREMENTS.

A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

NS | SHEET 1 OF 3 | 03/01/06



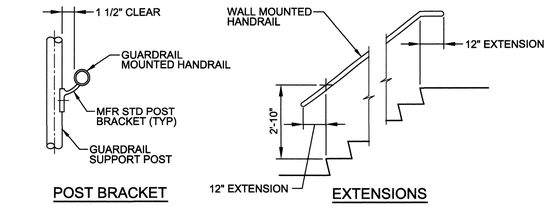
STAIR GUARDRAIL/HANDRAIL ELEVATION

NOTES:

1. SEE SPECIFICATIONS AND A340 TYP FOR ADDITIONAL REQUIREMENTS.
2. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR. THEY ARE NOT REQUIRED WHERE HANDRAIL IS CONTINUOUS.

A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

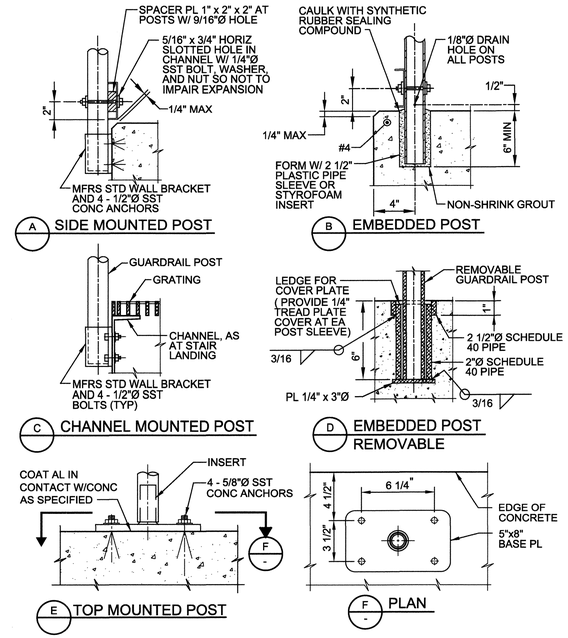
NS | SHEET 2 OF 3 | 03/01/06



HANDRAIL DETAILS

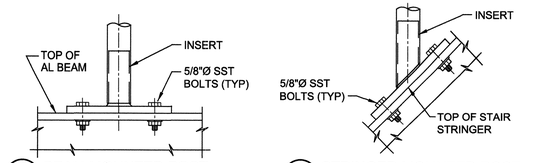
A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

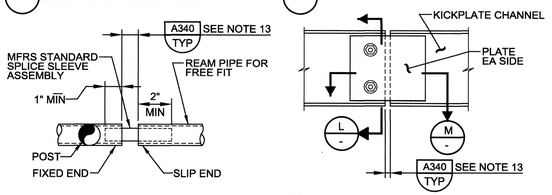
NS | SHEET 3 OF 3 | 03/01/06

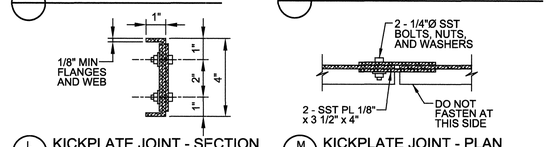


A347 TYP — GUARDRAIL DETAILS

NS | SHEET 1 OF 2 | 08/01/05





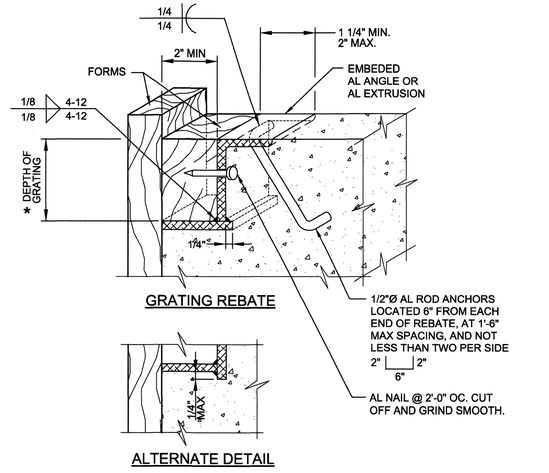


NOTES:

1. FOR ADDITIONAL REQUIREMENTS, SEE A340 TYP.
2. SEE DRAWINGS FOR MATERIAL TYPES.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONC OR DISSIMILAR METALS AS SPECIFIED.

A347 TYP — GUARDRAIL DETAILS

NS | SHEET 2 OF 2 | 08/01/05

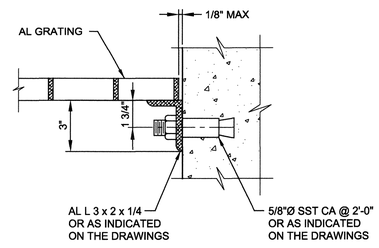


NOTES:

1. FOR AL GRATING, SEE SPECIFICATIONS.
2. REBATE ANGLE SHALL BE CONTINUOUS AROUND ENTIRE OPENING.
3. ANGLE AND BEARING PLATE SHALL BE 1/4" MIN THICK.
4. REBATE MAY BE EXTRUDED, SUBJECT TO ENGINEER'S ACCEPTANCE.
5. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
6. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

A400 TYP — ALUMINUM GRATING REBATE AND SEAT

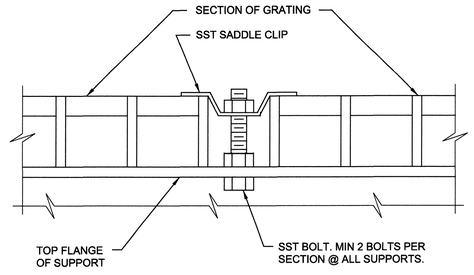
NS | SHEET 1 OF 2 | 06/06/13



GRATING SEAT

A400 TYP — ALUMINUM GRATING REBATE AND SEAT

NS | SHEET 2 OF 2 | 06/06/13



NOTES:

1. GRATING FASTENERS SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS.
2. GRATING FASTENERS SHALL BE INSTALLED AT EACH CORNER OF EACH PANEL AND AT SPACING NOT TO EXCEED 8'-0".

A414 TYP — GRATING FASTENERS

08/01/05

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WING No. 38950 CIVIL STATE OF CALIFORNIA

	Date	Revision	By

CONTRACT NO. C02064

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
ARCHITECTURAL

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. TA03 | Sheet 9 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

1. CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350-06) AND COMMENTARY (ACI 350R-06)."
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE:

   10" THICK OR LESS - USE #5 @ 12" EW
   MORE THAN 10" THICK - USE #5 @ 12" EW EF
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. LAP SPLICES SHALL CONFORM WITH NOTE 12.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
5. SLABS, BEAMS AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. STIRRUP SUPPORT BARS SHALL BE PROVIDED TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINF BARS SHALL BE AS FOLLOWS:

   A. SLABS AND JOISTS:

      FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS:

      #7 BARS AND SMALLER.....1"
      #8 BARS AND LARGER.....1 1/2"

      FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR LOCATED OVER WATER.....2"

   B. BEAMS AND COLUMNS:

      FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
      STIRRUPS, SPIRALS, AND TIES.....1 1/2"
      PRINCIPAL REINFORCEMENT.....2"

      FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR BEAMS LOCATED OVER WATER:
      STIRRUPS AND TIES.....2"
      PRINCIPAL REINFORCEMENT.....2 1/2"

   C. WALLS:

      FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
      #7 BARS AND SMALLER.....1"
      #8 BARS AND LARGER.....1 1/2"

      FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR WATER.....2"

   D. FOOTINGS AND BASE SLABS:

      FORMED VERTICAL CONCRETE SURFACES.....2"

      AT UNFORMED CONCRETE SURFACES CAST AGAINST THE SOIL OR CONCRETE WORK MATS.....3"

      TOP SURFACE OF FOOTINGS AND BASE SLABS.....SAME AS SLABS
8. KEYWAYS AND WATERSTOP SHALL END 3" BELOW THE TOP OF WALLS, UNLESS THERE IS A SLAB ON TOP OF THE WALL, IN WHICH CASE IT SHALL END AT THE BOTTOM OF THE SLAB. IN JOINTS WHERE WATERSTOP TERMINATES AT ADJOINING SLAB OR WALL, WATERSTOP SHALL BE EMBEDDED IN ADJOINING SLAB OR WALL A MINIMUM OF 6".
9. CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS REQUIRED, MEMBRANE CURING IS NOT ALLOWED. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. THE CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.
10. WATERSTOP SHALL BE PLACED IN CONSTRUCTION, AND EXPANSION JOINTS IN WATERBEARING SLABS AND WALLS UNLESS OTHERWISE INDICATED ON THE DRAWINGS, AND IN WALLS AND SLABS SUBJECTED TO GROUNDWATER. WATERSTOP IN THE WALLS SHALL BE CARRIED INTO SLABS AND SHALL BE SPLICED WITH THE WATERSTOP IN THE SLABS.
11. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL:

    A. WALLS HAVE BEEN CAST FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE SPECIFIED STRENGTH
    B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE HAS REACHED THE SPECIFIED STRENGTH.
12. LAP SPLICES:

    A. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE CLEAR BAR SPACING IS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH LESS ONE BAR DIAMETER.
    B. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
    C. TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

S101 TYP S REINFORCED CONCRETE NOTES

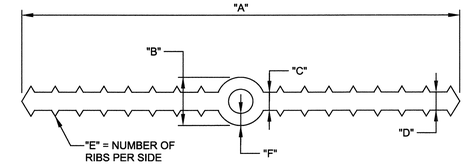
S101 TYP S REINFORCED CONCRETE NOTES

REINFORCING BAR LAP SPLICES: f'c = 4000 PSI, Fy = 60,000 PSI				
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPLICE TABLE NOTES:

1. THE SPLICE LENGTH SHALL BE SELECTED ONLY WHEN BOTH REQUIREMENTS OF THE COVER AND BAR SPACING ARE SATISFIED.
2. * = IF THE CLEAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S101 TYP S REINFORCED CONCRETE NOTES



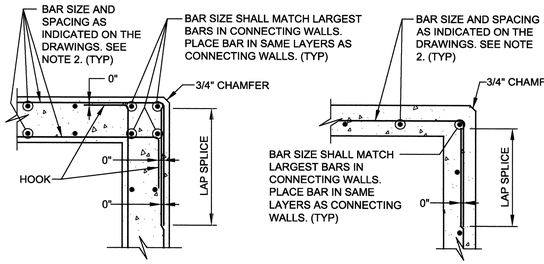
TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTERBULB	6"	-	3/8"	3/8" OR 7/16"	7	-	SEE NOTE 2
CENTERBULB	6"	7/8" OR 1"	3/8"	3/8"	7 OR 8	9/32"	SEE NOTE 3
CENTERBULB	9"	1"	3/8"	3/8"	7 OR 8	1/4"	SEE NOTE 4
CENTERBULB	9"	2"	3/8"	3/8"	7	1/4"	SEE NOTE 5

NOTES:

1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. FOR CONSTRUCTION JOINTS.
3. FOR USE WITH EM071 ONLY.
4. FOR EXPANSION JOINTS 1" AND NARROWER.
5. FOR EXPANSION JOINTS WIDER THAN 1" AND AT TENSION/ COMPRESSION RING BEAM FOR DIGESTERS.

S106 TYP PVC WATERSTOP SCHEDULE

03/12/12

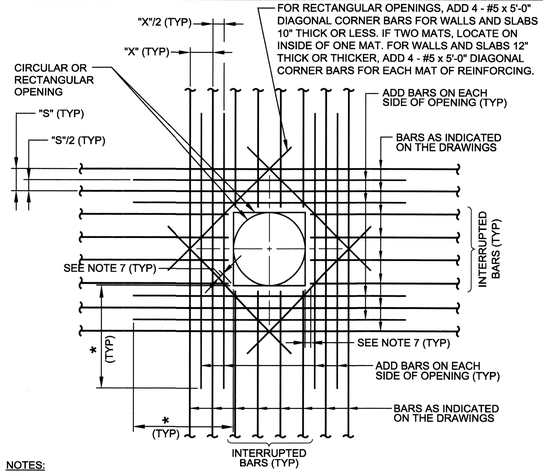


NOTES:

1. HOOKS SHALL BE ACI STD 90 DEGREE HOOKS.
2. ORIENTATION OF BARS IN LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.

S144 TYP S REINFORCEMENT AT CORNERS AND JUNCTIONS OF WALLS

12/12/13

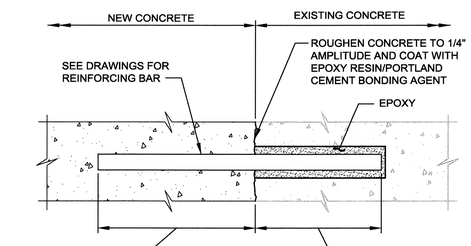


NOTES:

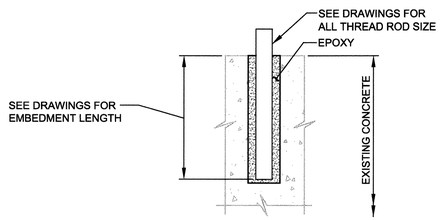
1. ADD BARS SHALL BE SAME SIZE AS PARALLEL BARS BEING CUT.
2. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
3. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
4. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
5. PLACE #5 DIAGONAL BARS ON INSIDE MAT OF REINFORCING.
6. * = DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
7. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.

S180 TYP NS ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS

07/11/13



REINFORCING BARS



ALL-THREAD RODS

NOTE:

1. INSTALLATION OF REINFORCING BARS AND ALL THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

S194 TYP N EPOXY BONDED REINFORCING BARS OR ALL THREAD RODS

04/30/07

CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DROM No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
STRUCTURAL

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

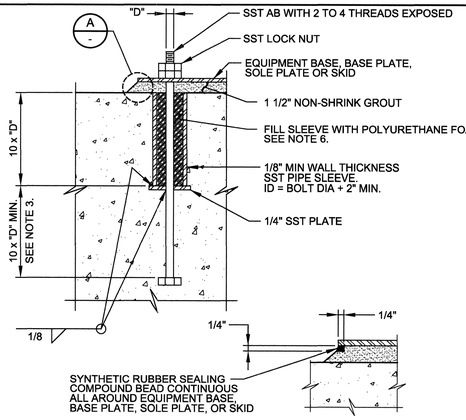
By J. Colleen Ferguson Date 5/9/2016

DWN JLG DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. TS01 Sheet 10 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

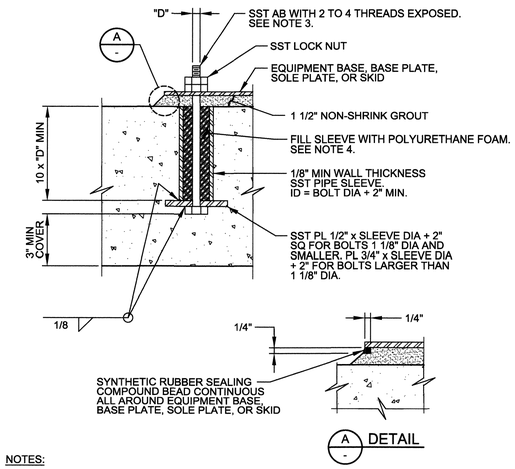


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
4. PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.
5. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.
6. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
7. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S310 TYP — ANCHOR BOLT - EMBED AND SLEEVE

05/20/15



NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD.
4. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
5. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S312 TYP — ANCHOR BOLT - IN SLEEVE

05/20/15

CONTRACT NO. C02064

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REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADIN No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
STRUCTURAL

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

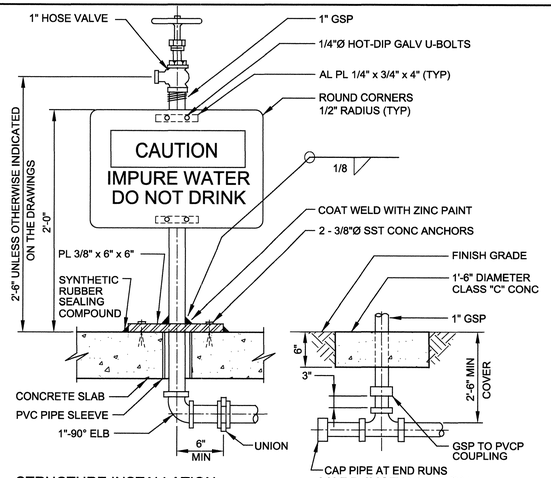
By: Ellen Ferguson Date 5/9/2016

DWN JLG DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. TS02 | Sheet 11 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



STRUCTURE INSTALLATION

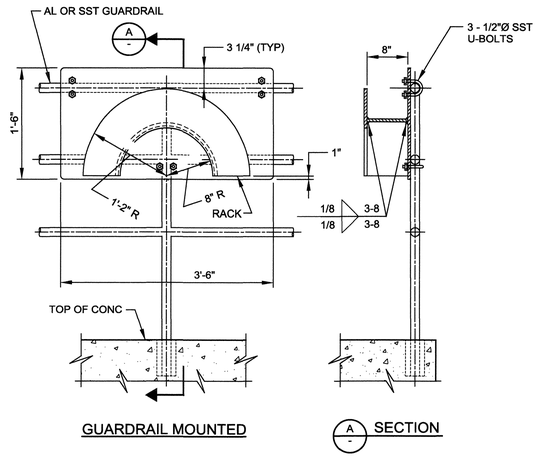
YARD INSTALLATION

NOTES:

1. SIGN SHALL BE 3/8" THICK PLASTIC RESISTANT TO SUNLIGHT (ULTRAVIOLET) DETERIORATION.
2. SIGN SHALL BE 7" x 10" AND SHALL CONFORM TO THE SPECIFICATIONS.
3. SIGN AS SHOWN IS ROTATED 90° OFF TRUE POSITION. SIGN SHALL BE MOUNTED TO PERMIT EASY READING.
4. INSTALL HOSE RACK M280 TYP AT EACH HOSE VALVE.

M276 TYP — 1" HOSE VALVE AND SIGN

NS 08/01/05



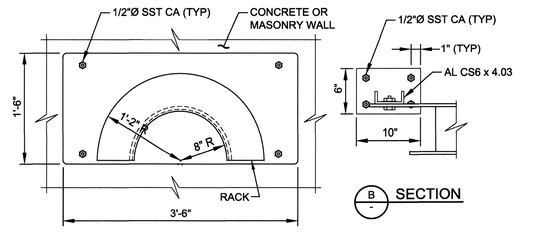
GUARDRAIL MOUNTED

NOTES:

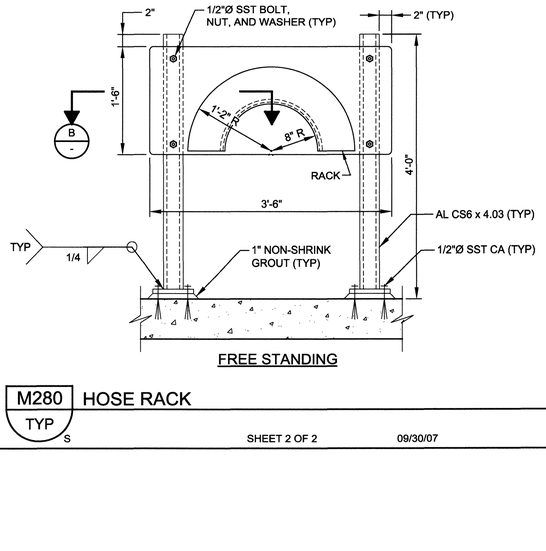
1. HOSE RACK SHALL BE FABRICATED FROM 3/16" ALUMINUM PLATE. ROUND ALL EDGES SMOOTH.
2. HOSE RACKS INSTALLED IN YARD LOCATIONS SHALL BE FREESTANDING. EMBED IN A 4'-6" LONG x 2'-0" WIDE x 8" DEEP CONCRETE PAD WITH #5@12" EW CENTERED.
3. WALL MOUNTED HOSE RACKS ON MASONRY WALL SHALL BE FASTEN TO GROUTED CELLS.

M280 TYP — HOSE RACK

S SHEET 1 OF 2 09/30/07



WALL MOUNTED



FREE STANDING

M280 TYP — HOSE RACK

S SHEET 2 OF 2 09/30/07

CONTRACT NO. C02064

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REGISTERED PROFESSIONAL ENGINEER
DOUGLAS W. WING
No. 38950
CIVIL
STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
MECHANICAL

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

By J. Ferguson Date 5/9/2016

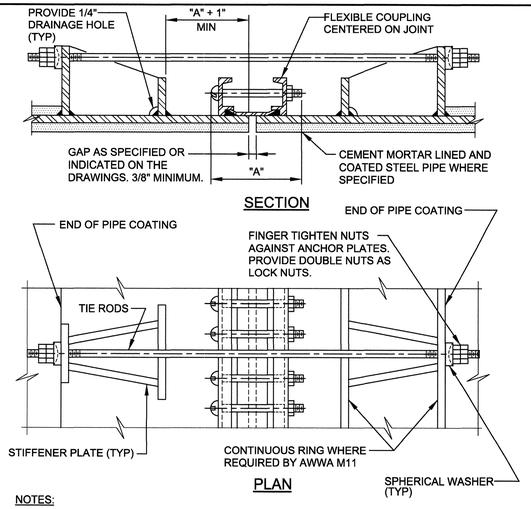
DWN JLG DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. TM01

Sheet 12 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



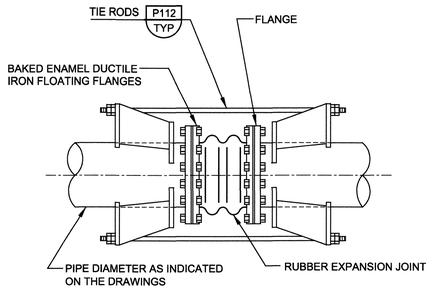
NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. BASE PIPE THRUST ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2x TEST PRESSURE, WHERE "D" IS PIPE "OD".
4. ANCHOR LUGS AND TIE RODS SHALL BE DESIGNED BY PIPE MANUFACTURER IN ACCORDANCE WITH AWWA M11 STEEL PIPE MANUAL.
5. GRIND ALL CORNERS SMOOTH.
6. COAT ALL EXPOSED STEEL SURFACES WITH EPOXY IN ACCORDANCE WITH SPECIFICATIONS.

P112 TYP — STEEL PIPE FLEXIBLE COUPLING TIE DOWN

N

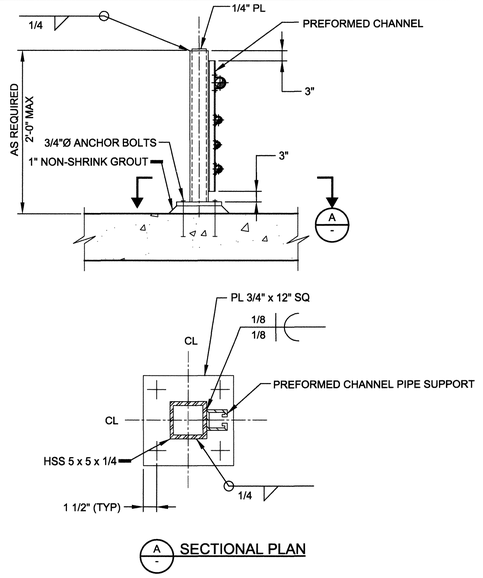
04/09/15



P234 TYP — RUBBER EXPANSION JOINTS FOR STEEL PIPE

N

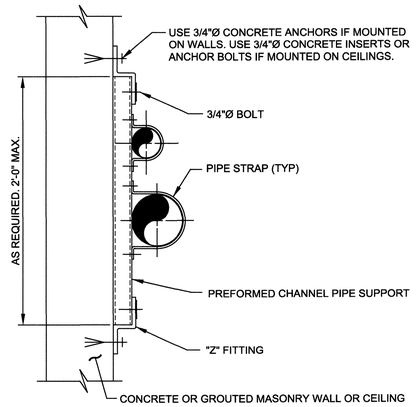
03/01/10



P615 TYP — PIPE SUPPORT POST WITH PREFORMED CHANNEL

N

08/22/08



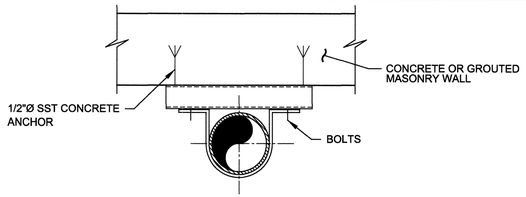
NOTES:

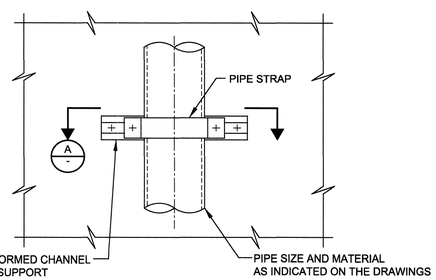
1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

P660 TYP — FLUSH MOUNT PIPE SUPPORT

N

09/06/13





NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALAVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

P662 TYP — PIPE SUPPORT FOR ONE VERTICAL RISER

07/01/13

CONTRACT NO. C02064

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	Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
MECHANICAL

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

By Adam Ferguson Date 5/9/2016

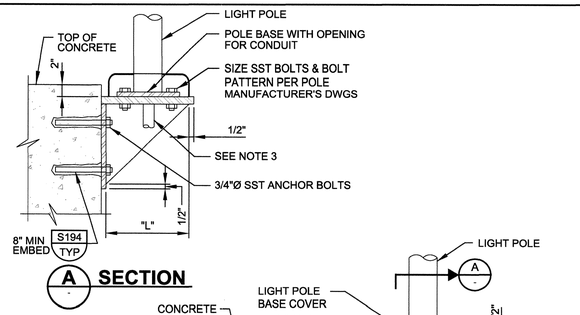
DWN JLG DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. TM02

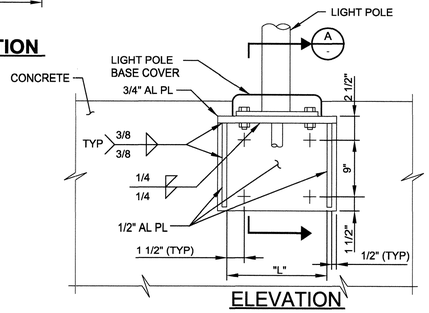
Sheet 13 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A SECTION



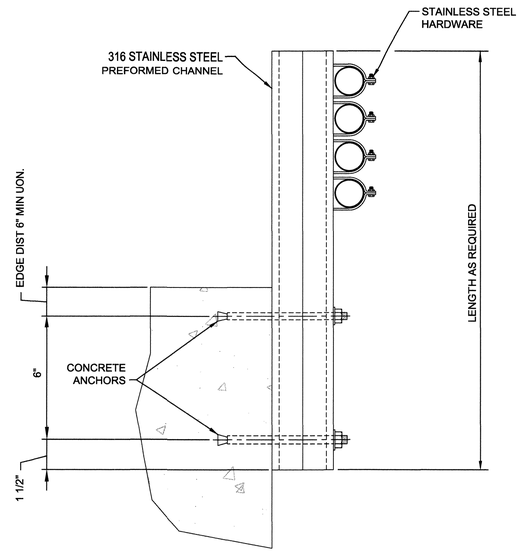
ELEVATION

NOTES:

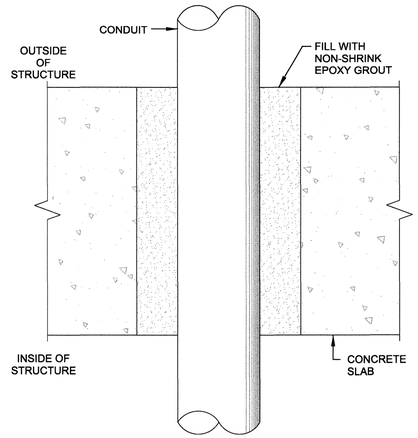
1. COAT AL SURFACES IN CONTACT WITH CONCRETE PER SPECIFICATIONS.
2. "L" = LARGER OF OD OF LIGHT POLE BASE + 2", OD OF LIGHT POLE BASE COVER + 1", OR 12".
3. CONDUIT. SEE ELECTRICAL DRAWINGS FOR CONDUIT ROUTING. PROVIDE HOLE IN BRACKET TOP PLATE WITH HOLE DIAMETER EQUAL TO CONDUIT OD + 1/2".

EL505 TYP J — LIGHT POLE BRACKET ON CONCRETE

04/15/15



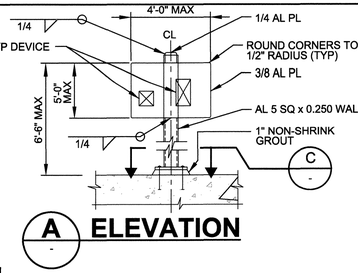
EM103 TYP S — CONDUIT SUPPORT



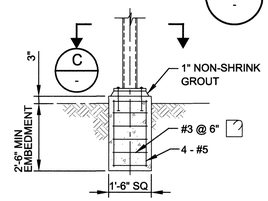
NOTES:

1. ROUGHEN SURFACE OF OPENING AND APPLY EPOXY CEMENT BONDING AGENT IMMEDIATELY PRIOR TO GROUTING.

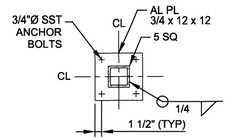
EM139 TYP S — CORE HOLE CONDUIT SLAB PENETRATION



A ELEVATION



B SECTION



C SECTION

NOTES:

1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE SECTION B.
2. COAT ALUMINUM SURFACES IN CONTACT W/ CONCRETE PER SPECIFICATIONS.
3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 300 POUNDS.

EM202 TYP S — DEVICE SUPPORT AND MOUNTING

CONTRACT NO. C02064

VERIFY SCALES

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Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

TYPICAL DETAILS
ELECTRICAL

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

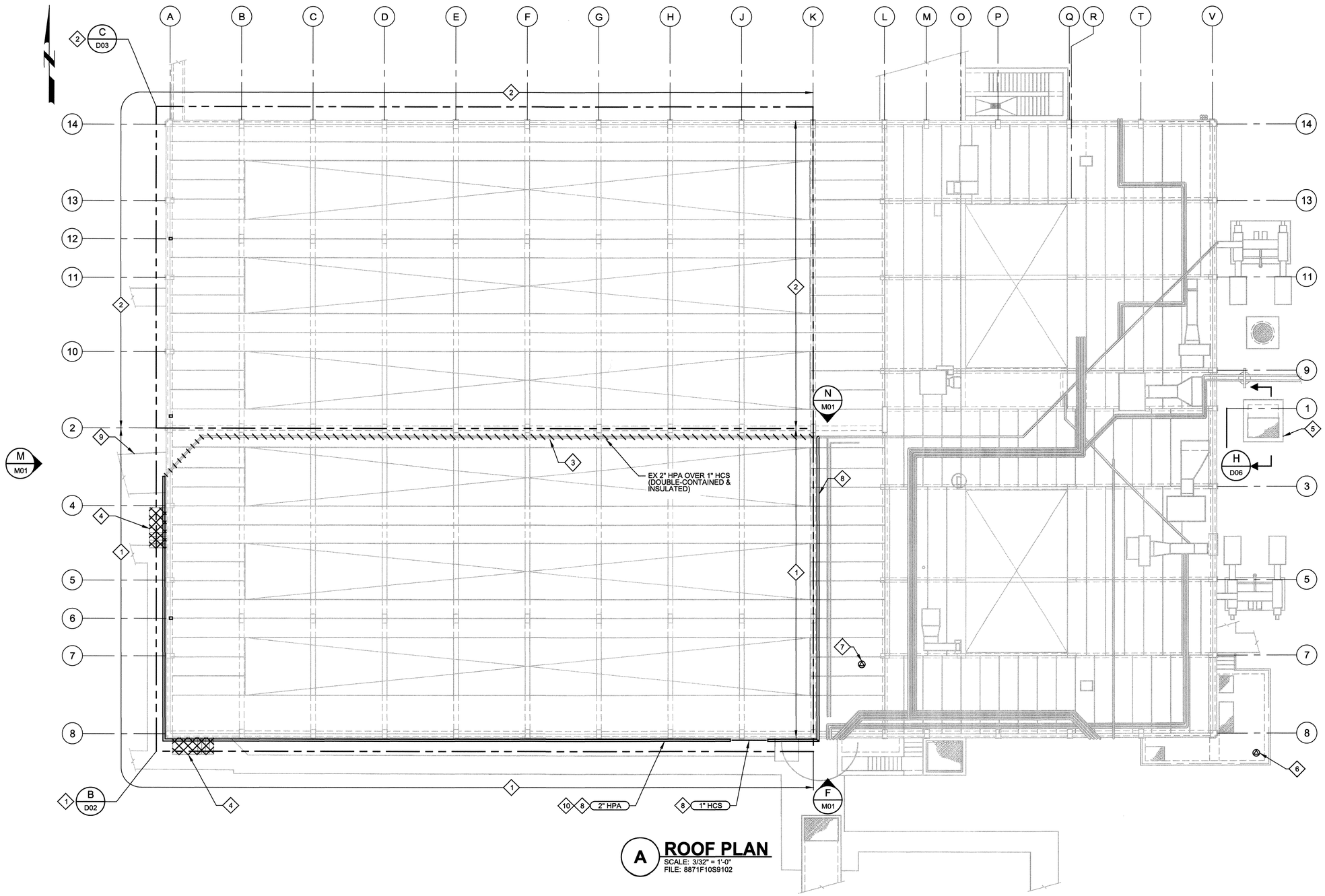
By Colleen Ferguson Date 5/9/2016

DWN JBR DATE: 5-1-16
CHK DWW DATE: 5-1-16
DES CAC DATE: 5-1-16

Drw No. TE01 Sheet 14 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A ROOF PLAN

SCALE: 3/32" = 1'-0"
FILE: 8871F10S9102

GENERAL NOTES:

1. ELECTRONIC RECORD DRAWINGS (PDF) OF THE EXISTING PRIMARY TREATMENT STRUCTURE MAY BE OBTAINED VIA EMAIL FROM THE CITY BY REQUEST. THEY ARE FOR REFERENCE PURPOSES, AND ARE NOT CONSIDERED PART OF THE CONTRACT DOCUMENTS.
2. SEE WORK RESTRICTIONS FOR REQUIREMENTS FOR DEMOLITION SEQUENCE CONSTRAINTS, SECTION 01140.
3. SEE GENERAL DEMOLITION NOTES IN SPECIFICATION SECTION 02222.
4. NOT ALL EXISTING MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT AND GUARDRAIL/ HANDRAIL IS SHOWN.
5. PROTECT EXISTING STRUCTURE UNLESS NOTED OTHERWISE.
6. PROTECT EXISTING GUARDRAIL/ HANDRAIL UNLESS NOTED OTHERWISE.
7. SEE DRAWING G05 FOR OVERALL SITE PLAN, STAGING AND CRANE SET UP AREAS.
8. PRIOR TO DEMOLITION LOCATE ALL EXISTING PIPING AND CONDUITS WITH PLANT STAFF.
9. SEE DRAWING GS01 FOR STRUCTURAL NOTES.
10. NOT ALL EXISTING PIPING IS SHOWN. CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZES OF EXISTING PIPING.

KEY NOTES:

1. PHASE 1A DEMOLITION
2. PHASE 1B DEMOLITION
3. CONTRACTOR SHALL DEMOLISH PORTION OF EXISTING PIPING FOR SODIUM HYPOCHLORITE (HCS) AND HIGH PRESSURE AIR (HPA).
4. REMOVE STAIRS.
5. INFLUENT DIVERSION BOX SEE DWG D06.
6. SURVEY CONTROL POINT NO 3.
7. SURVEY CONTROL POINT NO 1.
8. RUN NEW HCS AND HPA PIPING ALONG ROOF AND SOUTH AND WEST FOUNDATION WALLS OF PRIMARY STRUCTURE. SUPPORT PER P660/TYP (SIM) AT A MAXIMUM SPACING OF 5'-0" OC. RECONNECT TO EXISTING AS SHOWN IN PHOTOS M/M01 AND N/M01.
9. PROTECT EXISTING PIPE CHASE.
10. FOR NEW 2" HPA PROVIDE BELLOWS EXPANSION JOINTS PER DETAIL P234/TYP. CROSSING EXPANSION JOINT NEAR COLUMN LINE J AND PER SPEC 15120.

LEGEND:

- REMOVE PIPING.
- REMOVE VENTILATION EQUIPMENT.
- REMOVE ELECTRICAL CONDUIT (AND PIPING IF PRESENT).

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADIK No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

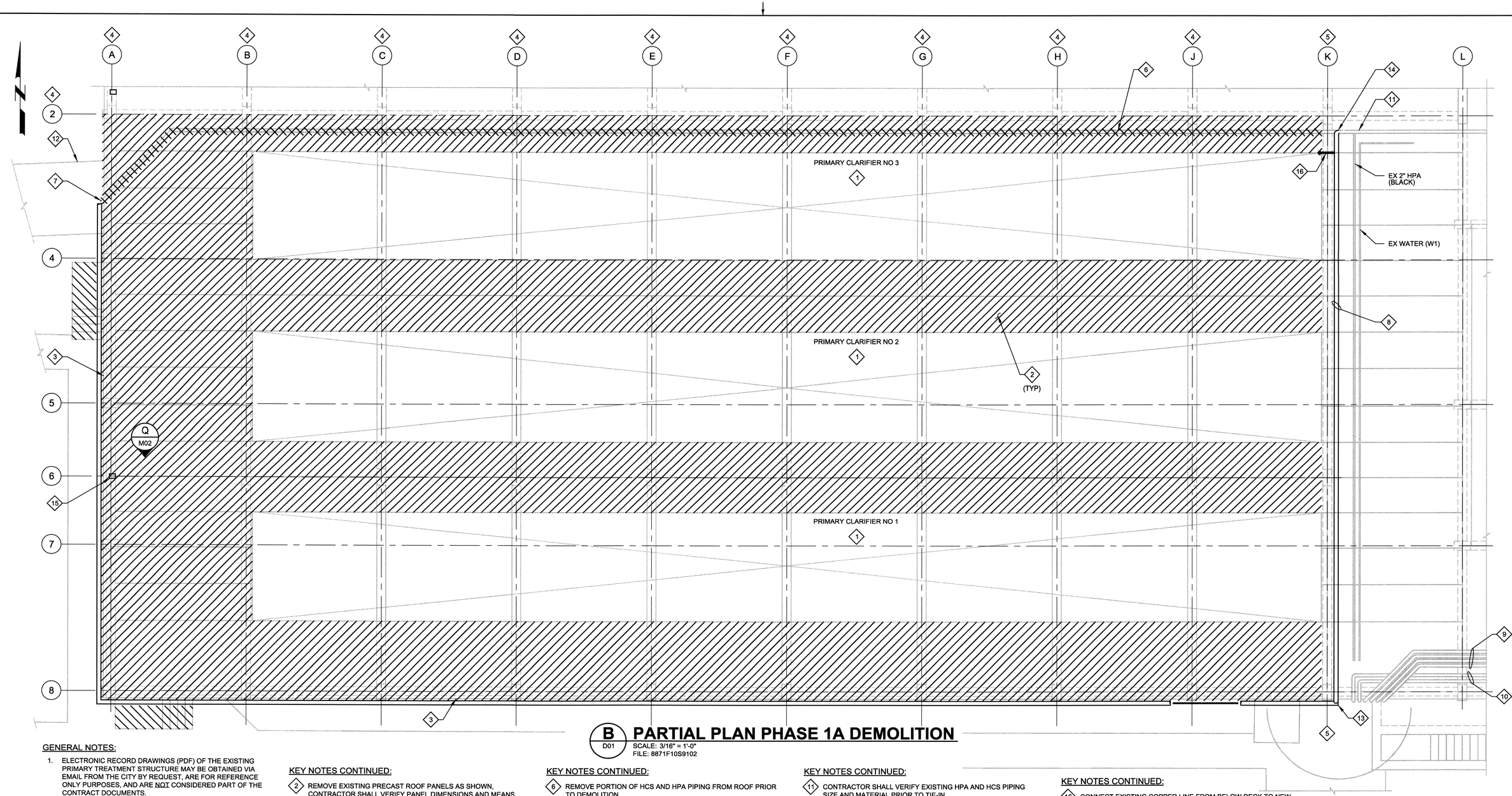
CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

OVERALL ROOF PLAN

Date: MAY 2016 Scale: AS SHOWN
APPROVED: Deputy Director – Engineering
By Colleen Ferguson Date 7/9/2016
DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16
Drw No. D01
Sheet 15 of 30
File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



B PARTIAL PLAN PHASE 1A DEMOLITION

D01

SCALE: 3/16" = 1'-0"
FILE: 8871F10S9102

GENERAL NOTES:

1. ELECTRONIC RECORD DRAWINGS (PDF) OF THE EXISTING PRIMARY TREATMENT STRUCTURE MAY BE OBTAINED VIA EMAIL FROM THE CITY BY REQUEST, ARE FOR REFERENCE ONLY PURPOSES, AND ARE NOT CONSIDERED PART OF THE CONTRACT DOCUMENTS.
2. FOR GENERAL DEMOLITION NOTES SEE DWG D01.
3. NOT ALL EXISTING PIPING IS SHOWN. CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZES OF EXISTING PIPING.

KEY NOTES:

1. PROTECT EXISTING PRIMARY CLARIFIER STRUCTURE AND EQUIPMENT, SEE SECTION 01500.

KEY NOTES CONTINUED:

2. REMOVE EXISTING PRECAST ROOF PANELS AS SHOWN, CONTRACTOR SHALL VERIFY PANEL DIMENSIONS AND MEANS OF ATTACHMENT PRIOR TO BIDDING. CAST-IN-PLACE ROOF SUPPORT FRAMING SHALL BE REMOVED AFTER ROOF AND WALL PANELS ARE REMOVED UNLESS NOTED OTHERWISE. PANELS SHALL BE REMOVED IN WHOLE PANELS TO MINIMIZE DEBRIS.
3. REMOVE EXISTING PRECAST WALL PANELS ON SOUTH AND WEST SIDE, CONTRACTOR SHALL VERIFY PANEL DIMENSIONS AND MEANS OF ATTACHMENT PRIOR TO BIDDING.
4. CAST-IN-PLACE CONCRETE BEAMS AND COLUMNS ALONG COLUMN LINE 2 SHALL BE REMOVED IN PHASE 1B DEMOLITION.
5. FRAMING ALONG GRID LINE K SHALL REMAIN.

KEY NOTES CONTINUED:

6. REMOVE PORTION OF HCS AND HPA PIPING FROM ROOF PRIOR TO DEMOLITION.
7. CONTRACTOR SHALL COORDINATE THE EXTENT OF THE PIPING DEMOLITION IN THE VERTICAL SECTIONS THAT CONNECT TO REPLACEMENT PIPING.
8. CONTRACTOR SHALL PROVIDE NEW PIPING FOR SODIUM HYPOCHLORITE (HCS) AND HIGH PRESSURE AIR (HPA).
9. CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING PIPING.
10. CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING CONDUIT.

KEY NOTES CONTINUED:

11. CONTRACTOR SHALL VERIFY EXISTING HPA AND HCS PIPING SIZE AND MATERIAL PRIOR TO TIE-IN.
12. PROTECT EXISTING PIPE CHASE.
13. USE SPACE ON EXISTING ROOF STRUT FOR NEW HCS AND HPA PIPES DOWN WALL. SEE PHOTO F/M01.
14. CONNECT NEW HPA (ABOVE) AND NEW HCS (BELOW) WITH NEW TEES (PHOTO N/M01) SUPPORT ON SAME STRUTS PER DETAIL P615/TYP.
15. APPROXIMATE LOCATION OF THREE EXISTING WATER VALVES ON WEST WALL. AFTER WALL PANELS REMOVED, REPLACE WITH NEW HOSE BIBS AND WATER PIPE CONNECTION PER DETAIL M276/TYP AND PHOTO Q/M02. PIPE MATERIAL TO MATCH EXISTING.

KEY NOTES CONTINUED:

16. CONNECT EXISTING COPPER LINE FROM BELOW DECK TO NEW HPA WITH NEW ELBOW AND PIPING TO MATCH EXISTING. PROVIDE NEW SHUTOFF BALL VALVE.

LEGEND:

DEMOLISH PRECAST CONCRETE ROOF AND WALL PANELS, AND CAST-IN-PLACE SUPPORT BEAMS AND COLUMNS. DEMOLISH ROOF DRAINS AND ALL ELECTRICAL ENCOUNTERED.

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER
MICHAEL E. DADIK
No. S5368
STRUCTURAL
STATE OF CALIFORNIA

	Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

SOUTH PRIMARY SEDIMENTATION ROOF PLAN

Date: MAY 2016 Scale: AS SHOWN

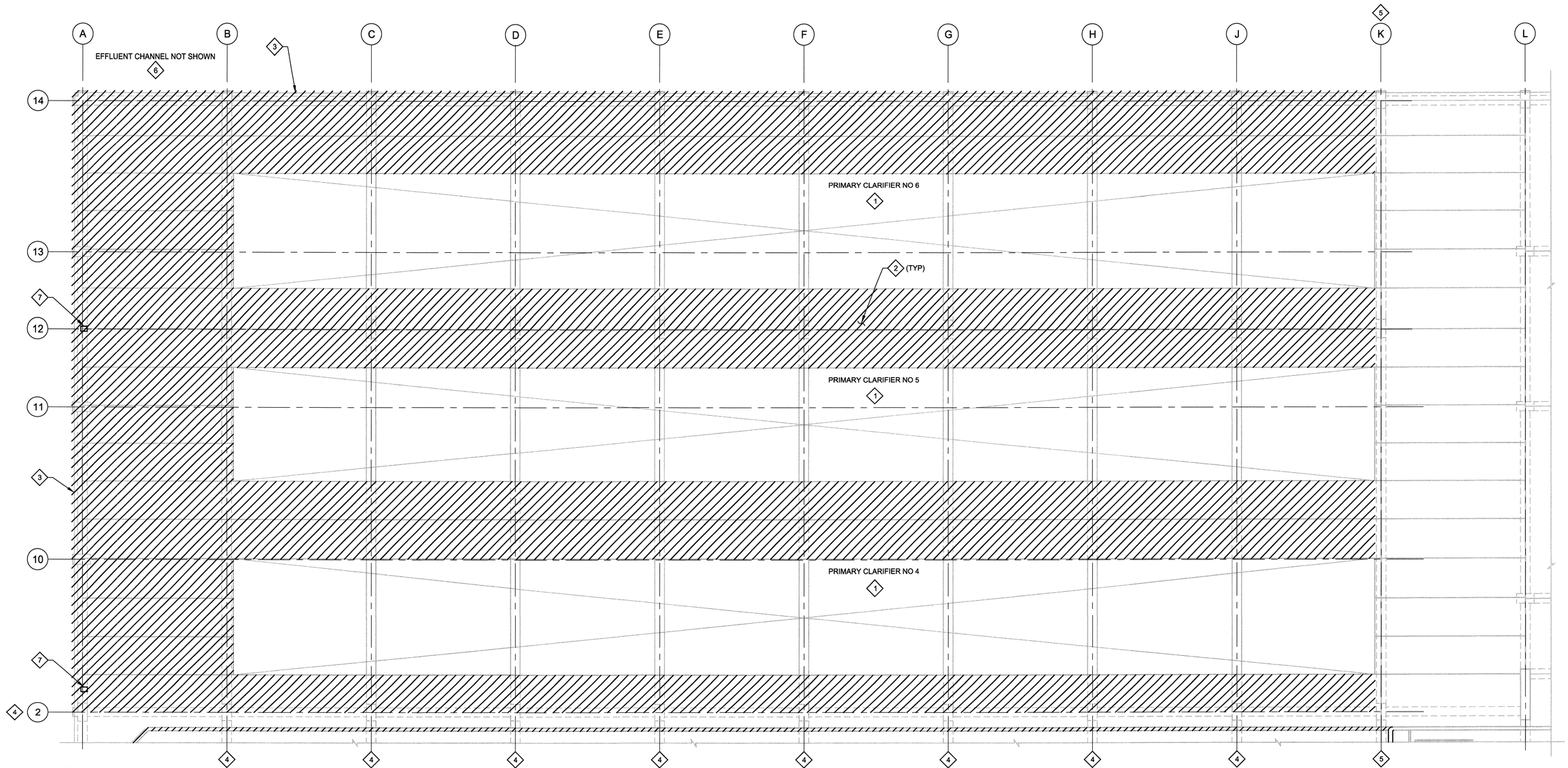
APPROVED: Deputy Director – Engineering
By Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. D02
Sheet 16 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



GENERAL NOTES:

1. ELECTRONIC RECORD DRAWINGS (PDF) OF THE EXISTING PRIMARY TREATMENT STRUCTURE MAY BE OBTAINED VIA EMAIL FROM THE CITY BY REQUEST, ARE FOR REFERENCE ONLY PURPOSES, AND ARE NOT CONSIDERED PART OF THE CONTRACT DOCUMENTS.
2. FOR GENERAL DEMOLITION NOTES SEE DWG D01.

KEY NOTES:

1. PROTECT EXISTING PRIMARY CLARIFIER STRUCTURE AND EQUIPMENT, SEE SECTION 01500.
2. REMOVE EXISTING PRECAST ROOF PANELS AS SHOWN, CONTRACTOR SHALL VERIFY PANEL DIMENSIONS AND MEANS OF ATTACHMENT PRIOR TO BIDDING. CAST-IN-PLACE ROOF SUPPORT FRAMING SHALL BE REMOVED AFTER ROOF AND WALL PANELS ARE REMOVED UNLESS NOTED OTHERWISE. PANELS SHALL BE REMOVED IN WHOLE PANELS TO MINIMIZE DEBRIS.

KEY NOTES CONTINUED:

3. REMOVE EXISTING PRECAST WALL PANELS ON NORTH AND WEST SIDE, CONTRACTOR SHALL VERIFY PANEL DIMENSIONS AND MEANS OF ATTACHMENT PRIOR TO BIDDING.
4. CAST-IN-PLACE CONCRETE BEAMS AND COLUMNS ALONG COLUMN LINE 2 SHALL BE REMOVED IN THIS PHASE (1B) DEMOLITION.
5. FRAMING ALONG GRID LINE K REMAIN.
6. CONTRACTOR SHALL PROTECT EXISTING EFFLUENT CHANNEL STRUCTURE.
7. APPROXIMATE LOCATION OF THREE EXISTING WATER VALVES ON WEST WALL. AFTER WALL PANELS REMOVED, REPLACE WITH NEW HOSE BIBS AND WATER PIPE CONNECTION PER DRAWING M276/TYP AND PHOTO Q/M02. PIPE MATERIAL TO MATCH EXISTING.

C / D01 PARTIAL PLAN PHASE 1B DEMOLITION

SCALE: 3/16" = 1'-0"
FILE: 8871F10S9102

LEGEND:

DEMOLISH PRECAST CONCRETE ROOF AND WALL PANELS, CAST-IN-PLACE SUPPORT BEAMS AND COLUMNS, ROOF DRAINS AND ALL ELECTRICAL ENCOUNTERED.

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADIK No. S5368 STRUCTURAL STATE OF CALIFORNIA

	Date	Revision	By

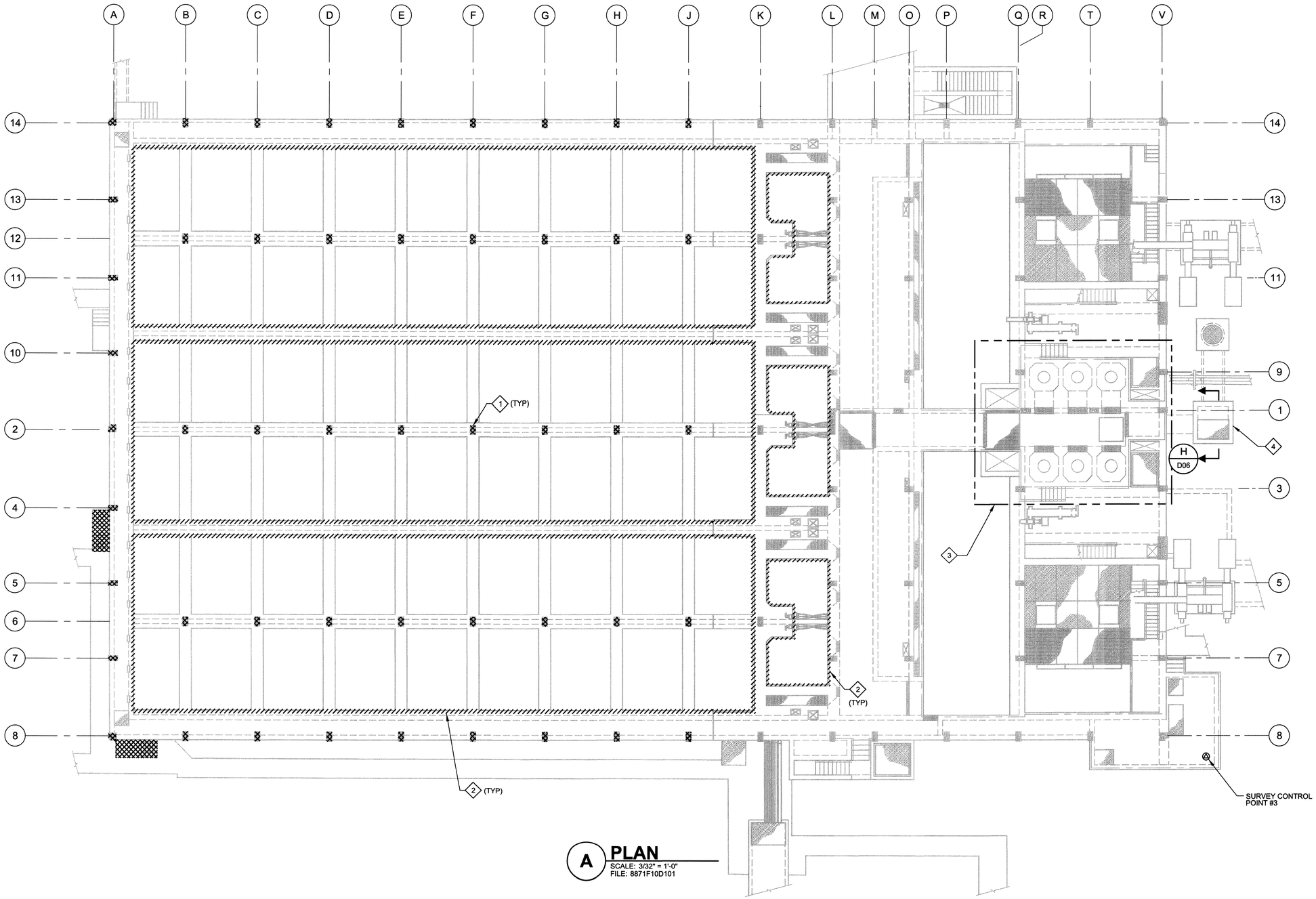
CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

NORTH PRIMARY SEDIMENTATION ROOF PLAN

Date: MAY 2016 Scale: AS SHOWN
APPROVED: Deputy Director – Engineering
By J. Allison Ferguson Date 5/9/2016
DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16
Drw No. D03
Sheet 17 of 30
File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A **PLAN**
SCALE: 3/32" = 1'-0"
FILE: 8871F10D101

GENERAL NOTES:

1. RECORD INFORMATION ON EXISTING STRUCTURES IS AVAILABLE AT THE PLANT ADMINISTRATIVE OFFICE FOR REVIEW BY POTENTIAL BIDDERS.
2. FOR GENERAL DEMOLITION NOTES SEE DWG D01.
3. CONTRACTOR SHALL PROVIDE TEMPORARY GUARDRAIL BETWEEN DEMOLITION AND PLACEMENT OF NEW GUARDRAIL.

KEY NOTES:

1. DEMOLISH AND SAWCUT ALL CONCRETE COLUMNS AND SHEAR WALLS AT ELEVATION 91.50.
2. PRIMARY SEDIMENTATION INTERIOR GUARDRAIL DEMOLITION & REPLACEMENT - BID ALTERNATE A.
3. INFLUENT DISCHARGE BOX CONCRETE REPAIR. SEE DRAWINGS D05/06 - BID ALTERNATE B.
4. INFLUENT DIVERSION BOX, GATE REPLACEMENT. SEE DRAWING D06 - BID ALTERNATE C.

LEGEND:

DEMOLISH EXISTING GUARDRAILS ON TOP DECK.

DEMOLISH EXISTING CONCRETE COLUMNS.

BID ALTERNATE PORTION OF SHEET

CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADINA No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE PHASE 1

OVERALL TOP PLAN

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

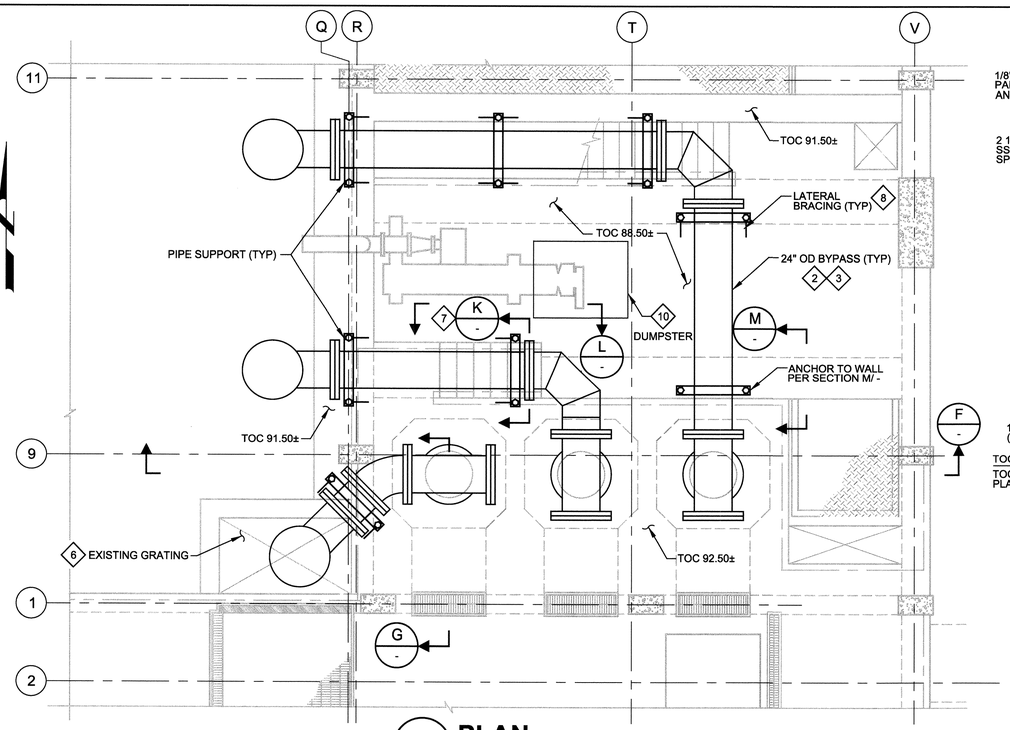
By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

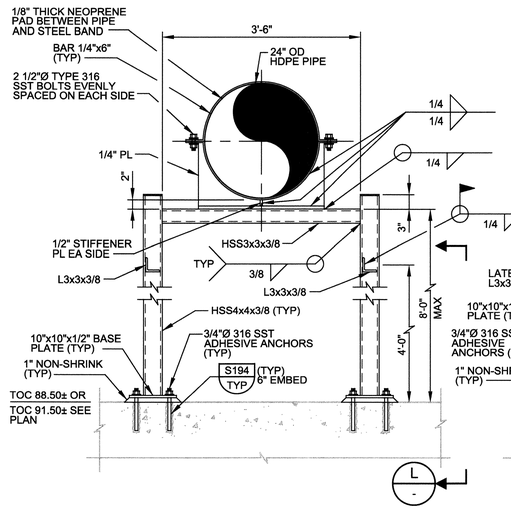
Drw No. D04 Sheet 18 of 30

File Number: 2016-0018

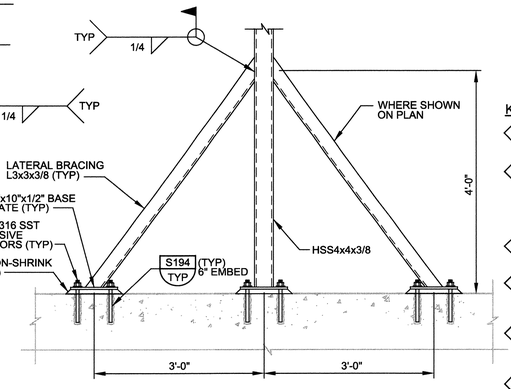
LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



C PLAN
SCALE: 1/8" = 1'-0"
FILE: 8871F10D9101



K - SECTION
SCALE: 3/4" = 1'-0"
FILE: 8871F10D9308



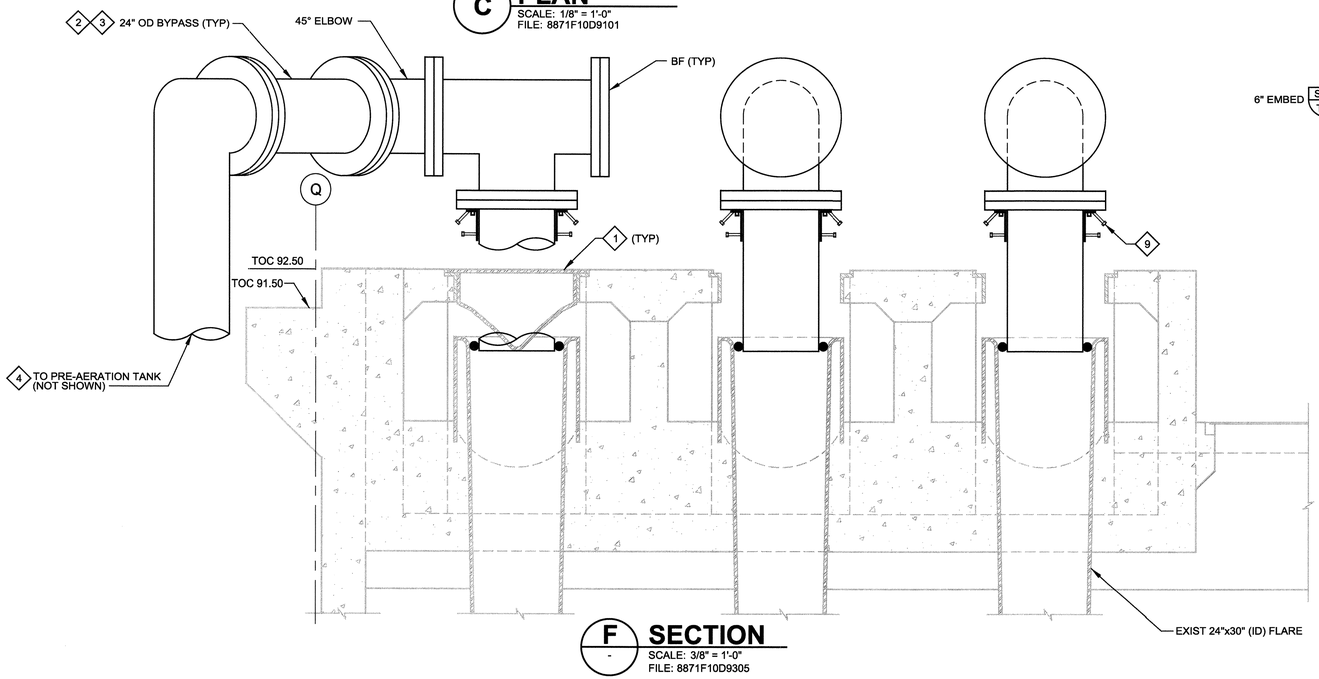
L - SECTION
SCALE: 3/4" = 1'-0"
FILE: 8871F10D9308

GENERAL NOTES:

1. RECORD INFORMATION ON EXISTING STRUCTURES IS AVAILABLE AT THE PLANT ADMINISTRATIVE OFFICE FOR REVIEW BY POTENTIAL BIDDERS.
2. SEE WORK RESTRICTIONS FOR REQUIREMENTS FOR DEMOLITION SEQUENCE CONSTRAINTS, SPECIFICATION SECTION 01140.
3. SEE GENERAL DEMOLITION NOTES IN SPECIFICATION SECTION 02222.
4. NOT ALL EXISTING MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT AND GUARDRAIL/ HANDRAIL IS SHOWN.
5. PROTECT EXISTING STRUCTURE UNLESS NOTED OTHERWISE.
6. PROTECT EXISTING GUARDRAIL/ HANDRAIL UNLESS NOTED OTHERWISE.
7. PROVIDE BYPASS PIPING SUPPORTS AS SHOWN. SUPPORTS SHALL BE CARBON STEEL WITH STAINLESS STEEL ADHESIVE ANCHORS.

KEY NOTES:

1. REMOVE AND STORE THREE EXISTING COVERS, RETAIN HARDWARE FOR REINSTALLATION.
2. CONTRACTOR SHALL PROVIDE TEMPORARY BYPASS PIPING FOR THE DURATION OF THE INFLUENT DISCHARGE BOX REPAIRS. BYPASS PIPING SHALL BE 24-INCH OD HDPE PIPE (DR 32.5). PIPE SHALL BE FABRICATED BASED ON EXISTING DIMENSIONS, CONTRACTOR SHALL FIELD VERIFY BEFORE FABRICATION.
3. CONTRACTOR SHALL PROVIDE LINK-SEAL, TO SEAL 24-INCH OD HDPE PIPE INSIDE EXISTING 30-INCH ID PUMP DISCHARGE FLARE.
4. BYPASS PIPE SHALL DISCHARGE TO NORTH PRE-AERATION BASIN INFLUENT BOX. DISCHARGE SHALL BE 1 FT ABOVE NORMAL WATER SURFACE.
5. CONTRACTOR SHALL SUPPORT THE BYPASS PIPE OFF THE EXISTING STRUCTURAL FRAMING AND DECK, IN A MANNER THAT DOES NOT INTERFERE WITH INFLUENT DISCHARGE BOX REPAIRS.
6. CONTRACTOR SHALL REMOVE AND PROTECT EXISTING GRATING. FALL PROTECTION SHALL BE PROVIDED AROUND OPENING FOR THE DURATION OF THE REPAIRS.
7. CONTRACTOR SHALL PROVIDE TEMPORARY PIPE SUPPORT AS INDICATED FOR THE DURATION OF THE REPAIRS.
8. PROVIDE LATERAL BRACING ON SUPPORTS AS SHOWN. WHERE POSSIBLE PROVIDE LATERAL SUPPORT ON EACH SIDE OF PIPE SUPPORT.
9. COORDINATE DISCHARGE PUMP CONE FRAME INSTALLATION WITH BYPASS PIPING INSTALLATION. CONTRACTOR TO INSTALL DISCHARGE CONE RING WITH BYPASS PIPE PRIOR TO CONCRETE DEMOLITION.
10. CONTRACTOR TO PROVIDE DAILY ACCESS FOR FORKLIFT UNDER PIPE FOR DUMPSTER REMOVAL.



F - SECTION
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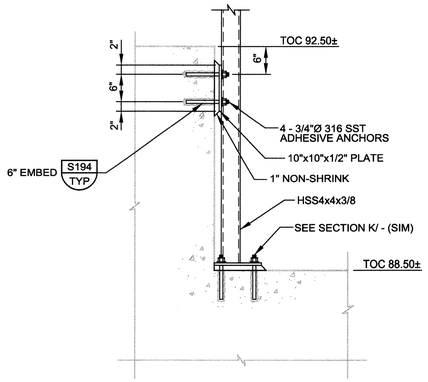
FILE: 8871F10D9305



M - SECTION
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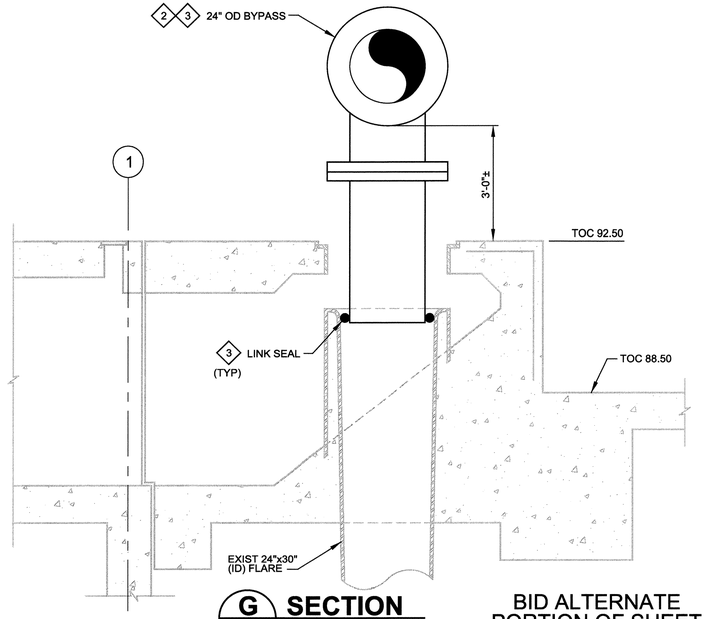
FILE: 8871F10D9308



G - SECTION
SCALE: 3/8" = 1'-0"
FILE: 8871F10D9306

BID ALTERNATE PORTION OF SHEET

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADIK No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

INFLUENT DISCHARGE BOX PIPE PLAN & SECTIONS

Date: MAY 2016 | Scale: AS SHOWN

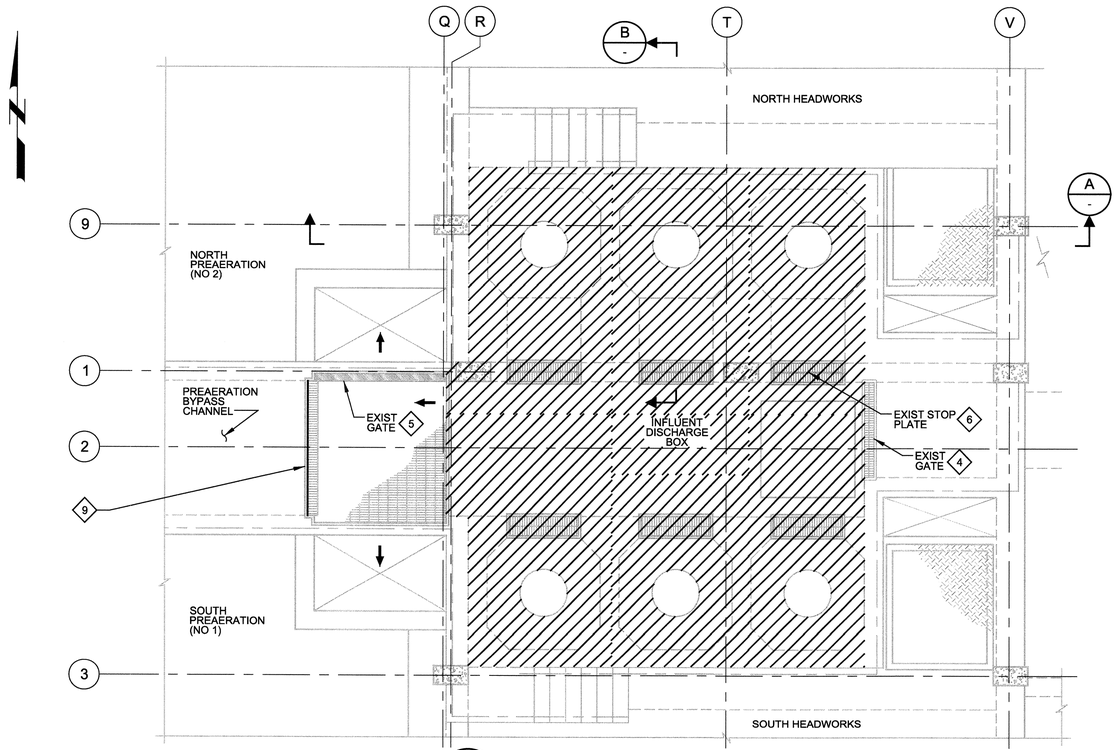
APPROVED: Deputy Director – Engineering

By Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

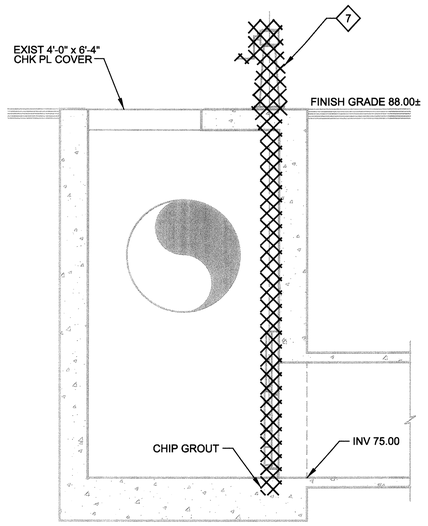
Drw No. D05 | Sheet 19 of 30 | File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



B PLAN

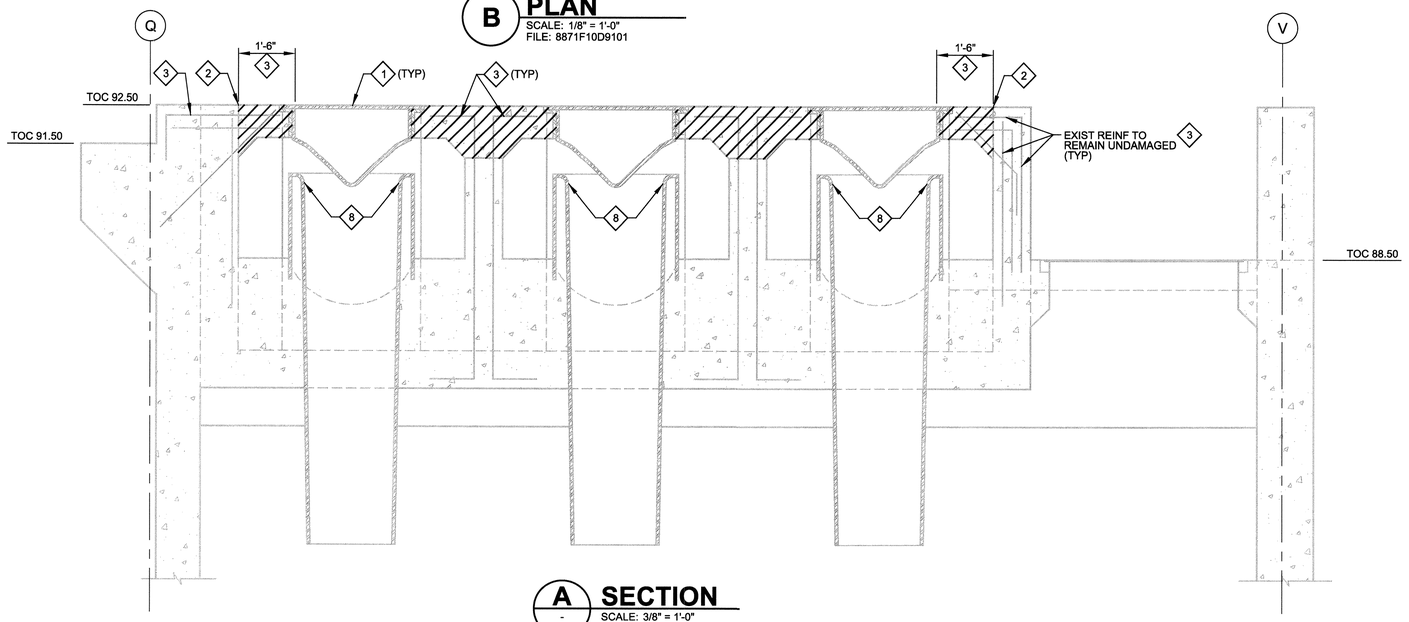
SCALE: 1/8" = 1'-0"
FILE: 8871F10D9101



H SECTION - INFLUENT DIVERSION STRUCTURE

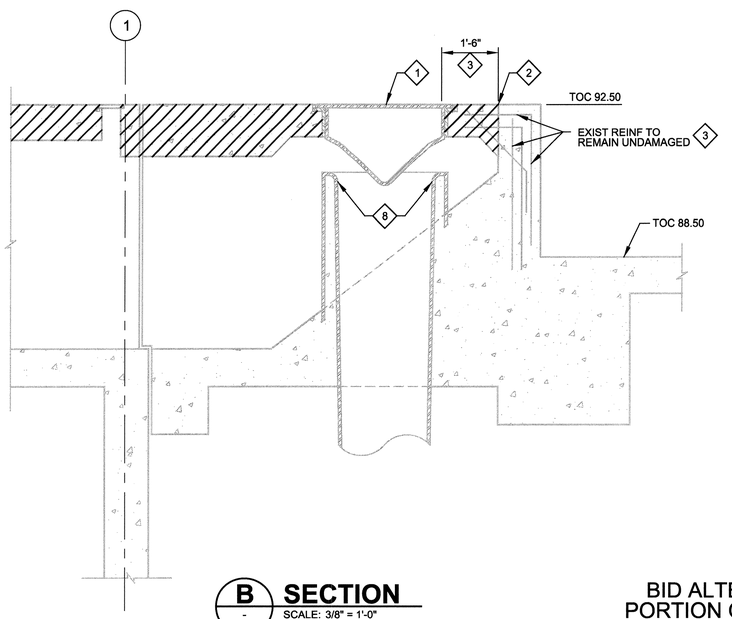
D01
D04

SCALE: 3/8" = 1'-0"
FILE: 8871F10D9307



A SECTION

SCALE: 3/8" = 1'-0"
FILE: 8871F10D9300



B SECTION

SCALE: 3/8" = 1'-0"
FILE: 8871F10D9301

GENERAL NOTES:

1. RECORD INFORMATION ON EXISTING STRUCTURES IS AVAILABLE AT THE PLATN ADMINISTRATIVE OFFICE FOR REVIEW BY POTENTIAL BIDDERS.
2. FOR GENERAL DEMOLITION NOTES SEE DWG D01.

KEY NOTES:

1. REMOVE AND STORE EXISTING PUMP DISCHARGE CONES, RETAIN HARDWARE FOR REINSTALLATION (TYP OF 6).
2. SAWCUT 1" DEEP.
3. PROTECT ALL HORIZONTAL WALL REINFORCEMENT 1'-6" FROM SAWCUT. EXISTING REINFORCEMENT TO REMAIN UNDAMAGED AND USE IN CONSTRUCTION OF NEW TOP SLAB.
4. PROTECT EXISTING GATE.
5. EXISTING GATE SHALL BE USED FOR ISOLATION.
6. EXISTING STOP PLATE TO BE USED FOR NORTH HW PUMP DISCHARGE ISOLATION AND BYPASS PUMP ISOLATION.
7. REMOVE EXISTING GATE AND OPERATOR. REPLACE WITH NEW SLIDE GATE PER SECTION 11294A. CONTRACTOR SHALL VERIFY EXISTING GATE INSTALLATION DETAILS AND SHALL UTILIZE EXISTING WALL THIMBLE IF POSSIBLE.
8. PROTECT EXISTING PUMP DISCHARGE FLARE (TYP OF 6).
9. CONTRACTOR SHALL PROVIDE TEMPORARY BULKHEAD TO ISOLATE INFLUENT DIVERSION BOX APPROXIMATELY 14' WIDE x 5'-6" DEEP. CONTRACTOR TO VERIFY CHANNEL BOTTOM EL @ 86.0 ±, TOP OF CHANNEL EL @ 91.5 ±.

LEGEND:

DEMOLISH CAST-IN-PLACE CONCRETE SLAB.

DEMOLISH EQUIPMENT.

BID ALTERNATE
PORTION OF SHEET

CONTRACT NO. C02064

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL E. DROHN
No. S5368
STRUCTURAL
STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

INFLUENT DISCHARGE BOX
PLAN & SECTIONS

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering
By J. Colleen Ferguson Date 8/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. D06 | File Number: 2016-0018

Sheet 20 of 30

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

GENERAL NOTES:

1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES, AND WITH THE SPECIFICATIONS.

2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS.

3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS:

   A. SCREENED LINEWORK INDICATES EXISTING CONDITIONS.
   B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES.
   C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.)

4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DESCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS.

   A. CONFIRM DIMENSIONS AND WEIGHTS FOR EQUIPMENT SELECTED BEFORE PREPARATION & SUBMITTAL OF SHOP DRAWINGS FOR AFFECTED AREAS.

5. TYPICAL DETAILS ARE INCLUDED ON THE "TS" DRAWINGS.

   A. TYPICAL DETAILS ARE INTENDED TO APPLY AT LOCATIONS DESCRIBED BY THEIR TITLES, EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
   B. IN STRUCTURAL TYPICAL DETAILS, ORIENTATION OF BARS IN EACH MAT OF REINFORCEMENT (WHETHER "LINES"OR "DOTS"ARE CLOSER TO THE FACE OF THE CONCRETE) IS GENERALLY ARBITRARY. SEE DRAWINGS OF EACH STRUCTURE FOR ORIENTATION REQUIRED AT THAT STRUCTURE.

6. SEE CIVIL DRAWINGS FOR STRUCTURE COORDINATES. POINTS ON THE STRUCTURES TO WHICH SITE COORDINATES REFER ARE SHOWN ON THE STRUCTURAL PLANS.

7. DRAWINGS PREPARED BY OTHER DISCIPLINES INCLUDE OPENINGS, ANCHORS, PIPES, CONDUITS, AND OTHER ITEMS THAT ARE EMBEDDED INTO OR PASS THROUGH STRUCTURES.

   A. CONFIRM SIZE AND LOCATIONS OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR ITEMS AND EQUIPMENT FURNISHED.
   B. IN GENERAL, OPENINGS, EMBEDMENT AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
   C. SEE MECHANICAL DRAWINGS FOR DETAILS OF PIPE PENETRATIONS AND ASSOCIATED STRUCTURAL REQUIREMENTS.
   D. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS AND PIPE SUPPORTS.

STRUCTURAL DESIGN CRITERIA:

1. BUILDING CODE:

   A. 2013 CALIFORNIA BUILDING CODE (CBC 2013) WITH ASCE 7-10.

   SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE.

2. STRUCTURE RISK CATEGORY: III

3. DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.

4. LIVE LOADS:

   A. FLOOR LIVE LOAD: SEE PLANS.
   B. GRATING AND CHECKERED PLATE: 100 PSF (UNO).
   C. ROOF LIVE LOAD: 20 PSF NON-REDUCIBLE.
   D. EQUIPMENT LOADS: SEE PLANS.
   E. CONCENTRATED AND IMPACT LOADS: SEE PLANS.

5. WIND DESIGN DATA:

   A. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 115 MPH.
   B. EXPOSURE: C.

6. EARTHQUAKE DESIGN DATA:

A.	SITE CLASS: D.	0.2 SECOND	*1.0 SECOND
B.	MAPPED SPECTRAL RESPONSE ACCELERATIONS:	Ss = 1.50 g	S1 = 0.60 g
C.	SITE COEFFICIENTS:	Fa = 1.0	Fv = 1.5
D.	MAXIMUM CONSIDERED ACCELERATIONS:*	Sms = 1.5 g	Sm1 = 0.9 g
E.	DESIGN SPECTRAL RESPONSE ACCELERATIONS:* (* 5% DAMPED)	Sds = 1.0 g	Sd1 = 0.60 g
F.	IMPORTANCE FACTOR:	Ie = 1.25	
G.	PIPE RACK SEISMIC FORCE-RESISTING SYSTEM; ORDINARY STEEL MOMENT FRAMES:	R = 3.5	
	ORDINARY STEEL CONCENTRICALLY BRACED FRAMES:	R = 3.25	

7. CONSTRUCTION LOADS:
   STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.

GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA:

GEOTECHNICAL INVESTIGATION REPORT:

TITLE: GEOTECHNICAL RECOMMENDATIONS AND PLAN REVIEW

PREPARED BY: KLEINFELDER

REPORT NO: 20160528.001A

DATED: JUNE 2, 2015

NET ALLOWABLE BEARING PRESSURE
STATIC: 1000 PSF
SEISMIC OR WIND: 2000 PSF

TYPICAL STRUCTURAL MATERIALS:

1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

1. DEFORMED BARS:
   A. TYPICAL: ASTM A 615, GRADE 60.
   B. WHERE INDICATED ON THE DRAWINGS: ASTM A 706.

2. WELDED WIRE FABRIC: ASTM A 185.

CONCRETE:

1. MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH, f'c (AT 28 DAYS).

   A. STRUCTURES: "CLASS A"OR "CLASS B" f'c = 4000 PSI.

2. NORMAL DENSITY

STRUCTURAL STEEL:

1. SECTIONS

   A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI)
   B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI)
   C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI)
   D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI)
   E. HOLLOW STRUCTURAL SECTIONS:
      ROUND: ASTM A 500, GRADE B (Fy = 42 KSI)
      SQUARE AND RECTANGULAR: ASTM A 500, GRADE B (Fy = 46 KSI)

2. CONNECTIONS:

   A. BOLTS - STEEL TO-STEEL: ASTM A 325 HIGH-STRENGTH BOLTS, WITH LOAD INDICATOR WASHERS.
   B. BOLTS - STEEL TO CONCRETE:
      ANCHOR BOLTS WITH HEX FORGED HEAD.
      ASTM A193, STAINLESS TYPE 316 (304)
      ASTM F 1554, GRADE 36 GALVANIZED.

STAINLESS STEEL:

1. ANSI TYPE 316/316L EXCEPT WHERE TYPE 304/304L IS INDICATED ON THE DRAWINGS.

2. SECTIONS: SHAPES AND BARS: ASTM A 276.

3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. MATCH ALLOY OF THE STRUCTURAL MEMBERS CONNECTED.
   B. TYPE 316/316L: ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.
   C. TYPE 304/304L: ASTM A 193, GRADE B8, CLASS 1, HEAVY HEX.

4. WELDED CONNECTIONS:

   A. TYPE 316L: E316L-15 ELECTRODES.
   B. TYPE 304L: E304L-15 ELECTRODES.

STRUCTURAL ALUMINUM:

1. SECTIONS

   A. SHAPES: ASTM B 308, ALLOY 6061-T6.
   B. SHEET AND PLATE: ASTM B 209, ALLOY 6061-T6.

2. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. STAINLESS STEEL - TYPE 316, ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.

3. WELDED CONNECTIONS:

   A. GAS METAL ARC (MIG) OR GAS TUNGSTEN ARC (TIG) PROCESS USING FILLER ALLOY 4043 ELECTRODES.

CONSTRUCTION:

MATERIALS SHALL BE AS CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EXCAVATION AND BACKFILLING:

1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION.

CONCRETE:

1. SEE S101/TYP FOR CONCRETE NOTES, INCLUDING CLEAR COVER AND LAP SPLICE LENGTH REQUIREMENTS FOR REINFORCING.

2. LOCATIONS OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE ACCEPTED BEFORE FORM LAYOUT BY THE ENGINEER.

3. PROVIDE CHAMFER AT EXPOSED EDGES OF CAST-IN-PLACE CONCRETE. SEE SPECIFICATION 03301 FOR CHAMFERS.

4. PROVIDE REINFORCING:

   A. AT CORNERS AND JUNCTIONS - AS INDICATED IN S144/TYP. SUPPLEMENT WITH ADDED BARS WHERE INDICATED ON THE DRAWINGS.
   B. AT OPENINGS - AS INDICATED IN S180/TYP.

5. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.

6. MAINTAIN MINIMUM 3 INCHES CLEAR CONCRETE COVER BETWEEN REINFORCING AND EMBEDMENTS.

7. FINISH CONCRETE AS SPECIFIED IN SECTION 03366.

STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:

1. BOLTED:

   A. MADE USING 3/4-INCH DIAMETER BOLTS (UNO).
   B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER.
   C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT.

2. WELDED:

   A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT.

3. INTERFACE BETWEEN MATERIALS:

   A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STAINLESS STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS AS SPECIFIED IN SECTION 05190.
   B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES WITH ALKALI-RESISTANT BITUMASTIC PAINT AS SPECIFIED IN SECTION 09960.

4. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY:

   A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE COMPLIANCE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS.
   B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.

METAL FABRICATIONS:

1. HANDRAILS AND GUARDRAILS:

   A. ALUMINUM.

2. GRATING:

   A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
   B. GRATING AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.
   C. UNLESS INDICATED ON THE DRAWINGS AS "REMOVABLE GRATING", SECURELY FASTEN GRATING TO SUPPORTS AS INDICATED IN A414/TYP.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS.

2. DIVISION 3 CONCRETE:

   A. LOCATIONS.
   B. FORMWORK AND MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: CAST-IN AND POST-INSTALLED.
   E. CONCRETE MIX AND PLACEMENT.
   F. PROTECTION AND CURING PROCEDURES.
   G. PRESTRESSED CONCRETE.

3. DIVISION 5 METALS

   A. GENERAL ALL METALS:
      1) MEMBER LOCATIONS.
      2) MEMBER SIZES/TYPES.
      3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS.
      4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE.

   B. STRUCTURAL STEEL (CARBON AND STAINLESS).
      1) HIGH-STRENGTH BOLTING.
      2) WELDING.

   C. STRUCTURAL ALUMINUM.
      1) BOLTING.
      2) WELDING.

EXISTING STRUCTURES:

1. THE DRAWINGS DEPICT WORK AT EXISTING STRUCTURES. ALL DIMENSIONS AND ALL DEPICTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS, STARTING FABRICATION, OR STARTING CONSTRUCTION.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, REPAIRS OR STRUCTURAL MODIFICATIONS THAT ARE REQUIRED DUE TO DEMOLITION BEYOND THE LIMITS IDENTIFIED ON THE DRAWINGS.

3. REINFORCEMENT FOR ANY EXISTING CONCRETE ELEMENT SHALL NOT BE DAMAGED UNLESS THE ELEMENT IS TO BE DEMOLISHED. WHEN LOCATING EXISTING REINFORCEMENT IS REQUIRED, IT SHALL BE LOCATED USING NON-DESTRUCTIVE METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, REPAIRS OR STRUCTURAL MODIFICATIONS THAT ARE REQUIRED DUE TO DAMAGE OF CONCRETE OR REINFORCEMENT THAT HAS BEEN IDENTIFIED ON THE DRAWINGS TO REQUIRE FIELD VERIFICATION.

4. CORE DRILLING AND SAW CUTTING SHALL NOT BE PERFORMED UNLESS INDICATED ON THE DRAWINGS OR APPROVED BY ENGINEER.

5. EXPOSED CONCRETE THAT REMAIN AFTER DEMOLITION SHALL BE REPAIRED TO MATCH ADJACENT SURFACES.

6. UNLESS OTHERWISE INDICATED ON DRAWINGS, EXPOSED CONCRETE SURFACES WITH REINFORCEMENT, ANCHOR BOLTS, HANGER RODS, OR OTHER EXPOSED METAL EMBEDMENTS SHALL BE REPAIRED BY CUTTING OFF THE METAL AT THE FACE OF THE CONCRETE, GRINDING SMOOTH, AND COATING WITH EPOXY. COATING SHALL EXTEND A MINIMUM OF 1" BEYOND THE EDGE OF ANY EXPOSED METAL.

STRUCTURAL SYMBOLS:

1. SEE DWG G02 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS.

2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4.

STRUCTURAL ABBREVIATIONS:

1. SEE DWG G03 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS.

2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS.

3. STRUCTURAL MEMBERS:

   A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION.

   B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION.

4. ABBREVIATIONS FOR STRUCTURAL DRAWINGS:

   AS USED ON THE STRUCTURAL DRAWINGS, THE FOLLOWING ABBREVIATIONS HAVE THE MEANINGS LISTED.

REINFORCEMENT:		OTHER:	
B.O.	BOTTOM OF	L	ANGLE
E.F.	EACH FACE	PL	PLATE
I.F.	INSIDE FACE		
O.F.	OUTSIDE FACE		
T.O.	TOP OF		
#	NUMBER (REINFORCING BAR SIZE)		

DEFERRED DESIGN SUBMITTALS

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE:

1. DIVISION 5(05) METALS.

   A. 05500 HANDRAILS AND GUARDRAILS.

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADIK No. S5368 STRUCTURAL STATE OF CALIFORNIA

	Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

GENERAL NOTES

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

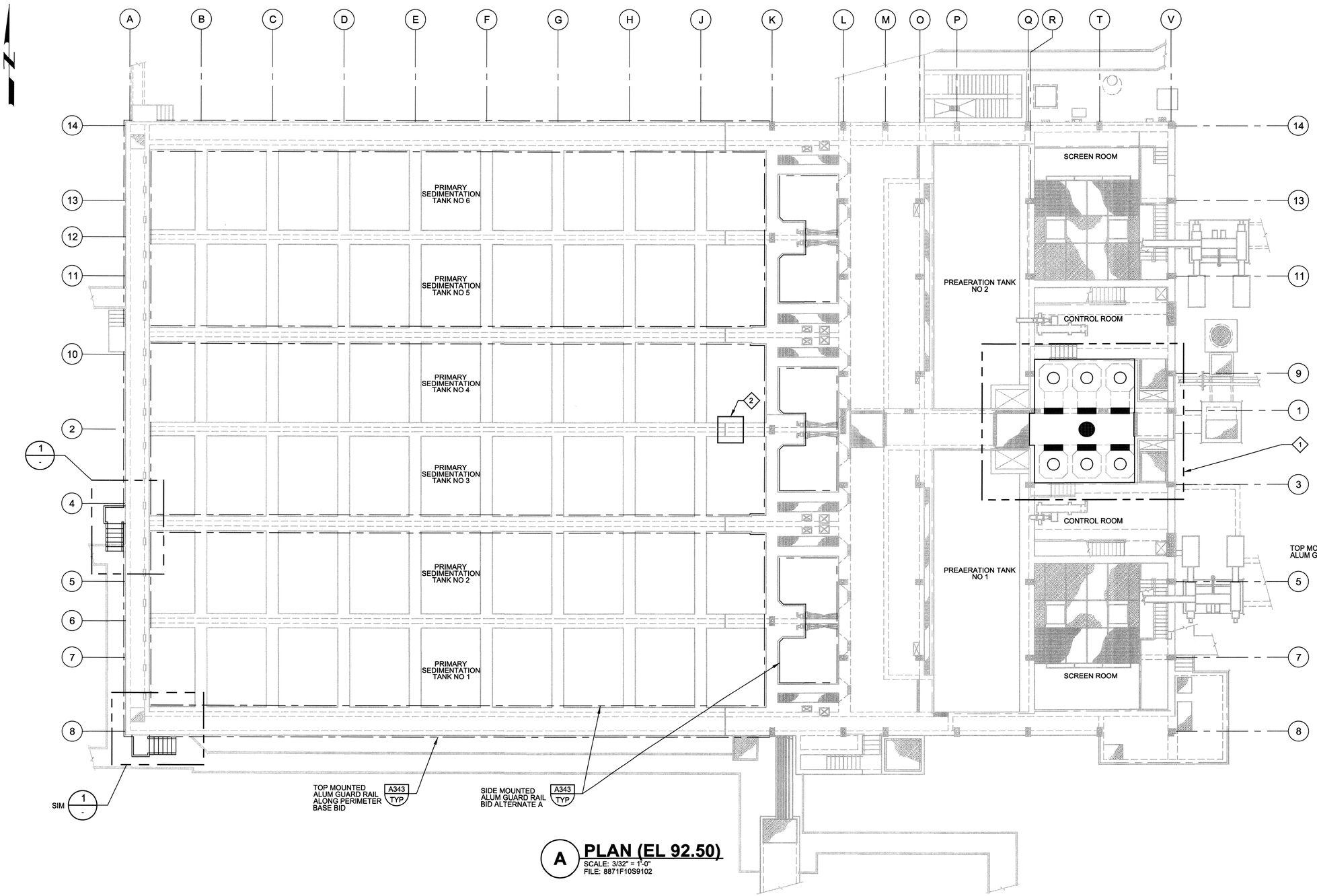
By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. GS01 Sheet 21 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A PLAN (EL 92.50)
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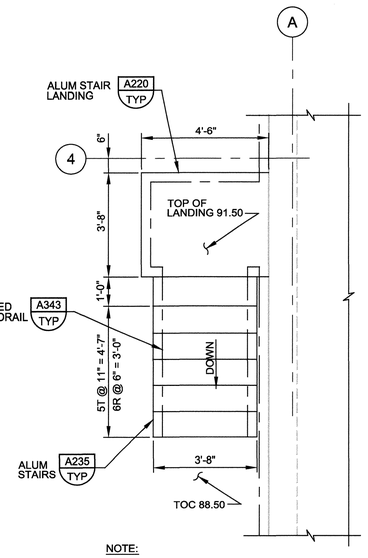
GENERAL NOTES:

1. SEE DWG GS01 STRUCTURAL GENERAL NOTES.
2. ALL EXISTING GALVANIZED 2-RAIL GUARDRAILS TO BE DEMOLISHED AND REPLACED WITH NEW 3-RAIL ALUMINUM GUARDRAIL - BID ALTERNATE. EXISTING ALUMINUM 3-RAIL GUARDRAIL TO REMAIN.
3. CONTRACTOR SHALL PROVIDE TEMPORARY GUARDRAILS BETWEEN DEMOLITION AND REPLACEMENT OF NEW GUARDRAIL.

KEY NOTES:

1. INFLUENT DISCHARGE BOX REPAIRS BID ALTERNATE B. SEE DRAWINGS S02.
2. REPAIR OF CHIPPED DECK OF EXPANSION JOINT PER PHOTO P/M01 AND SECTION 03926.



NOTE:
STAIRS AND LANDING SHOWN ALONG PRIMARY SEDIMENTATION TANK WEST WALL. STAIRS AND LANDING ALONG SOUTH WALL SIMILAR.

1/- DETAIL
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FILE: 8871F10S100

BID ALTERNATE
PORTION OF SHEET

CONTRACT NO. C02064

VERIFY SCALES
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Date	Revision	By

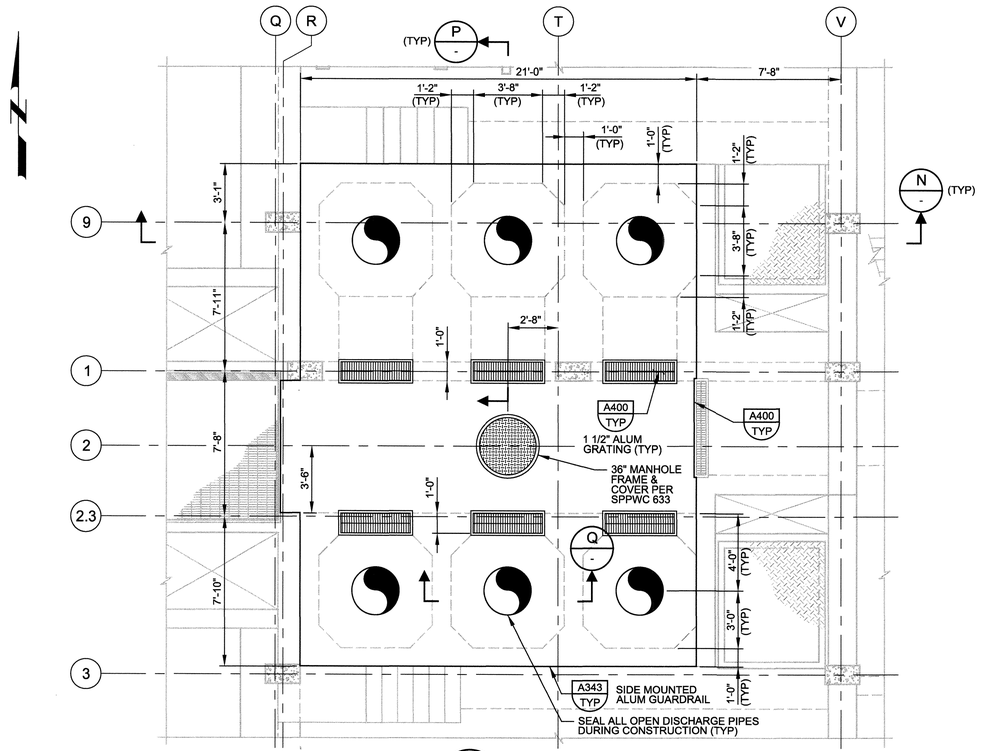
CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

OVERALL PLAN

Date: MAY 2016 Scale: AS SHOWN
APPROVED: Deputy Director – Engineering
By J. Colleen Ferguson Date 5/9/2016
DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16
Drw No. S01
Sheet 22 of 30
File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



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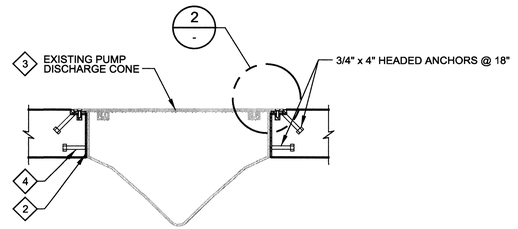

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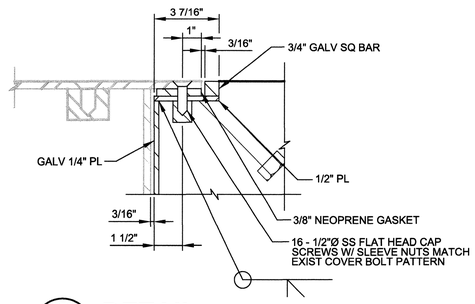

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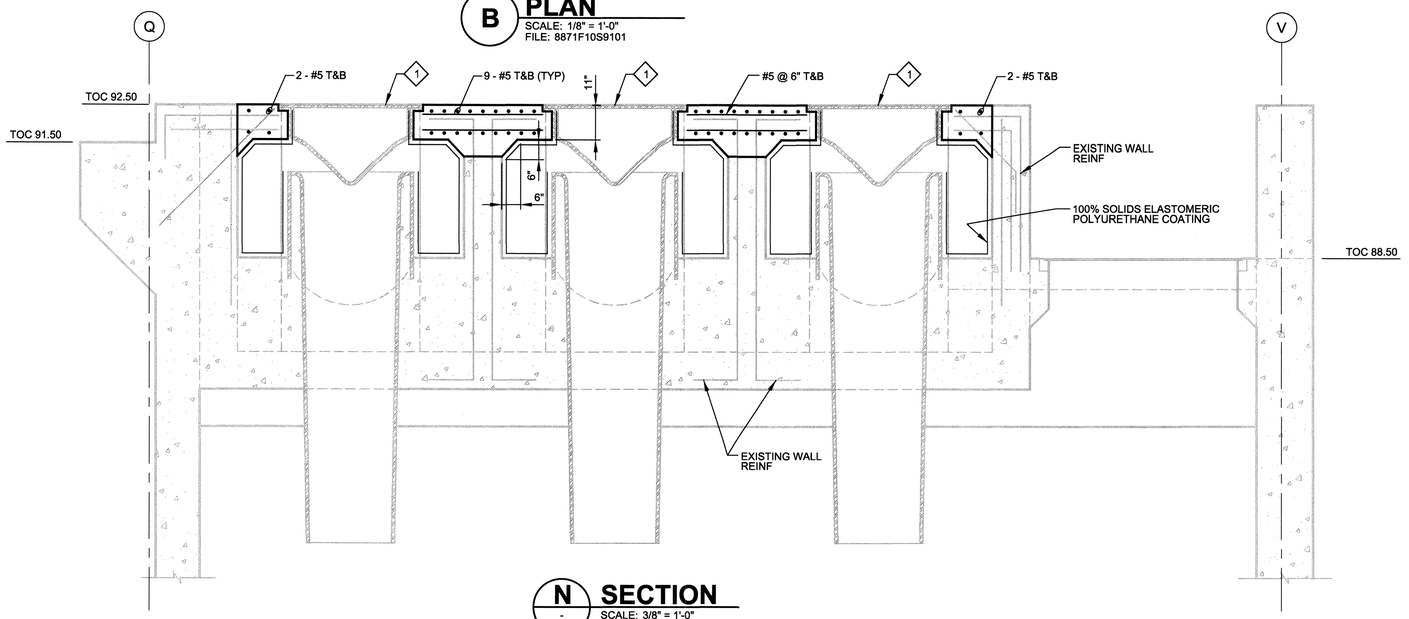

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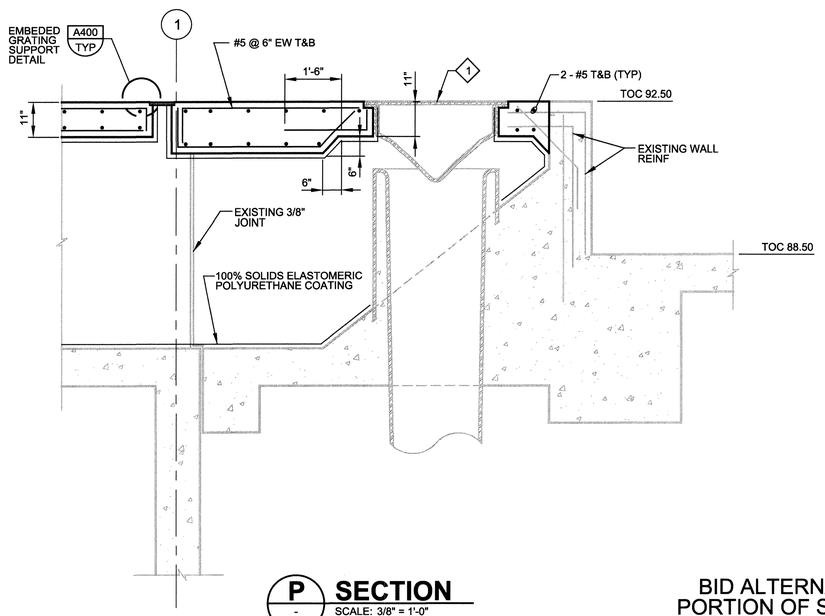

P SECTION
SCALE: 3/8" = 1'-0"
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GENERAL NOTES:

1. SEE DWG GS01 STRUCTURAL GENERAL NOTES.
2. REFER TO SPECIFICATION FOR CONSTRUCTION SEQUENCE.
3. REFER TO SPECIFICATION SECTION 03925 FOR CONCRETE REPAIR AND COATING. ESTIMATED AREAS OF CONCRETE REPAIR ARE APPROXIMATE.
   - F1: AREAS LESS THAN 1/2 INCH CONCRETE DETERIORATION. ——————— 225 SF
   - F2: AREAS OF CONCRETE DETERIORATION BETWEEN 1/2 INCH AND 3 INCH. ——————— 1050 SF
   - F3: AREAS OF CONCRETE DETERIORATION BEYOND 3 INCH. ——————— 225 SF

KEY NOTES:

1. REUSE 3/8" CHK PLATE FOR COVER OF PUMP DISCHARGE CONE. REFER TO DETAIL 2/- FOR ATTACHMENT TO NEW CONCRETE.
2. HOT DIP GALVANIZE DISCHARGE PUMP CONE FRAME AFTER FABRICATION.
3. HOT DIP GALVANIZE EXIST PUMP DISCHARGE CONE.
4. COORDINATE DISCHARGE PUMP CONE FRAME INSTALLATION WITH BYPASS PIPING INSTALLATION. CONTRACTOR TO INSTALL DISCHARGE CONE RING WITH BYPASS PIPE PRIOR TO CONCRETE DEMOLITION.

BID ALTERNATE
PORTION OF SHEET

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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REGISTERED PROFESSIONAL ENGINEER MICHAEL E. DADY No. S5368 STRUCTURAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

INFLUENT DISCHARGE BOX
SECTIONS & DETAILS

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

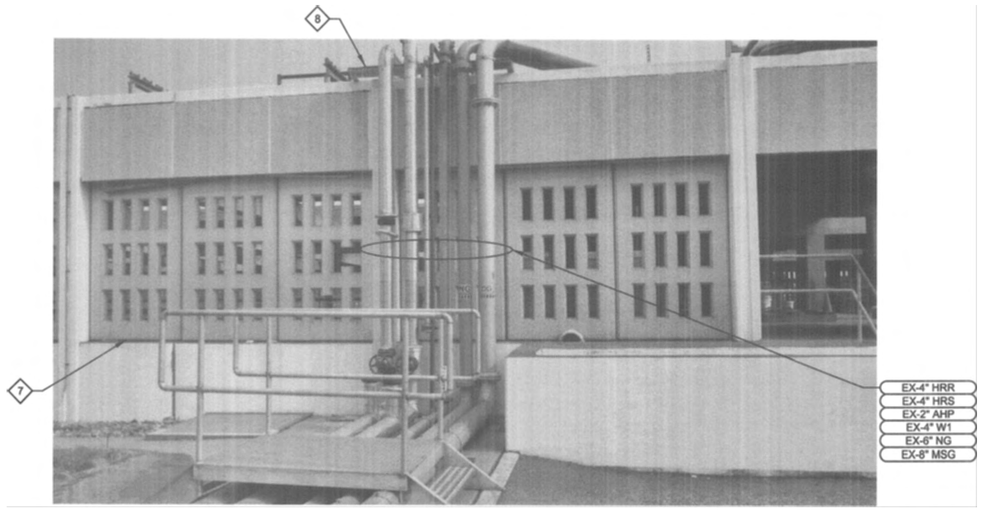
By J. Colleen Ferguson Date 5/9/2016

DWN RYW DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. S02 | File Number: 2016-0018

Sheet 23 of 30

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



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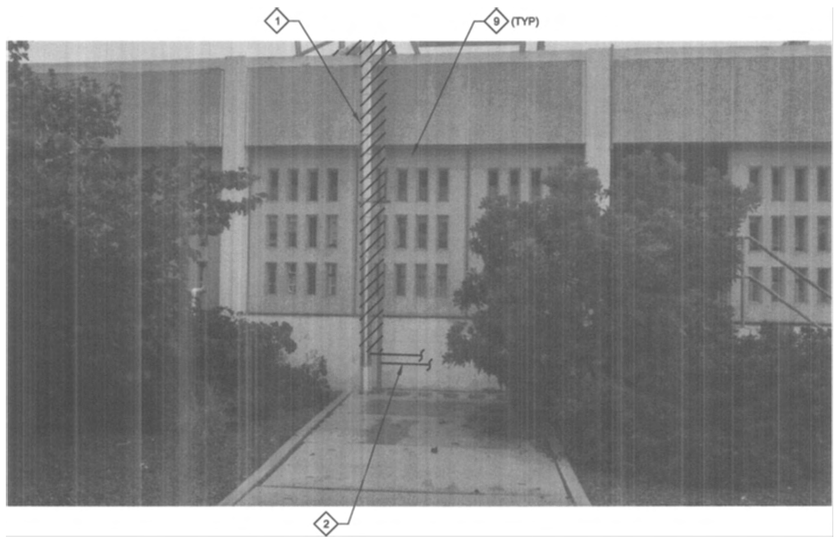

M PHOTO
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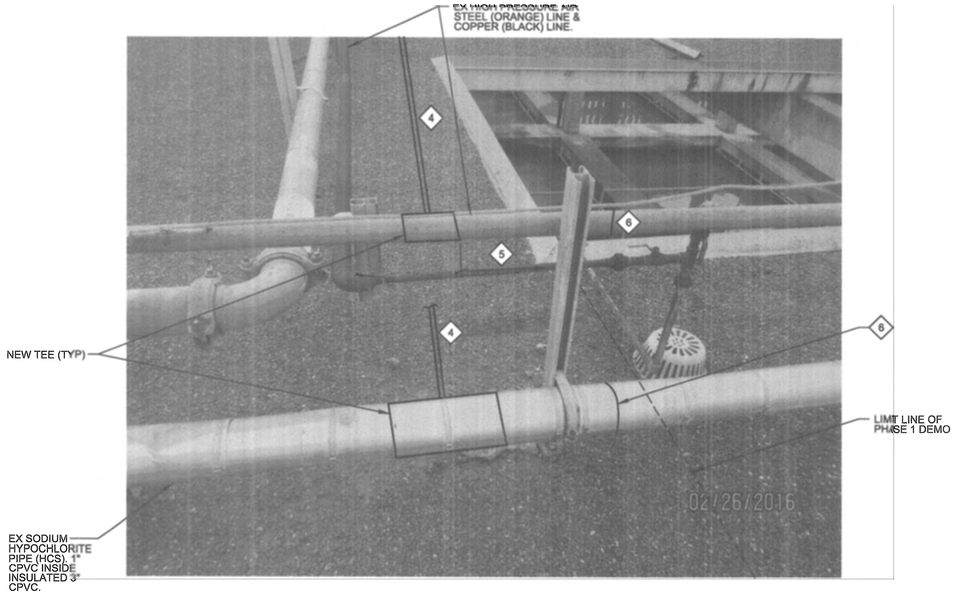
KEY NOTES:

1. DEMOLISH EX-1" HCS PIPE AND EX-1" HPA (2X CONTAINED AND INSULATED) PIPE AS SHOWN.
2. ROUTE NEW 1" HCS PIPE AND NEW 2" HPA PIPE ALONG EXTERIOR WALL OF STRUCTURE. CONNECT NEW HCS PIPE TO EXISTING PER DETAIL 1/M01. CONNECT NEW HPA PIPE TO EXISTING PER DETAIL 2/M01.
3. DOUBLE CONTAINED CPVC PIPING PER SECTION 15293. 1" CARRIER PIPE WITH 3" CONTAINMENT PIPE. INSULATED PIPE PER SECTION 15082. ELEVATION OF NEW HPA AND HCS SHALL BE COORDINATED WITH NEW STAIR SUPPORT LOCATIONS.
4. NEW HCS AND HPA TO BE SUPPORTED ON SAME NEW STRUTS.
5. TAP INTO EXISTING HPA (ORANGE) PIPE WITH NEW COPPER LINE PER PHOTO O/M02.
6. CAP EXISTING HCS (SILVER) AND HPA (ORANGE) PIPES.
7. TOP OF WALL 91.5±.
8. SPACE FOR NEW HPA AND HCS.
9. PRECAST WALL PANEL.
10. CPVC SPOOL PIECE FLANGE BY PLAIN END PER SECTION 15259.
11. TERMINATION FITTING PER SECTION 15293.
12. 3-INCH CPVC CONTAINMENT PIPING.
13. RESTRAINED FLANGED COUPLING ADAPTER PER SECTION 15121.
14. RESTRAINED EXPANSION JOINT PER TYPICAL DETAIL P234 AND SECTION 15120.
15. STAINLESS STEEL FLEXIBLE HOSE CONNECTION PER SECTION 15120.



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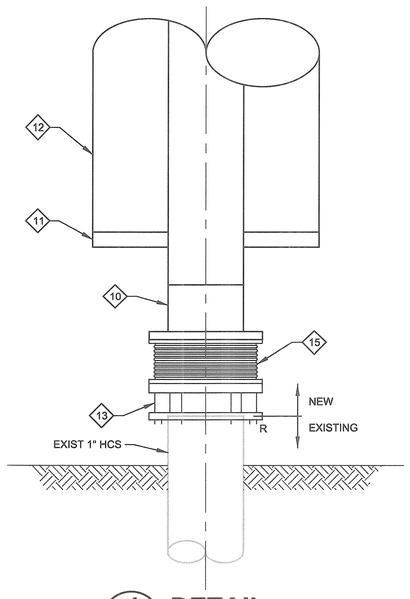

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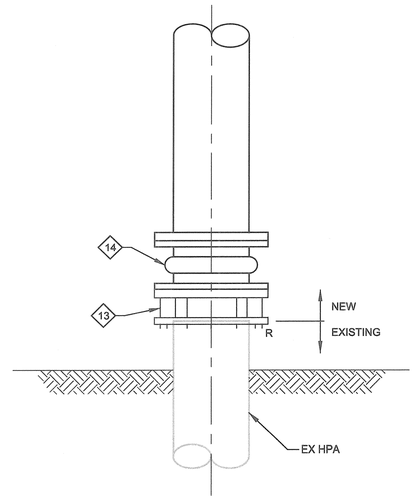

2 DETAIL
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CONTRACT NO. C02064

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REGISTERED PROFESSIONAL ENGINEER
DOUGLAS W. WING
No. 38950
CIVIL
STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

MECHANICAL PHOTOS & DETAILS

Date: MAY 2016 | Scale: AS SHOWN

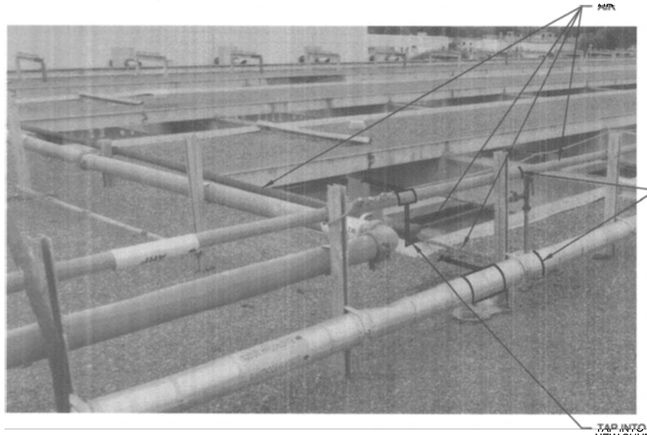
APPROVED: Deputy Director – Engineering
By Colleen Ferguson Date 5/9/2016

DWN JLG DATE: 5-1-16
CHK MED DATE: 5-1-16
DES AAC DATE: 5-1-16

Drw No. M01
Sheet 24 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



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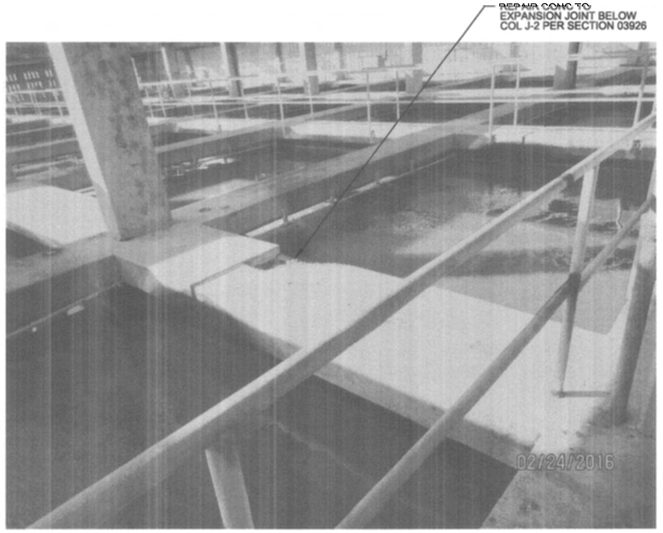

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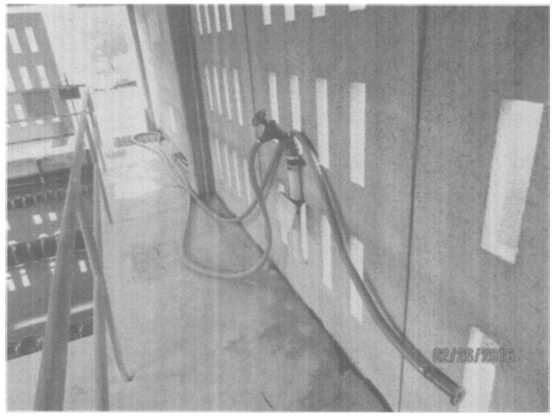
GENERAL NOTES:

1. EXPOSED CONCRETE THAT REMAINS AFTER DEMOLITION SHALL BE REPAIRED TO MATCH ADJACENT SURFACES.
2. EXPOSED CONCRETE SURFACES WITH REINFORCEMENT, ANCHOR BOLTS, HANGER RODS, OR OTHER EXPOSED METAL EMBEDMENTS SHALL BE REPAIRED BY CUTTING OFF THE METAL AT THE FACE OF THE CONCRETE, GRINDING SMOOTH, AND COATING WITH EPOXY. COATING SHALL EXTEND A MINIMUM OF 1" BEYOND THE EDGE OF ANY EXPOSED METAL.

KEY NOTES:

1. SEAL STEEL BRACKETS EMBEDDED IN BUILDING SLAB THAT WILL BE EXPOSED WHEN PANELS ARE REMOVED.
2. TERMINATE ABANDONED PIPING AND CONDUITS BELOW GRADE AND FILL HOLE WITH GROUT SO SURFACE IS SMOOTH WITH EXISTING FLOOR.



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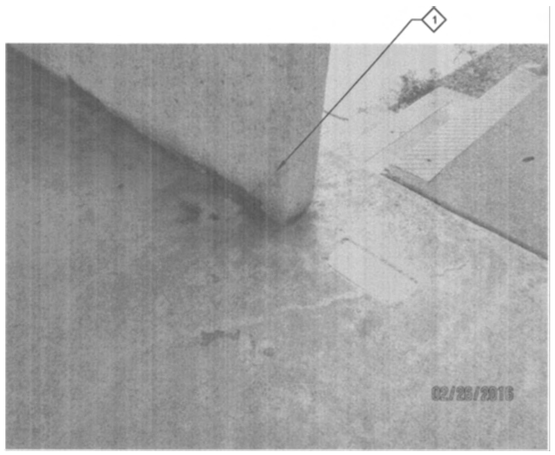

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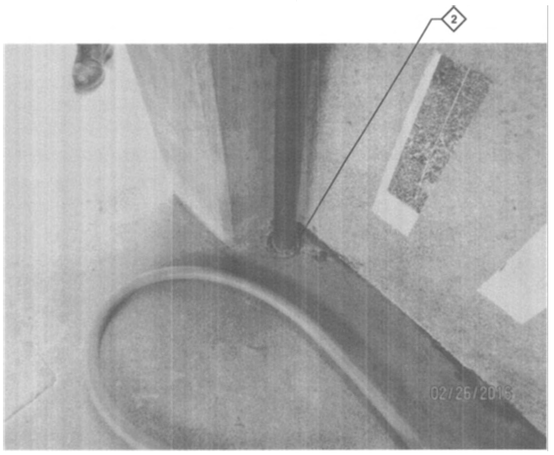

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Drw No. M02
Sheet 25 of 30

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LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

ELECTRICAL PLAN SYMBOLS

IDENTIFICATION SYMBOLS

EQUIP # — EQUIPMENT AND INSTRUMENT IDENTIFICATION

EQUIPMENT/INSTRUMENT LOCATOR

LUMINAIRE IDENTIFICATION
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED FROM
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE

XXXX — CONDUIT IDENTIFICATION
XXXX = CONDUIT NUMBER,
REFER TO CONDUIT SCHEDULE
UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.

INDICATES KEYNOTE X
(PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)

EQUIPMENT ENCLOSURE

A — DISCONNECT SWITCH
a = TYPE, REFER TO DISCONNECT SCHEDULE

GROUNDING

UNDERGROUND GROUND CABLE
#4/0 SDBC UNLESS OTHERWISE NOTED

GROUND ROD

GROUND ROD AND GROUND WELL

GROUND CONNECTION

LUMINAIRES

2', 4', OR 8' STRIP

2' X 2' LAY-IN TROFFER

2' X 4' LAY-IN TROFFER

LUMINAIRE POLE MOUNTED

STROBE
a = COLOR
R = RED
G = GREEN
A = AMBER

LUMINAIRE, EMERGENCY BATTERY-POWERED

LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED

LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE

LUMINAIRE, SURFACE OR PENDANT MOUNTED

LUMINAIRE, WALL MOUNTED

LUMINAIRE, FLOOD/SPOT

LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED.
ARROW POINTS IN DIRECTION OF EGRESS.

LUMINAIRE, WALL WASHER

PE — PHOTOCELL

SWITCHES/RECEPTACLES

SINGLE POLE SWITCH
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION

c = TYPE
2 = DOUBLE POLE SWITCH
3 = THREE-WAY SWITCH
4 = FOUR-WAY SWITCH
K = KEY OPERATED SWITCH
F = SWITCH AND FUSESTAT HOLDER
P = SWITCH AND PILOT LIGHT
T = THERMOSTAT
D = DIMMER SWITCH
L = LOW VOLTAGE LIGHT SWITCH
M = MANUAL MOTOR STARTER

OCCUPANCY SENSOR
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION

SWITCH AND SINGLE RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

QUADRUPLEX RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

IN FLOOR DUPLEX RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

IN FLOOR QUADRUPLEX RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE w/SPLIT WIRE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

APPLIANCE RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

WELDING RECEPTACLE
a = CIRCUIT DESIGNATION
b = DISCONNECT TYPE

SPECIAL PURPOSE RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

TWIST LOCK RECEPTACLE
a = AMP RATING

TELEPHONE OUTLET
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT

DATA COMMUNICATIONS OUTLET
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT

FIRE ALARM

SMOKE DETECTOR
a = TYPE
I = IONIZATION
P = PHOTOELECTRIC
d = DUCT DETECTOR

FACP — FIRE ALARM CONTROL PANEL

F — FIRE ALARM PULL STATION

FH — FIRE ALARM HORN/STROBE COMBINATION

FS — FIRE ALARM STROBE

F — FIRE SPRINKLER
F = FLOW SWITCH
T = TAMPER SWITCH

RACEWAY

EXPOSED CONDUIT

BREAK AND CONTINUATION IN CONDUIT RUN

EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES

UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCTBANK

CONDUIT IN SLAB

CONDUIT VERTICAL CHANGE IN DIRECTION

CONDUIT CAP

J — JUNCTION BOX

CONDUIT SEAL

CONDUIT TEE

DUCTBANK
APPROXIMATE DIMENSIONS
SHOWN ON DUCTBANK SCHEDULE

CONDUIT SIZE AND CONDUCTORS

INDIVIDUAL CONDUCTORS

W"C-(3-X (Ø), 1-Y (N) & 1-Z (G))

W"C (WHERE INDICATED): W = CONDUIT TRADE SIZE

3-X (Ø):
3 = QUANTITY
X = SIZE OF CONDUCTORS
(Ø) = DESIGNATES PHASE CONDUCTORS

1-Y (N)(WHERE INDICATED):
1 = QUANTITY
Y = SIZE OF CONDUCTORS
(N) = DESIGNATES NEUTRAL CONDUCTORS

1-Z (G)(WHERE INDICATED):
1 = QUANTITY
Z = SIZE OF CONDUCTORS
(G) = DESIGNATES GROUND CONDUCTORS

U(3-X (Ø) & 1-X (G))
U = NUMBER OF PARALLEL RUNS

MULTI CONDUCTOR CABLES

K/2/C#16S
K (WHERE INDICATED) = NUMBER OF PAIRS
2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED SHIELDED PAIR

K/3/C#16S
K (WHERE INDICATED) = NUMBER OF TRIPLETS
3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS

N/CX
N = NUMBER OF CONDUCTORS IN THE CABLE
X = SIZE OF CONDUCTORS

FIBER OPTIC CABLES

FO/N
N = NUMBER OF INDIVIDUAL FIBERS

ELECTRICAL ONE-LINE SYMBOLS

MEDIUM VOLTAGE

52 — CIRCUIT BREAKER, MEDIUM VOLTAGE
a = CIRCUIT BREAKER NUMBER
b = FRAME SIZE

ANSI RELAY DEVICE
a = ANSI DEVICE FUNCTION
b = QUANTITY

MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT

MEDIUM VOLTAGE SINGLE FUSE

MEDIUM VOLTAGE DOUBLE FUSE

MEDIUM VOLTAGE LIVE FRONT TERMINATOR

MEDIUM VOLTAGE ELBOW

MEDIUM VOLTAGE TEE

MEDIUM VOLTAGE CONTACTOR

MEDIUM VOLTAGE STARTER

MOV-ELBOW ARRESTER

LOW VOLTAGE

LOW VOLTAGE CIRCUIT BREAKER
a = TYPE
MCP = MOTOR CIRCUIT PROTECTOR
TM = THERMAL MAGNETIC
SS = SOLID STATE
b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)
c = NUMBER OF POLES
d = TRIP SETTING (AT = AMP TRIP)
(AC = MCP CONTINUOUS RATING)
e = DESIGNATION
f = INTERRUPTING RATING

LOW VOLTAGE CIRCUIT BREAKER
AUXILIARY OPERATOR
* = S = SHUNT TRIP
= G = GROUND FAULT INTERRUPTER
= V = SOLENOID KEY RELEASE

A — DISCONNECT SWITCH
A = TYPE, REFER TO DISCONNECT SCHEDULE

B — FUSED DISCONNECT SWITCH
B = TYPE, REFER TO DISCONNECT SCHEDULE
b = FUSE RATING

FUSE

COMBINATION STARTER
WITH CONTROL POWER TRANSFORMER
a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED
b = STARTER TYPE
c = NEMA STARTER SIZE
d = OVERLOAD

VARIABLE FREQUENCY DRIVE
WITH FEATURES AS SHOWN
a = INPUT CONTACTOR
b = OUTPUT CONTACTOR
c = BYPASS STARTER
d = INPUT CIRCUIT BREAKER

LR — LINE REACTOR

LL — LOAD REACTOR

REDUCED VOLTAGE SOLID STATE STARTER
WITH FEATURES AS SHOWN
BS = BYPASS STARTER

MISCELLANEOUS

HP — MOTOR
HP = HORSEPOWER RATING
FULL LOAD AMPS AS NOTED

PACKAGED EQUIPMENT
LOAD RATING AS INDICATED
a = RATED LOAD
b = UNIT(HP, KW, KVA) AS INDICATED

TRANSFORMER
a = DEVICE I.D.
b = KVA RATING
c = NUMBER OF PHASES
d = PRIMARY VOLTAGE
e = SECONDARY VOLTAGE
f,g = CONNECTION TYPE SYMBOL
h = IMPEDANCE

GROUNDED WYE CONNECTION

DELTA CONNECTION

G — ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS
a = KVA/KW
b = VOLTAGE/CONNECTION
c = PHASE
d = WIRE
e = PF

CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK
a = QUANTITY
b = RATIO

POTENTIAL TRANSFORMER
a = QUANTITY
b = RATIO
c,d = CONNECTION TYPE SYMBOL

SSM — SOLID STATE MULTIFUNCTION METER

ATP — AMPERE TEST POINT

VTP — VOLTAGE TEST POINT

UTILITY METER

LIGHTNING ARRESTER

SPD — SURGE PROTECTIVE DEVICE

DRAWOUT CONNECTION

GROUND

CAPACITOR

BATTERY

K — KIRK KEY INTERLOCK

LOAD BANK

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER ALAN CARLSON No. 20740 ELECTRICAL STATE OF CALIFORNIA

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CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

LEGEND

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By: J. Allison Ferguson Date 5/9/2016

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Drw No. GE01 | File Number: 2016-0018
Sheet 26 of 30

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

ABBREVIATIONS

A	AMP
ABS	ABSOLUTE
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACTR	ACTUATOR
AF	AMP FRAME
AFC	AUTOMATIC FREQUENCY CONTROL
AIC	AMP INTERRUPTING CAPACITY
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
APU	AUXILIARY POWER UNIT
ARM	ARMORED CABLE
AS	AMMETER SWITCH
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATO	AUTOMATIC THROW OVER
ATP	AMMETER TEST POINT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO XFMR	AUTOMATIC TRANSFORMER
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
B	BELL
BAT	BATTERY
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSEPOWER
BKR	BREAKER
BRF	BELOW RAISED FLOOR
C	CONDUIT / CONTINUOUS LOAD
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CCW	COUNTER CLOCKWISE
CKT	CIRCUIT
COAX	COAXIAL CABLE
COM	COMMON
COMM	COMMUNICATION
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CV	CONTROL VALVE
CW	CLOCKWISE / COOL WHITE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU - X	DISTRIBUTED CONTROL UNIT NO. X
DEMO	DEMOLITION
DISC	DISCONNECT SWITCH
DM	DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DS	DOOR SWITCH
E/G	EMERGENCY GENERATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINE
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
ETM	ELAPSED TIME METER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FLA	FULL LOAD AMPS
FLX	FLEXIBLE CONDUIT
FO	FIBER OPTIC
FRC	FIBERGLASS RIGID CONDUIT
FREQ	FREQUENCY
FU	FUSE
FU	SW FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G	GROUND / EQUIPMENT GROUND / GROUND FAULT
GEN	GENERATOR
GRC	GALVANIZED STEEL RIGID CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (RECEPTACLE)
GFI	GROUND FAULT INTERRUPTER (BREAKER)
GFR	GROUND FAULT RELAY
H	HOT-LEG
HF	HIGH FREQUENCY
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HSTAT	HUMIDISTAT
HV	HIGH VOLTAGE
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HZ	HERTZ
I	INSTANTANEOUS LOAD
IC	INTERRUPTING CAPACITY
IJB	INSTRUMENT JUNCTION BOX
IMC	INTERMEDIATE METAL CONDUIT
INST	INSTANTANEOUS
INT	INTERLOCK
INTERCOM	INTERCOMMUNICATION

J	JUNCTION BOX
K	KEY INTERLOCK
KA	KILOAMP
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR (REACTANCE)
KW	KILOWATT
KWD	KILOWATT DEMAND
KWH	KILOWATT HOUR
L	LONG-TIME
L-B	LINE-BUS
L-G	LINE-GROUND
LA	LIGHTNING ARRESTOR
LBL	LABEL
LC	LIGHTING CONTACT OR
LCP- X	LOCAL CONTROL PANEL NO. X
LL	LEAD-LAG LOAD REACTOR
LP	LIGHT POLE
LP - X	LIGHTING PANEL NO. X
LTG	LIGHTING
LV	LOW VOLTAGE
LVL	LEVEL
M-X	MOTOR CONTROLLER NO. X
MA	MILLIAMPERE
MCA	MOTOR CIRCUIT AMPS
MCC - X	MOTOR CONTROL CENTER NO. X
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE / MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MOV	METAL OXIDE VARISTOR
MRP	MOTOR PROTECTION RELAY
MS-X	MOTOR STARTER NO. X
MSP	MOTOR STARTING PANEL
MTO	MANUAL THROW OVER
MTR-X	MOTOR NO. X
MTS	MANUAL TRANSFER SWITCH
MV	MEGAVOLT
MVA	MEGAVOLT-AMPERES
MVS	MEDIUM VOLTAGE SWITCH
MW	MEGAWATT
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFC	NONMETALLIC FLEXIBLE CONDUIT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NP	NAMEPLATE
O	OPEN OR OPENED
OH	OVERHEAD
OL	OVERLOAD RELAY
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON / PULL BOX
PCS	PVC COATED GALVANIZED STEEL CONDUIT
PCM	PROCESS CONTROL MODULE
PE	PHOTOCELL
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PFR	PHASE FAILURE RELAY
PH	PHASE
PNL	PANEL
PPX	POWER PANEL NO. X
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE RIGID PLASTIC CONDUIT
PWR	POWER
RAC	RIGID ALUMINUM CONDUIT
RECPT	RECEPTACLE
REV	REVERSE
RF	RADIO FREQUENCY
RMS	ROOT MEAN SQUARED
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVNR	REDUCED VOLTAGE NON-REVERSING
RVSS	REDUCED VOLTAGE SOLID STATE
S	SHIELD / SHORT-TIME
SA	SURGE ARRESTER
SC	SHORT CIRCUIT
SDBC	SOFT DRAWN BARE COPPER
SFL	SUB FEED LUGS
SLT	SEALTIGHT LIQUIDTIGHT FLEXIBLE CONDUIT
SM	SURFACE MOUNTED
SP	SINGLE POLE
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SPKR	SPEAKER
SS	SOLID STATE
STB	SHORTING TERMINAL BLOCK
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL

TACH	TACHOMETER
TB - X	TERMINAL BLOCK - UNIT X
TC	THERMOCOUPLE / TIME CLOCK / TRAY CABLE
TD	TEMPERATURE DETECTOR RELAY
TE	TOTALLY ENCLOSED
TEFC	TOTALLY ENCLOSED FAN COOLED
TENV	TOTALLY ENCLOSED NON-VENTILATED
TERM	TERMINAL
TJB	TERMINAL JUNCTION BOX
TM	THERMAL MAGNETIC
TP	TWISTED PAIR
TS	TEMPERATURE SWITCH
TS1W	TWO SPEED CONSEQUENT POLE, ONE WINDING
TS2W	TWO SPEED SEPARATE WINDING
TSTAT	THERMOSTAT
UHF	ULTRA HIGH FREQUENCY
UNG	UNGROUNDED
UPS	UNINTERRUPTABLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY
V	VOLT
VA	VOLT AMPERE
VAR	VARMETER
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
VHF	VERY HIGH FREQUENCY
VM	VOLTMETER
VP	VAPORPROOF
VR	VOLTAGE REGULATOR
VS	VOTAGE SWITCH
VT	VOLTAGE TRANSFORMER
VTP	VOLTAGE TEST POINT
W	WATT / WEST
WT	WATER TIGHT
WP	WEATHER PROOF
XFMR	TRANSFORMER

NOTES:

1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

GENERAL NOTES

DEMOLITION NOTES:

1. ELECTRICAL AND INSTRUMENTATION DEMOLITION IS SHOWN ON DEMOLITION DRAWINGS IN ADDITION TO THE ELECTRICAL DRAWINGS.
2. WHERE DEMOLITION IS INDICATED, DEMOLISH ALL EXPOSED CONDUIT, AND REMOVE ALL WIRING BETWEEN THE LOAD AND THE SOURCE. SPLICING OR REUSING EXISTING WIRING IS NOT ALLOWED.
3. THE DEMOLITION OF 120 VOLT WIRE AND CONDUIT FOR LIGHTING, RECEPTACLES, AND SOME EQUIPMENT IS NOT SHOWN. DEMOLITION OF CONDUITS EMBEDDED IN THE COLUMNS OR BEAMS OF THE STRUCTURE BEING DEMOLISHED ARE NOT SHOWN. FIELD INVESTIGATE THE POWER SOURCE FOR ALL 120 VOLT CIRCUITS AND RENDER THEM SAFE BEFORE DEMOLITION.
4. PROTECT IN PLACE ALL EQUIPMENT AND CONDUIT THAT IS NOT SCHEDULED TO BE DEMOLISHED.

CONSTRUCTION NOTES:

1. THE ROUTING OF 120 VOLT CIRCUITS FOR LIGHITNG, RECEPTACLES, AND SOME EQUIPMENT IS NOT SHOWN. FIELD ROUTE CONDUIT AND WIRE AS REQUIRED TO MAKE ALL CONNECTIONS. 120 VOLT CIRCUITS MAY BE COMBINED IN COMMON CONDUITS PROVIDE ALL NEC DERATING CALCULATIONS ARE APPLIED.
2. FOLLOW THE OWNERS DOCUMENTATION FOR CONNECTIONS AT PLCS, REMOTE I/O RACKS AND MCCS. FIELD INVESTIGATE AS REQUIRED AND RECORD CONNECTIONS THAT ARE NOT AVAILBLE ON THE OWNERS DOCUMENTATION.
3. PROVIDE TEMPORARY CONDUIT AND WIRING AS REQUIRED TO MAINTAIN THE FACILITY AT A LEVEL OF OPERATION AS SPECIFED IN SECTION 01140.
4. PATCH ALL HOLES CREATED BY REMOVAL OF ANY CONDUIT.
5. EXISITNG CONDUITS INSDE THE STRUCTURE MAY BE RESUED TO COMPLETE CONDUIT RUNS FROM THE EQUIPMENT TO THE MOTOR CONTROL CENTERS, PANELBOARDS, AND PLCS.

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER ALAN CARLSTEN No. 20740 ELECTRICAL STATE OF CALIFORNIA

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LAGUNA TREATMENT PLANT
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PHASE 1

ABBREVIATIONS AND GENERAL NOTES

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By Colleen Ferguson Date 5/9/2016

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Drw No. GE02 | Sheet 27 of 30 | File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

LUMINAIRE SCHEDULE

4/18/2016

ITEM	DESCRIPTION	MOUNTING METHOD	LAMP		LUMINAIRE SPECIFICATIONS			
			QUANTITY	TYPE	MANUFACTURER	CATALOG	VOLTS	VA
A	SINGLE-PIECE DIE -CAST, ALUMINUM HOUSING, DIE-CAST DOOR FRAME, FULLY GASKETED IMPACT RESISTENT TEMPERED GLASS LENS, HIGH-EFFICACY LEDS, ALUMINUM HEAT SINK, SQUARE POLE MOUNTING ADAPATER FURNISH WITH MOTION SENSOR AND PHOTOCELL FOR COMPLIANCE WITH TITLE 24 DARK BRONZE FINISH	POLE MOUNTED		LED	LITHONIA	KAD LED 30C 700 40K R4 MVOLT PIR DLL127F 1.5 JU		
	POLE 12-FOOT, SQUARE ALUMINUM, HINGHED POLE WITH FESTOON FOR RECEPTACLES WHERE INDICATED ON THE DRAWINGS. FINISH TO MATCH LUMINAIRE				LITHONIA	SSAH 124C		

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STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

SCHEDULES

Date: MAY 2016 Scale: AS SHOWN

APPROVED: Deputy Director – Engineering

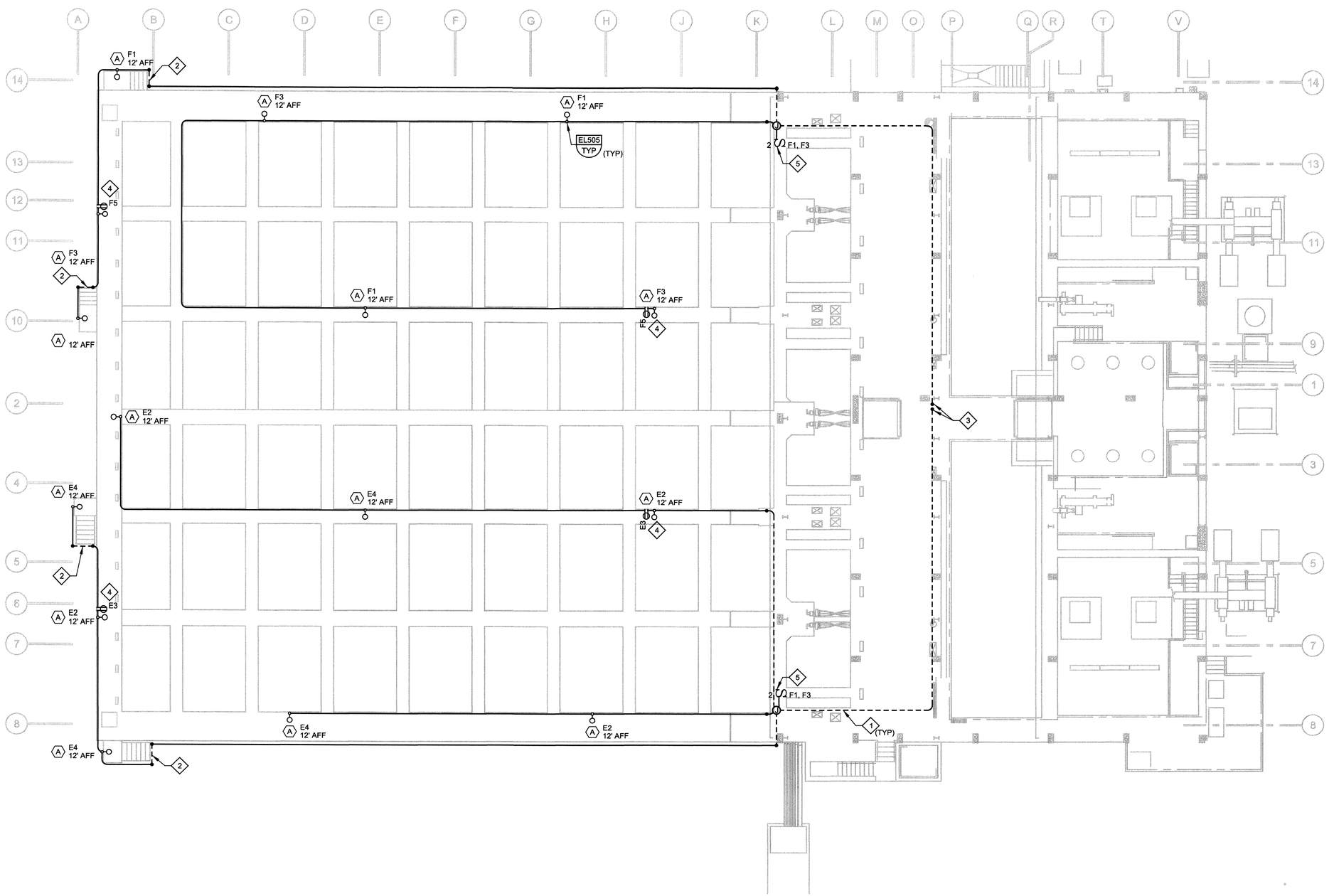
By Colleen Ferguson Date 5/9/2016

DWN EYP DATE: 5-1-16
CHK TBD DATE: 5-1-16
DES CAC DATE: 5-1-16

Drw No. 04E01 Sheet 28 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE



A **PLAN**
SCALE: 3/32"=1'-0"
FILE: 8871F1010E101

GENERAL NOTES:

1. LIGHTS AND RECEPTACLES ON THE NORTH SIDE OF THE BASIN ARE FED FROM LIGHTING PANEL F.
2. LIGHTS AND RECEPTACLES ON THE SOUTH SIDE OF THE BASIN ARE FED FROM LIGHTING PANEL E.
3. CONDUIT RUNS SHOWN ARE FOR REFERENCE ONLY. FINALIZE ROUTING BASED ON SITE CONDITIONS. SIZE CONDUITS IN ACCORDANCE WIH THE NATIONAL ELECTRIC CODE BASED ON THE NUMBER OF CONDUCTORS.

KEY NOTES:

1. EXPOSED CONDUITS TO RUN ON THE UNDER SIDE OF THE ROOF OF THE INFLUENT PUMP STATION STRUCTURE. DROP THE CONDUITS ALONG THE COLUMNS OF THE STRUCTURE AND CONTINUE THE CONDUIT TO THE PRIMARY SEDIMENTATION TANK LIGHT FIXTURES.
2. CONDUITS ARE DIRECT BURIED TO AVOID TRIPPING HAZARD. REFER TO TYPICAL DETAIL EM015 FOR INSTALLATION.
3. CONDUITS DROP DOWN ALONG THE COLUMN OF THE STRUCTURE AND PENETRATE INTO THE PRIMARY SEDIMENTATION TANK PIPE GALLERY AND CONTINUE TO THE ASSOCIATED LIGHTING PANEL. REFER TO DWG 10E02 FOR CONTINUATION.
4. MOUNT RECEPTACLE IN LIGHT POLE.
5. PROVIDE A WEATHERPROOF DOUBLE POLE SWITCH IN A NEMA 4X ALUMINUM ENCLOSURE. REFER TO TYPICAL DETAIL EM202 FOR INSTALLATIONS. WHEN THE SWITCH IS TURNED OFF, ALL ASSOCIATED LIGHTS ARE TURNED OFF. WHEN THE SWITCH IS ON, THE MOTION SENSORS AND THE PHOTOCELL CONTROL THE BRIGHTNESS OF THE LIGHTS.

CONTRACT NO. C02064

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

carollo

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER ALAN CARVALHO No. 20740 ELECTRICAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

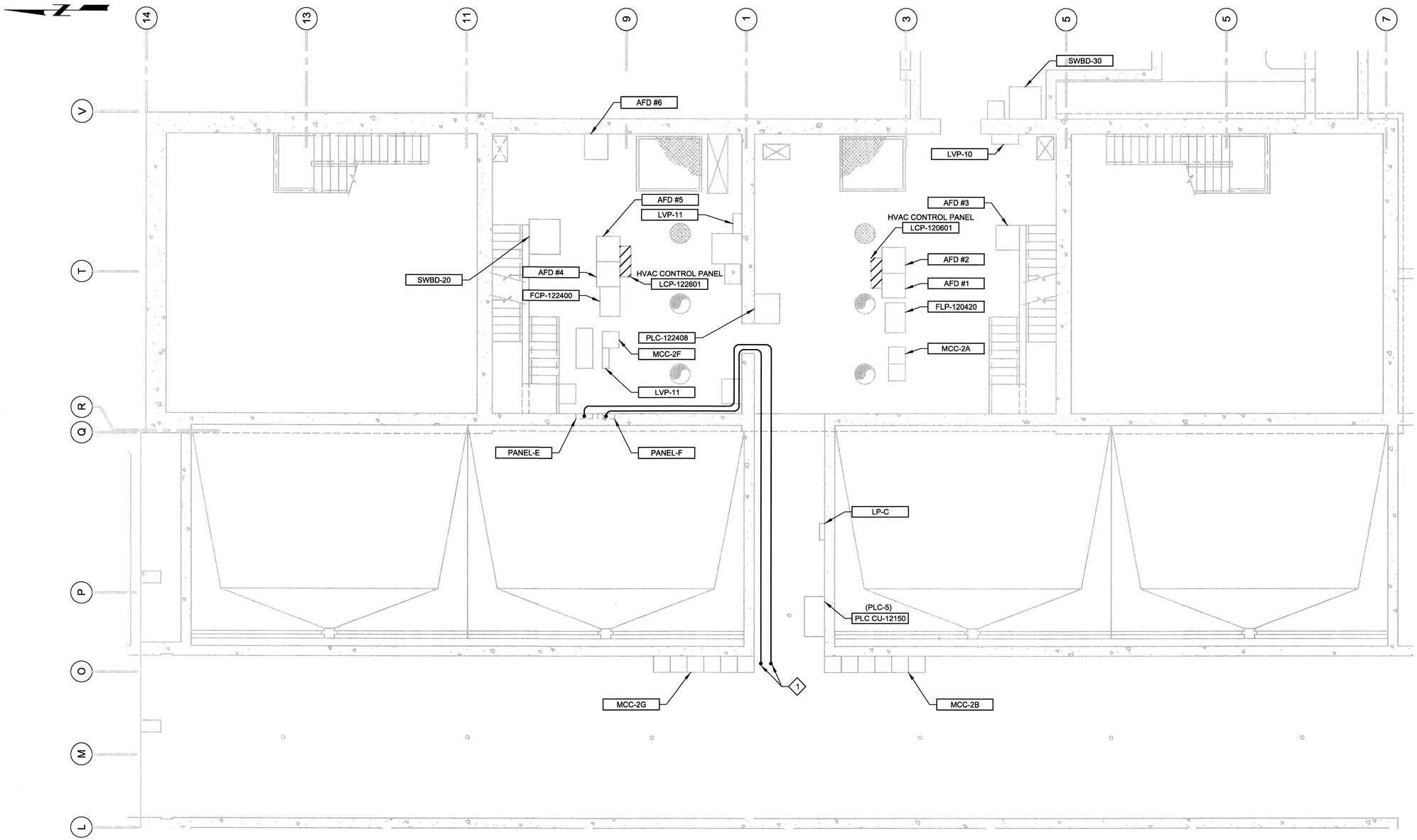
PRIMARY TREATMENT BUILDING UPPER LEVEL LIGHTING PLAN

Date: MAY 2016 Scale: AS SHOWN
APPROVED: Deputy Director – Engineering
By: /s/ Colleen Ferguson Date 5/9/2016
DWN EYP DATE: 5-1-16
CHK TBD DATE: 5-1-16
DES CAC DATE: 5-1-16
Drw No. 10E01
Sheet 29 of 30
File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE

KEY NOTES:

1. CONDUITS STUB-UP TO THE UPPER LEVEL. REFER TO DWG 10E01 FOR CONTINUATION.



A PLAN

SCALE: 3/16"=1'-0"
FILE: 8871F1010E102

CONTRACT NO. C02064

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER ALAN CARLSON No. 20740 ELECTRICAL STATE OF CALIFORNIA

Date	Revision	By

CITY OF SANTA ROSA

LAGUNA TREATMENT PLANT
PRIMARY TREATMENT STRUCTURE UPGRADE
PHASE 1

PRIMARY TREATMENT BUILDING
LOWER LEVEL PLAN

Date: MAY 2016 | Scale: AS SHOWN

APPROVED: Deputy Director – Engineering
By Colleen Fergusson Date 5/9/2016

DWN TLM DATE: 5-1-16
CHK TBD DATE: 5-1-16
DES CAC DATE: 5-1-16

Drw No. 10E02
Sheet 30 of 30

File Number: 2016-0018

LTP PRIMARY TREATMENT STRUCTURE, SEISMIC UPGRADE