

TYPICAL ELEVATION OF BLOOMENERGY ES UNITS SCALE 1/4" = 1'-0" 2

SYSTEM			
Net Output Power	255 kW	Total System Weight	44,150 lbs
Voltage	480 VAC	Weight - Fuel Cell Power Module x 6	6,550 lbs
Maximum Output Current	342 Amps	Weight - Input/Output Module x 1	4,850 lbs
Frequency	60 Hz	Weight - Precast Concrete Pad	22,160 lbs

FUEL REQUIREMENTS			
Connection	1" FNPT	Pressure	15 (+3/-1) PSIG
Fuel Type	Natural Gas	Max Consumption Rate (60F, 1atm)	2.3MMBtu/hr

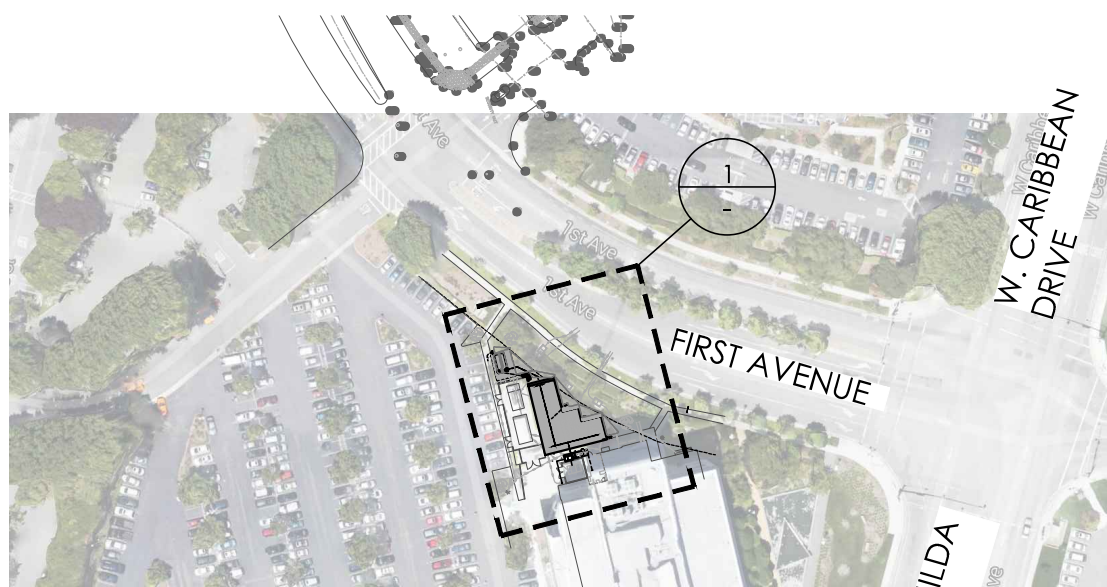
  

WATER REQUIREMENTS			
Connection	1/2" FNPT	Flow - Startup	< 0.8 gal/min
Quality	Municipal Grade	Flow - Continuous	0 gal/min
Minimum Pressure	30 PSI	Water Discharge	0 gal/min

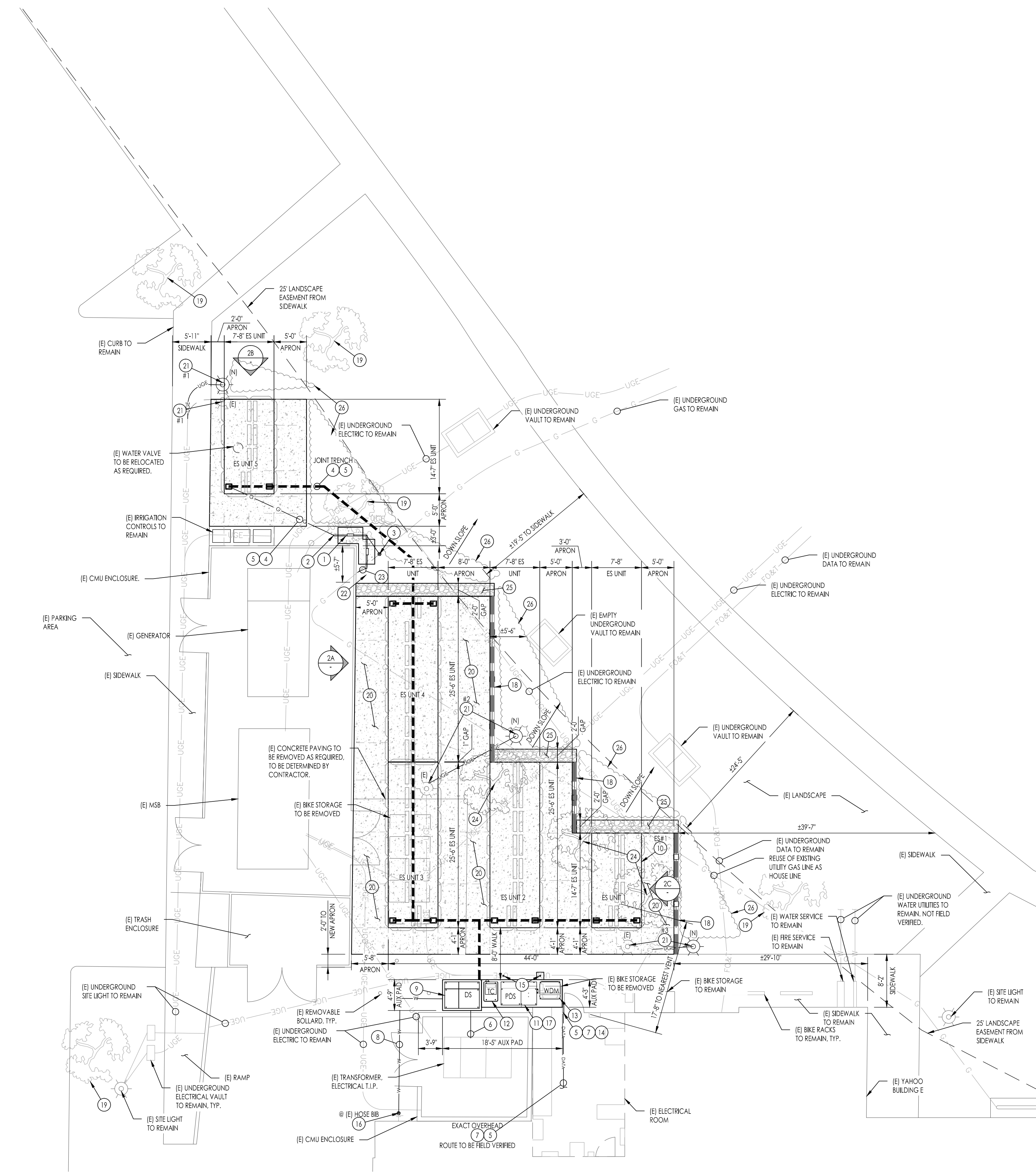
  

ELECTRICAL REQUIREMENTS			
Connection - IS&P DATA	RJ-45 Female	Connection - Power	3 Phase, 480VAC
Cable Type	CAT-5e	Cable Type	3 Wire + Gnd
Speed	70 Kbps/leach	Cable Size - Power	(2) 4/0 cu
Conduit Size	1"	Cable Size - Ground	#10 AWG
Connection - Heater Tape	120VAC	Conduit Size	(2) 2"
Cable Type	12/3 AWG		
Conduit Size	1"		

BLOOMENERGY SPECIFICATIONS SCALE NTS 3



OVERALL SITE PLAN SCALE 1" = 150' 4



THIS PLAN HAS BEEN PREPARED AS CONCEPTUAL AND HAS NOT HAD THE BENEFIT OF A TOPOGRAPHICAL SURVEY. LAYOUT AND DIMENSIONS ARE FOR PLANNING AND CONCEPTUAL PURPOSES ONLY. NOT FOR CONSTRUCTION.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

SITE PLAN SCALE 1" = 10'-0" 1

## RESPONSIBILITY NOTES

- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED AND DELIVERED BY BLOOM ENERGY. APPLICABLE TRADES TO MOUNT AND MAKE FINAL CONNECTIONS:
  - POWER DISTRIBUTION SECTION (PDS)
  - TELEMETRY CABINET (TC)
  - WATER DEIONIZATION MODULE (WDM)
  - SIGNAGE (SEE SAFETY SIGNAGE)
  - SITE KIT (SEE KIT NOTES)
- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED, DELIVERED AND MOUNTED BY BLOOM ENERGY. APPLICABLE TRADES TO MAKE FINAL CONNECTIONS:
  - CLEAN ENERGY SERVER
  - PRECAST SUPPORT PADS (SEE SHEET 1 OF 1)

## SITE KIT NOTES

- BLOOMENERGY TO PROVIDE AND DELIVER THE SITE KIT.
- ELECTRICAL AND PLUMBING CONTRACTOR TO INSTALL SITE KITS, CONSISTING OF PAD PLUMBING AND BUS BARS, ON THE PRECAST CONCRETE PAD PER MANUFACTURE SPECIFICATIONS.
- PWM DETECTORS NOT REQUIRED AT THIS SITE.

## CONDUIT & PIPE LENGTHS

TYPE	TOTAL DISTANCE FROM TE-IN TO FURTHERMOST ES UNIT (LINEAR)
GAS PIPE	±155
ELECTRICAL CONDUIT	±170
DATA CONDUIT	±210
WATER PIPE	±190

## LEGEND OF UTILITY LINES

DATA	DATA	DATA LINE	SA	SA	SANITARY LINE
STORM LINE	STORM LINE	STORM LINE	TV	TV	TELEVISION LINE
FIBER OPTICS & PHONE	FIBER OPTICS & PHONE	FIBER OPTICS & PHONE	UG	UG	UNDERGROUND ELECT.
GAS LINE	GAS LINE	GAS LINE	UG	UG	WATER LINE
JOINT TRENCH	JOINT TRENCH	JOINT TRENCH			
OVERHEAD ELECTRICAL	OVERHEAD ELECTRICAL	OVERHEAD ELECTRICAL			

## KEYNOTES

- (N) UTILITY GAS METER SET ASSEMBLY (MSA) FOR CLEAN ENERGY SERVER. COORDINATE LOCATION AND INSTALLATION REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES. PROVIDE CONCRETE PAD PER GAS ASSEMBLY PAD (SHEET 5.0). MSA & INTERCONNECTION PER NATURAL GAS DIAGRAM (SHEET 5.0). ADD IMPACT PROTECTION AS INDICATED BY UTILITY COMPANY.
- (N) PRIVATE GAS RISER FOR CLEAN ENERGY SERVER WITH SHUT-OFF VALVE. RISER PER SHEET 5.0 & NATURAL GAS SUPPLY DIAGRAM (SHEET 5.0).
- (N) GAS SERVICE CONNECTION TO ES UNITS AND (E) FACILITY BY UTILITY COMPANY. CONTRACTOR TO PROVIDE TAP RIT, EXCAVATION AND REPLACE TO ORIGINAL CONDITIONS AS REQUIRED BY UTILITY COMPANY AND PERMITTING AUTHORITY. PROVIDED (N) GAS PIPE FROM (N) GAS SERVICE RUN TO SHARED RISER FOR (N) UTILITY GAS MSA PER KEYNOTE 1 AND (N) UTILITY GAS MSA PER KEYNOTE 22. COORDINATE ROUTING PATH AND MSA LOCATION WITH UTILITY PRIOR TO INSTALLATION. SEE TRENCHING REQUIREMENTS PER UTILITY COMPANY.
- (N) GAS PIPE FROM (N) UTILITY GAS MSA TO TERMINATE AT (N) ES UNIT. SEE TRENCHING DETAILS (SHEET 3.1). SEE (S) PER NATURAL GAS SUPPLY DIAGRAM (SHEET 5.0).
- (N) DATA CONDUIT & CABLE FROM (N) UTILITY GAS MSA TO (E) MPOE. SEE TRENCHING DETAILS (SHEET 3.1). SEE (S) PER ELECTRICAL DATA DETAILS (SHEET 6.2).
- (N) ELECTRICAL CONDUIT & CABLE FROM (N) PDS TO TERMINATE AT (E) MBS. SEE TRENCHING DETAILS (SHEET 3.1). SEE (S) PER ELECTRICAL DATA DETAILS (SHEET 6.1).
- (N) DATA CONDUIT & CABLE FROM (N) TC TO TERMINATE AT (E) MPOE. SEE TRENCHING DETAILS (SHEET 3.1). SEE (S) PER ELECTRICAL DATA DETAILS (SHEET 6.2).
- (N) WATER PIPE FROM BUILDING DOMESTIC WATER SYSTEM TO (N) WDM. CONNECT TO NEAREST AVAILABLE LOCATION. SEE TRENCHING DETAILS (SHEET 3.1). SEE (S) PER INTERCONNECTION DIAGRAM (SHEET 5.0).
- (N) ELECTRICAL DISCONNECT. SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1). PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN (SHEET 3.0). INSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS (SHEET 8.0) SECTION 16A-24. CONDUIT SUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS (SHEET 6.3).
- (N) BLOOMENERGY ES-5710 & ES-5410 ENERGY SERVER. PAD AND MOUNTING SPECIFICATIONS PER PRECAST CONCRETE PAD (SHEET 1 OF 1). PAD PLACEMENT PER GRADING PLAN (SHEET 3.0). CONDUIT SUB-UP LOCATIONS PER PIPING PLAN & DETAILS (SHEET 4.0) & ELECTRICAL CONDUIT DETAILS (SHEET 6.3).
- (N) POWER DISTRIBUTION SYSTEM (PDS). PAD AND MOUNTING SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1). CONDUIT SUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS (SHEET 6.3).
- (N) TELEMETRY CABINET (TC) WITH FACTORY WIRED CLEAN ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPOS). PAD AND MOUNTING SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1). CONDUIT SUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS (SHEET 6.3).
- (N) WATER DEIONIZATION MODULE (WDM). PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN (SHEET 3.0). CONDUIT SUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS (SHEET 6.3) & PIPING PLAN & DETAILS (SHEET 4.0).
- CORE CONDUIT AND/OR PIPE THROUGH (E) WALL. SCAN WALL PRIOR TO CORING. DETAIL PER PIPING PLAN & DETAILS (SHEET 4.0).
- (N) 10'-0" COPPER GROUNDING RODS 6'-0" APART WITH ERICO T4160 INSPECTION WELL. SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1).
- (N) WATER TAP. IF WATER PRESSURE EXCEEDS 150 PSI CONTRACTOR TO COORDINATE WITH BLOOM ENERGY. PURCHASE AND INSTALL PRESSURE REGULATOR PRIOR TO WDM.
- CONTRACTOR TO PROVIDE SECURITY BOXES OVER CONDUIT & WIRE.
- (N) RETAINING WALL WITH FENCE PER GRADING PLAN (SHEET 3.0).
- TREES TO BE TRIMMED 10'-0" CLEARANCE TO BE MAINTAINED FROM ANY BRANCH TO ES UNIT VENT AND 4'-0" CLEARANCE TO BE MAINTAINED FROM ANY BRANCH TO ES UNIT. ACHIEVE 5'-0" MIN. CLEARANCE TO UPM.
- (N) CONCRETE APRON OVER EXISTING LANDSCAPE. REROUTE ALL IRRIGATION LINES AROUND APRON. REMOVE EXISTING LANDSCAPE. ALL LANDSCAPED DAMAGED OUTSIDE OF APRON MUST BE REPLACED BY CONTRACTOR.
- THE SITE LIGHTS TO BE RELOCATED TO (N) LOCATION AS SHOWN. CONTRACTOR TO REUSE (E) LIGHT POLE AND FIXTURES WHERE POSSIBLE.
- (N) UTILITY GAS METER SET ASSEMBLY (MSA) FOR BUILDING SERVICE. COORDINATE LOCATION AND INSTALLATION REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES. PROVIDE CONCRETE PAD PER GAS ASSEMBLY PAD (SHEET 5.0). ADD IMPACT PROTECTION AS INDICATED BY UTILITY COMPANY.
- (N) GAS PIPE FROM (E) UTILITY GAS PIPE TO (N) UTILITY MSA FOR BUILDING SERVICE TO TERMINATE AT (E) UTILITY GAS PIPE. SEE TRENCHING REQUIREMENTS PER UTILITY COMPANY.
- (E) TREES TO BE REMOVED AS NECESSARY.
- (N) RIVER ROCK FILL PER GRADING PLAN (SHEET 3.0). SLOPE AT A MAXIMUM OF 1:1 TO (N) SCREENING AND (E) LANDSCAPING.
- (N) LANDSCAPE SCREENING WITH SHRUBS TO MATCH EXISTING PER LANDSCAPING PLANS.

CLIENT APPROVAL: \_\_\_\_\_ DATE \_\_\_\_\_

BLOOMENERGY APPROVAL: \_\_\_\_\_ DATE \_\_\_\_\_

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**CORE STATES**  
REGISTERED PROFESSIONAL ENGINEER  
No. 61047  
Exp. 12/31/14  
CIVIL  
STATE OF CALIFORNIA

ISSUE	DATE	DESCRIPTION

PROJECT INFORMATION		
JOB #	REC-16334	
DATE	03-11-14	
DRAWN BY	SGR	
CHECKED BY	TM	

MODEL

(3) ES-5710, (2) ES-5410

SHEET TITLE

SITE PLAN

SHEET NUMBER

C1