



1299 ORLEANS DRIVE
SUNNYVALE, CA 94089
PROPRIETARY AND CONFIDENTIAL

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153 Cordaville Road, Suite 210
Southborough, MA 01772
t: 508 229 0032

ENGINEER OF RECORD
STEPHEN POWERS, P.E.
LICENSE # 45896



5/24/2018

CUSTOMER SITE
CORESITE
70 INNER BELT RD
SOMERVILLE, MA 02143



REV	REVISION ISSUE	DATE
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DESIGNED BY	DATE
CARSON TURNER	12/22/2017
DRAWN BY	DATE
ASHA GB	02/13/2018
REVIEWED BY	DATE
APPROVED BY	DATE

SHEET TITLE	COVER SHEET
DRAWING NUMBER	GO.1
BLOOM DOCUMENT	DOC-1010112
THIS DRAWING IS 24" X 36" AT FULL SIZE	SHEET 01 OF 20

PRIOR TO COMMENCING ANY EXCAVATION OR DEMOLITION, THE CONTRACTOR SHALL CONTACT LOCAL UTILITIES, INCLUDING BUT NOT LIMITED TO, GAS, WATER, FIBER, CABLE, AND TELEPHONE, REQUESTING UTILITY MARK OUT AND AS NECESSARY, RETAIN THE SERVICES OF A PRIVATE UTILITY MARK OUT COMPANY TO PERFORM SUCH MARK OUT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND VERIFY THE LOCATION OF UTILITIES, IRRIGATION, THE LIGHTING AND ELECTRICAL LINES IN THE VICINITY OF THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR ANY AND ALL UTILITIES DAMAGED BY THE CONTRACTOR'S OPERATION AT NO ADDITIONAL EXPENSE.



Know what's below.
Call before you dig.



70 INNER BELT RD,
SOMERVILLE, MA 02143

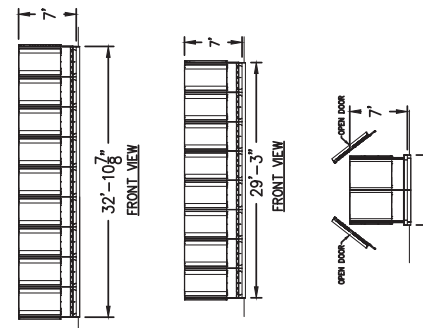


BLOOM ENERGY FAQ'S

- Q: WHAT IS A BLOOM ENERGY SERVER?
- A: THE BLOOM ENERGY SERVER IS A STATIONARY FUEL CELL POWER SYSTEM.
- Q: IS THE BLOOM PRODUCT LISTED OR CERTIFIED?
- A: YES. ES-500X SERIES.
 - THE FUEL CELL IS UL LISTED AS A "STATIONARY FUEL CELL POWER SYSTEM" TO ANSI/CSA AMERICA FC 1-2004.
 - IT IS UL LISTED UNDER UL CATEGORY IRGZ AND UL FILE NUMBER MH45102.
 - THE FUEL CELL IS UL LISTED AS A "STATIONARY FUEL CELL POWER SYSTEM" TO ANSI/CSA FC 1-2014.
 - IT IS UL LISTED UNDER UL CATEGORY IRGZ AND UL FILE NUMBER MH45102.
- Q: WHERE ARE FUEL CELLS COVERED IN THE NATIONAL ELECTRICAL CODE (NEC)?
- A: FUEL CELLS ARE COVERED IN ARTICLE 682 OF THE NEC (NFPA 70). FUEL CELLS HAVE BEEN INCORPORATED INTO THE NEC SINCE 2002.
- Q: WHAT IS THE MODEL NUMBER OF THIS PRODUCT?
- A: PLEASE SEE THE DATA SHEET PROVIDED WITH THIS FAQ.
- Q: WHAT IS THE NOISE LEVEL OF THE FUEL CELL SYSTEM?
- A: FOR SPECIFIC DB RANGES, PLEASE REFER TO THE DATA SHEET PROVIDED WITH THIS FAQ.
- Q: DO BLOOM FUEL CELL SYSTEMS PROVIDE LIFE SAFETY POWER?
- A: NO. WE ARE NOT LIFE SAFETY AND DO NOT PROVIDE LIFE SAFETY POWER, EVEN WHEN A UPS IS INSTALLED. WE ARE NOT ALTERING WHETHER LIFE SAFETY IS CURRENTLY PRESENT AT THE FACILITY.
- Q: IS THE BLOOM FUEL CELL SYSTEM TAMPER-PROOF?
- A: YES. THE FUEL CELLS ARE SECURED IN PLACE AND DOORS ARE SECURED AND LOCKED. ONLY BLOOM SERVICE PERSONNEL HAVE THE KEYS AND CAN BE ON-SITE WITHIN 24 HOURS.
- Q: WHAT HAPPENS TO THE STATIONER FACILITY POWER IF THE FUEL CELLS SHUT DOWN?
- A: THE FUEL CELL SYSTEM IS OPERATED IN GRID-PARALLEL MODE. IF THE UTILITY GRID IS OPERATIONAL, THE CUSTOMER FACILITY WILL RECEIVE POWER FROM THE GRID AND NOTICE NO DIFFERENCE.
- Q: WHAT HAPPENS TO THE FUEL CELL SYSTEM WHEN THE UTILITY POWER SHUTS DOWN?
- A: IF UTILITY PROVIDED POWER IS LOST FOR ANY REASON, THE FUEL CELL SYSTEM WILL ALSO STOP PRODUCING POWER. THE FUEL CELL SYSTEM WILL REMAIN IN STAND-BY MODE UNTIL IT AUTOMATICALLY SENSES THE UTILITY GRID HAS BEEN RESTORED.
- Q: WHAT HAPPENS TO THE FUEL CELL SYSTEM WHEN THE UTILITY GAS SHUTS DOWN?
- A: CAN THE FUEL CELL SYSTEM BE SHUT DOWN LOCALLY IN CASE OF AN EMERGENCY?
- A: YES. IF THE FUEL CELL MUST BE SHUT DOWN LOCALLY—FOR EXAMPLE, IN CASE OF A BUILDING FIRE OR ELECTRICAL HAZARD—TWO SHUTOFF CONTROLS ARE INSTALLED AT THE FACILITY EXTERNAL TO THE SYSTEM. THE LOCATIONS OF THESE TWO CONTROLS SHOULD BE KNOWN TO THE FACILITIES MANAGER BEFORE OPERATION AND SHOULD BE NOTED ON THE SITE DIAGRAM THAT IS CREATED FOR EACH SITE DURING INSTALLATION. THE TWO SHUTOFFS ARE:
 - (1) THE ELECTRICAL DISCONNECT SWITCH AND
 - (2) THE MANUAL NATURAL GAS SHUTOFF VALVE. A THIRD SHUTOFF, AN EMERGENCY POWER OFF (EPO) BUTTON, MAY BE PROVIDED ON-SITE.
- Q: DOES THE BLOOM FUEL CELL SYSTEM OPERATE 24/7?
- A: YES.
- Q: ARE THE BLOOM FUEL CELL SYSTEMS MONITORED?
- A: YES. BLOOM FUEL CELL SYSTEMS ARE CONTROLLED REMOTELY AND HAVE INTERNAL SENSORS THAT CONTINUOUSLY MONITOR SYSTEM OPERATION. IF SAFETY CIRCUITS DETECT A CONDITION OUTSIDE NORMAL OPERATING PARAMETERS, THE FUEL SUPPLY IS STOPPED AND INDIVIDUAL SYSTEM COMPONENTS ARE AUTOMATICALLY SHUT DOWN. A BLOOM ENERGY REMOTE OPERATOR CAN ALSO REMOTELY INITIATE ANY EMERGENCY SEQUENCE. AN EMERGENCY STOP ALARM INITIATES AN AUTOMATIC SHUTDOWN SEQUENCE THAT PUTS THE SYSTEM INTO "SAFE MODE" AND CAUSES IT TO STOP EXPORTING POWER. IF YOU HAVE QUESTIONS ABOUT ANY OF THESE SAFETY FEATURES, PLEASE CONTACT BLOOM ENERGY AT CUSTOMERCARE@BLOOMENERGY.COM.
- Q: WHAT ARE THE EMISSIONS GENERATED BY BLOOM FUEL CELL SYSTEMS?
- A: THE SPECIFIC PERCENTAGE OF CARBON EMISSION REDUCTIONS ARE DEPENDENT ON YOUR STATE'S GENERATION MIX, BUT BLOOM FUEL CELL SYSTEMS VIRTUALLY ELIMINATE NOx, SOx, AND OTHER CRITICAL AIR POLLUTANTS THAT ARE FOUND IN TRADITIONAL ELECTRICITY GENERATION METHODS. FOR SPECIFIC EMISSIONS RANGES, PLEASE REFER TO THE DATA SHEET PROVIDED WITH THIS FAQ.
- Q: WHAT IS THE SUSTAINABILITY IMPACT OF BLOOM FUEL CELL SYSTEMS?
- A: BLOOM FUEL CELL SYSTEMS GENERATE ELECTRICITY ON-SITE THROUGH AN EFFICIENT ELECTROCHEMICAL REACTION WITHOUT COMBUSTION. DUE TO THE HIGH EFFICIENCY (60%-53% COMPARED TO A COMBINED CYCLE NATURAL GAS PLANT WITH EFFICIENCY OF 40-45% OR COAL PLANTS AT 35%) BLOOM ENERGY SERVERS REDUCE CARBON EMISSIONS BY 20-50% COMPARED TO THE US GRID EMISSION RATES. THE VARIATION IN EMISSIONS REDUCTION IS DUE TO THE VARIATION IN HOW DIFFERENT STATES GENERATE ELECTRICITY. IN ADDITION, BLOOM FUEL CELL SYSTEMS USE NO WATER DURING NORMAL OPERATION.

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE INSTALLATION OF TWENTY (20) BLOOM ENERGY ESS OUTDOOR NATURAL GAS CLEAN ENERGY SERVERS. THE CLEAN ENERGY SERVERS IS SUPPORTED ON A CONCRETE PAD. THE WORK INCLUDES ALL ITEMS LISTED IN THE SCOPE OF WORK.



SCOPE OF WORK

- THE SCOPE OF THIS PROJECT WILL CONSIST OF THE FOLLOWING:
1. CIVIL WORK
 - EXISTING ASPHALT SHALL BE CUT FOR NEW EQUIPMENT EXISTING BLOOM ENERGY SERVERS.
 - EXISTING SUBGRADE AT ASPHALT CUT WILL BE PREPARED FOR THE NEW EQUIPMENT WEIGHT.
 - NEW TRENCH FROM BLOOM ENERGY SERVERS TO BUILDING FOR WATER AND ELECTRICAL CONNECTIONS BETWEEN BLOOM ENERGY SERVER AND BUILDING.
 - TRENCH TO BE BACKFILLED AND NEW ASPHALT COVER NEW ENERGY SERVERS CONCRETE PAD AND ANCHILARY CONCRETE PAD TO BE PLACED AT PREPARED SURFACE AT ASPHALT CUT OUT.
 - NEW BOLLARDS TO BE INSTALLED TO PROTECT BLOOM ENERGY SERVERS.
 - PARKING LOT ORIENTATION SHALL BE REVISED FOR THE ADDITION OF THE BLOOM ENERGY SERVERS.
 2. ELECTRICAL FEEDERS BETWEEN BLOOM ENERGY SERVERS AND EXISTING MAIN SERVICE SWITCHBOARD.
 3. PLUMBING WORK
 - NEW WATER CONNECTION FROM POTABLE WATER SOURCE IN FACILITY TO BLOOM ENERGY SERVERS.
 - NEW NATURAL GAS CONNECTION, NEW METER AND REGULATORS WILL BE INSTALLED FOR BLOOM ENERGY SERVERS.

CODES

2009 INTERNATIONAL CODES (I CODES)	MASSACHUSETTS REGULATIONS
BUILDING	780 CMR - MA AMENDMENTS TO THE IBC
ENERGY	780 CMR - MA COMMERCIAL ENERGY EFFICIENCY STANDARDS
PLUMBING	248 CMR - MA PLUMBING REGULATIONS
FUEL GAS	248 MA - MA PLUMBING REGULATIONS
ELECTRICAL	527 CMR - MA FIRE PREVENTION AND ELECTRICAL REGULATIONS
FIRE	527 CMR - MA FIRE PREVENTION REGULATIONS

PROJECT TEAM CONTACTS

FIRM	ADDRESS	CONTACT INFO
MANUFACTURER BLOOM ENERGY	1299 ORLEANS DR, SUNNYVALE, CA 94089	(408) 543-1500
CUSTOMER CORESITE	70 INNER BELT RD, SOMERVILLE, MA 02143	(617) 406-2248
GREENBERGFARROW (MEP)	1430 W. PEACHTREE ST., SUITE 200 ATLANTA, GA 30309	(404) 601-3938
GREENBERGFARROW (CIVIL)	153 CORDAVILLE ROAD SOUTHBOURGH, MA 01772	(732) 537-0811
STEPHEN POWERS, PE		(617) 788-9200
GREENBERGFARROW (STRUCTURAL)	1000 BURR RIDGE PARKWAY, SUITE 201 BURR RIDGE, ILLINOIS 60527	(847) 606-6027
GREENBERGFARROW (ELECTRICAL)	1430 W. PEACHTREE ST., SUITE 200 ATLANTA, GA 30309	(404) 601-4000

DRAWING INDEX

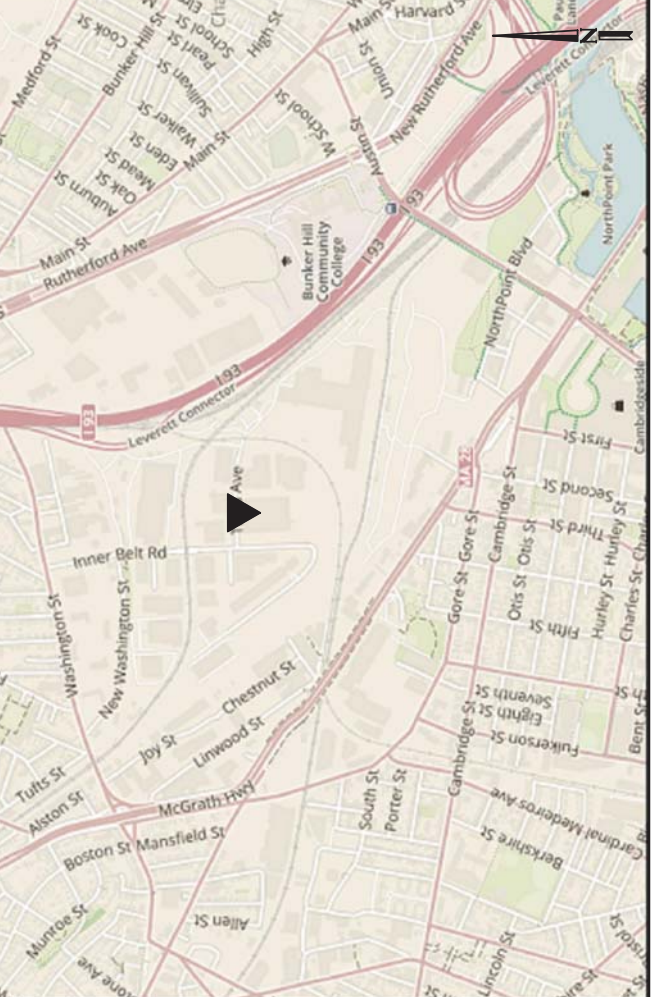
SHEET #	DWG #	SHEET TITLE	LATEST REVISION
01	GO.1	COVER SHEET	
02	GO.2	GENERAL CONSTRUCTION NOTES	
03	G1.1	OVERALL SITE PLAN	
04	G1.2	TOPOGRAPHIC SURVEY	
05	G1.3	ELEVATION	
06	D1.1	DEMOLITION PLAN	
07	C1.1	DETAILED SITE PLAN-1	
08	C1.2	DETAILED SITE PLAN-2	
09	C1.3	GRADING PLAN	
10	C2.1	DETAILS SHEET 1	
11	C2.2	DETAILS SHEET 2	
12	C2.3	DETAILS SHEET 3	
13	S0.1	STRUCTURAL GENERAL NOTES	
14	S1.1	EQUIPMENT PAD DETAILS (CAST IN PLACE)	
15	E0.1	ELECTRICAL SPECIFICATIONS	
16	EX.1A	ELECTRICAL SINGLE LINE DIAGRAM	
17	EX.1B	ELECTRICAL THREE LINE DIAGRAM	
18	M0.1	MECHANICAL SPECIFICATIONS	
19	M1.1	PLACARD PLAN	
20	RO.1	BLOOM PRODUCT DATA SHEET	

PERMITTING INFORMATION

MUNICIPAL	CONTACT INFO
AGENCY PLANNING	(617) 625-6600
BUILDING	(617) 625-6600
FIRE	(617) 623-1700
UTILITY	
TYPE	
NATURAL GAS	(800) 233-5325
ELECTRICAL	(781) 441-3409
WATER	(617) 666-3311

**BASED ON ALTA SURVEY DATED JANUARY 2007
**BASED ON 2010 SITE SPECIAL PERMIT DRAWING FOR CO-LOCATION FACILITY OR #9 AND ELECTRICAL ROOM PREPARED BY HIGHPOINT ENGINEERING, INC. DATED 2/11/2016, WHICH INCLUDES PARKING FOR #100 INNERBELT ROAD.
***PER SOMERVILLE BOARD APPEALS DECISION ON SEPTEMBER 17, 2008.
PLEASE NOTE: EXPANSION OF CO-LOCATION REDUCED PARKING REQUIREMENT PER ARTICLE 9, SECTION 9.5.16 OF THE SOMERVILLE ZONING ORDINANCE. THE NUMBER OF ANTICIPATED FULL-TIME EMPLOYEES IS LESS THAN 50 AT ANY TIME. IN ADDITION, THE FIRST FLOOR MEZZANINE WILL BE AN OFFICE AREA TO SUPPORT THE CO-LOCATION USE AND PER ARTICLE 9, SECTION 9.5.17.a, 22 PARKING SPACES ARE REQUIRED FOR THIS AREA, THEREFORE, PARKING IS NOT REQUIRED FOR 52.52 REDUCES.

VICINITY MAP (NTS)



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 STEPHEN POWERS, P.E.
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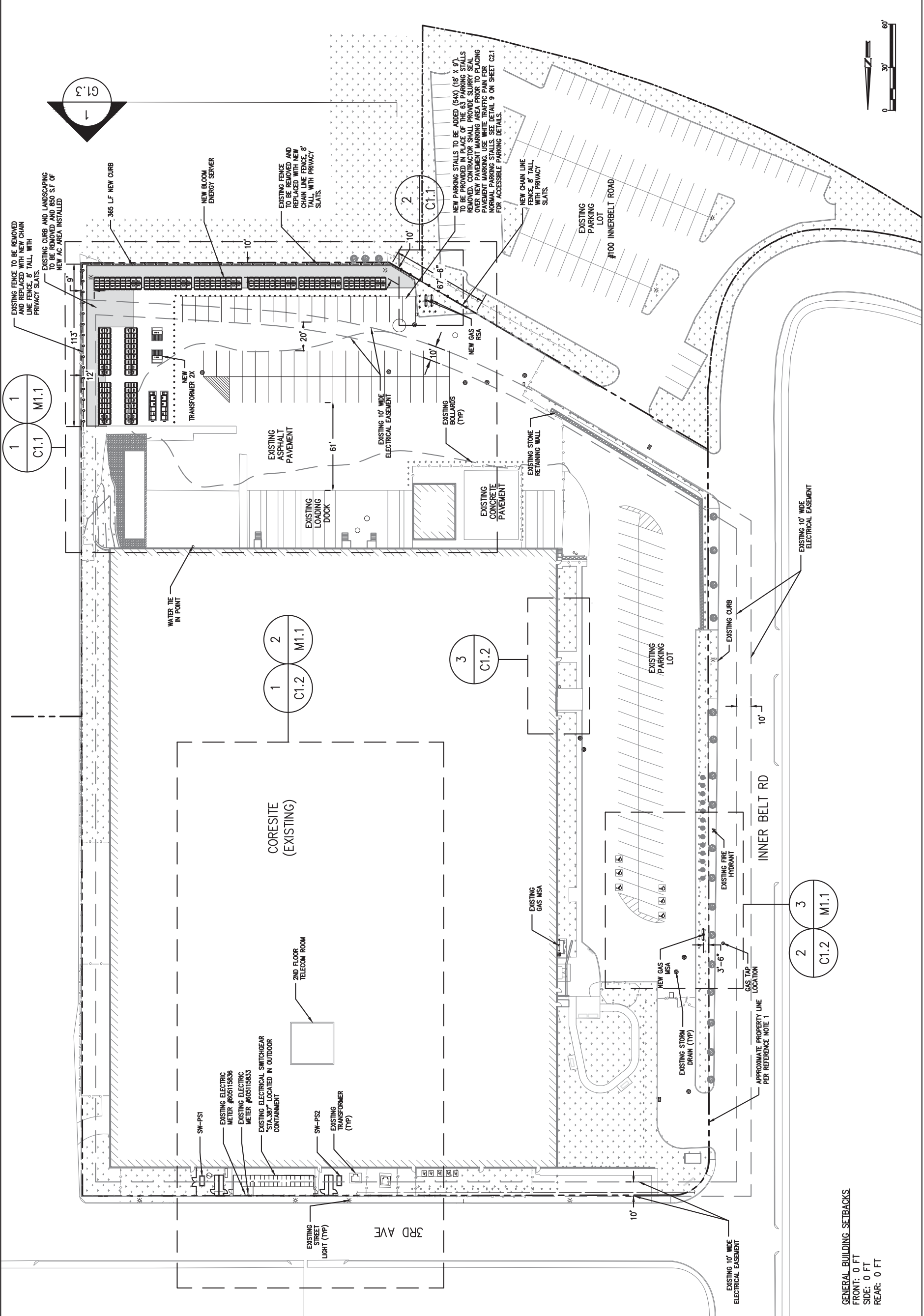
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SHEET TITLE
OVERALL SITE PLAN

DRAWING NUMBER
G1.1

BLOOM DOCUMENT
DOC-1010112

THIS DRAWING IS 24" X 36" AT FULL SIZE
 SITE ID: CS1000.A SHEET **03** OF 20



REFERENCE NOTE:
 1. THIS SITE PLAN IS BASED ON ALTA/ACSM LAND TITLE SURVEY BY GUNTHER ENGINEERING DATED JAN, 2007, SITE IMPROVEMENT PLAN FOR NEW ENTRY ELEMENT BY HIGHPOINT ENGINEERING, INC., DATED JULY 7, 2010, SPECIAL PERMIT DRAWING FOR CO-LOCATION FACILITY CR #9 AND ELECTRICAL ROOM PREPARED BY HIGHPOINT ENGINEERING, INC. DATED 2/11/2016 AND LOCALIZED TOPOGRAPHIC SURVEY BY CONTROL POINT ASSOCIATES, INC. DATED JAN 26, 2018.

GENERAL BUILDING SETBACKS
 FRONT: 0 FT
 SIDE: 0 FT
 REAR: 0 FT

OVERALL SITE PLAN
 SCALE: 1" = 30'

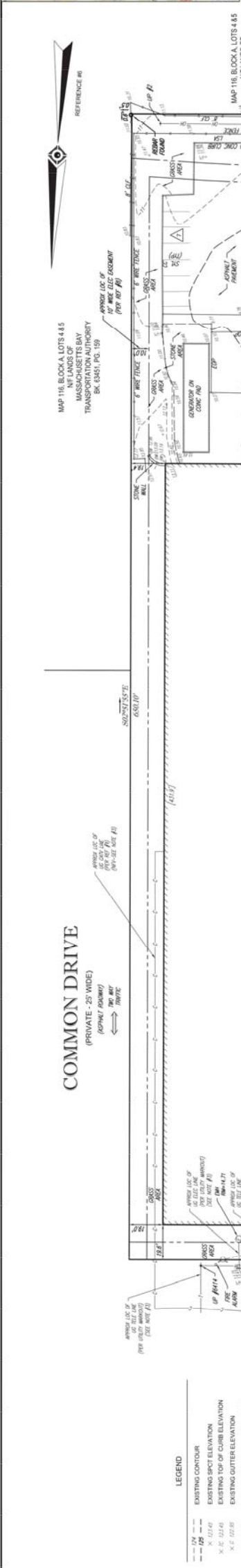
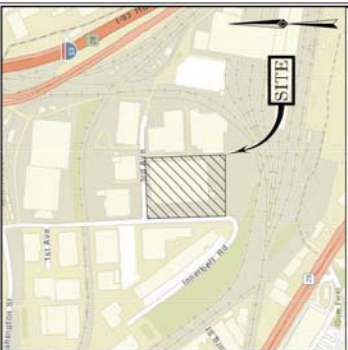
1
 C1.1



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APPROVED BY	DATE

SHEET TITLE	TOPOGRAPHIC SURVEY
DRAWING NUMBER	G1.2
BLOOM DOCUMENT	DOC-1010112
THIS DRAWING IS 24" x 36" AT FULL SIZE	SHEET 04 OF 20



LEGEND

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING TOP OF CURB ELEVATION
- EXISTING GUTTER ELEVATION
- EXISTING TOP OF WALL ELEVATION
- EXISTING BOTTOM OF WALL ELEVATION
- WATER VALVE
- GAS VALVE
- GAS METER
- OVERHEAD WIRES
- APPROX. LOC. UNDERGROUND GAS LINE
- APPROX. LOC. UNDERGROUND ELECTRIC LINE
- APPROX. LOC. UNDERGROUND CABLE LINE
- APPROX. LOC. UNDERGROUND TELEPHONE LINE
- APPROX. LOC. UNDERGROUND WATER LINE
- APPROX. LOC. UNDERGROUND DRAINAGE LINE
- PER RECORD INFORMATION - NOT FIELD VERIFIED
- PER RECORD INFORMATION - NOT FIELD VERIFIED
- UTILITY POLE
- STREET LIGHT
- MONITORING WELL
- SKIN
- BOLLARD
- PAINTED ARROWS
- DRAINAGE/STORM MANHOLE
- ELECTRIC MANHOLE
- SANITARY/SEWER MANHOLE
- TELEPHONE MANHOLE
- UNKNOWN MANHOLE
- CATCH BASIN DR. INLET
- TREE & TRUNK SIZE
- PARKING SPACE COUNT
- DEPRESSED CURB
- CHAIN LINK FENCE
- DEPRESSED CURB
- EDGE OF CONCRETE
- EDGE OF PAVEMENT
- LANDSCAPED AREA
- RAIL ROAD TIE
- TYPICAL
- DETECTABLE WARNING PAD
- SOLID YELLOW LINE
- INVERT ELEVATION
- CONCRETE CURB

- NOTES:**
- PROPERTY LOTS AS SHOWN ON MAP AS SHOWN ON THE CITY OF SOMERVILLE, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS MAP NO. 11A.
 - AREA = 184,142 SQUARE FEET OR 4.21 ACRES
 - LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARK-OUTS NOT ENSURE THE LOCATION, SIZE AND TYPE OF UTILITIES. BEFORE ANY CONSTRUCTION, LOCATION, SIZE AND TYPE BY THE PROPERTY COMPANIES, CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
 - THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED BY THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON. TO THE RESTRICTIONS, COVENANTS AND EASEMENTS THAT MAY BE CONTAINED THEREIN.
 - ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NATIONAL BASED ON SPOT OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK NETWORKS. TEMPORARY BENCH MARKS SET:
 - TRM-A: MAG NAIL SET IN ASPHALT PAVEMENT - ELEVATION = 13.99'
 - TRM-B: MAG NAIL SET IN ASPHALT PAVEMENT - ELEVATION = 9.99'

PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SHEET HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY DISCREPANCIES MUST BE REPORTED PRIOR TO CONSTRUCTION.

THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.

PARKING COUNT:
 REGULAR = 48 SPACES
 TOTAL = 48 SPACES

- REFERENCES:**
- THE TAX ASSESSORS MAP OF SOMERVILLE MIDDLESEX COUNTY, MASSACHUSETTS, SHEET #11A.
 - MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM FIRM FLOOD INSURANCE RATE MAP - MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS), PANEL 48 OF 64", MAP NUMBER 250701080E, EFFECTIVE DATE: JUNE 2, 2010.
 - MAP ENTITLED "MAINTENANCE AND STORAGE FACILITY AND ADJUTANT PLAN - CITY OF SOMERVILLE, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS), MAP NO. 101120000, AUTHORITY, DATED DECEMBER 3, 2013, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS AS PLAN NO. 271 OF 2014.
 - MAP ENTITLED "LAND IN SOMERVILLE, MASS. PREPARED FOR BOSTON AND WARE CORP.", MAP NO. 1487 OF 1983.
 - MAP ENTITLED "LAND IN SOMERVILLE, MASS. ROBERT W. MELVILLE ET AL, TRUSTEE OF THE PROPERTY OF THE BOSTON & WARE CORPORATION TO THE CITY OF SOMERVILLE", DATED 1986, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS AS PLAN NO. 1487 OF 1983.
 - MAP ENTITLED "SUBDIVISION PLAN OF LAND IN SOMERVILLE, MASS. (MIDDLESEX COUNTY)", PREPARED BY BOSTON SURVEY CONSULTANTS, DATED AUGUST 30, 1979, REVISED JUNE 12, 1980, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS AS PLAN 174 OF 1980.
 - MAP ENTITLED "SUBDIVISION PLAN OF LAND IN SOMERVILLE, MASSACHUSETTS, MIDDLESEX COUNTY, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS AS PLAN NO. 271 OF 2014.
 - PLAN SET ENTITLED "CORE SITE IN INNER BELT ROAD SOMERVILLE, MASSACHUSETTS, DRAINAGE IMPROVEMENTS", 4 SHEETS, PREPARED BY HIGHPOINT ENGINEERING, INC., DATED JULY 15, 2011, PROVIDED BY THE CITY OF SOMERVILLE ENGINEERING DEPARTMENT.
 - UNDERGROUND CABLE FACILITY MAPPING PROVIDED BY LEVEL 3 COMMUNICATIONS.

NO.	DESCRIPTION	S.B.M.	D.I.M.	J.M.A.	S.W.A.B.
1	UPDATED PER ADDITIONAL TOPOGRAPHY				
2	FIELD CHECK				
3	APPROVED				

BOUNDARY & TOPOGRAPHIC SURVEY
BLOOMENERGY
 70 INNER BELT ROAD
 LOT 2, BLOCK A, MAP 116
 CITY OF SOMERVILLE, MIDDLESEX COUNTY
 COMMONWEALTH OF MASSACHUSETTS

FIELD DATE	SCALE	DATE	REVISED
1-17-18	1"=25'-18"	1-25-18	
17-18 MA	1"=25'-18"	1-25-18	
FIELD BOOK NO.			
46			
FIELD SHEET			
A.S.P.			
R.J.K.			

THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN ACCORDING TO STANDARDS, WITH CURRENTLY ADOPTED SURVEYING PRACTICES.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

GERRY L. HOLDRIGHT, PLS
 MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #42811

UTILITY COMPANY	PHONE NUMBER
AT&T TRANSMISSION	800-331-0000
NORFOLK	800-331-0000
NORFOLK GAS	800-331-0000
COMCAST	800-331-0000
CROWN CASTLE NETWORKS	877-488-8077
VERIZON	800-331-0000
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	800-331-0000
EVERSOURCE - ELECTRIC	811-444-4444
EVERSOURCE - ELECTRIC	800-556-2000
EVERSOURCE - ELECTRIC	800-556-2000
EVERSOURCE - ELECTRIC	800-556-2000
EVERSOURCE - ELECTRIC	800-556-2000
EVERSOURCE - ELECTRIC	800-556-2000
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EVERSOURCE - ELECTRIC	800-556-2000
EVERSOURCE - ELECTRIC	800-556-2000



UTILITIES:
 THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM AND SERVICED THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THE REQUEST.

MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #42811

THIS DOCUMENT IS THE PROPERTY OF CONTROL POINT ASSOCIATES, INC. AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF CONTROL POINT ASSOCIATES, INC. ALL RIGHTS RESERVED.

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 LICENSE # 45896



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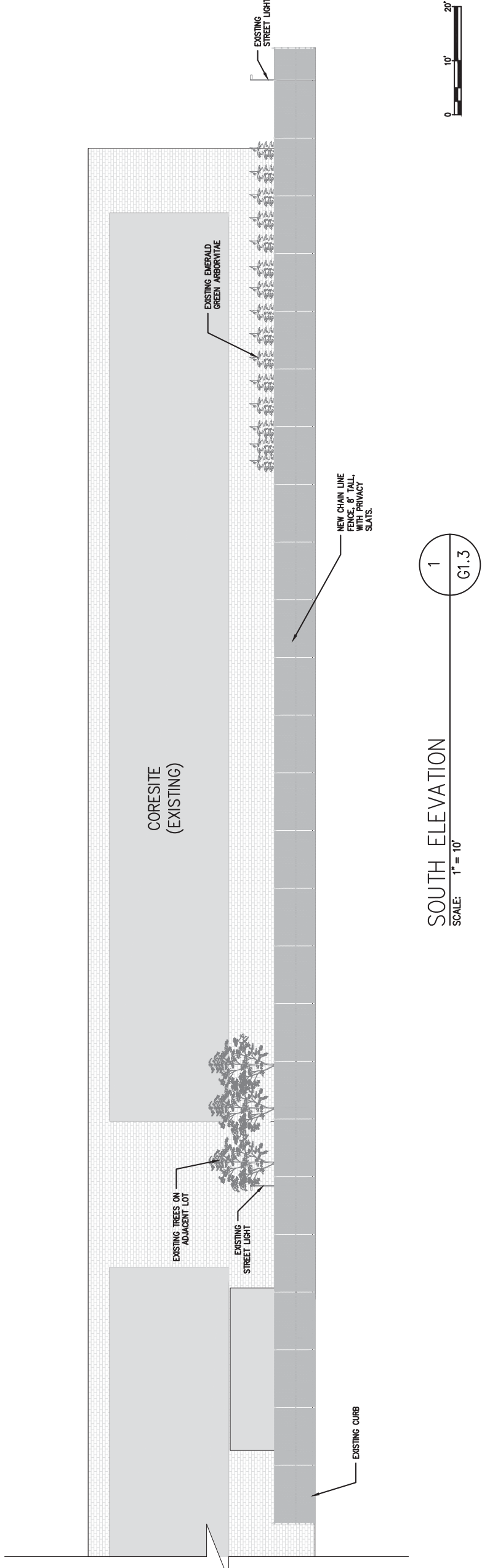
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REVISION HISTORY	
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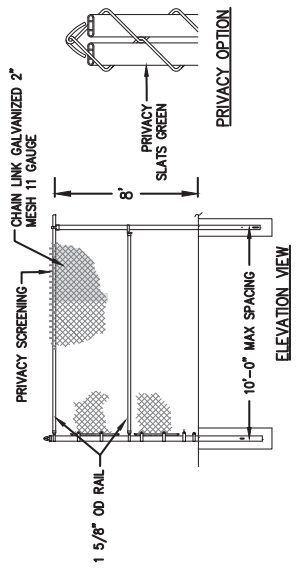
SHEET TITLE	ELEVATION
DRAWING NUMBER	G1.3
BLOOM DOCUMENT	DOC-1010112
THIS DRAWING IS 24" X 36" AT FULL SIZE	
SITE ID: CST000.A SHEET 05 OF 20	



SOUTH ELEVATION

SCALE: 1" = 10'

1
G1.3



DETAIL NOTES:
 1. FOOTING WIDTH TO BE (4)X POST WIDTH. MINIMUM DEPTH 36"

2
G1.3

CHAIN LINK FENCE

SCALE: NTS



5/24/2018

CUSTOMER SITE
 CORESITE
 70 INNER BELT RD
 SOMERVILLE, MA 02143



REV	REVISION ISSUE	DATE
0	RELEASED PER 0N-XXXX	

DESIGNED BY	CARSON TURNER	DATE	12/22/2017
DRAWN BY	ASHA GB	DATE	02/13/2018
REVIEWED BY		DATE	
APPROVED BY		DATE	

SHEET TITLE	DETAILED SITE PLAN-1
DRAWING NUMBER	C1.1
BLOOM DOCUMENT	DOC-1010112
THIS DRAWING IS 24" X 36" AT FULL SIZE	
SITE ID: CST000.A	SHEET 06 OF 20

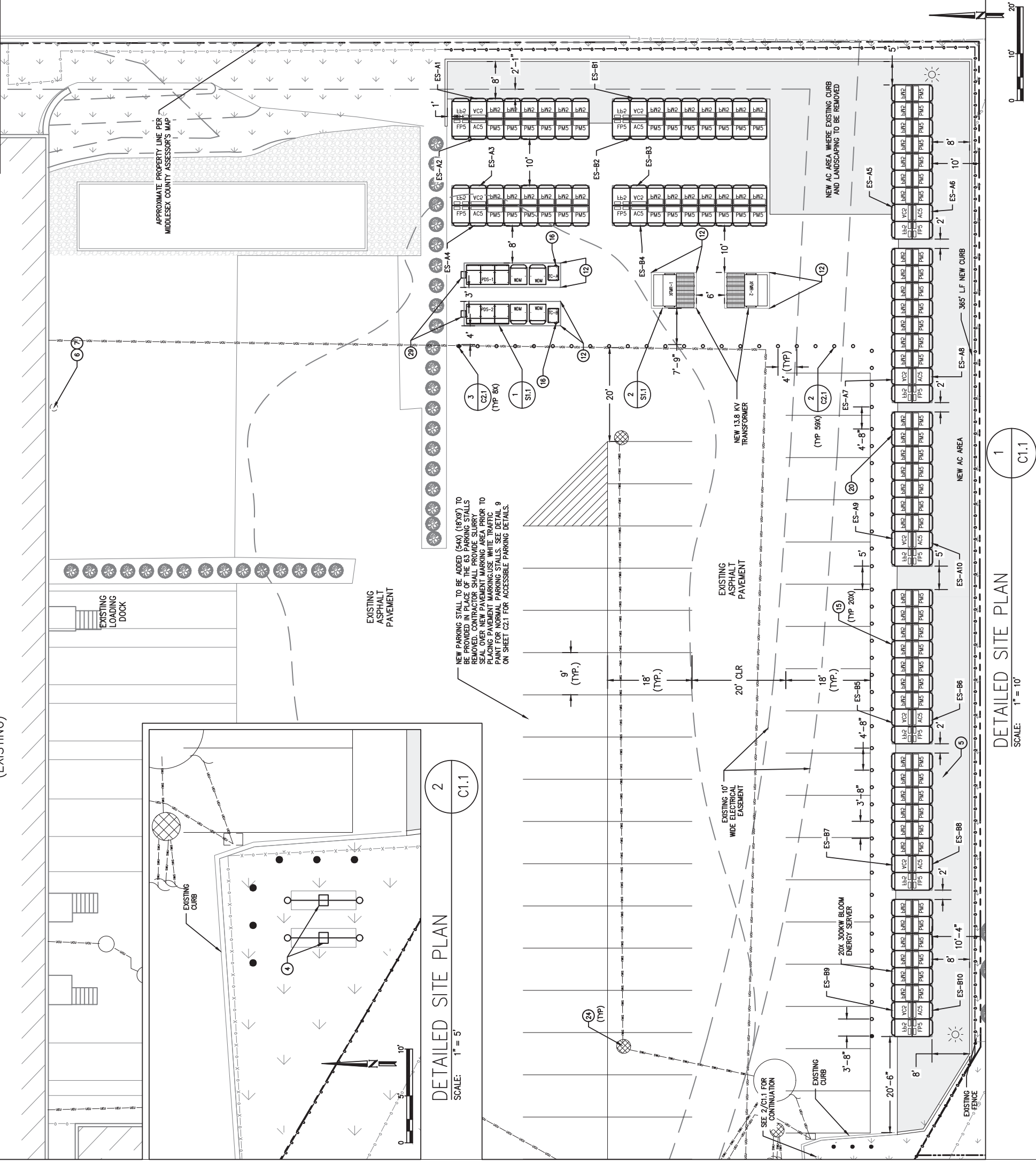
GENERAL NOTES

- CLEAN AND PRIME ALL NEW WALL MOUNTED PIPING AND CONDUIT. PIPING AND CONDUIT SHALL BE PAINTED WITH EXTERIOR GRADE PAINT TO MATCH EXISTING.
- CONDUITS AND PIPES MOUNTED TO BUILDING WALL SHALL BE SUPPORTED AS PER LOCAL CODE. RUN AT HEIGHT ABOVE DOORWAYS, AND STAND OFF WALL TO AVOID EXISTING CONDUITS AND PIPES.
- SLOPE LINES SHOWN ARE APPROXIMATE AND INTENDED TO SHOW THE GENERAL DIRECTION OF WATER RUN OFF. SLOPE LINES ARE DRAWN PER VISUAL SURVEY OF SURROUNDING AREA.
- SEE BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR UTILITY CONNECTIONS TO ANCILLARY EQUIPMENT AND ENERGY SERVER.
- ALL PULL BOXES REQUIRED ARE NOT SHOWN. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOX FOR CONDUIT RUN WITH MORE THAN 360-DEG BENDS. CONTRACTOR SHALL SIZE PULL BOX IN COMPLIANCE WITH NEC REQUIREMENTS.

REFERENCE SHEET NOTES

- NEW UTILITY PROVIDED AND INSTALLED GAS METER & REGULATOR ASSEMBLY WITH SHUT-OFF VALVE. CONTRACTOR SHALL PROVIDE PAD PER DETAILS IF REQUIRED BY UTILITY COMPANY. COORDINATE ALL CONNECTIONS WITH GAS UTILITY.
- NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY. COORDINATE WITH UTILITY COMPANY FOR TAP LOCATION AND PERFORM ALL NECESSARY SURFACE AND GRADE. CONTRACTOR SHALL COORDINATE GAS PIPE SIZING AND INSTALLATION REQUIREMENTS WITH UTILITY.
- NEW PRIVATE GAS REGULATOR SET ASSEMBLY FOR ENERGY SERVER WITH SHUT-OFF VALVE. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- TAP EXISTING WATER LINE AT NEAREST ACCESSIBLE LOCATION IN BUILDING AS SHOWN. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW BLOOM PROVIDED. CONTRACTOR INSTALLED, DISCONNECT SWITCH. MOUNT TO WALL PER MANUFACTURER AND UTILITY SPECIFICATIONS.
- CONTRACTOR SHALL TERMINATE ELECTRIC FEEDER AS SHOWN. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE TWO GROUNDING RODS TO BE PLACED 6' APART REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW ELECTRICAL FEEDER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS. NO SPlicing OF FEEDERS ALLOWED.
- MOUNT NEW CONDUIT/PIPE TO EXTERIOR WALL. COORDINATE EXACT ROUTING WITH CUSTOMER REPRESENTATIVE IN THE FIELD. REFER TO WALL MOUNTING DETAIL FOR ADDITIONAL REQUIREMENTS.
- NEW BLOOM ENERGY SERVER. REFER TO BLOOM STANDARD INSTALLATION DRAWING SET FOR ADDITIONAL ENERGY SERVER DETAILS.
- FACTORY WIRE ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO).
- CONTRACTOR SHALL CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING TO AVOID COLLATERAL DAMAGE TO EXISTING PLUMBING AND WIRING. REFER TO WALL PENETRATION DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE SANCUIT AS NEEDED AND PERFORM TRENCH FOR UNDERGROUND UTILITIES. HAND DIG TRENCHES WHERE THEY CROSS EXISTING UTILITIES. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL ALLOW FOR TRENCH WORK AND EXCAVATION UNDER ENERGY SERVER AND ANCILLARY PAD LOCATIONS. REFER TO PAD DETAIL FOR ADDITIONAL EXCAVATION AND BACKFILL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE NEW CONDUIT AND CABLE FROM NEW UTILITY GAS MSA TO CUSTOMER MPOE FOR UTILITY BILLING. REFER TO BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR CONNECTION REQUIREMENTS.
- CONTRACTOR SHALL TRANSITION ALL ABOVEGROUND NEW LINES TO UNDERGROUND TOWARD ANCILLARY EQUIPMENT. ABOVE GROUND UTILITIES SHALL BE PROTECTED AS NECESSARY. THEN ROUTED UNDERGROUND TO EQUIPMENT STUB-UP LOCATIONS PER MECHANICAL DETAIL.
- PROVIDE "TRANDY SLACK" OR EQUAL WITH OUTLOW PORTS AT STORM DRAIN INLET. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL TRIM EXISTING TREES FOR 10'-0" CLEARANCE TO ENERGY SERVER TOP VENTS AND 6'-0" CLEARANCE TO ALL OTHER SURFACES OF ENERGY SERVER.
- CONTRACTOR SHALL UNDER-CUT EXISTING CURB FOR TRENCHING UTILITY LINES AND BACKFILL WITH CONCRETE SLURRY. IF CURB IS DAMAGED, REPAIR TO MATCH EXISTING.
- CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE SIDEWALK TO THE NEAREST JOINT AS REQUIRED TO COMPLETE THE WORK. REFER TO CONCRETE SIDEWALK DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR TO INSTALL BLOOM PROVIDED INCENTIVE METER. COMMUNICATIONS ENCLOSURE MOUNT TO SIDES OF PDS CABINET USING UL CERTIFIED TYPE 3R/4 RATED HARDWARE AND GASKETS TO MAINTAIN MSA TYPE 3R RATING. ROUTE CONDUIT FROM PDS TO TC AND NEW GAS MSA. REFER TO COMMUNICATION RISER DIAGRAM AND SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION. MAINTAIN 3" MIN CLEARANCE IN FRONT OF THE ENCLOSURE.
- PROPOSED LOCATION FOR EXISTING FENCE TO BE RELOCATED. COORDINATE LOCATION OF FENCE WITH EXISTING TELECOM MANHOLE AND EXISTING HARDWARE.
- NEW BLOOM PROVIDED. MANUFACTURER INSTALLED OUTDOOR WALK-IN SWITCHGEAR.
- CONTRACTOR SHALL RELOCATE GATE TO NEW DRIVE AISLE. ADJUST EXISTING FENCE AS NEEDED FOR NEW GATE LOCATION.
- CONTRACTOR SHALL CONFIRM SEWER FORCE MAIN LINE HAS BEEN HANDICAPPED. SEWER FORCE MAIN LINE IS IN LINE. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING 12" DIA. DUCTILE IRON PIPE WITH A MINIMUM 4' BEYOND PADS.
- CONTRACTOR SHALL DEMOLISH EXISTING CONCRETE PAD AND CONDUIT STUB UP. CAP HORIZONTAL SECTION. REBANDONED CONDUIT BELOW GRADE TO PREVENT EGRESS OF WATER OR DEBRIS.

ANCILLARY EQUIPMENT NOTES:
 PDS-1 SERVES ES-A1 THRU ES-A10
 PDS-2 SERVES ES-B1 THRU ES-B10



DETAILED SITE PLAN
 SCALE: 1" = 5'

DETAILED SITE PLAN
 SCALE: 1" = 10'

1
 C1.1