BHA No: 1675-02 GENERATOR REPLACEMENT AT 14 EAST BROOKLINE STREET 2-06 RUTH BARKLEY DEVELOPMENT BOSTON, MA for

Boston Housing Authority
52 Chauncy Street, Boston, MA 02111

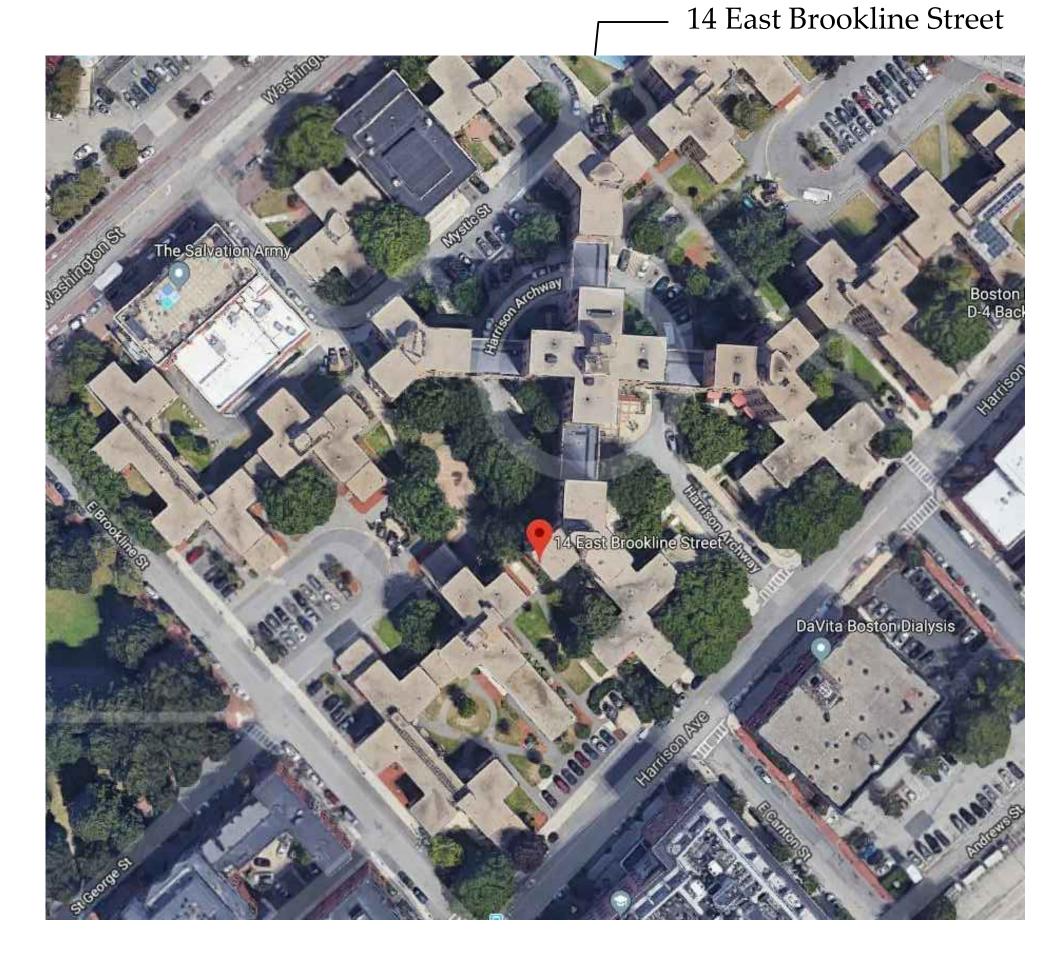
DRAWING LIST

Γ0.1: TITLE SHEET

0.1: ELECTRICAL SYMBOL LIST

E0.2: ELECTRICAL SITE PLAN AND DETAILS
E1.0: ELECTRICAL DETAILS AND SCHEDULES

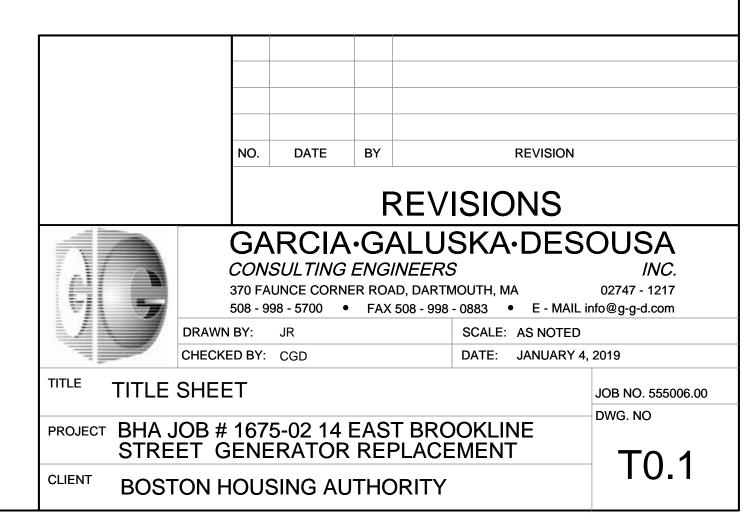
M1.0: GENERATOR ENGINE EXHAUST & VIBRATION & SEISMIC







Date: January 4, 2019



SYMBOL LIST

LEGEND NOTES:

A. THIS SHEET IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT. ALL EQUIPMENT IS TO BE PROVIDED UNDER THIS SECTION UNLESS SPECIFICALLY INDICATED OTHERWISE.

WIRE AND RACEWAYS

WIRING AND RACEWAY - NO. OF DIAGONAL LINES INDICATES NO. #12 AWG CONDUCTORS. ABSENCE OF DIAGONAL LINES INDICATES 2 #12 AWG+#12AWG GROUND UNLESS NOTED OTHERWISE. GROUND WIRE IS NOT SHOWN IN COUNT BUT SHALL BE PROVIDED. HOMERUN TO PANEL - NO. OF ARROWS INDICATES NO. OF 20 AMP/1 POLE CIRCUITS TO PANEL - UNLESS NOTED OTHERWISE.

4" CONDUIT SLEEVE THRU-WAY, ACROSS CORRIDOR OR BETWEEN ROOMS FOR TEL/DATA - LOCATE ABOVE CEILING. CONDUIT SLEEVE EXTENDED TO NEAREST ACCESSIBLE CEILING-TERMINATE WITH INSULATED BUSHING.

BUSDUCT - SIZE AS INDICATED ON PLANS

RELOCATED.

EXISTING EQUIPMENT

× × ×	DOTTED DENOTES EXISTING EQUIPMENT. EXISTING EQUIPMENT & ASSOCIATED RACEWAY TO BE REMOVED AND CIRCUIT PULLED BACK TO NEXT ACTIVE OUTLET/BACK TO PANEL.
XM	EXISTING EQUIPMENT TO REMAIN.
XR	EXISTING EQUIPMENT TO BE REMOVED AND

NEW LOCATION OF RELOCATED EXISTING EQUIPMENT. EXISTING EQUIPMENT TO BE REMOVED AND NEW

XN EQUIPMENT INSTALLED IN SAME LOCATION.

MISCELLANEOUS-DEVICES



120/208 VOLT, 3 PHASE, 4 WIRE PANELBOARD.

J JUNCTION BOX - SIZE AS REQUIRED.

FUSED DISCONNECT SWITCH HEAVY DUTY TYPE-"3R" INDICATES NEMA 3R 20 — INDICATES TIME DELAY FUSE SIZE. 30 - INDICATES SAFETY SWITCH SIZE

ONE LINE POWER

LOAD-BREAK SWITCH. CIRCUIT BREAKER.

CURRENT TRANSFORMER

POTENTIAL TRANSFORMER.

POWER TRANSFORMER.

SWITCH AND FUSE 400A "400A" - INDICATES AMPERE SWITCH SIZE. "300A" - INDICATES AMPERE FUSE SIZE. 300A

SYSTEM GROUND OR EQUIPMENT GROUND.

ABBREVIATIONS

		_	
	AMPERE	KCMIL	THOUSAND CIRCULAR MILS
	AMP, FRAME	KVA	KILO-VOLT AMPERE
F	ABOVE FINISHED FLOOR	KW	KILO-WATT
G	ABOVE FINISHED GRADE	LTG	LIGHTING
)	INTERRUPTING CAPACITY	MCB	MAIN CIRCUIT BREAKER
СН	ARCHITECT	MCC	MOTOR CONTROL CENTER
	AMP TRIP	MCM	THOUSAND CIRCULAR MILS
С	AUTO-TEMP CONTROL CONTRACTOR	MDP	MAIN DISTRIBUTION PANEL
S	AUTOMATIC TRANSFER SWITCH	MH	MOUNTING HEIGHT
/G	AMERICAN WIRE GAUGE	MLO	MAIN LUGS ONLY
	CONDUIT (GENERIC TERM FOR	MTD	MOUNTED
T\ /	RACEWAY. PROVIDE AS SPECIFIED)	MTG	MOUNTING
TV	CABLE TELEVISION	NIC	NOT IN CONTRACT
T	CIRCUIT BREAKER CIRCUIT	NO,#	NUMBER
G	CEILING	NTS	NOT TO SCALE
_ 	COPPER	Р	POLE(S)
	CENTERLINE	РВ	PULL BOX
ı	DEEP	PH,Ø	PHASE
/G	DRAWING	PVC	POLY-VINYL CHLORIDE CONDUIT
	ELECTRICAL CONTRACTOR	PWR	POWER
IT	ELECTRIC METALLIC TUBING	RGS	RIGID GALVANIZED STEEL CONDUIT
	FIRE ALARM	SN	SOLID NEUTRAL
l	FURNISHED AND INSTALLED	SWBD	SWITCHBOARD
GND	GROUND	T/D	TELEPHONE/DATA
;	GENERAL CONDITIONS	TYP	TYPICAL
1	GROUND FAULT INTERRUPTER	UNO	UNLESS NOTED OTHERWISE
AC	HEATING, VENTILATING, AND	WG	WIRE GUARD
	AIR CONDITIONING CONTRACTOR	WP	WEATHERPROOF
ı	HORSEPOWER	XFMR	TRANSFORMER
3	INTERMEDIATE METALLIC CONDUIT	@72"	MOUNT 72 INCHES TO CENTERLINE ABOVE FINISHED FLOOR OR GRADE
	INFORMATION TECHNOLOGY CONTRACTOR		ABOVE FINISHED FLOOR OR GRADE
	JUNCTION BOX		

GENERAL DEMOLITION NOTES:

- 1. REFER TO DEMOLITION SECTION OF SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 2. WHERE DOWNSTREAM DEVICES ARE AFFECTED BY THE DEMOLITION WORK THIS CONTRACTOR SHALL PROVIDE NEW SERVICES AS REQUIRED TO MAINTAIN SUCH DOWNSTREAM DEVICES.
- 3. ALL DEVICES AND/OR EQUIPMENT REMOVED BY THIS CONTRACTOR SHALL BE INSPECTED BY THE OWNER FOR DETERMINATION OF DISPOSAL OR STORAGE AS DIRECTED BY THE OWNER.
- 4. IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL EQUIPMENT TO BE DISCONNECTED AND/OR REMOVED. IT SHALL BE THE RESPONS-IBILITY OF THIS CONTRACTOR TO VISIT THE SITE PRIOR TO SUBMITTING HIS/HER BID TO DETERMINE THE EXACT QUANTITY AND TYPES OF EQUIPMENT TO BE REMOVED.
- 5. PARTICULAR CARE SHALL BE TAKEN TO AVOID CREATING HAZARDS ON THE PROJECT OR CAUSING DISRUPTION OF SERVICES REMAINING.
- 6. ALL EXISTING EQUIPMENT INDICATED TO BE REMOVED SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER. ALL EXISTING EQUIP- MENT INDICATED TO BE TURNED OVER TO THE OWNER SHALL BE PRESENTED TO THE OWNER IN GOOD CONDITION AT A LOCATION DESIGNED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE REMOVED FROM THE SITE.
- 7. REMOVE ALL ABANDONED CONDUCTORS AND EQUIPMENT NOT BUILT INTO THE BUILDING CONSTRUCTION, WHERE CEILING AND WALLS ARE REMOVED, ABANDONED WIRING SHALL BE REMOVED, AND ENDS OF LIVE SERVICES TO BE DISCONNECTED AND
- 8. ABANDONED ELEMENTS BUILT INTO WALLS SHALL BE MARKED "ABANDONED".
- 9. CONTRACTOR TO PROPERLY REMOVE AND DISPOSE OF ANY REMAINING DIESEL FUEL AND TANK.

BRANCH CIRCUIT NOTES:

CONDITIONS.

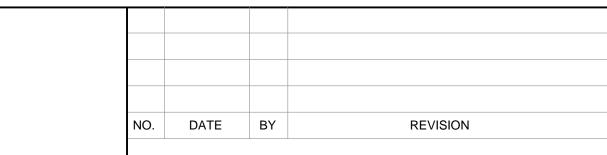
- 1. COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT W/ENGINEER PRIOR TO INSTALLATION.
- REFER TO MECHANICAL PLANS FOR ANY CHANGES AND FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
- 3. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL
- 4. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.
- 5. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
- 6. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98% CONDUCTIVITY, COPPER MINIMUM #12 AWG SIZE, THWN/THNN INSULATION, 600 VOLTS RATED UNLESS OTHERWISE NOTED.

GENERAL NOTES: (APPLIES TO ALL DRAWINGS)

- 1. ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH OSHA, NFPA STANDARDS, THE ELECTRICAL CODE AND THE LOCAL GOVERNING AUTHORITIES. THE DRAWINGS AND SPECIFICATIONS DO NOT ATTEMPT TO INDICATE ALL WORK REQUIRED BY CODES AND AUTHORITIES.
- TEST ALL EQUIPMENT AND SYSTEMS INSTALLED TO CERTIFY COMPLIANCE WITH DRAWINGS, SPECIFICATIONS, CODES, LOCAL AUTHORITIES AND REGULATIONS. INCLUDE LABOR AND COSTS FOR TESTING, REVIEWS, APPROVALS AND CERTIFICATIONS.
- 3. DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION, MOUNTING HEIGHTS OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED WITH THE EQUIPMENT REQUIREMENTS AND FIELD CONDITIONS.
- 4. FURNISH AND INSTALL ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE ELECTRICAL WORK COMPLETE AND READY FOR OPERATION.
- 5. SUPPORT ALL WORK FROM THE BUILDING STRUCTURE.
- 6. ALL MOUNTING HEIGHTS ARE TO CENTERLINE UNLESS OTHERWISE INDICATED.
- 7. IF EXACT MOUNTING OR RACEWAY ROUTINGS ARE NOT INDICATED (LOCATION OR HEIGHT) REQUEST CLARIFICATION PRIOR TO ROUGHING, OR INSTALLATION.
- 8. ELECTRICAL WORK SHALL BE RECESSED INTO WALLS OR INSTALLED ABOVE HUNG CEILINGS UNLESS OTHERWISE
- 9. DO NOT INSTALL OUTLETS BACK TO BACK. PROVIDE 24 INCH SPACING IN FIRE RATED WALLS.
- 10. PROVIDE ELECTRICAL OUTLET PLATE GASKET SEALS AT RECEPTACLES, SWITCHES AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.
- 11. INSTALL A GREEN GROUNDING CONDUCTOR WITHIN EACH RACEWAY SIZED IN ACCORDANCE WITH THE ELECTRIC CODE.
- 12. PROVIDE WATERTIGHT AND GAS TIGHT SEALS INSIDE AND OUTSIDE OF CONDUITS THAT PENETRATE THE BUILDING BELOW GRADE,
- O.Z. GEDNEY OR APPROVED EQUAL. PROVIDE WEATHER TIGHT SEAL AT PENETRATIONS ABOVE GRADE. 13. PROVIDE NRTL LISTED SMOKE AND FIRE SEALS AT ALL PENETRATIONS THROUGH FLOORS OR FULL HEIGHT (SLAB TO SLAB) WALLS.
- 14. PROVIDE A PULL LINE IN EVERY EMPTY CONDUIT PROVIDED UNDER THIS SECTION. 15. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING THE EXISTING TEMPORARY GENERATOR AND CONNECTING THE NEW GENERATOR. CONTRACTOR SHALL COORDINATE INSTALLATION OF THE NEW GENERATOR AND

DISCONNECTION OF EXISTING TEMPORARY GENERATOR TO MINIMIZE DOWNTIME. EMERGENCY POWER SHALL BE

16. CONTRACTOR SHALL CONFIRM ALL LOADS AND EQUIPMENT SERVED BY THIS GENERATOR. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED AND LABELED.





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> SCALE: AS NOTED DATE: JANUARY 4, 2019

ELECTRICAL SYMBOL LIST

CHECKED BY: CGD

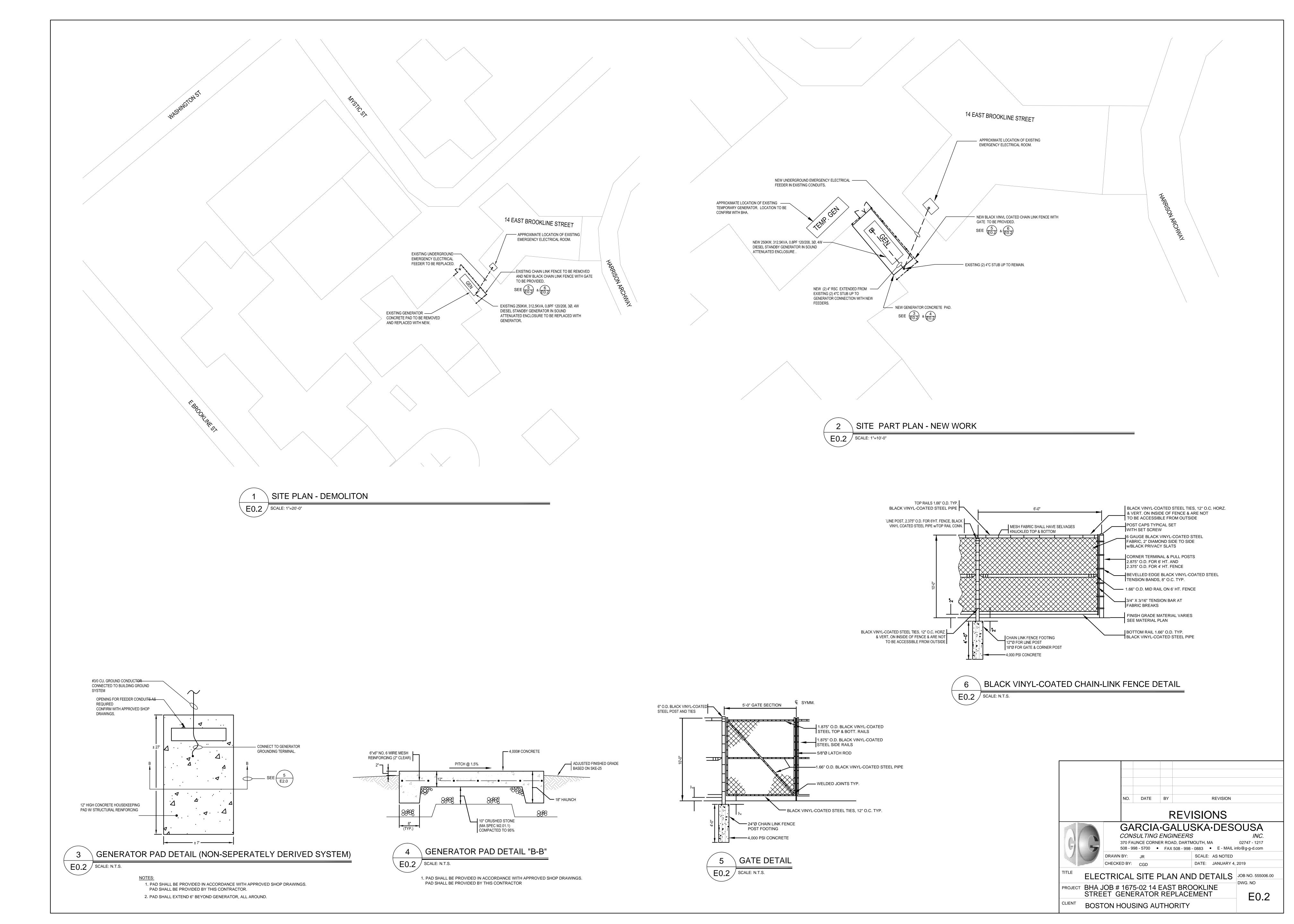
PROJECT BHA JOB # 1675-02 14 EAST BROOKLINE STREET GENERATOR REPLACEMENT

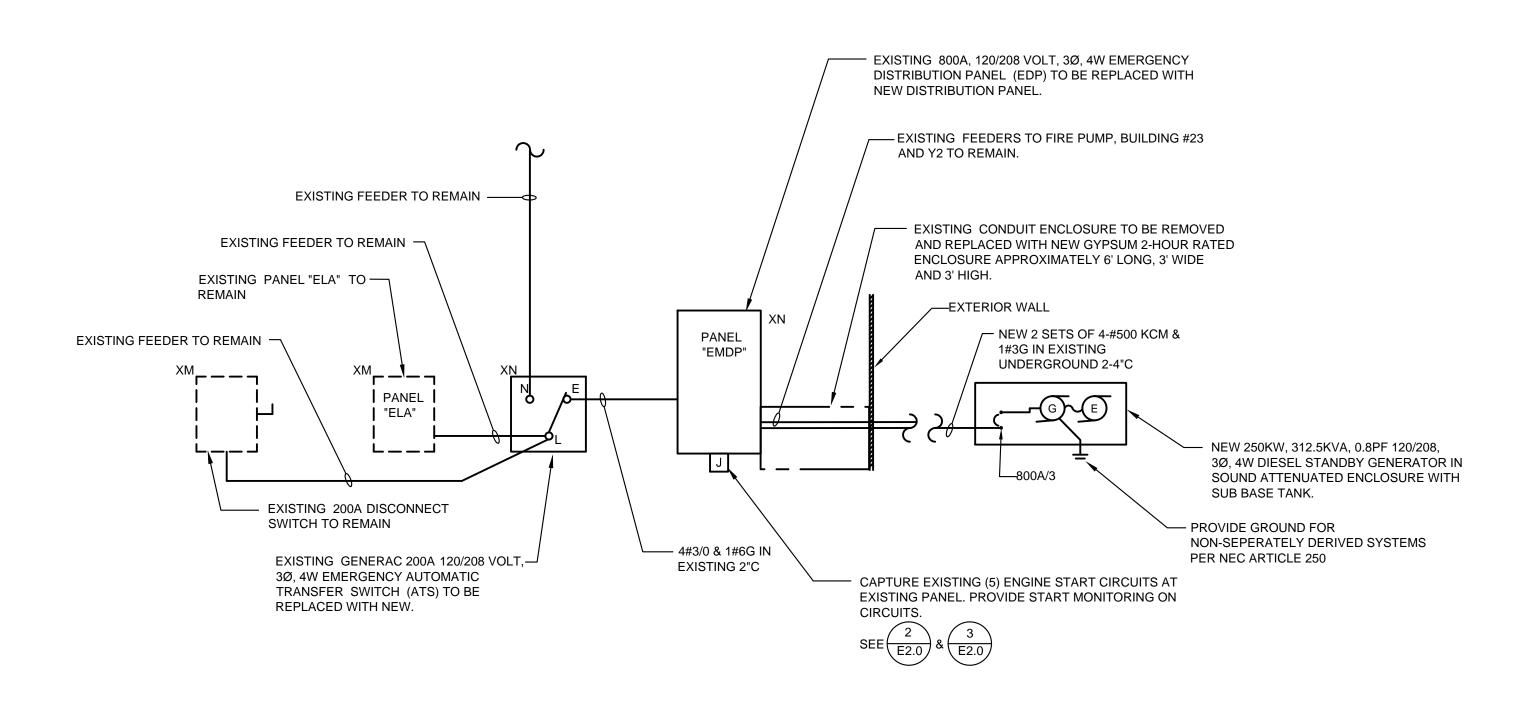
BOSTON HOUSING AUTHORITY

JOB NO. 555006.00

E0.1

DWG. NO



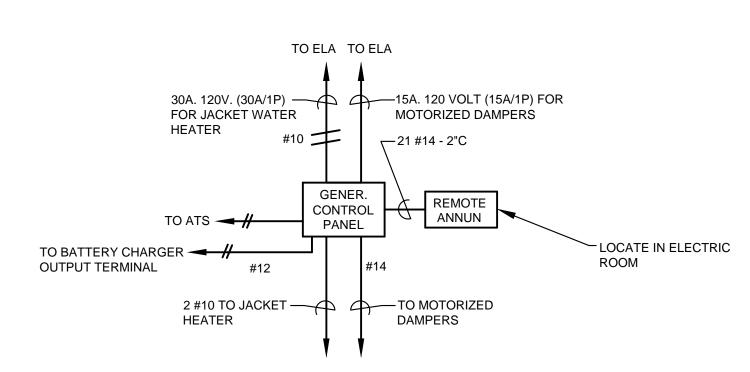




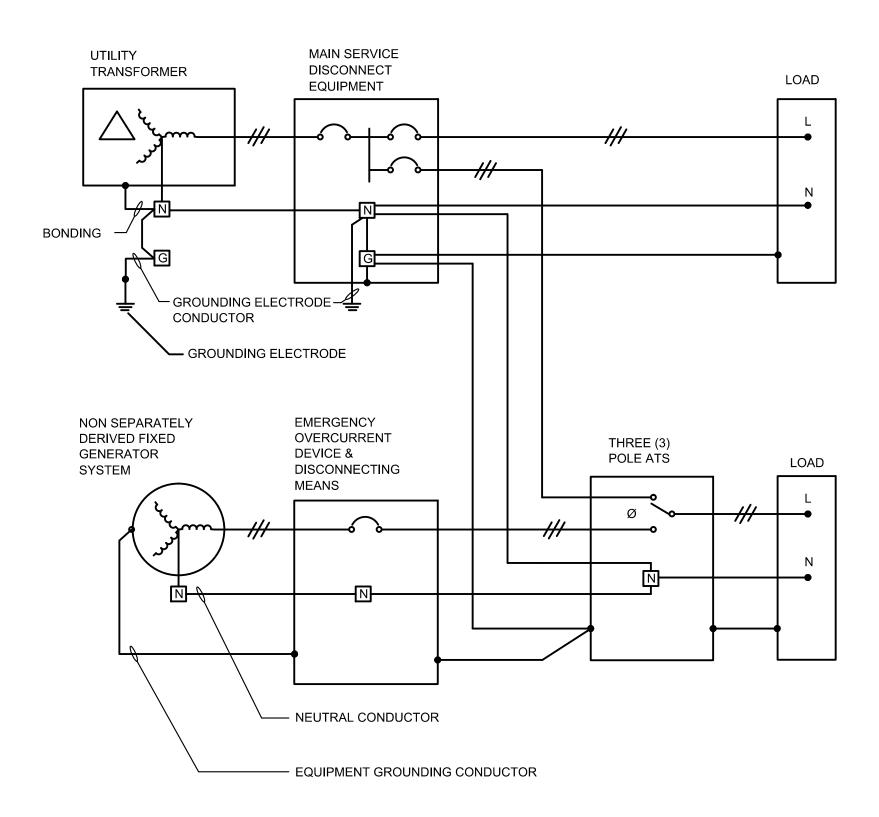
	120/208V,3Ø,4W, 42KAIC 800A BUS NEW "EMDP" SCHEDULE								
OVER CURRENT DEVICES			CIRCUIT	FEEDER SIZE	COND.	REMARKS			
N	10.	TRIP	FRAME	OIICOTT	I LLBER GIZE	SIZE	KLIVIAKKS		
	1								
D[2	225	225	UNKNOWN	EXISTING 4-4/0 & #4G	EXISTING	-		
D[3	225	225	UNKNOWN	EXISTING 4-4/0 & #4G	EXISTING	OFF		
D	4	225	225	BUILDING #23	EXISTING 4-4/0 & #4G	EXISTING	-		
DΓ	5	225	225	Y1/ELA PANEL IN ROOM	EXISTING 4-4/0 & #4G	EXISTING	-		
D	6	400	400	FIRE PUMP BUILDING #42	EXISTING 4-4/0 & #4G	EXISTING	-		
	7	-	225	SPACE PROVISION	-	-	-		
	8	-	100	SPACE PROVISION	-	-	-		
	9	-	225	SPACE PROVISION	-	-	-		
	10	-	100	SPACE PROVISION	-	-	-		
1	11	-	-	-	-	-	-		
1	12	-	-	-	-	-	-		

1 EXTEND ALL FEEDERS TO NEW DISTRIBUTION PANEL "EMDP" AS REQUIRED.

PROVIDE NEW FEEDER & CONDUIT.

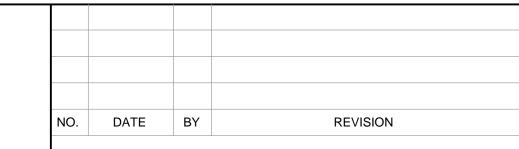








NOTE: PROVIDE START CIRCUIT MONITOR WITH REMOTE ALARM LOCATED IN EXISTING EMERGENCY ELECTRIC ROOM.



REVISIONS

JOB NO. 555006.00

E1.0

DWG. NO



CHECKED BY: CGD DATE: JANUARY 4, 2019

TITLE ELECTRICAL DETAILS AND SCHEDULES PROJECT BHA JOB # 1675-02 14 EAST BROOKLINE STREET GENERATOR REPLACEMENT

BOSTON HOUSING AUTHORITY

*NOTE: GENERATOR EXHAUST SHALL BE SCHED. 40 ANSI A-53 BLACK STEEL PIPING W/ BUTT WELDED ENDS. PROVIDE 2" SPACE BETWEEN ENGINE EXHAUST & BUILDING FACADE. CONNECT EXHAUST TO FLANGED GENERATOR EXH. CONNECTION. PROVIDE GENERATOR MUFFLER FLEXIBLE ADAPTERS SUITABLE BY G.C. FOR GENERATOR APPLICATIONS AT UNIT CONNECTION. — **EMERGENCY GENERATOR &** ENCLOSURE BY / G.C. _____

ELEVATION OF EMERGENCY GENERATOR DETAIL M1.0 SCALE: NONE

8" GENERATOR STACK. —— TERMINATE STACK AT 5'-0" ABOVE ROOF, & FINISH W/ 90° FLAPPER. 14 EAST BROOKLINE STREET

GENERATOR EXHAUST BREECHING SUPPORT DETAIL

LEGEND

M1.0 SCALE: NONE

SYMBOL

TYPICAL VELOCITY

MANUFACTURER

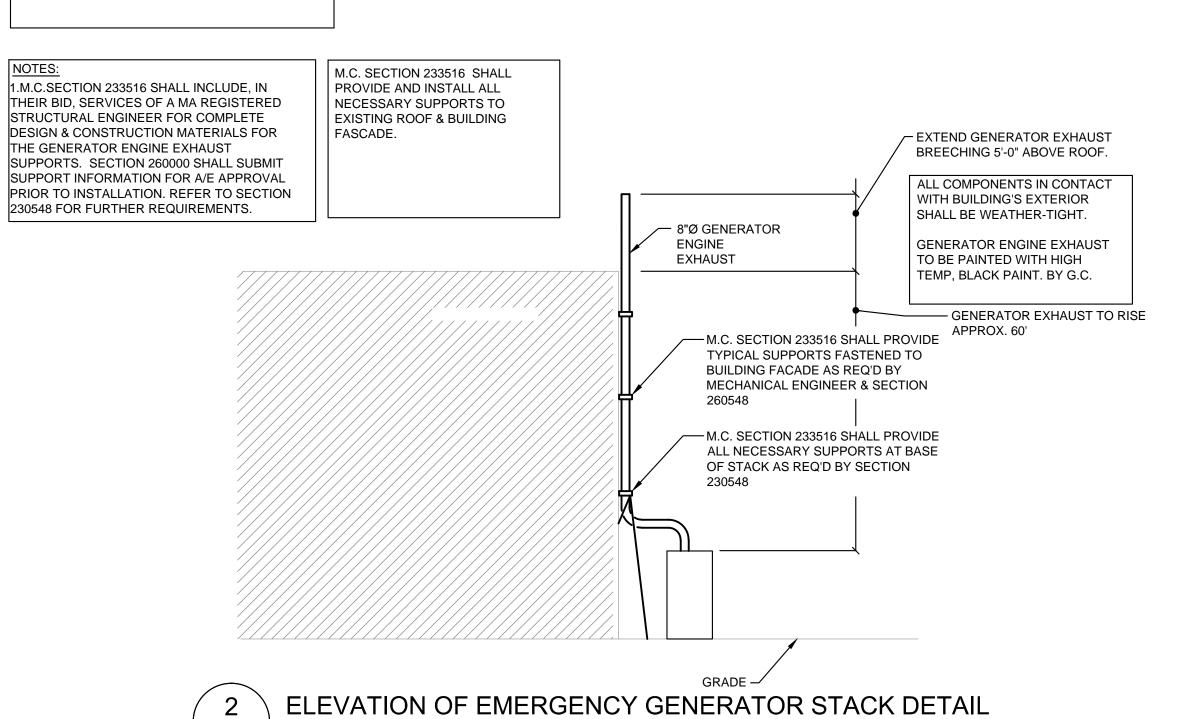
NOT TO SCALE HEATING, VENTILATING AND AIR COND.

GENERAL CONTRACTOR

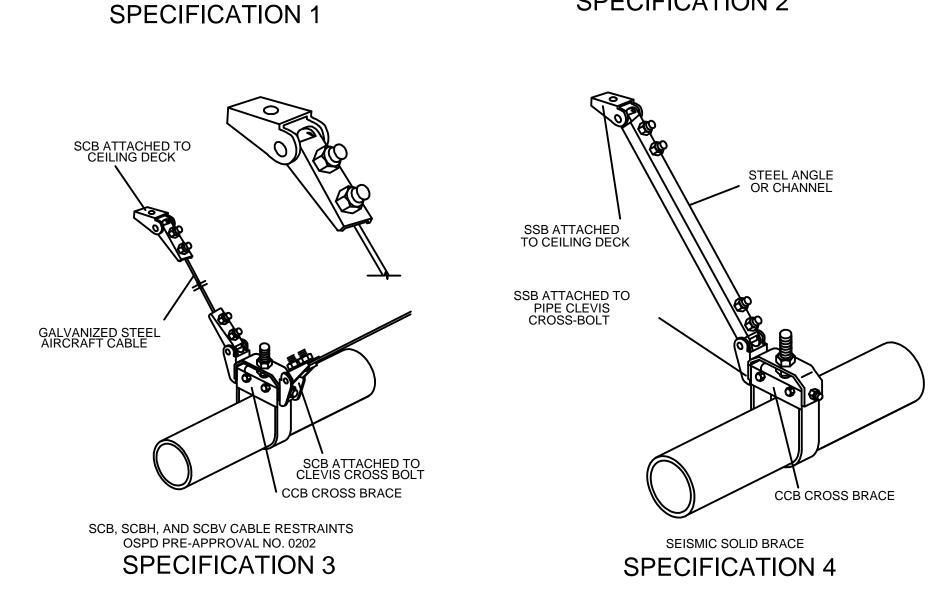
ALL COMPONENTS IN CONTACT WITH BUILDING'S EXTERIOR SHALL BE WEATHER-TIGHT. ALL SUPPORTS, FASTENERS AND RELATED COMPONENTS TO BE STAINLESS STEEL PAINTED W/ HIGH TEMP BLACK EPOXY PAINT.

M1.0 SCALE: NONE

PB BUSHING



SEE DETAIL A (TYP.) STEEL DISC THIS VIEW SHOWN WITHOUT BOLTS AND STEEL WASHERS FOR CLARITY ELONGATED INNER STEEL SLEEVE

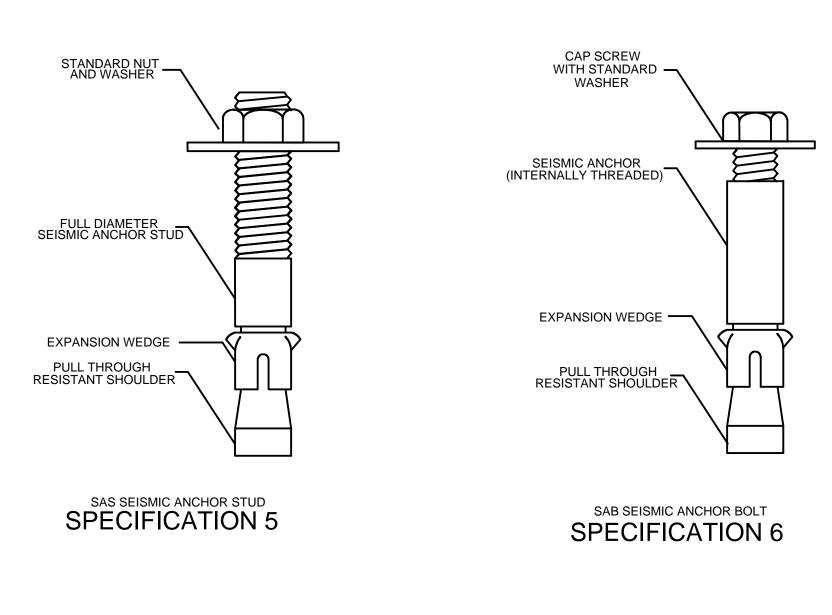


GENERAL NOTES

- 1. ALL PIPING AND DUCTWORK UNLESS DIMENSIONED IS SHOWN DIAGRAMMATICALLY ONLY, EXACT LOCATION SHALL BE DETERMINED IN FIELD AFTER COORDINATING WITH OTHER TRADES AND EXISTING CONDITIONS.
- 2. FOR TYPICAL EXHAUST STACK CONNECTION REFER TO GENERATOR MANUFACTURES DETAILED DRAWINGS. CONNECT STACK TO GENERATOR PER MANUFACTURES INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- 3. GENERAL CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL REQUIRED TRADES.
- 4. ALL SUPPORT STEEL, EXHAUST STACK AND ALL RELATED APPURTENANCES SHALL BE PROVIDED BY THIS CONTRACTOR UNLESS OTHERWISE INDICATED OR NOTED.
- 5. ALL MATERIAL UTILIZED FOR THE SUPPORT OR FASTENING OF THE ACTUAL EXHAUST STACK SHALL BE STAINLESS STEEL.

PREVENT THE STACK FROM CORROSON OR RUST.

- 6. THE EXHAUST STACK ITSELF SHALL BE PAINTED WITH A HIGH TEMPERATURE EPOXY BLACK PAINT INTENDED FOR EXTERIOR USE. THE PAINT SHALL
- 7. PREP ALL MATERIAL TO BE PAINTED PER THE PAINT MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
- 8. THE ELECTRICAL CONTRACTOR AND THE GENERAL CONTRACTOR (G.C.) ARE ONE AND THE SAME ON THIS PROJECT. THIS CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND BE RESPONSIBLE FOR NOTES REFERENCING THE G.C.

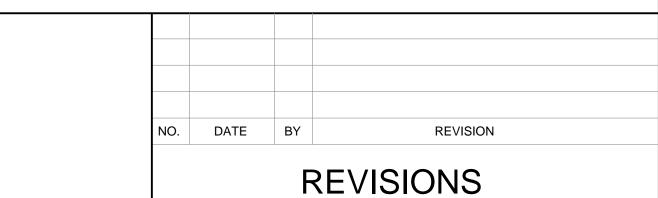


VIBRATION CONTROL & SEISMIC RESTRAINT DETAILS M1.0 SCALE: NONE

HG NEOPRENE BUSHING

SPECIFICATION 2

NOTE: REFER TO SPECIFICATION SECTION 23 05 48 "VIBRATION CONTROL AND SEISMIC RESTRAINT" PARAGRAPH 2.1 "PRODUCT SPECIFICATION" FOR FURTHER INFORMATION.





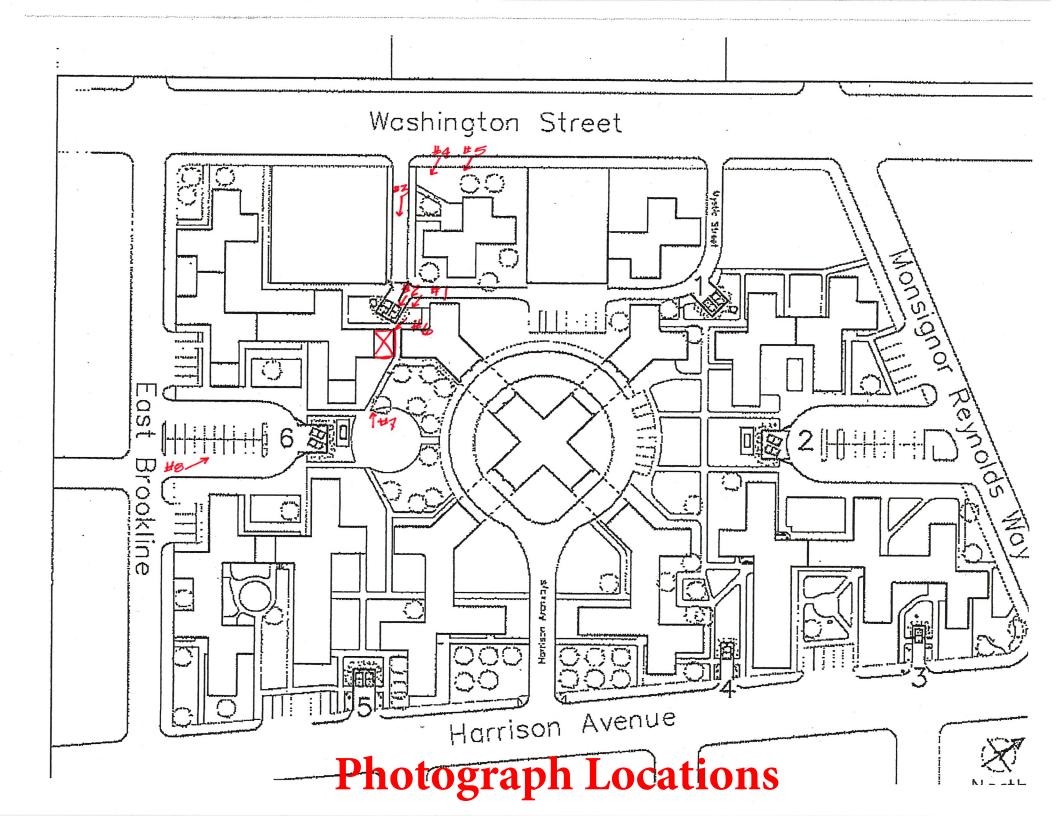
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GENERATOR ENGINE EXHAUST & VIBRATION & SEISMIC JOB NO. 555006.00 DWG. NO PROJECT BHA JOB # 1675-02 14 EAST BROOKLINE STREET GENERATOR REPLACEMENT

M1.0

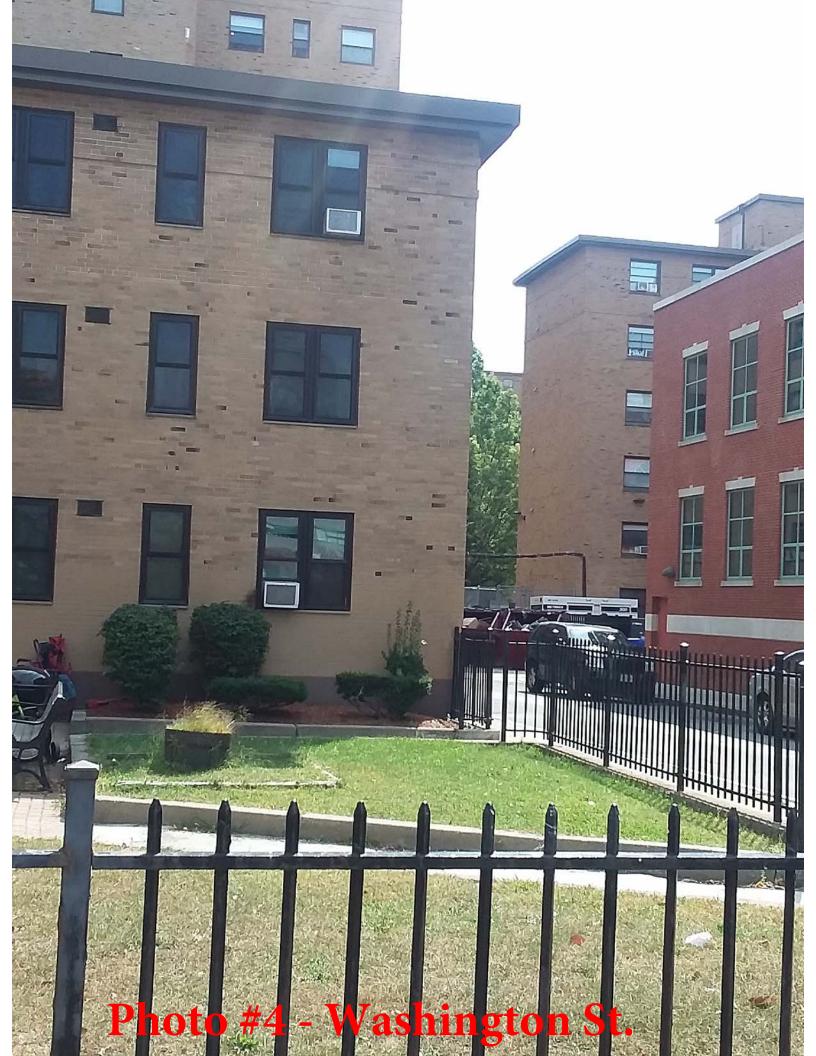
BOSTON HOUSING AUTHORITY





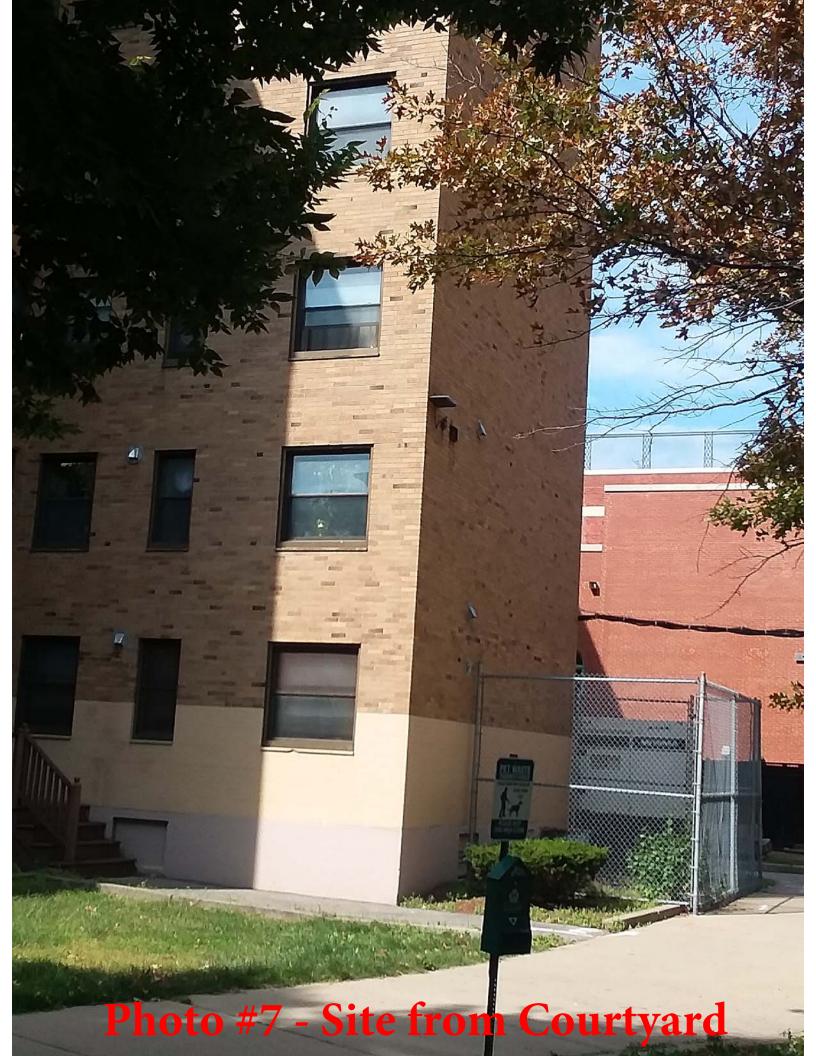




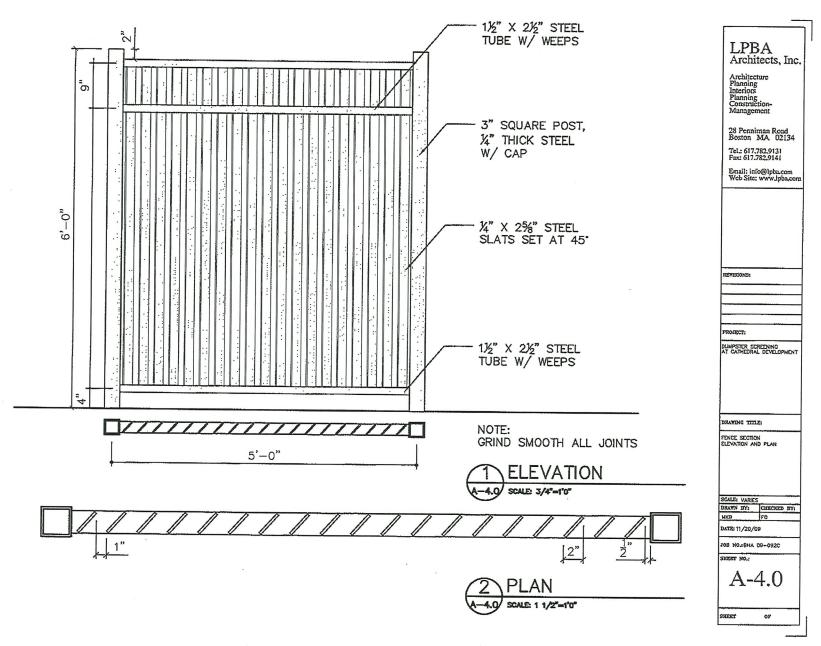












Previously Approved Screening

