



## HOUSING AUTHORITY OF BERGEN COUNTY

ONE BERGEN COUNTY PLAZA, 2<sup>ND</sup> FLOOR

HACKENSACK, N.J. 07601

PHONE: 201-336-7624

FAX: 201-336-7625

[WWW.HABCNJ.ORG](http://WWW.HABCNJ.ORG)

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### RFP ADDENDUM NOTICE

To: All Prospective Bidders  
Addendum Number: No. 1  
Issued by: Erick Martinez, Purchasing Agent  
Date: July 7, 2021  
Project/Service Name: Standby Generator Replacement at Lehmann Gardens  
Bid Dated: June 25, 2021  
Bid Number: HABC 2021.07.14.01

The above referenced project/service is hereby amended as set forth below. Bidders MUST acknowledge receipt of this addendum, by completing, signing, and submitting with their Bid the *Acknowledgment of Receipt of Addenda Form*.

Description of Addendum:

The following constitutes Addendum No. 1 to the above referenced solicitation.

The addendum is in response to a bidder's request for *ENGINEERING DRAWINGS*. Part ONE of this addendum provides the ENGINEERING DRAWINGS, which SHALL become part of specifications dated June 25, 2021.

Original Bid Submission Due Date: July 14, 2021, at 9:30 A.M. shall remain UNCHANGED.

**PART ONE:**

**\*SEE ENGINEERING DRAWINGS ON ATTACHED PAGES\***

It is the sole responsibility of the Bidder to be knowledgeable of all of the additions, deletions, clarifications and modifications to this Bid and/or the Standard Terms and Conditions relative to this Bid as set forth in all addenda.

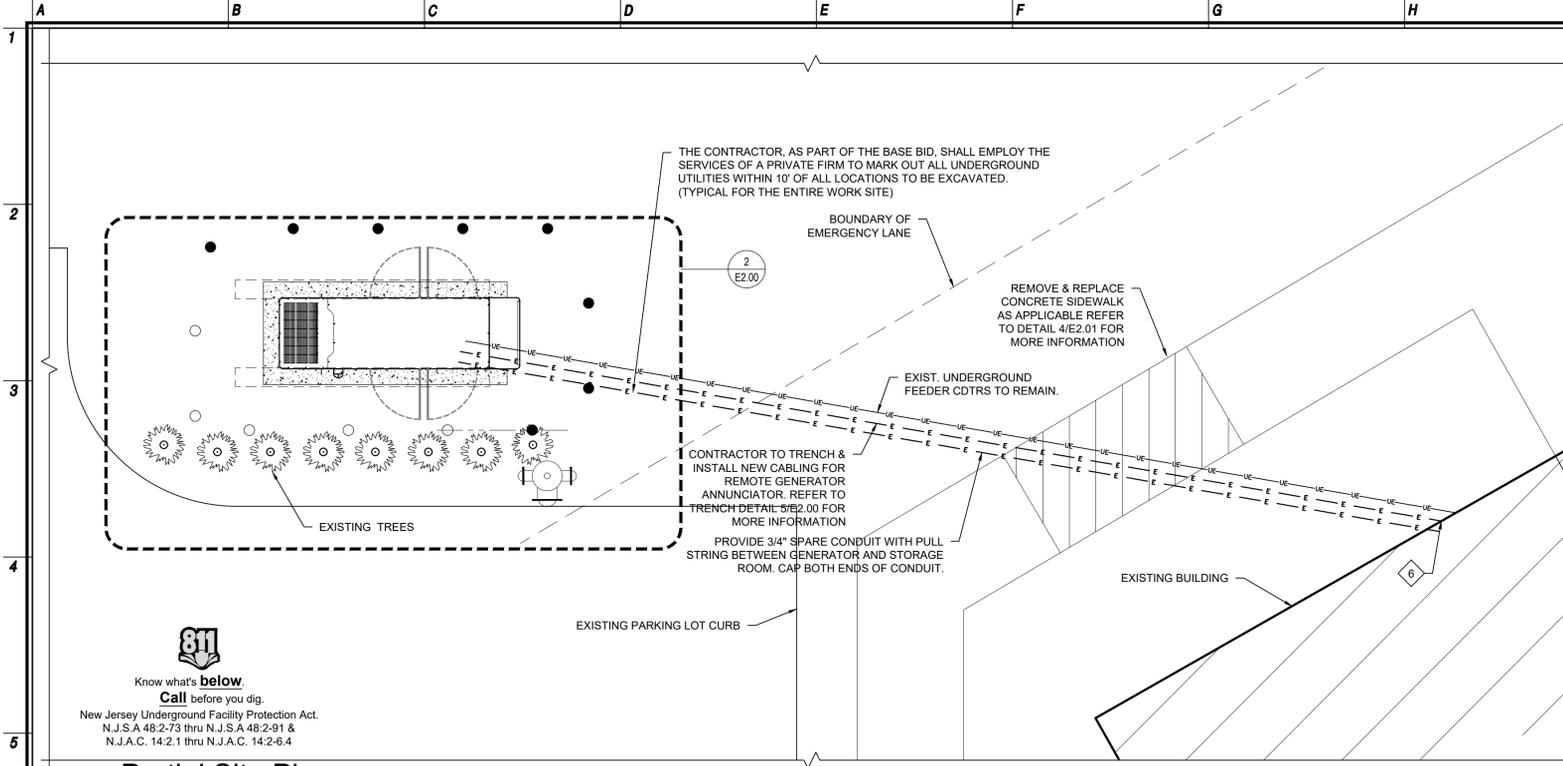
Except as provided herein, all terms and conditions of the solicitation and any previous addenda remain unchanged and in full force and effect. Please note that the above-mentioned addenda shall become part of the specifications by reference hereto, having the same binding effect as provisions of the original specifications.

The Housing Authority of Bergen County's interpretation of the meaning and intent of these Bid documents, specifications and addenda items shall be final and conclusive.

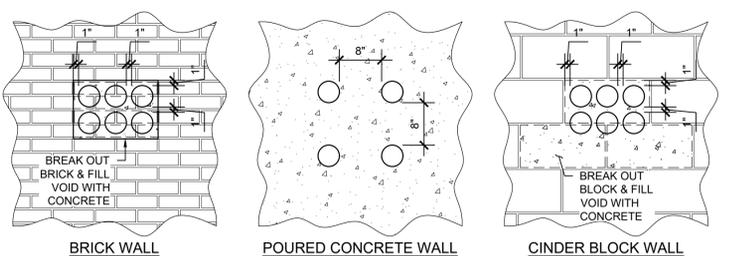
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END OF ADDENDUM NO. 1

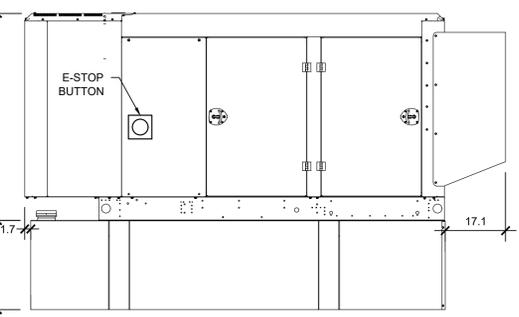




- ### Proposed Key Notes
1. CONTRACTOR TO DEMOLISH EXISTING GENERATOR, TANK & CONCRETE FOUNDATIONS. PROVIDE NEW 80KW GENERATOR ON NEW CONCRETE PAD. COORDINATE NEW GENERATOR SUB-BASE TANK LOCATION WITH EXISTING CONDUIT APERTURE. VERIFY EXACT LOCATION IN FIELD. MODIFY EXISTING RACEWAY AS REQUIRED TO ACCOMMODATE NEW TANK.
2. EXISTING VEHICLE PROTECTION BOLLARDS TO REMAIN (TYP.)
3. EXISTING UNDERGROUND RACEWAY TO REMAIN.
4. INSTALL DIESEL FUEL SIGN AS PER DETAIL 5/E2.01.
5. NEW UNDERGROUND RACEWAYS FOR GENERATOR ANNUNCIATOR. REFER TO DWG. E6.01 FOR MORE INFORMATION.
6. SEAL ALL CONDUIT PENETRATIONS. REFER TO DETAIL 4/E2.00 FOR MORE INFORMATION.
7. NEW CONCRETE PAD FOUNDATION FOR GENERATOR. COORDINATE EXACT LOCATION WITH EXISTING CONDITIONS. REFER TO GENERATOR CONCRETE PAD DETAIL 8/E2.00 FOR MORE INFORMATION.



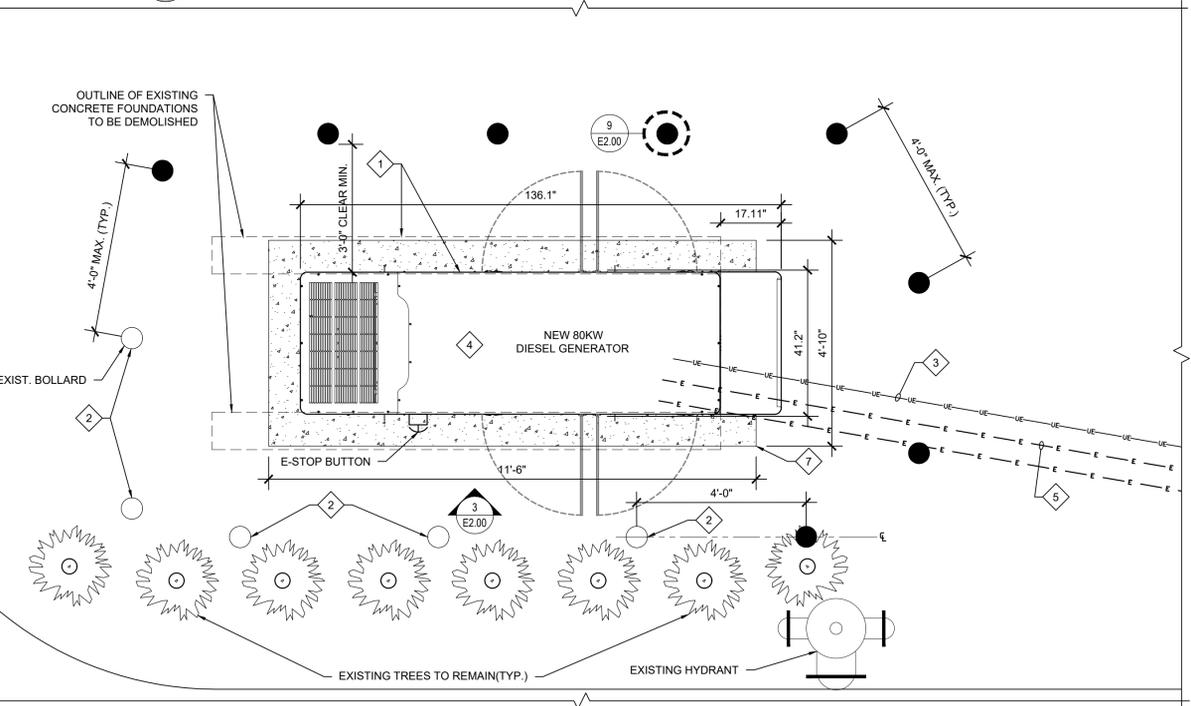
1 Partial Site Plan  
1/4" = 1'-0"



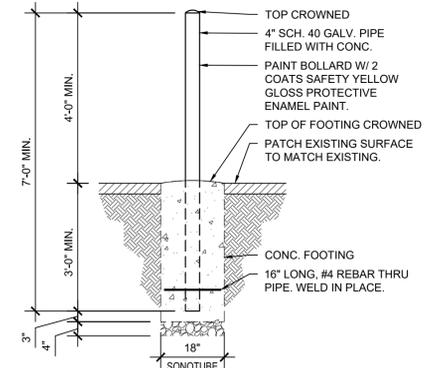
3 Generator Elevation  
1/2" = 1'-0"



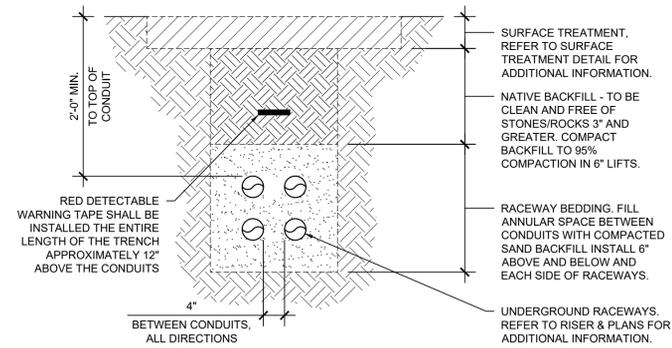
5 Diesel Fuel Sign Detail  
N.T.S.



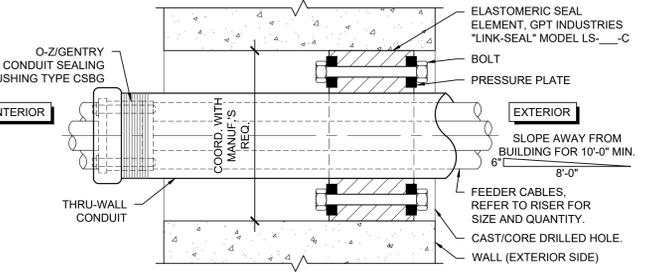
2 Enlarged Generator Plan  
1/2" = 1'-0"



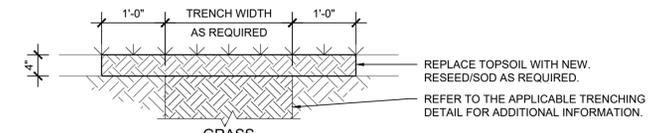
9 Bollard Detail  
N.T.S.



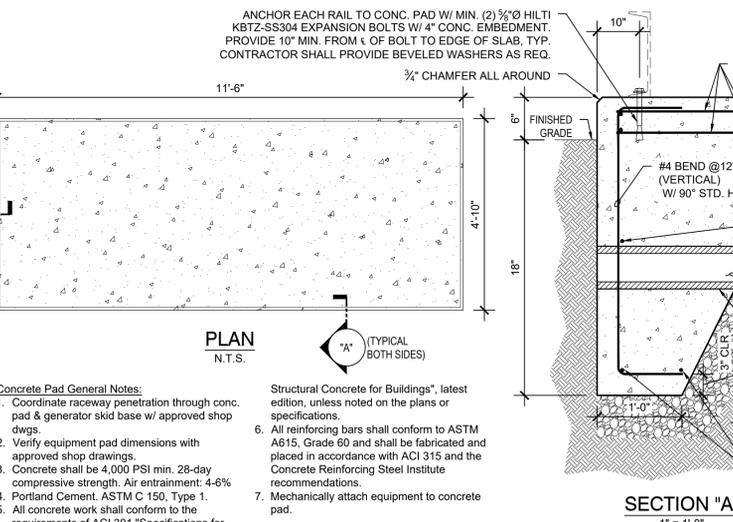
6 Conduit Trenching Detail  
N.T.S.



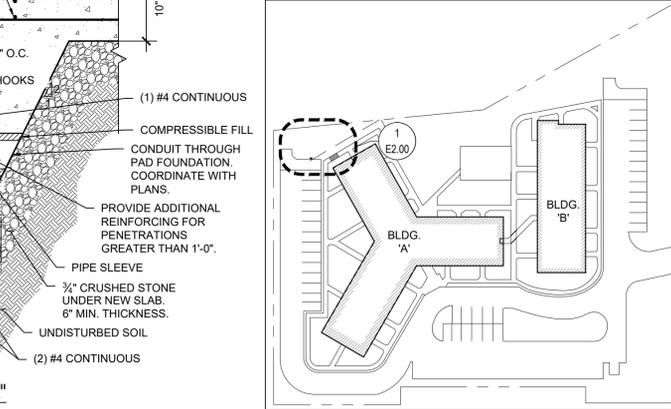
4 Thru-Wall Conduit Seal  
N.T.S.



7 Surface Treatment Detail  
N.T.S.



8 Generator Concrete Pad Detail  
N.T.S.



Overall Site Plan  
1" = 100'

Proj. No.	214027937500
Arch. No.	214020012400
Date	11-1-19
Checked	BH
Drawn	DN

**CARLOS R. REYES, P.E.**  
THE PROFESSIONAL ENGINEER  
License No. NJ245276500

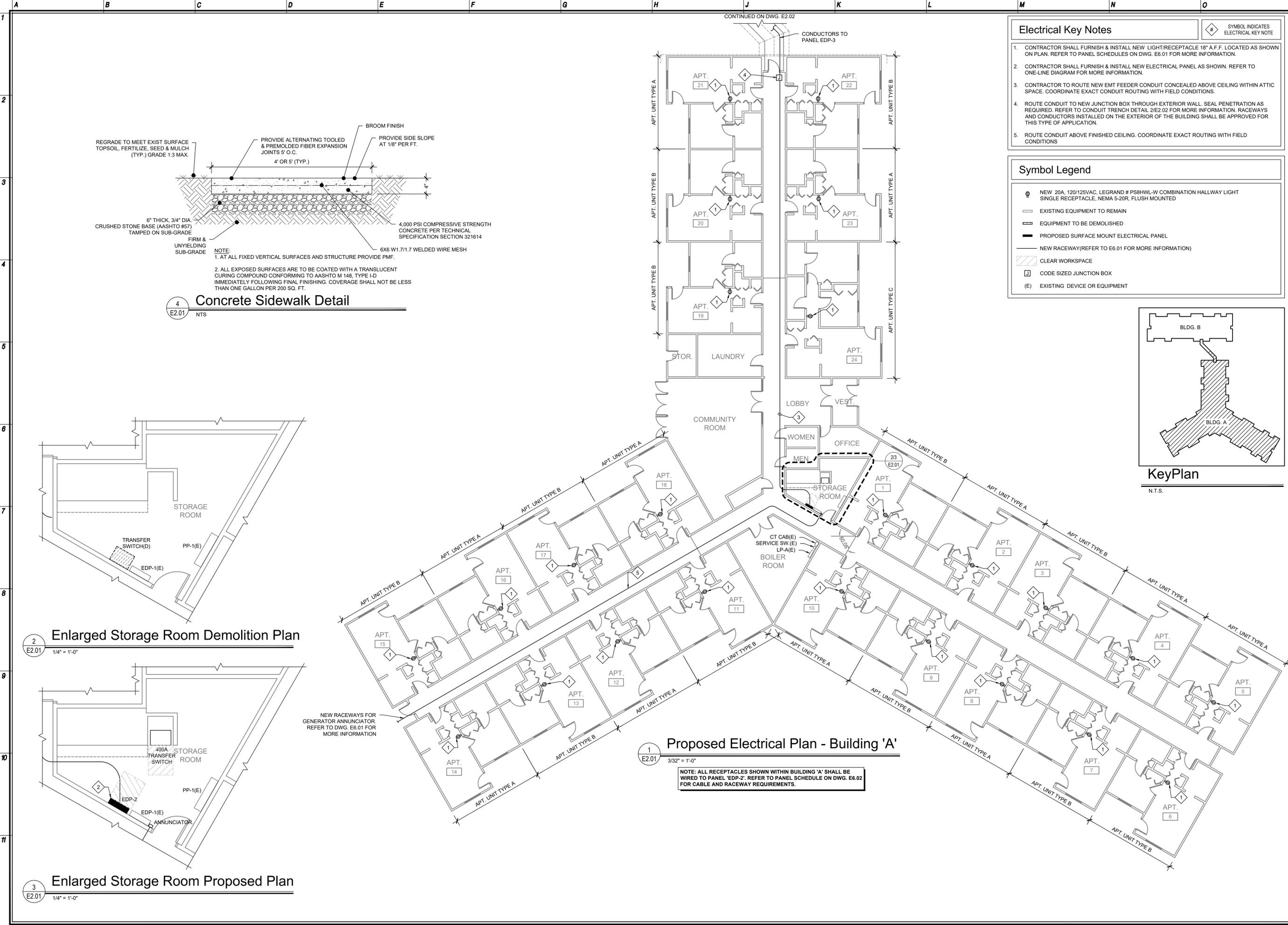
Revisions:

**LAN ASSOCIATES**  
engineering • planning • architecture • surveying  
445 GODWIN AVENUE, MIDLAND PARK, N.J. 07432 (201)447-6400

**ELECTRICAL SITE PLAN**  
ELECTRICAL UPGRADES AT  
LEHMAN GARDENS APARTMENTS  
12 SULJAK LN  
PARK RIDGE, N.J. 07656

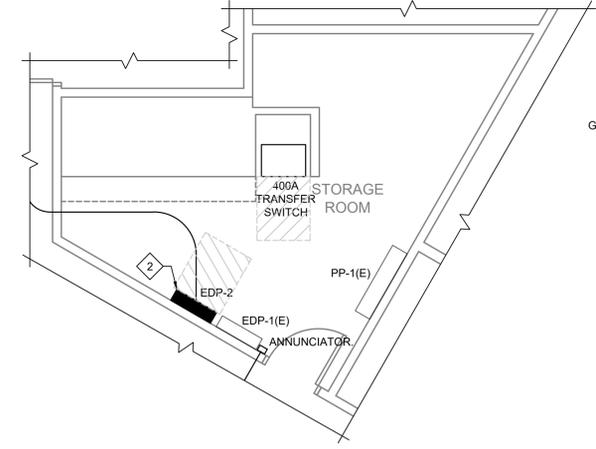
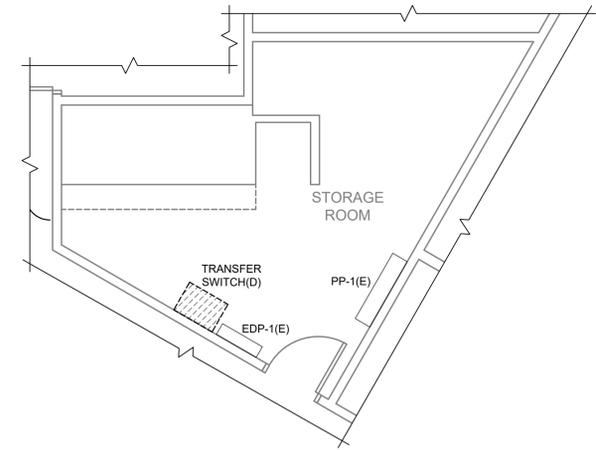
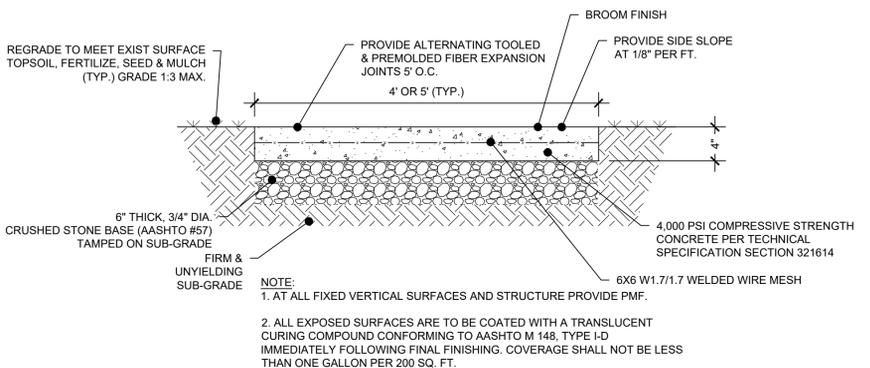
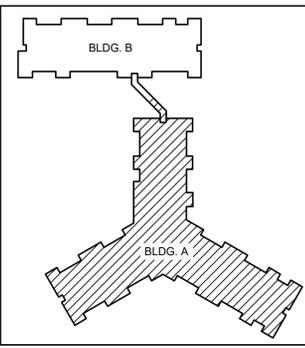
Job No. 2.2591.56  
Rev. No. 259156E200

**E2.00**



- ### Electrical Key Notes
- CONTRACTOR SHALL FURNISH & INSTALL NEW LIGHT/RECEPTACLE 18" A.F.F. LOCATED AS SHOWN ON PLAN. REFER TO PANEL SCHEDULES ON DWG. E6.01 FOR MORE INFORMATION.
  - CONTRACTOR SHALL FURNISH & INSTALL NEW ELECTRICAL PANEL AS SHOWN. REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION.
  - CONTRACTOR TO ROUTE NEW EMT FEEDER CONDUIT CONCEALED ABOVE CEILING WITHIN ATTIC SPACE. COORDINATE EXACT CONDUIT ROUTING WITH FIELD CONDITIONS.
  - ROUTE CONDUIT TO NEW JUNCTION BOX THROUGH EXTERIOR WALL. SEAL PENETRATION AS REQUIRED. REFER TO CONDUIT TRENCH DETAIL 2/E2.02 FOR MORE INFORMATION. RACEWAYS AND CONDUCTORS INSTALLED ON THE EXTERIOR OF THE BUILDING SHALL BE APPROVED FOR THIS TYPE OF APPLICATION.
  - ROUTE CONDUIT ABOVE FINISHED CEILING. COORDINATE EXACT ROUTING WITH FIELD CONDITIONS.

- ### Symbol Legend
- NEW 20A, 120/125VAC, LEGRAND # PS8HWL-W COMBINATION HALLWAY LIGHT SINGLE RECEPTACLE, NEMA 5-20R, FLUSH MOUNTED
  - EXISTING EQUIPMENT TO REMAIN
  - EQUIPMENT TO BE DEMOLISHED
  - PROPOSED SURFACE MOUNT ELECTRICAL PANEL
  - NEW RACEWAY(REFER TO E6.01 FOR MORE INFORMATION)
  - CLEAR WORKSPACE
  - CODE SIZED JUNCTION BOX
  - EXISTING DEVICE OR EQUIPMENT



NEW RACEWAYS FOR GENERATOR ANNUNCIATOR. REFER TO DWG. E6.01 FOR MORE INFORMATION

**Proposed Electrical Plan - Building 'A'**  
1 E2.01 3/32" = 1'-0"

NOTE: ALL RECEPTACLES SHOWN WITHIN BUILDING 'A' SHALL BE WIRED TO PANEL 'EDP-2'. REFER TO PANEL SCHEDULE ON DWG. E6.02 FOR CABLE AND RACEWAY REQUIREMENTS.

NJ Certificate of Authorization  
Eng. No. 24047937500  
Arch. No. 21AC00012400  
Date 11-1-19  
Checked BH  
Drawn DN

**CARLOS R. REYES, P.E.**  
PROFESSIONAL ENGINEER  
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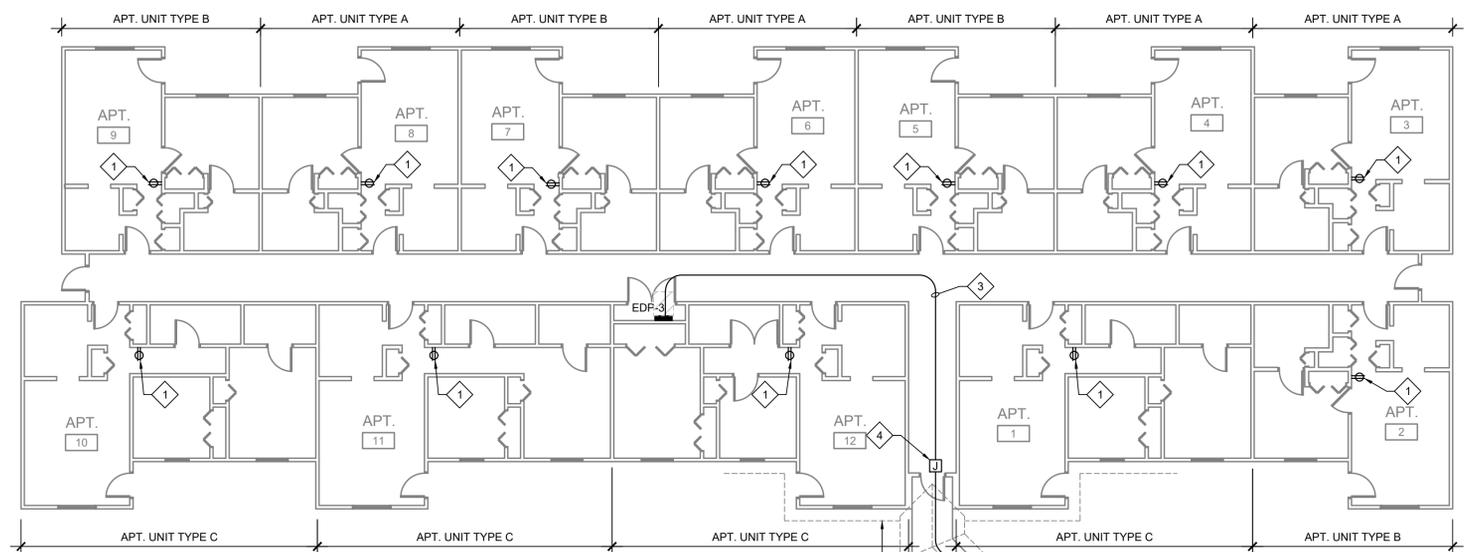
**Revisions:**

**LAN ASSOCIATES**  
engineering • planning • architecture • surveying  
445 GODWIN AVENUE, MIDLAND PARK, N.J. 07432 (201)447-6400

**PROPOSED ELECTRICAL PLAN**  
ELECTRICAL UPGRADES AT  
LEHMAN GARDENS APARTMENTS  
12 SULJAK LN  
PARK RIDGE, N.J. 07656

Job No. 2.2591.56  
File No. 259156E201

**E2.01**



**Proposed Electrical Plan - Building 'B'**

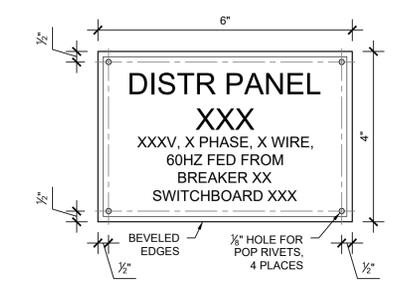
1  
E2.02  
3/32" = 1'-0"

NOTE: ALL RECEPTACLES SHOWN WITHIN BUILDING 'B' SHALL BE WIRED TO PANEL 'EDP-3'. REFER TO PANEL SCHEDULE ON DWG. E6.02 FOR CABLE AND RACEWAY REQUIREMENTS.

1. SEE KEYNOTES & SYMBOLS ON SHEET E2.01

PARTIAL ROOF SHOWN FOR REFERENCE  
A-FRAME ROOF ABOVE BREEZEWAY  
WALKWAY BELOW  
CONDUCTORS FROM PANEL 'EDP-2'  
CONTINUED ON DWG. E2.01

**Nameplate/Labeling Requirements**



**GENERAL LABELING REQ.:**  
Engraved Plastic Nameplates and Signs: Engraving stock, melamine plastic laminate, minimum 1/8" thick for signs up to 20 sq. in. and 1/4" thick for larger sizes. Engraved legend with white letters on black face for normal power, white letters on red face for emergency power. Punched or drilled for mechanical fasteners. Text at 1/2" high lettering.

Nameplates shall adequately describe the function of the particular equipment involved. Where nameplates are detailed on the drawings, inscription and size of letters shall be as shown and shop drawing submitted for approval. Nameplates for panelboards and switchboards shall include the panel designation, voltage, phase and wire. The next item shall be panel name. In addition, describe where the panel is fed from. For example:  
PANEL 1LA, 120/208V, 3PH, 4W PP1 PANEL FED FROM MDP

The service disconnect shall be labeled as the "Service Disconnect," per NEC 230.70(B).

Per NEC 110.24(A) the maximum available fault current and the date the fault current calculation was performed shall be legibly marked on the service equipment. Example: Maximum available fault current: 34,000 Symmetrical RMS Amperes Date 12/1/11.

Per NEC 110.16, "Flash Protection. Switchboards, panel boards, industrial control panels, meter socket enclosures, transfer switches and motor control centers in other than dwelling occupancies, which are likely to require examination, adjustment, servicing, or maintenance while energized, shall be field marked to warn qualified persons of potential electric arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment." The NEC labeling requirements apply to any electrical equipment installed or modified after 2002. Warning label shall comply with ANSI Z535.4, which specifies colors and signal words to be used.

Per NEC 408.4(A), every circuit and circuit identification shall be legibly identified as to its clear, evident, and specific purpose of use.

Per NEC 700.7(B) and NEC 701.7, furnish and install warning label that warns of a shock hazard if the grounding electrode conductor or bonding jumper connection in this type of equipment is removed while alternate energy sources are energized.

**REQUIRED DATA**  
FIRST LINE: EQUIPMENT DESIGNATION  
SECOND LINE: VOLTAGE, PHASE, NO. OF WIRE, FREQUENCY  
THIRD AND FOURTH LINES: POWER SOURCE AND BREAKER  
"XXX": BASED ON FINAL SHOP DRAWING AND INSTALLED EQUIPMENT CIRCUIT NUMBER  
TRANSFORMERS: INCLUDE LINE INDICATING "FEEDS TO"

**LETTER SIZE & SPACING**  
TOP ROW: 1" LETTERS  
OTHER ROWS: 1/2" LETTERS  
BETWEEN ROWS: 1/2" BETWEEN 1st & 2nd, 1/8" FOR OTHER ROWS

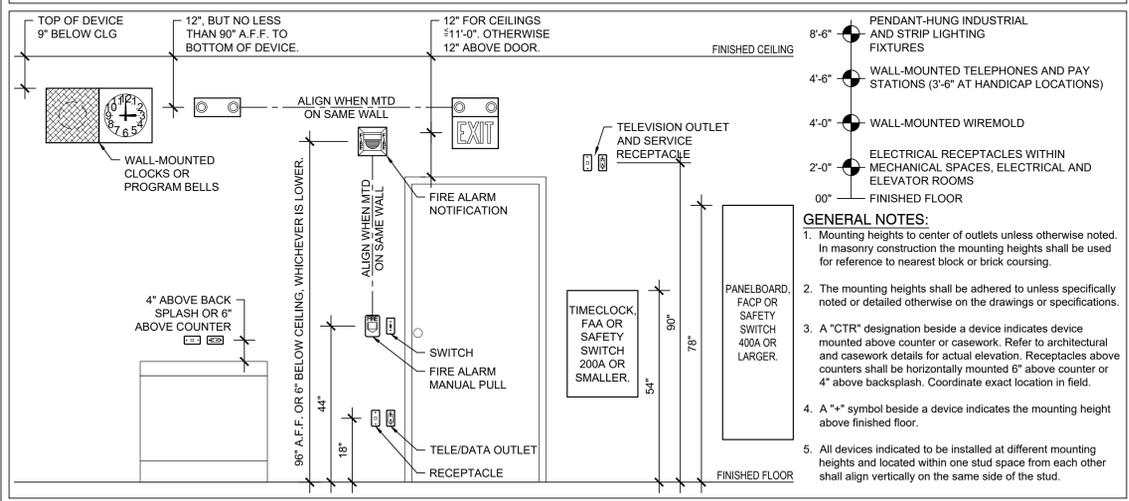
**NOTES**  
LETTERING SHALL BE WHITE ON A BLACK BACKGROUND FOR TRANSFORMERS. INCLUDE PRI & SEC VOLTAGES, PRI AND SEC CONNECTIONS (E.G., DELTA, WYE, ETC.) AND EQUIPMENT SERVING.

Proj. No.	24047937500
Arch. No.	21AC00012400
Date	11-1-19
Checked	BH
Drawn	DN

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License No. NJ2405276500

**Revisions:**

**Device Mounting Heights**



**PANEL SCHEDULE - PANEL EDP-2** ALL CIRCUIT BREAKERS TYPE AFIC SHALL BE LISTED COMBINATION TYPE AND COMPLY WITH NEC 201.12(A)(1) FED FROM - EDP-1 208/120V

Ct#	Load Description	Type	OCPD			Conductors			Raceway	Voltage	Load kVA	Load per Phase(A)			Voltage Drop %	
			Poles	Rated	Current	Neutral	Ground	Phase A				Phase B	Phase C			
1	Apt. 1 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
2	Apt. 2 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
3	Apt. 3 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
4	Apt. 4 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
5	Apt. 5 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
6	Apt. 6 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
7	Apt. 7 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
8	Apt. 8 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
9	Apt. 9 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
10	Apt. 10 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
11	Apt. 11 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
12	Apt. 12 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
13	Apt. 13 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
14	Apt. 14 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
15	Apt. 15 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
16	Apt. 16 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
17	Apt. 17 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
18	Apt. 18 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
19	Apt. 19 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
20	Apt. 20 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
21	Apt. 21 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
22	Apt. 22 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
23	Apt. 23 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
24	Apt. 24 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.45%		
25																
26/28/30	EDP-3	Std	3	50A	(3) 4 ga.	(1) 4 ga.	(1) 6 ga.	1-1/4 in. EMT	208	4.3	12.56	12.56	12.56	0.53%		
Total Circuits 27											Connected Loads: 8,620 VA			25 A	25 A	25 A

3-Phase Connection  
Voltage Drop % for 5 Feet is 0.02%  
Raceway: 1-1/4 in. dia. EMT  
Current (3) 5 ga. THHN  
Neutral (1) 3 ga. THHN  
Ground (1) 8 ga. THHN

Voltage: 120 / 208  
Phase: 3Ø, 4-Wire  
Fed From: Utility  
Bus Capacity: 150 A  
Main Connection: lug  
OCPD Size: 100A  
OCPD Type: Std

Load kVA: 9  
Circuits: 27 / 42  
Neutral Bus: Yes  
Ground Bus: Yes  
NEMA: Type 1  
Remarks: 22K SCOR  
Location:  
Insulation: THHN

**PANEL SCHEDULE - PANEL EDP-3** ALL CIRCUIT BREAKERS TYPE AFIC SHALL BE LISTED COMBINATION TYPE AND COMPLY WITH NEC 201.12(A)(1) FED FROM - EDP-2 208/120V

Ct#	Load Description	Type	OCPD			Conductors			Raceway	Voltage	Load kVA	Load per Phase(A)			Voltage Drop %	
			Poles	Rated	Current	Neutral	Ground	Phase A				Phase B	Phase C			
1	Apt. 1 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
2	Apt. 2 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
3	Apt. 3 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
4	Apt. 4 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
5	Apt. 5 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
6	Apt. 6 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
7	Apt. 7 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
8	Apt. 8 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
9	Apt. 9 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
10	Apt. 10 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
11	Apt. 11 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
12	Apt. 12 Dedicated Recept.	AFIC	1	20A	(1) 12 ga.	(1) 12 ga.	(1) 12 ga.	Free Air	120	0.18	1.58			0.58%		
Total Circuits 12											Connected Loads: 2,160 VA			6 A	6 A	6 A

3-Phase Connection  
Voltage Drop % for 230 Feet is 0.29%  
Raceway: 1-1/4 in. dia. EMT  
Current (3) 4 ga. THHN  
Neutral (1) 4 ga. THHN  
Ground (1) 8 ga. THHN

Voltage: 120 / 208  
Phase: 3Ø, 4-Wire  
Fed From: Utility  
Bus Capacity: 150 A  
Main Connection: breaker  
OCPD Size: 45A  
OCPD Type: Std

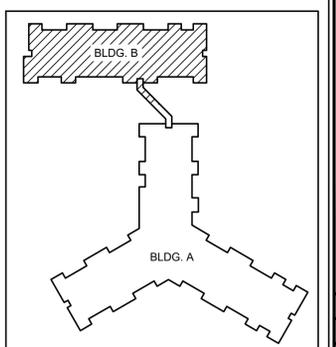
Load kVA: 2  
Circuits: 12 / 30  
Neutral Bus: Yes  
Ground Bus: Yes  
NEMA: Type 1  
Remarks: 22K SCOR  
Location:  
Insulation: THHN

**Electrical Grounding Requirements**

THE CONTRACTOR SHALL PROVIDE A GROUNDING CONDUCTOR FOR ALL BRANCH FEEDERS AND CIRCUITS IN ACCORDANCE WITH THE FOLLOWING CHART:

Rating or Setting of Automatic Overcurrent Device in Circuit Ahead of Equipment, Conduit, etc., Not Exceeding (Amperes)	Size (AWG or kcmil)		Rating or Setting of Automatic Overcurrent Device in Circuit Ahead of Equipment, Conduit, etc., Not Exceeding (Amperes)	Size (AWG or kcmil)		Rating or Setting of Automatic Overcurrent Device in Circuit Ahead of Equipment, Conduit, etc., Not Exceeding (Amperes)	Size (AWG or kcmil)	
	Aluminum or Copper-Clad Aluminum*	Copper		Aluminum or Copper-Clad Aluminum*	Copper		Aluminum or Copper-Clad Aluminum*	Copper
15	14	12	300	4	2	1600	4/0	350
20	12	10	400	3	1	2000	250	400
30	10	8	500	2	1/0	2500	350	600
40	10	8	600	1	2/0	3000	400	600
60	10	8	800	1/0	3/0	4000	500	800
100	8	6	1000	2/0	4/0	5000	700	1200
200	6	4	1200	3/0	250	6000	800	1200

Note: Where necessary to comply with NEC 250.4(A)(5) or (B)(4), the equipment grounding conductor shall be sized larger than given in this table. Where ungrounded conductors are increased in size, equipment grounding conductors, where installed, shall be increased in size proportionately according to the circular mil area of the ungrounded conductors.  
\*See installation restrictions in NEC 250.120



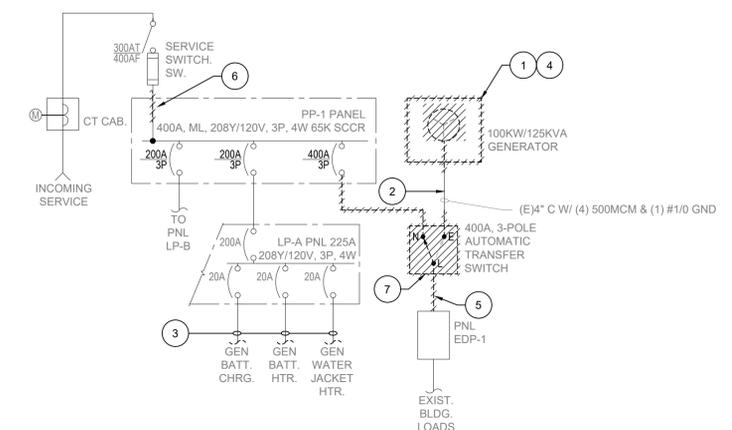
**KeyPlan**  
N.T.S.

**LAN ASSOCIATES**  
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4445 GODWIN AVENUE, MIDLAND PARK, N.J. 07432 (201)447-6900

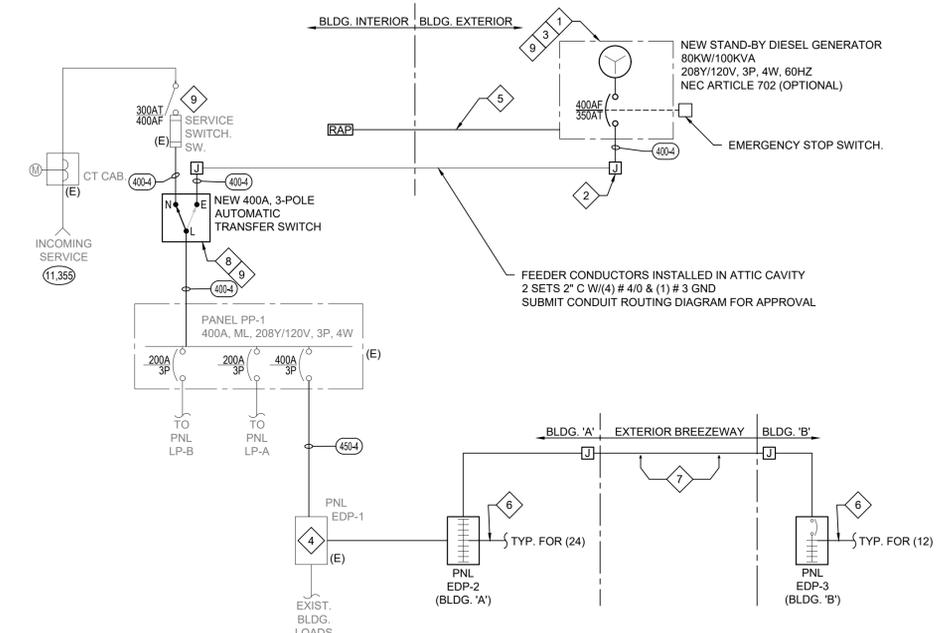
**PROPOSED ELECTRICAL PLAN**  
ELECTRICAL UPGRADES AT  
LEHMAN GARDENS APARTMENTS  
12 SULJAK LN  
PARK RIDGE, N.J. 07656

Job No. 2.2591.56  
Rev. No. 259156E2.01

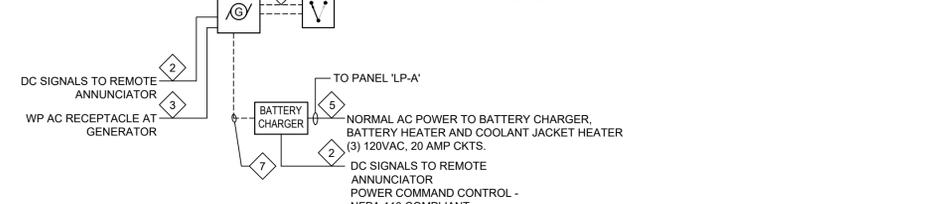
**E2.02**



**1** Partial Existing Electrical Riser Diagram - Demolition  
E6.01 N.T.S. HATCH DENOTES DEMOLITION

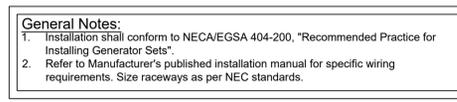


**2** Electrical Riser Diagram - Proposed  
E6.01 N.T.S. LIGHT LINES DENOTE EXISTING TO REMAIN. HEAVY LINES DENOTE NEW WORK. PEAK HISTORICAL DEMAND 29.6 KW - MARCH 2016



**Detail Key Notes**

- DC start signal from transfer switch. 1/2" C w/ (3) #12 & (1) #12 Gnd.
- DC power & Cat. 5E cable to remote annunciator. 3/4" C w/ (2) #12 & 1/2" C w/ (2) #6. Belden Cable Model 9729.
- 120VAC. 3/4" C w/ (4) #10 & (1) #10 Gnd to receptacles fed from existing panel (2 new, 20A, 1P breakers & branch circuits) for equipment listed.
- NOT USED
- 120VAC. 3/4" C w/ (2) #12 & (1) #12 Gnd
- DC power to battery. (2) #6
- DC SIGNALS TO REMOTE ANNUNCIATOR POWER COMMAND CONTROL - NFPA 110 COMPLIANT



**3** Generator Wiring Schematic  
E6.01 N.T.S.

**4** ATS Grounding Detail  
E6.01 N.T.S.

- Demolition Key Notes**
- CONTRACTOR TO DISCONNECT AND REMOVE EXISTING GENERATOR & FUEL TANK IN THEIR ENTIRETY.
  - EXISTING FEEDER RACEWAY AND CONDUCTORS TO REMAIN FOR FUTURE USE.
  - EXISTING RACEWAYS AND CONDUCTORS FOR GENERATOR ACCESSORIES TO BE MODIFIED FOR NEW INSTALLATION. REFER TO DIAGRAM 2/E6.01 FOR MORE INFORMATION.
  - EXISTING WIRING FOR RECEPTACLES TO REMAIN.
  - CONTRACTOR TO DISCONNECT FEED FROM PP-1 400A BREAKER TO TRANSFER SWITCH NORMAL SIDE LUGS. PROVIDE NEW FEED FROM 400A BREAKER TO EDP-1. SEE NOTE 6. SEE DETAIL 2/E6.01.
  - CONTRACTOR TO DISCONNECT FEED TO PP-1 AND RE-ROUTE WITH NEW FEEDER TO TRANSFER SWITCH LOAD SIDE LUGS. SEE DETAIL 2/E6.01.
  - CONTRACTOR TO DISCONNECT AND REMOVE EXISTING ATS. REFER TO "ATS REPLACEMENT SEQUENCE" NOTES ON THIS DWG.

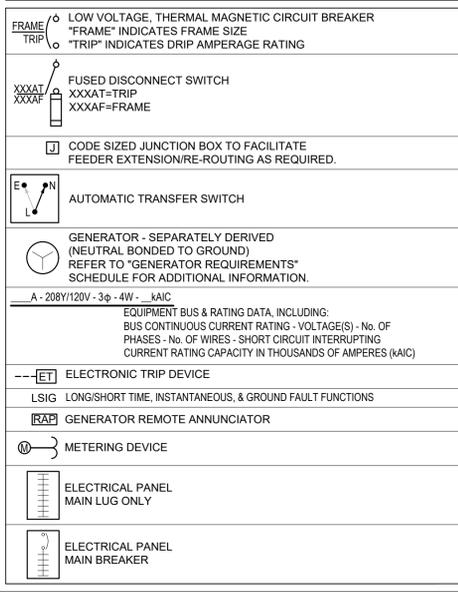
- Proposed Key Notes**
- CONTRACTOR SHALL FURNISH & INSTALL NEW DIESEL STAND-BY GENERATOR WITH SUB-BASE FUEL TANK ON EXISTING CONCRETE GENERATOR PAD. VERIFY EXACT CONDUIT STUB-UP LOCATIONS PRIOR TO INSTALLATION. REFER TO GENERATOR REQUIREMENTS FOR MORE INFORMATION.
  - CONTRACTOR SHALL MODIFY EXISTING FEEDER RACEWAY & CONDUCTORS FOR INSTALLATION OF NEW GENERATOR AS REQUIRED.
  - CONTRACTOR SHALL MODIFY EXISTING GENERATOR ACCESSORY CONDUIT AND CONDUCTORS AS REQUIRED TO EXTEND TO NEW EQUIPMENT.
  - CONTRACTOR TO FURNISH & INSTALL NEW 100A, 3P, CKT. BREAKER IN EXISTING PANEL EDP-1 FOR NEW ELECTRICAL PANEL AS SHOWN ON DWG. E2.01. REFER TO PANEL SCHEDULE FOR MORE INFORMATION.
  - CONTRACTOR TO FURNISH AND INSTALL NEW RACEWAY AND CABLING FOR REMOTE ANNUNCIATOR. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS FOR APPROPRIATE WIRING. REFER TO DWG. E2.01 FOR APPROX. LOCATION OF REMOTE ANNUNCIATOR. REFER TO NOTE NO. 2 DETAIL 3/E6.01 FOR MORE INFORMATION.
  - TYPICAL DEDICATED CIRCUIT FOR NEW RECEPTACLE IN EACH APARTMENT. REFER TO DWG. E2.01 FOR MORE INFORMATION.
  - TRANSITION TO PVC CONDUIT AT BREEZEWAY. PROVIDE JUNCTION BOXES AS REQUIRED.
  - CONTRACTOR TO FURNISH & INSTALL A NEW AUTOMATIC TRANSFER SWITCH. SEE ATS SCHEDULE ON THIS DWG. FOR REQUIREMENTS. CONTRACTOR SHALL REFER TO "ATS REPLACEMENT SEQUENCE" FOR MORE INFORMATION.
  - REFER TO ATS GROUNDING DETAIL 4/E6.01 FOR MORE INFORMATION.

**Feeder Schedule**

TAG	SETS	CURRENT/ NEUTRAL	GND	RACEWAY	TAG	SETS	CURRENT/ NEUTRAL	GND	RACEWAY
<b>2 WIRE &amp; GROUND</b>									
20-2	1	(2) #12	(1) #12	3/4"	700-3	2	(3) 500KCMIL	(1) #1/0	3"
30-2	1	(2) #10	(1) #10	3/4"	800-3	2	(3) 600KCMIL	(1) #1/0	4"
40-2	1	(2) #8	(1) #10	3/4"	1000-3	3	(3) 400KCMIL	(1) #2/0	3"
50-2	1	(2) #8	(1) #10	3/4"	1200-3	3	(3) 600KCMIL	(1) #3/0	4"
<b>4 WIRE &amp; GROUND</b>									
60-2	1	(2) #6	(1) #10	1"	20-4	1	(4) #12	(1) #12	3/4"
70-2	1	(2) #4	(1) #8	1"	30-4	1	(4) #10	(1) #10	3/4"
100-2	1	(2) #2	(1) #8	1-1/4"	40-4	1	(4) #8	(1) #10	1"
<b>3 WIRE &amp; GROUND</b>									
20-3	1	(3) #12	(1) #12	3/4"	50-4	1	(4) #6	(1) #10	1"
30-3	1	(3) #10	(1) #10	3/4"	60-4	1	(4) #6	(1) #10	1"
40-3	1	(3) #8	(1) #10	3/4"	70-4	1	(4) #4	(1) #8	1-1/4"
50-3	1	(3) #6	(1) #10	1"	80-4	1	(4) #3	(1) #8	1-1/2"
60-3	1	(3) #6	(1) #10	1"	90-4	1	(4) #3	(1) #6	1-1/2"
70-3	1	(3) #4	(1) #8	1-1/4"	100-4	1	(4) #2	(1) #8	1-1/2"
80-3	1	(3) #3	(1) #8	1-1/2"	125-4	1	(4) #1	(1) #6	2"
90-3	1	(3) #3	(1) #8	1-1/2"	150-4	1	(4) #1/0	(1) #6	2"
100-3	1	(3) #2	(1) #8	1-1/2"	175-4	1	(4) #1/0	(1) #6	2-1/2"
125-3	1	(3) #1	(1) #6	1-1/2"	200-4	1	(4) #3/0	(1) #6	2-1/2"
150-3	1	(3) #1/0	(1) #6	2"	225-4	1	(4) #4/0	(1) #4	3"
175-3	1	(3) #2/0	(1) #6	2"	250-4	1	(4) 250KCMIL	(1) #4	3"
200-3	1	(3) #3/0	(1) #6	2"	300-4	1	(4) 350KCMIL	(1) #4	3-1/2"
225-3	1	(3) #4/0	(1) #4	2-1/2"	350-4	1	(4) 400KCMIL	(1) #3	3-1/2"
250-3	1	(3) 250KCMIL	(1) #4	2-1/2"	400-4	1	(4) 500KCMIL	(1) #3	4"
300-3	1	(3) 350KCMIL	(1) #4	2-1/2"	450-4	2	(4) #3/0	(1) #3	2"
350-3	1	(3) 400KCMIL	(1) #2	3"	500-4	2	(4) 250KCMIL	(1) #2	3"
400-3	1	(3) 500KCMIL	(1) #2	3-1/2"	600-4	2	(4) 350KCMIL	(1) #1	3-1/2"
450-3	2	(3) #4/0	(1) #2	2-1/2"	700-4	2	(4) 500KCMIL	(1) #1/0	3-1/2"
500-3	2	(3) 250KCMIL	(1) #2	2-1/2"	800-4	2	(4) 600KCMIL	(1) #1/0	4"
600-3	2	(3) 350KCMIL	(1) #1	3"	1000-4	3	(4) 400KCMIL	(1) #2/0	3-1/2"
					1200-4	3	(4) 600KCMIL	(1) #3/0	4"

- GENERAL NOTES:**
- THE FEEDER NAME REPRESENTS ITS BASE AMPACITY AND THE NUMBER OF WIRES (NOT INCLUDING GROUND).
  - CONDUITS SMALLER THAN 3" MAY BE UPSIZED TO THE NEXT LARGER SIZE WHEN USED FOR UNDERGROUND INSTALLATIONS OR LONG RUNS.
  - CONDUIT SIZES INDICATED ARE THE MINIMUM RECOMMENDED SIZES, AND MAY BE INCREASED FOR LONG CIRCUITS, OR WHERE MULTIPLE BENDS ARE NECESSARY.
  - ALL FEEDERS FOR 120/208V PANELBOARDS WITH ISOLATED GROUND (IG) BUS SHALL INCLUDE A SEPARATE IG CONDUCTOR TIED TO THE IG BUS.
  - MAXIMUM LIMITS ON THE NUMBER OF TURNS AND CONDUIT LENGTH SHOULD BE VERIFIED FOR ALL UNDERGROUND INSTALLATIONS.

**Riser Diagram Symbol Legend**



**Generator Requirements**

System Type: Standby Duty (NFPA 70 Art. 702 "Optional")  
 Manufacturer: Cummins (Basis of Design)  
 Model: C80D6C  
 Alternator: 60 Hz, Wye, 208 Vol, 125C-Stdby, B946-2  
 Fuel Type: Diesel  
 Type: EPSS Level 1, Type 10, Class 8 (NFPA 110)  
 Voltage: 208/120V, 3P, 4-W  
 Frequency (Hz): 60  
 kW (Standby): 80  
 kVA (Standby): 100  
 Running kW: 72.10%  
 Emissions: EPA Tier 3, Stationary Emergency  
 Housing Enclosure: Aluminum, Sound Attenuated Level 2, based Mfr. w/EthSys (ONAN - Basis of Design)  
 dB(A) at 7 meters: 71.2  
 Fuel Consumption: 7.3GPH at full load  
 Max. Alt. Temp Rise, °C: 120  
 Alt. Excitation: PMG  
 Motor Starting kVA at 90% Sustained Voltage  
 Displacement, cu. in: 272  
 Rated Speed, RPM: 1800  
 Engine Configuration: Cast Iron, In line, 4 cylinder  
 Gross engine power output (bhp): 173

**Misc. Requirements:**

- UL2200 Listed
- Battery Heater
- Battery Charger X2
- Exterior E-Stop
- Meters - AC Output
- Exterior Receptacle
- Display/Control, LCD
- Critical Grade Exhaust Muffler Inlet Enclosure
- Thermostatically Controlled Coolant Heater 120VAC
- (1) 100% Rated Gen Set Mounted Enclosed Circuit Breakers (1) 100% rated 300A Brkr.
- 250 gallon Sub Base Tank, Dual Wall, UL 142 Compliant
- 5-Year Extended Warranty (2500 hours, parts + labor + travel)
- Cummins Power Command Annunciator
- Fuel tank extensions 12 ft below the bottom of the tank
- Quiet Site stage II Enclosure (Aluminum)
- Circuit Breaker Lockout
- Startup and 2 Hour Load Test
- Spill Containment Fuel Fill Box
- Remote Annunciator (NFPA 110)
- 5-Year Preventative Maintenance Contract
- 250 gallons diesel fuel for commissioning
- 120/240V, 1P, 3W, distribution panelboard
- Power Command 2.3 Control System (UL 508)

**ATS Schedule**

TAG	LOAD	STEP	TIME (SEC.)	VOLTS	MIN. CURRENT AMPS	POLES	WIRES	CLOSING & WITHSTAND	
ATS-1	EDP-1	1	10	208	400	3	3	4	65,000

- General Notes:**
- All units shall have open transition, except as noted.
  - Level 1 ATS
  - Protected by molded-case circuit breaker.
  - Closing and withstanding-current ratings are minimum symmetrical amperes. Rating may be attained by using the ATS manufacturer's closing and withstand ratings. Coordinate withstand ratings of upstream overcurrent protection devices and transfer switches with manufactures published data.
  - Provide engine startup and shutdown contacts
  - Basis of Design: Power Generation, OTC Transfer Switch, Level 2 Control (C204), NEMA 1
  - 7.5-year parts, labor & travel warranty.
  - Digital Display
  - Training session.

**General One-Line Diagram Notes**

- ONE LINE RISER GENERAL NOTES:**
- (XXX) = AVAILABLE 3Ø, FAULT CURRENT (RMS, SYM AMPS)
  - (##) = CIRCUIT LENGTH IN FEET. (USED FOR SCA CALCULATIONS ONLY).
  - ALL SHORT CIRCUIT INTERRUPTING RATINGS SHOWN, WHETHER AIC OR MVA IC ARE CALCULATED 3Ø SYMMETRICAL VALUES AT THE LINE TERMINALS OF THE EQUIPMENT, WITH THE EXCEPTION OF 10,000 AIC VALUES. THE WITHSTAND SHORT CIRCUIT CURRENT RATINGS OF PROTECTIVE DEVICES, TRANSFER SWITCHES AND BUS BRACINGS SHALL BE EQUAL TO OR GREATER THAN THE VALUES INDICATED.
  - UNLESS OTHERWISE NOTED ALL CIRCUIT BREAKERS, AND/OR SWITCHES ARE THREE (3) POLE UNLESS NOTED OTHERWISE.
  - REFER TO PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION.
  - JUNCTION AND PULL BOXES ARE NOT NECESSARILY SHOWN ON THIS DRAWING AND SHALL BE PROVIDED WHERE NECESSARY AND SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND INSTALLED WHERE REQUIRED.
  - CONTRACTOR SHALL FURNISH & INSTALL PLASTIC LAMINATE SIGN (MIN. DIMENSIONS 8"X12") ON ENCLOSURE OF MAIN DISCONNECT SWITCH STARTING "CAUTION - CURRENT LIMITING FUSES INSTALLED. IDENTICAL REPLACEMENT COMPONENT REQUIRED. TYPE KLP6 AS MANUFACTURED BY LITTLEFUSE, INC.
  - ALL EXTERIOR RACEWAYS SHALL BE SCHEDULE 40 PVC, SUNLIGHT RESISTANT. ALL PVC RACEWAYS THAT EXTEND ABOVE FINISHED GRADE AND TRANSITION TO FIXED EQUIPMENT SHALL BE EQUIPPED WITH EXPANSION COUPLINGS.
  - THIS FACILITY IS IN OPERATION 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL MINIMIZE POWER INTERRUPTION(S) TO THE FULLEST EXTENT POSSIBLE AND SHALL SCHEDULE NECESSARY OUTAGES DURING NIGHTTIME HOURS. CONTACTOR SHALL PROVIDE TEMPORARY BACKUP GENERATOR FOR ALL OUTAGES THAT LAST MORE THAN TWO (2) HOURS.
  - GENERATORS ONLY CONTRACTOR RESPONSIBLE TO COORDINATE APPROVALS OF GENERATOR AND TRANSFER SWITCHES WITH THE UTILITY CO.
  - GENERATORS ONLY ALL EXTERIOR RACEWAYS TO GENERATOR SHALL BE INSTALLED BELOW FINISHED GRADE.
  - GENERATORS ONLY PER NEC 100.10, CONTRACTOR SHALL PROVIDE FIXED IDENTIFICATION ON ALL BOXES AND ENCLOSURES (INCLUDING TRANSFER SWITCHES, GENERATORS, AND POWER PANELS) CONTAINING EMERGENCY CIRCUITS TO READILY IDENTIFY THE AS COMPONENTS OF AN EMERGENCY SYSTEM. IDENTIFICATION LABELS SHALL BE WHITE LETTERING ON RED BACKGROUND. ALL EMERGENCY IDENTIFICATION PLATES SHALL BE ENGRAVED WITH LETTERING HEIGHT 1/2" AND MUST BE SECURED WITH RIVETS.
  - GENERATORS ONLY A PERMANENT SIGN SHALL BE PLACED ON THE SERVICE ENTRANCE EQUIPMENT BY THE CONTRACTOR THAT INDICATES THE LOCATION OF THE ALTERNATE ON-SITE POWER SOURCE
  - GENERATORS ONLY A SIGN SHALL BE PLACED ON THE SERVICE ENTRANCE EQUIPMENT AND AT THE GROUNDING LOCATION, INDICATING THAT THE REMOVAL OF THE GROUNDING OR BONDING CONNECTION IN THE NORMAL POWER SOURCE WILL CREATE A SHOCK HAZARD. CONTRACTOR SHALL FURNISH AND INSTALL A SIGN WITH RED LETTERING ON WHITE BACKGROUND AS FOLLOWS:  
 WARNING  
 SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE(S) IS ENERGIZED

**Sequence Of Work**

- SEQUENCE OF WORK FOR INSTALLING NEW TRANSFER SWITCH AND NEW EMERGENCY GENERATOR: THE SEQUENCE SHOWN BELOW DOES NOT DESCRIBE ALL THE STEPS THAT ARE REQUIRED TO REMOVE THE EXISTING AND INSTALL THE NEW TRANSFER SWITCH AND NEW GENERATOR. THE CONTRACTOR IS REQUIRED TO SUBMIT A DETAILED SEQUENCE OF HOW THE CONTRACTOR INTENDS TO REMOVE AND INSTALL THE NEW TRANSFER SWITCH AND NEW GENERATOR. THE CONTRACTOR'S SEQUENCE SHALL LIST PREPARATORY STEPS THAT MUST BE TAKEN TO RESULT IN MINIMUM DOWN TIME TO THE FACILITY'S OPERATION AND MUST BE APPROVED BY THE FACILITY BEFORE IT CAN BE EXECUTED.
- PROVIDE A 80KW RENTAL GENERATOR WITH ADEQUATE FUEL FOR 24 HOURS OF OPERATION AT FULL LOAD.
  - DISCONNECT AND REMOVE EXISTING EMERGENCY GENERATOR AND SAFEGUARD CABLES.
  - REMOVE EXISTING GENERATOR PAD AND INSTALL NEW PAD.
  - CONNECT RENTAL GENERATOR WITH TEMPORARY CABLES TO GENERATOR FEEDER CABLES.
  - DISCONNECT EMERGENCY GENERATOR FEEDER CABLES FROM TRANSFER SWITCH EMERGENCY TERMINALS AND SAFEGUARD CABLES.
  - OPEN TR SW NORMAL 400A FEEDER BREAKER IN PANEL PP-1 AND DISCONNECT FEEDER FROM TRANSFER SWITCH NORMAL TERMINALS AND 400A BREAKER.
  - OPEN SERVICE DISCONNECT SWITCH AND REMOVE SERVICE CONDUCTORS FROM PANEL PP-1. SAFEGUARD SERVICE CONDUCTORS.
  - USE TEMPORARY CABLES TO CONNECT EMERGENCY GENERATOR FEEDER TO PANEL PP-1. START UP GENERATOR AND PROVIDE POWER TO PANEL PP-1.
  - FEED PANEL EDP-1 FROM PANEL PP-1 400A BREAKER.
  - INSTALL NEW TRANSFER SWITCH IN NEW LOCATION SHOWN ON DRAWINGS.
  - CONNECT SERVICE CONDUCTORS TO NEW TRANSFER SWITCH NORMAL TERMINALS.
  - DISCONNECT EMERGENCY GENERATOR FROM PANEL PP-1
  - CONNECT NEW TRANSFER SWITCH LOAD TERMINALS TO PANEL PP-1.
  - CONNECT EMERGENCY GENERATOR WITH PERMANENT FEEDER TO EMERGENCY LUGS OF NEW TRANSFER SWITCH.
  - DISCONNECT AND REMOVE RENTAL GENERATOR.
  - INSTALL NEW EMERGENCY GENERATOR. TEST & COMMISSION NEW EMERGENCY SYSTEM.

NJ Certificate of Authorization  
 Eng. No. 24047937500  
 Arch. No. 21AC00012400  
 Date 11-1-19  
 Checked BH  
 Drawn DN

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**Revisions:**

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**ONE-LINE DIAGRAM**  
 ELECTRICAL UPGRADES AT  
 LEHMAN GARDENS APARTMENTS  
 12 SULJAK LN  
 PARK RIDGE, N.J. 07656

Job No. 2.2591.56  
 Rev. No. 259156E601

**E6.01**