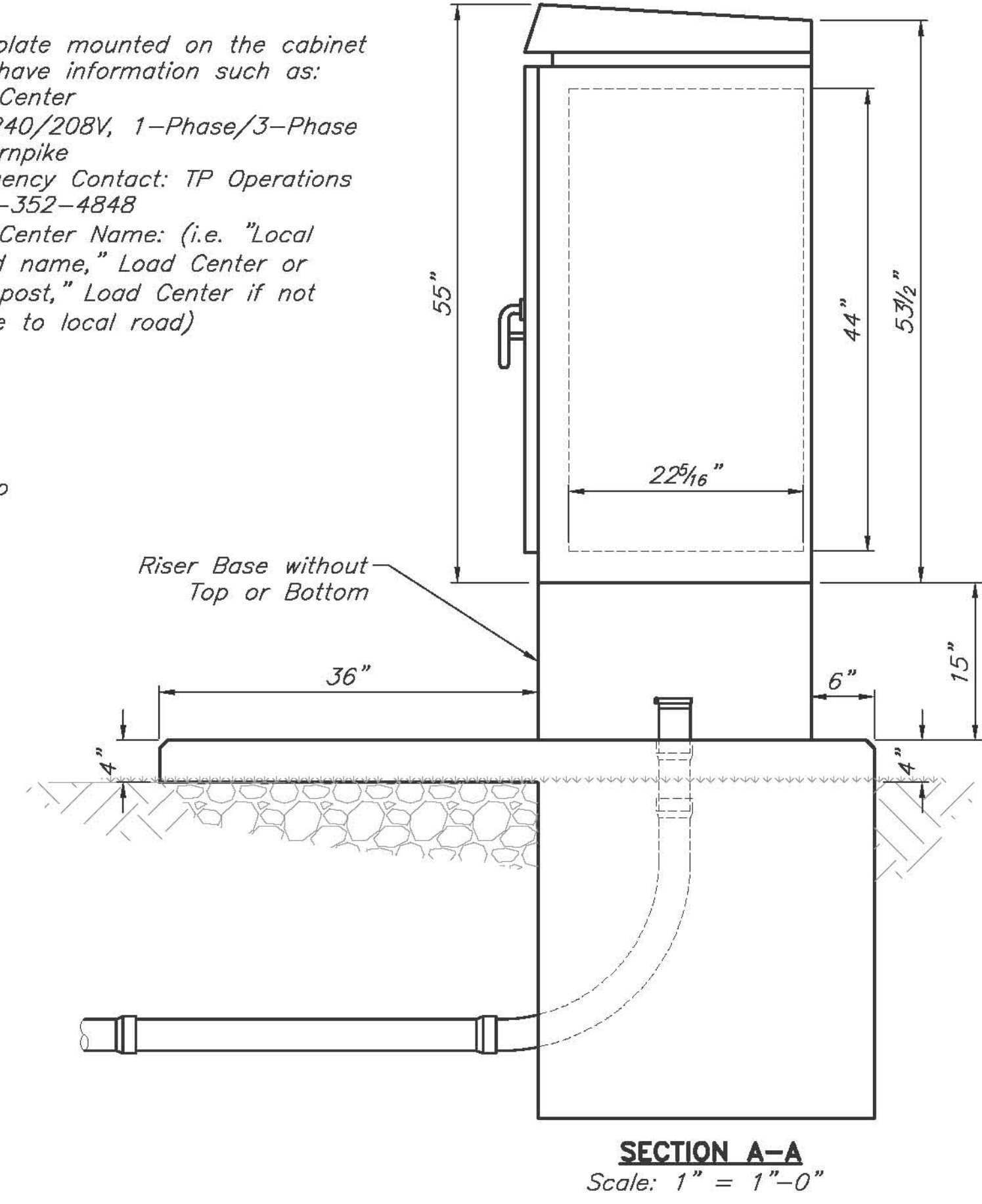


**NJTA LOAD CENTER  
TYPE G AND FOUNDATION**

**NOTE:**  
Nameplate mounted on the cabinet shall have information such as:  
Load Center  
480/240/208V, 1-Phase/3-Phase  
NJ Turnpike  
Emergency Contact: TP Operations  
800-352-4848  
Load Center Name: (i.e. "Local  
Road name," Load Center or  
"Milepost," Load Center if not  
close to local road)



**LEGEND**

- A Meter Socket and Meter:** Meter socket shall be furnished and installed by the contractor as approved by the utility company. Meter shall be furnished and installed by the utility company. Meter shall be sized appropriately as shown below:
- 240/480V service, 200A, 1-phase
  - 120/240V service, 100A, 1-phase
  - 120/208V service, 100A, 3 phase
- B Main Circuit Breaker-Service Disconnect:** 1-phase, 2 pole, molded case circuit breaker, labeled with "Main". Circuit breaker enclosure shall be Nema 1 rated. Circuit breaker and enclosure shall be manufactured by Square D as shown below, size as per contract plans.
- 100A Main Circuit Breaker Ratings:**
- 120/240V: 10K A.I.C., Cat. # FAL22100
  - 240/480V: 18K A.I.C., Cat. # FAL24100
  - 120/208V: 18K A.I.C., Cat. # FAL32100
  - Enclosure Cat. # FA100S
- 200A Main Circuit Breaker Ratings:**
- 240/480V: 35K A.I.C., Cat. # JGL26200
  - Enclosure Cat. # J250S
- C Main Contactor:** 2 pole, 120V coil, 100A frame without enclosure. Contactor shall be manufactured by Square D, Cat. # as shown below:
- 120/240V contactor - SQ01-V02
  - 240/480V contactor - SQ01-V02
  - 120/208V contactor - SQ01-V02
- D Control Transformer:** 1-phase, 3 wires, 3kVA dry type transformer with mounting lugs for outdoor use. Control transformer shall be manufactured by Square D or approved equal.
- 480V - 120/240V: 3S40F, (required only for 240/480V service)
- E Control Circuit Breaker:** 2 pole, 100A frame, 20A trip, and bolt on type circuit breaker without enclosure. Circuit breaker shall be manufactured by Square D, as shown below:
- 120/240V: 10k A.I.C., FAL22020
  - 240/480V: 18k A.I.C., FAL24020
  - 120/208V: 10k A.I.C., FAL12020
- F Control Panelboard:** 1-phase, 3 wires, 120V, 70A main lug with (4) 1-pole spaces, with enclosure, panelboard shall be manufactured by Square D, Cat. # Q024L70F.

**LEGEND CONTINUED:**

- G Lighting Panelboard:** Solid groundable neutral panelboard shall be Nema 3R as manufactured by Square D, Cat. # shown below:
- 120/240V: NQ18L1 with (18) 1-pole spaces without enclosure, 100A MCB, single phase, 3 wire
  - 240/480V: NF18L1 with (18) 1-pole spaces without enclosure, 125A MCB, single phase, 3 wire
  - 120/208V: NQ418L1 with (18) 1-pole spaces without enclosure, 100A MCB, 3 phase, 4 wire
- Use 70A branch circuit breaker for wire size #2AWG or larger. Other sizes (30A and 50A) may be use for smaller wire size.
- H Bypass Switch:** Photoelectric control bypass switch, spst, 20A, 120V, heavy duty toggle switch.
- I Photocell Unit:** Single pole, 120V, 1800VA. Photocell shall be mounted thru control cabinet (120 V) with gasketed lexan lens, facing north and shall not be affected by artificial lights. Photocell shall be utility grade, locking type, manufactured by Precision Multiple Controls or approved equal.
- J Thermostat:** 120V line, 500W, operating range from 40°F to 70°F, weather proof Type - FS box.
- K Strip Heater:** 120V, 500W, chrome steel sheath for temperature up to 1200°F (max), 1/2" wide terminals at one end.
- L Duplex Receptacle:** 120V, 20A heavy duty duplex receptacle GFCI type with grounding lug in weather proof Type-FS box.
- M Secondary Circuit Breaker:** 2-pole, 100A, 3 wires, without enclosure. Circuit breaker shall be manufactured by Square D, Cat. # as shown below:
- 120/240V: 10kA.I.C., FAL22100
  - 240/480V: 18kA.I.C., FAL24100
- For 3-phase, 208V, 100A frame, 100A trip, without enclosure, breaker shall be as manufactured by Square D FAL32100
- N Copper Ground Rod:** 3/4" dia. x 10ft long. See note 5.
- O Anchor Bolt Assembly:** (See E-35)
- P Copper Ground Lug:** 3/8" bolt size, #8 AWG ground wire, tin plated with inspection hole, lug shall have red color dye. Ground lug shall be manufactured by Thomas & Betts, CAT. #54132 or approved equal.
- Q Meter Disconnect:** 480V, 3-Wire, single throw, non-fusible safety switch with lock on option. Switch shall be installed inside stainless steel NEMA 4X enclosure. Switch and enclosure shall be manufactured by Square D as shown below, size as per contract plans.
- 100A Service -Cat. # HU363DS - SPL0
  - 200A Service -Cat. # HU364DS - SPL0
- 1** Three (3) 3" Rigid Metallic Conduit with bronze ground bushings, couplings and extension conduit stubs, as required. See notes 6.
- 2** 3" Rigid Metallic Conduit (incoming service) shall have 4 #2 AWG wires. Contractor shall leave wire coil 10 ft. up the pole for utility connection and shall seal top of conduit on the pole. See note 2.
- 3** 3" PVC SCH-40. (Meter Cabinet to Load Center)
- 4** #8 bare ground wire to the Rigid Metallic bronze conduit bushing, cabinet and ground rod w/approved connector. See note 6.
- 5** 3" Rigid Metallic Conduit with incoming service wires (See note 17).
- 6** 2" Rigid Metallic Conduit with 4 #2 AWG.
- 7** 3" Liquidtite Flex Metallic Conduit (LFMC) with 4 #2 AWG or as specified on the Contract Plans. (To Load Center)

**NOTES**

1. All interconnections between devices shall be by means of open wiring properly fastened to back board with approved insulated type clamp assembly.
2. For service run longer than 300 feet, wire size shall be as per the contract drawings.
3. The Contractor shall submit for approval a detailed layout of all internal devices, based on the actual dimensions of proposed equipment and enclosures.
4. The Contractor shall supply and install a load center and a meter cabinet as manufactured by APX Enclosures, Inc. The load center shall be single door, Cat. #APX554426 with riser base (15"Hx44"Wx26"D) and meter cabinet Cat. # TCPE531616. Both cabinets shall have aluminum back panel, NEMA 3R rated and made from 0.125" aluminum (5052-H32). Load center shall have slam lock with Corbin #2 key. Meter cabinet shall have "Police Slam Latch" with skeleton key. Contractor shall provide manufacturer's shop drawing for the cabinets to the engineer for approval.
5. Provide ground rod (3/4"x10ft long) at all cabinets and Type-C junction box. Ground rod shall be installed with the pad pour; it shall be stubbed-up 4" in the bottom of the cabinets for connection. See Standard Specifications in Section 918.
6. All conduit bushings shall be Type RBLG, manufactured by O-Z/Gedney.
7. 0.025 gauge aluminum nameplate with die stamped black letters and numbers shall be installed on each cabinet door. Nameplate shall have stainless steel rivet type screw to mount it on the cabinet. Install nameplate 8" below top of cabinet.
8. Location of meter cabinet foundation, size, number and direction of conduit run shall be taken from the contract electrical plans for the area where required and subject to the approval of the engineer.
9. Terminate all metal conduits when entering enclosures with locknut and bonding bushings. All other conduits shall be provided with bonding bushings.
10. The Contractor shall submit a reinforcing steel design layout for the cabinets foundation as part of the shop drawing submission for approval by engineer.
11. Anchorage of cabinet enclosure shall be as per cabinet manufacturer's details.
12. The Contractor shall label all equipments with voltage and their use. (i.e. 240/480V, 1φ, LP etc.)
13. Contractor shall extend three (3) 3" Rigid Metallic conduits to the Type C junction box.
14. The conduit configuration shown is for one Type C junction box. If specified in the contract plans, the Contractor shall install two (2) rows of conduits instead of three (3) conduits across.
15. See E-35 for the load center wiring diagram.
16. Install 1-phase, cold sequence safety switch with "Lock On" option before the meter. Cold sequence safety switch shall be installed only for 480V service. Label switch "480 Volt Meter Disconnect".
17. Use 3" to 2" conduit reducing fitting, and 2" rigid metallic conduit for instances when disconnect switch is not installed and conduits enters the meter pan directly.
18. Conduits, conduit fittings, and couplings should not interfere with disconnect switch enclosure door.

If you use this DWG:	
You also need	E-35
You may need	E-01



APP.	NO.	DATE	REVISION
	1	08/2012	MODIFY NOTES AND LEGEND
	2	05/2009	ORIGINAL DRAWING

NEW JERSEY TURNPIKE AUTHORITY  
**NEW JERSEY TURNPIKE**  
TYPE G LOAD CENTER  
DETAILS - 1

**HNTB** 145 RT. 46 WEST, SUITE 400,  
WAYNE, NJ 07470 - CO# 24628000700  
**ANTHONY L. BARTELLO**  
New Jersey Professional Engineer License No. GE 40842

**STANDARD  
DRAWING  
E-34**

	BY	DATE
MADE	EMG	05/2009
TRACED	MDC	05/2009
CHECKED	EMG	05/2009
SUPERVISED	ALB	05/2009