

16-13-40

ELECTRICAL SPECIFICATIONS
SECTION 16
PROJECT NUMBER 258

PART 1 - GENERAL REQUIREMENTS:

1.1 DESCRIPTION

A. Scope: The electrical work consists of furnishing everything necessary for and incidental to the execution and completion of all electrical work indicated on the drawings and specified below including but not limited to:

1. Lighting fixtures and poles as indicated and specified on the plans.
2. Electrical panels, conduits, wiring, etc. for all outlets and equipment.
3. Pole foundations for lighting poles.
4. Control wiring for lighting systems.

B. The drawings are diagrammatic unless indicated otherwise. The drawings reflect circuiting only and are not depicting exact conduit routing unless specifically noted otherwise.

1. Data presented on these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. Review all drawings and adjust all work to meet the requirements of conditions shown. Discrepancies between different plans, or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the Engineer in writing before the date of bid opening. If discrepancies are not reported, the contractor shall bid the greater quantity or better quality, and appropriate adjustments will be made after contract award. Contractor shall be responsible to field measure and confirm mounting heights and location of electrical equipment with respect to counters, radiation, etc. Do not scale distances off the electrical drawings. Use actual building dimensions.

C. Examine all drawings for work required by this subcontractor.

1.2 Codes

A. All work shall be in accordance with the NEC and local governing codes.

1.3 Substitutions

A. Contractor's bid price shall reflect the costs of all materials as specified. No prior approval of materials will be given prior to award of bid.

B. Substitutions of equal quality and of benefit to the Owner will be evaluated at the Contractor's request. Any additional cost to the owner for review of substitutions will be at the Contractor's expense.

C. After review of substitutes, the decision of the Engineer in determining equal materials will be final.

1.4 Submittals

A. Provide Submittals for the following equipment:

Lighting Poles
Lighting Fixtures
Motor Detector and Push Button Switches

B. Shop Drawings and Approvals

1. The Contractor shall submit six (6) identical bound sets of shop drawings on the following items:

a) Data sheets of all wiring devices, lighting fixtures, poles, fuses, motion detectors, and push button switches.

1.5 Quality Assurance

A. All work shall be completed in a neat and workman-like manner and in accordance with NECA standards.

B. All work shall be subject to inspection and possible rejection if not in accordance with these specifications, the drawings and installed in neat and workmanship manner.

C. Any rejected work shall be replaced at no additional cost to the Owner.

PART 2 - PRODUCTS:

2.1 Material and Equipment

A. Material and equipment shall be new and of current production by manufacturers regularly engaged in the manufacture of such items. All material shall be UL listed.

B. Conduits

1. Interior conduit shall be EMT with compression or set screw fittings.
2. Exterior conduit shall be type RGS.
3. Exterior buried conduit shall be schedule 40 PVC.
4. Conduit fittings shall be steel or malleable iron type.

C. Cable

1. Conductors shall be type THW 75 degree wire.
2. Conductors shall be copper.
3. Minimum wire size shall be #12 AWG.

a. 120V branch circuits over 65 feet in length from the center of the load to the panel shall be #10 AWG and branch circuits over 130 feet shall be #8 AWG. Increase conduit and wire sizes as required at no additional cost to the owner.

4. Unless otherwise required by local ordinances ground wires shall be green, neutral wires shall be white (120V) and live wires shall be black (Phase A), red (Phase B), and blue (Phase C) for a 120/240 volt system. High leg of the delta system shall be colored orange.

D. Wiring Devices

1. Lighting Control

a. Furnish and install motion detectors, push button switches, and contactors required for lighting control as indicated on the drawings.

b. Contactors shall be electrically operated and held in NEMA Type I enclosures having amperage capacity and number of poles and voltage class indicated.

E. Overcurrent Protection Devices:

1. Circuit breakers shall be of the same manufactures as panelboards. Provide breakers as noted on the schedule.

2. All fuses installed in fused disconnects shall be Class R unless noted otherwise.

F. Provide grounding for all branch circuits. All conduit shall have a separate ground wire.

G. Lighting fixtures and accessories:

1. Lighting fixtures shall be as shown on the drawings.
2. Provide lamps for all fixtures.

a. Lamps shall be guaranteed as follows:

- 1) HID - 1 year from beneficial occupancy.

H. Outlet, Pull and Junction Boxes

1. Grade mounted pullboxes shall be precast concrete with bolt down steel traffic covers.

PART 3 - EXECUTION

3.1 Installation

A. Equipment locations shall be as close as practical to locations shown on the plan drawings and subject to such approved revisions at no cost to the owner as may be found necessary or desirable at the time work is installed.

B. Close all openings in walls, floors, and roofs to the approval of the Owner.

C. Paint all conduits and boxes that are required to be exposed to match building surfaces. Run all exposed conduit parallel and perpendicular to building lines.

D. Provide engraved phenolic nameplates on all equipment and install typed directory in panelboards. Fasten nameplates with screws or rivets, do not use adhesive.

E. Coordinate the work with other trades.

F. Megger test all feeder circuits after installation.

G. Request inspections from Local Governing Authorities.

3.2 Project Completion

A. Remove all discarded materials from demolition and installation from the job site.

B. Provide reproducible record drawings of all completed work.

C. Guarantee all material furnished and all workmanship performed for a period of one year from the date of final acceptance of the work. Any defects developing within this period, traceable to material furnished as a part of this Section or workmanship performed hereunder, shall be made good at no additional expense to the Owner.

"END OF SECTION"

PANEL P1*1 . 1 PH, 3 WIRE, 120/240 VOLTS 400 A MCB FLOOR MOUNTED											
MIN INTERRUPTING RATING 42,000 RMS SYM AMPS LOCATION: SEE PLANS NEMA 3R											
L = LIGHTS, R = RECEPTACLES, M = MECHANICAL EQUIPMENT, SO = SPACE ONLY, SC = SPARE CIRCUIT, E = EXISTING, G = GFI BREAKER											
MLO = MAIN LUGS ONLY, MCB = MAIN CIRCUIT BREAKER, N = NEW											
POLE SPACE	CIRCUIT USE		CKT BKR RATING	CONNECTED LOAD VA		CKT BKR RATING	CIRCUIT USE		POLE SPACE		
ckt #	#			A	B				ckt #	#	
1	1	E -L-PARKING LOT	30/2	2190							
				500							
					2190	15	E -CONTROL T-1		2	2	
3		X	X		900	20	E -R-		4	4	
5	5	E -L-JOGGING PATH	30/2	2160							
				900		20	E -R-		6	6	
7		X	X		2160						
					1760	20	E -L-HORSESHOE		8	8	
9	9	L -TENNIS COURT *2	50/2	4420							
							SO		10	10	
11		X	X		4420						
		TENNIS COURT			1760	20	E -L-VOLLEY BALL		12	12	
13	13	LIGHTING CONTROL	20	500							
							SO		14	14	
15		SO									
					720	20	E -R-HORSESHOE		16	16	
17	17	E -WITH CLOCK	20	500							
					720	18	E -R-VOLLEY BALL		18	18	
19		SO							20		
21		SO							22		
23		SO							24		
25		SO							26		
27		SO							28		
29		SO							30		
31		SO							32		
33		SO							34		
35		SO							36		
37		SO							38		
39		SO							40		
41		SO							42		
*1 EXISTING PANEL				11890	13910						
					25800						

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DESCRIPTION

DATE

REV

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ELECTRICAL ENGINEERING

SHEET TITLE:
ELECTRICAL SPECIFICATIONS

PROJECT:

BUNKER PARK-TENNIS COURT LIGHTING

JOB NUMBER:

258

DATE:

7-30-92

DRAWN BY:

BK

CHECKED BY:

TOM KROB

RECOMMENDED:

6/17/92

DATE:

SHEET:

E-2

3 OF: 3

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