

- GENERAL NOTES**
- ALL COPPER GROUNDING ELECTRODES CONDUCTORS SHALL BE IDENTIFIED EVERY 4' WITH GREEN TAPE IF INSULATED AND EXPOSED.
 - ALL NATIONAL ELECTRICAL CODE ARTICLE NUMBERS ARE BASED ON THE 2011 N.E.C.
 - EACH CONDUCTOR SHALL BE PERMANENTLY IDENTIFIED AT GROUND BUS AS TO EQUIPMENT SERVED.

- KEYED NOTES**
- NEUTRAL (GROUNDED CONDUCTOR) TO BE BONDED ONLY AT METER OR SERVICE PANEL NOT BOTH.
 - 3/4" CONDUIT PVC WITH #8 COPPER GROUNDING ELECTRODE CONDUCTOR SIZED PER TABLE 250.66.
 - TWO COPPER GROUND RODS, 5/8" BY 10' LONG, SPACED A MINIMUM OF 6' APART. GROUND CONNECTIONS SHALL BE EXOTHERMIC WELDS. PROVIDE 6" PVC SLEEVE WITH THREADED CAP INSTALLED FLUSH WITH FINISHED GRADE FOR ACCESS FOR SERVICE AND/OR INSPECTION.

SPECIFICATIONS

- GENERAL**
PROVIDE MATERIALS, EQUIPMENT, ACCESSORIES, INCIDENTALS, ARTICLES, ITEMS OPERATIONS, INCLUDING LABOR, NECESSARY OF COMPLETION OF WORK INDICATED AND/OR CALLED FOR ON THESE DRAWINGS.
- REGULATORY REQUIREMENTS**
ALL WORK SHALL BE PER FBC BUILDING, NEC, NFPA, UL, LOCAL INSPECTORS, AND OTHER APPLICABLE CODES.
- COORDINATION**
 - INSTALLATION OF ALL WORK SHALL BE COORDINATED WITH THE SITE EXISTING CONDITIONS.
 - THE ELECTRICAL CONTRACTOR SHOULD VISIT THE SITE PRIOR TO BIDDING.
 - THIS CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL SERVICE TO EQUIPMENT FURNISHED BY OTHER TRADES WITH THE APPROPRIATE SUBCONTRACTOR. COORDINATE ROUGH IN WITH NEW STRUCTURAL WORK.
- GUARANTEES**
THE CONTRACTOR SHALL PROVIDE A ONE YEAR WRITTEN GUARANTEE FOR ALL MATERIALS AND LABOR FROM THE DATE OF SUBSTANTIAL COMPLETION. GUARANTEE SHALL COVER ALL LABOR AND MATERIALS TO REPLACE DEFECTIVE MATERIALS AND TO ENSURE PROPER OPERATION OF ALL SYSTEMS.
- SHOP DRAWINGS**
SUBMIT SHOP DRAWINGS FOR ALL ELECTRICAL EQUIPMENT, DEVICES AND PRODUCTS.
- MATERIALS**
CONDUIT
 - 3/4 INCH UNLESS OTHERWISE SPECIFIED. 1/2 INCH FOR FLEXIBLE CONNECTIONS TO EQUIPMENT.
 UNDERGROUND INSTALLATIONS:
 - USE THICK WALL NONMETALLIC CONDUIT.
 - USE RIGID STEEL CONDUIT PAINTED WITH A COAT OF BITUMASTIC.
 3. IN OR UNDER SLAB ON GRADE: USE RIGID STEEL CONDUIT. PAINT UNDER SLAB CONDUIT OR POURED-IN CONCRETE WITH A COAT OF BITUMASTIC, CONTINUOUSLY AND UP THROUGH PENETRATION OF CONCRETE SLABS.
 - MINIMUM SIZE: 3/4.
 OUTDOOR LOCATIONS, ABOVE GRADE, CONCEALED: USE RIGID STEEL AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
 WET AND DAMP LOCATIONS: USE RIGID STEEL AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
 DRY LOCATIONS:
 - CONCEALED: USE RIGID STEEL, INTERMEDIATE METAL CONDUIT, AND ELECTRICAL METALLIC TUBING.
 - EXPOSED: USE RIGID STEEL BELOW EIGHT FEET AND ELECTRICAL METALLIC TUBING ABOVE EIGHT FEET.
 BUILDING WIRE AND CABLE
 - DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.
 - CONDUCTOR: COPPER.
 - INSULATION VOLTAGE RATING: 600 VOLTS.
 - INSULATION: ANSI/NFPA 70, TYPE THHN/THWN, XHHW MATERIAL RATED 90 DEGREES C.
 WALL SWITCHES
 - DESCRIPTION: NEMA WD 1, HEAVY-DUTY AC ONLY GENERAL-USE SNAP SWITCH.
 - DEVICE BODY: IVORY PLASTIC WITH TOGGLE HANDLE.
 - VOLTAGE RATING: 120 VOLTS, AC.
 - CURRENT RATING: 20 AMPERES.
 RECEPTACLES
 - DESCRIPTION: NEMA WD 1; HEAVY-DUTY HOSPITAL GRADE GENERAL-USE RECEPTACLE.
 - DEVICE BODY: IVORY PLASTIC FOR GENERAL USE RECEPTACLES.
 - CONFIGURATION: NEMA WD 6; TYPE AS SPECIFIED AND INDICATED.
 - CONVENIENCE RECEPTACLE: TYPE 5-20.
 - GFCI RECEPTACLE: CONVENIENCE RECEPTACLE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER TO MEET REGULATORY REQUIREMENTS.
 - WEATHERPROOF COVER PLATE: GASKETED CAST METAL WITH HINGED GASKETED DEVICE COVER WITH IN USE COVER.
 ELECTRICAL IDENTIFICATION
 - PROVIDE ENGRAVED NAMEPLATE LABELS FOR ALL PANEL BOARDS AND DISCONNECTS INDICATING PANEL NAME OR LOAD SERVED.
 DISCONNECT SWITCHES
 - FUSIBLE SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD, FS W-S-865; QUICK-MAKE, QUICK-BREAK, LOAD INTERRUPTER ENCLOSED KNIFE SWITCH WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION. HANDLE LOCKABLE IN OFF POSITION. FUSE CLIPS: FS W-F-870.
 - NONFUSIBLE SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD; FS W-S-865; QUICK-MAKE, QUICK-BREAK, LOAD INTERRUPTER ENCLOSED KNIFE SWITCH WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION. HANDLE LOCKABLE IN OFF POSITION.
 ENCLOSURES: NEMA KS 1; AS INDICATED ON DRAWINGS.
 SECONDARY GROUNDING
 - GROUND EACH SEPARATELY-DERIVED SYSTEM NEUTRAL TO NEAREST EFFECTIVELY GROUNDED METALLIC WATER PIPE, CONCRETE ENCASED REBAR, NEAREST EFFECTIVELY GROUNDED BUILDING STRUCTURAL STEEL MEMBER, AND SEPARATE GROUNDING ELECTRODE.
 - BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND CABLES, RECEPTACLE GROUND CONNECTORS, AND PLUMBING SYSTEMS.
 - INSPECT GROUNDING AND BONDING SYSTEM CONDUCTORS AND CONNECTIONS FOR TIGHTNESS AND PROPER INSTALLATION.
 - PRIOR TO ENERGIZING, MEASURE GROUND RESISTANCE FROM SYSTEM NEUTRAL CONNECTION AT SERVICE ENTRANCE TO CONVENIENT GROUND REFERENCE POINT USING SUITABLE GROUND TESTING EQUIPMENT. RESISTANCE SHALL NOT EXCEED 5 OHMS.
 BRANCH CIRCUIT PANEL BOARDS
 - LIGHTING AND APPLIANCE BRANCH CIRCUIT PANEL BOARDS: NEMA PB1; BOLTED OR PLUG-IN CIRCUIT BREAKER TYPE WITH ALL COPPER BUSS BARS.
 - ENCLOSURE: NEMA PB 1; TYPE 1 OR 3R AS SHOWN ON THESE DRAWINGS.
- INSTALLATION**
 - ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED PER THEIR RESPECTIVE MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE ADEQUATE CLEARANCE FOR ALL EQUIPMENT.
 - PROVIDE INSULATED GROUND CONDUCTOR IN ALL RACEWAYS.
 - ALL LIGHT FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM THE GROUND USING APPROVED AND SUITABLE MOUNTING METHODS. PROVIDE ALL NECESSARY MOUNTING ACCESSORIES.
- DATA JACK SYSTEM AND LABELING**
 - RECESSED MOUNT - PROVIDE FACE PLATE AND SPECIFIED NUMBER OF RJ-45 CONNECTORS. JACKS SHALL MEET CATEGORY 5-E SPECIFICATIONS.
 - PROVIDE RISER RATED, CATEGORY 5 COMPLIANT, UNSHELD TWISTED PAIR (UTP) COPPER CABLE. CABLE SHALL CONTAIN INSULATED PRIMARIES ENCLOSED IN A THERMOPLASTIC OUTER JACKET. COORDINATE FINAL COLOR OF CABLE WITH THE OWNER.

LUMINAIRE SCHEDULE (CONTINUED)

| TYPE | MANUFACTURER | CATALOG NUMBER | LIGHT SOURCE | | | | DIMMING | VOLTS | MOUNTING | NOTES |
|------|--------------|---|--------------|---------------|-------------------|-------------|---------|-------|------------------------|--|
| | | | TYPE | OUTPUT LUMENS | KELVIN COLOR TEMP | INPUT WATTS | | | | |
| B1 | LSI | MRB-LED-25L-ACR-A-DIM-30-PC120-GPT-H42-GFR | LED | 2500 | 3000K | 23 | YES | UNV | MOUNT TO CONCRETE BASE | ASYMMETRIC 42" TALL BALLARD LIGHT FIXTURE WITH DIMMING LED DRIVER 0-10 VOLTS. GRAPHITE FINISH COLOR. GFI DUPLEX RECEPTACLE WITH WEATHERPROOF LOCKABLE COVER. 18"x3"-0" DEEP ROUND CONCRETE BASE. |
| B2 | LSI | MRB-LED-25L-ACR-A-30-PC120-GPT-H42-UNV-DIM. | LED | 2500 | 3000 | 23 | NO | 120 | MOUNT TO CONCRETE BASE | ASYMMETRIC 42" TALL BALLARD LIGHT FIXTURE. GRAPHITE FINISH COLOR. 18"x3"-0" DEEP ROUND CONCRETE BASE. |
| M1 | BEGA | 77852-10048 K3 | LED | 1534 | 3000 | 34 | YES | 120 | IN-GROUND WELL LIGHT | STAINLESS STEEL HOUSING WITH OUTER SHELL HOUSING. TEMPERED SAFETY GLASS AND ROUND SPREAD LENS. |

| REMARKS | CKT. | LOAD SERVING | | | | | | | | LOAD SERVING | | | | | | | | REMARKS | | | |
|--------------|------|--------------|---|-----------|-------|--------|-------|------|-----|--------------|------|-----------|-----|--------|-------|--------|-------|---------|------|-----------------|-----|
| | | POLES AND | | VOLT AMPS | | | | WIRE | | POLES AND | | VOLT AMPS | | | | WIRE | | | | | |
| | | A | B | LIGHTS | POWER | LIGHTS | POWER | SIZE | NO. | NO. | SIZE | A | B | LIGHTS | POWER | LIGHTS | POWER | | AMPS | CKT. | |
| BALLARDS B2 | 1 | 20/1 | | | | | | 12 | 1 | 2 | 12 | | | | | | | 20/1 | 2 | BALLARDS B1 | |
| ARCH LIGHTS | 3 | 20/1 | | | | | | 12 | 3 | 4 | 12 | | | | | | | 20/1 | 4 | MONUMENT LIGHTS | |
| RECEPTACLE 4 | 5 | 20/1 | | | 180 | | | 12 | 5 | 6 | | | | | | | | | 6 | SPACE | |
| RECEPTACLE 4 | 7 | 20/1 | | | | | | 12 | 7 | 8 | | | | | | | | | 8 | SPACE | |
| SPACE | 9 | | | | | | | | 9 | 10 | 10 | | | | | | | | 30/2 | 10 | SPD |
| SPACE | 11 | | | | | | | | 11 | 12 | 10 | | | | | | | | - | 12 | - |
| | | | | | 70 | 180 | 400 | 180 | | | | | 220 | 0 | 0 | 0 | 0 | | | | |

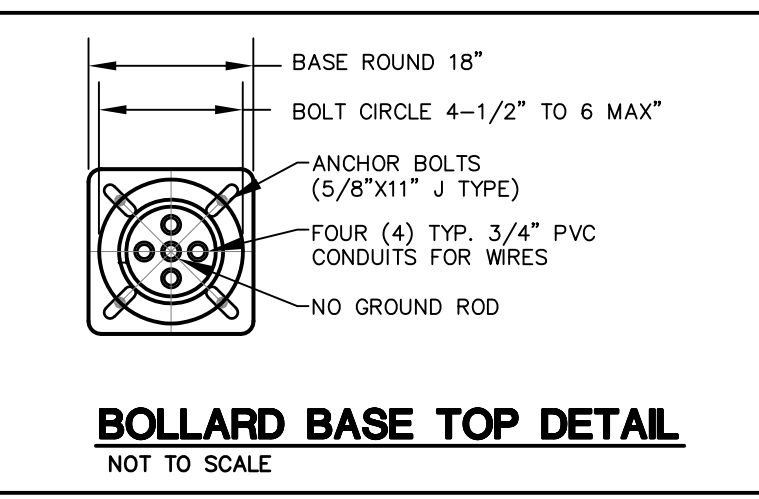
| CALCULATIONS | | | | | | |
|---------------|------------|------------|--------|------------|------------|--|
| CONNN. | LOAD | | DESIGN | | LOAD | |
| | KVA | AMPS | FACTOR | KVA | AMPS | |
| LIGHTING | 0.7 | 2.9 | 1.25 | 0.9 | 3.6 | |
| CONV. OUTLETS | 0.0 | 0.0 | - | 0.0 | 0.0 | |
| MOTORS | 0.0 | 0.0 | 1 | 0.0 | 0.0 | |
| MISC | 0.4 | 1.5 | 1 | 0.4 | 1.5 | |
| EWH | 0.0 | 0.0 | 1 | 0.0 | 0.0 | |
| KITCHEN EQ. | 0.0 | 0.0 | 0.65 | 0.0 | 0.0 | |
| SPARE | 0.0 | 0.0 | 1 | 0.0 | 0.0 | |
| SPACE ONLY | 0.0 | 0.0 | 1 | 0.0 | 0.0 | |
| TOTAL | 1.1 | 4.4 | | 1.2 | 5.1 | |

| PHASE LOADS | |
|-------------|-----|
| A | 470 |
| B | 580 |

REMARKS:
NEMA-3R ENCLOSURE
14" WIDE PANEL

PANEL : TG
MOUNTING: SURFACE
VOLTS: 120/240, 1PH, 3W
MAIN SIZE: 60 AMPS
MAIN TYPE: MCB
BRACING: 10 KAIC
EMI JOB 21-0190 0

NOTE: ALL CONDUCTORS ARE #12 AWG UNLESS OTHERWISE NOTED HERE IN OR ON RISER DIAGRAM, OR AS NOTED IN THE SPECIFICATIONS FOR VOLTAGE DROP. PROVIDE A DEDICATED NEUTRAL FOR EACH CIRCUIT. THE CIRCUIT BREAKER FEEDING THE SPD DEVICE SHALL BE INSTALLED AS CLOSE TO THE SPD DEVICES AS POSSIBLE TO MINIMIZE THE LEAD LENGTH. RELOCATE CIRCUIT BREAKERS AS REQUIRED



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| NO. | DESCRIPTION | BY | DATE |
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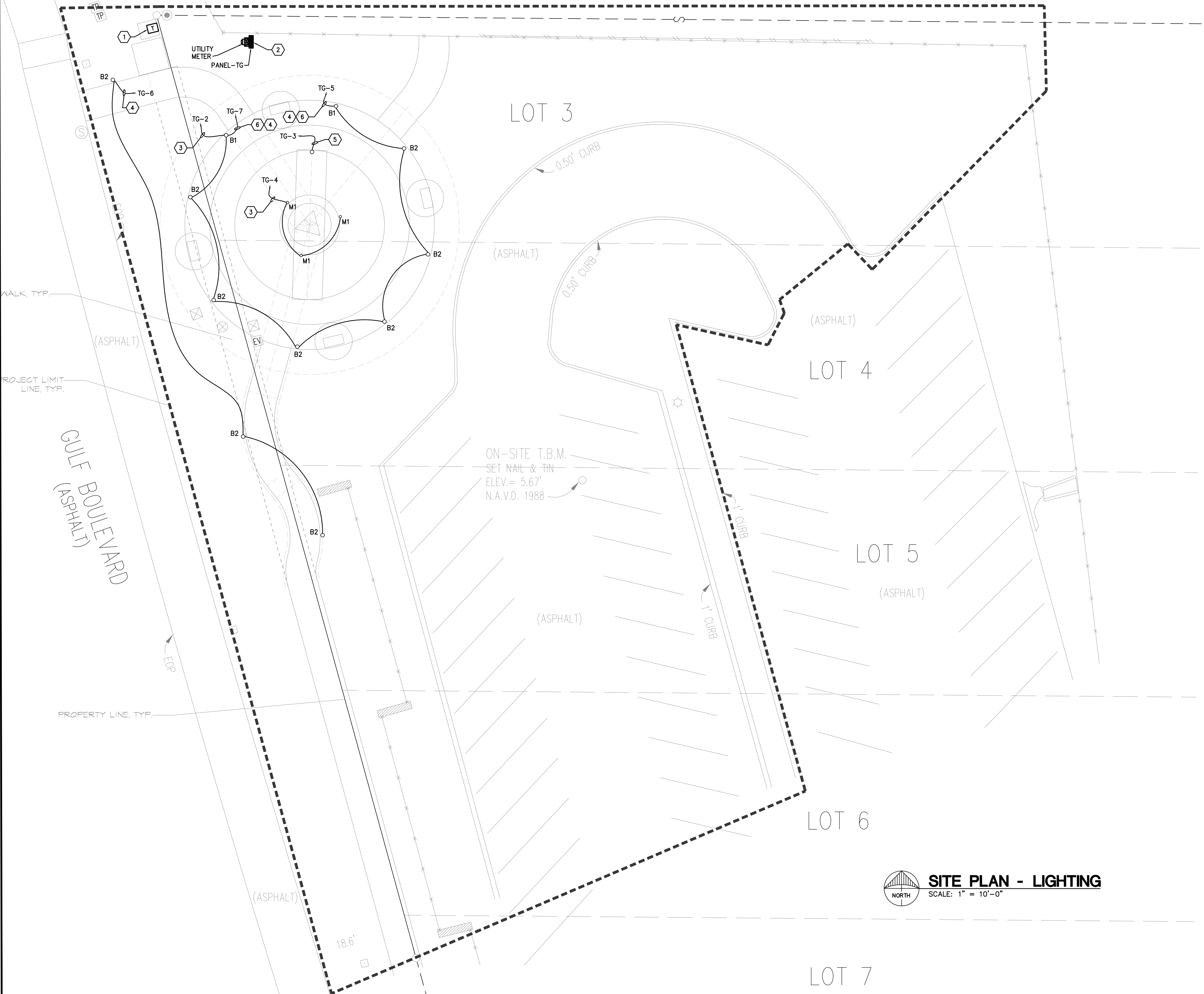
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MONUMENT PROJECT
AT TIKI GARDENS

ELECTRICAL NOTES,
LEGENDS, & SCHEDULES

PROJECT NO:
002021014.00
DATE:
06/18/2021
SHEET NO:
E-0

2
BLOCK 6



- GENERAL NOTES**
1. FIXTURE TYPE "M1" SHALL BE CASTED IN CONCRETE SLAB ALLOWING FOR DEPTH OF CONCRETE PAVERS. COORDINATE PAVEMENT HEIGHT. PROVIDE 12" OF PEA GRAVEL BELOW OUTER HOUSING. PROVIDE WATER TIGHT JUNCTION BOX BELOW OUTER HOUSING.
 2. ELECTRICAL CONTRACTOR SHALL WORK CLOSELY WITH OTHER TRADES TO INSURE ELECTRICAL CONDUITS AND INSTALLATION OF POLE BASES DO NOT INTERFERE WITH STRUCTURAL FOUNDATIONS.
 3. FIXTURE TYPE B1 BOLLARDS SHALL HAVE GFCI RECEPTACLE WITH LOCKABLE COVER HUBBEL #WP26E. 4-TYPE B1 ON ONE ELECTRICAL CIRCUIT, 4-TYPE B1 ON SECOND ELECTRICAL CIRCUIT.
 4. FIXTURE TYPE S1 AREA POLE LIGHTS SHALL HAVE GFCI RECEPTACLE WITH LOCKABLE COVER HUBBEL #WP26E.

- KEYED NOTES**
- 1 EXISTING PAD MOUNTED TRANSFORMER. MAKE ARRANGEMENT WITH DUKE ENERGY TO STUB-IN CONDUIT. PULL SECONDARY CONDUCTORS AND TERMINATE.
 - 2 NEW 10"x10"x10'-0" CONCRETE POST WITH UTILITY METER, SINGLE PHASE 120/230 VOLT. NEW ELECTRICAL PANEL 120/230 VOLT, SINGLE PHASE 60 AMP MAIN CIRCUIT BREAKER. SEE PANEL SCHEDULE AND DETAIL.
 - 3 3/4" CONDUIT WITH 2 - #12 CU. AND 1 - #12 CU. E.G. PLUS TWO 0-10 VOLT DIMMING WIRES #14 CU.
 - 4 3/4" CONDUIT WITH 2 - #12 CU. AND 1 - #12 CU. E.G.
 - 5 3/4" CONDUIT WITH 2 - #12 CU. AND 1 - #12 CU. E.G. CONNECT TO METAL ARCH AT BASE. COORDINATE ROUGH-IN LOCATION THROUGH CONCRETE BASE.
 - 6 WEATHERPROOF GFCI RECEPTACLE MOUNTED IN BOLLARD. PROVIDE WEATHERPROOF LOCKABLE COVER. TYPICAL FOR 8 TYPE B1 BOLLARDS. TWO CIRCUITS TG-5 AND TG-7 (4 BOLLARDS PER CIRCUIT).

SITE PLAN - LIGHTING
SCALE: 1" = 10'-0"

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GRAPHIC SCALE
1 inch = 10 feet

| NO. | DESCRIPTION | BY | DATE |
|-----|-------------|----|------|
| | | | |
| | | | |
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**MONUMENT PROJECT
AT TIKI GARDENS**

ELECTRICAL SITE PLAN

PROJECT NO:
002021014.00

DATE:
06/18/2021

SHEET NO:
E-1