
Memphis-Shelby County Airport Authority (“Authority”)

**Addendum No. 1
To
Request for Proposals 24-1477-00
For
Parking Guidance System**

Issue Date: February 25, 2025

RECITALS

WHEREAS, The Authority issued a certain Request for Proposals MSCAA Project 24-1477-00 Parking Guidance System dated 1/28/2025 (the “RFP”); and

WHEREAS, The Authority now wishes to amend certain requirements set forth in the RFP;

NOW THEREFORE, in consideration of the mutual covenants, agreements and conditions set forth in the RFP:

ITEM NO. 1 LEGAL NOTICE

REMOVE AND REPLACE with the attached Legal Notice noted as Addendum No. 1. *Proposal due date has been revised and corrected bid/bidder references.*

ITEM NO. 2 DBE FORM - INFORMATION ON ALL FIRMS PROVIDING RESPONSES

REMOVE AND REPLACE with the attached Information on All Firms Providing Responses noted as Addendum No. 1. *Updated Form.*

ITEM NO. 3 DBE FORM – DBE REQUIREMENTS FOR SUBCONTRACTS

ADD the attached DBE Requirements for Subcontracts noted as Addendum No. 1. *New Form.*

ATTACHMENTS: The following is attached to this addendum:

Legal Notice
Questions and Answers Received through February 20, 2025
DBE Listing
Supplemental Information Drawing – Short/Long Term Level 2 (Annex/Vendor Lots)
Supplemental Information Drawing – Existing Light Poles
DBE Form – Information on All Firms that Provided Bids or Quotes
DBE Form – DBE Requirements for Subcontracts

This addendum **must** be signed, to acknowledge receipt, and dated by the respondent and returned to the Authority as part of the respondents RFP response. Failure to do so may be grounds for disqualification of the response. The signed addendum, acknowledging receipt of Addendum No. 1 by the respondent, must be included in the response packet, immediately following the signed RFP.

In the event of conflict between the Requirements of the RFP and the Requirements of this Addendum, the Requirements of this Addendum shall prevail.

WITNESS the signature of the respective party by their duly authorized officer on the day and year herein written.

Company Name

Signature

Date: _____

LEGAL NOTICE
Request for Proposals
MSCAA Project Number 24-1477-00
Parking Guidance System

Sealed proposals for Parking Guidance System will be received by the Memphis-Shelby County Airport Authority (Authority), Procurement Department, 4150 Louis Carruthers Drive, Memphis, TN 38118, until **2:00 PM Local Time on 3/6/2025**. A listing of all proposers responding will be posted to the Authority's website one (1) hour after the response deadline. Responses to Requests for Proposals will not be publicly opened and read. A complete Request for Proposals Packet with submittal instructions, additional data, and response format may be found on the Authority's website (www.flymemphis.com) on or after January 29, 2025.

A pre-proposal conference will be held Tuesday, February 11, 2025, at 1:00 pm (local time) in the Authority's Board Room on the Mezzanine Level, Terminal B of the Memphis International Airport, 2491 Winchester Road, Memphis, TN 38116 as well as virtual via video conference (Microsoft Teams Meeting Information: Meeting ID: 272 925 626 671; Passcode: T4QS3MV9). The link to the video conference can be found at www.flymemphis.com. It is **MANDATORY** to attend the pre-proposal conference either virtually or in-person for those wishing to submit a proposal.

Immediately following the pre-proposal conference the Authority will conduct a site visit. For those wishing to submit a proposal, a site visit is **MANDATORY** for those that did not attend the first pre-proposal conference/site visit held on October 9, 2024. All attendees should register for the site visit by sending an email to bidquestions@flymemphis.com.

All **Proposers** are responsible for checking the Authority's website up to the submission deadline for any updates, addenda, or additional information. In accordance with the Authority's purchasing policies, the Authority will give preference to businesses located in Shelby County, Tennessee when awarding contracts and making purchases, unless prohibited by law. The successful Bidder must sign a contract with the Authority that includes Federal Aviation Administration provisions, if applicable, regarding the Buy American Preference, Foreign Trade Restriction, Davis-Bacon, Affirmative Action, Debarment and Suspension, Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment, Domestic Preferences for Procurements, and Drug-Free Workplace, all of which are incorporated herein by reference.

Each **proposal** must be made by a contractor licensed in Tennessee and be accompanied by a \$5,000 Proposal Bond. The successful **proposer** must execute a Performance Bond and a Payment Bond in the amount of 100% each of the Contract Price and meet the Disadvantaged Business Enterprise (DBE) participation goal for this project, which is **6%**.

The Authority reserves the right to reject any or all responses to this Request for **Proposals** in whole or in part; to waive any informalities, technicalities, or omissions related to this Request for **Proposals**; and to reject responses on any other basis authorized by the Authority's purchasing policies.

The Authority is an equal opportunity employer and prohibits discrimination based on the grounds of age, race, sex, color, national origin, disability, marital status, military service, or sexual orientation in its hiring and employment practices and in the admission to, access to, or operation of its programs, services, and activities.

By order of:
Terry Blue, A.A.E.
President and CEO
Memphis-Shelby County Airport Authority

**QUESTIONS AND ANSWERS REGARDING
MSCAA PROJECT 24-1477-00
Parking Guidance System
February 25, 2025**

1.	Are there any drawings of the area of work available?
	<p>Yes, see RFP on the website: https://flymemphis.com/rfps-rfqs/rfp-no-24-1477-00-parking-guidance-system/</p> <p>Drawings are in Attachment B of the RFP.</p>
2.	The Long-Term/Short-Term Garage has both an annex parking area and vendor parking area. Have these areas changed at all from the previous meeting?
	<p>No. See supplemental informational drawings in this Addendum No. 1 showing Annex and Vendor parking areas.</p>
3.	The RFP calls for either camera-based sensors, ultrasonic, or a hybrid approach. Does the Airport want a specific technology installed throughout the garages or do you prefer a hybrid approach?
	<p>There is no preferred technology. Please provide a proposal for ALL ultrasonic sensors, ALL camera-based sensors, OR a mixed solution of both technologies based on your (the Vendor) recommendation. Respondent can submit more than 1 proposal if desired.</p> <p>We want the respondents to propose an accurate, reliable system. We are looking for the Respondent to evaluate their product and propose the best option for MEM based on the requirements in the RFP.</p> <p>If proposing hybrid/mixed technology, please include any assumptions made for how/why you allocated the separate technology. The mix of technology can be based on the Respondent's recommendation and experience. If hybrid technology is selected, the assumptions of the system will be discussed during the interview and, if awarded, finalized during contract negotiations.</p>
4.	If a hybrid approach is preferred, which levels of each garage do you want ultrasonic and which levels do you want camera-based sensors?
	<p>Please refer to Question/Answer #3</p>

5.	<p>Page 44, line J states sensor detection shall be unaffected by changes in ambient lighting including direct sunlight and complete darkness. What are you trying to achieve? If camera-based sensors are desired, the cameras will need appropriate lighting to operate.</p>
	<p>Camera-based sensors must be able to operate during daytime and nighttime. The minimum light requirement for camera-based sensors to perform will be 75 lux. MSCAA anticipates current light readings in the garage to vary from best to worse between 200 & 500 lux. This will be improved once a new lighting solution is selected and implemented. Any concerns with light levels should be noted in the proposal.</p>
6.	<p>Does the Long-Term/Short-Term Garage have an existing chase between levels to run conduit? If not, are the PGS vendors allowed to run conduit along the side of the garage or with the openings between levels?</p>
	<p>Yes. There are existing chases between levels that should have room to run conduits. Respondent is responsible for confirming existing capacity for your specific needs. If there isn't sufficient room in any of the chases, Respondent must run new conduit between floors.</p> <p>The PGS vendors are NOT allowed to run conduit along the side of the garage or with the openings between levels.</p>
7.	<p>Will a storage area be provided for the parking guidance system materials during installation?</p>
	<p>Yes, but MSCAA will not be held responsible or liable for theft, damage, or Acts of God</p>
8.	<p>Can the PGS Vendor use a contractor that's not on the approved contractor list?</p>
	<p>Yes. All contractors must meet the applicable licenses, certifications, etc. to perform their work.</p>
9.	<p>Is the PGS vendor responsible for running data from the parking office location inside the Long-Term/Short-Term Garage to each control cabinet location?</p>
	<p>Yes</p>
10.	<p>I see the data locations in the Economy Garage have changed from the previous walk. Are there switches located in the electrical rooms that connect back to the server room?</p>
	<p>The data locations have changed and are shown in Attachment B of the RFP. There are no existing switches located in those data rooms. Respondent shall indicate the number of switches required in the pricing schedule.</p>
11.	<p>Will you accept references outside of the United States?</p>
	<p>Yes.</p>

12.	Are the liquidated damages negotiable?
	Liquidated Damages (LD's) will be assessed on this project. Amounts shown are expected, however amounts can be discussed as part of contract negotiations.
13.	Can we get a list of Approved DBE contractors with MSCAA:
	Yes. The list of Approved DBE Contractors is included in this Addendum No. 1.
14.	During the pre-proposal site walk last week airport staff indicated there may be a possibility for responding bidders to utilize the existing rooftop poles of the Economy garage but would reconfirm with their airport electrician. Has this been confirmed or are we still prohibited from using the existing rooftop poles?
	Yes. The existing Economy Garage light poles can be used as long as the mounting does not impact the mechanical lift on the pole. See light pole drawings included in this Addendum 1.
15.	Can MSCAA reconfirm that all Normal Power Panels and Emergency Panels listed on Page 34 of the RFP will be available for use?
	All panels are on emergency power or standby power.
16.	During the pre-proposal meeting last week airport staff indicated they will be providing all necessary switches and installing them. Can MSCAA reconfirm this is still the case?
	<p>Correct. Any place that the proposed solution needs network switch ports should be indicated in the proposal along with the number of switchports needed, MSCAA will provide the switches.</p> <p>It is the PGS Vendor's responsibility to identify the specific type and location of network connectivity. A minimum of 45 days' notice will be required by the PGS Vendor for switch configuration and installation.</p>
17.	Shelby Electric attended the previous RFP last year and attended the pre-proposal last week via Teams. However, we noticed they are not listed on the approved MSCAA electrical contractor list on Page 45 of the RFP. Are they still an approved contractor for high voltage by MSCAA?
	<p>Yes. All contractors must meet the applicable licenses, certifications, etc. to perform their work in the State of Tennessee.</p> <p>All contractors will be verified during the proposal review.</p>

18.	<p>During the pre-proposal site walk it was discussed that rigid conduit could have a major impact to cost/labor. Can MSCAA reconfirm that rigid conduit is required?</p>
	<p>Rigid conduits are to be used for all high-voltage power and low-voltage communications to/from system controllers and wayfinding signs. This includes connections between IP switches and circuit breakers to/from electrical closets.</p> <p>Track and C-channel will be allowed for low voltage applications to/from controllers and sensor/lights if the proposed system is fully enclosed (or removeable top cover) and does not allow for water ingress while preventing theft of copper cables contained within.</p>
19.	<p>During the previous RFP, the location of our network equipment (server, router, UPS, etc.) was slated to be located at the Economy garage data center. Is this still the preferred location from MSCAA or has this changed?</p>
	<p>Data/communication for this system needs to be run to the locations shown in Attachment B</p>
20.	<p>Our team has a preferred low voltage electrical contractor that is not listed as an approved MSCAA contractor in the RFP. However, they are DBE certified in Tennessee and have committed to the DBE required 6%. Do they need to register as an approved MSCAA electrical contractor before we submit our bid?</p>
	<p>Other contractors are allowed but must meet the applicable licenses, certifications, etc. to perform their work in the State of Tennessee.</p> <p>All contractors will be verified during the proposal review.</p>
21.	<p>Can MSCAA confirm the location of the POC (Proof of Concept)?</p>
	<p>The POC location shall be determined during contract negotiations and will be based on detection technology selected.</p>
22.	<p>Is there a fiber connection between the Economy garage and Short/Long term garage? If so, please provide locations and description.</p>
	<p>There is available MSCAA fiber between the Economy Garage and Short/Long Term Garage. If a fiber connection between garages is needed, please note it in your proposal.</p>
23.	<p>Could parking guidance cameras be installed using an open "U-profile" aluminum rail instead of conduit?</p>
	<p>All Track and C-channel will be allowed for low voltage applications if the proposed system is fully enclosed (or removeable top cover) and does not allow for water ingress while preventing theft of copper cables contained within.</p> <p>Rigid conduits are to be used for all high-voltage power and low-voltage communications to/from system controllers and wayfinding signs. This includes connections between IP switches and circuit breakers to/from electrical closets.</p>

24.	<p>Could ultrasonic sensors be installed using a "u-profile" aluminium rail instead of conduit?</p>
	<p>All Track and C-channel will be allowed for low voltage applications if the proposed system is fully enclosed (or removable top cover) and does not allow for water ingress while preventing theft of copper cables contained within.</p> <p>Rigid conduits are to be used for all high-voltage power and low-voltage communications to/from system controllers and wayfinding signs. This includes connections between IP switches and circuit breakers to/from electrical closets.</p>
25.	<p>The RFP document includes the following requirement: Conduit must be secured or anchored at intervals not to exceed 60 inches. If the use of an aluminum profile for installing cameras or ultrasonic sensors is permitted, can the mounting interval recommended by the profile manufacturer be used?</p>
	<p>All anchoring requirements shall be reviewed prior during the shop drawing review phase of the project. Factors to be considered are weight-per-foot, and conduit size, material, conduit sag, and number of cables contained within each conduit run. For proposal purposes, MSCAA is requiring maximum 60-inch intervals/spacing</p>
26.	<p>What methods are allowed for anchoring to concrete in the Long-Term/Short-Term Garage, and what about the Economy Garage?</p> <p>(a) Is a concrete screw acceptable?</p> <p>(b) Is a wedge anchor acceptable?</p> <p>(c) What material should these anchors or screws be made of?</p>
	<p>Concrete screws <u>shall not</u> be utilized for this project. Wedge and drop-in anchors will be permitted when installed per manufacturer's recommendations. All hardware including anchors, bolts, washers, and threaded rod shall be stainless steel.</p>
27.	<p>The RFP document includes the following requirement: The Economy Garage existing lighting poles are not permitted for use, as they are equipped with a mechanical device that enables the lights to move up and down. The poles have the mechanical device only at one side of the pole. Could the opposite side of the pole used for the camera installation? If yes, can a layout be provided of approved camera pole locations?</p> <p>Please provide specifications for new camera poles. Will new camera pole locations require a concrete pole base? If concrete bases are required, what are the pole base specifications?</p>
	<p>Yes. The existing Economy Garage light poles can be used as long as the mounting does not impact the mechanical lift on the pole. See light pole drawings included in this Addendum 1.</p> <p>There are no specifications for new camera poles. Should be similar match in material and color of the existing poles. Height TBD by Vendor but not to exceed existing light poles. Any new camera poles will need to be designed by the awarded Respondent and approved by MSCAA prior to installation.</p>

28.	If the Economy Garage's existing lighting poles are permitted for use, could, for example, 2-meter extension poles be attached to the sides of the current poles to increase the camera installation height?
	Cameras and extension poles must be at or below existing pole height. All extension poles shall be properly grounded and bonded.
29.	What is the maximum allowed height for potential new poles at the roof level of the Economy Garage?
	No taller than existing poles which are 28' (25' pole and 3' base).
30.	What is the approved method for routing the cabling into the existing lighting poles and the new camera poles in the Economy Garage. Are there any existing conduit systems available for use?
	All existing conduit is in the slabs. Assume no existing conduit is available. Run conduit for power and LV in ceiling of Level 6 and core to new pole base locations.
31.	What is the approved method for routing the cabling into the existing lighting poles in the Long-Term/Short-Term Garage? Are there any existing conduit systems available for use?
	Assume no existing conduit is available. Run conduit for power and LV in ceiling of Level 2 and core adjacent to existing pole base locations.
32.	What are the approved methods for routing the cabling into driving lane specific way-finding signages at roof levels in Economy and Long-Term/Short-Term Garages? Are there any existing conduit systems available for use?
	<p>Rigid conduits are to be used for all high-voltage power and low-voltage communications to/from system controllers and wayfinding signs. This includes connections between IP switches and circuit breakers to/from electrical closets.</p> <p>It is the PGS vendor's responsibility to identify existing conduit capacity, and any additional conduit capacity requirements will be included in the bid.</p>
33.	According to the RFP, the uncovered roof spaces require a vehicle sensor counting solution to track available spaces in each row, along with wayfinding signage at the ends of each row. In the pre-bid meeting, a space-specific camera system for the roof levels was emphasized. Which requirement is valid?
	<p>For the rooftop level of both garages, MSCAA is requiring a camera-based system that can provide individual space detection. Additionally, this project includes dynamic wayfinding signage at the ends of each row to support parking guidance.</p> <p>In-ground sensor solution may be offered as an alternative if preferred or recommended by the Vendor.</p>

34.	<p>According to the RFP, the maximum vehicle height allowed in both garages is 8 feet 2 inches What is the minimum distance for any parking guidance device from the floor above the driving lanes and parking spots?</p>
	<p>All new equipment and supporting infrastructure must maintain a minimum 8'-2" clearance in the garages.</p>
35.	<p>In the pre-bid meeting, it was indicated that MSCAA would provide the switches. Is MSCAA also providing the housings for the switches?</p>
	<p>The PGS Vendor shall provide the NEMA weatherproof housing, DIN Rails, Cable Surface Raceway, Corbin Lock, and Battery Backup (UPS)- supplied power outlet at each location. MSCAA will furnish the switch, power supply, and SFP optics, including network configuration of the switch. The PGS Vendors will supply all fiber optic and ethernet cables within the cabinet.</p>
36.	<p>Will the Airport allow for an extension of the bid due date?</p>
	<p>The submission deadline is being extended to Thursday March 6, 2025 at 2:00p local time. The MSCAA schedule for this project does not support any additional extension.</p>
37.	<p>Please confirm if the Fennix system or a single-space detection system is to be the primary source of detection for the Economy Garage Rooftop. If a single-space detection system is desired, how shall the Fennix system be used?</p>
	<p>New single space detection under this PGS project will be the primary source for parking guidance on the rooftop floors. The existing Fennix level count system will be independent and used as back up information and/or to validate PGS system.</p>
38.	<p>Is it a requirement to provide single-space detection for the garage rooftop. Will the Airport allow for ground-mounted wireless vehicle sensors in lieu of aerial cameras for the roof levels?</p> <ul style="list-style-type: none"> (a) Please provide specifications of the existing poles for both the Long-Term/Short-Term Garage and Economy Garage. (b) If additional poles are needed to provide full coverage, are there additional civil requirements the vendor is responsible for? (c) Is there a maximum height limit for poles added to the Economy Garage?
	<p>See Answer to Question 33.</p> <ul style="list-style-type: none"> (a) Existing pole height on Long/Short Term Garage is 65'. Existing pole height on Economy Garage is 28'. MSCAA does not have additional existing data on the Long/Short Term Garage. See additional supplemental drawings in this Addendum No. 1 for information on the Economy Garage poles. (b) Awarded vendor is responsible for designing additional poles and will be approved by MSCAA prior to installation. Should be similar match in material and color of the existing poles. Height TBD by Vendor but not to exceed existing light poles. (c) All new poles must stay below the height of the existing light poles.

39.	Please confirm the Airport desires dynamic wayfinding signage, at the end of each parking spaces aisles, on both garage rooftops?
	Yes. MSCAA desires to have dynamic wayfinding signage at the end of each row to provide parking guidance in the absence of indicator lights. +
40.	Please confirm if it is a requirement for all rigid conduit shall be used for
	<p>See Answers to Questions 23 and 24.</p> <p>Rigid conduits are to be used for all high-voltage power and low-voltage communications to/from system controllers and wayfinding signs. This includes connections between IP switches and circuit breakers to/from electrical closets.</p>
41.	<p>Please confirm if it is acceptable to use C-Channel for sensor infrastructure and low voltage cabling, in lieu of rigid conduit. If so, please specify the type of metal that shall be used to align with MSCAA Construction Standards.</p> <p>(a) If use C-Channel is permissible, please confirm if it is acceptable to suspend C-Channel below the beams.</p>
	<p>See Answers to Questions 23 and 24.</p> <p>All track system, c-channel, conduit, etc. can suspend below the beams but must maintain a minimum clearance of 8'-2".</p>
42.	Will a 30-minute UPS be accepted, in lieu of 2 Hours?
	No. The provided UPS shall meet or exceed a minimum of 2 Hours at full load. Each cabinet will be tested during substantial completion for backup time.
43.	Attachment B (Long-Term/Short-Term): Can the Airport identify the parking spaces that should not be monitored?
	See supplemental informational drawings in this Addendum #1 showing spaces that don't need to be monitored.
44.	Attachment C (Price Sheet) – Rows 25 & 27: The Airport currently has dynamic wayfinding signage provided by IP Displays. Are additional wayfinding signs to be provided at the garage exterior?
	<p>The existing IPDisplays provide parking status and rate information at entrances and exits as well as one level and/or garage count sign. It is not expected for this project to include any additional signs on the exterior of the garages.</p> <p>However, if additional exterior signs are recommended by the respondent, please note as such in your submittal.</p>

MEMPHIS-SHELBY COUNTY AIRPORT AUTHORITY

MEMPHIS, TENNESSEE



45.	Please confirm if the project is tax exempt.
	The project is not tax exempt, but the Authority is tax exempt. Anything directly billed to the Authority's is tax exempt. However, the exemption does not flow through to purchases made by or anything billed to any contractor, vendor, supplier, or subs.
46.	Attachment F: Please provide additional detail of what the vendor is required to provide as part of the Proof of Concept/Testing (Parking Spaces Monitored, Parking Garage, Level)
	The Proof of Concept (POC) shall fully demonstrate the functionality and accuracy requirements based on the RFP and the PGS Vendor Proposal/Presentation. Full system functionality (detection(sensors), driver guide lights, wayfinding, find my space, mobile apps, security, network connectivity and central control software shall be demonstrated and based on the selected technology.
47.	Attachment F: Please confirm any blackout dates or daily time slots the vendor is not allowed to actively install.
	All federal holidays are observed by MSCAA and have the potential to be days of non-work (black-out days). All holidays and proposed blackout days shall be agreed upon by MSCAA and the PGS Vendor and will be reflected in the Critical Path Method (CPM) Schedule.
48.	Page 20 – Proposal Bond for \$5,000 with a valid Power of Attorney is required at the time of proposal – <u>would any other form of guarantee be acceptable?</u>
	No. Proposal Bond must meet the requirements in the RFP.
49.	Page 118 – OCIP (Workers' Compensation, Employer's Liability, Commercial General Liability, Excess Liability and Builders' Risk insurance) – The Owner agrees to pay all premiums associated with the OCIP. – please confirm if enrolled in the OCIP there is no insurance cost associated. No insurance cost can be included in the bid by the contractors. "If the Contractor or any eligible Subcontractor fails to enroll any of its eligible Subcontractors of any tier, it will be subject to a penalty charge of the full and complete deduct as shown in C.1.2.c or 3% of the subcontract cost, which-ever is greater. Note: Collection of the penalty charge of any non-enrolled contractor(s) of any tier does not provide automatic coverage in the program." <u>If enrolled in OCIP would there be any addition costs to contractor or subcontractor? Additionally, do we need to enroll in OCIP at the time of RFP submission, or only if we are awarded the contract?</u>
	Other than applicable deductibles as specified (\$10,000 for Commercial General Liability) per claim, and \$25,000 per claim for Builders' Risk and potential penalties for failure to enroll there are no other costs of this program to contractor. Enrolment will take place AFTER contract is awarded by the winning bidder and its subcontractors of every tier


50. Page 120 – Insurance to be obtained by contractors. Assuming we do enroll in OCIP, are these supplemental insurance requirements, or do they apply only to vendors who opt out of OCIP? Specifically for General Liability, is there a minimum coverage that a vendor must carry for off-site project work?

- (a) Automobile, Contractors Pollution Contractors Equipment, Aircraft/Aviation, Transit Coverage - if we do not have any, would we be exempt?
- (b) Workers Compensation and Employer’s Liability – if no US employees, would we be exempt?
- (c) General Liability – if enrolled onto OCIP, you will still require your own insurance for operations away from the project location. Would a current limit of \$6MM be sufficient?

These are coverage requirements for contractors who are not allowed to enroll in the program. They also detail coverage requirements of contractors of every tier for their offsite exposures, auto exposures etc. In addition it also defines coverage requirements for when the warranty period commences (which is when OCIP coverage ceases).

- (a) You would not be exempt
- (b) You would not be exempt
- (c) Coverage requirements are as specified in the bid package. Exceptions to such coverage requirements must be noted in your bid. Failure to meet coverage requirements could result in your bid being non-responsive.

51. The original Short/Long term garage drawings from the RFP last October did not have Level 2 with barriers. Does MSCAA intend to block this area circled in red from traffic flow?



No. There are not barricades in those areas. It is a graphical error on the drawings.

----- END OF QUESTIONS -----

Questions are listed as submitted; company names are withheld.
This Addendum No. 1 Includes Questions Received through February 20, 2025.
Questions received after February 20, 2025, at 4:30 P.M., Memphis Local Time, will NOT be responded to.

Tennessee Uniform Certification Program

(TNUCP) Listing

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
4alet, Inc. 369 Ridge Street Newark, NJ 07104 (973) 991-2796	Out of State Out of State Certification: DBE	Contractor, Other	Perkovic, Dolores Dolores@4alet.com www.4alet.com

Counties Work In

All Counties

Specialty

Electrical Contractor & Other Wiring Installation Contractors; Transportation Equipment & Supplies (except Motor Vehicles) Merchant Wholesaler; Custom Computer Programming Services; Other Automotive Mechanical & Electrical Repair and Maintenance

NAICS List

Custom Computer Programming Services (541511), Electrical Contractors (238210), Other Automotive Mechanical and Electrical Repair and Maintenance (811118), Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers (423860)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
A & J Electric, LLC 40 Snuggs Circle Mayflower, AR 72106 (501) 472-8645	Out of State Out of State Certification: DBE	Contractor	Sr., Ayodele Ojo, ajelectric@aj-electricllc.com www.aj-electricllc.com

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
A+ Technology Mobile Repair 3739 S. Hickory Ridge Mall, Ste. 490 Memphis, TN 38115	SHELBY (79) Region 4	Contractor	Moore, Anthony anthony.moore@aplustechnology.net www.aplustechnology.net
(901) 866-9609	Certification: DBE		

Counties Work In

All Counties

Specialty

Electronics Repair

NAICS List

Computer Facilities Management Services (541513), Computer Storage Device Manufacturing (334112), Computer Systems Design Services (541512), Computer Training (611420), Computer and Computer Peripheral Equipment and Software Merchant Wholesalers (423430), Computer and Office Machine Repair and Maintenance (811212), Electrical Contractors (238210), Electronic Computer Manufacturing (334111), Electronic Stores (443142), Other Computer Related Services (541519), Other Electronic Component Manufacturing (334419), Other Technical and Trade Schools (611519), Paper (except Newsprint) Mills (322121), Stationery and Office Supplies Merchant Wholesalers (424120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
A-1 Electrical Contractors, Inc. 1721 September Avenue Memphis, TN 38116	SHELBY (79) Region 4	Contractor	Frazier, Willie wfrazier@a-1electrical.org
(901) 244-6617	Certification: DBE		

Counties Work In

BENTON (03), CARROLL (09), CHESTER (12), CROCKETT (17), DECATUR (20), DYER (23), FAYETTE (24), GIBSON (27), HARDEMAN (35), HARDIN (36), HAYWOOD (38), HENDERSON (39), HENRY (40), LAUDERDALE (49), MADISON (57), MCNAIRY (55), OBION (66), SHELBY (79), TIPTON (84), WEAKLEY (92)

Specialty

Electrical Contractors and Electrical Utility Installation-Installing and Servicing Electrical Wiring and Equipment in Commercial and Industrial Locations

NAICS List

Electrical Contractors (238210), Power and Communication Line and Related Structures Construction (237130)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
ABT Products & Services, Ltd. P.O. Box 4409 Huntington, NY 11743 (631) 421-1500	Out of State Out of State Certification: DBE	Contractor, Other	Horchos, Lisa S. lhorchos@abt-products.com www.abt-products.com

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors; Hardware Merchant Wholesalers; Industrial Supplies Merchant Wholesalers; Wholesale Trade Agents and Brokers

NAICS List

Electrical Contractors (238210), Hardware Merchant Wholesalers (423710), Industrial Supplies Merchant Wholesalers (423840), Wholesale Trade Agents and Brokers (425120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
ACCESS BUILDERS, LLC 1927 Vanderhorn Drive Memphis, TN 38134 (901) 340-9394	SHELBY (79) Region 4 Certification: DBE	Contractor	Forrest, Derik derik.access@aol.com

Counties Work In

All Counties

Specialty

Electrical Contractor, Installation of Commercial Electrical Systems, Building Contractor Small Commercial. Secondary: Building, Metal, Wood and Concrete Structures

NAICS List

Commercial and Institutional Building Construction (236220), Electrical Contractors (238210), Framing Contractors (238130), New Multifamily Housing Construction (except Operative Builders) (236116), Poured Concrete Foundation and Structure Contractors (238110), Residential Remodelers (236118)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
AKEEM Construction Company, LLC 1711 Weymouth Lane Huntsville, AL 35806 (256) 694-1084	Out of State Out of State Certification: DBE	Contractor	McCrary, Eric emac1962@gmail.com

Counties Work In

All Counties

Specialty

New Single-Family Housing Construction (Except for Sale Builders); Water & Sewer Line & Related Structures Construction; Highway, Street, and Bridge Construction; Land Subdivision; Electrical Contractors & Other Wiring Installation Contractors; Poured Concrete Foundation & Structure Contractors; Landscaping Services

NAICS List

Electrical Contractors (238210), Highway, Street, and Bridge Construction (237310), Land Subdivision (237210), Landscaping Services (561730), New Single-Family Housing Construction (except Operative Builders) (236115), Poured Concrete Foundation and Structure Contractors (238110), Water and Sewer Line and Related Structures Construction (237110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Access Data Network Solutions, Inc. 4077 Viscount Avenue Memphis, TN 38118 (901) 365-1571	SHELBY (79) Region 4 Certification: DBE	Contractor	Castellaw, Regina gina.castellaw@accessdnsi.com www.accessdnsi.com

Counties Work In

All Counties

Specialty

Telecommunications Equipment/Supplies

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Airfield, Etc., Inc.. 3629 Prescott Road Memphis, TN 38118	SHELBY (79) Region 4	Contractor	Poole, Stephanie stephanie@airfieldetc.com
(901) 363-9210	Certification: DBE		www.airfieldetc.com

Counties Work In

All Counties

Specialty

Highway, street and bridge construction, traffic control, concrete work, electrical contractor. airfield lighting, electrical and communications underground duct bank & manholes, outdoor light poles, street sweeping for construction cleanup, drainage (reinforced concrete pipe, inlets, manholes).

NAICS List

All Other Specialty Trade Contractors (238990), All Other Support Services (561990), Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers (423810), Electrical Contractors (238210), Highway, Street, and Bridge Construction (237310), Other Heavy and Civil Engineering Construction (237990), Site Preparation Contractors (238910)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Amazing Lighting Solutions 6067 Apple Tree Dr. Ste. 2 Memphis, TN 38115	SHELBY (79) Region 4	Supplier	Bonner, Audrey audrey@amazinglightingsolutions.com
(901) 552-5040	Certification: DBE		www.amazinglightingsolutions.com

Counties Work In

All Counties

Specialty

Supplier

NAICS List

Business to Business Electronic Markets (425110), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210), Home Centers (444110), Other Building Material Dealers (444190), Wholesale Trade Agents and Brokers (425120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Andrews Electric 3404 Martin Luther King Avenue Knoxville, TN 37914 (865) 673-5086	KNOX (47) Region 1 Certification: DBE	Contractor	Andrews, David

Counties Work In

All Counties

Specialty

Electrical Contractor

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Aquas, Incorporated 10400 Connecticut Avenue, Suite 310 Kensington, MD 20895 (301) 654-4000	Out of State Out of State Certification: DBE	Consultant	Larsen, Carmen Ortiz aquas@aquasinc.com aquas@aquasinc.com

Counties Work In

All Counties

Specialty

Consulting Services, Other Management Consulting Services , Other Scientific & Technical Consulting Services, Marketing Research & Public Opinion Polling, Translation & Interpretation Services, All Other Professional, Scientific, & Technical Services, Office Administrative Services, Facilities Support Services

NAICS List

Administrative Management and General Management Consulting Services (541611), All Other Professional, Scientific, and Technical Services (541990), Computer Systems Design Services (541512), Electrical Contractors (238210), Facilities Support Services (561210), Marketing Consulting Services (541613), Marketing Research and Public Opinion Polling (541910), Office Administrative Services (561110), Other Computer Related Services (541519), Other Management Consulting Services (541618), Other Scientific and Technical Consulting Services (541690), Process, Physical Distribution, and Logistics Consulting Services (541614), Software Publishers (511210), Translation and Interpretation Services (541930)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Armstrong Professionals IT Consulting 4934 Woodberry Cove Memphis, TN 38141	SHELBY (79) Region 4	Consultant	Armstrong, Andre andre38116@yahoo.com
(901) 603-0213	Certification: DBE		

Counties Work In

All Counties

Specialty

IT Consulting

NAICS List

Computer Systems Design Services (541512), Computer and Office Machine Repair and Maintenance (811212), Custom Computer Programming Services (541511), Electrical Contractors (238210), Other Computer Related Services (541519)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Audio Communications Consultants, Inc. 5361 Republic Drive Memphis, TN 38118	SHELBY (79) Region 4	Contractor	Wilhelm, Shelby J. swilhelm@audiocominc.com
(901) 332-8888	Certification: DBE		www.audiocominc.com

Counties Work In

All Counties

Specialty

Install Communication Systems and Sound Systems, Intercom Systems-Audio-Visual.

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Aviman Management, LLC	Out of State	Contractor	Levi, Wallace
3411 Silverside Road			
Wilmington, DE 19810	Out of State		levi@avimanmanagement.com
Wilmington, DE 19810			
(303) 377-5788	Certification:		

Counties Work In

Specialty

Building, Construction, electrical equipment, wiring supplies and related equipment merchant wholesalers.

NAICS List

Brick, Stone, and Related Construction Material Merchant Wholesalers (423320), Commercial and Institutional Building Construction (236220), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210), Highway, Street, and Bridge Construction (237310), Industrial Building Construction (236210), Metal Service Centers and Other Metal Merchant Wholesalers (423510), Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers (423720), Roofing Contractors (238160)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
BCSS, LLC	Out of State	Contractor	Douthit, Wade
2300 Clayton RD. Suite 1050			
Concord, CA 94520	Out of State		wade@bradcoleconstuction.com
(770) 834-4681	Certification: DBE		

Counties Work In

All Counties

Specialty

Heavy & Civil Engineering. Construction Services to Federal, State, Municipal, & Industrial Customers.

NAICS List

All Other Specialty Trade Contractors (238990), Electrical Contractors (238210), Engineering Services (541330), Environmental Consulting Services (541620), Highway, Street, and Bridge Construction (237310), Landscaping Services (561730), Masonry Contractors (238140), Office Administrative Services (561110), Other Crushed and Broken Stone Mining and Quarrying (212319), Other Heavy and Civil Engineering Construction (237990), Poured Concrete Foundation and Structure Contractors (238110), Remediation Services (562910), Site Preparation Contractors (238910), Water and Sewer Line and Related Structures Construction (237110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
CES Consulting, LLC	Out of State	Consultant	Singh, Avtar
23475 Rock Haven Way, Suite 255 Sterling, VA 20166	Out of State		asingh@ces-consultingllc.com
(571) 402-9159	Certification: DBE		www.ces-consultingllc.com

Counties Work In

All Counties

Specialty

Water and sewer lines and related structures construction. Construction. Electrical & other wiring installation contractors. Engineering services.

NAICS List

Electrical Contractors (238210), Engineering Services (541330), Highway, Street, and Bridge Construction (237310), Professional and Management Development Training (611430), Water and Sewer Line and Related Structures Construction (237110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Cabbling Innovations, LLC	DAVIDSON (19)	Contractor	Ivey, Megan
5211 Linbar Drive Nashville, TN 37211	Region 3		mivey@cabblinginnovations.net
(615) 613-4340	Certification: DBE		www.cabblinginnovations.net

Counties Work In

All Counties

Specialty

Cabbling services - Cat 5e/Cat 6 cabling, Fiber Optic cabling, Site Surveys, Design and Engineering, Project Management, End-to-End Structured Cabling Systems, Structured Cabling Testing and Certification, Data Center Cabling Build Outs; Rack and Stack; MDF Buildouts, Fire Stopping System; Bonding and Grounding, Wireless Surveys, Wireless Installations, and Hospital Infrastructure Site Surveys.

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Carroll's Roofing and Construction, LLC 6833 Hwy 70 Barlett, TN 38134 (901) 372-1675	SHELBY (79) Region 4 Certification: DBE	Contractor	Carroll, Derrick derrickcarroll@bellsouth.net

Counties Work In

All Counties

Specialty

Roofing and general construction

NAICS List

All Other Specialty Trade Contractors (238990), Commercial and Institutional Building Construction (236220), Drywall and Insulation Contractors (238310), Electrical Contractors (238210), Finish Carpentry Contractors (238350), Flooring Contractors (238330), Highway, Street, and Bridge Construction (237310), Industrial Building Construction (236210), Masonry Contractors (238140), New Housing Operative Builders (236117), New Multifamily Housing Construction (except Operative Builders) (236116), New Single-Family Housing Construction (except Operative Builders) (236115), Other Heavy and Civil Engineering Construction (237990), Painting and Wall Covering Contractors (238320), Plumbing, Heating, and Air-Conditioning Contractors (238220), Power and Communication Line and Related Structures Construction (237130), Residential Remodelers (236118), Roofing Contractors (238160), Siding Contractors (238170), Water and Sewer Line and Related Structures Construction (237110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Chitina Diversified Services, LLC 505 Enon Springs Road E. Smyrna, TN 37167 (615) 566-6941	RUTHERFORD (75) Region 3 Certification: DBE		Herndon, Ed eherndon@chitinadiversified.com

Counties Work In

All Counties

Specialty

Chitina Diversified Services, LLC provides operations support with a focus on seamless integration of construction management, professional services, staffing, employment services, personnel administration and program management

NAICS List

Administrative Management and General Management Consulting Services (541611), Commercial and Institutional Building Construction (236220), Electrical Contractors (238210), Engineering Services (541330), Highway, Street, and Bridge Construction (237310), Industrial Building Construction (236210), Other Heavy and Civil Engineering Construction (237990), Poured Concrete Foundation and Structure Contractors (238110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Class AAA Security, LLC 5986 Knight Arnold Road Ste 6 Memphis, TN 38115	SHELBY (79) Region 4	Contractor	Jr., Lewis Hurd, lhurd@classaaasecurity.net
(901) 632-9181	Certification: DBE		

Counties Work In

All Counties

Specialty

Class AAA Security, LLC., will provide a full range of security services to include but not limited to security guards, surveillance, security monitoring, installation, protection services, security training, supervision, etc.

NAICS List

Armored Car Services (561613), Electrical Contractors (238210), Other Scientific and Technical Consulting Services (541690), Other Technical and Trade Schools (611519), Security Guards and Patrol Services (561612), Security Systems Services (except Locksmiths) (561621)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Cornerstone Engineering, Inc. 2302 Hurstbourne Village Drive Louisville, KY 40299	Out of State Out of State	Consultant, Contractor	Subram, Chella chella@cei-engineering.com
Louisville, KY 40299 (901) 292-1873	Certification: DBE		www.cei-engineering.com

Counties Work In

All Counties

Specialty

Commercial and Institutional Building Construction; Water and Sewer Line and Related Structures Construction; Highway, Street, and Bridge Construction; Poured Concrete Foundation and Structure Contractors; Masonry Contractors; Other Foundation, Structure, and Building Exterior Contractors; Wholesale Trade Agents and Brokers; Engineering Services; Drafting Services; Building Inspection Services

NAICS List

Architectural Services (541310), Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (811310), Commercial and Institutional Building Construction (236220), Electrical Contractors (238210), Engineering Services (541330), Environmental Consulting Services (541620), Masonry Contractors (238140), Water and Sewer Line and Related Structures Construction (237110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Danielle's Approach, LLC	Out of State	Contractor	Geary, Danielle
311 W Norfolk Ave, STE. 200 Norfolk, NE 68701	Out of State		dapproachllc@gmail.com
(402) 649-3075	Certification:	DBE	

Counties Work In

All Counties

Specialty

Electrical/Wiring Contractor; Wholesale Agent/Broker

NAICS List

Electrical Contractors (238210), Highway, Street, and Bridge Construction (237310), Wholesale Trade Agents and Brokers (425120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
EJO Ventures, LLC	SUMNER (83)	Other	Odom, E. J.
612 Hangar Lane Nashville, TN 37217	Region 3		www.ejoventures.com
(615) 437-2173	Certification:	DBE, ACD BE	

Counties Work In

All Counties

Specialty

Construction Management, Power and Communication Transmission Line; Cable Splicing, Electrical or Fiber Optic; Computer and Network Cable Installation; Electronic Control Installation and Service; Electronic Control System Installation; Fiber Optic Cable (Except Transmission Lines) Installation; Telecommunications Carriers, Wired; Telecommunications Networks, Wired (Deactivated in 2007 Codeset); Satellite Telecommunication Resellers; Telecommunications Resellers; Computer Systems Design Service

NAICS List

Computer Systems Design Services (541512), Electrical Contractors (238210), Food Service Contractors (722310), Full Service Restaurants (722511), Limited-Service Restaurants (722513), News Dealers and Newsstands (451212), Other Telecommunications (51791), Power and Communication Line and Related Structures Construction (237130), Satellite Telecommunications (517410), Security Systems Services (except Locksmiths) (561621), Wired Telecommunications Carriers (517110), Wireless Telecommunications Carriers (except Satellite) (51721)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Eco Partnering Innovations, LLC 1708 Elaine Ave Altamonte Springs, FL 32701 (407) 377-7540	Out of State Out of State Certification: DBE	Contractor	Hoback, Stephanie Stephanie.hoback@ecopartnering.com

Counties Work In

Specialty

Manufactures representative/dealer firm & consultant specializing in business & smart city technology solutions (traffic, planning, its, parking, tolling, asset maintenance, data analytics).

NAICS List

All Other Business Support Services (561499), Data Processing, Hosting, and Related Services (518210), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210), Other Electronic Parts and Equipment Merchant Wholesalers (423690), Software Publishers (511210), Wholesale Trade Agents and Brokers (425120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Emerald Resource, LLC 315 10th Avenue North, Suite 122 Nashville, TN 37203 (615) 244-5646	DAVIDSON (19) Region 3 Certification: DBE	Contractor, Other, Supplier	Perry, Michelle mperry@emeraldresource.com www.emeraldresource.com

Counties Work In

All Counties

Specialty

Addition/Alteration/Renovation General Contractors, Commercial & Institutional Building; Highway/Street/Bridge Construction; Communication Equipment Installation; Merchant Wholesalers: Camera Equipment & Supplies, Photographic; Computer Boards, Loaded; Construction Materials, Electrical; Communications Equipment; Office Furniture; Audio Equipment [Except Automotive]; Telecommunication Resellers; Employment Placement Agencies or Services; Security Alarm System Sales (Installation/Repair/Monitor)

NAICS List

Commercial and Institutional Building Construction (236220), Computer and Computer Peripheral Equipment and Software Merchant Wholesalers (423430), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210), Employment Placement Agencies (56131), Furniture Stores (442110), Highway, Street, and Bridge Construction (237310), Other Electronic Parts and Equipment Merchant Wholesalers (423690), Other Telecommunications (51791), Photographic Equipment and Supplies Merchant Wholesalers (423410), Radio, Television, and Other Electronics Stores (443112), Security Systems Services (except Locksmiths) (561621)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
F & C Eaton Enterprises, LLC DBA F & C Eaton	Out of State	Contractor	Eaton, Charles
102 S. Church St. Hillsboro, TX 76645	Out of State		Charles@fceatonenterprises.com
(254) 283-5252	Certification: DBE		www.fceatonenterprises.com

Counties Work In

All Counties

Specialty

Construction Management, Single-Family Building, Construction Management, Residential Remodeling, Construction Management, Commercial and Institutional Building, Project Management, Electrical Contractors and other Wiring Installation Contractors

NAICS List

Commercial and Institutional Building Construction (236220), Electrical Contractors (238210), New Single-Family Housing Construction (except Operative Builders) (236115), Residential Remodelers (236118)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
GTG Traffic Signals, LLC	Out of State	Contractor	Gray, Jason D.
4191 JVL Industrial Park Drive Marietta, GA 30066	Out of State		jgray@gtgtraffic.com
(404) 446-2784	Certification: DBE		

Counties Work In

All Counties

Specialty

ATMS, Traffic Signal Installation

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Global One Networks, LLC	Out of State	Contractor	Mundy, Valerie
526 Cocoa Lane Orlando, FL 32804	Out of State		valerie@global1networks.com
(407) 312-3199	Certification: DBE		

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Globenet Telecommunications, LLC	Out of State	Contractor	Middleton, David
5995 Rolling Ridge Dr Kannapolis, NC 28081	Out of State		dlmiddleton@globenetusa.net
(828) 320-3291	Certification: DBE		

Counties Work In

All Counties

Specialty

concrete, erecting structural steel, precast, Electrical ,Audio visual equipment installation, Low voltage electrical work

NAICS List

All Other Specialty Trade Contractors (238990), Electrical Contractors (238210), Structural Steel and Precast Concrete Contractors (238120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Grand Slam Universal, LLC 1321 Murfreesboro Pike Nashville, TN 37217 (615) 479-8882	DAVIDSON (19) Region 3 Certification: DBE	Contractor	Lillard, Marcus admin@grandslamtechnologies.com

Counties Work In

All Counties

Specialty

Power and Communication Line and Related Structures Construction; Electrical Contractors and Other Wiring Installation Contractors; Computer Facilities Management Services; Other Computer Related Services; Temporary Help Services

NAICS List

Computer Facilities Management Services (541513), Electrical Contractors (238210), Other Computer Related Services (541519), Power and Communication Line and Related Structures Construction (237130), Temporary Help Services (561320)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Green Facilities, LLC 1755 N. Brown Rd. Lawrenceville, GA 30043 (770) 864-7987	Out of State Out of State Certification: DBE	Contractor	Garey, Frederick frederick@greenfacilities.net

Counties Work In

All Counties

Specialty

Electrical Contractors & Other Wiring Installations Contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Heritage Electric, Inc. 2129 Troyer Bldg. 249, Suite 100 Memphis, TN 38114 (901) 774-9142	SHELBY (79) Region 4 Certification: DBE	Contractor	Hamlin, Charles charleshamlin@birch.net

Counties Work In

All Counties

Specialty

Electrical Contractor, Industrial, Commercial, Residential Installation, Wiring, Electrical, Telecommunications

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
John Curry Electric, LLC 5000 Linbar Drive Suite 265 Nashville, TN 37211 (615) 691-1664	DAVIDSON (19) Region 3 Certification: DBE		,

Counties Work In

Specialty

Electrical Services

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
KELEUSMATIC TECHNOLOGIES, INC 8362 Pines Blvd., Suite 131 PEMBROKE PINES, FL 33024 (954) 543-5701	Out of State Out of State Certification: DBE	Consultant	Yu, Michael michael.yu@keleusmatic.com www.keleusmatic.com

Counties Work In

Specialty

Computers; computer systems; systems integration design consulting

NAICS List

Computer Systems Design Services (541512), Computer Systems Design Services (541512), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Maldonado-Burkett, LLP 2312 Western Trails Blvd Ste C-303 Austin, TX 78745 (512) 916-1386	Out of State Out of State Certification: DBE	Contractor	Maldonado, Ramon marketing.coordinator@maldonado-burkett.com www.maldonado-burkett.com

Counties Work In

Specialty

installation of traffic signals, installing DMS signs, maintenance, electrical services, Engineering Services - Civil Engineering/Traffic and Transportation Engineering

NAICS List

Electrical Contractors (238210), Engineering Services (541330)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
McBee/Bailey & Associates Construction 3018 East 5th Avenue Knoxville, TN 37914 (865) 748-9904	KNOX (47) Region 1 Certification: DBE	Contractor	Bailey, Emanuel emanuelbailey@hotmail.com

Counties Work In

All Counties

Specialty

McBee/Bailey & associates construction is a multi division full service State of Tennessee licensed general contractor. Construction manager, electrical contractor, wholesale supplier of lighting, electrical equipment and other construction products.

NAICS List

Commercial and Institutional Building Construction (236220), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210), Facilities Support Services (561210), Industrial Building Construction (236210), New Housing Operative Builders (236117)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Memphis Computer Support, LLC 5865 Ridgeway Center Pkwy Suite 300 Memphis, TN 38120 (901) 496-8949	SHELBY (79) Region 4 Certification: DBE	Consultant	Suria, Melanie Melanie@MemphisComputerSupport.com www.memphiscomputersupport.com

Counties Work In

All Counties

Specialty

Memphis Computer Support is a technology solution provider for small to medium sized businesses and we provide IT solutions on a managed basis

NAICS List

All Other Professional, Scientific, and Technical Services (541990), Computer Facilities Management Services (541513), Computer Systems Design Services (541512), Data Processing, Hosting, and Related Services (518210), Electrical Contractors (238210), Other Computer Related Services (541519)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Memphis Electric Co., LLC 2840 Summer Oaks Drive Suite 101 Memphis, TN 38133	SHELBY (79) Region 4	Contractor	Thomas, Donald Donald@MemphisElectric.net
(901) 493-5750	Certification: DBE		

Counties Work In

All Counties

Specialty

Electrical services

NAICS List

Electrical Contractors (238210), Noncurrent-Carrying Wiring Device Manufacturing (335932)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Mid-South Fiber Communications 7397 Don Valley Cv. Bartlett, TN 38133	SHELBY (79) Region 4	Contractor	Burnette, Sarah midsouthfiber@gmail.com
(901) 484-8367	Certification: DBE		

Counties Work In

All Counties

Specialty

Fiber Optic Cable Install

NAICS List

Electrical Contractors (238210), Telecommunications Resellers (51731), Wired Telecommunications Carriers (517110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Montel Technologies, LLC	Out of State	Contractor	Montelongo, Ray
333 W. Ohio St. Suite 101 Chicago, IL 60654	Out of State		tina@monteltech.com
(815) 966-1267	Certification: DBE		

Counties Work In

Specialty

Electrical contractors. Wireless telephone communications carriers.

NAICS List

Cellular and Other Wireless Telecommunications (517212), Computer Systems Design Services (541512), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Montgomery Electronics & Communications Svcs., LLC	Out of State	Contractor	Montgomery, Derek
236 Mountain Ridge Road Millbrook, AL 36054	Out of State		dmontgomery@mecsunlimited.com
(534) 730-4501	Certification: DBE		www.mecsunlimited.com

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors; Computer and Computer Peripheral Equipment and Software Merchant Wholesalers; Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers; Computer Systems Design Services; Communication Equipment Repair and Maintenance

NAICS List

Communication Equipment Repair and Maintenance (811213), Computer Systems Design Services (541512), Computer and Computer Peripheral Equipment and Software Merchant Wholesalers (423430), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name / Email/Web Addr
Nanobaud, LLC	SHELBY (79)	Contractor	Jones, Lawrence
3588 Commerce Circle	Region 4		lawrence.jones@nanobaud.com
Memphis, TN 38118			
(303) 246-5719	Certification: DBE		www.nanobaud.com

Counties Work In

All Counties

Specialty

238210 Electrical Contractors and Other Wiring Contractors
 238290 Material handling equipment installation
 811310 Industrial truck repair and maintenance services

NAICS List

Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (811310), Electrical Contractors (238210), Other Building Equipment Contractors (238290)

Company Information	County Located	Company Type	Owner Name / Email/Web Addr
Native Sons, LTD	Out of State	Contractor	Chapman, Frank
2603 N. Rolling Road #310	Out of State		mikeo@nativesons.org
Windsor Mill, MD 21244			
(443) 200-2208	Certification: ACD BE		

Counties Work In

Specialty

Commercial and Institutional Building Construction

NAICS List

Commercial and Institutional Building Construction (236220), Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers (423610), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Ncube Industries 1981, LLC dba Ncube Industries 1981 277 A Southburn Drive Hendersonville, TN 37075 (615) 957-7530	() Certification: DBE	Contractor	Ncube, Kelvin ncube@ncubeindustries.com

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
North Electric, Inc. 12117 Bennington Ave., Ste. 200 Cleveland, OH 44135 (216) 331-4141	Out of State Out of State Certification: DBE	Contractor	Rivera, Jose www.northelecinc.com www.northelecinc.com

Counties Work In

All Counties

Specialty

Electrical Contractor

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Oteka Technologies, LLC 3800 Hacks Cross Road, Suite 103 Memphis, TN 38125 (901) 334-7304	SHELBY (79) Region 4 Certification: DBE	Contractor, Other	Dobbins, Alandas www.otekatech.com www.otekatech.com

Counties Work In

All Counties

Specialty

Telecommunication

NAICS List

Electrical Contractors (238210), Security Systems Services (except Locksmiths) (561621)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Payne Technology 2357 Edencrest Drive Nashville, TN 37013 (615) 398-2837	DAVIDSON (19) Region 3 Certification: DBE	Other	Payne, Curtis curtis@payne.technology

Counties Work In

Specialty

Computer Services, Technical support, Repair and Maintenance

NAICS List

Computer Facilities Management Services (541513), Computer Systems Design Services (541512), Computer and Office Machine Repair and Maintenance (811212), Electrical Contractors (238210), Other Computer Related Services (541519)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Peak Electric, Inc. 320 North Byrne Road Toledo, OH 43607 (419) 392-1272	Out of State Out of State Certification: DBE	Contractor	McIntyre, Jr., Milton T. mmcintyre@peakelectrictoledo.com

Counties Work In

All Counties

Specialty

Electrical Contractors and Other Wiring Installation Contractors

NAICS List

Electrical Contractors (238210), Motor Vehicle Supplies and New Parts Merchant Wholesalers (423120)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
People First Communications 5986 Knight Arnold Road, Suite 3 Memphis, TN 38115 (901) 654-3717	SHELBY (79) Region 4 Certification: DBE	Other	Fletcher, Ronald ron@peoplefirstsales.com

Counties Work In

All Counties

Specialty

Computer Consulting, Sales, Service, Installation, Security (Network) Consulting, Accounting Services. Secondary: Electrical Contracting, Cable and Wiring Installations

NAICS List

Computer Facilities Management Services (541513), Computer Systems Design Services (541512), Computer and Computer Peripheral Equipment and Software Merchant Wholesalers (423430), Computer and Office Machine Repair and Maintenance (811212), Computer and Software Stores (443120), Electrical Contractors (238210), Other Accounting Services (541219), Other Computer Related Services (541519)

Company Information	County Located	Company Type	Owner Name / Email/Web Addr
Perimeter Security Group, LLC	Out of State	Contractor	Blood, Brenda Lynn
7488 N Government Way Dalton Gardens, ID 83815	Out of State		brenda@perimetersecuritygroup.com
(208) 772-1700	Certification: DBE		www.perimetersecuritygroup.com

Counties Work In

Specialty

NAICS List

All Other Specialty Trade Contractors (238990), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name / Email/Web Addr
Plan B Fiber Optics, LLC	Out of State	Contractor	Gilmore, Nioclas
1909 Montgomery Highway Dothan, AL 36303	Out of State		planbfiberoptics@gmail.com
(727) 248-9435	Certification: DBE		

Counties Work In

Specialty

Splitting fiber optic cable for prime contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Precise Circuit Solutions, LLC 2071 Hillshire Cir, Ste. 2 Memphis, TN 38113 (901) 201-4335	SHELBY (79) Region 4 Certification: DBE	Contractor	Price, Travis support@precisecircuitsolution.com www.precisecircuitsolution.com

Counties Work In

All Counties

Specialty

Electrical Contractor

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Quality Mobile Installations, LLC 6217 Enterprise Drive Knoxville, TN 37933 (719) 646-9805	KNOX (47) Region 1 Certification: DBE	Contractor	Sours, Meagan Meagan.sours@qmitem.com www.qmitem.com

Counties Work In

All Counties

Specialty

Quality Mobile Installations, LLC. offers installations services of aftermarket electronics on public transportation such as trains, city buses and school buses. QMI installs items such as validators, fare boxes, surveillance cameras, CAD/AVL, infotainment, and gps. Other Services include Fabrication of bus harnesses and components for installs. We perform bus surveys, drawings, and consulting.

NAICS List

Electrical Contractors (238210), Fabricated Pipe and Pipe Fitting Manufacturing (332996), Other Electronic Component Manufacturing (334419), Plate Work Manufacturing (332313)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Rutherford Contracting, Inc.	Out of State	Contractor, Supplier	Rutherford, Marlon L.
P.O. Box 698 Moulton, AL 35650	Out of State		bbowling@rutherfordcont.com
(256) 974-7306	Certification: DBE		

Counties Work In

All Counties

Specialty

Highway, Street, and Bridge Construction; Poured Concrete Foundation and Structure Contractors; Electrical Contractor; Petroleum and Petroleum Products Merchant Wholesalers (Except Bulk Stations and Terminals); Specialized Freight (except Used Goods) Trucking, Local; Testing Laboratories; Other Management Consulting Services; Landscaping Services

NAICS List

Electrical Contractors (238210), Highway, Street, and Bridge Construction (237310), Landscaping Services (561730), Other Construction Material Merchant Wholesalers (423390), Other Management Consulting Services (541618), Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals) (424720), Poured Concrete Foundation and Structure Contractors (238110), Specialized Freight (except Used Goods) Trucking, Local (484220), Testing Laboratories (541380)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Safely Wired, LLC	RUTHERFORD (75)	Contractor	Woods, Fred
913 Gamly Way Murfreesboro, TN 37128	Region 3		safelywiredllc@gmail.com
(615) 663-2604	Certification: DBE		

Counties Work In

All Counties

Specialty

Electrical contractors

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Servitech, Inc. 13892 E. Smith Drive Aurora, CO 80011 (720) 529-1661	Out of State Out of State Certification: DBE	Contractor	Stenger, Monkia contact@servitechinc.com www.servitechinc.com

Counties Work In

All Counties

Specialty

Electrical Contractor/Construction Management/CAD Drafting Services, Records Management

NAICS List

Administrative Management and General Management Consulting Services (541611), Commercial and Institutional Building Construction (236220), Drafting Services (541340), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Seward Contracting, LLC 5607 Wolf Pack Dr. Arlington, TN 38002 (901) 612-0577	SHELBY (79) Region 4 Certification: DBE	Contractor	Seward, Meagan meaganes.2014@gmail.com www.sewardcontracting.com

Counties Work In

All Counties

Specialty

Electrical

NAICS List

Electric Bulk Power Transmission and Control (221121), Electric Power Distribution (221122), Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
Slice Wireless Solutions, Inc. 530 Church Street Nashville, TN 37219 Nashville, TN 37219 (917) 822-4070	DAVIDSON (19) Region 3 Certification: DBE, ACD BE	Consultant	Dressendofer, Joanne accounting@slicewifi.com

Counties Work In

Specialty

Engineer, procure, install, and manage Wi-Fi. We specialize in delivering Free Wi-Fi for public areas like downtown main ST, airports, and parks. We also deliver WI-FI temporary at events and permanent Wi-Fi in warehouses, buildings, and other densely populated areas.

NAICS List

Computer Facilities Management Services (541513), Electrical Contractors (238210), Other Management Consulting Services (541618), Telecommunications Resellers (517310)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
SpringTree Media Group 1224 Lakeview Drive Franklin, TN 37067 (615) 599-1505	DAVIDSON (19) Region 3 Certification: DBE, ACD BE	Contractor	Vaque, Alicia alicia@springtree.net

Counties Work In

All Counties

Specialty

Audio Equipment Installation (Except Automotive) Contractors; Lighting System Installation; Sound Equipment Installation

NAICS List

Electrical Contractors (238210)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
United Electronics, Inc. 315 Deaderick Street, #1550 Nashville, TN 37238 (615) 997-0834	DAVIDSON (19) Region 3 Certification: DBE	Other	Moore, Mabel mmoore@unitedelectronicsinc.com www.unitedelectronicsinc.com

Counties Work In

All Counties

Specialty

Data Communication Infrastructure

NAICS List

Electrical Contractors (238210), Security Systems Services (except Locksmiths) (561621), Wired Telecommunications Carriers (517110)

Company Information	County Located	Company Type	Owner Name /Email/Web Addr
VIBEngineering, Inc 700 Central Avenue, Suite 302 St. Petersburg, FL 33701 (727) 317-4967	Out of State Out of State Certification: DBE	Consultant	Calhoun, Sara E. scalhoun@vibengineering.com

Counties Work In

All Counties

Specialty

Drafting Services; Engineering Services; Electrical Contractors and Other Wiring Installation Contractors; Other Scientific and Technical Consulting Services

NAICS List

Drafting Services (541340), Electrical Contractors (238210), Engineering Services (541330), Other Scientific and Technical Consulting Services (541690)

Company Information	County Located	Company Type	Owner Name / Email / Web Addr
Young Electric Company, Inc. 3907 Dodds Avenue Chattanooga, TN 37407 (423) 867-9324	HAMILTON (33) Region 2 Certification: DBE	Contractor	Young, Robin M. robin@youngelectric.net www.youngelectric.net

Counties Work In

All Counties

Specialty

Electrical Contractor

NAICS List

Electrical Contractors (23821), Electrical Contractors (238210)

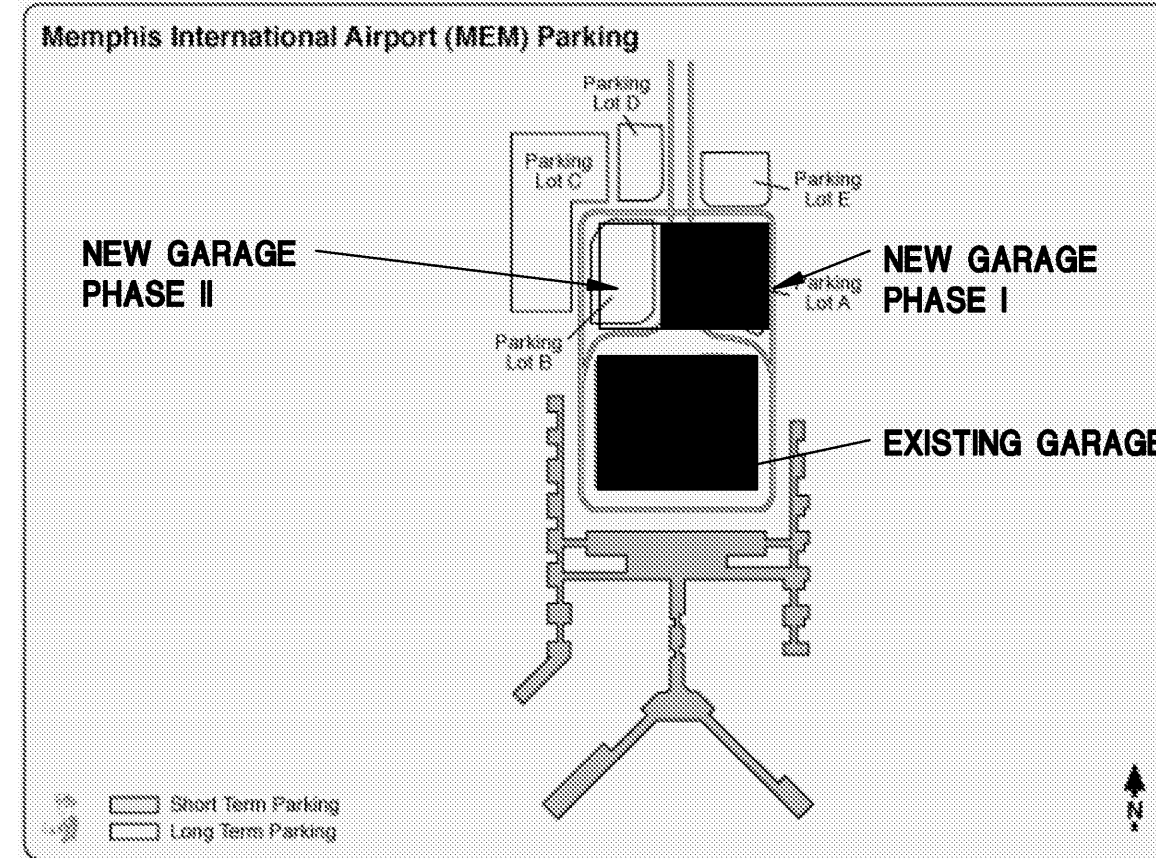
SHORT/LONG TERM GARAGE

ANNEX & VENDOR LOTS

ECONOMY GARAGE

ROOF LIGHTING PLANS
&
LIGHT POLE SUBMITTALS

MEMPHIS-SHELBY COUNTY
AIRPORT AUTHORITY
PARKING GARAGE EXPANSION & IMPROVEMENTS
MEMPHIS TENNESSEE
MSCAA PROJECT NO. 9905
ISSUED FOR BID
October 12, 2009



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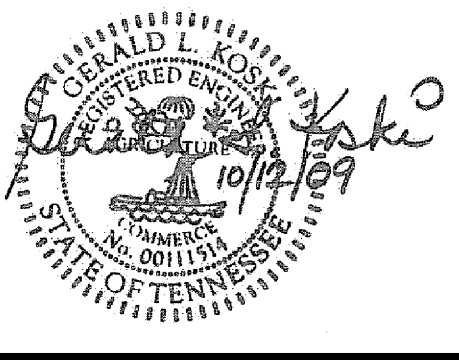
JOB NO. 15-1800.00 REVIEWED BY: GLK

JOB NO. xxx REVIEWED BY: xxx

JOB NO. REVIEWED BY:

DRAWN BY: MCB CHECKED BY: GLK APPROVED BY: GLK

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ISSUED FOR BID

NO.	DESCRIPTION	DATE	BY

REVISIONS

PROJECT:

**PARKING GARAGE
EXPANSION &
IMPROVEMENTS**

SHEET TITLE:

**COVER
SHEET
VOLUME 3**

AIP NO.

DWG. REF. DWG. DISP.

MSCAA NO. SHEET NO.

9905

DATE: OCTOBER 12, 2009

SCALE: NTS

G-001B

**ARCHITECT
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Architecture - Planning - Interior Design
505 Tennessee St., Suite 101
Memphis, Tennessee 38103
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E-Mail: info@selftucker.com

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ARCHITECT**



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www.lrk.com

**CIVIL
ENGINEER**

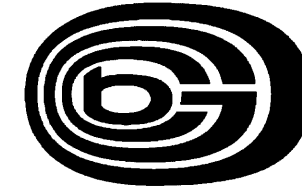


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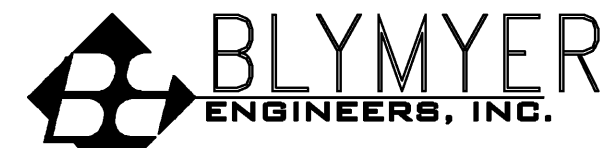
MECHANICAL/ELECTRICAL
CONSULTING ENGINEERS
3485 Poplar Avenue, Suite 200 / Memphis, TN 38111
Tele: 901-482-8283 / Fax: 901-488-9640 / www.ogcb.com



**PLUMBING/HVAC
ENGINEERS**

CONSULTANT
GCE
**Gala Engineering
Inc.**
7975 STAGE HILLS BLVD.
SUITE 5
MEMPHIS, TN. 38133
TEL. (901) 384-8400
FAX (901) 373-2255

**QTA DESIGN
SERVICES**

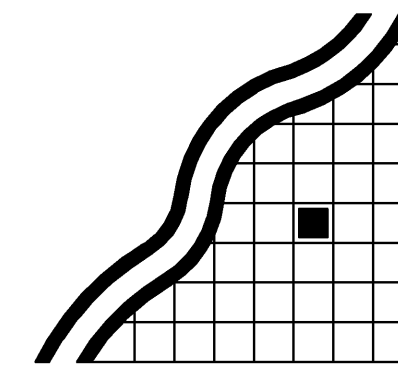


1829 CLEMENT AVE
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clarkdixon@bellsouth.net
R. LARRY CLARK, R.A. DIANNE R. DIXON, AIA

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ARCHITECTS**



Ritchie Smith Associates
Planning
Landscape Architecture
Urban Design

▲ 65 Union Avenue
Suite 1140
Memphis, TN 38103
Phone 901.525.1198
Fax 901.525.1190

PLUMBING/HVAC ENGINEERS

DRAWING INDEX SHEET No.	NEW GARAGE
	GENERAL
G-001B	COVER SHEET
G-002B	DRAWING INDEX
	PLUMBING
P-101	LEVEL 1 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-102	LEVEL 1 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-103	LEVEL 1 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-104	LEVEL 2 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-105	LEVEL 2 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-106	LEVEL 2 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-107	LEVEL 3 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-108	LEVEL 3 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-109	LEVEL 3 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-110	LEVEL 4 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-111	LEVEL 4 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-112	LEVEL 4 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-113	LEVEL 5 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-114	LEVEL 5 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-115 ALT	LEVEL 5 PARKING PLAN-PARTIAL PLAN-PLUMBING-ADD ALTERNATE
P-116	LEVEL 6 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-117	LEVEL 6 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-118 ALT	LEVEL 6 PARKING PLAN-PARTIAL PLAN-PLUMBING-ADD ALTERNATE
P-119	LEVEL 7 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-120	LEVEL 7 PARKING PLAN-PARTIAL PLAN-PLUMBING
P-121 ALT	LEVEL 7 PARKING PLAN-PARTIAL PLAN-PLUMBING
	ENLARGED PLANS - FUEL OIL
	MECHANICAL
M-401	ENLARGED PLANS - HVAC
M-402	ENLARGED PLANS - HVAC
M-403	ENLARGED ELEVATOR PLANS - HVAC
M-501	HVAC DETAILS
M-502	HVAC DETAILS
M-503	HVAC DETAILS
M-601	HVAC SCHEDULES
	ELECTRICAL
E-001	ELECTRICAL LEGEND
E-010	SITE PLAN-ELECTRICAL
E-011	SITE PLAN-DATA/COMMUNICATION
E-012	SITE PLAN-LIGHTING
E-013	SITE PLAN-LIGHTING
E-014	SITE PLAN-LIGHTING
E-015	SITE PLAN-LIGHTING
E-016	SITE PLAN-LIGHTING
E-101	LEVEL 1 PLAN LIGHTING
E-102	LEVEL 1 PLAN LIGHTING
E-103	LEVEL 1 PLAN LIGHTING
E-104	LEVEL 2 PLAN LIGHTING
E-105	LEVEL 2 PLAN LIGHTING
E-106	LEVEL 2 PLAN LIGHTING
E-107	LEVEL 3 PLAN LIGHTING
E-108	LEVEL 3 PLAN LIGHTING
E-109	LEVEL 3 PLAN LIGHTING
E-110	LEVEL 4 PLAN LIGHTING
E-111	LEVEL 4 PLAN LIGHTING
E-112	LEVEL 4 PLAN LIGHTING
E-112 ALT	LEVEL 4 PLAN LIGHTING
E-113	LEVEL 5 PLAN LIGHTING
E-114	LEVEL 5 PLAN LIGHTING
E-115 ALT	LEVEL 5 PLAN LIGHTING
E-116	LEVEL 6 PLAN LIGHTING
E-117	LEVEL 6 PLAN LIGHTING
E-118 ALT	LEVEL 6 PLAN LIGHTING
E-119	LEVEL 7 PLAN LIGHTING
E-120	LEVEL 7 PLAN LIGHTING
E-121 ALT	LEVEL 7 PLAN LIGHTING
E-131	LEVEL 1 PLAN POWER/AUX. SYSTEMS
E-132	LEVEL 1 PLAN POWER/AUX. SYSTEMS
E-133	LEVEL 1 PLAN POWER/AUX. SYSTEMS
E-134	LEVEL 2 PLAN POWER/AUX. SYSTEMS
E-135	LEVEL 2 PLAN POWER/AUX. SYSTEMS
E-136	LEVEL 2 PLAN POWER/AUX. SYSTEMS
E-137	LEVEL 3 PLAN POWER/AUX. SYSTEMS
E-138	LEVEL 3 PLAN POWER/AUX. SYSTEMS
E-139	LEVEL 3 PLAN POWER/AUX. SYSTEMS
E-140	LEVEL 4 PLAN POWER/AUX. SYSTEMS
E-141	LEVEL 4 PLAN POWER/AUX. SYSTEMS
E-142	LEVEL 4 PLAN POWER/AUX. SYSTEMS
E-143	LEVEL 5 PLAN POWER/AUX. SYSTEMS
E-144	LEVEL 5 PLAN POWER/AUX. SYSTEMS
E-145 ALT	LEVEL 5 PLAN POWER/AUX. SYSTEMS
E-146	LEVEL 6 PLAN POWER/AUX. SYSTEMS
E-147	LEVEL 6 PLAN POWER/AUX. SYSTEMS
E-148 ALT	LEVEL 6 PLAN POWER/AUX. SYSTEMS
E-149	LEVEL 7 PLAN POWER/AUX. SYSTEMS
E-150	LEVEL 7 PLAN POWER/AUX. SYSTEMS
E-151 ALT	LEVEL 7 PLAN POWER/AUX. SYSTEMS
E-401	ENLARGED PLANS ELECTRICAL
E-402	ENLARGED PLANS ELECTRICAL

DRAWING INDEX SHEET No.	NEW GARAGE
	ELECTRICAL (CONT'D)
E-403	ENLARGED PLANS ELECTRICAL
E-404	ENLARGED PLANS ELECTRICAL
E-405	ENLARGED PLANS ELECTRICAL
E-406	ENLARGED PLANS ELECTRICAL
E-501	ELECTRICAL DETAILS
E-502	ELECTRICAL DETAILS
E-503	ELECTRICAL DETAILS
E-504	ELECTRICAL DETAILS
E-601	LIGHTING FIXTURE SCHEDULE
E-602	LIGHTING CRITERIA, NOTES AND SCHEDULE
E-603	LIGHTING CONTROL DIAGRAMS AND SCHEDULES
E-604	DATA/COMMUNICATION RISER DIAGRAM
E-605	ONE LINE FEEDER DIAGRAM
E-606	ONE LINE FEEDER DIAGRAM
E-607	PANELBOARD SCHEDULE
E-608	PANELBOARD SCHEDULE
E-609	PANELBOARD SCHEDULE
E-610	PANELBOARD SCHEDULE
E-611	PANELBOARD SCHEDULE
E-612	PANELBOARD SCHEDULE
E-613	PANELBOARD SCHEDULE
E-614	PANELBOARD SCHEDULE
E-701	ELECTRICAL PROFILES
E-702	ELECTRICAL PROFILES

DRAWING INDEX SHEET No.	QTA
	HAZARDOUS MATERIALS
HQT-101	QTA FUELING PIPING PLAN
HQT-102	QTA CARWASH SYSTEM PLAN
HQT-103	QTA WWF AND COMPR. AIR PIPING PLAN
HQT-104	QTA VACUUM SYSTEM PIPING PLAN
HQT-201	QTA FUELING UST ELEVATIONS
HQT-202	QTA FUELING ISLAND ELEVATIONS
HQT-203	QTA FUELING OWS ELEVATIONS
HQT-401	QTA FUELING ISLAND PLAN
HQT-402	QTA FUELING TANK AREA ENLARGED PLAN
HQT-501	QTA FUELING UST DETAILS
HQT-502	QTA FUELING UST DETAILS
HQT-503	QTA FUELING UST CONCRETE PAD DETAILS
HQT-504	QTA FUELING PIPING AND SUMP DETAILS
HQT-505	QTA FUELING ISLAND DETAILS
HQT-506	QTA FUELING ISLAND SIGNAGE DETAILS
HQT-601	QTA FUELING AREA PIPING AND INSTRUMENT DIAGRAM
HQT-602	QTA COMP. AIR & WWF PIPING AND INSTRUMENT DIAGRAM
HQT-603	QTA VACUUM SYSTEM PIPING AND INSTRUMENT DIAGRAM
HQT-604	QTA EQUIPMENT SCHEDULE
HQT-605	QTA EQUIPMENT SCHEDULE
HQT-606	QTA EQUIPMENT SCHEDULE
HQT-607	QTA EQUIPMENT SCHEDULE
	STRUCTURAL
SQT-001	GENERAL NOTES
SQT-100	QTA BREAK ROOM FOUNDATION PLAN
SQT-101	QTA BREAK ROOM FLOOR PLAN & ROOF FRAMING PLAN
SQT-102	QTA WASH BUILDING FOUNDATION PLAN
SQT-103	QTA WASH BUILDING FLOOR PLAN & ROOF FRAMING PLAN
SQT-401	CANOPY FRAMING PLANS
SQT-501	FOUNDATION DETAILS
SQT-502	FOUNDATION DETAILS
SQT-520	STRUCTURAL DETAILS
SQT-521	STRUCTURAL DETAILS
SQT-522	STRUCTURAL DETAILS
SQT-601	LAP SPLICE SCHEDULES
SQT-602	LAP SPLICE SCHEDULES
	ARCHITECTURAL
AQT-100	QTA SITE PLAN
AQT-101	QTA FLOOR PLANS BREAK ROOM AND WASH BUILDING
AQT-102	QTA REFLECTED CEILING PLANS BREAK ROOM AND WASH BUILDING
AQT-103	QTA ROOF PLANS BREAK ROOM AND WASH BUILDING
AQT-201	QTA EXTERIOR ELEVATIONS BREAK ROOM
AQT-201.a	QTA EXTERIOR ELEVATIONS ACCENT BANDS-BREAK ROOM
AQT-202	QTA EXTERIOR ELEVATIONS-WASH BUILDING
AQT-301	QTA BUILDING SECTIONS-BREAK ROOM BUILDING
AQT-302	QTA BUILDING SECTIONS-BREAK ROOM BUILDING
AQT-303	QTA WALL SECTIONS-WASH BUILDING
AQT-304	QTA WALL SECTIONS-WASH BUILDING
AQT-401	QTA ENLARGED FLOOR PLANS, INTERIOR ELEVATIONS BREAK ROOM
AQT-501	QTA PLAN DETAILS BREAK ROOM BUILDING
AQT-502	QTA SECTION DETAILS BREAK ROOM BUILDING
AQT-503	QTA PLAN DETAILS WASH BUILDING
AQT-504	QTA SECTION DETAILS WASH BUILDING
AQT-801	QTA DOOR SCHEDULE, ROOM SCHEDULE, DOOR DETAILS
AQT-802	QTA PARTITION TYPES, TOILET ACCESS, DOOR DETAILS, STANDARD DTLS

DRAWING INDEX SHEET No.	QTA
	PLUMBING
PQT-001	QTA MECHANICAL SYMBOLS AND GENERAL NOTES
PQT-101	QTA OVERALL BUILDING PLUMBING FLOOR PLAN
PQT-102	QTA BUILDING PLUMBING FLOOR PLAN NORTH FUELING
PQT-103	QTA BUILDING PLUMBING FLOOR PLAN CAR WASH AREA
PQT-104	QTA BUILDING PLUMBING FLOOR PLAN SOUTH FUELING
PQT-201	QTA BREAK ROOM -PLUMBING
PQT-501	QTA PLUMBING DETAILS
PQT-502	QTA PLUMBING DETAILS
PQT-601	QTA PLUMBING DIAGRAMS
PQT-602	QTA PLUMBING EQUIPMENT SCHEDULES
	MECHANICAL
MQT-001	QTA MECHANICAL SYMBOLS AND GENERAL NOTES
MQT-101	QTA BUILDING MECHANICAL FLOOR PLAN CAR WASH AREA
MQT-201	QTA BREAKROOM FLOOR PLAN-HVAC
MQT-501	QTA MECHANICAL EQUIPMENT SCHEDULES
	ELECTRICAL
EQT-001	QTA ELECTRICAL SYMBOLS SCHEDULE
EQT-101	QTA ELECTRICAL SITE PLAN
EQT-102	QTA FUELING ELECTRICAL SITE PLAN
EQT-103	QTA BUILDING ELECTRICAL LIGHTING PLAN WEST FUELING
EQT-104	QTA BUILDING ELECTRICAL LIGHTING PLAN CAR WASH AREA
EQT-105	QTA BUILDING ELECTRICAL LIGHTING PLAN
EQT-106	QTA BUILDING ELECTRICAL POWER PLAN WEST FUELING
EQT-107	QTA BUILDING ELECTRICAL POWER PLAN CAR WASH AREA
EQT-201	QTA BUILDING ELECTRICAL POWER PLAN
EQT-201	BREAK ROOM BUILDING FLOOR PLANS-POWER/AUX. SYSTEMS
EQT-501	QTA ELECTRICAL DETAILS
EQT-502	QTA ELECTRICAL DETAILS
EQT-601	QTA ELECTRICAL PANEL SCHEDULES
EQT-602	QTA ONE LINE DIAGRAM
EQT-603	QTA ELECTRICAL WIRING AND BLOCK DIAGRAMS

DRAWING INDEX SHEET No.	PARKING OFFICE
	ARCHITECTURAL
APO-101	PARKING OFFICE FLOOR PLAN AND DIMENSION PLAN
APO-102	PARKING OFFICE FLOOR REFLECTED CEILING PLAN
APO-201	PARKING OFFICE EXTERIOR ELEVATIONS
APO-301	PARKING OFFICE BUILDING SECTIONS
APO-302	PARKING OFFICE BUILDING & ENLARGED SECTIONS
APO-401	PARKING OFFICE INTERIOR ELEVATIONS
APO-402	PARKING OFFICE ENLARGED FLOOR PLANS
APO-501	PARKING OFFICE DETAILS
APO-502	PARKING OFFICE WALL TYPES AND PARTITIONS
APO-503	PARKING OFFICE MISCELLANEOUS DETAILS
APO-504	PARKING OFFICE RATED ASSEMBLIES
APO-505	PARKING OFFICE RATED ASSEMBLIES
APO-601	PARKING OFFICE DOOR AND WINDOW SCHEDULE
APO-602	PARKING OFFICE ROOM FINISH SCHEDULE
	FIRE PROTECTION
FPO-101	PARKING OFFICE FLOOR PLAN-FIRE PROTECTION
	PLUMBING
PPO-301	PARKING OFFICE FLOOR PLAN-HVAC
	MECHANICAL
MPO-301	PARKING OFFICE FLOOR PLAN-HVAC
	ELECTRICAL
EPO-101	PARKING OFFICE FLOOR PLANS-ELECTRICAL



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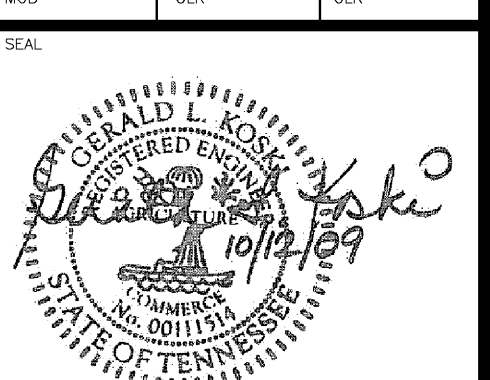
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813.888.5822 Fax

JOB NO. 15-1800.00 REVIEWED BY: GLK

JOB NO. xxx REVIEWED BY: xxx

JOB NO. REVIEWED BY:

DRAWN BY: CHECKED BY: APPROVED BY:
MGB GLK GLK



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ISSUED FOR BID

85% CONSTRUCTION DOCUMENTS 8.25.09

REVISIONS

PROJECT: PARKING GARAGE EXPANSION & IMPROVEMENTS

SHEET TITLE: DRAWING INDEX VOLUME 3

AIP No.

DWG. REF. DWG. DISP.

MSCAA No. 9905 SHEET No.

DATE: OCTOBER 12, 2009 G-002B

SCALE: NTS

ELECTRICAL GENERAL NOTES

These notes pertain to the electrical drawings and specifications except those prepared by Blymyer Engineers, Inc., unless specifically noted otherwise.

GENERAL ELECTRICAL NOTES

Conduit Penetrations of Exterior Walls:

- Where conduits penetrate exterior building walls below grade, wall shall be sleeved or core-drilled. All such conduits shall transition to rigid steel a minimum 24" from building, shall approach wall at a perpendicular angle, and shall be provided with link seals.

Structured Cabling System

Work shall include:

- All cabling and devices for telephone and data in Parking Office and Break Room Building, plus for all security cameras, wireless access points, booths, gates, ticket spitters, and code blue telephones.
- All patch panels, LVs and all associated racks and wire required management materials.
- Low voltage, DC power supplies for camera power, and repeater devices for Cat 6 cabling runs longer than 300 feet.
- Backbone cabling from existing terminal building to Parking Office Computer Room, and from Computer Room to Telecom Room in Parking Office, to wall-mounted racks in stacked electrical rooms at both end of sequence, and to rack in Break Room Building.
- Termination and testing of all cabling provided in this work.
- All materials normally required for fully functional system, whether specifically identified in these documents or not (except Owner-provided equipment).

Owner-Provided Equipment includes:

- Servers and server racks
- Switches and routers
- Patch cables
- End-use equipment (computers, telephones, etc.)

All horizontal copper cabling shall be Cat 6, plenum rated. Where used for data, cable shall be blue; where used for telephone, cable shall be gray; where used for security cameras, cable shall be white.

Security cameras, though specified herein, shall be Owner-furnished, contractor-installed.

Fire Alarm

- New Garage: There is no fire alarm system specified for this project (except as indicated in Blymyer Engineers, Inc. documents). Smoke and/or heat detectors are required for Computer Room Clean Agent fire suppression system, HVAC unit shut-down, and elevator recall functions, and are individually addressed on documents for those systems, with responsible parties indicated.
- Existing Coverage: The existing garage fire alarm system components shall remain in use. The existing transformer shall be relocated????????

Demolition: Unless specifically noted otherwise, demolished electrical items are to be disposed of by the contractor.

ELECTRICAL PHASING NOTES

- New electrical substation #8 must be installed, connected and fully functional before existing substation #8 can be demolished. Some amount of simultaneous use of these substations will be required as feeders previously served by existing substation #8 are transferred to new distribution points.
- Temporary power must be provided by contractor to maintain operation of the sump pumps and lighting in the rapid transit tunnel, and the lighting in the (3) basement-level tunnels for the garage into the terminal building, during the time after demolition of existing substation #8 and before permanent power is restored to the rapid transit tunnel panels through the Pedestrian Plaza.
- Existing primary power is supplied to substation #11 (in Cargo Building 2) and substation #12 (at north side of Cargo Building 4) through a duct bank which crosses the new garage site from the Inbound Road area. This primary cabling must remain in place, operational and protected while construction of the new substation #8 work progresses. Part of the duct bank in which this cable is routed may have to be exposed for the construction of new substation #8 to take place. All necessary steps shall be taken to protect this duct bank until the new substation #8 is in service.
- Before demolition of the existing Exit Toll Plaza can take place, the existing power and communications cabling run overhead at the north end of the existing garage basement must be intercepted and re-routed underground, per Sheets ED-101 and EX-101. Also, the new toll plaza must be operational, with power supplied from the new garage and communications supplied from the existing parking office.

ELECTRICAL PHASING NOTES

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- Temporary power must be provided by contractor to maintain operation of the sump pumps and lighting in the rapid transit tunnel, and the lighting in the (3) basement-level tunnels for the garage into the terminal building, during the time after demolition of existing substation #8 and before permanent power is restored to the rapid transit tunnel panels through the Pedestrian Plaza.
- Existing primary power is supplied to substation #11 (in Cargo Building 2) and substation #12 (at north side of Cargo Building 4) through a duct bank which crosses the new garage site from the Inbound Road area. This primary cabling must remain in place, operational and protected while construction of the new substation #8 work progresses. Part of the duct bank in which this cable is routed may have to be exposed for the construction of new substation #8 to take place. All necessary steps shall be taken to protect this duct bank until the new substation #8 is in service.
- Before demolition of the existing Exit Toll Plaza can take place, the existing power and communications cabling run overhead at the north end of the existing garage basement must be intercepted and re-routed underground, per Sheets ED-101 and EX-101. Also, the new toll plaza must be operational, with power supplied from the new garage and communications supplied from the existing parking office.

ELECTRICAL LEGEND



PANELBOARD SURFACE MOUNTED, FLUSH MOUNTED.



TRANSFORMER



MOTOR, NUMERAL DENOTES HORSEPOWER



MANUAL MOTOR STARTER



MAGNETIC MOTOR STARTER



COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH



DISCONNECT SWITCH



DUPLEX RECEPTACLE, 15 AMP 120V, 3 POLE POLARIZED. MOUNT 15" ABOVE FINISHED FLOOR TO CENTER LINE OF LOWEST PLUG-IN POINT OR AS NOTED ON PLAN.



DUPLEX RECEPTACLE, 15AMP, 120V., 3 POLE POLARIZED MOUNTED ABOVE COUNTER OR 44" ABOVE FINISHED FLOOR TO BOTTOM, OR AS NOTED ON PLAN.



SINGLE RECEPTACLE, 20A, 120V



DOUBLE DUPLEX RECEPTACLE, 15 AMP, 120V., 3 POLE POLARIZED



JUNCTION BOX, CEILING MTD., WALL MTD., CEILING MTD. W/FLEX. CONNECTION SHOWN.



COMMUNICATION/DATA OUTLET. SEE SPECS.



CARD READER-JUNCTION BOX, FLUSH IN WALL WITH 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE, OR AS INDICATED



CEILING MTD. LIGHTING FIXTURE, LETTER DENOTES TYPE.



WALL MTD. LIGHTING FIXTURE, LETTER DENOTES TYPE.



EXIT SIGN WALL MTD., CEILING MTD.



SINGLE POLE SWITCH. MOUNT 48" ABOVE FINISHED FLOOR TO CENTER LINE.



SINGLE POLE TOGGLE SWITCH 20 AMP, SUBSCRIPT DENOTES SWITCH CONTROLLING FIXTURES WITH MATCHING SUBSCRIPT, WHEN SO SHOWN ON PLAN.



THREE WAY SWITCH



FOUR WAY SWITCH



RACEWAY CONCEALED IN WALL OR CEILING



RACEWAY CONCEALED UNDERFLOOR/BELOW GRADE



EXPOSED RACEWAY



HOMERUN TO PANELBOARD, LETTERS DENOTE PANEL, NUMBER OF ARROWS INDICATE QUANTITY OF CIRCUITS. SHORT CROSSBARS DENOTE PHASE CONDUCTORS, LONG CROSSBAR DENOTES NEUTRAL. LONG CROSSBAR WITH HOOK DENOTES ISOLATED GROUND CONDUCTOR. (A TWO WIRE CIRCUIT HAS NO CROSSBARS) EQUIPMENT GROUND CONDUCTOR IS REQUIRED BUT NOT SHOWN.



RACEWAY STUBBED/CAPPED



RISER UP OR DOWN



ELECTRIC DRINKING FOUNTAIN



ABOVE FINISHED FLOOR



EMERGENCY



GROUND FAULT CIRCUIT INTERRUPTING



EMPTY CONDUIT



WEATHERPROOF



FIRE ALARM CONTROL PANEL



EXISTING ITEM TO REMAIN. NORMALLY USED IN COMBINATION WITH SYMBOL (EXAMPLE: \ominus_{E} DENOTES EXISTING RECEPTACLE TO REMAIN)



REMOVE EXISTING ITEM. NORMALLY USED IN COMBINATION WITH SYMBOL (EXAMPLE: \ominus_{E} DENOTES EXISTING RECEPTACLE TO BE REMOVED)



SECURITY CAMERA, FIXED POSITION, WITH AIMING INDICATED BY ARROW, SIGNAL CABLE, IN CONDUIT, BACK TO PARKING OFFICE, AND 120 VOLT POWER FROM UPS.



SECURITY CAMERA, PAN-TILT-ZOOM TYPE, WITH SIGNAL CABLE, IN CONDUIT, BACK TO PARKING OFFICE, AND 120 VOLT POWER FROM UPS.



DENOTES KEYNOTE REFERENCE



IN-GRADE PULL BOX, SEE DETAIL THIS SHEET.



TYPE BB1 CUT-OFF LUMINAIRES WITH 400 WATT MH LAMP, MOUNTED ON 35' POLE.



SHOWN NEXT TO LUMINAIRES ON PLAN DENOTES CIRCUIT NUMBER, ALTERNATING CIRCUITS EVERY OTHER FIXTURE.



EXISTING ROADWAY LUMINAIRE



HIGH MAST LIGHT POLE



SIGN LIGHTING FIXTURE



UNDER GROUND



RIGHT



LEFT



BASE LINE



EXISTING PULL BOX, FLUSH IN GROUND



EXISTING UNDERGROUND ELECTRICAL FEED TO BE ABANDONED



ROADWAY CONDUIT CROSSING



HORIZONTAL BORING UNDER ROADWAY FOR RACEWAY.



MEMPHIS LIGHT GAS AND WATER DIVISION.



FOOTCANDLE



EXISTING DEVICE TO BE REMOVED AND LOCATED IN SAME LOCATION AFTER GRADE CHANGE IS COMPLETE.



EXISTING DEVICE TO BE REMOVED AND RELOCATED IN NEW LOCATION



BUS DUCT ID AND SECTION SYMBOL - SEE SHEET



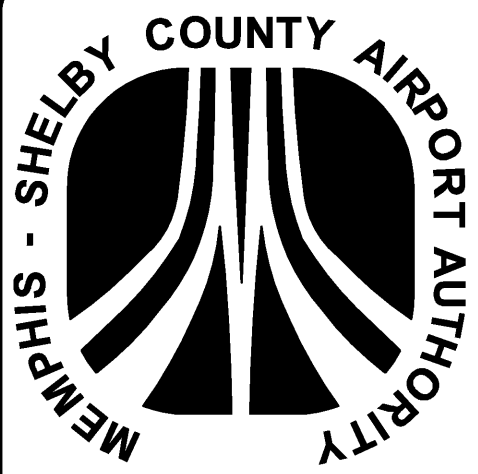
EXISTING CABLE, RACEWAY OR DUCT BANK TO BE ABANDONED



DESCRIBES DUCT BANK CONTENTS: 9W=NINE-WAY; 5" INDICATES CONDUIT SIZE.



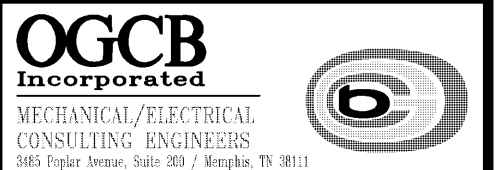
VARIABLE-DEPTH PULL BOX.



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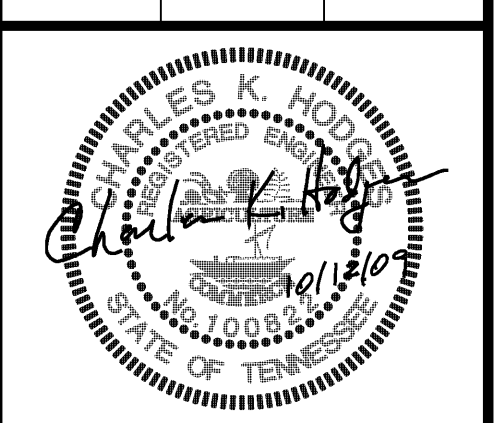


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JOB NO. 0720 REVIEWED BY: xxx

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DRAWN BY: CKH CHECKED BY: CKH APPROVED BY: CKH



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2	65% CONSTR. DOCUMENTS	8/25/09	
1	DESIGN DEVELOPMENT	8/28/09	CKH

REVISIONS

PROJECT:

PARKING GARAGE EXPANSION & IMPROVEMENTS

SHEET TITLE:

ELECTRICAL LEGEND AND NOTES

AIP NO.

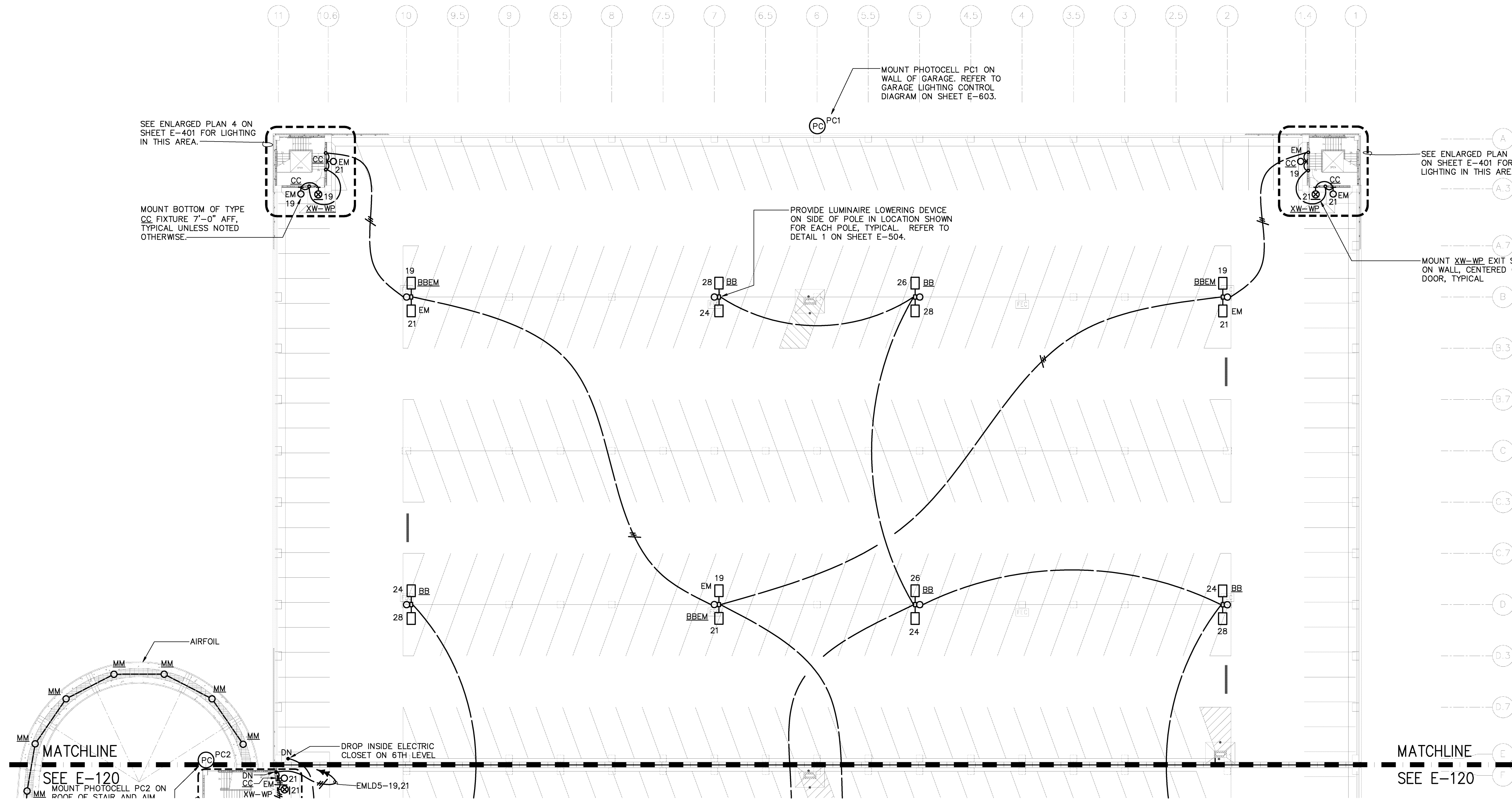
DWG. REF. DWG. DISP.

MSCAA NO. 9905 SHEET NO.

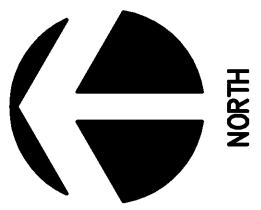
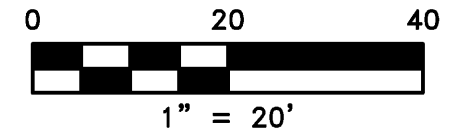
DATE OCTOBER 12, 2009 E-001

SCALE NO SCALE

THESE DRAWINGS ARE DIAGRAMMATIC COORDINATION OF ALL TRADES AND COMPLIANCE WITH DIMENSIONS ON ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE REQUIRED.



LEVEL 7 PLAN - LIGHTING
PARTIAL PLAN



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2	65% CONSTR. DOCUMENTS	8.25.09	
1	DESIGN DEVELOPMENT	8.29.09	

REVISIONS

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE:
LEVEL 7 PLAN - LIGHTING

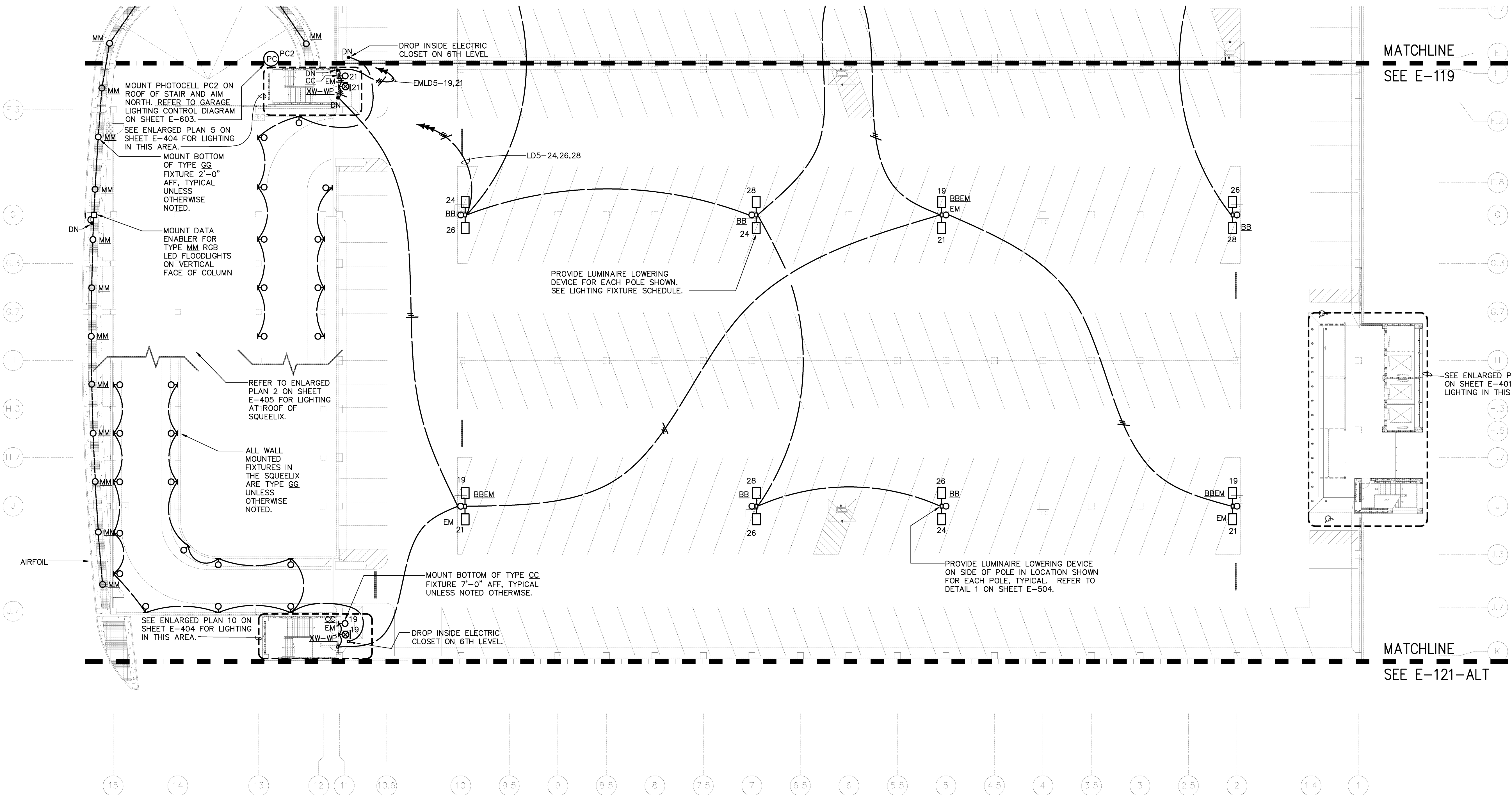
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DWG. REF. DWG. DISP.

MSCAA NO. 9905 SHEET NO. E-119

DATE OCTOBER 12, 2009 SCALE 1" = 20'

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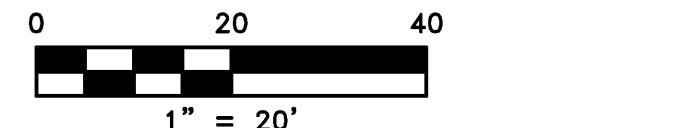


MATCHLINE
SEE E-119

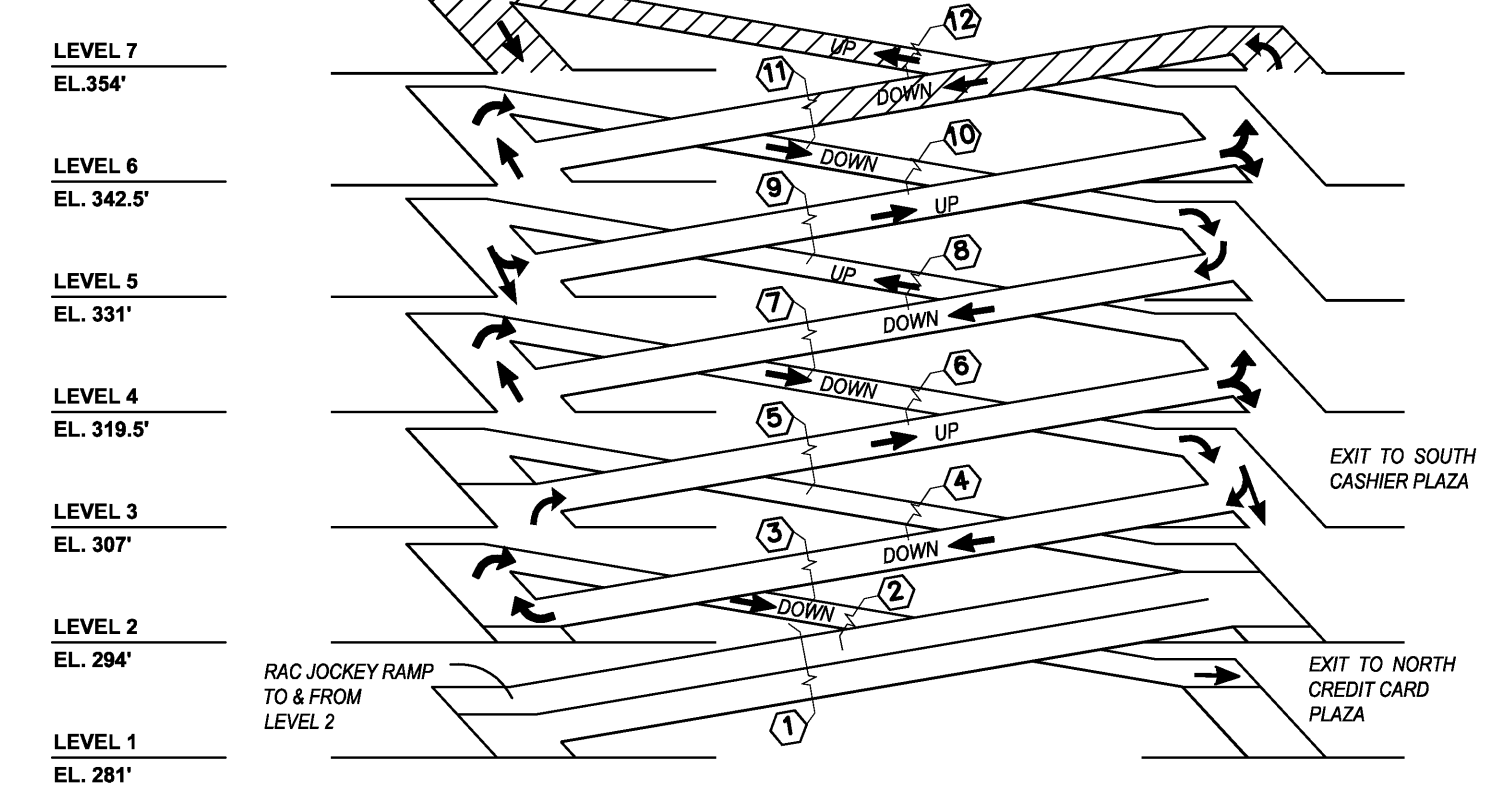
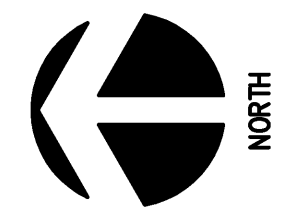
MATCHLINE
SEE E-121-ALT

LEVEL 7 PLAN - LIGHTING

PARTIAL PLAN



1
E-120



ISOMETRIC



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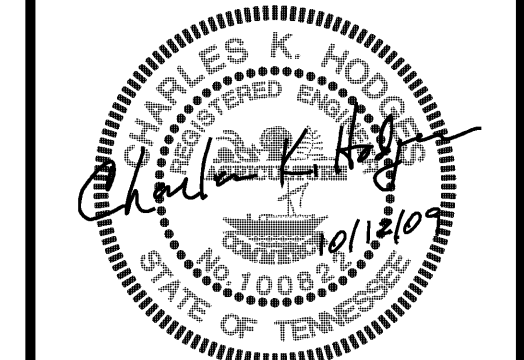
JOB NO. 15-1800.00 REVIEWED BY: GLK

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JOB NO. 0720 REVIEWED BY: xxx

JOB NO. REVIEWED BY:

DRAWN BY: MC CHECKED BY: MAS APPROVED BY: CKH



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2	65% CONSTR. DOCUMENTS	\$25.00	
1	DESIGN DEVELOPMENT	\$28.00	
NO.	DESCRIPTION	DATE	BY

REVISIONS

PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE: LEVEL 7 PLAN - LIGHTING

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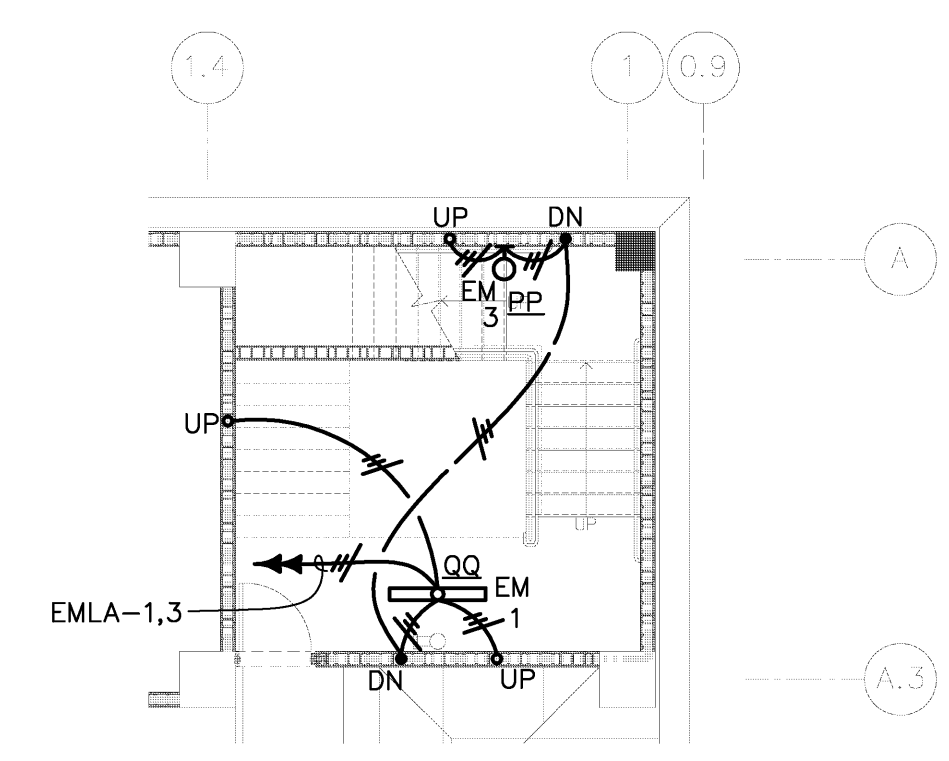
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MSCAA NO. 9905 SHEET NO. E-120

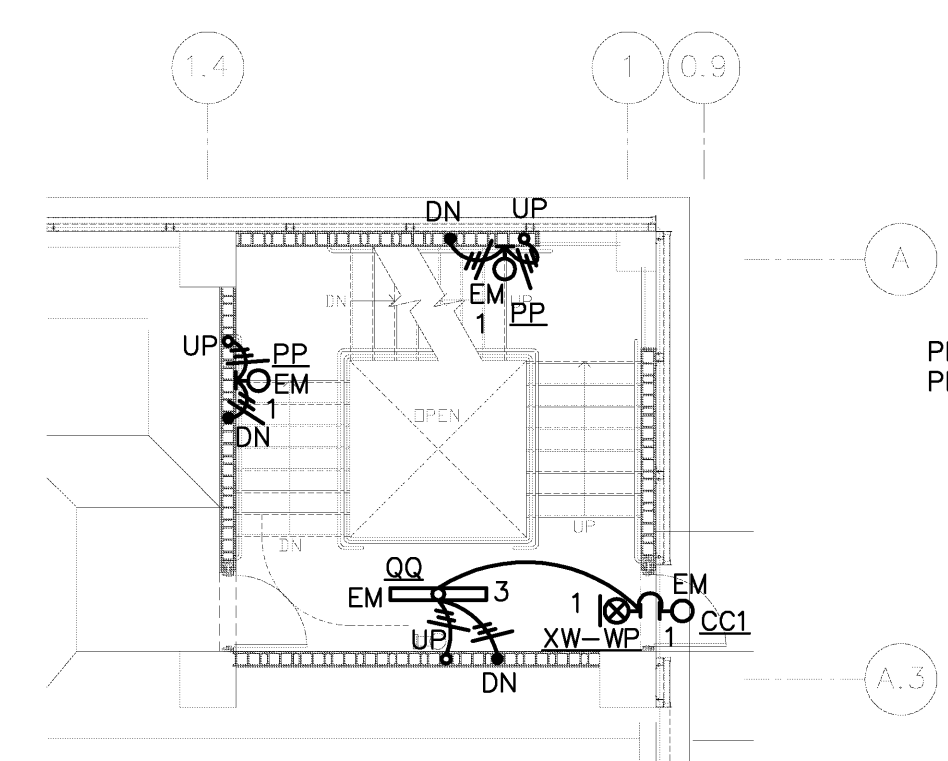
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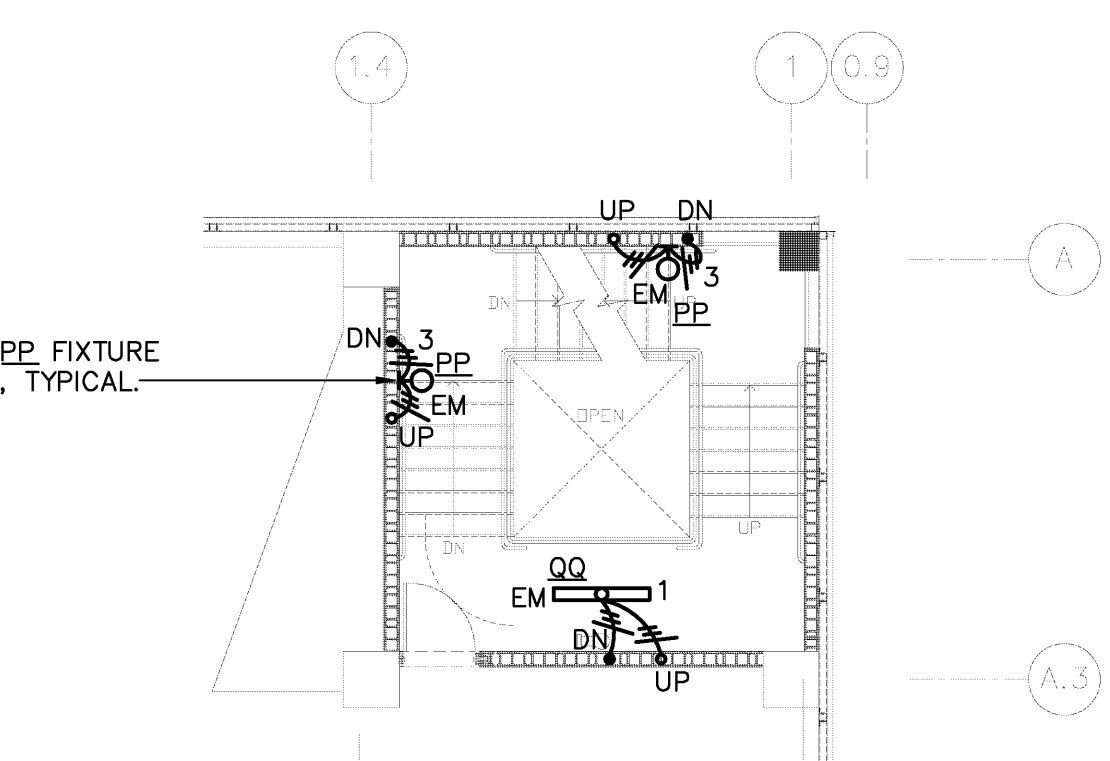
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COORDINATION OF ALL TRADES AND
COMPLIANCE WITH DIMENSIONS ON
ARCHITECTURAL AND STRUCTURAL
DRAWINGS ARE REQUIRED.



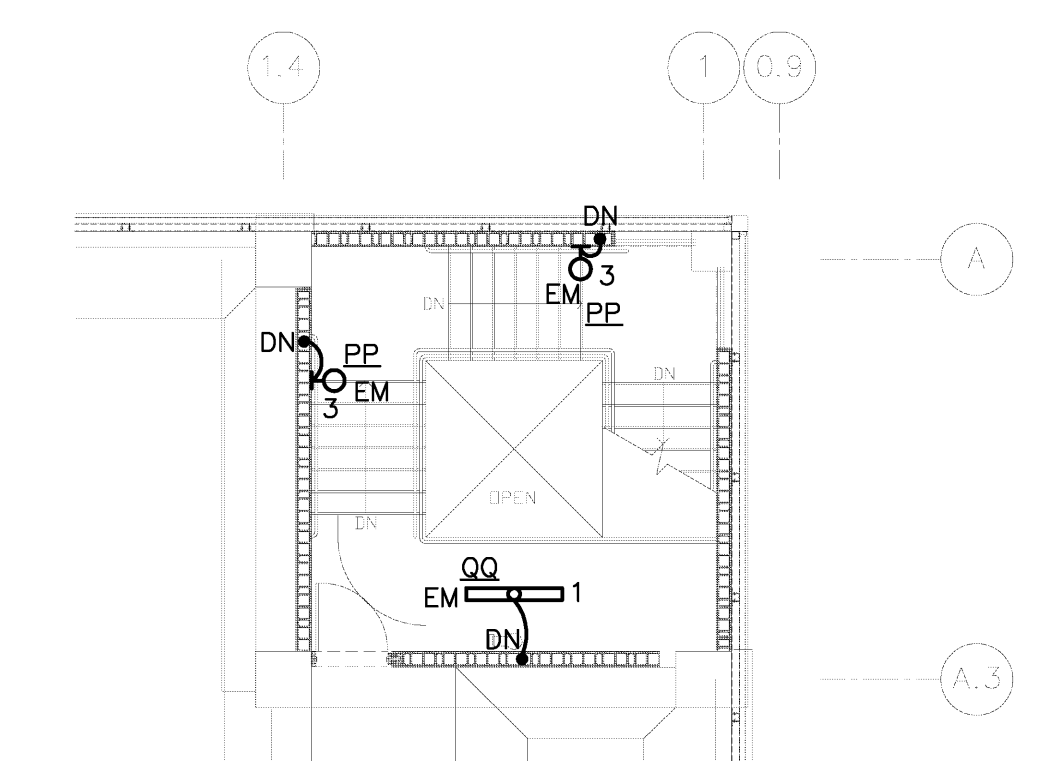
1 LEVEL 1
E-401 1/8"=1'-0"



2 LEVEL 2
E-401 1/8"=1'-0"



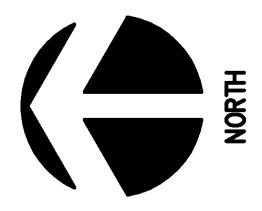
3 LEVEL 3 THROUGH LEVEL 6
E-401 1/8"=1'-0"



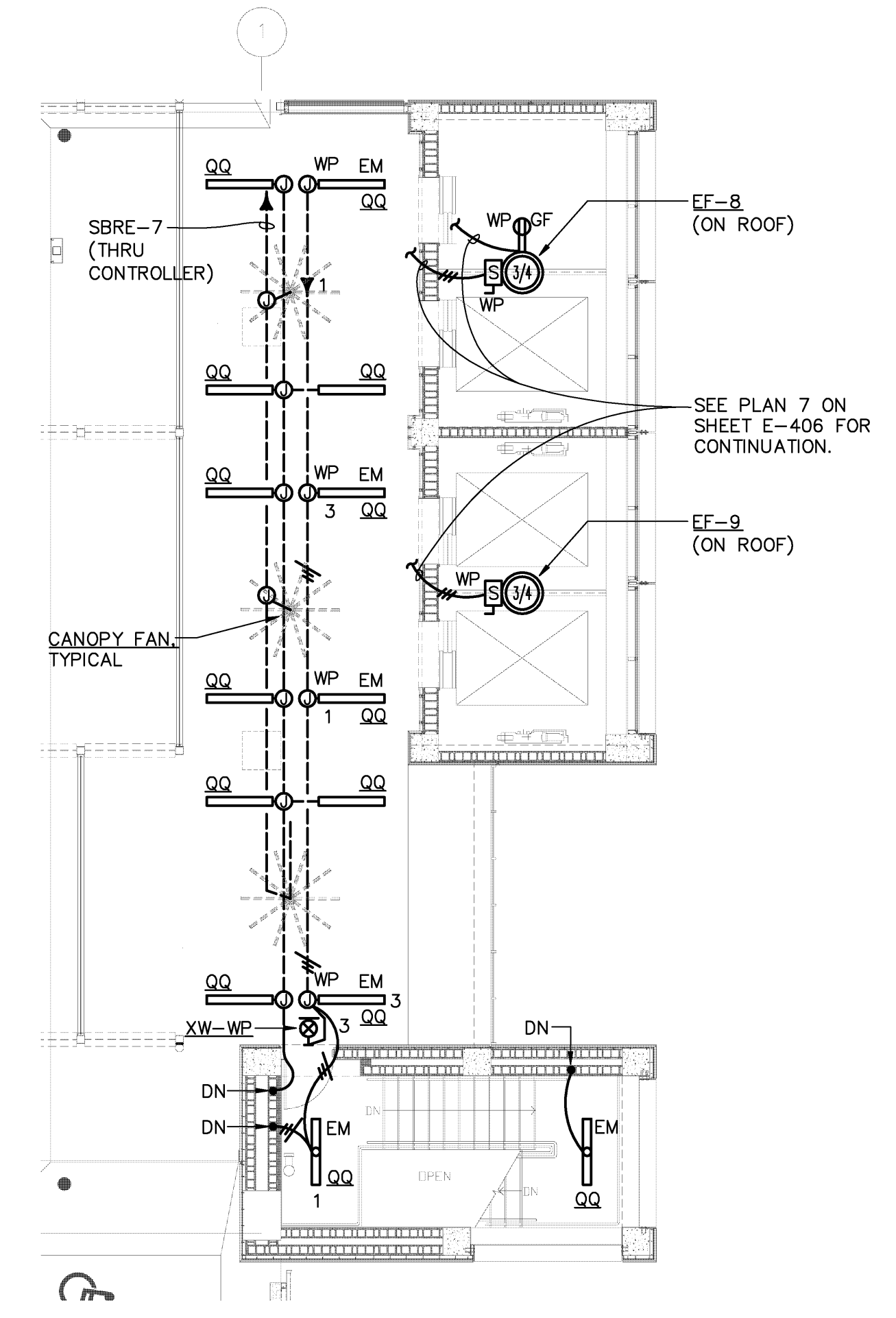
4 LEVEL 7
E-401 1/8"=1'-0"

STAIRWELL "B" IS SIMILAR TO STAIRWELL "A" ONLY A MIRROR IMAGE.
CIRCUITS 19 AND 21 ON PANEL EMD2 IS FEEDING STAIRWELL "B".

ENLARGED STAIRWELL "A" PLANS - ELECTRICAL
1/8" = 1'-0"

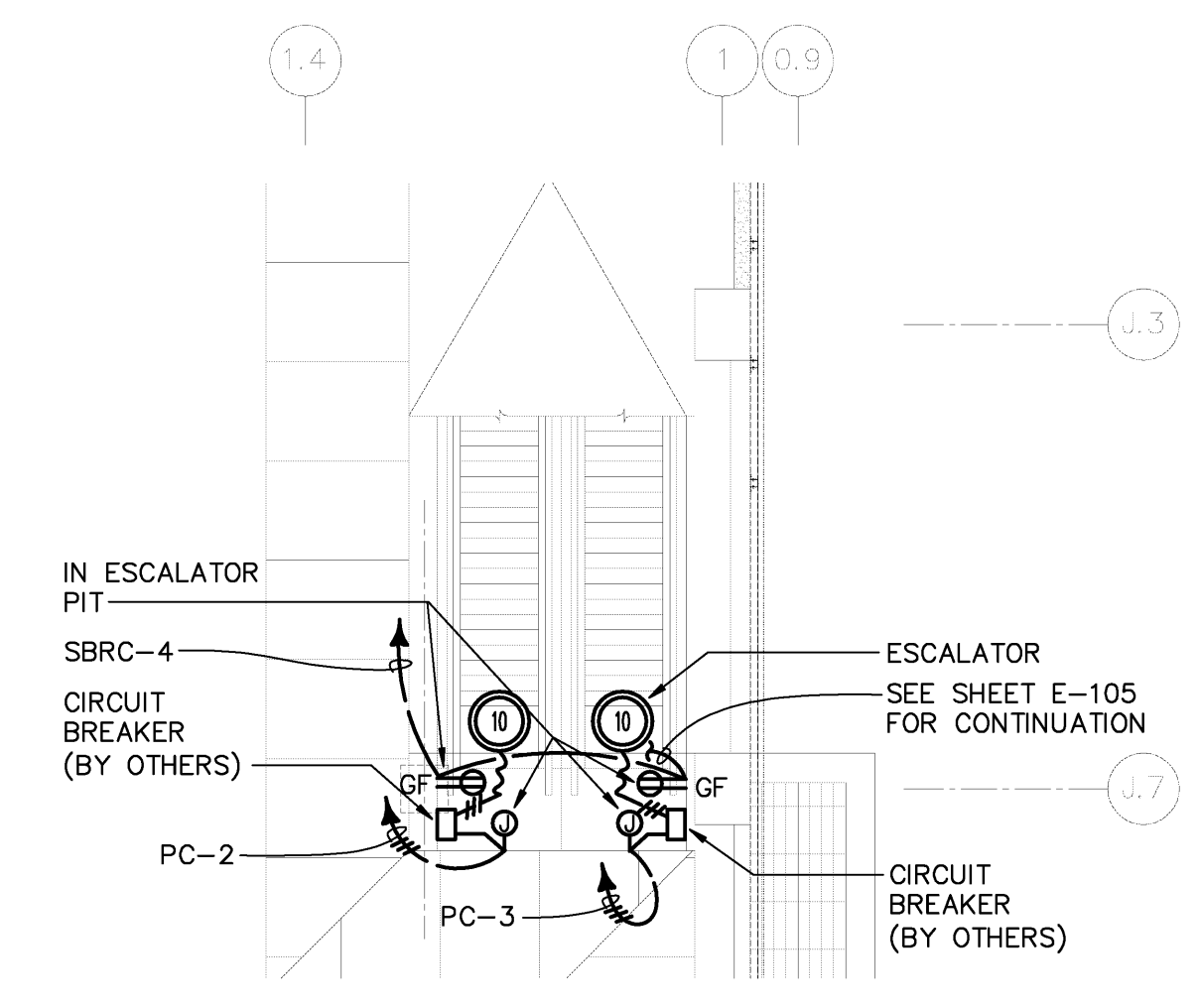
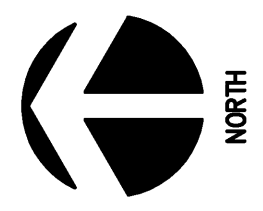


ALTERNATE CIRCUITS FOR LIGHT FIXTURES ALL THE WAY UP THE STAIRWELL "A".



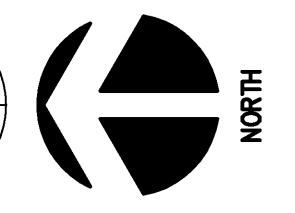
**ENLARGED TOP ESCALATOR
PIT PLAN - ELECTRICAL**
1/8" = 1'-0"

7 E-401



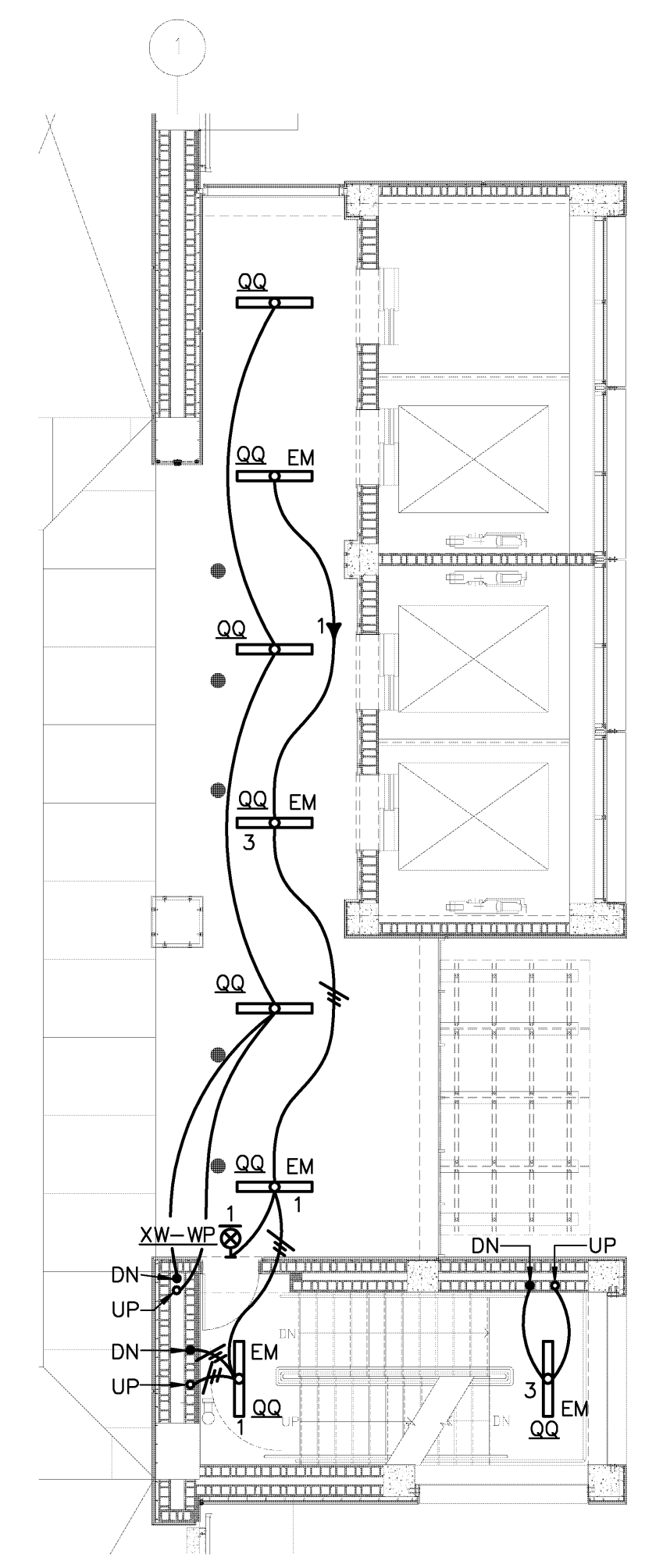
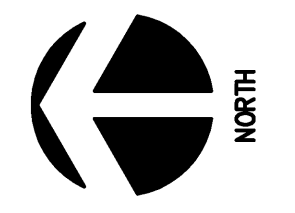
ENLARGED ELEVATORS/STAIRWELL "D" PLANS - LEVEL 2-6 - LIGHTING
1/8" = 1'-0"

6 E-401



ENLARGED ELEVATORS/STAIRWELL "D" PLAN - LEVEL 7 - ELECTRICAL
1/8" = 1'-0"

5 E-401



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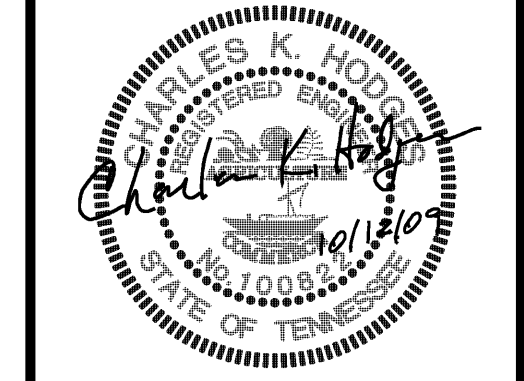
JOB NO. 15-1800.00 REVIEWED BY: GLK

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JOB NO. 0720 REVIEWED BY: xxx

JOB NO. REVIEWED BY:

DRAWN BY: NK CHECKED BY: CKH APPROVED BY: CKH



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2	65% CONSTR. DOCUMENTS	8/25/09	
1	DESIGN DEVELOPMENT	8/28/09	
3			

PROJECT:

**PARKING GARAGE
EXPANSION &
IMPROVEMENTS
NEW GARAGE**

SHEET TITLE:
**ENLARGED
PLANS -
ELECTRICAL**

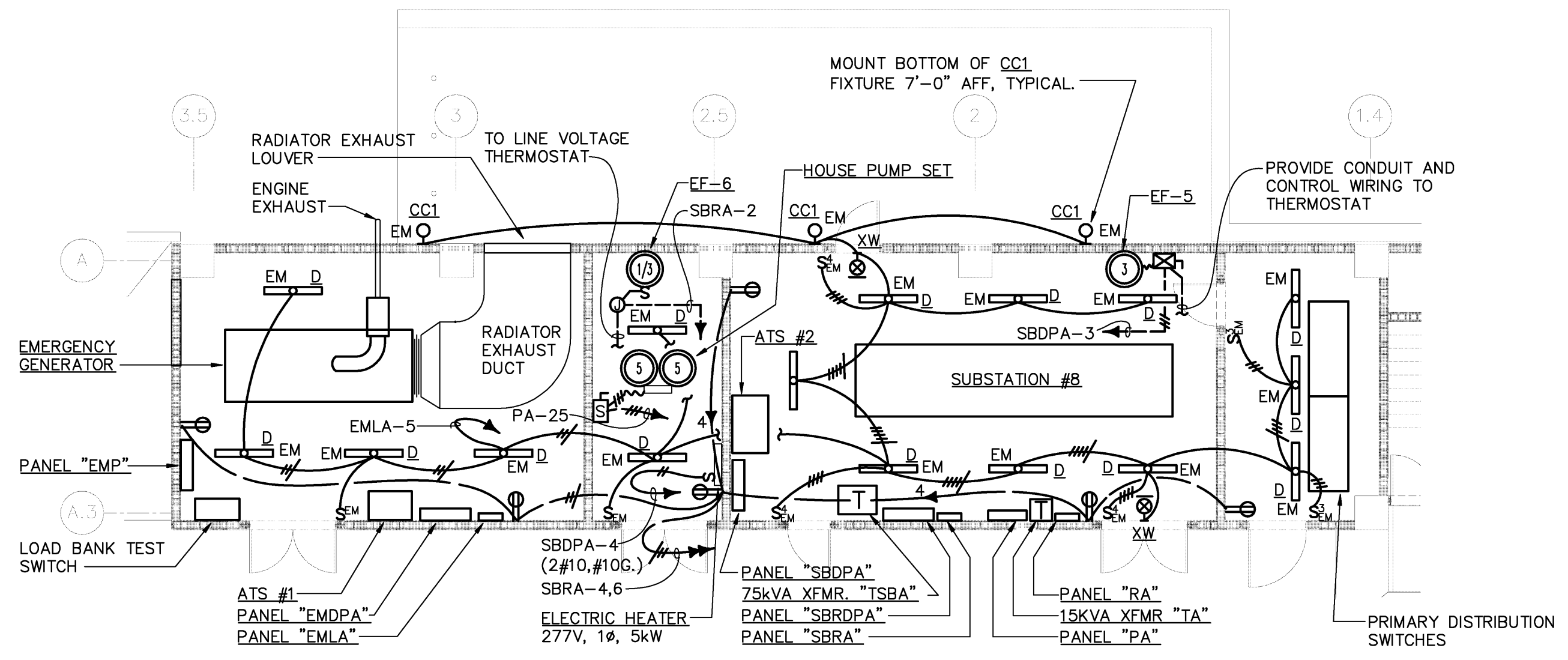
AIP NO.

DWG. REF. DWG. DISP.
MSCAA NO. SHEET NO.
9905

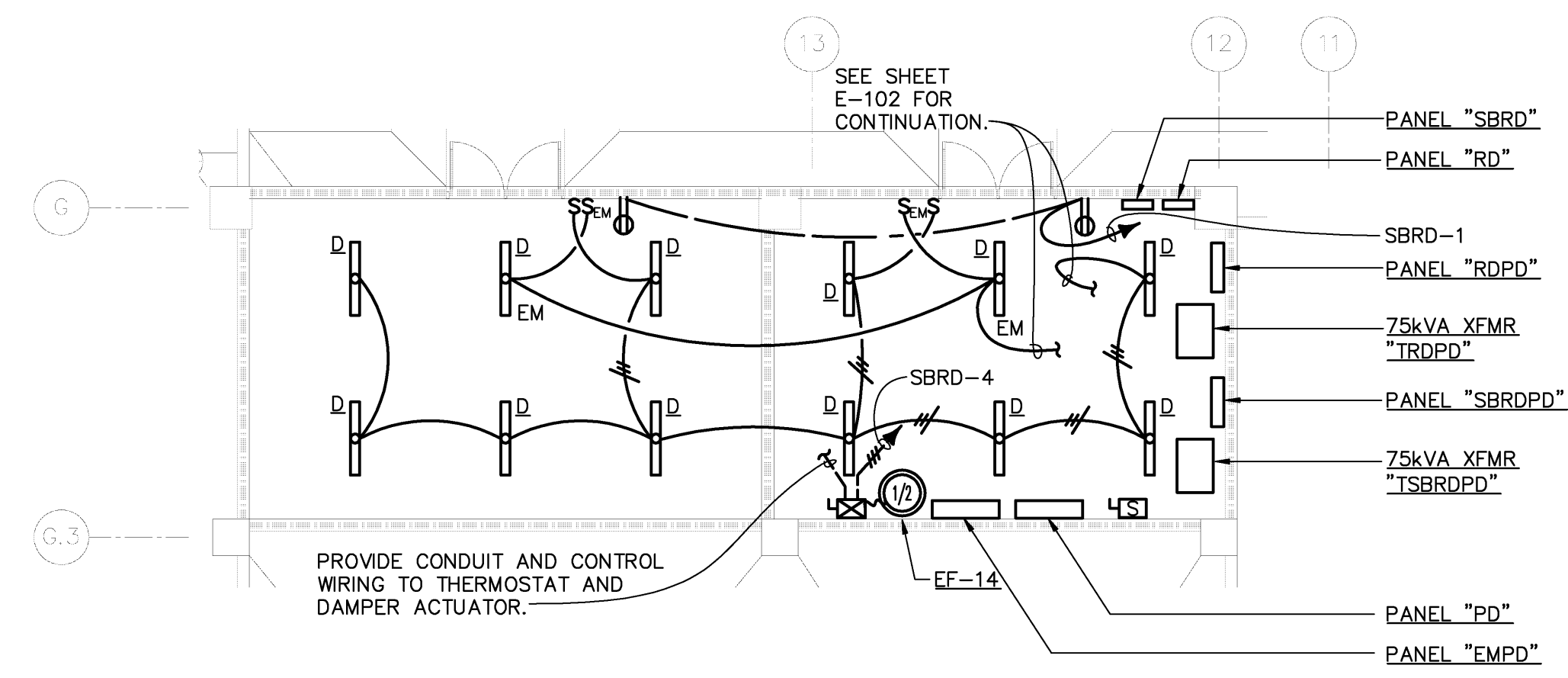
DATE: OCTOBER 12, 2009
SCALE: AS SHOWN

E-401

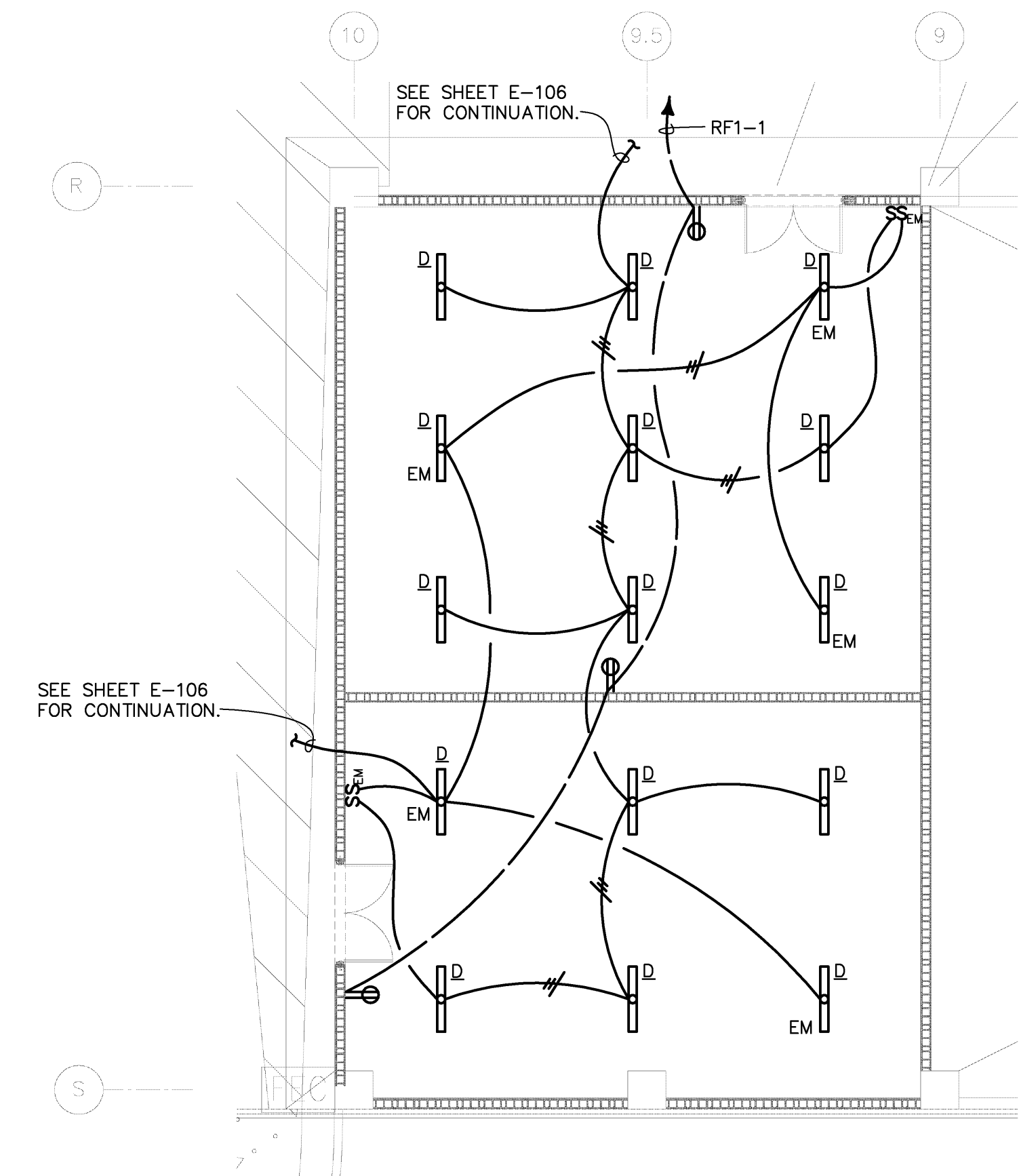
THESE DRAWINGS ARE DIAGRAMMATIC.
COORDINATION OF ALL TRADES AND
COMPLIANCE WITH DIMENSIONS ON
ARCHITECTURAL AND STRUCTURAL
DRAWINGS ARE REQUIRED.



ENLARGED GENERATOR/SUBSTATION ROOM PLAN - ELECTRICAL 1
1/8" = 1'-0" E-402 NORTH



ENLARGED SQUEELIX ELECTRICAL ROOM PLAN - ELECTRICAL 3
1/8" = 1'-0" E-402 NORTH



ENLARGED WEST STORAGE ROOM PLAN - ELECTRICAL 2
1/8" = 1'-0" E-402 NORTH



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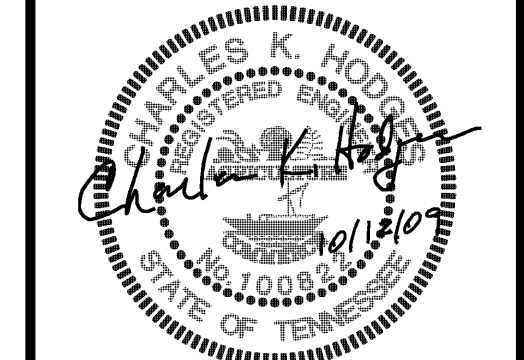
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REVISIONS

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

AIP NO.

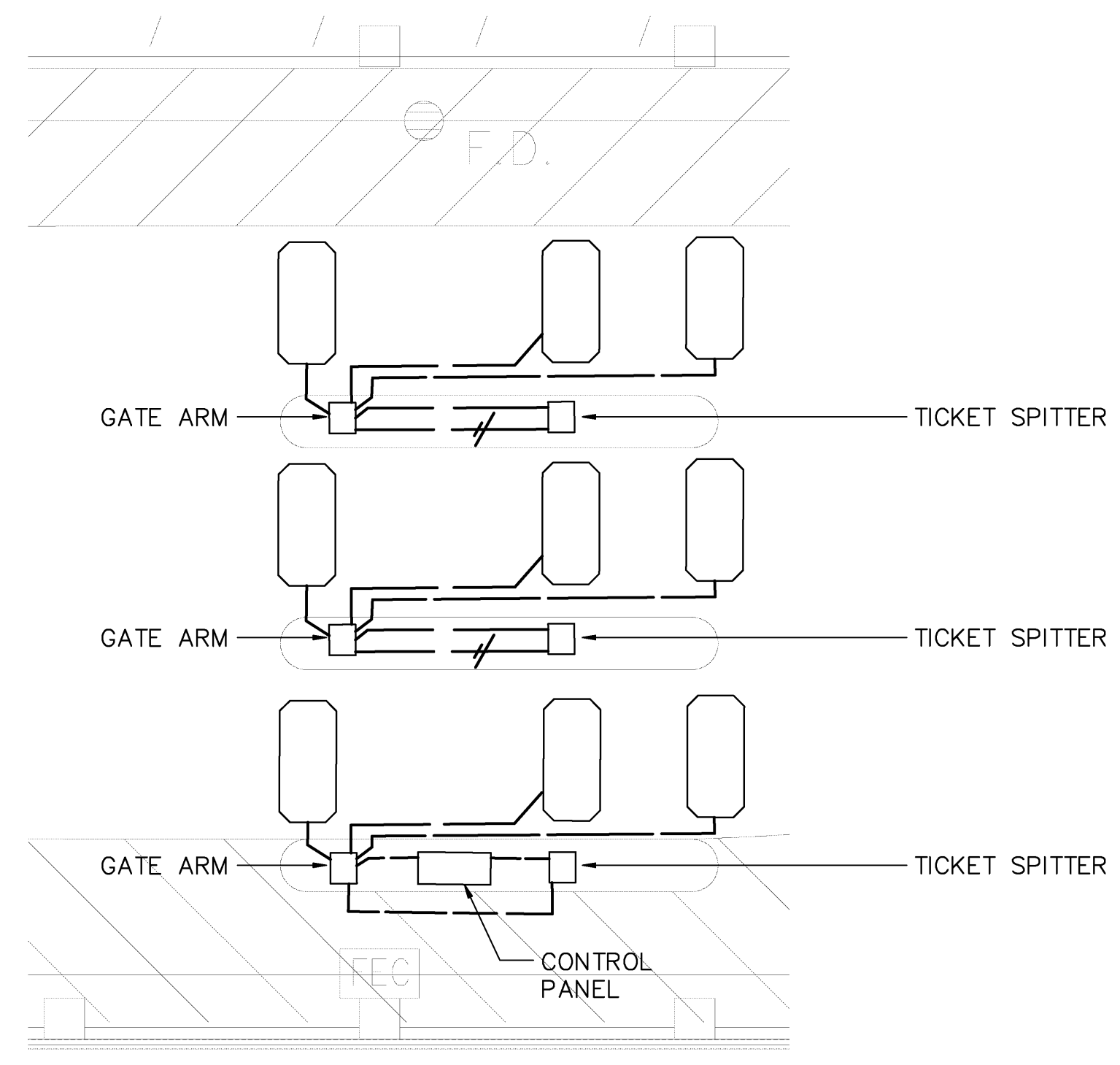
DWG. REF. DWG. DISP.

MSCAA NO. 9905 SHEET NO.

DATE OCTOBER 12, 2009 **E-402**

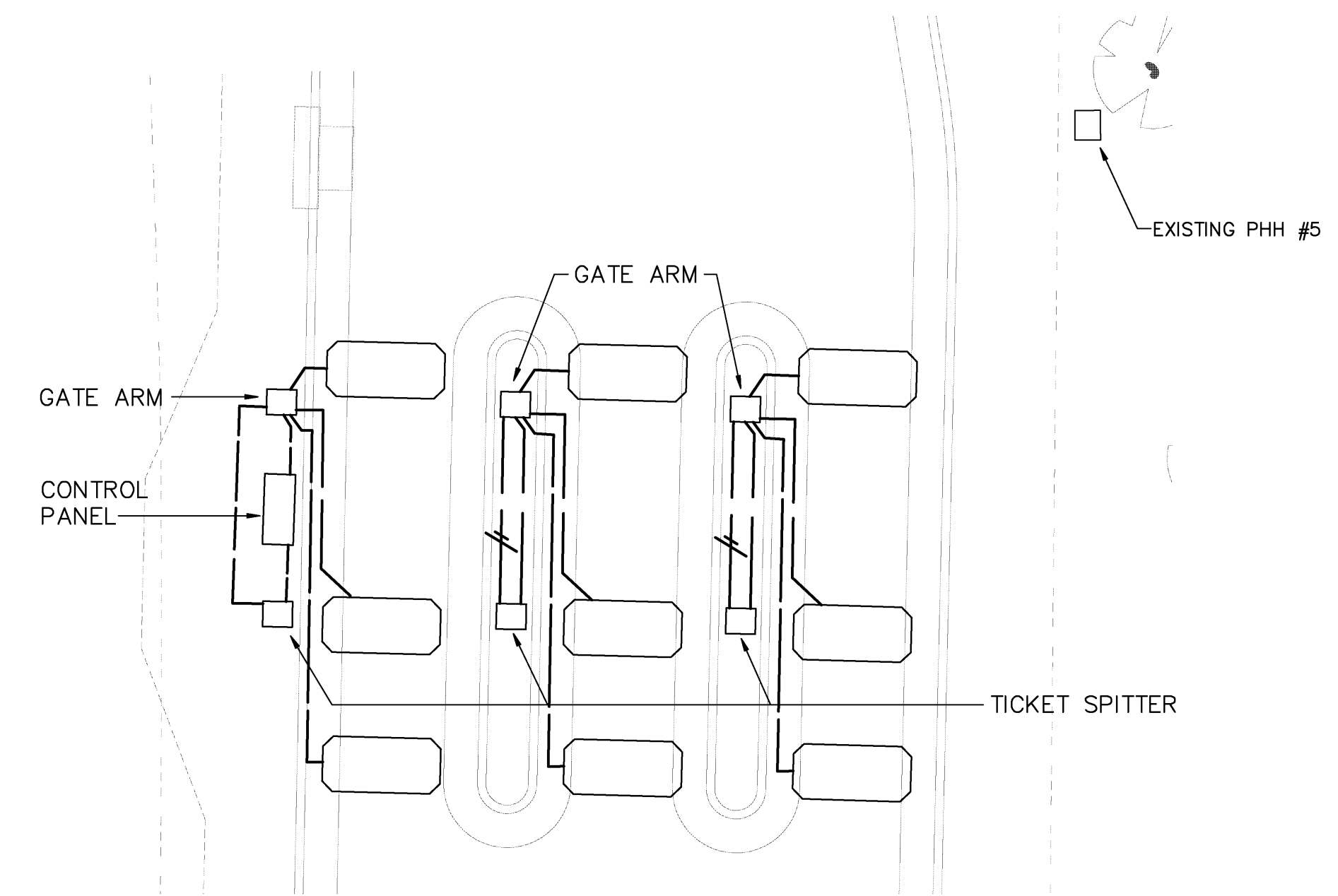
SCALE AS SHOWN

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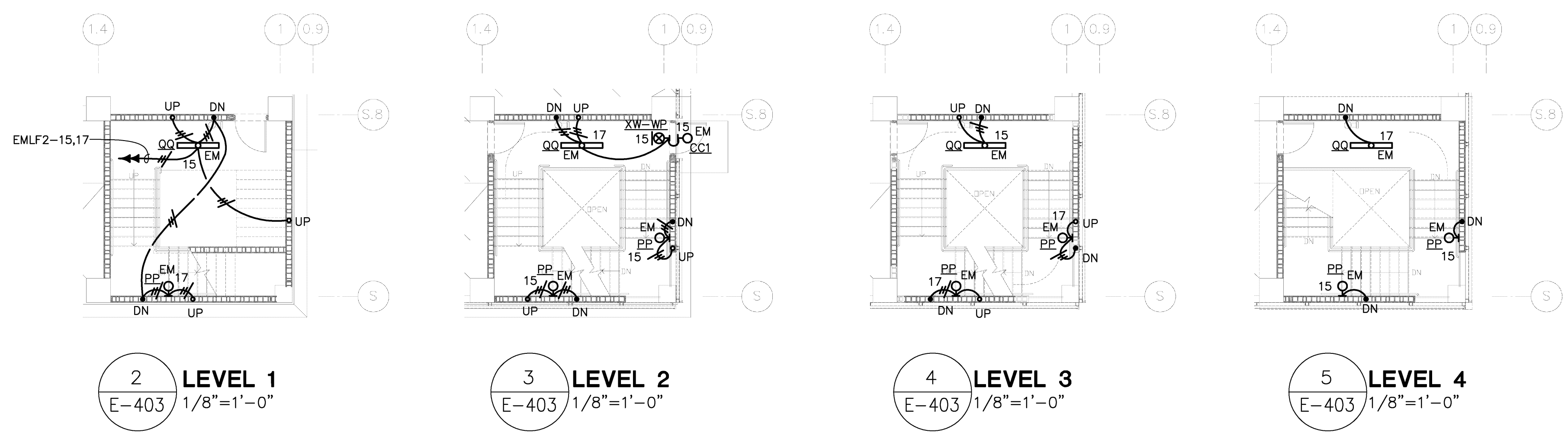


PUBLIC GARAGE ENTRANCE
TICKET SPITTERS
1
E-403
1/8" = 1'-0"

- NOTE: PROVIDE THE FOLLOWING AT TICKET SPITTER AREA:
- DETECTOR LOOP WIRING FROM (3) LOOPS TO EACH ASSOCIATED GATE ARM PEDESTAL.
 - 208 VOLT, SINGLE-PHASE 30 AMP CIRCUIT FOR EACH GATE ARM MOTOR FROM WEST ELECTRICAL ROOM PANEL.
 - 120 VOLT, 20 AMP CIRCUIT FOR CONTROL POWER AND TICKET SPITTER FROM WEST ELECTRICAL ROOM PANEL.
 - (1) 12-STRAND MULTI-MODE FIBER CABLE, FROM CONTROL PANEL TO PARKING OFFICE COMPUTER ROOM.
 - (2) COPPER TELEPHONE CABLES FROM EACH GATE TO PARKING OFFICE COMPUTER ROOM.
 - (1) 2" CONDUIT FROM CONTROL PANEL TO NORTH ELECTRICAL CLOSET.

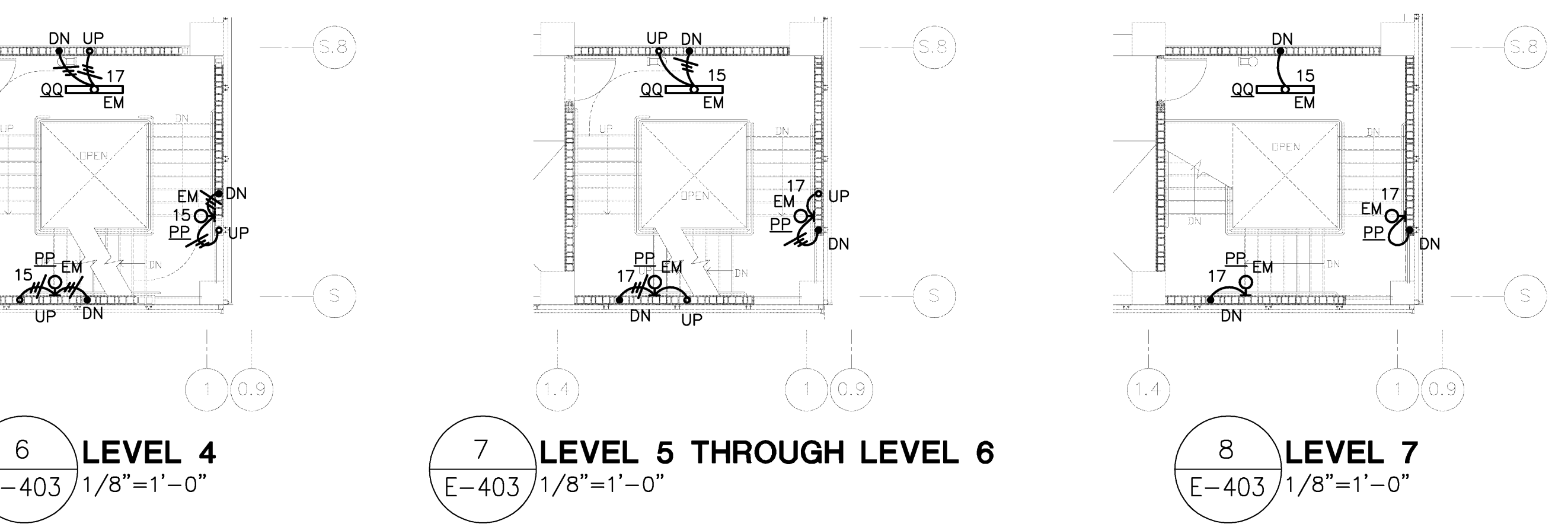


PUBLIC GARAGE ENTRANCE
TICKET SPITTERS
9
E-403
1/8" = 1'-0"



STAIRWELL "F" IS SIMILAR TO STAIRWELL "G" EXCEPT FOR ORIENTATION. CIRCUITS 15 AND 17 ON PANEL EMLF2 ARE ALSO FEEDING STAIRWELL "F".

ENLARGED STAIRWELL "G" PLANS - ELECTRICAL
1/8" = 1'-0"



ALTERNATE STAIRWELL "F" IS SIMILAR TO STAIRWELL "G" EXCEPT FOR ORIENTATION.

ENLARGED STAIRWELL "G" ALTERNATE PLANS - ELECTRICAL
1/8" = 1'-0"



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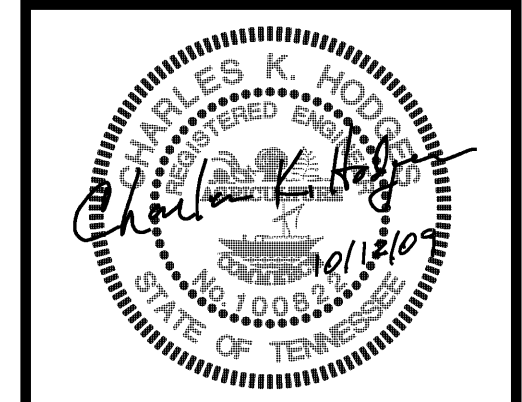
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NO.	DESCRIPTION	DATE BY

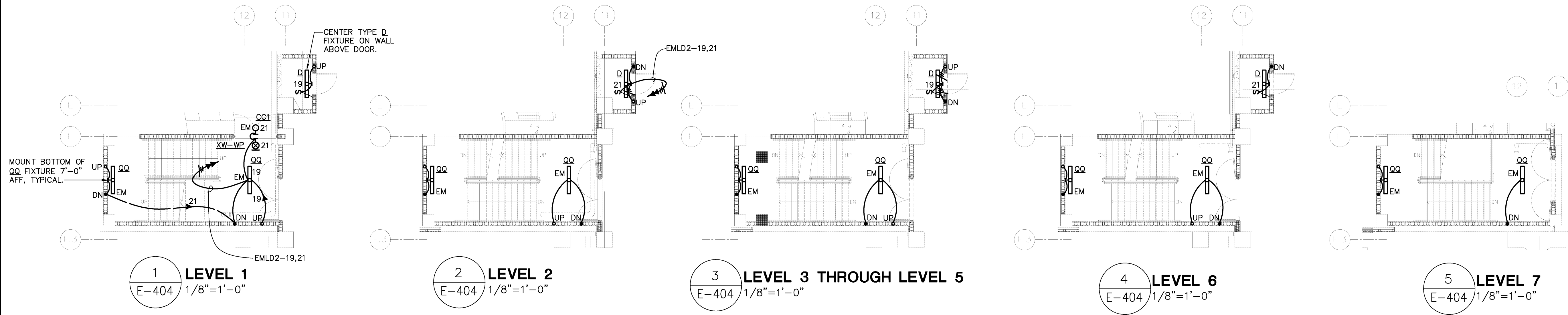
PROJECT:

PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

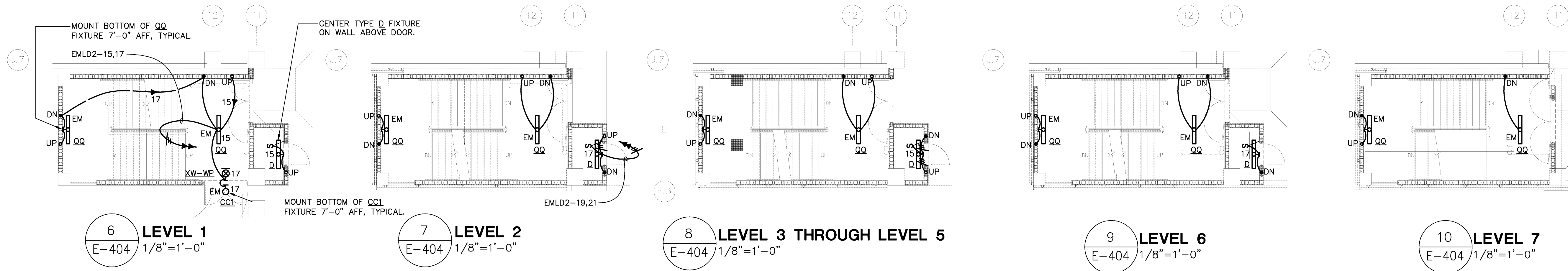
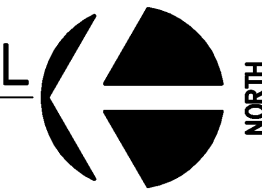
SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

AIP NO.	DWG. REF.	DWG. DISP.
MSCAA NO. 9905	SHEET NO.	E-403
DATE OCTOBER 12, 2009		
SCALE AS SHOWN		

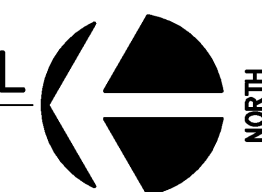
THESE DRAWINGS ARE DIAGRAMMATIC COORDINATION OF ALL TRADES AND COMPLIANCE WITH DIMENSIONS ON ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE REQUIRED.



ENLARGED STAIRWELL "C" PLANS - ELECTRICAL
1/8" = 1'-0"



ENLARGED STAIRWELL "E" PLANS - ELECTRICAL
1/8" = 1'-0"



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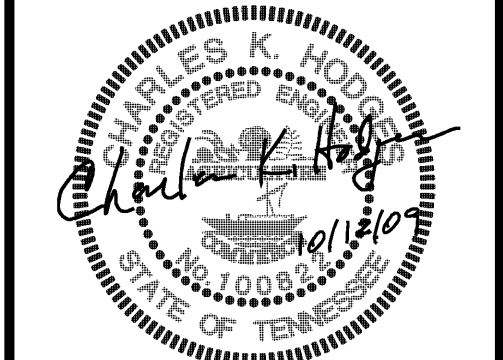
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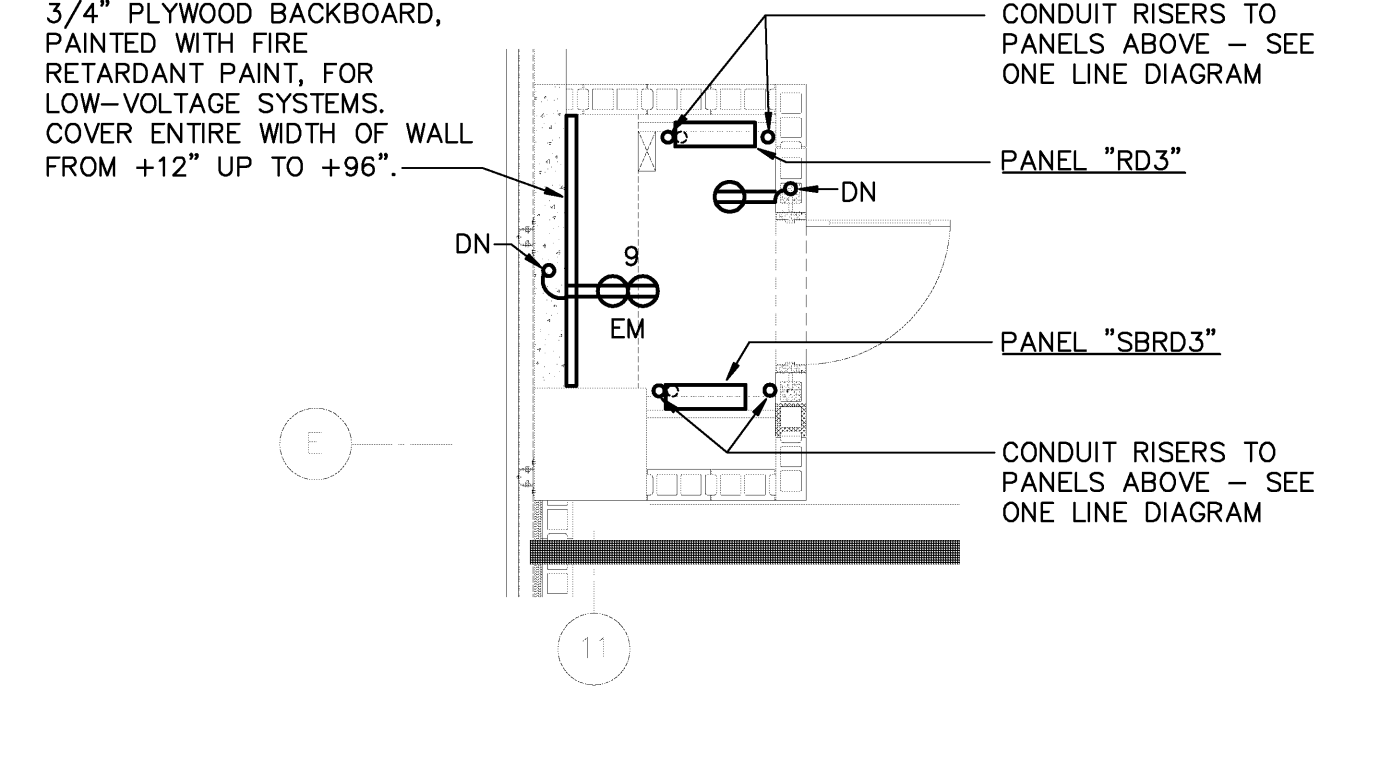
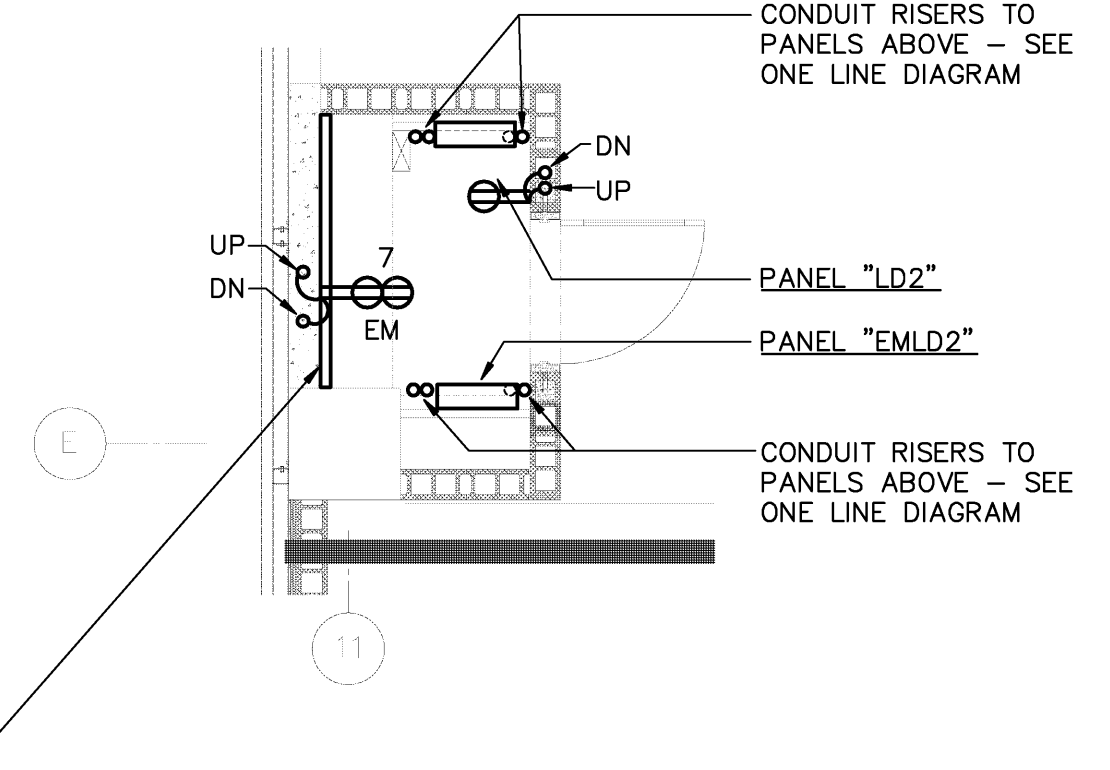
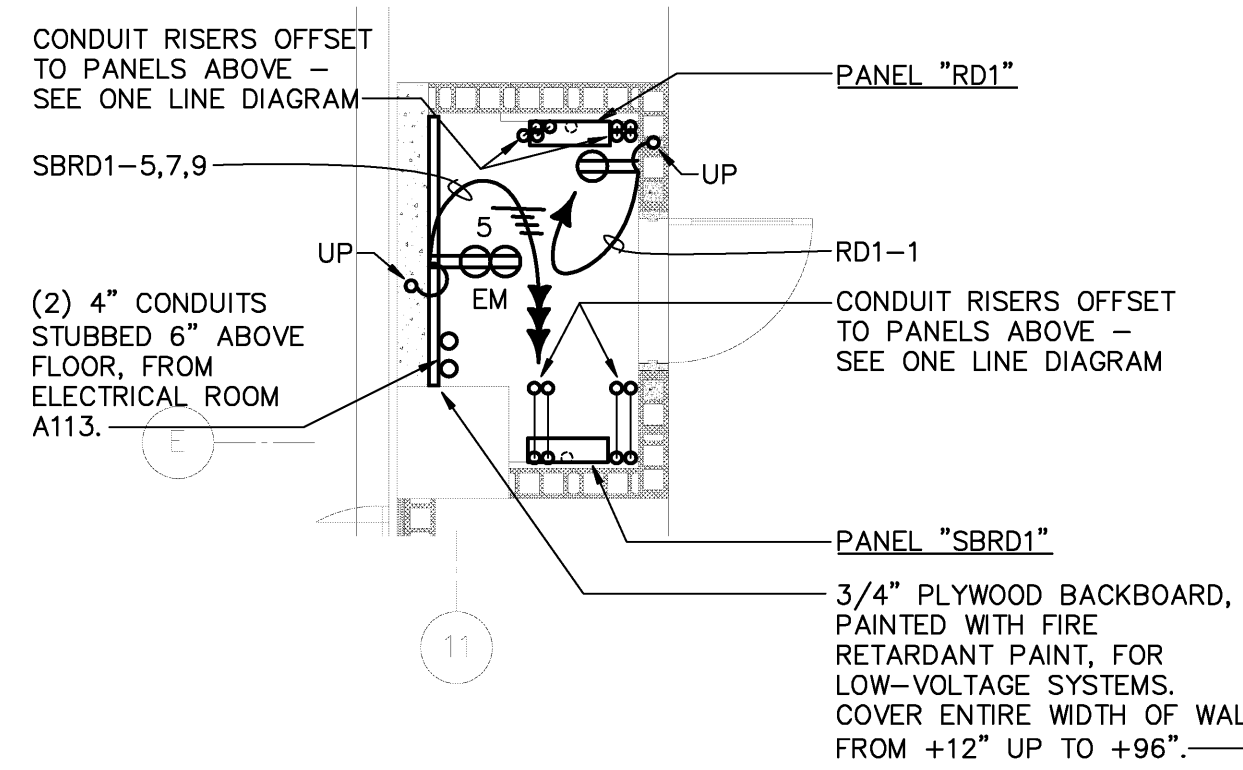
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PROJECT:
**PARKING GARAGE EXPANSION & IMPROVEMENTS
NEW GARAGE**

SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

AIP NO.	
DWG. REF.	DWG. DISP.
MSCAA NO. 9905	SHEET NO. E-404
DATE OCTOBER 12, 2009	
SCALE AS SHOWN	

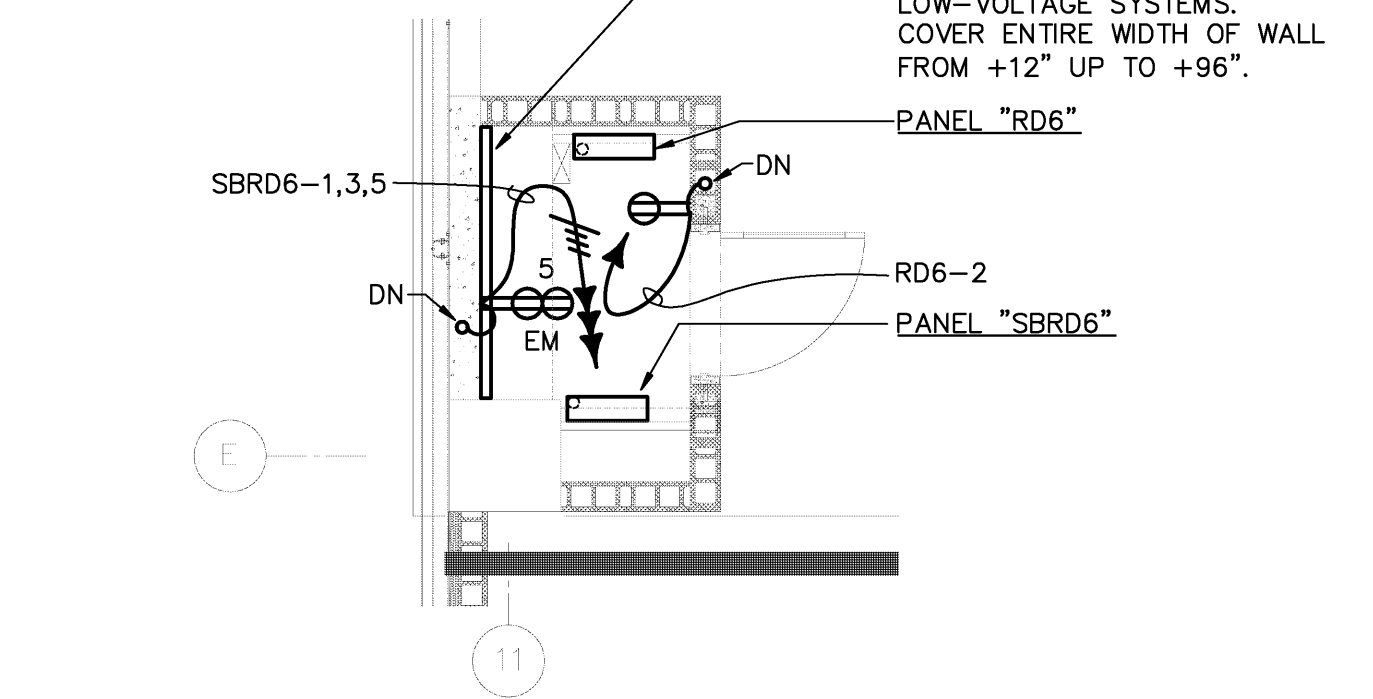
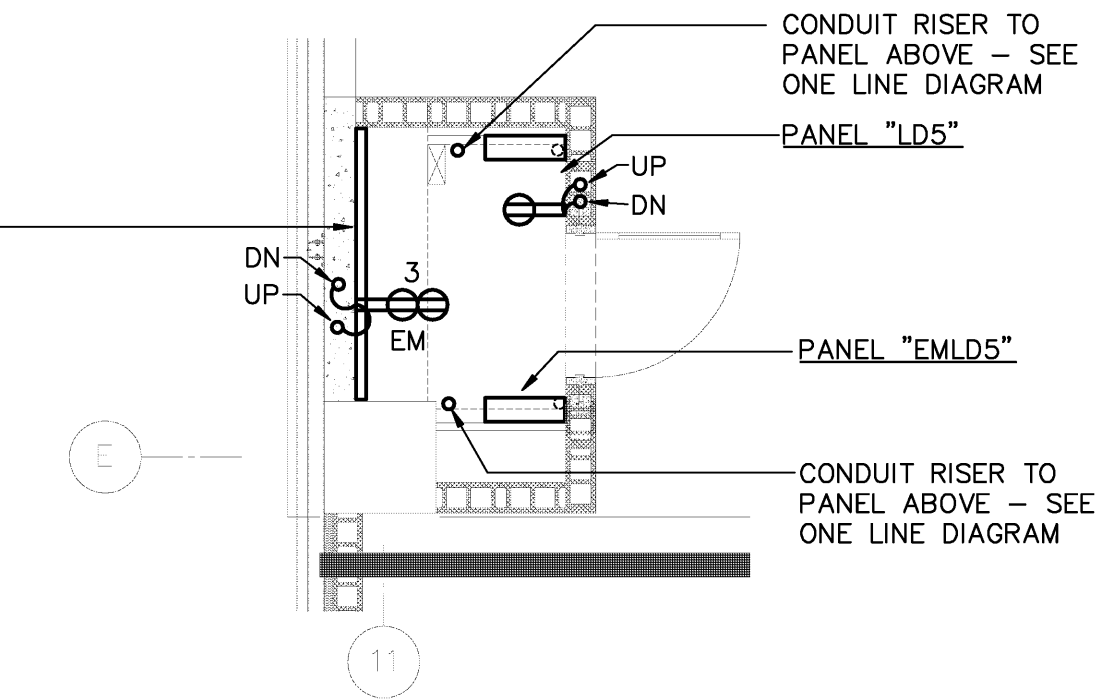
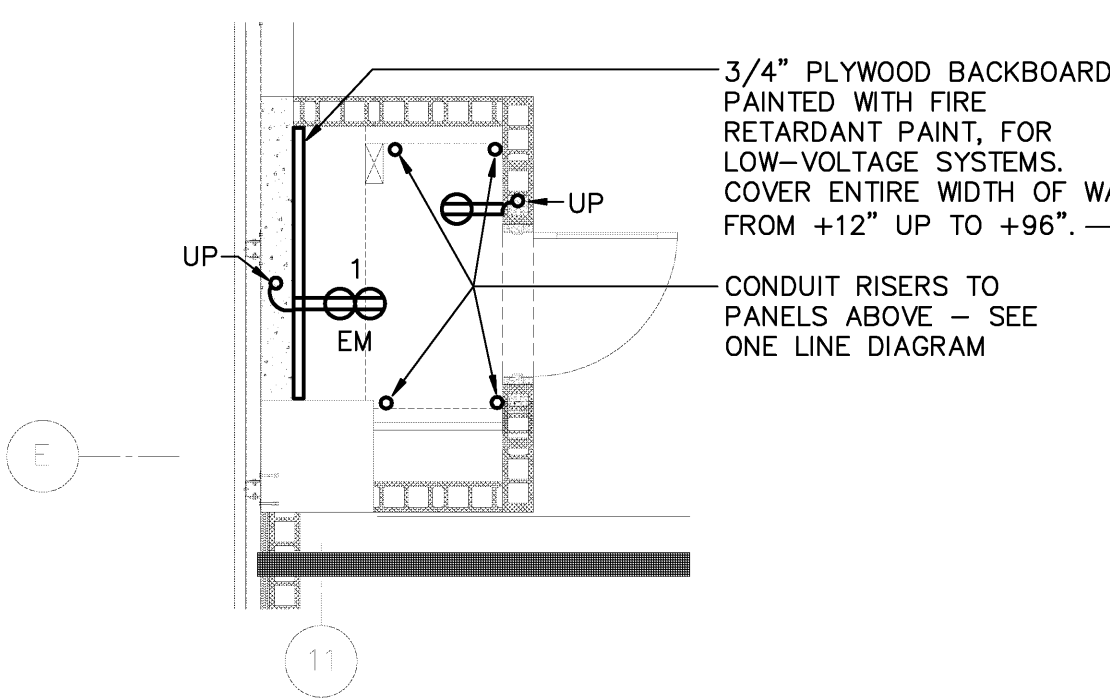
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ENLARGED NORTHEAST-LEVEL 1
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"

ENLARGED NORTHEAST-LEVEL 2
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"

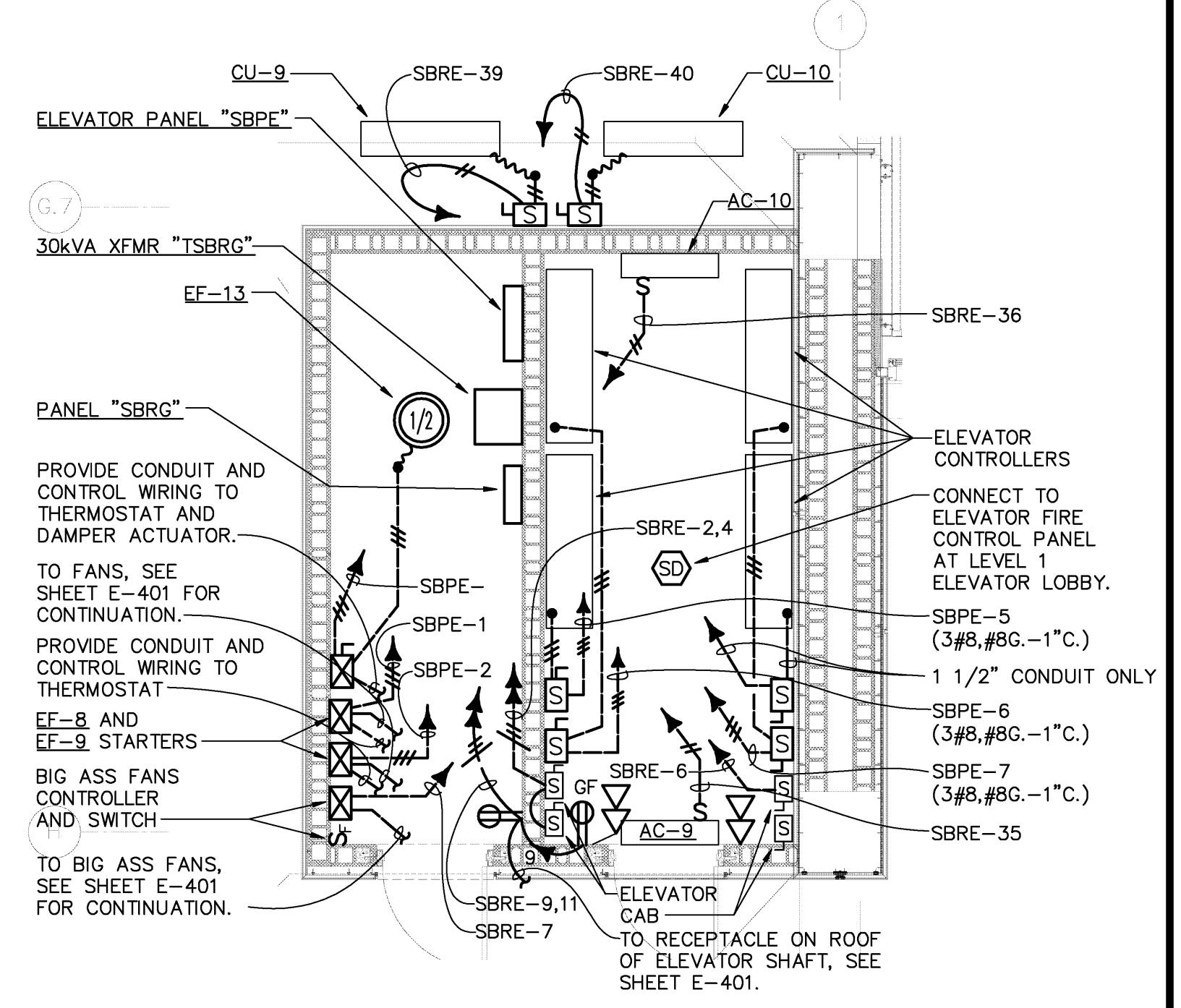
ENLARGED NORTHEAST-LEVEL 3
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"



ENLARGED NORTHEAST-LEVEL 4
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"

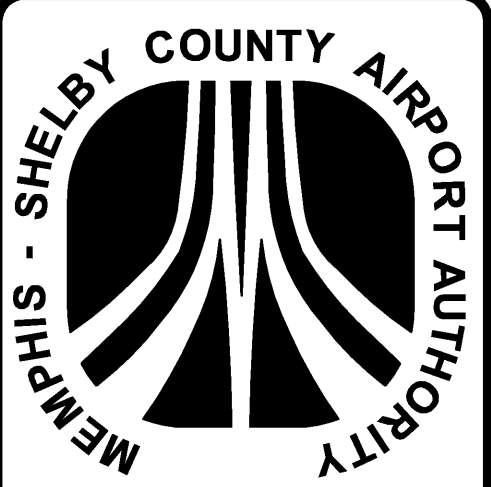
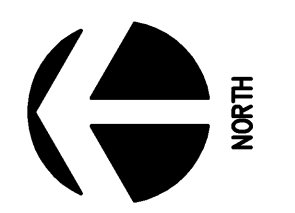
ENLARGED NORTHEAST-LEVEL 5
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"

ENLARGED NORTHEAST-LEVEL 6
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"



ENLARGED ELECTRICAL AND
ELEVATOR EQUIPMENT ROOMS
PLAN - ELECTRICAL
1/4" = 1'-0"

NOTE:
NORTHWEST ELECTRICAL CLOSETS LOCATED ON LEVELS 1-6 AT COLUMN K11 ARE SIMILAR TO NORTHEAST ELECTRICAL CLOSETS ON LEVELS 1-6 RESPECTIVELY. SEE ONE LINE FEEDER DIAGRAM ON SHEET E-605 FOR PANELS ID'S IN NORTHWEST CLOSETS.



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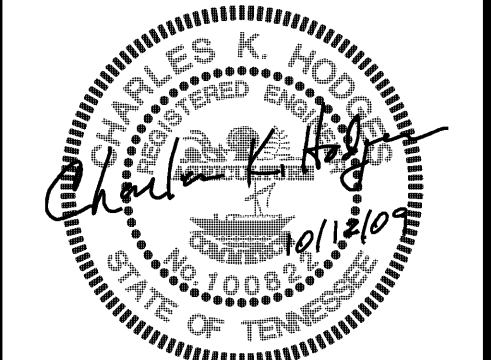
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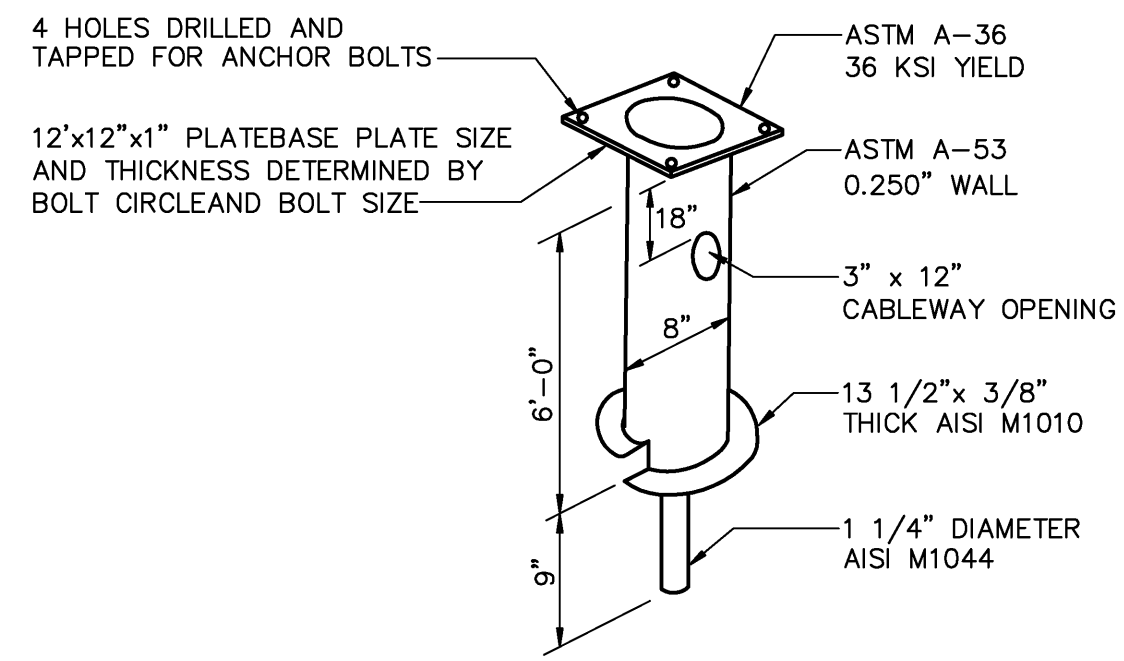
SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

AIP NO.

DWG. REF. DWG. DISP.

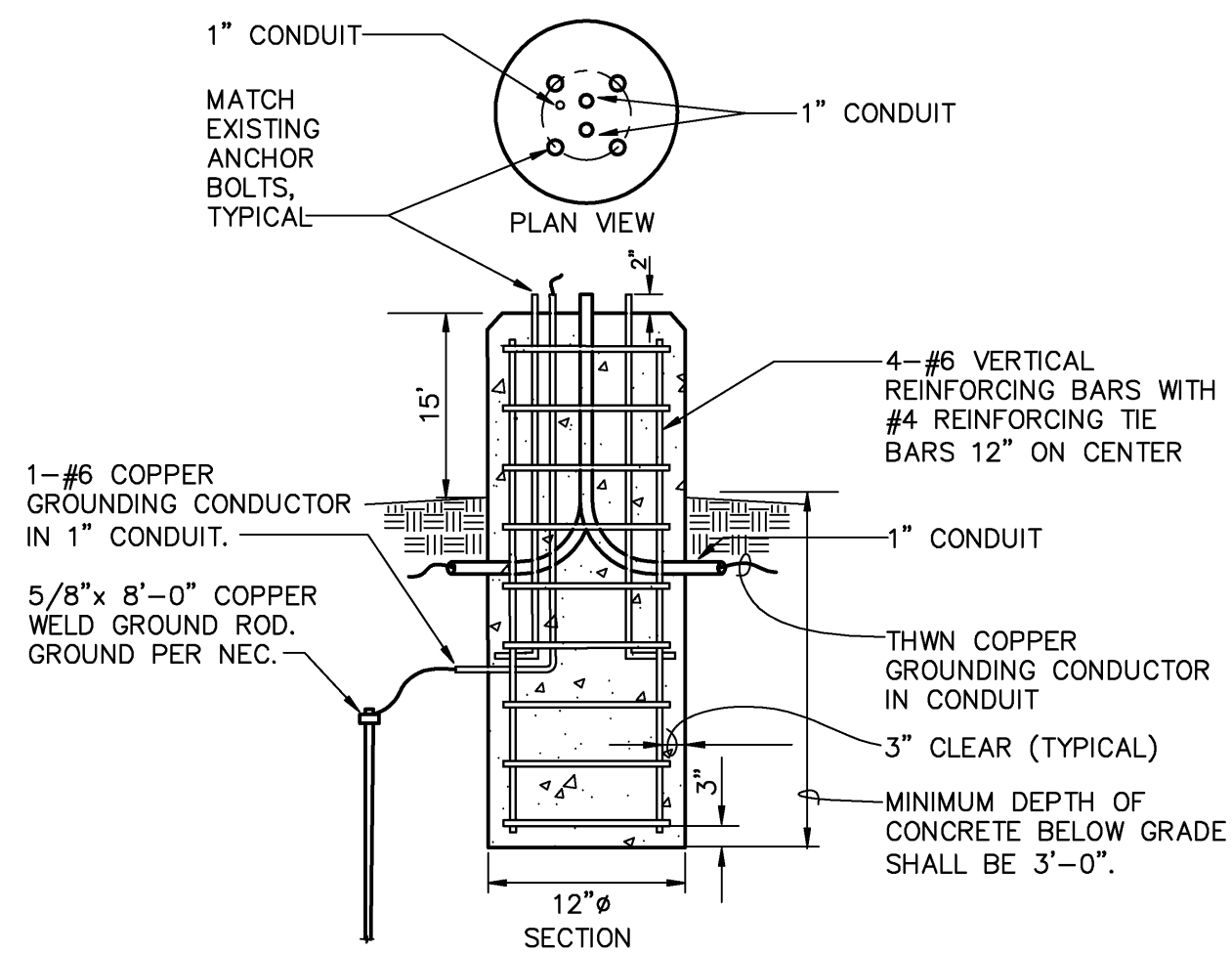
MSCAA NO. 9905 SHEET NO. E-406

DATE: OCTOBER 12, 2009 SCALE: AS SHOWN

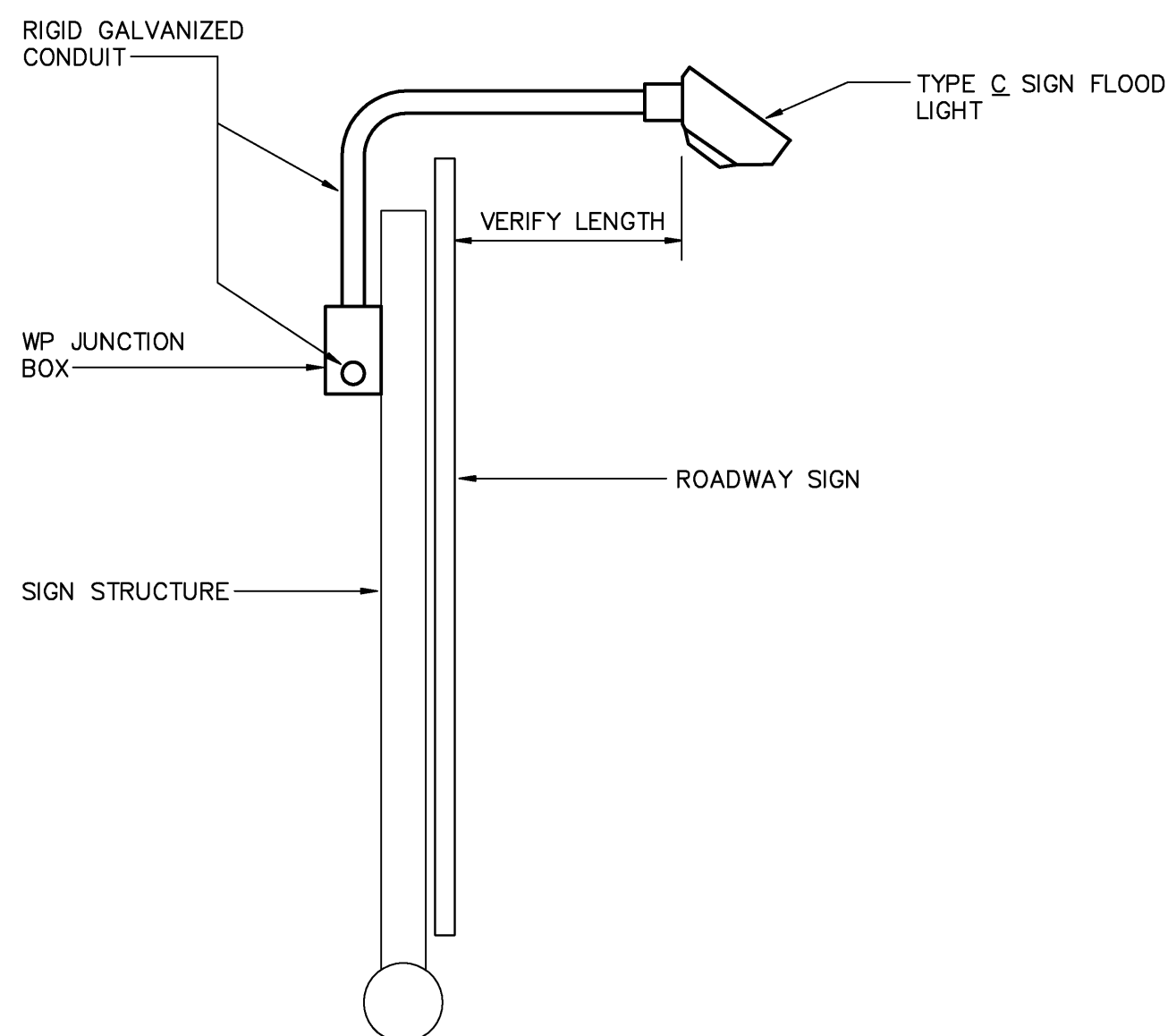


SCREW-IN POLE BASE - DETAIL 1
NO SCALE E-503

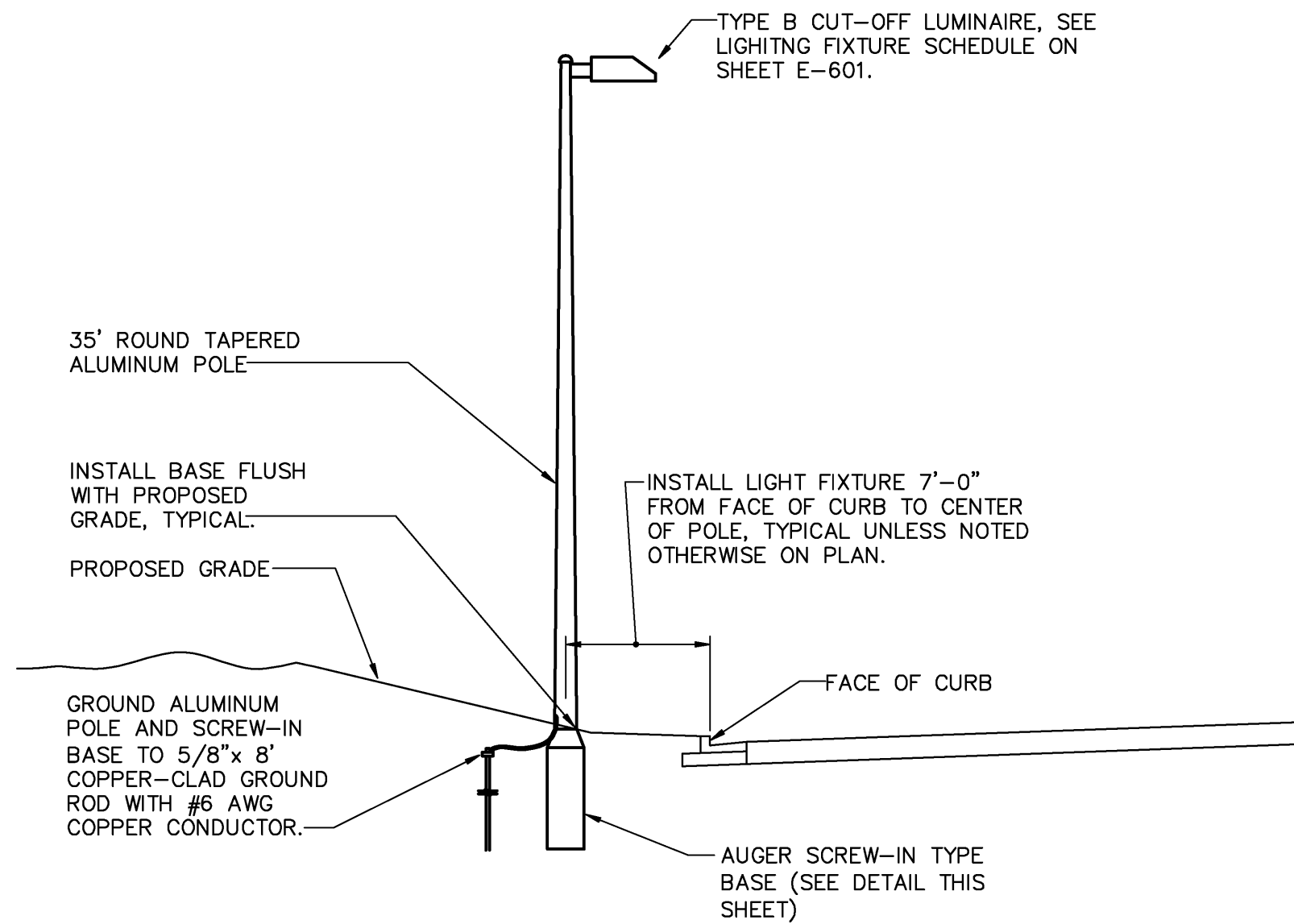
NOTES:
1. INSTALL SCREW-IN BASES ONLY IN UNDISTURBED EARTH. IF THE BASE IS IN FILL, THE SOIL SHALL BE COMPACTED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.



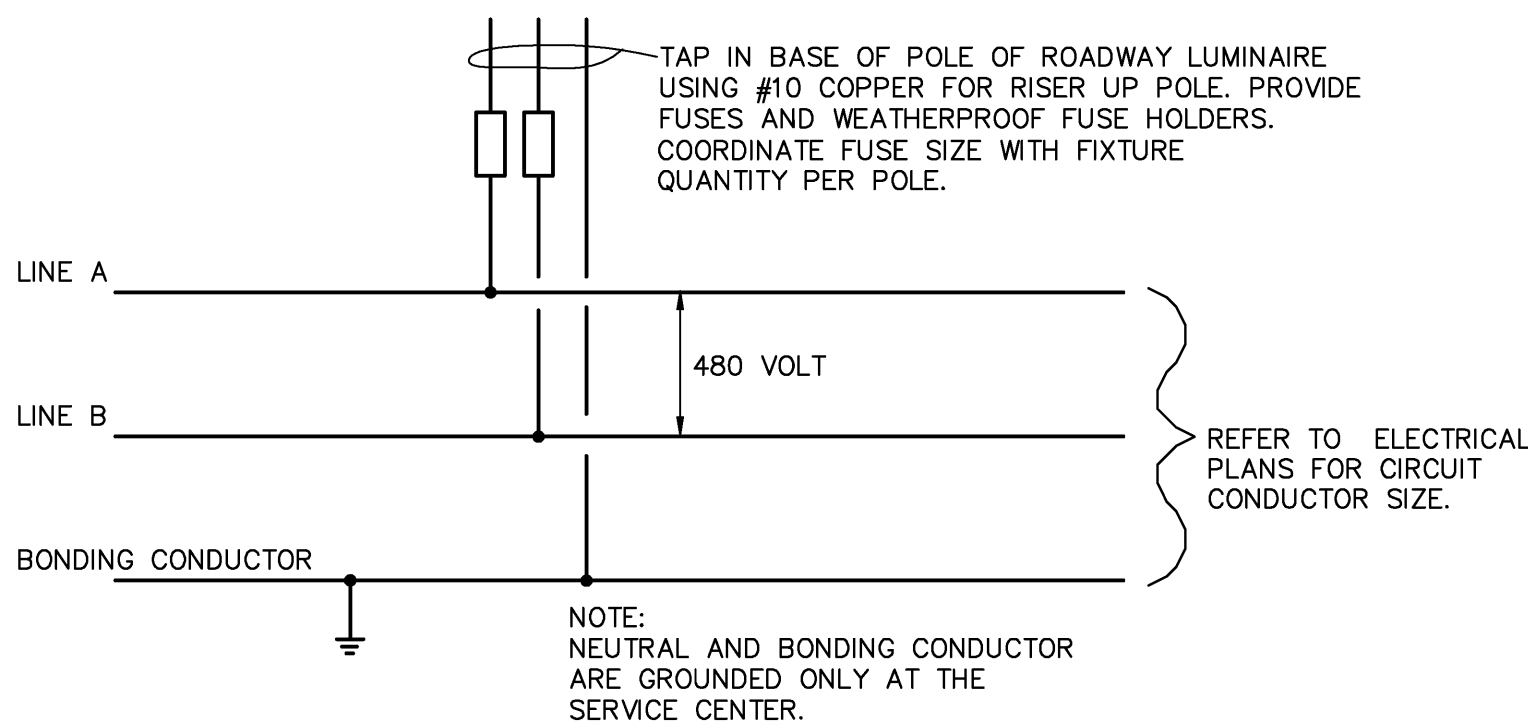
RADISSON PARKING LOT POLE BASE DETAIL 2
NO SCALE E-503



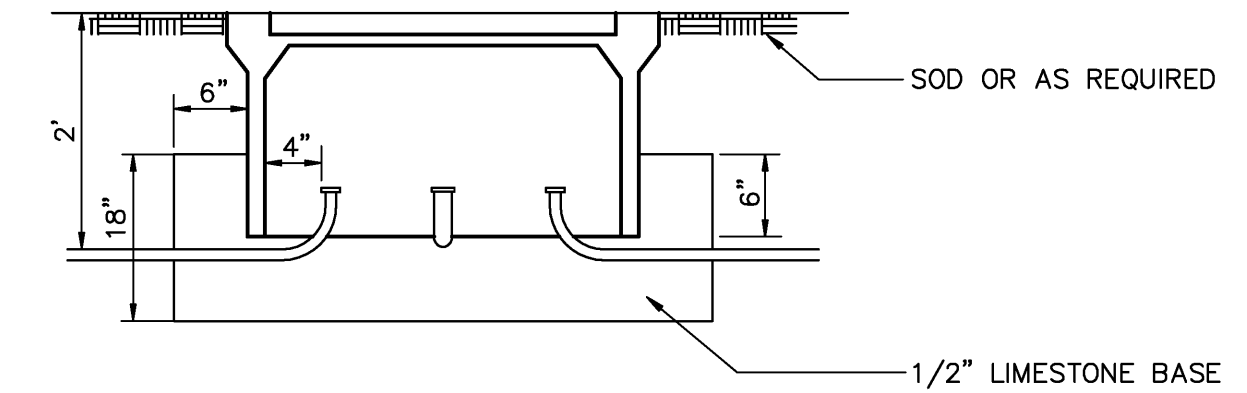
OVERHEAD SIGN LIGHTING DETAIL 3
NO SCALE E-503



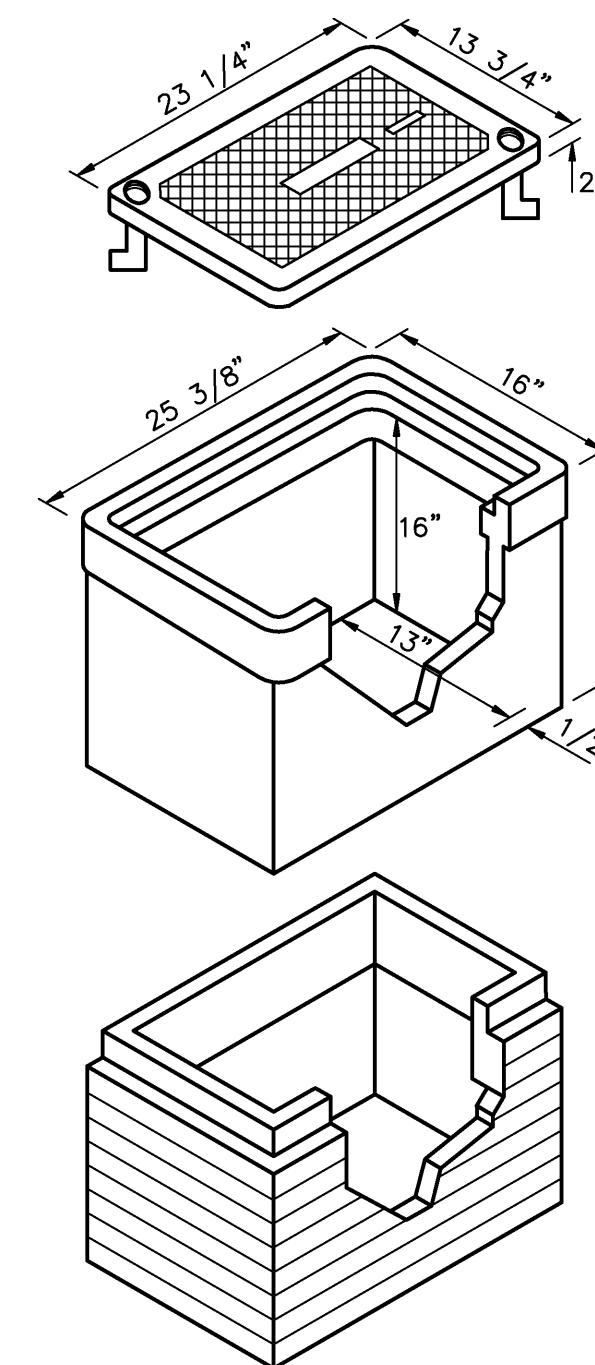
TYPICAL SECTION - TYPE B ROADWAY LIGHT 4
NO SCALE E-503



TYPICAL CIRCUIT DETAIL 5
NO SCALE E-503



PULL BOX INSTALLATION 6
NO SCALE E-503



DETAIL OF PULL BOX 7
NO SCALE E-503

- PULL BOX NOTES**
- A CONCRETE PULL BOXES SHALL BE CONSTRUCTED OF A MIXTURE OF ONE PART CEMENT, TWO PARTS SAND, AND FOUR PARTS GRAVEL OR 1" CRUSHED STONES, FORMED AND POURED IN PLACE OR PRECAST.
 - B CAST IRON AND REINFORCED CONCRETE COVERS FOR CONCRETE PULL BOXES SHALL HAVE TWO GALVANIZED LIFT EYES AND BE SECURED BY TWO 3/8" BRASS "L" BOLTS AND NUTS IN DIAGONAL CORNERS.
 - C COVERS FOR ALL PULL BOXES SHALL HAVE A ROUGHENED SURFACE AND BE MARKED "STREET LIGHT" WITH 2" LETTERS CAST INTO COVER.
 - D TOP OF PULL BOX SHALL BE 1" ABOVE FINISHED GRADE. EARTH BACKFILL SHALL BE LEVEL WITH TOP AND THOROUGHLY TAMPED TO SLOPE AWAY FROM THE BOX ON ALL SIDES.
 - E EACH PULL BOX WALL SHALL HAVE A MINIMUM OF ONE CONDUIT STUB. UNUSED CONDUIT STUBS ARE TO BE CAPPED. SEE PLANS FOR ADDITIONAL CONDUIT STUBS FOR CABLE ENTRANCE.
 - F CONDUIT STUB LOCATION AND DIRECTION MAY BE ADJUSTED WHERE PULL BOX IS OFFSET FROM CONDUIT RUN.
 - G WHERE BENDS ARE NEEDED TO INSTALL RIGID METALLIC CONDUIT, STANDARD BENDING TOOLS SHALL BE USED.
 - H PULL BOX TYPES "B" AND "C" ARE INTENDED AS ALTERNATES FOR AREAS SUBJECTED TO LIGHT VEHICULAR LOADS. PULL BOX TYPE "A" SHALL BE USED IN AREAS SUBJECTED TO HEAVY VEHICULAR LOADS.



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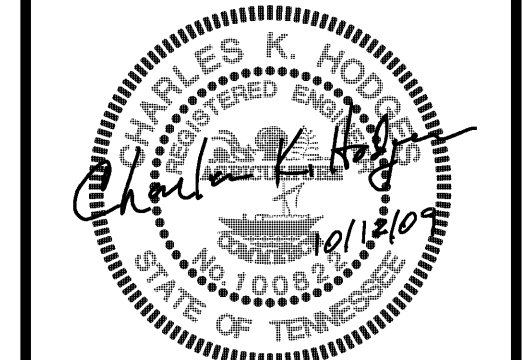
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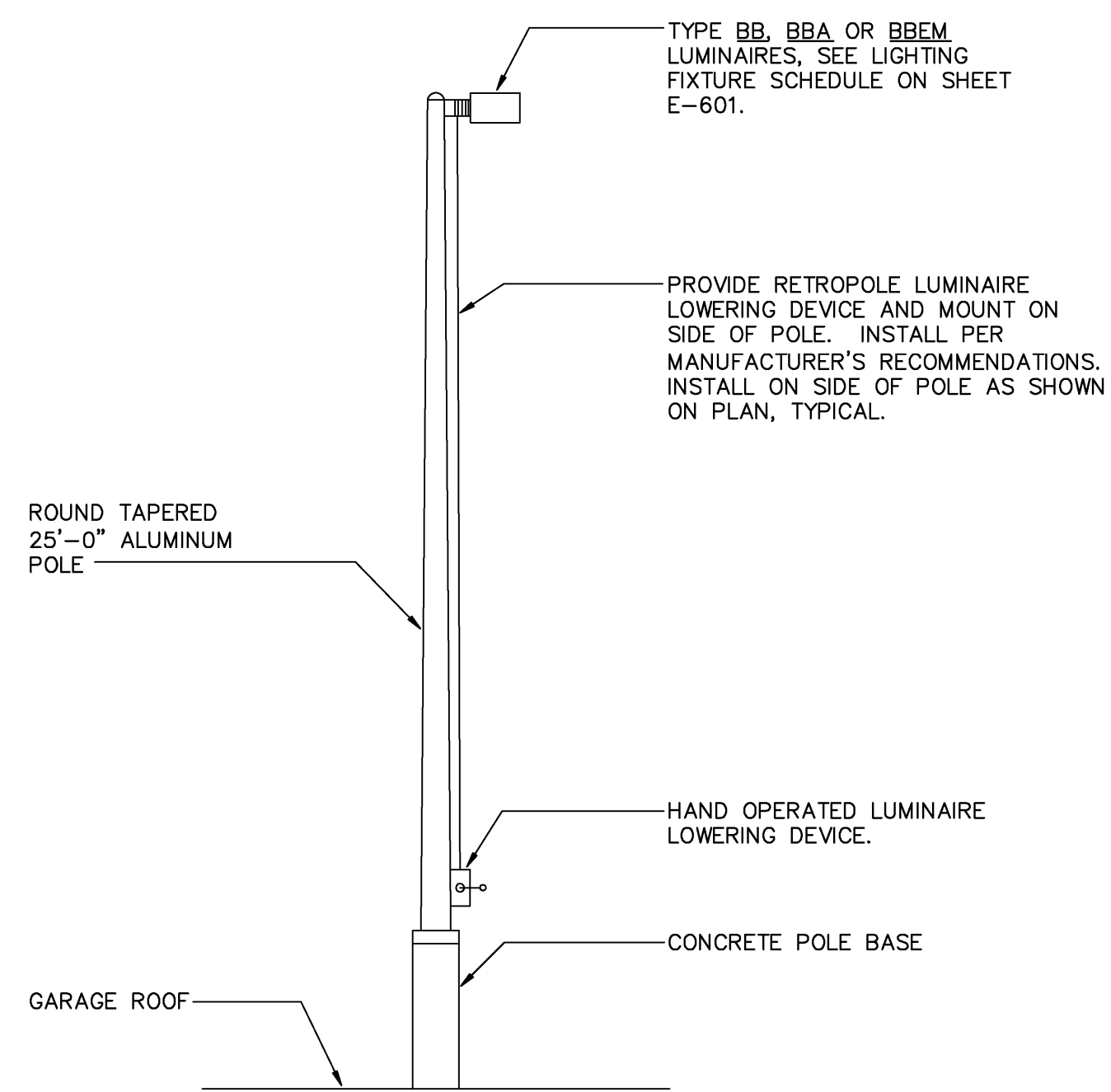
SHEET TITLE:
ELECTRICAL DETAILS

AIP NO.

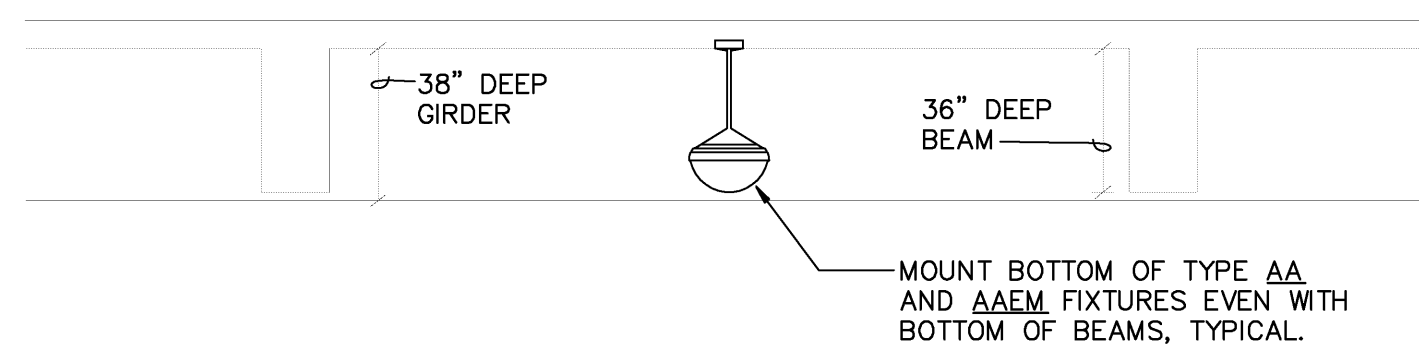
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MSCAA NO. 9905 SHEET NO. E-503

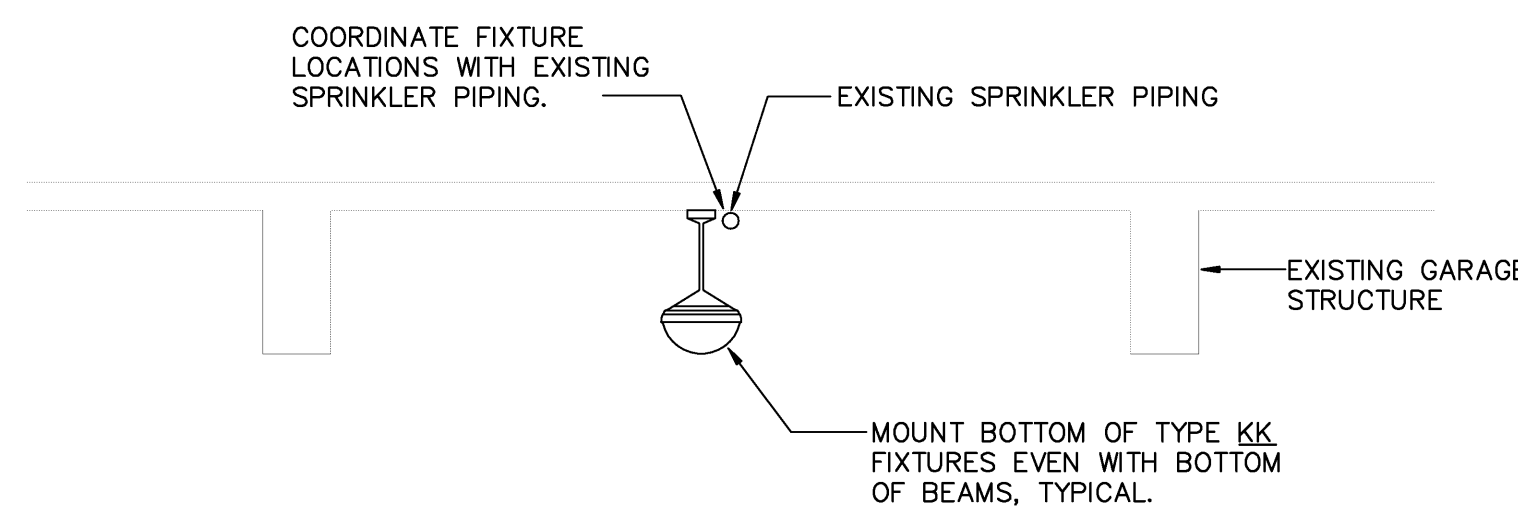
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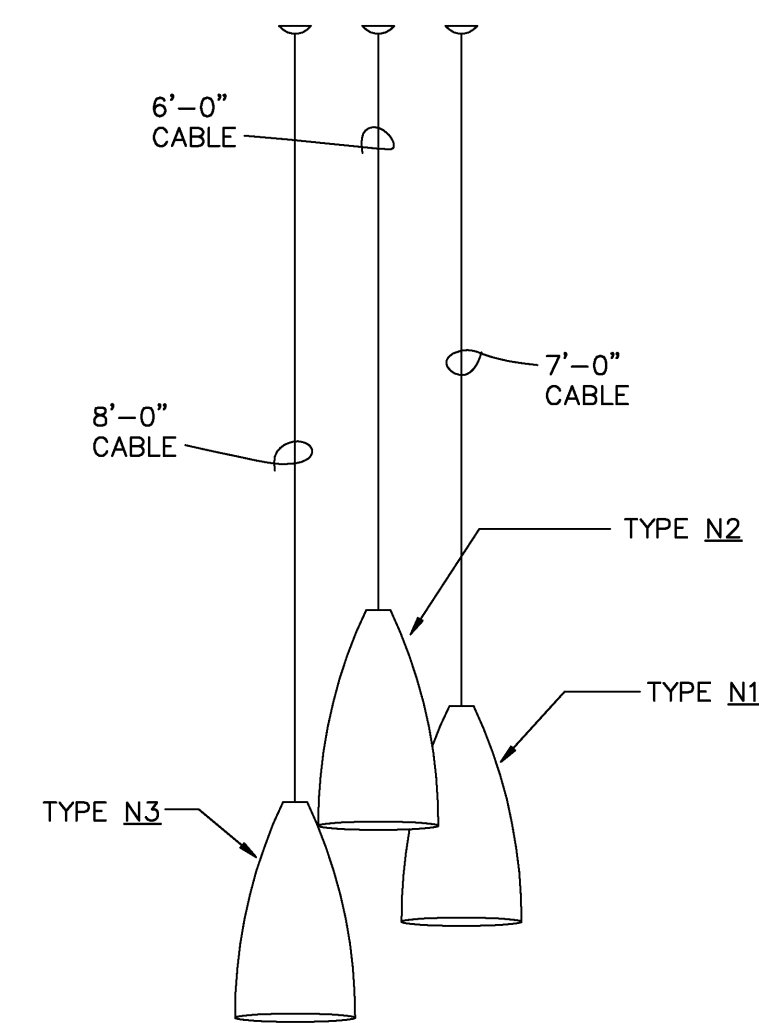
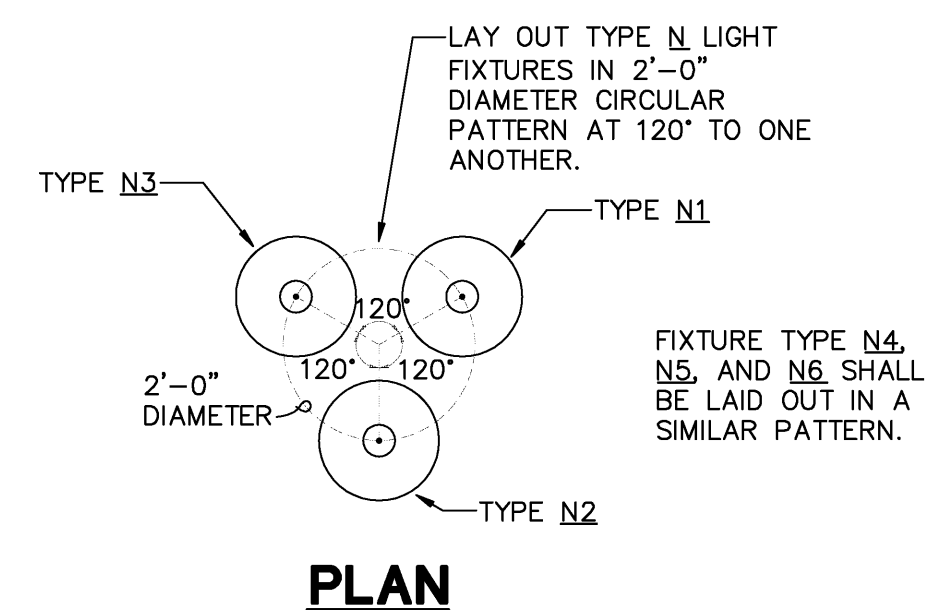
LUMINAIRE LOWERING DEVICE DETAIL 1
NO SCALE E-504



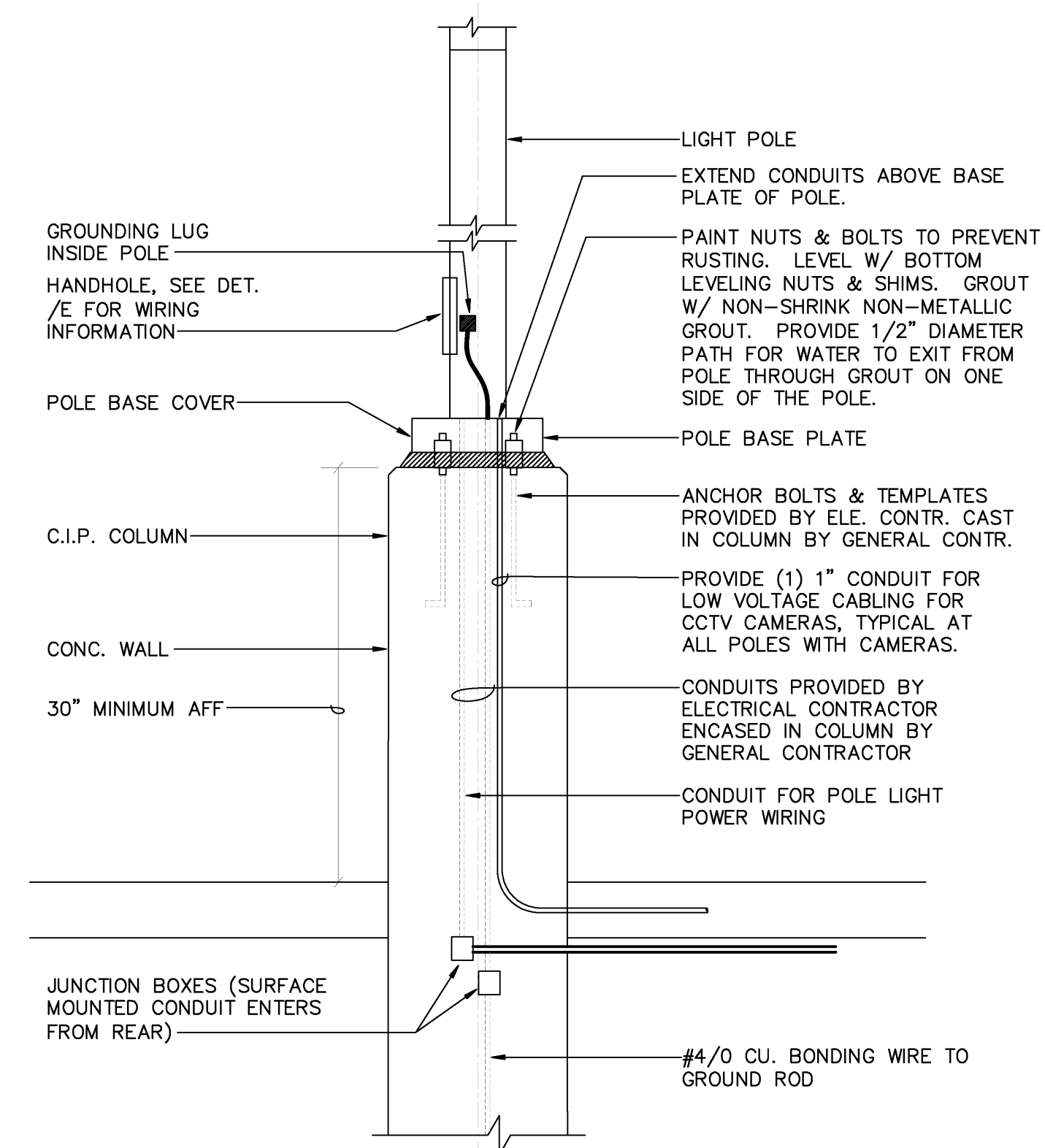
FIXTURE TYPE AA AND AAEM MOUNTING DETAIL 2
1/4"=1'-0" E-504



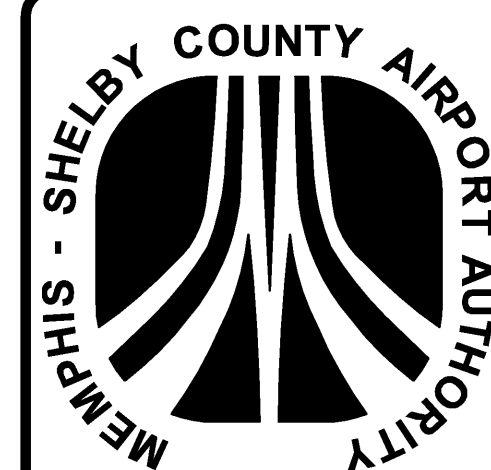
MOUNTING DETAIL FOR TYPE EE AND EEEM IS SIMILAR IN EXISTING GARAGE.
FIXTURE TYPE KK AND KKEM MOUNTING DETAIL 3
NO SCALE E-504



FIXTURE TYPE N MOUNTING DETAIL 4
1/2"=1'-0" E-504



POLE MOUNTING DETAIL 5
NO SCALE E-504



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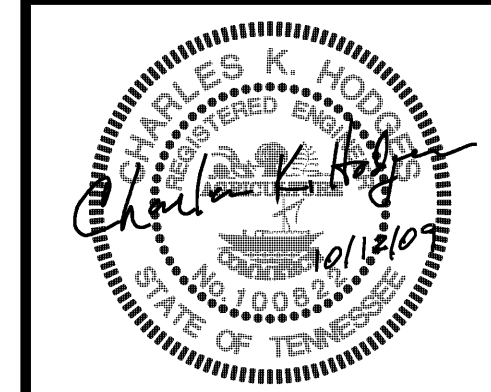
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SHEET TITLE:
ELECTRICAL DETAILS

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	MSCAA NO. 9905	SHEET NO. E-504
	DATE OCTOBER 12, 2009	
	SCALE NO SCALE	

**KIM LIGHTING****AR**

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revision 3/17/03 • ar.pdf

Type:**Job:****Catalog number:**

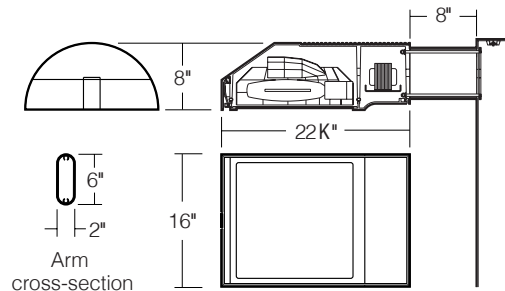
Mtg.	Fixture	Electrical Module	Finish	Options	Optional
/	/	/	/	/	/
See page 2					Optional Vertical Slipfitter Mount See page 5

Approvals:**Date:****Page: 1 of 5**

Select pole from Kim Pole Catalog. If pole is provided by others indicate O.D. for arm fitting.

Specifications

150 to 400 watt
 Mogul Base Lamps
 Maximum Fixture weight (400HPS) = 45 lb



Housing: One piece low copper (less than .6%) die-cast aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment. Solid barrier wall separates optical and electrical compartments. Double-thick wall with gussets on the support-arm mounting end. Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail. All hardware is stainless steel or electro-zinc plated steel.

Lens Frame: One piece low copper (less than .6%) die-cast aluminum alloy lens frame with 1" minimum depth around the gasket flange. Integral hinges with stainless steel pins provide no-tool mounting and removal from housing. Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one piece extruded and vulcanized silicone gasket. Clear F " thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Reflector Module: Specular Alzak® optical segments are rigidly mounted within a die-cast aluminum enclosure that attaches to the housing as a one-piece module. Reflector module is field rotatable in 90° increments. HPS and PMH sockets are porcelain 4KV pulse rated mogul base, MH sockets are porcelain mogul base, pin-oriented, with molded silicone lamp stabilizer. All reflector modules are factory prewired with quick-disconnect plug and include silicone seal at the penetration of the internal barrier wall in the luminaire housing.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. All ballasts are high power factor rated -20°F. starting.

Support Arm: One piece extruded aluminum with internal bolt guides and fully radiussed top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut for specified round pole.

Optional Wall Mounting: Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

NOTE: Junction Box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a chromate conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Platinum Silver, or White. Custom colors are available and subject to additional charges, minimum quantities and longer lead times. Consult representative.

Certification: UL Listed to U.S. and Canadian safety standards for wet locations. Fixture manufacturer shall employ a quality program that is certified to meet the ISO 9001:2000 standard.

CAUTION: Fixtures must be grounded in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

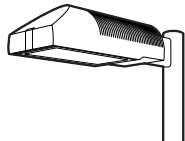




AR
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Type:
Job:

Page: 2 of 5

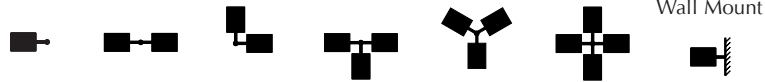


Standard Features

Mounting

3Y configuration is available for round poles only.

Plan View:



EPA:	1.2	2.4	2.0	3.2	3.2	3.9	n/a
Cat. No.:	1A	2B	2L	3T	3Y	4C	1W

Fixture

Cat. No. designates fixture and light distribution. See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

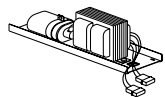
Flat Lens

Light Distribution:

Type II Full Cutoff	Type III Full Cutoff	Type IV Forward Throw Full Cutoff	Type V Square Full Cutoff
Cat. No.: AR2	Cat. No.: AR3	Cat. No.: AR4	Cat. No.: AR5

Electrical Module

HPS = High Pressure Sodium
MH = Metal Halide
PMH = Pulse Start Metal Halide



Lamp	Lamp	Line
Watts	Type	Volts
400	HPS	277

Cat. Nos. for Electrical Modules available:

	150HPS120 150HPS208 150HPS240 150HPS277 150HPS347 150HPS480	250HPS120 250HPS208 250HPS240 250HPS277 250HPS347 250HPS480	400HPS120 400HPS208 400HPS240 400HPS277 400HPS347 400HPS480	175MH120 175MH208 175MH240 175MH277 175MH347 175MH480
Lamp	E-23 1/2, Clear	E-18, Clear	E-18, Clear	BT-28 or ED-28, Clear
Socket	Mogul Base	Mogul Base	Mogul Base	Mogul Base Pin-Oriented
ANSI Ballast Type	S-55	S-50	S-51	M-57
	250MH120 250MH208 250MH240 250MH277 250MH347 250MH480	400MH120 400MH208 400MH240 400MH277 400MH347 400MH480	250PMH120 250PMH208 250PMH240 250PMH277 250PMH347 250PMH480	400PMH120 400PMH208 400PMH240 400PMH277 400PMH347 400PMH480
Lamp	BT-28 or ED-28, Clear	ED-28, Clear	ED-28, Clear	ED-28, Clear
Socket	Mogul Base Pin-Oriented	Mogul Base Pin-Oriented	Mogul Base	Mogul Base
ANSI Ballast Type	M-58	M-59	M-138	M-135

Finish

Super TGIC powder coat paint over a chromate conversion coating.

Color: Black **Dark Bronze** Light Gray Platinum Silver White Custom Color¹
Cat. No.: **BL-P** **DB-P** **LG-P** **PS-P** **WH-P** **CC-P**

¹Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

Single Fuse

**KIM LIGHTING****AR**

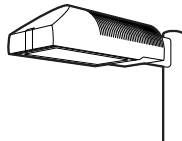
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Type:

Job:

Page: 3 of 5



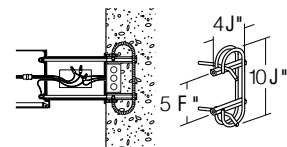
Optional Features

Wall Mounting

Cat. No. **1W**

Select from Mounting on page 2.

Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (**WEB**) is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

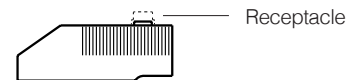


Wall mount using wall embedment bracket - J-box in wall (by others)

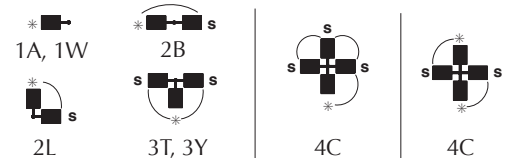
Photocell Receptacle

Cat. No. **A-25**
No Option

Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with a receptacle. Four fixtures (400 watt) require two fixtures with receptacles.



Mounting (see page 2)

* - Fixture with Photocell Receptacle
S - slave unit(s)

Allowable wattage per fixture:

150-400W

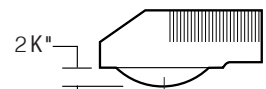
150-250W

400W

Convex Glass Lens

Cat. No. **CGL**
No Option

The F " thick clear convex tempered glass lens replaces the standard flat glass lens. Provides increased lens presence and provides a subtle improvement in uniformity where pole spacing is extreme. Increases effectiveness of houseside shielding.



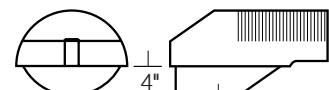
Convex Glass Lens

Polycarbonate Lens

Cat. No. **LS**
No Option

Fixture supplied with a one piece vacuum formed, clear, UV stabilized convex polycarbonate, fully gasketed, replacing the standard tempered glass lens. 250 watt maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and metal halide lamps.



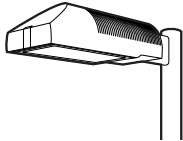
Polycarbonate Lens

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Type:

Job:

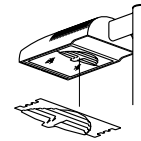
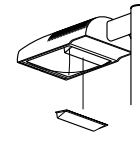
Page: 4 of 5



Optional Features

Houseside ShieldCat. No. (See right)
No Option

(Types II, III, and IV only). Fixtures with the standard flat glass lens are available with stamped aluminum louvers that pass streetside light and block houseside light, and a blackened panel added to the reflector to reduce houseside reflections. Fixtures with the optional convex glass lens are available with a formed aluminum shield that passes streetside light and blocks houseside light, and a black anodized panel added to the reflector to reduce houseside reflections. Use with clear lamps only, as coated lamps reduce effectiveness.

HS
for flat lensHSC
for convex lens or
polycarbonate lens

Cat. No.

HS

Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distributions.

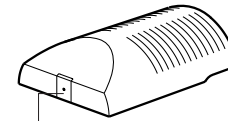
HSC

For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

Tamper-Resistant LatchCat. No. TL
No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

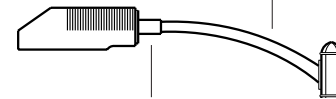
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



Tamper-Resistant Latch

Horizontal Slipfitter MountCat. No. HSF
No Option

Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2³/₈" O.D.). Cast aluminum clamp-type slipfitter with set screw anti-rotation lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

Davit-arm with 2" pipe-size
fixture mount (by others)Horizontal Slipfitter
Mount by Kim**Special Options for Street Lighting**

Cat. No. (See right)

Terminal Block: (For field wire connections.)

85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

TB

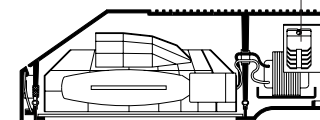
No Option

Air Filter: Allows for ventilation through the optical chamber, filtering all air particles above 500 microns. Multi-layer disc assembly mounted on solid wall between optical compartment and latch cavity.

AF

No Option

Terminal Block



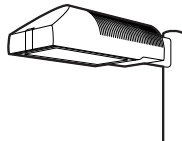
Air Filter

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Type:

Job:

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Optional Features

Vertical Slipfitter Mounts

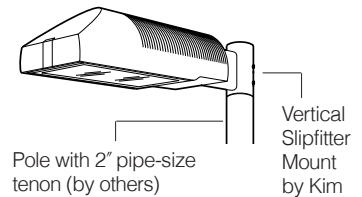
Cat. No. includes Mounting

Cat. No. (See right)

No Option

Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.

NOTE: 3Y only available on round slipfitter.

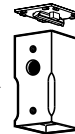


Cat. No.

VSF-1A
VSF-2B
VSF-2L
VSF-3T
VSF-3Y
VSF-4C



Round

Stainless
steel set
screws

Square

Cat. No.

SVSF-1A
SVSF-2B
SVSF-2L
SVSF-3T
SVSF-4C

Mounting Configuration

1A - single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

Product Specifications DS210, DS220**ANCHOR BOLTS**

Anchor Bolts are fabricated from carbon steel bar conforming to AASHTO M314 Grade-55 or ASTM F1554 Grade-55. Bolts have an "L" bend on one end and are galvanized a minimum of 12 inches on the threaded end. Four anchor bolts are provided per pole. Each anchor bolt is furnished with two hex nuts and two flat washers.

ANCHOR BASE

The anchor base (base plate) is fabricated from structural quality hot rolled carbon steel plate conforming to ASTM A36. The base plate telescopes the pole shaft and is circumferentially welded top and bottom. Please refer to the charted bolt circles and detail drawings to determine the type of hole or slot accommodation made for the anchor bolt.

POLE SHAFT

The pole shaft conforms to ASTM A595 Grade-A and is supplied in 11 gauge (0.1196"), 7 gauge (0.1793") 5 gauge (0.2092") or 3 gauge (0.2391") thickness. The pole can be either one-piece or two piece construction, with a full length longitudinal high frequency electric resistance weld. The DS210 series is round in cross-section having a uniform taper of approximately 0.14 inches per foot of length. The DS220 series shaft is square in cross section having flat sides, radiused corners and a uniform taper of approximately 0.11 inches per foot of length.

HANDHOLE

The reinforcing handhole rim consists of either a nominal 3" x 5" rectangular shaped tubing or 4" x 6.5" oval shaped pipe material. The 3" x 5" handhole is provided with a steel attachment bar, steel cover, and one round head machine screw. The 4" x 6.5" handhole includes two tabs for mounting a steel cover with hex head attachment screws. Both handhole types are welded in the pole shaft and are located 1'-6" above the base.

ELECTRICAL GROUND

A nut holder is provided near the handhole and includes a .5"-13UNC hex head bolt and nut.

NUT COVERS (OPTIONAL)

Nut covers for anchor bolts are zinc die cast. Each cover is fastened to the shaft by a 0.25" stainless steel, self-tapping, hex head screw. Nut covers are a standard component for the DS210 series and are NOT available for the DS220 series.

FULL BASE COVER (STANDARD)

The optional full base cover is fabricated from ABS plastic. Valmont reserves the right to provide a steel assembly on some applications depending upon the finish requirement and/or pole shaft base diameter. Both steel and plastic covers are a two-piece assembly secured together with two fasteners. A full base cover is a standard component on the DS220 series.

POLE TOP TENON (STANDARD)

Pole top tenons are fabricated from structural quality hot rolled carbon steel with a guaranteed minimum yield strength of 30,000 psi. A pole top plate and tenon of weldable grade hot rolled commercial quality carbon steel is circumferentially welded to the top of the pole shaft. This plate provides an internal weather resistant wiring raceway into the pole top tenon. Standard sizes are either 2.38" O.D. x 4" long (P2) or 4" O.D. x 6" long (P4) steel tubing. See page 1 for other available sizes.

POLE TOP CAP

A removable cap is available as an option to be used in conjunction with drilled shafts for direct luminaire arm attachment.

STANDARD FINISH

Standard finishes available are galvanize, prime coat (powder), and finish coat (powder). For information regarding the scope and application of these coatings please refer to page 5.

FASTENING HARDWARE

All structural fasteners are galvanized high strength carbon steel. All fasteners are galvanized or zinc plated carbon steel or stainless steel.

DESIGN

The standards shown in this section are designed to withstand dead loads and theoretical dynamic loads developed by variable wind speeds, as charted, with an appropriate gust factor under the following conditions:

The luminaire(s) and/or mounting bracket(s) center of gravity, or centroid, is assumed to be located a maximum of 2'-6" above the pole top. For purposes of design, effective projected area (EPA) is considered to be the product of the actual projected area and the drag coefficient.

The listed weights include luminaire(s) and/or mounting bracket(s) and are based on a weight to EPA ratio of 25 pounds per square foot.

The wind velocities are based on 10 mph increments from 80 mph through 100 mph (reference wind map). Standards to be located in areas of known abnormal conditions require special consideration. For example: coastal areas, airports, and areas of special winds such as the Chinook type along the eastern slope of the Rocky Mountains.

Standards are designed for ground mounted applications. Standards mounted on structures, such as bridges and buildings, also necessitate special consideration requiring Valmont's recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the standard. Secondary moments are considered on all designs.

Maximum weight and EPA values for DS220 products are determined by analyzing stress from two wind directions as shown. Due to the increased area and reduced section properties, stress levels across the points generally control the allowable loads.

Valmont Industries, Inc. reserves the right to install various, engineer approved, material hanging accommodations to facilitate the manufacturing process. If this method is not acceptable, Valmont Industries, Inc. must be notified by the customer prior to manufacturing.

Submitted by Factory Sales Agency-West		Job Name: MSCAA Parking Garage Expansion & Improvements	Catalog Number: DS210-700A250-DB	Type: BB

DS210 Round Tapered



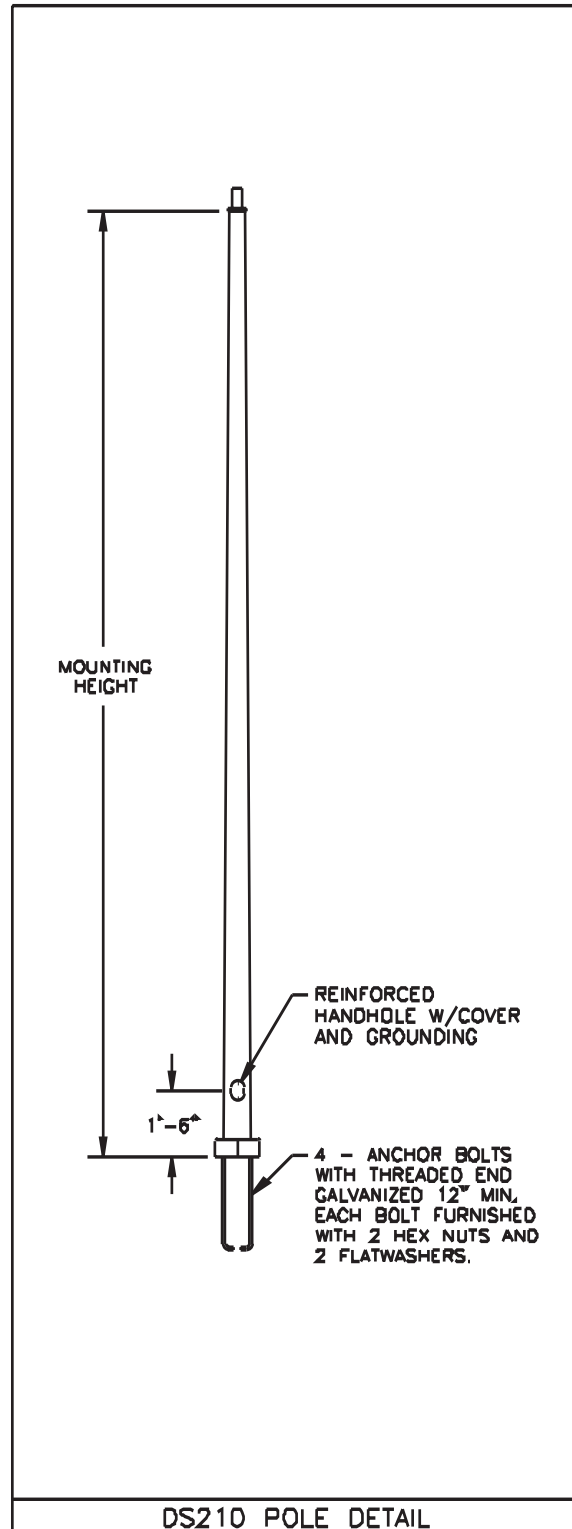
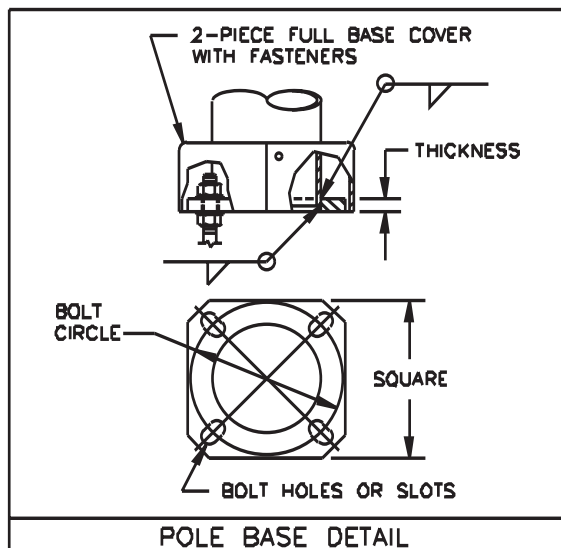
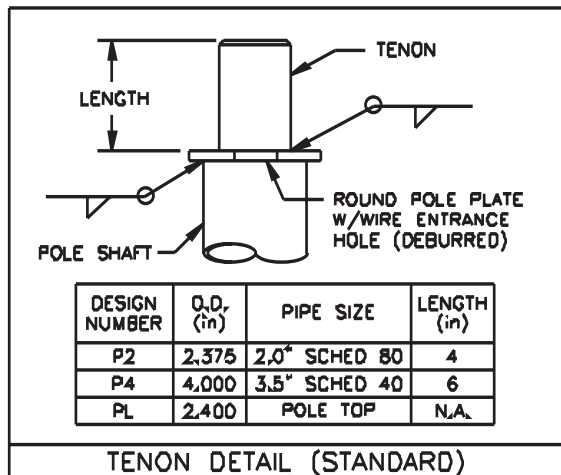
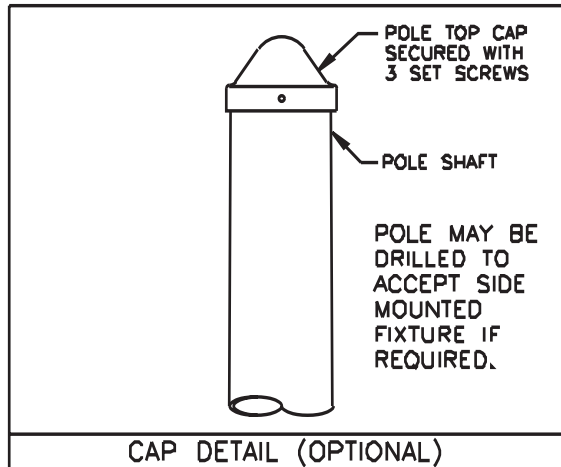
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in) ± (in)		Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)
20	**590A200-P2	5.9	3.1	11	140	9.0	.5	10.00	0.88	1.00 x 36 x 4	19.3	482	15.1	377	12.2	305
	650A200-P2	6.5	3.7	11	160	9.5	.5	10.50	0.88	1.00 x 36 x 4	24.2	605	19.3	482	15.6	390
25	**590A250-PL	5.9	2.4	11	155	9.0	.5	10.00	0.88	1.00 x 36 x 4	12.5	312	9.9	247	8.0	200
	700A250-P2	7.0	3.5	11	200	10.0	.5	10.88	0.88	1.00 x 36 x 4	20.3	507	16.2	405	13.1	327
	700E250-P2	7.0	3.5	7	280	10.0	.5	10.88	1.00	1.00 x 36 x 4	30.5	760	24.0	625	19.8	495
30	660A300-PL	6.6	2.4	11	200	9.5	.5	10.50	0.88	1.00 x 36 x 4	11.7	292	9.3	232	7.5	187
	800A300-P2	8.0	3.8	11	265	11.0	.5	11.50	0.88	1.00 x 36 x 4	18.9	473	14.9	373	12.0	300
	800E300-P2	8.0	3.8	7	380	11.0	.5	11.50	1.25	1.25 x 42 x 6	33.5	838	27.0	675	22.0	550
35	730A350-PL	7.3	2.4	11	250	10.5	.5	11.25	0.88	1.00 x 36 x 4	11.2	280	8.9	222	7.1	177
	850A350-P2	8.5	3.6	11	315	11.5	.5	12.00	1.00	1.00 x 36 x 4	18.9	472	15.1	377	12.2	305
	950A350-P2	9.5	4.6	11	370	13.0	.5	13.00	1.00	1.00 x 36 x 4	23.2	580	18.2	455	14.5	363
39	782A389-PL	7.8	2.4	11	285	11.0	.5	11.50	0.88	1.00 x 36 x 4	10.7	267	8.5	212	6.6	165
	900A389-P2	9.0	3.6	11	355	12.5	.5	12.38	1.00	1.00 x 36 x 4	17.2	430	13.5	338	10.8	270
	900E389-P2	9.0	3.6	7	515	12.5	.5	12.38	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
45	T00A450-P2	10.0	3.7	11	450	13.5	.5	14.00	1.00	1.00 x 36 x 4	17.4	435	13.5	338	10.6	265
	T00E450-P2	10.0	3.7	7	650	13.5	.5	14.00	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
	E00E450-P4	11.0	4.7	7	780	15.0	.5	16.50	1.50	1.25 x 42 x 6	35.7	893	28.0	700	22.3	558
50	T00A500-P2	10.0	3.0	11	475	13.5	.5	14.00	1.00	1.00 x 36 x 4	13.2	330	10.6	265	8.3	208
	T00E500-P2	10.0	3.0	7	680	13.5	.5	14.00	1.25	1.25 x 42 x 6	20.5	512	16.5	412	13.6	340
	E00E500-P4	11.0	4.0	7	812	15.0	.5	16.50	1.50	1.25 x 42 x 6	29.9	748	23.5	588	18.6	465
	H00E500-P4	13.0	6.0	7	1020	17.0	N/A	18.00	1.50	1.50 x 54 x 6	50.4	1260	39.7	992	31.4	785
	H00J500-P4	13.0	6.0	3	1335	17.5	N/A	18.50	1.75	1.75 x 84 x 6	69.2	1730	55.0	1375	44.2	1105
55	E00E550-P4	11.0	3.5	7 & 11	890	15.0	.5	16.50	1.50	1.25 x 42 x 6	21.6	540	17.7	442	14.7	367
	W00E550-P4	12.0	4.5	7 & 11	975	16.0	N/A	17.00	1.50	1.50 x 54 x 6	32.2	805	25.9	647	21.1	527
	W504550-P4	12.5	5.2	5 & 7	1225	16.5	N/A	17.50	1.50	1.50 x 54 x 6	43.8	1095	35.0	875	28.6	715
60	W00E600-P4	12.0	4.0	7 & 7	1060	16.0	N/A	17.00	1.50	1.50 x 54 x 6	25.9	647	20.7	517	16.8	420
	H00E600-P4	13.0	4.8	7 & 11	1075	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.1	752	24.5	612	20.2	505
	W504600-P4	12.5	4.5	5 & 7	1275	16.5	N/A	17.50	1.50	1.50 x 54 x 6	34.0	850	27.6	690	22.6	565
65	H00E650-P4	13.0	4.3	7 & 7	1200	17.0	N/A	18.00	1.50	1.50 x 54 x 6	27.3	682	22.0	550	17.9	447
	H004650-P4	13.0	4.3	5 & 7	1400	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.8	770	24.8	620	20.4	510
70	H00E700-P4	13.0	3.6	7 & 7	1270	17.0	N/A	18.00	1.50	1.50 x 54 x 6	20.6	515	16.7	417	13.7	342
	H004700-P4	13.0	3.6	5 & 7	1440	17.0	N/A	18.00	1.50	1.50 x 54 x 6	23.6	590	19.2	480	15.8	395

DS210 NOTES:

- **3" x 5" nominal handhole - all others 4" x 6.5" nominal.
- Structure weight is a nominal value which includes the pole shaft and base plate only.
- Designs showing two shaft gauges indicates structure is provided as a two-piece, field assembled, unit. Heavier gauge is the bottom section.
- Maximum weight and EPA values are based on top mounted luminaires and/or brackets having a centroid 2'-6" above the nominal mounting height.



DS210 Round Tapered



Job Name:

MSCAA Parking Garage Expansion & Improvements

Catalog Number:LUMINAIRE LOWERING DEVICE
(2 FIXTURES) DARK BRONZE

Notes:

Type:**BB**

FSM10-43742

retropole

The future of area lighting

retropole is a conversion kit for your new or existing pole lights. **retropole** enables the user to greatly reduce or eliminate his reliance on aerial lift equipment and expensive maintenance services.

retropole comes standard in bronze and is ideal for virtually any 15-30 foot single luminaire light pole (square, round, or tapered) and can easily be upgraded to a 35-foot pole with extension rails. Optional 2-head adapters can be specified for only 180-degree configurations.

General Ratings

Weight	Length	Electrical
100lbs MAX	30 ft MAX	480V/15A MAX

Safety

Removable handle, variable mounting height, and lockable enclosure ensure tamper resistance. Inside the carriage, a tension sensing fall brake prevents fixture from moving in the unlikely event of vandalism or vehicular damage.

Materials

Head rail and all rail sections are 100% 6063-T5 Aluminum Prime Canadian Billet. Free of fillers or recycled products, 6063 aluminum has a very high silicone content and is extremely resistant to corrosion.

All steel components are galvanized and powder coated for additional corrosion resistance. Standard Carriage uses nylon or teflon pads for smooth lubrication-free operation.

1/8", 1700lb lifting cables and hardware packs are zinc/steel and can be upgraded to stainless steel for all installations within 50 miles of a salt water coast.

Electrical

Electrical contacts are rated 480V and 15A. Our contacts are composed of 85% nickel and 15% silver which makes them extremely durable and corrosion resistant. The contacts are UL Listed and manufactured for **retropole** by Meltric, Inc.

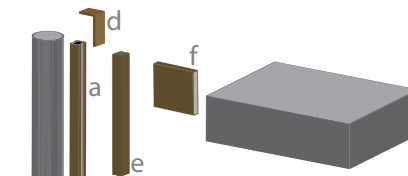


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

Existing pole condition is imperative for structural integrity. Pole should be at least 7 gauge steel and visually inspected by a qualified person for rust, physical damage or any other condition that could affect structural integrity.

All modifications should be done to the existing pole and light head. Any modifications to the **retropole** could affect the structural integrity. For installations in 100MPH+ zones, consult with your structural engineer before installing **retropole** or any other product onto your pole that could potentially alter its wind ratings.

PATENT-PENDING



Existing Equipment-Gray

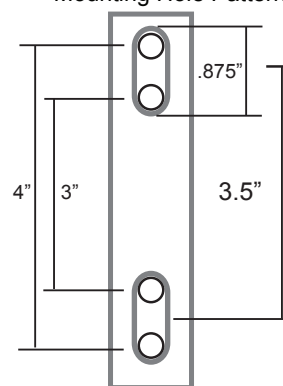
retropole Conversion Kit-Bronze

retropole Conversion Kits come in sections, making it easy to handle and ship. All of the components and all hardware are packed neatly into our 48"x12"x8" box shipped directly to your facility or jobsite.

Component	L	Inches		lbs
		W	H	
a Head Unit	12	2.75	2.5	2.15
b Rail Sec.	46.5	2.5	2.25	4
c Drive Mech	5.25	5.75	8.4	8
d Cap	4	2.5	2.5	.2
e Carriage	12	1.5	2.4	4.5
f Arm	1	4	5	.8

retropoles universal design work with all pole geometries and most light heads. The bolt pattern shown below allows flexibility in mounting. **retropole** will bolt to any fixture with bolt distances from 3" to 4" without modifications.

Universal Fixture
Mounting Hole Pattern



In keeping with our commitment to continuous improvement in safety and quality, **retropole, llc** reserves the right to change any specifications contained herein without prior notice.

This document contains the proprietary information of **retropole, llc** and any use of this information requires the written approval of **retropole, llc**.

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KIM LIGHTING
AR

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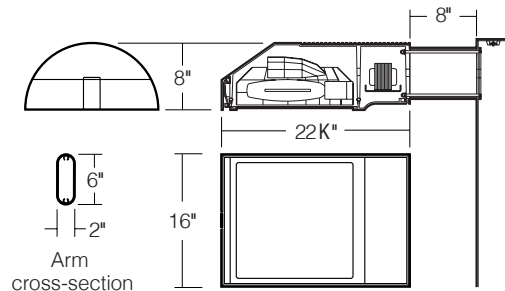
Type:
Job:
Catalog number:

Mtg.	Fixture	Electrical Module	Finish	Options	Optional
_____	_____	_____	_____	_____	_____
See page 2					See pages 3-4
					Optional Vertical Slipfitter Mount See page 5

Approvals:
Date:
Page: 1 of 5

Select pole from Kim Pole Catalog. If pole is provided by others indicate O.D. for arm fitting.

Specifications

 150 to 400 watt
 Mogul Base Lamps
 Maximum Fixture weight (400HPS) = 45 lb


Housing: One piece low copper (less than .6%) die-cast aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment. Solid barrier wall separates optical and electrical compartments. Double-thick wall with gussets on the support-arm mounting end. Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail. All hardware is stainless steel or electro-zinc plated steel.

Lens Frame: One piece low copper (less than .6%) die-cast aluminum alloy lens frame with 1" minimum depth around the gasket flange. Integral hinges with stainless steel pins provide no-tool mounting and removal from housing. Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one piece extruded and vulcanized silicone gasket. Clear F " thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Reflector Module: Specular Alzak® optical segments are rigidly mounted within a die-cast aluminum enclosure that attaches to the housing as a one-piece module. Reflector module is field rotatable in 90° increments. HPS and PMH sockets are porcelain 4KV pulse rated mogul base, MH sockets are porcelain mogul base, pin-oriented, with molded silicone lamp stabilizer. All reflector modules are factory prewired with quick-disconnect plug and include silicone seal at the penetration of the internal barrier wall in the luminaire housing.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. All ballasts are high power factor rated -20°F. starting.

Support Arm: One piece extruded aluminum with internal bolt guides and fully radiussed top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut for specified round pole.

Optional Wall Mounting: Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

NOTE: Junction Box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a chromate conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Platinum Silver, or White. Custom colors are available and subject to additional charges, minimum quantities and longer lead times. Consult representative.

Certification: UL Listed to U.S. and Canadian safety standards for wet locations. Fixture manufacturer shall employ a quality program that is certified to meet the ISO 9001:2000 standard.

CAUTION: Fixtures must be grounded in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

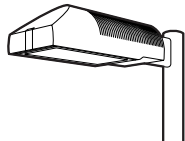




AR
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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

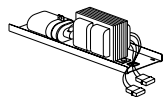
Plan View:

							Wall Mount
EPA: 1.2	2.4	2.0	3.2	3.2	3.9	n/a	
Cat. No.: 1A	2B	2L	3T	3Y	4C	1W	

Fixture
Cat. No. designates fixture and light distribution.
See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

Flat Lens	Type II	Type III	Type IV	Type V
Light Distribution:	Full Cutoff	Full Cutoff	Forward Throw Full Cutoff	Square Full Cutoff
Cat. No.:	AR2	AR3	AR4	AR5

Electrical Module
HPS = High Pressure Sodium
MH = Metal Halide
PMH = Pulse Start Metal Halide



Lamp	Lamp	Line
Watts	Type	Volts
400	HPS	277

Cat. Nos. for Electrical Modules available:

	150HPS120 150HPS208 150HPS240 150HPS277 150HPS347 150HPS480	250HPS120 250HPS208 250HPS240 250HPS277 250HPS347 250HPS480	400HPS120 400HPS208 400HPS240 400HPS277 400HPS347 400HPS480	175MH120 175MH208 175MH240 175MH277 175MH347 175MH480
Lamp	E-23 1/2, Clear	E-18, Clear	E-18, Clear	BT-28 or ED-28, Clear
Socket	Mogul Base	Mogul Base	Mogul Base	Mogul Base Pin-Oriented
ANSI Ballast Type	S-55	S-50	S-51	M-57
	250MH120 250MH208 250MH240 250MH277 250MH347 250MH480	400MH120 400MH208 400MH240 400MH277 400MH347 400MH480	250PMH120 250PMH208 250PMH240 250PMH277 250PMH347 250PMH480	400PMH120 400PMH208 400PMH240 400PMH277 400PMH347 400PMH480
Lamp	BT-28 or ED-28, Clear	ED-28, Clear	ED-28, Clear	ED-28, Clear
Socket	Mogul Base Pin-Oriented	Mogul Base Pin-Oriented	Mogul Base	Mogul Base
ANSI Ballast Type	M-58	M-59	M-138	M-135

Finish
Super TGIC powder coat paint over a chromate conversion coating.

Color:	Black	Dark Bronze	Light Gray	Platinum Silver	White	Custom Color ¹
Cat. No.:	BL-P	DB-P	LG-P	PS-P	WH-P	CC-P

¹Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

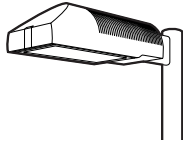
SF - Single Fuse
QS - Quartz

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Type:

Job:

Page: 3 of 5



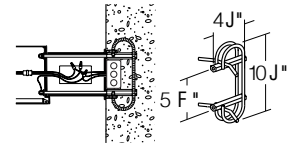
Optional Features

Wall Mounting

Cat. No. **1W**

Select from Mounting on page 2.

Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (**WEB**) is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

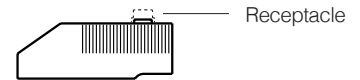


Wall mount using wall embedment bracket - J-box in wall (by others)

Photocell Receptacle

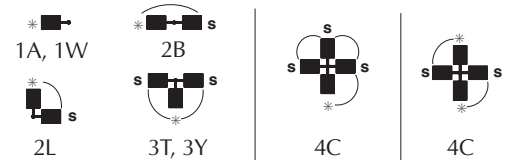
 Cat. No. **A-25**
No Option

Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with a receptacle. Four fixtures (400 watt) require two fixtures with receptacles.



Receptacle

Mounting (see page 2)

 * – Fixture with Photocell Receptacle
 S – slave unit(s)


Allowable wattage per fixture:

150-400W

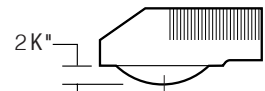
150-250W

400W

Convex Glass Lens

 Cat. No. **CGL**
No Option

The F " thick clear convex tempered glass lens replaces the standard flat glass lens. Provides increased lens presence and provides a subtle improvement in uniformity where pole spacing is extreme. Increases effectiveness of houseside shielding.



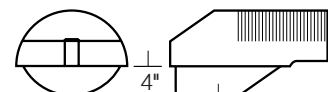
Convex Glass Lens

Polycarbonate Lens

 Cat. No. **LS**
No Option

Fixture supplied with a one piece vacuum formed, clear, UV stabilized convex polycarbonate, fully gasketed, replacing the standard tempered glass lens. 250 watt maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and metal halide lamps.



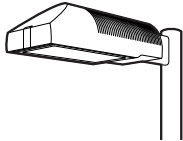
Polycarbonate Lens

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Type:

Job:

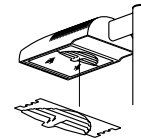
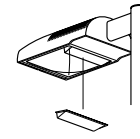
Page: 4 of 5



Optional Features

Houseside ShieldCat. No. (See right)
No Option

(Types II, III, and IV only). Fixtures with the standard flat glass lens are available with stamped aluminum louvers that pass streetside light and block houseside light, and a blackened panel added to the reflector to reduce houseside reflections. Fixtures with the optional convex glass lens are available with a formed aluminum shield that passes streetside light and blocks houseside light, and a black anodized panel added to the reflector to reduce houseside reflections. Use with clear lamps only, as coated lamps reduce effectiveness.

HS
for flat lensHSC
for convex lens or
polycarbonate lens

Cat. No.

HS

Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distributions.

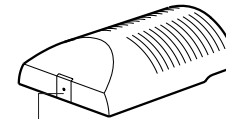
HSC

For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

Tamper-Resistant LatchCat. No. TL
No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

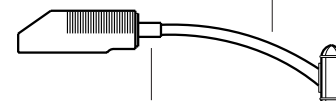
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



Tamper-Resistant Latch

Horizontal Slipfitter MountCat. No. HSF
No Option

Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2³/₈" O.D.). Cast aluminum clamp-type slipfitter with set screw anti-rotation lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

Davit-arm with 2" pipe-size
fixture mount (by others)Horizontal Slipfitter
Mount by Kim**Special Options for Street Lighting**

Cat. No. (See right)

Terminal Block: (For field wire connections.)

85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

TB

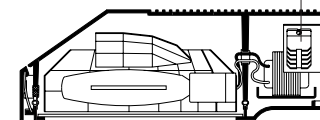
No Option

Air Filter: Allows for ventilation through the optical chamber, filtering all air particles above 500 microns. Multi-layer disc assembly mounted on solid wall between optical compartment and latch cavity.

AF

No Option

Terminal Block



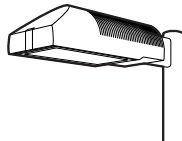
Air Filter

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Type:

Job:

Page: 5 of 5



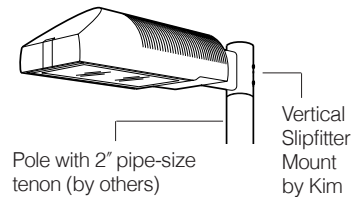
Optional Features

Vertical Slipfitter Mounts

Cat. No. includes Mounting

Cat. No. **(See right)****No Option**

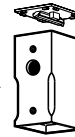
Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.

NOTE: 3Y only available on round slipfitter.

Cat. No.

VSF-1A
VSF-2B
VSF-2L
VSF-3T
VSF-3Y
VSF-4C


Round

Stainless
steel set
screws

Square

Cat. No.

SVSF-1A
SVSF-2B
SVSF-2L
SVSF-3T
SVSF-4C

Mounting Configuration

1A - single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

Product Specifications DS210, DS220**ANCHOR BOLTS**

Anchor Bolts are fabricated from carbon steel bar conforming to AASHTO M314 Grade-55 or ASTM F1554 Grade-55. Bolts have an "L" bend on one end and are galvanized a minimum of 12 inches on the threaded end. Four anchor bolts are provided per pole. Each anchor bolt is furnished with two hex nuts and two flat washers.

ANCHOR BASE

The anchor base (base plate) is fabricated from structural quality hot rolled carbon steel plate conforming to ASTM A36. The base plate telescopes the pole shaft and is circumferentially welded top and bottom. Please refer to the charted bolt circles and detail drawings to determine the type of hole or slot accommodation made for the anchor bolt.

POLE SHAFT

The pole shaft conforms to ASTM A595 Grade-A and is supplied in 11 gauge (0.1196"), 7 gauge (0.1793") 5 gauge (0.2092") or 3 gauge (0.2391") thickness. The pole can be either one-piece or two piece construction, with a full length longitudinal high frequency electric resistance weld. The DS210 series is round in cross-section having a uniform taper of approximately 0.14 inches per foot of length. The DS220 series shaft is square in cross section having flat sides, radiused corners and a uniform taper of approximately 0.11 inches per foot of length.

HANDHOLE

The reinforcing handhole rim consists of either a nominal 3" x 5" rectangular shaped tubing or 4" x 6.5" oval shaped pipe material. The 3" x 5" handhole is provided with a steel attachment bar, steel cover, and one round head machine screw. The 4" x 6.5" handhole includes two tabs for mounting a steel cover with hex head attachment screws. Both handhole types are welded in the pole shaft and are located 1'-6" above the base.

ELECTRICAL GROUND

A nut holder is provided near the handhole and includes a .5"-13UNC hex head bolt and nut.

NUT COVERS (OPTIONAL)

Nut covers for anchor bolts are zinc die cast. Each cover is fastened to the shaft by a 0.25" stainless steel, self-tapping, hex head screw. Nut covers are a standard component for the DS210 series and are NOT available for the DS220 series.

FULL BASE COVER (STANDARD)

The optional full base cover is fabricated from ABS plastic. Valmont reserves the right to provide a steel assembly on some applications depending upon the finish requirement and/or pole shaft base diameter. Both steel and plastic covers are a two-piece assembly secured together with two fasteners. A full base cover is a standard component on the DS220 series.

POLE TOP TENON (STANDARD)

Pole top tenons are fabricated from structural quality hot rolled carbon steel with a guaranteed minimum yield strength of 30,000 psi. A pole top plate and tenon of weldable grade hot rolled commercial quality carbon steel is circumferentially welded to the top of the pole shaft. This plate provides an internal weather resistant wiring raceway into the pole top tenon. Standard sizes are either 2.38" O.D. x 4" long (P2) or 4" O.D. x 6" long (P4) steel tubing. See page 1 for other available sizes.

POLE TOP CAP

A removable cap is available as an option to be used in conjunction with drilled shafts for direct luminaire arm attachment.

STANDARD FINISH

Standard finishes available are galvanize, prime coat (powder), and finish coat (powder). For information regarding the scope and application of these coatings please refer to page 5.

FASTENING HARDWARE

All structural fasteners are galvanized high strength carbon steel. All fasteners are galvanized or zinc plated carbon steel or stainless steel.

DESIGN

The standards shown in this section are designed to withstand dead loads and theoretical dynamic loads developed by variable wind speeds, as charted, with an appropriate gust factor under the following conditions:

The luminaire(s) and/or mounting bracket(s) center of gravity, or centroid, is assumed to be located a maximum of 2'-6" above the pole top. For purposes of design, effective projected area (EPA) is considered to be the product of the actual projected area and the drag coefficient.

The listed weights include luminaire(s) and/or mounting bracket(s) and are based on a weight to EPA ratio of 25 pounds per square foot.

The wind velocities are based on 10 mph increments from 80 mph through 100 mph (reference wind map). Standards to be located in areas of known abnormal conditions require special consideration. For example: coastal areas, airports, and areas of special winds such as the Chinook type along the eastern slope of the Rocky Mountains.

Standards are designed for ground mounted applications. Standards mounted on structures, such as bridges and buildings, also necessitate special consideration requiring Valmont's recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the standard. Secondary moments are considered on all designs.

Maximum weight and EPA values for DS220 products are determined by analyzing stress from two wind directions as shown. Due to the increased area and reduced section properties, stress levels across the points generally control the allowable loads.

Valmont Industries, Inc. reserves the right to install various, engineer approved, material hanging accommodations to facilitate the manufacturing process. If this method is not acceptable, Valmont Industries, Inc. must be notified by the customer prior to manufacturing.

Submitted by Factory Sales Agency-West		Catalog Number: DS210-700A250-DB	Type: BBEM
Job Name: MSCAA Parking Garage Expansion & Improvements		Notes:	FSM10-43742

DS210 Round Tapered



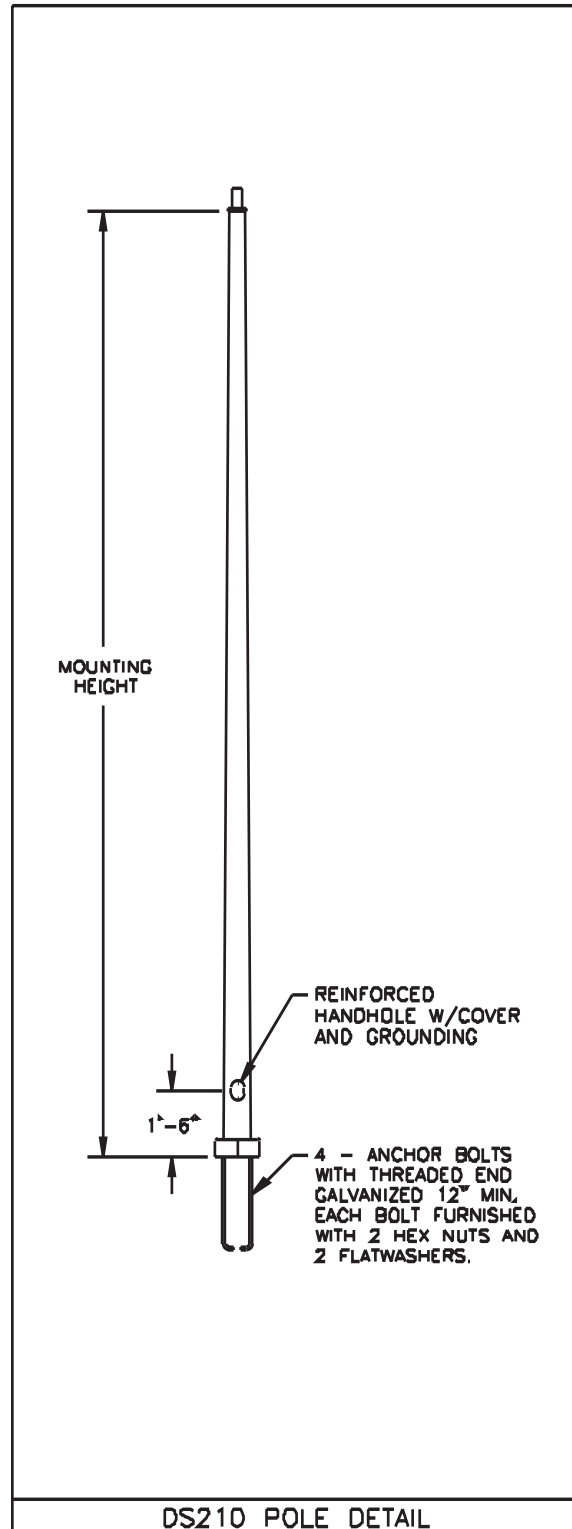
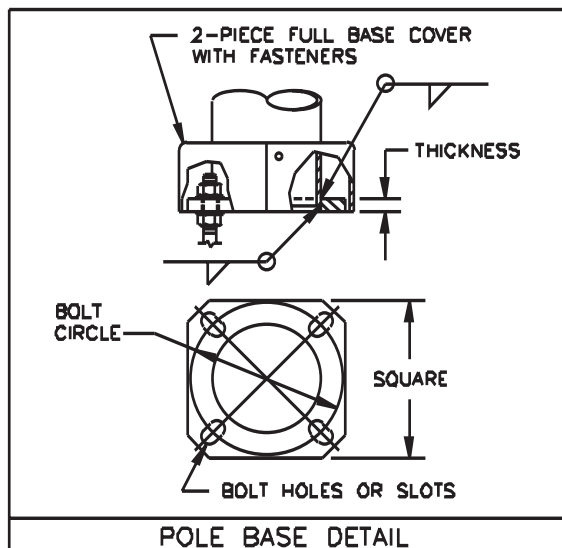
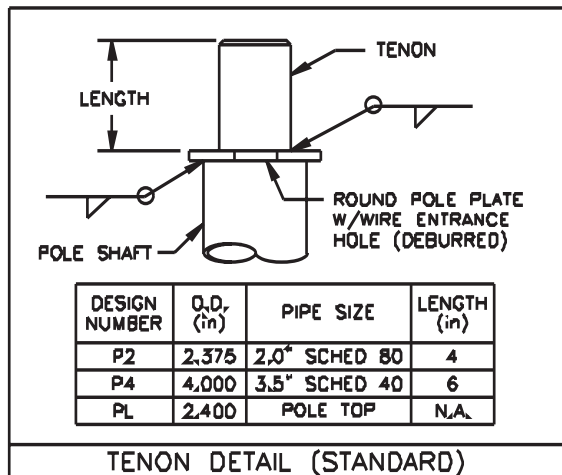
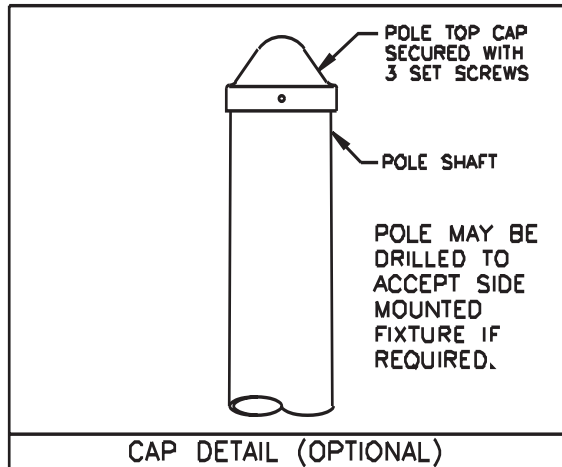
Nominal Mounting Height (ft)	Shaft Designation Number	Shaft				Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
		Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	± (in)	Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)
20	**590A200-P2	5.9	3.1	11	140	9.0	.5	10.00	0.88	1.00 x 36 x 4	19.3	482	15.1	377	12.2	305
	650A200-P2	6.5	3.7	11	160	9.5	.5	10.50	0.88	1.00 x 36 x 4	24.2	605	19.3	482	15.6	390
25	**590A250-PL	5.9	2.4	11	155	9.0	.5	10.00	0.88	1.00 x 36 x 4	12.5	312	9.9	247	8.0	200
	700A250-P2	7.0	3.5	11	200	10.0	.5	10.88	0.88	1.00 x 36 x 4	20.3	507	16.2	405	13.1	327
	700E250-P2	7.0	3.5	7	280	10.0	.5	10.88	1.00	1.00 x 36 x 4	30.5	760	24.0	625	19.8	495
30	660A300-PL	6.6	2.4	11	200	9.5	.5	10.50	0.88	1.00 x 36 x 4	11.7	292	9.3	232	7.5	187
	800A300-P2	8.0	3.8	11	265	11.0	.5	11.50	0.88	1.00 x 36 x 4	18.9	473	14.9	373	12.0	300
	800E300-P2	8.0	3.8	7	380	11.0	.5	11.50	1.25	1.25 x 42 x 6	33.5	838	27.0	675	22.0	550
35	730A350-PL	7.3	2.4	11	250	10.5	.5	11.25	0.88	1.00 x 36 x 4	11.2	280	8.9	222	7.1	177
	850A350-P2	8.5	3.6	11	315	11.5	.5	12.00	1.00	1.00 x 36 x 4	18.9	472	15.1	377	12.2	305
	950A350-P2	9.5	4.6	11	370	13.0	.5	13.00	1.00	1.00 x 36 x 4	23.2	580	18.2	455	14.5	363
39	782A389-PL	7.8	2.4	11	285	11.0	.5	11.50	0.88	1.00 x 36 x 4	10.7	267	8.5	212	6.6	165
	900A389-P2	9.0	3.6	11	355	12.5	.5	12.38	1.00	1.00 x 36 x 4	17.2	430	13.5	338	10.8	270
	900E389-P2	9.0	3.6	7	515	12.5	.5	12.38	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
45	T00A450-P2	10.0	3.7	11	450	13.5	.5	14.00	1.00	1.00 x 36 x 4	17.4	435	13.5	338	10.6	265
	T00E450-P2	10.0	3.7	7	650	13.5	.5	14.00	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
	E00E450-P4	11.0	4.7	7	780	15.0	.5	16.50	1.50	1.25 x 42 x 6	35.7	893	28.0	700	22.3	558
50	T00A500-P2	10.0	3.0	11	475	13.5	.5	14.00	1.00	1.00 x 36 x 4	13.2	330	10.6	265	8.3	208
	T00E500-P2	10.0	3.0	7	680	13.5	.5	14.00	1.25	1.25 x 42 x 6	20.5	512	16.5	412	13.6	340
	E00E500-P4	11.0	4.0	7	812	15.0	.5	16.50	1.50	1.25 x 42 x 6	29.9	748	23.5	588	18.6	465
	H00E500-P4	13.0	6.0	7	1020	17.0	N/A	18.00	1.50	1.50 x 54 x 6	50.4	1260	39.7	992	31.4	785
	H00J500-P4	13.0	6.0	3	1335	17.5	N/A	18.50	1.75	1.75 x 84 x 6	69.2	1730	55.0	1375	44.2	1105
55	E00E550-P4	11.0	3.5	7 & 11	890	15.0	.5	16.50	1.50	1.25 x 42 x 6	21.6	540	17.7	442	14.7	367
	W00E550-P4	12.0	4.5	7 & 11	975	16.0	N/A	17.00	1.50	1.50 x 54 x 6	32.2	805	25.9	647	21.1	527
	W504550-P4	12.5	5.2	5 & 7	1225	16.5	N/A	17.50	1.50	1.50 x 54 x 6	43.8	1095	35.0	875	28.6	715
60	W00E600-P4	12.0	4.0	7 & 7	1060	16.0	N/A	17.00	1.50	1.50 x 54 x 6	25.9	647	20.7	517	16.8	420
	H00E600-P4	13.0	4.8	7 & 11	1075	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.1	752	24.5	612	20.2	505
	W504600-P4	12.5	4.5	5 & 7	1275	16.5	N/A	17.50	1.50	1.50 x 54 x 6	34.0	850	27.6	690	22.6	565
65	H00E650-P4	13.0	4.3	7 & 7	1200	17.0	N/A	18.00	1.50	1.50 x 54 x 6	27.3	682	22.0	550	17.9	447
	H004650-P4	13.0	4.3	5 & 7	1400	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.8	770	24.8	620	20.4	510
70	H00E700-P4	13.0	3.6	7 & 7	1270	17.0	N/A	18.00	1.50	1.50 x 54 x 6	20.6	515	16.7	417	13.7	342
	H004700-P4	13.0	3.6	5 & 7	1440	17.0	N/A	18.00	1.50	1.50 x 54 x 6	23.6	590	19.2	480	15.8	395

DS210 NOTES:

- **3" x 5" nominal handhole - all others 4" x 6.5" nominal.
- Structure weight is a nominal value which includes the pole shaft and base plate only.
- Designs showing two shaft gauges indicates structure is provided as a two-piece, field assembled, unit. Heavier gauge is the bottom section.
- Maximum weight and EPA values are based on top mounted luminaires and/or brackets having a centroid 2'-6" above the nominal mounting height.



DS210 Round Tapered



Job Name:

MSCAA Parking Garage Expansion & Improvements

Catalog Number:LUMINAIRE LOWERING DEVICE
(2 FIXTURES) DARK BRONZE

Notes:

Type:**BBEM**

FSM10-43742

retropole

The future of area lighting

retropole is a conversion kit for your new or existing pole lights. **retropole** enables the user to greatly reduce or eliminate his reliance on aerial lift equipment and expensive maintenance services.

retropole comes standard in bronze and is ideal for virtually any 15-30 foot single luminaire light pole (square, round, or tapered) and can easily be upgraded to a 35-foot pole with extension rails. Optional 2-head adapters can be specified for only 180-degree configurations.

General Ratings

Weight	Length	Electrical
100lbs MAX	30 ft MAX	480V/15A MAX

Safety

Removable handle, variable mounting height, and lockable enclosure ensure tamper resistance. Inside the carriage, a tension sensing fall brake prevents fixture from moving in the unlikely event of vandalism or vehicular damage.

Materials

Head rail and all rail sections are 100% 6063-T5 Aluminum Prime Canadian Billet. Free of fillers or recycled products, 6063 aluminum has a very high silicone content and is extremely resistant to corrosion.

All steel components are galvanized and powder coated for additional corrosion resistance. Standard Carriage uses nylon or teflon pads for smooth lubrication-free operation.

1/8", 1700lb lifting cables and hardware packs are zinc/steel and can be upgraded to stainless steel for all installations within 50 miles of a salt water coast.

Electrical

Electrical contacts are rated 480V and 15A. Our contacts are composed of 85% nickel and 15% silver which makes them extremely durable and corrosion resistant. The contacts are UL Listed and manufactured for **retropole** by Meltric, Inc.

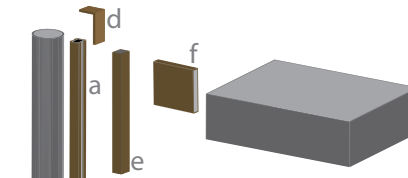


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

Existing pole condition is imperative for structural integrity. Pole should be at least 7 gauge steel and visually inspected by a qualified person for rust, physical damage or any other condition that could affect structural integrity.

All modifications should be done to the existing pole and light head. Any modifications to the **retropole** could affect the structural integrity. For installations in 100MPH+ zones, consult with your structural engineer before installing **retropole** or any other product onto your pole that could potentially alter its wind ratings.

PATENT-PENDING



Existing Equipment-Gray

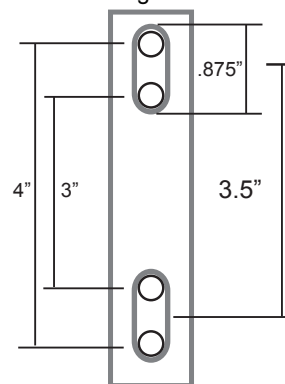
retropole Conversion Kit-Bronze

retropole Conversion Kits come in sections, making it easy to handle and ship. All of the components and all hardware are packed neatly into our 48"x12"x8" box shipped directly to your facility or jobsite.

Component	L	Inches		lbs
		W	H	
a Head Unit	12	2.75	2.5	2.15
b Rail Sec.	46.5	2.5	2.25	4
c Drive Mech	5.25	5.75	8.4	8
d Cap	4	2.5	2.5	.2
e Carriage	12	1.5	2.4	4.5
f Arm	1	4	5	.8

retropoles universal design work with all pole geometries and most light heads. The bolt pattern shown below allows flexibility in mounting. **retropole** will bolt to any fixture with bolt distances from 3" to 4" without modifications.

Universal Fixture
Mounting Hole Pattern



In keeping with our commitment to continuous improvement in safety and quality, **retropole, llc** reserves the right to change any specifications contained herein without prior notice.

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AR

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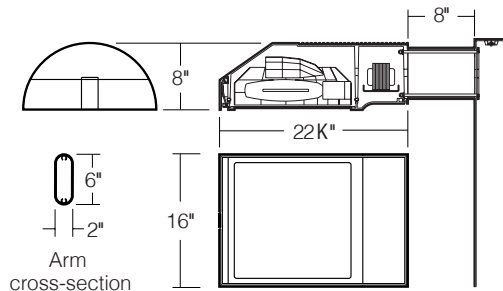
Type:
Job:
Catalog number:

Mtg.	Fixture	Electrical Module	Finish	Options	Optional
_____	_____	_____	_____	_____	_____
See page 2				See pages 3-4	Optional Vertical Slipfitter Mount See page 5

Approvals:
Date:
Page: 1 of 5

Select pole from Kim Pole Catalog. If pole is provided by others indicate O.D. for arm fitting.

Specifications

 150 to 400 watt
 Mogul Base Lamps
 Maximum Fixture weight (400HPS) = 45 lb


Housing: One piece low copper (less than .6%) die-cast aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment. Solid barrier wall separates optical and electrical compartments. Double-thick wall with gussets on the support-arm mounting end. Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail. All hardware is stainless steel or electro-zinc plated steel.

Lens Frame: One piece low copper (less than .6%) die-cast aluminum alloy lens frame with 1" minimum depth around the gasket flange. Integral hinges with stainless steel pins provide no-tool mounting and removal from housing. Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one piece extruded and vulcanized silicone gasket. Clear F" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Reflector Module: Specular Alzak® optical segments are rigidly mounted within a die-cast aluminum enclosure that attaches to the housing as a one-piece module. Reflector module is field rotatable in 90° increments. HPS and PMH sockets are porcelain 4KV pulse rated mogul base, MH sockets are porcelain mogul base, pin-oriented, with molded silicone lamp stabilizer. All reflector modules are factory prewired with quick-disconnect plug and include silicone seal at the penetration of the internal barrier wall in the luminaire housing.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. All ballasts are high power factor rated -20°F. starting.

Support Arm: One piece extruded aluminum with internal bolt guides and fully radiussed top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut for specified round pole.

Optional Wall Mounting: Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

NOTE: Junction Box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a chromate conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Platinum Silver, or White. Custom colors are available and subject to additional charges, minimum quantities and longer lead times. Consult representative.

Certification: UL Listed to U.S. and Canadian safety standards for wet locations. Fixture manufacturer shall employ a quality program that is certified to meet the ISO 9001:2000 standard.

CAUTION: Fixtures must be grounded in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

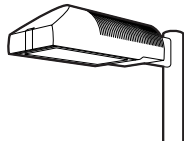




AR
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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

Plan View:

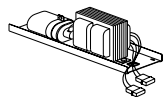
							Wall Mount
EPA: 1.2	2.4	2.0	3.2	3.2	3.9	n/a	
Cat. No.: 1A	2B	2L	3T	3Y	4C	1W	

Fixture
Cat. No. designates fixture and light distribution.
See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

Light Distribution:

Flat Lens	Type II	Type III	Type IV	Type V
	Full Cutoff	Full Cutoff	Forward Throw Full Cutoff	Square Full Cutoff
Cat. No.:	AR2	AR3	AR4	AR5

Electrical Module
HPS = High Pressure Sodium
MH = Metal Halide
PMH = Pulse Start Metal Halide



Lamp	Lamp	Line
Watts	Type	Volts
400	HPS	277

Cat. Nos. for Electrical Modules available:

	150HPS120 150HPS208 150HPS240 150HPS277 150HPS347 150HPS480	250HPS120 250HPS208 250HPS240 250HPS277 250HPS347 250HPS480	400HPS120 400HPS208 400HPS240 400HPS277 400HPS347 400HPS480	175MH120 175MH208 175MH240 175MH277 175MH347 175MH480
Lamp	E-23 K, Clear	E-18, Clear	E-18, Clear	BT-28 or ED-28, Clear
Socket	Mogul Base	Mogul Base	Mogul Base	Mogul Base Pin-Oriented
ANSI Ballast Type	S-55	S-50	S-51	M-57
	250MH120 250MH208 250MH240 250MH277 250MH347 250MH480	400MH120 400MH208 400MH240 400MH277 400MH347 400MH480	250PMH120 250PMH208 250PMH240 250PMH277 250PMH347 250PMH480	400PMH120 400PMH208 400PMH240 400PMH277 400PMH347 400PMH480
Lamp	BT-28 or ED-28, Clear	ED-28, Clear	ED-28, Clear	ED-28, Clear
Socket	Mogul Base Pin-Oriented	Mogul Base Pin-Oriented	Mogul Base	Mogul Base
ANSI Ballast Type	M-58	M-59	M-138	M-135

Finish
Super TGIC powder coat paint over a chromate conversion coating.

Color: Black Dark Bronze Light Gray Platinum Silver White Custom Color¹

Cat. No.: **BL-P** **DB-P** **LG-P** **PS-P** **WH-P** **CC-P**

¹Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

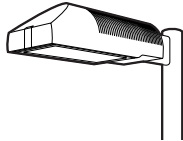
SF - Single Fuse

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Type:

Job:

Page: 3 of 5



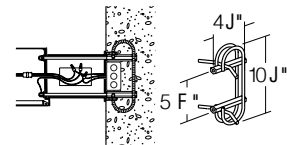
Optional Features

Wall Mounting

Cat. No. **1W**

Select from Mounting on page 2.

Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (**WEB**) is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

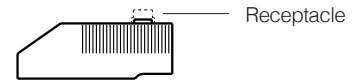


Wall mount using wall embedment bracket - J-box in wall (by others)

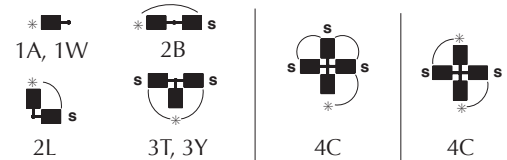
Photocell Receptacle

 Cat. No. **A-25**
No Option

Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with a receptacle. Four fixtures (400 watt) require two fixtures with receptacles.



Mounting (see page 2)

 * - Fixture with Photocell Receptacle
 S - slave unit(s)


Allowable wattage per fixture:

150-400W

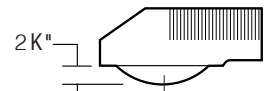
150-250W

400W

Convex Glass Lens

 Cat. No. **CGL**
No Option

The F " thick clear convex tempered glass lens replaces the standard flat glass lens. Provides increased lens presence and provides a subtle improvement in uniformity where pole spacing is extreme. Increases effectiveness of houseside shielding.



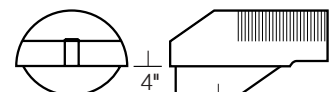
Convex Glass Lens

Polycarbonate Lens

 Cat. No. **LS**
No Option

Fixture supplied with a one piece vacuum formed, clear, UV stabilized convex polycarbonate, fully gasketed, replacing the standard tempered glass lens. 250 watt maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and metal halide lamps.



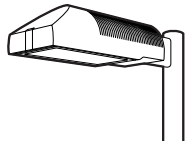
Polycarbonate Lens

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Type:

Job:

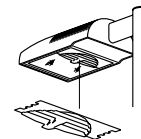
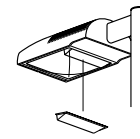
Page: 4 of 5



Optional Features

Houseside ShieldCat. No. (See right)
No Option

(Types II, III, and IV only). Fixtures with the standard flat glass lens are available with stamped aluminum louvers that pass streetside light and block houseside light, and a blackened panel added to the reflector to reduce houseside reflections. Fixtures with the optional convex glass lens are available with a formed aluminum shield that passes streetside light and blocks houseside light, and a black anodized panel added to the reflector to reduce houseside reflections. Use with clear lamps only, as coated lamps reduce effectiveness.

HS
for flat lensHSC
for convex lens or
polycarbonate lens

Cat. No.

HS

Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distributions.

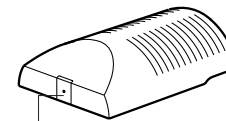
HSC

For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

Tamper-Resistant LatchCat. No. TL
No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

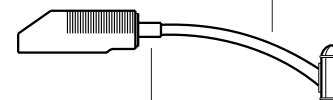
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



Tamper-Resistant Latch

Horizontal Slipfitter MountCat. No. HSF
No Option

Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2 $\frac{3}{8}$ " O.D.). Cast aluminum clamp-type slipfitter with set screw anti-rotation lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

Davit-arm with 2" pipe-size
fixture mount (by others)Horizontal Slipfitter
Mount by Kim**Special Options for Street Lighting**

Cat. No. (See right)

Terminal Block: (For field wire connections.)

85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

TB

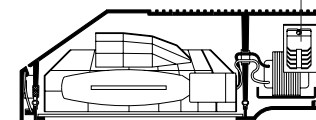
No Option

Air Filter: Allows for ventilation through the optical chamber, filtering all air particles above 500 microns. Multi-layer disc assembly mounted on solid wall between optical compartment and latch cavity.

AF

No Option

Terminal Block



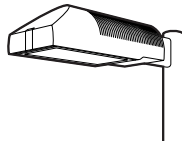
Air Filter

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Type:

Job:

Page: 5 of 5



Optional Features

Vertical Slipfitter Mounts

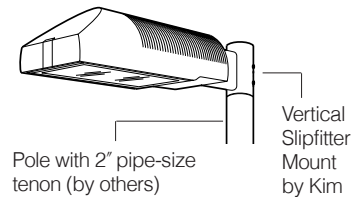
Cat. No. includes Mounting

Cat. No. (See right)

No Option

Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.

NOTE: 3Y only available on round slipfitter.

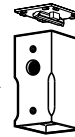


Cat. No.

VSF-1A
VSF-2B
VSF-2L
VSF-3T
VSF-3Y
VSF-4C



Round

Stainless
steel set
screws

Square

Cat. No.

SVSF-1A
SVSF-2B
SVSF-2L
SVSF-3T
SVSF-4C

Mounting Configuration

1A - single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

Product Specifications DS210, DS220**ANCHOR BOLTS**

Anchor Bolts are fabricated from carbon steel bar conforming to AASHTO M314 Grade-55 or ASTM F1554 Grade-55. Bolts have an "L" bend on one end and are galvanized a minimum of 12 inches on the threaded end. Four anchor bolts are provided per pole. Each anchor bolt is furnished with two hex nuts and two flat washers.

ANCHOR BASE

The anchor base (base plate) is fabricated from structural quality hot rolled carbon steel plate conforming to ASTM A36. The base plate telescopes the pole shaft and is circumferentially welded top and bottom. Please refer to the charted bolt circles and detail drawings to determine the type of hole or slot accommodation made for the anchor bolt.

POLE SHAFT

The pole shaft conforms to ASTM A595 Grade-A and is supplied in 11 gauge (0.1196"), 7 gauge (0.1793") 5 gauge (0.2092") or 3 gauge (0.2391") thickness. The pole can be either one-piece or two piece construction, with a full length longitudinal high frequency electric resistance weld. The DS210 series is round in cross-section having a uniform taper of approximately 0.14 inches per foot of length. The DS220 series shaft is square in cross section having flat sides, radiused corners and a uniform taper of approximately 0.11 inches per foot of length.

HANDHOLE

The reinforcing handhole rim consists of either a nominal 3" x 5" rectangular shaped tubing or 4" x 6.5" oval shaped pipe material. The 3" x 5" handhole is provided with a steel attachment bar, steel cover, and one round head machine screw. The 4" x 6.5" handhole includes two tabs for mounting a steel cover with hex head attachment screws. Both handhole types are welded in the pole shaft and are located 1'-6" above the base.

ELECTRICAL GROUND

A nut holder is provided near the handhole and includes a .5"-13UNC hex head bolt and nut.

NUT COVERS (OPTIONAL)

Nut covers for anchor bolts are zinc die cast. Each cover is fastened to the shaft by a 0.25" stainless steel, self-tapping, hex head screw. Nut covers are a standard component for the DS210 series and are NOT available for the DS220 series.

FULL BASE COVER (STANDARD)

The optional full base cover is fabricated from ABS plastic. Valmont reserves the right to provide a steel assembly on some applications depending upon the finish requirement and/or pole shaft base diameter. Both steel and plastic covers are a two-piece assembly secured together with two fasteners. A full base cover is a standard component on the DS220 series.

POLE TOP TENON (STANDARD)

Pole top tenons are fabricated from structural quality hot rolled carbon steel with a guaranteed minimum yield strength of 30,000 psi. A pole top plate and tenon of weldable grade hot rolled commercial quality carbon steel is circumferentially welded to the top of the pole shaft. This plate provides an internal weather resistant wiring raceway into the pole top tenon. Standard sizes are either 2.38" O.D. x 4" long (P2) or 4" O.D. x 6" long (P4) steel tubing. See page 1 for other available sizes.

POLE TOP CAP

A removable cap is available as an option to be used in conjunction with drilled shafts for direct luminaire arm attachment.

STANDARD FINISH

Standard finishes available are galvanize, prime coat (powder), and finish coat (powder). For information regarding the scope and application of these coatings please refer to page 5.

FASTENING HARDWARE

All structural fasteners are galvanized high strength carbon steel. All fasteners are galvanized or zinc plated carbon steel or stainless steel.

DESIGN

The standards shown in this section are designed to withstand dead loads and theoretical dynamic loads developed by variable wind speeds, as charted, with an appropriate gust factor under the following conditions:

The luminaire(s) and/or mounting bracket(s) center of gravity, or centroid, is assumed to be located a maximum of 2'-6" above the pole top. For purposes of design, effective projected area (EPA) is considered to be the product of the actual projected area and the drag coefficient.

The listed weights include luminaire(s) and/or mounting bracket(s) and are based on a weight to EPA ratio of 25 pounds per square foot.

The wind velocities are based on 10 mph increments from 80 mph through 100 mph (reference wind map). Standards to be located in areas of known abnormal conditions require special consideration. For example: coastal areas, airports, and areas of special winds such as the Chinook type along the eastern slope of the Rocky Mountains.

Standards are designed for ground mounted applications. Standards mounted on structures, such as bridges and buildings, also necessitate special consideration requiring Valmont's recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the standard. Secondary moments are considered on all designs.

Maximum weight and EPA values for DS220 products are determined by analyzing stress from two wind directions as shown. Due to the increased area and reduced section properties, stress levels across the points generally control the allowable loads.

Valmont Industries, Inc. reserves the right to install various, engineer approved, material hanging accommodations to facilitate the manufacturing process. If this method is not acceptable, Valmont Industries, Inc. must be notified by the customer prior to manufacturing.

DS210 Round Tapered

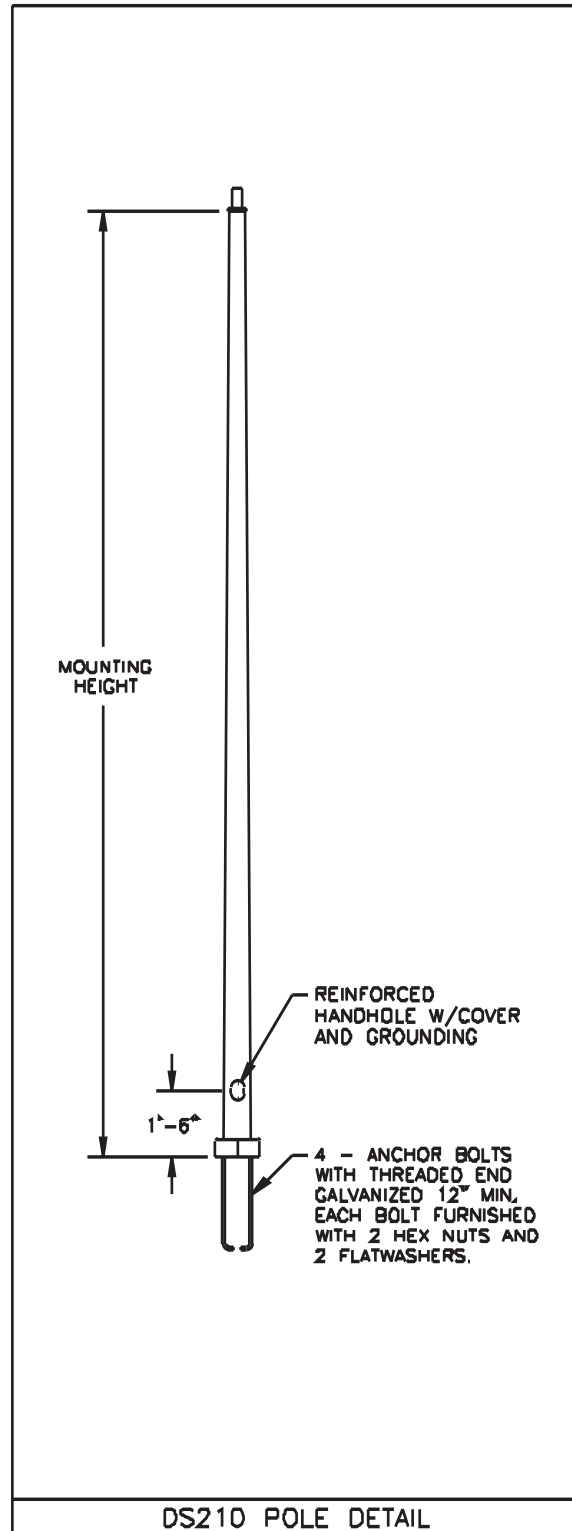
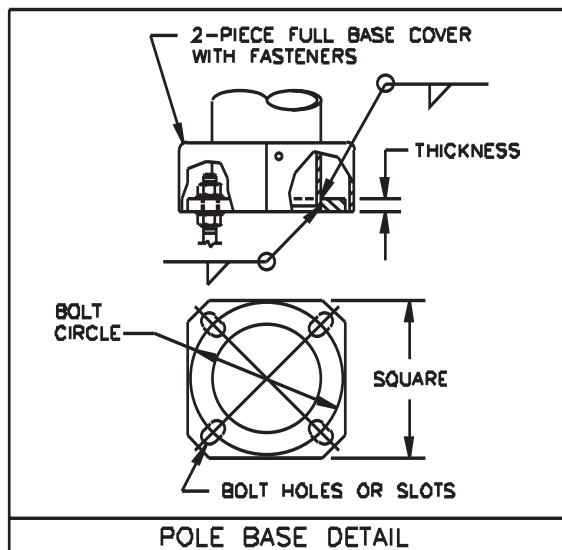
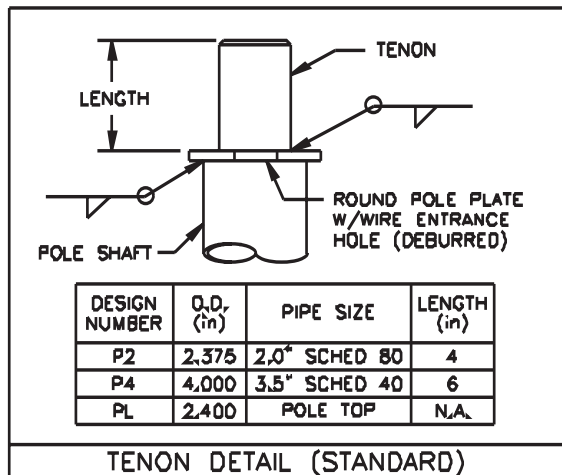
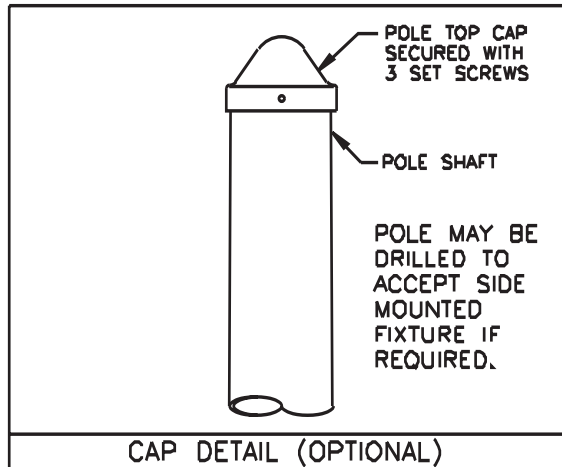
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	± (in)	Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)
20	**590A200-P2	5.9	3.1	11	140	9.0	.5	10.00	0.88	1.00 x 36 x 4	19.3	482	15.1	377	12.2	305
	650A200-P2	6.5	3.7	11	160	9.5	.5	10.50	0.88	1.00 x 36 x 4	24.2	605	19.3	482	15.6	390
25	**590A250-PL	5.9	2.4	11	155	9.0	.5	10.00	0.88	1.00 x 36 x 4	12.5	312	9.9	247	8.0	200
	700A250-P2	7.0	3.5	11	200	10.0	.5	10.88	0.88	1.00 x 36 x 4	20.3	507	16.2	405	13.1	327
	700E250-P2	7.0	3.5	7	280	10.0	.5	10.88	1.00	1.00 x 36 x 4	30.5	760	24.0	625	19.8	495
30	660A300-PL	6.6	2.4	11	200	9.5	.5	10.50	0.88	1.00 x 36 x 4	11.7	292	9.3	232	7.5	187
	800A300-P2	8.0	3.8	11	265	11.0	.5	11.50	0.88	1.00 x 36 x 4	18.9	473	14.9	373	12.0	300
	800E300-P2	8.0	3.8	7	380	11.0	.5	11.50	1.25	1.25 x 42 x 6	33.5	838	27.0	675	22.0	550
35	730A350-PL	7.3	2.4	11	250	10.5	.5	11.25	0.88	1.00 x 36 x 4	11.2	280	8.9	222	7.1	177
	850A350-P2	8.5	3.6	11	315	11.5	.5	12.00	1.00	1.00 x 36 x 4	18.9	472	15.1	377	12.2	305
	950A350-P2	9.5	4.6	11	370	13.0	.5	13.00	1.00	1.00 x 36 x 4	23.2	580	18.2	455	14.5	363
39	782A389-PL	7.8	2.4	11	285	11.0	.5	11.50	0.88	1.00 x 36 x 4	10.7	267	8.5	212	6.6	165
	900A389-P2	9.0	3.6	11	355	12.5	.5	12.38	1.00	1.00 x 36 x 4	17.2	430	13.5	338	10.8	270
	900E389-P2	9.0	3.6	7	515	12.5	.5	12.38	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
45	T00A450-P2	10.0	3.7	11	450	13.5	.5	14.00	1.00	1.00 x 36 x 4	17.4	435	13.5	338	10.6	265
	T00E450-P2	10.0	3.7	7	650	13.5	.5	14.00	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
	E00E450-P4	11.0	4.7	7	780	15.0	.5	16.50	1.50	1.25 x 42 x 6	35.7	893	28.0	700	22.3	558
50	T00A500-P2	10.0	3.0	11	475	13.5	.5	14.00	1.00	1.00 x 36 x 4	13.2	330	10.6	265	8.3	208
	T00E500-P2	10.0	3.0	7	680	13.5	.5	14.00	1.25	1.25 x 42 x 6	20.5	512	16.5	412	13.6	340
	E00E500-P4	11.0	4.0	7	812	15.0	.5	16.50	1.50	1.25 x 42 x 6	29.9	748	23.5	588	18.6	465
	H00E500-P4	13.0	6.0	7	1020	17.0	N/A	18.00	1.50	1.50 x 54 x 6	50.4	1260	39.7	992	31.4	785
	H00J500-P4	13.0	6.0	3	1335	17.5	N/A	18.50	1.75	1.75 x 84 x 6	69.2	1730	55.0	1375	44.2	1105
55	E00E550-P4	11.0	3.5	7 & 11	890	15.0	.5	16.50	1.50	1.25 x 42 x 6	21.6	540	17.7	442	14.7	367
	W00E550-P4	12.0	4.5	7 & 11	975	16.0	N/A	17.00	1.50	1.50 x 54 x 6	32.2	805	25.9	647	21.1	527
	W504550-P4	12.5	5.2	5 & 7	1225	16.5	N/A	17.50	1.50	1.50 x 54 x 6	43.8	1095	35.0	875	28.6	715
60	W00E600-P4	12.0	4.0	7 & 7	1060	16.0	N/A	17.00	1.50	1.50 x 54 x 6	25.9	647	20.7	517	16.8	420
	H00E600-P4	13.0	4.8	7 & 11	1075	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.1	752	24.5	612	20.2	505
	W504600-P4	12.5	4.5	5 & 7	1275	16.5	N/A	17.50	1.50	1.50 x 54 x 6	34.0	850	27.6	690	22.6	565
65	H00E650-P4	13.0	4.3	7 & 7	1200	17.0	N/A	18.00	1.50	1.50 x 54 x 6	27.3	682	22.0	550	17.9	447
	H004650-P4	13.0	4.3	5 & 7	1400	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.8	770	24.8	620	20.4	510
70	H00E700-P4	13.0	3.6	7 & 7	1270	17.0	N/A	18.00	1.50	1.50 x 54 x 6	20.6	515	16.7	417	13.7	342
	H004700-P4	13.0	3.6	5 & 7	1440	17.0	N/A	18.00	1.50	1.50 x 54 x 6	23.6	590	19.2	480	15.8	395

DS210 NOTES:

- **3" x 5" nominal handhole - all others 4" x 6.5" nominal.
- Structure weight is a nominal value which includes the pole shaft and base plate only.
- Designs showing two shaft gauges indicates structure is provided as a two-piece, field assembled, unit. Heavier gauge is the bottom section.
- Maximum weight and EPA values are based on top mounted luminaires and/or brackets having a centroid 2'-6" above the nominal mounting height.



DS210 Round Tapered



retropole

The future of area lighting

retropole is a conversion kit for your new or existing pole lights. **retropole** enables the user to greatly reduce or eliminate his reliance on aerial lift equipment and expensive maintenance services.

retropole comes standard in bronze and is ideal for virtually any 15-30 foot single luminaire light pole (square, round, or tapered) and can easily be upgraded to a 35-foot pole with extension rails. Optional 2-head adapters can be specified for only 180-degree configurations.

General Ratings

Weight	Length	Electrical
100lbs MAX	30 ft MAX	480V/15A MAX

Safety

Removable handle, variable mounting height, and lockable enclosure ensure tamper resistance. Inside the carriage, a tension sensing fall brake prevents fixture from moving in the unlikely event of vandalism or vehicular damage.

Materials

Head rail and all rail sections are 100% 6063-T5 Aluminum Prime Canadian Billet. Free of fillers or recycled products, 6063 aluminum has a very high silicone content and is extremely resistant to corrosion.

All steel components are galvanized and powder coated for additional corrosion resistance. Standard Carriage uses nylon or teflon pads for smooth lubrication-free operation.

1/8", 1700lb lifting cables and hardware packs are zinc/steel and can be upgraded to stainless steel for all installations within 50 miles of a salt water coast.

Electrical

Electrical contacts are rated 480V and 15A. Our contacts are composed of 85% nickel and 15% silver which makes them extremely durable and corrosion resistant. The contacts are UL Listed and manufactured for **retropole** by Meltric, Inc.

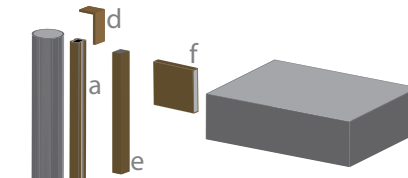


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

Existing pole condition is imperative for structural integrity. Pole should be at least 7 gauge steel and visually inspected by a qualified person for rust, physical damage or any other condition that could affect structural integrity.

All modifications should be done to the existing pole and light head. Any modifications to the **retropole** could affect the structural integrity. For installations in 100MPH+ zones, consult with your structural engineer before installing **retropole** or any other product onto your pole that could potentially alter its wind ratings.

PATENT-PENDING



Existing Equipment-Gray

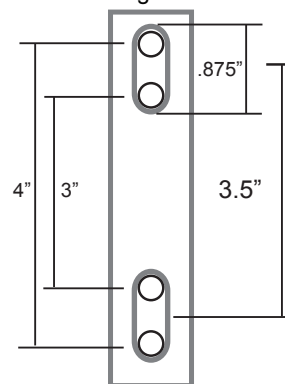
retropole Conversion Kit-Bronze

retropole Conversion Kits come in sections, making it easy to handle and ship. All of the components and all hardware are packed neatly into our 48"x12"x8" box shipped directly to your facility or jobsite.

Component	L	Inches		lbs
		W	H	
a Head Unit	12	2.75	2.5	2.15
b Rail Sec.	46.5	2.5	2.25	4
c Drive Mech	5.25	5.75	8.4	8
d Cap	4	2.5	2.5	.2
e Carriage	12	1.5	2.4	4.5
f Arm	1	4	5	.8

retropoles universal design work with all pole geometries and most light heads. The bolt pattern shown below allows flexibility in mounting. **retropole** will bolt to any fixture with bolt distances from 3" to 4" without modifications.

Universal Fixture
Mounting Hole Pattern



In keeping with our commitment to continuous improvement in safety and quality, **retropole, llc** reserves the right to change any specifications contained herein without prior notice.

This document contains the proprietary information of **retropole, llc** and any use of this information requires the written approval of **retropole, llc**.

retropole, llc

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KIM LIGHTING
AR

The Archetype®

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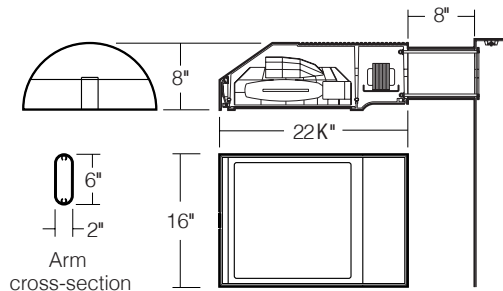
Type:
Job:
Catalog number:

Mtg.	Fixture	Electrical Module	Finish	Options	Optional
_____	_____	_____	_____	_____	_____
See page 2					See pages 3-4
					Optional Vertical Slipfitter Mount See page 5

Approvals:
Date:
Page: 1 of 5

Select pole from Kim Pole Catalog. If pole is provided by others indicate O.D. for arm fitting.

Specifications

 150 to 400 watt
 Mogul Base Lamps
 Maximum Fixture weight (400HPS) = 45 lb


Housing: One piece low copper (less than .6%) die-cast aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment. Solid barrier wall separates optical and electrical compartments. Double-thick wall with gussets on the support-arm mounting end. Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail. All hardware is stainless steel or electro-zinc plated steel.

Lens Frame: One piece low copper (less than .6%) die-cast aluminum alloy lens frame with 1" minimum depth around the gasket flange. Integral hinges with stainless steel pins provide no-tool mounting and removal from housing. Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one piece extruded and vulcanized silicone gasket. Clear F " thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Reflector Module: Specular Alzak® optical segments are rigidly mounted within a die-cast aluminum enclosure that attaches to the housing as a one-piece module. Reflector module is field rotatable in 90° increments. HPS and PMH sockets are porcelain 4KV pulse rated mogul base, MH sockets are porcelain mogul base, pin-oriented, with molded silicone lamp stabilizer. All reflector modules are factory prewired with quick-disconnect plug and include silicone seal at the penetration of the internal barrier wall in the luminaire housing.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. All ballasts are high power factor rated -20°F. starting.

Support Arm: One piece extruded aluminum with internal bolt guides and fully radiussed top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut for specified round pole.

Optional Wall Mounting: Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

NOTE: Junction Box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a chromate conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Platinum Silver, or White. Custom colors are available and subject to additional charges, minimum quantities and longer lead times. Consult representative.

Certification: UL Listed to U.S. and Canadian safety standards for wet locations. Fixture manufacturer shall employ a quality program that is certified to meet the ISO 9001:2000 standard.

CAUTION: Fixtures must be grounded in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.



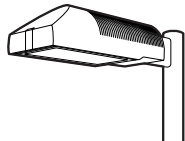


AR

The Archetype®
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Job:

Page: 2 of 5

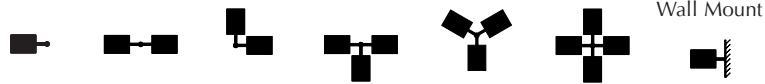


Standard Features

Mounting

3Y configuration is available for round poles only.

Plan View:



EPA: 1.2 2.4 2.0 3.2 3.2 3.9 n/a
Cat. No.: **1A** 2B 2L 3T 3Y 4C 1W

Fixture

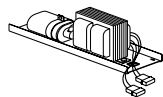
Cat. No. designates fixture and light distribution. See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.



Light Distribution: Full Cutoff Type II Full Cutoff Type III Full Cutoff Type IV Forward Throw Full Cutoff Type V Square Full Cutoff
Cat. No.: AR2 **AR3** AR4 AR5

Electrical Module

HPS = High Pressure Sodium
MH = Metal Halide
PMH = Pulse Start Metal Halide



Lamp Watts Lamp Type Line Volts
400 HPS 277

Cat. Nos. for Electrical Modules available:

	150HPS120 150HPS208 150HPS240 150HPS277 150HPS347 150HPS480	250HPS120 250HPS208 250HPS240 250HPS277 250HPS347 250HPS480	400HPS120 400HPS208 400HPS240 400HPS277 400HPS347 400HPS480	175MH120 175MH208 175MH240 175MH277 175MH347 175MH480
Lamp	E-23 1/2, Clear	E-18, Clear	E-18, Clear	BT-28 or ED-28, Clear
Socket	Mogul Base	Mogul Base	Mogul Base	Mogul Base Pin-Oriented
ANSI Ballast Type	S-55	S-50	S-51	M-57
	250MH120 250MH208 250MH240 250MH277 250MH347 250MH480	400MH120 400MH208 400MH240 400MH277 400MH347 400MH480	250PMH120 250PMH208 250PMH240 250PMH277 250PMH347 250PMH480	400PMH120 400PMH208 400PMH240 400PMH277 400PMH347 400PMH480
Lamp	BT-28 or ED-28, Clear	ED-28, Clear	ED-28, Clear	ED-28, Clear
Socket	Mogul Base Pin-Oriented	Mogul Base Pin-Oriented	Mogul Base	Mogul Base
ANSI Ballast Type	M-58	M-59	M-138	M-135

Finish

Super TGIC powder coat paint over a chromate conversion coating.

Color: Black **Dark Bronze** Light Gray Platinum Silver White Custom Color¹
Cat. No.: **BL-P** **DB-P** **LG-P** **PS-P** **WH-P** **CC-P**

¹Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

SF - Single Fuse

**KIM LIGHTING****AR**

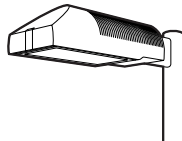
The Archetype®

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Type:

Job:

Page: 3 of 5



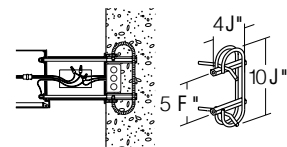
Optional Features

Wall Mounting

Cat. No. **1W**

Select from Mounting on page 2.

Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (**WEB**) is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

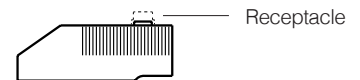


Wall mount using wall embedment bracket - J-box in wall (by others)

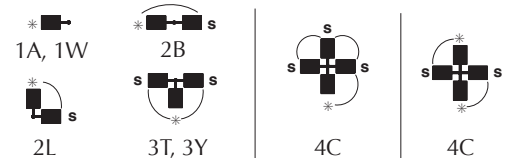
Photocell Receptacle

Cat. No. **A-25**
No Option

Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with a receptacle. Four fixtures (400 watt) require two fixtures with receptacles.



Mounting (see page 2)

* - Fixture with Photocell Receptacle
S - slave unit(s)

Allowable wattage per fixture:

150-400W

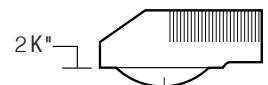
150-250W

400W

Convex Glass Lens

Cat. No. **CGL**
No Option

The F " thick clear convex tempered glass lens replaces the standard flat glass lens. Provides increased lens presence and provides a subtle improvement in uniformity where pole spacing is extreme. Increases effectiveness of houseside shielding.



Convex Glass Lens

Polycarbonate Lens

Cat. No. **LS**
No Option

Fixture supplied with a one piece vacuum formed, clear, UV stabilized convex polycarbonate, fully gasketed, replacing the standard tempered glass lens. 250 watt maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and metal halide lamps.



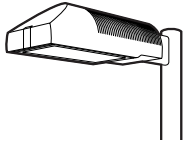
Polycarbonate Lens

**KIM LIGHTING****AR**The Archetype®
revision 3/17/03 • ar.pdf

Type:

Job:

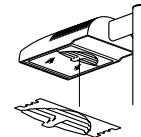
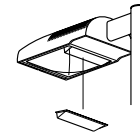
Page: 4 of 5



Optional Features

Houseside ShieldCat. No. (See right)
No Option

(Types II, III, and IV only). Fixtures with the standard flat glass lens are available with stamped aluminum louvers that pass streetside light and block houseside light, and a blackened panel added to the reflector to reduce houseside reflections. Fixtures with the optional convex glass lens are available with a formed aluminum shield that passes streetside light and blocks houseside light, and a black anodized panel added to the reflector to reduce houseside reflections. Use with clear lamps only, as coated lamps reduce effectiveness.

HS
for flat lensHSC
for convex lens or
polycarbonate lens

Cat. No.

HS

Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distributions.

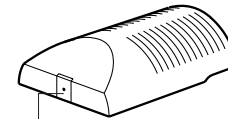
HSC

For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

Tamper-Resistant LatchCat. No. TL
No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

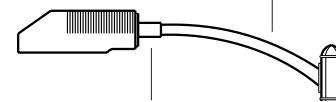
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



Tamper-Resistant Latch

Horizontal Slipfitter MountCat. No. HSF
No Option

Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2 $\frac{3}{8}$ " O.D.). Cast aluminum clamp-type slipfitter with set screw anti-rotation lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

Davit-arm with 2" pipe-size
fixture mount (by others)Horizontal Slipfitter
Mount by Kim**Special Options for Street Lighting**

Cat. No. (See right)

Terminal Block: (For field wire connections.)

85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

TB

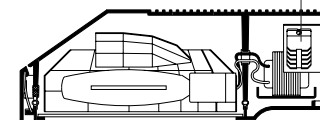
No Option

Air Filter: Allows for ventilation through the optical chamber, filtering all air particles above 500 microns. Multi-layer disc assembly mounted on solid wall between optical compartment and latch cavity.

AF

No Option

Terminal Block



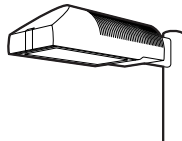
Air Filter

**KIM LIGHTING****AR**The Archetype®
revision 3/17/03 • ar.pdf

Type:

Job:

Page: 5 of 5



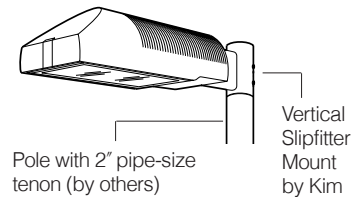
Optional Features

Vertical Slipfitter Mounts

Cat. No. includes Mounting

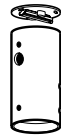
Cat. No. **(See right)****No Option**

Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.

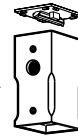
NOTE: 3Y only available on round slipfitter.

Cat. No.

VSF-1A
VSF-2B
VSF-2L
VSF-3T
VSF-3Y
VSF-4C



Round

Stainless
steel set
screws

Square

Cat. No.

SVSF-1A
SVSF-2B
SVSF-2L
SVSF-3T
SVSF-4C

Mounting Configuration

1A - single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

Product Specifications DS210, DS220**ANCHOR BOLTS**

Anchor Bolts are fabricated from carbon steel bar conforming to AASHTO M314 Grade-55 or ASTM F1554 Grade-55. Bolts have an "L" bend on one end and are galvanized a minimum of 12 inches on the threaded end. Four anchor bolts are provided per pole. Each anchor bolt is furnished with two hex nuts and two flat washers.

ANCHOR BASE

The anchor base (base plate) is fabricated from structural quality hot rolled carbon steel plate conforming to ASTM A36. The base plate telescopes the pole shaft and is circumferentially welded top and bottom. Please refer to the charted bolt circles and detail drawings to determine the type of hole or slot accommodation made for the anchor bolt.

POLE SHAFT

The pole shaft conforms to ASTM A595 Grade-A and is supplied in 11 gauge (0.1196"), 7 gauge (0.1793") 5 gauge (0.2092") or 3 gauge (0.2391") thickness. The pole can be either one-piece or two piece construction, with a full length longitudinal high frequency electric resistance weld. The DS210 series is round in cross-section having a uniform taper of approximately 0.14 inches per foot of length. The DS220 series shaft is square in cross section having flat sides, radiused corners and a uniform taper of approximately 0.11 inches per foot of length.

HANDHOLE

The reinforcing handhole rim consists of either a nominal 3" x 5" rectangular shaped tubing or 4" x 6.5" oval shaped pipe material. The 3" x 5" handhole is provided with a steel attachment bar, steel cover, and one round head machine screw. The 4" x 6.5" handhole includes two tabs for mounting a steel cover with hex head attachment screws. Both handhole types are welded in the pole shaft and are located 1'-6" above the base.

ELECTRICAL GROUND

A nut holder is provided near the handhole and includes a .5"-13UNC hex head bolt and nut.

NUT COVERS (OPTIONAL)

Nut covers for anchor bolts are zinc die cast. Each cover is fastened to the shaft by a 0.25" stainless steel, self-tapping, hex head screw. Nut covers are a standard component for the DS210 series and are NOT available for the DS220 series.

FULL BASE COVER (STANDARD)

The optional full base cover is fabricated from ABS plastic. Valmont reserves the right to provide a steel assembly on some applications depending upon the finish requirement and/or pole shaft base diameter. Both steel and plastic covers are a two-piece assembly secured together with two fasteners. A full base cover is a standard component on the DS220 series.

POLE TOP TENON (STANDARD)

Pole top tenons are fabricated from structural quality hot rolled carbon steel with a guaranteed minimum yield strength of 30,000 psi. A pole top plate and tenon of weldable grade hot rolled commercial quality carbon steel is circumferentially welded to the top of the pole shaft. This plate provides an internal weather resistant wiring raceway into the pole top tenon. Standard sizes are either 2.38" O.D. x 4" long (P2) or 4" O.D. x 6" long (P4) steel tubing. See page 1 for other available sizes.

POLE TOP CAP

A removable cap is available as an option to be used in conjunction with drilled shafts for direct luminaire arm attachment.

STANDARD FINISH

Standard finishes available are galvanize, prime coat (powder), and finish coat (powder). For information regarding the scope and application of these coatings please refer to page 5.

FASTENING HARDWARE

All structural fasteners are galvanized high strength carbon steel. All fasteners are galvanized or zinc plated carbon steel or stainless steel.

DESIGN

The standards shown in this section are designed to withstand dead loads and theoretical dynamic loads developed by variable wind speeds, as charted, with an appropriate gust factor under the following conditions:

The luminaire(s) and/or mounting bracket(s) center of gravity, or centroid, is assumed to be located a maximum of 2'-6" above the pole top. For purposes of design, effective projected area (EPA) is considered to be the product of the actual projected area and the drag coefficient.

The listed weights include luminaire(s) and/or mounting bracket(s) and are based on a weight to EPA ratio of 25 pounds per square foot.

The wind velocities are based on 10 mph increments from 80 mph through 100 mph (reference wind map). Standards to be located in areas of known abnormal conditions require special consideration. For example: coastal areas, airports, and areas of special winds such as the Chinook type along the eastern slope of the Rocky Mountains.

Standards are designed for ground mounted applications. Standards mounted on structures, such as bridges and buildings, also necessitate special consideration requiring Valmont's recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the standard. Secondary moments are considered on all designs.

Maximum weight and EPA values for DS220 products are determined by analyzing stress from two wind directions as shown. Due to the increased area and reduced section properties, stress levels across the points generally control the allowable loads.

Valmont Industries, Inc. reserves the right to install various, engineer approved, material hanging accommodations to facilitate the manufacturing process. If this method is not acceptable, Valmont Industries, Inc. must be notified by the customer prior to manufacturing.

Job Name:
MSCAA Parking Garage Expansion & Improvements

Catalog Number:
DS210-850A350-D1(KIM AR)-DB-LAB
Notes:

Type:

BB1

FSM10-43742

DS210 Round Tapered

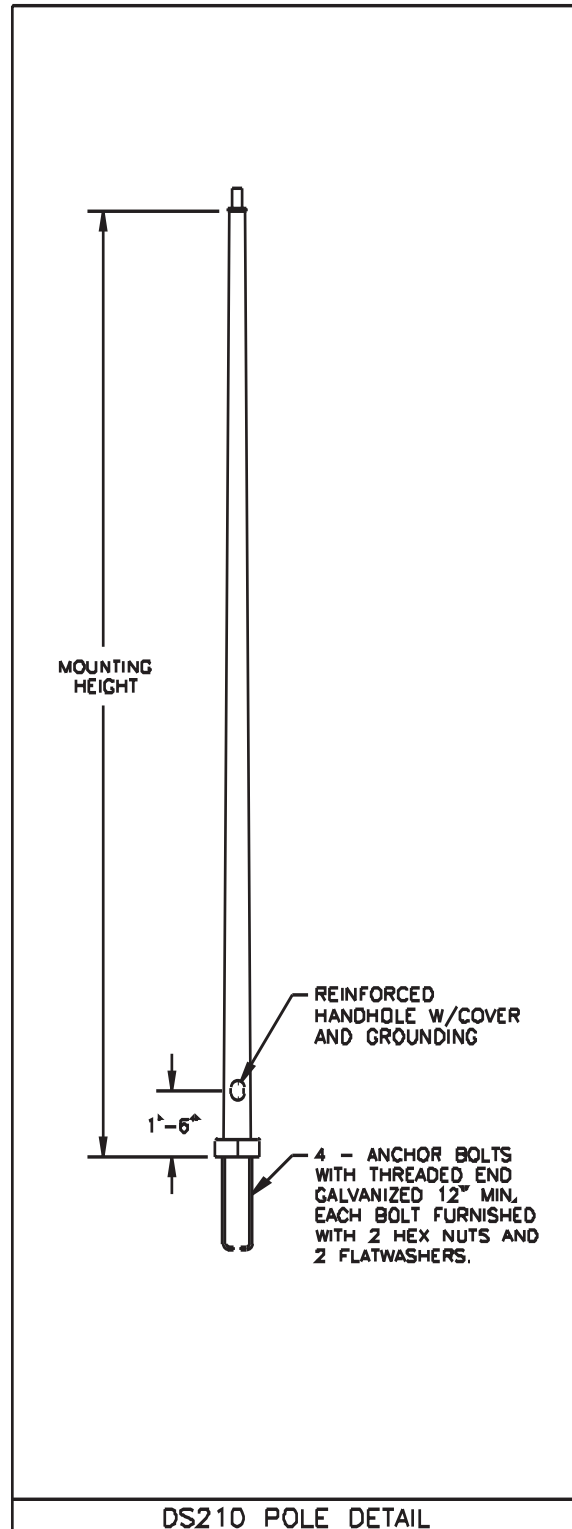
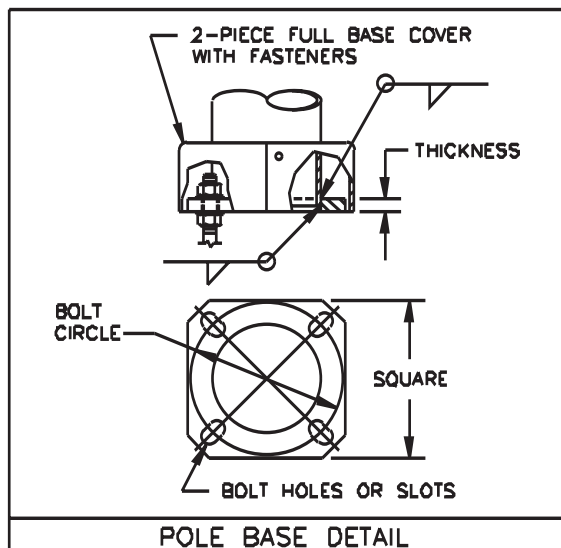
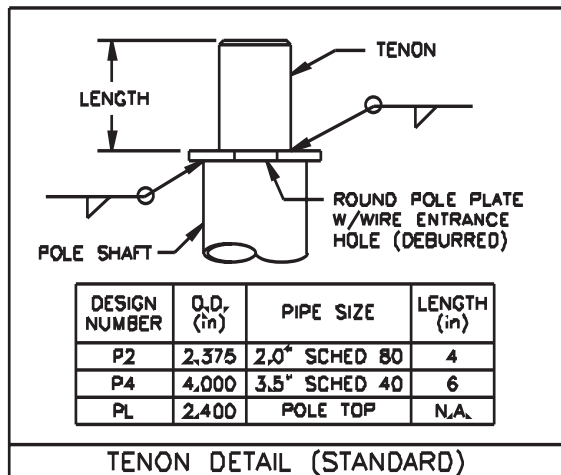
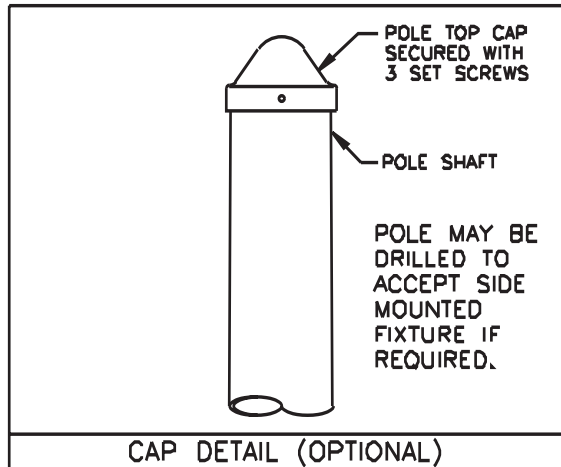

Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	± (in)	Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)	Max. EPA (ft ²)	Max. Weight (lbs)
20	**590A200-P2	5.9	3.1	11	140	9.0	.5	10.00	0.88	1.00 x 36 x 4	19.3	482	15.1	377	12.2	305
	650A200-P2	6.5	3.7	11	160	9.5	.5	10.50	0.88	1.00 x 36 x 4	24.2	605	19.3	482	15.6	390
25	**590A250-PL	5.9	2.4	11	155	9.0	.5	10.00	0.88	1.00 x 36 x 4	12.5	312	9.9	247	8.0	200
	700A250-P2	7.0	3.5	11	200	10.0	.5	10.88	0.88	1.00 x 36 x 4	20.3	507	16.2	405	13.1	327
	700E250-P2	7.0	3.5	7	280	10.0	.5	10.88	1.00	1.00 x 36 x 4	30.5	760	24.0	625	19.8	495
30	660A300-PL	6.6	2.4	11	200	9.5	.5	10.50	0.88	1.00 x 36 x 4	11.7	292	9.3	232	7.5	187
	800A300-P2	8.0	3.8	11	265	11.0	.5	11.50	0.88	1.00 x 36 x 4	18.9	473	14.9	373	12.0	300
	800E300-P2	8.0	3.8	7	380	11.0	.5	11.50	1.25	1.25 x 42 x 6	33.5	838	27.0	675	22.0	550
35	730A350-PL	7.3	2.4	11	250	10.5	.5	11.25	0.88	1.00 x 36 x 4	11.2	280	8.9	222	7.1	177
	850A350-P2	8.5	3.6	11	315	11.5	.5	12.00	1.00	1.00 x 36 x 4	18.9	472	15.1	377	12.2	305
	950A350-P2	9.5	4.6	11	370	13.0	.5	13.00	1.00	1.00 x 36 x 4	23.2	580	18.2	455	14.5	363
39	782A389-PL	7.8	2.4	11	285	11.0	.5	11.50	0.88	1.00 x 36 x 4	10.7	267	8.5	212	6.6	165
	900A389-P2	9.0	3.6	11	355	12.5	.5	12.38	1.00	1.00 x 36 x 4	17.2	430	13.5	338	10.8	270
	900E389-P2	9.0	3.6	7	515	12.5	.5	12.38	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
45	T00A450-P2	10.0	3.7	11	450	13.5	.5	14.00	1.00	1.00 x 36 x 4	17.4	435	13.5	338	10.6	265
	T00E450-P2	10.0	3.7	7	650	13.5	.5	14.00	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
	E00E450-P4	11.0	4.7	7	780	15.0	.5	16.50	1.50	1.25 x 42 x 6	35.7	893	28.0	700	22.3	558
50	T00A500-P2	10.0	3.0	11	475	13.5	.5	14.00	1.00	1.00 x 36 x 4	13.2	330	10.6	265	8.3	208
	T00E500-P2	10.0	3.0	7	680	13.5	.5	14.00	1.25	1.25 x 42 x 6	20.5	512	16.5	412	13.6	340
	E00E500-P4	11.0	4.0	7	812	15.0	.5	16.50	1.50	1.25 x 42 x 6	29.9	748	23.5	588	18.6	465
	H00E500-P4	13.0	6.0	7	1020	17.0	N/A	18.00	1.50	1.50 x 54 x 6	50.4	1260	39.7	992	31.4	785
	H00J500-P4	13.0	6.0	3	1335	17.5	N/A	18.50	1.75	1.75 x 84 x 6	69.2	1730	55.0	1375	44.2	1105
55	E00E550-P4	11.0	3.5	7 & 11	890	15.0	.5	16.50	1.50	1.25 x 42 x 6	21.6	540	17.7	442	14.7	367
	W00E550-P4	12.0	4.5	7 & 11	975	16.0	N/A	17.00	1.50	1.50 x 54 x 6	32.2	805	25.9	647	21.1	527
	W504550-P4	12.5	5.2	5 & 7	1225	16.5	N/A	17.50	1.50	1.50 x 54 x 6	43.8	1095	35.0	875	28.6	715
60	W00E600-P4	12.0	4.0	7 & 7	1060	16.0	N/A	17.00	1.50	1.50 x 54 x 6	25.9	647	20.7	517	16.8	420
	H00E600-P4	13.0	4.8	7 & 11	1075	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.1	752	24.5	612	20.2	505
	W504600-P4	12.5	4.5	5 & 7	1275	16.5	N/A	17.50	1.50	1.50 x 54 x 6	34.0	850	27.6	690	22.6	565
65	H00E650-P4	13.0	4.3	7 & 7	1200	17.0	N/A	18.00	1.50	1.50 x 54 x 6	27.3	682	22.0	550	17.9	447
	H004650-P4	13.0	4.3	5 & 7	1400	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.8	770	24.8	620	20.4	510
70	H00E700-P4	13.0	3.6	7 & 7	1270	17.0	N/A	18.00	1.50	1.50 x 54 x 6	20.6	515	16.7	417	13.7	342
	H004700-P4	13.0	3.6	5 & 7	1440	17.0	N/A	18.00	1.50	1.50 x 54 x 6	23.6	590	19.2	480	15.8	395

DS210 NOTES:

- **3" x 5" nominal handhole - all others 4" x 6.5" nominal.
- Structure weight is a nominal value which includes the pole shaft and base plate only.
- Designs showing two shaft gauges indicates structure is provided as a two-piece, field assembled, unit. Heavier gauge is the bottom section.
- Maximum weight and EPA values are based on top mounted luminaires and/or brackets having a centroid 2'-6" above the nominal mounting height.



DS210 Round Tapered



Job Name:
MSCAA Parking Garage Expansion & Improvements

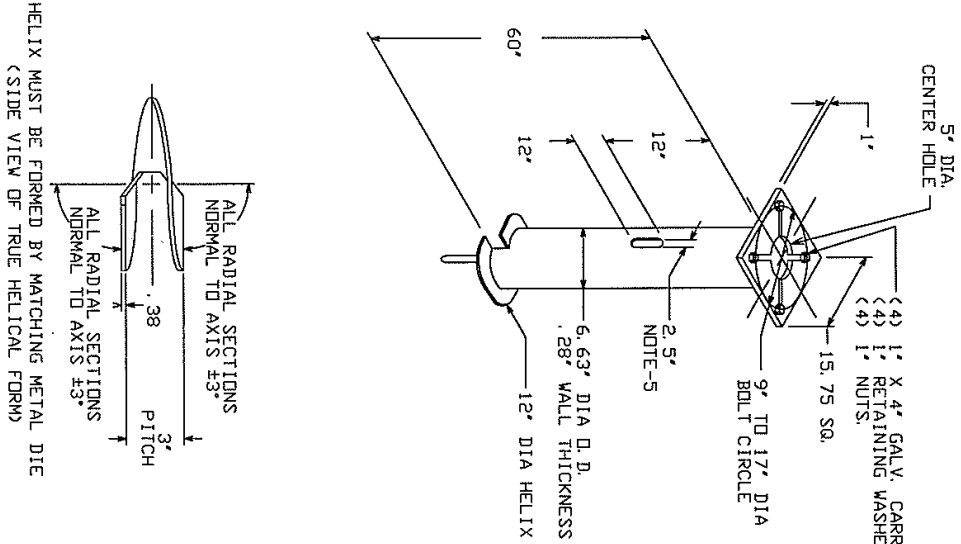
Catalog Number:
AUGER STYLE BASE

Type:

BB1

Notes:

FSM10-43742



HELIX MUST BE FORMED BY MATCHING METAL DIE
(SIDE VIEW OF TRUE HELICAL FORM)

LIGHTING FOUNDATION
CAT. NO. 7112-0296

1. FINISH- HOT DIP GALVANIZE PER ASTM-A153 (LATEST REVISION).
2. BASEPLATE TO BE PERPENDICULAR TO SHAFT AXIS ($\pm 1^\circ$) AND HOLE CENTERLINE CONCENTRIC ($\pm .188$) TO SHAFT AXIS.
3. STENCIL MIN. 1/2 IN. LETTERS MANUFACTURER'S NUMBER AFTER GALVANIZING.
4. PILOT POINT AND SHAFT AXES TO BE CONCENTRIC ($\pm .125$ FIM) AND IN LINE ($\pm 2^\circ$).
5. FLAME CUT TWO SLOTS IN SHAFT PERPENDICULAR TO THE BASEPLATE. PREHEAT, TUMBLEBLAST, HANDGRIND, AND CLEAN BASEPLATE, HELIX, AND PILOT POINT ON ALL WELDED AREAS.
6. FLAMECUT IRREGULARITIES PERMISSIBLE: (1) VALLEYS NOT TO EXCEED 3/32 IN. BELOW NOMINAL SURFACE LEVEL, (2) PEAKS OR POSITIVE IRREGULARITIES NOT TO EXCEED 1/32 IN. ABOVE NOMINAL SURFACE LEVEL OR INTERSECTIONS OF NOMINAL SURFACES.
7. MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES. ALL MATERIAL IS TO BE NEW, UNUSED AND MILL TRACEABLE MEETING THE FOLLOWING SPECIFICATIONS:
8. BASEPLATE: ASTM A36-(LATEST REVISION) STRUCTURAL STEEL (CONFORM TO AASHTO TECH. BUL. #270).
9. SHAFT: ASTM A252-(LATEST REVISION) GRADE 2, STEEL PIPE PILES. ALTERNATE MATERIAL: ASTM A53-(LATEST REVISION) TYPE E OR S, GRADE B, STEEL PIPE OR ASTM A500-(LATEST REVISION) GRADE B, STRUCTURAL STEEL TUBING.
10. HELIX: ASTM A635-(LATEST REVISION) 3/8" THICK HOT ROLLED STEEL PLATE DR COIL.
11. PILOT POINT: ASTM A575-(LATEST REVISION) 1-1/4" DIAMETER HOT ROLLED STEEL BAR.
12. BOLTS: CARRIAGE BOLTS, 1-8UNC-2A ANSI B-18.5, SAE J429 GRADE 5.
13. BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION, ABC IN 1/2" LETTERS AND DATE CODE IN 1/4" LETTERS.
14. BASEPLATE PERMANENTLY MARKED TO INDICATE CABLEWAY OPENING IN SHAFT.

-NOTES-

<p>CHANCE</p>			
<p>CONSEQUENTIAL TO THIS DRAWING AND ITS CONTENTS ARE CONSIDERED AND THE MANUFACTURER'S LIABILITY IS LIMITED TO THE EXTENT OF THE INFORMATION OR DATA PROVIDED BY THE MANUFACTURER. NO WARRANTIES, EXPRESS OR IMPLIED, ARE MADE BY THE MANUFACTURER FOR THE USE OF THIS DRAWING FOR ANY OTHER PURPOSES UNLESS SPECIFICALLY STATED OTHERWISE.</p>		<p>HUBBELL POWER SYSTEMS UNIVERSITY MICROFILMS SERIALS ACQUISITION 300 N ZEEB RD ANN ARBOR MI 48106-1500</p>	
<p>SIZE: DWG NO. SB1 SA112-0296</p>	<p>DATE: 11/5/94</p>	<p>DATE: 11/5/94</p>	<p>SHEET 1/1</p>
<p>LIGHTING FOUNDATION</p>		<p>REV B</p>	

**KIM LIGHTING****AR**

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revision 3/17/03 • ar.pdf

Type:**Job:****Catalog number:**

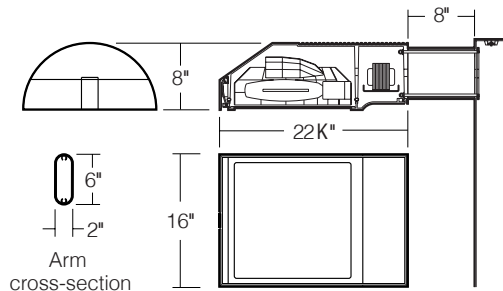
Mtg.	Fixture	Electrical Module	Finish	Options	Optional
/	/	/	/	/	/
See page 2					See pages 3-4
					Optional Vertical Slipfitter Mount See page 5

Approvals:**Date:****Page: 1 of 5**

Select pole from Kim Pole Catalog. If pole is provided by others indicate O.D. for arm fitting.

Specifications

150 to 400 watt
 Mogul Base Lamps
 Maximum Fixture weight (400HPS) = 45 lb



Housing: One piece low copper (less than .6%) die-cast aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment. Solid barrier wall separates optical and electrical compartments. Double-thick wall with gussets on the support-arm mounting end. Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail. All hardware is stainless steel or electro-zinc plated steel.

Lens Frame: One piece low copper (less than .6%) die-cast aluminum alloy lens frame with 1" minimum depth around the gasket flange. Integral hinges with stainless steel pins provide no-tool mounting and removal from housing. Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one piece extruded and vulcanized silicone gasket. Clear F" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Reflector Module: Specular Alzak® optical segments are rigidly mounted within a die-cast aluminum enclosure that attaches to the housing as a one-piece module. Reflector module is field rotatable in 90° increments. HPS and PMH sockets are porcelain 4KV pulse rated mogul base, MH sockets are porcelain mogul base, pin-oriented, with molded silicone lamp stabilizer. All reflector modules are factory prewired with quick-disconnect plug and include silicone seal at the penetration of the internal barrier wall in the luminaire housing.

Electrical Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. All ballasts are high power factor rated -20°F. starting.

Support Arm: One piece extruded aluminum with internal bolt guides and fully radiussed top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut for specified round pole.

Optional Wall Mounting: Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.

NOTE: Junction Box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a chromate conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Platinum Silver, or White. Custom colors are available and subject to additional charges, minimum quantities and longer lead times. Consult representative.

Certification: UL Listed to U.S. and Canadian safety standards for wet locations. Fixture manufacturer shall employ a quality program that is certified to meet the ISO 9001:2000 standard.

CAUTION: Fixtures must be grounded in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.



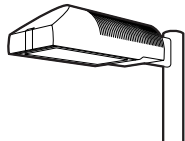


AR

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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

Plan View:

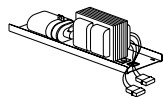
EPA: 1.2	2.4	2.0	3.2	3.2	3.9	n/a
Cat. No.: 1A	2B	2L	3T	3Y	4C	1W

Fixture
Cat. No. designates fixture and light distribution.
See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

Wall Mount

Flat Lens	Type II	Type III	Type IV	Type V
Light Distribution:	Full Cutoff	Full Cutoff	Forward Throw Full Cutoff	Square Full Cutoff
Cat. No.:	AR2	AR3	AR4	AR5

Electrical Module
HPS = High Pressure Sodium
MH = Metal Halide
PMH = Pulse Start Metal Halide



Lamp	Lamp	Line
Watts	Type	Volts
400	HPS	277

Cat. Nos. for Electrical Modules available:

	150HPS120 150HPS208 150HPS240 150HPS277 150HPS347 150HPS480	250HPS120 250HPS208 250HPS240 250HPS277 250HPS347 250HPS480	400HPS120 400HPS208 400HPS240 400HPS277 400HPS347 400HPS480	175MH120 175MH208 175MH240 175MH277 175MH347 175MH480
Lamp	E-23 1/2, Clear	E-18, Clear	E-18, Clear	BT-28 or ED-28, Clear
Socket	Mogul Base	Mogul Base	Mogul Base	Mogul Base Pin-Oriented
ANSI Ballast Type	S-55	S-50	S-51	M-57
	250MH120 250MH208 250MH240 250MH277 250MH347 250MH480	400MH120 400MH208 400MH240 400MH277 400MH347 400MH480	250PMH120 250PMH208 250PMH240 250PMH277 250PMH347 250PMH480	400PMH120 400PMH208 400PMH240 400PMH277 400PMH347 400PMH480
Lamp	BT-28 or ED-28, Clear	ED-28, Clear	ED-28, Clear	ED-28, Clear
Socket	Mogul Base Pin-Oriented	Mogul Base Pin-Oriented	Mogul Base	Mogul Base
ANSI Ballast Type	M-58	M-59	M-138	M-135

Finish
Super TGIC powder coat paint over a chromate conversion coating.

Color:	Black	Dark Bronze	Light Gray	Platinum Silver	White	Custom Color ¹
Cat. No.:	BL-P	DB-P	LG-P	PS-P	WH-P	CC-P

¹Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

SF - Single Fuse

**AR**

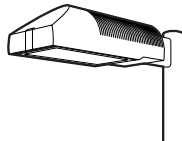
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Type:

Job:

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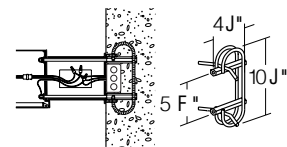
Optional Features

Wall Mounting

Cat. No. **1W**

Select from Mounting on page 2.

Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (**WEB**) is provided to accept draw bolts, and a trim plate covers the wall-embedded Junction Box. All wall mount components are finished to match the fixture.



Wall mount using wall embedment bracket - J-box in wall (by others)

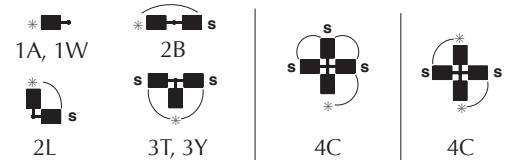
Photocell Receptacle

Cat. No. **A-25**
No Option

Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with a receptacle. Four fixtures (400 watt) require two fixtures with receptacles.



Mounting (see page 2)

* - Fixture with Photocell Receptacle
S - slave unit(s)

Allowable wattage per fixture:

150-400W

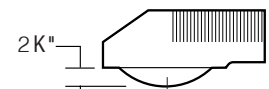
150-250W

400W

Convex Glass Lens

Cat. No. **CGL**
No Option

The F " thick clear convex tempered glass lens replaces the standard flat glass lens. Provides increased lens presence and provides a subtle improvement in uniformity where pole spacing is extreme. Increases effectiveness of houseside shielding.



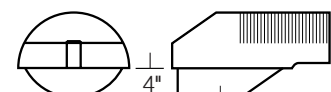
Convex Glass Lens

Polycarbonate Lens

Cat. No. **LS**
No Option

Fixture supplied with a one piece vacuum formed, clear, UV stabilized convex polycarbonate, fully gasketed, replacing the standard tempered glass lens. 250 watt maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and metal halide lamps.



Polycarbonate Lens

Job Name:

MSCAA Parking Garage Expansion & Improvements

Notes:

FSM10-43742


KIM LIGHTING
AR

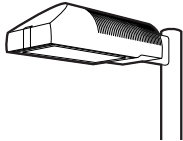
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Type:

Job:

Page: 4 of 5

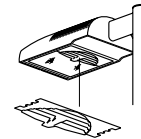
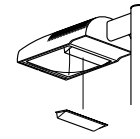


Optional Features

Houseside Shield

 Cat. No. (See right)
No Option

(Types II, III, and IV only). Fixtures with the standard flat glass lens are available with stamped aluminum louvers that pass streetside light and block houseside light, and a blackened panel added to the reflector to reduce houseside reflections. Fixtures with the optional convex glass lens are available with a formed aluminum shield that passes streetside light and blocks houseside light, and a black anodized panel added to the reflector to reduce houseside reflections. Use with clear lamps only, as coated lamps reduce effectiveness.


HS
 for flat lens

HSC
 for convex lens or polycarbonate lens

Cat. No.

HS

Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distributions.

HSC

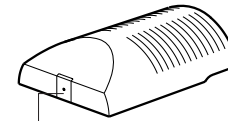
For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

Tamper-Resistant Latch

 Cat. No. **TL**
No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



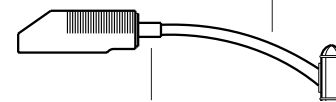
Tamper-Resistant Latch

Horizontal Slipfitter Mount

 Cat. No. **HSF**
No Option

Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2³/₈" O.D.). Cast aluminum clamp-type slipfitter with set screw anti-rotation lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

Davit-arm with 2" pipe-size fixture mount (by others)



Horizontal Slipfitter Mount by Kim

Special Options for Street Lighting

Cat. No. (See right)

Terminal Block: (For field wire connections.)

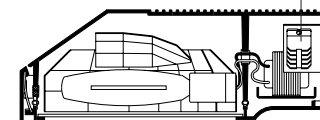
85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

TB**No Option**

Air Filter: Allows for ventilation through the optical chamber, filtering all air particles above 500 microns. Multi-layer disc assembly mounted on solid wall between optical compartment and latch cavity.

AF**No Option**

Terminal Block



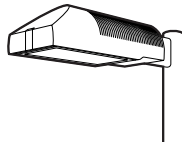
Air Filter

**KIM LIGHTING****AR**The Archetype®
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Type:

Job:

Page: 5 of 5



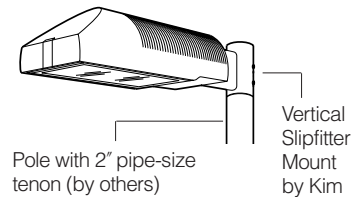
Optional Features

Vertical Slipfitter Mounts

Cat. No. includes Mounting

Cat. No. **(See right)****No Option**

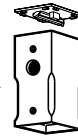
Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.

NOTE: 3Y only available on round slipfitter.

Cat. No.

VSF-1A
VSF-2B
VSF-2L
VSF-3T
VSF-3Y
VSF-4C


Round

Stainless
steel set
screws

Square

Cat. No.

SVSF-1A
SVSF-2B
SVSF-2L
SVSF-3T
SVSF-4C

Mounting Configuration

1A - single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

17.3 Information on All Firms that Provided Bids or Quotes

The Memphis Airport Authority (MEM) maintains bidding statistics, regarding ALL firms bidding on prime contracts and subcontracts on US Department of Transportation (DOT) assisted projects in accordance to the federal regulation 49 CFR Part 26.11. **This information will only be used for statistical purposes per 49 CFR Part 26.11** This requirement applies to all firms, regardless of whether they are subs or primes, regardless of the gender or race of their owners, and regardless of whether they are ultimately chosen to participate in the contract. Please list below the name, address, phone number and contact person for every firm that provided you a bid or a quote on this project – even if you ultimately decided not to use the firm in preparing your final bid. The first line should be used for the **prime contractor** on this project. All sections must be completed to the best of your ability.

Firm Name	PRIME /SUB	POC	DBE Y/N	RACE+	GENDER	ADDRESS 1	CITY	STATE	ZIP	TELEPHONE	SCOPE OF WORK	EMAIL ADDRESS	NAICS CODE	FIRM AGE YRS	AGR*

*Enter the letter for the category that best identifies your Annual Gross Revenue (AGR): A = Less than \$500,000 B = \$500,000 - \$1 Million C = \$1 - \$2 Million D = \$2 - \$5 Million E = Over \$5 Million

*Enter the letter for the category that best identifies race/ethnicity: F =Caucasian G =African American H = Hispanic/Latino I = Other

Received: _____ Sr. Manager of BDD	Date: _____	Project Name: _____
		Project No.: _____

DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS FOR SUBCONTRACTS

Memphis-Shelby County Airport Authority (MSCAA) operates a federal Disadvantaged Business Enterprise (DBE) Program to ensure full and fair opportunities in MSCAA contracting for businesses owned by socially and economically disadvantaged individuals, which is governed by 49 CFR Part 26. This document sets forth DBE provisions that must be included in all contracts and subcontracts for the subject project as required by federal regulations. ***A SIGNED COPY MUST BE (1) SUBMITTED TO THE MSCAA DBE LIAISON OFFICER AND (2) INCLUDED IN YOUR SUBCONTRACT AS AN EXHIBIT TO ANY UNDERLYING AGREEMENT FOR THE SUBJECT PROJECT.***

The undersigned parties agree and acknowledge that this document shall be deemed to form, be read and construed as, as if stated verbatim therein, part of any agreement between the parties related to the subject project. This document is an agreement wherein the parties accept, agree to, and incorporate federally mandated contractual provisions into any underlying agreement for the subject project as well as acknowledge applicable federal and local DBE rules and regulations. THE TEXT CONTAINED IN THIS DOCUMENT CANNOT BE REVISED, ALTERED, OR OTHERWISE MODIFIED BY THE PARTIES. THIS IS A FINAL DOCUMENT.

Any subcontract for the subject project shall be governed by regulations set forth in 49 CFR Part 26 and MSCAA DBE program rules and regulations, including but not limited to the following:

- Assurance** (49 CFR 26.13(b)): The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to: 1) Withholding monthly progress payments; 2) Assessing sanctions; 3) Liquidated damages; and/or 4) Disqualifying the contractor from future bidding as non-responsible.
- Prompt Payment** (49 CFR 26.29): The prime contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 15 days after the prime contractor’s receipt of payment for that work from MSCAA. A subcontractor’s work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by MSCAA. When MSCAA has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed. Any delay or postponement of payment from the above referenced timeframe may occur only for good cause and written approval of the MSCAA. Retainage will not be withheld on this project. No retainage will be withheld by the MSCAA from progress payments due the prime contractor. Retainage by the prime or subcontractors is prohibited. No retainage will be held by the prime from progress due subcontractors.
- Termination/Substitution** (49 CFR 26.53): The prime contractor may not terminate or substitute any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of MSCAA. The prime contractor must follow the procedures set forth in 49 CFR 26.53(f).
- Counting Participation**: DBE participation in a contract must be counted in accordance with 49 CFR 26.55 and applicable guidance.
- DBE Independence**: Only an independent business may be certified as a DBE. An independent business is one the viability of which does not depend on its relationship with another firm or firms. Determination of ownership and control of a DBE is governed by 49 CFR 26.71.
- DBE Liaison Officer (DBELO)**: For DBE-related questions, issues, and disputes, please contact the MSCAA DBELO (contact information found at <https://flymemphis.com/business-diversity-development-program/>). The current DBELO is Regina Armstrong, who may be reached at 901-922-0167 or rarmstrong@flymemphis.com.

This document shall control and supersede any inconsistency, conflict or ambiguity contained in any underlying agreement between the parties for the subject project as to the procedures, processes, or subject matter set forth in this document or otherwise governed by 49 CFR Part 26 and/or other applicable MSCAA DBE program rules and regulations.

Prime Contractor: _____
Signature: _____
Title: _____ Date: _____

Subcontractor: _____
Signature: _____
Title: _____ Date: _____