

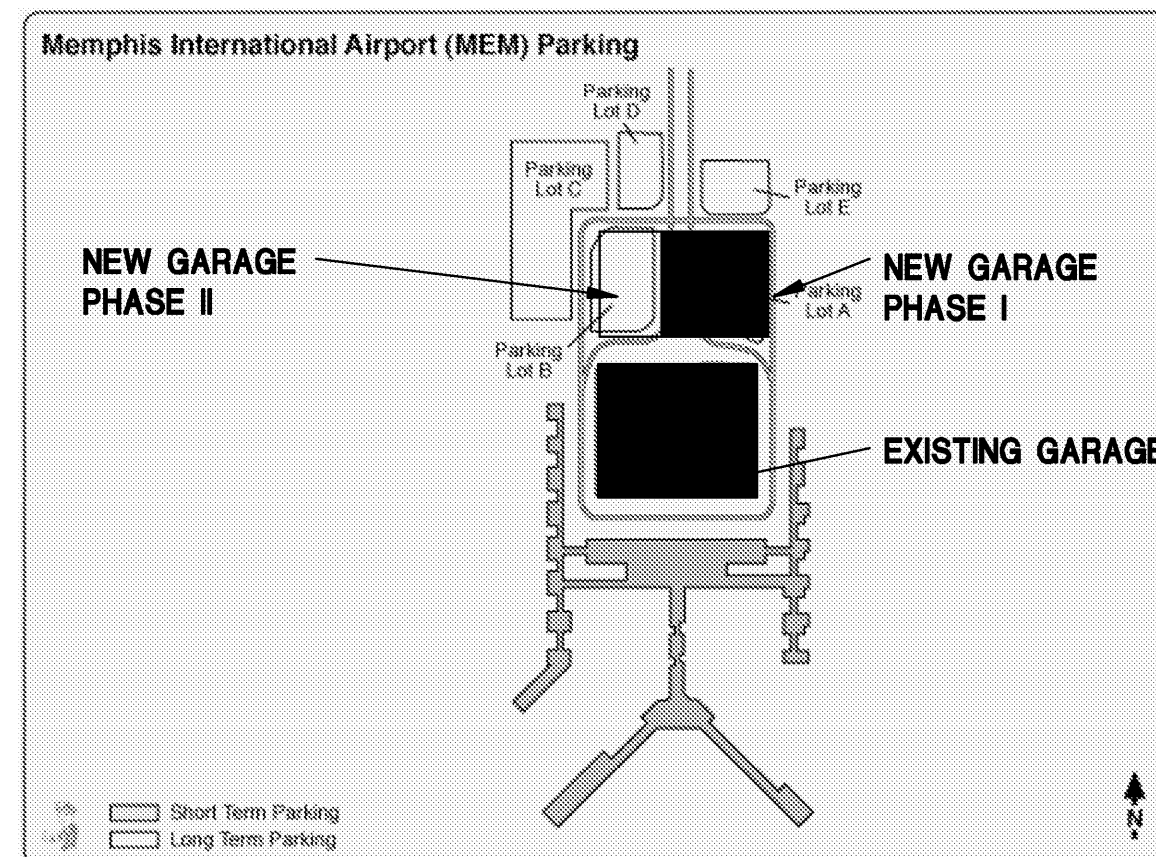
SHORT/LONG TERM GARAGE

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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STRUCTURAL ENGINEER
PARKING CONSULTANT**

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4904 Eisenhower Boulevard Suite 150
Tampa, FL 33634
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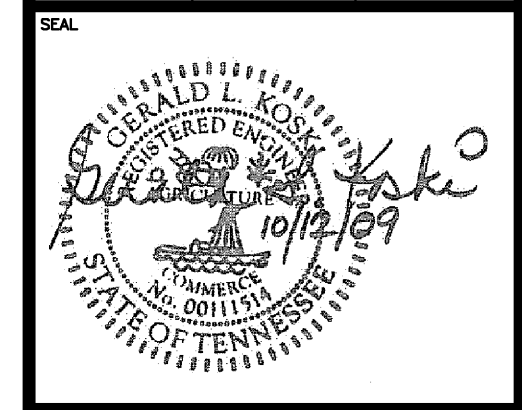
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JOB NO. 15-1800.00 REVIEWED BY: GLK

JOB NO. xxx REVIEWED BY: xxx

JOB NO. REVIEWED BY:

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



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NO.	DESCRIPTION	DATE	BY

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS

SHEET TITLE:
COVER SHEET VOLUME 3

AIP NO.
DWG. REF. DWG. DISP.
MSCAA NO. 9905 SHEET NO. G-001B
DATE OCTOBER 12, 2009
SCALE NTS

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**PLUMBING/HVAC
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Urban Design
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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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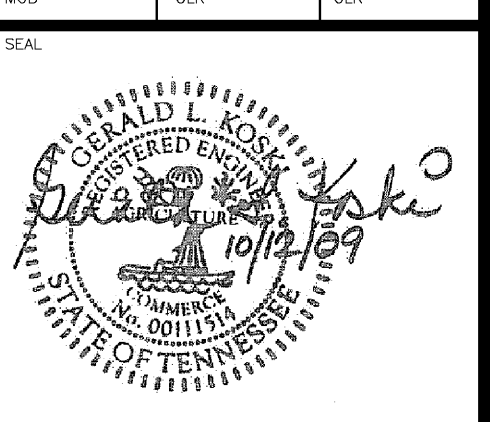
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JOB NO. 15-1800.00 REVIEWED BY: GLK

JOB NO. xxx REVIEWED BY: xxx

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MSB GLK GLK



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NO.	DESCRIPTION	DATE	BY

85% CONSTRUCTION DOCUMENTS 8.25.09

REVISIONS

PROJECT: **PARKING GARAGE EXPANSION & IMPROVEMENTS**

SHEET TITLE: **DRAWING INDEX VOLUME 3**

AIP NO.

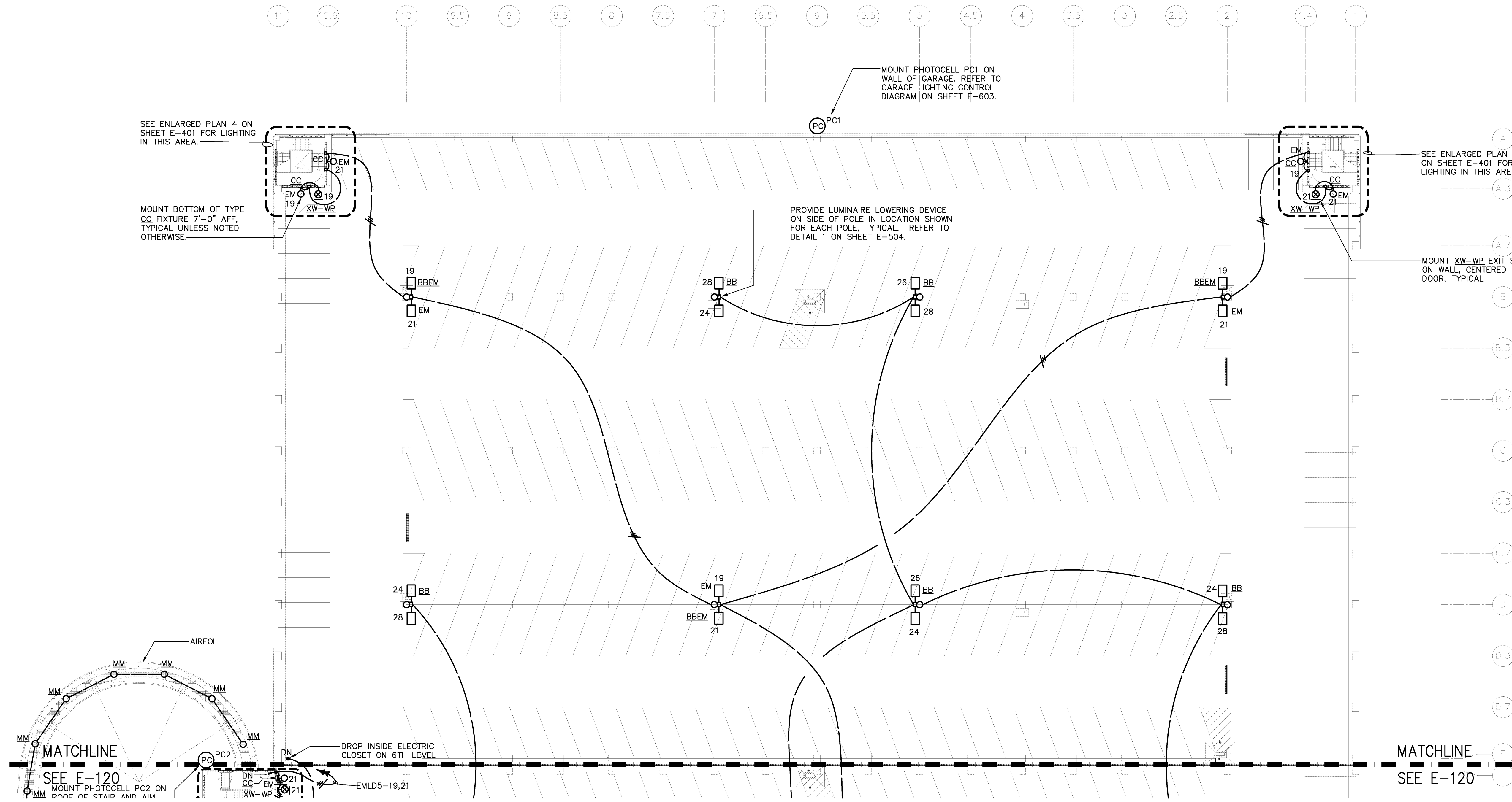
DWG. REF. DWG. DISP.

MSCAA NO. 9905 SHEET NO.

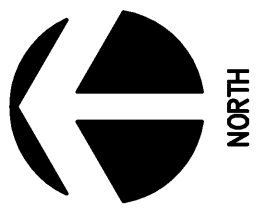
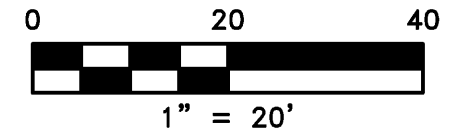
DATE: OCTOBER 12, 2009 G-002B

SCALE: NTS

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LEVEL 7 PLAN - LIGHTING
PARTIAL PLAN



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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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NO.	DESCRIPTION	DATE BY
2	65% CONSTR. DOCUMENTS	8.25.09
1	DESIGN DEVELOPMENT	6.29.09

REVISIONS

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE:
LEVEL 7 PLAN - LIGHTING

AIP NO.

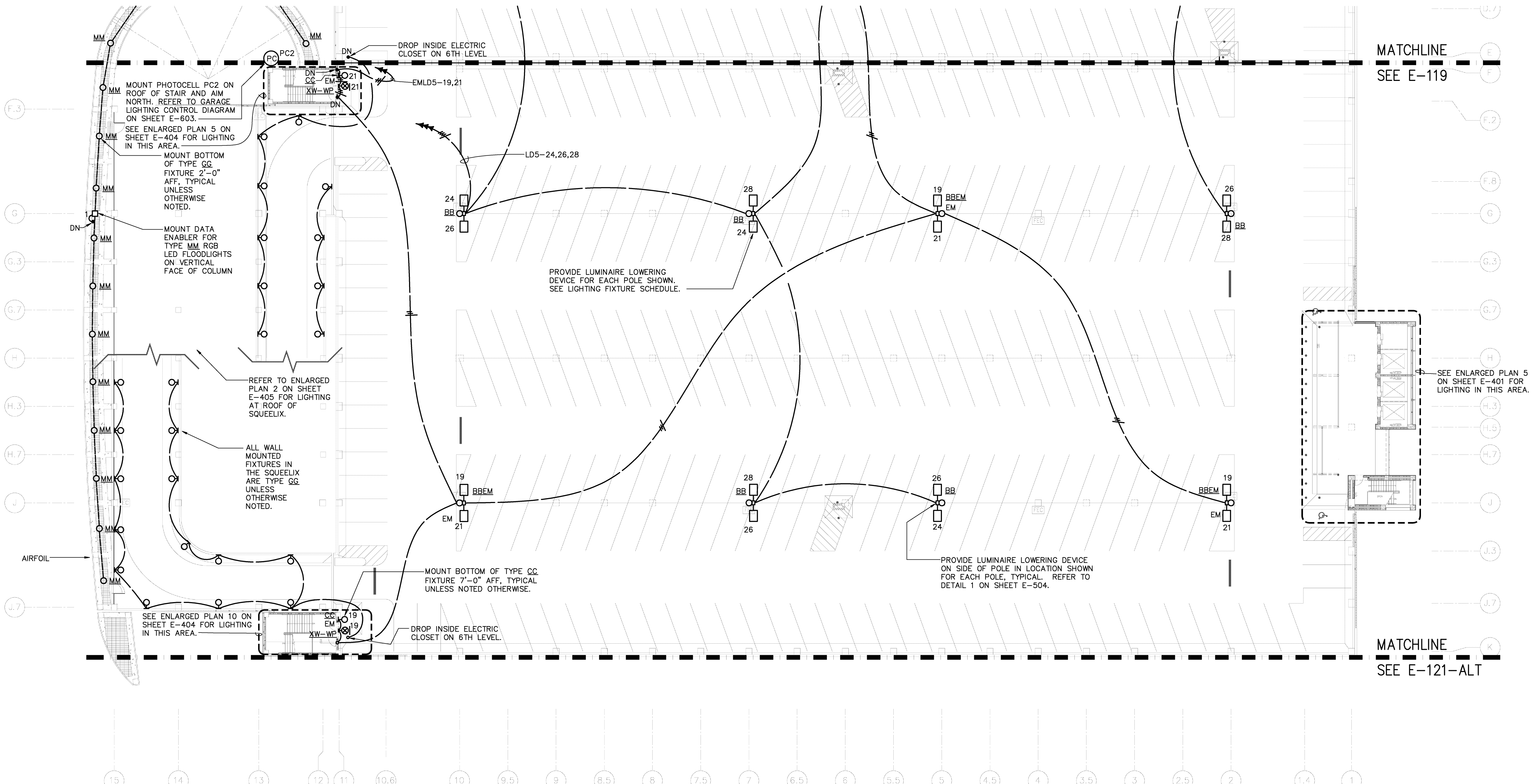
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MSCAA NO. 9905 SHEET NO. E-119

DATE OCTOBER 12, 2009

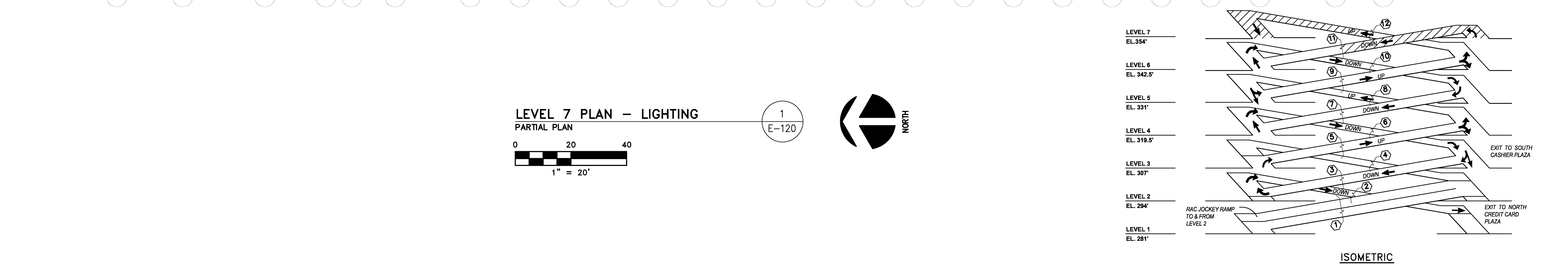
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COMPLIANCE WITH DIMENSIONS ON
ARCHITECTURAL AND STRUCTURAL
DRAWINGS ARE REQUIRED.



MATCHLINE
SEE E-119

MATCHLINE
SEE E-121-ALT



LEVEL 7 PLAN - LIGHTING
PARTIAL PLAN
1
E-120
0 20 40
1" = 20'
NORTH



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MEMPHIS, TENNESSEE
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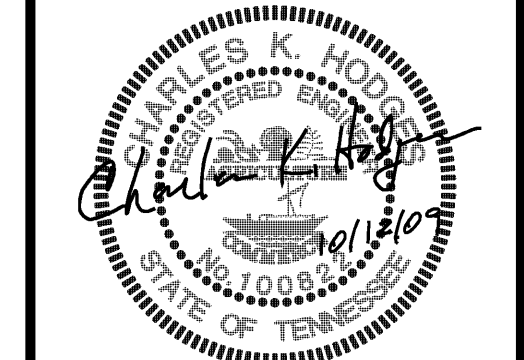
JOB NO. 15-1800.00 REVIEWED BY: GLK

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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	8/25/09	
1	DESIGN DEVELOPMENT	8/28/09	

REVISIONS

NO.	DESCRIPTION	DATE	BY

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE:
LEVEL 7 PLAN - LIGHTING

AIP NO.

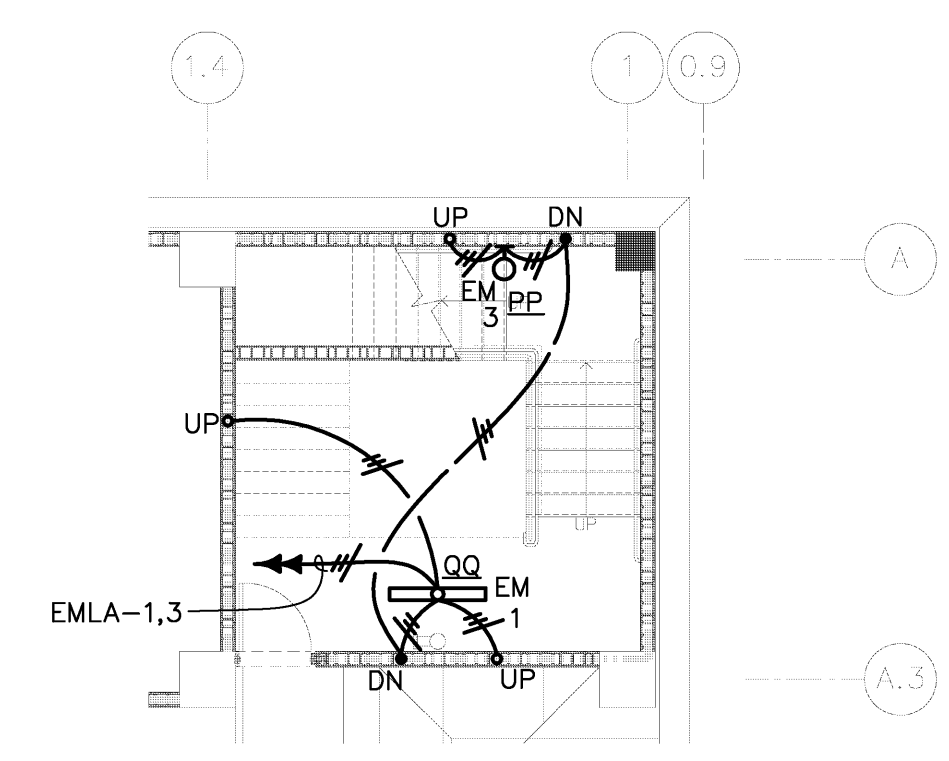
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MSCAA NO. 9905 SHEET NO. E-120

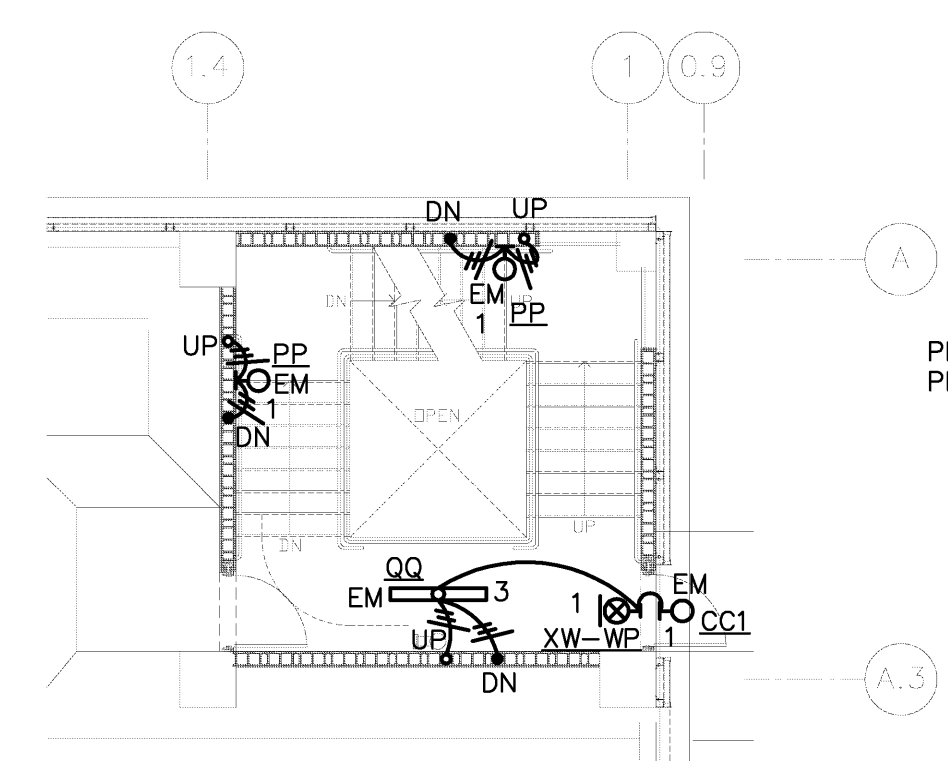
DATE OCTOBER 12, 2009

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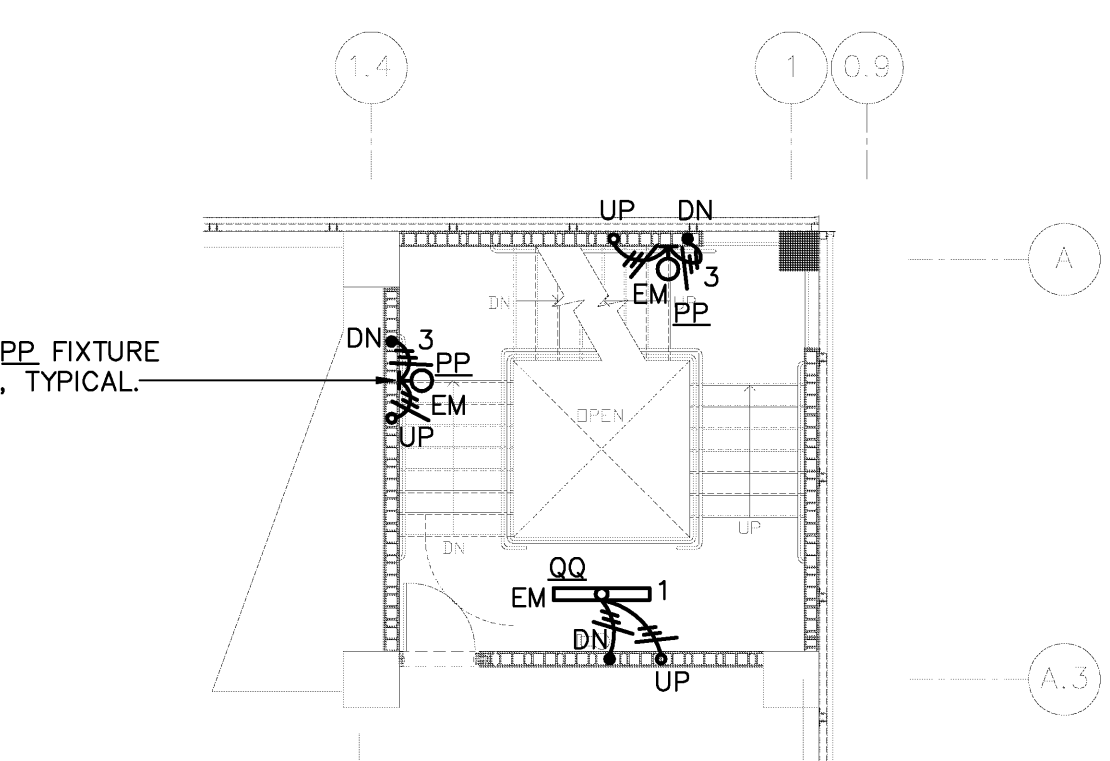
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COORDINATION OF ALL TRADES AND
COMPLIANCE WITH DIMENSIONS ON
ARCHITECTURAL AND STRUCTURAL
DRAWINGS ARE REQUIRED.



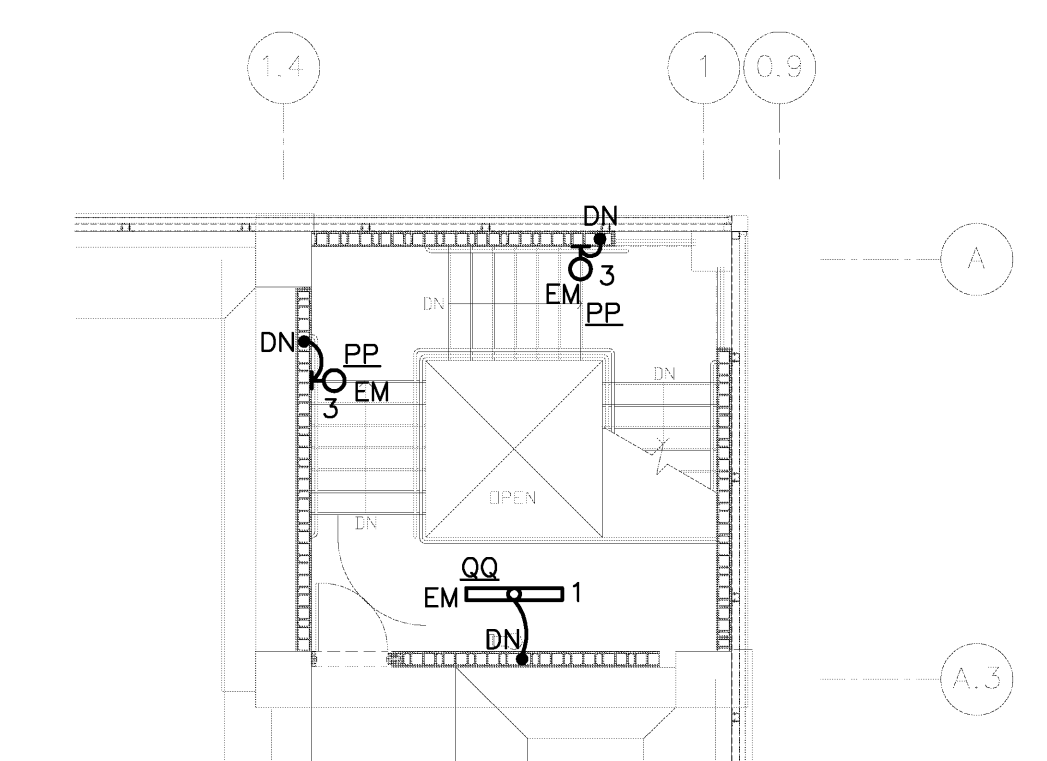
1 LEVEL 1
E-401 1/8"=1'-0"



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



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

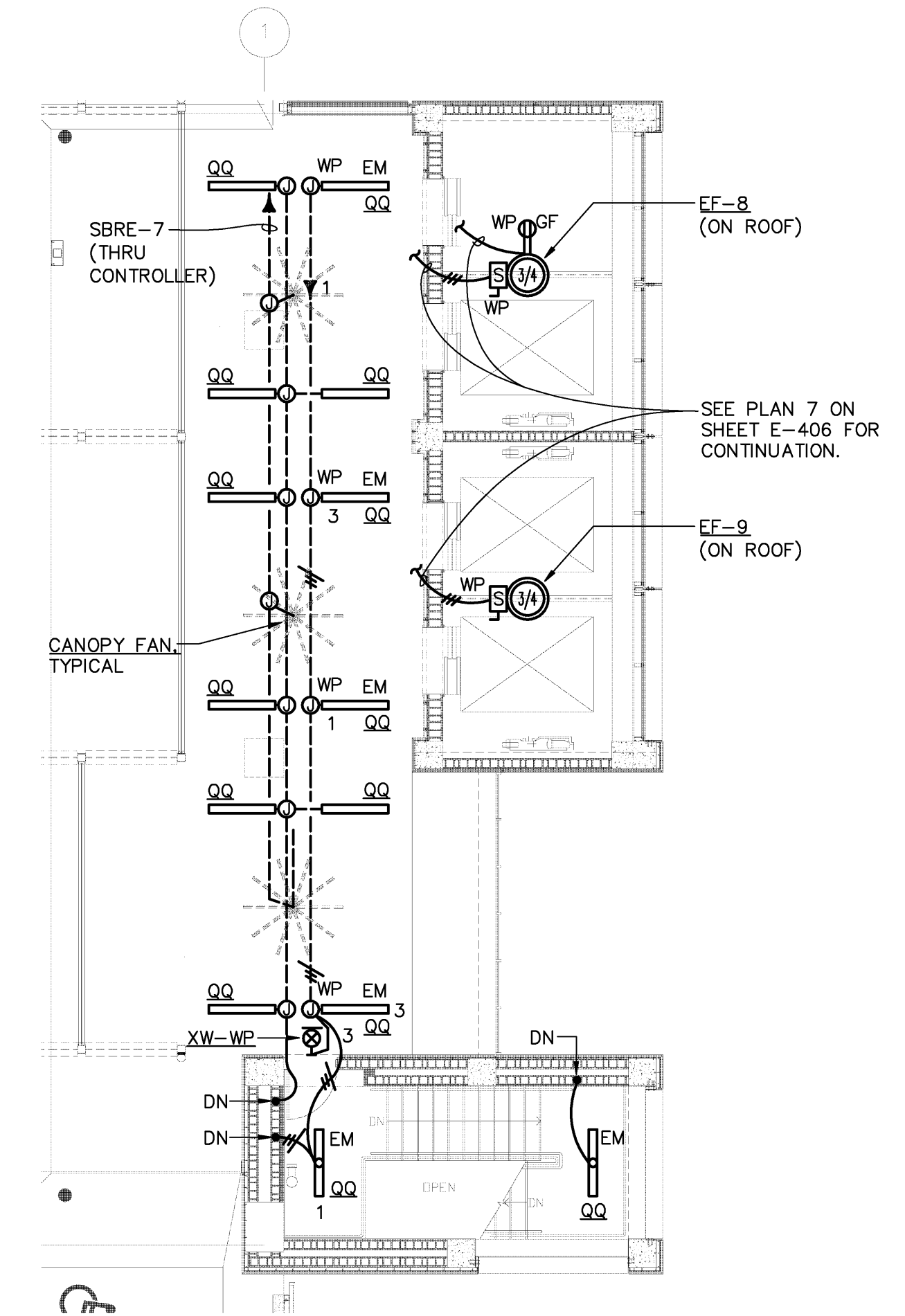
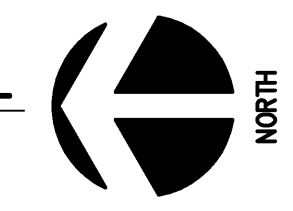


4 LEVEL 7
E-401 1/8"=1'-0"

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

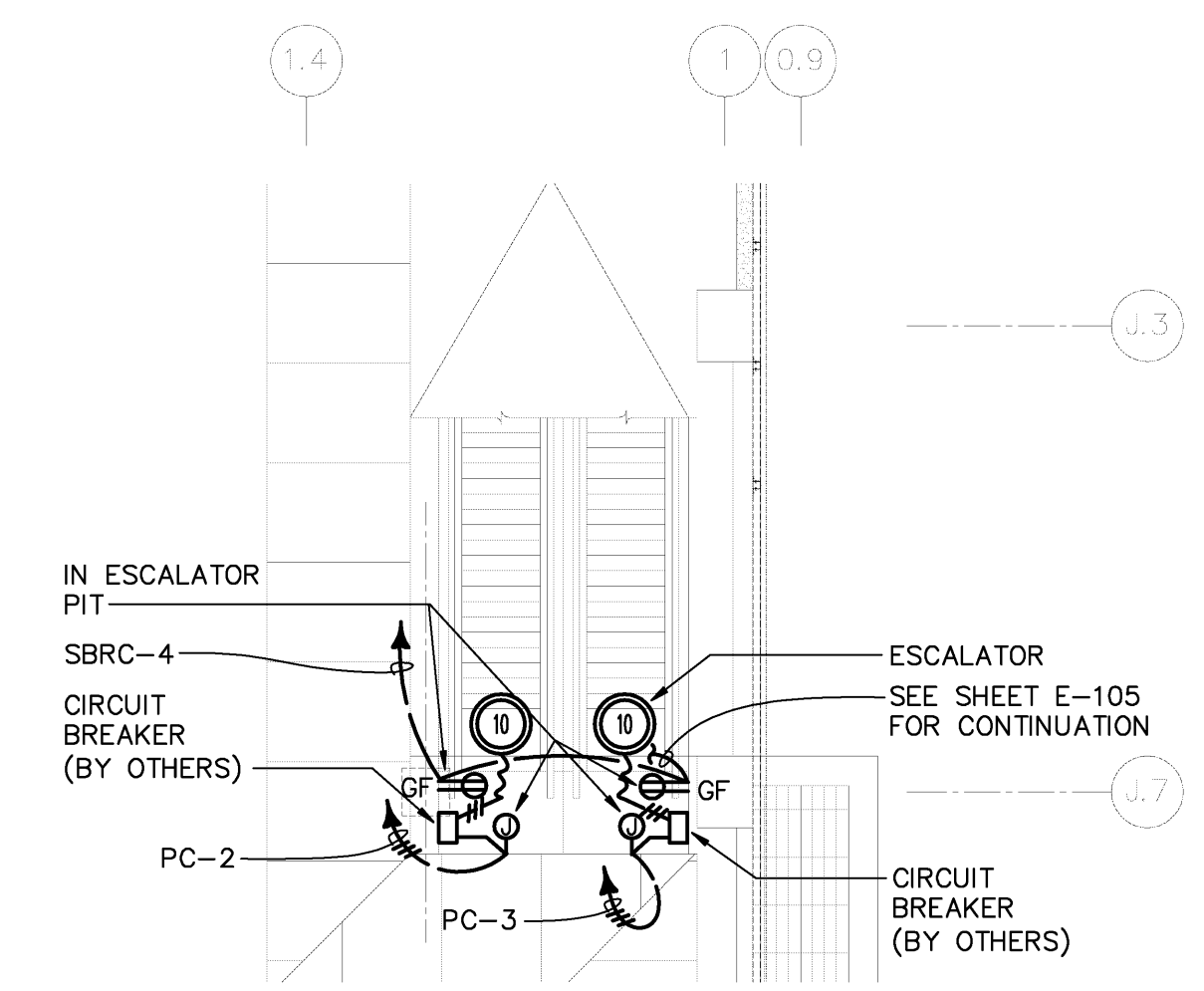
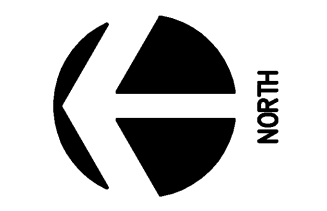
ENLARGED STAIRWELL "A" PLANS - ELECTRICAL
1/8" = 1'-0"

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



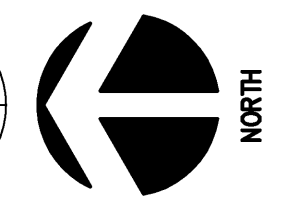
**ENLARGED TOP ESCALATOR
PIT PLAN - ELECTRICAL**
1/8" = 1'-0"

7 E-401



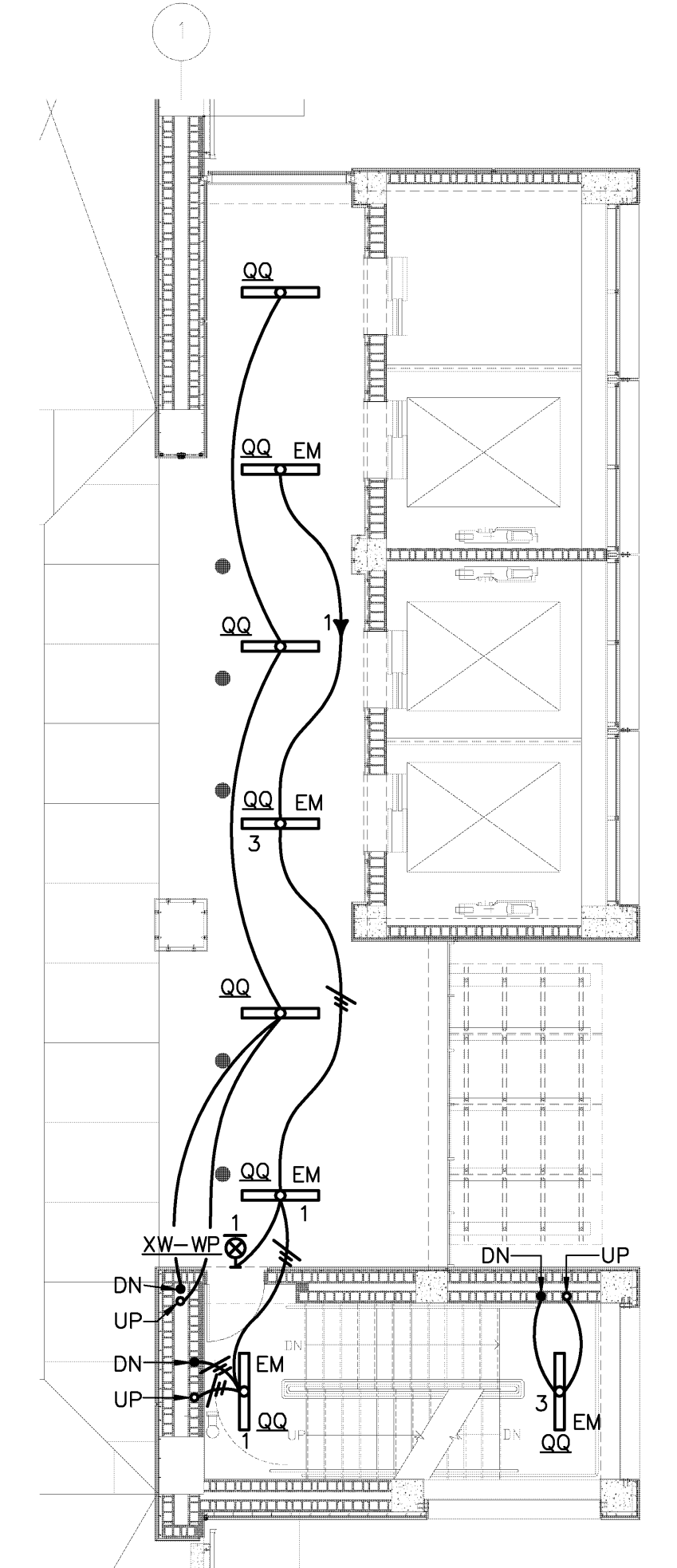
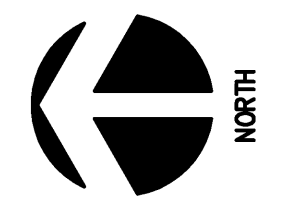
ENLARGED ELEVATORS/STAIRWELL "D" PLANS - LEVEL 2-6 - LIGHTING
1/8" = 1'-0"

6 E-401



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

5 E-401



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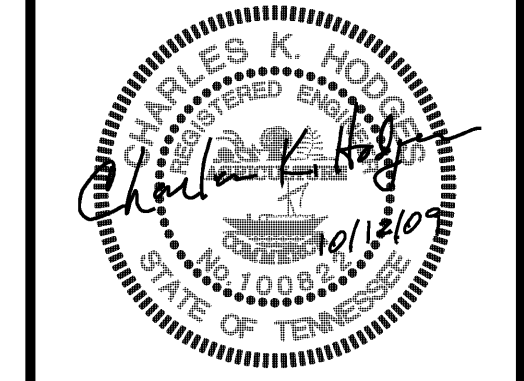
JOB NO. 15-1800.00 REVIEWED BY: GLK

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JOB NO. 0720 REVIEWED BY: xxx

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NO.	DESCRIPTION	DATE	BY
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**

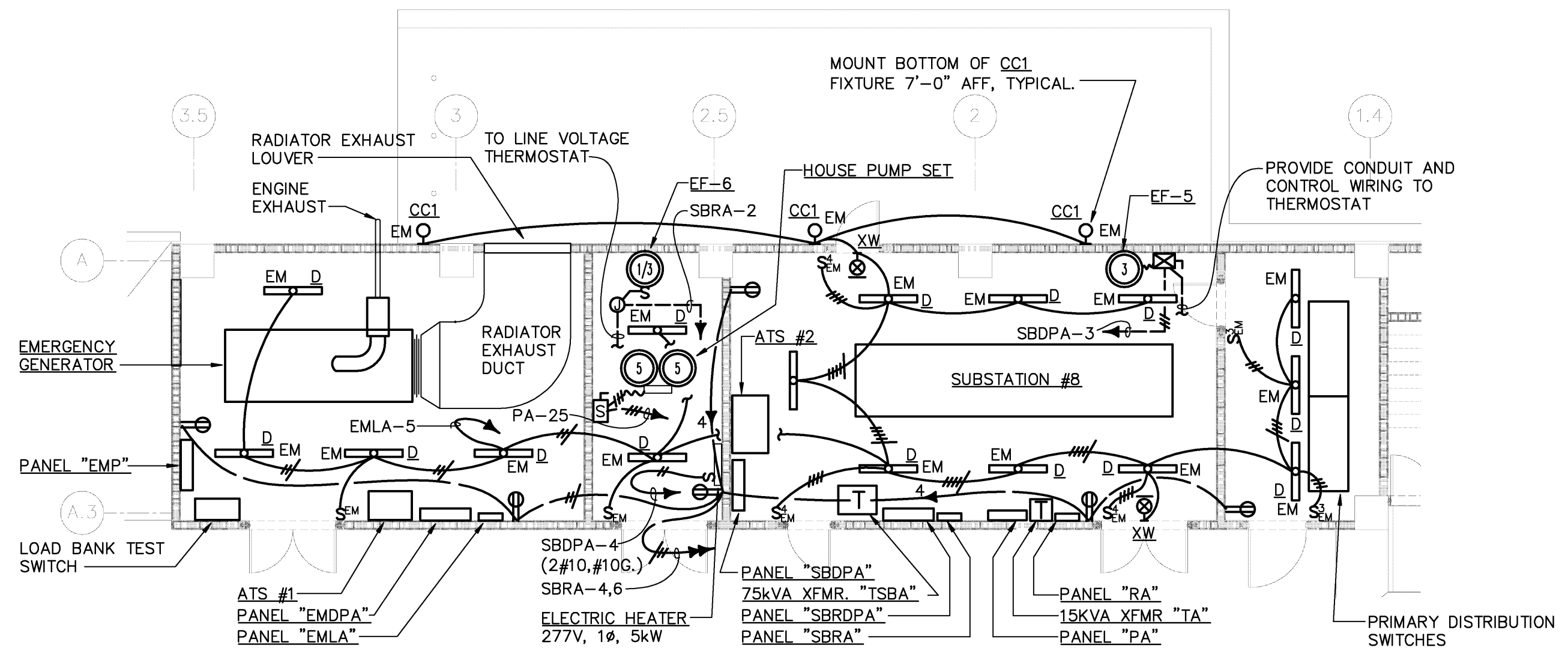
AIP NO.

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

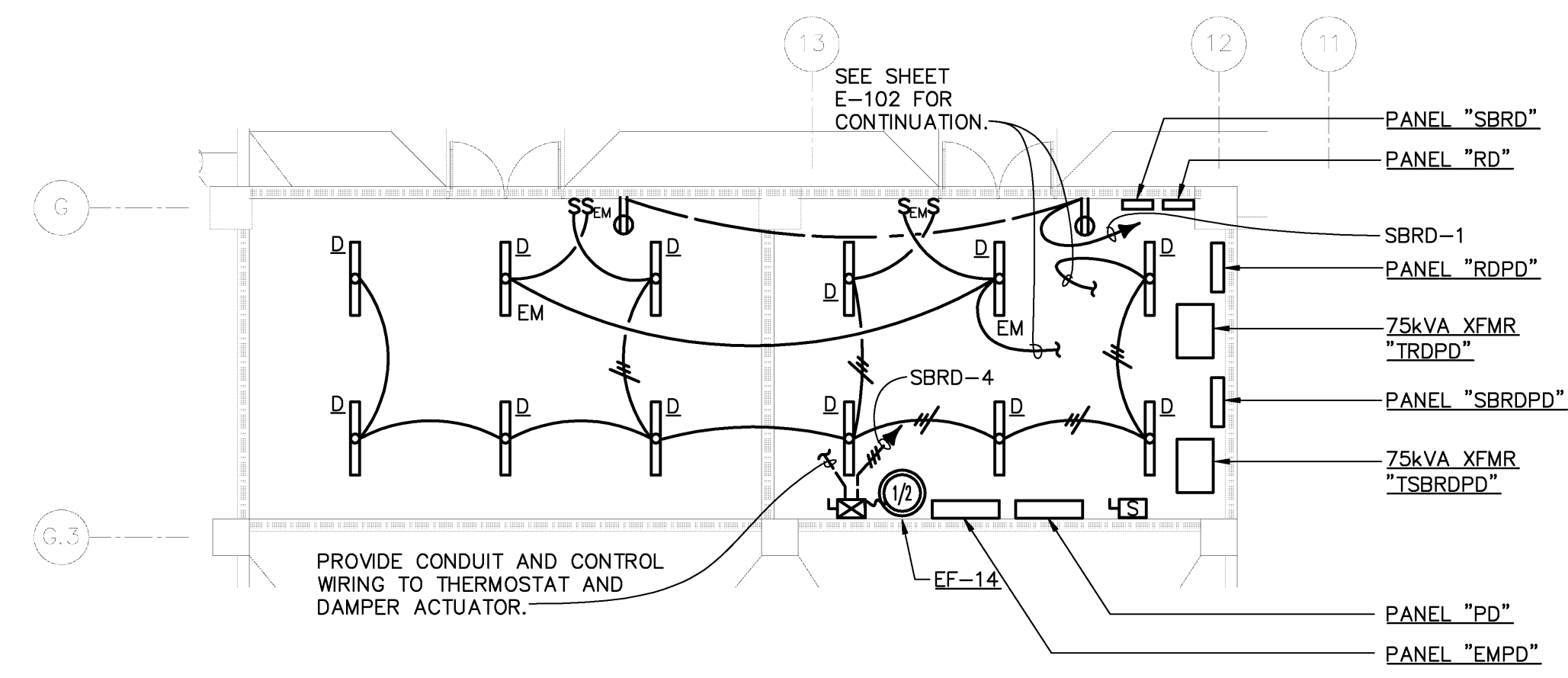
DATE: OCTOBER 12, 2009
SCALE: AS SHOWN

E-401

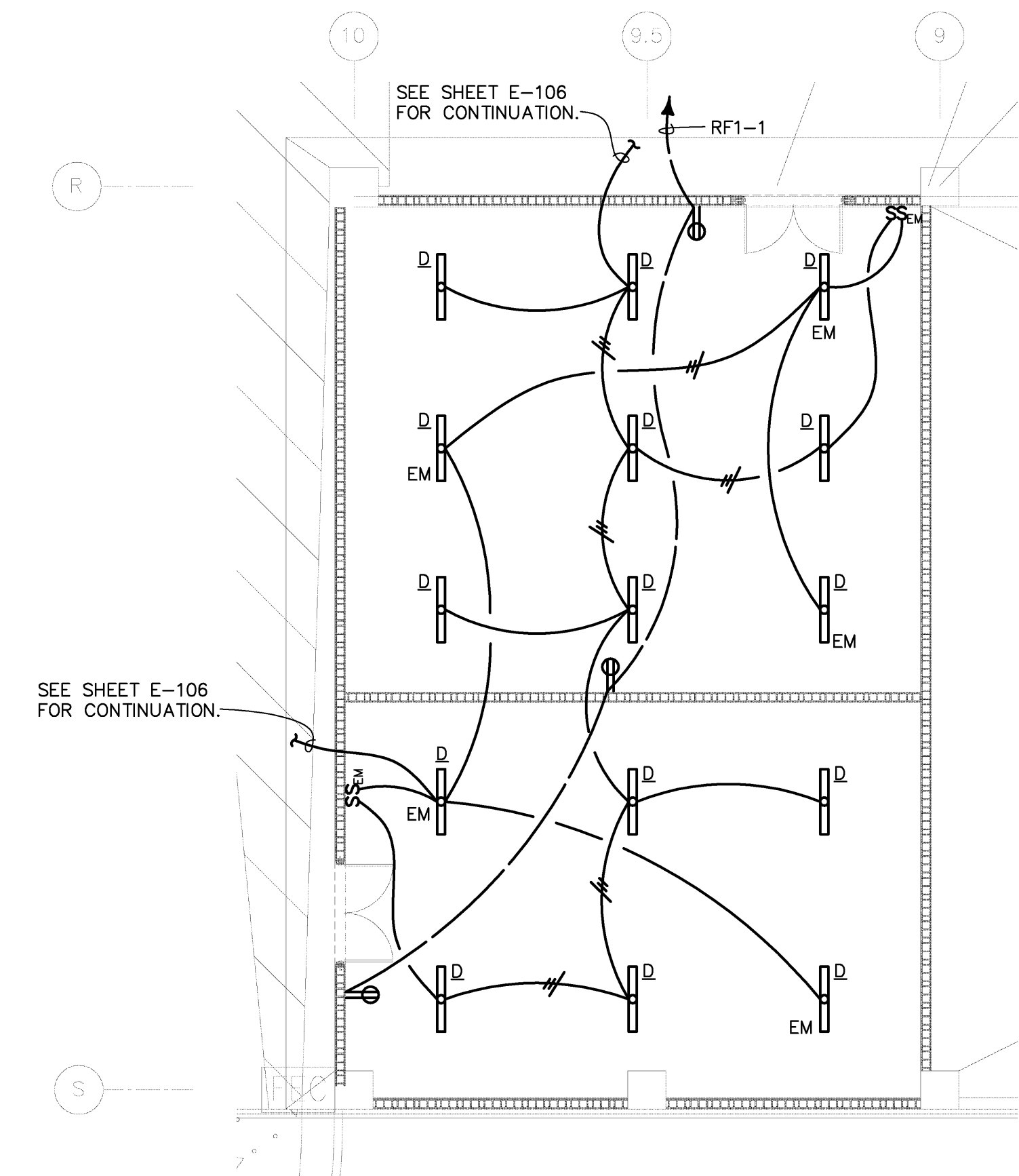
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COORDINATION OF ALL TRADES AND
COMPLIANCE WITH DIMENSIONS ON
ARCHITECTURAL AND STRUCTURAL
DRAWINGS ARE REQUIRED.



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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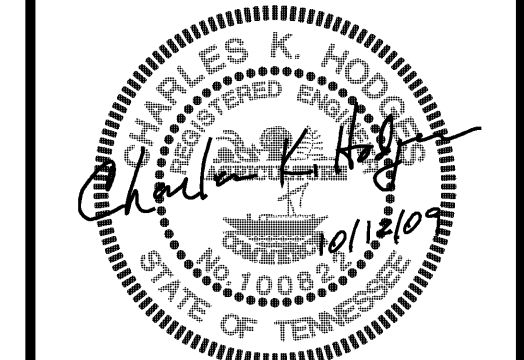
JOB NO. 15-1800.00 REVIEWED BY: GLK

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REVISIONS

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

AIP NO.

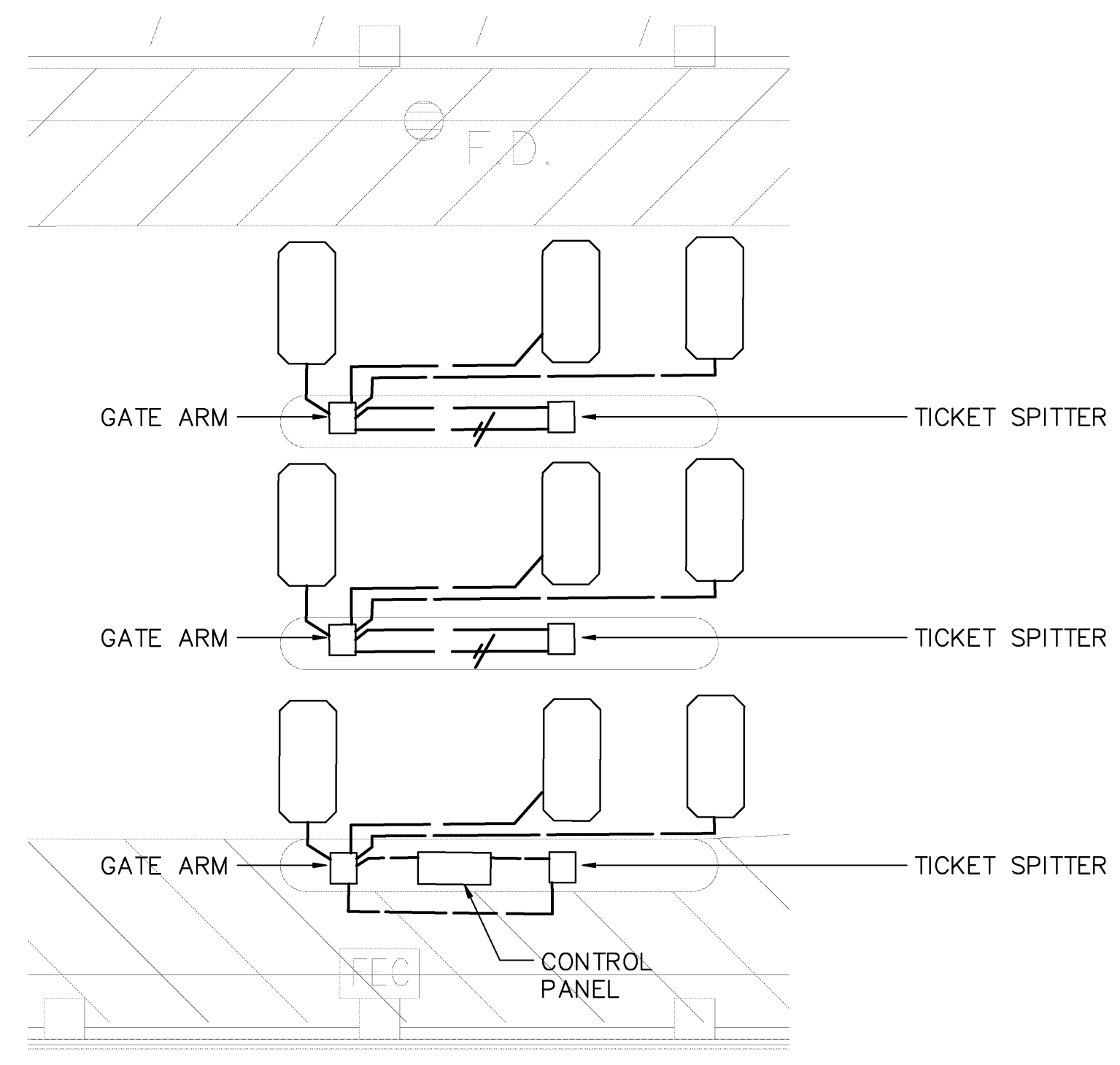
DWG. REF. DWG. DISP.

MSCAA NO. 9905 SHEET NO.

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

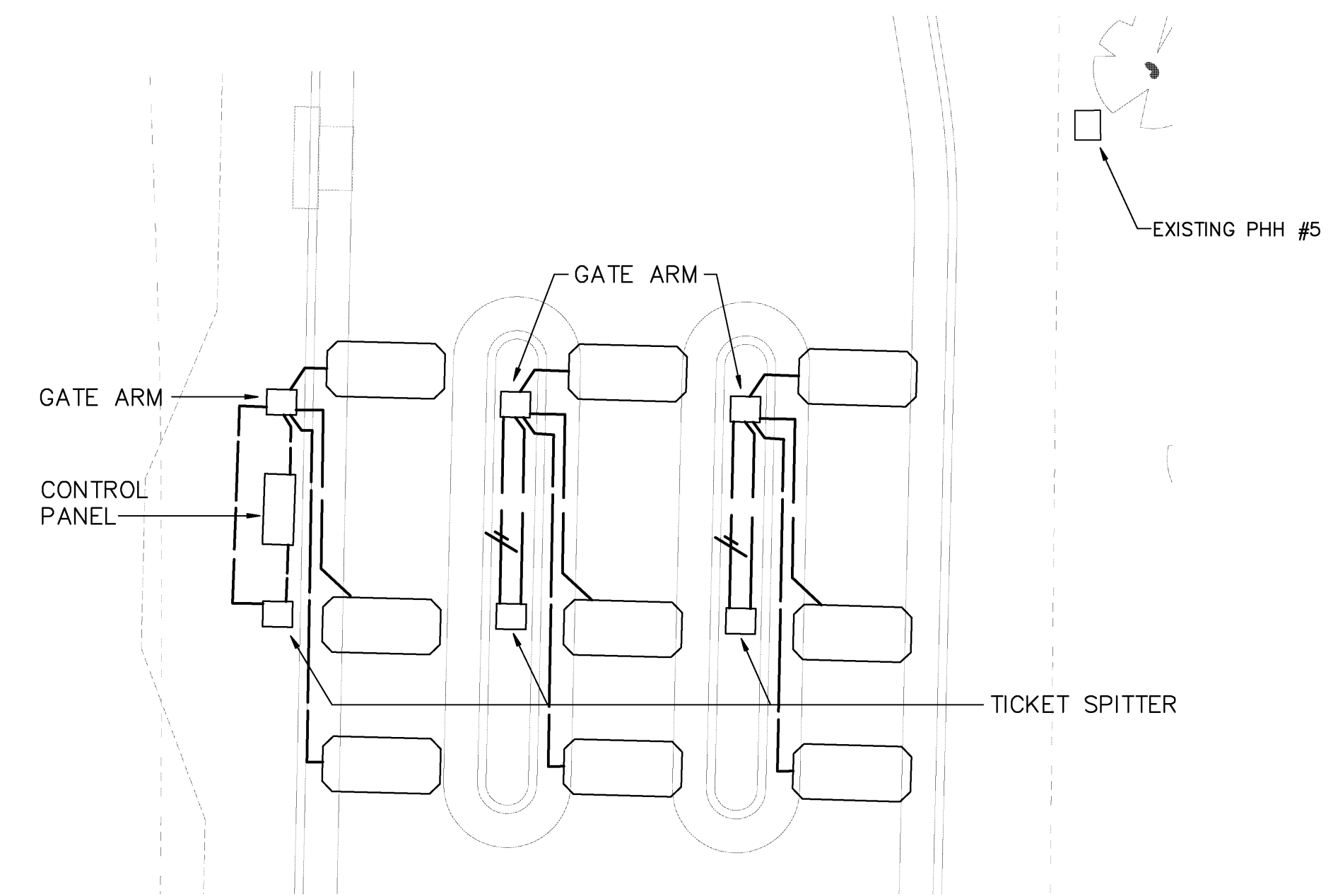
SCALE AS SHOWN

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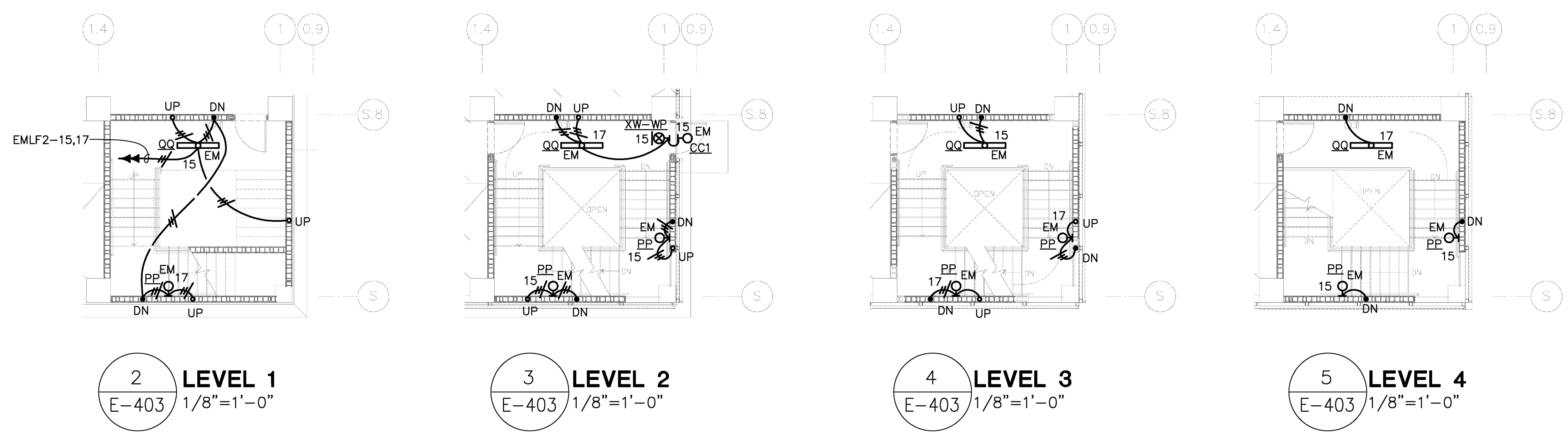


PUBLIC GARAGE ENTRANCE TICKET SPITTERS
1
E-403
1/8" = 1'-0" NORTH

- 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.



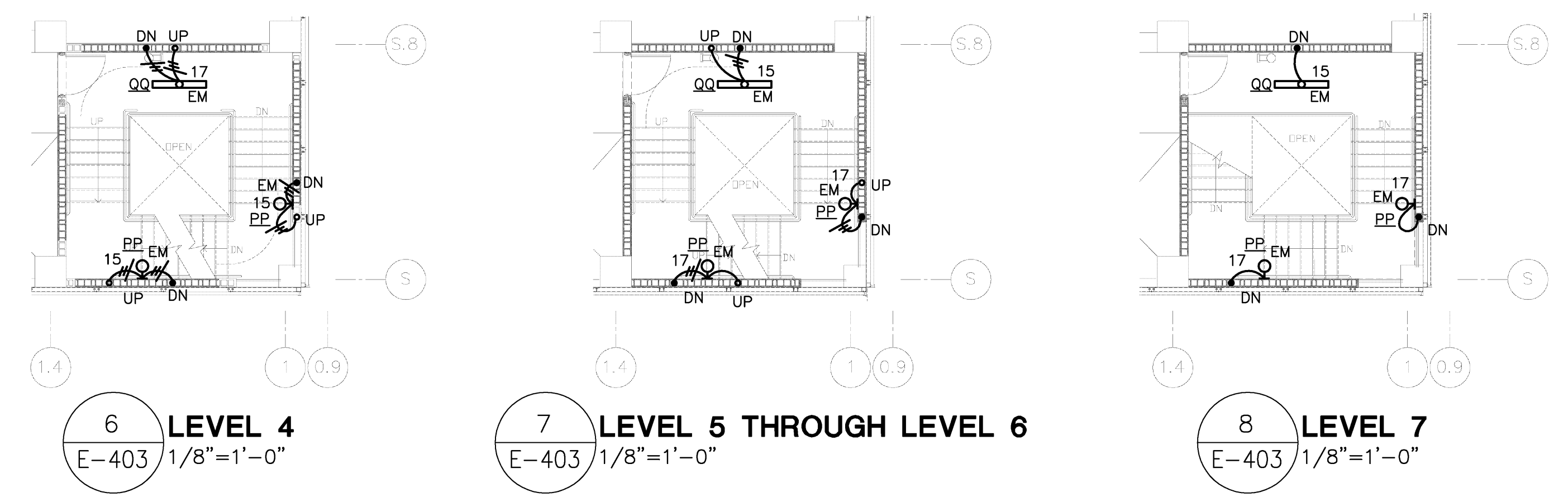
PUBLIC GARAGE ENTRANCE TICKET SPITTERS
9
E-403
1/8" = 1'-0" NORTH



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" NORTH

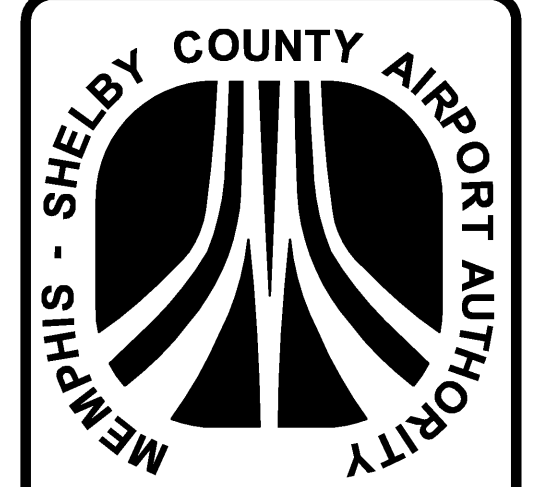
ALTERNATE CIRCUITS FOR LIGHT FIXTURES ALL THE WAY UP THE STAIRWELL "G".



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

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

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



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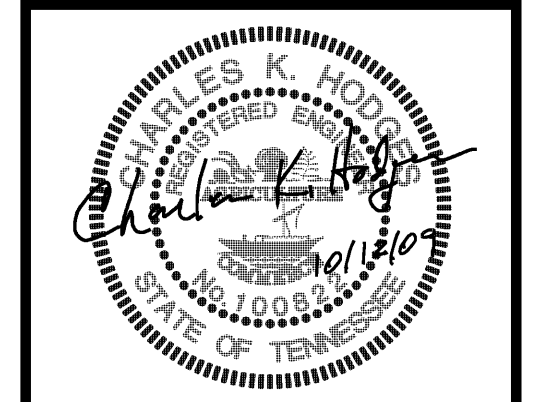
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1	DESIGN DEVELOPMENT	8.29.09

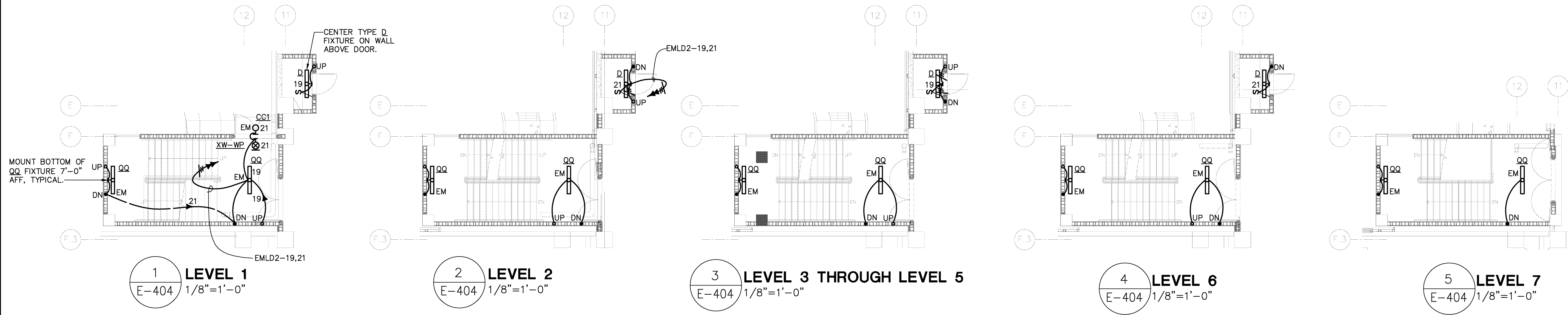
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NO.	DESCRIPTION	DATE BY

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS NEW GARAGE

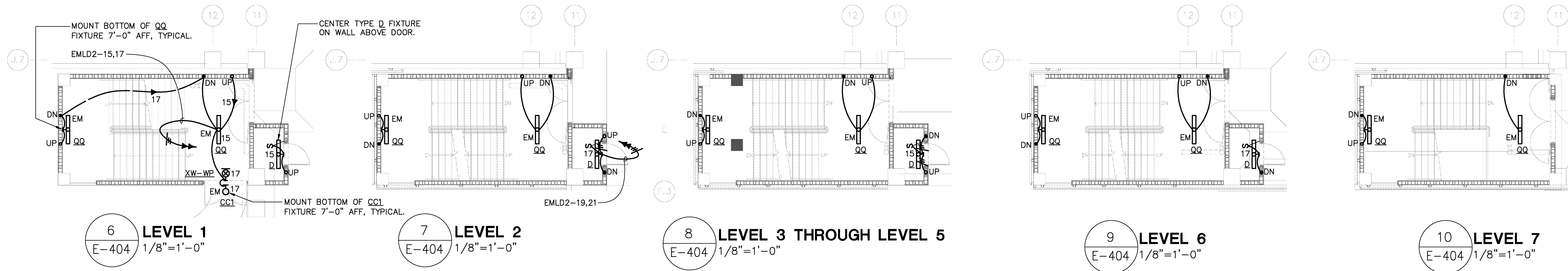
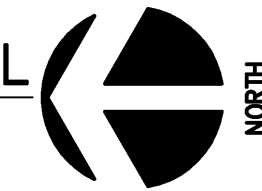
SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

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

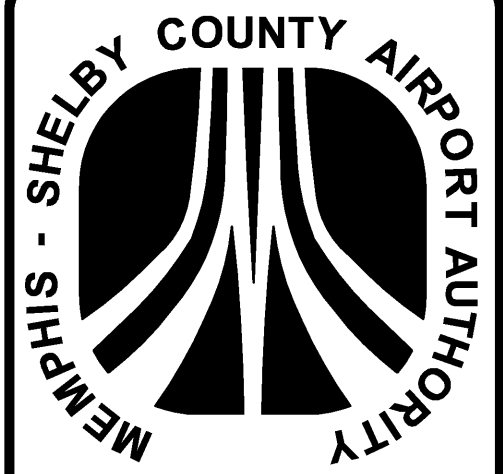
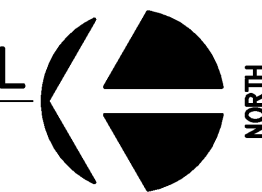
THESE DRAWINGS ARE DIAGRAMMATIC COORDINATION OF ALL TRADES AND COMPLIANCE WITH DIMENSIONS ON ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE REQUIRED.



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



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



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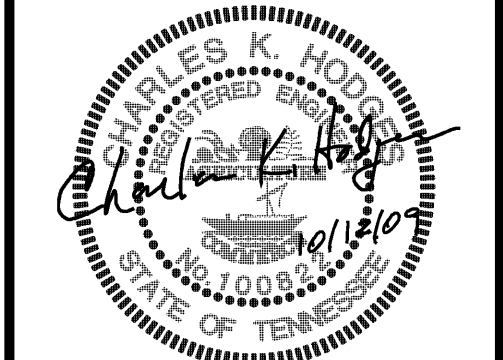
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DRAWN BY: NK CHECKED BY: CKH APPROVED BY: CKH



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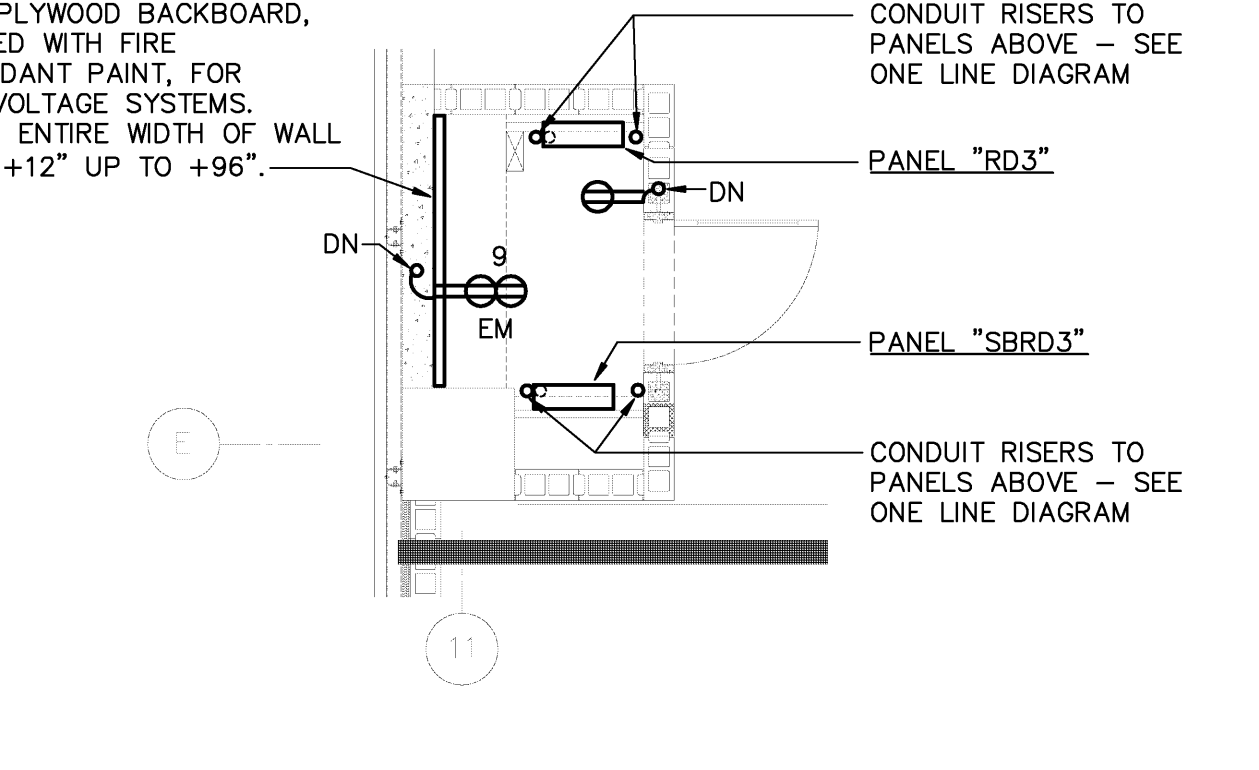
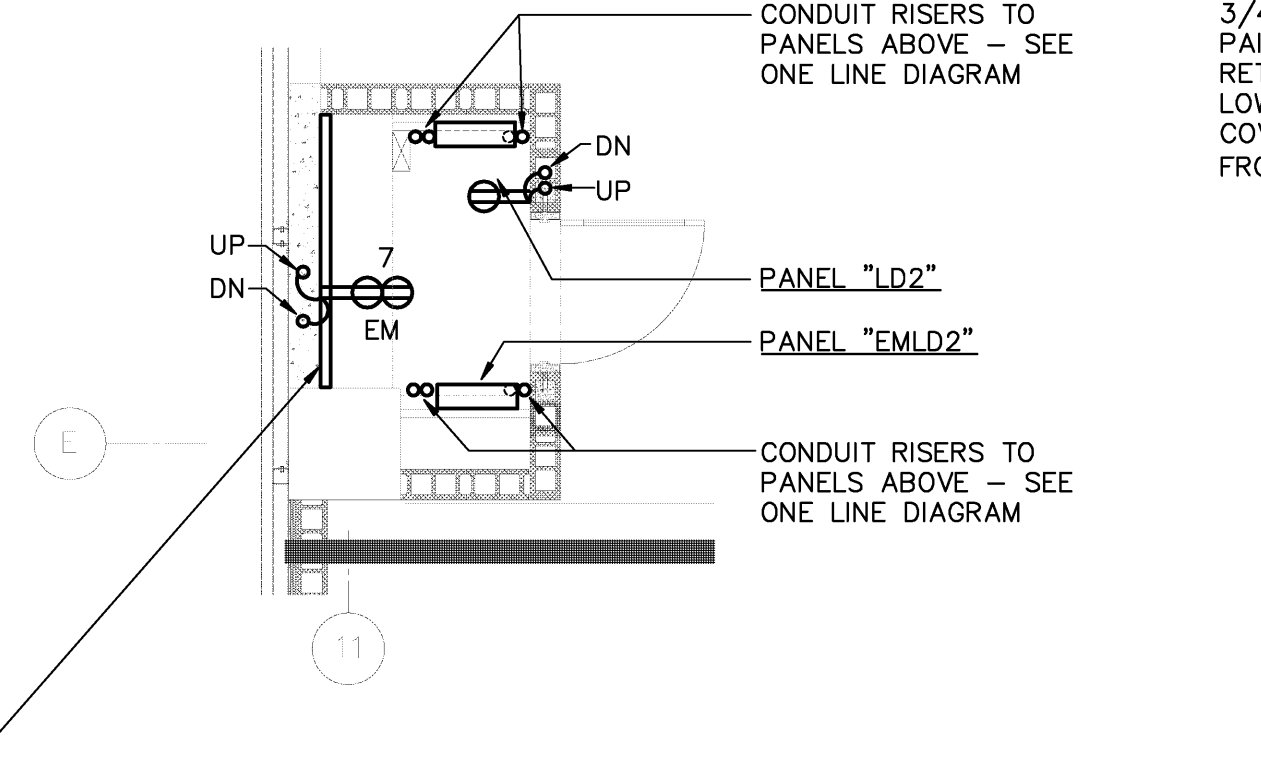
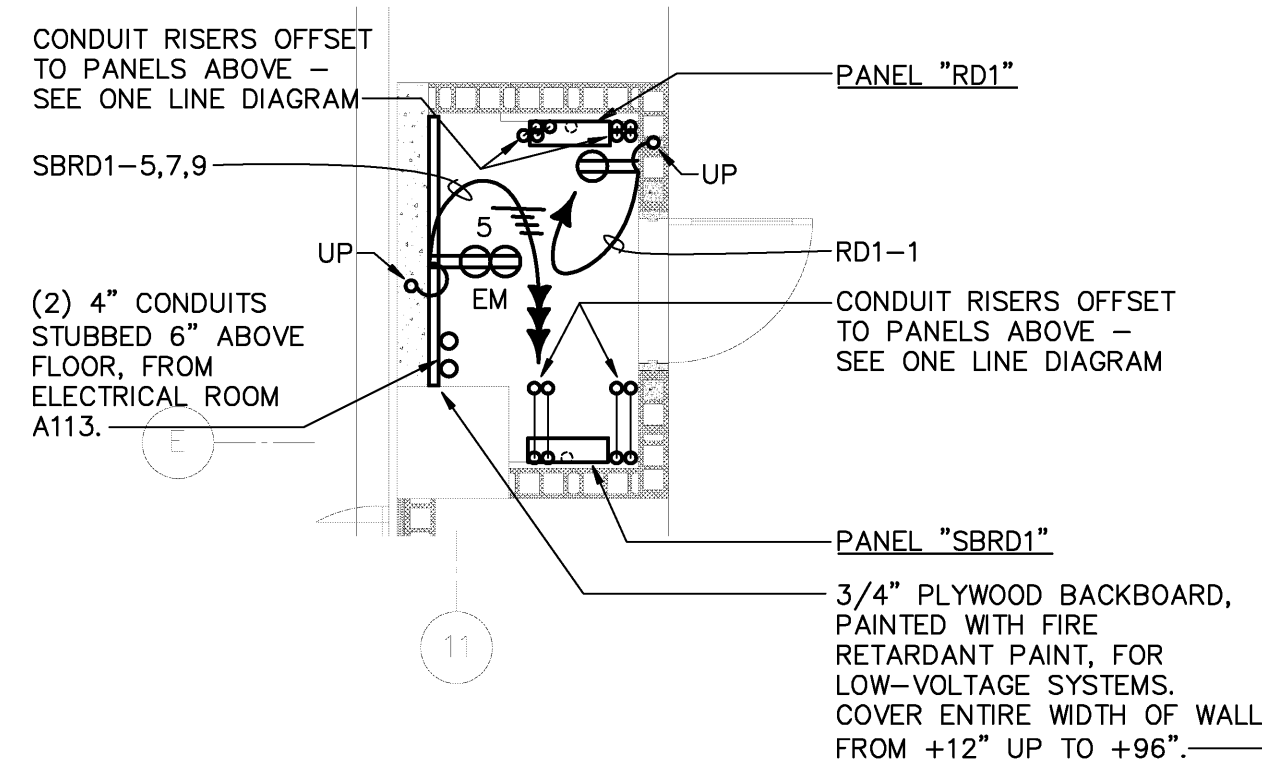
REVISIONS

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

SHEET TITLE:
ENLARGED PLANS - ELECTRICAL

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

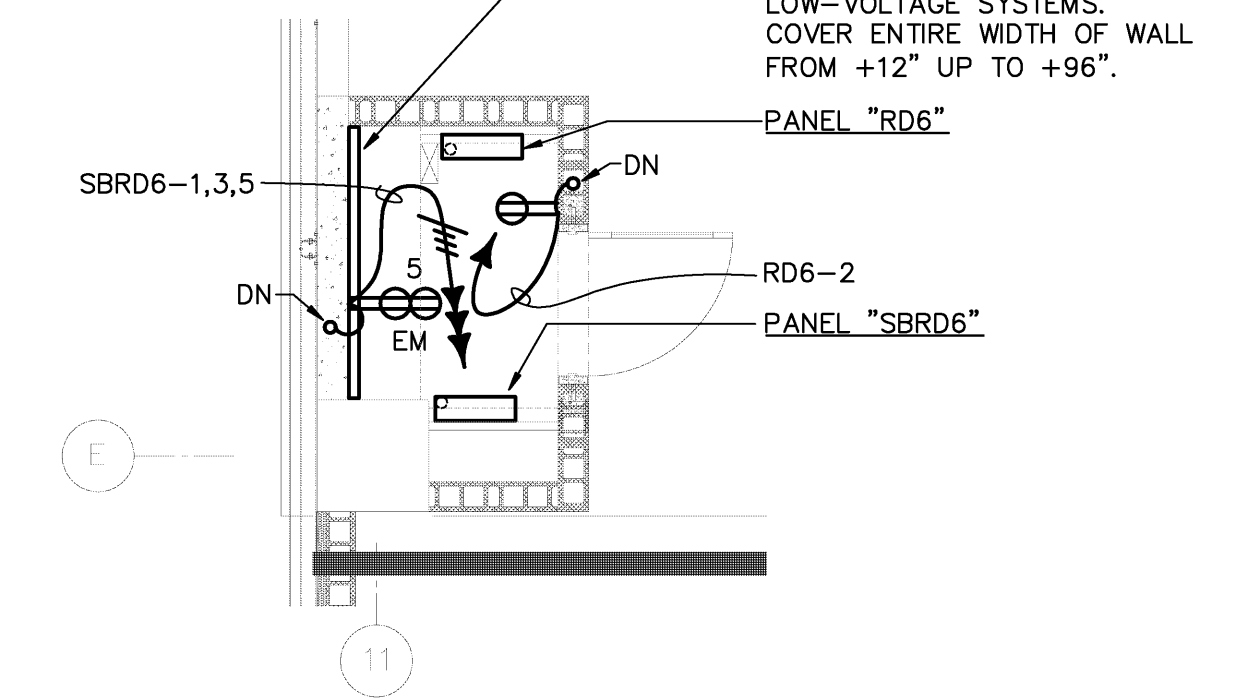
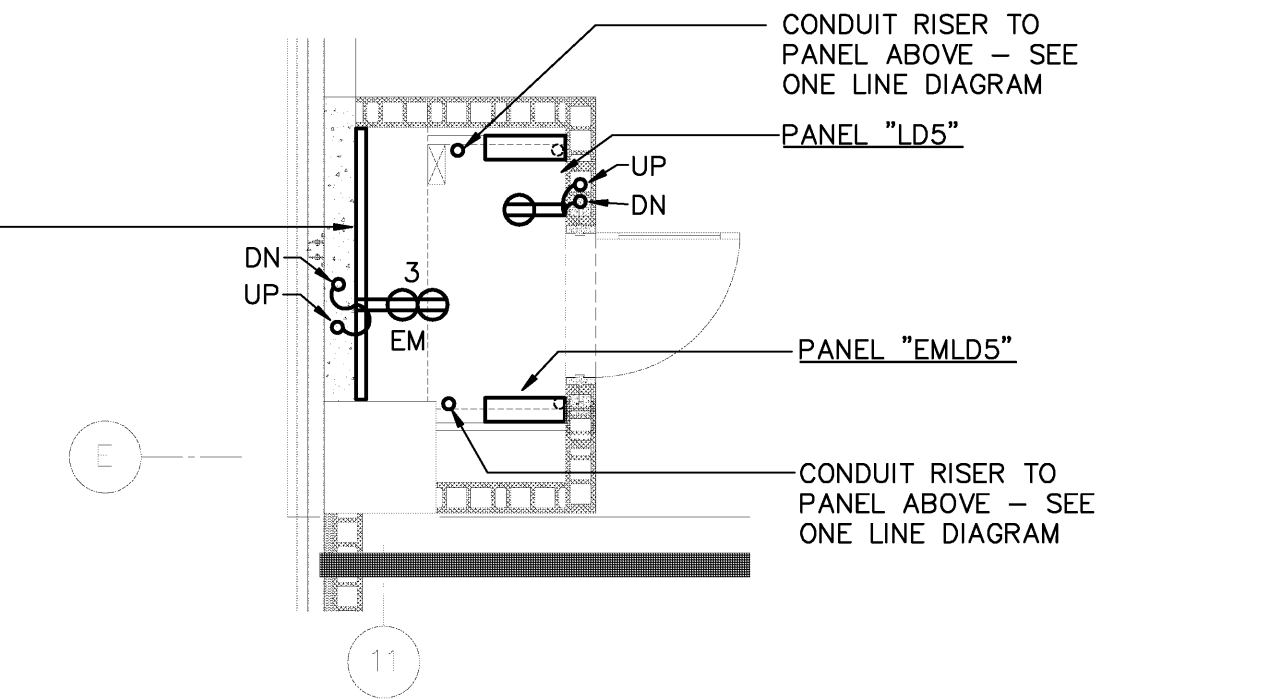
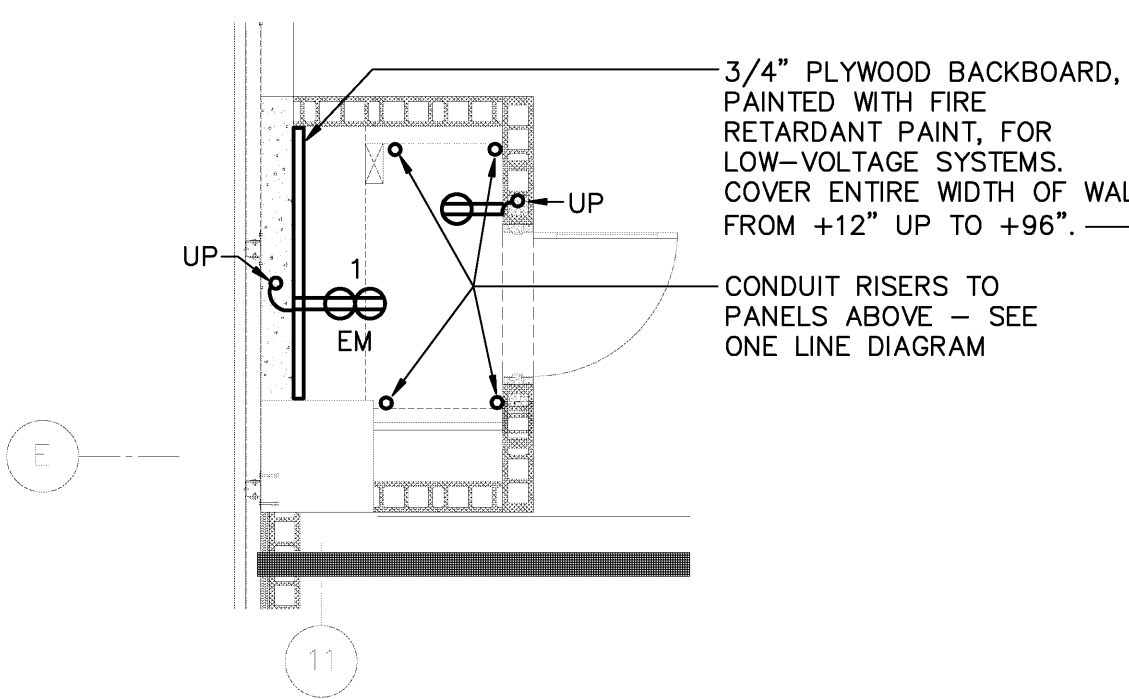
THESE DRAWINGS ARE DIAGRAMMATIC. COORDINATION OF ALL TRADES AND COMPLIANCE WITH DIMENSIONS ON ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE REQUIRED.



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

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

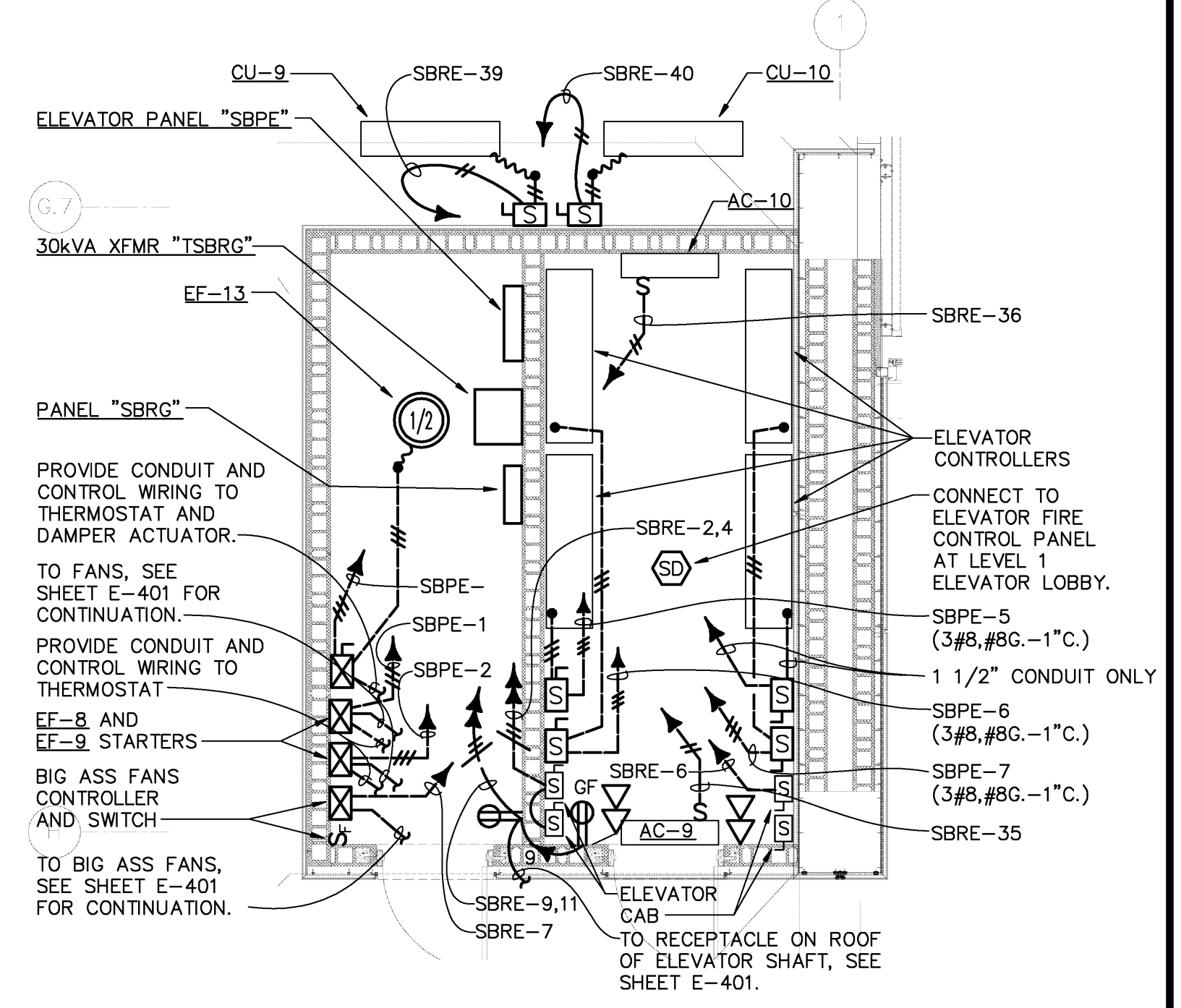
ENLARGED NORTHEAST-LEVEL 3
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"



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

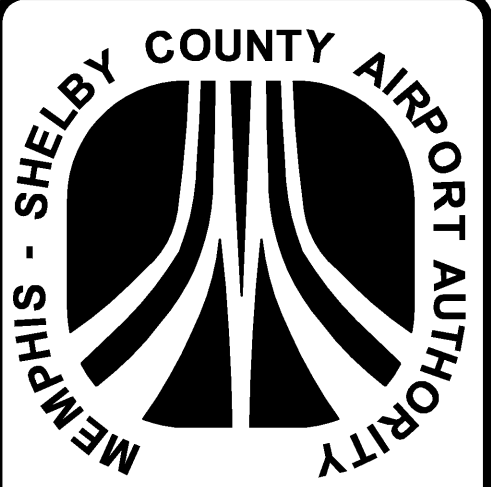
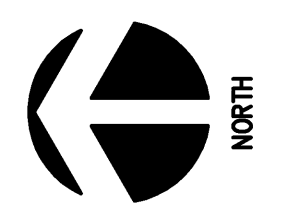
ENLARGED NORTHEAST-LEVEL 5
ELECTRICAL CLOSET PLAN-
ELECTRICAL
1/4" = 1'-0"

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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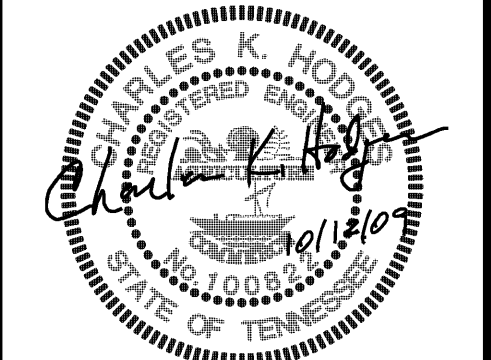
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1	DESIGN DEVELOPMENT	8/28/09	

PROJECT:

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IMPROVEMENTS
NEW GARAGE**

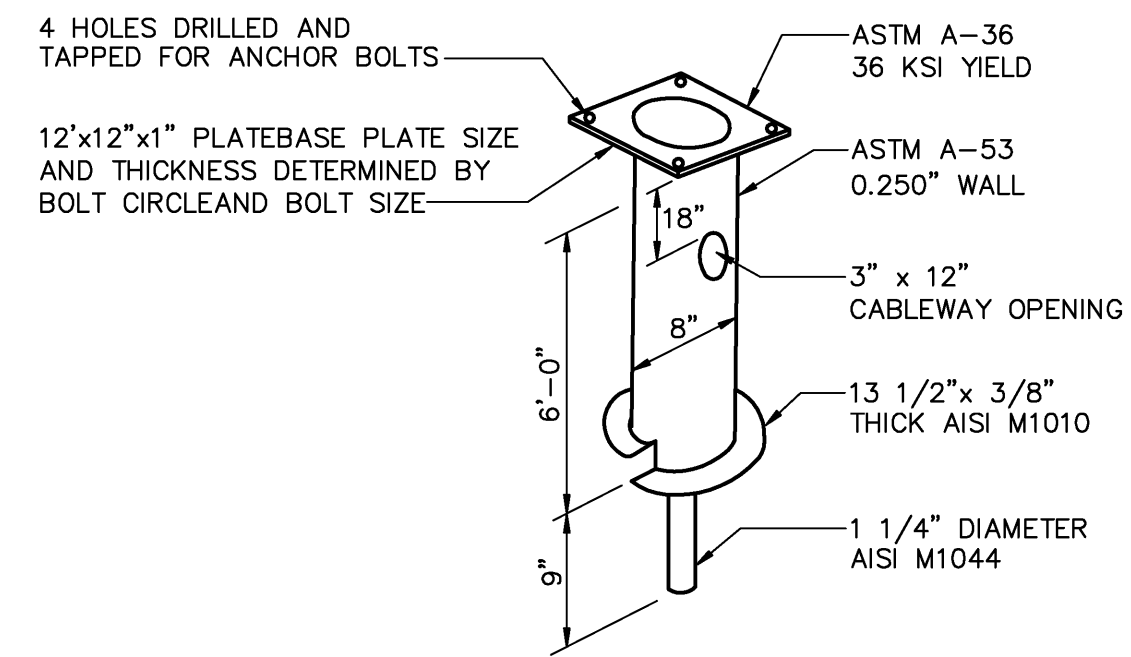
SHEET TITLE:
**ENLARGED
PLANS -
ELECTRICAL**

AIP NO.

DWG. REF. DWG. DISP.

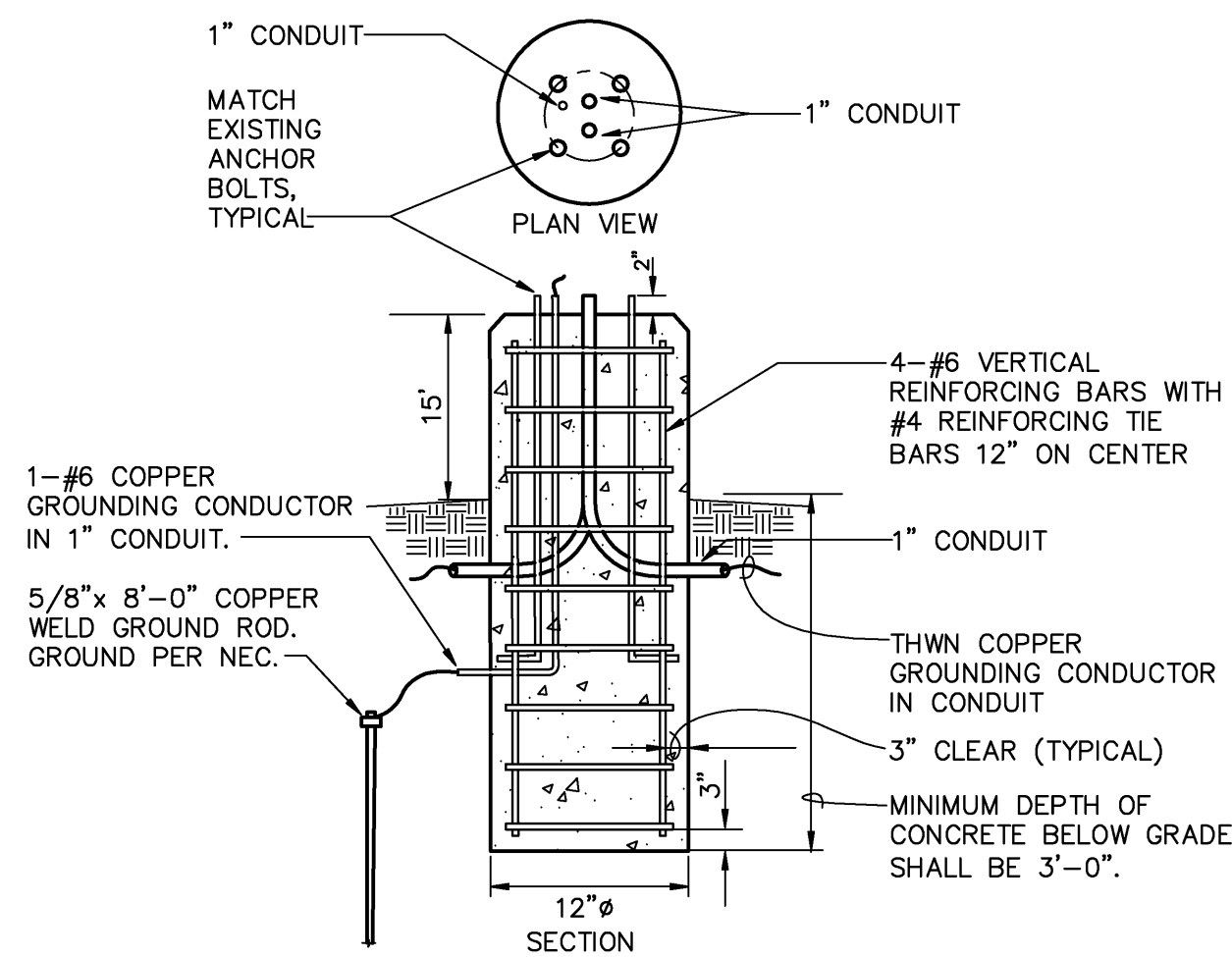
MSCAA NO. 9905 SHEET NO. E-406

DATE: OCTOBER 12, 2009 SCALE: AS SHOWN

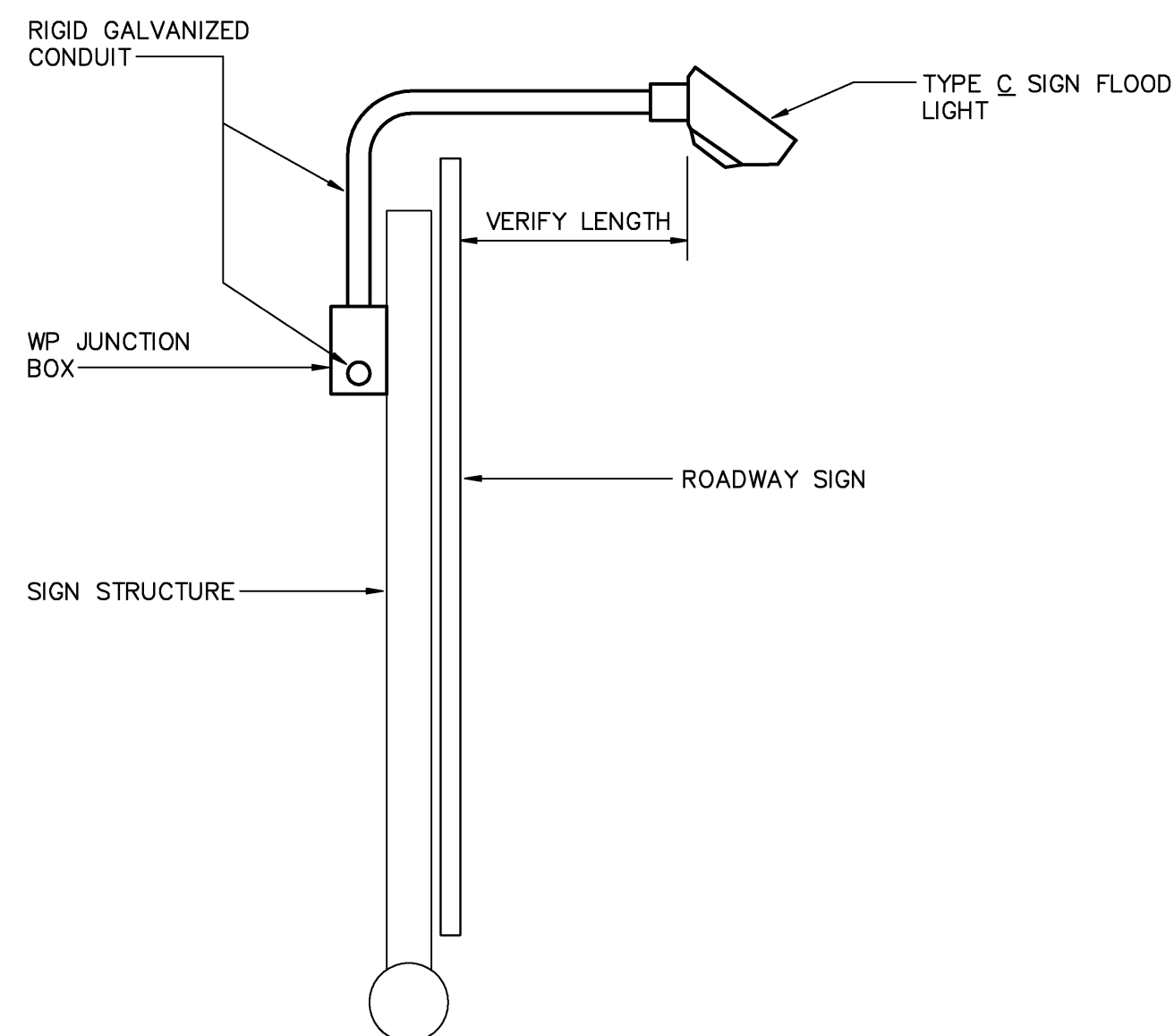


SCREW-IN POLE BASE - DETAIL 1
NO SCALE E-503

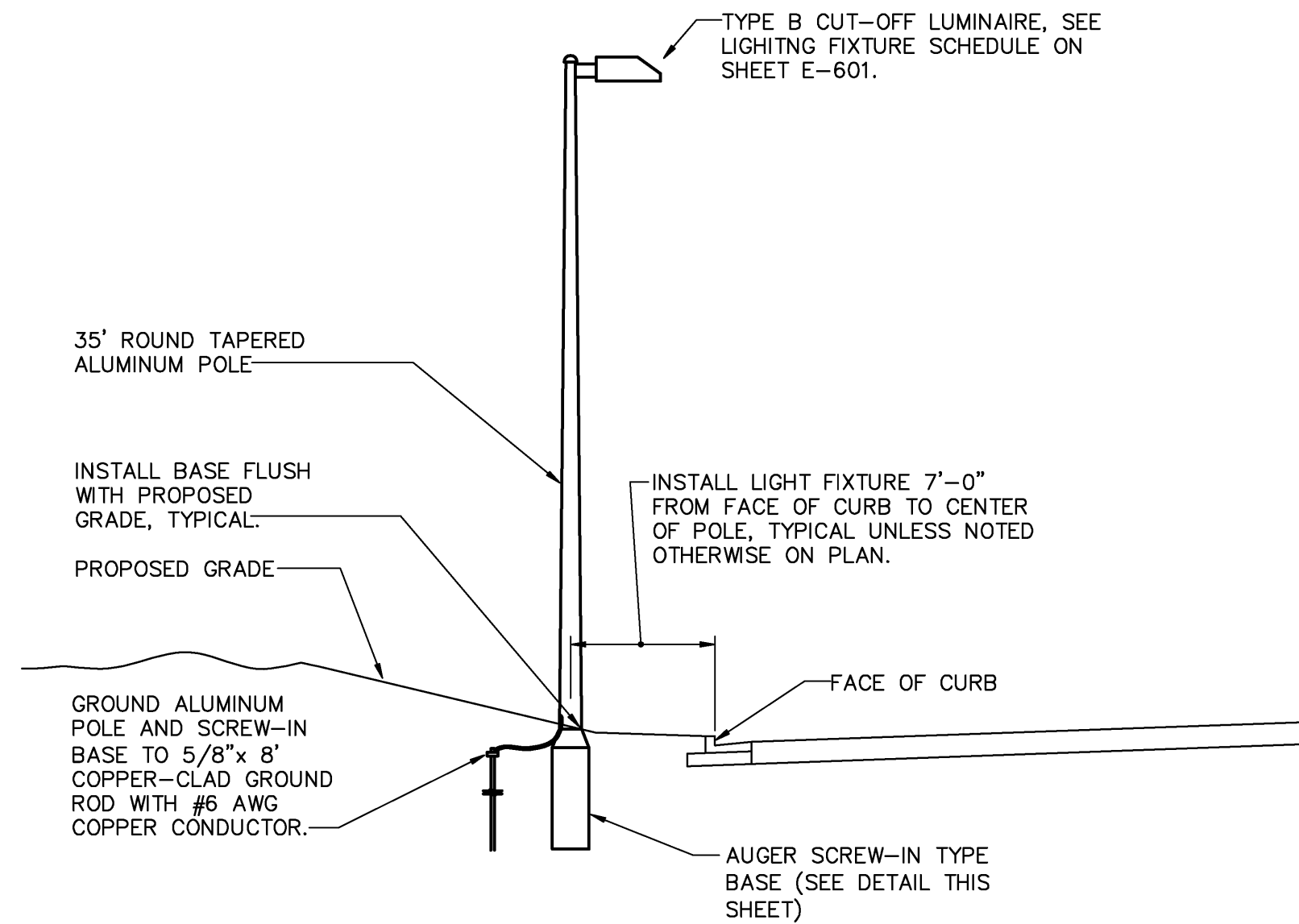
NOTES:
1. INSTALL SCREW-IN BASES ONLY IN UNDISTURBED EARTH. IF THE BASE IS IN FILL, THE SOIL SHALL BE COMPACTED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.



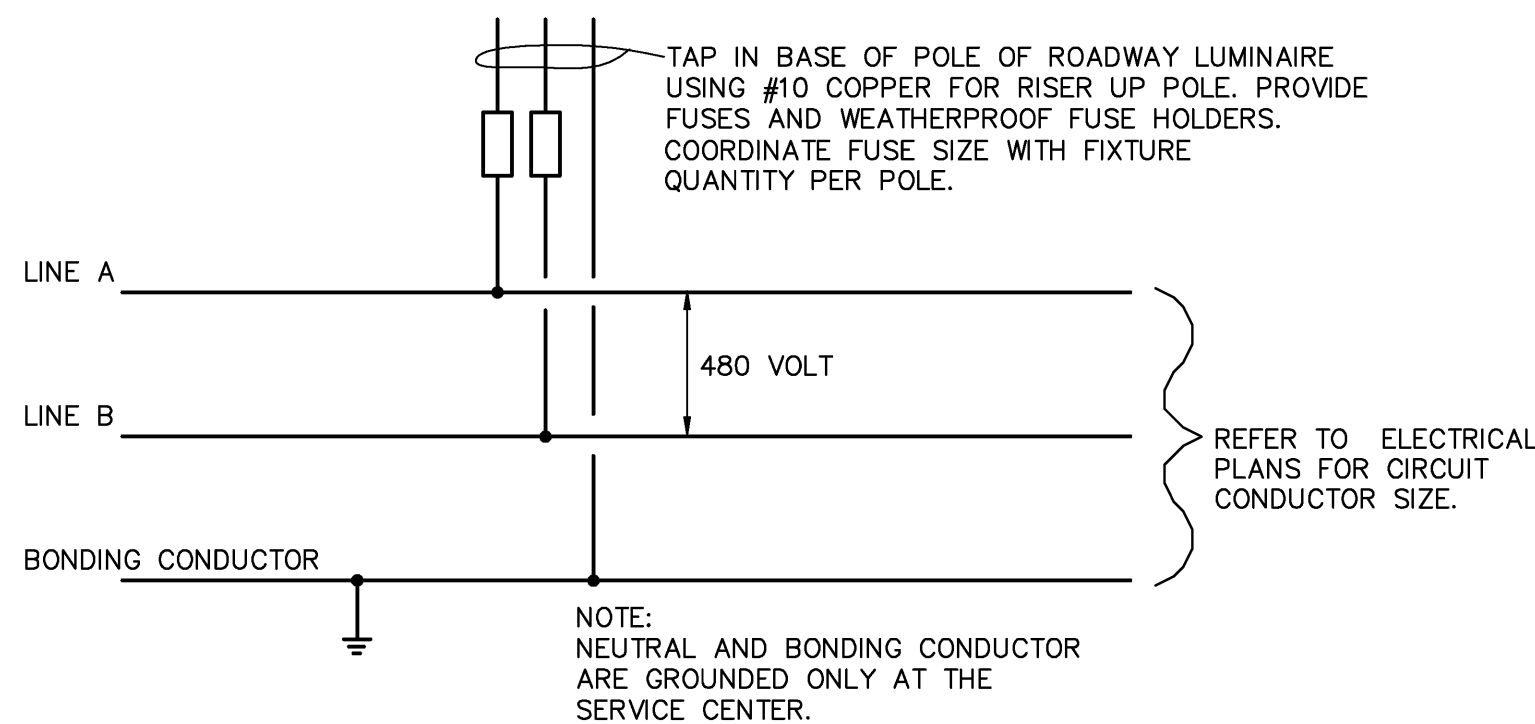
RADISSON PARKING LOT POLE BASE DETAIL 2
NO SCALE E-503



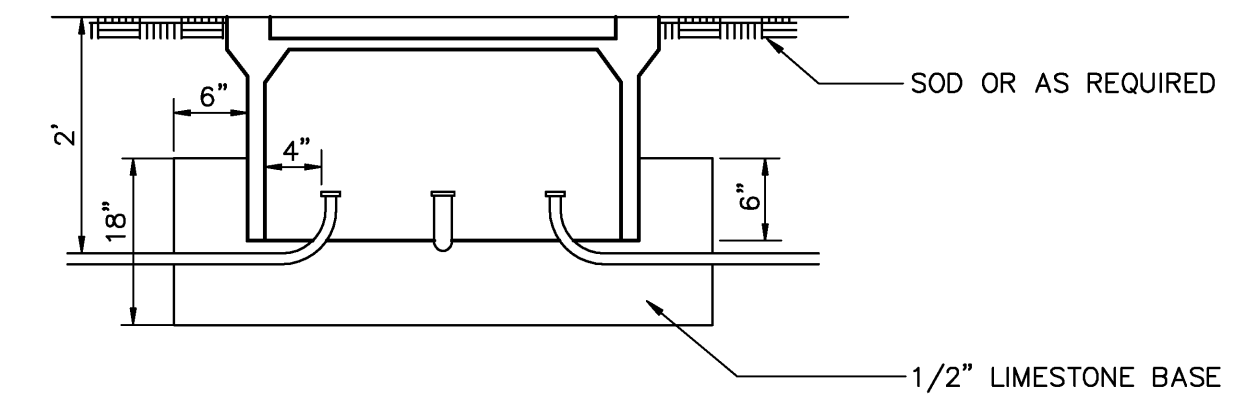
OVERHEAD SIGN LIGHTING DETAIL 3
NO SCALE E-503



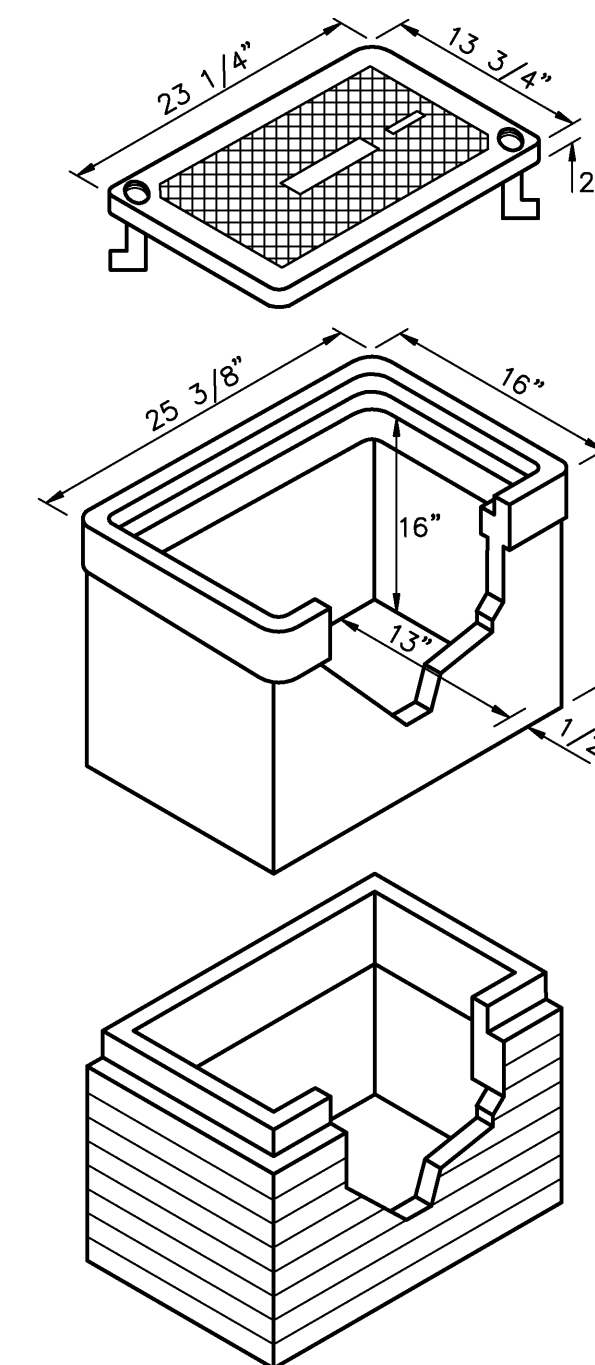
TYPICAL SECTION - TYPE B ROADWAY LIGHT 4
NO SCALE E-503



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.



MEMPHIS INTERNATIONAL AIRPORT
2491 WINCHESTER RD., SUITE 113
MEMPHIS, TENNESSEE
38116-3856

WALKER
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813.888.5800 Ph.
813.888.5822 Fax

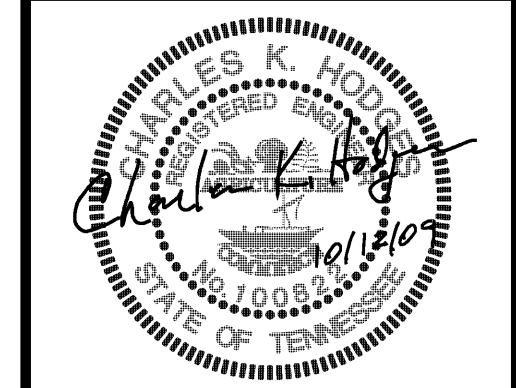
JOB NO. 15-1800.00 REVIEWED BY: GLK

OGCB
MECHANICAL/ELECTRICAL CONSULTING ENGINEERS
3400 Taylor Avenue, Suite 207 Memphis, TN 38117
Phone: 901-455-4300 / Fax: 901-455-5100 / www.ogcb.com

JOB NO. 0720 REVIEWED BY: xxx

JOB NO. REVIEWED BY:

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



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ISSUED FOR BID

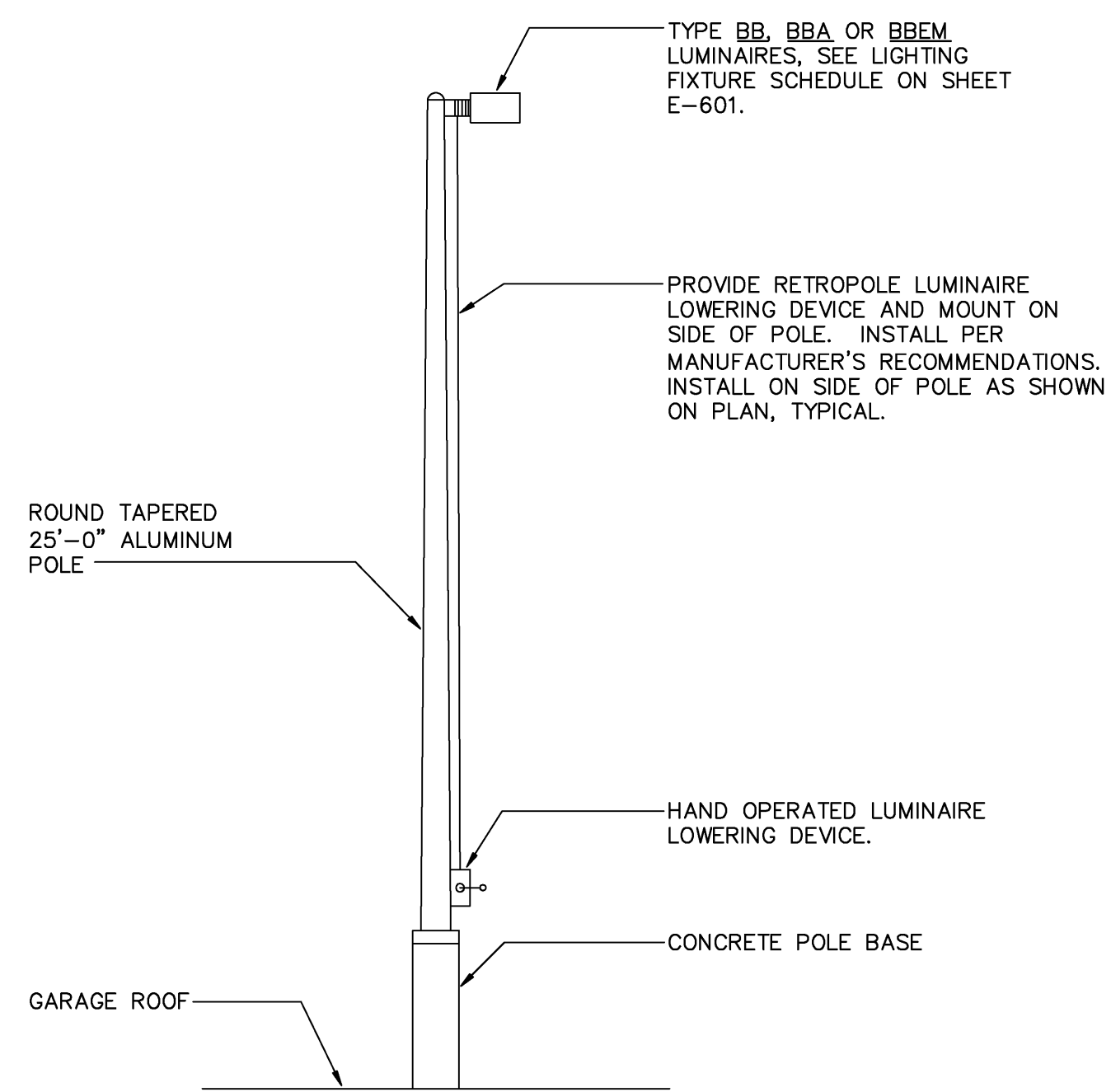
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1	DESIGN DEVELOPMENT	8.29.09	

REVISIONS

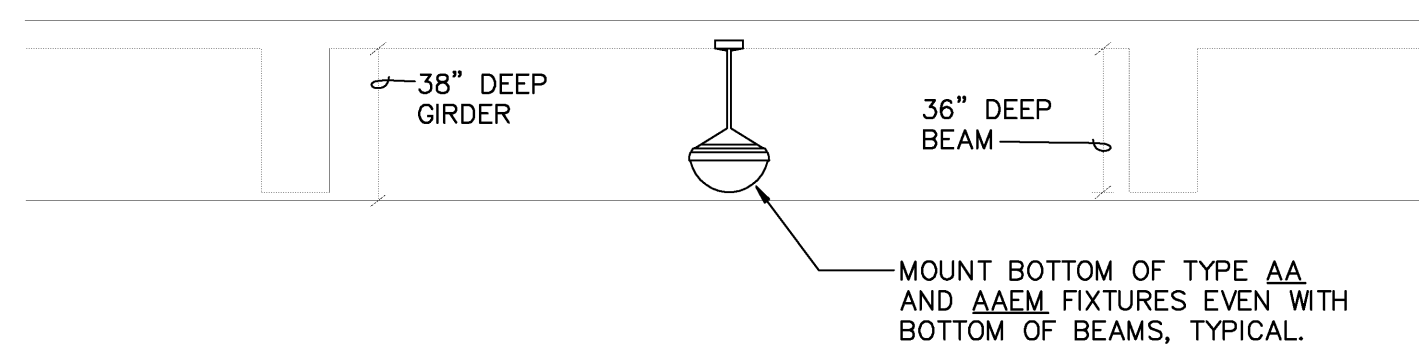
PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS

SHEET TITLE:
ELECTRICAL DETAILS

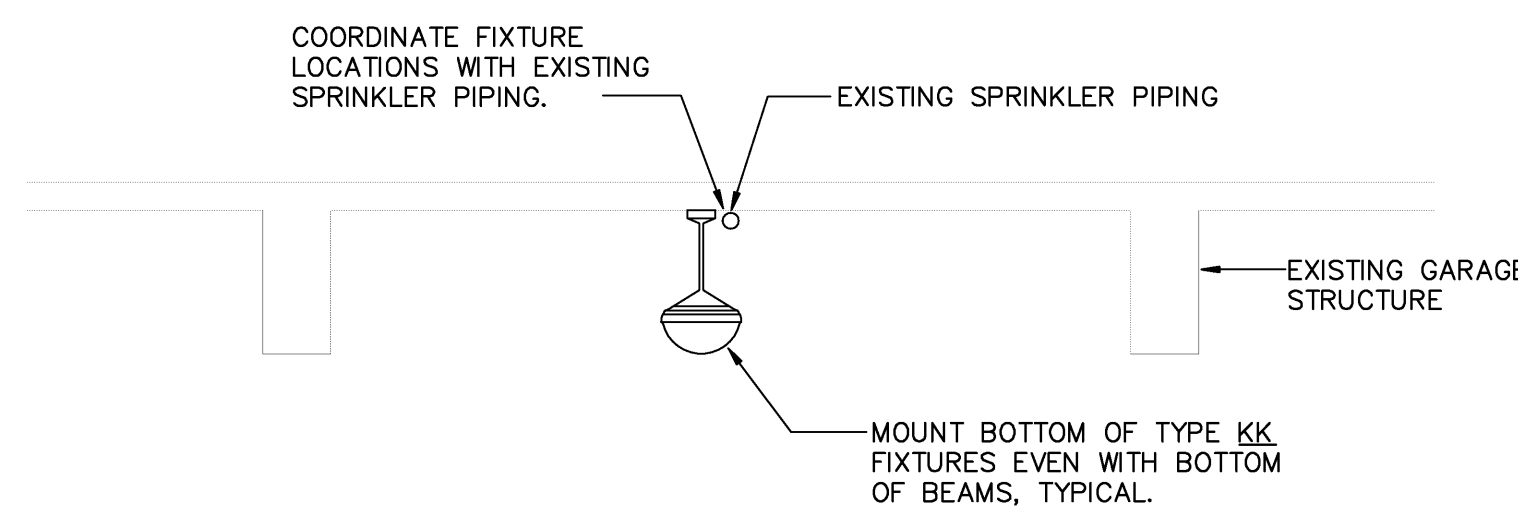
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DWG. REF. DWG. DISP.
MSCAA NO. 9905 SHEET NO. E-503
DATE OCTOBER 12, 2009
SCALE NO SCALE



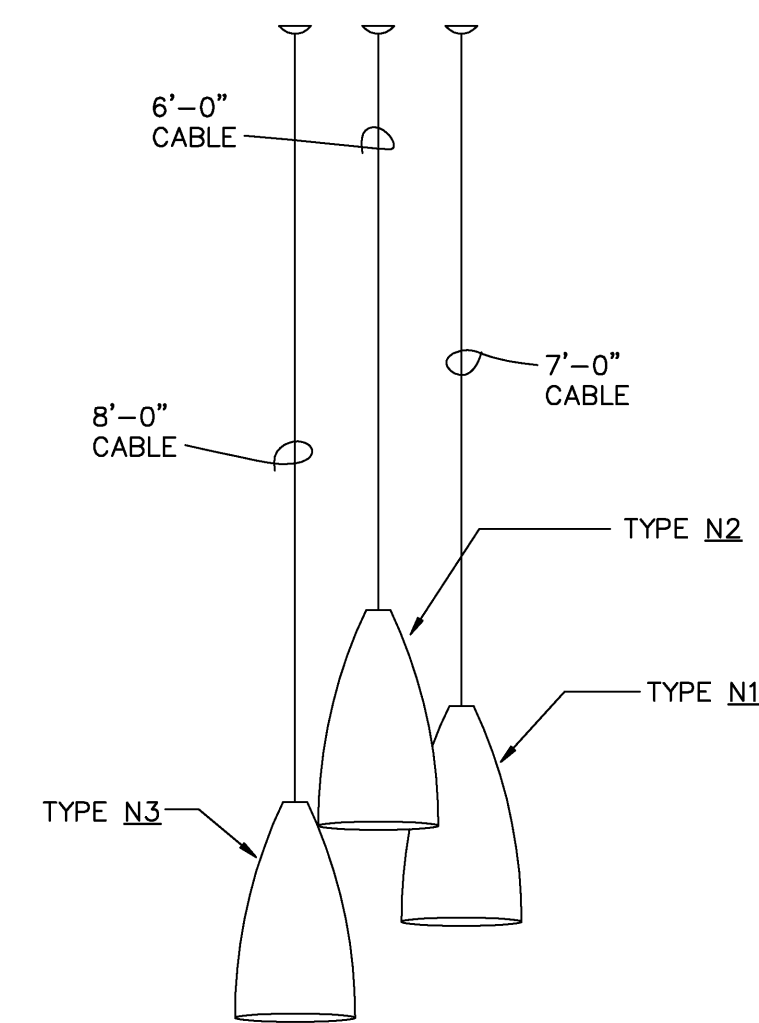
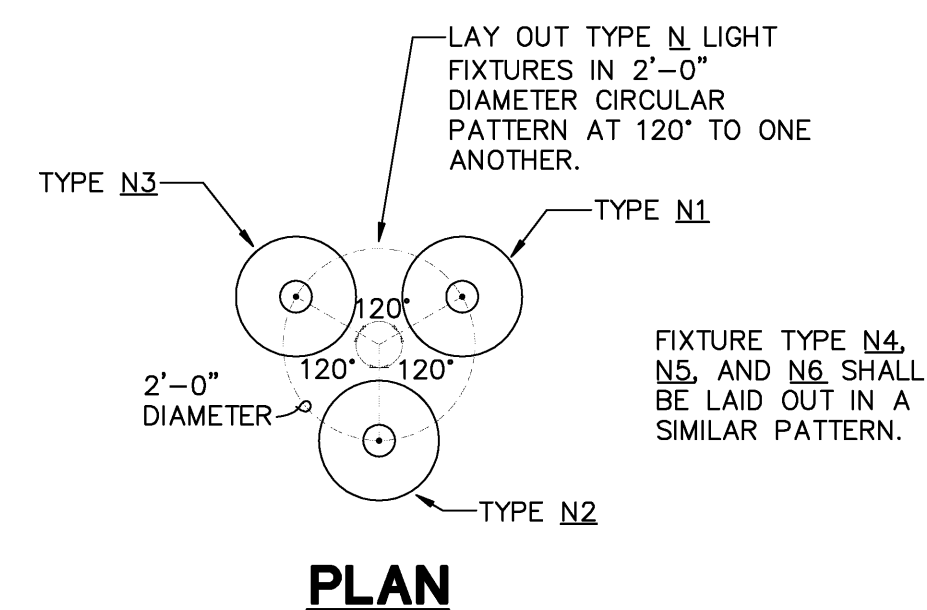
LUMINAIRE LOWERING DEVICE DETAIL 1
NO SCALE E-504



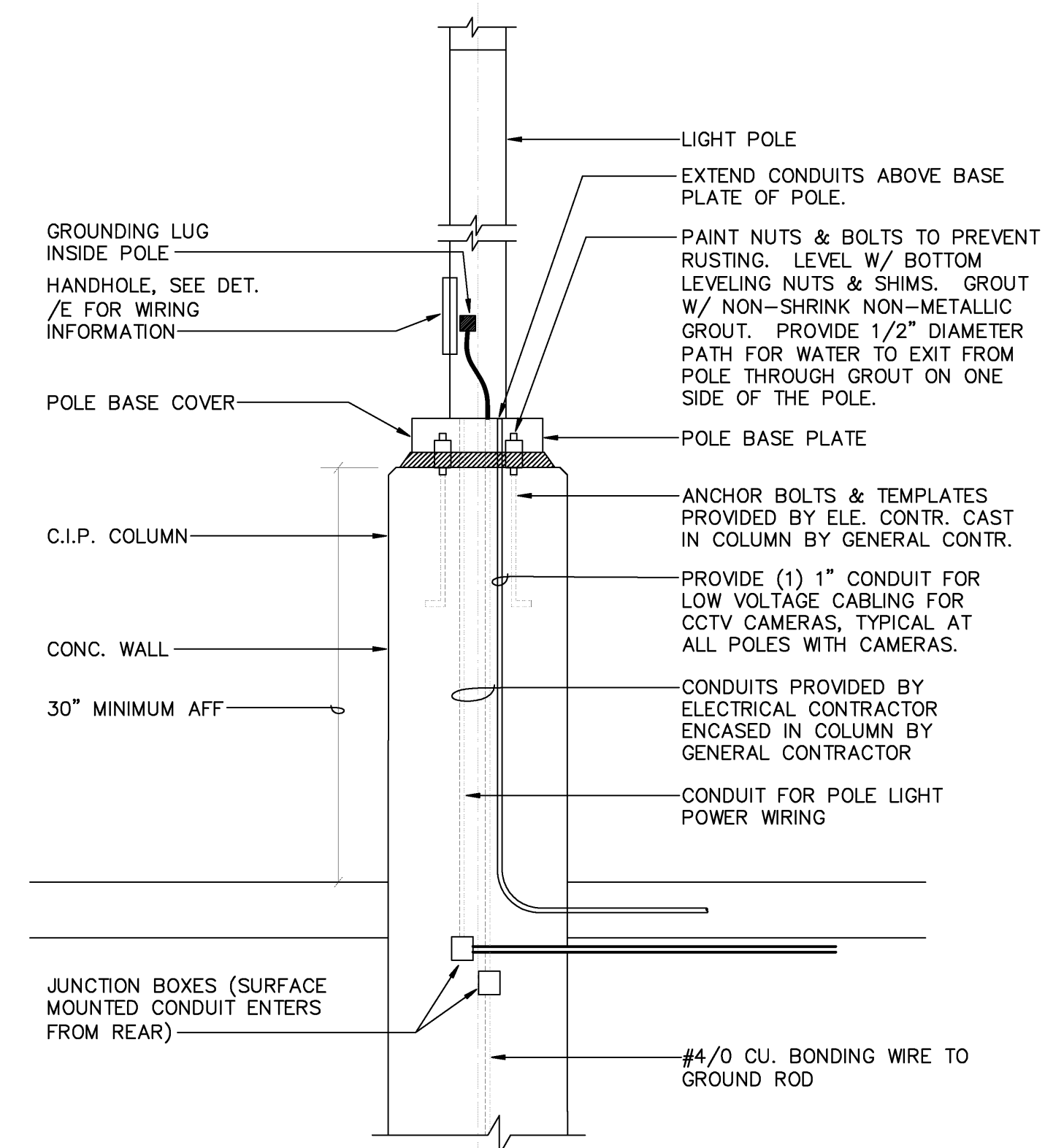
FIXTURE TYPE AA AND AAEM MOUNTING DETAIL 2
1/4"=1'-0" E-504



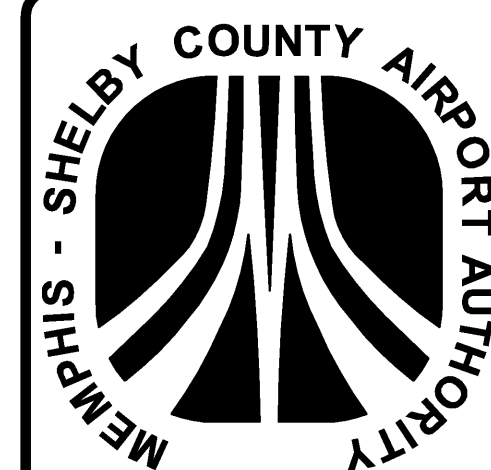
MOUNTING DETAIL FOR TYPE EE AND EEEM IS SIMILAR IN EXISTING GARAGE.
FIXTURE TYPE KK AND KKEM MOUNTING DETAIL 3
NO SCALE E-504



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



POLE MOUNTING DETAIL 5
NO SCALE E-504



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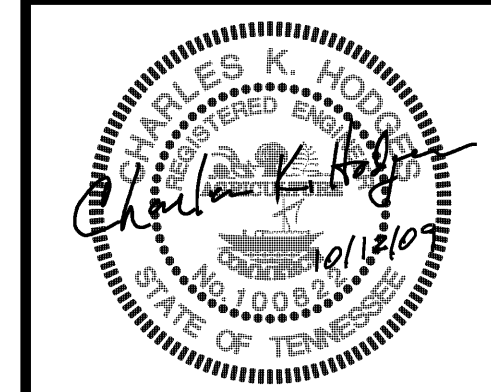
JOB NO. 15-1800.00 REVIEWED BY: GLK

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JOB NO. 0720 REVIEWED BY: xxx

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NO.	DESCRIPTION	DATE BY
2	65% CONSTR. DOCUMENTS	8.25.09
1	DESIGN DEVELOPMENT	8.29.09

REVISIONS

PROJECT:
PARKING GARAGE EXPANSION & IMPROVEMENTS

SHEET TITLE:
ELECTRICAL DETAILS

AIP NO.	DWG. REF.	DWG. DISP.
	MSCAA NO. 9905	SHEET NO. E-504
	DATE OCTOBER 12, 2009	
	SCALE NO SCALE	

**KIM LIGHTING****AR**

The Archetype®

revision 3/17/03 • ar.pdf

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

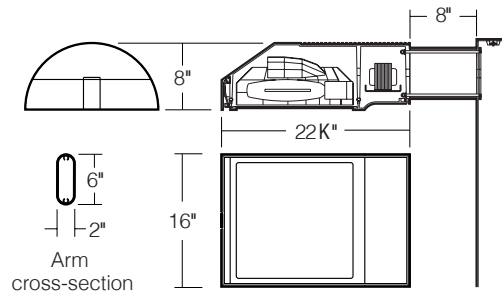
Mtg.	Fixture	Electrical Module	Finish	Options	Optional
_____	_____	_____	_____	_____	_____
See page 2					See pages 3-4
					Optional Vertical Slipfitter Mount See page 5

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.



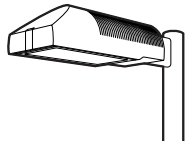


AR

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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

Plan View:

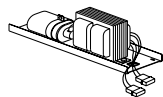
							Wall Mount
EPA:	1.2	2.4	2.0	3.2	3.2	3.9	n/a
Cat. No.:	1A	2B	2L	3T	3Y	4C	1W

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 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**

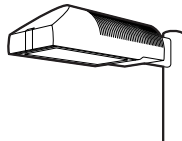
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Type:

Job:

Page: 3 of 5



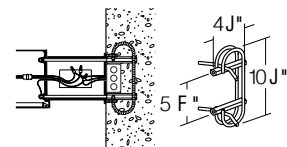
Optional Features

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.



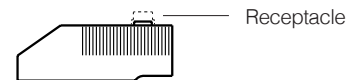
Wall mount using wall embedment bracket - J-box in wall (by others)

Photocell Receptacle

Cat. No.

A-25**No Option**

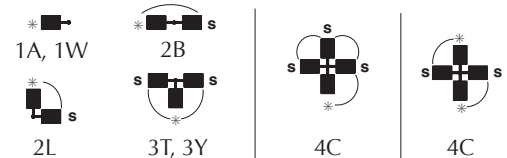
Fixture supplied with a fully gasketed receptacle above the electrical compartment for NEMA base photocell (by others). For all multiple-fixture pole mountings with two or three fixtures, one fixture has a receptacle to operate the others. Four fixtures (250 watt or less) also require one fixture with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



Receptacle

Mounting (see page 2)

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



Allowable wattage per fixture:

150-400W

150-250W

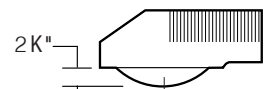
400W

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

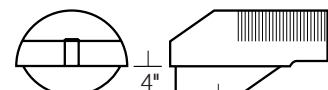
Polycarbonate Lens

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

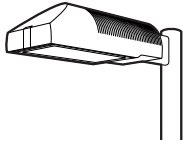

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Type:

Job:

Page: 4 of 5

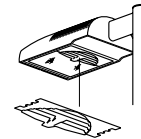
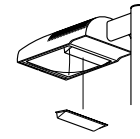


Optional Features

Houseside 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

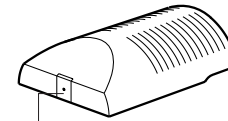
For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

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.

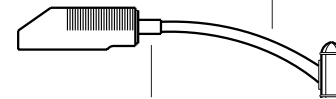


Tamper-Resistant Latch

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.)

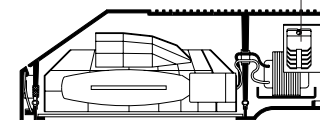
85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

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



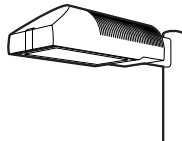
Air Filter

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Type:

Job:

Page: 5 of 5



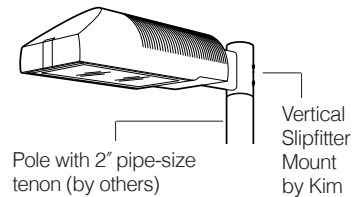
Optional Features

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.

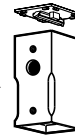
NOTE: 3Y only available on round slipfitter.

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		Job Name: MSCAA Parking Garage Expansion & Improvements	Catalog Number: DS210-700A250-DB	Type: BB

DS210 Round Tapered



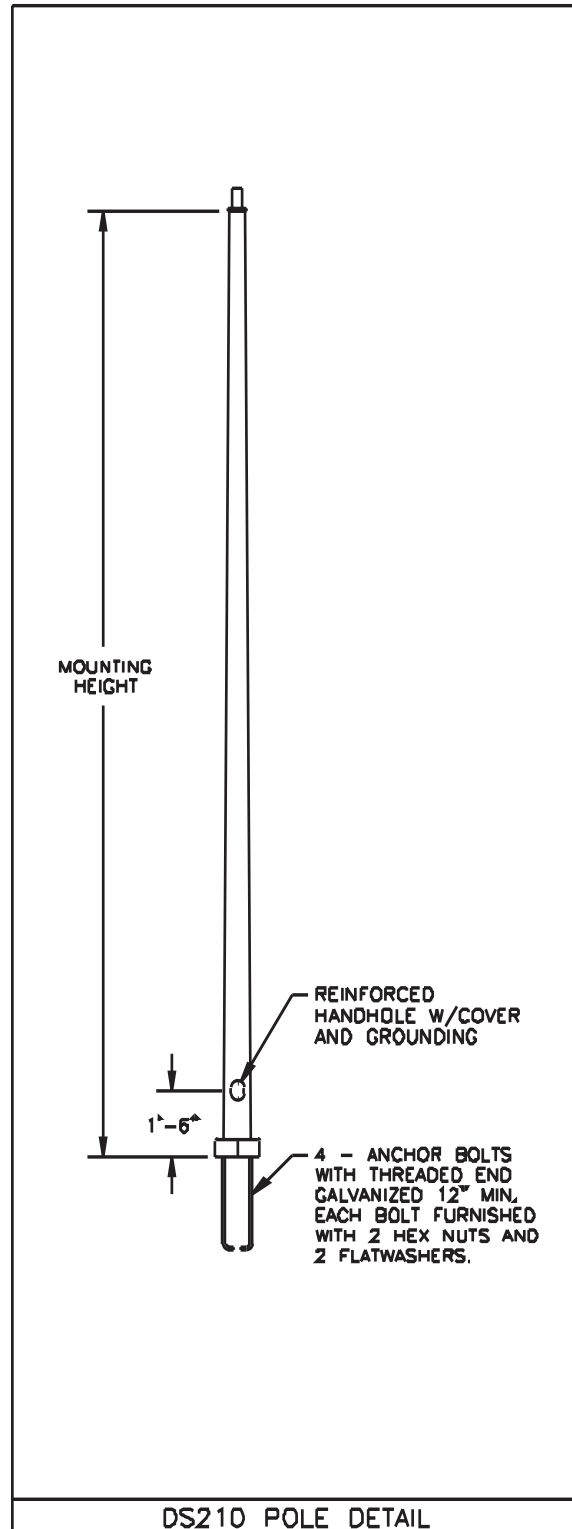
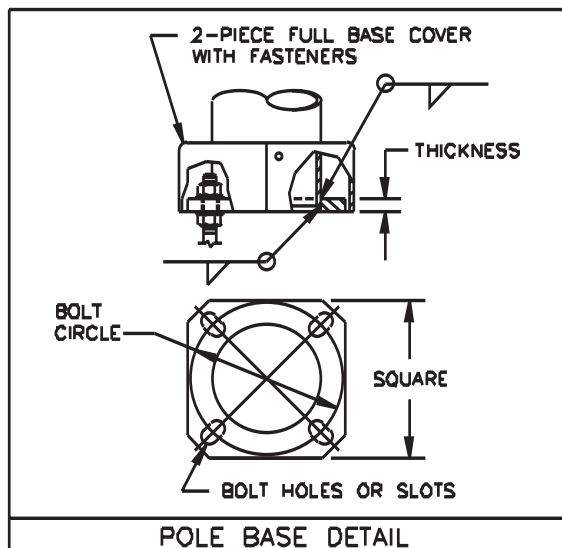
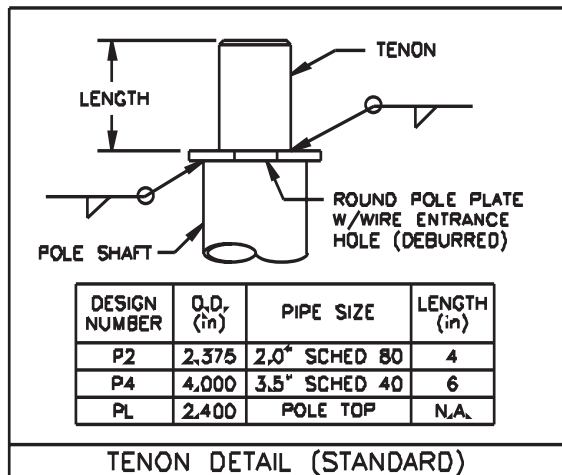
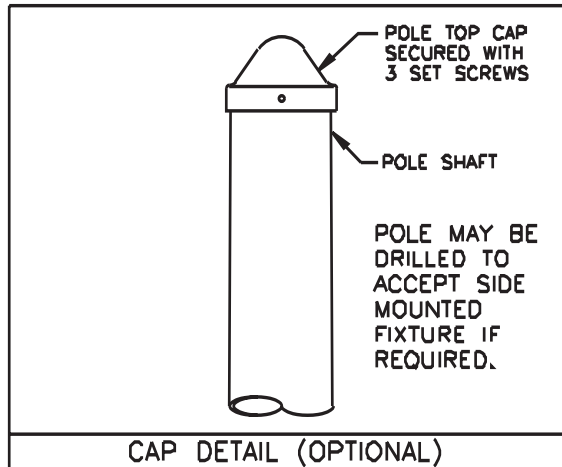
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in) ± (in)		Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. 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.

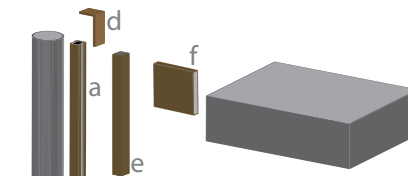


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

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

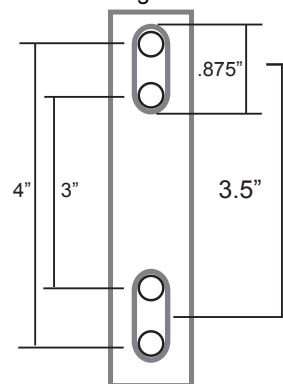
retropole Conversion Kit-Bronze

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.

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KIM LIGHTING
AR

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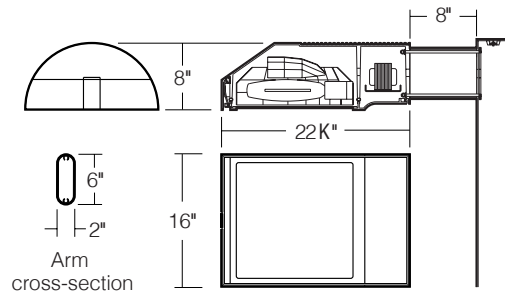
Type:
Job:
Catalog number:

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.



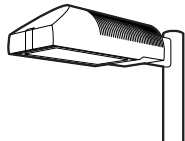


AR

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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

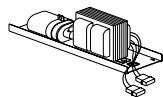
Plan View:

							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

**AR**

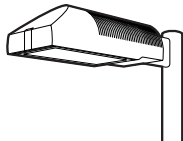
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Type:

Job:

Page: 3 of 5



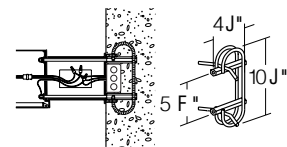
Optional Features

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)

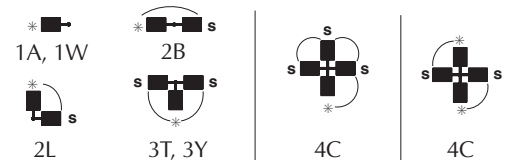
Photocell Receptacle

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

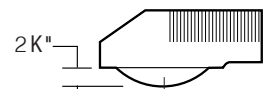
150-250W

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.



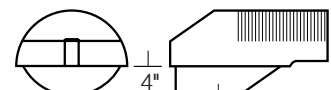
Convex Glass Lens

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.



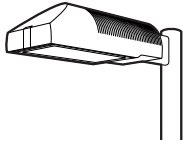
Polycarbonate Lens

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Type:

Job:

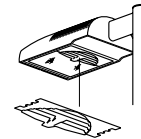
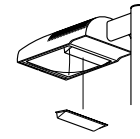
Page: 4 of 5



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.

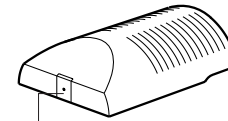
HSC

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.

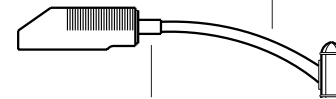
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



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 (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

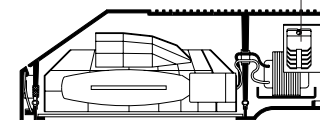
No Option

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



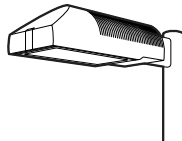
Air Filter

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Type:

Job:

Page: 5 of 5



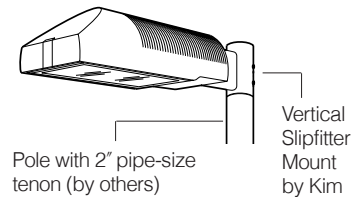
Optional Features

Vertical Slipfitter Mounts

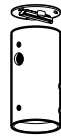
Cat. No. includes Mounting

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

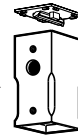
Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws,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

Job Name:

MSCAA Parking Garage Expansion & Improvements

Catalog Number:
DS210-700A250-DB

Notes:

Type:**BBEM**

FSM10-43742

Product Specifications DS210, DS220**valmont** 
STRUCTURES**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



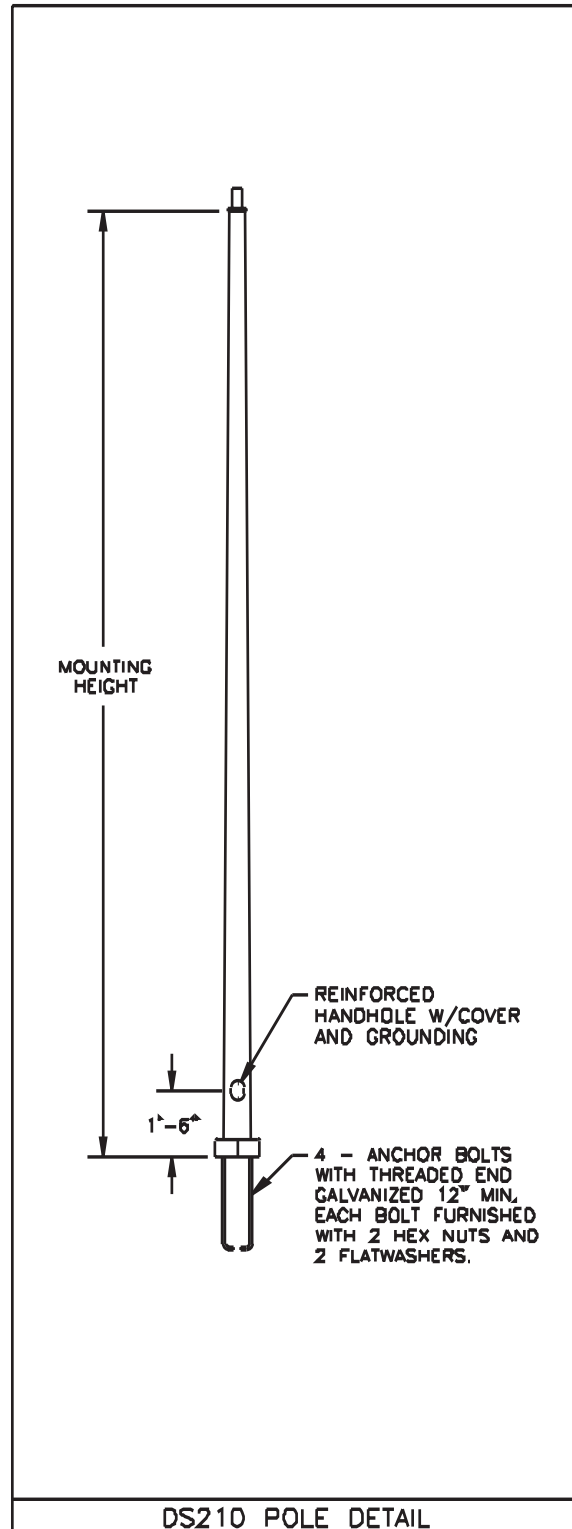
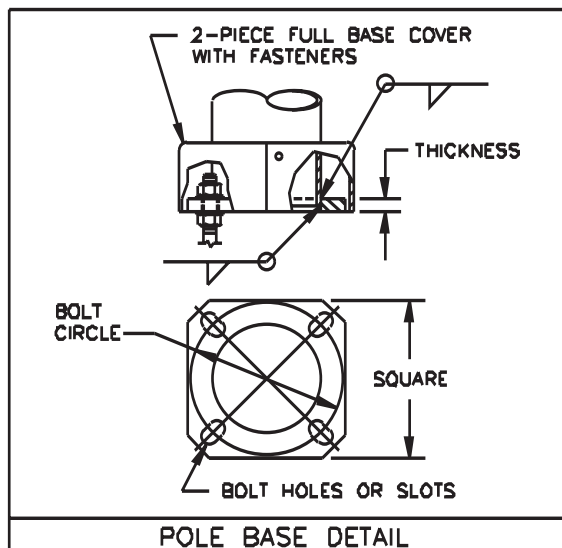
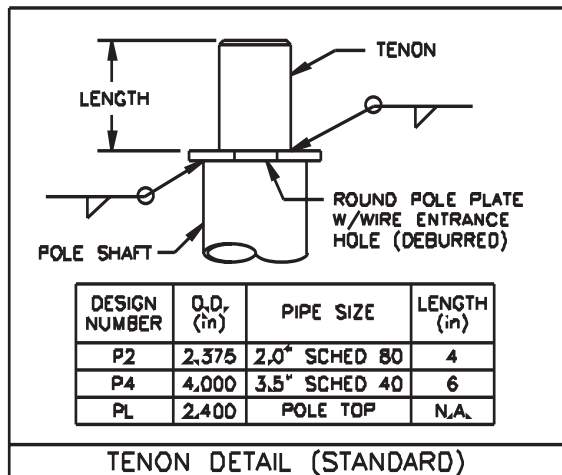
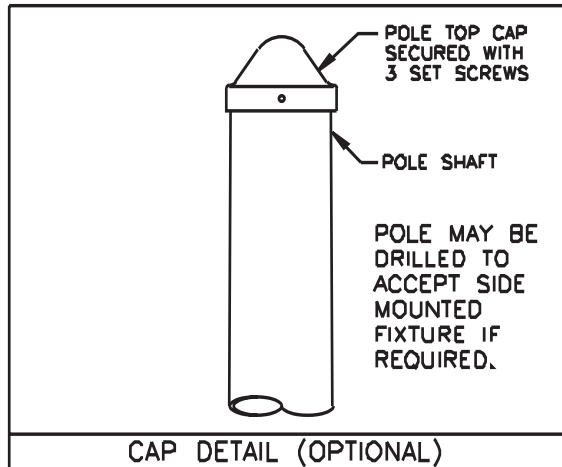
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in) ± (in)		Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. 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:**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.

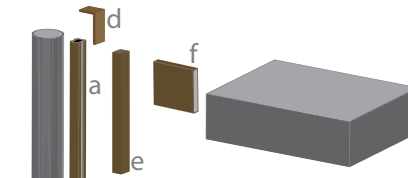


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

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



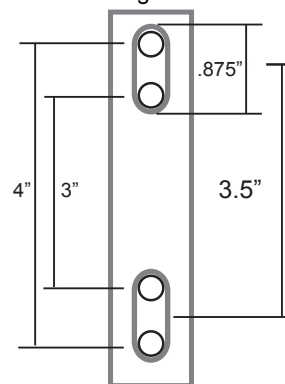
Existing Equipment-Gray

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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KIM LIGHTING
AR

The Archetype®

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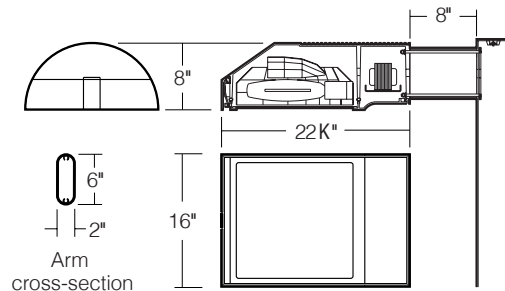
Type:
Job:
Catalog number:

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.



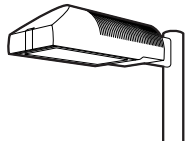


AR

The Archetype®
revision 3/17/03 • ar.pdf

Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

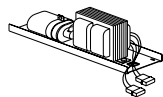
Plan View:

							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 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 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: _____

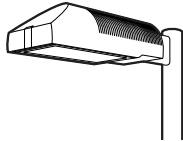
SF - Single Fuse

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

Type:

Job:

Page: 3 of 5



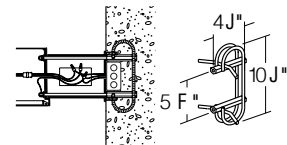
Optional Features

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.

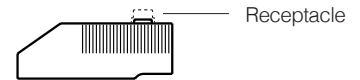


Wall mount using wall embedment bracket - J-box in wall (by others)

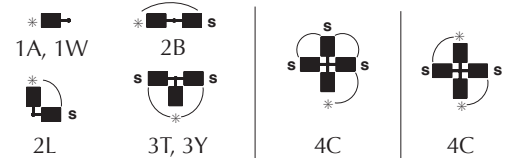
Photocell Receptacle

 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

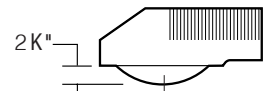
150-250W

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.



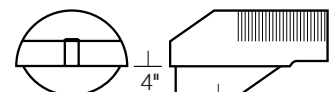
Convex Glass Lens

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.



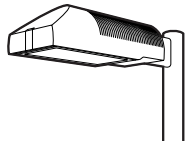
Polycarbonate Lens

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

Type:

Job:

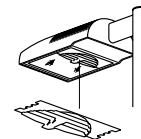
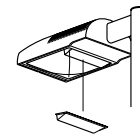
Page: 4 of 5



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.

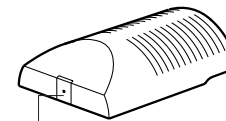
HSC

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.

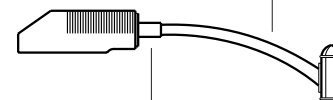
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



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

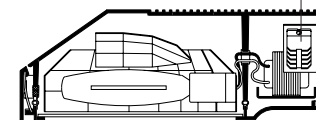
No Option

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



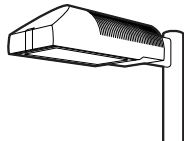
Air Filter

**AR**The Archetype®
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Type:

Job:

Page: 5 of 5



Optional Features

Vertical Slipfitter Mounts

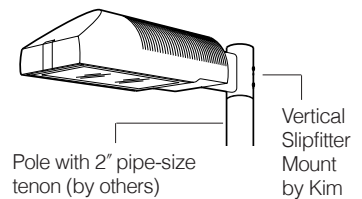
Cat. No. includes Mounting

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.

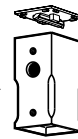


Cat. No.

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°

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

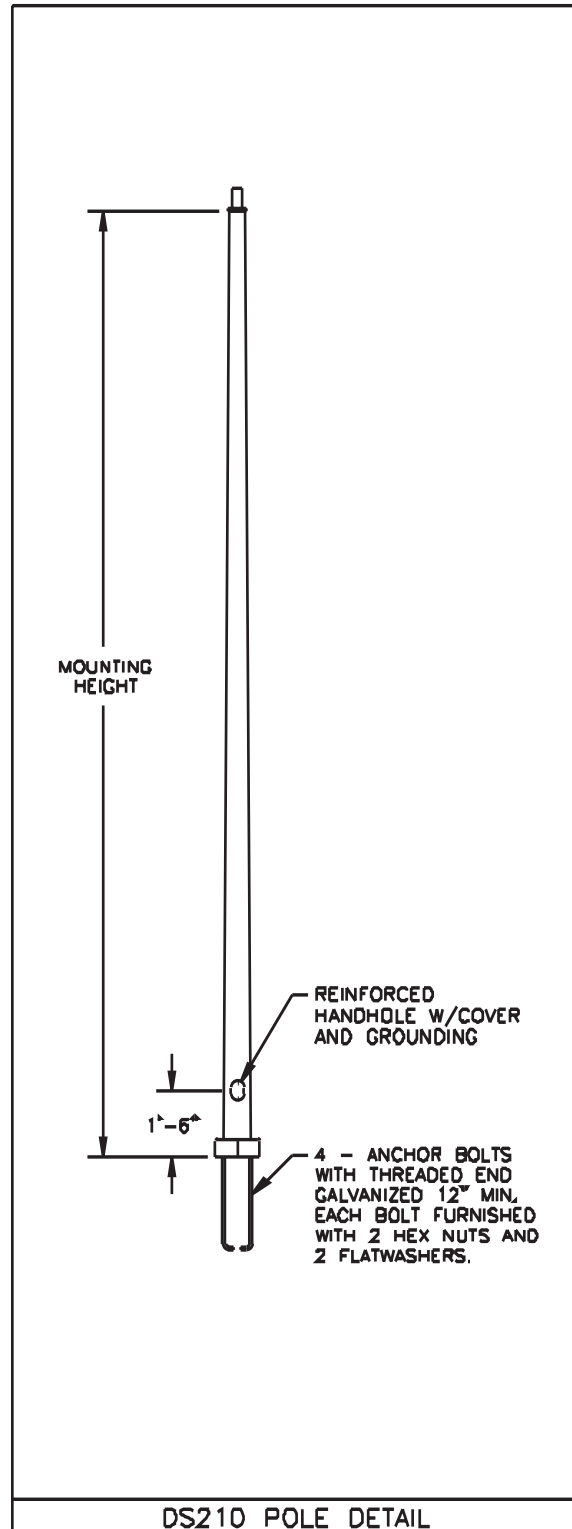
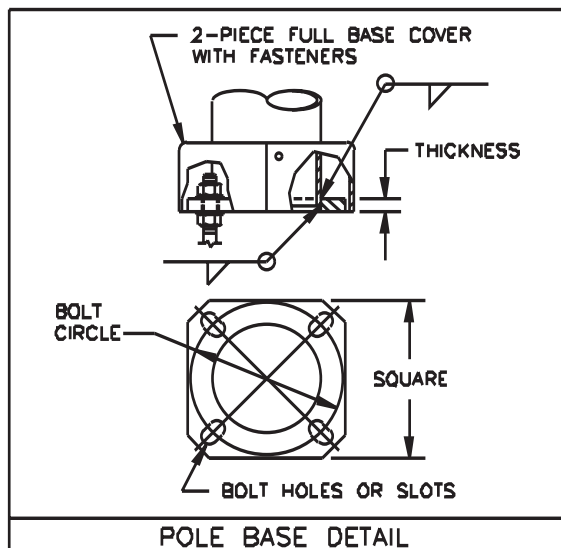
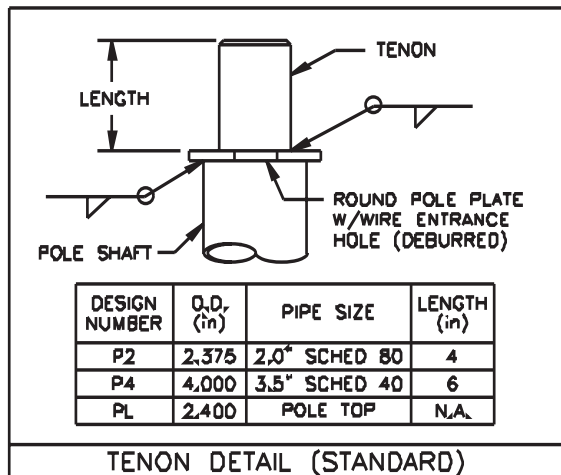
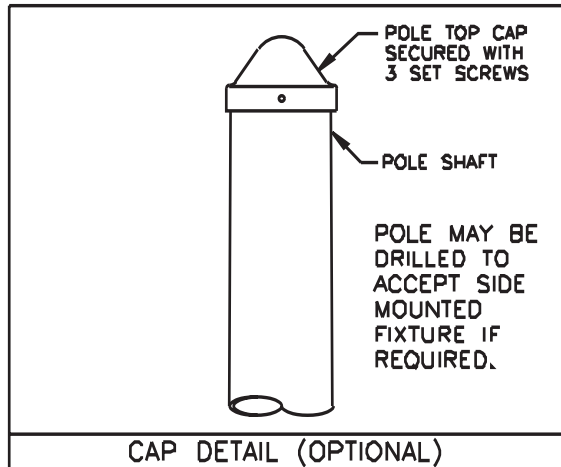
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	± (in)	Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. 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.

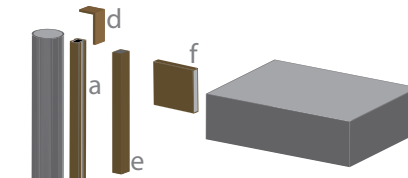


Electrical/lighting work is inherently dangerous. Please follow all applicable OSHA guidelines when installing or operating **retropole** or any other electrical or lighting device.

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

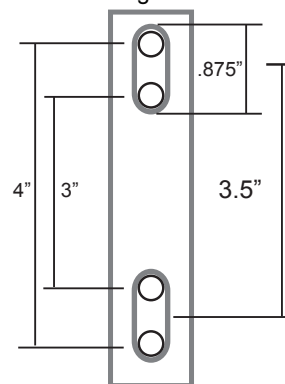
retropole Conversion Kit-Bronze

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		Inches			lbs
		L	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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Chicago 312-665-0080

Los Angeles 213-908-0823

**KIM LIGHTING****AR**

The Archetype®

revision 3/17/03 • ar.pdf

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

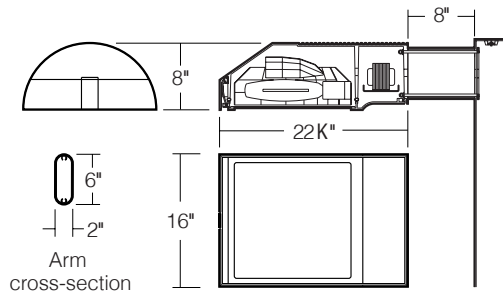
Mtg.	Fixture	Electrical Module	Finish	Options	Optional
/	/	/	/	/	/
See page 2					Optional Vertical Slipfitter Mount See page 5

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.



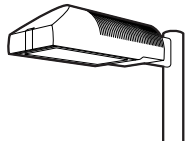


AR

The Archetype®
revision 3/17/03 • ar.pdf

Type:
Job:

Page: 2 of 5

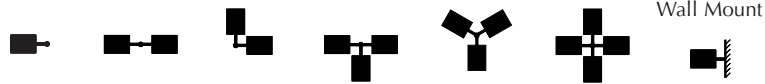


Standard Features

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

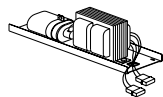
Cat. No. designates fixture and light distribution. See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.



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**

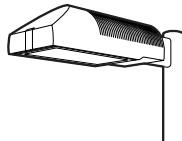
The Archetype®

revision 3/17/03 • ar.pdf

Type:

Job:

Page: 3 of 5



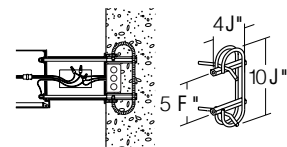
Optional Features

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.

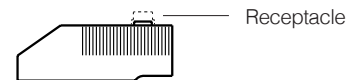


Wall mount using wall embedment bracket - J-box in wall (by others)

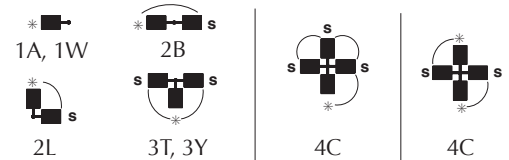
Photocell Receptacle

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

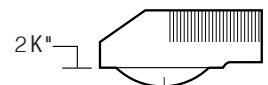
150-250W

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.



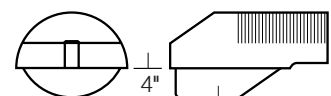
Convex Glass Lens

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.



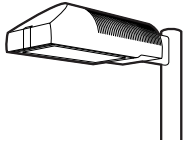
Polycarbonate Lens

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

Type:

Job:

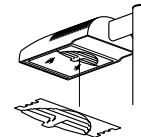
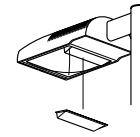
Page: 4 of 5



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 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.

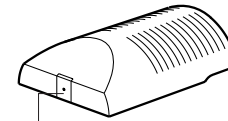
HSC

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

Tamper-Resistant 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.

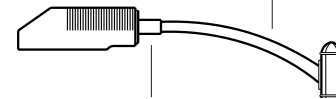
NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



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

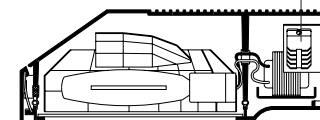
No Option

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



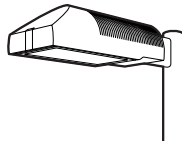
Air Filter

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

Type:

Job:

Page: 5 of 5



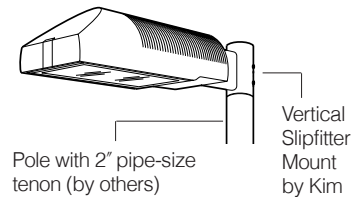
Optional Features

Vertical Slipfitter Mounts

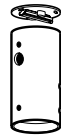
Cat. No. includes Mounting

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

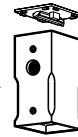
Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws,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

Submitted by Factory Sales Agency-West		Job Name: MSCAA Parking Garage Expansion & Improvements	Catalog Number: DS210-850A350-D1(KIM AR)-DB-LAB Notes:	Type: BB1 FSM10-43742

DS210 Round Tapered



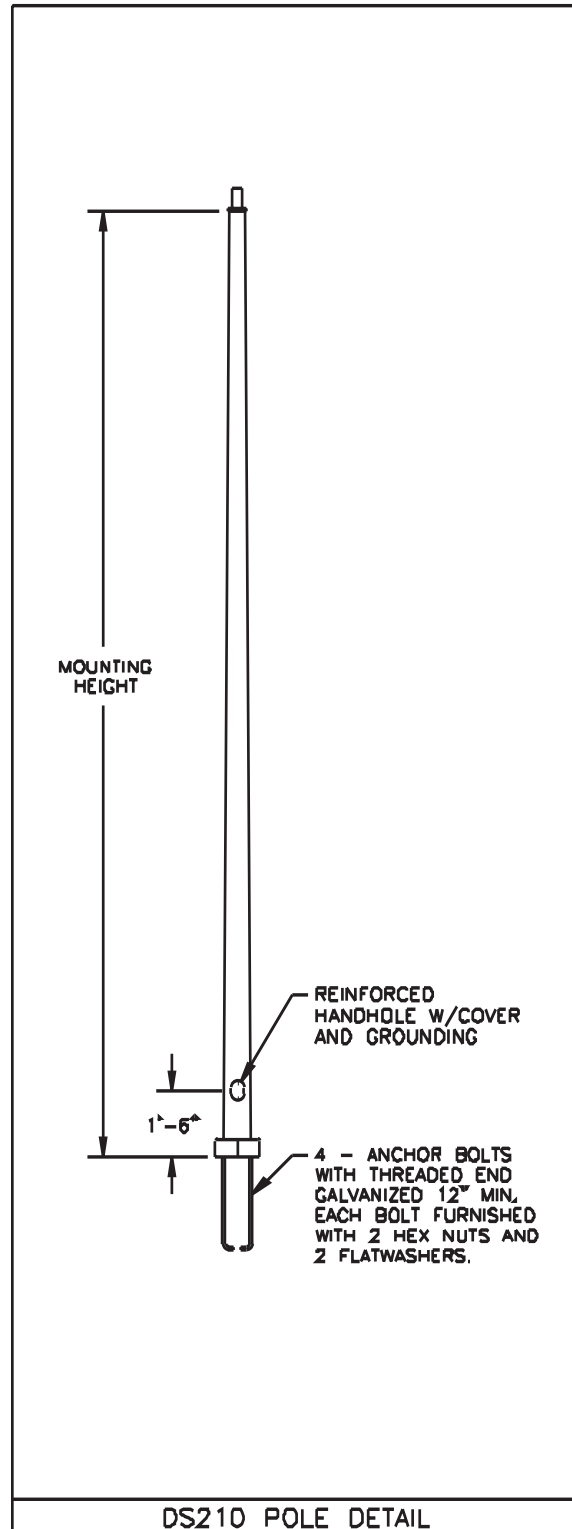
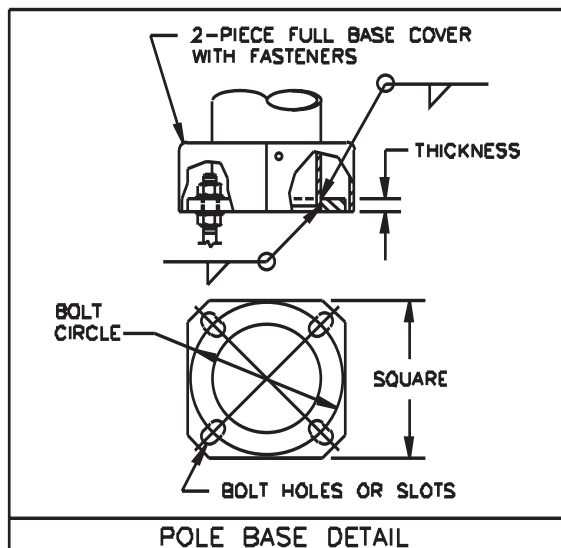
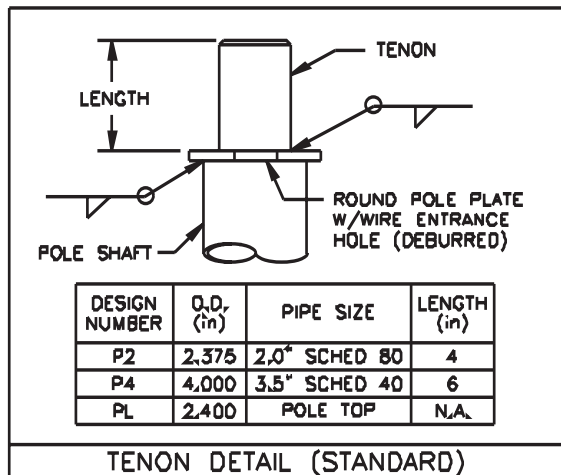
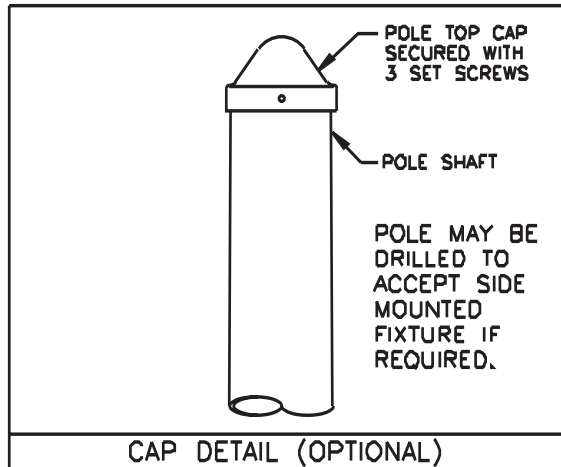
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts Dia. x Lngth. x Hk. (in)	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	± (in)	Square (in)	Thk. (in)		Max. EPA (ft ²)	Max. 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

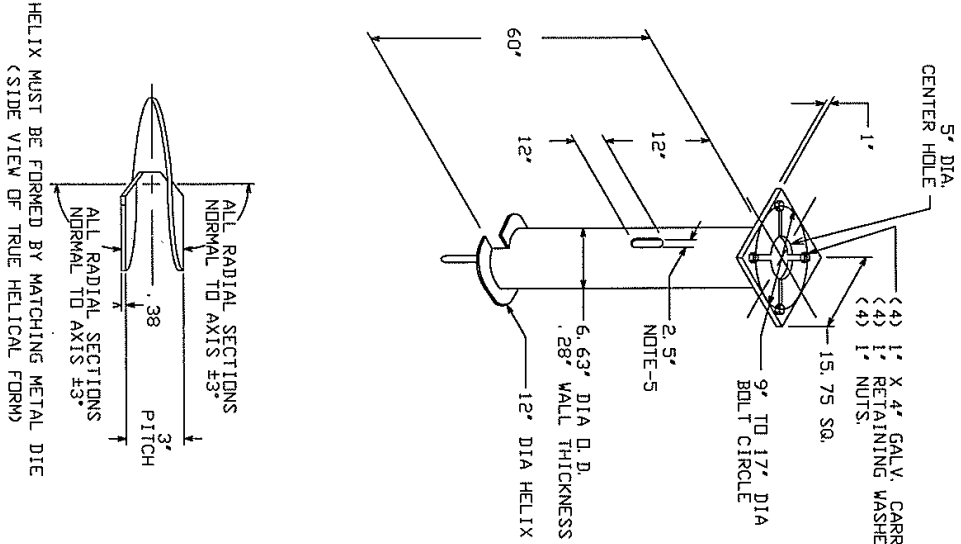
Catalog Number:
AUGER STYLE BASE

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.
- HELIX: ASTM A635-(LATEST REVISION) 3/8" THICK HOT ROLLED STEEL PLATE DR COIL.
- PILOT POINT: ASTM A575-(LATEST REVISION) 1-1/4" DIAMETER HOT ROLLED STEEL BAR.
- BOLTS: CARRIAGE BOLTS, 1-8UNC-2A ANSI B-18.5, SAE J429 GRADE 5.
10. BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION, ABC IN 1/2" LETTERS AND DATE CODE IN 1/4" LETTERS.
11. BASEPLATE PERMANENTLY MARKED TO INDICATE CABLEWAY OPENING IN SHAFT.

-NOTES-

CHANCE		HUBBELL POWER SYSTEMS	
CONVENTIONAL THIS DRAWING AND ITS CONTENTS ARE CONVENTIONAL AND THE DRAWING IS NOT TO BE USED FOR THE DESIGN OR CONSTRUCTION OF ANY POWER SYSTEMS, NO PUBLICATION, DISTRIBUTION OR OTHER USE WITHOUT THE WRITTEN PERMISSION OF HUBBELL POWER SYSTEMS. UNPUBLISHED HUBBELL POWER SYSTEMS AND/OR HUBBELL POWER SYSTEMS UNDER PATENT OR COPYRIGHT LAWS.		HUBBELL POWER SYSTEMS	
SIZE	DWG NO.	DATE	SHEET
SBI	SA112-0296	04/11/5/04	1/1
DO NOT SCALE	OWN BY KSH		REV B

**KIM LIGHTING****AR**

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

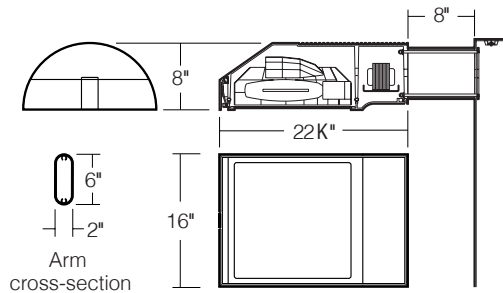
/	/	/	/	/	/
Mtg.	Fixture	Electrical Module	Finish	Options	Optional
See page 2				See pages 3-4	Vertical Slipfitter Mount See page 5

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.



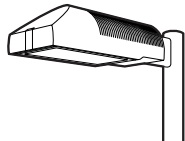


AR

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Type:
Job:

Page: 2 of 5



Standard Features

Mounting
3Y configuration is available for round poles only.

Plan View:

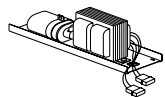
EPA: 1.2	2.4	2.0	3.2	3.2	3.9	n/a
Cat. No.: 1A	2B	2L	3T	3Y	4C	1W

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**

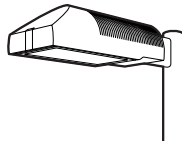
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Job:

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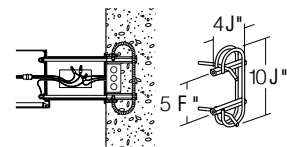
Optional Features

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

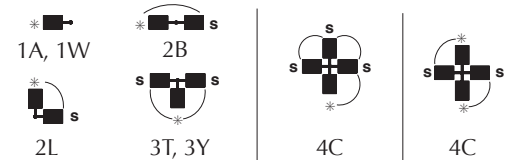
Cat. No. **A-25**
No Option

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.



Receptacle

Mounting (see page 2)

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

Allowable wattage per fixture:

150-400W

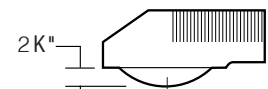
150-250W

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.



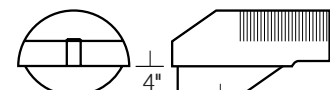
Convex Glass Lens

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

Job Name:

MSCAA Parking Garage Expansion & Improvements

Notes:

FSM10-43742


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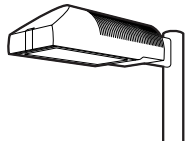
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Type:

Job:

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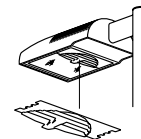
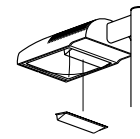


Optional Features

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

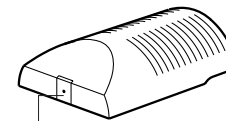
For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

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.



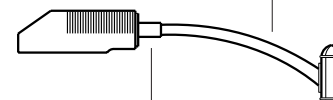
Tamper-Resistant Latch

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 (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.)

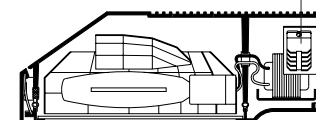
85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14-4 wire. Factory prewired to electrical module quick-disconnect plug.

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



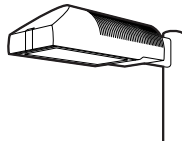
Air Filter

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Type:

Job:

Page: 5 of 5



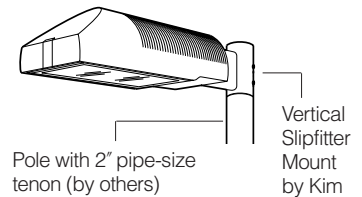
Optional Features

Vertical Slipfitter Mounts

Cat. No. includes Mounting

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

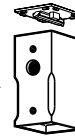
Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws,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