

CITY OF MYRTLE BEACH
SMALL CELL SAFE HARBOR DESIGN PREFERENCES
FOR TARGET AREA #1
NARRATIVE



Prepared By:



Contents

1	Purpose of This Document.....	3
2	Target Area #1.....	4
3	Small Cell Safe Harbor Structures in Target Area #1	4
4	Executive Summary – Selected Small Cell Safe Harbor Designs	5
5	Selected Small Cell Safe Harbor Designs.....	6
5.1	Non-Decorative SLPs (SLP Type Group 1)	6
5.1.1	Alternative Design for Non-Decorative SLP	11
5.2	Decorative SLPs (SLP Type Group 2)	14
5.2.1	Alternative Design for Decorative SLP	15
5.3	Non-Decorative TSPs (TSP Type Group 1).....	15
5.3.1	Alternative Design for Non-Decorative TSP	16
5.4	Decorative TSPs (TSP Type Group 2).....	16
5.4.1	Alternative Design for Decorative TSP	17
6	General Requirements Anticipated for All Small Cell Safe Harbor Designs.....	18

Attachments

Attachment A – Myrtle Beach RFP Target Area #1 and Pole Type Index

Attachment B – Existing Pole and Luminaire Information and Documentation

1 Purpose of This Document

Working with industry, the City of Myrtle Beach (the City) is endeavoring to develop “safe harbor” designs applicable to small cell deployment applications; meaning, that an application that uses a “safe harbor design will be subject to a more streamlined approval process. (Other applications will be reviewed under other provisions of the City Code). To date, the City has socialized this safe harbor effort with industry through forums, RFIs, and a Development Model RFP for such designs, from which it has since derived its design preferences for its initial, largest and most sensitive target area along Ocean Boulevard. The City may apply these designs to other areas, or develop other designs for other areas, but the focus of this document is to identify designs that could be approved for placement along the Ocean Boulevard corridor, where the only vertical structures in the rights of way are street lights, traffic signals and street signs.

This document is a narrative of the City safe harbor design preferences that have emerged. If approved for release, it will be circulated to providers and be available for public comment. We expect designs to be finalized and reflected in a design manual by January 11, 2019. In addition, the City will be asked to consider changes to the existing Code that provide for appropriate streamlined approval for approved designs, and then set up a process through which companies can “pre-approve” designs in the future for these and other types of structures.

Note that uniformity of design is important to the City, and something that it has strived to achieve along Ocean Boulevard. While several designs may meet City approval, in particular cases, the City may require use of a particular design along a corridor or at an intersection in order to maintain design uniformity.

Note also that for the structures described in this Narrative, the facilities are either owned by the City or subject to the control of the City. For light poles that are owned by the City, each applicant will require a rental agreement with the City. For each structure that is owned by Santee-Cooper, the applicant will require a contract with the cooperative and a consent agreement with the City. While the City seeks through this effort to simplify the process for how applicants proposing a “safe harbor” design may have the design approved, the City is not undertaking to make the facilities it owns and controls “common carrier” type facilities, and instead intends to exercise appropriately its interests as the owner or prime lessee of property.

2 Target Area #1

The first Target Area for which small cell safe harbor applications will be considered is defined as the Rights of Way (RoW) – and only the RoW – for:

- Ocean Blvd from its terminus at but not including the intersection with Kings Hwy (Business 17), to and including the intersection with 31st Ave N;
- 3rd Ave S, from but not including the intersection with Kings Hwy, to its terminus beyond Ocean Blvd at the oceanfront;
- Mr. Joe White St (11th Ave N), from but not including the intersection with Kings Hwy (Business 17), to its terminus at Ocean Blvd;
- All street ends from 29th Ave S to 31st Ave N that extend eastward beyond Ocean Blvd toward the oceanfront and contain one or more existing SLPs. (No streets inland from Ocean Blvd, except 3rd Ave S and Mr. Joe White St, as described above, are included.)

Target Area #1 is further detailed in Attachment A.

3 Small Cell Safe Harbor Structures in Target Area #1

There are four types of existing structures in the RoW in Target Area #1 for which safe harbor designs are being considered:

- Street Light Poles (SLPs) – Non-Decorative;
- Street Light Poles (SLPs) – Decorative;
- Traffic Signal Poles (TSPs) – Non-Decorative;
- Traffic Signal Poles (TSPs) – Decorative.

More information on these existing structures in Target Area #1 can be found in Attachment B.

Alternative safe harbor design options with associated conditions are also being considered for some of the above, as described further below. In their responses to the Development Model RFP, no companies proposed designs for new structures that could be placed in the rights of way without disrupting the basic design of the corridor, although the City did request that companies submit innovative designs (information kiosks, public art, and so on). It could be that designs will be submitted for approval in the future; but for now, no safe harbor designs are being considered for new structures in Target Area #1. Any applications for same will be reviewed under the existing City Code.

4 Executive Summary – Selected Small Cell Safe Harbor Designs

The following are the City's leading safe harbor style preferences for Target Area #1:

- For Non-Decorative SLPs and TSPs, the City prefers all equipment and antennas to be mounted at the pole top in a cylindrical enclosure color-matched to the existing pole. Designs utilizing any of CommScope's PoleTop Radio Concealment Antenna Mounts or equivalent, for deployment as shown top right, could accomplish this.
 - Alternatives are being contemplated for both SLPs and TSPs that would permit mid-pole-mounting of equipment behind banner shrouds up to 72"H x 36"W, such as shown by Valmont (with end banner removed).
- For Decorative SLPs and TSPs, the City prefers color-matched, smaller-diameter (<16") cylindrical antennas-only/shrouds mounted directly to the top of the pole, as shown by Stealth Concealment at right. For SLPs, mid-pole mounted equipment completely disguised behind up to 60"H x 36"W side and 60"H x 24"W end banner shrouds are contemplated. For TSPs, color-matched, mid-pole-mounted metal equipment cabinets or shrouds no more than eight cubic feet are contemplated.
 - For Decorative SLPs, an Alternative based on an encapsulating pole similar to those shown at right, submitted by AT&T and American Tower, and which replicates existing SLPs, albeit with a pole diameter more typical of a TSP, is being contemplated.
 - For Decorative TSPs, an Alternative having all equipment and antennas mounted at the pole top in a cylindrical enclosure color-matched to the existing pole is being contemplated, as shown below right. As with Non-Decorative SLPs and TSPs, designs utilizing any of CommScope's PoleTop Radio Concealment Antenna Mounts shown or equivalent could accomplish this.
- For all designs:
 - Wiring is *inside* the structure; no exterior conduit or wiring is visible;
 - There are no ground cabinets or backup power supplies;
 - An exterior meter and disconnect box may be necessary, although the City would prefer unmetered installations or other installations that minimize the size and visibility of the meter and disconnect.



5 Selected Small Cell Safe Harbor Designs

The following general design descriptions, along with the associated excerpts from vendor-provided Development Model RFP response materials, represent the City's selected top preferences, and are being considered for Target Area #1 safe harbor designs:

5.1 Non-Decorative SLPs (SLP Type Group 1)

The City prefers there to be no appearance of mid-pole-mounted cabinetry for Non-Decorative SLPs, and prefers all equipment and antennas to be mounted at the pole top, in a cylindrical enclosure color-matched to the existing Hapco tapered aluminum pole. Designs utilizing any of CommScope's PoleTop Radio Concealment Antenna Mounts provided in response to the Development Model RFP, or equivalent, are the contemplated safe harbor solution for this SLP Type Group, as depicted below, utilizing existing or replacement poles as required to support the loads safely and securely. The equipment enclosure, not including the maximum three cubic foot cylindrical antenna housing directly above it, would be under six cubic feet. All cabling would be concealed within the pole.



PoleTop Radio Concealment Antenna Mount

Concealment enclosure for up to four radios with integrated OVP

Introduction

This document describes the CommScope Pole Top Radio Concealment Antenna Mount.

The solution is intended to house and conceal up to four 5-watt Metro Cell radios directly below a multiband canister antenna.

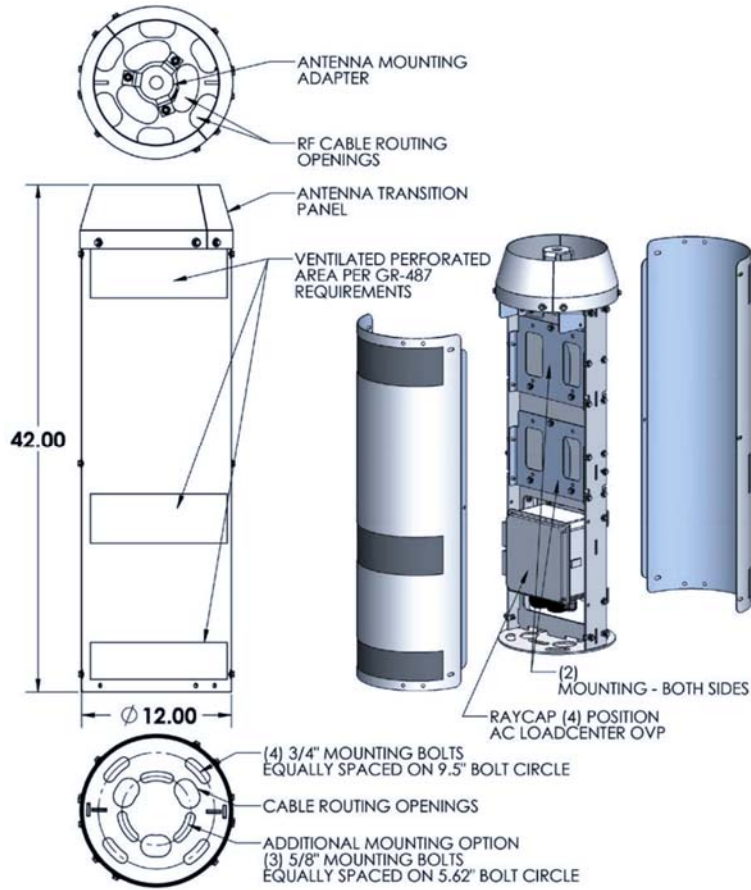
Application

This solution is specifically intended for use with 1- to 5-watt Metro Cell radios.

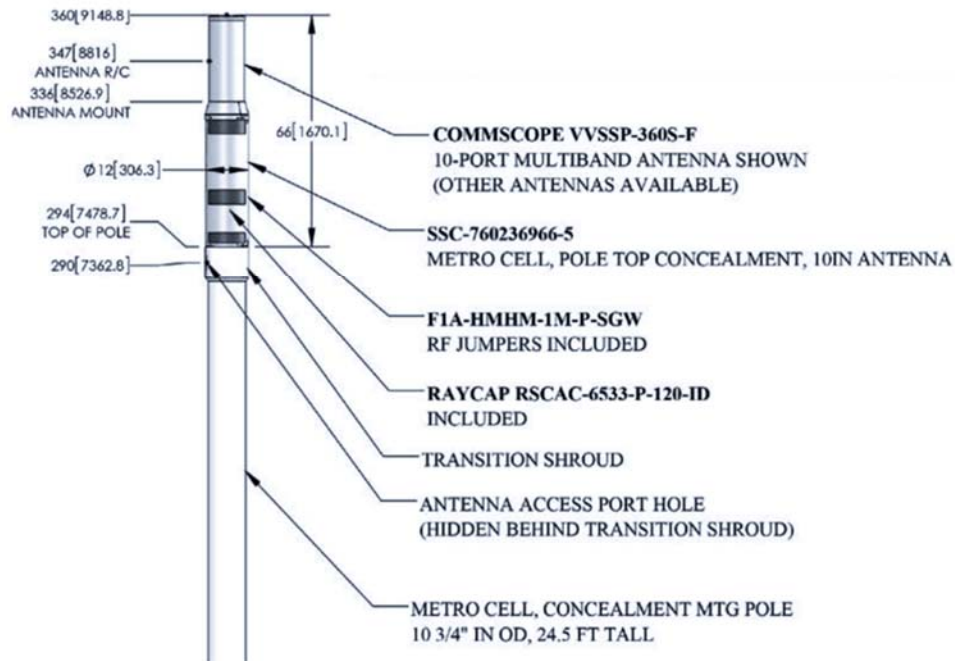
- Mounting for Integrated Raycap OVP module
- Orderable to mount multiband and multiport antennas from multiple antenna vendors
- GR-487 thermally verified via convection cooling
- Variable pole diameter mounting kits available to mount to existing structures
- Matching light pole or monopole options available
- Multiple color options available



System dimensioning and configuration	
Height / diameter / weight (Without antenna, radios, OVP)	42 in. (1066 mm) / 12.0 in. (305 mm) / 58 lbs. (26 kg) 2.75 cu. ft.
Finish	Galvanized per ASTM A123/A123M finish for all steel components; Aluminum components are RoHS-complaint chromate. Concealment covers are powder-coated light gray—RAL 7035. (Other colors available)
Antenna compatibility (Orderable PN)	SSC-760236966-4 GALTRONICS 10 in. diameter series (P6480i) SSC-760236966-5 CommScope 8 in. diameter series (V360, VVSSP)



Full Solution Example



Pole Top Radio Concealment Antenna Mount

Concealment enclosure for up to six 5-watt Metro Cell radios

Introduction

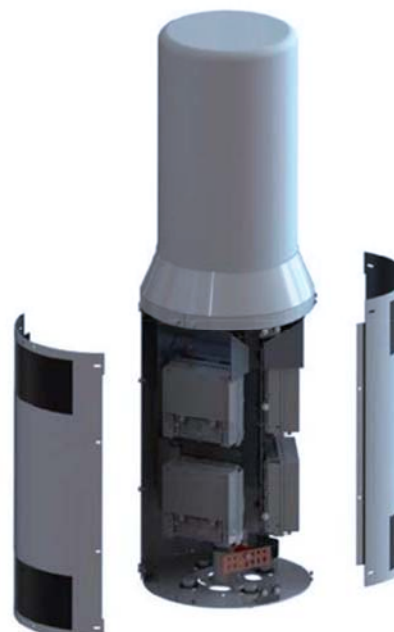
This document describes the CommScope Pole Top Radio Concealment Antenna Mount.

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Application

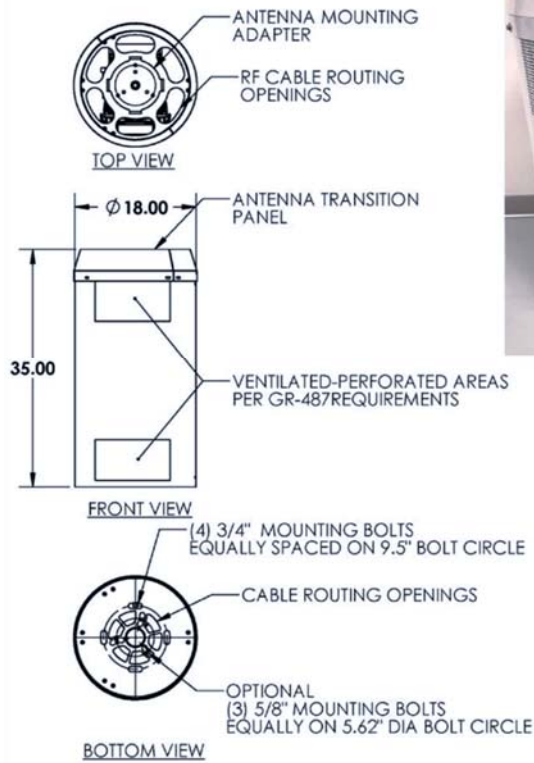
This solution is specifically intended for use with 1- to 5-watt Metro Cell radios.

- Orderable to mount multi-band and multi-port antennas from multiple antenna vendors
- GR-487 thermally verified via convection cooling
- Variable pole diameter mounting kits available to mount to existing structures
- Matching light pole or monopole options available
- Multiple color options available
- Diplexer, ac load center, fiber demarc options available when fewer than six radios

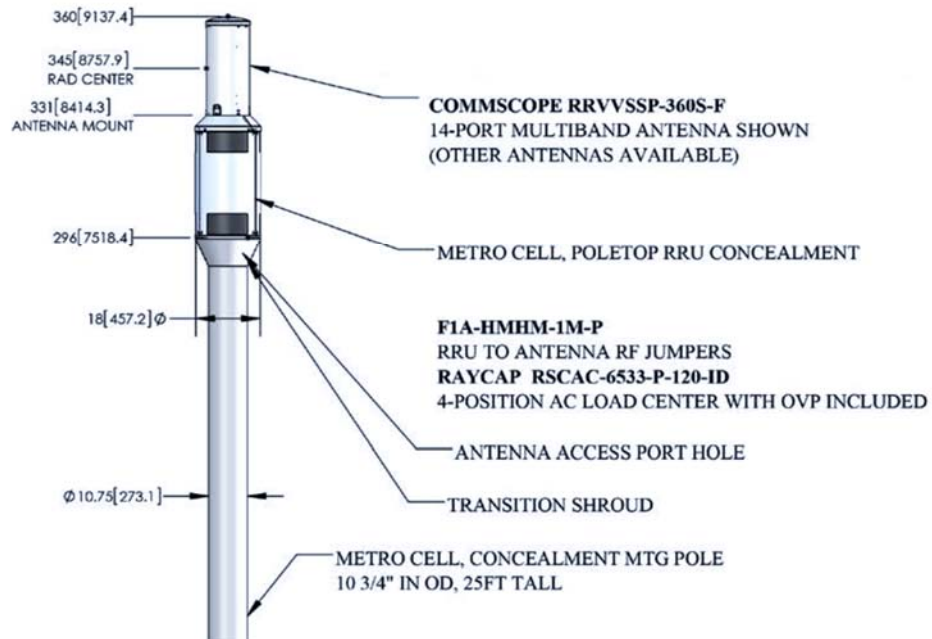


System dimensioning and configuration

Height / diameter / weight (Without antenna, radios, OVP)	35 in. (890 mm) / 18.0 in. (457 mm) / 75 lbs. (34 kg)	5.15 cu. ft.
Finish	Galvanized per ASTM A123/A123M finish for all steel components; Aluminum components are RoHS-complaint chromate. Concealment covers are powder-coated light gray—RAL 7035 per specification WL-2356. (Other colors available)	
Antenna compatibility (Orderable PN)	CommScope 12 in. diameter series (NH, RRVSSP) Kathrein 16 in. base diameter series Amphenol 14.5 in. diameter series Galtronics 10 in. diameter series (P6480i) CommScope 8 in. diameter series (V360, VVSSP) KMW 13.4 in. diameter series (FLT-0M10H2)	



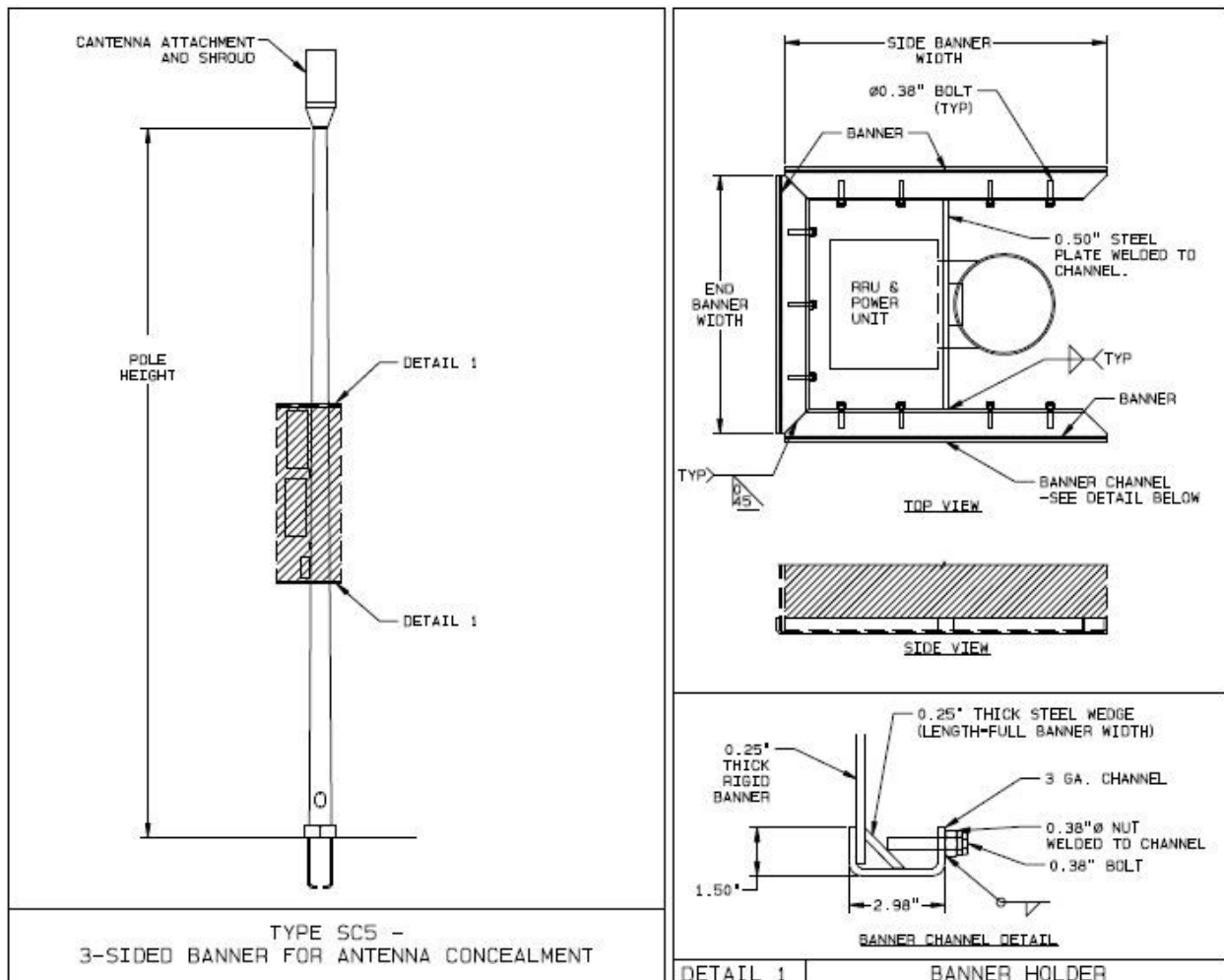
Full Solution Example



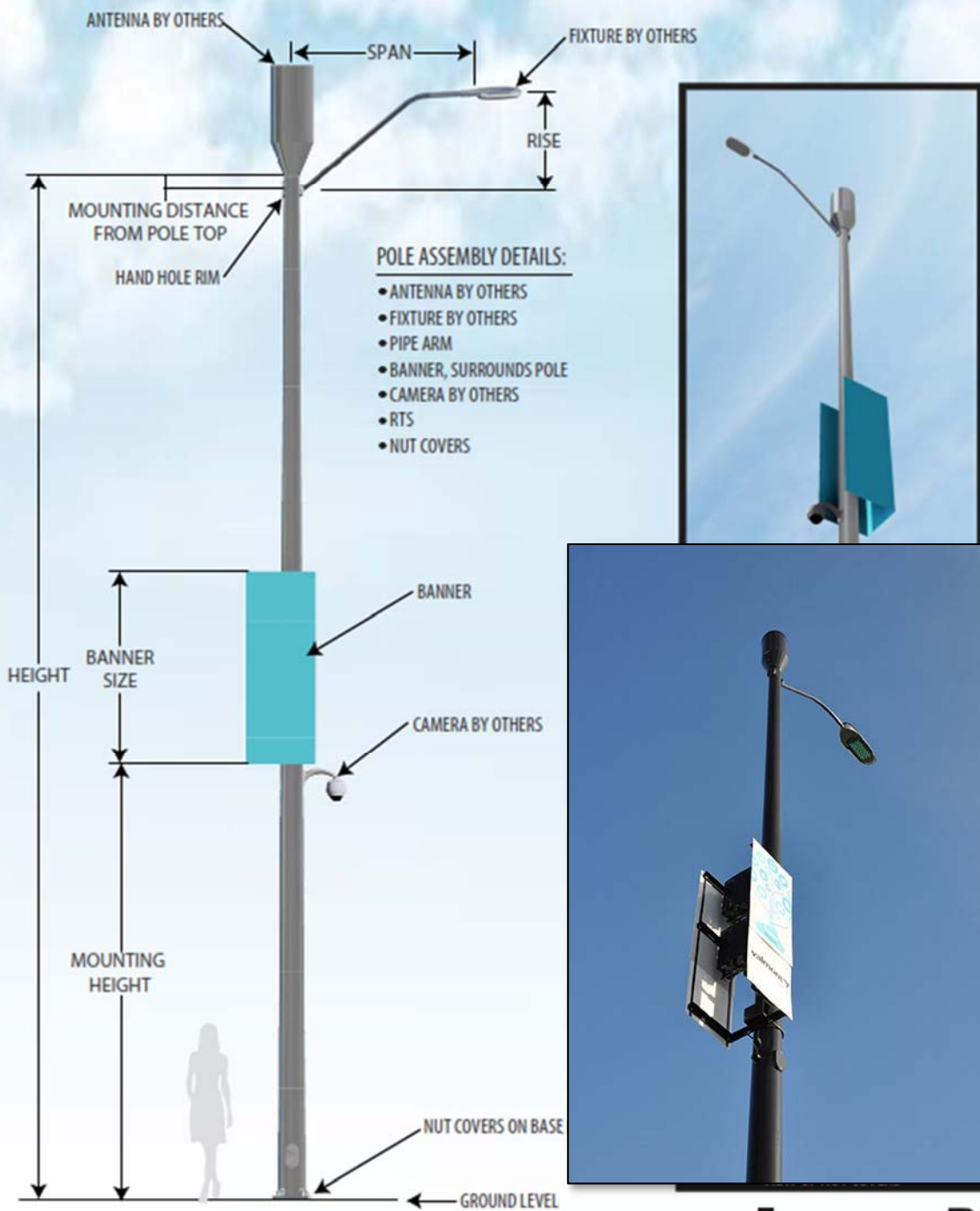
5.1.1 Alternative Design for Non-Decorative SLP

An Alternative safe harbor design for Non-Decorative SLPs is being contemplated that would permit mid-pole mounting of equipment so long as it was completely disguised by banner shrouds, as depicted in Valmont's response to the Development Model RFP, the applicable excerpts from which are provided below. The bottom of the banner shroud would be no less than ten feet (10') above street or sidewalk level. All cabling would have to be concealed within the pole. A replacement Hapco or equivalent pole with a mid-pole handhole may be required to accomplish this, as well as to support the loads sufficiently.

For this Alternative, mid-pole mounted cabinets could not exceed a size that could be completely shrouded by 72"H x 36"W side and end banners, in the configuration shown. (Note that this is larger than what will be acceptable for safe harbor for Decorative SLPs, as discussed in section 5.2.)



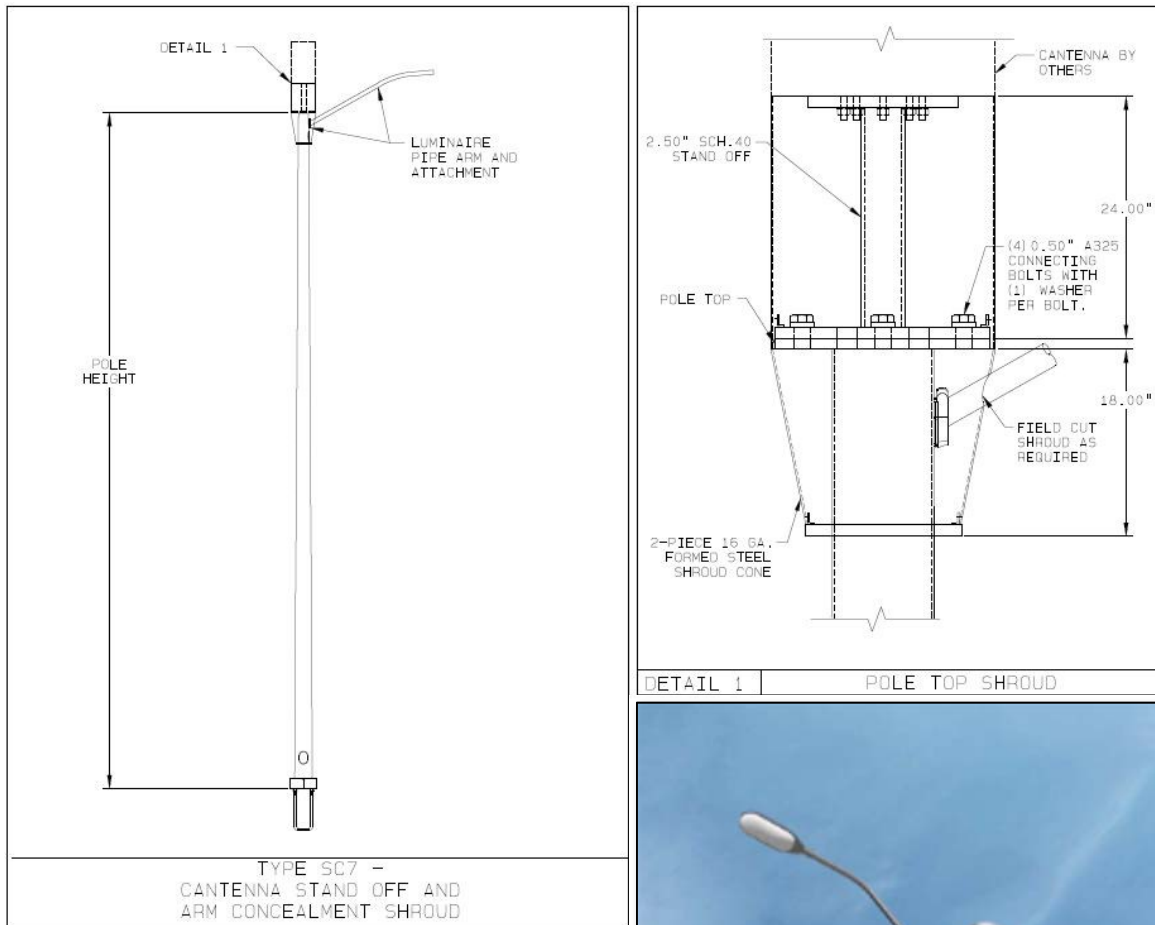
VALMONT SMALL CELL SOLUTIONS-POLE



valmont 
STRUCTURES

Copyright © Valmont Industries, Inc. 2018. Pole assembly for illustrative purposes only. Actual details and sizing may vary. If noted "By Others" consult manufacturer for information.

Antenna systems in this Alternative would have to be in pole-top-mounted cylindrical enclosures as depicted, color-matched to the existing Hapco (or replacement) tapered aluminum pole. However, unlike the drawings shown above, Valmont's "California Style" or equivalent shroud with the luminaire pipe arm extending through it as shown below would be required. The luminaire pipe arm attachment point is at 22' 6" on the existing Hapco SLPs in this Type Group. Antenna enclosures up to the maximum dimensions of the CommScope PoleTop Concealment Antenna Mounts depicted in 5.1 would be permitted with this Alternative.



5.2 Decorative SLPs (SLP Type Group 2)

As with Non-Decorative SLPs, the City prefers there to be no appearance of mid-pole-mounted cabinetry for Decorative SLPs in the Target Area. However, rather than all equipment and antennas to be mounted in a larger cylindrical enclosure at the pole top as for Non-Decorative SLPs (see section 5.1), the City prefers that safe harbor for Non-Decorative SLPs be accomplished with antennas-only in smaller-diameter cylindrical enclosures at the pole top, with equipment to be mid-pole-mounted and disguised with banner shrouds. This would be similar to the Alternative design discussed in section 5.1.1 for Non-Decorative SLPs, however the cylindrical antennas/shrouds, cabinets and banner shrouds for Decorative SLPs must be smaller. As with the Non-Decorative SLPs, all cabling would have to be concealed within the pole. A pole replacement with a mid-pole handhole may be required to accomplish this, as well as to permit the luminaire to be mounted in the same fashion as with the Non-Decorative Alternative, such as they are today on existing Decorative TSPs (as shown in Attachment A on page 20). Top-mounted antennas /shrouds would have to rest directly on the pole top, with no extension poles or masts, and be no more than 16" in diameter and 48" tall, including the top-mounting bracket and skirt, and colored to match the pole. The final assembly would need to be no more than five feet taller than the existing SLP and davit arm (20' pole plus existing 4' 6" top-mounted davit arm – see Attachment B), with the top arrangement having a similar appearance to the top of the Decorative TSP safe harbor design discussed in section 5.4. An example of how the top arrangement would appear is pictured at right from a design submitted by Stealth Concealment Solutions, albeit shown on a TSP and with a different luminaire, pole, and an exposed mid-pole cabinet. The mid-pole mounted cabinets for the Myrtle Beach Decorative SLP safe harbor design could not exceed a size that could be completely shrouded by 60"H x 36"W side and 60"H x 24"W end banners, in the configuration shown in the drawing in section 5.1.1.

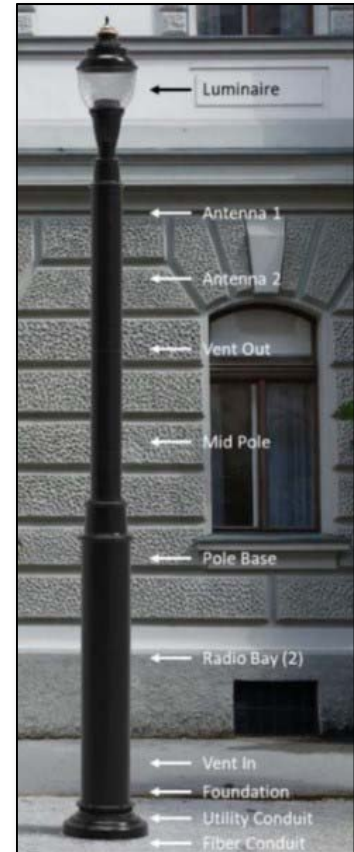


5.2.1 Alternative Design for Decorative SLP

As an alternative to accomplishing the appearance of no mid-pole-mounted cabinetry, an Alternative safe harbor design is being contemplated for Decorative SLPs that would permit a replacement pole,



either with a cylindrical antenna enclosure at the top and equipment encapsulated in the pole itself, as does a design proposed by AT&T, pictured at left, or, with all equipment and antennas encapsulated entirely within the pole, as does a design proposed by American Tower, pictured at right. Such an encapsulating pole safe harbor design would need to be no wider in diameter than twice that of the existing pole, which these proposed solutions approximate at 13" and 14.5"



diameter, respectively. (The existing Long Bay Decorative SLP is 6" in diameter at its smallest and approximately 8.5" at the bottom, on a 21" diameter pole butt, which these designs approximate at their bases.) However, it would also have to replicate the appearance of the StressCrete Long Bay pole it replaces (see Attachment B, page 4), with the same fluting, color, texture and styling; and, it would need to provide for luminaire and davit arm mounting in the same fashion as they are today on existing Decorative TSPs (shown in Attachment A on page 20), and as discussed in section 5.2 above for the non-encapsulating pole design. We note that at some locations, this design would not be useable because of potential interference with pedestrian traffic, or because the design would require placement in a manner that would affect the linear flow of the street lights, or the pattern of the street lighting. That is, the existing poles would need to be on a fairly wide walkway, set back far enough from the curb to allow for replacement with a larger structure.

5.3 Non-Decorative TSPs (TSP Type Group 1)

The City prefers there to be no appearance of mid-pole-mounted cabinetry for Non-Decorative TSPs, and prefers all equipment and antennas to be mounted at the pole top, in a cylindrical enclosure color-matched to the existing SCDOT tapered galvanized steel pole, in the same manner as for Non-Decorative SLPs for uniformity. Designs utilizing any of CommScope's PoleTop Radio Concealment Antenna Mounts provided in response to the Development Model RFP, or equivalent, are therefore the contemplated safe harbor solution for Non-Decorative TSPs, also. Refer to the photos and excerpts from

CommScope’s RFP response provided for Non-Decorative SLPs in section 5.1 for evaluation, as they will have the same function and appearance for Non-Decorative TSPs as for Non-Decorative SLPs.

5.3.1 Alternative Design for Non-Decorative TSP

An Alternative safe harbor design for Non-Decorative TSPs is being contemplated that would permit mid-pole mounting of equipment so long as it was completely disguised by banner shrouds, in the same manner as described for the alternative for Non-Decorative SLPs in section 5.1.1. Refer to the photos and excerpts from Valmont’s RFP response provided for Non-Decorative TSPs in section 5.1.1 for evaluation, as they will have the same function and appearance for Non-Decorative TSPs as for Non-Decorative SLPs.

5.4 Decorative TSPs (TSP Type Group 2)

For Decorative TSPs, the City prefers that safe harbor be accomplished with antennas-only in smaller-diameter cylindrical enclosures at the pole top, in the same manner and conforming to the same dimensions and styles as described for Decorative SLPs in section 5.2, and with equipment to be mid-pole-mounted. However in this case, mid-pole-mounted equipment would be entirely enclosed in a color-matched metal shroud or cabinet that does not exceed eight cubic feet, with its greatest dimension being its height, and which is mounted so that its bottom is no less than 10’ from the sidewalk level. As with Decorative SLPs, the top-mounted antenna/shroud would have to rest directly on the pole top, with no extension pole or mast, and would have to be no more than 16” in diameter and 48” tall, including the top-mounting bracket and skirt, and colored to match the pole, with all cabling concealed within the pole. The final assembly would need to be no more than five feet taller than the existing TSP and davit arm (currently 26’ – see Attachment B page 22).

An example of how this arrangement would appear is pictured at right, from a design submitted by Stealth Concealment Solutions, albeit shown with a different luminaire, signal arm and pole.



5.4.1 Alternative Design for Decorative TSP

An Alternative safe harbor design for Decorative TSPs is being contemplated that would utilize the same design as for Non-Decorative TSPs discussed in section 5.3, and as is pictured below, with all equipment and antennas to be mounted at the pole top in a cylindrical enclosure utilizing any of CommScope's PoleTop Radio Concealment Antenna Mounts provided in response to the Development Model RFP and provided in section 5.3, or equivalent, and color-matched to the existing Union Metal fluted and tapered steel pole (see Attachment B, page 22). The equipment enclosure, not including the maximum three cubic foot cylindrical antenna housing directly above it, would be under six cubic feet. As with all other safe harbor designs, all cabling would have to be concealed within the pole.



6 General Requirements Anticipated for All Small Cell Safe Harbor Designs

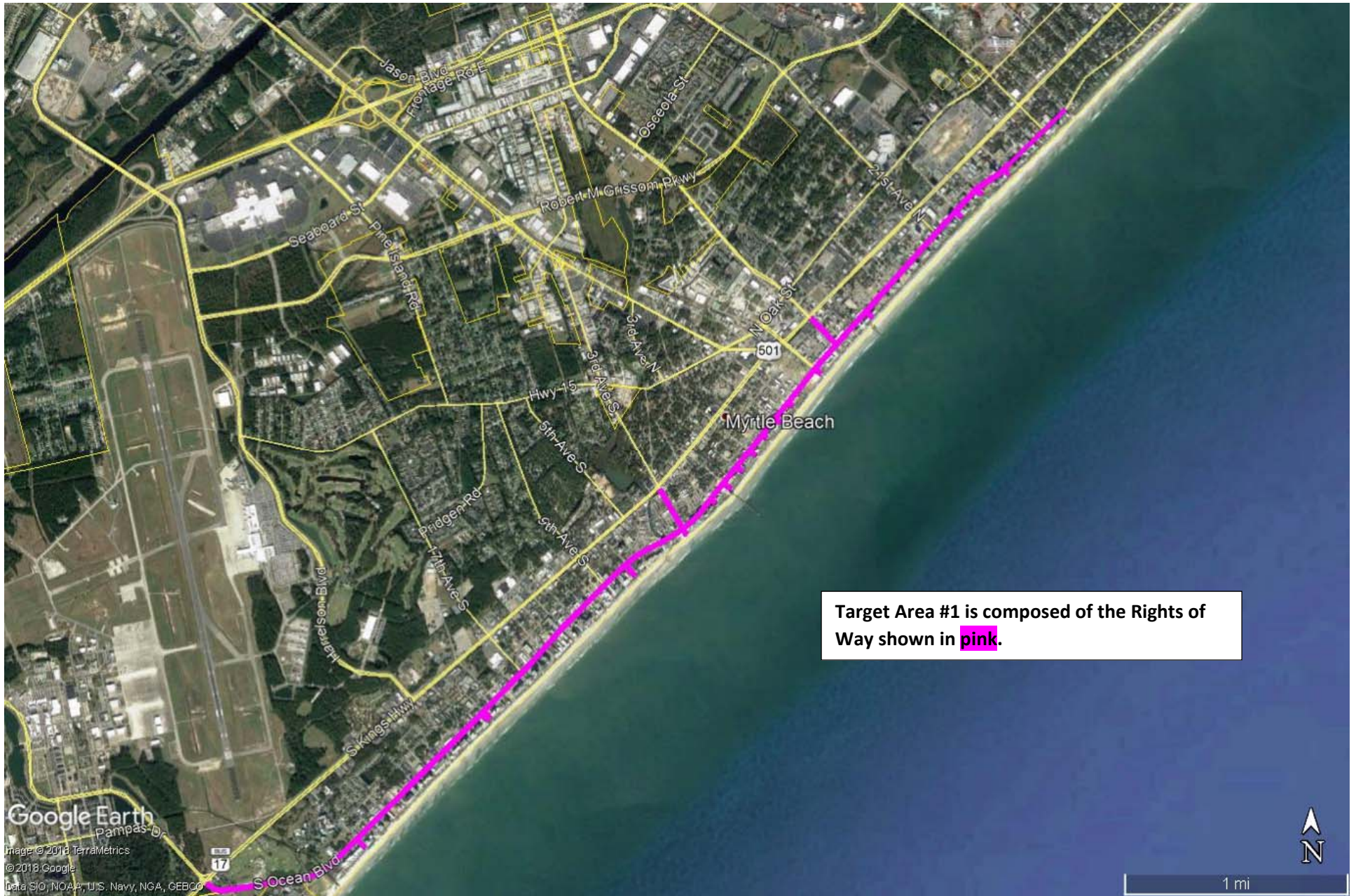
This document and the sections below are not intended to be a final or comprehensive design manual specification. However the following discusses generally the requirements contemplated for all final safe harbor specifications.

- (a) Pole Replacement Determination; Structural Viability. It will be up to the applicant to determine the sufficiency of the existing pole and foundation for the proposed attachments, or if a replacement pole and/or foundation is required to safely and securely support all proposed attachments along with the luminaire or traffic signal loads. Except for the encapsulating pole Alternative design discussed in section 5.2.1, replacement poles should not exceed 110% the diameter of the existing SLP. Applications should include structural detail for the proposed existing or replacement pole with attachments, including for the foundation, and account for all physical loads and wind loads for Myrtle Beach, as sealed by a South Carolina registered Professional Engineer (P.E.) certifying structural integrity and compliance to applicable standards, including but not limited to EIA/TIA 222-H or latest revision, as well as to AASHTO, ASCE and ASTM, depending upon the application.
- (b) Pole Heights. Replacement poles, including the antenna, should not exceed the height of the pole it is to replace by more than six feet (6'), with luminaires, traffic signals or signs to be located at the same elevation as on the pole it is to replace, and placed in a manner so that the lighting coverage is not affected.
- (c) Aesthetics, Likeness to Existing. Applications should describe in detail, and provide drawings and one or more photo mockups that portray the aesthetics of the proposed deployment, including the materials, surfaces, colors and textures to be employed to meet the safe harbor design criteria and to replicate the design of the pole it is to replace, or to which it is to be attached. In the event of a blanket application for all like-deployments, this needs be provided only for one representative location.
- (d) Clearance Above Sidewalk or Grade. All mid-pole mounted appurtenances including cabinets or shrouds which may or may not include antennas, and banner shrouds, should be placed without encroaching the luminaire or its support, but with its bottom no lower than ten feet (10') clearance above sidewalk or grade level. No ground-mounted equipment of any kind is being considered for safe harbor.
- (e) Non-interference With Other Uses. An applicant will need to show that the proposed facility can be installed in compliance with all applicable safety codes, and without interfering with other utilities and right of way infrastructure, including storm water and sewage systems. It must be possible to install wiring to the facility (for backhaul and for power) in accordance with the City's standard procedures. We caution that generally, applicants must use existing conduit in the rights of way.

- (f) Sight Lines, ADA. Deployments, whether contemplating attachments to existing poles or replacement poles, should not interfere with pedestrian and vehicular traffic access and sight lines, and must comply with the ADA. In addition, the City will not permit a design to be used where the design at a particular location would be inconsistent with, *e.g.*, historical preservation.
- (g) Concealed Cabling. All cabling must be concealed within the pole, including connections to underground backhaul/fronthaul facilities and power utilities to the extent possible / permissible.
- (h) Metering, Disconnects. Required metering has not yet been worked out with the power utility. In the event that flat rate, unmetered service is unobtainable, metering and disconnects must be within the pole if permissible, or otherwise of the smallest form-factor possible or permissible.
- (i) Fans. Safe harbor deployments should not use fans or produce any other unwanted noise. If fans are required, while the design otherwise may comport to safe harbor specification, the decision to approve the use of fans and associated noise and forced air heat levels would be evaluated on an individual case basis.
- (j) Illumination. Unless otherwise desired by the City, equipment or structures must not be illuminated or emit light other than from the luminaire.
- (k) No Writing. Deployments must not include any writing, symbols, logos or other graphic representations that would be visible from the street or sidewalk other than appropriate IDs for the structure and signage required by State or Federal Law. Banners contemplated in the designs would be available to the City at no charge for displays.
- (l) Applicants will be expected to execute contracts with the City for use of facilities that the City owns or controls.

Attachment A – Myrtle Beach RFP Target Area #1 and Pole Type Index

Myrtle Beach RFP Target Area #1 and Pole Type Index



Myrtle Beach Target Area #1 and Pole Type Index

Brief descriptions of the RoW segments that make up Target Area #1, and an Index to their predominant streetlight Type Groups, are listed below. Information and documentation for the Luminaire and Pole Types listed below are provided in Attachment B. Attachment B also contains locations and documentation for the TSPs found in Target Area #1.

Geographic representation of Target Area #1 is provided in the Google Earth file: [CMB Target Area No 1.kmz](#).

Street Right of Way	Street Description	Typical Streetlight Luminaire, Pole Types	Luminaire Designation (per Google Earth map)	SLP Type Group No.
3rdAveS, OceanBlvd-KingsHwy	Inland corridor to US501 from Ocean Blvd, incl street end	Heritage Teardrop & Davit, Long Bay	400 PMH Teardrop	2
MrJoeWhiteAve, OceanBlvd-KingsHwy	A central corridor inland from Ocean Blvd; retail 2-lane	Heritage Teardrop & Davit, Long Bay	400 MH Teardrop	2
OceanBlvd, Farrow (at Kings Hwy)-6S	Primary E-W corridor by oceanfront resorts	HPS Roadway, Tapered Aluminum	400 HPS Roadway	1
OceanBlvd, 6S-31N	Primary E-W corridor by oceanfront resorts (Note: From 2N to 8N, conversion is in progress from HPS Roadway on Wood to Heritage)	Heritage Teardrop & Davit, Long Bay	400 MH Teardrop	2
Street Ends (E of Ocean Blvd) - South	Parking & Beach Access, 29 th , 20 th & 7 th Ave S	HPS Roadway, Tapered Aluminum	400 HPS Roadway	1
Street Ends (E of Ocean Blvd) - North	Parking & Beach Access, 1 st -7 th , 9 th , 14 th , 23 rd , 24 th & 26 th Ave N	Heritage Teardrop & Davit, Long Bay	400 MH & PMH Teardrop	2

Attachment B – Existing Pole and Luminaire Information and Documentation

Existing Pole and Luminaire Information and Documentation

for Myrtle Beach Target Area #1

The following pages provide information and documentation of existing Street Light Pole (SLP) types, luminaires, davits, and Traffic Signal Pole (TSP) types referenced in the Myrtle Beach Target Area #1 and Pole Type Index (Attachment A).

Contents

Pole Types	2
SLP Type Group 1 – Non-Decorative, Tapered Aluminum (Hapco)	2
SLP Type Group 2 – Decorative, Long Bay (StressCrete).....	4
Davits.....	6
Luminaires.....	11
HPS Roadway	11
Heritage Teardrop.....	15
Traffic Signal Poles (TSPs).....	18
TSP Type Group 1 – Non-Decorative, SCDOT Standard	18
TSP Type Group 2 – Decorative (Union Metal)	20
TSP Type Group 2p – Decorative – Pedestrian Poles (Union Metal)	23

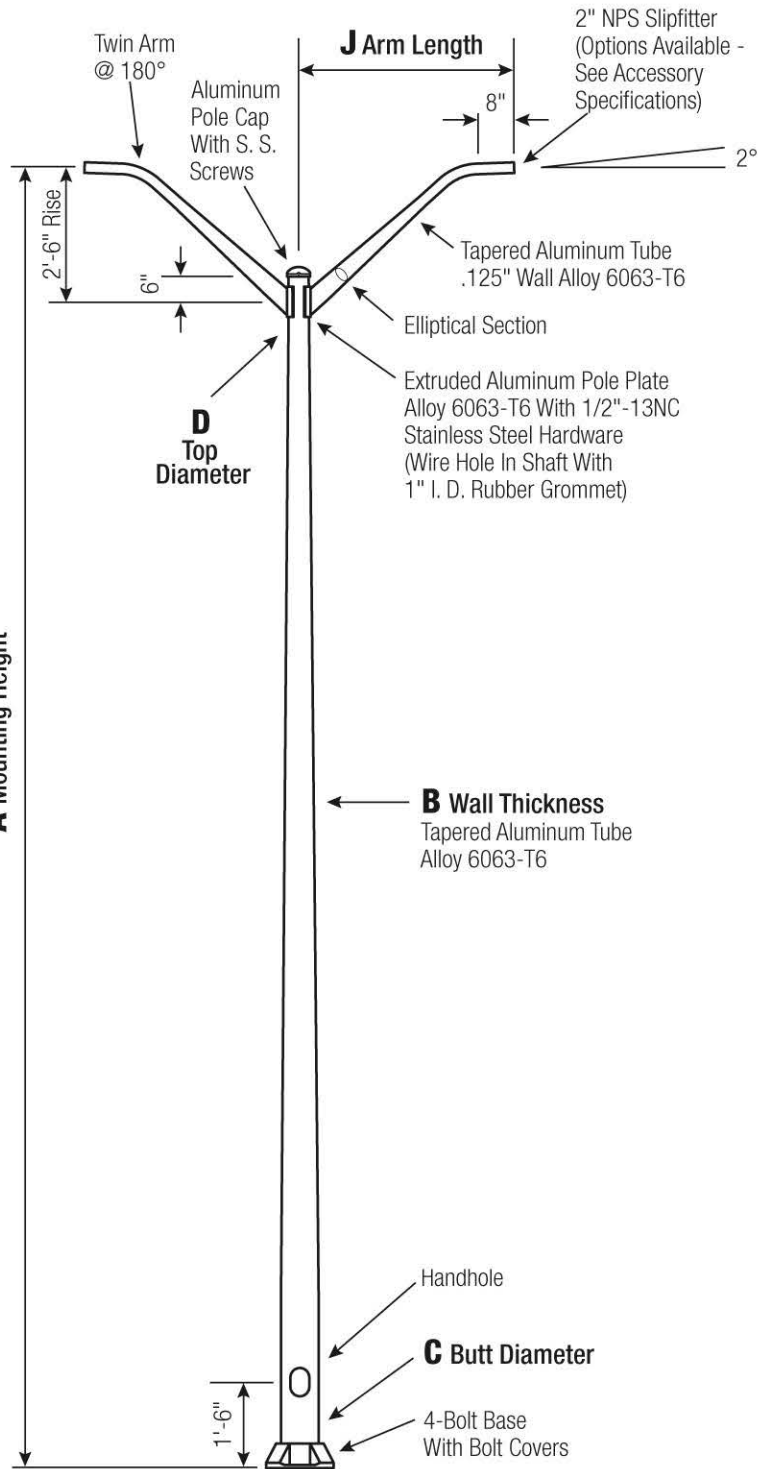
Pole Types

SLP Type Group 1 – Non-Decorative, Tapered Aluminum (Hapco)



Example Photo, with HPS Roadway Luminaire

RTA Round Tapered Aluminum Pole with Arms Double Mast — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

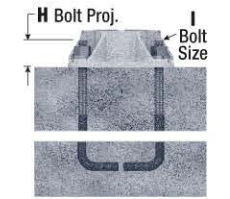
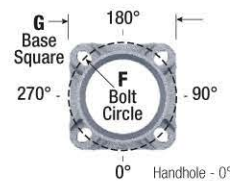
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

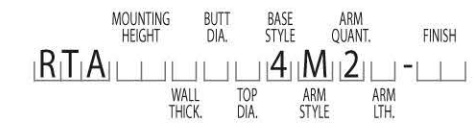
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A MTG. HGT.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM				OLD CAT. NUMBER	CATALOG NUMBER	
					90	100	110	120			130
20	0.156"	6	4'	55	5.6	4.0	3.6	2.6	2.0	22-082	RTA20C6B4M24-**-
20	0.156"	6	6'	45	5.8	4.0	3.4	2.3	1.5	22-085	RTA20C6B4M26-**-
20	0.156"	6	8'	55	5.6	3.6	3.2	2.1	1.4	22-087	RTA20C6B4M28-**-
20	0.188"	6	4'	55	5.0	3.4	3.0	2.1	1.4	22-002	RTA20D6B4M24-**-
20	0.188"	6	6'	60	7.8	5.6	5.0	3.7	2.8	22-005	RTA20D6B4M26-**-
20	0.188"	6	8'	55	7.0	4.8	4.2	3.0	2.1	22-007	RTA20D6B4M28-**-
20	0.156"	7	6'	60	8.4	6.2	5.7	4.4	3.4	22-095	RTA20C7B4M26-**-
20	0.156"	7	8'	70	7.6	5.4	4.8	3.6	2.7	22-097	RTA20C7B4M28-**-
20	0.188"	7	6'	60	8.6	6.8	6.2	5.3	4.1	22-015	RTA20D7B4M26-**-
20	0.188"	7	8'	45	5.8	4.1	3.6	2.3	1.4	22-017	RTA20D7B4M28-**-
25	0.156"	6	4'	45	4.2	2.7	2.2	1.3	-	22-412	RTA25C6B4M24-**-
25	0.188"	6	4'	40	5.8	4.0	3.5	2.4	1.6	22-282	RTA25D6B4M24-**-
25	0.188"	6	8'	60	7.8	6.2	5.8	5.0	3.8	22-287	RTA25D6B4M28-**-
25	0.156"	7	4'	70	7.2	5.3	4.8	3.7	2.8	22-362	RTA25C7B4M24-**-
25	0.156"	7	6'	40	6.4	5.0	4.6	3.8	3.0	22-365	RTA25C7B4M26-**-
25	0.156"	7	8'	60	9.2	7.4	6.6	5.1	3.9	22-367	RTA25C7B4M28-**-
25	0.188"	7	4'	60	8.2	6.0	5.4	4.2	3.2	22-292	RTA25D7B4M24-**-
25	0.188"	7	8'	45	5.8	4.4	4.2	3.4	2.8	22-297	RTA25D7B4M28-**-
25	0.156"	8	4'	60	6.6	4.7	4.2	3.1	2.3	22-372	RTA25C8B4M24-**-
25	0.156"	8	6'	55	3.0	1.8	1.5	-	-	22-375	RTA25C8B4M26-**-
25	0.188"	8	6'	45	4.5	3.0	2.6	1.7	1.1	22-305	RTA25D8B4M26-**-
25	0.188"	8	8'	40	2.7	1.4	1.1	-	-	22-307	RTA25D8B4M28-**-
30	0.156"	7	4'	45	6.6	5.3	4.7	3.4	2.5	22-692	RTA30C7B4M24-**-
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30	0.188"	8	6'	40	4.1	2.4	2.0	1.0	-	22-585	RTA30D8B4M26-**-
30	0.188"	8	8'	45	5.2	3.4	2.9	2.0	1.3	22-587	RTA30D8B4M28-**-
30	0.250"	8	6'	70	7.2	5.2	4.6	3.5	2.6	22-605	RTA30F8B4M26-**-
30	0.250"	8	8'	55	4.4	2.7	2.3	1.3	-	22-607	RTA30F8B4M28-**-
30	0.188"	10	4'	40	6.8	5.2	4.8	4.0	3.2	22-662	RTA30D1C4M24-**-
35	0.156"	8	4'	40	2.9	1.5	1.1	-	-	22-922	RTA35C8B4M24-**-
35	0.188"	8	4'	45	4.9	3.3	2.8	1.9	1.2	22-862	RTA35D8B4M24-**-
35	0.188"	8	6'	45	6.0	4.0	3.4	2.2	1.4	22-865	RTA35D8B4M26-**-
35	0.188"	8	8'	55	6.8	4.8	4.4	3.2	2.2	22-867	RTA35D8B4M28-**-
35	0.219"	8	6'	60	8.2	6.4	6.0	5.2	4.0	22-875	RTA35E8B4M26-**-
35	0.250"	8	4'	45	4.1	2.5	2.1	1.2	-	22-882	RTA35F8B4M24-**-
35	0.250"	8	6'	45	6.0	4.6	4.4	3.4	2.8	22-885	RTA35F8B4M26-**-
35	0.250"	8	8'	45	5.6	4.2	3.6	2.4	1.5	22-887	RTA35F8B4M28-**-
35	0.188"	10	4'	45	5.5	3.9	3.4	2.5	1.8	22-942	RTA35D1C4M24-**-
35	0.188"	10	6'	55	6.6	4.6	4.1	2.9	2.1	22-945	RTA35D1C4M26-**-
35	0.188"	10	8'	45	3.8	2.0	1.6	-	-	22-947	RTA35D1C4M28-**-
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40	0.188"	10	6'	60	9.6	7.4	7.0	5.6	4.6	50701-013	RTA40D1C4M26-**-
40	0.188"	10	8'	60	7.6	6.4	5.8	4.4	3.3	50701-014	RTA40D1C4M28-**-
40	0.219"	10	6'	45	4.8	3.1	2.7	1.8	1.2	50701-015	RTA40E1C4M26-**-
40	0.219"	10	8'	45	5.6	4.4	4.0	3.2	2.6	50701-016	RTA40E1C4M28-**-
40	0.250"	10	6'	45	4.2	2.5	2.1	1.2	-	50701-017	RTA40F1C4M26-**-
40	0.250"	10	8'	60	7.6	6.0	5.6	4.6	3.8	50701-018	RTA40F1C4M28-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 M 2 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Mast Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- M = Mast

Arm Quantity

- 2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

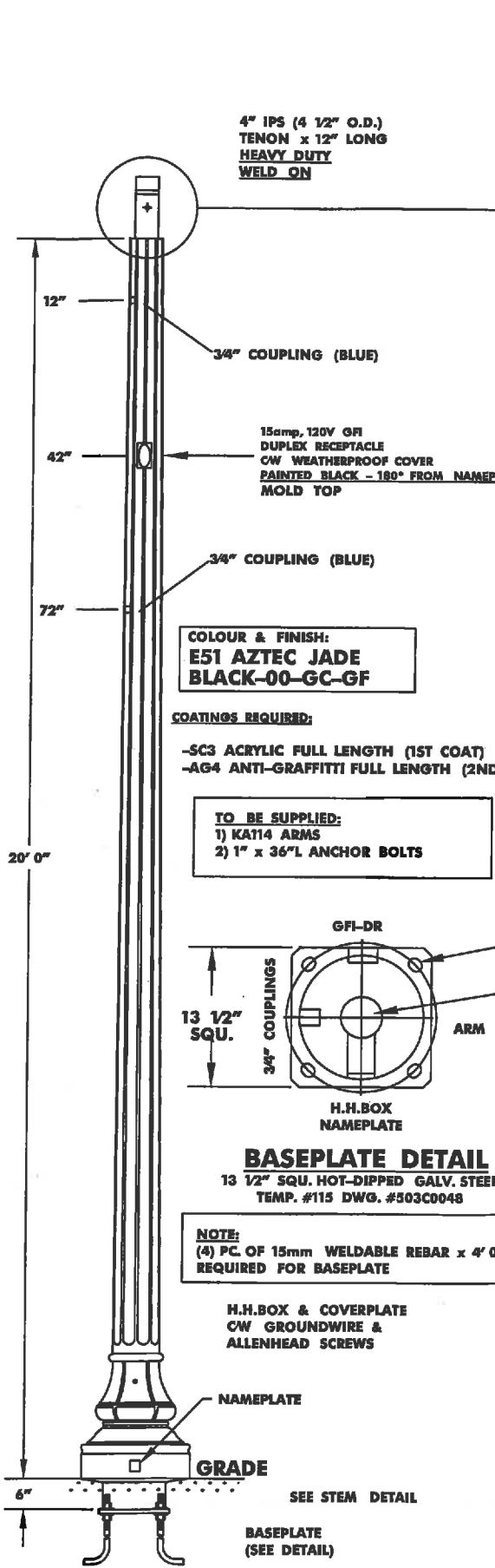
SLP Type Group 2 – Decorative, Long Bay (StressCrete)



Example Photo, with Heritage Teardrop Luminaire on Davit

TOP SIZE: 6" 0

REV.	ALTERATION	E.C.N.	DATE	BY

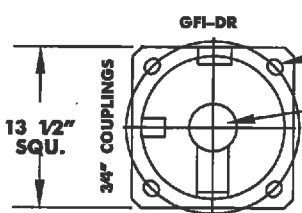


4" IPS (4 1/2" O.D.)
TENON x 12" LONG
HEAVY DUTY
WELD ON

COLOUR & FINISH:
**E51 AZTEC JADE
BLACK-00-GC-GF**

COATINGS REQUIRED:
-SC3 ACRYLIC FULL LENGTH (1ST COAT)
-AG4 ANTI-GRAFFITI FULL LENGTH (2ND COAT)

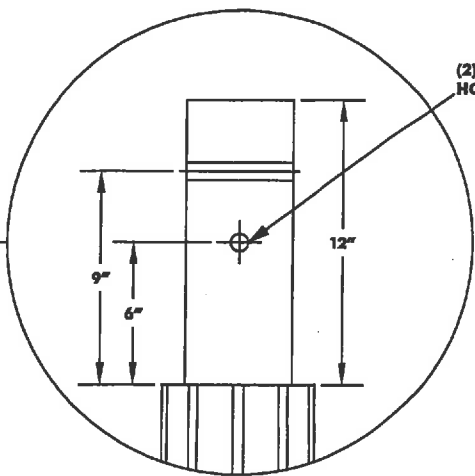
TO BE SUPPLIED:
1) KAT14 ARMS
2) 1" x 36"L ANCHOR BOLTS



BASEPLATE DETAIL
13 1/2" SQU. HOT-DIPPED GALV. STEEL
TEMP. #115 DWG. #503C0048

NOTE:
(4) PC. OF 15mm WELDABLE REBAR x 4' 0" LONG
REQUIRED FOR BASEPLATE

H.H. BOX & COVERPLATE
CW GROUNDWIRE &
ALLENHEAD SCREWS



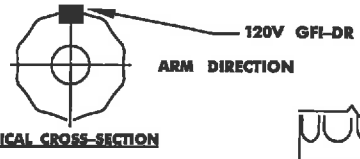
(2) 3/4" 0 THRU
HOLES @ 90 33/64 APART

THIS HOLE IN LINE
WITH NAMEPLATE

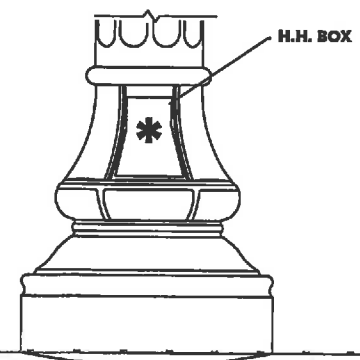
POLE SPECIFICATIONS

CATALOGUE NO.: KWH20-G-E51-BP CW
140-45/120 & AB 5F BA-DR

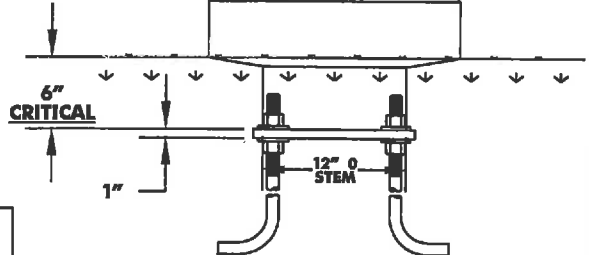
QUANTITY:
SECTION: FLUTED ROUND
COLOUR: AZTEC JADE
FINISH: ETCHED
POLE TOP: 6" 0
POLE BUTT: 21" 0
POLE LENGTH: 20' 0"
APPROX WEIGHT: 1,800 lbs.



TYPICAL CROSS-SECTION



H.H. BOX



STEM DETAIL

CUSTOMER APPROVAL: Ron Forrer - 6/27/2002

StressCrete Limited
840 WALKER'S LINE, P.O. BOX 7
BURLINGTON, ONTARIO CANADA L7R 3X9

DRAWING NAME: APPROV./MFG. DWG.	DWG NUMBER 4953-2	DATE: 01/17/02	DWG BY: A.A.	REV.
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PROJECT/CUSTOMER:
SANTEE COOPER

Davit Arms

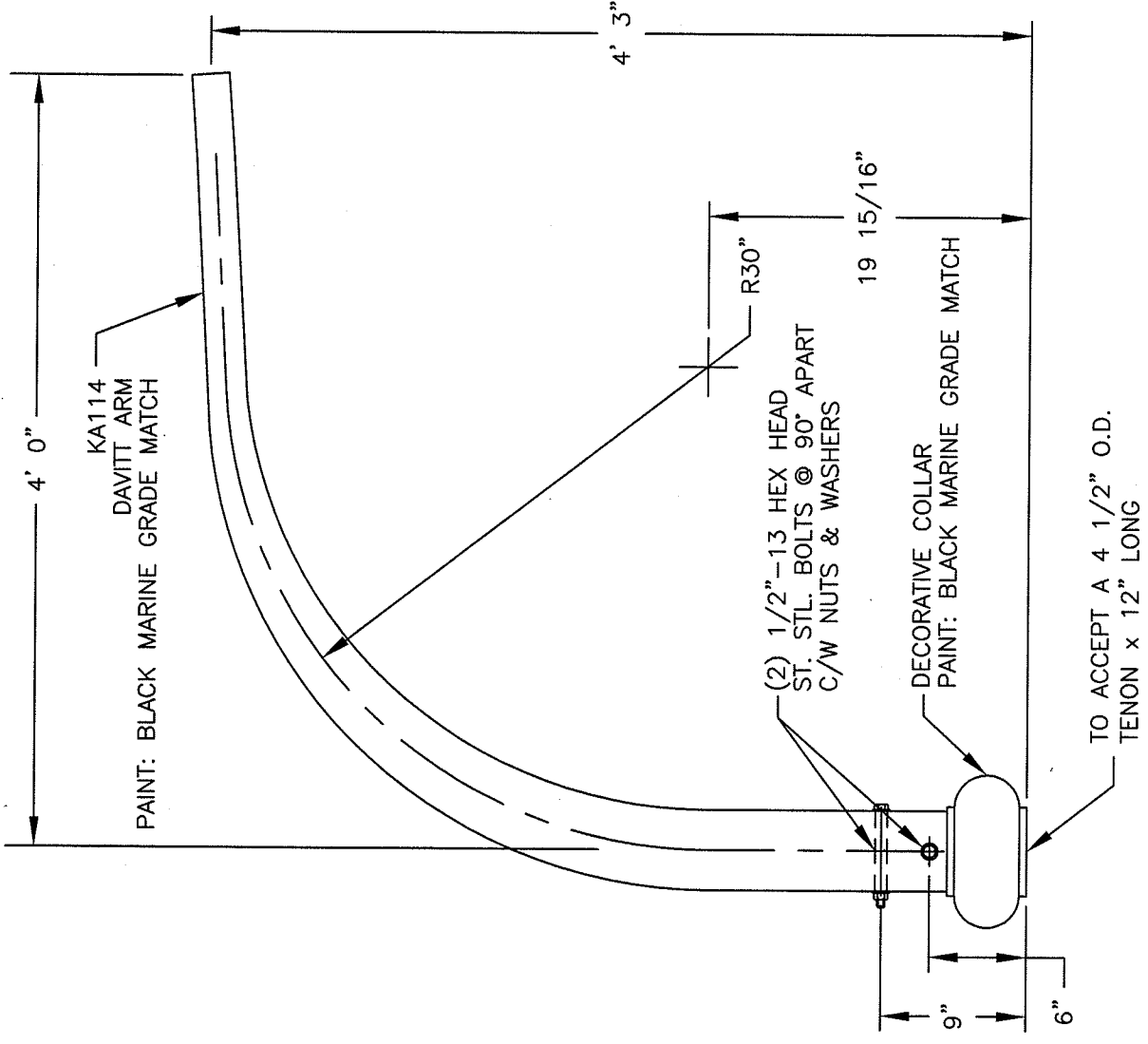
REV.	ALTERATION	DATE	BY


CUSTOMER ORDER No:
SC2 ORDER No:
KING CANADA ORDER No:

ARM SPECIFICATIONS
 CATALOGUE NO.: KA114
 MAT'L: ALUMINUM
PAINT REQUIREMENTS:
 COLOR: BLACK GLOSS POLYESTER
 POWDER COAT MARINE GRADE

NOTE:
 1) ARM MUST BE PALLETIZED, SHRINK WRAPPED AND SHIPPED ON A 4' x 4' PALLET.
 2) ARMS TO BE BUNDLED IN MULTIPLES OF SIX.
 3) HARDWARE TO BE PAINTED.

CUSTOMER APPROVAL & DATE:



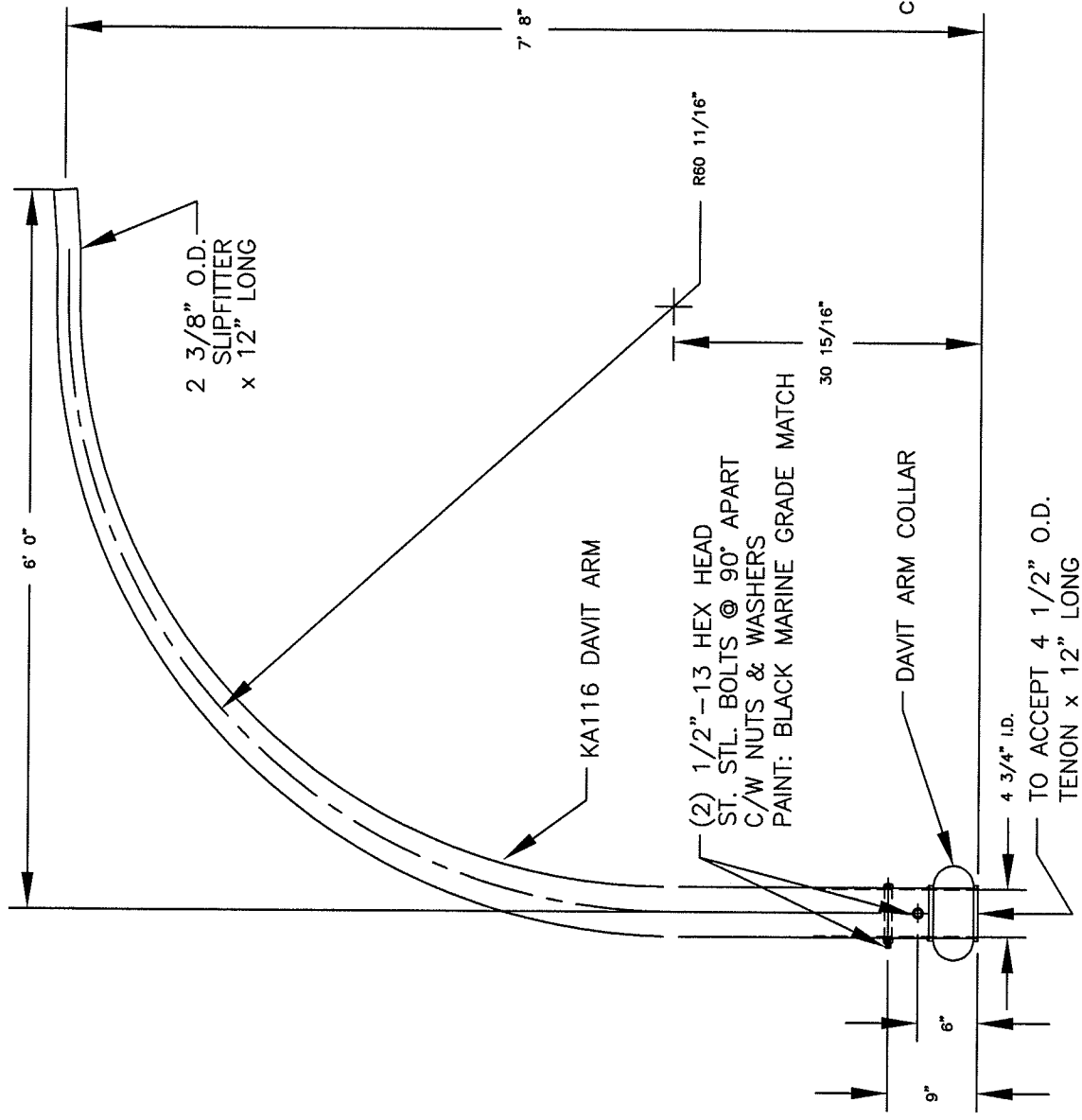
 King Luminaire • Stresscrete • Est. 1953	STRESSCRETE GROUP		PROJECT/CUSTOMER: SANTEE COOPER
	Manufacturing Locations: Burlington, Ontario 1-800-268-7809 Northport, Alabama 1-800-435-6563 Atchison, Kansas 1-800-837-1024 Jefferson, Ohio 1-800-268-7809		DRAWN BY: A. ALVELA AT: SC1 CHECKED BY DATE: 03/08/11 REVISION: DRAWING TYPE: APPROVAL DRAWING DRAWING NUMBER: SANTEE_COOPER-7


REV.	ALTERATION	DATE	BY
CUSTOMER ORDER No:			
SC2 ORDER No:			
KING CANADA ORDER No:			

ARM SPECIFICATIONS
 CATALOGUE NO.: KA116
 MAT'L: ALUMINUM
PAIN T REQUIREMENTS:
 COLOR: BLACK GLOSS POLYESTER
 POWDER COAT MARINE GRADE

NOTE:
 1) ARM MUST BE PALLETIZED, SHRINK WRAPPED AND SHIPPED ON A 4' x 4' PALLET.
 2) ARMS TO BE BUNDLED IN MULTIPLES OF SIX.
 3) HARDWARE TO BE PAINTED.

CUSTOMER APPROVAL & DATE:





King Luminaire • StressCrete • Est. 1953

S T R E S S C R E T E
G R O U P

Manufacturing Locations:

Burlington, Ontario 1-800-268-7809

Northport, Alabama 1-800-435-6563

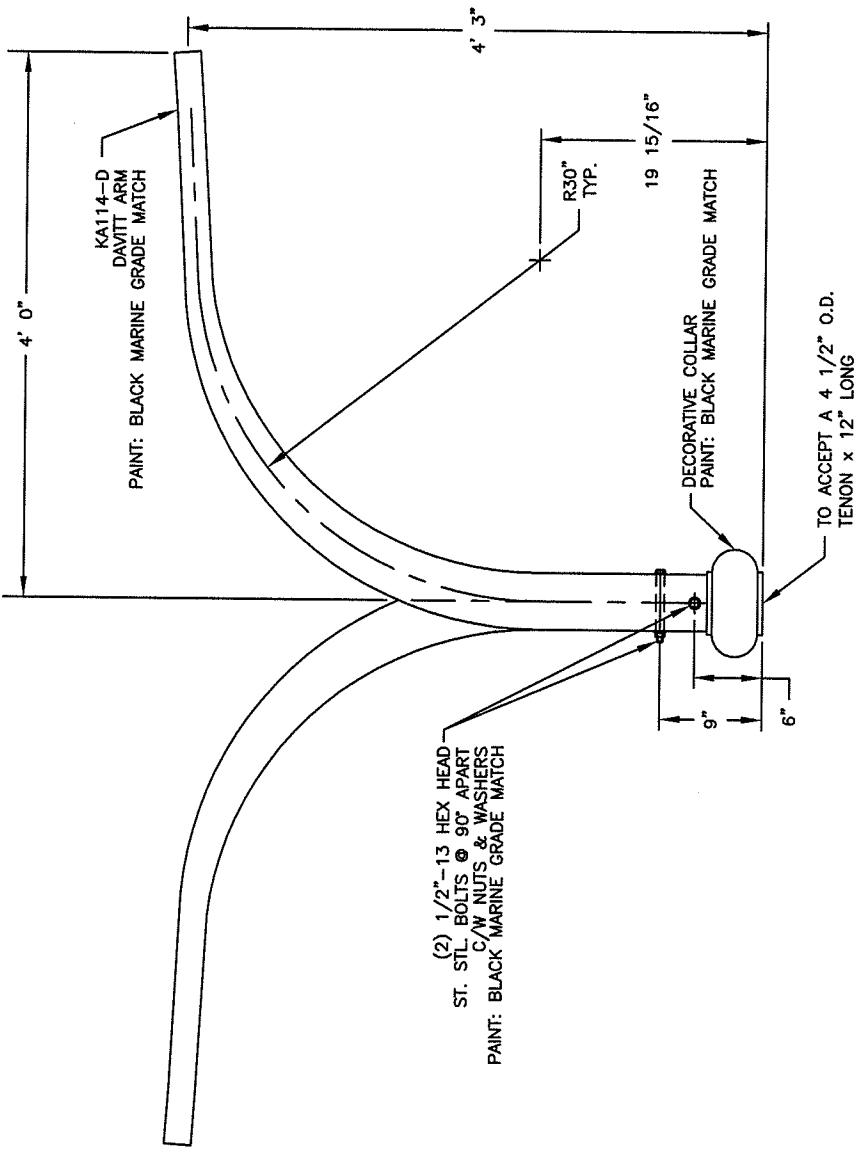
Atchison, Kansas 1-800-637-1024

Jefferson, Ohio 1-800-268-7809

PROJECT/CUSTOMER: SANTEE COOPER

DRAWN BY: A. ALVELA	AT: SC1	CHECKED BY DATE: 03/08/11	REVISION:
DRAWING TYPE: APPROVAL DRAWING		DRAWING NUMBER: SANTEE_COOPER-5	

REV.	ALTERATION	DATE	BY
CUSTOMER ORDER No:			
SC2 ORDER No:			
KING CANADA ORDER No:			



(2) 1/2"-13 HEX HEAD
ST. STL BOLTS @ 90° APART
C/W NUTS & WASHERS
PAINT: BLACK MARINE GRADE MATCH

ARM SPECIFICATIONS

CATALOGUE NO.: KAI14-D



MAT'L: ALUMINUM

PAINT REQUIREMENTS:

COLOR: BLACK GLOSS POLYESTER
POWDER COAT MARINE GRADE

NOTE:
1) ARM MUST BE PALLETIZED,
AND SHRINK WRAPPED.
2) ARMS TO BE BUNDLED IN
MULTIPLES OF SIX.
3) HARDWARE TO BE PAINTED.

CUSTOMER APPROVAL & DATE:

 King Luminare • StressCrete • Est. 1953	 STRESSCRETE GROUP	<i>Manufacturing Locations:</i> Burlington, Ontario 1-800-268-7809 Northport, Alabama 1-800-435-6563 Atchison, Kansas 1-800-837-1024 Jefferson, Ohio 1-800-268-7809	
		PROJECT/CUSTOMER: SANTEE COOPER	
DRAWN BY: A. ALVELA	AT: SC1	CHECKED BY: DATE: 03/08/11	REVISION:
DRAWING TYPE: APPROVAL DRAWING		DRAWING NUMBER: SANTEE_COOPER-8	

REV.	ALTERATION	DATE	BY

CUSTOMER ORDER No:
 SC2 ORDER No:
 KING CANADA ORDER No:

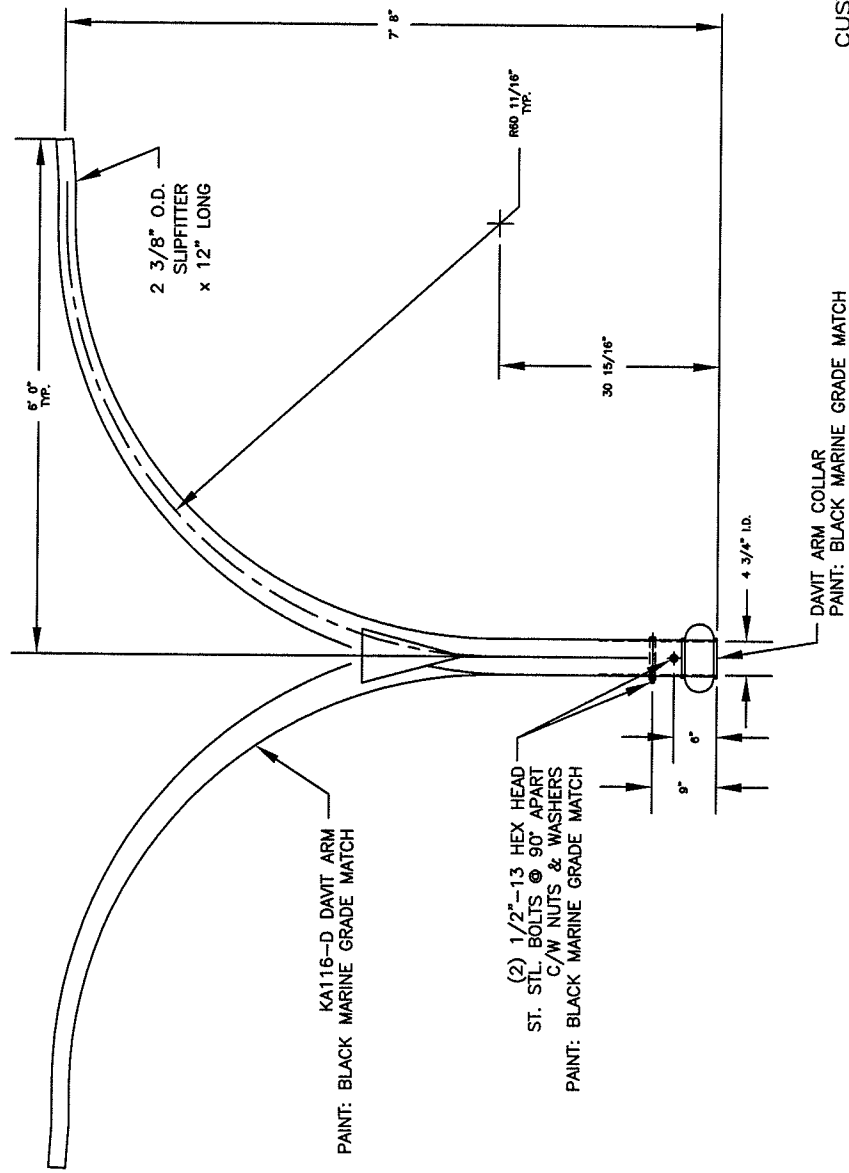
ARM SPECIFICATIONS

CATALOGUE NO.: KA116-D
 MAT'L: ALUMINUM


PAINT REQUIREMENTS:

COLOR: BLACK GLOSS POLYESTER
 POWDER COAT MARINE GRADE

NOTE:
 1) ARM MUST BE PALLETIZED, AND SHRINK WRAPPED.
 2) ARMS TO BE BUNDLED IN MULTIPLES OF SIX.
 3) HARDWARE TO BE PAINTED.



CUSTOMER APPROVAL & DATE:

 King Luminaire • Stresscrete • Est. 1953 S T R E S S C R E T E G R O U P	Manufacturing Locations: Burlington, Ontario 1-800-268-7809 Northport, Alabama 1-800-435-6563 Atchison, Kansas 1-800-837-1024 Jefferson, Ohio 1-800-268-7809
	PROJECT/CUSTOMER: SANTEE COOPER
DRAWN BY: A. ALVELA AT: SC1	CHECKED BY DATE: 03/08/11 REVISION:
APPROVAL DRAWING	DRAWING NUMBER: SANTEE_COOPER-6

Luminaires

HPS Roadway

Roadway Series 125

Roadway Lighting

150-400W HPS, 175-400W MH

PRODUCT OVERVIEW



Features:

Rugged die-cast aluminum housing is powder-coated for durability and corrosion resistance

Optional two-bolt mast arm mount provides easy, secure installation and adjustability for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. Standard four-bolt mounting provides extra security in high-vibration applications

Die-cast trigger latch on doorframe enables easy and secure one-hand opening for re-lamping and maintenance

Large surface area "breathing seal" gasket seals the optical chamber to prevent intrusion by insects and environmental contaminants. Heat-resistant gasket material remains effective over the life of the fixture

Wildlife shield is cast into the housing (not a separate piece) with 2B option and is easily adjustable for 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) mast arms

Photocontrol receptacle is adjustable without tools

Anodized aluminum reflectors provide uniform lighting distribution with either borosilicate glass, or polycarbonate refractor

NEMA wattage label, terminal block, and NEMA photocontrol receptacle are standard

E39 mogul socket standard

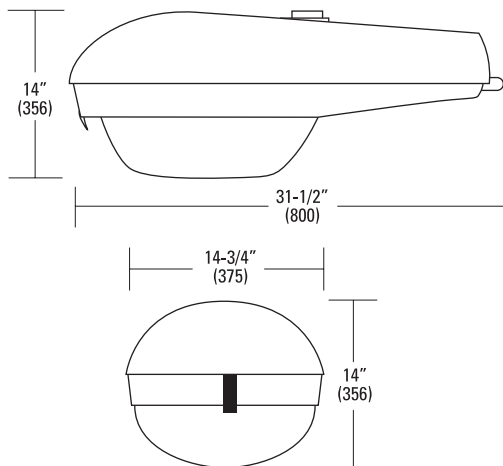
Complies with ANSI: C136.2, C136.10, C136.14, C136.15, C136.17, C136.31

Suitable for -40°C

Applications:

- Roadways
- Residential streets
- Storage areas
- Parking lots
- Campuses
- Parks

DIMENSIONS



Effective Projected Area (EPA)

The EPA for the Horizontal Luminaire series 125 is 1.30 sq. ft.
Approx. Wt. = 35 lbs.

PREFERRED SELECTION CATALOG NUMBERS

- 125 25S CA MT1 R3 DG EC
- 125 40S CA MT1 R3 DG EC
- 125 40M SC MT1 R3 DG

Roadway Series 125

Roadway Lighting

150-400W HPS, 175-400W MH

ORDERING INFORMATION

Example: 125 40S CA MT1 R3 DG LC PC

Series	Wattage / Source		Ballast	Voltage	Distribution
125 Single Door Cobrahead	15 150W 17 175W 20 200W 23 250/400W Wired 250 24 250/400W Wired 400 25 250W 31 310W 32 320W 35 350W 40 400W	S HPS M MH	RN Reactor Normal Power Factor RH Reactor High Power Factor XN High Reactance (Lag) Normal Power Factor XH High Reactance (Lag) High Power Factor CA CWA CT CWI SC SCWA MR Mag Reg (3 Coil)	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V MT1 Multi-tap Wired 120V MT2 Multi-tap Wired 240V MT7 Multi-tap Wired 277V TT3 Tri-tap Wired 347V DT1 Dual Tap 120/240 Wired 120V DT2 Dual Tap 120/240 Wired 240V DT4 Dual Tap 240/480 Wired 480V 5T4 5-tap Wired 480V ²	R2 Roadway Type II R3 Roadway Type III R4 Roadway Type IV Refer to optic distribution matrix below for compatibility.
Options					

Optics

- DP** Drop Polycarbonate
Prismatic Refractor
- DG** Drop Glass
Prismatic Refractor

Mounting

- (blank) 4-bolt Internal (standard)
- F2** 4-bolt Internal 2" setting
- M2** 2-bolt Internal 2" Setting
- 2B** 2-bolt Internal 1-1/4" Setting

Paint¹

- (blank) Gray (standard)
- BK** Black
- BZ** Bronze
- DDB** Dark Bronze
- WH** White
- UP** Unpainted

Terminal Block

- (blank) Terminal Block (standard)
- T2** Wired to L1 & L2 Positions
- T3** 3 Wire Operation
(L1, N, L2 Position)²

Listing

- UL** UL Listed
- CS** CSA Certified

Fusing³

- SF** Single Fuse (120, 277, 347V)
- DF** Double Fuse (208, 220, 240, 480V)

Photocontrol Receptacle

- (blank) NEMA Photocontrol Receptacle
(standard)
- NR** No Photocontrol Receptacle⁴

Lamp

- LC** Lamp Included, Clear
- LD** Lamp Included, Deluxe/Coated

Starter⁵

- (blank) Open Board (standard)
- EC** Encapsulated Plug-in
- OP** Open Plug-in

Misc.

- PC** Photocontrol Included per
Voltage Specified⁴
- BF** Bridge fitter (3G max)
- BL** Bubble Level
- SS** Stainless Steel Fasteners (external)
- CF** Charcoal Filter
- PL** Distribution Pattern
Indicator Label
- LA** Lightning Arrestor
(Void UL/CSA Certified Options)
- NN** No NEMA Label on Housing
- SH** Shorting Cap⁵
- HK** Hinge Keeper
- RG** Rubber Silicone Optical Gasket

Notes:

- 1 Other colors available, please contact your local American Electric Lighting representative
- 2 T3 option only available with 240, 480, DT2, DT4, MT2
- 3 Not available with MT, TT, DT voltages
- 4 PC and SH not available in NR option
- 5 Available in HPS only

Optic Distribution

	R2DP	R3DP	R2DG	R3DG	R4DG
15S	-	-	▲	▲	-
17M	▲	▲	▲	▲	-
20S	▲	▲	▲	▲	▲
20M	-	-	-	▲	-
23S	▲	▲	▲	▲	▲
24S	▲	▲	▲	▲	▲
25S	▲	▲	▲	▲	▲
25M	▲	▲	▲	▲	-
31S	▲	▲	▲	▲	▲
32M	▲	▲	▲	▲	-
35M	▲	▲	▲	▲	-
40S	▲	▲	▲	▲	▲
40M	▲	▲	▲	▲	-



AEL Headquarters, 3825 Columbus Road, Granville, OH 43023
www.americanelectriclighting.com

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Warranty Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomResources/Terms_and_conditions.aspx
Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

RW-125-A

Roadway Series 125

Roadway Lighting

150-400W HPS, 175-400W MH

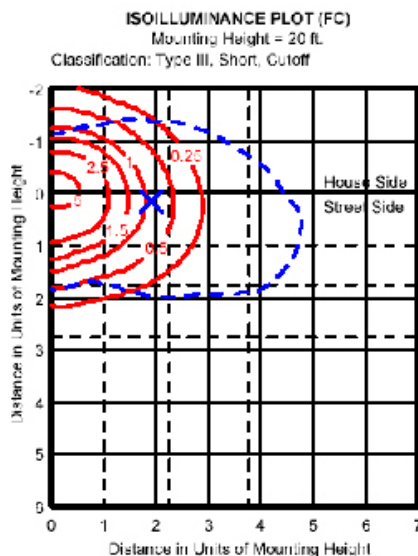
BALLAST MATRIX

Watts	120	208	240	277	347	480	DT1
15S	CA	CA	CA	CA	XN,XH	CA,XN,XH,MR	CA
17M	SC	SC	SC	SC	-	SC	SC
20S	CA,CT,MR,XN,XH	CA,CT	CA,CT,MR,XH,XN	CA,CT,MR	CA	CA,MR	CA,CT,MR,XN,XH
20M	SC	SC	SC	SC	-	-	-
23S	CA	CA,CT	CA	CA,CT	CA	-	CA
24S	CA	CA	CA	CA	-	-	CA
25S	CA,CT,MR,XN,XH	CA,CT	CA,CT,RN,RH,MR,XH,XN	CA	-	CA,MR	CA,CT,MR,XN,XH
25M	SC	SC	SC	SC	SC	SC	SC
31S	CA,MR	CA	CA,MR	CA	-	MR	CA,MR
32M	SC	SC	SC	SC	-	SC	SC
35M	SC	SC	SC	SC	-	SC	SC
40S	CA,CT,MR	CA,CT,MR,RN,RH	CA,CT,MR,RN,RH	CA,CT	CA	CA,MR	CA,CT,MR
40M	SC	SC	SC	SC	-	SC	SC

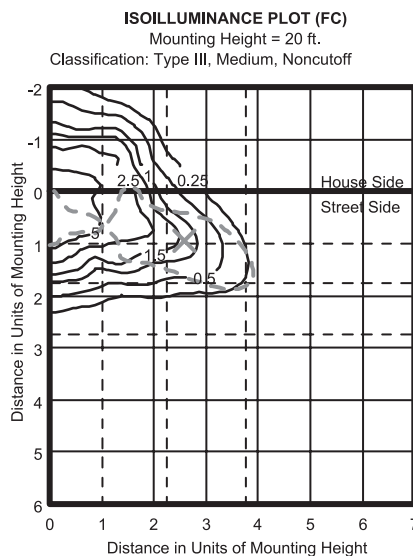
Watts	DT2	DT4	MT1	MT2	MT7	TT3	5T4
15S	CA	CA	CA	CA	CA	XN,XH	-
17M	SC	-	SC	SC	SC	-	-
20S	CA,CT,MR,XN,XH	MR	CA,CT	CA,CT	CA,CT	CA	-
20M	-	-	SC	SC	SC	-	-
23S	CA	-	CA	CA	CA	-	-
24S	CA	-	CA	CA	CA	-	-
25S	CA,CT,MR,XN,XH	MR	CA,CT	CA,CT	CA,CT	CA	CA
25M	SC	SC	SC	SC	SC	SC	-
31S	CA, MR	CA	CA	CA	CA	-	-
32M	SC	SC	SC	SC	SC	-	-
35M	SC	SC	SC	SC	SC	-	-
40S	CA,CT,MR	MR	CA	CA	CA	CA	CA
40M	SC	-	SC	SC	SC	-	SC

PHOTOMETRICS

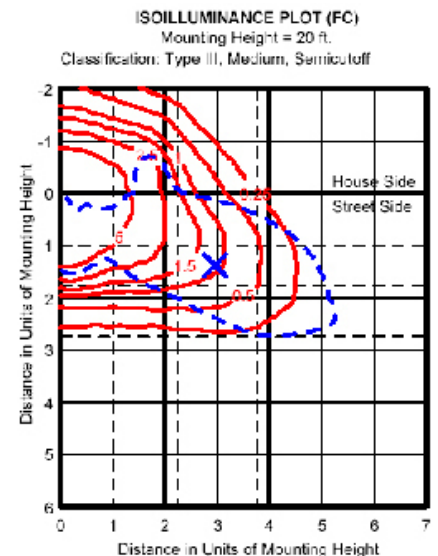
125 25S R3 DG LD



125 40M SC R3 DG



125 40S R3 DG



X Maximum Intensity



AEL Headquarters, 3825 Columbus Road, Granville, OH 43023
www.americanelectriclighting.com

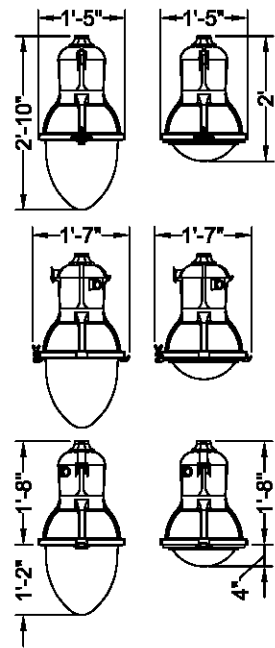
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Warranty Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx
Actual performance may differ as a result of end-user environment and application.
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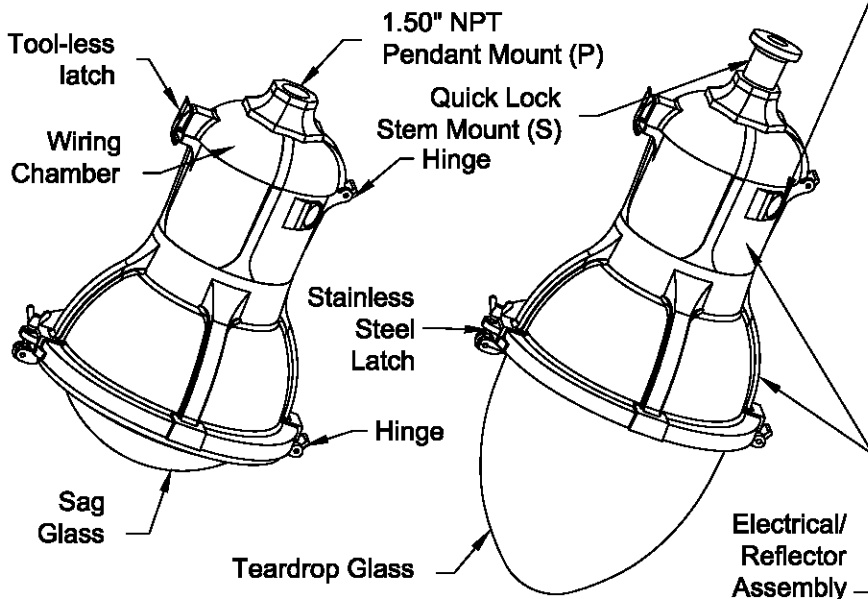
Please contact your sales representative for the latest product information.

RW-125-A

Heritage Teardrop



Maximum Effective Projected Area - 2.37 ft² Optional NEMA Turn-Lock Photocontrol Receptacle
Maximum Weight - 66 lbs.



Memphis
Utility

**DECORATIVE
OUTDOOR**

ORDERING INFORMATION:

COVER TYPE
MPU = Memphis Utility

BALLAST TYPE (MOGUL BASE)
 070HP = 70W HPS
 100HP = 100W HPS
 15AHP = 150W 55V HPS
 250HP = 250W HPS
 400HP = 400W HPS
 150MH = 150W MH
 175PM = 175W MH PULSE
 250PM = 250W MH PULSE
 320PM = 320W MH PULSE
 350PM = 350W MH PULSE
 400PM = 400W MH PULSE

VOLTAGE
 12 = 120 VOLT CULUS
 20 = 208 VOLT
 24 = 240 VOLT
 27 = 277 VOLT CULUS
 34 = 347 VOLT CUL
 48 = 480 VOLT
MA = MT (WIRED 120V)
MB = MT (WIRED 208V)
MC = MT (WIRED 240V)
MD = MT (WIRED 277V)

HOUSING COLOR
A = As Specified
B = Black
N = Green
Z = Bronze

OPTICS
4 = TEARDROP ASYMMETRIC
6 = SAG CLEAR SYMMETRIC
7 = SAG CLEAR ASYMMETRIC

TOP ENTRY
P = 1.50 NPT PENDANT MOUNT
S = QUICK LOCK STEM MOUNT

NOTE:
 MH is compliant with DOE/EISA regulations starting February 10, 2017.

OPTIONS

PS = PROTECTED STARTER (HPS ONLY)
 R = TURN-LOCK PHOTOCONTROL RECEPTACLE
 DS = DEEP SKIRT
 SS = SHORT SKIRT

P27 = PHOTOCONTROL 105-305 VOLT (USED WITH "R" OPTION)
 P48 = PHOTOCONTROL 420-630 VOLT (USED WITH "R" OPTION)
 PSC = SHORTING CAP
 L1H = 1.5 FT. PREWIRED LEADS
 L03 = 3 FT. PREWIRED LEADS

L10 = 10 FT. PREWIRED LEADS
 L20 = 20 FT. PREWIRED LEADS
 L25 = 25 FT. PREWIRED LEADS
 L30 = 30 FT. PREWIRED LEADS

Specifications

DESCRIPTION

The Memphis luminaire is styled to replicate the "teardrop" luminaires that lighted boulevards in the first half of this century. Designed for light control and ease of installation and maintenance, the Memphis has a precision optical system for true street lighting performance.

WIRING CHAMBER

The wiring chamber has either a 1.50 inch NPT and stainless steel set screw or a welded stem. The stem aides in installation speed. Provided with a (3) station terminal block that accepts #14 through #2 wires and has a quick disconnect harness with removable electrical module.

ELECTRICAL / REFLECTOR ASSEMBLY

The electrical / reflector assembly hinges down from the wiring chamber for ease in wiring and to facilitate the removal of the electrical module. The assembly is secured in place by a stainless steel latch. The unitized electrical module consists of the ballast mounted to an aluminum plate that is easily removed by loosening two screws in keyhole slots. The disconnect plug connects the ballast to the terminal block in the wiring chamber. The socket is street lighting grade with nickel plated lamp grip shell, center contact backed by a coiled spring and glazed porcelain body. The anodized and brightened reflector is formed with flutes to control voltage rise in the lamp and to work in conjunction with the refractor to provide the desired distribution of light.

REFRACTOR / DOOR ASSEMBLY

The cast aluminum door cradles a teardrop or sag shaped, thermal resistant borosilicate glass refractor that controls the light to provide an I.E.S. symmetric or asymmetric cut off distribution. The combination of refractor, refractor and vertical burning lamp maximize efficiency and uniformity of illumination while controlling luminaire brightness. The refractor assembly and decorative skirt (when applicable) assembly hinges from the electrical / reflector assembly and is latched by a stainless steel, captive, wing nut assembly.

BALLAST

(Refer to Ballast Data Sheet for specific operating characteristics)
 150 watt and below 120 volt High Pressure Sodium (HPS) ballasts are High Power Factor Reactor type. All other 150 watt and below are High Power Factor Autotransformer type. 250 and 400 watt HPS ballasts are Lead type.
 All Metal Halide (MH) ballasts are Peak Lead Autotransformer type. MH is compliant with DOE/EISA regulations starting February 10, 2017.

FINISH / MATERIAL

The luminaire is finished with polyester powder paint to insure maximum durability. All castings utilize alloy #356 aluminum for maximum corrosion resistance and all exposed hardware is stainless steel.

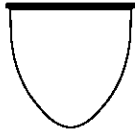
CUL/J.L. LISTING

CUL/J.L. listing suitable for wet locations at 40 degrees C.

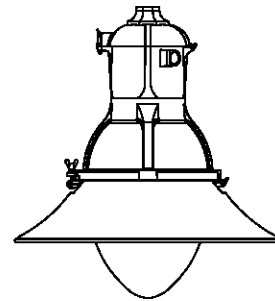
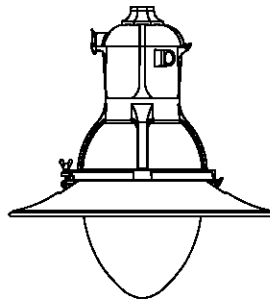
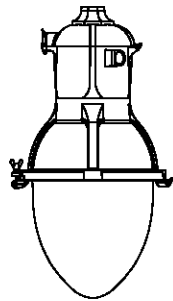


THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A LIST OF SIMILAR DESIGN MAY BE OBTAINED BY REQUESTING AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE HOLE PROVIDED. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY HOLOPHANE.

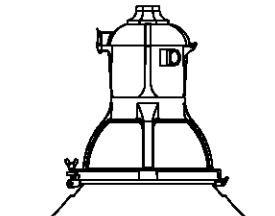
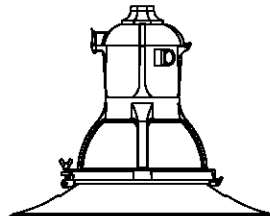
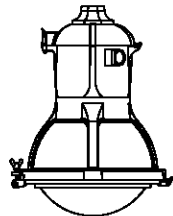
ORDER #:	
TYPE:	
DRAWN:	RAF
DATE:	02/10/2017
DWG NO.:	LUM_MEMPHIS



Teardrop Glass
Asymmetric

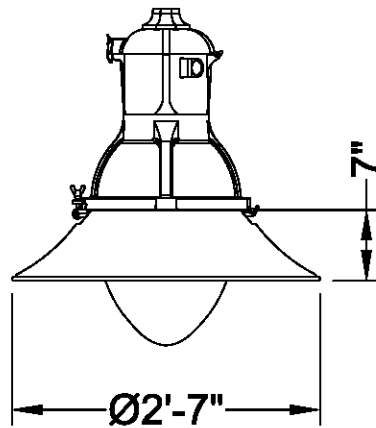
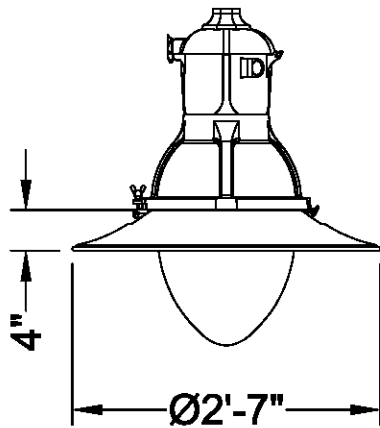


Sag Glass
Symmetric
Asymmetric



Mark Appropriate
Box for Trim Option

Skirt Dimensions



Memphis Utility

DECORATIVE OUTDOOR

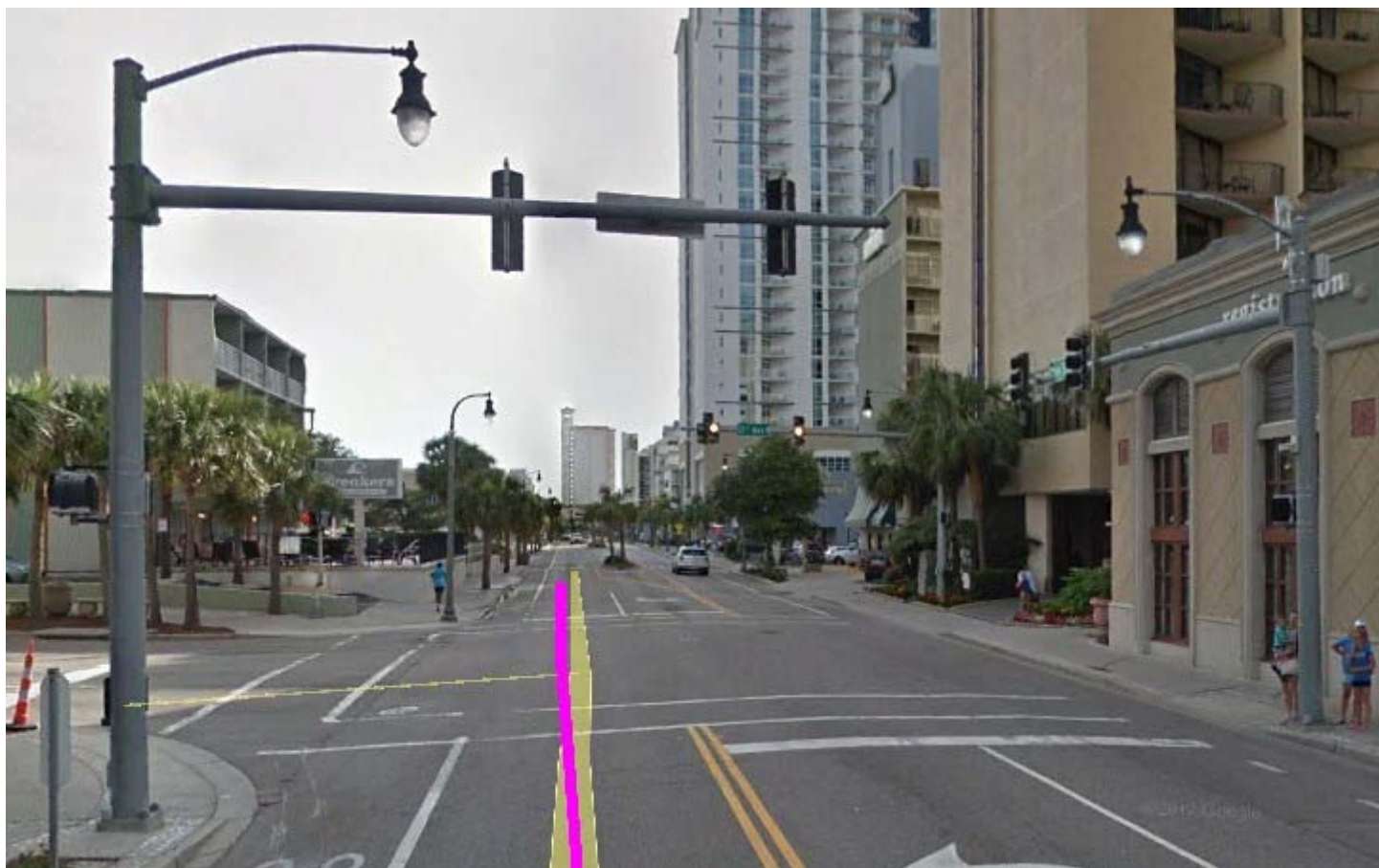
HOLOPHANE[®]
LEADER IN LIGHTING SOLUTIONS
An *Security Brands* Company

THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A UNIT OF SIMILAR DESIGN MAY BE SUBSTITUTED FOR THE UNIT SHOWN HEREIN IF THE SUBSTITUTION DOES NOT AFFECT THE PERFORMANCE OF THE UNIT. THE POLYMER ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE POLLE LONDED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS WRITTEN REQUEST.

ORDER #:	
TYPE:	2
DRAWN:	RAF
DATE:	02/10/2017
DWG NO.:	LUM_MEMPHIS

Traffic Signal Poles (TSPs)

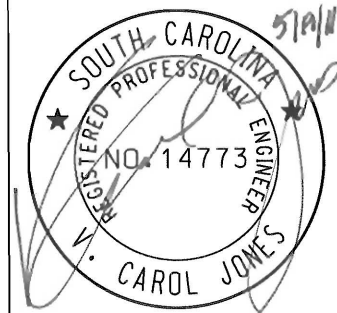
TSP Type Group 1 – Non-Decorative,
SCDOT Standard



Example Photo

REFERENCES

TRAFFIC SIGNAL & SYSTEMS ENGINEER



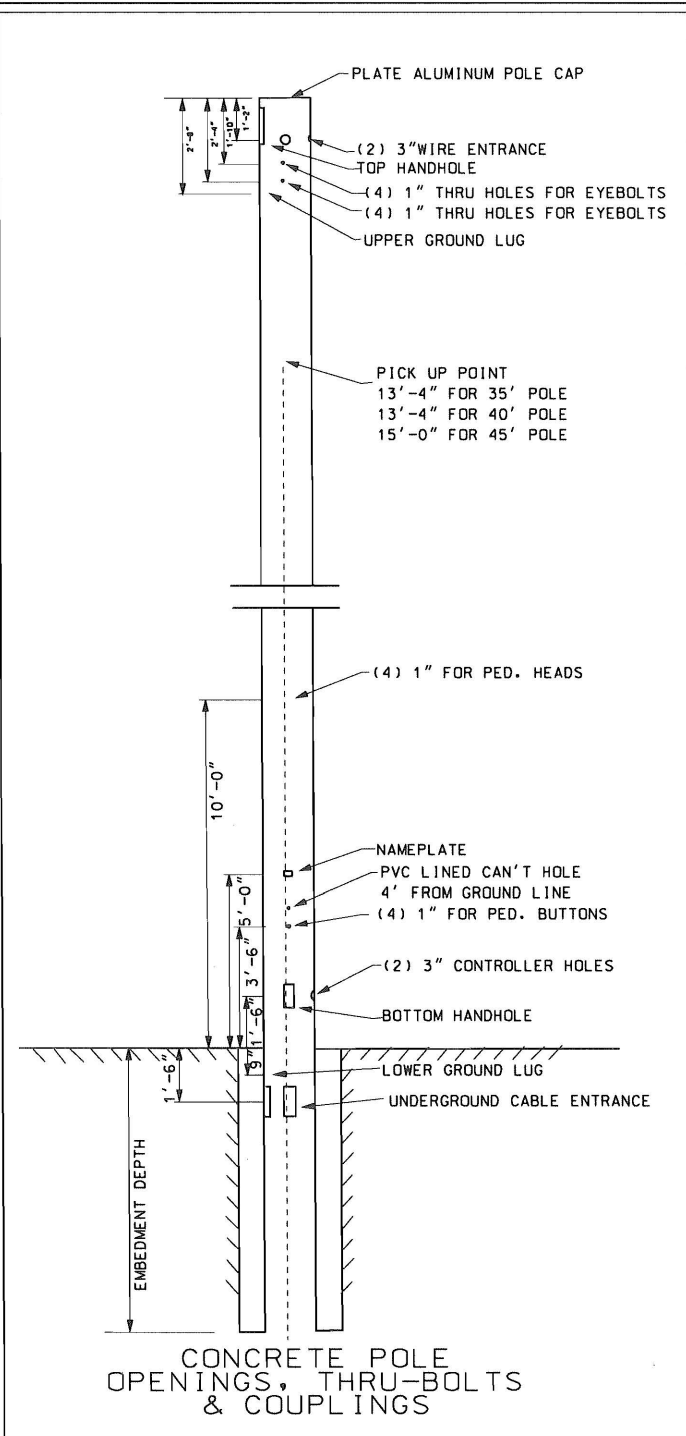
SIGNATURE

6			
5			
4			
3	05-12-11	PR	ADDED REINFORCING CAGE
2	01-20-10	PR	REVISED
1	11-26-07	WJZ	ADOPTED FROM T/E
0	UNKNOWN	AKF	DRAWN
#	DATE	CHK	DESCRIPTION



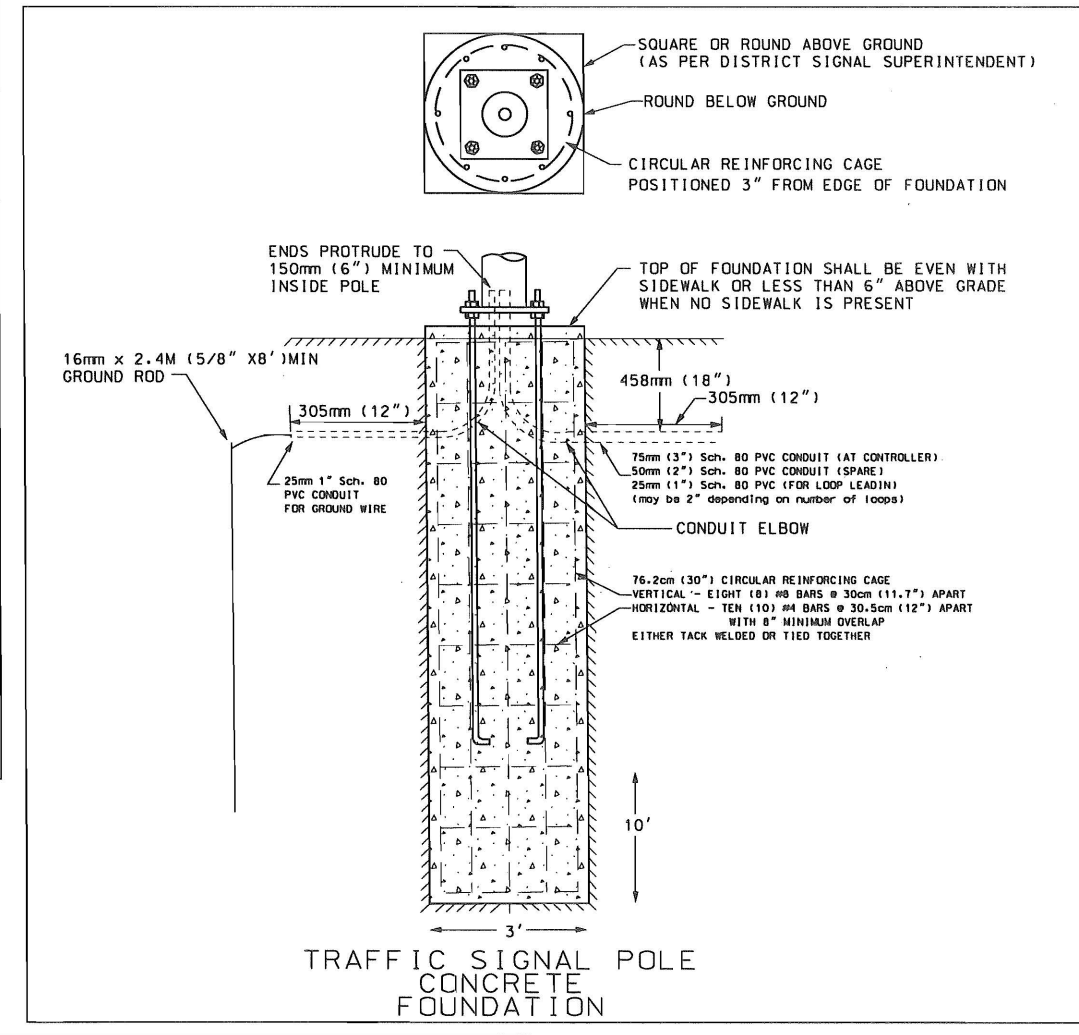
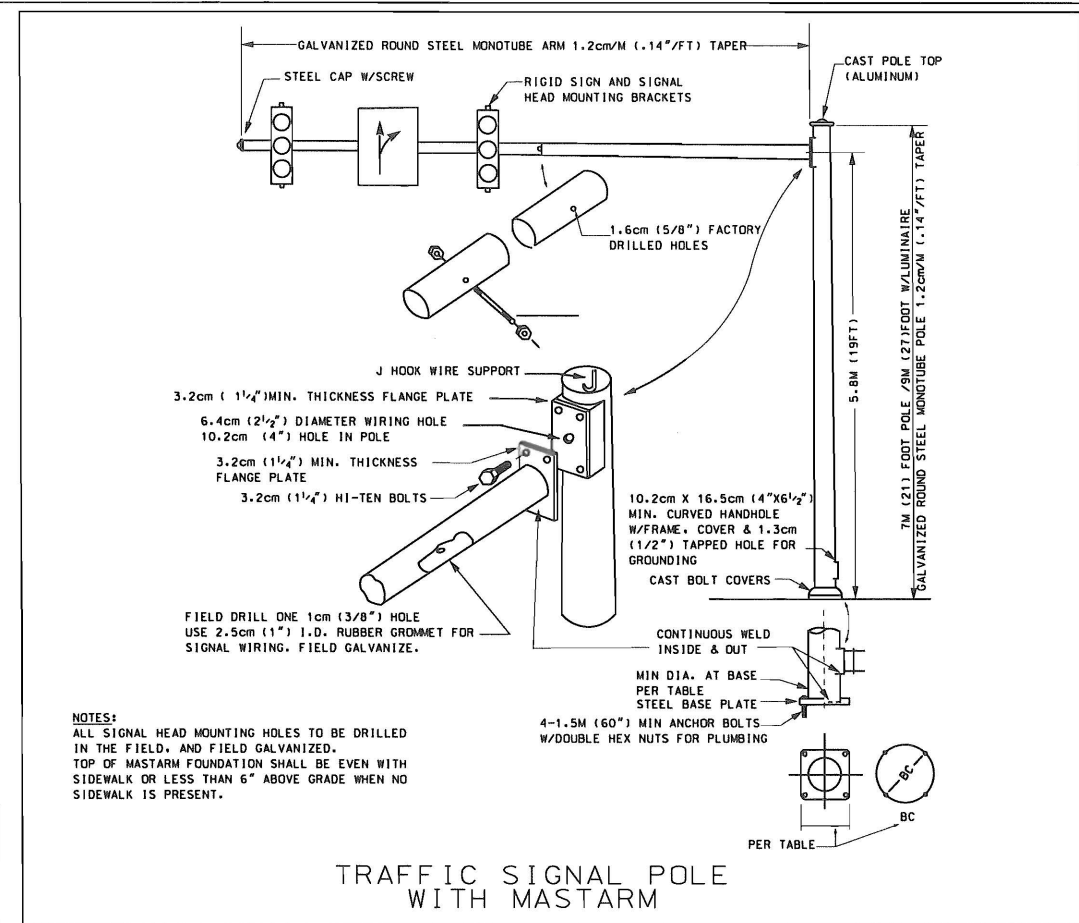
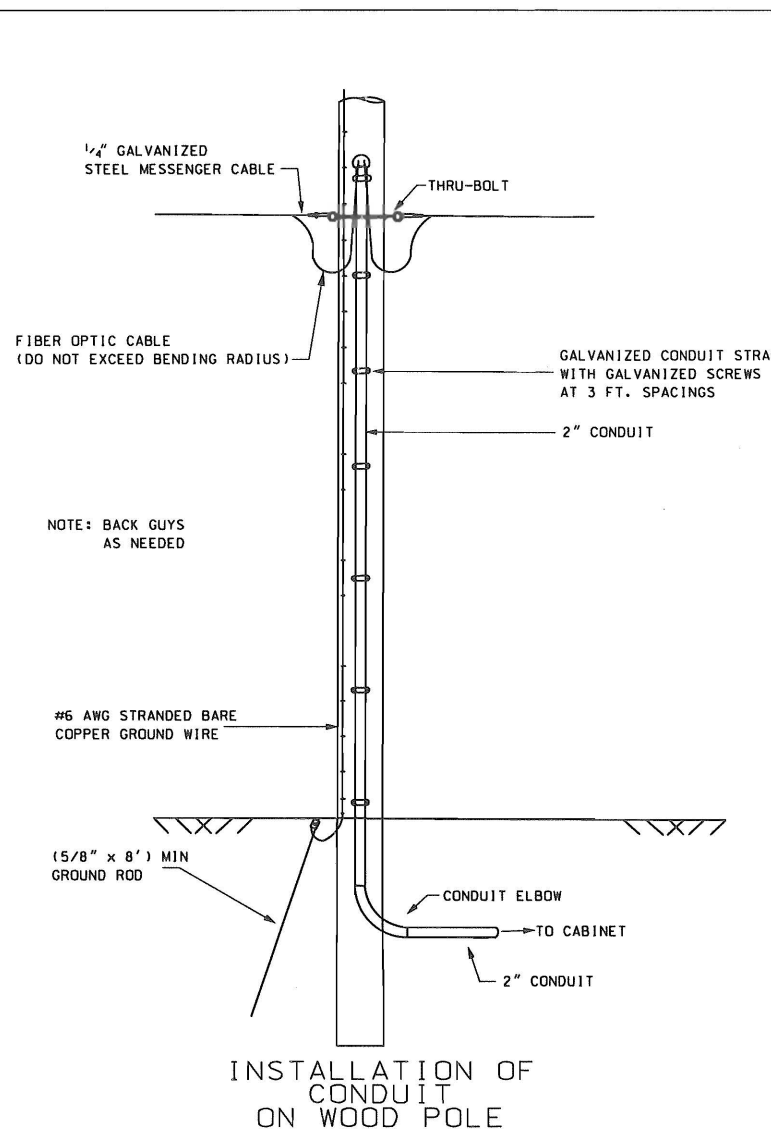
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
POLES



POLE DATA TABULATION SHEET

POLE LENGTH	35'	40'	45'
TOP HANDHOLE	270"	270"	270"
(2) 3" WIRE ENTRANCES	0°, 90°	0°, 90°	0°, 90°
(4) 1" THRU HOLES FOR EYEBOLTS	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°
(4) 1" THRU HOLES FOR EYEBOLTS	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°
UPPER GROUND LUG	270"	270"	270"
PICK-UP POINT	0"	0"	0"
(4) 1" THRU HOLES FOR PED HEADS	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°
NAME PLATE	0"	0"	0"
CAN'T HOLE	0"	0"	0"
(4) 1" THRU HOLES FOR PED BUTTONS	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°	0°, 90°, 180°, 270°
(2) 3" CONTROLLER HOLES	90°, 270°	90°, 270°	90°, 270°
BOTTOM HANDHOLE	0"	0"	0"
LOWER GROUND LUG	270"	270"	270"
(2) UNDERGROUND WIRE ENTRANCES	0°, 270°	0°, 270°	0°, 270°
OVERALL POLE LENGTH	35'	40'	45'
HEIGHT ABOVE GROUND	27'	30'	34'
EMBEDMENT DEPTH	8'	10'	11'
O.D. @ TOP	11.75"	11.75"	11.75"
O.D. @ BOTTOM	18.05"	18.95"	18.85"
WALL THICKNESS TOP	2.75"	2.75"	2.75"
WALL THICKNESS BOTTOM	3.5"	3.5"	3.5"
FOUNDATION DIAMETER	3'	3'	3'
FOUNDATION DEPTH	8'	10'	11'

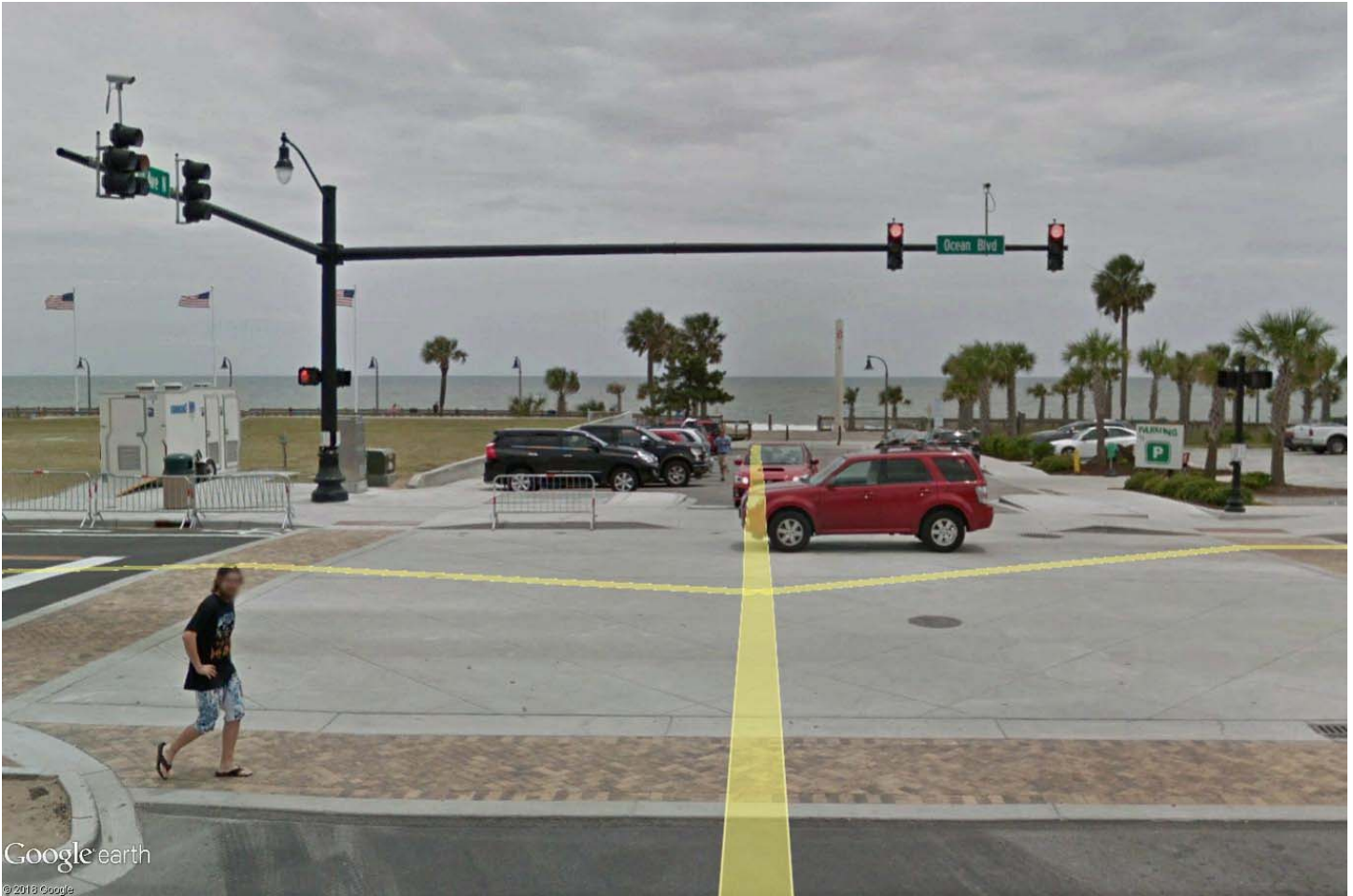


Post Offices Box 191
Columbia, South Carolina 29202

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675-115-02
EFFECTIVE LETTING DATE SEPTEMBER 2011

TSP Type Group 2 – Decorative (Union Metal)



Example Photo; Type Group T-2p Pedestrian Pole also shown on right

Mast Arm pole sizes on Ocean Blvd.

All poles are Union metal decorative.

3rd South

Twin 35' & 40'

Twin 20' & 35'

3 ped poles

7th North

Twin 35' & 45'

Twin 35' & 50'

2 ped poles

8th North

Twin 30' & 50'

Twin 25' & 50'

2 ped poles

9th North

Twin 35' & 35'

Twin 35' & 50'

2 ped poles

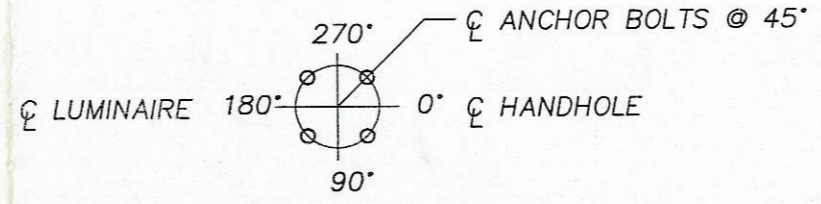
Joe White

Twin 25' & 45'

Single 35'

2 ped poles

DESIGN NO.	ARM SPREAD	ARM LOCATION	ARM SIZE	POLE SIZE
50312-B30-Y1	55'	180°	0E-12.5x8.76x26'-9" 3E-9.54x5.34x30'-0"	3+7XF-16.0x12.64x24'-0"
	25'	270°	7E-9.0x5.50x25'-0"	
50312-B30-Y2	35'	180°	3E-10.0x5.10x35'-0"	3XF-16.0x12.64x24'-0"
	50'	90°	0E-12.5x8.76x26'-9" 3E-9.54x6.04x25'-0"	
50312-B30-Y3	35'	180°	3E-10.0x5.10x35'-0"	7+7XF-16.0x12.64x24'-0"
	35'	90°	3E-10.0x5.10x35'-0"	
50312-B30-Y4	45'	90°	0E-12.0x8.26x26'-9" 3E-8.90x6.10x20'-0"	7+7XF-16.0x12.64x24'-0"
	35'	180°	3E-10.0x5.10x35'-0"	
50312-B30-Y5	55'	90°	0E-12.5x8.76x26'-9" 3E-9.54x5.34x30'-0"	3+7XF-16.0x12.64x24'-0"
	35'	180°	3E-10.0x5.10x35'-0"	



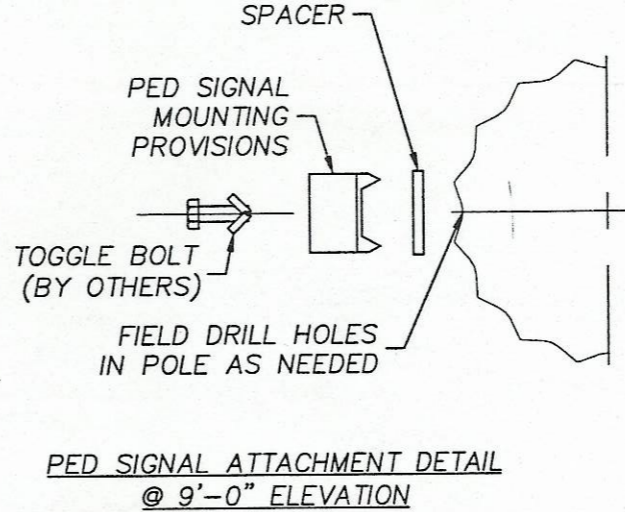
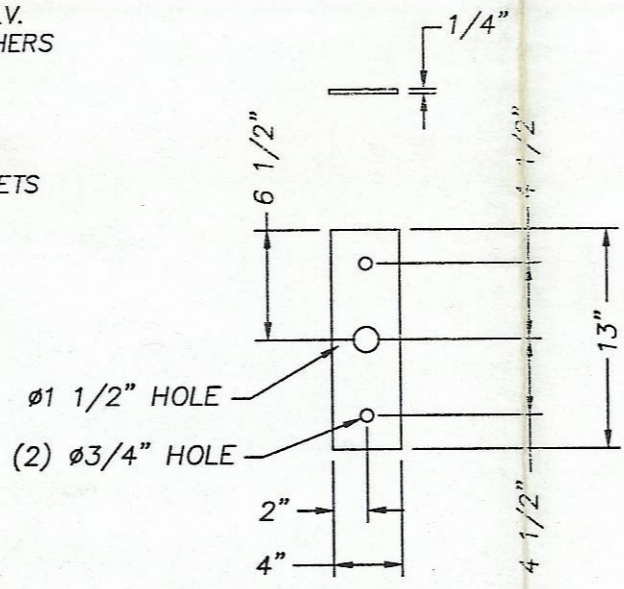
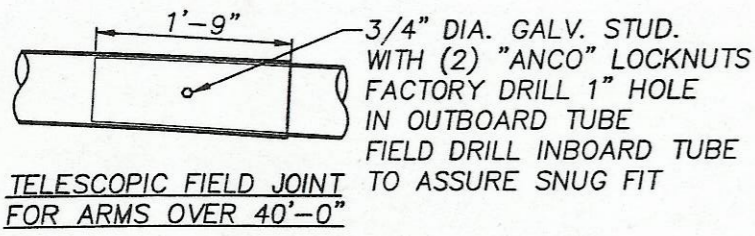
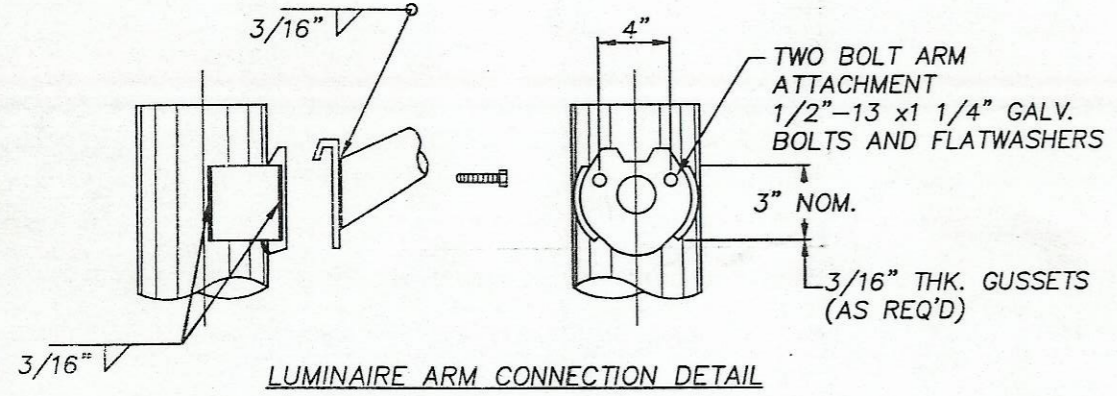
7+7XF=0.3586" THK WALL
 3+7XF=0.4293" THK WALL
 3XF=0.2500" THK WALL
 0E=0.3125" THK WALL
 3E=0.2500" THK WALL
 7E=0.1793" THK WALL
 (F=0.14 in/ft TAPER 16 FLUTE TUBE)
 (E=0.14 in/ft TAPER TUBE)

1°-3° RAKE ANGLE
 HORIZONTAL WITH ARM TIP
 (WITH LOADS APPLIED)

CAST ALUM. ARM CAP
 W/(3) S.S. SET SCREWS

FIELD DRILL 1 3/8" DIA. HOLES
 UNION METAL TO FURNISH
 (4) 1" I.D. RUBBER GROMMETS
 PER ARM

TELESCOPIC FIELD
 JOINT (SEE DETAIL)



#738 CAST ALUM. SPLIT
 ORNAMENTAL SPLIT BASE
 W/(2) ACCESS DOORS
 @ 0° & 180°

FOUNDATION SURFACE
 WITHIN MUST BE LEVEL

DESIGN CRITERIA

DESIGNED IN ACCORDANCE WITH 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" FOR 100 MPH WIND ZONE. STRUCTURES ARE DESIGNED FOR LOADS SPECIFIED BY CUSTOMER AND GENERAL REQUIREMENTS. (CALCULATIONS ON FILE).

MATERIAL SPECIFICATION

TAPERED TUBES	ASTM-A595 GR.A(55KSI)
PEDESTAL BASE	CAST ALUMINUM AA319F
PLATE & BAR	ASTM-A36
POLE TOP	CAST ALUMINUM-AA319F
STN.STL.HARDWARE	AISI 300 SERIES (18-8)
ANCHOR BOLTS	ASTM-F1554 M105
A.BOLT NUTS	ASTM-A563 GR. A
HANDHOLE FRAME	ASTM-A576
STRUCTURE FINISH	FINISH PAINTED
HARDWARE	H.D.GALV.TO ASTM-A153

NO.	DESCRIPTION	DATE

ORNAMENTAL TRAFFIC CONTROL STRUCTURES
 CITY OF MYRTLE BEACH, SOUTH CAROLINA
 VARIOUS INTERSECTIONS

LOF YES. KB ENG. REF.# ---
 REQ.# 0744-40-01 S.O.# N29420 CAD# ---

Union Metal
 CORPORATION

DRAWN WJC
 DATE 10-24-01
 CHECKED CXC

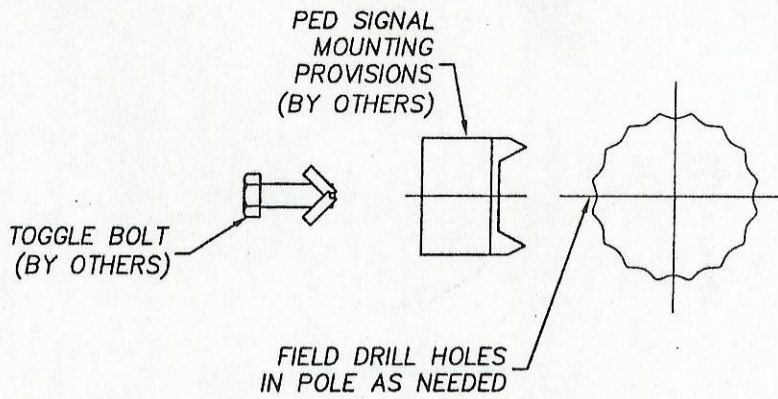
DRAWING NO.
 50312-B30
 SHT. 1 OF 2

OCEAN BLVD
 7-11

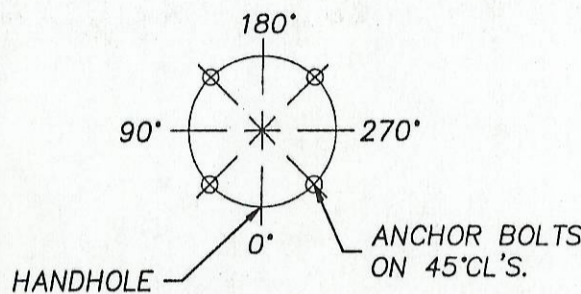
ORIGINAL

TSP Type Group 2p – Decorative – Pedestrian Poles
(Union Metal)

CAST ALUMINUM
POLE TOP
W/(3) SET SCREWS,
J-HOOK WELDED
INSIDE TOP OF
POLE



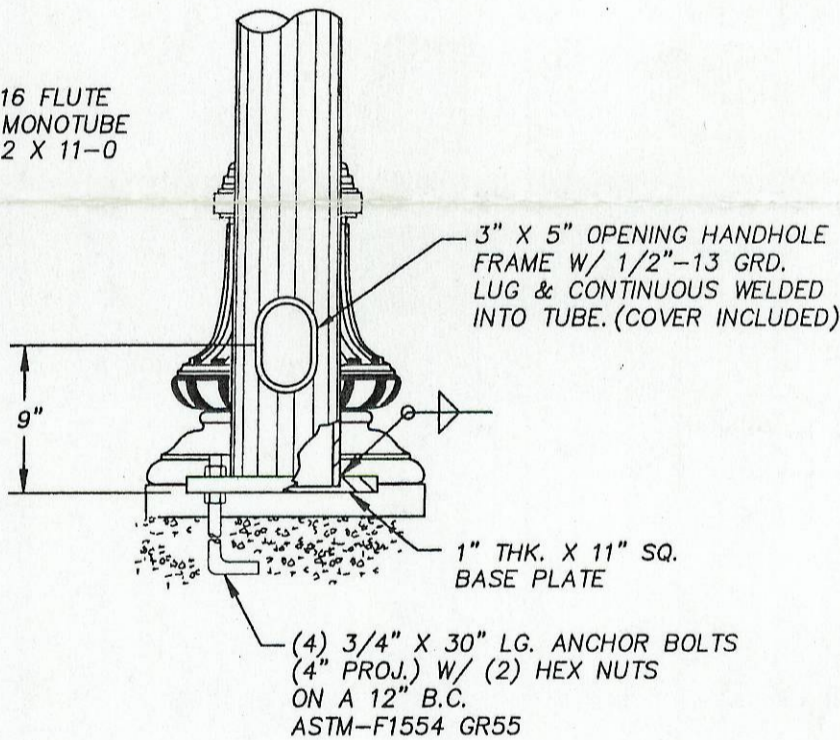
PED SIGNAL ATTACHMENT DETAIL
@ 9'-0" ELEVATION



TOP ORIENTATION VIEW
VALLEY OF FLUTES MUST BE
ALIGNED @ 0°

11'-0" NOM.

11 GA. (.1196") 16 FLUTE
TAPERED STEEL MONOTUBE
11XF-6.66 X 5.12 X 11-0



#26 CAST IRON SPLIT
PEDESTAL BASE W/
(2) CAST ACCESS DOORS
@ 180°

STRUCTURE DESIGNED IN ACCORDANCE W/ AASHTO LTS-1
"STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS
FOR HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS"
FOR 90 MPH WIND ZONE WITH 1.3 GUST FACTOR.

FINISH:

1. INSIDE
 - a. ONE COAT ENSIGN 197B WAX BASE COATING
2. OUTSIDE
 - a. SANDBLAST TO AN SSPC-SP6 COMMERCIAL BLAST.
 - b. PRIME 1 COAT TILE CLAD II HI-BUILD PRIMER B62-N71/B60V 70 3 TO 4 MILS D.F.T.
 - c. FINISH COAT POLANE POLYURETHANE ENAMEL 1 TO 1.5 MILS D.F.T;
 - d. COLOR: PER SALES ORDER

1'-9 1/2"

GROUND SURFACE
WITHIN
MUST BE LEVEL

1'-5" DIA.

DESIGN NUMBER
B874-26-B126-Y1

SCALE: 1"=1'-0"

<h1>ORIGINAL</h1>			

ORNAMENTAL PEDESTRIAN POLE
STANDARD
CITY OF MYRTLE BEACH, SOUTH CAROLINA

LOF _____ ENG. REF. # N874-26-A58
REQ. # 0744-40-01 S.O. # N29420 CAD# _____

Union Metal
CORPORATION

DRAWN WJC DRAWING NO. N874-26-B126
DATE 10-25-01
CHECKED [Signature]