



U.S. Department
of Transportation
**Federal Highway
Administration**

Georgia Division

September 04, 2014

61 Forsyth Street S.W.
Suite 17T100
Atlanta, Georgia 30303
Phone 404-562-3630
Fax 404-562-3703
Georgia.fhwa@fhwa.dot.gov

In Reply Refer To:
HPE-GA

Keith Golden, P.E., Commissioner
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street NW
Atlanta, GA 30308

Dear Commissioner Golden:

We have reviewed the request to use proprietary items for the Georgia Gwinnett College Campus Pedestrian Improvements project, Gwinnett County, PI # 0010659.

FHWA accepts the Certification provided by Georgia Gwinnett College that the following items are essential for the synchronization with existing facilities previously installed on the campus:

Trash Receptacles

Manufacturer: Landscape Forms

Model: Presidio; Color: silver, Finish: powdercoat finish; side opening with keyed door; surface mount

Benches

Manufacturer: Landscape Forms

Model: Presidio; Color: silver, Finish: powdercoat finish; straight three unit group 69", surface mount

Pedestrian Bollard Light

Manufacturer: Lithonia Lighting

Model: KBA8-100M-R5-DNA; Color: natural aluminum; Lumens: 2400

Pole-mounted Lights (and lumen output) Street Light

Manufacturer: McGraw Edison

Model: CIM-AM-350-MP-MT-5F; Color: Custom-L (lamp included); Lumens: 4000; Poles: LYTE Poles, Inc., Model: 405-8015-25 (25' height)

Sidewalk Light

Manufacturer: Amerlux

Model: D38; 100W, MH; Lumens: 9000; Pole: HAPCO, Model: 18920-012 (12' height)

Therefore, FHWA finds that it is acceptable to use the above listed items for the purpose of synchronization with existing facilities. This approval is only applicable for use on PI # 0010659, Gwinnett County. Georgia Gwinnett College is responsible for ensuring that these items comply with the Buy America Act.

FHWA believes that insufficient information was submitted to account for the use of the following proprietary item on the basis of synchronization:

Irrigation Control

Manufacturer: Toro

Make: Sentinel; Model: SSAKXWS26NSX.

If you have any questions, please contact Trevor Smart, Transportation Engineer, at (404) 562-4280.

Sincerely,



 Rodney N. Barry, P.E.
Division Administrator

Cc: Dave Peters, Conceptual Design Group Manager

Keith Golden, P.E., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

August 21, 2014

Mr. Rodney Barry – Division Administration
Federal Highway Administration
61 Forsyth Street, Suite 17T100
Atlanta, GA 30277
Attention: Melinda Roberson

Subject: Proprietary Items Usage
PI # 0010659
Georgia Gwinnett College Campus Pedestrian Improvements – TE Project
Georgia Gwinnett College, Gwinnett County

Mr. Barry:

Please review the attached request from Georgia Gwinnett College for the use of proprietary trash receptacles, benches, lighting, and irrigation control items on P.I. Number 0010659.

Identical items have been previously installed on the Gwinnett Georgia College campus. In order to ensure aesthetic continuity and compatibility with previously installed items on campus, Gwinnett Georgia College respectfully requests approval to utilize the requested items.

The Department considers the use of the proposed proprietary items to be in compliance with 23 CFR 635.411 for aesthetic synchronization.

Should you have any questions or concerns, please contact Dave Peters at 404-631-1738 or Jeanne Kerney at 404-631-1982.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brent Story".

Brent Story, P.E.
State Design Policy Engineer

BAS:drp



July 31, 2014

Ms. Jeanne Kerney
TE Project Manager
Moreland Altobelli Associates, Inc.
2211 Beaver Run Road, Suite 190
Norcross, GA 30071

RE: Use of Proprietary Items for GDOT SR 316 @ CR 3929/WALTHER BLVD
& COLLINS IND WAY PED BRIDGE, Gwinnett County
GDOT PI#: 0010659

Dear Ms. Kerney,

As per Federal Highway Administration regulation in 23 CFR 635.411(a) 2, proprietary materials, specifications, and processes can be used if their use is essential for synchronization with existing highway facilities. For the Georgia Gwinnett College Transportation Enhancement Project, PI# 0010659, the following proprietary items are proposed for use:

Lighting fixtures and site items to match campus standard:

Trash Receptacles

Manufacturer: Landscape Forms
Model: Presidio; Color: silver; Finish: powdercoat finish; side opening with keyed door; surface mount
Quantity in Project: 4
Total Estimated Cost for Trash Receptacles: \$5,342

Benches

Manufacturer: Landscape Forms
Model: Presidio; Color: silver; Finish: powdercoat finish; straight three unit group 69", surface mount
Quantity in Project: 3
Total Estimated Cost for Benches: \$5,735
(Note: GGC will repurpose an extra existing bench with back from another location on campus to meet the ADA requirement)

Pedestrian Bollard Light

Manufacturer: Lithonia Lighting; Color: natural aluminum; Lumens: 2400
Model: KBA8-100M-R5-DNA
Quantity in Project: 8
Total Estimated Cost for Bollard: \$12,800

Proprietary Items Request
PI# 0010659, Gwinnett County
July 31, 2014
Page 2 of 5

Pole-mounted Lights (and lumen output)

Street Light

Manufacturer: McGraw Edison
Lumens: 4000
Model: CIM-AM-350-MP-MT-5F-Color:Custom-L (lamp included)
Poles: LYTE Poles, Inc., Model: 405-8015-25 (25' height)
Quantity in Project: 6
Total Estimated Cost for Street Light & Poles: \$21,000

Sidewalk Light

Manufacturer: Amerlux; Model: D38; 100W, MH; Lumens: 9000
Pole: HAPCO, Model: 18920-012 (12' height)
Item number: 18920-012
Quantity in Project: 30
Total Estimated Cost for Sidewalk Pole Light: \$93,000

Irrigation Control

Manufacturer: Toro
Make: Sentinel
Model: SSAKXXWS26NSX
Quantity in Project: 1
Total Estimated Cost for control: \$2,310

The total estimated costs for materials listed above are based on recent construction bids on similar projects. These costs include materials, labor, tax, and freight.

The estimated total construction cost for the project is \$590,183.53. The cost of \$140,187 for proprietary items represents 23.75% of the estimated construction costs.

The specific products designated by Georgia Gwinnett College Design Guidelines are the ones that are being used in the construction drawings. These products have been installed in previous projects on Georgia Gwinnett College campus. These products will also be used in all future site and streetscape enhancement projects on Georgia Gwinnett College campus as a campus standard. *This will reduce maintenance costs for Georgia Gwinnett College in the future.*

All of these products were selected by Georgia Gwinnett College and each was approved by Georgia Gwinnett College. On the construction plans, we have exhibited the product information and contact information for each product's manufacturer. We also attached photographs of existing areas with the products in use (see Attachment A).

Proprietary Items Request
PI# 0010659, Gwinnett County
July 31, 2014
Page 3 of 5

I, Frank Covington, Associate Vice President of Facilities, of Georgia Gwinnett College do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), that this patented or proprietary item is essential for synchronization with existing campus standards. The use of these products is essential for aesthetic synchronization to match the visual appearance of existing facilities previously installed on the Georgia Gwinnett College campus, for compatibility with the Georgia Gwinnett College Design Guidelines and the logistics associated with repair parts and maintenance of these items.

Georgia Gwinnett College respectfully requests that the use of these proprietary products be approved.

Sincerely,



Frank Covington
Associate Vice President of Facilities
Georgia Gwinnett College

Attachments to include:

- A. Photos of existing bench, trash receptacle, bollard, street pole light, sidewalk pole light and irrigation control.
- B. Manufacturer details for each proprietary item.

Attachment A

Photos of existing Georgia Gwinnet College benches, trash receptacles, bollards, street pole lights and sidewalk pole lights

CAMPUS STANDARD LIGHTING AND SITE FURNISHINGS
Proprietary Items Request
PI# 0010659
Georgia Gwinnett College
Gwinnett County

The GGC campus standard for site lighting and furnishings include the following items:

<u>Trash Can</u>	<u>Benches</u>	<u>Irrigation Control</u>
		
<u>Street Lighting Pole Lights</u>	<u>Bollards</u>	<u>Sidewalk Lighting Pole Lights</u>
		

Proprietary Items Request
PI# 0010659, Gwinnett County
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Attachment B

Manufacturer details for each proprietary item

presidio™ collection

specification guide

April 2006

Distinctive

The Presidio Collection, designed by Brian Kane, combines graceful contours with durable materials to provide an elegant, yet secure solution for unprotected public spaces. This collection includes seating, litter receptacles and an ash urn.

Durable

Presidio seats and receptacles feature solid metal rods, welded to tubular steel frames. Arms are tubular steel, welded to the seat frame. Seats bolt securely to a horizontal tubular steel support which may be freestanding, surface mounted or embedded.

Finishing

All metal is finished with Landscape Forms' exclusive Pangard II® polyester powdercoat process which forms a surface that resists rusting, chipping, peeling and fading.

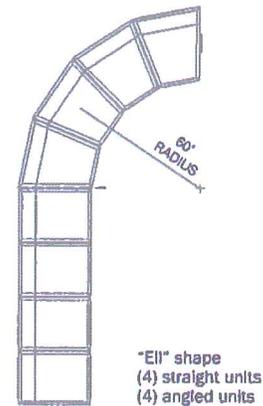
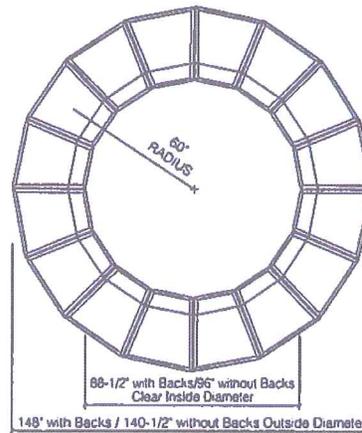
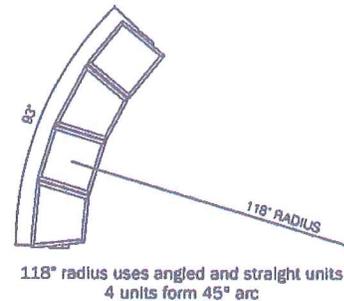
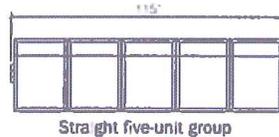
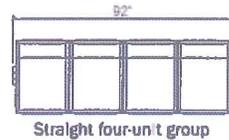
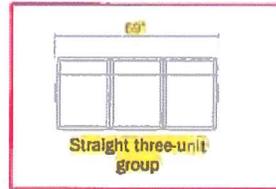
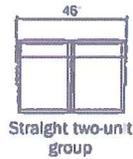
Suggested Groupings

A variety of configurations is offered with Presidio. A few examples are shown on this page. Seats with or without backs may be interchanged in any combination in these examples. Standard curved shapes are 60° radius or 118° radius - to center of support. For special applications, custom radius configurations are available.

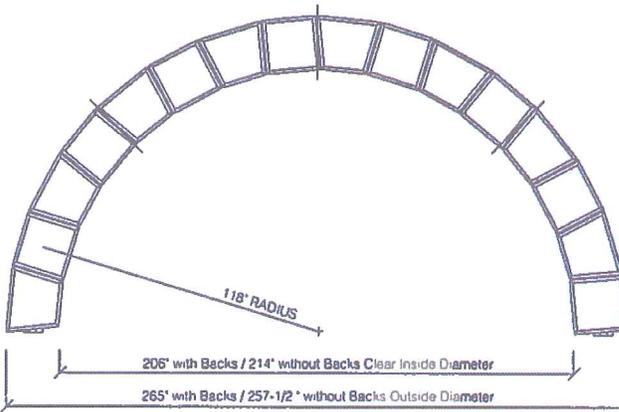
To Specify

This specification guide will assist you in utilizing the design versatility of the Presidio Collection. Specify groupings, shape, arm placement, support style, powdercoat color for metal. If you have questions, please call us at 800.521.2546.

Presidio Collection protected by the following design patents: U.S. Patent Nos. D383,627; D383,629; D381,536; D383,333; D385,134; D385,442; D381,158; and D381,157.



Full circle - 60° radius, (16) angled units



Note: The 118° radius is formed of straight and angled seats. Each run begins with an angled seat. Exception: if an end unit is specified, this in effect begins the run with a straight seat.

Seats

Presidio seating is offered with or without backs. Arms may be specified for either style. One arm - left or right side - or two arms may be specified per seat. Left or right arm is determined from the position of sitting in the seat.

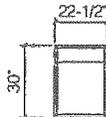
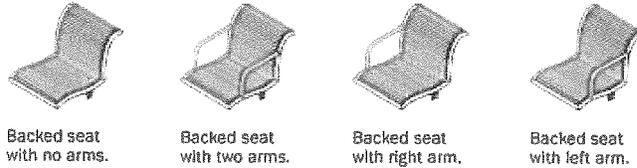
Presidio seating may be specified in straight runs or in standard curved configurations of 60° radius or 118° radius (to center of support). The 60° radius is formed with only angled seats. The 118° radius is formed by alternating straight and angled seats, starting with angled seat.

Presidio seats are framed by 1-1/4" o.d., .120 wall steel tube with four mitered corners. The insert panel is constructed of 5/8" o.d. round steel rods welded to the steel frame.

Arms are 1-1/4" o.d., .065 wall thickness steel tube, welded to the seat frame. Arm options are included in model number codes.

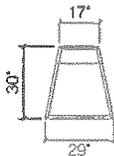
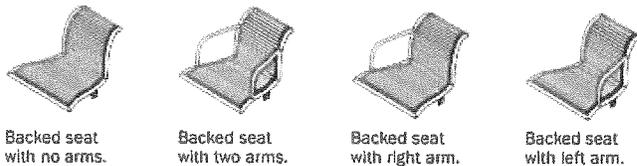
Hardware to attach seats to horizontal tube is shipped with each order. Hardware for anchoring supports is NOT included.

Backed Straight Seats



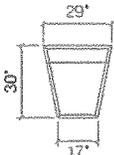
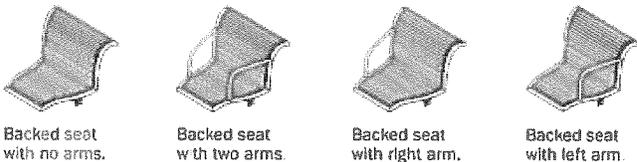
22-1/2" x 30"
 Note: Straight seat with back for straight run applications. 118° radius is formed by alternating straight and angled seats, starting with angled seat.

Narrow-Backed Angled Seats



17" x 29" x 30"
 Angled seats with narrow backs for outside faced seating. Use for 60° radius or alternate with straight seats to form 118° radius.

Wide-Backed Angled Seats



29" x 17" x 30"
 Angled seats with wide backs for inside faced seating. Use for 60° radius or alternate with straight seats to form 118° radius.

Horizontal Tube Supports

Seats are mounted on a dual 2-1/2" horizontal tube support. Adapters are welded onto the tubes, matching adapters are welded to seats. Seats are easily secured to supports with supplied bolts. Supports may be specified freestanding, surface mount or embedded.

Standard supports are available straight or curved to either 60° or 118° radius. For special applications, custom radius curves are available. Straight tubes come in standard lengths of 46" for two seats, 69" for three seats, 92" for four seats and 115" for five seats. Curved tubes are available in three-, four- and five-seat units.

There are two vertical supports for each standard straight run of seats. A third support is added in the center of all curved freestanding units.

Supports will be the same color as the seats. All fastenings for assembling the units are included. Hardware for surface mounting supports is NOT provided.

Embedded Support

2-1/2" o.d. steel tube for embedding in concrete.

Surface Mount Support

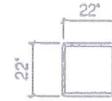
2-1/2" o.d. steel tube with 5-1/2" diameter, 5/16" thick surface plate with 3, 9/16" diameter through holes. A steel cover plate drops over mounting plate to hide bolts.

Bolts for anchoring to surface are NOT included.

Freestanding Support

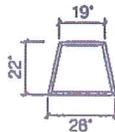
2 1/2" o.d. steel tube with adjustable glides.

Straight Seats without Backs



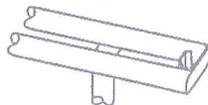
22' x 22' Seat without back for straight run. 118" radius is formed by alternating straight and angled seats, starting with an angled seat.

Angled Seats without Backs

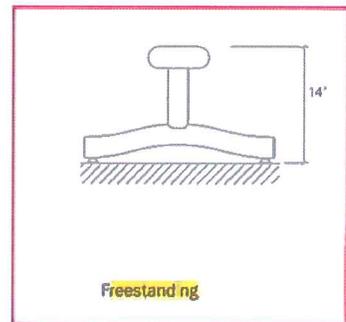
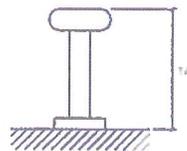
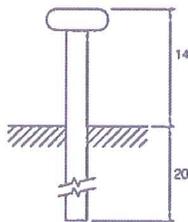


Note: Left or right arm is determined from the position of sitting in the seat, at the narrow end.

Horizontal Tube



Supports for Seating



Litter Receptacles

Presidio litter receptacles are offered in side- or top-opening styles. These durable units feature a hinged door and liner capacity of 30 gallons. Freestanding/surface mount tabs are standard. Optional keyed lock may be specified for door. An ash urn may be specified for either style.

Constructed of 5/8" o.d. metal rod side panels welded to 1-1/4" steel tube frame. Features a hinged door that swings open allowing the liner to slide out for emptying. The door latches when closed, a toe dip mechanism opens the door. Polyethylene liner capacity is 30 gallons and matches standard powdercoat color. Freestanding/ surface mount pads are standard. Lid on the side-opening receptacle is formed of 14-gauge steel sheet. Lid on top-opening unit is constructed of 11-gauge steel sheet.

Ash Urn

The ash urn is formed of 1/8" recycled aluminum and may be specified with either receptacle style. The ash urn hooks onto the top rod on the door side of this unit. The ash urn may not be removed when the door is shut. An optional door lock may be specified for additional security.

To Specify

Specify receptacle style and powdercoat color. Options: keyed door lock, ash urn.

Specifications are subject to change without notice.

The Presidio Collection is designed by Brian Kane, IDSA.

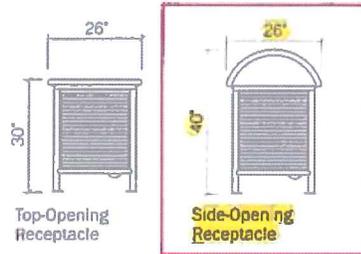
Presidio Collection protected by the following design patents: U.S. Patent Nos. D383,627; D383,629; D381,536; D383,333; D385,134; D385,442; D381,158; and D381,157.

The Presidio Collection is manufactured in U.S.A. ©2006 Landscape Forms, Inc. Printed in U.S.A.

landscapeforms®

P 800.521.2546 F 269.381.3455
431 Lawndale Avenue, Kalamazoo, MI 49048
email: specify@landscapeforms.com
www.landscapeforms.com

Litter Receptacles

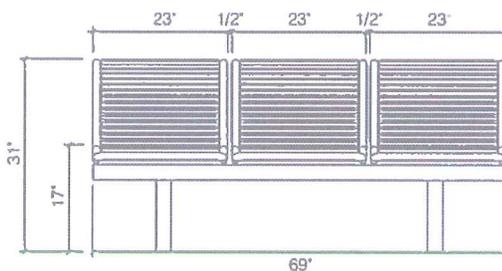
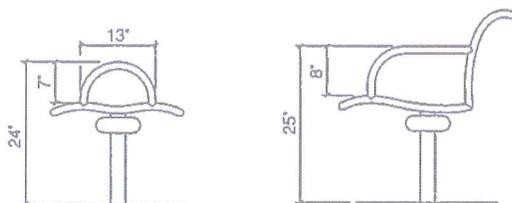
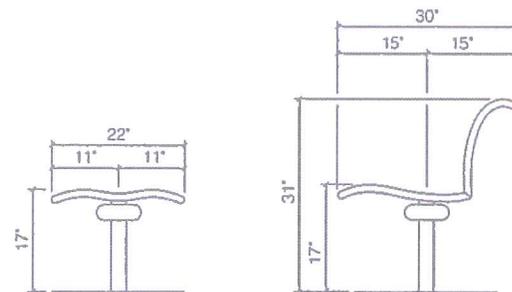


Ash Urn



Ash Urn

Standard Dimensions



Note: Download precise CAD drawings at landscapeforms.com



FEATURES & SPECIFICATIONS

INTENDED USE — For walkways, plazas or pedestrian areas. Certain airborne contaminants can diminish integrity of acrylic. [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

CONSTRUCTION — Extruded one-piece aluminum, 0.156" wall thickness. Top cover is 0.156" wall cast aluminum. When louvers are used, top is secured to housing with three concealed allen screws. 42" overall height standard. Closed-cell EPDM gasketing is included. Four 1/2" x 11" anchor bolts with double nuts and washers (shipped separately). 4-1/2" bolt circle template included.

Finish: Standard finish is dark bronze (DBB) polyester powder, electrostatically applied and oven-cured. Other colors available as options.

OPTICS — Hydroformed, fluted, anodized, aluminum upper reflector combined with spun aluminum, anodized, flared cone is standard. Cylindrical lower reflectors or cast-aluminum louvers also available. Lens is clear, seamless 100% virgin acrylic, 1/4" wall, flush fitting. Gasketed, fluted glass enclosure, when louvers are used.

ELECTRICAL — High pressure sodium and metal halide are high-reactance, high-power-factor ballasts. Ballasts are 100% factory-tested for reliable operation. Electrical components are tray-mounted with quick-disconnect plug and are accessible through bottom of bollard. Porcelain, vertically oriented, medium-base pulse-rated porcelain socket with copper alloy, nickel-plated shell and center contact.

LISTINGS — UL listed for wet locations. Listed and labeled to comply with Canadian standards (see Options).

NOTE: Specifications subject to change without notice.

Catalog Number
Notes
Type

Architectural Bollard

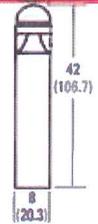
KB8

8" Round
High Pressure Sodium
Metal Halide
Incandescent

Standard
Flared
Cone

*Weight: 25.1-34.9 lbs. (11.4-15.9 kgs.)
*Weight as configured in example below.

All dimensions are inches (centimeters) unless otherwise specified.



ORDERING INFORMATION For shortest lead times, configure product using **bolded options**.

Example: **KB8 70M RS 120 LPI**

Series	Wattage	Reflector	Voltage	Ballast	Options	Finish ³	Striping ⁴	Lamp ⁷
KB8B	High pressure sodium	Standard flared cone	120	HID	Shipped installed in fixture	(blank) Dark bronze		LPI Lamp Included
KB8C	505	RS Type V distribution	208	(blank) Magnetic	SF Single fuse (120, 277, 347V; N/A TB)	DBL Black	SDBB Dark bronze	L/LP Less lamp
KB8D	705	<u>Optional cylindrical reflectors</u>	240	Incandescent	DF Double fuse (208, 240V; N/A TB)	DMB Medium bronze	SDWH White	
KB8E	1005		277	(blank) None	H24 24" overall height	DNA Natural aluminum	SDBL Black	
	1505	CYA Specular	347		H30 30" overall height	DSS Sandstone	SDNA Natural aluminum	
	<u>Metal halide¹</u>	CYB Black	TB ¹		H36 36" overall height	DGC Charcoal gray	SDTG Tennis green	
	70M	CYG Gold			FD Festoon outlet	CR Enhanced corrosion resistance	SDBR Bright red	
	100M	CYF Flat black			FG Ground-fault festoon outlet		SDBUA Dark blue	
	<u>Incandescent¹</u>	<u>Louvers</u>			XT Diode (incandescent only)		SDYLB Yellow	
	I	LV Cast-aluminum louvers			CSA Listed and labeled to comply with Canadian standards (120, 277, 347V only)			
					<u>Shipped separately⁴</u>			
					R8S Half-shield for 8" round			

Notes

- Use coated lamp with metal halide sources.
- 120V only. 150W lamp max. A19 lamps only. Not available with LPI.
- Optional multi-tap ballast (120V, 208V, 240V, 277V; 120V, 277V, 347V in Canada).
- Not available with louvers. May be ordered as an accessory. Must specify finish.
- See www.lithonia.com/archcolors for additional color options.
- Striping is available only on KB8B or KB8C, and only in the colors listed.
- Must be specified.

DESCRIPTION

The Cirrus series sets the standard in flexibility for architectural area lighting. The Cirrus is available in three (3) sizes, so a single look can be carried through diverse areas of a project. Combined with three (3) mounting varieties, ten (10) optical packages and numerous colors, the Cirrus offers unparalleled variety in one family of fixtures. U.L. listed and CSA certified for wet locations.

The Cirrus offers features so versatile that it can be used in small areas such as walkways and large areas like parking lots, while maintaining a look of continuity throughout.

SPECIFICATION FEATURES

Construction

HOUSING: Spun-aluminum top is finished in polyester powder coat. Rounded shape reduces EPA and pole size requirements.

STRUCTURAL FRAME: Heavy-duty, die-cast aluminum frame is the main load-bearing structure for arm, yoke or spider mountings and serves as a heat sink for cooler operation and longer ballast life.

DOOR: Die-cast aluminum door frame has concealed hinges and is flush with the bottom of the housing. **POLES:** Round straight steel or aluminum poles with matched pole top and base cover available.

Electrical

BALLAST: Long life core-and-coil HID ballast is hard mounted for cooler operation. Pole mounted ballast assembly for luminous units only. **SOCKET:** Porcelain screw-shell socket fits mogul-base HID lamps. Medium-base lamps are standard for formed optics 150W and below and segmented optics up to 175W.

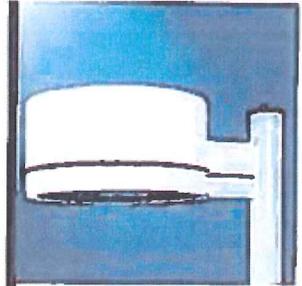
Optical

REFLECTOR: Controlled and fully rotatable optics offer ten (10) distinct beam patterns. Precision hydroformed or premium segmented optical modules available. Hydroformed optical modules utilize highly specular anodized aluminum for strong

repeatable performance. Cirrus's premium segmented optical modules use reflective specular inserts assembled into a rigid cage assembly utilizing no rivets or attachment in the optical area that risk straking or reduced performance. **LENS:** Thermal shock- and impact-resistant clear tempered flat glass.

Mounting

Variety of arm, spider, yoke or wall mounting configurations. Spider and yoke feature black polyester powder coat support pipes for a detailed, controlled appearance.



CI CIRRUS

70 - 1000W

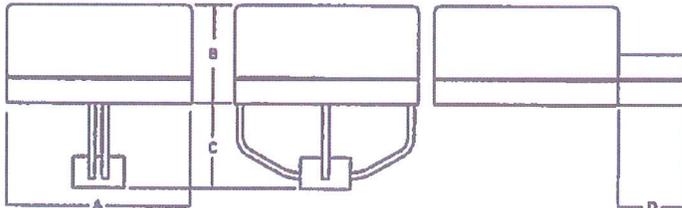
Pulse Start Metal Halide
High Pressure Sodium
Metal Halide

ARCHITECTURAL
AREA LUMINAIRE

DARK SKY FCO COMPLIANT For Dark Sky

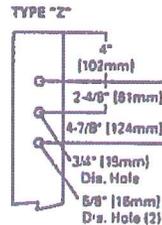
NOTE: In cold top configuration only.

DIMENSIONS



FIXTURE	A	B	C	D
CIS/CIG	20-1/2" [521mm]	10-1/4" [260mm]	11" [279mm]	6" [152mm]
CIM	24" [610mm]	12-1/8" [308mm]	12-5/8" [321mm]	7-1/2" [191mm]
CL	28" [711mm]	14-1/4" [362mm]	16" [406mm]	9" [229mm]

ARM DRILLING



ENERGY DATA

Hi-Resistance Ballast Input Watts
 70W HPS HPF (88 Watts)
 70W MP HPF (94 Watts)
 100W HPS HPF (116 Watts)
 100W MP HPF (129 Watts)
 150W HPS HPF (170 Watts)
 150W MP HPF (183 Watts)

CWA Ballast Input Watts
 175W MP HPF (198 Watts) @
 200W MP HPF (227 Watts) @
 250W HPS HPF (296 Watts)
 250W MP HPF (283 Watts) @
 320W MP HPF (361 Watts) @
 350W MP HPF (397 Watts) @
 400W HPS HPF (467 Watts)
 400W MP HPF (482 Watts) @
 450W MP HPF (508 Watts) @
 750W HPS HPF (840 Watts)
 750W MP HPF (820 Watts)
 1000W HPS HPF (1100 Watts)
 1000W MP HPF (1070 Watts)
 1000W MH HPF (1080 Watts)

EPA

Effective Projected Area: (Sq. Ft.)
CIS/CIG
 Arm Mount 1.19
 Spider/Yoke Mount 1.13
CIM
 Arm Mount 1.70
 Spider/Yoke Mount 1.52
CL
 Arm Mount 2.38
 Spider/Yoke Mount 2.10

SHIPPING DATA

Approximate Net Weight:
 65 lbs. (29 kgs.)



AQH082580 pc
 2010-05-09 07 26.38

WATTAGE TABLE

Fixture	Lamp Type	Wattage
CS (Cirrus Small)	Pulse Start Metal Halide (MP)	70, 100, 150, 175, 200W
	High Pressure Sodium (HPS)	70, 100, 150, 250W
	Metal Halide (MH)	175, 200W
CIM (Cirrus Medium)	Pulse Start Metal Halide (MP)	150, 175, 200, 250, 320, 350, 400, 450, 750, 875, 1000W
	High Pressure Sodium (HPS)	150, 250, 400, 750W
	Metal Halide (MH)	175, 250, 400, 750W
CL (Cirrus Large)	Pulse Start Metal Halide (MP)	250, 320, 350, 400, 450, 750, 875, 1000W
	High Pressure Sodium (HPS)	250, 400, 750, 1000W
	Metal Halide (MH)	250, 400, 1000W

NOTE: 1, 200W not available in Cirrus Small (CS) (low top (CQ))

Color
Custom

ORDERING INFORMATION

Sample Number: CIM-AM-100-MP-MT-5F-BK

CIM	AM	350	MP	MT	5F		L
-----	----	-----	----	----	----	--	---

Product Family
 CIS=Cirrus Small Solid Top
 CIG=Cirrus Small 1,3 Luminous Top
 CIM=Cirrus Medium Solid Top
 CIL=Cirrus Large Solid Top

Mounting Method
 AM=Arm Mount
 YN=Yoke Mount
 SM=Spider Mount

Lamp Wattage⁴
 ME
 70=70W
 100=100W
 150=150W
 175=175W
 200=200W
 250=250W
 320=320W
 350=350W
 400=400W
 450=450W
 480=480W
 750=750W
 1000=1000W⁵
 MH
 70=70W
 100=100W
 150=150W
 250=250W
 400=400W
 750=750W
 1000=1000W⁵
 MH⁷
 175=175W
 250=250W
 400=400W
 1000=1000W⁵

Lamp Type
 MP=Pulse Start Metal Halide
 HPS=High Pressure Sodium
 MH=Metal Halide⁷

Voltage⁶
 120=120V
 208=208V
 240=240V
 277=277V
 347=347V
 480=480V
 MT=Multi-Top⁸
 TT=Triple-Top⁹

Distribution
 1F=Type I Formed¹⁰
 2F=Type II Formed
 2S=Type II Segmented¹¹
 3F=Type III Formed
 3S=Type III Segmented¹¹
 4S=Type IV Segmented¹¹
 5F=Type V Formed
 5S=Type V Segmented¹¹
 FT=Forward Throw
 SL=Spill Light Eliminator¹²

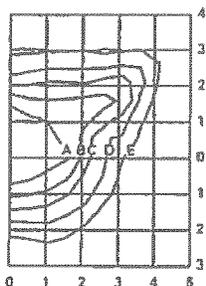
Color¹³
 AP=Grey
 BZ=Bronze
 BK=Black
 WH=White
 DP=Dark Platinum
 GM=Graphite Metallic

Options¹⁴
 F=Single Fuse (120, 277 or 347V)
 FF=Double Fuse (208, 240 or 480V)
 L=Lamp Included
 P=Button Type Photocontrol¹⁵ (Specify Voltage)
 P=NEMA Twistlock Photocontrol¹⁵ Receptacle
 HS=House Side Shield
 VS=Vandal Shield¹⁶

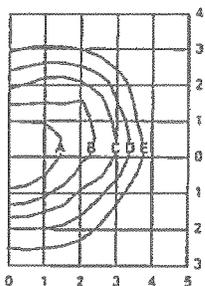
Accessories¹⁷
 MA1001XX=Wall Bracket for Solid Top
 MA1002XX=Wall Bracket for Luminous Top
 OA/RA1010=NEMA Twistlock Photocontrol - Mid-Top
 OA/RA1027=NEMA Twistlock Photocontrol - 480V
 OA/RA1201=NEMA Twistlock Photocontrol - 347V

Notes: 1 Available in 120 or 277V only. 2 Not available with segmented optics. 3 Requires 4" round straight pole for CIS, 6" round straight pole for CIG and CIM, 8" round straight pole for CIL. 4 Wattage vary by lamp type, see wattage table. Offered standard with medium-base socket for 70-150W formed optics and 70-175W segmented optics. Standard with mogul-base socket for 175-1000W. 5 Requires reduced envelope lamp. 6 Not available in medium housing. 7 175, 250 and 400W MH available for non-US markets only. 8 Products also available in non-US voltages and 60Hz for international markets. Consult factory for availability and ordering information. 9 Multi-Top ballast is 120/208/240/277V wired 277V. Triple-Top ballast is 277/478/480V wired 347V. 10 Medium housing fixtures only. 11 Maximum wattage on segmented optical distribution is 400W. 12 1000W SL only available in large housing. 13 Other finish colors available, including a full line of RAL color matches. Consult your Cooper Lighting Representative. 14 Add as suffix in the order shown. 15 Not available for CIG. 16 400W Medium. 17 Order separately, replace XXX with color suffix. 18 Not for use with 250W HPS.

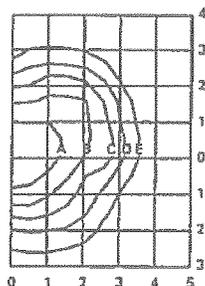
PHOTOMETRICS



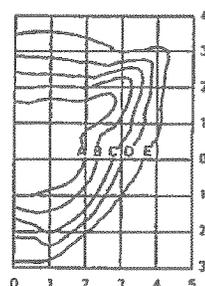
CI-1
CI6-XX-150-HPS-3F
 150-Watt HPS Type III Hydroformed
 18,000 Lumen Clear Lamp



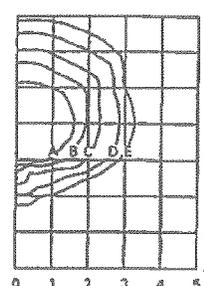
CI-2
CI6-XX-150-HPS-3S
 150-Watt HPS Type III Segmented
 18,000 Lumen Clear Lamp



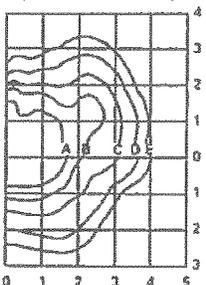
CI-3
CI5-XX-150-MP-3S
 150-Watt MP Type III Segmented
 14,000 Lumen Clear Lamp



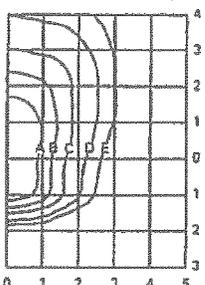
CI-4
CI5-XX-250-MP-3F
 250-Watt MP Type III Hydroformed
 22,000-Lumen Clear Lamp



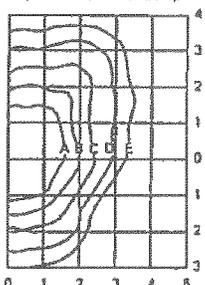
CI-5
CI6-XX-400-MP-SL
 400-Watt MP Split Light Eliminator
 40,000 Lumen Clear Lamp



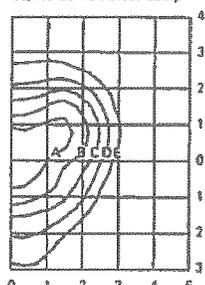
CI-6
CI6-XX-400-MP-3S
 400-Watt MP Type III Segmented
 40,000 Lumen Clear Lamp



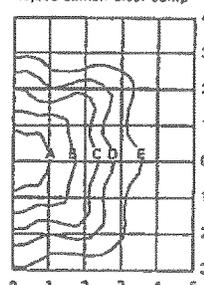
CI-7
CI6-XX-400-MP-FT
 400-Watt MP Type IV Hydroformed
 40,000 Lumen Clear Lamp



CI-8
CI6-XX-400-MP-4S
 400-Watt MP Type IV Segmented
 40,000 Lumen Clear Lamp



CI-9
CI6-XX-1000-MH-3F
 1000-Watt MH Type III Hydroformed
 110,000-Lumen Clear Lamp



CI-10
CI6-XX-1000-MH-5F
 1000-Watt MH Type V Hydroformed
 100,700 Lumen Clear Lamp

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
CI-1 & 4					
10'	7.20	2.88	1.44	0.72	0.28
12'	5.90	2.00	1.00	0.50	0.20
14'	3.65	1.46	0.69	0.34	0.14
CI-2 & 3					
15'	13.50	8.40	2.70	1.35	0.64
20'	7.50	3.00	1.50	0.75	0.30
25'	5.00	2.00	1.00	0.50	0.20

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
CI-5 thru 8					
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.35	0.14	0.07
CI-9 & 10					
30'	6.88	2.72	1.36	0.68	0.27
35'	5.00	2.00	1.00	0.50	0.20
40'	3.80	1.52	0.76	0.38	0.16

ROUND TAPERED ALUMINUM POLES



Pole Shaft Specifications

The shaft is spun tapered from all new seamless 6063 alloy aluminum tubing and heat treated to produce a T6 temper. The shaft is gracefully cone tapered to the butt diameter. Each shaft has a 6" long straight section at the top which may be drilled to manufacturer's specifications for mounting luminaires. An aluminum tenon may also be supplied as standard.

Anchor Base

Cast from A356 alloy aluminum, the anchor base shall be heat treated to produce a T6 condition. The shaft shall be inserted into the anchor base casting. The anchor base casting and shaft shall be joined by a continuous circumferential weld at the outside top and inside bottom of the anchor base. Aluminum nut covers are supplied to cover the exposed bolt and nut.

ROUND TAPERED ALUMINUM POLES												
Catalog Number	Mtg. Ht. (ft.)	*Effective Projected Area (sq. ft.)				Shaft Dimensions			Base Information (in.)		Base Plate (in.) (L x W x H)	
		80	90	100	120	Butt (in.)	Top (in.)	Wall Thick	Anchor Bolt Dia.	Bolt Circle		
405-7015-20	20	15.9	12.2	9.7	6.2	7	4.5	.156	1 x 40	10.5	11.28 x 11.28 x 3.38	
405-7015-22	22	12.3	9.2	7.2	4.7	7	4.5	.156	1 x 40	10.5	11.28 x 11.28 x 3.38	
405-7015-25	25	10.3	7.6	5.9	3.7	7	4.5	.156	1 x 40	10.5	11.28 x 11.28 x 3.38	
405-8015-25	25	15.3	11.7	9.2	5.7	8	4.5	.156	1 x 40	11.5	12.0 x 12.0 x 3.5	
405-8015-27	27	12.0	9.2	7.1	4.1	8	4.5	.156	1 x 40	11.5	12.0 x 12.0 x 3.5	
405-8018-27	27	15.6	11.9	9.4	6.0	8	4.5	.188	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8015-30	30	10.2	7.7	5.9	3.5	8	4.5	.156	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8018-30	30	13.3	10.4	7.9	5.0	8	4.5	.188	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8025-30	30	19.4	14.9	11.7	7.4	8	4.5	.250	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8018-35	35	9.2	6.8	5.1	2.8	8	4.5	.188	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8025-35	35	14.1	10.7	8.3	4.9	8	4.5	.250	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8018-39	39	6.5	4.6	3.2	1.4	8	4.5	.188	1 x 40	11.5	12.0 x 12.0 x 3.5	
▲ 405-8025-39	39	10.8	7.9	6.1	3.3	8	4.5	.250	1 x 40	11.5	12.0 x 12.0 x 3.5	

* EPA ratings include 1.3 gust factor.

▲ Vibration dampeners are suggested for poles 30 feet and above.

• Anchor Bolts should be set using factory supplied anchor bolt templates.

PART STRING
 D38-1? D151-C PC-WH 100MH-277V MED ST16 FDR SDS



EXTERIOR
 PRODUCT
 DIVISION

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 5220 SHANK ROAD PEARLAND, TX. 77581
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Q#33101 S# P#
 Date 02-23-12

REQUEST #
 33101

NAME
 Georgia Gwinnett College Varsity
 Building

LIGHT DISTRIBUTION

- TYPE III REFRACTIVE
- TYPE V REFRACTIVE
- STANDARD SYMMETRICAL**
- TYPE III REFLECTOR
- TYPE V REFLECTOR

FINISH

- TBK TEXTURED BLACK
- BLK SMOOTH SATIN BLACK
- GRN GREEN
- GTG GRANITE GREEN
- WHT WHITE
- ATC ANTIQUE COPPER
- CLB CLASSIC BRONZE
- SOS STARDUST SILVER**

VOLTAGE

- 120
- 277**
- 208
- 240
- MULTITAP
- 480

MH: Metal Halide PL & CF: Compact
 HPS: High Pressure Sodium Fluorescent

LIGHT SOURCE

- 50MH
- 70MH
- 100MH**
- 150MH
- 175MH-PS
- 250MH-PS
- PL 13
- CF 26 32 42
- LED
- 50HPS
- 70HPS
- 100HPS
- 150HPS
- 250HPS
- INCANDESCENT

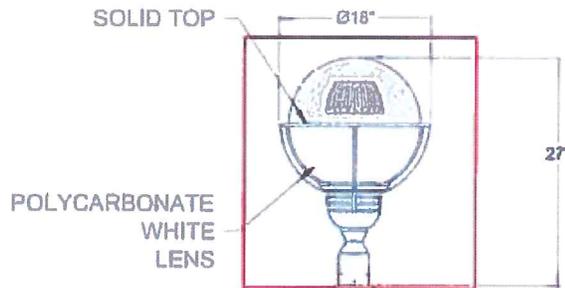
GENERAL:

EXTERIOR HARDWARE WILL BE
 STAINLESS STEEL.
 ELECTRICAL COMPONENTS WILL BE ETL
 LISTED "SUITABLE FOR WET LOCATIONS."



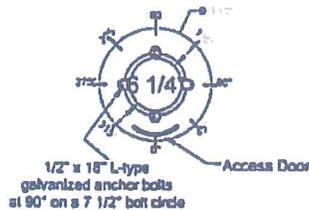
DRAWN BY
 JJS

NOTES:
 THIS DRAWING SHOULD ACCOMPANY
 YOUR ORDER. THANK YOU.



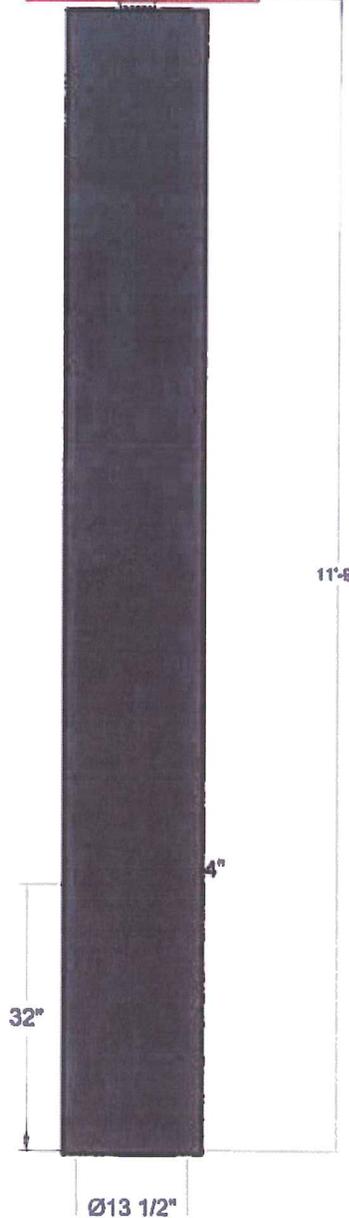
Fixture only
 Pole by Hapco

Orientation/Anchor Guide



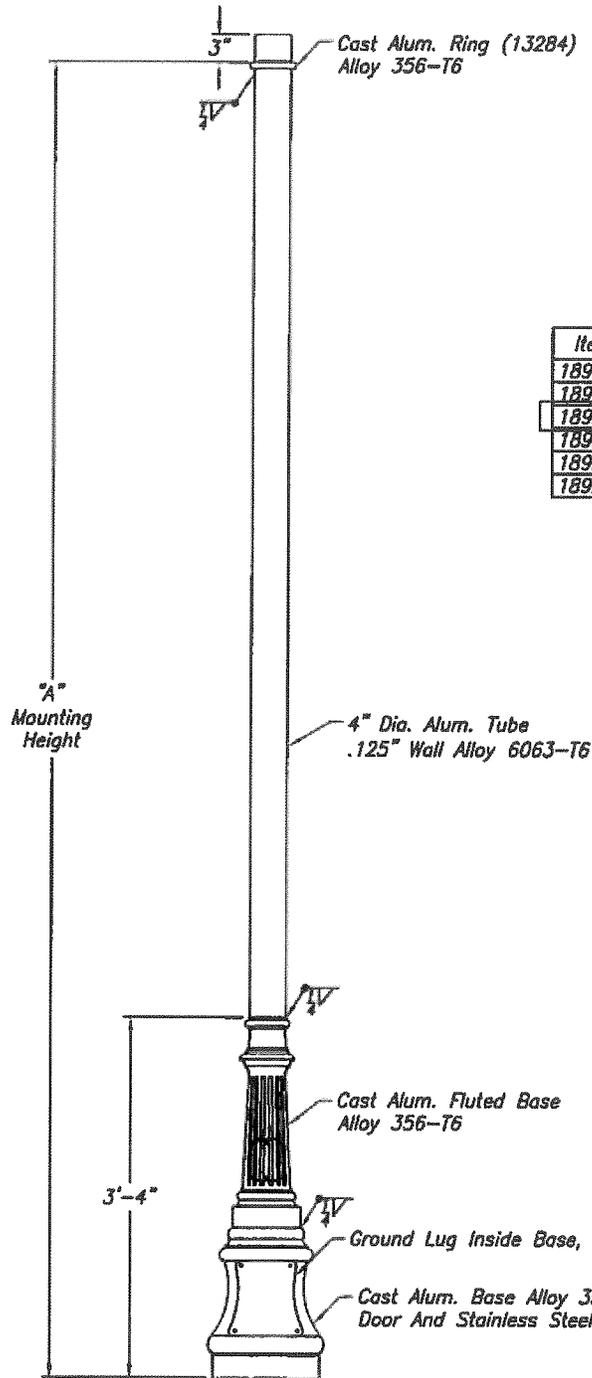
FIXTURE DETAILS

Materials
 Cast Aluminum Filter
 Electrical
 4kv Pulse Rated Socket.
 The Ballast used shall
 be of the High Power
 Factor design.

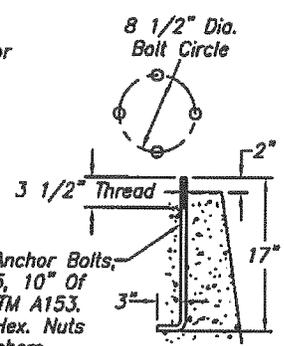
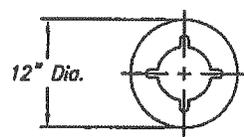


NOTICE:
 THIS DRAWING IS FOR REFERENCE ONLY.
 CHECK FOR LATEST REVISION PRIOR TO ORDERING.

Approved By _____



Item No.	"A"
18920-008	8'-0"
18920-010	10'-0"
18920-012	12'-0"
18920-014	14'-0"
18920-016	16'-0"
18920-018	18'-0"



- (4) 3/4"-10NC Galv. Stl. Anchor Bolts, AASHTO M314-90 Grade 55, 10" Of Threaded End Galv. Per ASTM A153.
- (4) 3/4"-10NC Galv. Stl. Hex. Nuts
- (4) 3/4" Galv. Stl. Lockwashers
- (4) 3/4" Galv. Stl. Flatwashers

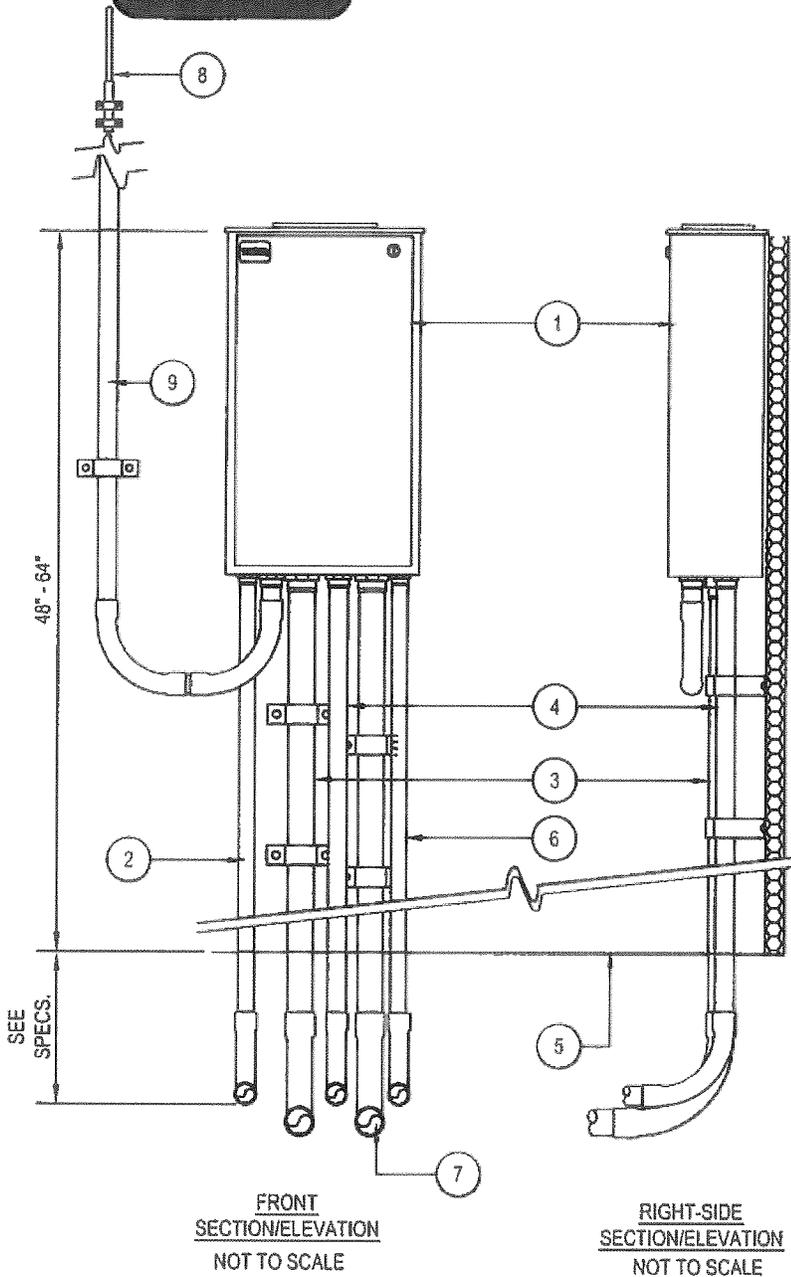
B18920

NO.	REVISIONS	DATE

<h1>hapco</h1> <p>Abingdon, Va</p>		TITLE DECORATIVE LIGHTING POLES	
		CUSTOMER	
SCALE 1/2	DATE	[REDACTED]	
BY TNB	DWG. NO.		
CHK'D		[REDACTED]	

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 crc@toro.com
 www.toro.com



1 TORO SENTINEL
 IRRIGATION CONTROLLER
 MODEL NO. SSAKXXWS26NSX

SEE PLAN FOR NUMBER
 OF STATIONS

ANCHOR SECURELY TO
 WALL

2 3/4\" CONDUIT FOR ELECTRICAL
 POWER CONDUCTORS PER
 LOCAL AND NATIONAL
 CODES

3 2\" CONDUIT FOR UP TO 24
 REMOTE CONTROL VALVES
 WIRES

SECURE TO WALL WITH
 APPROPRIATE PIPE
 CLAMPS

4 3/4\" CONDUIT FOR
 EARTH GROUND

5 FINISHED SURFACE

6 1/2\" CONDUIT FOR
 SENSOR WIRES

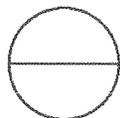
7 2\" CONDUIT FOR 24 TO 48
 REMOTE CONTROL WIRES

8 OPTIONAL OMNI DIRECTIONAL
 ANTENNA PER SITE SURVEY
 RECOMMENDATIONS

9 OPTIONAL 1 1/2\" CONDUIT FOR
 ANTENNA WIRE MINIMUM RADIUS
 ON SWEEP SHALL BE 1 1/2\"

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-121.



INTERIOR WALL-MOUNT CONTROLLER

STAINLESS STEEL