

PRESENTATION



DORAL
FLORIDA

NW 82ND Street Solar Lighting Project

1710 King St, High Point NC, 27260

Phone: (704) 495-3535

www.SELSolar.com



SELS

SMART ERA LIGHTING SYSTEMS

ABOUT COMPANY

WE DESIGN COMMERCIAL & INDUSTRIAL GRADE OFF-GRID SOLAR SYSTEMS THAT PROVIDES A COST-EFFECTIVE SOLUTION FOR A WIDE RANGE OF POWER NEEDS

SELS Solar takes great pride in our extensive experience in designing and manufacturing solar-powered solutions. Over the years, we have honed our expertise, enabling us to develop cutting-edge products that cater to the unique needs of our customers.

WHY CHOOSE US?



What sets **SELS Solar** apart is our ability to tailor these solutions to precisely match the unique requirements of our partners and clients. Our dedicated team understands that each project and client has specific demands and objectives. Therefore, we employ our extensive knowledge and expertise to craft solar solutions that not only meet but exceed these expectations.



CORE COMPETENCIES

- Our company offers commercial grade, customized solar solutions tailored to meet our client's unique needs and requirements
- We specialize in the manufacturing and assembly of bespoke solar products to deliver high-quality, reliable results
- SELS' Engineering Team designs turnkey projects customized to our client's specific locations and requirements
- Our products and services adhere to all relevant codes and regulations, ensuring full compliance and peace of mind for our clients



GSA



THE INTERLOCAL PURCHASING SYSTEM




MADE IN
THE USA



PROPOSAL INTRODUCTION

- **Turnkey, off-grid solar lighting solution designed in accordance with FDOT lighting levels and safety installation standards, ensuring full compliance with all applicable local and state regulations**
- **Our system is not a one-size-fits-all solution. Solar lighting requires site-specific engineering to account for varying regulations and performance requirements.**
- **For the City of Doral, the system has been fully engineered and Florida-stamped to meet project-specific criteria—not only for the structural components, but for the complete operating system.**
- **This includes customized design of the pole and foundation, as well as solar panel sizing, battery capacity, LED luminaire selection, and all supporting components.**
- **System configuration is based on FDOT requirements and the lighting performance standards currently used throughout the City of Doral, ensuring consistency, safety, and long-term reliability.**
- **Integrated smart communication enabling remote monitoring and control of the lighting system by the City.**





STL Pro Product information

STL PRO series

THE COMPACT SOLAR LIGHTING SOLUTION

SELS present the ultimate fully integrated solar street light system. With an extremely simple installation method compared to traditional lead-acid battery systems, the STL-PRO outperforms all competitors in one sleek, enclosed design.



anti BLACK OUT

optimal component calibration and intelligent management system



UneQUaled liFetiMe

selection of the latest and highest component technology



eXtReMe teMPeRatURe

Resistant **-20 °C** to **+65 °C** **-5 °F** to **+150 °F**



WaRRanty

We offer a 5 year warranty **on all components**

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COMPONENTS & advantages



SOLAR PANEL

+ Easy maintenance
with direct access to battery and controller.



✓ safe
no explosion risk

BATTERY OPTIONS

Lithium Iron Phosphate **LiFePO4**
Nickel-Metal Hydride **Ni-MH**

The eco-friendly and safe LiFePO4 battery improves the system charge and discharge over 2500 times and has a life span of **more than 10 years**.

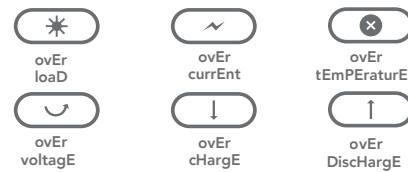


Battery Management system

Electronic protection algorithm and battery management system for **best use of the battery capacity**.



MULTI PROTECTION



LiFePO4

VS

Ni-MH

Over 4000 cycles	Over 3500 cycles
Extreme discharge tolerance 80%	Extreme discharge tolerance 80%
-20 to 75 Degree	-40 to 55 Degree
Over 10 years	Over 10 Years
Great for Warm Weather and Temperate Locations	Great for Cold Weather Locations

INFRARED MOTION SENSOR (optional)

LED FIXTURE



MPPT Smart Controller 97% Charging efficiency

MPPT (Maximum Power Point Tracking) maximizes solar power output regardless of weather variation.



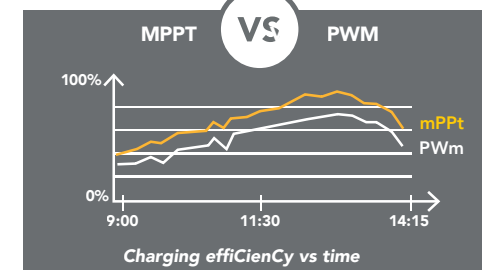
Features

- Maximum power point tracking charging
- Auto identify day/night
- Infinite dimming options
- Smart operation mode
- Waterproof IP66

IP66

Remote Monitoring

- Bluetooth (BLE), LoRa, and IR communication methods
- Check system states
- Configure operating parameters
- View diagnostic



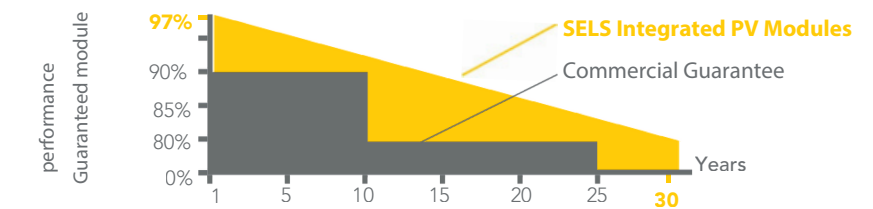
EASY INSTALLATION INSERT ON POLE, ORIENT, & CHOOSE YOUR ANGLE

With our reinforced support bracket, the STL PRO is easy and flexible to install on a variety of poles. The panel is fully adjustable to ensure maximum solar efficiency in any installation location.

SOLAR PANEL 135 to 285 Watts

Monocrystalline solar panels. Solar panel efficiency up to 19.4%. 5 busbars for better collected current capacity.

our PV Performance Guarantee

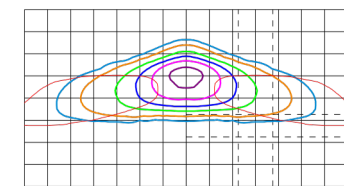


LED EFFICIENCY FROM 4500 TO 16800 LUMENS

CREE luminaires deliver incredible efficiency without sacrificing application performance. Cree achieves greater optical control with NonOptic Precision Delivery Grid compared to traditional cobra head luminaires.

- T1M
- T2M
- T3M
- T3L
- T4S
- T4M
- T5U

MULTIPLE LIGHT DISTRIBUTIONS



ida INTERNATIONAL DARK-SKY ASSOCIATION
DLC QUALITY
DLC PREMIUM
CREE XSP LED Streetlight

INFRARED MOTION SENSOR AVAILABLE

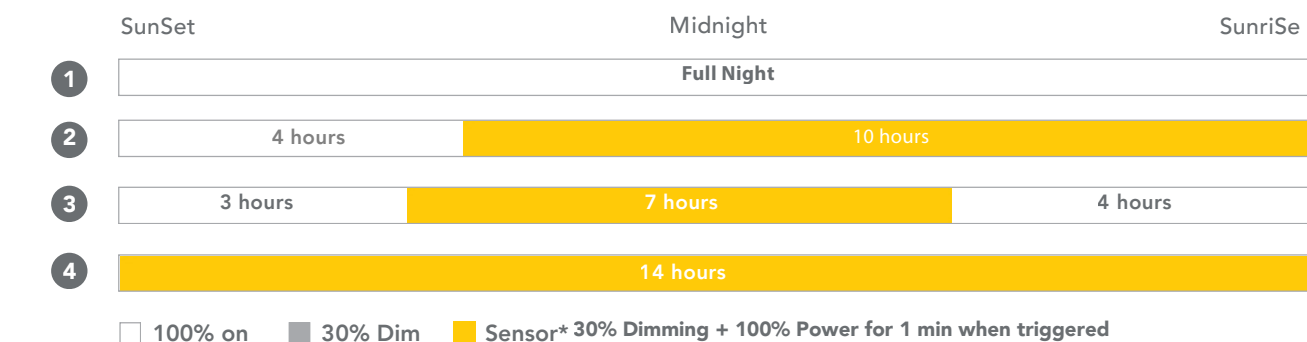
360° coverage, integrated into the luminaire housing. 25'+ detection radius.



OPTIONAL OPERATION MODES

PHOTOSENSOR MODE AUTOMATICALLY POWERS ON THE LIGHT AT DUSK AND OFF AT DAWN.

SELS gives you the option to select the perfect lighting profile for your project. Choose from a preprogrammed profile or give us your specs for a custom lighting solution. Fully customizable in the field with remote management.



MADE TO THE HIGHEST STANDARDS

SELS uses the best components for the highest level of performance and durability

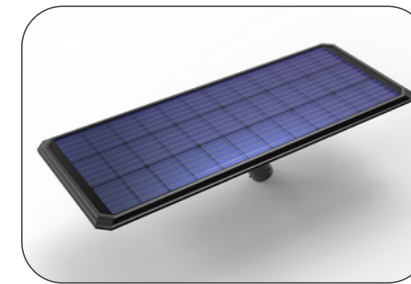


STL PRO

LED POWER	UP TO 120 WATTS
LuMinOuS FLux	UP TO 16,800 LUMENS
LigHTing	
Efficiency	UP TO 140 lumEns / Watt
Chips	CREE XLAMP
LED Lifetime	OVER 100000 HOURS L80
Lighting Angle	ACCORDING TO PROJECT NEEDS
Pole Height	14 - 30 FT
STORagE	
Technology	LITHIUM IRON PHOSPHATE - NICKEL METAL HYDRIDE
Capacity	UP TO 3200 W-h
Autonomy	UP TO 5 DAYS FULL AUTONOMY
Charging time	<4 HOURS DIRECT SUN
Lifespan	OVER 4000 CYCLES: 10+ YEARS LIFETIME
Certificate	En 61427 msDs
EnERgy	
Solar panel	UP TO 285 WATTS
Lifespan	MONOCRYSTALLINE PANEL GRADE A: 25 YEARS
Certificates	iEc 61215 ; iEc 61730 i anD ii ; iEc 60904
ELECTROniC	
Controller	MPPT SMART CONTROLLER
Sensor	360 DEGREE IR MOTION SENSOR OPTIONAL
Cabling	WATERPROOF CONNECTIONS, PLUG AND PLAY
Certificates	En 55015 ; En 61000
Lighting options	
Lighting Distribution	
Gross weight	
QTY per container	20» / 40»



The Provo River Trail is an important thoroughfare for bicyclists and pedestrians, running nearly 7 miles through the City of Provo, UT. The City Parks and Recreation Department installed the STL-PRO to provide safety and security lighting (meeting IESNA lighting standards) for the trail into the evening hours. Including access to SELS' web-based asset control platform, the City can monitor and control all aspects of their products.



Solar Wattage Options:

- 135 Watts
- 210 Watts
- 285 Watts



Durable Solar Panel Housing

Ajustable Angle Mounting Hilt

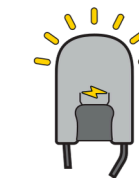
Water-Proof Battery Containment

Available Features with STL-Pro



Fully Programmable

Dimming and lighting schedule is customizable to customer needs. Monitor power usage on the web.



LED Lighting

LightingColorOptions: 2200K - 5000K
Lumen Options: 150 Lumens per Watt



Security Surveillance

Utilize our patentpending camera design system to keep your property safe.

"Customer satisfaction is our utmost priority. We strive to be an ethically driven company so that we can provide electricity and lighting to those who need it the most." - Rafael Badilla, President of SELS

Guideway® Series

Guideway LED Street Luminaire featuring Patented NanoComfort® Technology – Small, Medium & Large

Rev. Date: V10 04/07/2025

Product Description

The new Guideway family of roadway lighting is a game-changing solution designed from the ground up, offering a fresh start that brings levels of performance and visual comfort previously out of reach. The Guideway® Series fundamentally shifts expectations of the standard streetlight – how it performs, its standard features, and most significantly, the degree of visual comfort it provides. With Cree Lighting's new NanoComfort® Technology, the Guideway Series hits the comfort sweet spot without the prohibitive price tag, providing demonstrably better comfort and performance for the money.

Applications: Residential roads, collector roads, multi-lane freeways, express ways, major roads, parking lots, and general area spaces

Performance Summary

Utilizes Patented NanoComfort® Technology

Assembled in the USA by Cree Lighting from US and imported parts

Initial Delivered Lumens: 2,980 - 31,900

Efficacy: Up to 168 LPW

CRI: Minimum 70 CRI (2700K, 3000K, 4000K, 5700K); 80 CRI (2200K); 50 CRI (1900K)

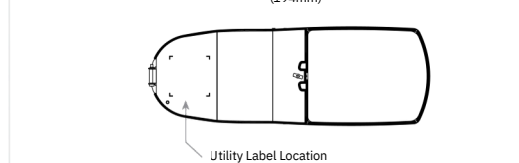
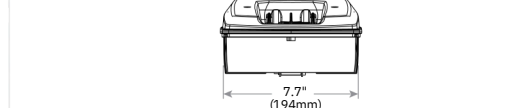
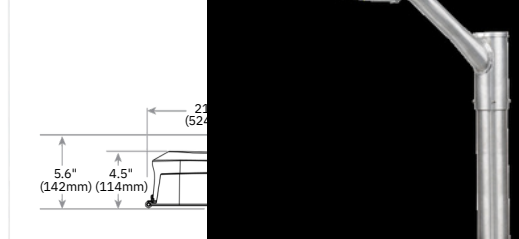
CCT: 1900K, 2200K, 2700K, 3000K, 4000K, 5700K

Limited Warranty: 5 years standard for luminaire and finish; optional 10 years for luminaire and finish; 1 year for luminaire accessories

¹ See <https://www.creelighting.com/resources/warranties/> for warranty terms.

GWYS

Shown w/XA-XLSLHRT accessories (sold separately)



Luminaire	Weight
GWYS	8.2 lbs. (3.7kg)

GWYM/GWYL Luminaire - See page 18 for photos & dimensions.
Note: For SL voltage, deduct 1.0 lb. (0.5kg).

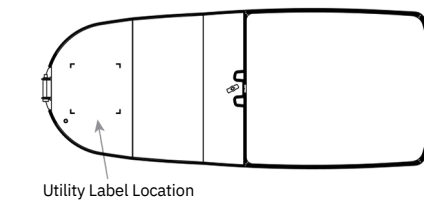
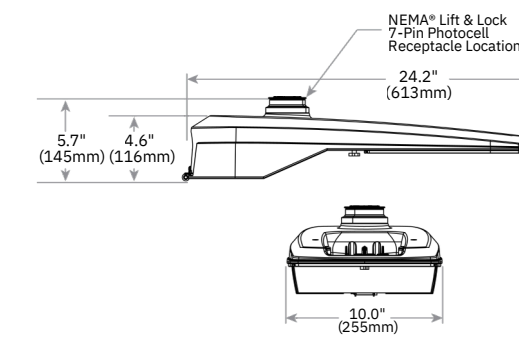
Guideway® LED Street Luminaire featuring Patented NanoComfort® Technology – Small, Medium & Large

GWYM



Weight
12.2 lbs. (5.5kg)

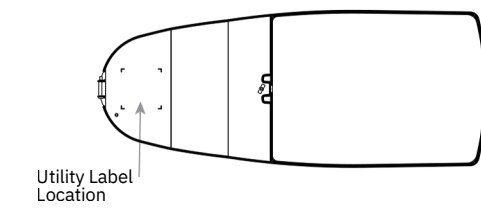
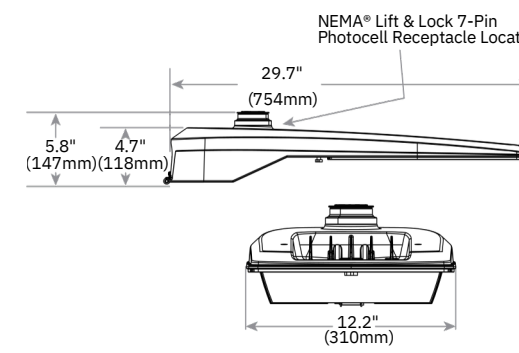
Note: For SL voltage, deduct 1.0 lb. (0.5kg).



GWYL



Weight
18.2 lbs. (8.3kg)



Ordering Information

Example: GWYS-A-4L-30K7-2M-UL-GY

Luminaire										
GWY Family Size	A Series	Lumen Package*	CCT/CRI	Optic	Voltage	Finish	Controls	Options		
GWY Small Medium Large	A	Small 4L 4,000 Lumens	19K5 1900K, 50 CRI - Available with all lumen packages except 4L 22K8 2200K, 80 CRI 27K7 2700K, 70 CRI 30K7 3000K, 70 CRI 40K7 4000K, 70 CRI 57K7 5700K, 70 CRI	2M** Type II Mid 2N** Type II Narrow 3M** Type III Mid 4M** Type IV Mid 5M Type V Mid	UL Universal 120-277V UH Universal 347-480V - Available only with 6L-32L lumen packages SL Solar Compatible - Available only with 4L-13L lumen packages - Does not include NEMA 7-Pin receptacle or utility wattage label - Not available with U option	BK Black BZ Bronze GY Grey WH White	DLI DALI Compatible - Available with all lumen packages except 4L & 17L UH - Available only with UL voltage - Not available with Q controls - Not available with U or X options Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Output - Must select Q9, Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 - 6L lumen package is available only with Q9-Q3 settings - Offers full range adjustability - Refer to pages 9-17 for power and lumen values - Available only with UL or UH voltages - Not available with DLI controls - Not available with X options	20KV 20kV/10kA Surge Suppression - Replaces standard 10kV/5kA surge protection 4B 4-Bolt Mounting - Available only with medium and large luminaires U No NEMA Receptacle - Standard ANSIC136.41 compatible 7-pin receptacle is removed - Standard external wattage label per ANSIC136.15-2020 remains - Not available with SL option W10 10-Year Limited Luminaire/Finish Warranty - Replaces standard 5-year limited warranty for luminaire and finish X8/X7/X6/X5/X4/X3/X2/X1 Locked Lumen Output - Must select X8, X7, X6, X5, X4, X3, X2, or X1 - 6L lumen package is available only with X8-X3 settings - Available only with UL or UH voltages - Not available with DLI or Q controls - Lumen output is permanently locked to the setting selected - Refer to pages 9-17 for power and lumen values		

* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values.

** Available with Backlight Shield when ordered with field installed accessory (see table on page 2).

Replacement Parts

Driver Replacement Kits				
Product	Lumen Package	Voltage	Controls	Options
GWY-A-DVRKT	4L	UL	BLANK	X8/X7/X6/X5/X4/X3/X2/X1
	4,000 Lumens	Universal 120-277V	- For use with no controls (standard 0-10V dimming) - For use with Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 controls (field adjustable output module not included)	Locked Lumen Output - Must select X8, X7, X6, X5, X4, X3, X2, or X1 - 6L lumen package is available only with X8-X3 settings - Not available with DLI controls - Lumen output is permanently locked to the setting selected
	6L	UH	DLI DALI Compatible - For use with luminaires with DLI controls - Available with all lumen packages except 4L & 17L - Available only with UL voltage	
	6,000 Lumens	Universal 347-480V		
	8L	- Available only with 6L-32L lumen packages		
	8,000 Lumens			
	10L			
	10,000 Lumens			
	13L			
	13,000 Lumens			
	17L			
	17,000 Lumens			
	20L			
	20,000 Lumens			
	25L			
	25,000 Lumens			
	32L			
	32,000 Lumens			

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Website: [creelighting.com](https://www.creelighting.com)

US: (800) 236-6800 Canada: (800) 473-1234





**STAMPED ENGINEERING
DRAWINGS VALIDATING THE
PROJECT'S DESIGN, SAFETY &
CODE COMPLIANCE**



WHY SELS - ROAD LIGHTING?

- SELS takes installation methods and local standards into consideration from the very beginning of every project. That is why all of our **proposals include engineered, stamped drawings at the outset.**
- This approach eliminates **surprises for the City** and significantly **reduces liability exposure in the event of an accident**, especially on roadways and boulevards where luminaires are installed in vehicle clear zones.
- Our proposals clearly define the complete system, **including the foundation type, breakaway device, pole design, solar power system, and the recommended foot-candle levels at ground level. All lighting levels and safety components are designed to comply with FDOT standards.**
- This ensures that our customers receive a solution that is appropriate for roadway lighting conditions.

Engineering Validation

1 of 4

Foundation for 26' Light Pole (Single or Double Arm Luminaires) & Solar Panel City of Doral, Florida

Prepared by:

Locke D. Bowden, P.E.
Florida Registration No. 49704
9450 Alysbury Place
Montgomery, AL 36117

This item has been signed and sealed by Locke D. Bowden, P.E., on 07/08/2025 using SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA 256 RSA authentication code must be verified on any electronic copies. Locke D. Bowden, P.E. Florida Registration No. 49704.

2 of 4

**Foundation for 26' Light Pole
(Single or Double Arm Luminaires)
& Solar Panel
City of Doral, Florida**

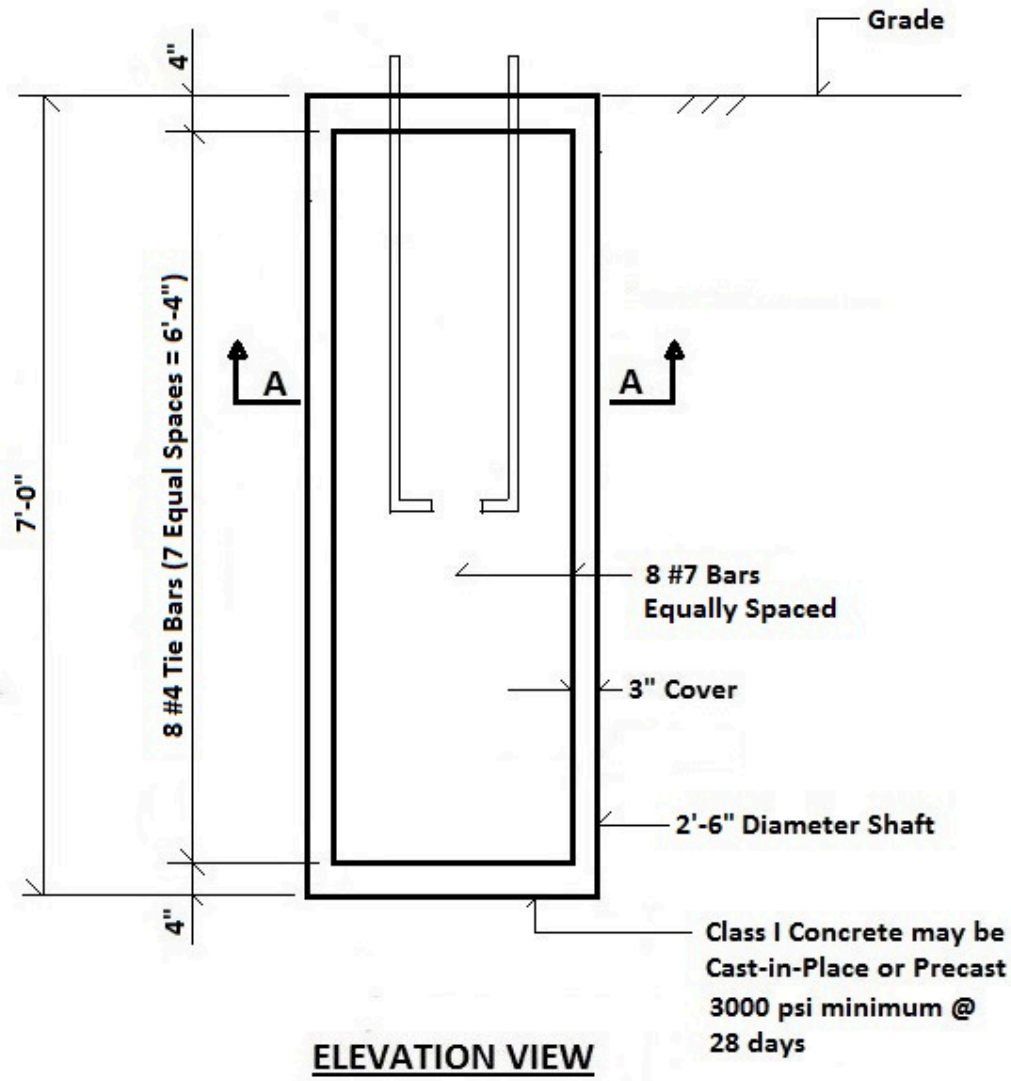
Foundation Notes

- 1.) Shaft concrete shall be Class I with a minimum 28-day strength of 3000 psi.
- 2.) Shaft may be cast-in-place or precast.
- 3.) Reinforcement shall be ASTM A615 Grade 60. Reinforcement details adapted from FDOT Standard Index 715-002.
- 4.) Construction methods and materials shall be in accordance with FDOT Standard Specifications for Road and Bridge Construction, current edition.
- 5.) Anchor bolts and Electrical by others.

Engineering Validation

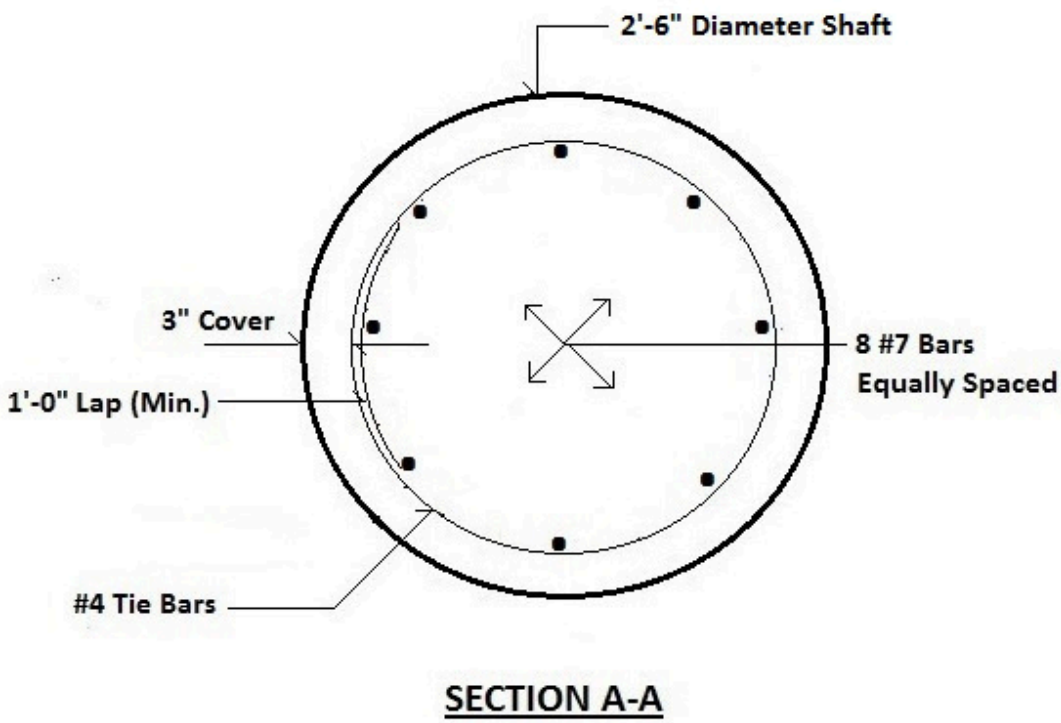
3 of 4

Foundation for 26' Light Pole (Single or Double Arm Luminaires) & Solar Panel
City of Doral, Florida



4 of 4

Foundation for 26' Light Pole (Single or Double Arm Luminaires) & Solar Panel
City of Doral, Florida



Engineering Validation

Foundation for 26' Light Pole (Single or Double Arm Luminaires) & Solar Panel City of Doral, Florida

References: FBC, 2023, 8th Edition FDOT Modifications to AASHTO LRFDLTS-1 FDOT Standard Specifications for Road and Bridge Construction, 2024-25 FDOT Standard Plans, 2024-2025

Wind Loads $V = 150$ mph (Per Hapco Plan/Data Sheet) $P_z = (0.00256)(0.94)(0.85)(1.14)(150^{**2})(C_d)$ $P_z = 52.5 C_d$ Pole: $C_d = 0.45$ $P_z = 23.6$ psf Luminaire: $C_d = 0.50$ $P_z = 25.3$ psf Solar Panel: $C_d = 1.15$ $P_z = 60.4$ psf Shear from Wind $A_{pole} = 15.2$ ft² $V_{pole} = (23.6 \text{ psf})(15.2 \text{ ft}^2) = 358.7$ lbs EPA 2-Lum = 0.9 ft² $V_{lum} = (25.3 \text{ psf})(0.9 \text{ ft}^2) = 22.8$ lbs

$V_{panel} = (60.4 \text{ psf})(9.7 \text{ ft}^2) = 586.0$ lbs
 $V_{total} = 967.5$ lbs = 0.968 k

Moment from Wind $M_w = (13.0')(358.7 \text{ lbs}) + (24.0')(22.8 \text{ lbs}) + (26.0')(586.0 \text{ lbs})$ $M_w = 20446.3$ ft-lbs = 20.446 ft-k

Summary of Loads Axial = 0.352 k

$M = 20.446$ ft-k

$V = 0.968$ k

Torsion = 0.0

Summary

Foundation design was performed using FDOT software, AASHTO/FBC

Specifications, and FDOT Standard Drawings.

Foundation reinforcement is based on FDOT Standard Index 715-002.


Foundation drawings and foundation notes are attached.

*Prepared by: Locke D. Bowden, P.E.
Florida Registration No. 49704 9450
Alysbury Place Montgomery, AL 36117*

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Engineering Validation-Foundation & Pole

Drilled Shaft Foundation for Sign, Signal, and Lighting Support Structures v1.1



State Structures Design Office

SUBJECT 26' Light & Solar Panel Pole
FIN # LOCATION Doral, Florida

DESIGNED BY LDB DATE 7-7-25
CHECKED BY WLG DATE 7-7-25

© 2018 Florida Department of Transportation

Program Changes

SoilType := Sand
Clay

$\phi_{soil} := 30 \text{ deg}$ soil friction angle (sand)

$c_{soil} := 2.0 \frac{\text{kip}}{\text{ft}^2}$ soil shear strength (clay)

$N_{blows} := 8$ number of blows per foot. If $N < 5$, contact the district geotech Engineer

$\gamma_{soil} := 50 \text{ pcf}$ effective soil weight (typical design value = 45 ~ 50 pcf)

Geometry

$b := 2.5 \text{ ft}$ shaft diameter

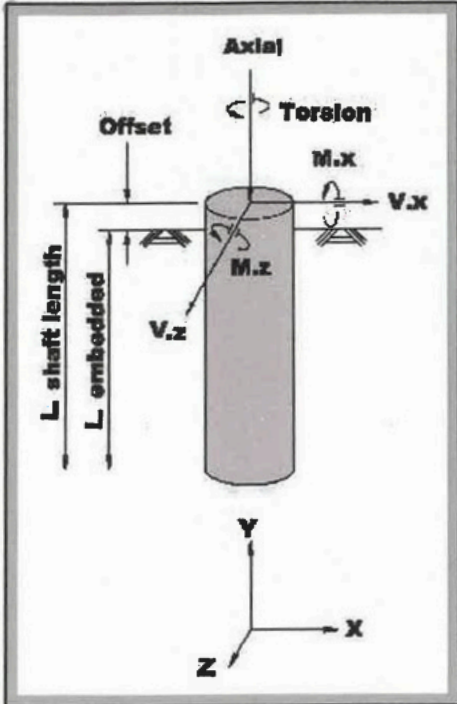
Offset := 0.0 ft groundline to top of foundation

Applied Loads (Extreme I)

$M_x := 20.446 \text{ kip}\cdot\text{ft}$ $V_x := 0.968 \text{ kip}$ Torsion := 0.0 kip·ft

$M_z := 0.0 \text{ kip}\cdot\text{ft}$ $V_z := 0.0 \text{ kip}$ Axial := 0.352 kip

StructureType := Cantilever Overhead Sign Structure
Mast Arm Signal Structure
Concrete/Steel Strain Poles
Ground Sign



StructureType = 2

$\phi_{ot} := \text{if}(\text{StructureType} = 3, 0.8, 0.6)$ $\phi_{ot} = 0.6$ ϕ factor against overturning [SM Vol-3 13.6.1.1]

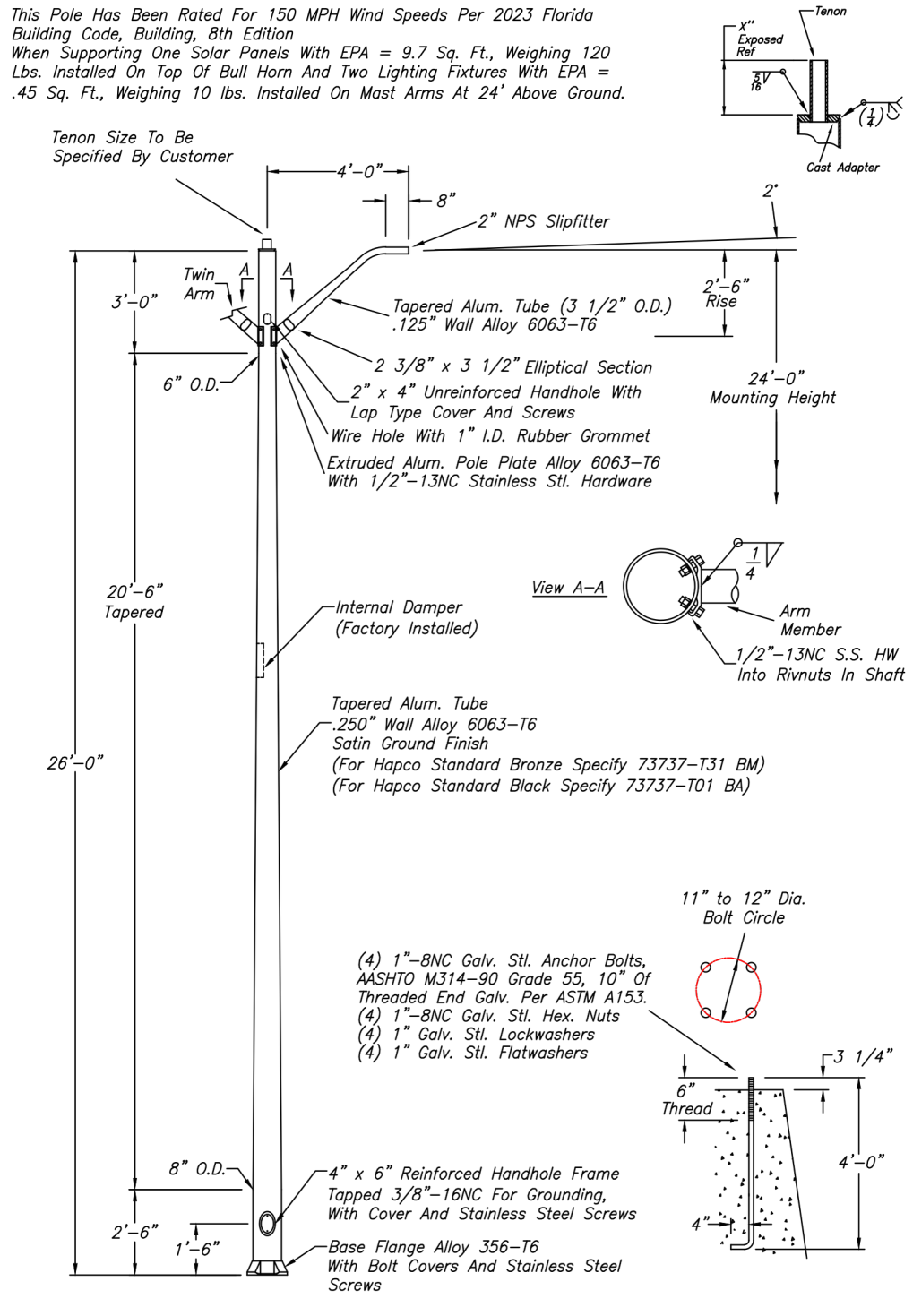
$\phi_{tor} := \text{if}(\text{StructureType} = 0, 0.9, 1.0)$ $\phi_{tor} = 1$ ϕ factor against torsion [SM Vol-3 13.6.1.1]

7/7/2025

Seminole.xmcd

1

This Pole Has Been Rated For 150 MPH Wind Speeds Per 2023 Florida Building Code, Building, 8th Edition When Supporting One Solar Panels With EPA = 9.7 Sq. Ft., Weighing 120 Lbs. Installed On Top Of Bull Horn And Two Lighting Fixtures With EPA = .45 Sq. Ft., Weighing 10 lbs. Installed On Mast Arms At 24' Above Ground.




Components and Dimensions:

- Tenon Size To Be Specified By Customer
- 4'-0" (Total height to mounting)
- 2" NPS Slipfitter
- 2'-6" Rise
- 24'-0" Mounting Height
- 3'-0" Twin Arm
- 6" O.D.
- Tapered Alum. Tube (3 1/2" O.D.) .125" Wall Alloy 6063-T6
- 2 3/8" x 3 1/2" Elliptical Section
- 2" x 4" Unreinforced Handhole With Lap Type Cover And Screws
- Wire Hole With 1" I.D. Rubber Grommet
- Extruded Alum. Pole Plate Alloy 6063-T6 With 1/2"-13NC Stainless Stl. Hardware
- 20'-6" Tapered
- 26'-0" Total Pole Height
- Internal Damper (Factory Installed)
- Tapered Alum. Tube .250" Wall Alloy 6063-T6 Satin Ground Finish (For Hapco Standard Bronze Specify 73737-T31 BM) (For Hapco Standard Black Specify 73737-T01 BA)
- View A-A: Arm Member, 1/2"-13NC S.S. HW Into Rivnuts In Shaft
- 11" to 12" Dia. Bolt Circle
- (4) 1"-8NC Galv. Stl. Anchor Bolts, AASHTO M314-90 Grade 55, 10" Of Threaded End Galv. Per ASTM A153.
- (4) 1"-8NC Galv. Stl. Hex. Nuts
- (4) 1" Galv. Stl. Lockwashers
- (4) 1" Galv. Stl. Flatwashers
- 6" Thread
- 3 1/4"
- 4'-0"
- 8" O.D.
- 4" x 6" Reinforced Handhole Frame Tapped 3/8"-16NC For Grounding, With Cover And Stainless Steel Screws
- 2'-6"
- 1'-6"
- Base Flange Alloy 356-T6 With Bolt Covers And Stainless Steel Screws

Ref. 112898

NO.	REVISIONS	DATE

WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES



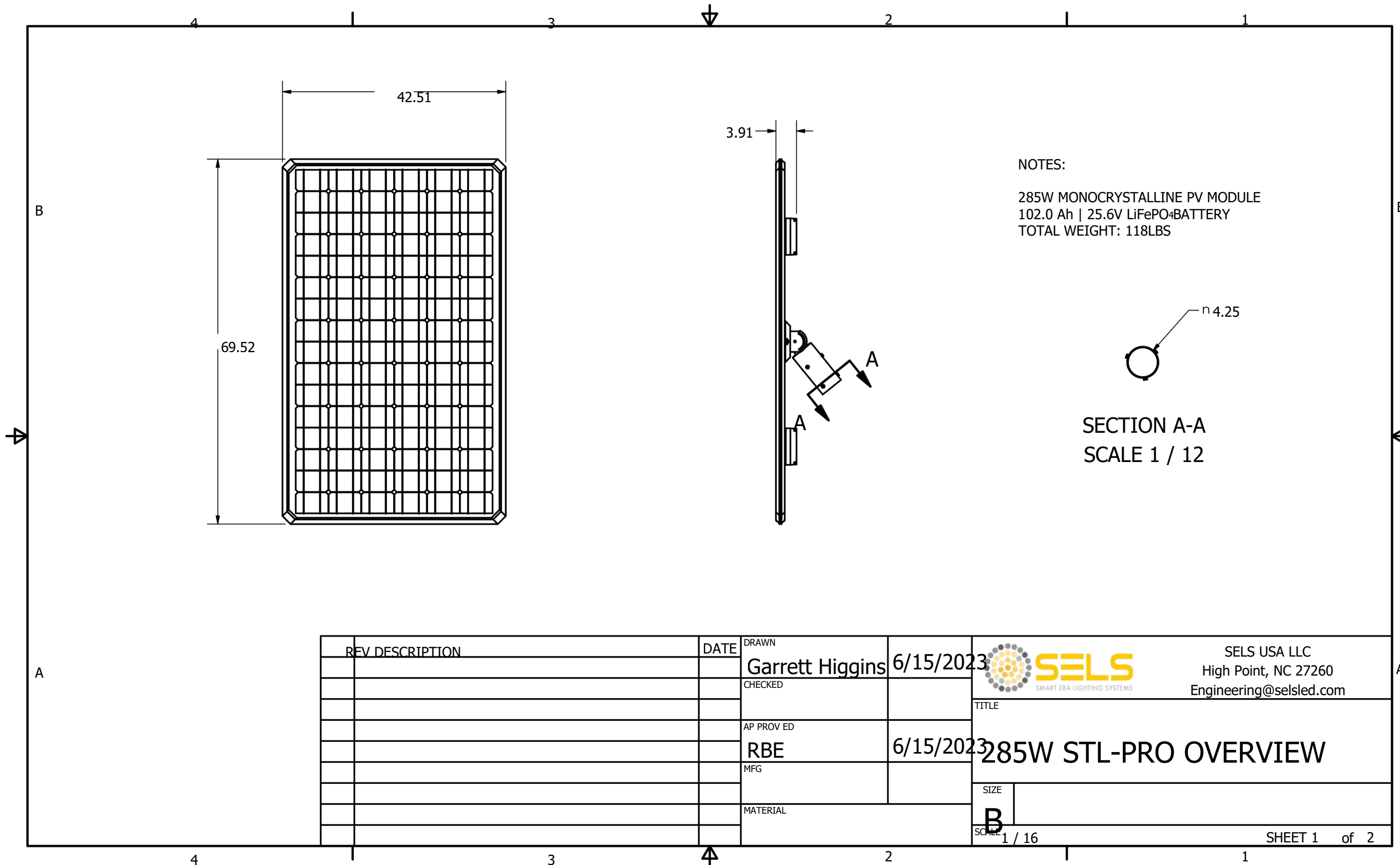
Proven Performance
hapco
pole products

TITLE 26' Lighting Pole	
CUSTOMER	
SCALE	DATE 07/03/2025
BY JAW	DWG. NO.
CHK'D	SKJWEPT100765A

SKJWEPT100765A



Engineering Drawing - Solar Panel



NOTES:
 285W MONOCRYSTALLINE PV MODULE
 102.0 Ah | 25.6V LiFePO₄BATTERY
 TOTAL WEIGHT: 118LBS

REV	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED	MFG	MATERIAL	SCALE	TITLE	SIZE
			Garrett Higgins					1 / 16	285W STL-PRO OVERVIEW	B

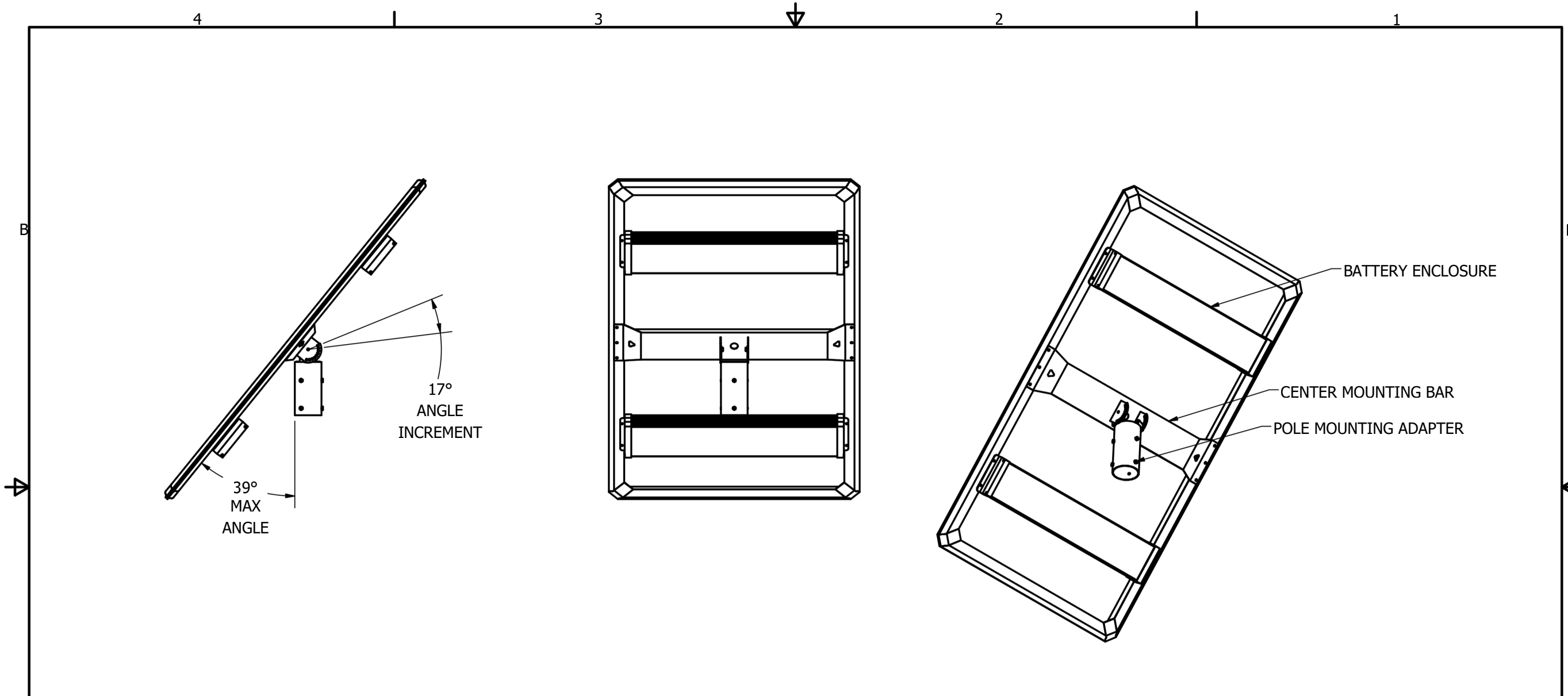
SELS USA LLC
 High Point, NC 27260
 Engineering@selsled.com

285W STL-PRO OVERVIEW


SHEET 1 of 2



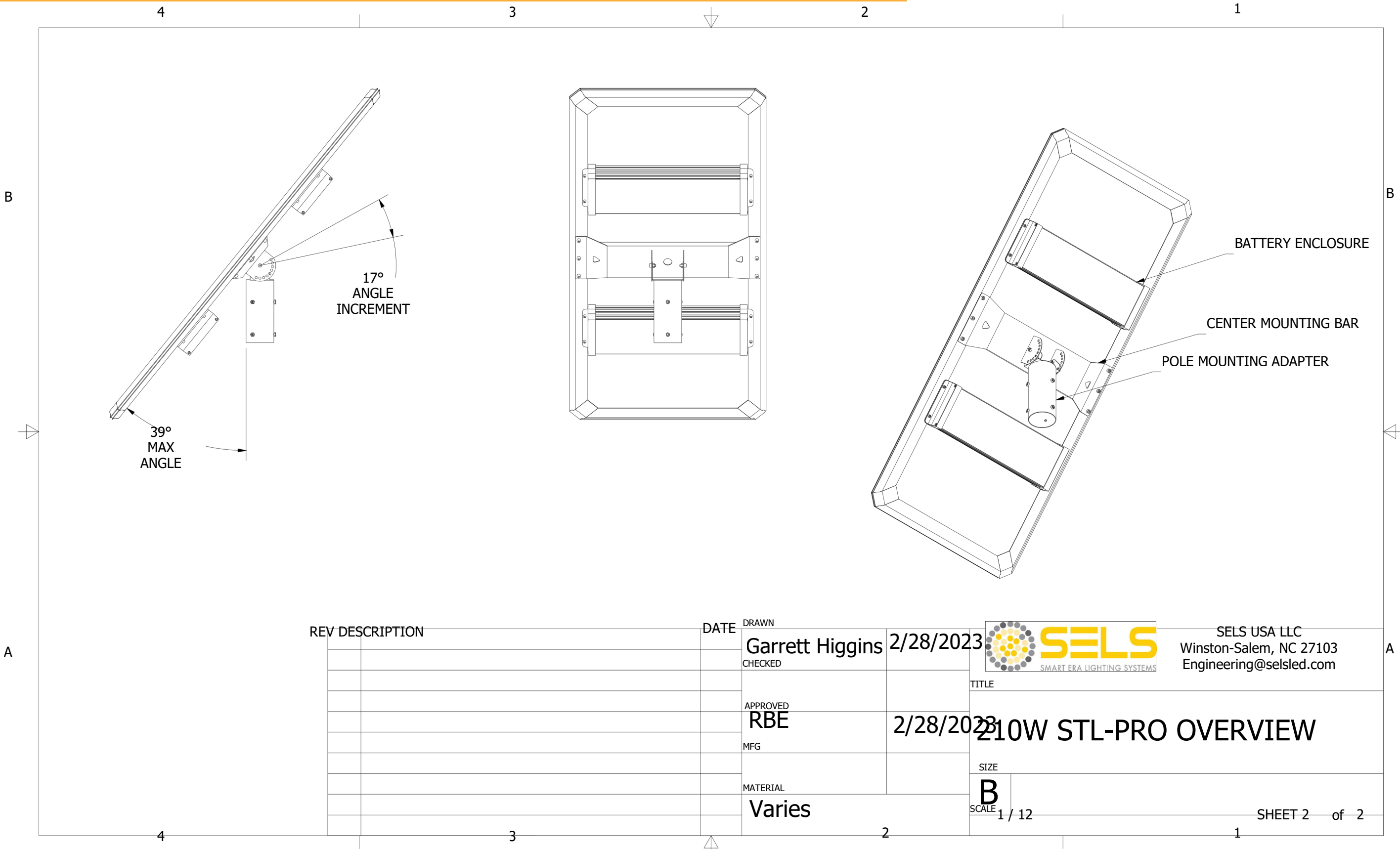
Engineering Drawing - Solar Panel



REV	DESCRIPTION	DATE	DRAWN
			Garrett Higgins
			CHECKED
			APPROVED
			RBE
			MFG
			MATERIAL

 <p>SELS USA LLC High Point, NC 27260 Engineering@selsled.com</p>	<p>TITLE</p> <p>285W STL-PRO OVERVIEW</p>
<p>SIZE</p> <p>B</p>	<p>SHEET 2 of 2</p>

Engineering Drawing - Solar Panel



REV	DESCRIPTION	DATE	DRAWN	CHECKED	TITLE
			Garrett Higgins		210W STL-PRO OVERVIEW
			RBE		
			MFG		
			MATERIAL		
			Varies		



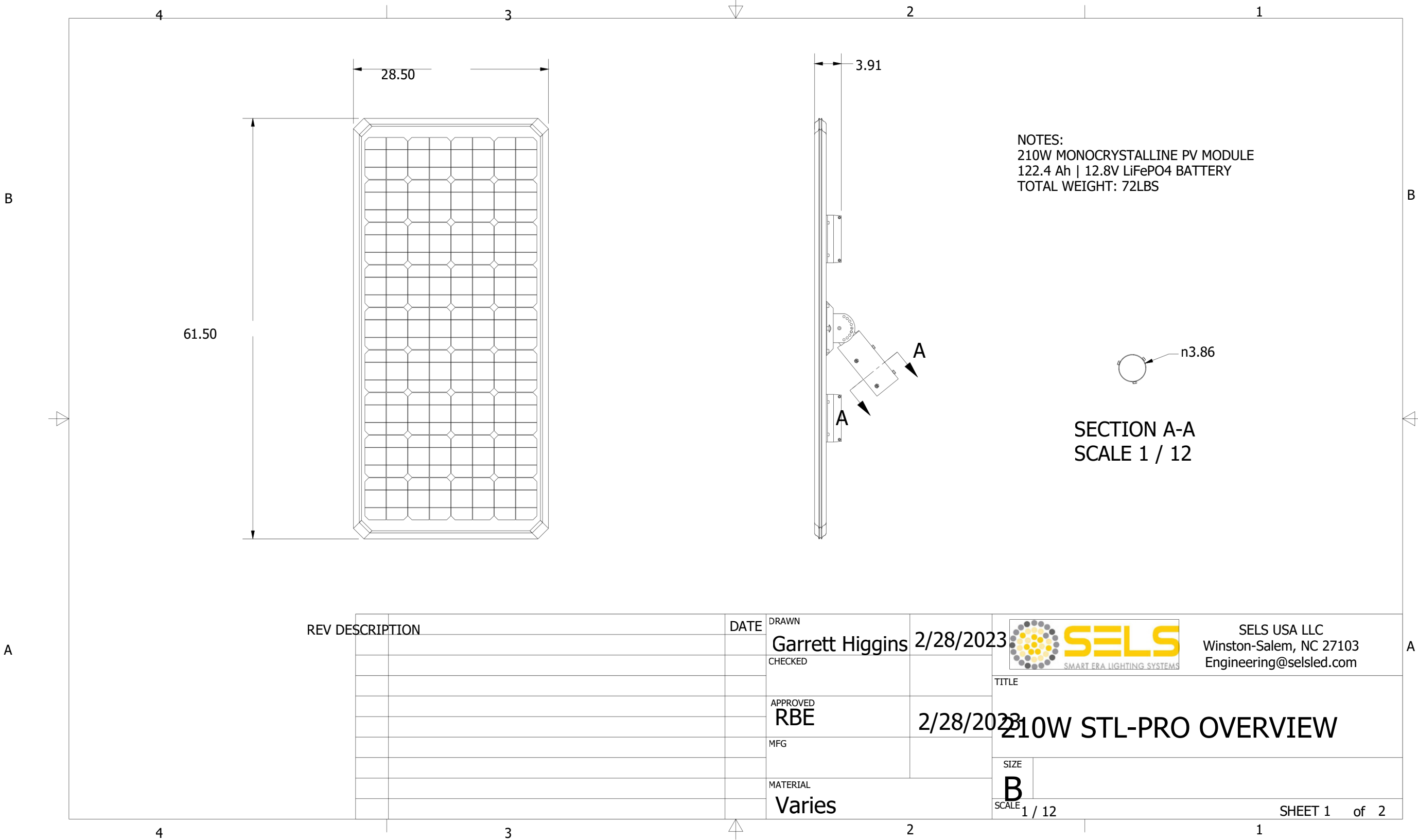
SELS USA LLC
Winston-Salem, NC 27103
Engineering@selsled.com

SIZE
SCALE B
1 / 12

SHEET 2 of 2



Engineering Drawing - Solar Panel



NOTES:
 210W MONOCRYSTALLINE PV MODULE
 122.4 Ah | 12.8V LiFePO4 BATTERY
 TOTAL WEIGHT: 72LBS

SECTION A-A
 SCALE 1 / 12

REV	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED	MFG	MATERIAL
			Garrett Higgins		RBE		Varies

DATE	2/28/2023
TITLE	210W STL-PRO OVERVIEW
SIZE	B
SCALE	1 / 12

SELS USA LLC
 Winston-Salem, NC 27103
 Engineering@selsled.com

210W STL-PRO OVERVIEW

SHEET 1 of 2



WHY BREAKABLE DEVICE SYSTEMS?

- **They help save lives**

Breakaway devices allow the light pole to safely break away if a car hits it, reducing the force of the crash and lowering the chance of serious injuries or death.

- **Reduced risk for the City**

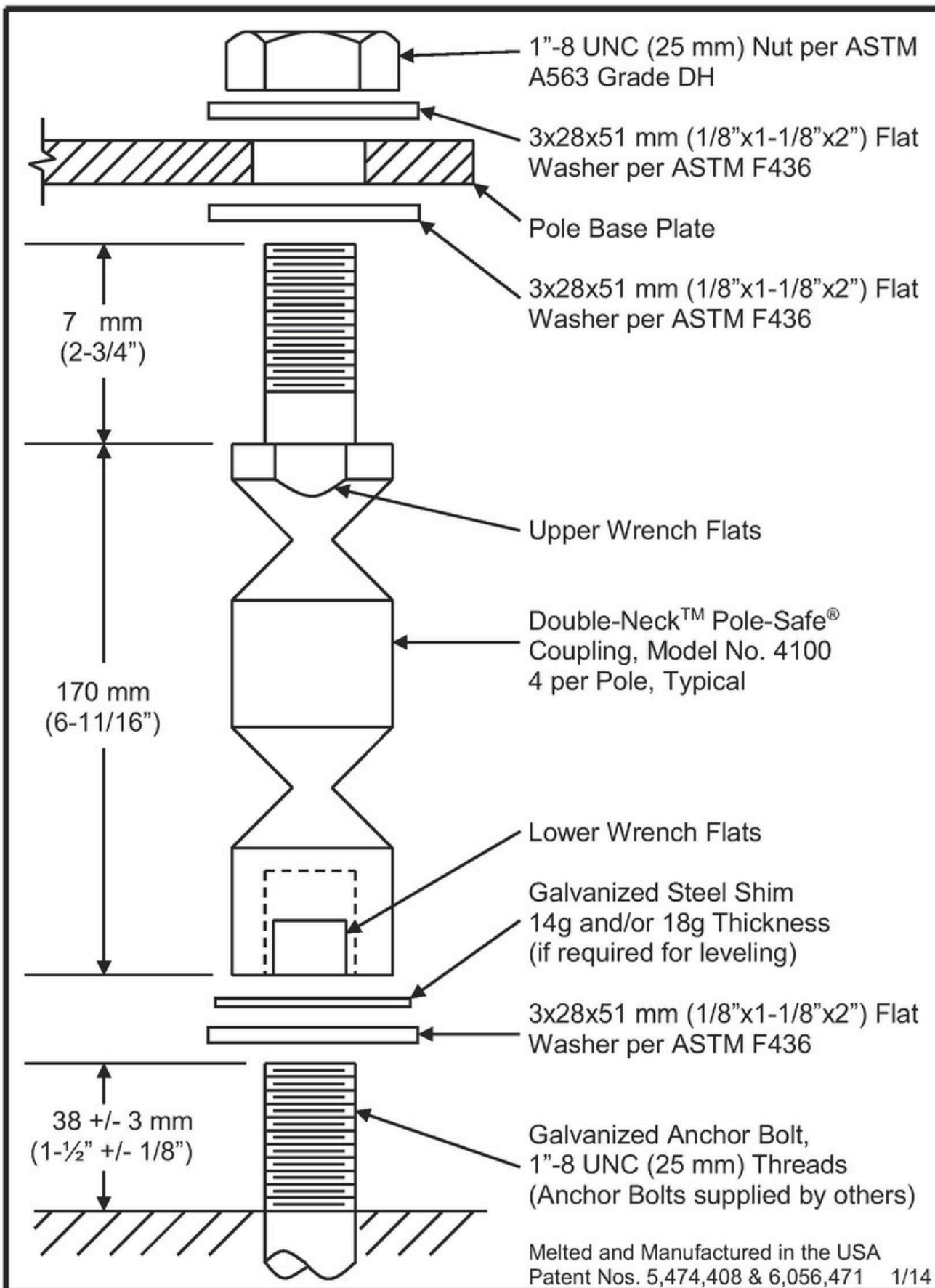
Using safer pole designs shows the City is following widely accepted safety practices, which helps reduce legal and financial risk after an accident.

- **Already used by the City of Doral**

The City of Doral already uses breakaway light poles on most of its roadway lighting projects, showing they are a proven and trusted safety solution.



Engineering Safety Measures - Breakable Device



SPECIFICATIONS

Performance Criteria:

1. Double-Neck™ Pole-Safe® conforms to AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals."
2. Double-Neck™ Pole-Safe® has been crash-tested and FHWA approved in accordance with the requirements of NCHRP Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features."
3. Maximum Allowable Pole Mass = 450 kg (992 lb.) (total, including fixtures).

Physical Properties per Coupling:

1. Ultimate Tensile Strength = 221.5 kN (49.8 kips), minimum.
2. Tensile Yield Strength = 192.0 kN (43.2 kips), minimum.
3. Ultimate Restrained Shear Strength = 16.9 kN (3.8 kips), minimum.
4. Ultimate Restrained Shear Strength = 24.4 kN (5.5 kips), maximum.

Corrosion Protection:

1. All Double-Neck™ Pole-Safe® couplings, nuts, bolts, and washers are galvanized after fabrication in accordance with ASTM A153. All leveling shims are galvanized after fabrication in accordance with ASTM A653.

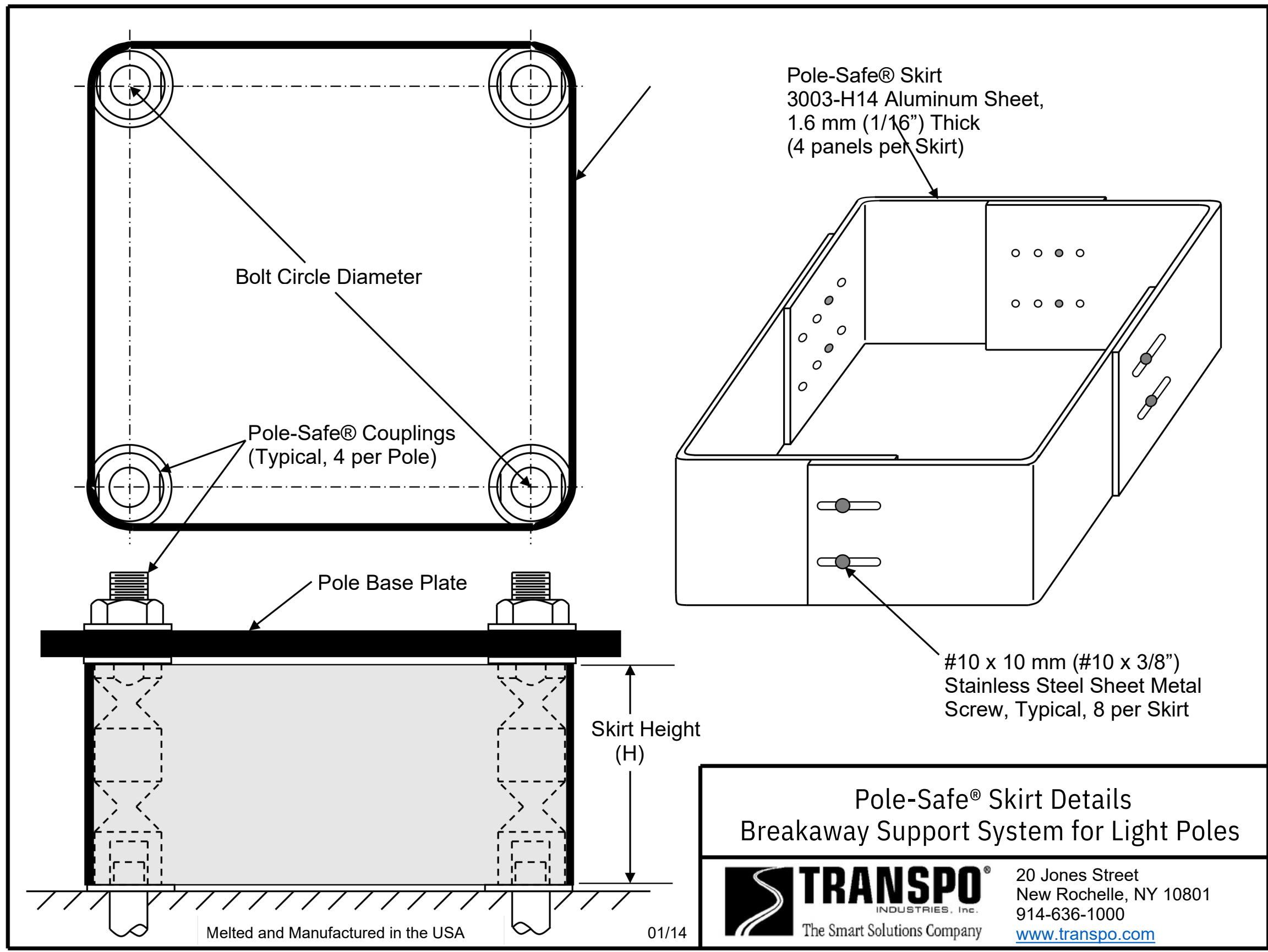
Pole-Safe® Model No. 4100
Breakaway Support System for Light Poles



20 Jones Street
New Rochelle, NY 10801
914-636-1000
www.transpo.com



Engineering Safety Measures - Breakable Device



See Reverse Side of Page
for Skirt Sizes and
Installation Instructions





Transpo Industries manufactures a variety of innovative products and materials designed for improving road safety and infrastructure preservation. The company's reputation as an expert in rehabilitation, preservation and safety has made Transpo a leading supplier since 1968.

WWW.TRANSPO.COM



Pole - Safe®

BREAKAWAYLIGHTPOLE SUPPORTSYSTEM

Saving Lives With Breakaway Support System

Transpo's Pole-Safe® is an omni-directional breakaway support system for light poles and elements located within roadside clear zones and other locations vulnerable to vehicular impacts. The primary component of the system is a high-strength coupling, designed to break away quickly and cleanly upon impact, thus saving lives and reducing property damage costs.

Pole-Safe® is omni-directional, meaning the system breaks away with consistent, predictable behavior, regardless of the vehicle's angle of impact.



Pole-Safe® has been vehicle crash-tested and is approved for use on the National Highway System (NHS) and all Federal-Aid highway funded projects.

The only breakaway system with proven, consistent and predictable behavior when impacted.

4000 SERIES*	
Model Number	Anchor Bolt Diameter
4050	1/2"
4062	5/8"
4075	3/4"
4100	1"
4125	1-1/4"
5000 SERIES*	
Model Number	Anchor Diameter
5062	5/8"
5075	3/4"
5100	1"
5125	1"

*Available for metric anchors



Pole - Safe®

BREAKAWAYLIGHT POLE SUPPORT SYSTEM



TESTED AND APPROVED IN ACCORDANCE WITH FHWA CRASHTEST STANDARDS

Superior Breakaway Performance

Extensive finiteelementanalysis andsimulated wind-load testing has been used to optimize the system. The precisely machined geometry of the Pole-Safe® coupling design causes the system to fracture safely at relatively low force and energy levels. This unique capacity is higher than AASHTO's requirements for impact velocity change, and the low stub projection after impact eliminates under carriage damage to the vehicle, again, exceeding AASHTO's requirements.

High Structural Capacity

Pole-Safe®s availablein a variety of models, designed to support different pole configurations subjected to various loading conditions. The high strength coupling design offers exceptional resistance to forces created by wind and dead loads. All Pole-Safe® crash tests were conducted using a 55' high, 930 pound pole which is the maximumallowable mass as specified by AASHTO.

High Durability

All Pole-Safe®couplings and hardware are hot-dip galvanized in accordance with ASTM A153 to provide proven corrosion protection in harsh roadside environments. Additionally, independent fatigue testing has demonstrated that Pole-Safe® couplings are capable of withstanding more than two million loading cycles with no reduction in structural capacity.



The unique physical properties and breakaway performance of Pole-Safe® gives designers greater flexibility in sizing poles.

Easy to Install and Maintain

Nospecial tools or equipmentare required to properly install and maintain Pole-Safe®. All components are easily secured using the American Institute of Steel Construction (AISC) turn-of-nut tightening method, which eliminates the need for precise torque levels on bolts.

Low Cost

Pole-Safe®is the lowest cost breakaway system for poles. Low initial cost combined with high structural capacity and zero maintenance makes Pole-Safe® the most cost-effective solution for all breakaway light poles.

Applications

Pole-Safe®canbe used for any roadside element that requires breakaway support. Pole-Safe® is also FAA approved for use as frangible fuse bolts for objects placed within the designated safety area.



Need more information?

WWW.TRANSPO.COM/SAFETY

Contact the materials experts at Transpo to find out more about the various products we offer.

If you need advice on how to install the product, the professionals at Transpo will guide you through the process. Project specific questions? We can assist you in creating a cost-effective, tailored solution for your project.



Transpo Industries, Inc.
20 Jones Street
New Rochelle, NY 10801

914.636.1000
800.321.7870
914.636.1282
info@transpo.com

Phone
Toll Free
Fax

SAVING PEOPLE -The Difference

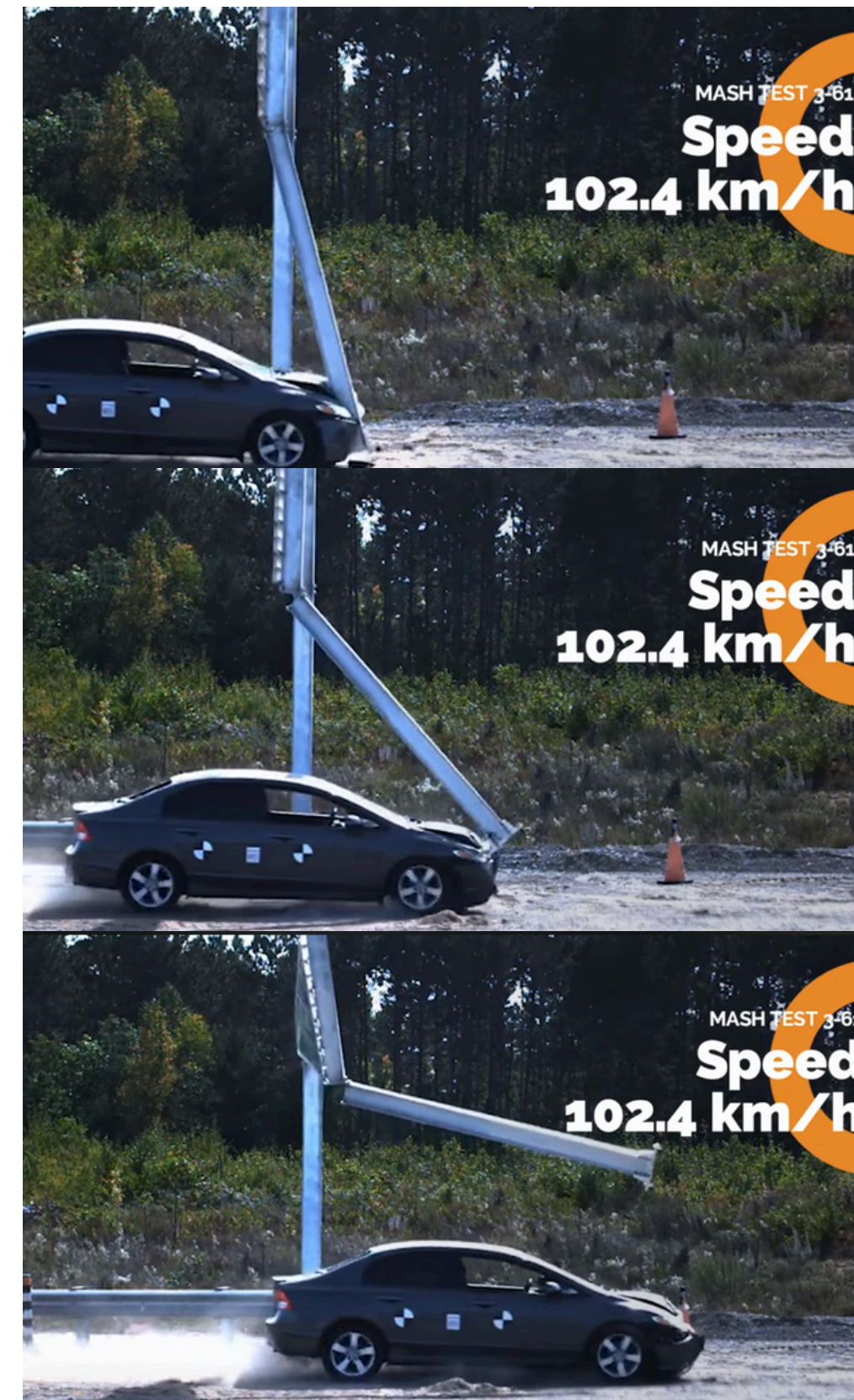
Two dead after car crashes into light pole in Vallejo

Bay City News
Thursday, March 1, 2018

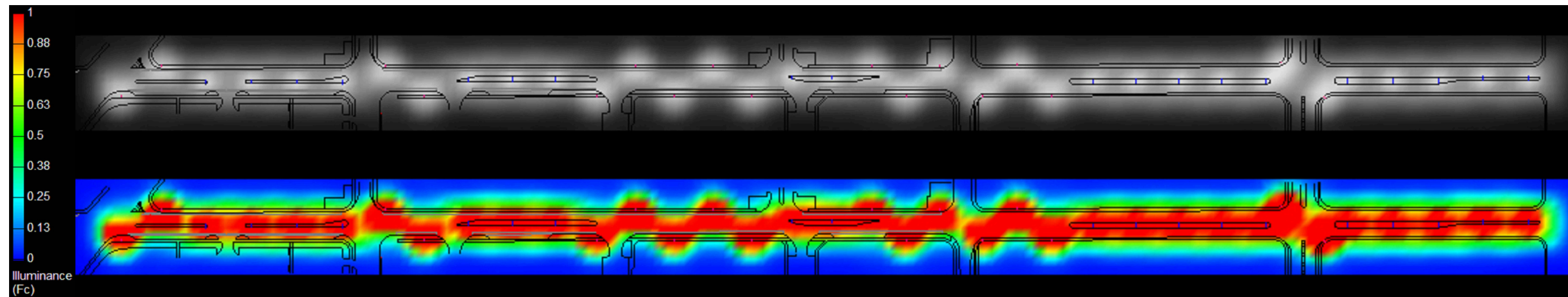
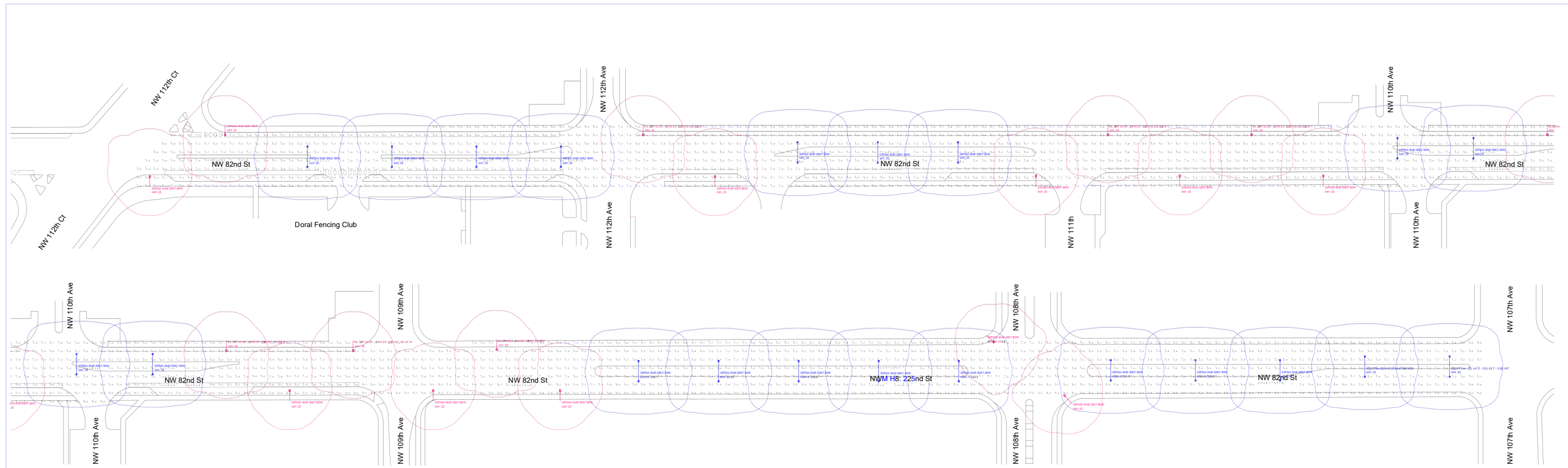


Two women were killed and two other people were injured after a vehicle crashed into a traffic light pole in Vallejo early Thursday morning, a police lieutenant said.

VALLEJO, Calif. -- Two women were killed and two other people were injured after a vehicle crashed into a traffic light pole in Vallejo early Thursday morning, a police lieutenant said.



PHOTOMETRICS



Luminaire Schedule					Lumens	Lum. Watts
Symbol	Qty	Label	Description	LLF		
○	19 17	XSPSM-3ME-50K7-50W	XSPSM-D-HT-3ME-5L-50K7-UL-SV-N - DOUBLE	1.063	5554.17	50 80
○		XSPMD-4ME-50K7-80W	XSPMD-D-HT-4ME-12L-50K7-UL-SV-N - SINGLE	0.842	9998.75	

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
NW 82nd St	Illuminance	Fc	1.16	2.8	0.3	3.87	9.33

MH: 25ft

REVISIONS				 SELS USA LLC 4747 Kester Mill Rd, Bldg B Winston-Salem, NC 27103 Phone (704) 495-3535	City of Doral PROJECT: NW 82 St from NW 114 Ave to NW 107 Ave	PHOTOMETRIC ANALYSIS	SHEET NO. 1/1
DATE	DESCRIPTION	DATE	DESCRIPTION				
18/06/25				ENGINEER OF RECORD: MA. ALD. ALEJANDRA ULLOA			

**PLATFORM
MANAGEMENT**

CENTRALIZED MANAGEMENT PLATFORM

KEY FEATURES:

- Remote monitoring of each individual light and the entire project
- Ability to adjust light intensity levels in real time
- Programming and scheduling control for single fixtures or all lights at once
- Real-time alerts for system faults or performance issues
- Monitoring of solar charging performance and energy production
- Battery status and health tracking
- Lamp output and operational status monitoring
- GPS-based location tracking for each light fixture
- Improved maintenance response times and reduced operational costs
- Enhanced reliability and long-term performance visibility for City staff

Time zone GMT-7:00
Location Provo City,Utah

Created time 2022-08-31 01:12:35
Address -

[Edit Project](#) [Load settings](#) [Add Network](#)

All Lamp


61/61 All On-line Off-line Warning [Add Lamp](#) [Batch](#) [Update](#) [Project broadcast dimming](#)

	Number	Lamp number	Unit ID	Lamp status	Network status	Update time	Wireless module address
<input type="checkbox"/>	1	000001	Provo Rive...	off		2026-01-14 09:45:07	1545102e
<input type="checkbox"/>	2	000002	Provo Rive...	off		2026-01-14 09:19:09	1545102c
<input type="checkbox"/>	3	000003	Provo Rive...	off		2026-01-14 09:43:28	1545104e
<input type="checkbox"/>	4	000004	Provo Rive...	off		2026-01-14 09:43:28	1545102d
<input type="checkbox"/>	5	000005	Provo Rive...	off		2026-01-14 09:40:40	15451034
<input type="checkbox"/>	6	000006	Provo Rive...	off		2026-01-14 09:25:24	1545105a



Street Light Management System

 -Please enter your account name'

 -Please enter your login password

Remember password

Sign In



Project Summary

Display general project information and real-time data. Includes current and historical power generation data, emissions mitigation, and system performance statistics.



Project Management

View and manage project information. Individual and batch system parameter monitoring and updates; load scheduling; connection states; power performance information; add and remove devices, etc.



GIS Map

Quickly view all devices in your project and view current state, active alarms, and equipment status.



Alarm Maintenance

View current alarms. Search and export historical alarms to understand system operating conditions.



Historical Data

View aggregated project data and individual system data via daily, monthly, and yearly power generation and usage. Compare performance and usage of individual systems within your project.



Video Surveillance

Display all surveillance videos, real-time synchronous viewing, sharpness, probe direction can be flexibly controlled.



User Management

Add, remove, and monitor users. Edit user permissions.



Operation Log

Track and search system changes and usage.

Dashboard

Time zone GMT-7:00
Location Provo City,Utah

Created time 2022-08-31 01:12:35
Address -

Edit Project

Load settings

Add Network

Add Lamp

All Lamp 

Search by lamp number

search

Export Excel

Field management

Refresh

Parameter template

61/14

All

On-line

Off-line

Warning






Add Lamp

Batch

Update

Project broadcast dimming

+ Add Project

<input type="checkbox"/>	Number	Lamp number	Unit ID	Lamp status	Network status	Update time	Wireless module address	Lamp j	Operation
<input type="checkbox"/>	1	000001	Provo Rive...	100		2026-01-13 18:42:07	1545102e	2	Current State Modify Record GIS Parameter
<input type="checkbox"/>	2	000002	Provo Rive...	100		2026-01-13 17:36:43	1545102c		Current State Modify Record GIS Parameter
<input type="checkbox"/>	3	000003	Provo Rive...	72		2026-01-13 18:27:09	1545104e	1	Current State Modify Record GIS Parameter
<input type="checkbox"/>	4	000004	Provo Rive...	100		2026-01-13 18:02:26	1545102d	2	Current State Modify Record GIS Parameter
<input type="checkbox"/>	5	000005	Provo Rive...	100		2026-01-13 18:13:21	15451034	2	Current State Modify Record GIS Parameter
<input type="checkbox"/>	6	000006	Provo Rive...	100		2026-01-13 18:11:18	1545105a	2	Current State Modify Record GIS Parameter

40/page

1

Go to 1

Surveillance



System Details

Lamp Details

Lamp Configuration System Solar panels **Battery**

Battery status:	Discharging	Charging stage:	Uncharged
Battery voltage(V):	12.9	Charge Current(A):	0
Discharging current(A):	0	Charging power(w):	0
Discharging power(w):	0	Battery surface temperature(°C):	5
Total battery capacity(Ah):	0	Remaining battery capacity(Ah):	0
Battery SOC(%):	63	Minimum voltage weekly(V):	12.6
Charge (Wh):	14	Discharge (Wh):	23
Charging max-power(W):	138	Discharging max-power(W):	27



SYSTEM COST &
INSTALLATION



SELS Solar
 1710 King St
 High Point , NC 27260
 United States
 T: (704) 495-3535

Prepared for City of Doral
 Henry Martinez
 8401 NW 53rd St
 Doral, FL 33166
 United States
 E: henry.martinez@cityofdoral.com

STL Pro Series

NW82StfromNW114 Ave to NW 107 Ave

One-Time Fees

Item	Qty	Price	Total
Dual Arm STL Pro System	19	\$7,202.05	\$136,838.95
STL285	19		
SolarPanel:285W solarpanel with an adjustable mounting bracket for optimal sunlight capture. Standard Color Black / Battery: 102Ah, 35.6V Lithium Iron Phosphate (LiFePO4) battery / Load Capacity: Capable of powering devices with a maximum load of 100W			

[.STL_Pro_Info.pdf \(5.72 MB\)](#)



22 to 30 feet Round Steel Pole - Anchor Base	19		
Anchor Base Roundtapered Steel pole , 22to30Feet - Standard Color Black, 140Mph			
<i>Steel Pole Color Options:</i> Jet Black (RAL 9005)Standard			
<i>Steel Pole Arm:</i> 4-Foot Steel Light Pole Arm			
Cobra-Style LED Light -50W to 100W	38		
Cobra-Style LED Light delivering up to 100W and 18,500 lumens of bright, energy-efficient illumination.			

Light Distribution Options: Type IV Light Distribution

Lamp Color Temp.: 5000k

Single Arm STL Pro System	17	\$5,465.65	\$92,916.05
STL210	17		
SolarPanel:210W solarpanel with an adjustable mounting bracket for optimal sunlight capture. Standard Color Black / Battery: 122.4Ah, 12.8V Lithium Iron Phosphate (LiFePO4) battery / Load Capacity: Capable of powering devices with a maximum load of 80W			

[.STL_Pro_Info.pdf \(5.72 MB\)](#)


Quote

Quote #	4057 v4
Date	July 9, 2025
Expires	September 15, 2025
Contact	Andrew Randall

ACCEPT QUOTE



Quote

Item	Qty	Price	Total
			
22 to 30 feet Round Steel Pole - Anchor Base	17		
Anchor Base Round tapered Steel pole , 22to30Feet - Standard Color Black, 140Mph			
<i>Steel Pole Color Options:</i> Jet Black (RAL 9005)Standard			
<i>Steel Pole Arm:</i> 4-Foot Steel Light Pole Arm			
Cobra-Style LED Light -50W to 100W	17		
Cobra-Style LED Light delivering up to 100W and 18,500 lumens of bright, energy-efficient illumination.			
<i>Light Distribution Options:</i> Type III Light Distribution			
<i>Lamp Color Temp.:</i> 5000k			
<input checked="" type="checkbox"/> Installation <i>Optional</i>	36	\$3,650.00	\$131,400.00 Selected

Please contact us if you have any questions.

One-Time Subtotal	\$361,155.00
Shipping	\$5,621.00
Total One-Time	\$366,776.00 USD



**CAPABILITY STATEMENT
MBE DOCUMENTATION**



About SELS

SELS Solar expertly designs tailored solar solutions for public transit authorities, municipalities, military operations, and federal entities. We leverage innovative design, superior domestic manufacturing, and premium U.S. sourced materials. Our team works with clients to understand unique energy needs and provide efficient, sustainable solutions. Our strength lies in delivering reliable, high-performing, and eco-friendly solar solutions that meet diverse energy demands. At SELS Solar, we power your needs sustainably.

Core Competencies:

- Our company offers commercial-grade, customized solar solutions tailored to meet our clients' unique needs and requirements.
- We specialize in the manufacturing and assembly of bespoke solar products to deliver high-quality, reliable results.
- Our engineering team designs turnkey projects that are customized to the specific location and requirements of our clients.
- Our products and services adhere to all relevant codes and regulations, ensuring full compliance and peace of mind for our clients.

Differentiators:

- Made in USA for quality assurance.
- Customized solar solutions to fit unique needs.
- Patented, engineered products for superior performance.
- Award-winning design for both form and function.
- Live training for product and installation support.

Company Profile:

Cage Code: 8TQA0 POC: Andrew Randall
 EIN: 33-1226988 Email: Info@SELSSOLAR.com
 UEI: RDA5M7EE8NQ3 Phone: 704-495-3535
 Duns Number: 056891959

NAICS CODES:

Primary: 221114 **Secondary: 335132**
 Solar Electric Power Solar lighting
 Generation fixtures (except
 residential), electric,
 manufacturing

Mission Statement:

At SELS Solar, our mission is to provide reliable and sustainable solar energy solutions to homes and businesses, empowering our customers to reduce their environmental impact and lower their energy costs. We are committed to delivering exceptional customer service, promoting energy independence, and contributing to a more sustainable future for our communities



Dedicated Team

When you work with SELS you have full access to an experienced and dedicated team of professionals. We are committed to the completion of all contractual objectives within the scope of work.

This includes dedicated engineers, product designers, project managers, and customer support at every step of the process. We believe this is the only way to guarantee the success of the project and make sure that the systems provided are right for your unique situation.



Featured Clients



City of Sarasota, FL

SELS completed a bid created by Sarasota that entailed the design and installation of 270 solar street lights with 346 LED lamps that comply with FWC sea-turtle protection guidelines. These systems light beach-front roadways throughout Lido Key.

Timeline: 16 Months



Department of Homeland Security

SELS designed and supplied U.S. Customs and Border Protection with 32 Mobile Power Units that utilize solar power to provide constant lighting and surveillance along the U.S. and Mexico Border. The MPUs act autonomously and require no resource consumption.

Timeline: 6 Months



Capitol Metro
Transit Authority for Austin, TX

SELS is currently designing, manufacturing, and supplying Capitol Metro with 550 SSL units, 150 TPS units, and 50 STL-Pro Units. These systems modernize their transit agency with solar powered lighting and transit monitoring.

Timeline: 5 years

















THIS CERTIFIES THAT

SELS USA LLC

*Nationally certified by the: **CAROLINAS-VIRGINIA MINORITY SUPPLIER DEVELOPMENT COUNCIL**

*NAICS Code(s): 335132; 221114; 335999; 337122; 337127

*Description of their product/services as defined by the North American Industry Classification System (NAICS)

10/22/2024

Issued Date

12/31/2026

Expiration Date

CA07291

Certificate Number

**Ying McGuire
NMSDC CEO and President**

Dominique Milton, President & CEO

By using your password (NMSDC issued only), authorized users may log into NMSDC Central to view the entire profile: <http://nmsdc.org>

Certify, Develop, Connect, Advocate.

*MBEs certified by an Affiliate of the National Minority Supplier Development Council, Inc.®



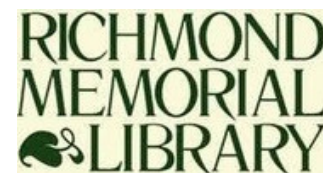
SOME OF OUR CLIENTS



AMERESCO



Yale University



TENNESSEE State Parks



City of Casa Grande

CONTACT US

-  **(704) 495-3535**
-  **rbadilla@selsled.com /
customerservice@selsolar.com**
-  **www.selsolar.com**
-  **1710 & 1720 King St, High Point,
NC, 27260**

