



Letter of Transmittal

To: Pepe Cabeza De Vaca
Hidalgo County Pct. 1

Date: December 10, 2019
ATTN: Finance / Purchasing

Routing Method	
US Mail	Certified
Lone Star overnight	
<input checked="" type="checkbox"/> Hand Delivered	
Fax	Email

WE ARE SENDING YOU

- | | | |
|-------------------|----------------|--------------|
| Drawings | Copy of Letter | Change Order |
| Specifications | Prints | Copies |
| <u>Submittals</u> | Plans | Samples |

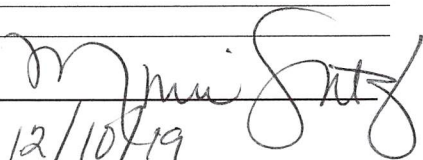
Copies	Date	Pages	Description
1			Invoice No. 2 Monte Alto Community Solar Light Project WA 1 - C-19-070-04-23

THESE ARE TRANSMITTED as checked below:

- | | | |
|----------------------|------------------------|------------------------------------|
| For Approval | Approved as submitted | Resubmit ___ copies for approval |
| For your use | Approved as noted | Submit ___ copies for distribution |
| As requested per RFQ | Return for corrections | Returned ___ corrected prints |

Remarks

SIGNED 

RECEIVED BY: 
RECEIVED ON: 12/10/19



SEC Project Name:
SEC Project No.:

Monte Alto Community Solar Light Project
HPCT1-001

STRADA Engineering and Consulting, LLC
5111 North 10th St., #366
McAllen, TX 78504

Date: December 10, 2019
Invoice No.: 2

Acct #: 9-1200-431-00-121-005-0-334
Requisition #: 392327

Work Authorization No. 1 (#C-19-070-04-23)
County of Hidalgo - Pct. 1


Invoice Period: from 10/17/19 thru 12/10/19

DESCRIPTION	ESTIMATED LINE ITEM BUDGET	PERCENT COMPLETE	INVOICED TO DATE	PREVIOUSLY INVOICED	AMOUNT DUE THIS INVOICE
LABOR FOR TECHNICAL WORK ACTIVITIES:					
1 Project Management /Admin.	\$ 5,128.50	75%	\$3,846.38	\$3,846.38	\$ -
2 Design Criteria Coord.	\$ 1,590.00	100%	\$1,590.00	\$1,590.00	\$ -
3 Plan Preparation	\$ 17,147.40	100%	\$17,147.40	\$5,144.22	\$ 12,003.18
4 Topo	\$ 4,240.00	100%	\$4,240.00	\$2,120.00	\$ 2,120.00
Sub Total (Labor)	\$28,105.90	95%	\$26,823.78	\$ 12,700.60	\$ 14,123.18
OTHER DIRECT CHARGES (ODC) AND NON-LABOR					
Direct Expenses (trip to austin mileage)	\$0.00	100%	\$0.00	\$0	\$ -
Sub Total (ODC / NON-LABOR)	\$0.00	#DIV/0!	\$ -	\$ -	\$ -
TOTALS:	\$28,105.90	95%	\$ 26,823.78	\$ 12,700.60	\$ 14,123.18
TOTAL INVOICE AMOUNT DUE					\$14,123.18

Invoice Back-up Check List:



Respectfully Submitted,


Name: Oscar Cancino, P.E.
Title: President



County of Hidalgo – Pct. 1
Monte Alto Community Solar Light Project
Task Report

Professional Engineering services provided thru 12/10/19.

Project Development

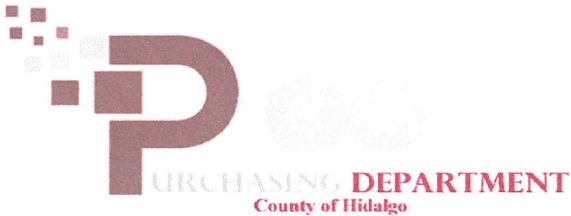
- Finalized bid packet data with corresponding specifications and other documents for bidding purposes.
- Responded to bid questions.

Programming / Agency Coordination

- Coordination of project description for further development.

Design / Construction

- Completed design layout(s) and details for proposed LED Roadway Illumination Assembly.



2802 S. Bus. Hwy 281
Edinburg, Texas 78539
Phone: (956) 318-2626
Fax: (956) 318-2629
www.co.hidalgo.tx.us/purchasing

November 25, 2019

Bidder's name

Address

City

State, Zip Code

Re: **HIDALGO COUNTY-**
Request for Bids - "Solar Light Project(s) in Precinct 1, commencing with Monte Alto, & Other
Unincorporated Townships with a minimum population of 500 residents, Parks & Other Designated
County Owned Properties"
RFB No.: 2019-295-12-11-YSS

Dear Gentleman/Ladies:

Enclosed, please find the Request for Bid (RFB) packet. **Modifications and new requirements** have been added and implemented. Carefully read and review all instructions, Requirements and Specifications.

Hidalgo County Purchasing Department welcomes and appreciates your participation in the Request for Bids process.

If any further assistance is required, please do not hesitate to call the Purchasing Department at (956) 318-2626 x 4874.

Sincerely,

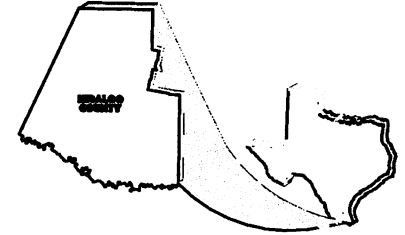
Martha L. Salazar, CPPB
Hidalgo County Purchasing Agent

MLS/yss
Enclosures

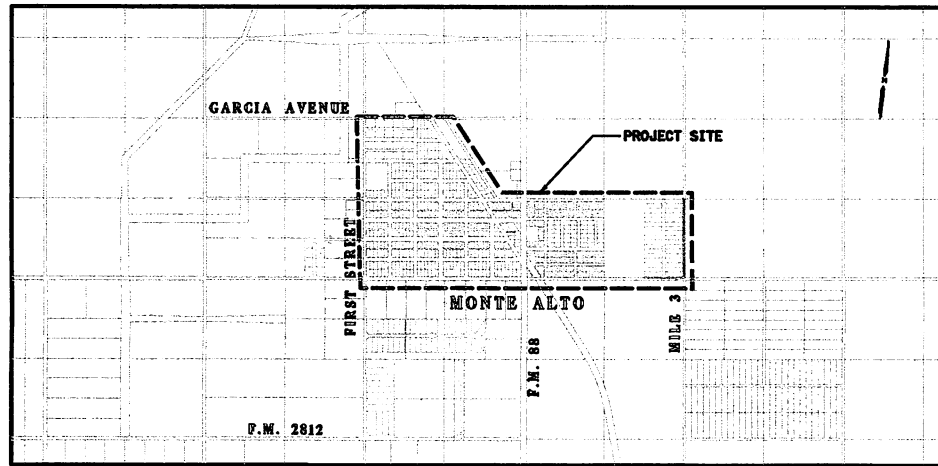
HIDALGO COUNTY PRECINCT 1

STREET SOLAR LIGHTING IMPROVEMENTS

RFB No.:2019-295-12-11-YSS



CITY OF MONTE ALTO SOLAR LIGHTING



VICINITY MAP



STRADA
Engineering and Consulting, LLC.
Firm No. 15642

INDEX OF SHEETS

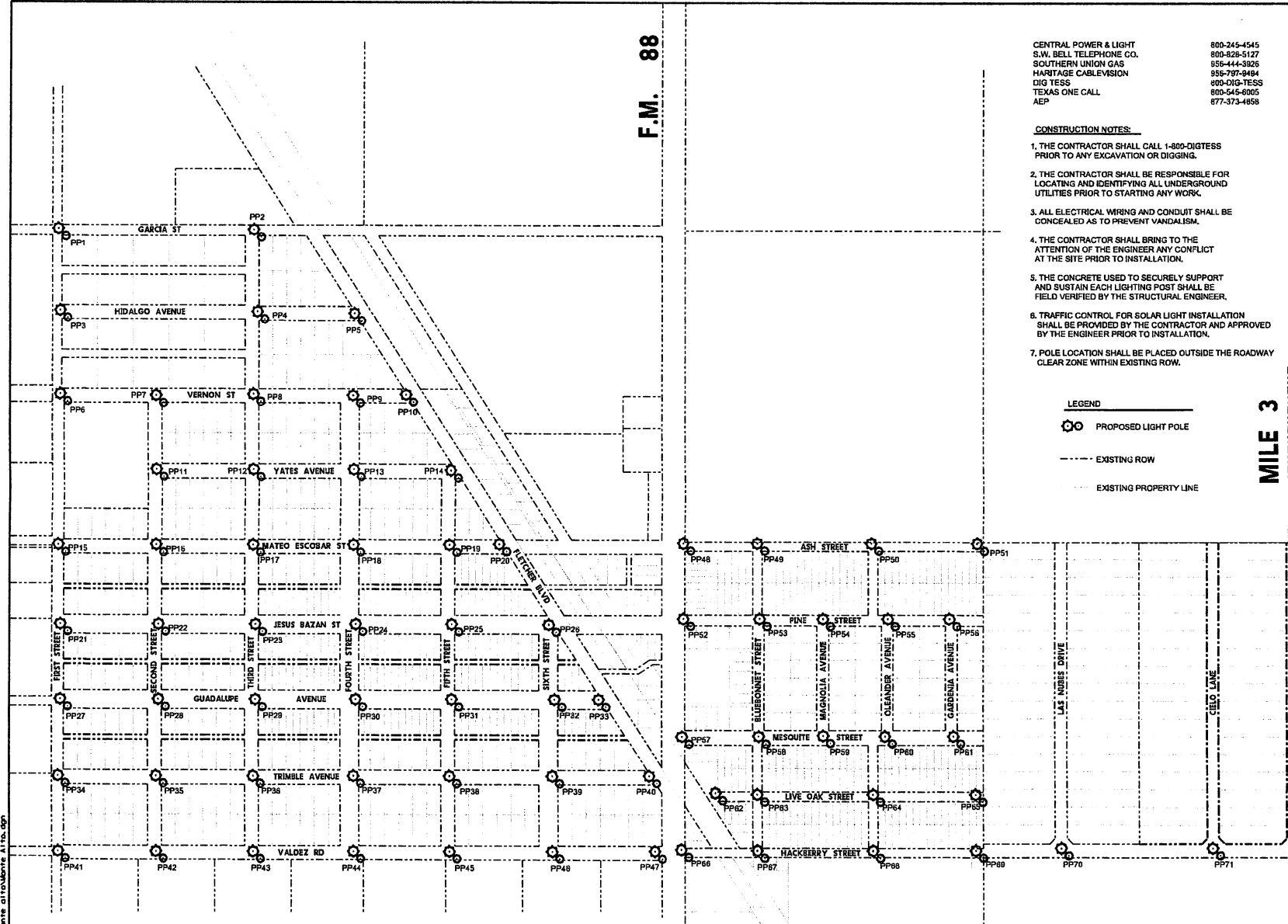
COVERSHEET	1
SUMMARY SHEET	1
PROJECT LAYOUT	1
DETAIL SHEET	3



COMMISSIONER PRECINCT 1
DAVID L. FUENTES
STREET IMPROVEMENTS LIGHTING
RFB No. 12019-295-12-11-YSS

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11/27/2019
VENUDUP
C:\Users\VENUDUP\Documents\dlr\monte alto.dwg

F.M. 88



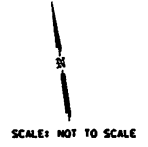
CENTRAL POWER & LIGHT 800-245-4545
S.W. BELL TELEPHONE CO. 800-829-5127
SOUTHERN UNION GAS 956-444-3826
HERITAGE CABLEVISION 956-797-0484
DIG TESS 800-DIG-TESS
TEXAS ONE CALL 800-545-6905
AEP 877-373-4858

- CONSTRUCTION NOTES:**
1. THE CONTRACTOR SHALL CALL 1-800-DIGTESS PRIOR TO ANY EXCAVATION OR DIGGING.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND IDENTIFYING ALL UNDERGROUND UTILITIES PRIOR TO STARTING ANY WORK.
 3. ALL ELECTRICAL WIRING AND CONDUIT SHALL BE CONCEALED AS TO PREVENT VANDALISM.
 4. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY CONFLICT AT THE SITE PRIOR TO INSTALLATION.
 5. THE CONCRETE USED TO SECURELY SUPPORT AND SUSTAIN EACH LIGHTING POST SHALL BE FIELD VERIFIED BY THE STRUCTURAL ENGINEER.
 6. TRAFFIC CONTROL FOR SOLAR LIGHT INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
 7. POLE LOCATION SHALL BE PLACED OUTSIDE THE ROADWAY CLEARZONE WITHIN EXISTING ROW.

- LEGEND**
- PROPOSED LIGHT POLE
 - - - EXISTING ROW
 - - - EXISTING PROPERTY LINE

MILE 3

PROJECT NO: 15642	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	



CITY OF MONTE ALTO
STREET LIGHTING
IMPROVEMENTS
PROJECT LAYOUT
SHEET 1 OF 1

DESIGNED BY:

STRADA
Engineering and Consulting, L.L.C.
Firm No. 15642

PRELIMINARY
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P.E. 107186 on 11/27/2019
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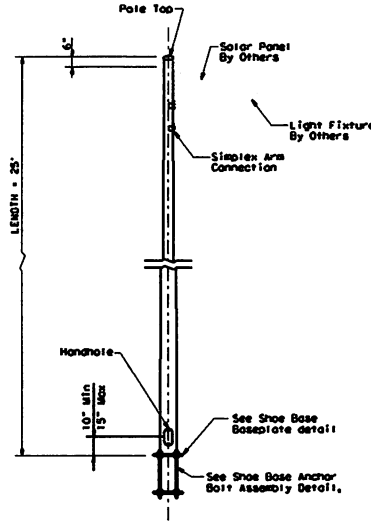
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GENERAL NOTES:

All work, materials and services not shown on the plans which may be necessary for complete and proper construction shall be performed, furnished and installed by the Contractor. Faulty fabrication or poor workmanship in any material, equipment or installation will be considered justification for rejection. These manufacturers provide warranties or guarantees as a customary trade practice. Contractor shall furnish to the Department such warranties or guarantees. The location of poles and fixtures are diagrammatic only and may be shifted by the Engineer to accommodate local conditions. Erection and/or removal of poles and luminaires located near overhead electrical lines shall be accomplished using established industry and utility safety practices and in accordance with laws governing such work. The Contractor shall consult with the appropriate utility company prior to beginning such work.

- A. Standard Steel Pole Designs. Steel poles fabricated in accordance with the details and dimensions shown herein, shall be considered standard designs. Submission of shop drawings and design calculations for standard designs is not required.
- B. Optional Steel Pole Designs. Multi-sided steel poles may be allowed as optional designs, if steel poles are permitted or required, pending approval by the Department as outlined below.
 1. Shop Drawings. Optional designs require submission of shop drawings and design calculations bearing the seal of an engineer registered in the State of Texas, in accordance with Item 441, "Steel Structures." The Department may elect to pre-approve some shop drawings for optionally designed poles. Submission of shop drawings and design calculations is not required for structures fabricated in accordance with the details of shop drawings on the pre-approved list maintained by the TxDOT Traffic Operations Division. Any deviation from the pre-approved shop drawings will require submission of shop drawings of the complete assembly and design calculations as described above.
 2. Structural Support Design for Luminaires. Lighting support structures shall be designed for a 25 year design life in accordance with the 2001 Edition of the AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals." All poles shall be designed for 110 mph 3-second gust wind speeds. An additional 1.14 gust factor shall be applied to the wind loads. Certification of the plastic moment load test and first breakaway requirement test of the model of base being furnished shall be submitted with the shop drawings. Shop drawings shall show breakaway base model number, and manufacturer's name and logo. Manufacturer's shop drawings shall include the ASTM designations for all materials to be used.
 3. Mast Arm Attachments. All poles and attachments shall be structurally designed to support two 12-foot mast arms and luminaires.
 4. Anchor Bolt Assembly. Anchor bolt assemblies for optionally designed poles shall be the same as those shown herein.
- C. Aluminum Pole Designs. Aluminum pole designs may be allowed, if aluminum poles are permitted or required, pending approval by the Department as outlined below.
 1. Meet all of the requirements stated above for optional steel pole designs and the following:
 - a. Aluminum poles shall be fabricated in accordance with "Structural Building Code-Aluminum" AISI D1.2.
 - b. Aluminum pole designs shall use the same anchor bolt assembly and be subject to the same geometric restraints and other requirements for steel poles specified herein.
 - c. Aluminum poles shall be equipped with vibration mitigation devices, as approved by the engineer.
 2. Pole components shall be constructed using the following material:
 - Shaft: ASTM B221 or B241 Alloy 6061-T6, ASTM B209 Alloy 5056-H34, ASTM B221 Alloy 6005-T5.
 - Mast Arm Fittings: ASTM B209 Alloy 6061-T6 or ASTM B221 Alloy 6005-T5.
 - Mast Arms: ASTM B241 Alloy 6061-T6 or Alloy 6063-T6.
 - Pole Cap: ASTM B209 Alloy 5056-H32 or ASTM B108 or B25 Alloy 356.0-T6.
 3. Bolts: Stainless Steel AISI 300 series. Bolt threading into aluminum threads shall be treated with anti-seize compound, Never-Seiz Compound, Permatex 133K or equal.
- D. Special Designs. Poles with architectural treatments shall meet the requirements shown elsewhere in the plans.



SHOE BASE POLE

Base Diameter (in)	Top Diameter (in)	Length (ft)	Pole Thickness (in)	Design Moment (K-ft)
7.00	4.90	15.00	0.1196	7.1
7.50	4.00	25.00	0.1196	13.2
8.00	4.36-3.24	26.00-34.00	0.1196	20.7
8.50	3.60	35.00	0.1196	20.7
10.50	4.20	45.00	0.1196	30.3

Designs conform to 2001 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications, Design 3-Second Gust Wind Speed equal 110 mph with a 1.14 gust factor. A wind importance factor of 0.80 is applied to adjust the wind speed to a 25 year recurrence interval. Design moments listed in table assume base of pole is less than 25' above natural ground level.

Design structures to support two 12' luminaire mast arms and luminaires. Design mast arms for a 60-pound luminaire having an effective projected area of 1.6 square feet.

Fabrication shall be in accordance with the Specifications and with the details, dimensions, and weld procedures shown herein. Do not submit shop drawings for roadway illumination pole assemblies fabricated in accordance with the details, dimensions, and weld procedures shown herein, until references call for preapproved weld procedures which the fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of these sheets and the Specifications. In the absence of specified fabrication tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.

MATERIAL DATA		
COMPONENT	ASTM DESIGNATION	MIN. YIELD (ksi)
Pole Shaft (0.14"/ft. Taper)	A572 Gr. 50, A595 Gr. A, A1011 HSLAS Gr. 50 Cl 2 (D), or A1008 HSLAS Gr. 50 Cl 2	50
Base Plate and Handhole Frame	A572 Gr. 50, or A36	36
T-Base Connecting Bolts	A325 (D)	92
Anchor Bolts	F1554 Gr. 55, A193-B7 or A321	95/108
Anchor Bolt Templates	A36	36
Heavy Hex (U.N.I. Nuts	A194 Gr. 2H, or A563 Gr. 0H	
Flat Washers	F436	

- ① Lubricate in the field if necessary in lieu of the requirements in ASTM A325.
- ② Before utilized as shown on Concrete Traffic Barrier Base Baseplate Details, Sheet 4 of 4.
- ③ A1011 SS Gr. 50 may be used in lieu of HSLAS, provided the material meets the elongation requirements for HSLAS.

POLE ASSEMBLY FABRICATION TOLERANCES TABLE

DIMENSION	TOLERANCE
Shaft length	-1"
I.D. of outside piece of slip fitting pieces	+1/8", -1/16"
O.D. of inside piece of slip fitting pieces	-1/32", -1/8"
Shaft diameter: other	+3/16"
Out of "round"	1/4"
Straightness of shaft	±1/4" in 10 ft
Twist in shaft	4° in 50 ft
Perpendicular to baseplate	1/8" in 24"
Pole centered on baseplate	±1/4"
Location of attachments	±1/4"
Bolt hole spacing	±1/16"

PROJECT NO:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

CITY OF MONTE ALTO

STREET LIGHTING IMPROVEMENTS LIGHTING DETAILS SHEET 1 OF 3

DESIGNED BY:

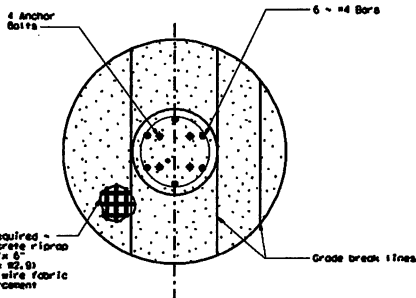


STRADA
Engineering and Consulting, L.L.C.
Firm No. 15642

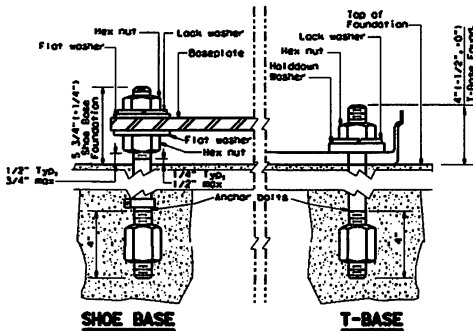
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FOUNDATION DETAIL



ANCHOR BOLT DETAIL

PAY QUANTITY OF RIPRAP PER FOUNDATION (Install only when shown on the plans)

Foundation Diameter	RIPRAP DIAMETER (CONC.) (C.C.)	RIPRAP (CONC.) (C.C.)
30 in.	78 in.	0.35 Cr

ANCHOR BOLTS

POLE MOUNTING HEIGHT	BOLT CIRCLE		ANCHOR BOLT SIZE
	Shoe Base	T-Base	
< 40 ft.	13 in.	14 in.	1 in. x 30 in.
40-50 ft.	15 in.	17 1/2 in.	1 1/2 in. x 30 in.

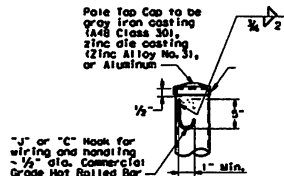
RECOMMENDED FOUNDATION LENGTHS (See note 1)

MOUNTING HEIGHT	TEXAS CONE PENETROMETER # Blows/ft		
	10	15	40
< 20 ft.	6'	6'	6'
> 20 ft. to 30 ft.	8'	6'	6'
> 30 ft. to 40 ft.	8'	8'	6'
> 40 ft. to 50 ft.	10'	8'	6'

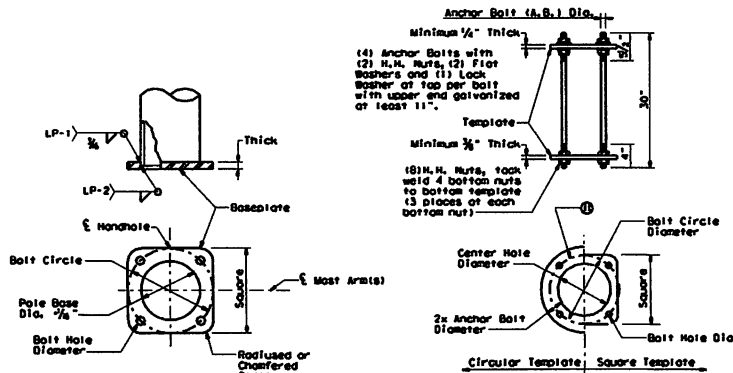
BREAKAWAY POLE PLACEMENT (See note 6)

roadway Functional Classification	Pole offset (distance to transformer base, tolerance = 6 in., -0 in.,)
Freeway (mainline roadway with full control of access)	15 ft., minimum and typical from lane edge
All others, 45 mph or less design speed	2.5 ft., minimum (15 ft., desirable) from curb face
All others	10 ft., minimum (15 ft., desirable) from lane edge

* or as close to 90° line as is practical
 ** provide 2/3 of the remaining mounting height behind the pole for "falling area" to prevent encroachment on the other travel lanes. See design guidelines.



POLE TOP



SHOE BASE BASEPLATE

SHOE BASE ANCHOR BOLT ASSEMBLY

SHOE BASE BASEPLATE TABLE

MOUNTING HEIGHTS	BOLT CIRCLE	SQUARE	THICK	BOLT HOLE DIAMETER
20'- 39'	13"	13"	1 1/2"	1 1/4"
40'	15"	15"	1 1/2"	1 1/2"
50'	15"	15"	1 1/2"	1 1/2"

SHOE BASE ANCHOR BOLT ASSEMBLY TABLE

MOUNTING HEIGHTS	A.B. Dia.	BOLT CIRCLE DIAMETER	SQUARE	CTR. HOLE DIAMETER	BOLT HOLE DIAMETER
20'- 39'	1"	13"	13"	11"	1 1/4"
40'- 50'	1 1/4"	15"	14 1/2"	12 1/2"	1 1/2"

- "Recommended Foundation Lengths" table is for information purposes only. Foundation lengths shall be as shown on the plans, or as directed by the Engineer. "Drilled Shaft Foundations," unless otherwise shown on the plans.
- Erect roadway illumination assembly poles plumb and true. Form and level the top 6" of the foundation so the pole will be plumb. Use leveling nuts to plumb shoe base poles. Do not grout between baseplate and the foundation.
- Ensure Class 24 and 28 ft for anchor bolts and nuts. Top and chase nuts after galvanizing. Anchor bolt body with rolled threads need not be full size.
- Use class 2 concrete.
- Place riprap around the foundation when called for elsewhere in the plans.
- Locate breakaway roadway illumination assemblies as shown in the placement table, unless otherwise dimensioned on the plans. Protect non-breakaway illumination assemblies from vehicular impact (i.e., 2 ft. behind guard rail or mounted on traffic barrier), or located outside the clear zone, except that 2.5 ft. from curb face is minimum desired for light poles on city streets, 45 mph or less, see design guidelines for further information.

For mounting heights between those shown in the table, use the values in the table for the larger mounting height.

All breakaway bases shall meet the breakaway requirements of the 2001 Edition of the AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," and shall have been tested by FEMA-approved methods. All bases shall have been structurally tested to resist 150% of the design moment.

Transformer bases shall be cast from aluminum, ASTM B108 or B26 Alloy 360.0-16, or other material approved by the Engineer. Four hex head bolts with four H.H. nuts, four lock washers, four flat washers, and connecting and hold-down washers as recommended by the manufacturer, galvanized to ASTM A153 Class C or D, or 8005 Class 50, shall be provided with each transformer base for connecting the pole. Bolts shall be ASTM A325 or approved equal. Nuts shall be ASTM A563 grade 0H galvanized.

Bases shall be stamped, incised or by other approved permanent means, marked to show fabricator's name or logo, and model number. Such information shall be placed in a readily seen location, inside or outside the base, but shall not be placed on the door.

Doors for transformer bases shall be made of plastic, fiberglass or other non-metallic material approved by the Engineer and shall be attached with stainless steel screws or bolts. Transformer bases shall be cleaned by grit blast cleaning after heat treatment. Certification by the manufacturer of heat treatment shall be furnished with transformer bases. The certification shall show the metal alloy and temper and that the base meets those requirements, chemical and physical. The certification shall also show the material ASTM specification. Transformer bases shall be cast with a removable tab bar for material testing. Some bars may have been removed by the manufacturer for testing.

PROJECT NO: 202203	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

CITY OF MONTE ALTO

STREET LIGHTING
IMPROVEMENTS
LIGHTING DETAILS

SHEET 2 OF 3

DESIGNED BY:



STRADA

Engineering and Consulting, LLC.

Firm No. 15642

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