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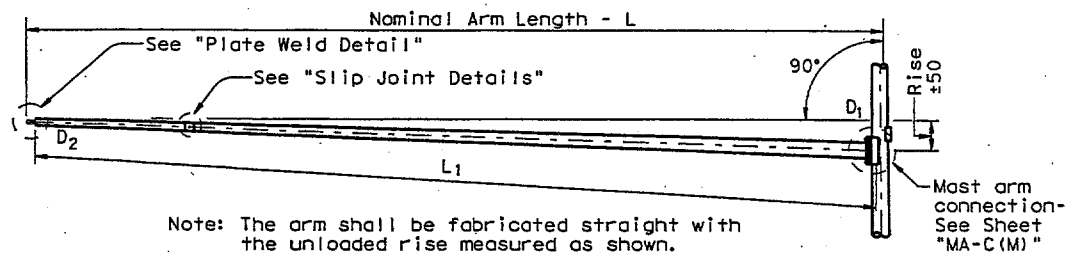
LEVELS DIS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
 ACC: d48npl01/usr/d482517  
 LV=1,2 for English 1,3 for Metric

| Arm Length | ROUND POLES    |                 |                 |                 |       | POLYGONAL POLES |                 |                 |                 |       | Foundation Type |
|------------|----------------|-----------------|-----------------|-----------------|-------|-----------------|-----------------|-----------------|-----------------|-------|-----------------|
|            | D <sub>B</sub> | D <sub>19</sub> | D <sub>24</sub> | D <sub>30</sub> | ① thk | D <sub>B</sub>  | D <sub>19</sub> | D <sub>24</sub> | D <sub>30</sub> | ① thk |                 |
| mm         | mm             | mm              | mm              | mm              | mm    | mm              | mm              | mm              | mm              | mm    |                 |
| 6,100      | 267            | 198             | 180             | 160             | 4.55  | 292             | 216             | 196             | 173             | 4.55  | 750-A           |
| 7,300      | 279            | 211             | 193             | 173             | 4.55  | 305             | 229             | 208             | 185             | 4.55  | 750-A           |
| 8,500      | 292            | 224             | 206             | 185             | 4.55  | 318             | 241             | 221             | 198             | 4.55  | 750-A           |
| 9,800      | 318            | 249             | 231             | 211             | 4.55  | 305             | 229             | 208             | 185             | 6.07  | 750-A           |
| 11,000     | 305            | 236             | 218             | 198             | 6.07  | 318             | 241             | 221             | 198             | 6.07  | 900-A           |
| 12,200     | 305            | 236             | 218             | 198             | 6.07  | 343             | 267             | 246             | 224             | 6.07  | 900-A           |
| 13,400     | 318            | 249             | 231             | 211             | 6.07  | 356             | 279             | 259             | 236             | 6.07  | 900-A           |
| 14,600     | 330            | 262             | 244             | 224             | 6.07  | 381             | 305             | 285             | 262             | 6.07  | 900-A           |

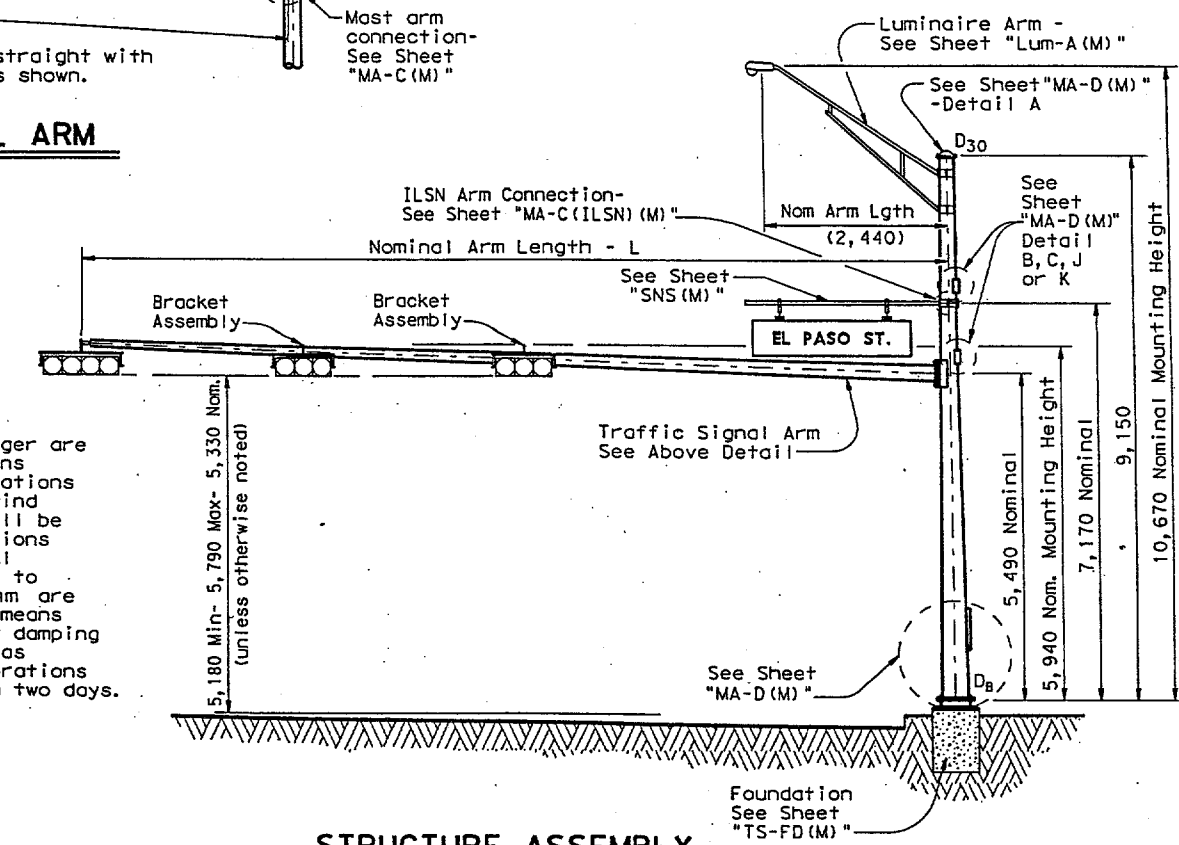
| Arm Length | ROUND ARMS     |                |                |       |       | POLYGONAL ARMS |                |                  |       |      |
|------------|----------------|----------------|----------------|-------|-------|----------------|----------------|------------------|-------|------|
|            | L <sub>1</sub> | D <sub>1</sub> | D <sub>2</sub> | ① thk | Rise  | L <sub>1</sub> | D <sub>1</sub> | ② D <sub>2</sub> | ① thk | Rise |
| mm         | mm             | mm             | mm             | mm    | mm    | mm             | mm             | mm               | mm    | mm   |
| 6,100      | 5,822          | 165            | 97             | 4.55  | 533   | 5,822          | 180            | 89               | 4.55  | 508  |
| 7,300      | 7,041          | 190            | 109            | 4.55  | 559   | 7,041          | 190            | 89               | 4.55  | 533  |
| 8,500      | 8,260          | 205            | 107            | 4.55  | 584   | 8,260          | 205            | 89               | 4.55  | 559  |
| 9,800      | 9,449          | 230            | 119            | 4.55  | 635   | 9,449          | 230            | 89               | 4.55  | 610  |
| 11,000     | 10,668         | 245            | 117            | 4.55  | 711   | 10,668         | 255            | 89               | 4.55  | 635  |
| 12,200     | 11,887         | 245            | 104            | 6.07  | 813   | 11,887         | 245            | 89               | 6.07  | 686  |
| 13,400     | 13,106         | 255            | 104            | 6.07  | 889   | 13,106         | 255            | 89               | 6.07  | 762  |
| 14,600     | 14,326         | 270            | 104            | 6.07  | 1,016 | 14,326         | 280            | 89               | 6.07  | 838  |

D<sub>B</sub> = Pole Base O.D.  
 D<sub>19</sub> = Pole Top O.D. with no Luminaire and no ILSN  
 D<sub>24</sub> = Pole Top O.D. with ILSN w/out Luminaire  
 D<sub>30</sub> = Pole Top O.D. with Luminaire  
 D<sub>1</sub> = Arm Base O.D.  
 D<sub>2</sub> = Arm End O.D.  
 L<sub>1</sub> = Shaft Length  
 L<sub>2</sub> = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.  
 ② D<sub>2</sub> may be increased by up to 25 mm for polygonal arms.



**TRAFFIC SIGNAL ARM**  
(Fixed Mount)



**STRUCTURE ASSEMBLY**

**VIBRATION WARNING**

Mast Arms of approximately 12,200 mm or longer are subject to possible harmonic vertical vibrations in light wind conditions due to unusual combinations of signal numbers, weights or positions, arm-wind orientation, and arm-pole stiffness. Arms shall be visually inspected in 8 to 32 kmph wind conditions after signal head installation and, if vertical movements with a total excursion (max positive to max negative) of more than approximately 200 mm are observed at arm tip, damping devices or other means shall be fitted to the arm(s). The necessary damping device(s) or other remedial measures shall be as recommended by the fabricator. Excessive vibrations shall not be allowed to continue for more than two days.

**SHIPPING PARTS LIST**

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

| Nominal Arm Length | 9,150 mm Poles With Luminaire |          | 7,320 mm Poles With ILSN |          | 5,800 mm Poles With No Luminaire and No ILSN |          |
|--------------------|-------------------------------|----------|--------------------------|----------|--|----------|
|                    | Designation                   | Quantity | Designation              | Quantity | Designation                                  | Quantity |
| 6,100              | 6,100L-130                    |          | 6,100 S-130              |          | 6,100-130                                    |          |
| 7,300              | 7,300L-130                    |          | 7,300 S-130              |          | 7,300-130                                    |          |
| 8,500              | 8,500L-130                    |          | 8,500 S-130              |          | 8,500-130                                    |          |
| 9,800              | 9,800L-130                    |          | 9,800 S-130              |          | 9,800-130                                    |          |
| 11,000             | 11,000L-130                   |          | 11,000 S-130             |          | 11,000-130                                   |          |
| 12,200             | 12,200L-130                   |          | 12,200 S-130             |          | 12,200-130                                   |          |
| 13,400             | 13,400L-130                   | 3        | 13,400 S-130             |          | 13,400-130                                   |          |
| 14,600             | 14,600L-130                   |          | 14,600 S-130             |          | 14,600-130                                   |          |

Traffic Signal Arms (1 per Pole) Ship each arm with the listed equipment attached

| Nominal Arm Length | Type II Arm (2 Signals) |          | Type III Arm (3 Signals) |          | Type IV Arm (4 Signals) |          |
|--------------------|-------------------------|----------|--------------------------|----------|-------------------------|----------|
|                    | Designation             | Quantity | Designation              | Quantity | Designation             | Quantity |
| 6,100              | 6,100II-130             |          |                          |          |                         |          |
| 7,300              | 7,300II-130             |          | 7,300III-130             |          |                         |          |
| 8,500              | 8,500II-130             |          | 8,500III-130             |          |                         |          |
| 9,800              |                         |          | 9,800III-130             |          | 9,800IV-130             |          |
| 11,000             |                         |          | 11,000III-130            |          | 11,000IV-130            |          |
| 12,200             |                         |          | 12,200III-130            |          | 12,200IV-130            |          |
| 13,400             |                         |          | 13,400III-130            | 3        | 13,400IV-130            |          |
| 14,600             |                         |          |                          |          | 14,600IV-130            |          |

Luminaire Arms (1 per 9,150 mm pole)

| Nominal Arm Length | Quantity |
|--------------------|----------|
| 2,440 mm Arm       | 3        |

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

| Nominal Arm Length | Quantity |
|--------------------|----------|
| 2,140 mm Arm       |          |
| 2,750 mm Arm       |          |

Anchor Bolt Assemblies (1 per pole)

| Anchor Bolt Diameter | Anchor Bolt Length | Quantity |
|----------------------|--------------------|----------|
| 1 1/2"               | 3'-4"              |          |
| 1 3/4"               | 3'-10"             | 3        |

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, 4 lock washers and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD(M)".

Templates may be removed for shipment.

- MODIFICATIONS
- (A) REMOVED BRACKET ASSEMBLY OPTIONS A AND B
  - (B) REMOVED CGB CONNECTORS
  - (C) REMOVED TENON DETAIL
  - (D) REQUIRE MEASUREMENT OF POLE HEIGHT
  - (E) MIN. AND MAX. SIGNAL HEAD HEIGHT DISTANCE

11/99 Revision  
 Changed to Facilitate new terminal strip enclosure

Note: All dimensions are in millimeters (mm) except as noted.

Texas Department of Transportation  
 Traffic Operations Division

**TRAFFIC SIGNAL SUPPORT STRUCTURES**  
**SINGLE MAST ARM ASSEMBLY**  
 (130 KMPH WIND ZONE)  
**SMA-130(1)-99(M) (DAL)**

|                     |         |              |                     |         |
|---------------------|---------|--------------|---------------------|---------|
| FILE# SMA-80.DGN    | DATE MS | CHK JSY      | DWG MMF             | CHK JSY |
| © TxDOT August 1995 | DIST    | FED REG      | FEDERAL AID PROJECT | SHEI    |
| 5-96                | DAL     | 6            | CM 97087            | 17      |
| 11-99               | COUNTY  | CONTROL SECT | JOB                 | HIGH    |
|                     | DALLAS  | 091845       |                     | C       |