

CITY OF TUCSON, ARIZONA
DEPARTMENT OF TRANSPORTATION

ENGINEERING DIVISION
ACTIVE PRACTICES GUIDELINES

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PREPARED BY: G. Dewayne Tripp EFFECTIVE: 10/1/88

APPROVED BY: BJY DATE: 9/9/88
City Engineer

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SUBJECT: STREET LIGHTING POLES
DESIGN CRITERIA FOR THE SELECTION OF BENT VS. STANDARD
POLES

1.01 PURPOSE

- A. To establish design criteria facilitating the selection of appropriate street lighting pole type for the intended application.
- B. To establish the bent pole (TS 4-45 type A, B, or C angled) as current City of Tucson standard street lighting pole.

1.02 BACKGROUND

- A. Historically, both the City of Tucson and Pima County have utilized the "straight" street lighting pole as standard. Now, given current availability, the "bent" pole becomes a feasible alternative to the "straight" pole for reasons of economy and aesthetic appeal. Significant savings have been achieved where utilization of the "bent" pole avoided the costly relocation of overhead utilities.

1.03 GENERAL PRACTICE

- A. It shall be the general practice of the Engineering Division of the City of Tucson to utilize the "bent" pole street lighting design on all major collector and arterial roadways, except under circumstances as set forth in the following section.

1.04 EXCEPTIONS

- A. Where the project consists of a relatively short segment (one mile or less) between previously installed continuous straight pole installation.

- B. Where the new pole installation would follow several miles of existing straight pole installation on a major arterial, (i.e., Speedway Boulevard, between Euclid Avenue and Alvernon Way, where it follows existing gateway improvements east of I-10).
- C. Where no logical transition point exists, such as major intersections and the point of demarcation would appear to be random; (for example, Tanque Verde, Bear Canyon Road east to city limits--where Pima County has installed straight poles throughout the Tanque Verde/Wrightstown Road grade separated interchange).
- D. Where there are no conflicts with overhead utilities, and where conditions 1.04 A, B, or C do not apply, bids shall be obtained on both straight and bent poles. Bent poles will be preferred. If the bent pole bid exceeds the cost of straight poles, a decision will be made as to whether the extra cost of the bent poles is sufficiently offset by aesthetic considerations.
- E. When the decision is made to install straight poles, the affected utility companies shall be informed in writing, and continuing emphasis shall be placed upon appropriate coordination with those affected.

GDT/cme

Attachments: Standard Street Lighting Poles

01B

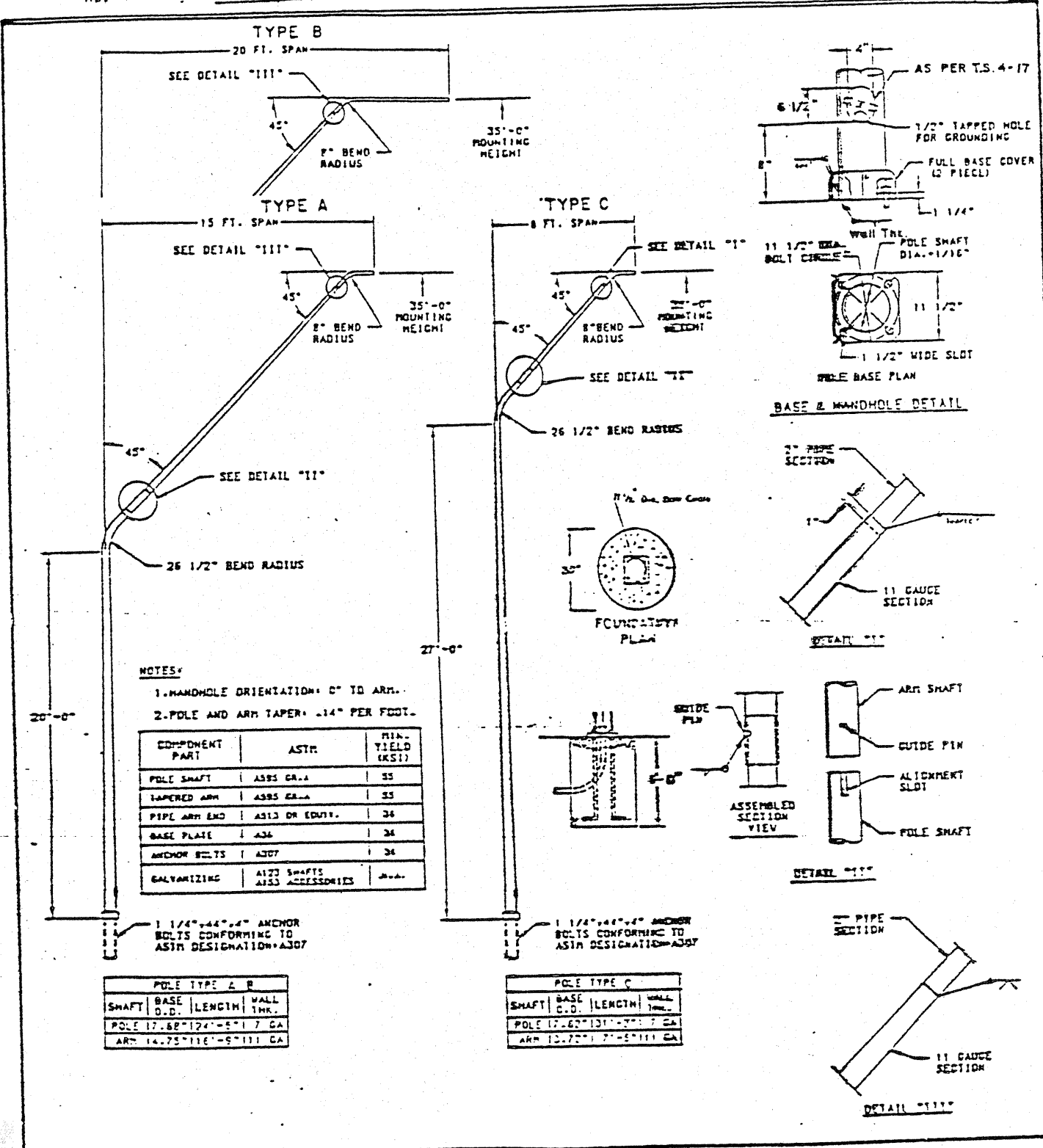
GDT099

TYPE 2 STREET LIGHTING POLE

TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION
CITY OF TUCSON

Prepared By: I. SHAFFER/J.L. CASTANEDA, P.E. Date: SEPTEMBER, 1986

Approved By: *R. B. Shaw* Revised: 7/87 I.S.



- NOTES:
1. MANDHOLE ORIENTATION: 0° TO ARM.
 2. POLE AND ARM TAPER: .14" PER FOOT.

COMPONENT PART	ASTM	MIN. YIELD (KSI)
POLE SHAFT	A595 GR. A	55
TAPERED ARM	A595 GR. A	55
PIPE ARM END	A513 DR EDU. 1	36
BASE PLATE	A36	36
ANCHOR BOLTS	A307	36
GALVANIZING	A123 SHAFTS A153 ACCESSORIES	N.A.

POLE TYPE A & B			
SHAFT	BASE O.D.	LENGTH	WALL THK.
POLE	17.62"	124'-5"	7 GA
ARM	14.75"	116'-5"	11 GA

POLE TYPE C			
SHAFT	BASE O.D.	LENGTH	WALL THK.
POLE	17.62"	131'-7"	7 GA
ARM	15.75"	7'-5"	11 GA

20'-0"

27'-0"

DETAIL "11"

PIPE SECTION

DETAIL "11"

11 GAUGE SECTION

STRUCTURE SLIPFIT PROCEDURE FOR CITY OF TUCSON TYPES A, B, AND C POLES

SLIPFIT PROCEDURE:

1. LAY STRUCTURE ON ITS SIDE WITH GUIDE PIN AND SLOT IN ALIGNMENT. SEE FIGURE 1.
2. TELESCOPE THE POLE SHAFT INTO THE ARM SHAFT TO ENGAGE SECTIONS. SEE FIGURE 2.
3. WITH THE USE OF A COME-A-LONG, SLIPFIT THE SECTIONS TOGETHER TO ACHIEVE AT LEAST MINIMUM SLIP AND WITHOUT EXCEEDING THE MAXIMUM. SEE FIGURE 3 FOR MINIMUM AND MAXIMUM RANGE.

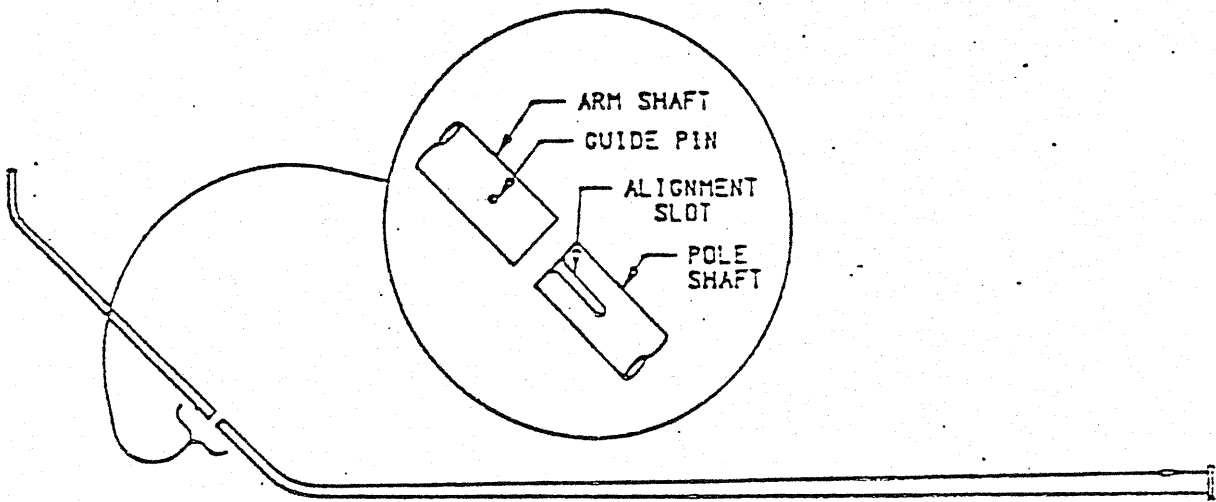


FIGURE 1

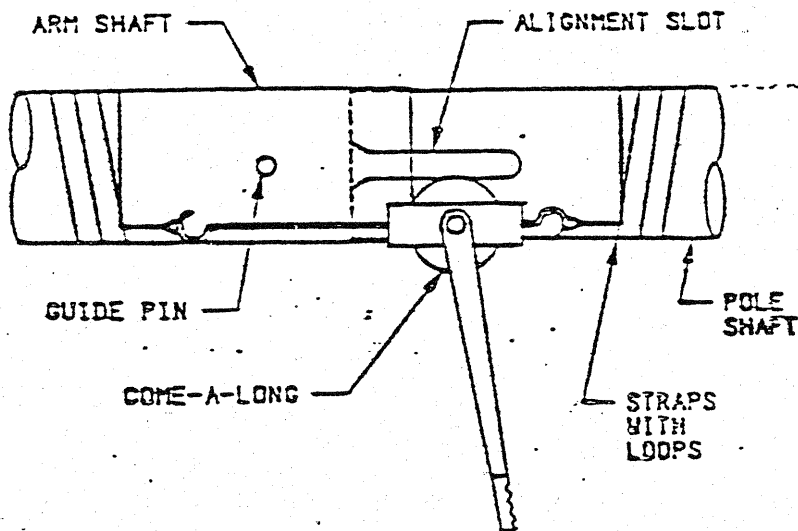
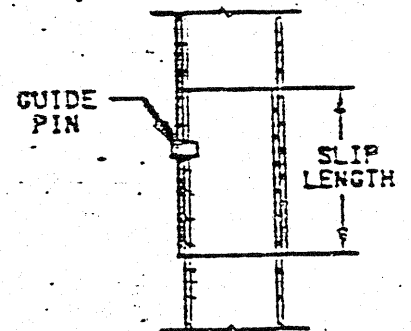


FIGURE 2

MAXIMUM SLIP LENGTHS

- TYPE A = 23 3/4"
- TYPE B = 20 1/2"
- TYPE C = 23 3/4"

NOTE: MINIMUM SLIP IS OBTAINED WHEN ARM SHAFT SECTION COVERS ALIGNMENT SLOT.



ASSEMBLED SECTION VIEW

FIGURE 3