

# ROADWAY LIGHTING DESIGN

## E1.01 PLAN REQUIREMENTS

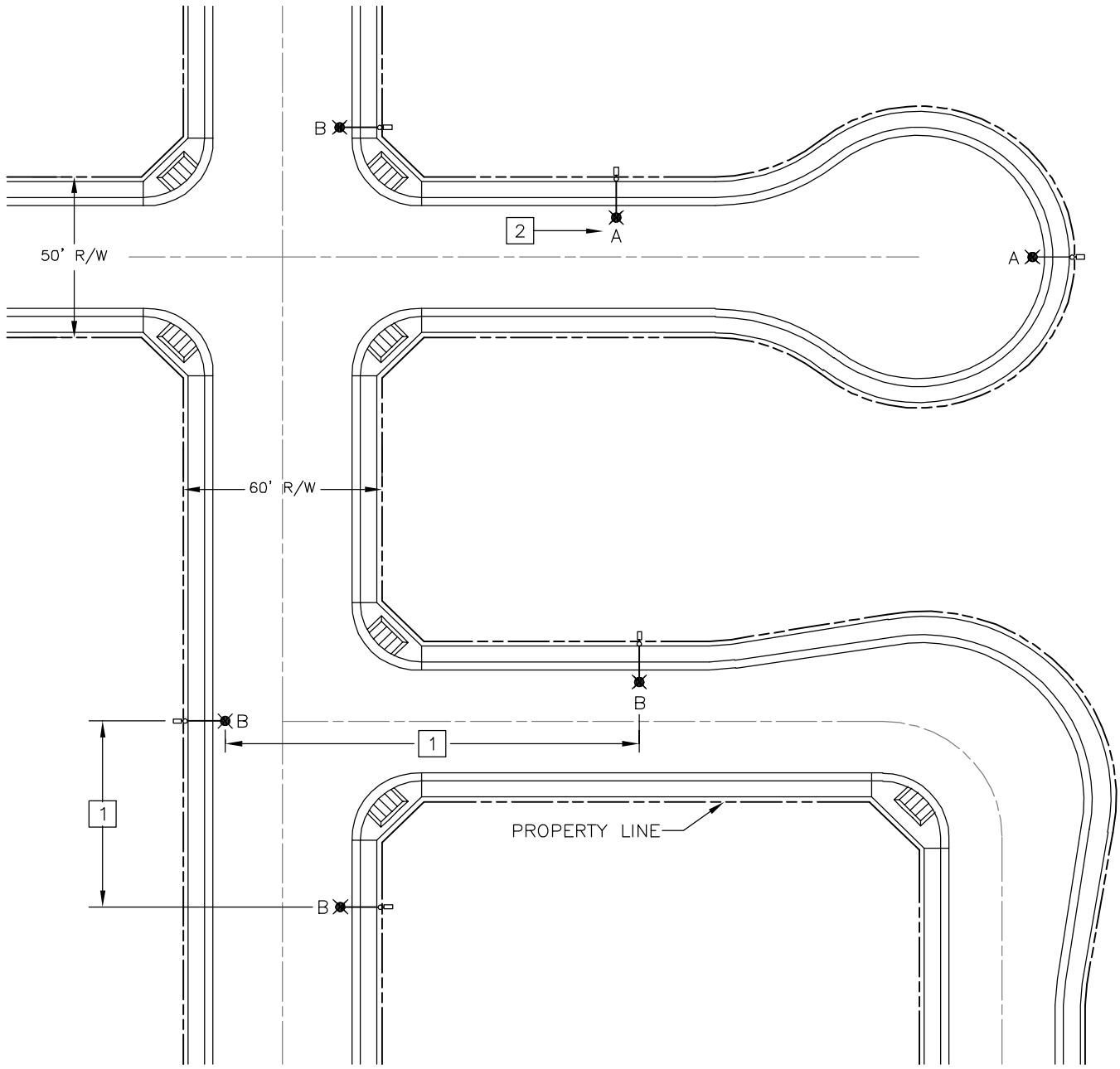
- A. ALL IMPROVEMENT PLANS INVOLVING THE INSTALLATION OR RELOCATION OF STREET LIGHTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS
- B. THE LAYOUT OF ALL STREET LIGHTS SHALL CONFORM TO IES (ILLUMINATION ENGINEERING SOCIETY) STANDARD RP8
- C. ALL IMPROVEMENT PLANS SHALL INDICATE THE FOLLOWING:
  - 1. THE LOCATION OF EACH STREET LIGHT
  - 2. THE IES DISTRIBUTION PATTERN OF EACH LIGHT
  - 3. THE LOCATION OF EACH PULL BOX
  - 4. THE LOCATION, SIZE, AND TYPE OF UNDERGROUND CONDUITS, REFERENCE DIMENSIONS TO THE GUTTER FLOWLINE
  - 5. THE NUMBER, SIZE, AND TYPE OF CONDUCTORS IN EACH CONDUIT, INCLUDING GROUND
  - 6. THE SUPPLY VOLTAGE FOR EACH CIRCUIT AND VOLTAGE AT EACH LUMINAIRE
  - 7. THE SOURCE OF SUPPLY FOR EACH CIRCUIT AND THE LOCATION OF ALL SERVICE TRANSFORMERS
  - 8. THE LENS TYPE OF EACH LUMINAIRE
- D. THE DESIGN OF THE WIRING SYSTEM SHALL CONFORM TO THE NEC (NATIONAL ELECTRIC CODE) AND TO PG&E/MID REQUIREMENTS (AS APPLIC.)
  - 1. ALL CONDUCTORS SHALL BE COPPER CONFORMING TO NEC. THE MINIMUM WIRE SIZE SHALL BE #8
  - 2. THE MINIMUM CONDUIT SIZE SHALL BE 1-1/2"Ø

## E1.02 LIGHT LOCATIONS

- A. STREET LIGHTS SHALL BE LAID OUT IN ACCORDANCE TO CITY STANDARDS AND THE FOLLOWING TABLE:

SYMBOL	R/W WIDTH	ROADWAY CLASS	MAXIMUM SPACING	MOUNTING HEIGHT	LAMP WATTAGE	IES TYPE	LENS TYPE
D	100'	EXPRESSWAY	150'	28.5'	400		PRISMATIC
C	90'	MAJOR	150'	28.5'	200		PRISMATIC
C	84'	MAJOR	150'	28.5'	200		PRISMATIC
C	80'	MAJOR	150'	28.5'	200		PRISMATIC
B	60'	COLLECTOR	180'	28.5'	150	II*	PER CITY ENG.
A	50'	LOCAL	250'	28.5'	100	II*	CUTOFF
A	-	ALLEYS	250'	28.5'	100	II*	CUTOFF
A	-	PED. PATHS	250'	28.5'	100	II*	CUTOFF
A	-	PARKS	250'	28.5'	100	II*	CUTOFF

REVISION	DATE	CITY OF ESCALON	APPROVED BY:
DATE: JAN. 2005	DRAWN BY: DBR		 CITY ENGINEER
CHECKED BY: DMS	SCALE: NONE	ROADWAY LIGHTING DESIGN CRITERIA	IMPROVEMENT STANDARD NO. E1



NOTES:

- [1] SPACING PER DETAIL E1
- [2] WATTAGE AND TYPE PER DETAIL E1

REVISION	DATE
DATE: APR. 2003	
DRAWN BY: DBR	
CHECKED BY: AJA	
SCALE: NONE	

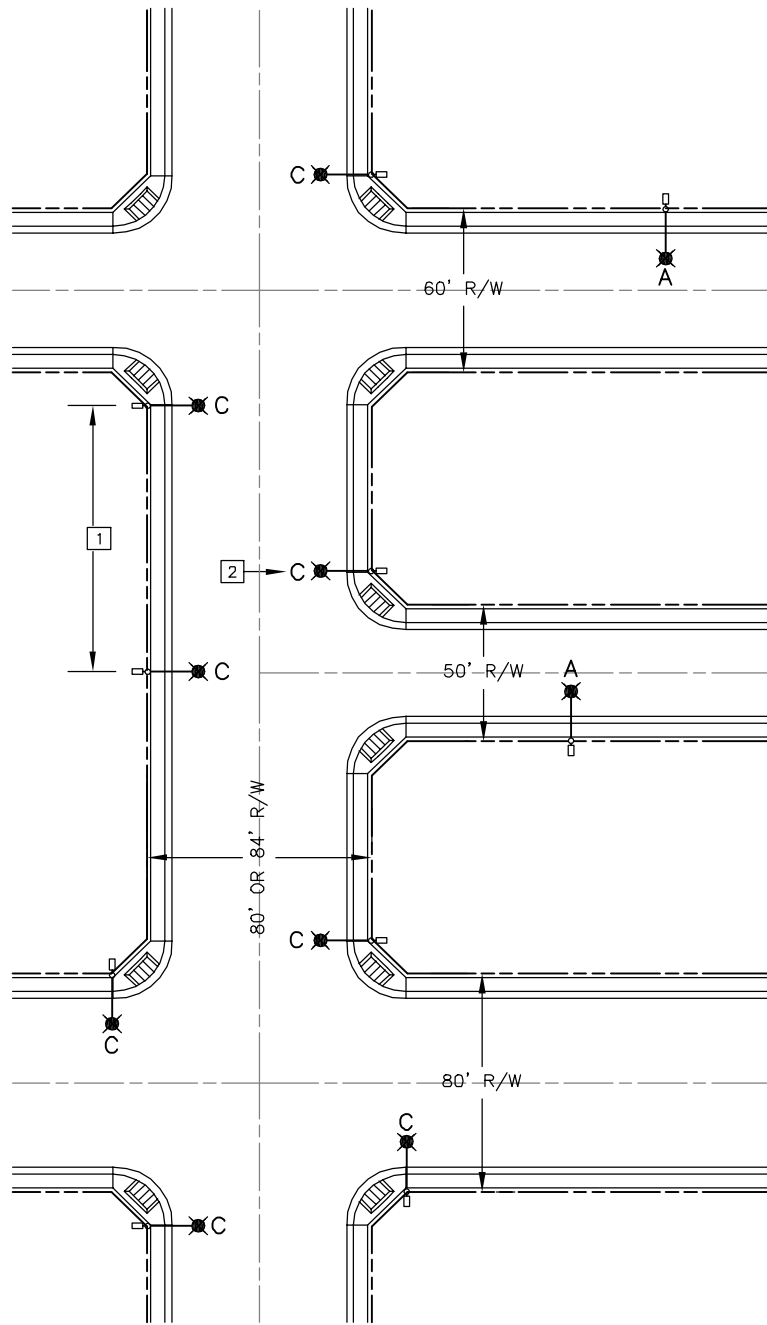
CITY OF ESCALON

STREET LIGHT LOCATIONS  
50-60' RIGHTS OF WAY

APPROVED BY:

*Doug Strilham*  
CITY ENGINEER

IMPROVEMENT STANDARD NO. E3



NOTES:

- [1] SPACING PER DETAIL E1
- [2] WATTAGE AND TYPE PER DETAIL E1

REVISION	DATE
DATE: MAY. 2003	
DRAWN BY: DBR	
CHECKED BY: AJA	
SCALE: NONE	

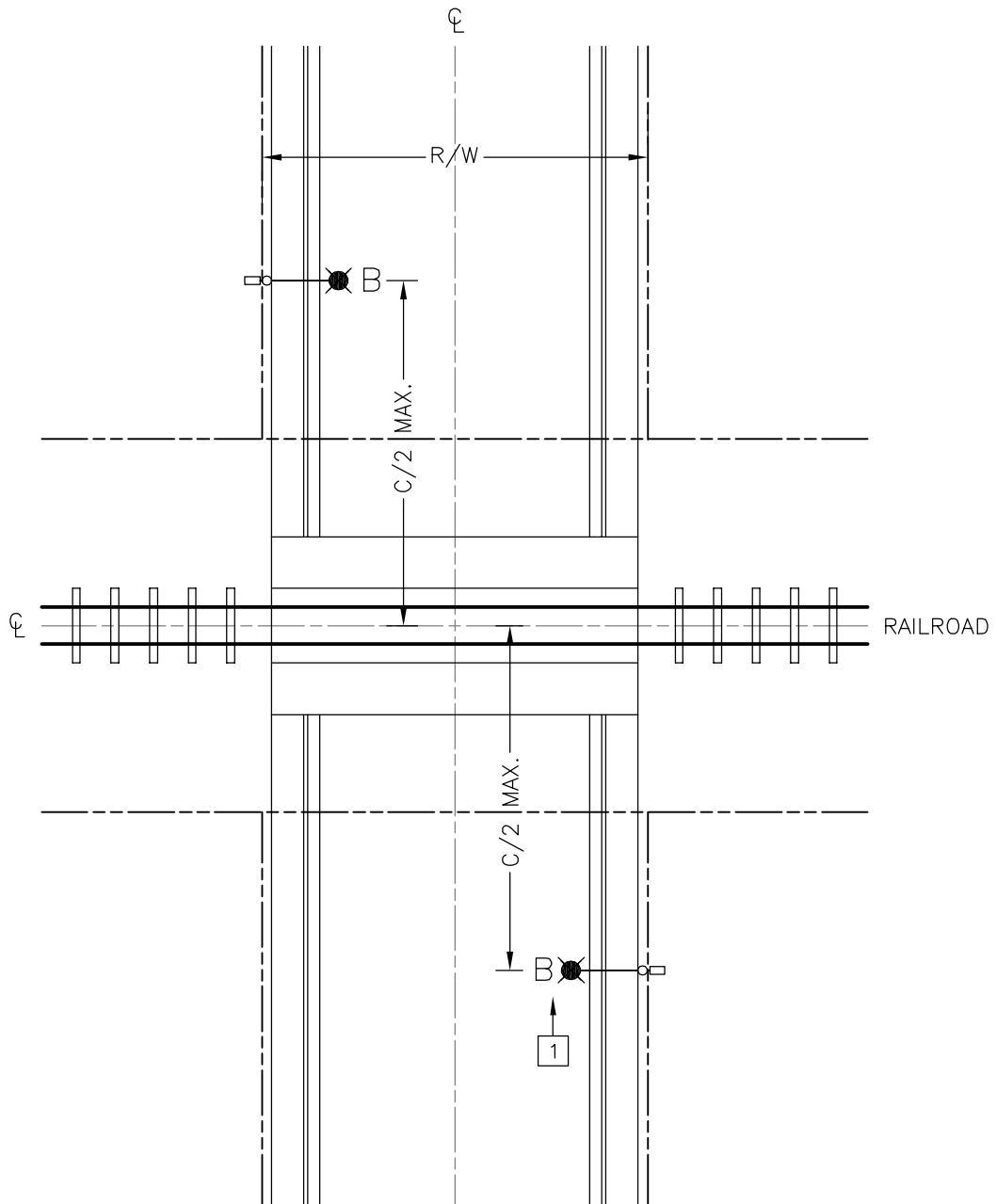
CITY OF ESCALON

STREET LIGHT LOCATIONS  
80-84' RIGHTS OF WAY

APPROVED BY:

*Doug Strilham*  
CITY ENGINEER

IMPROVEMENT STANDARD NO. E4



NOTES:

1 WATTAGE AND TYPE PER DETAIL E1

2. C = 100'

REVISION	DATE
DATE:	MAY. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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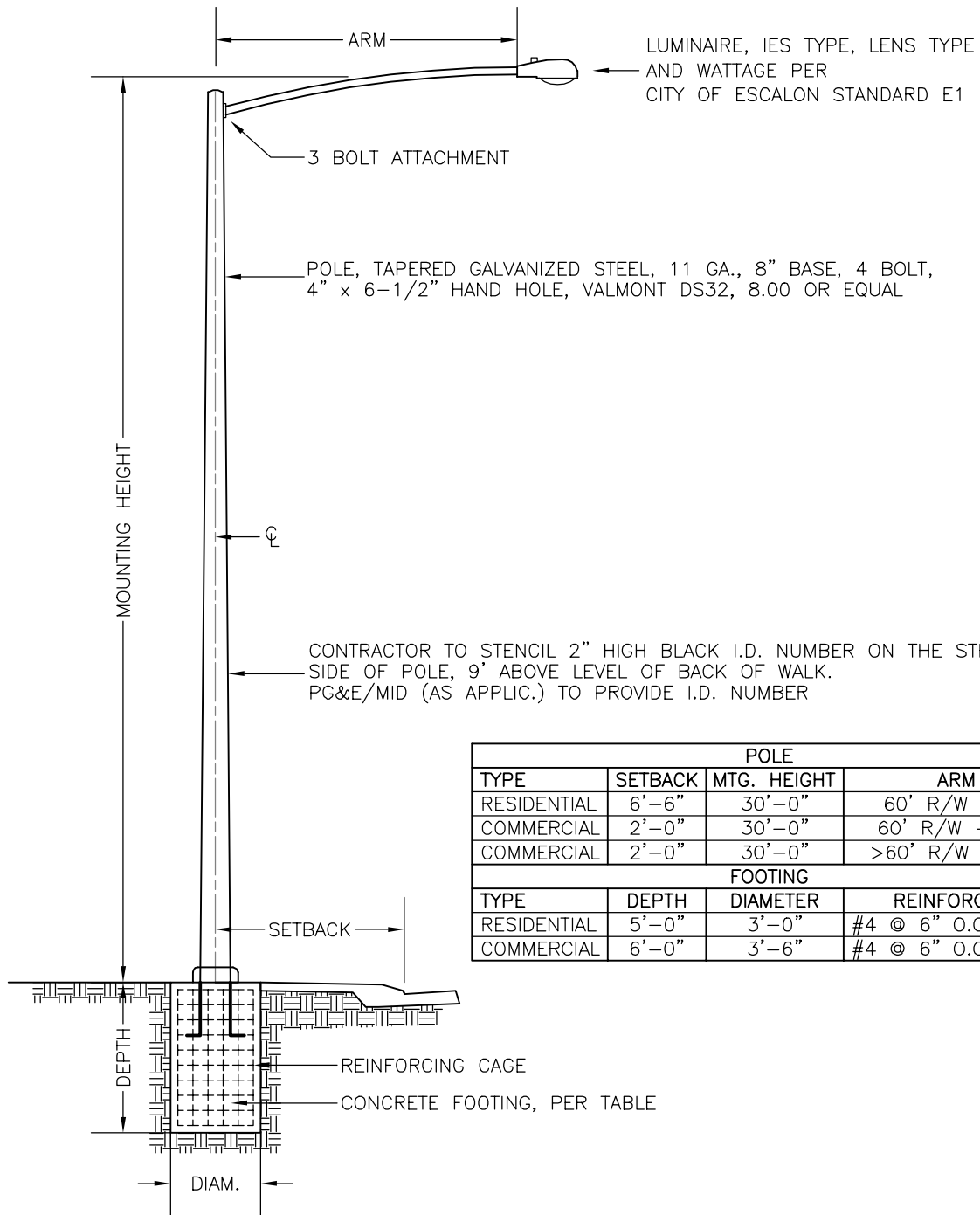
STREET LIGHT LOCATION  
RAILROAD CROSSINGS

APPROVED BY:

*Doug Trilham*  
CITY ENGINEER

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IMPROVEMENT STANDARD NO. E7



POLE			
TYPE	SETBACK	MTG. HEIGHT	ARM
RESIDENTIAL	6'-6"	30'-0"	60' R/W - 8'
COMMERCIAL	2'-0"	30'-0"	60' R/W - 10'
COMMERCIAL	2'-0"	30'-0"	>60' R/W - 12'
FOOTING			
TYPE	DEPTH	DIAMETER	REINFORCING
RESIDENTIAL	5'-0"	3'-0"	#4 @ 6" O.C. - EW
COMMERCIAL	6'-0"	3'-6"	#4 @ 6" O.C. - EW

REVISION	DATE
DATE:	JAN. 2005
DRAWN BY:	DBR
CHECKED BY:	DMS
SCALE:	NONE

**CITY OF ESCALON**

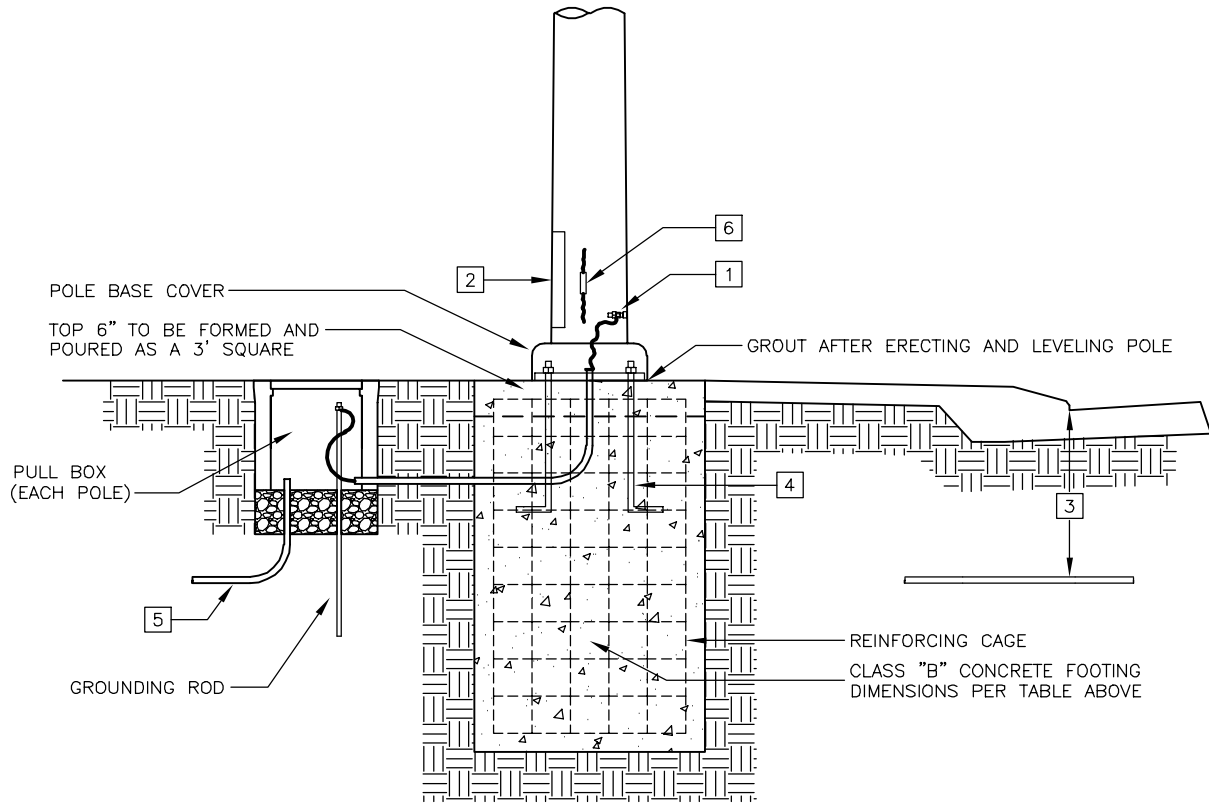
STREET LIGHT DETAIL

APPROVED BY:

*Doug Strickham*  
CITY ENGINEER

IMPROVEMENT STANDARD NO. E8

FOOTING			
POLE TYPE	DEPTH	DIAMETER	REINFORCING
RESIDENTIAL	5'-0"	3'-0"	#4 @ 6" O.C. - EW
COMMERCIAL	6'-0"	3'-6"	#4 @ 6" O.C. - EW



NOTES:

- [1] 1/2" x 1" FLAT HEAD STEEL MACHINE SCREW WITH COARSE THREADS, WELDED TO INSIDE OF POLE FOR GROUND TERMINAL. PROVIDE 2 HEXHEAD NUTS AND 2 WASHERS FOR CONNECTION. CONNECT TO GROUNDING BUSHING ON END OF CONDUIT WITH #8 COPPER WIRE. #8 WIRE SHALL CONNECT POLE TO GROUND ROD IN PULL BOX
- [2] 4" x 6-1/2" HAND HOLE, REINFORCED WITH RING WELDED TO OUTSIDE OF POLE. COVER PLATE IS 0.1196"
- [3] ALL CONDUIT SHALL BE A MINIMUM OF 30" BELOW GUTTER FLOWLINE LEVEL
- [4] REFER TO POLE MANUFACTURER'S SPECIFICATIONS FOR ANCHOR BOLT SIZE. EACH BOLT SHALL BE PROVIDED WITH A LEVELLING NUT, A WASHER, AND A HOLD-DOWN NUT
- [5] CONDUIT, 1-1/2" Ø MINIMUM WITH 18" RADIUS BEND. PROVIDE GROUNDING BUSHING AT TOP END OF RIGID CONDUIT
- [6] PLACE FUSIBLE LINK IN HAND HOLE SPACE

REVISION	DATE
DATE:	MAY 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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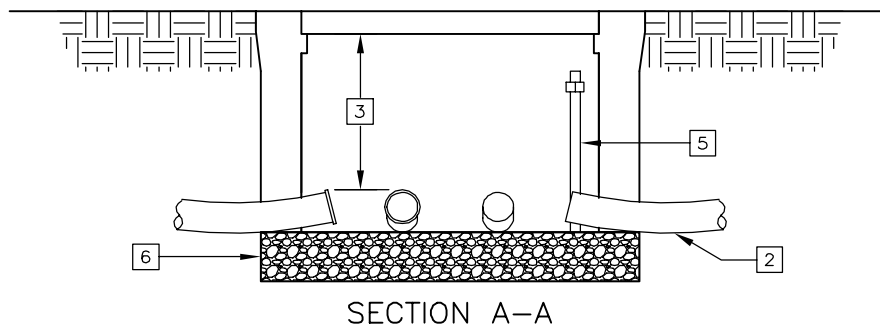
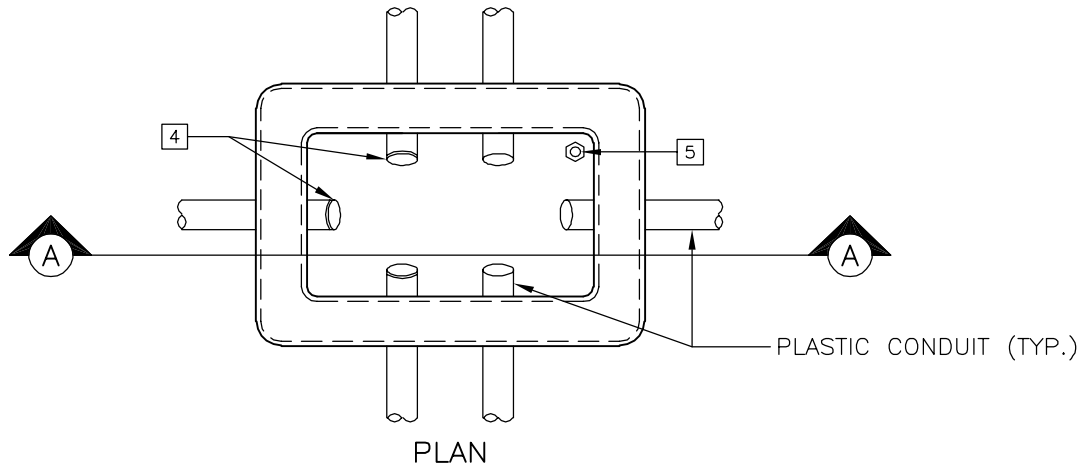
STREET LIGHT FOUNDATION

APPROVED BY:

*Doug Strickham*  
CITY ENGINEER

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IMPROVEMENT STANDARD NO. E9



NOTES:

1. ALL CONDUITS SHALL BE U.L. LISTED, 1- $\frac{1}{2}$ " MINIMUM DIAMETER. ALL CONDUCTORS SHALL BE COPPER, CONFORMING TO N.E.C.
- 2 ALL NON-METALLIC CONDUIT SHALL HAVE A NO. 8 COPPER BONDING / GROUNDING WIRE (EXCEPT THE CONDUIT BETWEEN THE PG&E SERVICE POINT AND THE FIRST STREET LIGHT PULL BOX). THESE BONDING / GROUNDING WIRES SHALL BE CONNECTED IN THE PULL BOX WITH CABLE CONNECTORS (BURNDY-SERVIT NO. KS-15, OR AN APPROVED EQUAL) MEETING CALTRANS SPECIFICATIONS
- 3 TOPS OF ALL CONDUITS ENTERING PULL BOX SHALL BE AT LEAST 8" BELOW TOP OF PULL BOX
- 4 ENDS OF ALL STEEL CONDUITS ENTERING PULL BOX SHALL BE CAPPED TOGETHER WITH O-Z TYPE "GB" BRONZE GROUNDING BUSHINGS AND CONNECTED TOGETHER WITH NO. 8 COPPER WIRE
- 5  $\frac{1}{2}$ " x 8' COPPERWELD GROUND ROD REQUIRED IN ALL PULL BOXES. GROUND ROD AND CLAMP SHALL BE DRIVEN IN CORNER OF PULL BOX, NO MORE THAN 3" FROM EITHER INSIDE WALL. GROUND ROD SHALL BE 8' x  $\frac{1}{2}$ " COPPERWELD
- 6 SET PULL BOX ON 6" OF  $\frac{1}{2}$ " MAX. PEA GRAVEL

REVISION	DATE
DATE:	MAR. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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CONDUIT PULL BOX

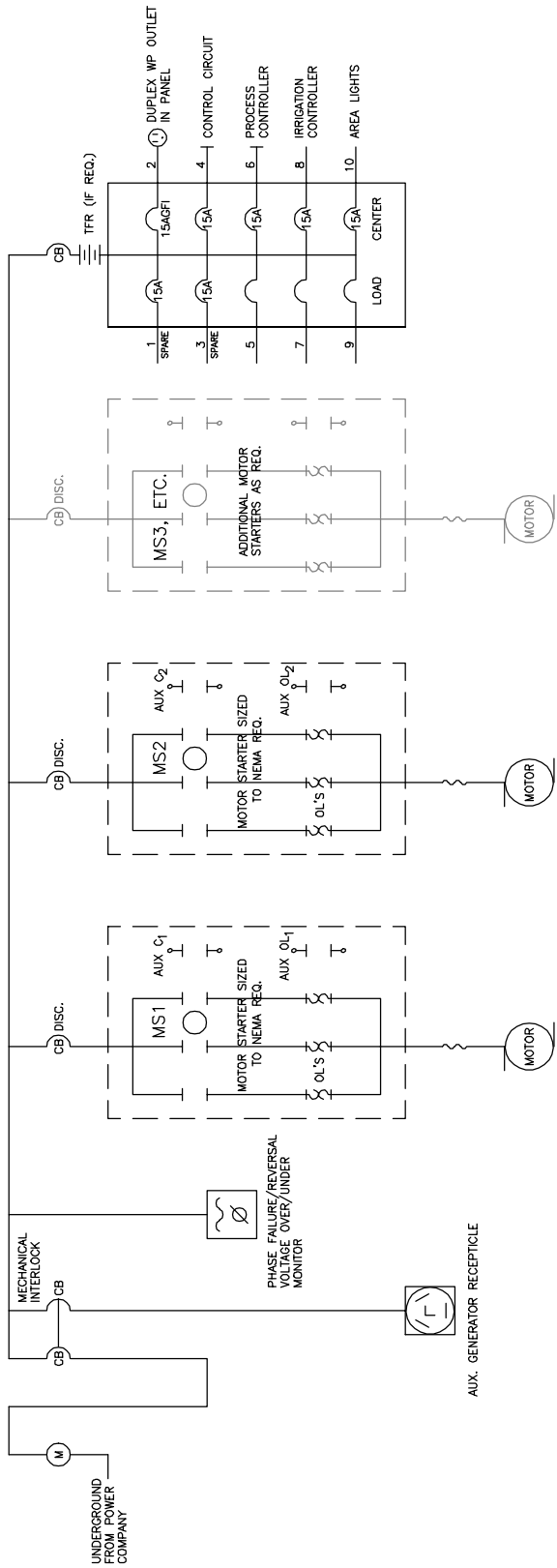
APPROVED BY:

*Doug Strilham*

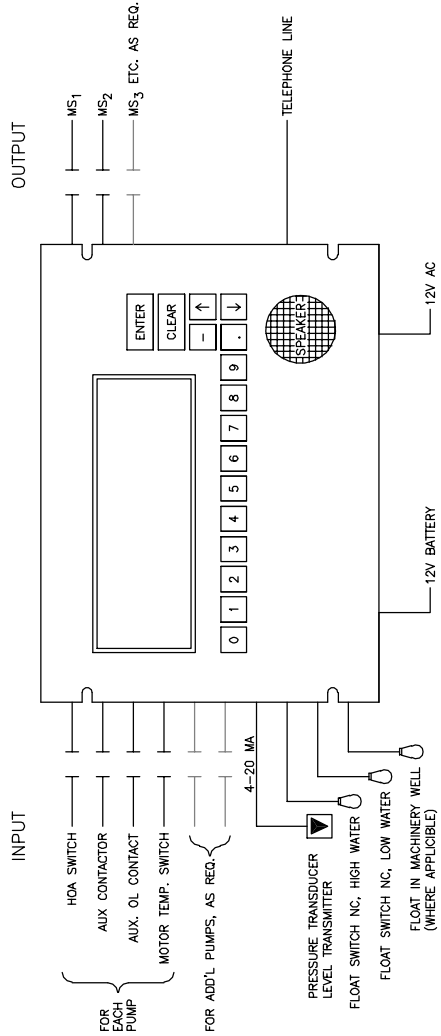
CITY ENGINEER

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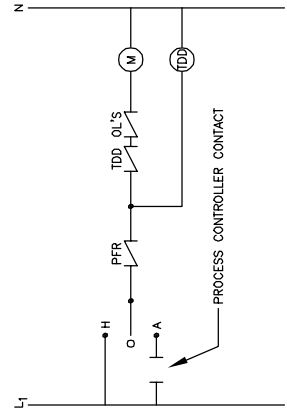
IMPROVEMENT STANDARD NO. E10



ELECTRICAL ONE LINE DIAGRAM  
 SIZE CB'S, STARTERS, OL'S, ETC. FOR THE ANTICIPATED LOAD



PROCESS CONTROLLER  
 "RUGID" PROCESS CONTROLLER OR EQUAL, PER CITY ENGINEER



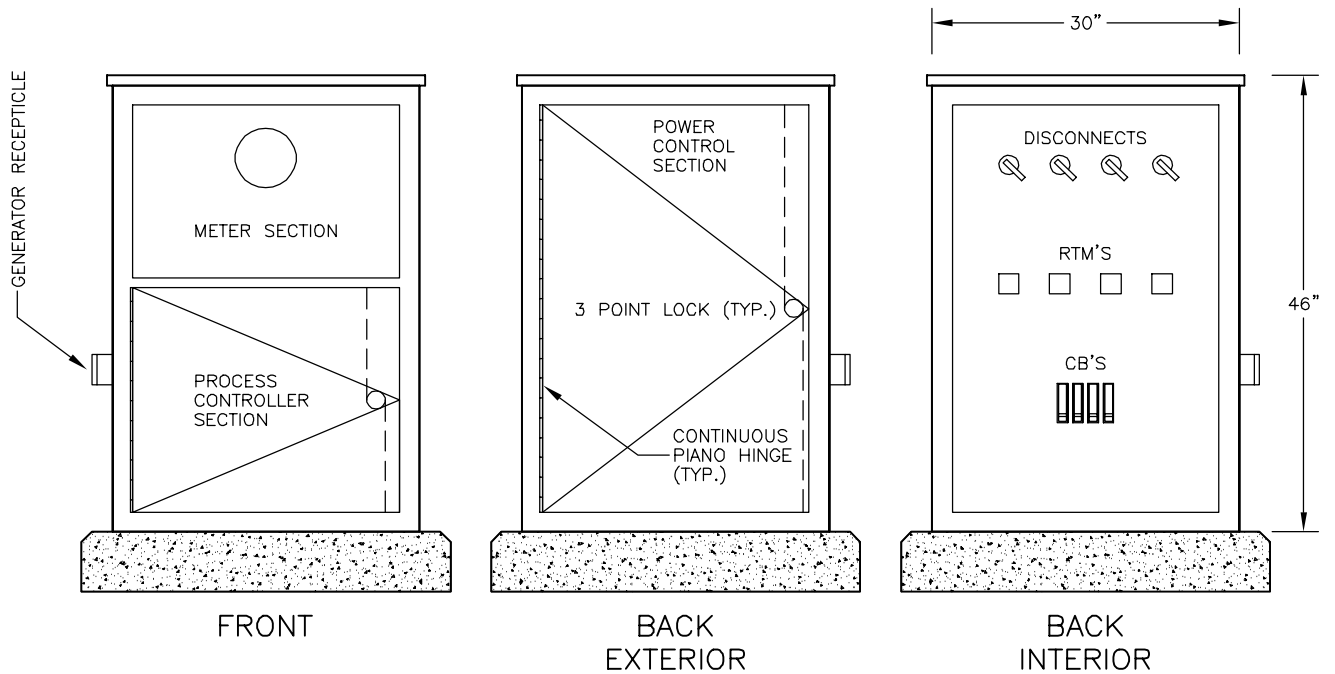
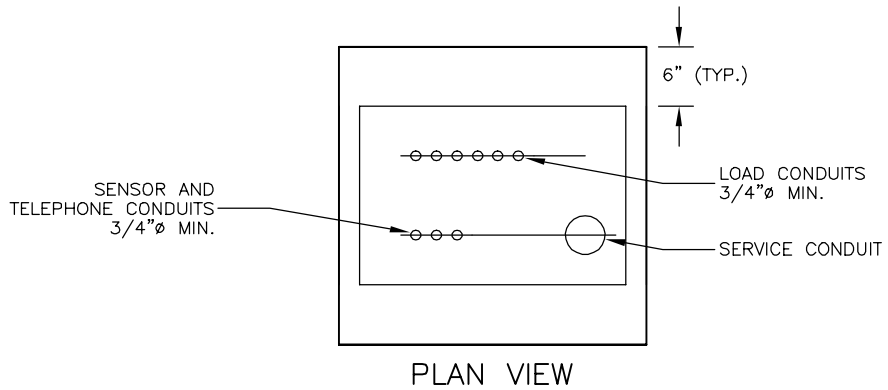
CONTROL CIRCUIT DIAGRAM

REVISION	DATE
DATE: JUN. 2003	
DRAWN BY: DBR	
CHECKED BY: AJA	
SCALE: NONE	

CITY OF ESCALON  
 SANITARY SEWAGE LIFT STATION  
 ELECTRICAL CONTROLS

APPROVED BY:  
  
 CITY ENGINEER  
 IMPROVEMENT STANDARD NO. E14a





NOTE:

SEE CITY OF ESCALON STANDARD DETAIL E14a FOR SANITARY SEWAGE LIFT STATION ELECTRICAL DETAILS

REVISION	DATE
DATE:	JUN. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

SANITARY SEWAGE LIFT STATION  
ELECTRICAL CONTROLS

APPROVED BY:

*Doug Trilham*  
CITY ENGINEER

IMPROVEMENT STANDARD NO. E14b