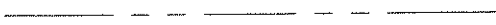




CENTER LINE



RIGHT OF WAY LINE



LOT LINE



EDGE OF PAVEMENT



TOP OF SLOPE



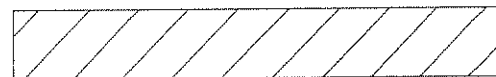
TOE OF SLOPE



PORTLAND CEMENT CONCRETE



ASPHALT CONCRETE PAVEMENT



RECONSTRUCTION




ASPHALT CONCRETE OVERLAY



EXISTING

### NOTES:

1. SOLID LINES SHALL INDICATE IMPROVEMENTS TO BE CONSTRUCTED.
2. DASHED LINES SHALL INDICATE EXISTING IMPROVEMENTS.
3. CROSS - HATCHING SHALL INDICATE RECONSTRUCTION ITEMS.
4. IN ADDITION TO SYMBOLIZATION, EACH EXISTING TYPE OF IMPROVEMENT TO BE REMOVED SHALL HAVE A SEPARATE CONSTRUCTION NOTE ON THE PLANS. (I.E. CURB & GUTTER, A.C. PAVEMENT, SIDEWALKS, ETC.)

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
1	IMPROVEMENT PLAN LEGEND		100
2	APPROVED BY: 		
3	DATE: 6/2/04		
4	R.C.E. NO. 27172		
		DOMINIC C. MILANO - CITY ENGINEER	

	METER		EDISON POLE
	VALVE		TELEPHONE POLE
	MANHOLE		GUY WIRE
	VAULT		CHAIN LINK FENCE
	FIRE HYDRANT		WOOD FENCE
	SURVEY MONUMENT		BLOCK WALL
	TREE		CONCRETE WALL
	PALM TREE		BUILDING
	SHRUB		TRAFFIC SIGNAL
	STREET SIGN		SIGNAL CONTROLLER
	STREET LIGHT		PULL BOX
	BARRICADE		MAIL BOX
	ACTIVE OIL WELL		ABANDONED OIL WELL

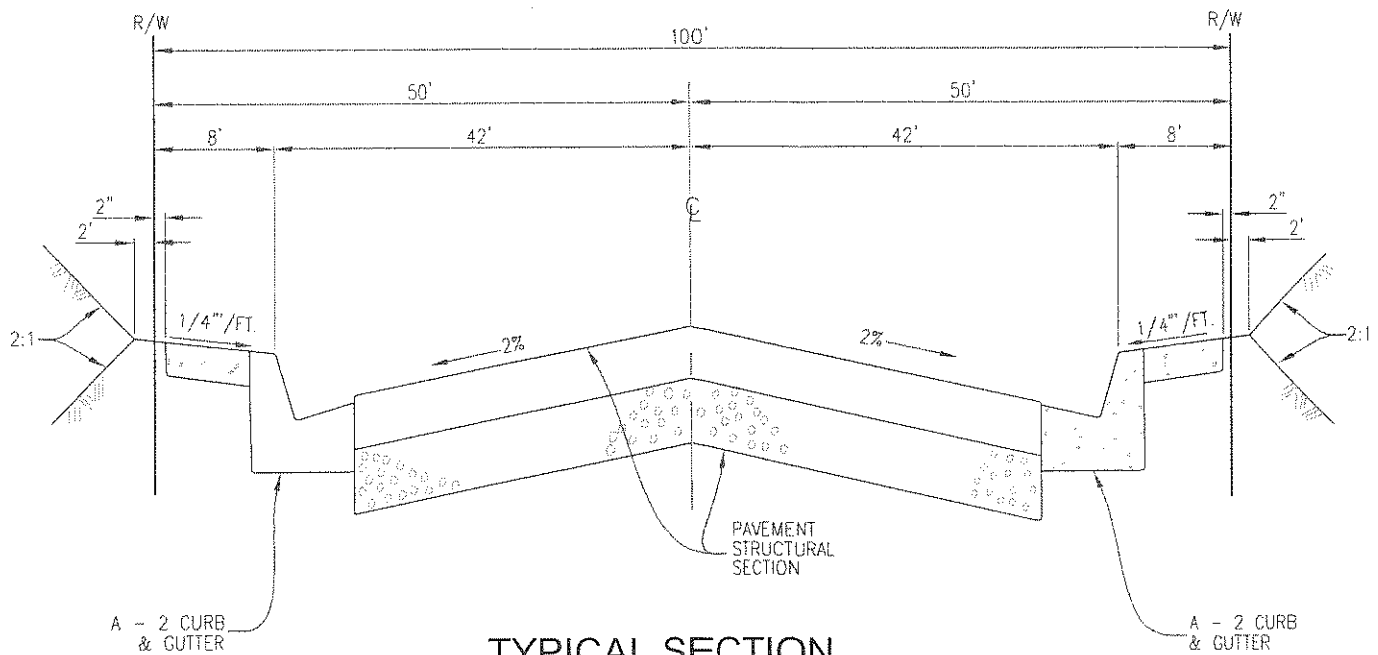
### NOTES:

1. MANHOLES AND VAULTS SHALL BE IDENTIFIED BY PLACING A LETTER INSIDE THE SYMBOL. SEE STANDARD 102 FOR ABBREVIATIONS.

REVISIONS		CITY OF SIGNAL HILL	PUBLIC WORKS DEPT.	STANDARD PLAN NO.
		TOPOGRAPHIC SYMBOLS		101
		APPROVED BY:		DATE: 6/2/04
		DOMINIC C. MILANO - CITY ENGINEER		R.C.E. NO. 27172


Δ	CURVE DELTA	W	WATER
R	RADIUS	S	SEWER
L	CURVE LENGTH	G	GAS
T	SEMITANGENT LENGTH	SD	STORM DRAIN
TC	TOP OF CURB	O	OIL
FL	FLOW LINE	WG	WET GAS
EG	EDGE OF GUTTER	DG	DRY GAS
TB	TOP OF BERM	HPG	HIGH PRESSURE GAS
C&G	CURB AND GUTTER	LPG	LOW PREASSURE GASS
SW	SIDEWALK	WW	WASTE WATER
DW	DRIVEWAY	P	PROPANE
FS	FINISH SURFACE	T	TELEPHONE
FF	FINISH FLOOR	E	ELECTRIC
INV	INVERT	OH	OVERHEAD
CB	CATCH BASIN	CTV	CABLE TELEVISION
LD	LOCAL DEPRESSION	UNK	UNKNOWN
HGL	HYDRAULIC GRADE LINE	MH	MANHOLE
AC	ASPHALTIC CONCRETE	WM	WATER METER/SERVICE
CAB	CRUSHED AGGREGATE BASE	GM	GAS METER/SERVICE
PCC	PORTLAND CEMENT CONCRETE	PB	PULL BOX
℄	CENTER LINE	EP	EDGE OF PAVEMENT
R/W	RIGHT OF WAY	FSV	FIRE SERVICE
PL	PROPERTY/LOT LINE	V	VALVE
BCR	BEGIN CURB RETURN	PP	POWER POLE
ECR	END CURB RETURN	TP	TELEPHONE POLE
BC	BEGIN CURVE	ABD	ABANDONED
EC	END CURVE	UG	UNDERGROUND
PRC	POINT OF REVERSE CURVE	VCP	VITRIFIED CLAY PIPE
PCC	POINT OF COMPOUND CURVE	CIP	CAST IRON PIPE
PI	POINT OF INTERSECTION	DIP	DUCTILE IRON PIPE
BVC	BEGIN VERTICAL CURVE	RCP	REINFORCED CONCRETE PIPE
EVC	END VERTICAL CURVE	ACP	ASBESTOS CEMENT PIPE
PVI	POINT OF VERTICAL INTERSECTION	FM	FORCE MAIN
PRVC	POINT OF REVERSE VERTICAL CURVE	PVC	POLYVINYL CHORIDE
TW	TOP OF WALL	TS	TRAFFIC SIGNAL/CONDUIT
TF	TOP OF FOOTING	SL	STREET LIGHT/CONDUIT
VLT	VALUT	FG	FINISH GRADE
STW	STEAM WALL	NIC	NOT IN CONTRACT

REVISIONS	CITY OF SIGNAL HILL	PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	ABBREVIATIONS		102
2	APPROVED BY: <i>Dominic C. Milano</i>		
3	DATE: 6/2/04		
4	R.C.E. NO. 27172		
	DOMINIC C. MILANO - CITY ENGINEER		

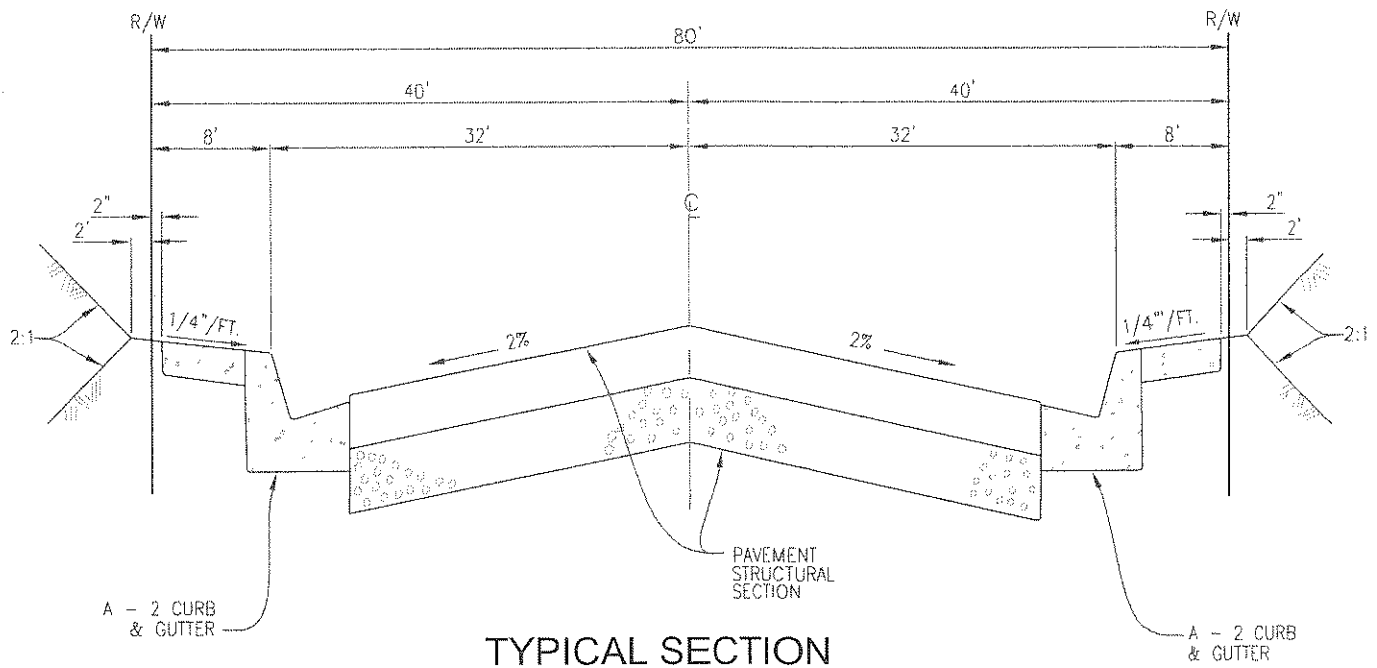


### NOTES:

1. SEE STANDARD No. 200 FOR CURB AND GUTTER DETAILS.
2. SEE STANDARD No. 207 FOR SIDEWALK DETAILS.
3. STRUCTURAL SECTION SHALL BE DETERMINED BY SOILS TESTS AND BE APPROVED BY THE CITY ENGINEER.  
MINIMUM SECTION SHALL BE 6" ASPHALT CONCRETE OVER 8" CRUSHED AGGREGATE BASE.
4. IF MEDIAN ISLANDS ARE REQUIRED BY THE CITY ENGINEER, SEE STANDARD No.114 FOR DETAILS.
5. WILLOW STREET SHALL HAVE A RIGHT OF WAY WIDTH OF 110' WITH 90' FROM CURB FACE TO CURB FACE AND PARKWAY WIDTHS OF 10'.

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
1		MAJOR HIGHWAY		103
2				
3		APPROVED BY: 	DATE: 6/2/04	
4		DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	

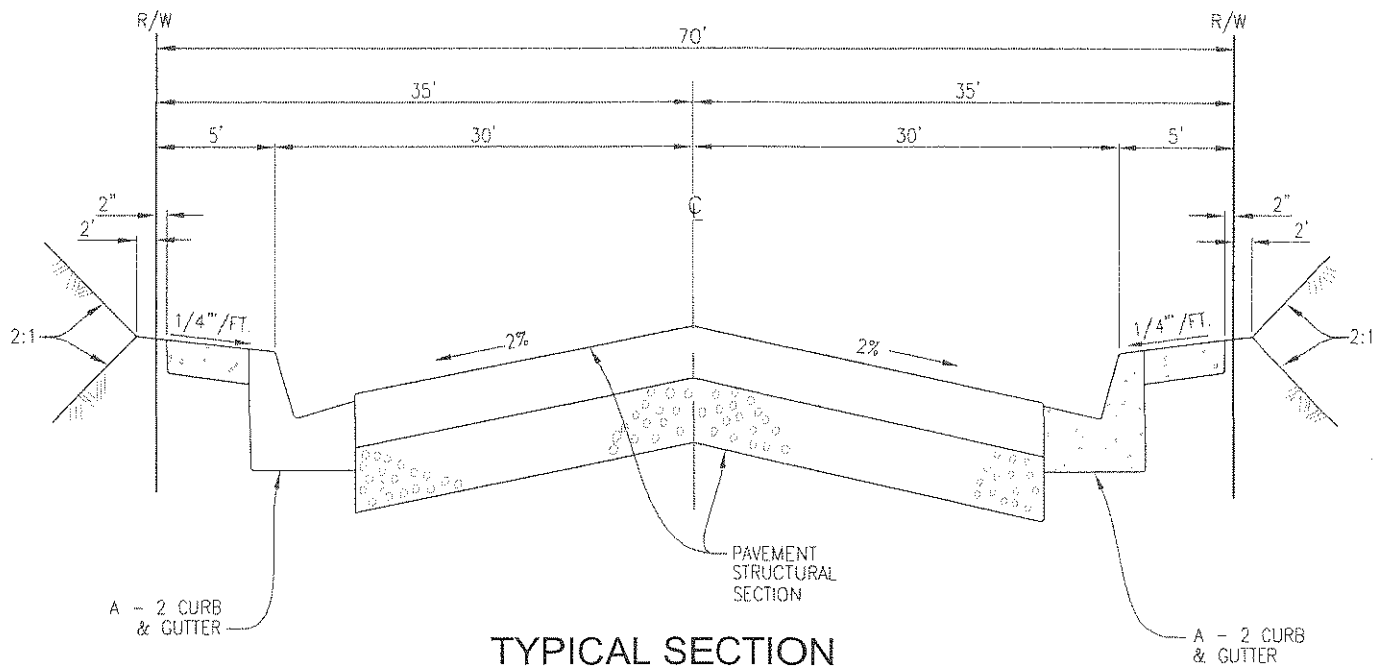
DATE: 6/2/04  
R.C.E. NO. 27172



### NOTES:

1. SEE STANDARD No. 200 FOR CURB AND GUTTER DETAILS.
2. SEE STANDARD No. 207 FOR SIDEWALK DETAILS.
3. STRUCTURAL SECTION SHALL BE DETERMINED BY SOILS TESTS AND BE APPROVED BY THE CITY ENGINEER.  
MINIMUM SECTION SHALL BE 6" ASPHALT CONCRETE.  
OVER 8" CRUSHED AGGREGATE BASE.

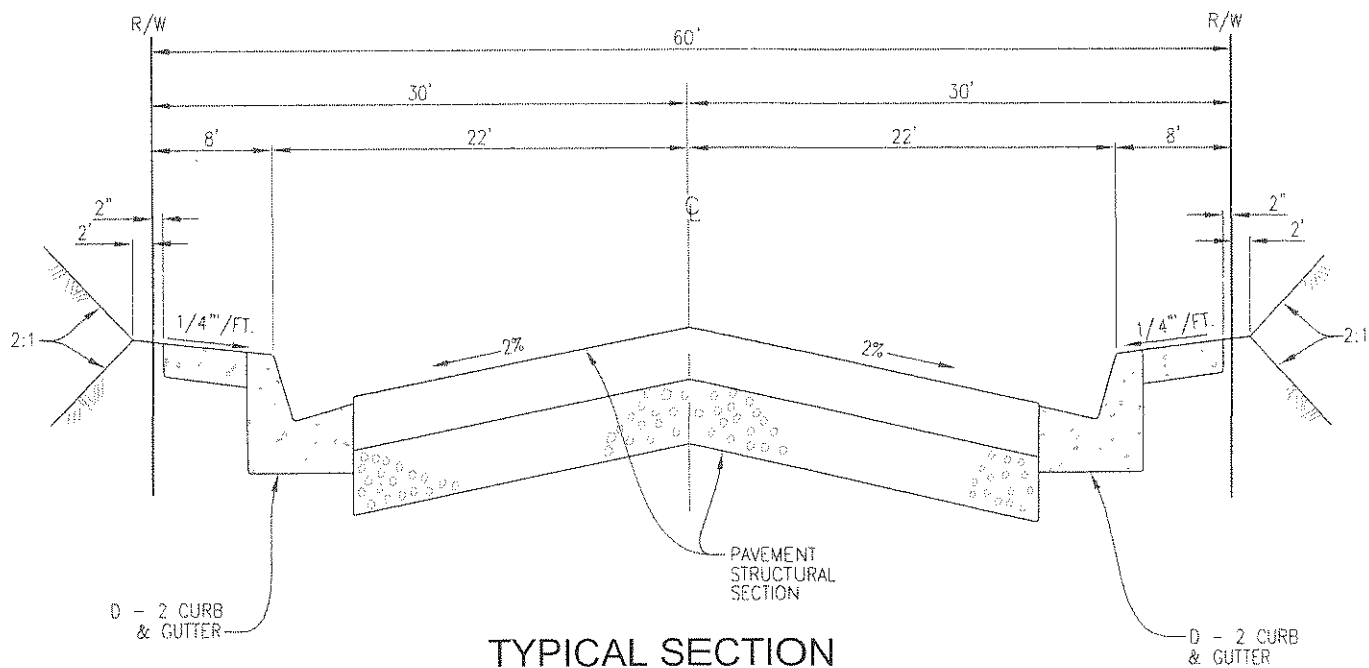
REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	SECONDARY HIGHWAY	104
2		
3	APPROVED BY: <i>Dominic C. Milano</i>	DATE: 6/2/04
4	DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172



### NOTES:


1. SEE STANDARD No. 200 FOR CURB AND GUTTER DETAILS.
2. SEE STANDARD No. 207 FOR SIDEWALK DETAILS.
3. STRUCTURAL SECTION SHALL BE DETERMINED BY SOILS TESTS AND BE APPROVED BY THE CITY ENGINEER.  
MINIMUM SECTION SHALL BE 6" ASPHALT CONCRETE.  
OVER 8" CRUSHED AGGREGATE BASE.

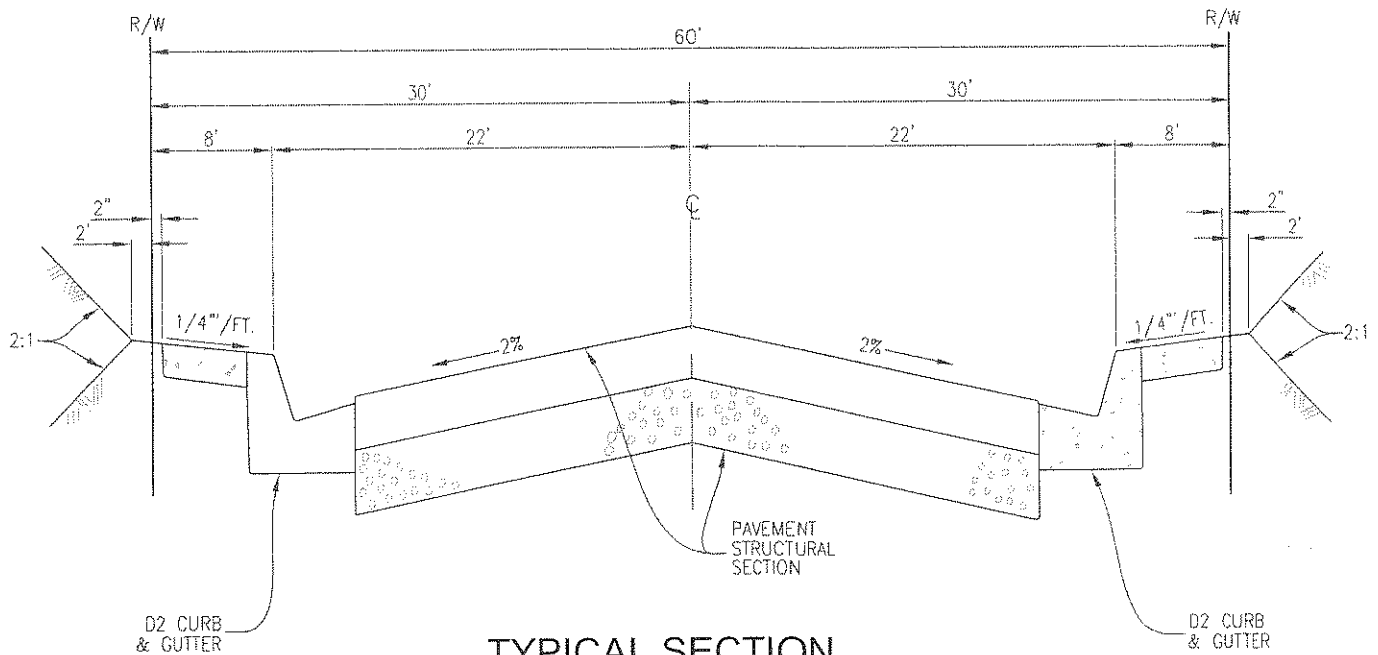
REVISIONS	CITY OF SIGNAL HILL	PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	SECONDARY MODIFIED		105
2			
3			
4			
	APPROVED BY: <i>Dominic C. Milano</i>		DATE: 6/2/04
	DOMINIC C. MILANO - CITY ENGINEER		R.C.E. NO. 27172



### NOTES:

1. SEE STANDARD No. 203 FOR CURB AND GUTTER DETAILS.
2. SEE STANDARD No. 207 FOR SIDEWALK DETAILS.
3. STRUCTURAL SECTION SHALL BE DETERMINED BY SOILS TESTS AND BE APPROVED BY THE CITY ENGINEER. (T.I. = 6.0)  
MINIMUM SECTION SHALL BE 4" ASPHALT CONCRETE.  
OVER 6" CRUSHED AGGREGATE BASE.


REVISIONS		CITY OF SIGNAL HILL		PUBLIC WORKS DEPT.		STANDARD PLAN NO.
1		LOCAL COLLECTOR				106
2						
3						
4		APPROVED BY: 		DATE: 6/2/04		
		DOMINIC C. MILANO - CITY ENGINEER		R.C.E. NO. 27172		



TYPICAL SECTION

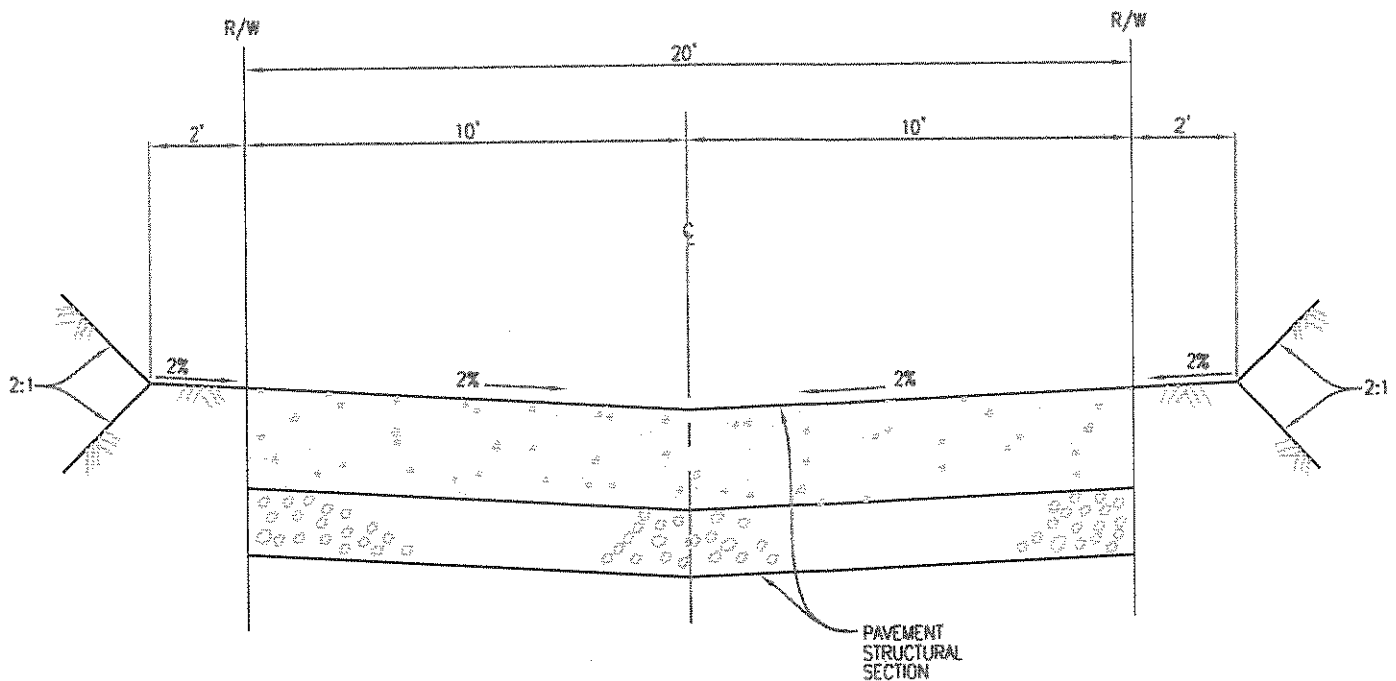
NOTES:

1. SEE STANDARD No. 203 FOR CURB AND GUTTER DETAILS.
2. SEE STANDARD No. 207 FOR SIDEWALK DETAILS.
3. STRUCTURAL SECTION SHALL BE DETERMINED BY SOILS TESTS AND BE APPROVED BY THE CITY ENGINEER. (T.I. = 7.0)  
MINIMUM SECTION SHALL BE 4" ASPHALT CONCRETE OVER 6" CRUSHED AGGREGATE BASE.

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.  <u>107</u>
		LOCAL INDUSTRIAL		
1		APPROVED BY:  DOMINIC C. MILANO - CITY ENGINEER		
2				
3		DATE: <u>6/2/04</u> R.C.E. NO. 27172		
4				



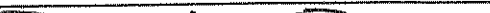


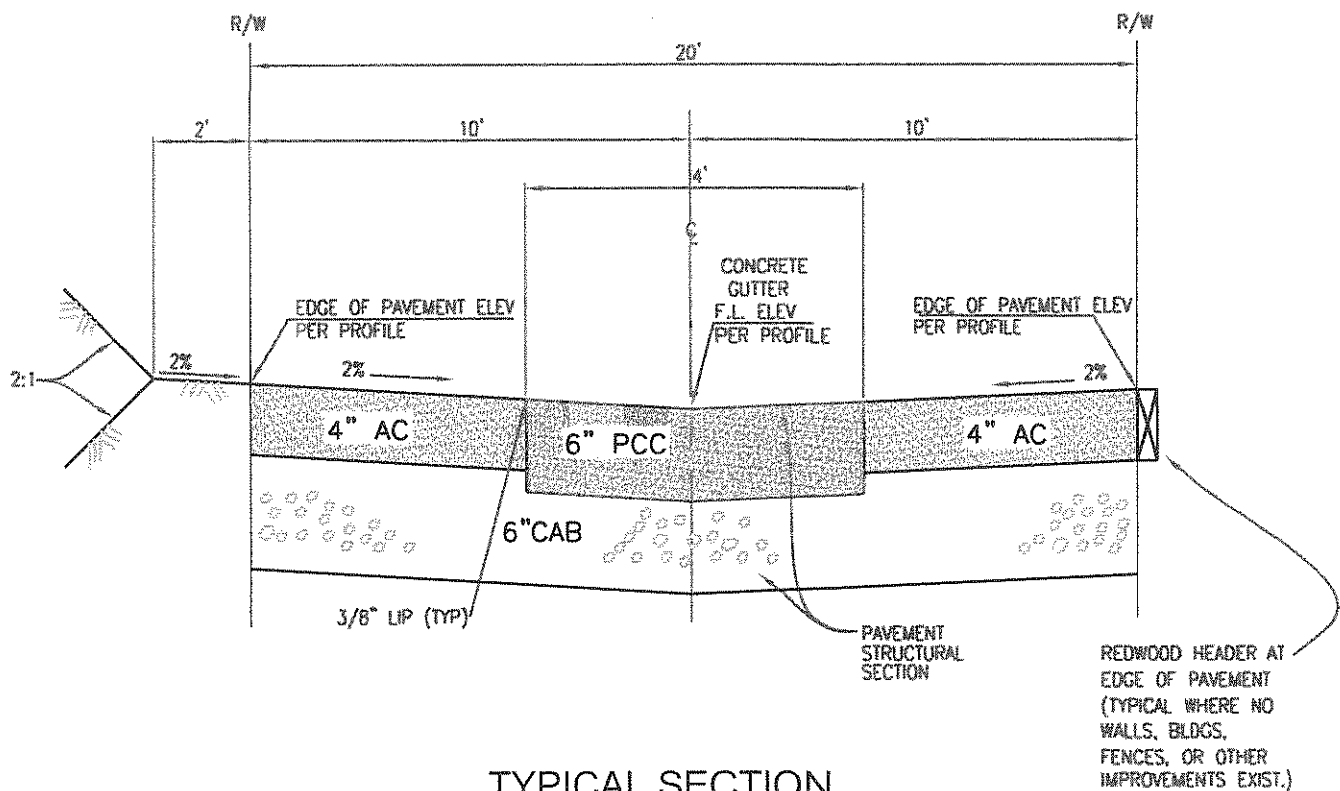


TYPICAL SECTION

NOTES:


1. STRUCTURAL SECTION TO BE DETERMINED BY SOILS TESTS AND APPROVED BY THE CITY ENGINEER.  
ALL DESIGN SECTIONS SHALL BE PORTLAND CEMENT CONCRETE OVER CRUSHED AGGREGATE BASE. (T.I. = 6.0)  
MINIMUM SECTION SHALL BE 6" PORTLAND CEMENT CONCRETE OVER 4" CRUSHED AGGREGATE.
2. FOR PAVEMENT JOINT DETAILS, SEE STANDARD No. 225.
3. CROSSFALL MAY VARY FROM 2% MINIMUM TO 3.5% MAXIMUM TO JOIN EXISTING IMPROVEMENT AT RIGHT OF WAY.  
CROSSFALL LESS THAN 2% SUBJECT TO CITY ENGINEER APPROVAL.

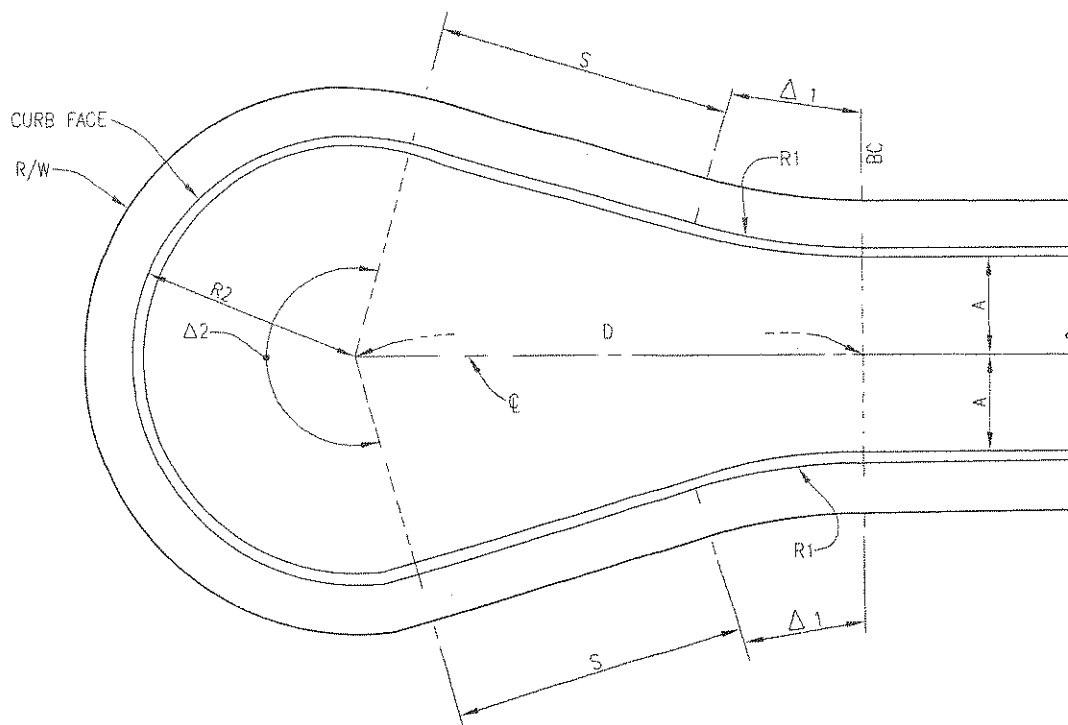
REVISIONS		CITY OF SIGNAL HILL	PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	11/2/2005	ALLEY (CONCRETE)		109
2				
3		APPROVED BY: 	DATE: 11/2/05	
4		DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	



### NOTES:

1. STRUCTURAL SECTION TO BE DETERMINED BY SOILS TESTS AND APPROVED BY THE CITY ENGINEER.  
ALL DESIGN SECTIONS SHALL BE PORTLAND CEMENT CONCRETE OVER CRUSHED AGGREGATE BASE. (T.I. = 6.0)  
MINIMUM SECTION SHALL BE 4" ASPHALTIC CONCRETE CONCRETE OVER 6" CRUSHED AGGREGATE.
2. CROSSFALL MAY VARY FROM 2% MINIMUM TO 3.5% MAXIMUM TO JOIN EXISTING IMPROVEMENT AT RIGHT OF WAY.  
CROSSFALL LESS THAN 2% SUBJECT TO CITY ENGINEER'S APPROVAL.

REVISIONS		CITY OF SIGNAL HILL	PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	11/2/2005	ALLEY (ASPHALT)		<u>110</u>
2				
3		APPROVED BY: 	DATE: 11/2/05	
4		DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	



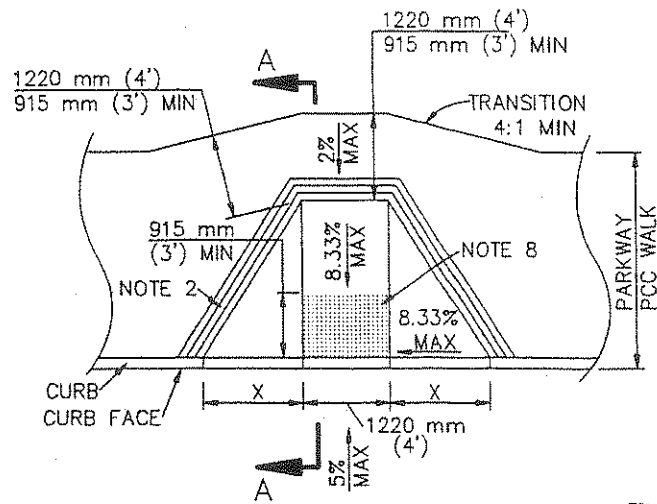
### CURB CURVE DATA

	A	Δ1	R1	L1	T1	S	Δ2	R2	L2	D
①	17'	17°23'25"	100'	30.35'	15.29'	30'	214°46'50"	32'	119.96'	68.08'
①	18'	16°34'35"	100'	28.93'	14.57'	50'	213°09'10"	38'	141.37'	87.29'
	20'	16°31'20"	100'	28.84'	14.52'	50'	213°02'40"	40'	141.73'	87.75'
	22'	17°41'18"	100'	30.87'	14.56'	50'	215°22'36"	44'	165.40'	91.39'
②	23'	17°39'32"	100'	30.82'	15.53'	30'	215°19'04"	45'	169.11'	91.63'

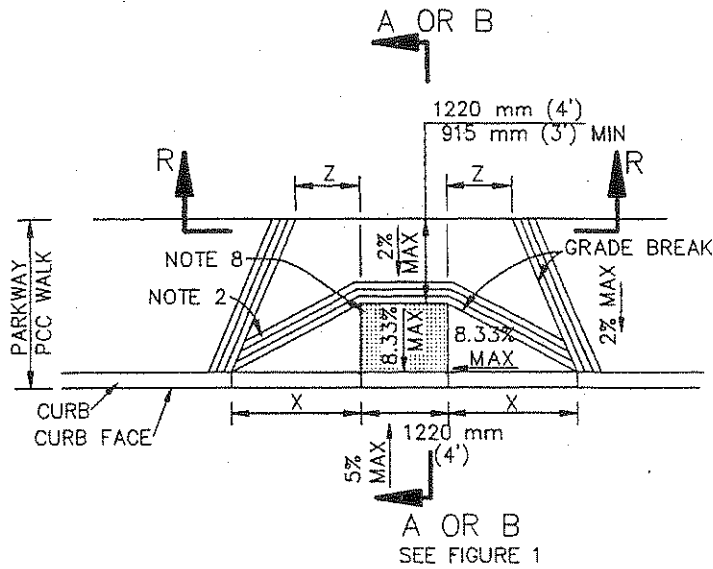
### NOTE:

- ① CUL - DE - SACS WITH 'A' = 17' OR 18' SHALL BE USED ON EXISTING STREETS ONLY AND WITH PRIOR APPROVAL OF THE CITY ENGINEER.
- ② CUL - DE - SACS WITH 'A' = 23' SHALL BE USED ON COMMERCIAL AND INDUSTRIAL STREETS ONLY AND WITH PRIOR APPROVAL OF THE CITY ENGINEER.

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
		CUL - DE - SAC		111
		APPROVED BY: <i>Dominic C. Milano</i>		
		DATE: 6/2/04		
		R.C.E. NO. 27172		



TYPE 1



TYPE 2

CASE A

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1992  
REV. 1996, 2000, 2005

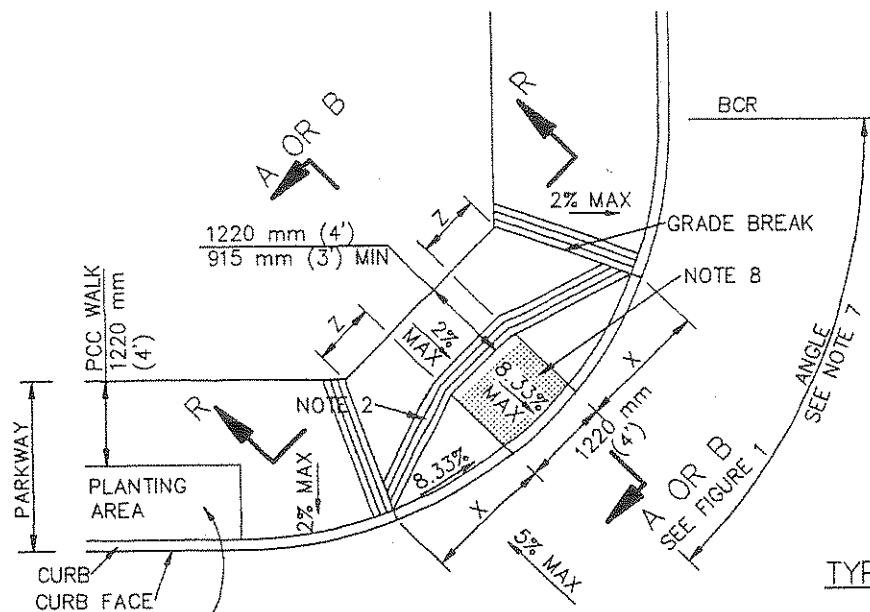
CURB RAMP

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

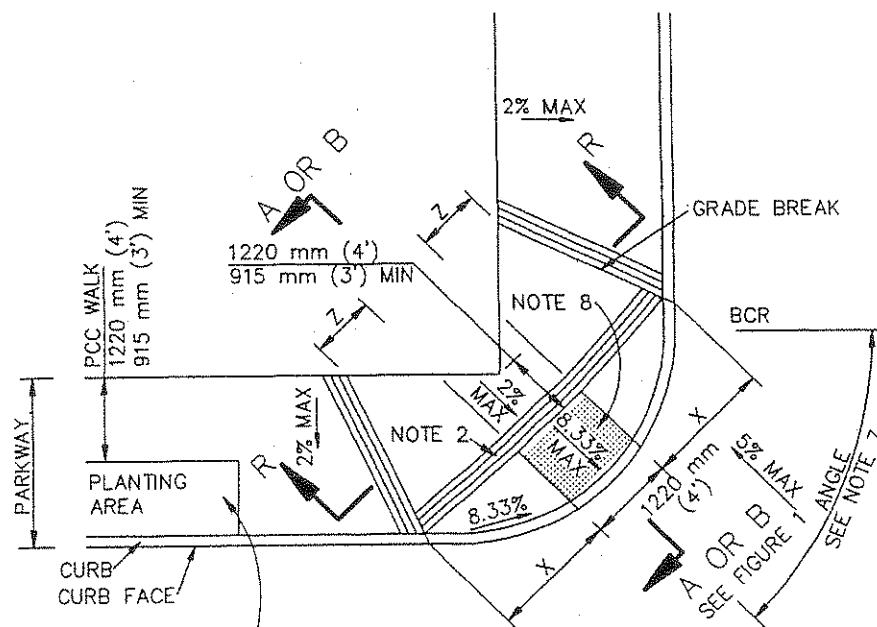
STANDARD PLAN  
METRIC

111-3

SHEET 1 OF 10



WHERE PLANTING AREA IS  
ADJACENT TO THE CURB RAMP,  
USE CASE A, TYPE 6



WHERE PLANTING AREA IS  
ADJACENT TO THE CURB RAMP,  
USE CASE A, TYPE 6

TYPE 3

TYPE 4

CASE A

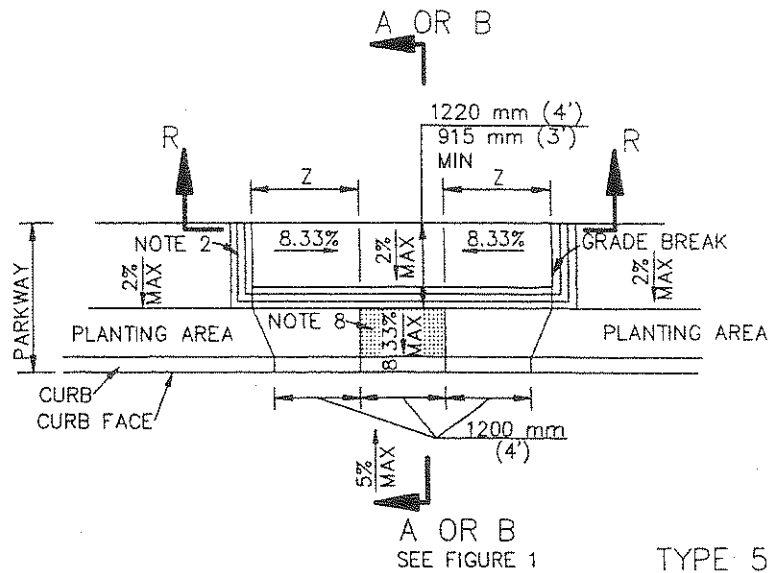
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CURB RAMP**

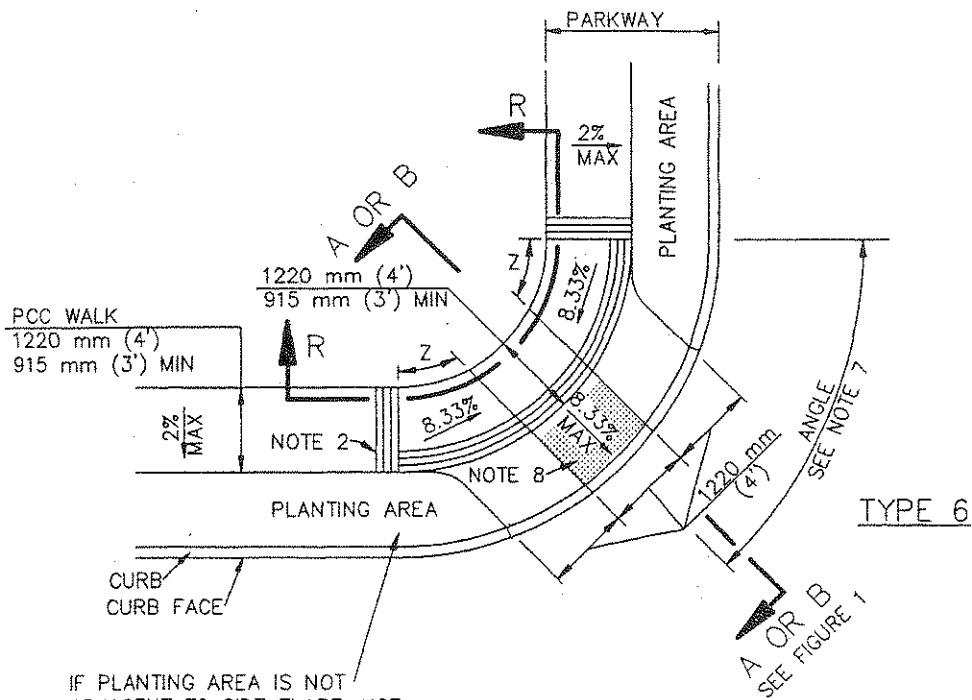
STANDARD PLAN  
METRIC

**111-3**

SHEET 2 OF 10



TYPE 5



TYPE 6

IF PLANTING AREA IS NOT  
ADJACENT TO SIDE FLARE, USE  
"X" PER TABLE 2 FOR THAT FLARE

CASE A

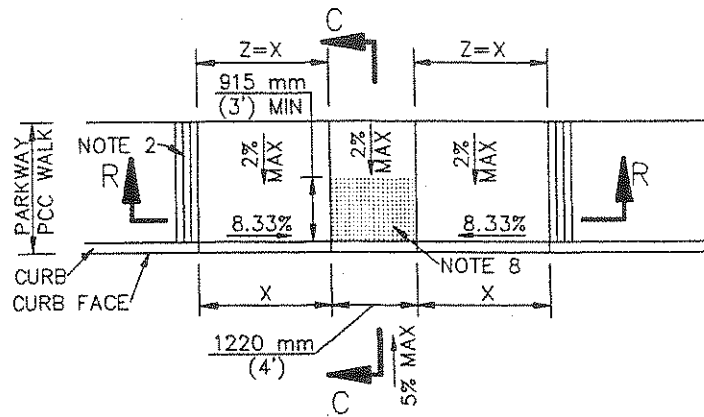
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

## CURB RAMP

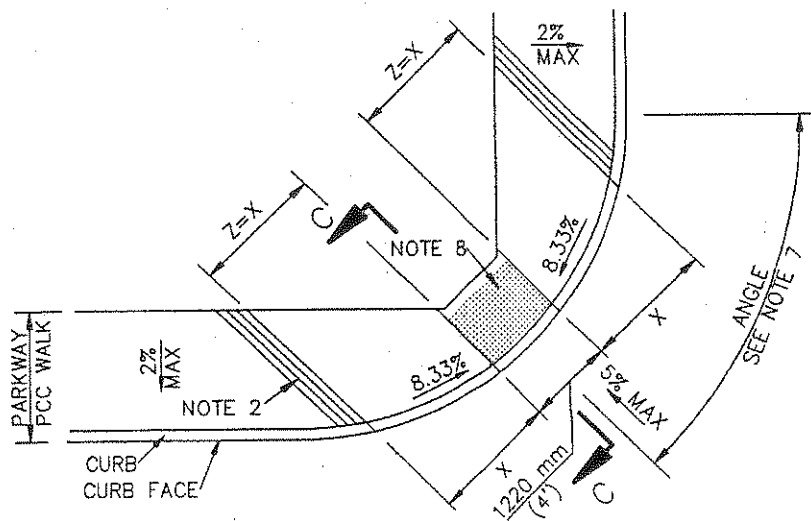
STANDARD PLAN  
METRIC

111-3

SHEET 3 OF 10



TYPE 1



TYPE 2

CASE B

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

## CURB RAMP

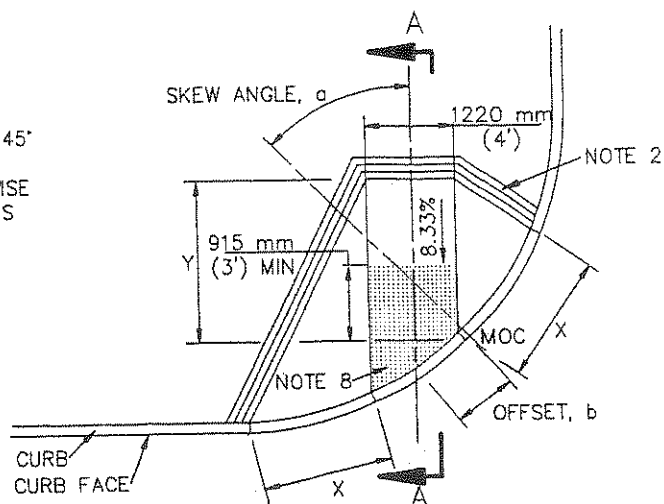
STANDARD PLAN  
METRIC

111-3

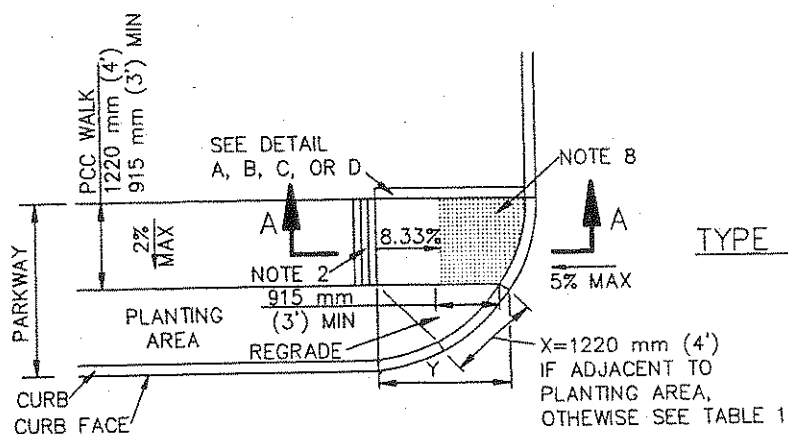
SHEET 4 OF 10



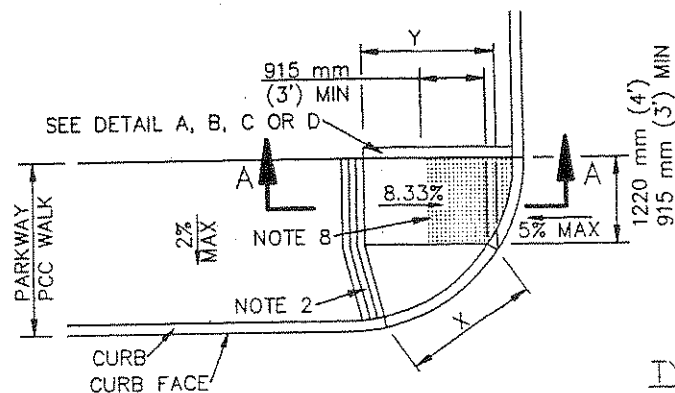
SKEW ANGLE  $\alpha=45^\circ$   
 OFFSET  $b=0$   
 UNLESS OTHERWISE  
 NOTED ON PLANS



CASE C



TYPE 1



TYPE 2

CASE D

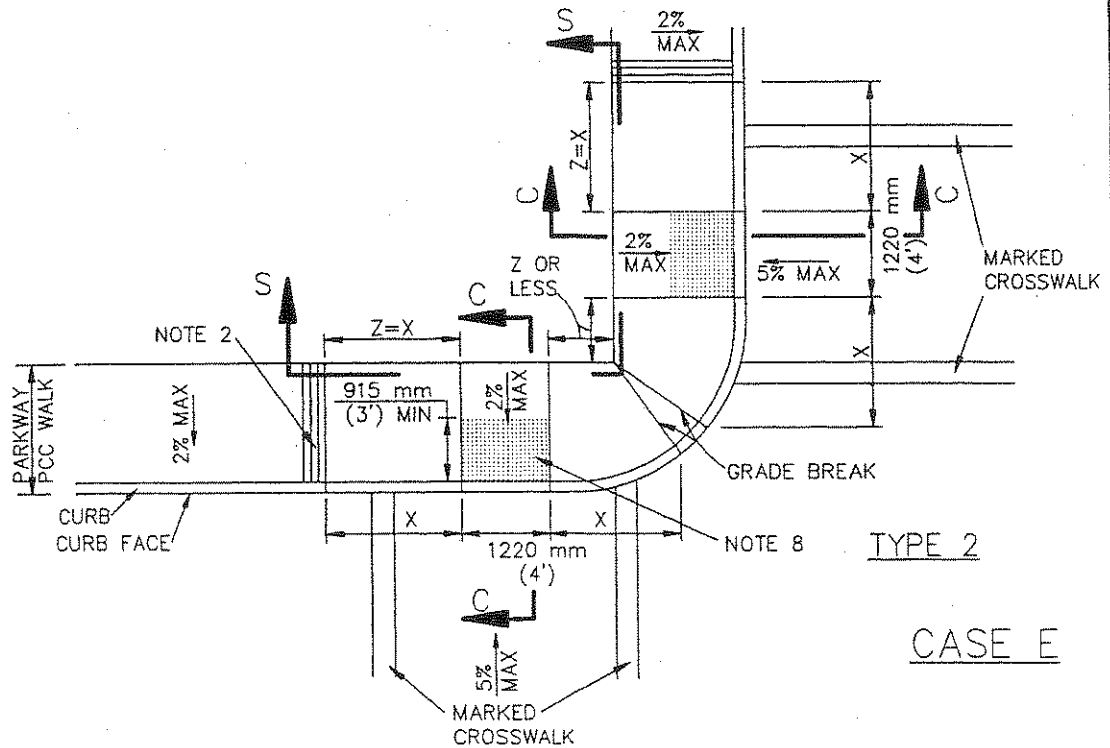
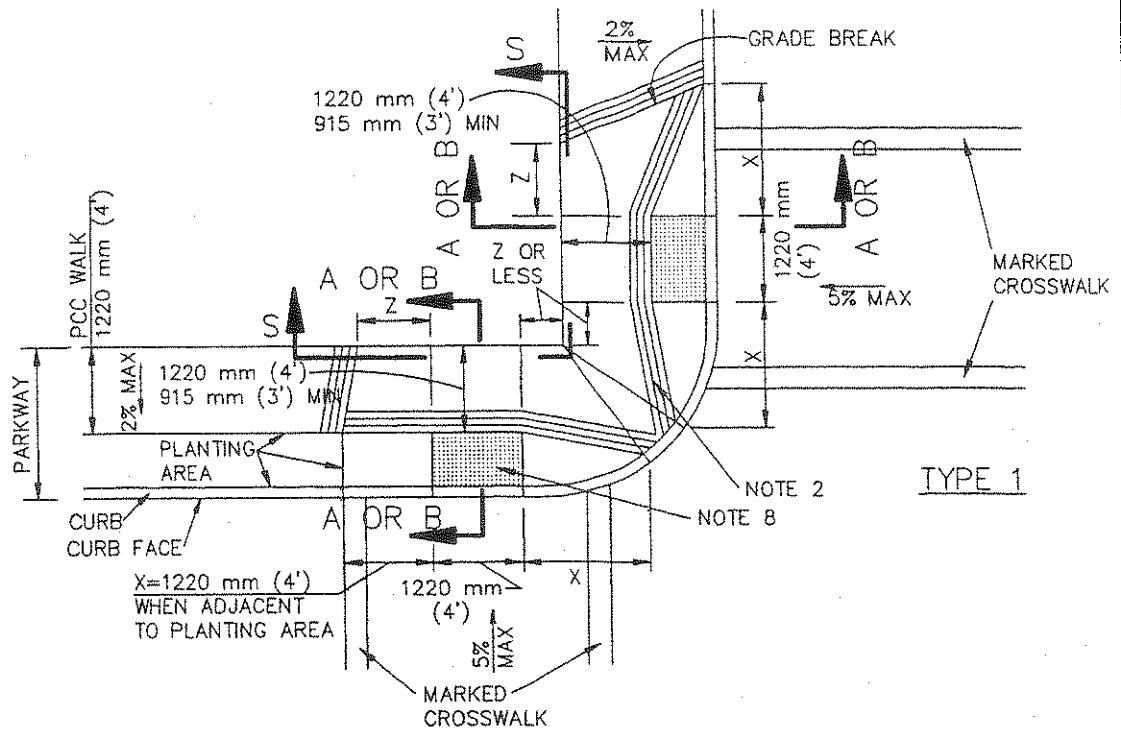
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CURB RAMP

STANDARD PLAN  
 METRIC

111-3

SHEET 5 OF 10



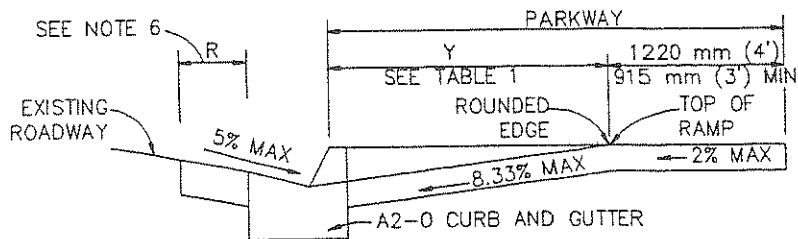
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

## CURB RAMP

STANDARD PLAN  
METRIC

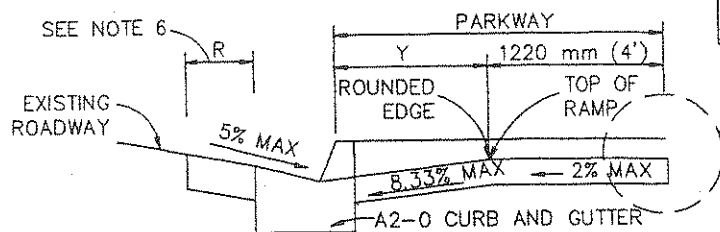
111-3

SHEET 6 OF 10



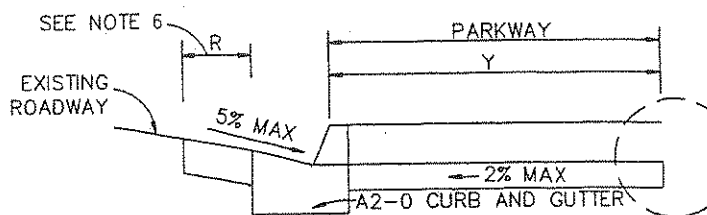
SECTION A-A

USE FIGURE 1 TO DETERMINE WHICH OF SECTIONS A-A, B-B OR C-C IS APPROPRIATE.



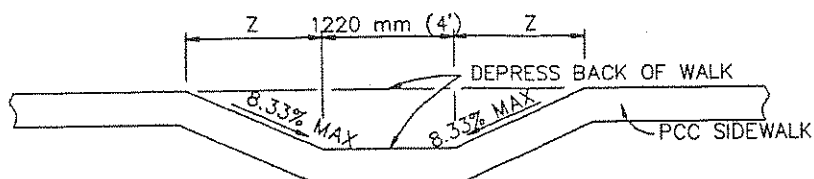
SECTION B-B

DEPRESS BACK OF WALK  
SEE DETAIL A, B, C OR D,  
SHEET 10.

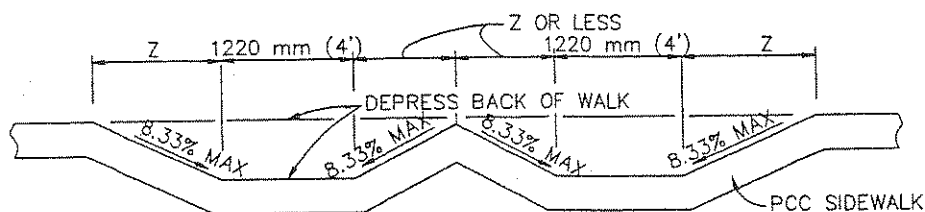


SECTION C-C

DEPRESS BACK OF WALK  
SEE DETAIL A, B, C OR D,  
SHEET 10.



SECTION R-R



SECTION S-S

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CURB RAMP

STANDARD PLAN  
METRIC

111-3

SHEET 7 OF 10

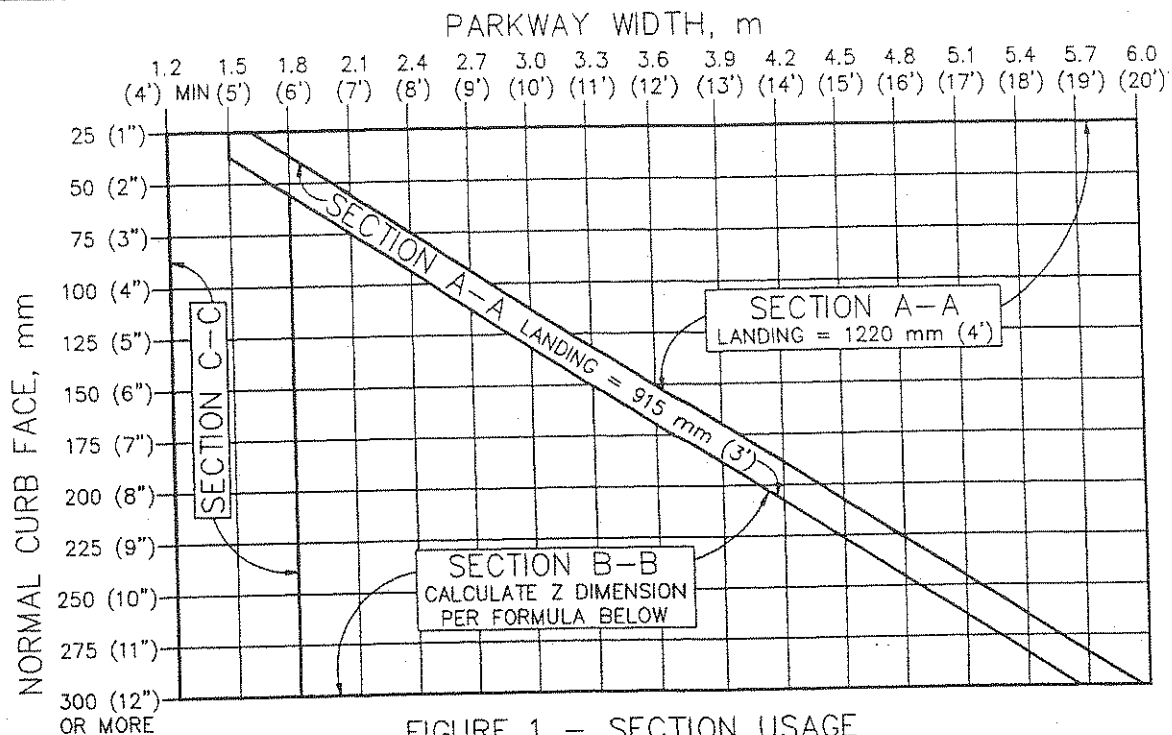


FIGURE 1 - SECTION USAGE

NORMAL CURB FACE, mm (INCHES)	X, mm (FT)	SECTION Y-Y Y, mm (FT)
50 (2")	1200 (4.00') MIN	790 (2.63')
75 (3")	1200 (4.00') MIN	1185 (3.95')
100 (4")	1200 (4.00')	1580 (5.26')
125 (5")	1500 (5.00')	1975 (6.58')
150 (6")	1800 (6.00')	2370 (7.90')
175 (7")	2100 (7.00')	2765 (9.21')
200 (8")	2400 (8.00')	3160 (10.53')
225 (9")	2700 (9.00')	3555 (11.84')
250 (10")	3000 (10.00')	3950 (13.16')
275 (11")	3300 (11.00')	4340 (14.47')
300 (12")	3600 (12.00')	4735 (15.79')

WHERE FIGURE 1 SHOWS USE OF SECTION B-B, FIGURE Z DIMENSION AS FOLLOWS:

W = PARKWAY WIDTH

L = LANDING WIDTH, 1220 mm (4') TYP, 915 mm (3') MIN

$$Z = [(Y+L)-W] \times 0.760$$

IF  $(Y+L) < W$ , THEN  $Z = 0$

TABLE 1 SHOWS X FOR A FLARE SLOPE OF 8.33% AT THE CURB FACE. IF L IS 1220 mm (4') OR MORE, X MAY BE MULTIPLIED BY 0.833 FOR A MAXIMUM FLARE SLOPE OF 10% AT THE CURB FACE.

SEE SHEET 9 FOR STREET SLOPE ADJUSTMENT FACTORS, ALL STREETS

TABLE 1 - X AND Y VALUES

TABLE 1 REFERENCE FORMULAS:

$$X = CF / 8.333\%$$

$$Y = CF / (8.333\% - 2\% \text{ WALK CROSS SLOPE})$$

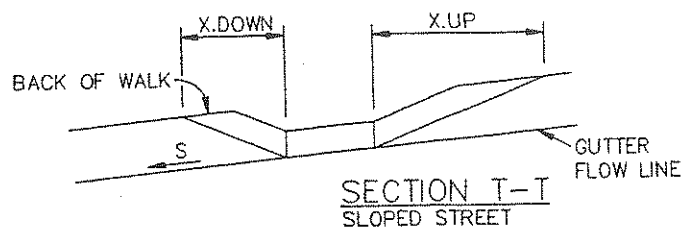
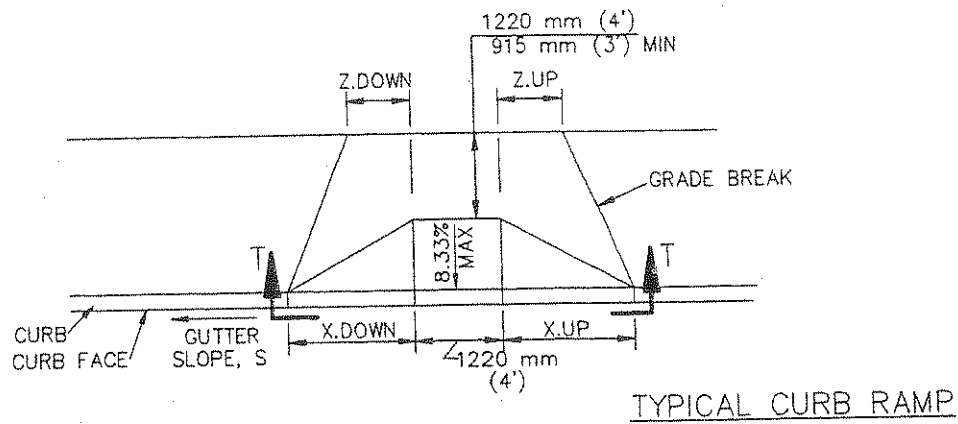
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CURB RAMP

STANDARD PLAN  
METRIC

111-3

SHEET 8 OF 10



FOR SLOPED STREETS, MULTIPLY THE DIMENSIONS PARALLEL TO THE STREET, X AND Z, UPSTREAM AND DOWNSTREAM OF THE RAMP, BY THE FACTORS IN THE FOLLOWING TABLE.

FOR EXAMPLE,  $X.DOWN = X \times K.DOWN$

S	K.DOWN	K.UP
0%	1.000	1.000
0.2%	0.977	1.025
0.5%	0.943	1.064
1%	0.893	1.136
2%	0.806	1.316
3%	0.735	1.563
4%	0.676	1.923
5%	0.625	2.500

**TABLE 2 - SLOPE ADJUSTMENTS**

TABLE 2 REFERENCE FORMULAS:

$$K.DOWN = 8.333\% / (8.333\% + S)$$

$$K.UP = 8.333\% / (8.333\% - S)$$

## STREET SLOPE ADJUSTMENTS

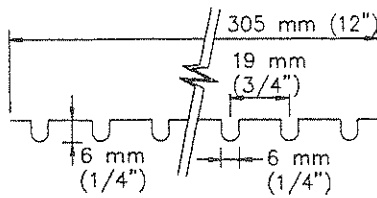
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CURB RAMP**

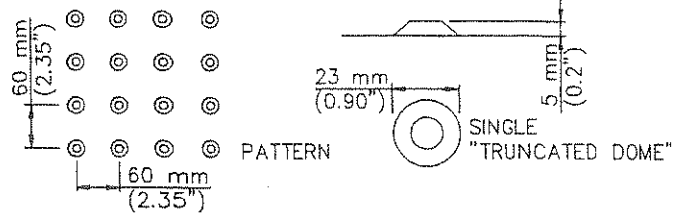
STANDARD PLAN  
METRIC

**111-3**

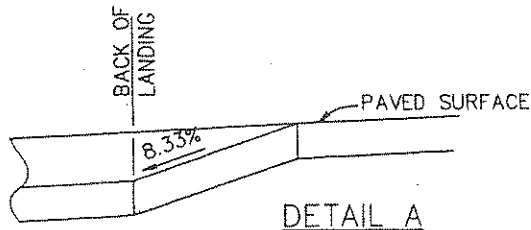
SHEET 9 OF 10



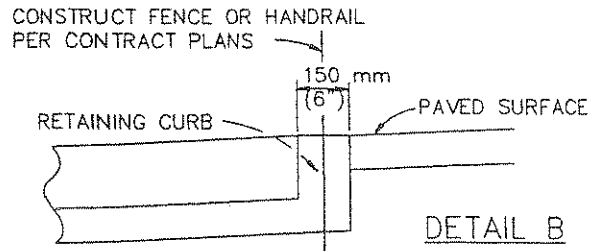
GROOVING DETAIL



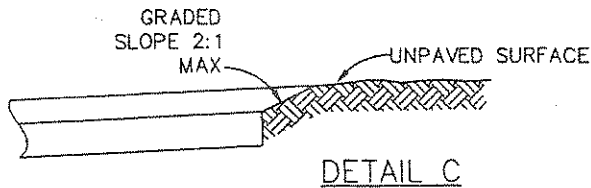
DETECTABLE WARNING DETAIL



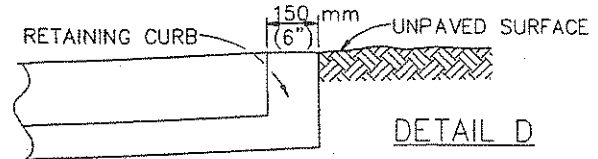
DETAIL A



DETAIL B



DETAIL C



DETAIL D

GENERAL NOTES:

1. CONCRETE SHALL BE CLASS 310-C-17 (520-C-2500) CONFORMING TO SSPWC 201-1.1.2 AND SHALL BE 100 mm (4") THICK.
2. THE RAMP SHALL HAVE A 305 mm (12") WIDE BORDER WITH 6 mm (1/4") GROOVES APPROXIMATELY 19 mm (3/4") OC. SEE GROOVING DETAIL.
3. THE RAMP SURFACE SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE CONFORMING TO SSPWC 303-1.9.
4. USE DETAIL "A" OR "B" IF EXISTING SURFACE BEHIND LANDING IS PAVED.
5. USE DETAIL "C" OR "D" IF EXISTING SURFACE BEHIND LANDING IS UNPAVED.
6.  $R = 900 \text{ mm (3')}$  UNLESS OTHERWISE SHOWN ON PLAN.
7.  $\text{ANGLE} = \Delta/2$  UNLESS OTHERWISE SHOWN ON PLAN.
8. CONSTRUCT DETECTABLE WARNING SURFACE PER DETAIL THIS SHEET. MATERIALS SHALL BE PER CONTRACT DOCUMENTS.

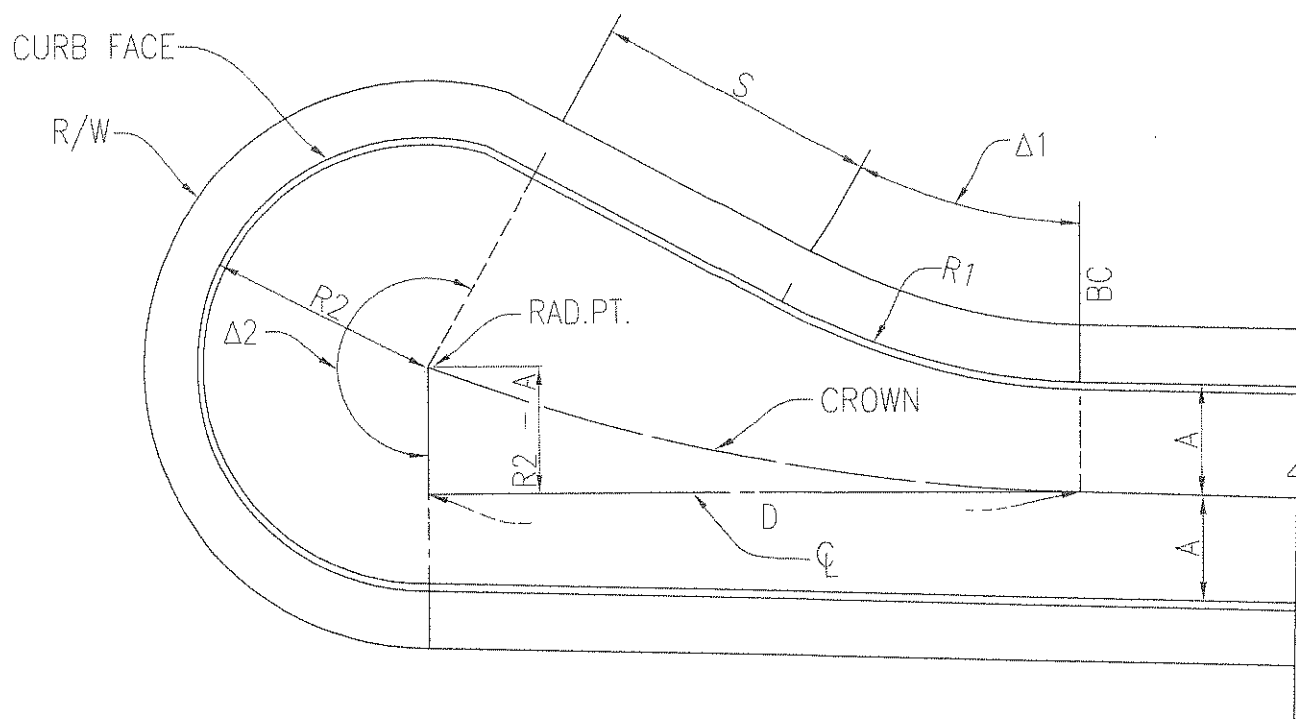
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CURB RAMP**

STANDARD PLAN  
METRIC

**111-3**

SHEET 10 OF 10



### CURB CURVE DATA

	A	Δ1	R1	L1	T1	S	Δ2	R2	L2	D
①	17'	28°18'01"	100'	49.39'	25.46'	30'	208°18'01"	32'	116.34'	88.99'
①	18'	28°11'46"	100'	49.21'	25.11'	70'	208°11'46"	38'	138.08'	109.29'
	20'	28°04'21"	100'	49.00'	25.00'	70'	208°04'21"	40'	145.26'	110.00'
	22'	29°51'16"	100'	52.11'	26.66'	70'	209°51'16"	44'	161.16'	115.05'
②	23'	29°47'19"	100'	51.99'	26.86'	50'	209°47'19"	45'	164.77'	115.43'

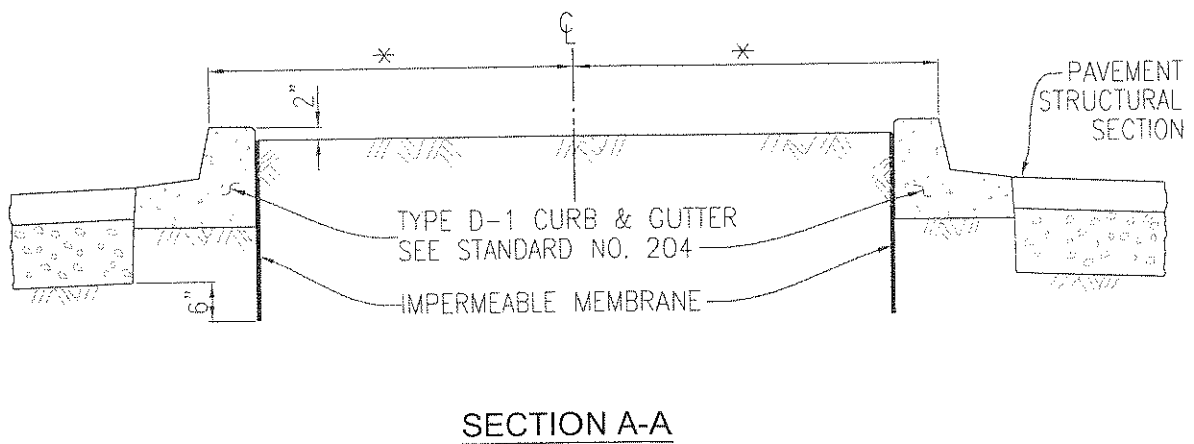
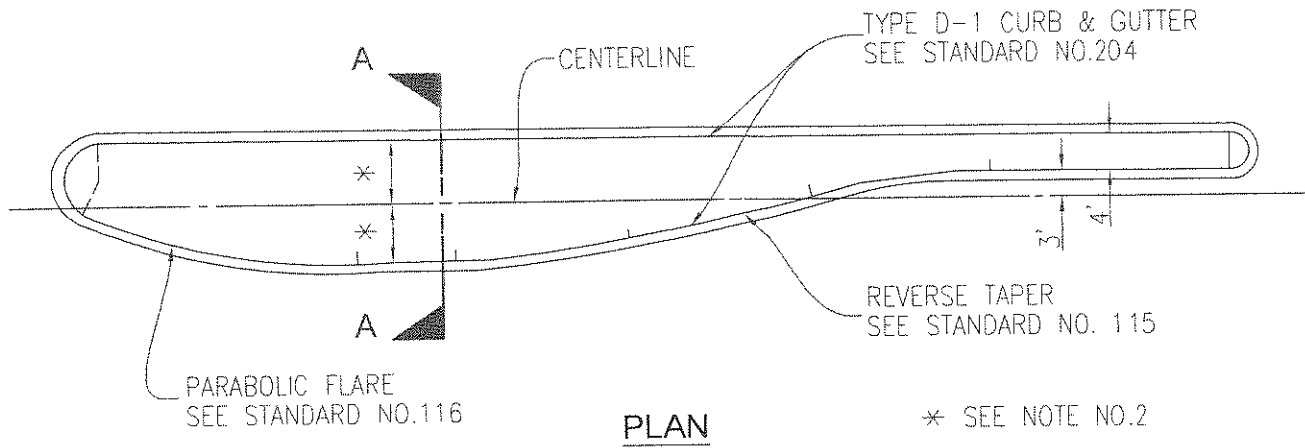
### NOTE:

- ① CUL - DE - SACS WITH 'A' = 17' OR 18' SHALL BE USED ON EXISTING STREETS ONLY AND WITH PRIOR APPROVAL OF THE CITY

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
		OFFSET CUL-DE-SAC		
①		APPROVED BY: <i>Dominic C. Milano</i>		112
②		DOMINIC C. MILANO - CITY ENGINEER		
③		DATE: 6/2/04		
④		R.C.E. NO. 27172		





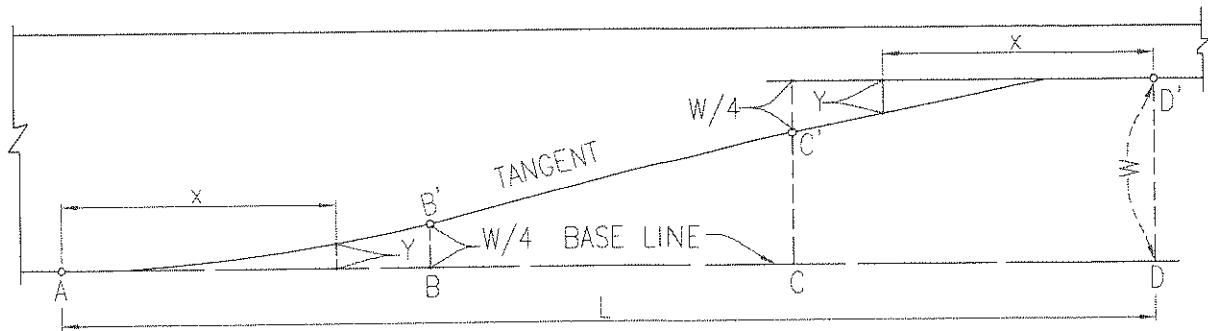


#### NOTES:

1. IMPERMEABLE MEMBRANE SHALL BE 0.06" POLYETHYLENE, POLYSTYRENE, OR EQUAL HIGH IMPACT PLASTIC WITH 1/2" HIGH MINIMUM RAISED VERTICAL RIBS SPACED 6" TO 8" APART THE FULL DEPTH OF BARRIER AND SHALL BE EXPRESSLY DESIGNED FOR ROOT DEFLECTION.  $\triangle$
2. MEDIAN WIDTH BE DETERMINED BY THE CITY ENGINEER.
3. USE OF OTHER THAN TYPE D-1 CURB & GUTTER. REQUIRES APPROVAL OF CITY ENGINEER

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
		RAISED MEDIAN ISLAND		
1		APPROVED BY: <u><i>Dominic C. Milano</i></u> DOMINIC C. MILANO - CITY ENGINEER	DATE: <u>6/2/04</u> R.C.E. NO. 27172	
2				
3				
4				
				114

114



L = TAPER LENGTH

AB = BC = CD = L/3

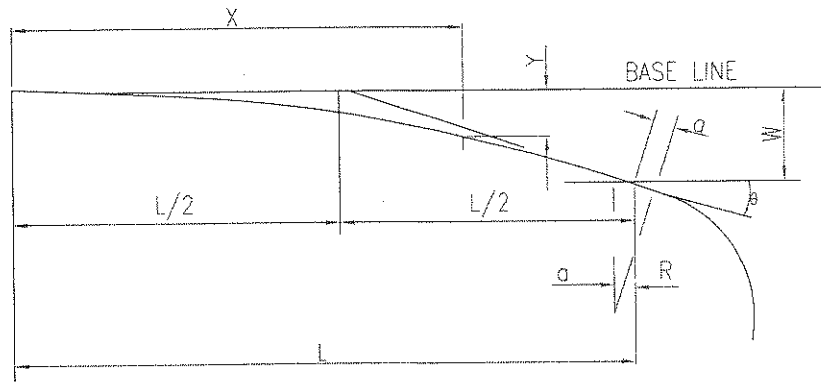
AB' AND C'D' ARE PARABOLIC CURVES EXCEPT ON CURVED ALIGNMENTS.

L	(X) DISTANCE FROM POINT 'A' ALONG BASE LINE											
60'	5'	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'
72'	6'	12'	18'	24'	30'	36'	42'	48'	54'	60'	66'	72'
90'	7.5'	15'	22.5'	30'	37.5'	45'	52.5'	60'	67.5'	75'	82.5'	90'
W	(Y) OFFSET FROM BASE LINE											
10'	0.16'	0.62'	1.41'	2.50'	3.75'	5.00'	6.25'	7.50'	8.59'	9.38'	9.84'	10.00'
11'	0.17'	0.69'	1.55'	2.75'	4.13'	5.50'	6.88'	8.25'	9.45'	10.31'	10.83'	11.00'
12'	0.19'	0.75'	1.69'	3.00'	4.50'	6.00'	7.50'	9.00'	10.31'	11.25'	11.81'	12.00'

### NOTES:

- TO DETERMINE OFFSET DISTANCES FOR ANY LENGTH TAPER USE THE FORMULA  $Y=2.25' (Wx^2 / L^2)$  FOR THE PORTION AB' AND C'D' WHICH ARE PARABOLIC CURVES. B' C' IS TANGENT. IN THE CASE OF A CURVED BASE LINE THE OFFSETS ARE CALCULATED BY ASSUMING THE BASE LINE TO BE TANGENT. OFFSETS ARE THEN APPLIED TO THE CURVED BASE LINE. AB' AND B' D' ARE NO LONGER PARABOLIC AND B' C' IS NO LONGER A TANGENT.
- L SHALL BE 90' FOR ALL MAJOR AND SECONDARY HIGHWAYS.

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
		REVERSE TAPER		
1		APPROVED BY: <u><i>Dominic C. Milano</i></u> DOMINIC C. MILANO - CITY ENGINEER		DATE: <u>6/2/04</u> R.C.E. NO. 27172
2				
3				
4				115



$$Y = W (X/L)$$

$$\tan \theta = 2W/L$$

$$a = R \tan \theta / 2$$

L = LENGTH OF FLARE IN FEET

Y = OFFSET FROM BASE LINE IN FEET

W = MAXIMUM OFFSET DISTANCE IN FEET

a = TANGENT LENGTH IN FEET

X = DISTANCE ALONG BASE LINE IN FEET

R = RADIUS OF NOSE IN FEET

### OFFSET "Y" (IN FEET)

X L	10	15	20	25	30	40	45	50	60	70	75	80	90	100
--------	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

FOR W/L = 1:5

25	0.80	1.80	3.20	5.00										
50	0.40		1.60		3.60	6.40		10.00						

FOR W/L = 1:10

50	0.20		0.80		1.80	3.20		5.00						
100	0.10		0.40		0.90	1.60		2.50	3.60	4.90		6.40	8.10	10.00

FOR W/L = 1:15

45	0.15		0.59		1.33	2.37	3.00							
75	0.09		0.36		0.80	1.42		2.22	3.20	4.36	5.00			
90	0.07		0.30		0.67	1.19		1.85	2.67	3.63		4.74	6.00	

### NOTES:

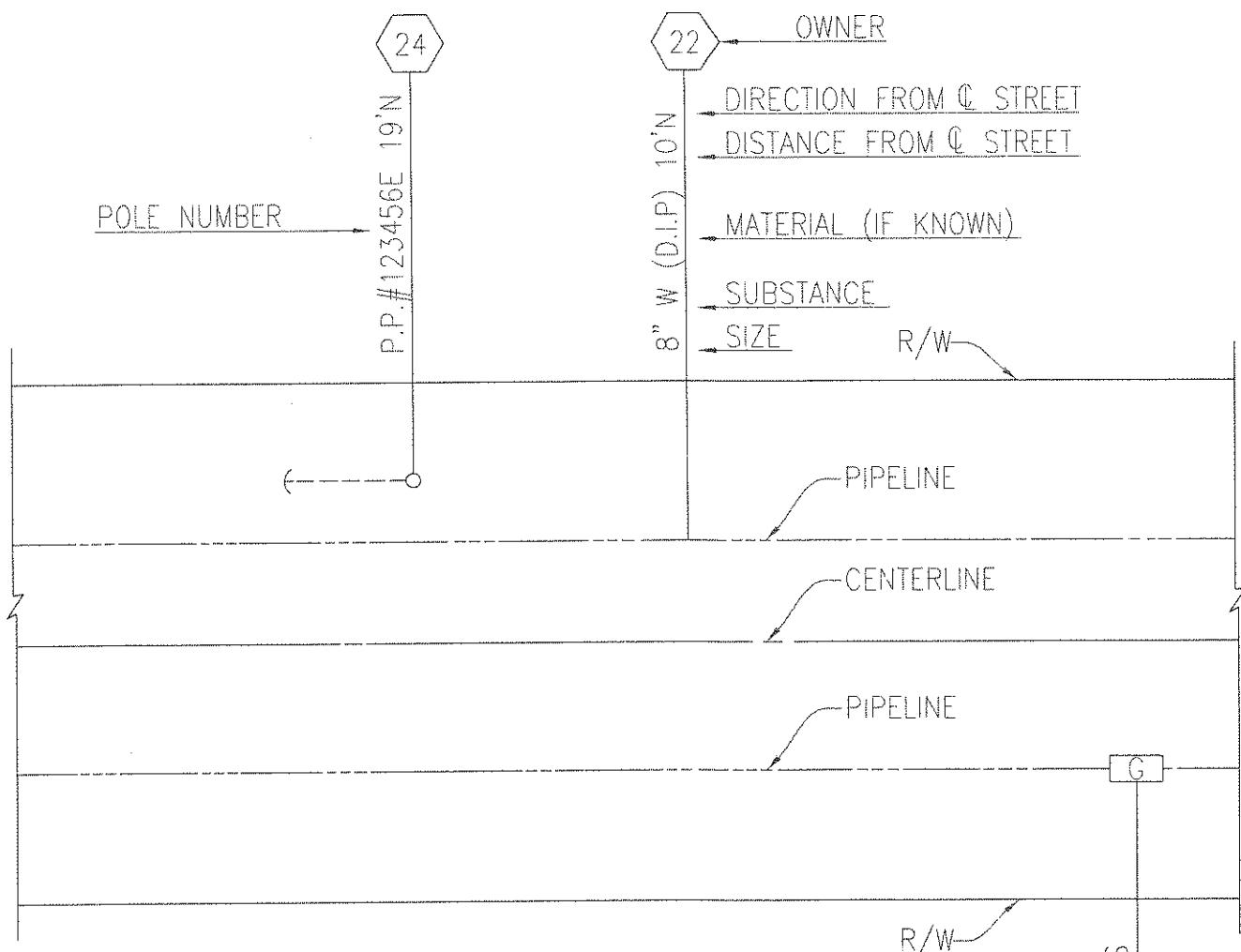
1. CURVE DATA FOR NOSE, "L" AND "a" SHALL BE SHOWN ON PLANS.
2. FOR MAJOR & SECONDARY HIGHWAYS, "L" SHALL BE 50' MINIMUM.

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
	PARABOLIC FLARE		
1	APPROVED BY: <i>Dominic C. Milano</i>	DATE: <u>6/2/04</u>	116
2		R.C.E. NO. 27172	
3			
4			

- 
- Diagram illustrating the Plan view of a street intersection layout, showing a grid of 10' x 10' typical sections.
- Key features and labels:
- CURB FACE**: Indicated by a dashed line.
  - EDGE OF GUTTER**: Indicated by a solid line.
  - B.C.R.**: Back Corner Radius, shown at the corners of the grid.
  - E.C.R.**: Edge Corner Radius, shown at the corners of the grid.
  - CENTERLINE**: Indicated by a solid line.
  - Δ/4**: Angle of the corner radii, shown at the corners of the grid.
  - 10' TYP.**: Typical section width, shown for the grid sections.
  - X**: Offset distance from the centerline to the gutter edge, shown at the intersection.

1. IMPROVEMENT PLANS SHALL HAVE A SEPARATE DETAIL FOR EACH INTERSECTION IN PROJECT AREA DRAWN AT A SCALE OF 1"= 10'.
2. REQUIRED ELEVATIONS ARE SHOWN AT 10' NETWORK, EXCEPT AS NOTED. IF INTERSECTION IS TO BE OVERLAYED, BOTH EXISTING AND DESIGN ELEVATIONS SHALL BE SHOWN AT EACH LOCATION INDICATED.
3. IF CROSSGUTTER EXISTS OR IS BEING CONSTRUCTED, THE EDGE OF GUTTER ELEVATIONS SHALL BE INCORPORATED IN GRID NETWORK.
4. INTERSECTION DETAILS SHALL BE REQUIRED FOR ALL MAJOR AND SECONDARY HIGHWAY INTERSECTIONS, AND WHEN REQUIRED BY THE CITY ENGINEER FOR STEEP GRADE INTERSECTIONS.

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
1		INTERSECTION DETAIL		117
2				
3				
4				
		APPROVED BY: <u>Dominic C. Milano</u>	DATE: <u>6/2/04</u>	
		DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	



### NOTES:

1. ALL UTILITIES SHALL BE SHOWN ON A SEPARATE DRAWING AT A SCALE OF 1"=20'.
2. SEE STANDARD NO.119 FOR UTILITY OWNERS AND CODE NUMBERS.
3. SEE STANDARD NO.101 AND 102 FOR TOPOGRAPHIC SYMBOLS AND ABBREVIATIONS.

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
<div>1</div> <div>2</div> <div>3</div> <div>4</div>	UTILITY PLAN		
	APPROVED BY: <i>Dominic C. Milano</i> DOMINIC C. MILANO - CITY ENGINEER	DATE: <i>6/2/04</i> R.C.E. NO. 27172	<div>118</div>

CODE  
NO.

UTILITY COMPANY

00	AGENCY UNKNOWN
1	ATLANTIC RICHFIELD COMPANY R/W DIVISION
2	ATLANTIC RICHFIELD COMPANY NA PRODUCTS DIVISION
3	STATE OF CALIFORNIA
4	CHEVRON, U.S.A.
5	LOS ANGELES COUNTY SANITATION DISTRICT
6	
7	EDGINGTON OIL COMPANY
8	OTHER AS DESIGNATED ON PLAN
9	GENERAL TELEPHONE COMPANY
10	GRANER OIL COMPANY
11	INDUSTRIAL DEVELOPMENT ASSOC./ POWERINE OIL
12	LOMITA GASOLINE COMPANY / PETROLANE
13	CITY OF LONG BEACH PUBLIC WORKS
14	CITY OF LONG BEACH GAS DEPARTMENT
15	LONG BEACH TRANSIT DISTRICT
16	CITY OF LONG BEACH WATER DEPARTMENT
17	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
18	MACMILLAN RING-FREE OIL COMPANY
19	MOBIL OIL CORPORATION
20	OIL OPERATORS
21	SHELL OIL
22	CITY OF SIGNAL HILL
23	SIGNAL HILL TERMINAL CORPORATION

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
	UTILITY OWNERS		
1	APPROVED BY: <i>Dominic C. Milano</i>	DATE: <i>6/2/64</i>	119 1 OF 2
2	DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	
3			
4			

CODE  
NO.

UTILITY COMPANY

24	SOUTHERN CALIFORNIA EDISON COMPANY
25	SOUTHERN CALIFORNIA GAS COMPANY
26	
27	TEXACO, INCORPORATED
28	VICTORY OIL CO.
29	PHILLIPS PETROLEUM COMPANY
30	FOUR CORNERS PIPELINE COMPANY (DIVISION OF ARCO)
31	GOLDEN EAGLE REFINING CO.
32	UNOCAL
33	
34	CHARTER CABLE TV
35	MARLEX OIL & REFINING, INCORPORATED
36	LONG BEACH TRAFFIC ENGINEER DEPT.
37	
38	
39	INDEPENDENT EXPLORATION
40	SIGNAL HILL PETROLEUM, INC.
41	CREE OIL LTD.
42	S & C OIL CO., INC.

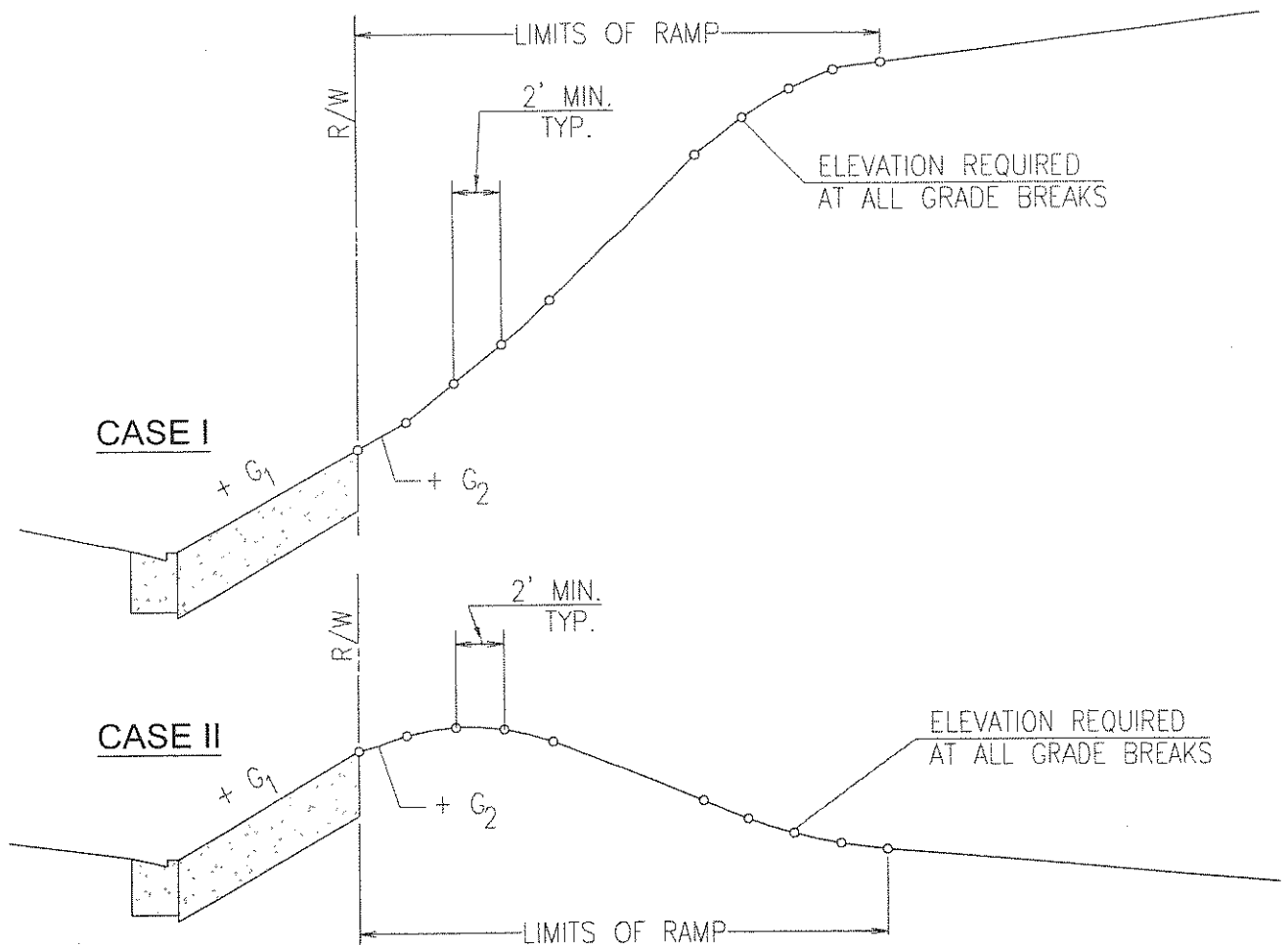
NOTES:

1. THE ENGINEER SHALL SHOW THE APPROPRIATE CODE AND OWNERS NAMES ON THE UTILITY PLAN.
2. THE ENGINEER SHALL SEND UTILITY NOTIFICATIONS TO EACH COMPANY AND JURISDICTION ON THIS LIST.

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	UTILITY OWNERS	119
2		2 OF 2
3	APPROVED BY: <i>Dominic C. Milano</i>	DATE: <i>6/2/04</i>
4	DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172

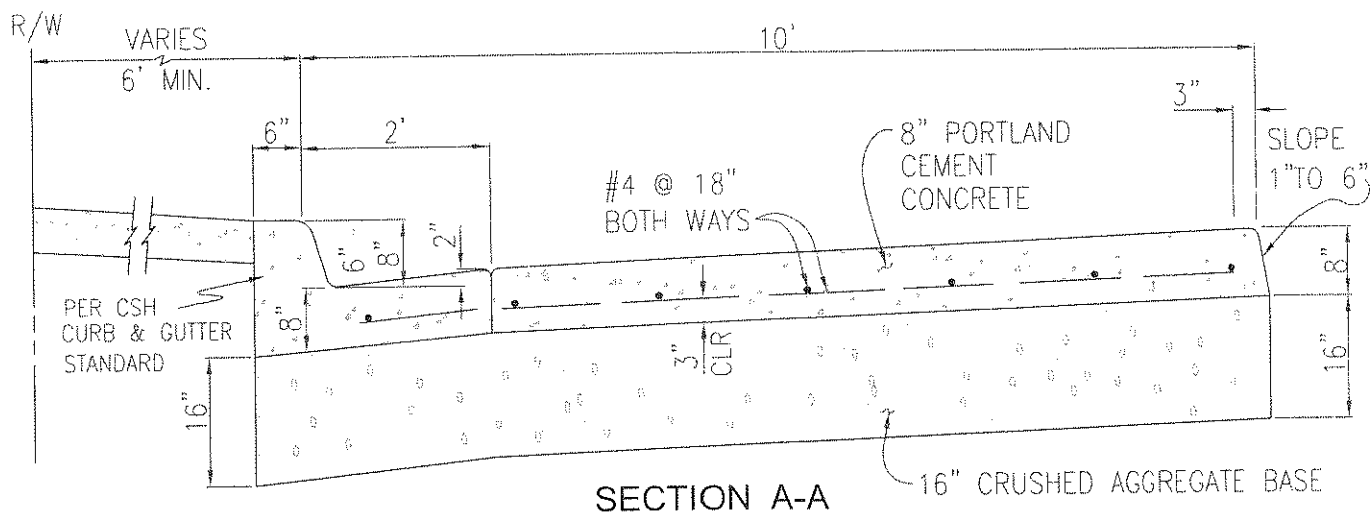
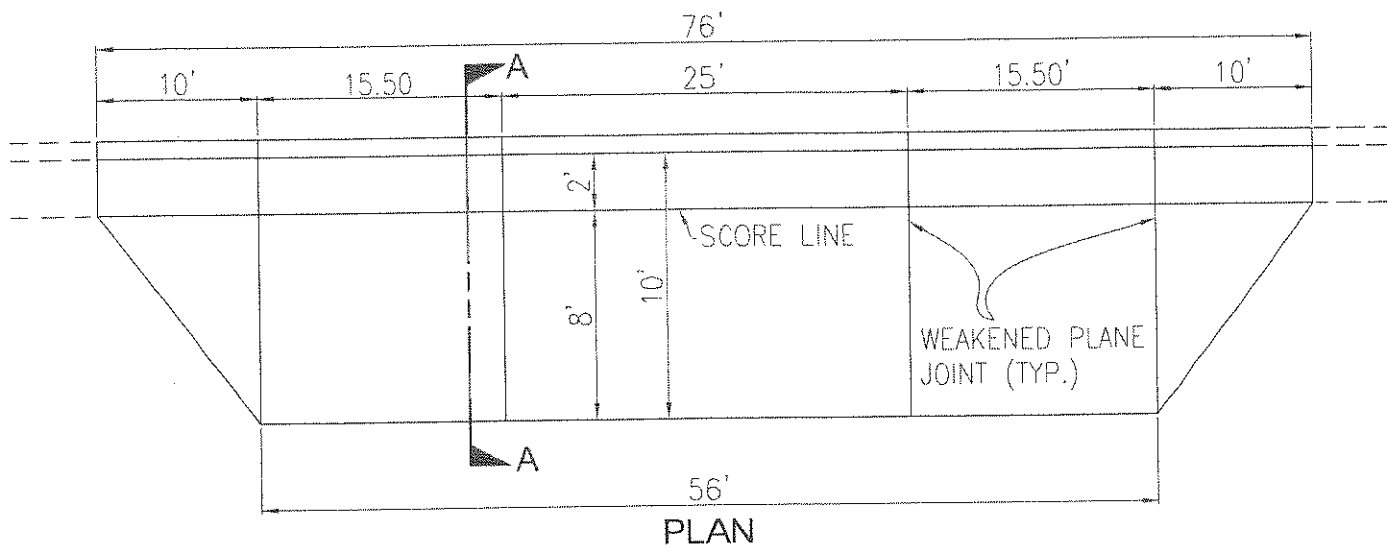
## RAMP DESIGN CRITERIA

1. THE RAMP IS DEFINED AS THE AREA BETWEEN THE PUBLIC RIGHT OF WAY AND THE PARKING AREA , OR ANY AREA USED STRICTLY AS A DRIVEWAY WITH NO ADJACENT PARKING.
2. MAXIMUM RAMP GRADE (G) = 12.00%  
MINIMUM RAMP GRADE (G) = 0.50% P.C.C., 1.00% A.C.
3. MINIMUM LENGTH BETWEEN GRADE BREAK = 2'
4. MAXIMUM GRADE BREAK = 4.00%
5.  $G_2 - G_1$  SHALL NOT EXCEED 4.00%
6. G SHALL NOT BE MODIFIED FROM THE STANDARD SLOPE AS SHOWN ON DRIVEWAY STANDARDS.



REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
1		DRIVEWAY RAMP DESIGN		
2				
3		APPROVED BY: <u><i>Dominic C. Milano</i></u>	DATE: <u>6/2/04</u>	<u>120</u>
4		DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	




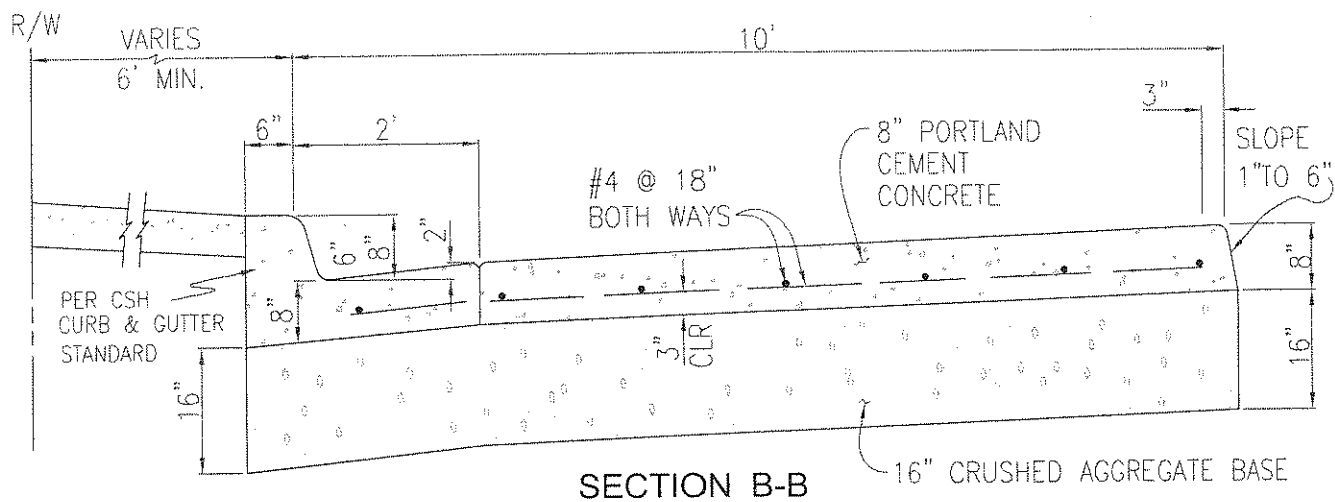
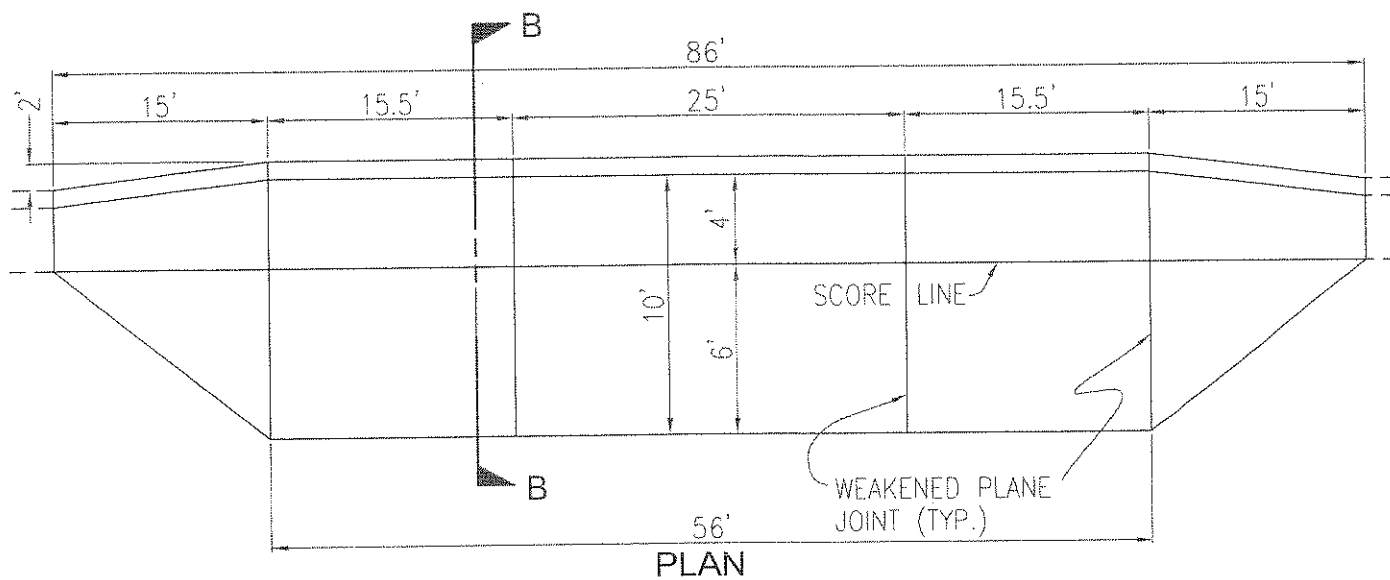


### NOTES


1. BUS PARKING BAY SHALL BE ON FAR SIDE OF INTERSECTION WHENEVER POSSIBLE.
2. TYPE OF BUS PARKING BAY USED AND EXACT LOCATION SHALL BE AT DIRECTION OF CITY ENGINEER.
3. ALL REINFORCING STEEL SHALL BE 3" CLEAR FROM ALL EDGES OF PORTLAND CEMENT CONCRETE.

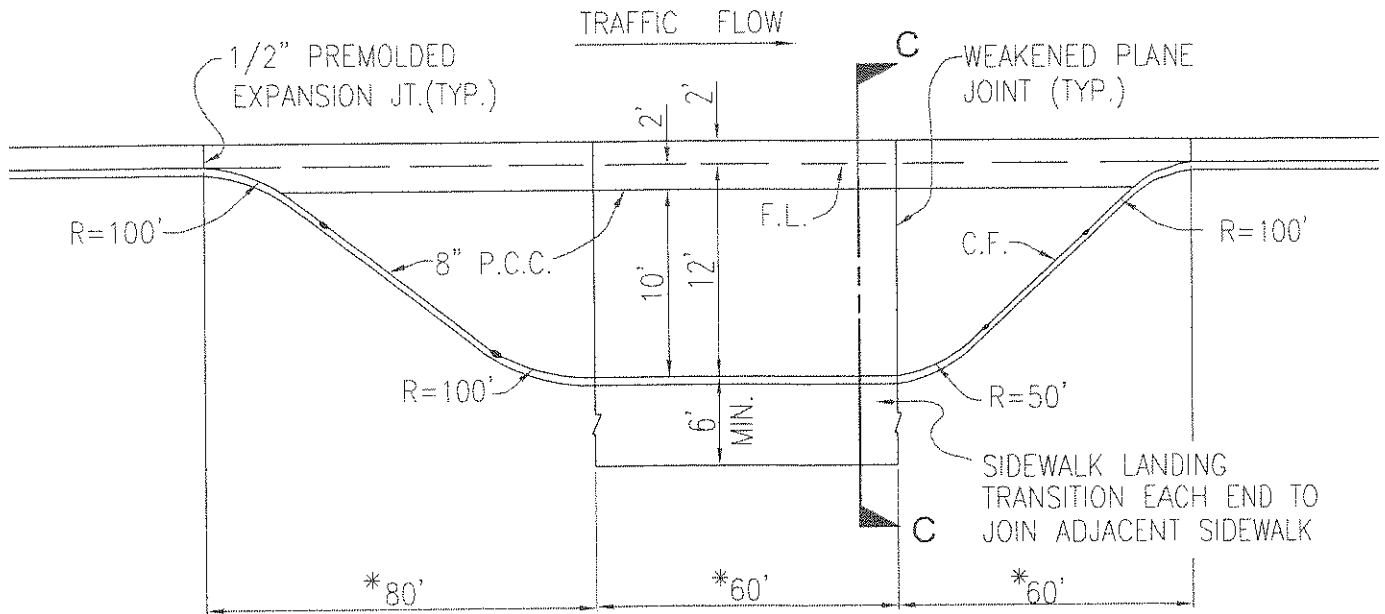
TYPE I

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1		BUS PARKING BAY	121 1 OF 3
2			
3			
4			
APPROVED BY:		 DOMINIC C. MILANO - CITY ENGINEER	DATE: 6/2/04 R.C.E. NO. 27172

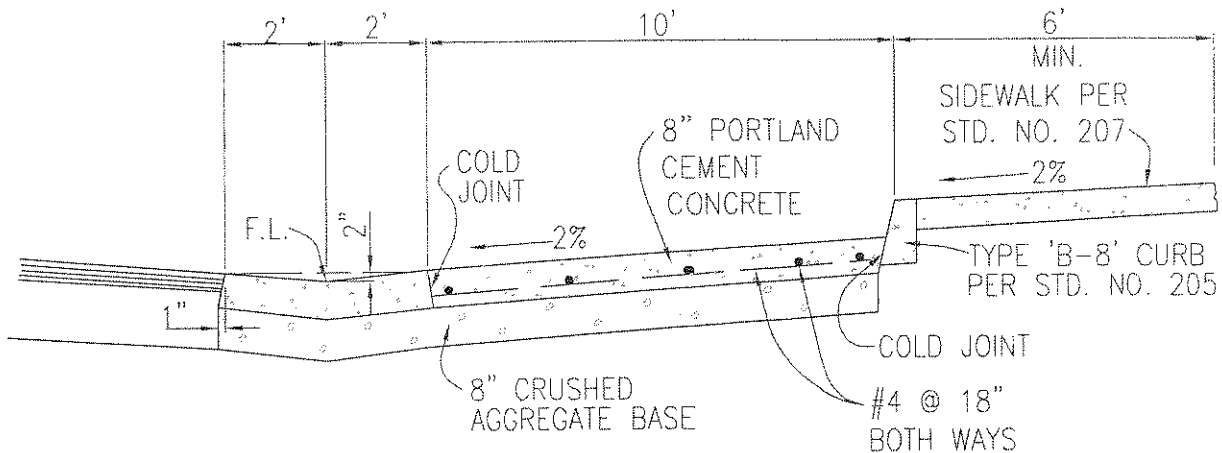


TYPE-II

REVISIONS		CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.  <div>121</div> <div>2 OF 3</div>
		BUS PARKING BAY		
1		APPROVED BY:  DOMINIC C. MILANO - CITY ENGINEER	DATE: 6/2/04 R.C.E. NO. 27172	
2				
3				
4				



PLAN



SECTION C-C

NOTES:

\* DIMENSION SUBJECT TO TRAFFIC ENGINEER'S APPROVAL

TYPE III

REVISIONS	CITY OF SIGNAL HILL PUBLIC WORKS DEPT.		STANDARD PLAN NO.
	BUS PARKING BAY		
1	APPROVED BY: <i>Dominic C. Milano</i>	DATE: 6/2/04	121
2	DOMINIC C. MILANO - CITY ENGINEER	R.C.E. NO. 27172	3 OF 3
3			
4			

1. ALL WORK DETAILED ON THE CONSTRUCTION DRAWINGS, EXCEPT AS OTHERWISE STATED IN THE SPECIAL PROVISIONS OF THE CONTRACT, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF SIGNAL HILL STANDARD PLANS AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION) .

2. ALL STATIONS AND DIMENSIONS ARE ALONG THE CENTERLINE OF STREET UNLESS OTHERWISE SPECIFIED.


3. EXISTING UNDERGROUND UTILITIES ARE SHOWN AS PER AVAILABLE RECORDS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION AND ELEVATION, IF REQUIRED, IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION OF THE NEW FACILITIES.

4. CURB DATA REFERS TO FACE OF CURB.


5. ALL P.C.C AND A.C. REMOVALS SHALL BE OUTLINED TO NECESSARY WORKING LIMITS AND SAWCUT TO MINIMUM DEPTH OF 2 INCHES PRIOR TO THE REMOVAL. UNLESS OTHERWISE STATED IN THE SPECIAL PROVISIONS, ALL DEBRIS CREATED BY THE REMOVAL OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AWAY FROM THE JOB SITE IN A MANNER AND AT A LOCATION ACCEPTABLE TO ALL AGENCIES AFFECTED BY THE WORK.

6. TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL), 1985 EDITION OR LATER REVISION, AND ARE SUBJECT TO THE APPROVAL OF THE AGENCY/CITY.

7. IN ALL OPERATIONS, THE REQUIREMENTS OF THE STATE DIVISION OF INDUSTRIAL SAFETY FOR TRENCHES, EXCAVATIONS AND SHORING SHALL APPLY. SAFETY IS STRESSED. ANY OPERATION OR SITUATION THAT THREATENS THE SAFETY OF WORKERS OR THE PUBLIC, INCLUDING IMPROPER TRAFFIC CONTROL, SHALL CAUSE THE SUSPENSION OF WORK UNTIL CORRECTIONS ARE MADE.

REVISIONS # DATE	CITY OF SIGNAL HILL - PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	GENERAL NOTES	122
2		
3	APPROVED BY:  DATE: 6/2/04	SHEET
4	DOMINIC C MILANO - CITY ENGINEER R.C.E. NO. 27172	1 OF 2

8. ALL OPEN EXCAVATIONS WITHIN A STREET SHALL BE STEEL-PLATED AT ALL TIMES, EXCEPT WHEN THE CONTRACTOR IS PHYSICALLY WORKING WITHIN THE AREA AND HAS PLACED BARRICADES TO THE SATISFACTION OF THE ENGINEER.
9. THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT STORM OR OTHER WATERS MAY PROCEED UNINTERRUPTED AND WITHOUT EROSION ALONG THEIR EXISTING STREET OR DRAINAGE COURSES.
10. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUNDWATER AND BODIES OF WATER FROM POLLUTION BY FUELS, OIL, BITUMENS OR OTHER HARMFUL MATERIALS.
11. HARD HATS AND HIGH VISIBILITY ORANGE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THIS PROJECT.
12. BEFORE STARTING WORK, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CITY OF SIGNAL HILL, DEPARTMENT OF PUBLIC WORKS.
14. FAILURE TO COMPLY WITH ANY OF THE ABOVE ITEMS SHALL BE SUFFICIENT CAUSE FOR THE AGENCY/CITY TO ARRANGE FOR THE NECESSARY WORK TO BE PERFORMED BY OTHERS. ANY COSTS INCURRED TO COMPLETE THE NECESSARY WORK WILL BE CHARGED TO THE CONTRACTOR.

REVISIONS # DATE	CITY OF SIGNAL HILL - PUBLIC WORKS DEPT.	STANDARD PLAN NO.
1	GENERAL NOTES	122
2	APPROVED BY:  DATE: 6/2/04	SHEET
3	DOMINIC C MILANO - CITY ENGINEER	2 OF 2
4	R.C.E. NO. 27172	

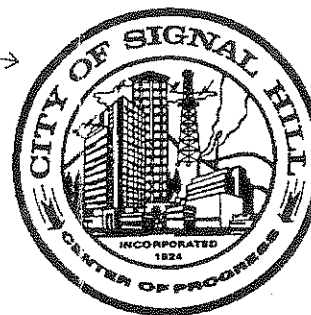
CONSTRUCTION PLANS FOR THE  
REDEVELOPMENT AGENCY  
OF THE  
CITY OF SIGNAL HILL  
**GUNDRY AVENUE**  
WILLOW STREET TO 27TH STREET  
PROJECT NO. 343

ON PROJECTS FINANCED  
BY REDEVELOPMENT  
AGENCY FUNDS ONLY

ON ALL  
PROJECTS

ON DEVELOPER  
FINANCED PRO-  
JECTS ONLY

ON PROJECTS FINANCED  
BY REDEVELOPMENT  
AGENCY FUNDS ONLY



### INDEX OF DRAWINGS

sht.  
no. description location

DESCRIBE EACH SHEET

CITY OF SIGNAL HILL  
BENCH MARK NO. 000

DESCRIBE  
BENCH MARK

BASIS OF BEARINGS

GIVE BASIS  
OF BEARINGS

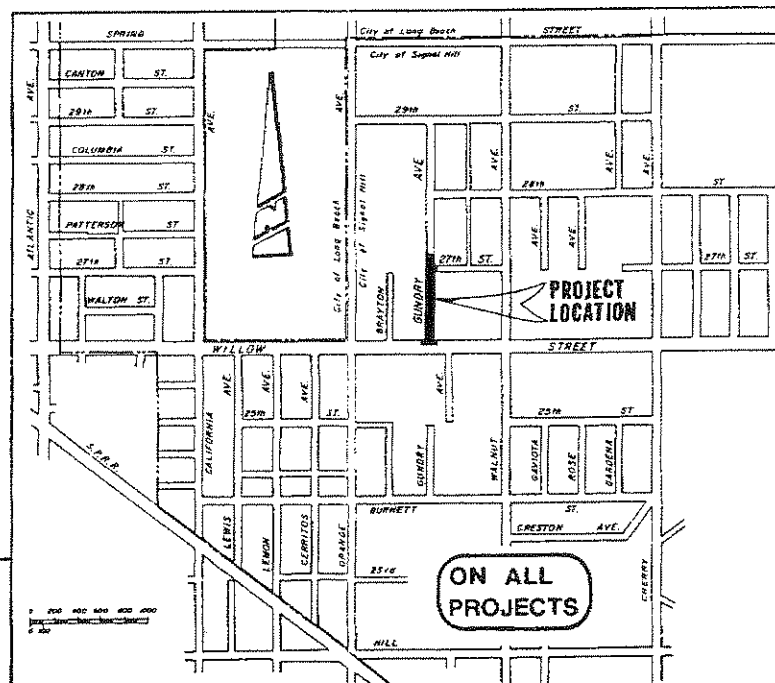
PLACE OWNERS  
NAME, ADDRESS AND  
TELEPHONE NUMBER  
ON DEVELOPER  
FINANCED PROJECTS

CIVIL ENGINEERS  
SEAL OR STAMP WITH  
R.C.E. EXPIRATION DATE

PLANS PREPARED BY:

**XYZ**

CONSULTING CIVIL ENGINEERS  
ADDRESS  
CITY, STATE  
TELEPHONE NO.



VICINITY MAP

ON ALL  
PROJECTS

ON ALL  
PROJECTS

TO BE SIGNED  
AND DATED  
BY R.C.E.

### GENERAL NOTES

1. SEE CITY OF SIGNAL HILL STANDARD PLAN NO. 122 AND STANDARD PLAN NO. 400 FOR ALL GENERAL NOTES.

### PAVING NOTES

1. AGGREGATE BASE SHALL BE CRUSHED AGGREGATE BASE ONLY, AS SPECIFIED IN SECTION 206-2 OF THE STANDARD SPECIFICATIONS. PLACEMENT SHALL BE AS SPECIFIED IN SECTION 301-2 OF THE STANDARD SPECIFICATIONS AND AT THE DEPTH AND LOCATIONS SHOWN ON THE PLANS.
2. A TACK COAT SHALL BE APPLIED TO ALL CONTACT SURFACES, INCLUDING ALL AREAS COLD PLANNED OR SAWCUT, AND BETWEEN SUCCESSIVE COURSES AT A RATE OF 0.05 GALLON PER SQUARE YARD. TACK COAT SHALL BE AR-1000 PAVING ASPHALT.
3. REMOVE ALL ABANDONED PIPE LINES AND RELOCATE ALL ACTIVE PIPE LINES WITHIN 12 INCHES OF BOTTOM OF THE CRUSHED AGGREGATE BASE AT NO COST TO THE CITY.
4. THE ASPHALT CONCRETE BASE COURSE SHALL BE CLASS B WITH AR-4000 PAVING ASPHALT. THE ASPHALT CONCRETE FOR THE SURFACE COURSE, ASPHALT CONCRETE TRANSITIONS, LEVELING COURSE AND OVERLAYS SHALL BE CLASS C2 OR S2 WITH AR-1000 PAVING ASPHALT.
5. a. MINIMUM STRUCTURAL SECTION FOR ON-SITE CONSTRUCTION IS 3" AC/4" C.B. STRUCTURAL SECTION SHALL BE BASED ON THE 'R' VALUE STATED IN THE SOIL REPORT AND A MINIMUM T1 = 4.0.  
b. OFF-SITE (PUBLIC RIGHT OF WAY):  
STREET (LOCAL) MINIMUM = 4" AC/6" C.B. T1 = 5.0  
ALLEY MINIMUM = 5" AC/4" C.B. T1 = 5.0  
SPECIAL DESIGN REQUIRED FOR OTHER STREETS
6. SPECIAL DESIGN IS REQUIRED WHERE SITE IS USED BY OIL COMPANIES TO SERVICE THEIR FACILITIES AND REQUIRES APPROVAL OF THE OIL COMPANY WITH SIGNATURE ON THE PLANS.

ON DEVELOPER FINANCED  
PROJECTS ONLY. SCALE:  
1" = 100' TO 1" = 300'

### INDEX MAP

### SUBSTRUCTURE NOTICES

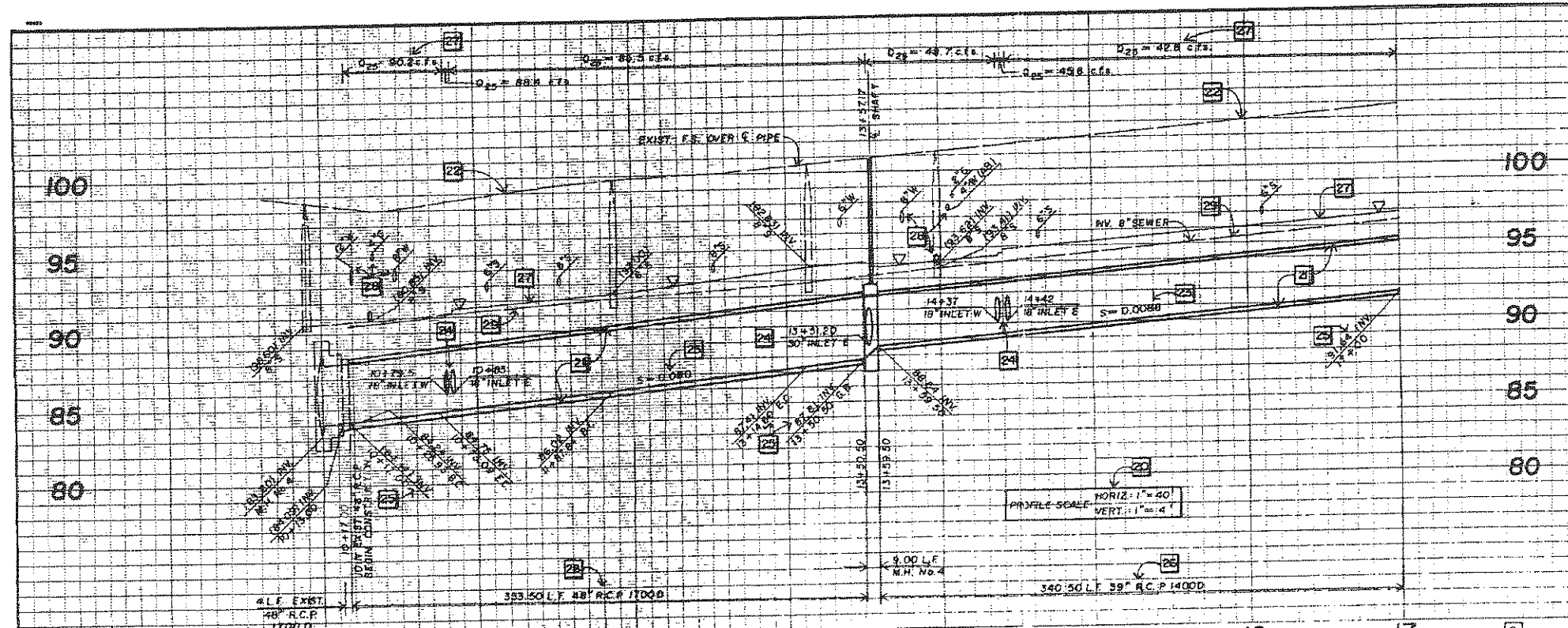
1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR SUBSTRUCTURES SHOWN ON THESE PLANS WAS OBTAINED FROM A SEARCH OF AVAILABLE RECORDS AND POTHOLES SHOWN ON PLANS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES SHOWN AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE UTILITIES OR SUBSTRUCTURES SHOWN AND ANY OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
2. THE CONTRACTOR SHALL NOTIFY ALL PERTINENT UTILITY COMPANIES, NOT LIMITED TO THOSE INDICATED BELOW, AT LEAST 48 HOURS PRIOR TO THE START OF ANY EXCAVATION.
  - a. UNDERGROUND SERVICE ALERT 1-(800)-422-4133
  - b. SOUTHERN CALIFORNIA Edison COMPANY  
REPRESENTATIVE'S NAME AND TELEPHONE NUMBER
  - c. GENERAL TELEPHONE COMPANY  
REPRESENTATIVE'S NAME AND TELEPHONE NUMBER
  - d. SOUTHERN CALIFORNIA GAS COMPANY  
REPRESENTATIVE'S NAME AND TELEPHONE NUMBER
  - e. LONG BEACH GAS DEPARTMENT  
REPRESENTATIVE'S NAME AND TELEPHONE NUMBER

CITY STAFF  
TO ASSIGN  
PLAN NO.

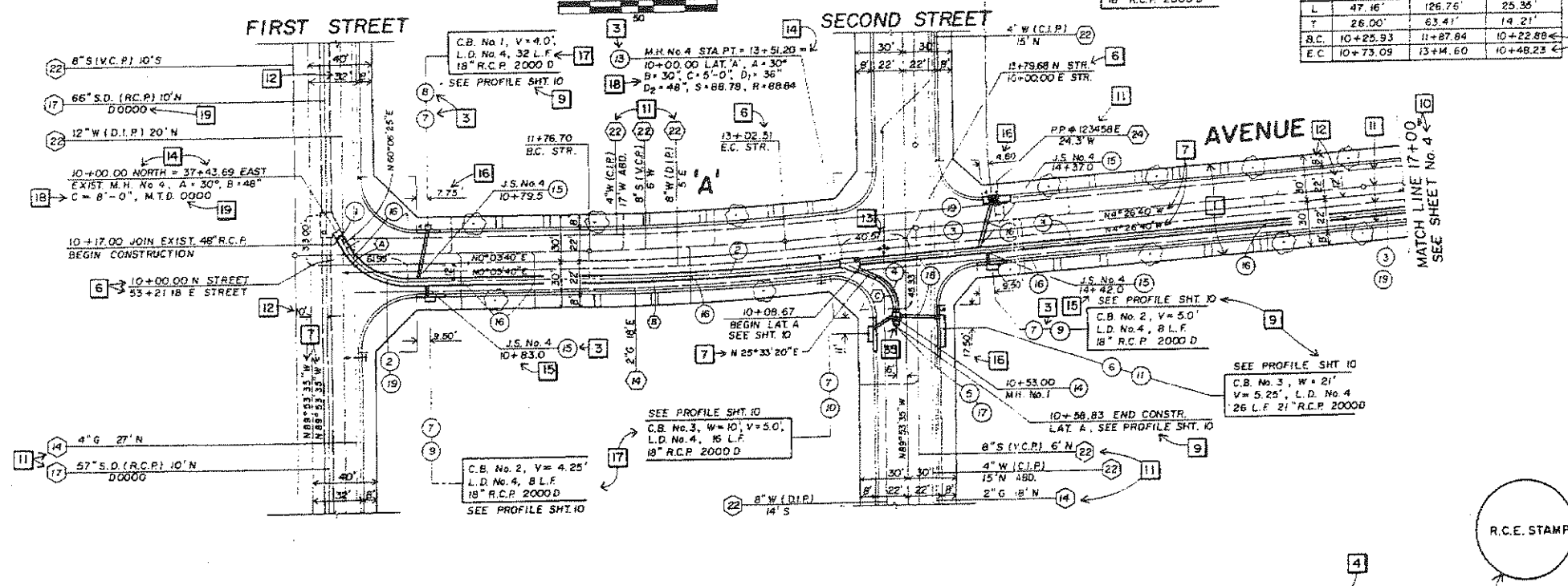
REVISIONS					REFERENCES					TITLE SHEET		SHEET 1 OF	
NO.	DATE	INITIAL	DESCRIPTION	APP.	PLANS FOR THESE IMPROVEMENTS					GUNDRY AVENUE WILLOW STREET TO 27th STREET CITY OF SIGNAL HILL		STANDARD PLAN 123 PLAN NUMBER	
1			ALL REVISIONS SHALL BE DONE ON ORIGINAL TRACINGS		STREET SEWER					SCALE PREPARED UNDER THE SUPERVISION OF R.C.E. NO. CHECKED BY RECD. BY APPROVED <i>James A. Bessy</i> CITY ENGINEER		DATE 6/2/89	
2			ALL REVISIONS SHALL BE APPROVED BY CITY ENGINEER										







NOTE:  
SEE SHT. 2 FOR UTILITY PLAN.  
SHT. 5 FOR SEWER PLAN, SHT. 7  
FOR WATER PLAN & SHT. 10  
FOR MISCELLANEOUS DETAILS.



# CONSTRUCTION NOTES

1. REMOVE EXIST. BRICK & MORTAR PLUG AND JOIN EXIST. R.C.P.
2. FURNISH AND PLACE 48" R.C.P.
3. FURNISH AND PLACE 39" R.C.P.
4. FURNISH AND PLACE 30" R.C.P.
5. FURNISH AND PLACE 27" R.C.P.
6. FURNISH AND PLACE 21" R.C.P.
7. FURNISH AND PLACE 18" R.C.P.
8. CONSTR. C.B. No. 1 & L.D. No. 4 PER L.A.C.F.C.D. STD'S. 2-DWG B 2-0415
9. FURNISH & PLACE PERMANENT SURFACING PER SCHEDULE ON SHT. No. 2 AND CITY STD. No. 241.

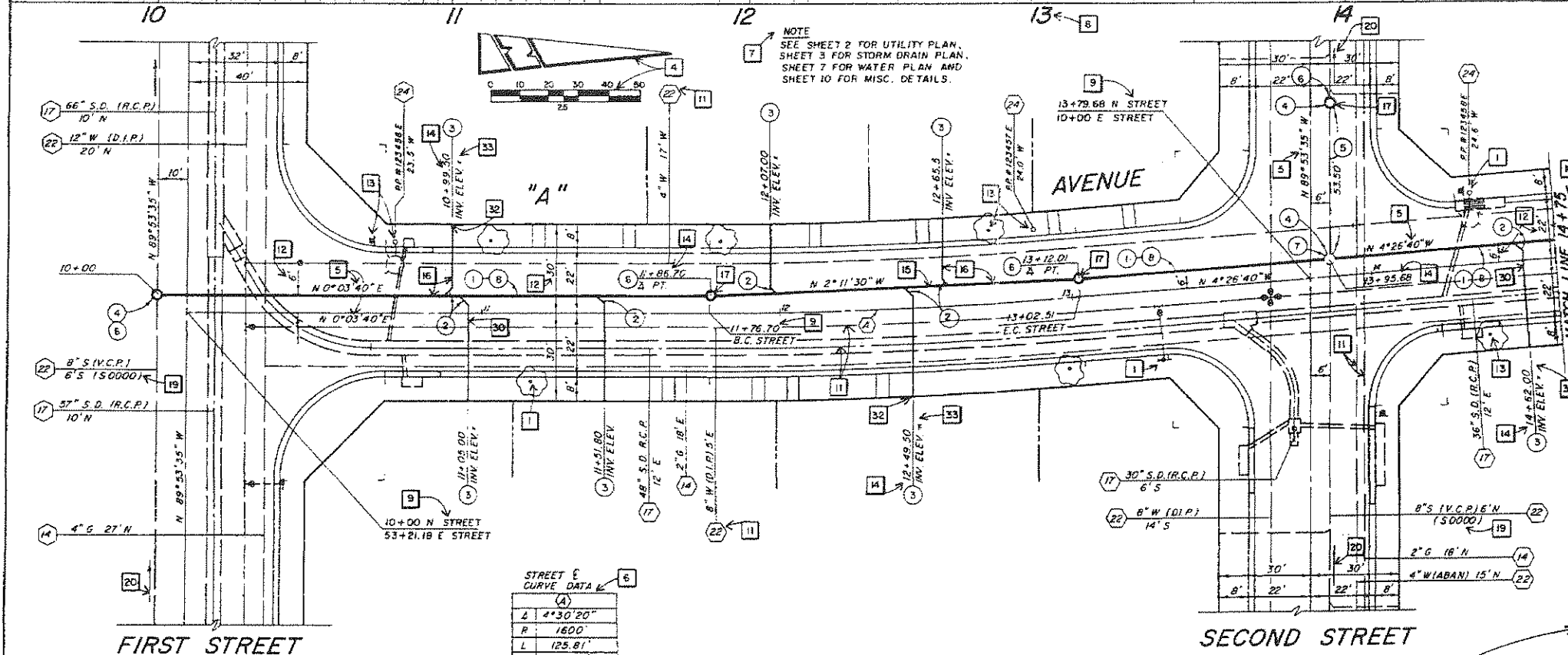
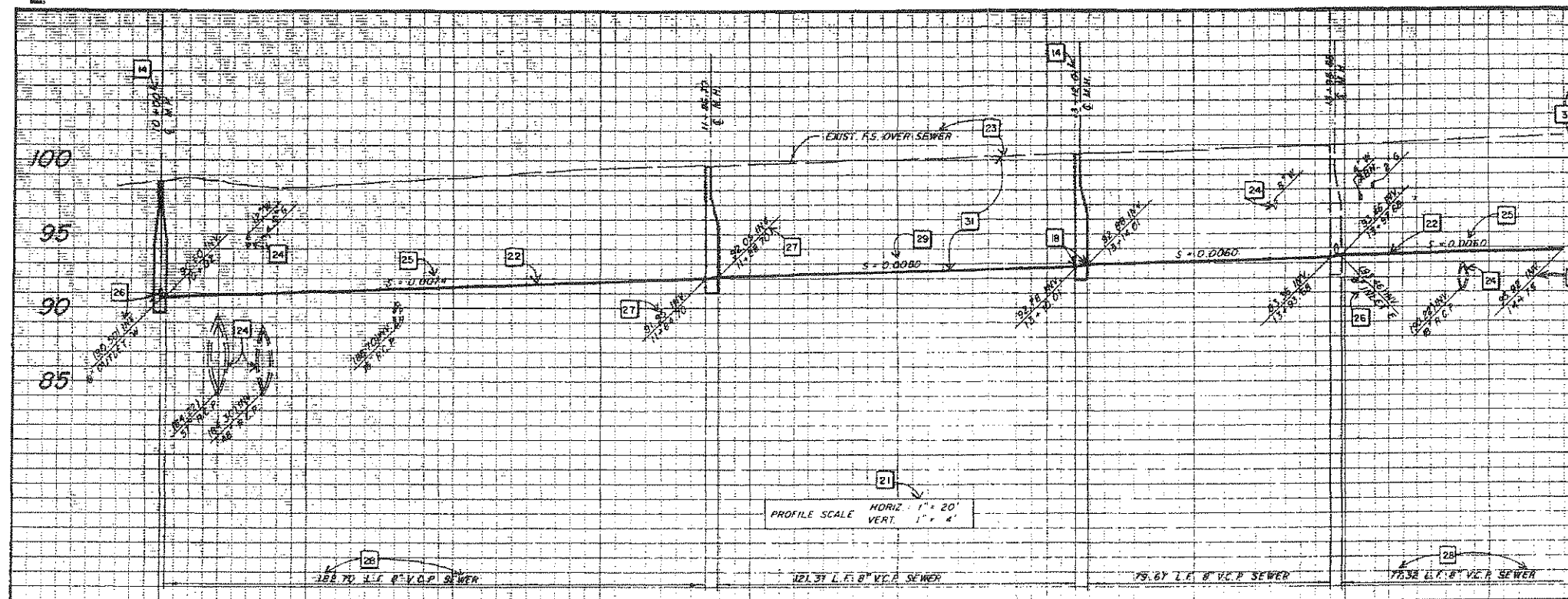
# INSTRUCTIONAL NOTES

1. ALL DRAFTING TO USE STANDARD SYMBOLS, LEGEND AND ABBREVIATIONS.
2. ALL DESIGN AND CONSTRUCTION TO BE PER LOS ANGELES COUNTY FLOOD CONTROL DISTRICT AND/OR CITY CRITERIA AND STANDARDS.
3. LIST ALL APPLICABLE CONSTRUCTION NOTES ON EACH SHEET.
4. SHOW NORTH ARROW AND GRAPHIC SCALE. PLAN SCALE SHALL BE 1"=40'.
5. ALL STATIONING SHALL BE ALONG CENTERLINE OF STORM DRAIN. ALL STATIONING SHALL RUN LEFT TO RIGHT, SOUTH TO NORTH OR WEST TO EAST AND SHALL ALWAYS RUN UPSTREAM ON STORM DRAIN.
6. REFERENCE STREET OR SURVEY STATIONING AT ALL CENTERLINE INTERSECTIONS, B.C.'S AND E.C.'S.
7. SHOW ALL CENTERLINE BEARINGS.
8. SHOW ALL CURVE DATA IN TABULATED FORM.
9. REFERENCE ALL OTHER SHEETS FOR SAME REACH AND FOR DETAILS.
10. SHOW MATCHLINE STATION AND SHEET NUMBER.
11. SHOW ALL UTILITY LINES PERTINENT TO STORM DRAIN CONSTRUCTION. LABEL UTILITIES PER CITY STANDARD.
12. SHOW ALL STREET AND STORM DRAIN DIMENSIONS.
13. ALL STORM DRAIN B.C.'S, E.C.'S AND MAJOR JUNCTION POINTS SHALL BE TIED TO KNOWN CENTERLINE POINTS BY DIMENSION OR STREET STATION.
14. SHOW STATIONING EQUATION FOR ALL LATERAL PIPE JUNCTIONS.
15. SHOW ALL CONNECTOR PIPE JUNCTION STATIONS.
16. ALL CATCH BASIN CENTERLINES SHALL BE TIED TO CURB B.C.R./E.C.R. OR A STREET STATION WILL BE SHOWN.
17. SHOW CATCH BASIN TYPE, SIZE, 'V' DEPTH, LOCAL DEPRESSION TYPE AND CONNECTOR PIPE LENGTH, SIZE AND D-LOAD FOR EACH CATCH BASIN AS SHOWN.
18. LIST ALL DATA REQUIRED BY STANDARD PLANS.
19. REFERENCE EXISTING STORM DRAIN.
20. SHOW PROFILE SCALE.
21. SHOW PIPE I.D. AND O.D. IN PROFILE.
22. SHOW EXISTING AND/OR PROPOSED SURFACE PROFILE OVER STORM DRAIN.
23. SHOW PIPE SLOPE TO 4 PLACES MINIMUM.
24. SHOW INLET PIPES WITH STATION, SIZE AND DIRECTION OF INLET, ALONG WITH ANY OTHER DATA REQUIRED BY STANDARD PLANS.
25. SHOW INVERT ELEVATIONS AT ALL JOINS, B.C.'S, E.C.'S, MANHOLES, MATCH LINES AND ANY OTHER REQUIRED LOCATIONS.
26. SHOW LENGTH, PIPE SIZE AND D-LOAD FOR ALL PIPE REACHES.
27. SHOW HYDRAULIC GRADE LINE, 'Q' AND 'W' FREQUENCY FOR ALL PIPE REACHES.
28. SHOW ALL UTILITIES IN PROFILE THAT CROSS THE STORM DRAIN.
29. SHOW PARALLEL SEWERS IN PROFILE WITH INVERT ELEVATIONS AT ALL MANHOLES AND CROSSINGS.
30. LIST ALL PLAN NUMBERS USED FOR REFERENCE.
31. ALL SHEETS TO BE SIGNED, STAMPED AND DATED BY R.C.E. WITH LICENSE EXPIRATION DATE.
32. SHOW PLAN DESCRIPTION, STREET NAME AND SHEET LIMITS.
33. M.T.D. NUMBER TO BE ASSIGNED BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT. (IF APPLICABLE) R.C.E. SHALL APPLY FOR REQUIRED PERMIT.
34. PLAN NUMBER TO BE ASSIGNED BY CITY.
35. SHOW HYDRAULIC GRADE LINE ELEVATION, IN PROFILE, AT ALL ENDS OF PIPE FOR FUTURE EXTENSION.

E PIPE CURVE DATA			
NO.	(A)	(B)	(C)
Δ	60°02'45"	4°30'20"	64°33'05"
R	45'	1512'	22.50'
L	47.16'	126.76'	25.35'
T	26.00'	63.41'	14.21'
B.C.	10+25.93	11+87.84	10+22.88
E.C.	10+73.09	13+4.60	10+48.23

<b>REVISIONS</b> NO. DATE INITIAL DESCRIPTION APP. 1 ALL REVISIONS SHALL BE DONE ON ORIGINAL TRACING 2 ALL REVISIONS SHALL BE APPROVED BY THE CITY ENGINEER		<b>REFERENCES</b> PLANS FOR THESE IMPROVEMENTS STREET 00000 WATER 00000 SEWER 00000 STORM DRAIN 00000		SCALE: 1" = 40' PREPARED UNDER THE SUPERVISION OF R.C.E. NO. CHECKED BY RECD BY APPROVED James A. Berry CITY ENGINEER 6/21/89	DATE STORM DRAIN PLAN AND PROFILE 'A' AVENUE FIRST STREET TO STATION 17+00 CITY OF SIGNAL HILL	M.T.D. # 1234 SHEET 3 OF 10 STANDARD PLAN 125 PLAN NUMBER
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### CONSTRUCTION NOTES

- 1 FURNISH AND PLACE 8" V.C.P. SEWER PER CITY STD'S 300 AND 301.
- 2 FURNISH AND PLACE 8"x8"x6" V.C.P. WYE PER CITY STD. 307.
- 3 FURNISH AND PLACE 6" V.C.P. SEWER LATERAL PER CITY STD'S 309 AND 311.
- 4 REMOVE INTERFERING PORTION 8" V.C.P. SEWER.
- 5 ABANDON EXISTING 8" V.C.P. SEWER IN PLACE, PLUG ENDS.
- 6 CONSTRUCT SEWER MANHOLE PER CITY STD. 302.
- 7 BREAK INTO EXISTING P.C. MANHOLE, RECHANNEL BASE PER CITY STD. 305 AND DETAIL ON SHEET 10.
- 8 FURNISH AND PLACE PERMANENT SURFACING PER CITY STD. 304, TYPE B.

### INSTRUCTIONAL NOTES

- 1 ALL DRAFTING TO USE STANDARD SYMBOLS, LEGENDS AND ABBREVIATIONS.
- 2 ALL DESIGN AND CONSTRUCTION TO BE PER CITY OF SIGNAL HILL CRITERIA AND STANDARDS.
- 3 LIST ALL APPLICABLE CONSTRUCTION NOTES ON EACH SHEET.
- 4 SHOW NORTH ARROW AND GRAPHIC SCALE (MAXIMUM SCALE: 1" = 20').
- 5 SHOW ALL STREET AND SEWER MAIN BEARINGS.
- 6 SHOW ALL STREET CENTERLINE CURVE DATA IN TABULATED FORM.
- 7 REFERENCE ALL OTHER SHEETS FOR SAME REACH AND FOR DETAILS.
- 8 ALL STATIONING WILL RUN ALONG CENTERLINE OF SEWER. ALL STATIONING WILL RUN LEFT TO RIGHT, SOUTH TO NORTH OR WEST TO EAST AND WILL ALWAYS RUN UPSTREAM ALONG SEWER MAIN.
- 9 REFERENCE STREET OR SURVEY STATIONING AT ALL CENTERLINE INTERSECTIONS, B.C.'S AND E.C.'S.
- 10 SHOW MATCH LINE STATION AND SHEET NUMBER.
- 11 SHOW ALL UTILITY LINES PERTINENT TO SEWER CONSTRUCTION. LABEL UTILITIES PER CITY STANDARDS.
- 12 SHOW ALL STREET AND SEWER DIMENSIONS.
- 13 SHOW ALL PARKWAY TOPOGRAPHY.
- 14 STATION ALL SEWER MANHOLES AND HOUSE CONNECTIONS.
- 15 NO CURVES SHALL BE DESIGNED ALONG SEWER MAIN.
- 16 SEWER MAINS SHALL BE 8" MINIMUM AND HOUSE CONNECTIONS SHALL BE 6" MINIMUM.
- 17 MANHOLES ARE REQUIRED AT MAXIMUM 350' SPACING, CHANGE OF DIRECTION OR SLOPE AND AT TERMINAL ENDS.
- 18 ALL MANHOLES SHALL HAVE A MINIMUM 0.10' FALL ACROSS INSIDE DIAMETER.
- 19 REFERENCE EXISTING SEWER PLANS.
- 20 SHOW DIRECTION OF FLOW ARROWS ON ALL EXISTING SEWER MAINS.
- 21 SHOW PROFILE SCALE.
- 22 SHOW INVERT ONLY OF SEWER MAIN IN PROFILE.
- 23 SHOW EXISTING AND/OR PROPOSED SURFACE OVER SEWER IN PROFILE.
- 24 SHOW ALL UTILITIES IN PROFILE THAT CROSS SEWER MAIN.
- 25 SHOW PIPE SLOPE TO 4 PLACES MINIMUM.
- 26 SHOW SIDE INLET/OUTLET PIPES AT MANHOLES WITH SIZE, DIRECTION OF INLET/OUTLET AND INVERT ELEVATION.
- 27 SHOW INVERT ELEVATIONS AT ALL JOINS, MANHOLES, MATCH LINES ANY OTHER NECESSARY LOCATION.
- 28 SHOW LENGTH AND SEWER MAIN SIZE FOR ALL PIPE REACHES IN PROFILE.
- 29 MINIMUM SLOPE ON SEWER MAINS SHALL BE 0.0050.
- 30 MINIMUM SLOPE ON HOUSE CONNECTIONS SHALL BE 0.0200.
- 31 MINIMUM DEPTH OF SEWER MAIN SHALL BE 6'.
- 32 MINIMUM DEPTH OF HOUSE CONNECTION SHALL BE 4' BELOW TOP OF CURB AT RIGHT-OF-WAY LINE.
- 33 HOUSE CONNECTION INVERT ELEVATION TO BE PLACED ON PLANS AS CONSTRUCTED.
- 34 LIST ALL PLAN NUMBERS USED FOR REFERENCE.
- 35 ALL SHEETS TO BE SIGNED, STAMPED AND DATED BY R.C.E. WITH LICENSE EXPIRATION DATE.
- 36 SHOW PLAN DESCRIPTION, STREET NAME AND SHEET LIMITS. PLAN NUMBER TO BE ASSIGNED BY CITY.

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APP.
1			ALL REVISIONS TO BE MADE ON ORIGINAL TRACING	
2			ALL REVISIONS TO BE APPROVED BY CITY ENGINEER	

STREET & CURVE DATA	
(A)	
L	4*30' 20"
R	1600'
L	125.81'
T	62.94'

REFERENCES	
PLANS FOR THESE IMPROVEMENTS	
STREET 80000	WATER 00000
SEWER 50000	
STORM DRAIN 00000	

SCALE: 1" = 20'	DATE: 6/21/89
PREPARED UNDER THE SUPERVISION OF:	
R.C.E. NO.	
CHECKED BY:	
DESIGNED BY:	
APPROVED: <i>James O. Ryan</i>	
CITY ENGINEER	

SANITARY SEWER PLAN AND PROFILE  
 'A' AVENUE  
 FIRST STREET TO STATION 14+75  
 CITY OF SIGNAL HILL

SHEET 5 OF 10  
 STANDARD PLAN  
 126  
 PLAN NUMBER 37

NOTE:  
SEE SHEET 2 FOR UTILITY PLAN,  
SHEET 3 FOR STORM DRAIN PLAN,  
SHEET 5 FOR SEWER PLAN &  
SHEET 10 FOR MISC. DETAILS

### INSTRUCTIONAL NOTES

1. ALL DRAFTING TO USE STANDARD SYMBOLS, LEGENDS AND ABBREVIATIONS.
2. ALL DESIGN AND CONSTRUCTION TO BE PER CITY OF SIGNAL HILL CRITERIA AND STANDARDS.
3. LIST ALL APPLICABLE CONSTRUCTION NOTES ON EACH SHEET.
4. SHOW NORTH ARROW AND GRAPHIC SCALE (MAXIMUM SCALE: 1"=20')
5. SHOW ALL STREET CENTERLINE BEARINGS.
6. SHOW ALL STREET CENTERLINE AND WATER MAIN CURVE DATA IN TABULATED FORM.
7. REFERENCE ALL OTHER SHEETS FOR SAME REACH AND FOR DETAILS.
8. ALL STATIONING WILL RUN ALONG STREET CENTERLINE. ALL STATIONING WILL RUN LEFT TO RIGHT, SOUTH TO NORTH OR WEST TO EAST.
9. REFERENCE STREET OR SURVEY STATIONING AT ALL CENTERLINE INTERSECTIONS, B.C.'S AND E.C.'S.
10. SHOW STATIONS OF ALL WATER MAIN INTERSECTIONS, JUNCTIONS, ANGLE POINTS, B.C.'S AND E.C.'S.
11. SHOW MATCH LINE STATION AND SHEET NUMBER.
12. SHOW ALL UTILITY LINES PERTINENT TO WATER MAIN CONSTRUCTION. LABEL UTILITIES PER CITY STANDARDS.
13. SHOW ALL STREET AND WATER MAIN DIMENSIONS.
14. SHOW ALL PARKWAY TOPOGRAPHY.
15. STATION ALL WATER SERVICES, FIRE HYDRANTS AND ANY OTHER CONNECTIONS TO WATER.
16. EXACT FIRE HYDRANT LOCATIONS TO BE SET BY CITY ENGINEER.
17. HOT TAP ON EXISTING WATER MAIN SHALL BE MINIMUM ONE SIZE LESS THAN EXISTING WATER MAIN SIZE, EXCEPT WITH PRIOR APPROVAL OF CITY ENGINEER.
18. REFERENCE EXISTING WATER PLANS BY PLAN NUMBER.
19. MINIMUM DEPTH OF WATER MAIN SHALL BE 42"
20. LIST ALL PLAN NUMBERS USED FOR REFERENCE.
21. ALL SHEETS TO BE SIGNED, STAMPED AND DATED BY P.C.E. WITH LICENSE EXPIRATION DATE.
22. SHOW PLAN DESCRIPTION, STREET NAME AND SHEET LIMITS.
23. PLAN NUMBER TO BE ASSIGNED BY CITY.

### CONSTRUCTION NOTES

1. PROTECT IN PLACE
2. FURNISH & PLACE 12" D.I.P., CLASS 52, PER STD. NO. 400
3. FURNISH & PLACE 4" D.I.P., CLASS 52, PER STD. NO. 400
4. FURNISH & PLACE 12" D.I.P., CLASS 52, INVERTED SYPHON PER STD. NO. 424
5. FURNISH & PLACE 12" x 12" CROSS, ALL FLG., PER STD. NO. 400
6. FURNISH & PLACE 16" x 16" x 12" TAPPING SLEEVE, M.J. x M.J. x FLG., PER STD. NO. 400
7. FURNISH & PLACE 12" x 4" REDUCER, FLG. x M.J., PER STD. NO. 400
8. FURNISH & PLACE 4" 45° BEND, M.J. x M.J., PER STD. NO. 400
9. FURNISH & PLACE 12" GATE VALVE, FLG. x FLG., PER STD. NO. 421
10. FURNISH & PLACE FIRE HYDRANT ASSEMBLY PER STD. NO. 419
11. FURNISH & PLACE 6" D.I.P. LATERAL & 6" METER PER STD. NO. 406 & 406
12. FURNISH & PLACE 4" D.I.P. LATERAL & 4" FIRE SERVICE PER STD. NO. 406 & 412
13. FURNISH & PLACE 2" WATER SERVICE PER STD. NO. 404
14. FURNISH & PLACE 1" WATER SERVICE PER STD. NO. 402
15. HOT TAP EXIST. 16" D.I.P. WATER MAIN PER STD. NO. 425
16. CONSTRUCT THRUST BLOCK PER STD. NO. 416
17. CONSTRUCT VALVE ANCHOR BLOCK PER STD. NO. 418
18. ABANDONE PER STD. NO. 409
19. FURNISH & PLACE PERMANENT SURFACING PER STD. NO. 401, TYPE B

CURVE DATA

	A	B
Δ	4° 30' 20"	4° 30' 20"
R	1600'	1605'
L	125.81'	126.21'
T	62.94'	63.14'

### REVISIONS

NO.	DATE	INITIAL	DESCRIPTION	APP.
1			ALL REVISIONS TO BE MADE ON ORIGINAL TRACING	
2			ALL REVISIONS TO BE APPROVED BY CITY ENGINEER	

### REFERENCES

PLANS FOR THESE IMPROVEMENTS
STREET R0000 WATER W0000 & W0001
SEWER S0000
STORM DRAIN D0000

SCALE: 1"=20'

PREPARED UNDER THE SUPERVISION OF

P.C.E. NO.

CHECKED BY

REC'D BY

APPROVED

CITY ENGINEER

DATE

5/21/89

WATER MAIN IMPROVEMENT PLAN

'A' STREET: FIRST STREET TO STATION 4+75

SECOND STREET: WEST OF 'A' STREET TO STATION 11+85

CITY OF SIGNAL HILL

SHEET 7 OF 10

STANDARD PLAN

127

PLAN NUMBER