



# City of Brentwood

## Standard Plans and Specifications

### TABLE OF CONTENTS

---

#### STANDARD DETAILS

---

#### STREETS (ST)

---

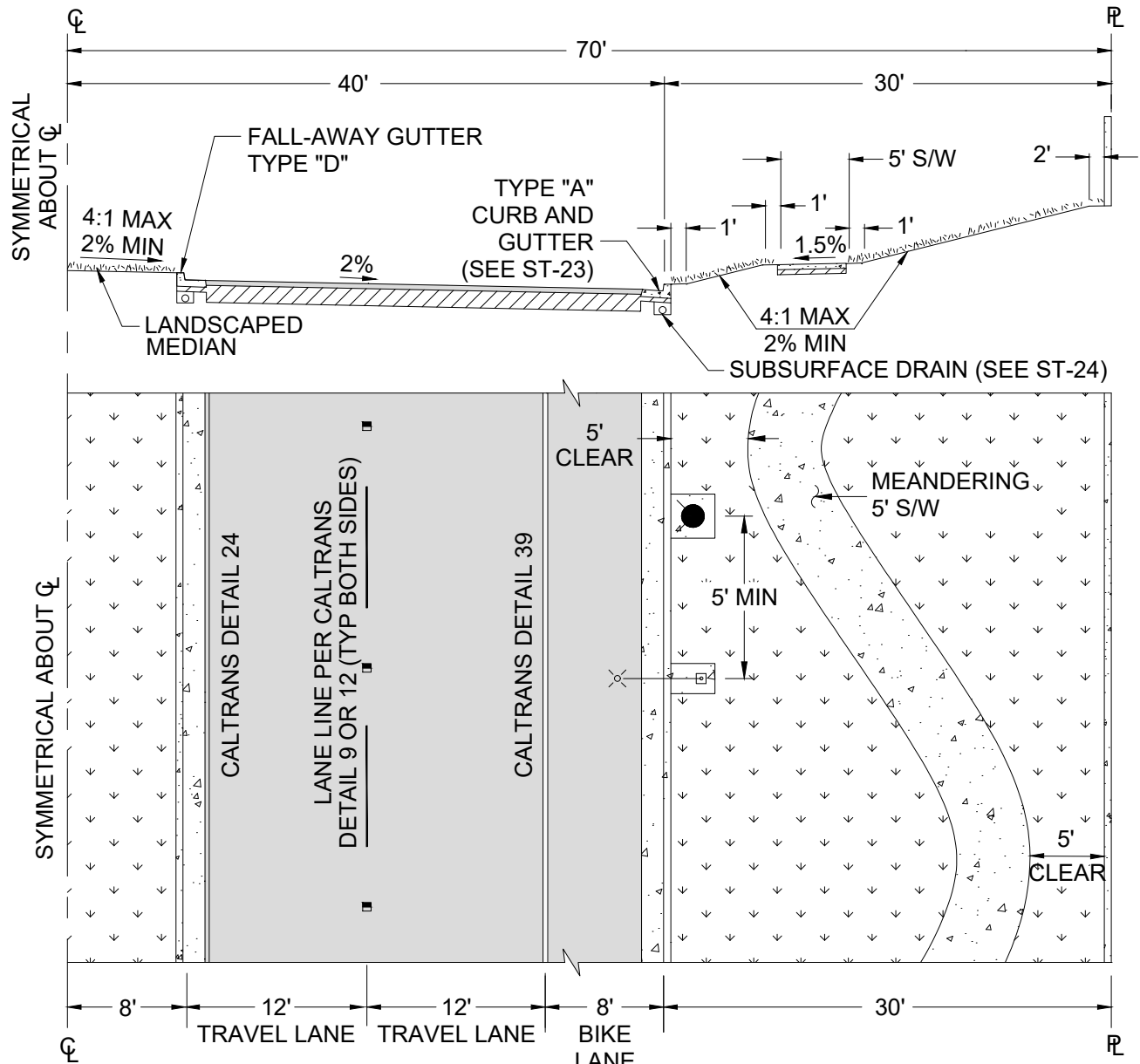
ARTERIAL STREET	ST-1
COLLECTOR STREET	ST-2
INDUSTRIAL/COMMERCIAL STREET	ST-3
RESIDENTIAL COLLECTOR STREET	ST-4
RESIDENTIAL LOCAL STREET	ST-5
NO LONGER USED	ST-6
RESIDENTIAL DRIVEWAY WITH SEPARATED SIDEWALK	ST-7a
RESIDENTIAL DRIVEWAY WITH ADJACENT SIDEWALK	ST-7b
INDUSTRIAL/COMMERCIAL DRIVEWAY TYPE A	ST-8a
INDUSTRIAL/COMMERCIAL DRIVEWAY TYPE B	ST-8b
90° INTERSECTION ELBOW	ST-9
SIGHT DISTANCE REQUIREMENTS	ST-10
VISIBILITY REQUIREMENTS (1)	ST-11a
VISIBILITY REQUIREMENTS (2)	ST-11b
STREET NAME SIGN	ST-12
ROADSIDE BREAKAWAY SIGN POST	ST-13
BUS TURNOUTS	ST-14
TYPICAL 60° PARKING STALL LAYOUT	ST-15a
TYPICAL 45° PARKING STALL LAYOUT	ST-15b
TYPICAL 90° PARKING STALL LAYOUT	ST-15c
TYPICAL ANGLED COMPACT PARKING STALL LAYOUT	ST-15d
STREET BARRICADE	ST-16
CONCRETE WALKWAY DETAIL	ST-17
MAILBOX LOCATION	ST-18
IRON FENCE & GATE	ST-19a
OPEN-ENDED CUL-DE-SAC FENCE & WALL	ST-19b
SPEED TABLE CROSSWALK	ST-20
ACCESSIBLE CURB RAMP TYPE "A" & "B"	ST-21a



# City of Brentwood

## Standard Plans and Specifications

ACCESSIBLE CURB RAMP TYPE "C" & "D"	ST-21b
ACCESSIBLE CURB RAMP DETAILS	ST-21c
ACCESSIBLE CURB RAMP NOTES-1	ST-21d
ACCESSIBLE CURB RAMP NOTES-2	ST-21e
STANDARD RESIDENTIAL GOOD-NEIGHBOR FENCE	ST-22
SIDEWALK, CURB AND GUTTER	ST-23
SUBSURFACE DRAIN BELOW CURB & SIDEWALK	ST-24
TRENCH & BACKFILL REQUIREMENTS	ST-25
OPEN TRENCH, BACKFILL & REPAIR OF EXISTING STREETS	ST-25a
OPEN TRENCH, BACKFILL & REPAIR OF EXISTING STREETS NOTES	ST-25b
BOXED SURVEY MONUMENT	ST-26
THROUGH-THE-CURB DRAIN	ST-27
CROSSWALK STRIPING ON ARTERIAL STREETS	ST-28
RAISED MEDIAN NOSE LOCATION	ST-29
TRAFFIC SIGN PLACEMENT	ST-30
LEFT-TURN-ONLY MEDIAN OPENING	ST-31
MEDIAN TAPER	ST-32
MEDIAN FLARE	ST-33
SOLID WASTE ENCLOSURE	ST-34
SOLID WASTE ENCLOSURE BOLT DETAILS	ST-34a
CONCAVE MEDIAN	ST-35
TYPICAL 'STOP' INTERSECTION	ST-36
NEW & EXISTING PAVEMENT JOINT	ST-37
SPEED BUMP	ST-38



**NOTES:**

1. SEE ST-23 FOR SIDEWALK, CURB AND GUTTER TYPES.
2. SEE ST-24 FOR SUBSURFACE DRAIN BELOW CURB AND SIDEWALK.
3. BIKE LANE SHALL BE STRIPED AS DIRECTED BY THE CITY ENGINEER, AND MAY BE REVISED TO A 6 FOOT BIKE LANE WITH 2 FOOT STRIPED CLEARANCE.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

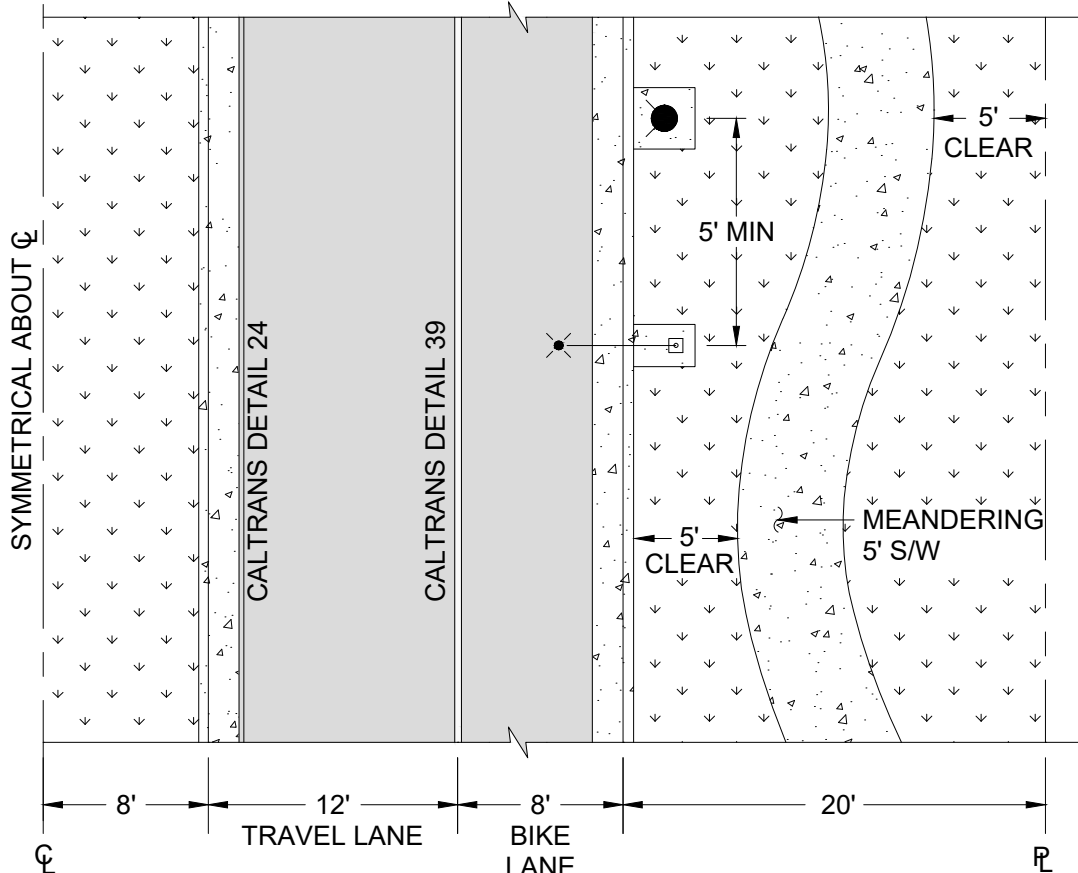
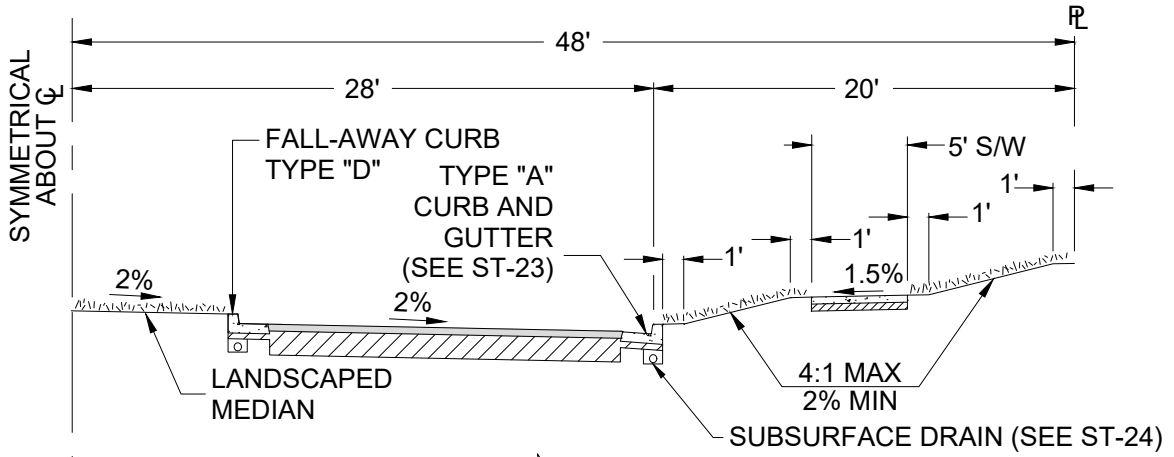


**ARTERIAL STREET**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-1**



**NOTES:**

1. SEE ST-23 FOR SIDEWALK, CURB AND GUTTER TYPES.
2. SEE ST-24 FOR SUBSURFACE DRAIN BELOW CURB AND SIDEWALK.
3. BIKE LANE SHALL BE STRIPED AS DIRECTED BY THE CITY ENGINEER, AND MAY BE REVISED TO A 6 FOOT BIKE LANE WITH 2 FOOT STRIPED CLEARANCE.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

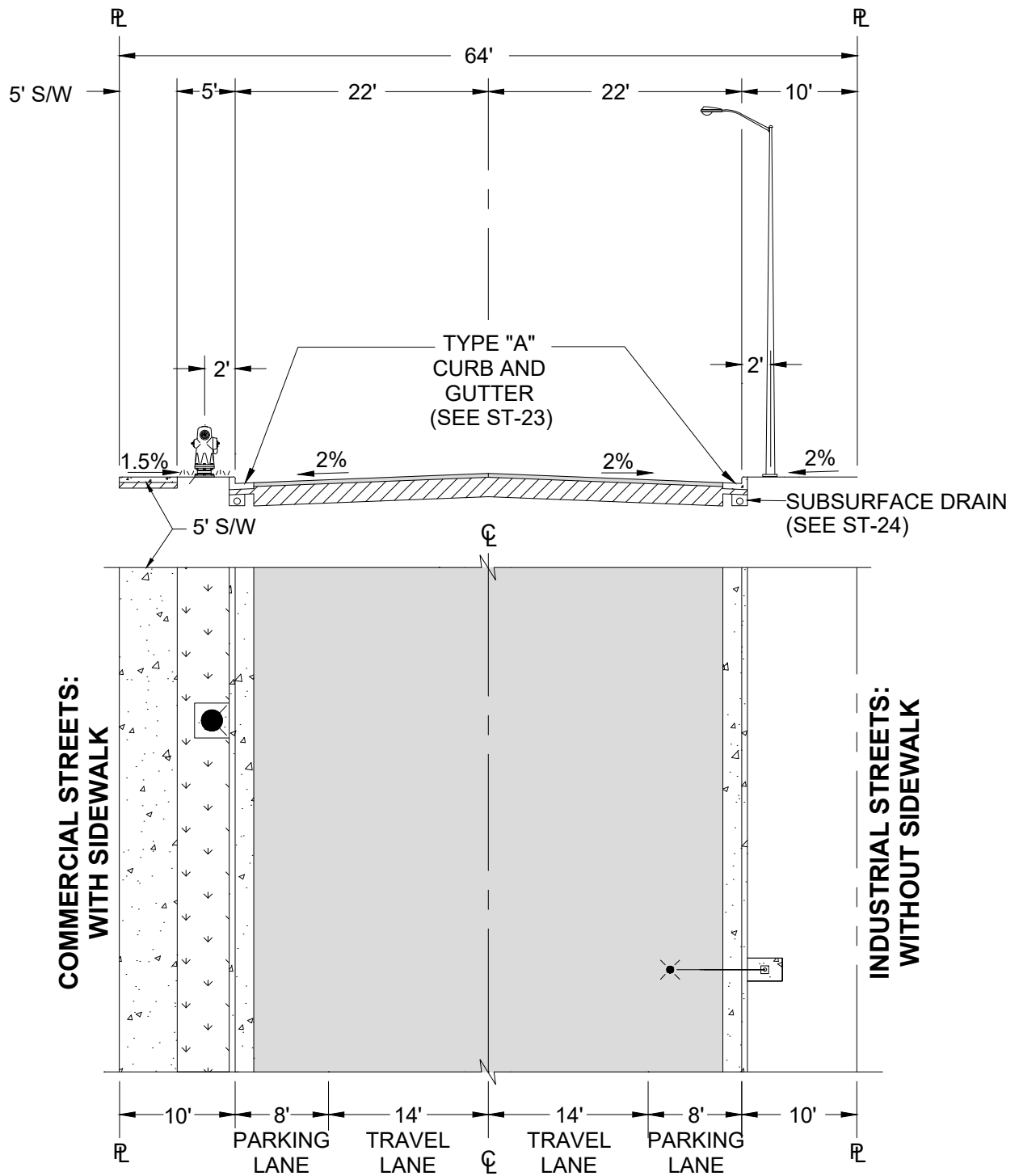


**COLLECTOR STREET**

*Allen Baquilar*  
ALLEN S. BAQUILAR  
CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-2**



(Not To Scale)



**ENGINEERING  
DEPARTMENT**

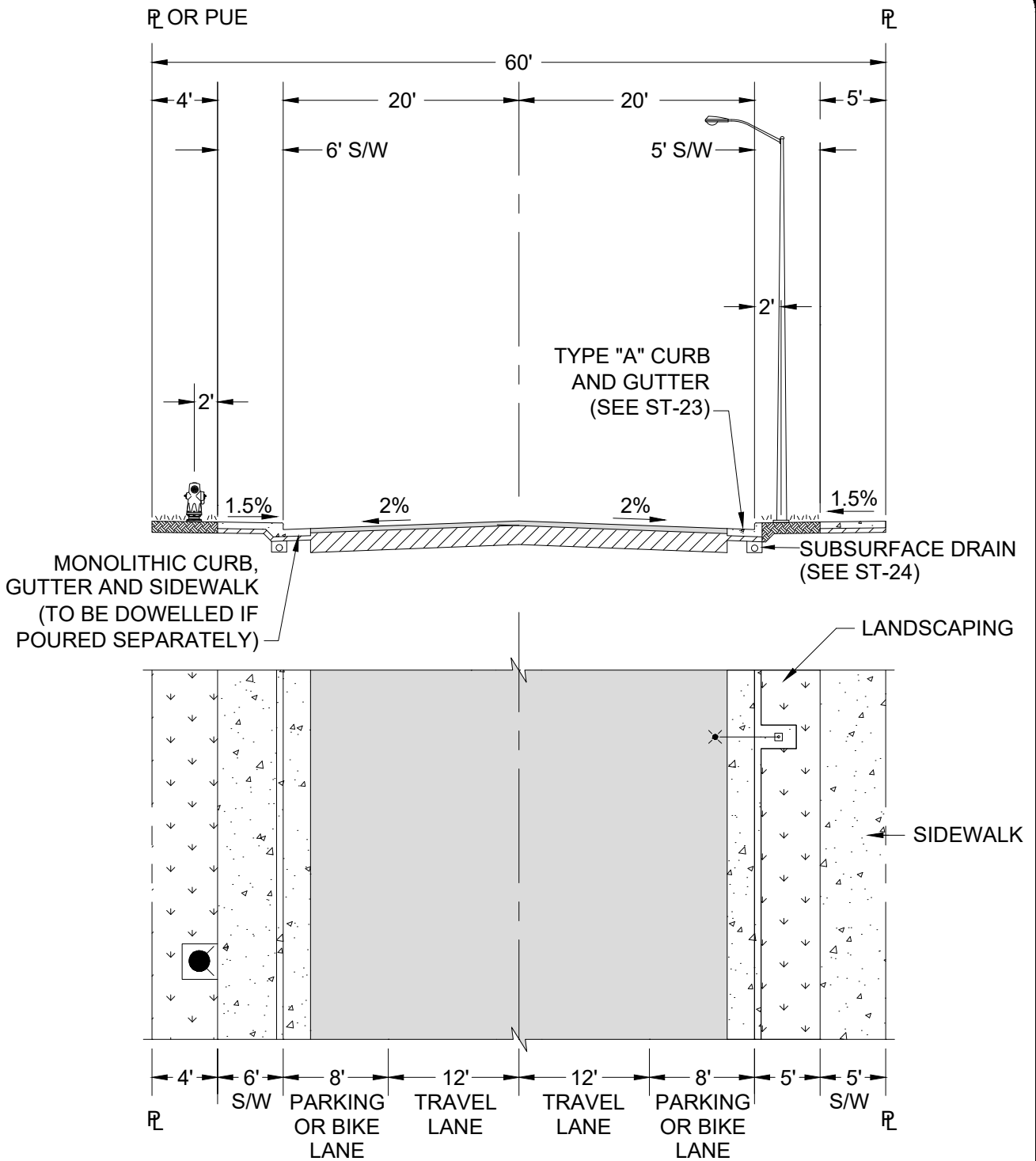


**INDUSTRIAL/COMMERCIAL STREET**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-3**



(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**RESIDENTIAL COLLECTOR STREET**

*Allen Baquilar*  
ALLEN S. BAQUILAR

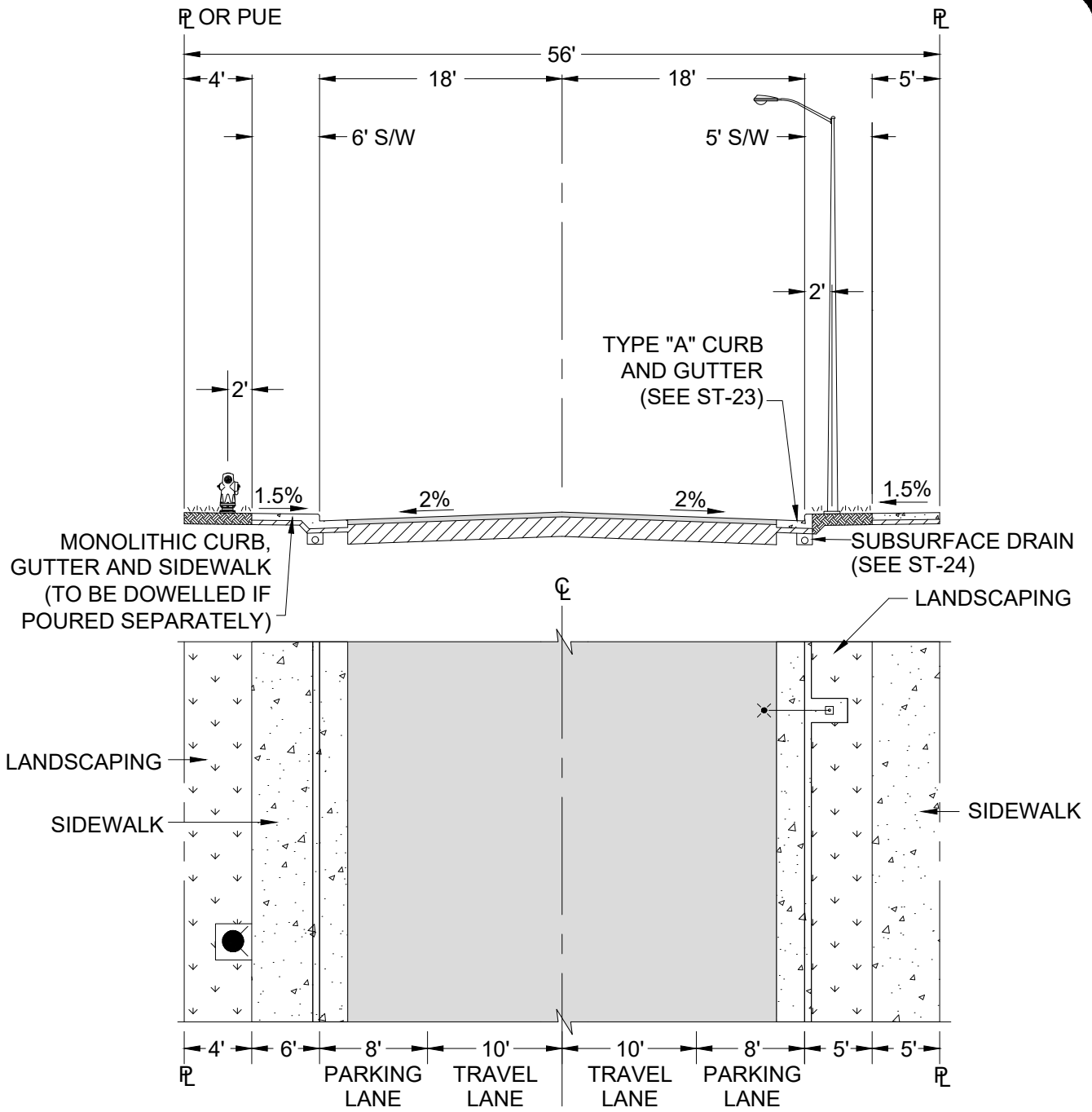
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-4**



(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**RESIDENTIAL LOCAL STREET**

*Allen Baquilar*  
ALLEN S. BAQUILAR  
CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-5**

**This standard is no longer used.**



**ENGINEERING  
DEPARTMENT**



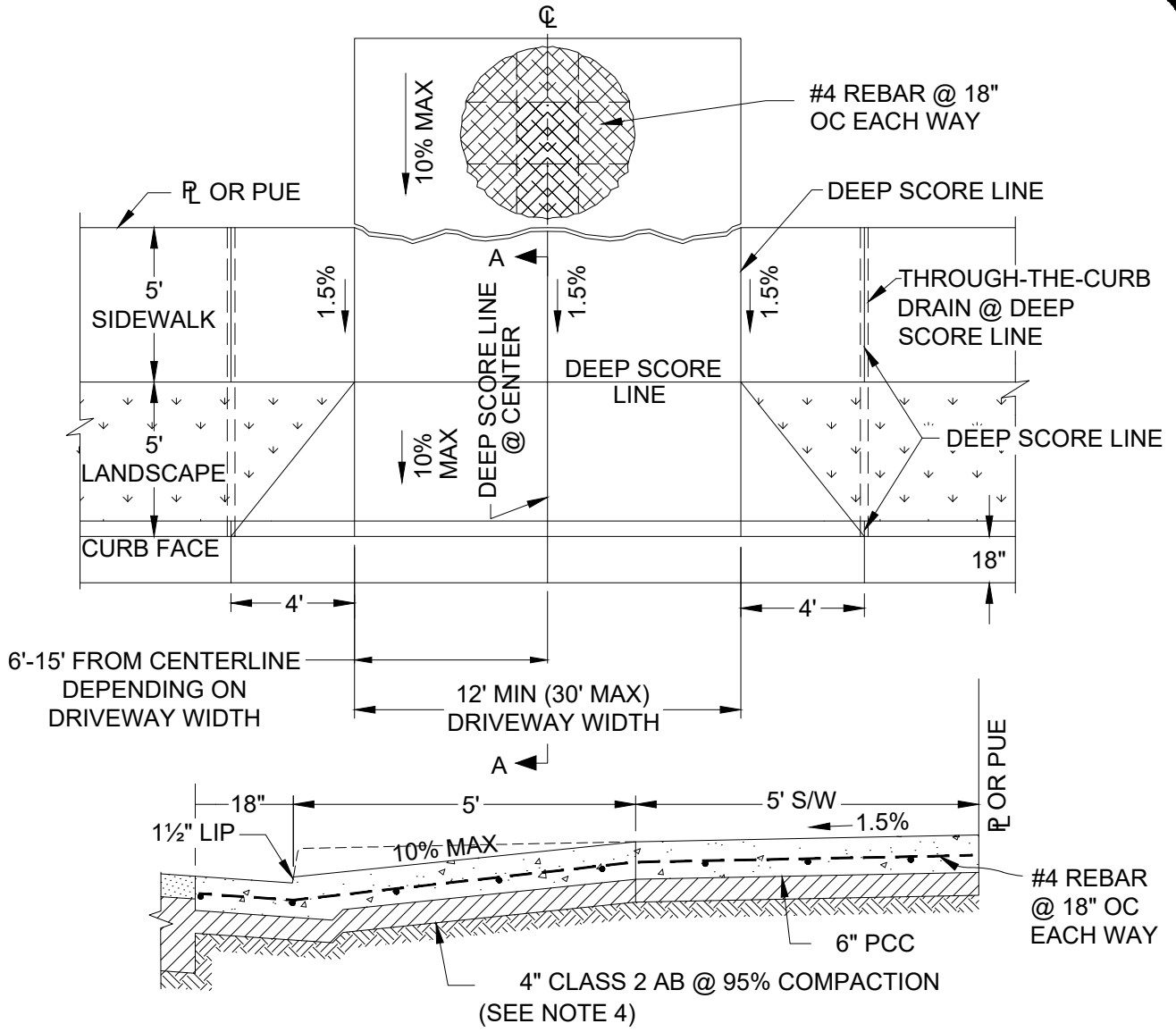
DATE: FEBRUARY 6, 2020

REVISED:

SHEET No.

**ST-6**





**SEPARATED SIDEWALK SECTION A-A**

**NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1 1/2 LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
  2. BROOM FINISH WALK AT RIGHT ANGLES TO CURB; CURB AND GUTTER PARALLEL TO STREET.
  3. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
  4. ON EXPANSIVE NATIVE SOIL, 90% RELATIVE COMPACTION IS ACCEPTABLE ON SUBGRADE.
- (Not To Scale)



**ENGINEERING  
DEPARTMENT**



**RESIDENTIAL DRIVEWAY  
WITH SEPARATED SIDEWALK**

*Allen Baquilar*  
ALLEN S. BAQUILAR

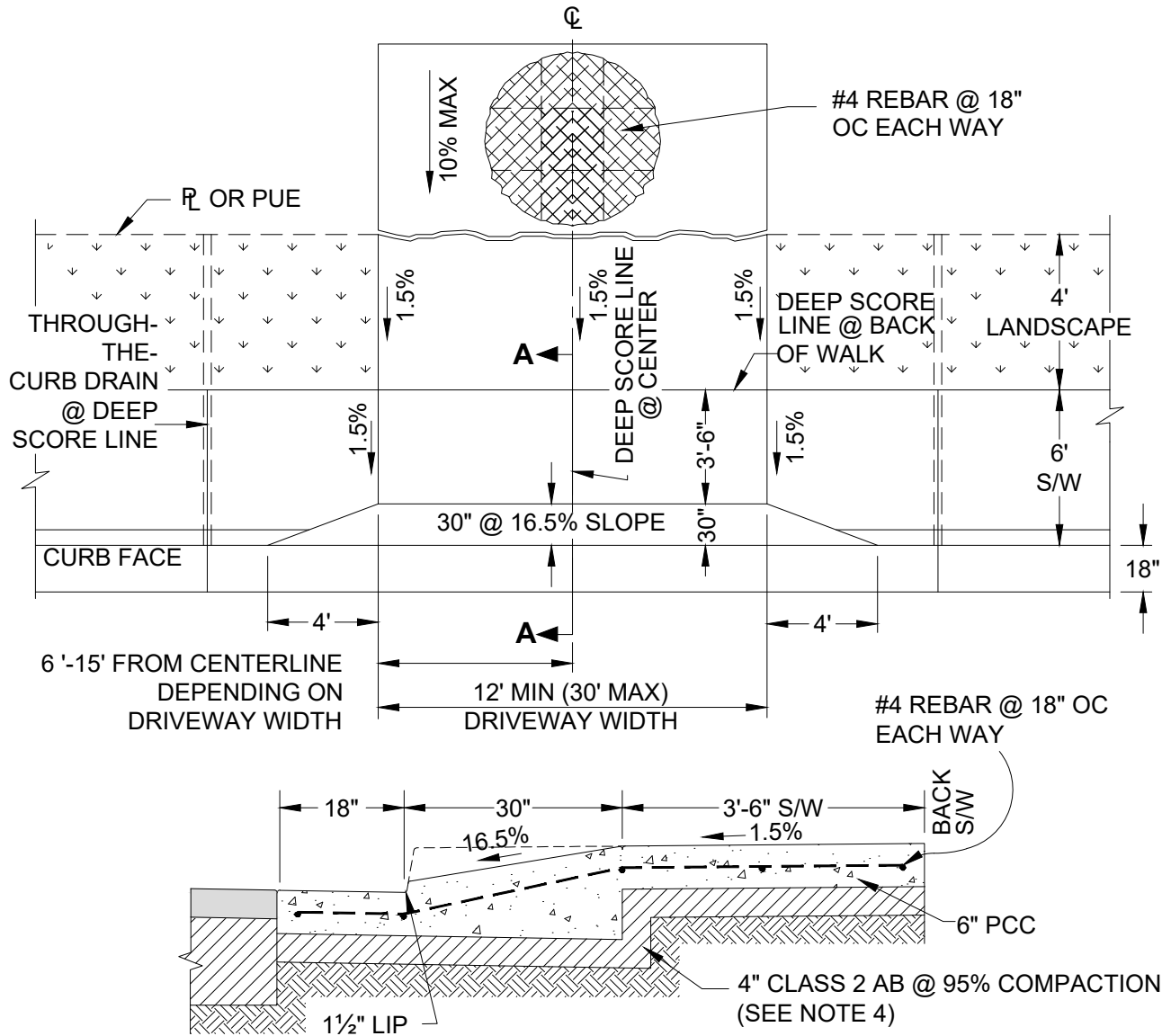
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-7a**



**ADJACENT SIDEWALK WITH BEVELED CURB SECTION A-A**

**NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1½ LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
2. BROOM FINISH WALK AT RIGHT ANGLES TO CURB; CURB AND GUTTER PARALLEL TO STREET.
3. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
4. ON EXPANSIVE NATIVE SOIL, 90% RELATIVE COMPACTION IS ACCEPTABLE ON SUBGRADE.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**RESIDENTIAL DRIVEWAY  
WITH ADJACENT SIDEWALK**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

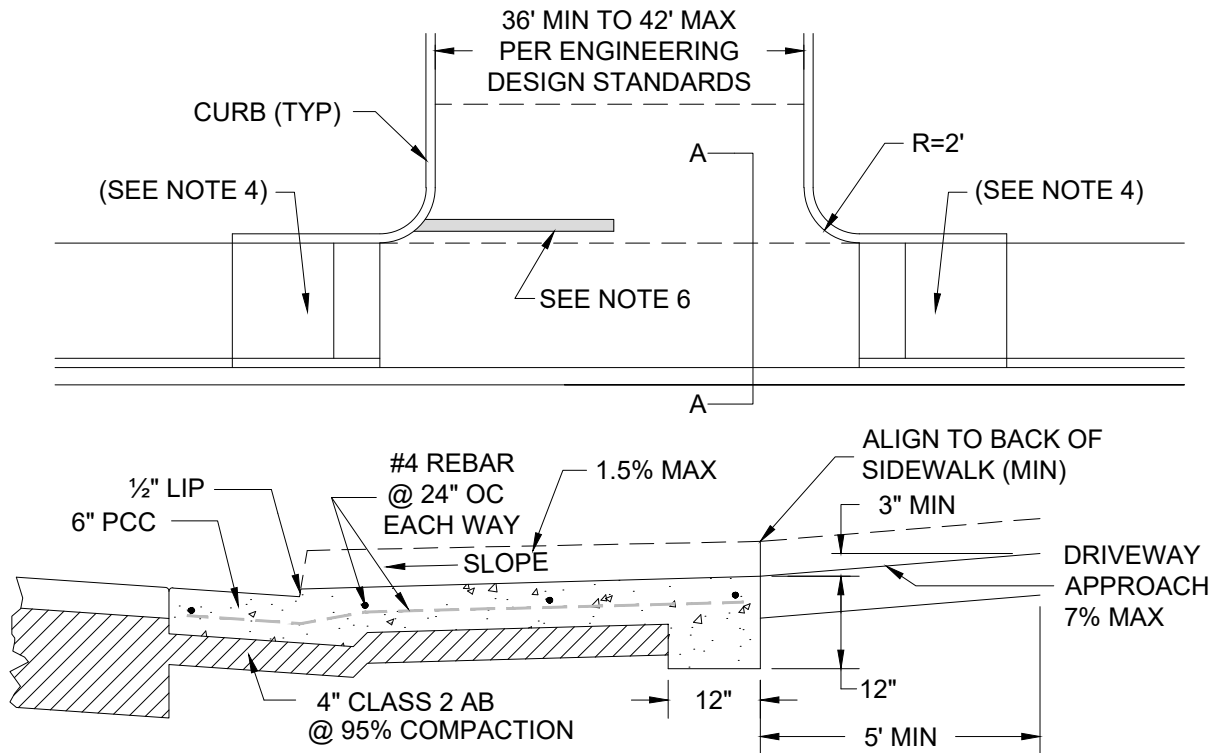
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-7b**



### SECTION A-A

#### NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1½ LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
2. BROOM FINISH WALK AT RIGHT ANGLES TO CURB; CURB AND GUTTER PARALLEL TO STREET.
3. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
4. APPLY RAMP TYPE "C" FROM ST-21b. FOR ON-SITE SIDEWALK RAMP ADJACENT TO DRIVEWAY, INCREASE LANDING AREA TO ACCOMMODATE BOTH RAMPS.
5. REFER TO ST-11a AND ST-11b FOR VISIBILITY REQUIREMENTS.
6. PROVIDE THERMOPLASTIC PAVEMENT MARKING FOR CROSSWALKS APPROPRIATE FOR THE PEDESTRIAN PATH(S) OF TRAVEL AND SELECTED RAMP TYPE(S). STOP SIGN & STOP LEGEND TO BE LOCATED BEHIND THE CROSSWALK.
7. SPECIAL AGREEMENT WILL BE REQUIRED FOR DECORATIVE TREATMENTS.

(Not To Scale)



## ENGINEERING DEPARTMENT



### INDUSTRIAL/COMMERCIAL DRIVEWAY TYPE A

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

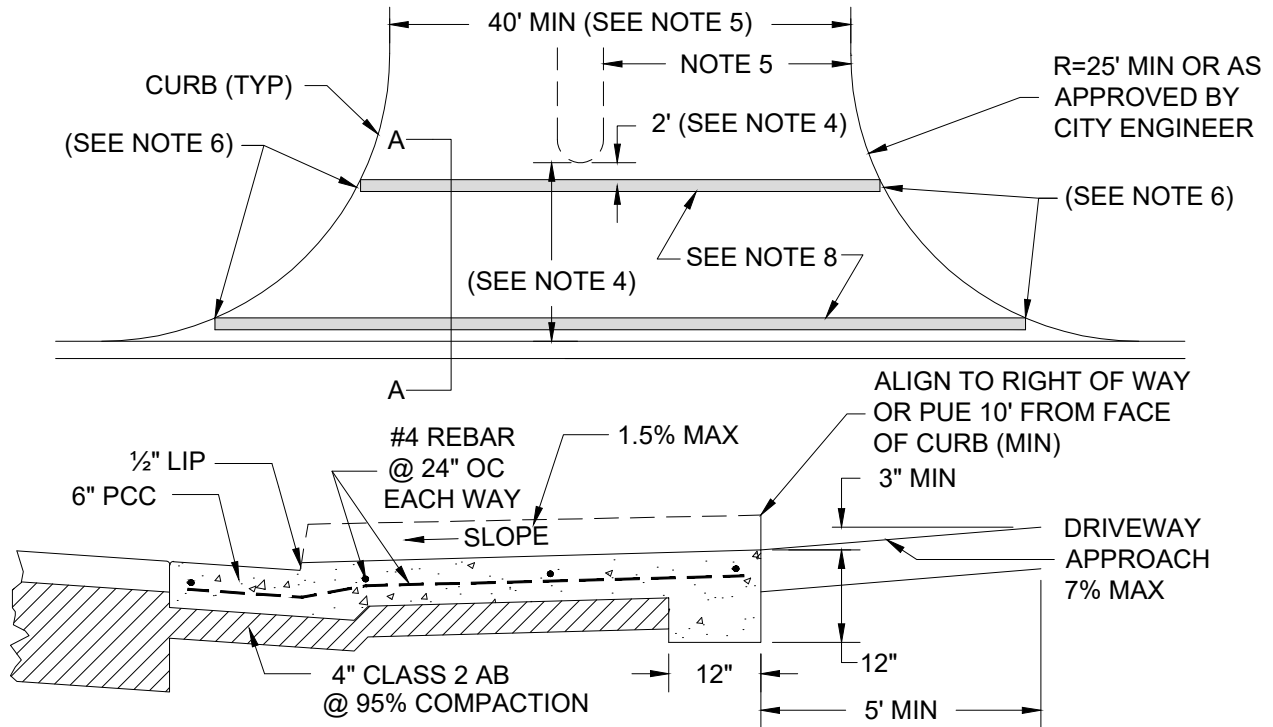
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-8a**



**SECTION A-A**

**NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1½ LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
2. BROOM FINISH WALK AT RIGHT ANGLES TO CURB; CURB AND GUTTER PARALLEL TO STREET.
3. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
4. THE NOSE OF THE MEDIAN SHALL BE LOCATED 2 FEET FROM THE INNER CROSSWALK STRIPE.
5. FOR DRIVEWAYS WITH MEDIAN ISLAND, A 25 FOOT CLEARANCE SHALL BE PROVIDED FOR INGRESS.
6. APPLY A RAMP TYPE FROM ST-21a OR ST-21b THAT IS APPROPRIATE FOR THE SITE PLAN, DRIVEWAY GEOMETRY, AND PEDESTRIAN PATHS OF TRAVEL, TO THE SATISFACTION OF THE CITY ENGINEER.
7. REFER TO ST-11a AND ST-11b FOR VISIBILITY REQUIREMENTS.
8. PROVIDE THERMOPLASTIC PAVEMENT MARKING FOR CROSSWALKS APPROPRIATE FOR THE PEDESTRIAN PATH(S) OF TRAVEL AND SELECTED RAMP TYPE(S). STOP SIGN & STOP LEGEND TO BE LOCATED BEHIND THE CROSSWALK.
9. SPECIAL AGREEMENT WILL BE REQUIRED FOR DECORATIVE TREATMENTS.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**INDUSTRIAL/COMMERCIAL DRIVEWAY  
TYPE B**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

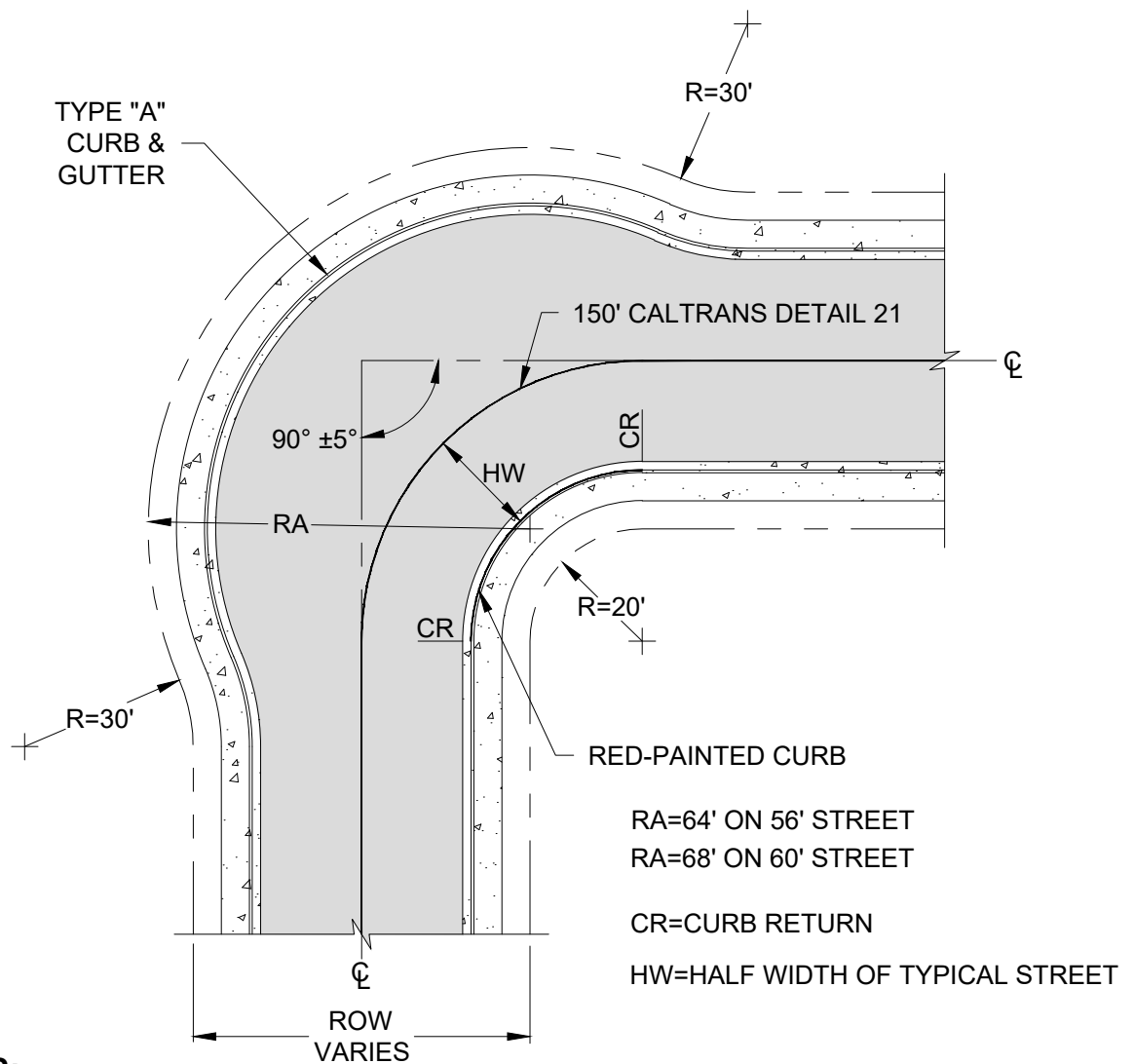
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-8b**



**NOTES:**

1. INTERSECTION BULBS ARE NOT REQUIRED ON STREETS WITH A CENTERLINE RADIUS OF 200 FEET OR MORE.
2. ALL RADII SHOWN PERTAIN TO RIGHT-OF-WAY LINES.
3. A MINIMUM 50' TANGENT IS REQUIRED FROM THE POINT OF INTERSECTION OF THE CENTERLINES.
4. INTERSECTION ANGLE SHALL BE 90° ± 5°.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

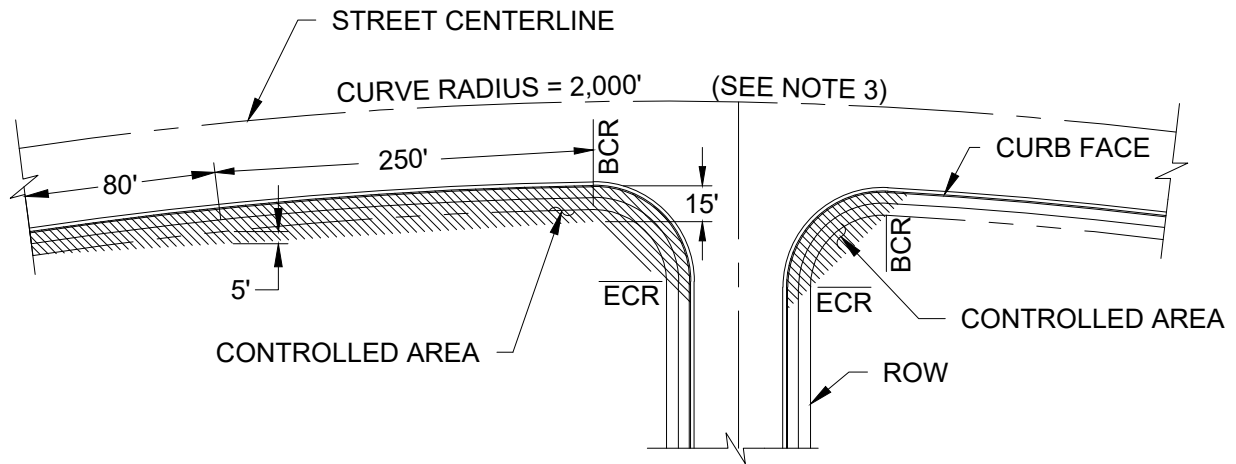


**90° INTERSECTION ELBOW**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:


SHEET No.  
**ST-9**



**NOTES:**

1. FENCES OR WALLS SHALL BE CONSTRUCTED OUTSIDE OF THE CONTROLLED AREA.
2. FOR PLANTING IN CONTROLLED AREA, SEE STANDARD PLAN ST-11a AND ST-11b, VISIBILITY REQUIREMENTS.
3. CURVES WITH RADII OF LESS THAN 2,000 FEET SHALL REQUIRE SPECIAL DESIGN FOR SIGHT DISTANCE SUBJECT TO APPROVAL BY THE CITY ENGINEER.

**LEGEND:**

-  CONTROLLED AREA
- BCR BEGIN CURB RAMP
- ECR END CURB RAMP

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

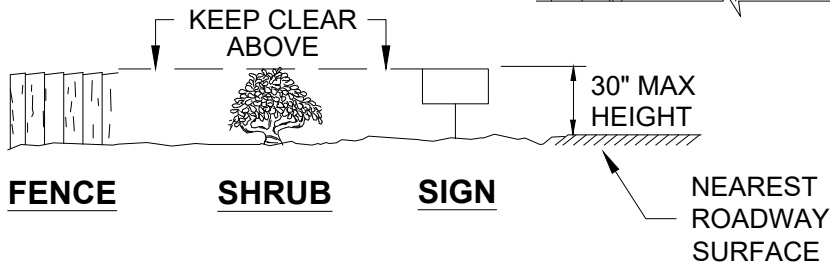
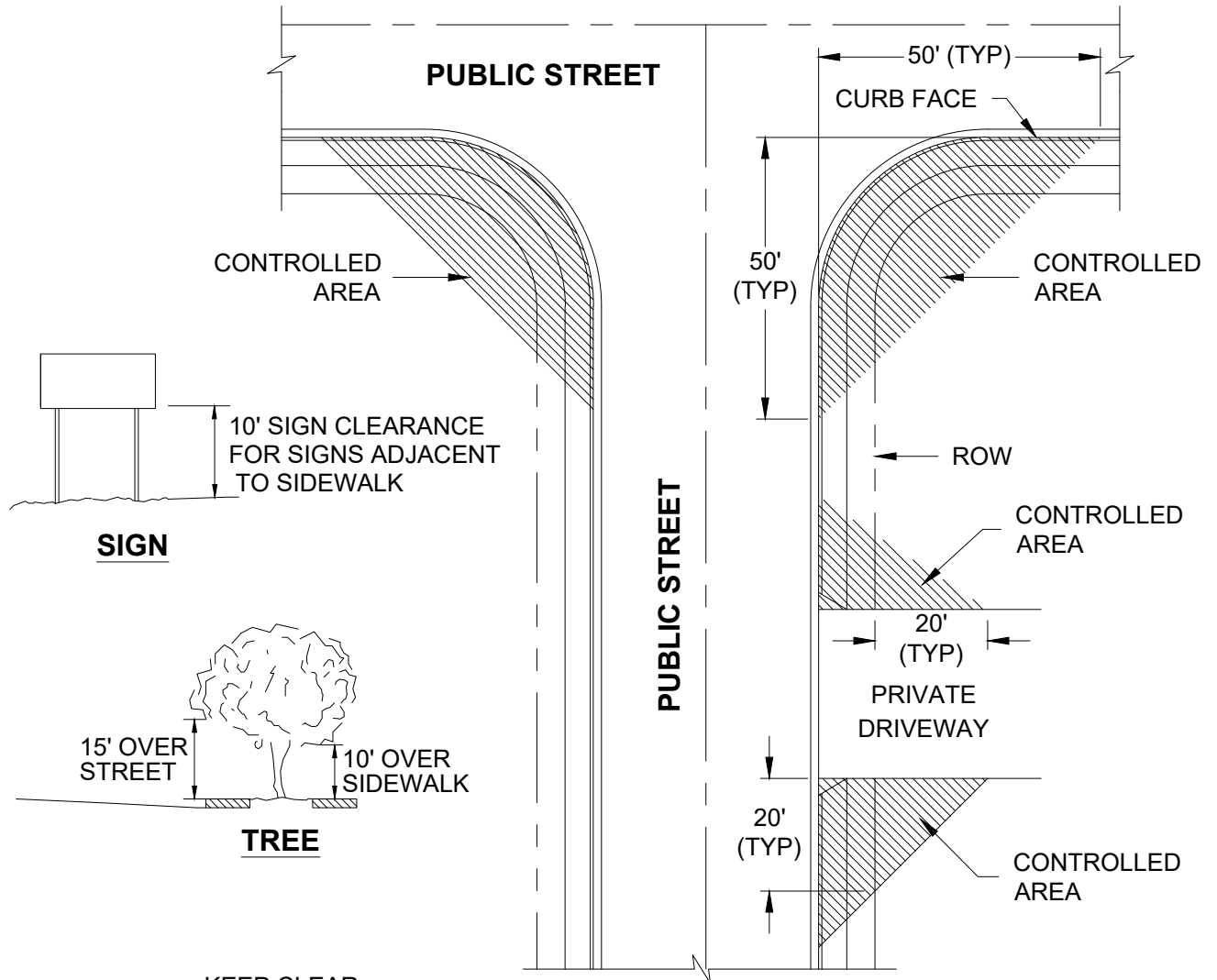


**SIGHT DISTANCE REQUIREMENTS**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-10**



**NOTES:**

1. SEE CITY OF BRENTWOOD ZONING ORDINANCE FOR ADDITIONAL REQUIREMENTS.
2. TREES SHOULD NOT BE PLANTED WITHIN 25 FEET OF A STOP SIGN OR STREET LIGHT.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



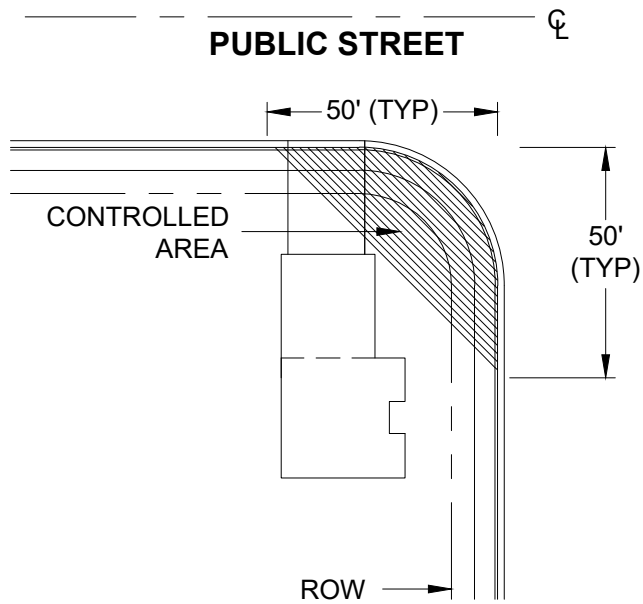
**VISIBILITY REQUIREMENTS (1)**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

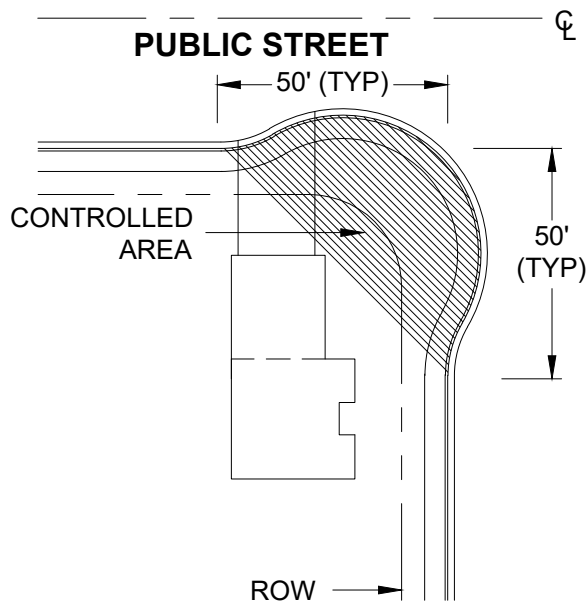
DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-11a**





**STANDARD**



**BULB "A"**

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



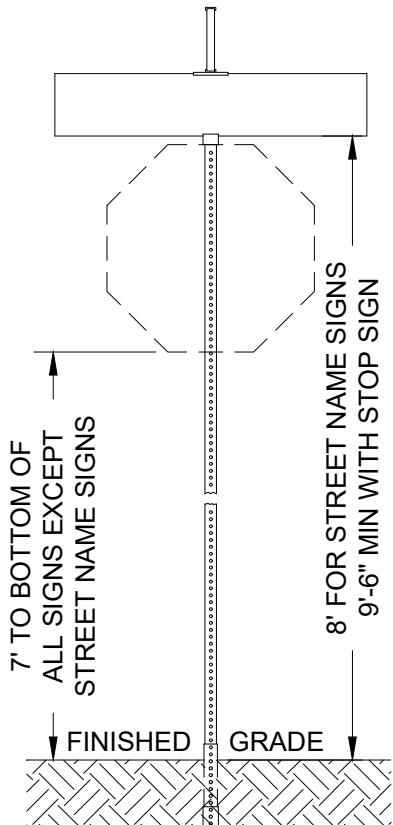
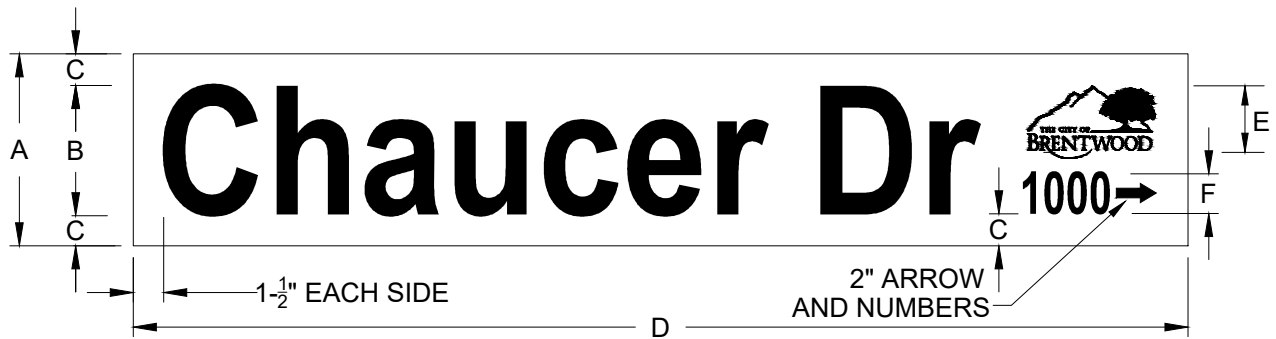
**VISIBILITY REQUIREMENTS (2)**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-11b**



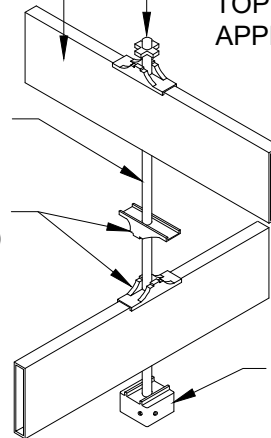


	RESIDENTIAL	THOROUGHFARE
A	8"	11"
B	6"	8"
C	1"	1.5"
D	24" MIN, INCREASE IN 6" INCREMENTS, AS NEEDED	
E	5" L x 3" H	6" L x 3.5" H
F	5" L x 2" H	6" L x 2.5" H
LEGEND AND PLATE	WHITE, HIGH INTENSITY, PRISMATIC TYPE IV BACKGROUND AGAINST GREEN 1177 EC TRANSPARENT OVERLAY FILM	
STOP SIGN	HIGH INTENSITY, PRISMATIC WHITE BACKGROUND AGAINST RED 1172 EC TRANSPARENT OVERLAY FILM	

HOLLOW EXTRUDED BLADE (DOUBLE FACE SIGN)

1 1/16" DIA - 14 GAUGE ANODIZED ALUMINUM TOP (ZUMAR SN9-1 OR APPROVED EQUAL)

CADMIUM PLATED CARRIAGE BOLT  
14 GAUGE ANODIZED ALUMINUM (ZUMAR SN9-1 OR APPROVED EQUAL)



1 3/4" CAST ANODIZED ALUMINUM POST  
1/4" THICK CAP WITH FOUR STAINLESS STEEL ALLEN HEAD SET SCREWS

**NOTES:**

1. ALL SIGNS MUST BE STAMPED "PROPERTY OF THE CITY OF BRENTWOOD," AND DATED.
2. SEE ST-13 FOR ROADSIDE BREAKAWAY SIGN POST.
3. BLOCK ADDRESSES ARE REQUIRED FOR COLLECTORS AND ARTERIAL ROADWAYS ONLY.
4. THE SIGN LETTERING FOR STREET NAMES SHALL BE COMPOSED OF A COMBINATION OF LETTERS WITH INITIAL UPPER CASE LETTERS PER MUTCD SECTION 2D.43. FONT SHALL BE AVANT GARDE.

(Not To Scale)



**ENGINEERING DEPARTMENT**



**STREET NAME SIGN**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

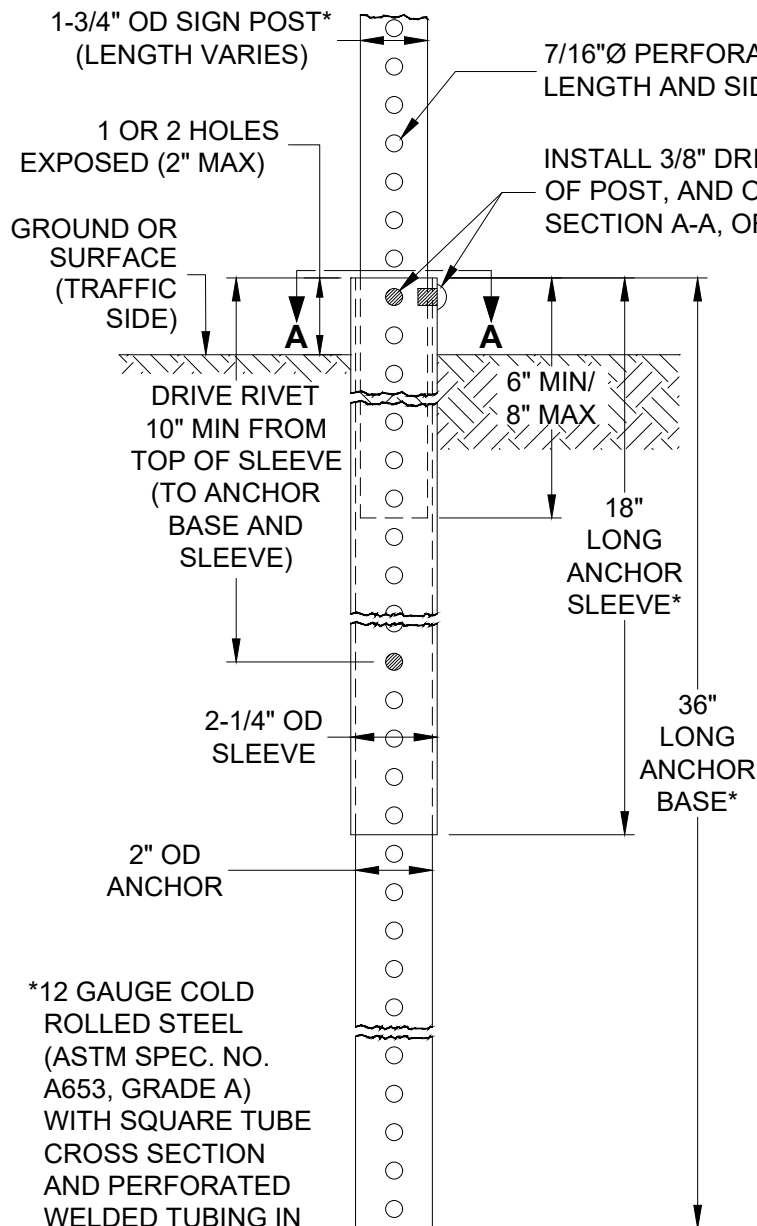
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

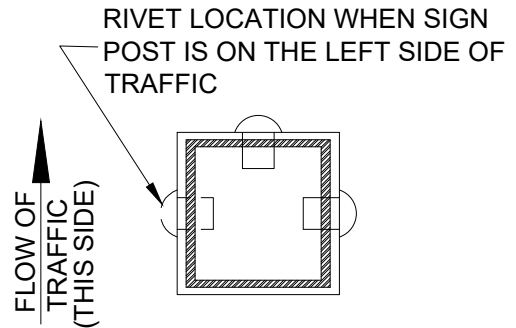
**ST-12**



\*12 GAUGE COLD ROLLED STEEL (ASTM SPEC. NO. A653, GRADE A) WITH SQUARE TUBE CROSS SECTION AND PERFORATED WELDED TUBING IN GALVANIZED FINISH CONFORMING TO ASTM SPEC. NO. A653 COATING DESIGNATION G90.

**NOTES:**

1. FOR INSTALLATION ON UNDISTURBED EARTH OR CONCRETE SIDEWALK. DISTURBED EARTH REQUIRES A COMPACTION OF 95% AROUND ITS SURROUNDING AREAS.
2. TELESCOPE THE ANCHOR SLEEVE OVER THE ANCHOR BASE UNTIL BOTH TUBES ARE FLUSH AT THE TOP AND THE PERFORATIONS ALIGN.
3. USE DRIVING CAP TO PROTECT THE END OF ALL MEMBERS WHEN THE ANCHOR ASSEMBLY IS BEING DRIVEN INTO THE GROUND.
4. STABILIZATION ANCHOR SLEEVES SHALL BE USED IN ALL AREAS WITH SOFT, LOOSE OR UNSTABLE SOILS.
5. SEE ST-12 FOR STREET SIGN DETAIL.
6. WRAP POST IN SLEEVE IF PLACED IN CONCRETE.



**RIVET LOCATION SECTION A-A**

(Not To Scale)



**ENGINEERING DEPARTMENT**



**ROADSIDE BREAKAWAY SIGN POST**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

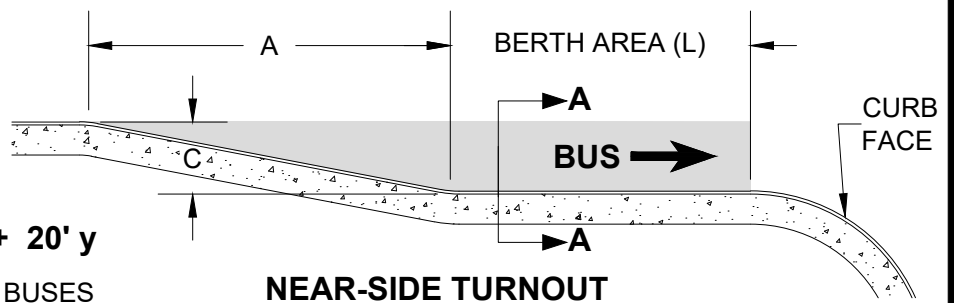
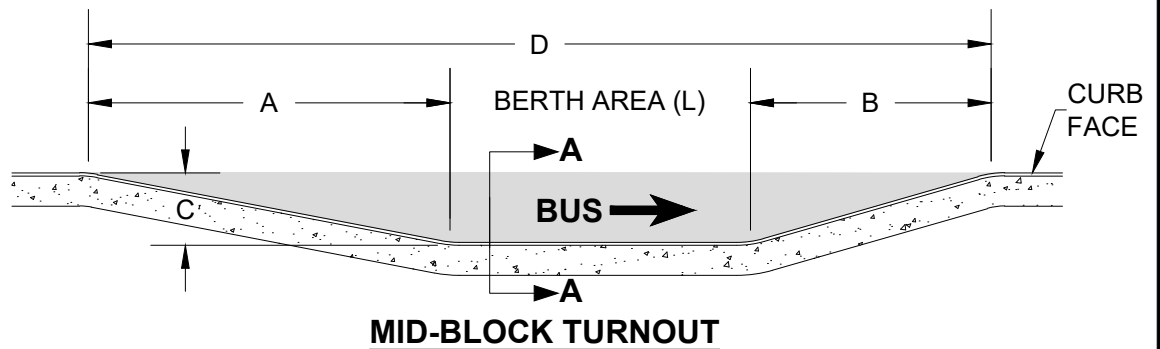
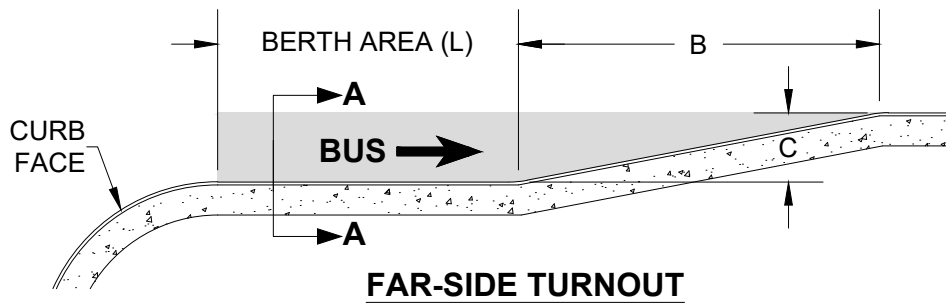
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-13**



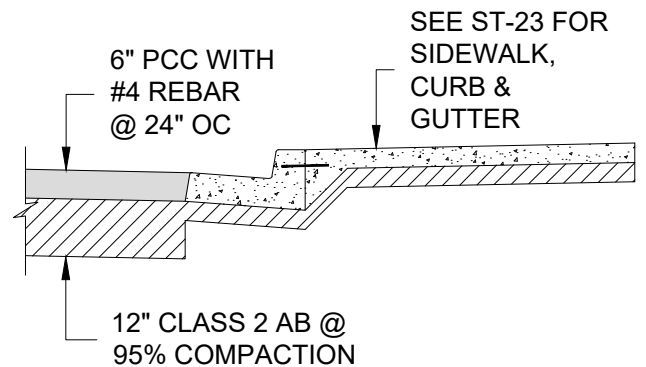
**L = BERTH AREA = 50' x + 20' y**

x = NO. OF ARTICULATED BUSES  
y = TOTAL NO. OF BUSES

STREET TYPE	A	B	C	D
LOCAL	50'	50'	10'	L + 100'
COLLECTOR	100'	80'	10'	L + 180'
ARTERIAL	180'	125'	12'	L + 305'

**NOTE:**

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1½ LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.



**SECTION A-A**

(Not To Scale)



**ENGINEERING DEPARTMENT**



**BUS TURNOUTS**

*Allen Baquilar*  
ALLEN S. BAQUILAR

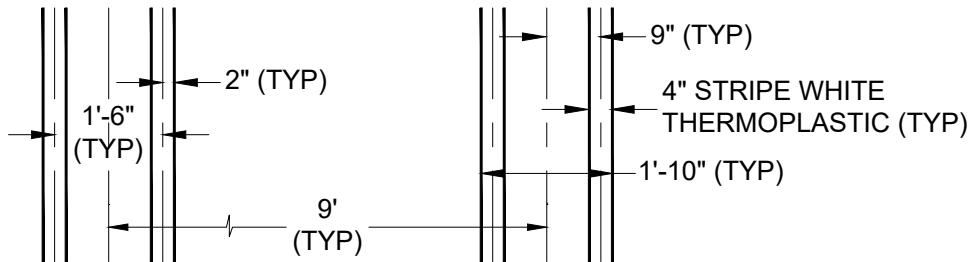
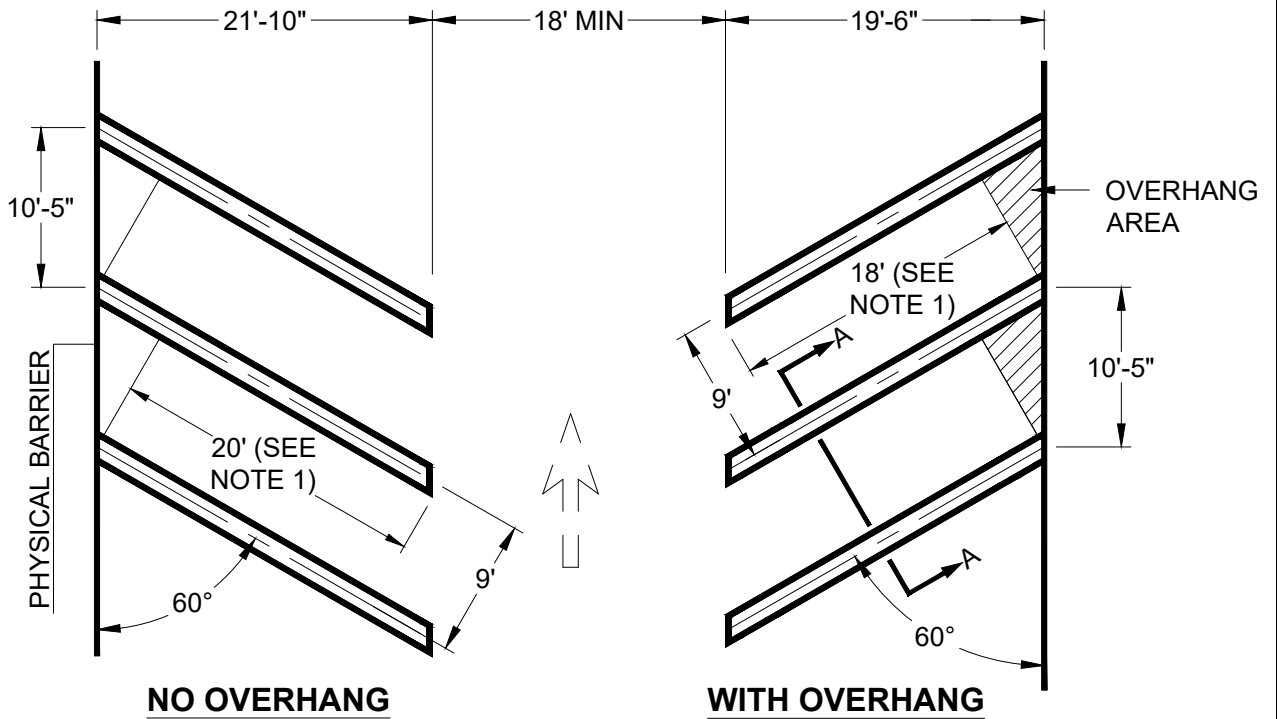
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-14**



**DETAIL A-A**

**NOTES:**

1. PARKING STALL SHALL BE 18' LONG IN CASES WHERE A 2' OVERHANG AREA IS DESIGNED OR AVAILABLE SUCH AS SIDEWALK, LANDSCAPE AND OTHER LOW SURFACING. WHERE THERE IS A PHYSICAL BARRIER SUCH AS A WALL, TALL PLANTER OR A PROPERTY LINE, LENGTH SHALL BE 20'.
2. WHEEL-STOPS SHALL BE INSTALLED TO PREVENT VEHICLE OVERHANG ON ADJACENT PLANTERS AND/OR SIDEWALKS. IN CIRCUMSTANCES WHERE THE ADJACENT PLANTER AND/OR SIDEWALK WIDTHS EXCEED CITY STANDARDS THEN A WRITTEN REQUEST FOR AN EXCEPTION MAY BE SUBMITTED SUBJECT TO REVIEW AND APPROVAL BY THE CITY ENGINEER.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

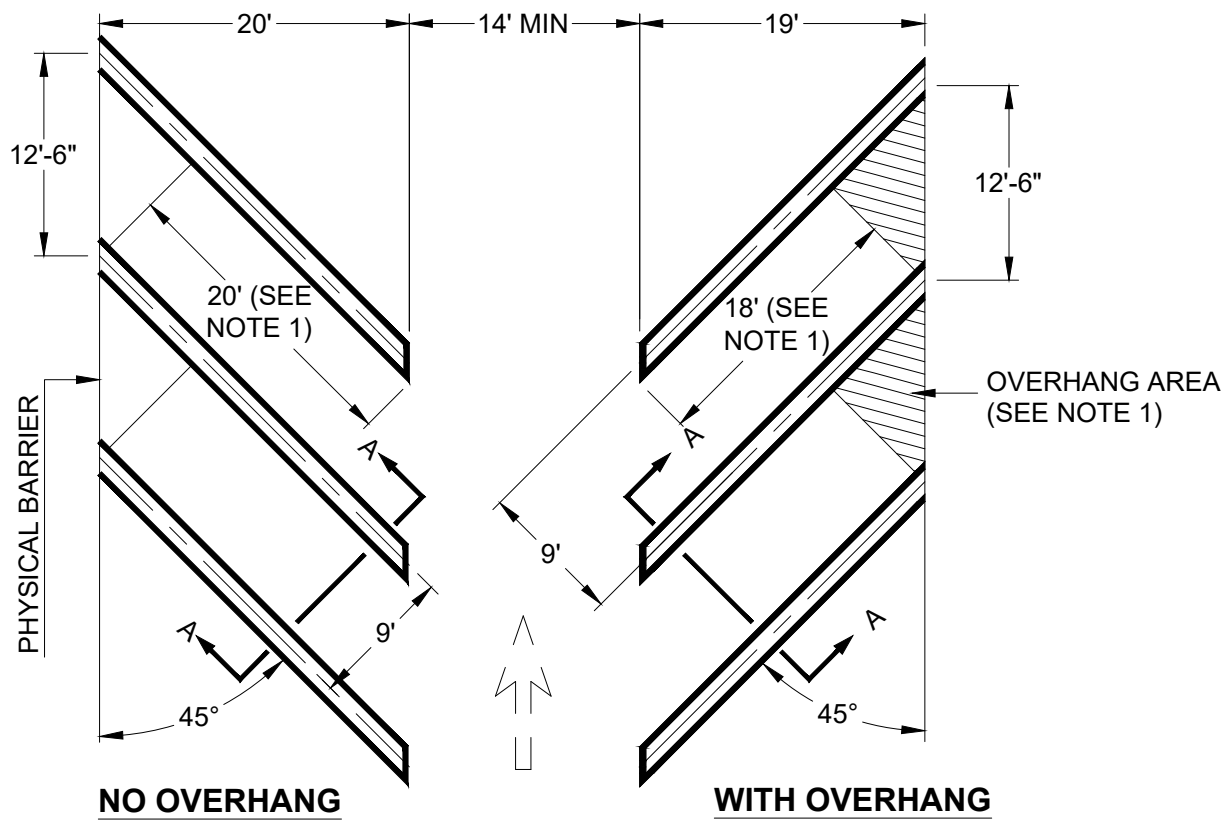


**TYPICAL 60° PARKING STALL LAYOUT**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

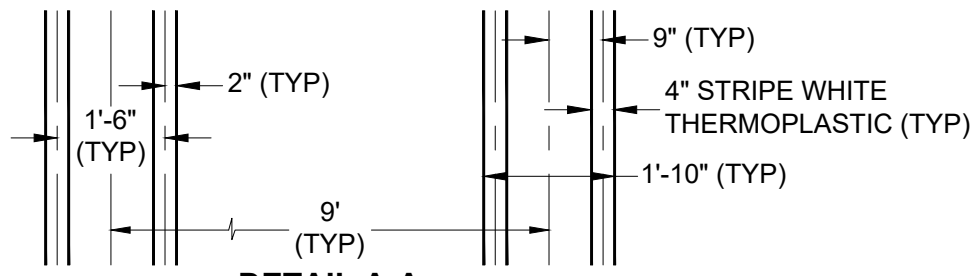
DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-15a**



**NO OVERHANG**

**WITH OVERHANG**



**DETAIL A-A**

**NOTES:**

1. PARKING STALL SHALL BE 18' LONG IN CASES WHERE A 2' OVERHANG AREA IS DESIGNED OR AVAILABLE SUCH AS SIDEWALK, LANDSCAPE AND OTHER LOW SURFACING. WHERE THERE IS A PHYSICAL BARRIER SUCH AS A WALL, TALL PLANTER OR A PROPERTY LINE, LENGTH SHALL BE 20'.
2. WHEEL-STOPS SHALL BE INSTALLED TO PREVENT VEHICLE OVERHANG ON ADJACENT PLANTERS AND/OR SIDEWALKS. IN CIRCUMSTANCES WHERE THE ADJACENT PLANTER AND/OR SIDEWALK WIDTHS EXCEED CITY STANDARDS THEN A WRITTEN REQUEST FOR AN EXCEPTION MAY BE SUBMITTED SUBJECT TO REVIEW AND APPROVAL BY THE CITY ENGINEER.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

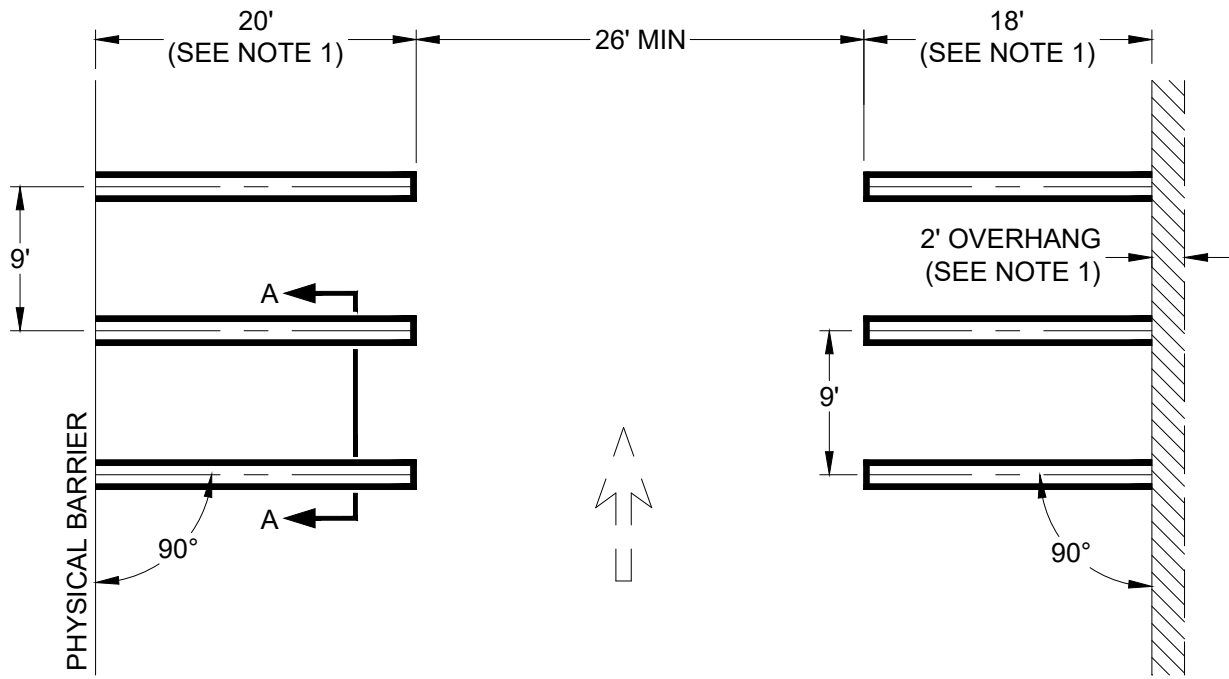


**TYPICAL 45° PARKING STALL LAYOUT**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

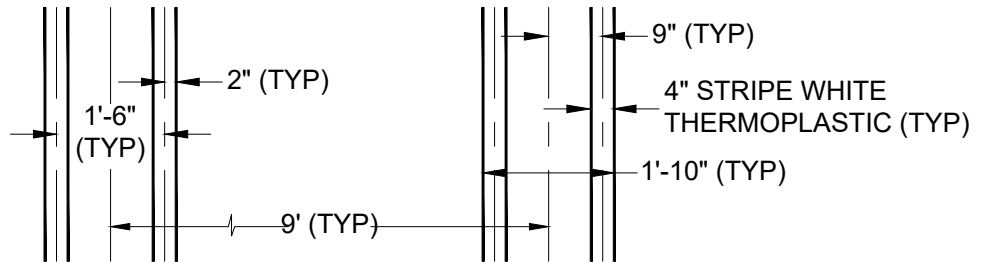
DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-15b**



**NO OVERHANG**

**WITH OVERHANG**



**DETAIL A-A**

**NOTES:**

1. PARKING STALL SHALL BE 18' LONG IN CASES WHERE A 2' OVERHANG AREA IS DESIGNED OR AVAILABLE SUCH AS SIDEWALK, LANDSCAPE AND OTHER LOW SURFACING. WHERE THERE IS A PHYSICAL BARRIER SUCH AS A WALL, TALL PLANTER OR A PROPERTY LINE, LENGTH SHALL BE 20'.
2. WHEEL-STOPS SHALL BE INSTALLED TO PREVENT VEHICLE OVERHANG ON ADJACENT PLANTERS AND/OR SIDEWALKS. IN CIRCUMSTANCES WHERE THE ADJACENT PLANTER AND/OR SIDEWALK WIDTHS EXCEED CITY STANDARDS THEN A WRITTEN REQUEST FOR AN EXCEPTION MAY BE SUBMITTED SUBJECT TO REVIEW AND APPROVAL BY THE CITY ENGINEER.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

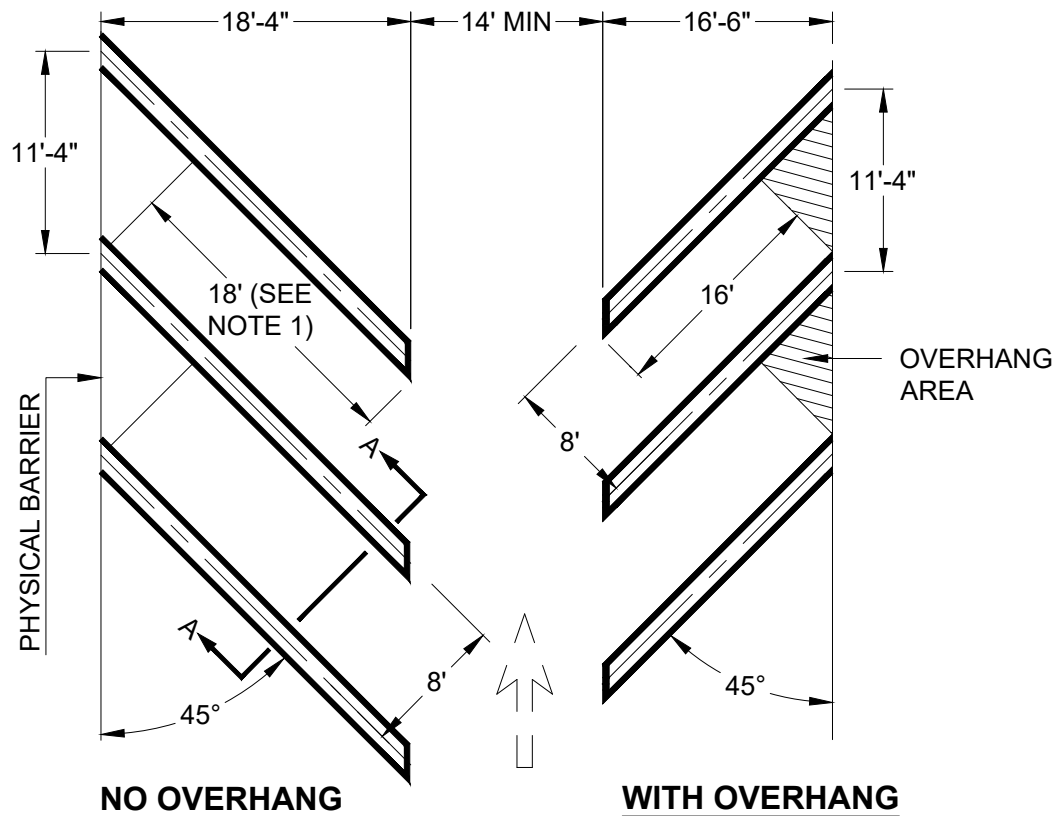


**TYPICAL 90° PARKING STALL LAYOUT**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

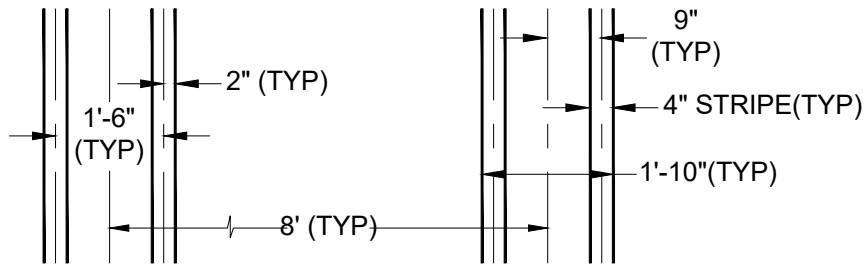
DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-15c**



**NO OVERHANG**

**WITH OVERHANG**



**DETAIL A-A**

**NOTES:**

1. PARKING STALL SHALL BE 16' LONG IN CASES WHERE A 2' OVERHANG AREA IS DESIGNED OR AVAILABLE SUCH AS SIDEWALK, LANDSCAPE AND OTHER LOW SURFACING. WHERE THERE IS A PHYSICAL BARRIER SUCH AS A WALL, TALL PLANTER OR A PROPERTY LINE, LENGTH SHALL BE 18'.
2. WHEEL-STOPS SHALL BE INSTALLED TO PREVENT VEHICLE OVERHANG ON ADJACENT PLANTERS AND/OR SIDEWALKS. IN CIRCUMSTANCES WHERE THE ADJACENT PLANTER AND/OR SIDEWALK WIDTHS EXCEED CITY STANDARDS THEN A WRITTEN REQUEST FOR AN EXCEPTION MAY BE SUBMITTED SUBJECT TO REVIEW AND APPROVAL BY THE CITY ENGINEER. (Not To Scale)



**ENGINEERING  
DEPARTMENT**



**TYPICAL ANGLED COMPACT  
PARKING STALL LAYOUT**

*Allen Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

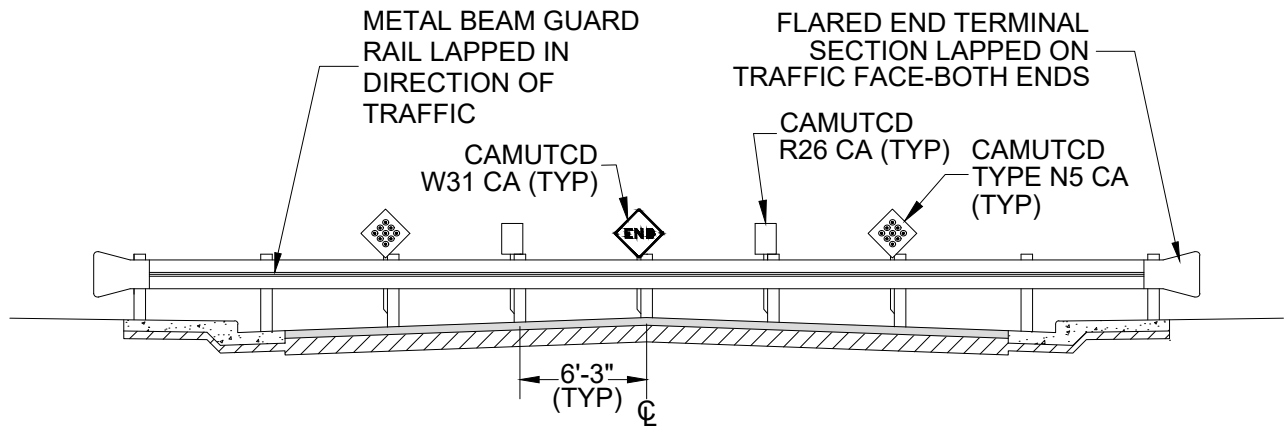
DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

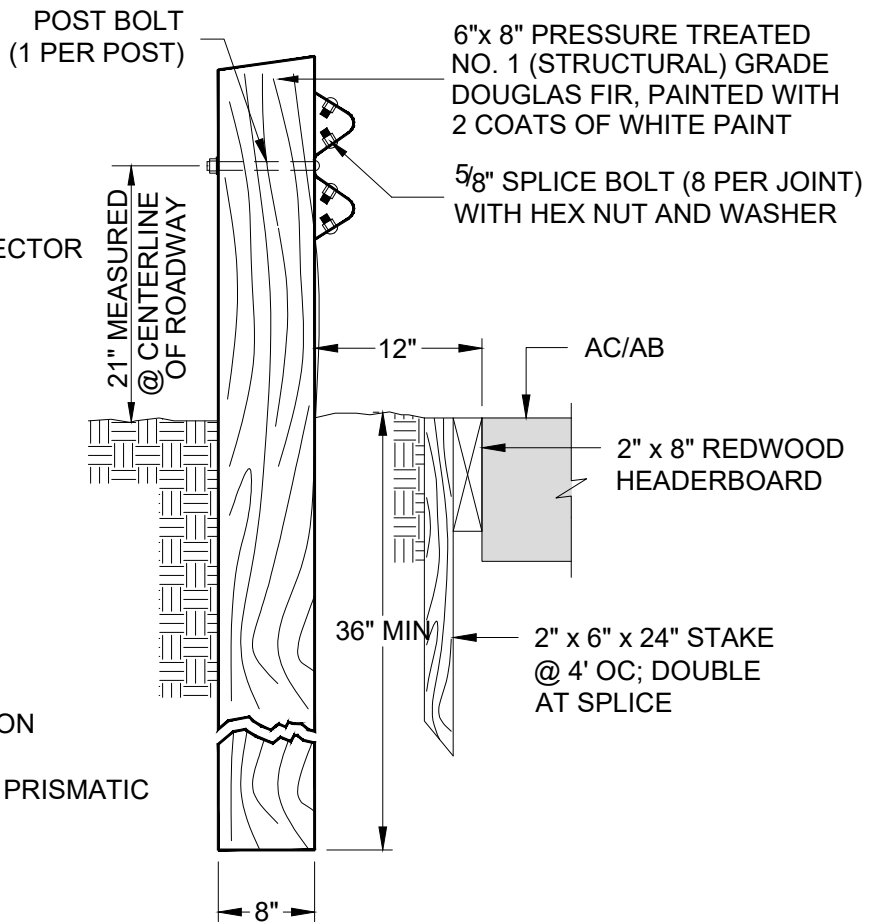
**ST-15d**





**NOTES:**

1. CAMUTCD TYPE N-5 (CA) REFLECTOR AND R-26 (CA) SIGN ON A 4"x 4" REDWOOD POST, LAG BOLTED (MIN. 3 BOLTS) TO BARRICADE POST JUST BEHIND THE BARRICADE.
2. BOTTOM OF SIGNS SHALL BE EVEN WITH THE TOP OF THE GUARD RAIL.
3. THE RAIL ELEMENTS, BACK-UP PLATES, TERMINAL, END, AND RETURN SECTIONS SHALL CONFORM TO CLASS A, TYPE 1 W-BEAM GUARD RAILING AS SHOWN IN AASHTO DESIGNATION M180.
4. "END" SIGN SHOULD BE MICRO PRISMATIC AND NO LESS THAN 30"X30".



(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**STREET BARRICADE**

*Allen Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

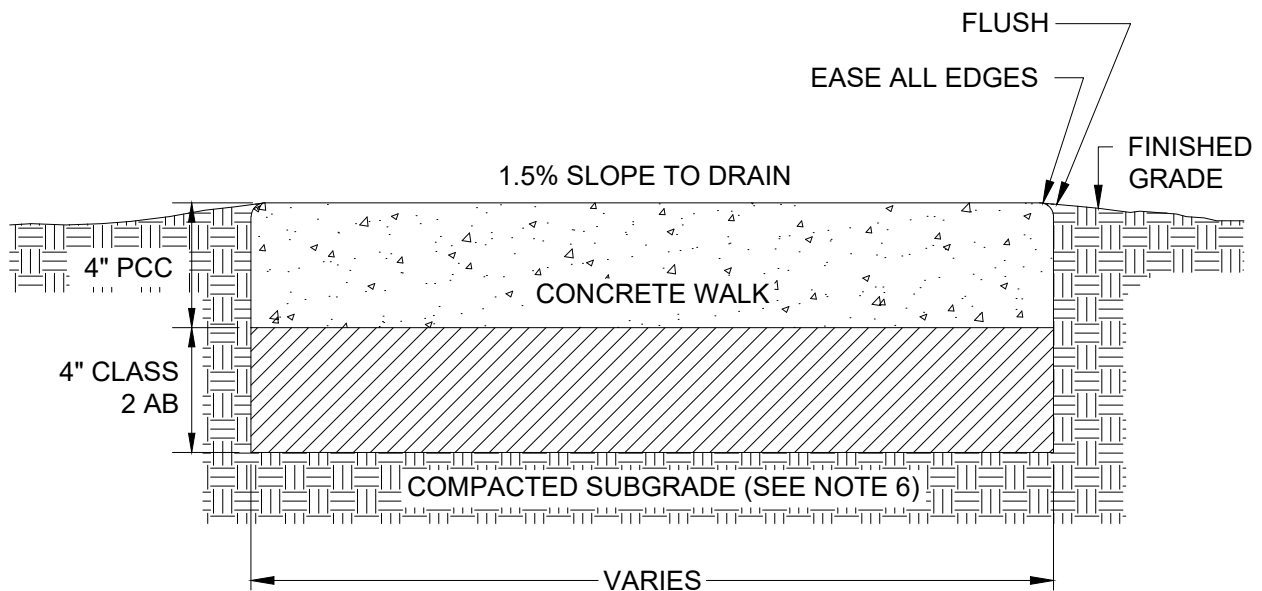
DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-16**





**NOTES:**

1. CONSTRUCT WEAKENED PLANE JOINTS 1" DEEP AT 5' ON CENTER.
2. CONSTRUCT EXPANSION JOINTS AT 20' INTERVALS AND WHERE NEW CONCRETE JOINS EXISTING OR OTHER SURFACING.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. WITH 1½ LBS. FIBRILLATED POLYPROPELENE FIBERS PER CUBIC YARD.
4. BROOM FINISH WALK AT RIGHT ANGLES TO CURB.
5. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**CONCRETE WALKWAY DETAIL**

*Allen Baquilar*  
ALLEN S. BAQUILAR

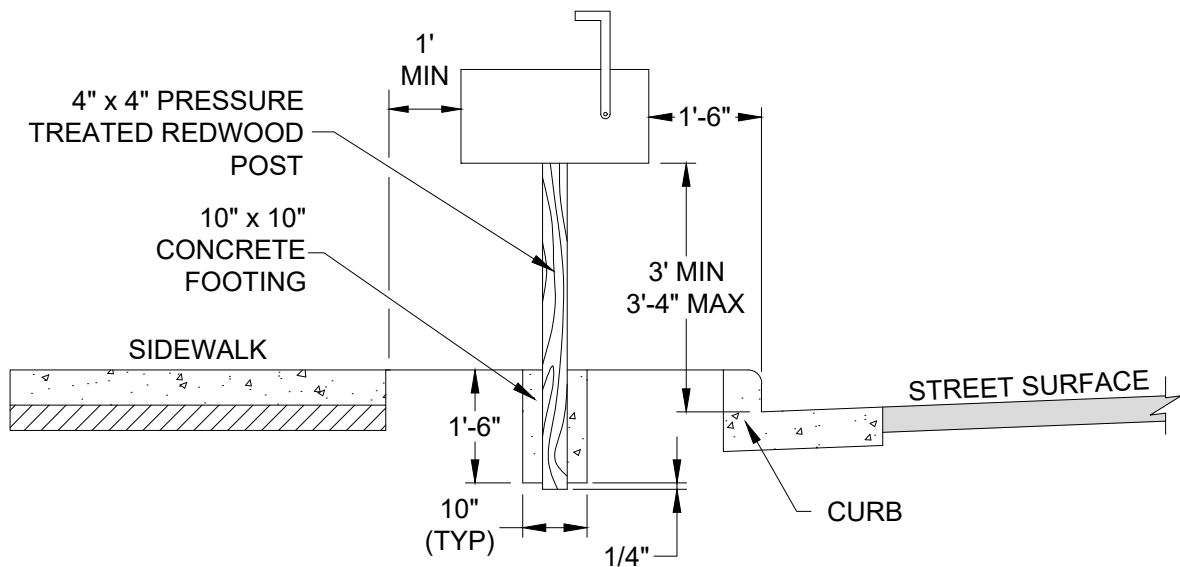
CITY ENGINEER

DATE: FEBRUARY 1, 2019

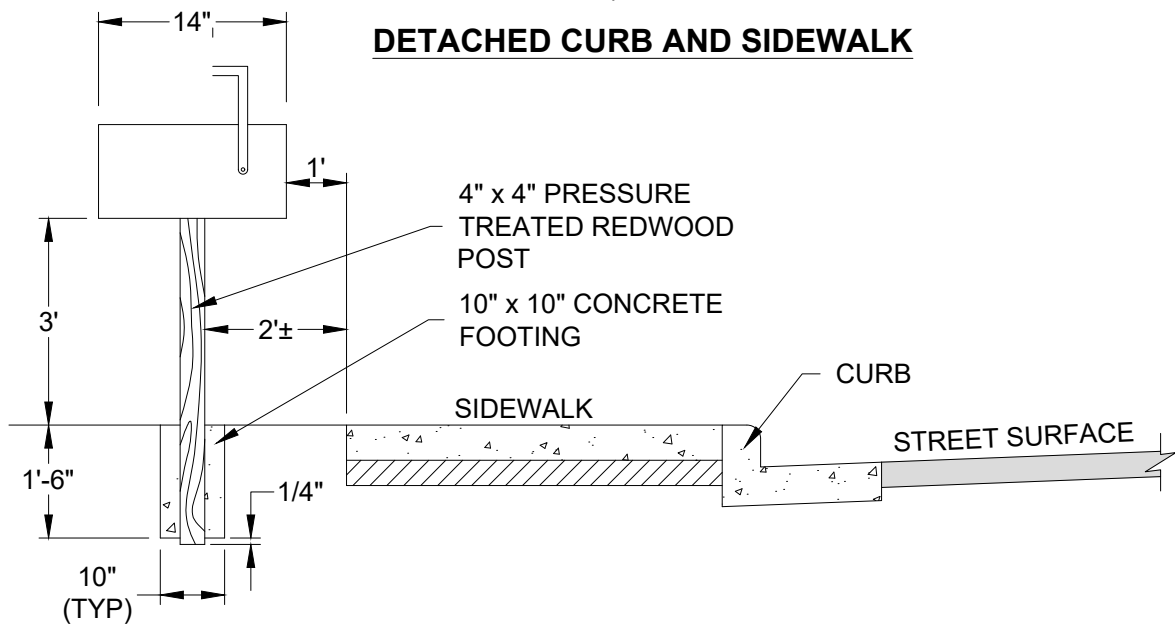
REVISED:

SHEET No.

**ST-17**



**DETACHED CURB AND SIDEWALK**



**MONOLITHIC CURB AND SIDEWALK**

**NOTES:**

1. MAINTAIN A MINIMUM 3' HORIZONTAL CLEARANCE FROM FIRE HYDRANT TO NEAREST EDGE OF MAILBOX.
2. MAILBOX LOCATION SHALL NOT OVERHANG UTILITY OR WATER METER BOXES.
3. MAILBOX CLUSTERS, AND LOCATIONS, ARE SUBJECT TO POSTAL REGULATIONS.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**MAILBOX LOCATION**

*Allen Baquilar*  
ALLEN S. BAQUILAR

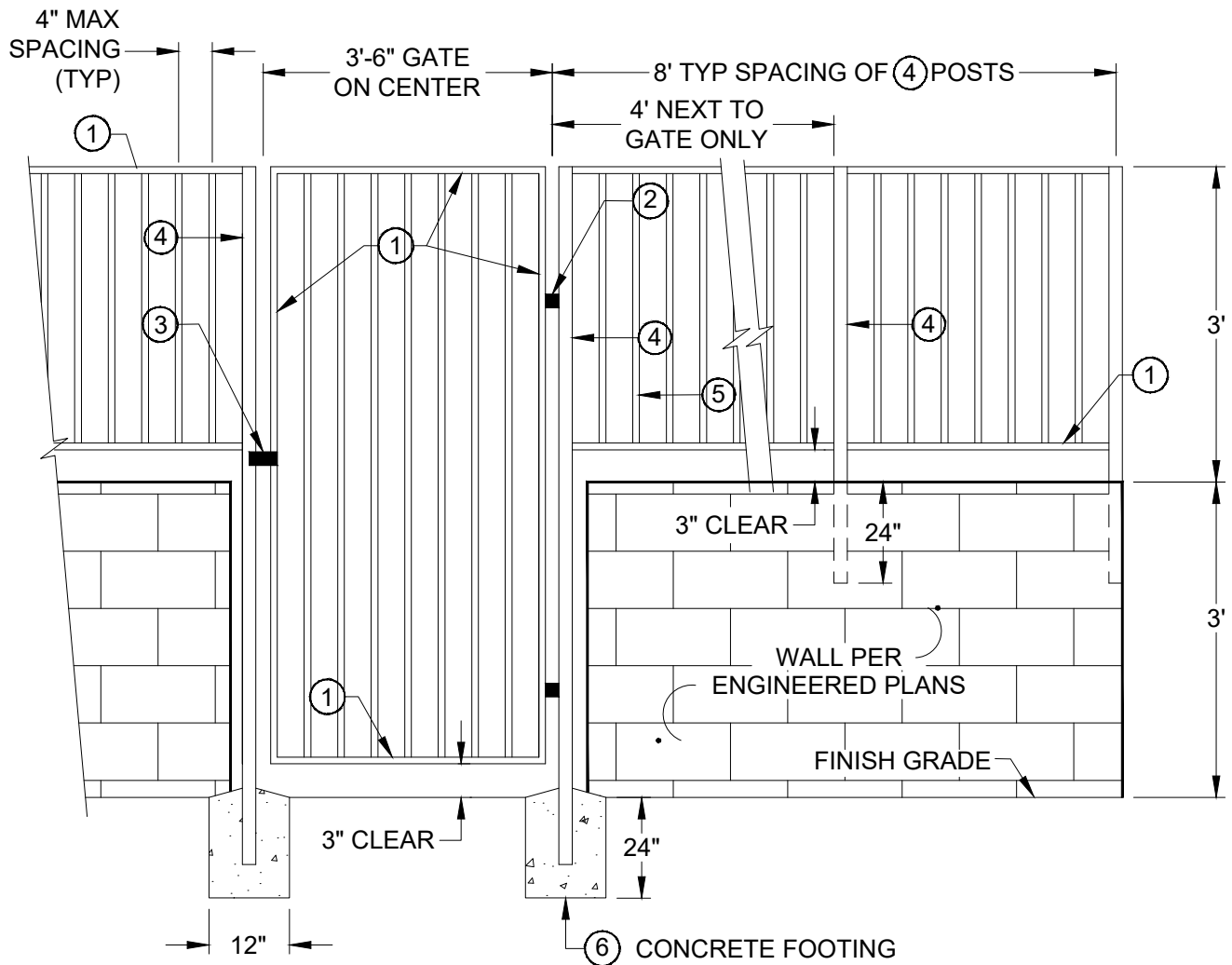
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-18**



**LEGEND:**

- ① 1-1/2" SQUARE TUBULAR STEEL FRAME (TOP, BOTTOM & SIDE RAILS), WELDED ALL SIDES
- ② 3/4" ONE WAY, SELF-CLOSING HINGES, OPENING TOWARDS STREET
- ③ SELF-CLOSING BAR LATCH INCLUDING LOCK HASP, WELDED TO FRAME AND POST
- ④ 2-1/2" SQUARE TUBULAR POST, WELDED ALL SIDES
- ⑤ 5/8" TUBULAR STEEL PICKETS, WELDED ALL SIDES
- ⑥ CONCRETE FOOTING, 2,500 P.S.I. MINIMUM

**NOTES:**

- 1. ALL WELDS SHALL BE GROUND SMOOTH.
- 2. ALL STEEL SHALL BE PAINTED WITH 1 COAT PRIMER, 2 COATS BLACK POLYURETHENE AND 2 COATS HIGH-GLOSS TNEMEC PAINT (OR APPROVED EQUAL).

(Not To Scale)



**ENGINEERING DEPARTMENT**

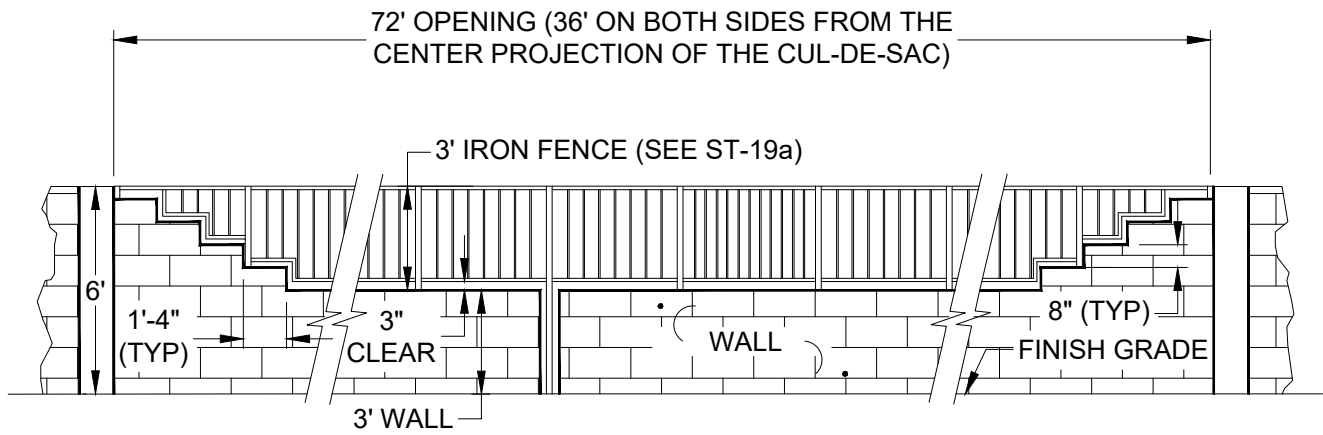
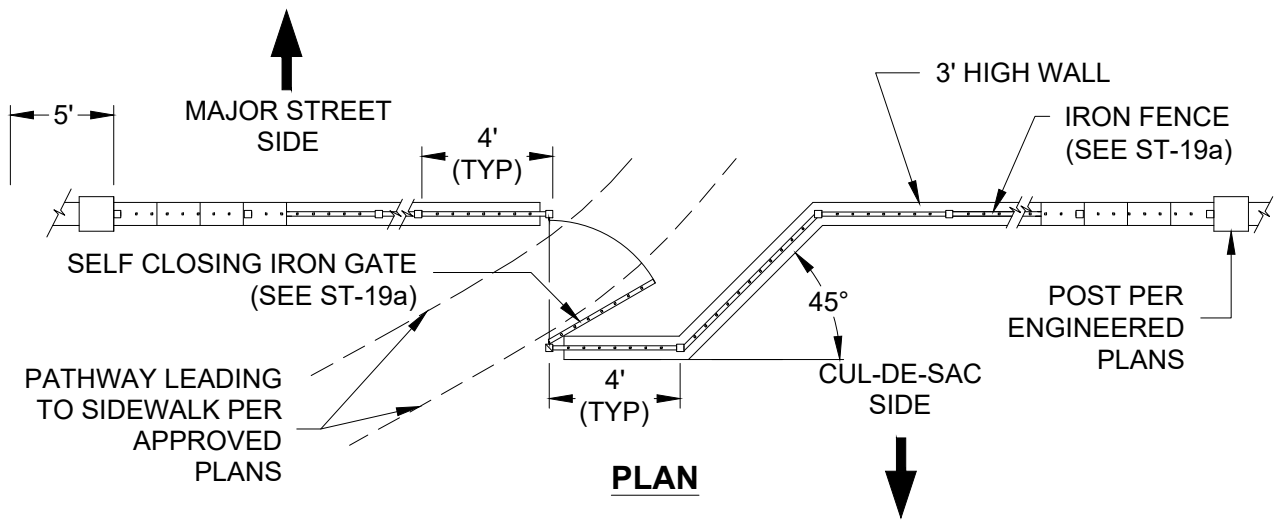


**IRON FENCE AND GATE**

*Allen Baquilar*  
 ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
 REVISED:

SHEET No.  
**ST-19a**



**NOTES:**

1. THIS STANDARD SHALL BE USED ON CUL-DE SACS BACKING ON A MAJOR STREET.
2. SEE ST-19a FOR THE IRON FENCE AND GATE DETAIL.
3. SOUND WALL SHALL BE PER APPROVED ENGINEERED PLANS.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**OPEN-ENDED CUL-DE-SAC  
FENCE AND WALL**

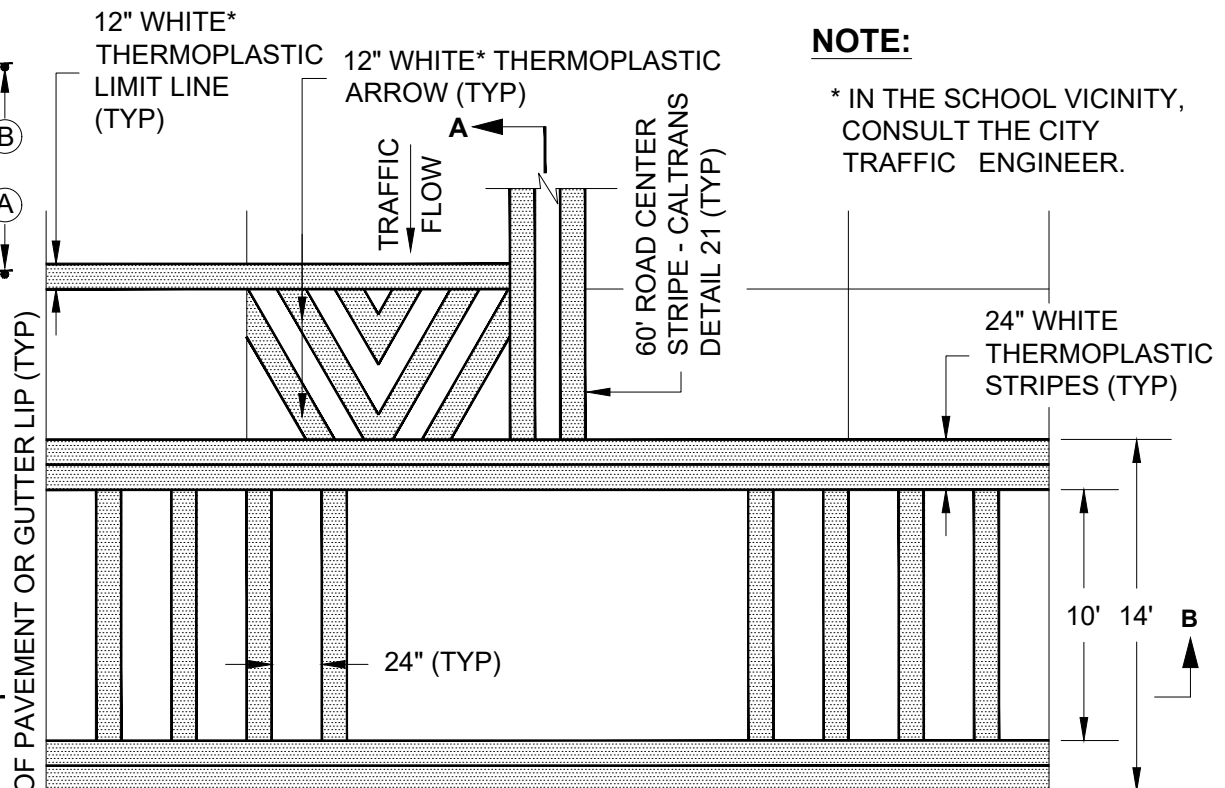
*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-19b**

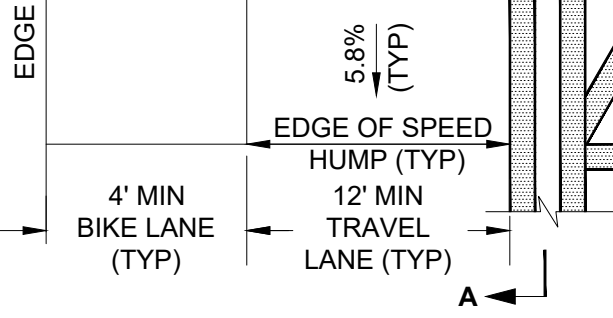
SEE DETAILS BELOW

B

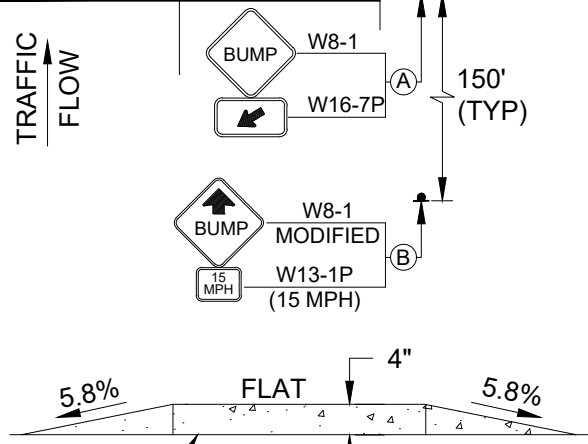


**NOTE:**

\* IN THE SCHOOL VICINITY, CONSULT THE CITY TRAFFIC ENGINEER.

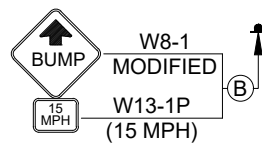
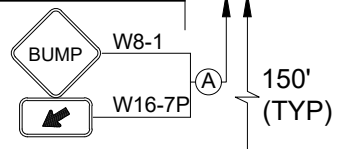


**SECTION B-B**



**SECTION A-A**

(Not To Scale)



**ENGINEERING DEPARTMENT**

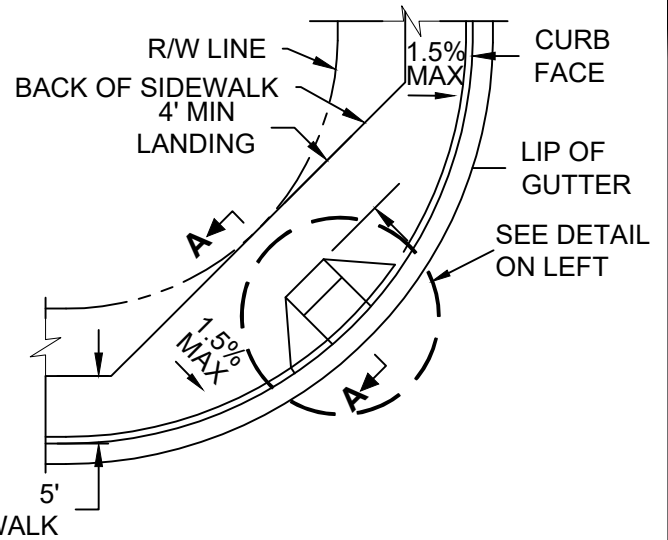
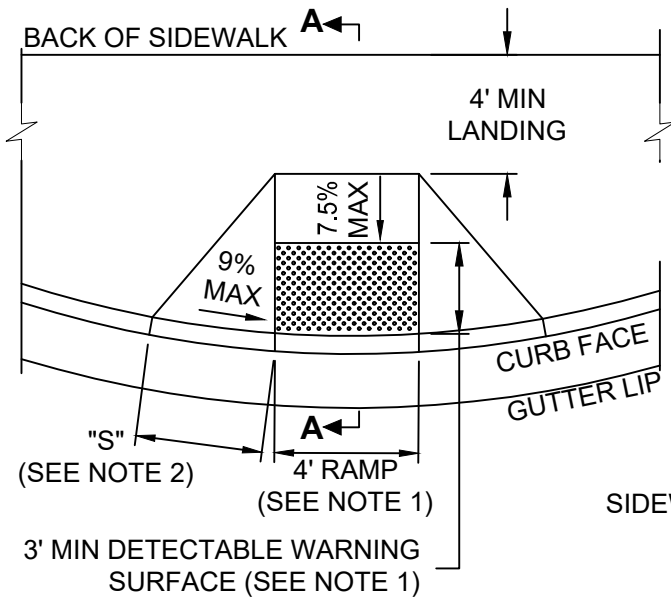


**SPEED TABLE CROSSWALK**

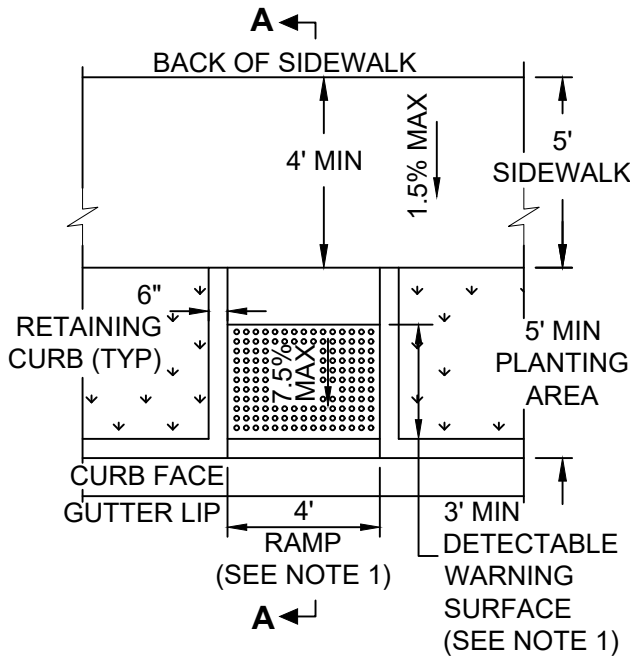
*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

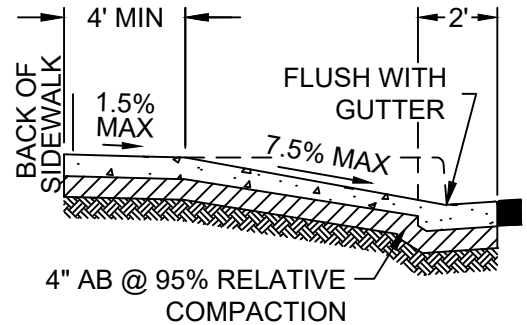
SHEET No.  
**ST-20**



**TYPE "A"**



**TYPE "B"**



**SECTION A-A**

**NOTES:**

1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE. SEE ACCESSIBLE CURB RAMP DETAILS ON ST-21c AND NOTE 11 ON ST-21d.
2. "S"=SLOPE DISTANCE (SEE TABLE ON ST-21d).
3. SEE ST-21d AND ST-21e FOR ADDITIONAL ACCESSIBLE CURB NOTES.
4. FOR RIGHT-OF-WAY ONLY, REFER TO CALIFORNIA BUILDING CODE FOR REQUIREMENTS ON PRIVATE PROPERTY.

(Not To Scale)



**ENGINEERING DEPARTMENT**



**ACCESSIBLE CURB RAMP TYPE "A" AND "B"**

*Allen Baquillar*  
ALLEN S. BAQUILLAR

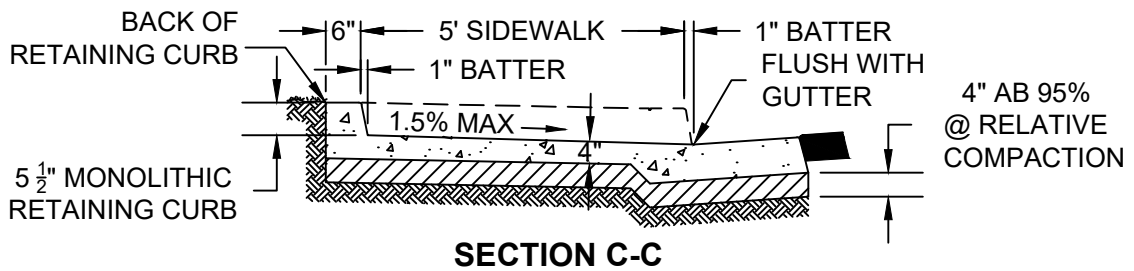
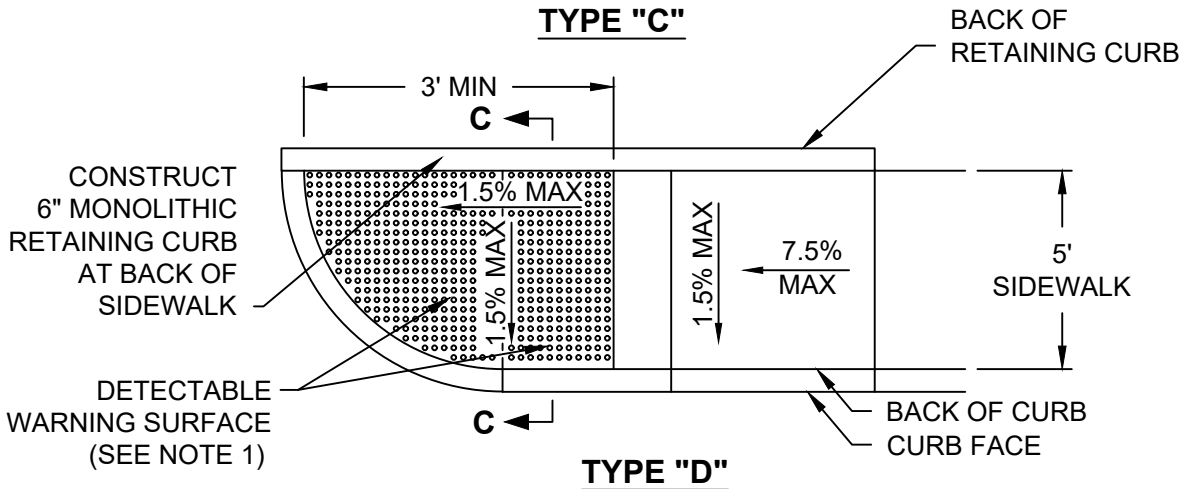
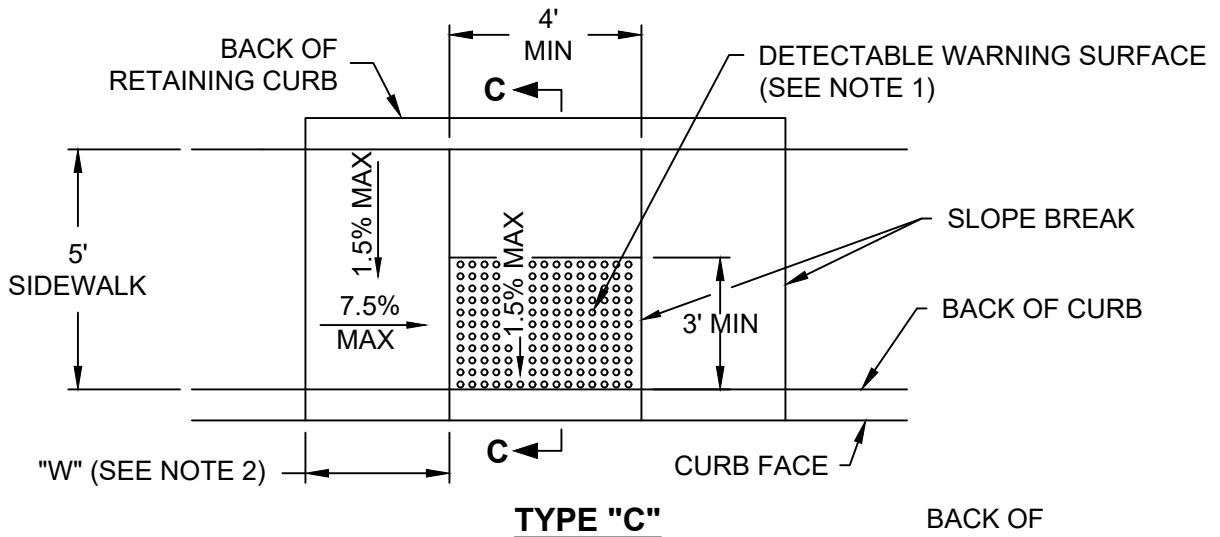
CITY ENGINEER

DATE: MARCH 10, 2023

REVISED:

SHEET No.

**ST-21a**



**NOTES:**

1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE. SEE NOTE 11 ON ST-21d FOR DETECTABLE WARNING SURFACES AND TRUNCATED DOME GENERAL INFORMATION.
2. "W" = CURB HEIGHT MAX SLOPE DIMENSION (SEE TABLE ON ST-21d).
3. SEE ST-21d & ST-21e FOR ADDITIONAL ACCESSIBLE CURB RAMP NOTES.
4. FOR RIGHT-OF-WAY ONLY, REFER TO CALIFORNIA BUILDING CODE FOR REQUIREMENTS ON PRIVATE PROPERTY.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**ACCESSIBLE CURB RAMP  
TYPE "C" AND "D"**

*Allen Baquillar*  
ALLEN S. BAQUILLAR

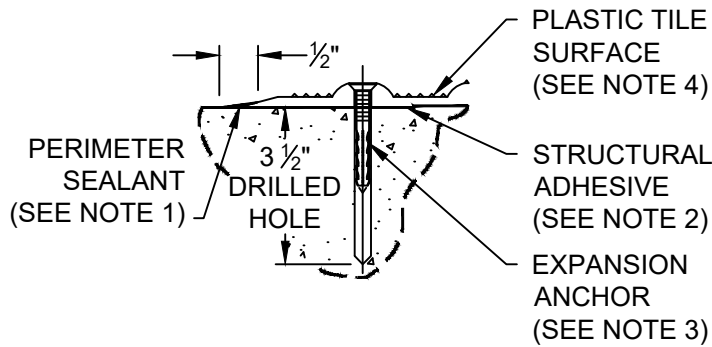
CITY ENGINEER

DATE: MARCH 10, 2023

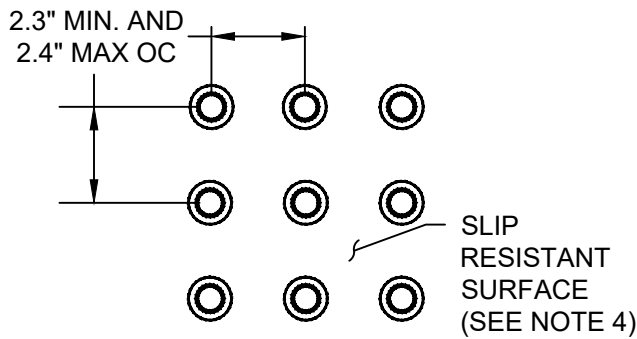
REVISED:

SHEET No.

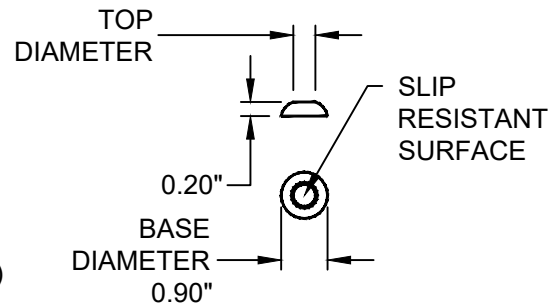
**ST-21b**



**SURFACE APPLIED TILE INSTALLATION**



**RAISED TRUNCATED DOME PATTERN**



**RAISED TRUNCATED DOME**

**NOTES:**

1. APPLY SEALANT AT PERIMETER OF PLASTIC TILE AFTER FASTENING. TOOL SMOOTH TO BLEND TILE EDGE WITH ADJACENT SURFACE.
2. APPLY STRUCTURAL ADHESIVE AT FULL PERIMETER AND THROUGH CENTER OF PLASTIC TILE EACH WAY.
3. 1/4" x 1 1/2" LG COLOR MATCHED EXPANSION ANCHOR PART NO. ADA-S-FAST 12" O.C.
4. SLIP RESISTANT PLASTIC TILE SURFACE. PLASTIC TILES WITH A MIN. OF 40 POINTS PER SQUARE INCH.
5. SEE ST-21d & ST-21e FOR ADDITIONAL ACCESSIBLE CURB RAMP NOTES.
6. FOR RIGHT-OF-WAY ONLY, REFER TO CALIFORNIA BUILDING CODE FOR REQUIREMENTS ON PRIVATE PROPERTY.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**ACCESSIBLE CURB RAMP  
DETAILS**

*Allen Baquillar*  
ALLEN S. BAQUILLAR

CITY ENGINEER

DATE: MARCH 10, 2023

REVISED:

SHEET No.

**ST-21c**



**CURB HEIGHT SLOPE DIMENSIONS TABLE**

CURB HEIGHT	DISTANCE "S" (MIN)	SLOPE "W" (MIN)
4"	3.704'	4.44'
5"	4.63'	5.56'
6"	5.56'	6.67'
7"	6.48'	7.78'
8"	7.41'	8.89'

**NOTES:**

1. ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED AT MIDPOINT OF CURB RETURNS.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2,500 P.S.I. WITH 1-1/2 LBS. FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
3. CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. IS NOT ALLOWED UNLESS AUTHORIZED BY THE CITY ENGINEER.
4. RAMPS SHALL HAVE A HEAVY BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP AND DEEP SCORE LINES AT LEADING EDGE OF TACTILE STRIPS.
5. CROSSWALKS SHALL BE CENTERED ON THE LANDING OF THE ACCESSIBLE CURB RAMP.
6. CURB RAMP SIDE SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 10% AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF RAMP, EXCEPT IN TYPE 'C' OR 'D'
7. UTILITY PULL BOXES, MANHOLES, VAULTS, AND ALL OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP WILL BE RELOCATED BY OTHERS PRIOR TO, OR IN CONJUNCTION WITH, CURB RAMP CONSTRUCTION.
8. DOWEL CURB RAMPS AT ALL COLD JOINTS IN EXISTING CONCRETE WITH #4 REBAR 12" LONG AT 36" INTERVALS. DRIVE TIGHT FIT OR EPOXY. EXPANSION JOINTS AND/OR WEAKENED PLANE JOINTS SHALL SEPARATE CURB RAMPS IN NEW CONCRETE CONSTRUCTION.
9. ALL SLOPES RELATIVE TO EXISTING STREET GRADES.
10. GENERAL NOTES ON TRUNCATED DOMES:
  - A. ACCESSIBLE CURB RAMPS SHALL HAVE A PREFABRICATED DETECTABLE WARNING SURFACE INSTALLED ON RAMP SURFACE CONSISTING OF TILE(S) WITH RAISED TRUNCATED DOMES CONFORMING TO THE DETAILS ON THIS STANDARD PLAN AND IN CONFORMANCE WITH THE REQUIREMENTS ESTABLISHED BY THE DEPARTMENT OF GENERAL SERVICES, DIVISION OF STATE ARCHITECT; AND THE AMERICAN WITH DISABILITIES ACT (TITLE 49 CFR TRANSPORTATION, PART 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, APPENDIX A, SECTION 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES) AND SHALL BE CAST IN PLACE IN CONFORMANCE WITH THE MANUFACTURER'S CAST IN PLACE RECOMMENDATIONS.
  - B. DETECTABLE WARNING SURFACE SHALL EXTEND THE FULL WIDTH AND 3' DEPTH OF THE RAMP. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE. WHEN A DETECTABLE SURFACE EDGE AND/OR DOMES IS CUT AND THE RESULTING EDGE IS NOT FLUSH WITH THE SURFACE OF THE RAMP, THE EDGE SHALL BE BEVELED OR CONFORMED WITH PERIMETER SEALANT AT 1:2 MAX. SLOPE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**ACCESSIBLE CURB RAMP  
NOTES-1**

*Allen Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

DATE: MARCH 10, 2023

REVISED:

SHEET No.

**ST-21d**

**NOTES:**

- 11. MANUFACTURER(S) WARRANTY ON TRUNCATED DOMES:  
MANUFACTURER(S) SHALL PROVIDE A WRITTEN 5-YEAR WARRANTY FOR PREFABRICATED DETECTABLE WARNING SURFACES, GUARANTEEING REPLACEMENT WHEN THERE IS DEFECT IN THE DOME SHAPE, COLOR FASTNESS, SOUND-ON-CANE ACOUSTIC QUALITY, RESILIENCE, OR ATTACHMENT. WARRANTY PERIOD SHALL BEGIN UPON ACCEPTANCE OF WORK.
- 12. TRUNCATED DOMES SPECIFICATIONS:
  - A. PLASTIC TILES SHALL BE "ARMOR TILE" AS MANUFACTURED BY ENGINEERED PLASTICS INC., OR APPROVED EQUAL, TEL: (800) 682-2525. TILES SHALL BE A SINGLE TILE, 36" x 48" NOMINAL, MANUFACTURED OF AN EPOXY POLYMER COMPOSITE WITH AN ULTRAVIOLET STABILIZED, COLORFAST COATING EMPLOYING ALUMINUM OXIDE PARTICLES IN THE TRUNCATED CONES.
  - B. COLOR SHALL BE YELLOW COLOR NO. 33538 OF AMS-STD-595.
  - C. THE TILE SHALL INCORPORATE AN IN-LINE PATTERN OF TRUNCATED DOMES; .20" IN HEIGHT, .90" DIAMETER AT THE BASE, AND .40" DIAMETER AT THE TOP OF DOME, SPACED 2.3" MIN. AND 2.4" MAX. ON CENTER AS MEASURED VERTICALLY AND HORIZONTALLY; ROWS SHALL BE ORIENTED PARALLEL WITH RAMP DIRECTION; DOMES SHALL BE ALIGNED THROUGHOUT ENTIRE DETECTABLE SURFACE AREA.
  - D. THE FIELD AREA SHALL CONSIST OF A NON-SLIP SURFACE WITH A MINIMUM OF 40 RAISED POINTS .045" HIGH, PER SQUARE INCH.
  - E. THE TILE SHALL BE MANUFACTURED WITH EMBEDMENT FLANGES, 3" CENTER TO CENTER, 1" MIN. DEPTH WITH 5/16" DIAMETER HOLES, 3 HOLES MINIMUM PER FLANGE. WHERE TILES ARE CUT, SEALANT SHALL BE WORKED UNDER THE TILE ALONG PERIMETER WHEREVER THE EMBEDMENT FLANGE IS REMOVED.
- 13. SURFACE APPLICATION ON TRUNCATED DOMES:
  - A. UPON APPROVAL FROM THE CITY ENGINEER, RETROFIT AND UNIQUE CIRCUMSTANCES MAY APPLY TO SURFACE APPLICATION ON TRUNCATED DOMES.
  - B. SURFACE APPLIED DETECTABLE TILES SHALL BE "ARMOR TILE" MANUFACTURED WITHOUT EMBEDMENT FLANGES AND THE EDGES SHALL BE BEVELED, SLOPED AT 1:2 MAXIMUM WHEN THE DETECTABLE SURFACE EDGE AND/OR DOME IS CUT AND THE RESULTING EDGE IS NOT FLUSH WITH THE SURFACE OF THE RAMP, THE EDGE SHALL BE BEVELED OR CONFORMED WITH PERIMETER SEALANT AT 1:2 MAXIMUM SLOPE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
  - C. ADHESIVE: URETHANE ELECTROMETRIC ADHESIVE BY SKA CORP., UNIROYAL, MAPEI, BOSTIK, OR APPROVED EQUAL.
  - D. FASTENERS: COLOR MATCHED, CORROSION RESISTANT, FLAT HEAD DRIVE ANCHOR: 1/4" DIAMETER x 1-1/2" LONG, 12" CENTER TO CENTER BOTH DIRECTIONS MIN. ARMOR-DRIVE BY ENGINEERED PLASTICS OR APPROVED EQUAL.
  - E. PERIMETER SEALANT: EPOXY TWO COMPONENT SEALANT BY POWERS, SIMPSON, HILTI OR APPROVED EQUAL. ALUMINUM GRAY COLOR.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**ACCESSIBLE CURB RAMP  
NOTES-2**

*Allen Baquilar*  
ALLEN S. BAQUILAR

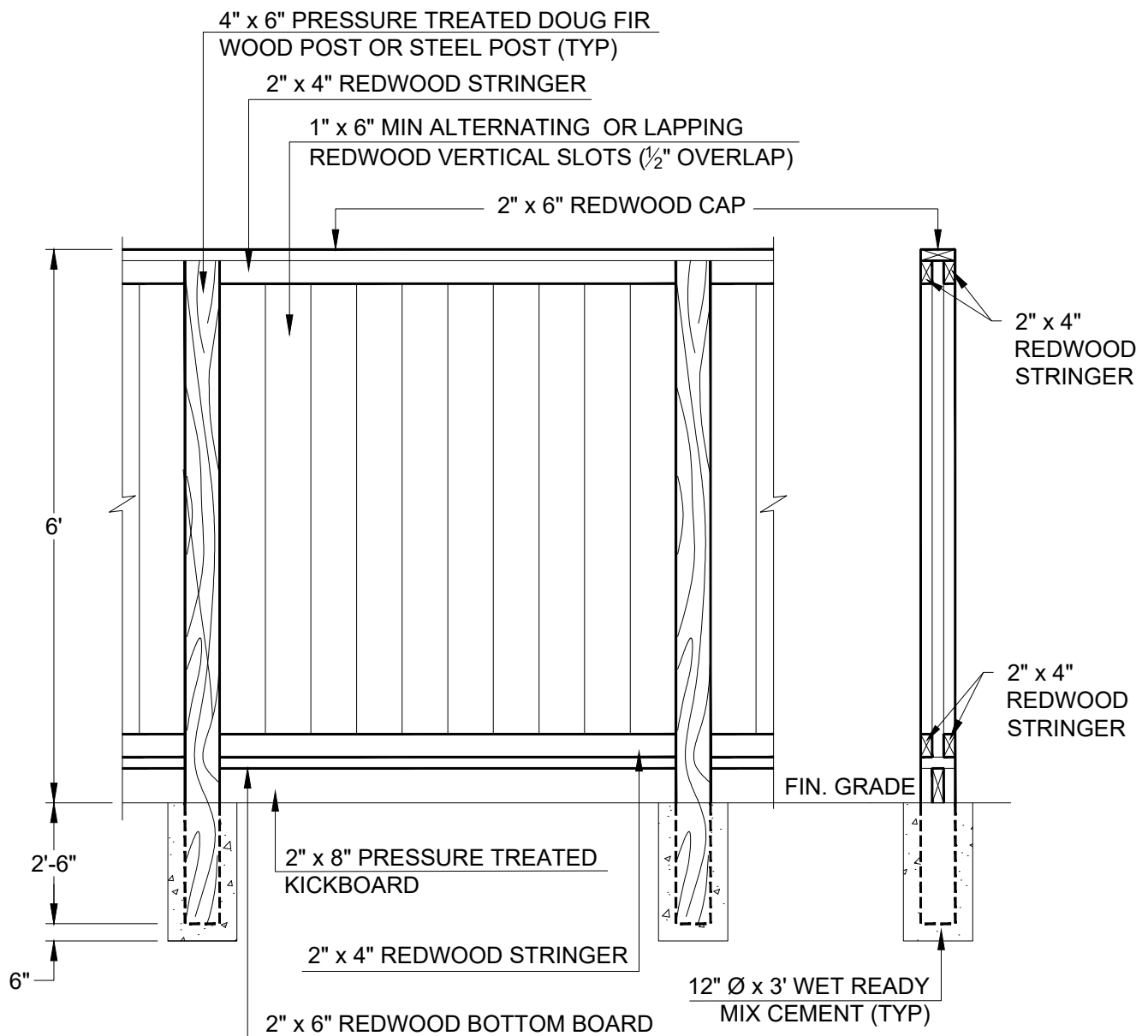
CITY ENGINEER

DATE: MARCH 10, 2023

REVISED:

SHEET No.

**ST-21e**



**NOTES:**

1. THIS STANDARD SHALL BE USED FOR ALL RESIDENTIAL PROPERTY LINE WOOD FENCING UNLESS ADDITIONAL UPGRADES ARE REQUIRED BY THE PLANNING COMMISSION.
2. FOR PARKS AND TRAILS ADJACENT TO PRIVATE PROPERTY, STANDARD PLAN L-16 SHALL BE USED.
3. PRESSURE TREATED KICKBOARD SHALL NOT BE USED AS A RETAINING WALL. (Not To Scale)



**ENGINEERING  
DEPARTMENT**



**STANDARD RESIDENTIAL  
GOOD-NEIGHBOR FENCE**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

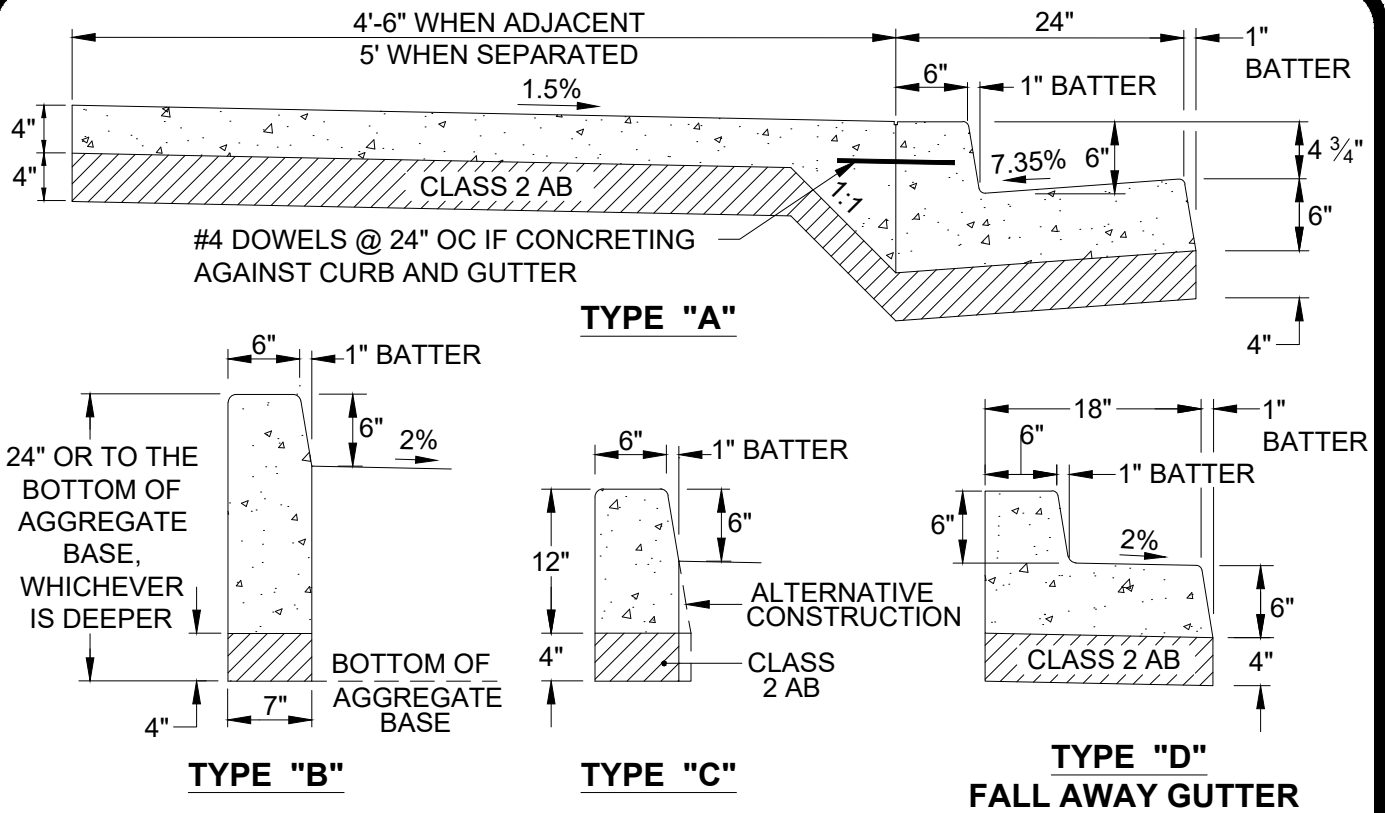
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-22**



**NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 2,500 P.S.I., WITH 1½ LBS FIBRILLATED POLYPROPYLENE FIBERS PER CUBIC YARD.
2. A PERFORATED DRAIN PIPE SHALL BE INSTALLED ON TYPES "A", "C" AND "D" PER CITY STANDARD ST-24.
3. ALL CURB TYPES AND SIDEWALK SHALL HAVE A 1" MIN. DEEP SCORE MARK EVERY 10'. IN ADDITION, SIDEWALK SHALL HAVE A ¼" x ¼" SHALLOW SCORE MARK 5' O.C. FROM THE DEEP SCORE MARK.
4. BROOM FINISH WALK AT RIGHT ANGLES TO CURB; CURB AND GUTTER PARALLEL TO STREET.
5. INSCRIBE A 3" HIGH "W" OR "S" ON TOP OF THE CURB DIRECTLY ABOVE THE WATER OR SANITARY SEWER SERVICE.
6. ALL CONCRETE SHALL HAVE A MINIMUM OF 4" CLASS 2 A.B. @ 95% RELATIVE COMPACTION ON SUBGRADE @ 95% RELATIVE COMPACTION. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
7. ALL CORNERS SHALL BE FINISHED WITH A ½" RADIUS.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**SIDEWALK, CURB AND GUTTER**

*Allen Baquilar*  
ALLEN S. BAQUILAR

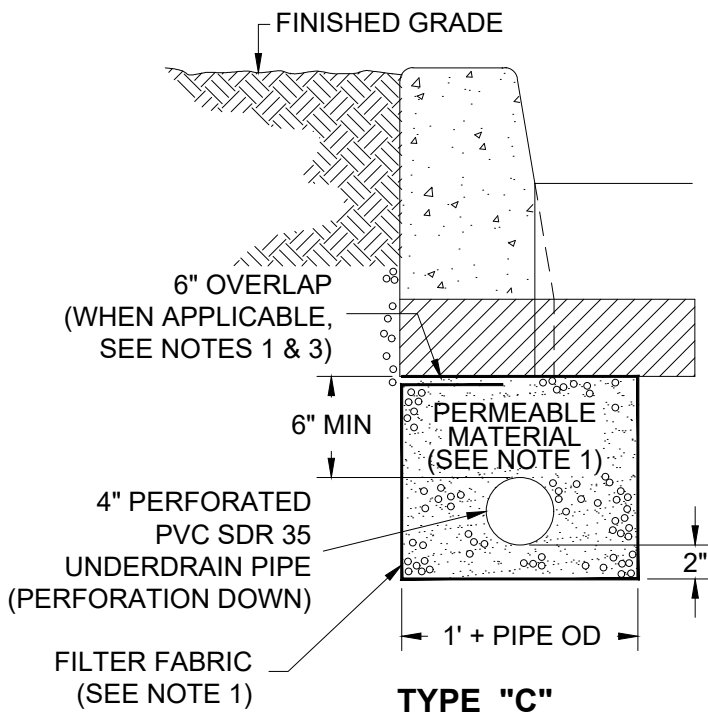
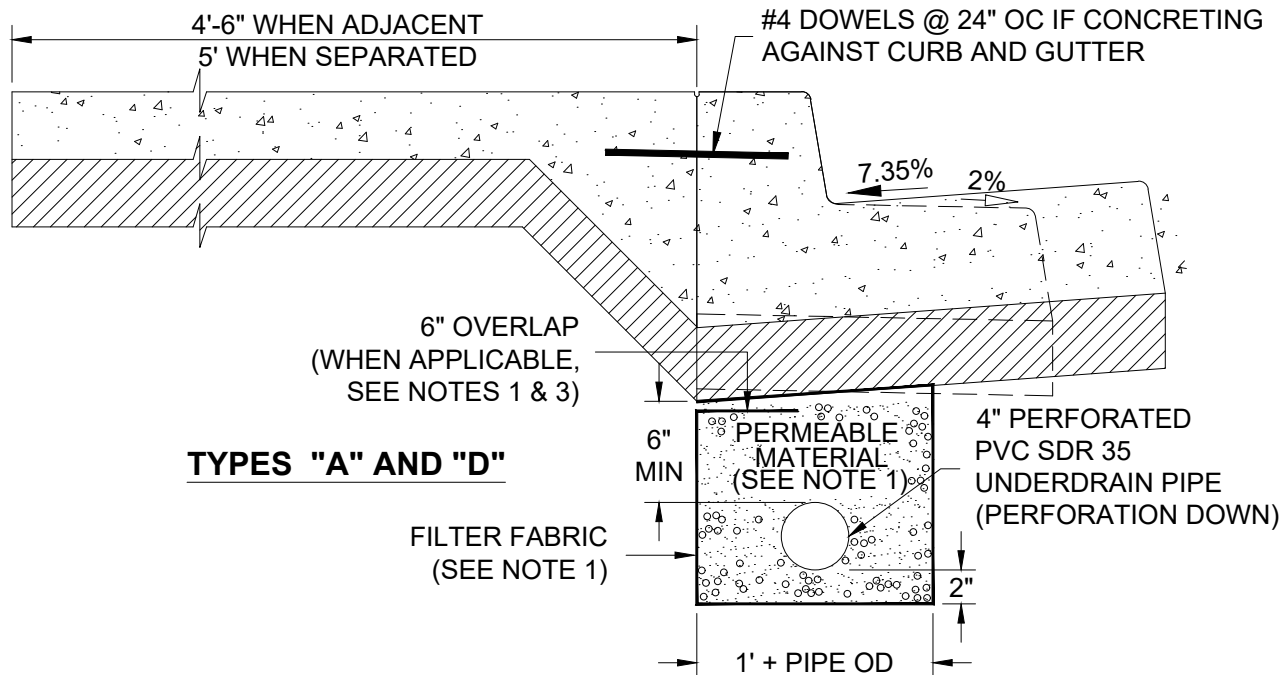
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-23**



**NOTES:**

1. PERMEABLE MATERIAL SHALL EITHER BE CLASS 1 WITH FILTER FABRIC OR CLASS 2 WITHOUT FILTER FABRIC.
2. UNDERDRAIN PIPE, PERMEABLE MATERIAL AND FILTER FABRIC SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS, SECTION 68, "SUBSURFACE DRAINS."
3. FILTER FABRIC ENVELOPMENT AND LENGTH SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS, SECTION 68-1.03B "FILTER FABRIC".
4. PIPE SHALL BE PERFORATED PVC SDR 35.
5. REFER TO ST-23 FOR SIDEWALK, CURB AND GUTTER TYPES.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**SUBSURFACE DRAIN BELOW  
CURB AND SIDEWALK**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

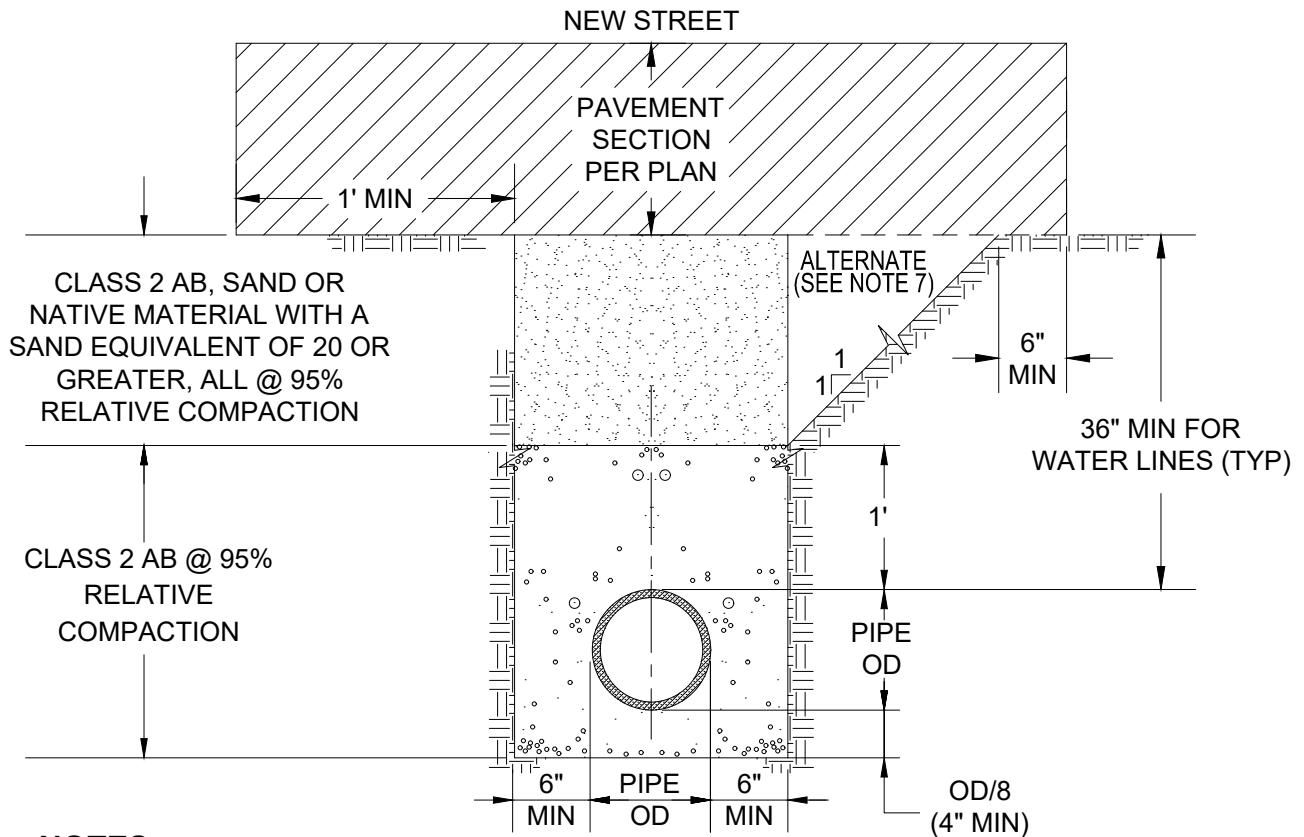
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-24**



**NOTES:**

1. EASEMENT AREAS: SAME AS NEW STREETS BUT WITH 12" NATIVE SOIL CAP.
2. JETTING OF TRENCHES IS NOT ALLOWED.
3. ANY PROPOSED MODIFICATIONS MUST BE APPROVED IN WRITING BY THE CITY ENGINEER.
4. THE pH VALUE OF ALL BACKFILL MATERIAL SHALL BE TESTED TO BE WITHIN 6.5 TO 7.5 RANGE.
5. ANY NATIVE MATERIAL USED AS BACKFILL PER THIS STANDARD MUST BE PLACED AT OPTIMUM MOISTURE, AND TESTED AND CERTIFIED, BY AN APPROVED TESTING FIRM.
6. ALL COMPACTION SHALL BE DONE WITH REX COMPACTOR OR SHEEPS FOOT WHEEL.
7. ON NEW STREETS BEING A PART OF NEW SUBDIVISIONS: NATIVE MATERIAL MAY BE UTILIZED BETWEEN 1' ABOVE THE PIPE AND 1' BELOW SUBGRADE. IN THIS CASE, TRENCH SHALL BE LAID BACK AT 45° AND CONFORM WITH ALL OTHER BACKFILL CRITERIA. MOISTURE CONTENT ON ROADWAYS AND SIDEWALKS SHALL BE WITHIN 2% OF OPTIMUM WITH THE CITY ENGINEER'S APPROVAL, AND 3% ABOVE OPTIMUM ON PARKWAYS, MEDIANS, AND LANDSCAPE AREAS.
8. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
9. SEE ST-25a FOR EXISTING STREET.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**TRENCH AND BACKFILL  
REQUIREMENTS**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

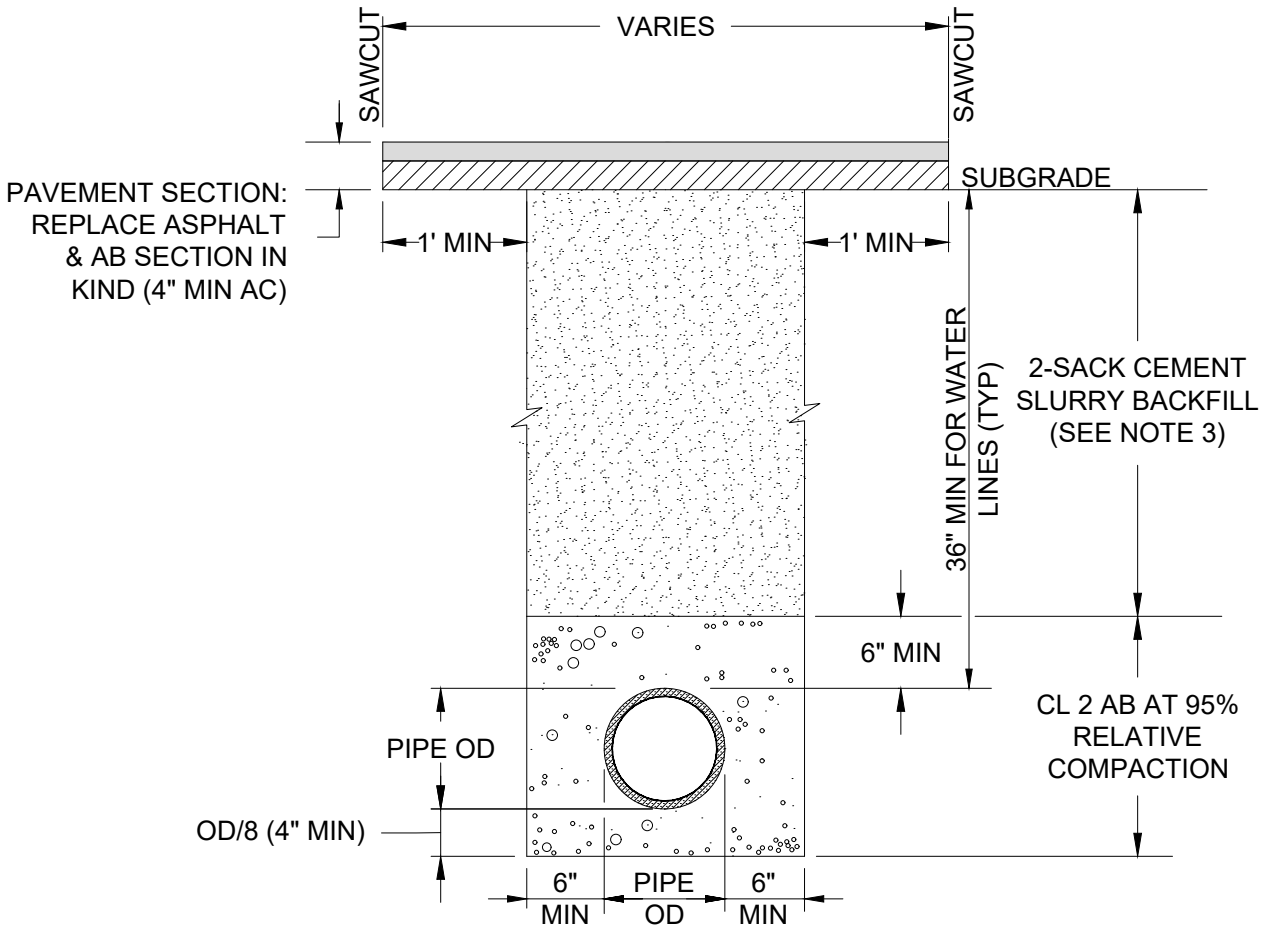
DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-25**





PAVEMENT SECTION:  
REPLACE ASPHALT  
& AB SECTION IN  
KIND (4" MIN AC)

**NOTES:**

1. SEE ST-25b FOR ADDITIONAL NOTES ON OPEN TRENCH, BACKFILL AND REPAIR OF EXISTING STREETS.
2. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
3. A 2-SACK CEMENT SLURRY SHALL BE REQUIRED ON ALL TRENCHES UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**OPEN TRENCH, BACKFILL AND REPAIR  
OF EXISTING STREETS**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-25a**

**NOTES:**

1. REFER TO ST-25a FOR THE DETAIL ON OPEN TRENCH, BACKFILL AND REPAIR OF EXISTING STREETS.
2. JETTING OF TRENCHES IS NOT ALLOWED.
3. THIS DETAIL ASSUMES DEPTHS LESS THAN 8 FEET. FOR DEPTHS MORE THAN 8 FEET, ANY PROPOSED MODIFICATIONS OR DIFFERING FIELD CONDITIONS NOT SPECIFIED HEREIN SHALL REQUIRE THE CITY ENGINEER'S WRITTEN APPROVAL.
4. CLASS 2 A.B. SHALL BE PLACED AND COMPACTED IN 1-FOOT LIFTS MAXIMUM. ALL COMPACTION SHALL BE DONE WITH REX COMPACTOR OR SHEEPS-FOOT WHEEL.
5. ALL TRAFFIC STRIPING REMOVED OR DAMAGED SHALL BE REPLACED AND RESTORED TO ITS ORIGINAL CONDITION AND CONFIGURATION PER CITY STANDARDS.
6. PERMANENT PAVEMENT SHALL BE RESTORED WITHIN FOURTEEN (14) CALENDAR DAYS. TEMPORARY PAVEMENT DURING CONSTRUCTION SHALL BE MAINTAINED TO PROVIDE SMOOTH RIDE.
7. WHERE THE EDGE OF THE TRENCH IS WITHIN 3 FEET OF A GUTTER LIP OR THE EDGE OF PAVEMENT, THE AC PAVEMENT BETWEEN THE TRENCH CUT AND THE GUTTER LIP/EDGE OF PAVEMENT SHALL BE REMOVED AND REPLACED WITH MATCHING PAVEMENT SECTION.
8. PERMISSION TO EXCAVATE OR TRENCH CUT IN NEW OR RESURFACED STREETS SHALL NOT BE GRANTED FOR 3 YEARS UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
9. A TRENCHED STREET SHALL BE GIVEN THE FOLLOWING CONDITIONS AS DIRECTED BY THE CITY ENGINEER:
  - A. SLURRY SEAL SHALL BE AT MINIMUM, THE ENTIRE FRONTING PROPERTY AND AT MINIMUM HALF THE WIDTH OF THE ROADWAY, BUT WIDE ENOUGH TO INCLUDE ALL THE ROADWAY DISTURBED. IF ANY ROADWAY DISTURBANCE EXTENDS BEYOND HALF THE WIDTH OF THE ROADWAY, THE ENTIRE ROADWAY SHALL BE SLURRY SEALED. IF THE SLURRY SEAL EXTENDS TO WITHIN 200' OF AN INTERSECTION, SLURRY MUST EXTEND TO THE INTERSECTION.
  - B. IN ADDITION TO THE SLURRY SEAL LIMITS OUTLINED IN SUBSECTION "A" ABOVE, THE FOLLOWING SHALL APPLY FOR ROADS THAT HAVE RECEIVED AN OVERLAY OR HAVE BEEN RECONSTRUCTED WITHIN THE LAST 3 YEARS. THE TRENCH LENGTH PLUS 1 FOOT BEYOND THE TRENCH SHALL BE REPAIRED AND THE PAVEMENT GROUND DOWN TO ACCEPT 0.15 FOOT OF 1/2 -INCH TYPE 'A' ASPHALT CONCRETE FOR:
    - a. THE AFFECTED LANE; OR
    - b. IF MULTIPLE LANES ARE AFFECTED, THOSE LANES; OR
    - c. IF THE CENTER OF THE STREET HAS BEEN AFFECTED, BOTH DIRECTIONS TO THE NEAREST LANE OR CURB TO CURB.
  - C. TRANSVERSE TRENCHES SHALL HAVE A SLURRY SEAL APPLICATION OF A MINIMUM OF THE GREATER OF THE TRENCH WIDTH PLUS 1 FOOT OR 8 FEET TO REDUCE THE "PATCHY" APPEARANCE.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**NOTES FOR OPEN TRENCH, BACKFILL AND  
REPAIR OF EXISTING STREETS**

*Allen Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

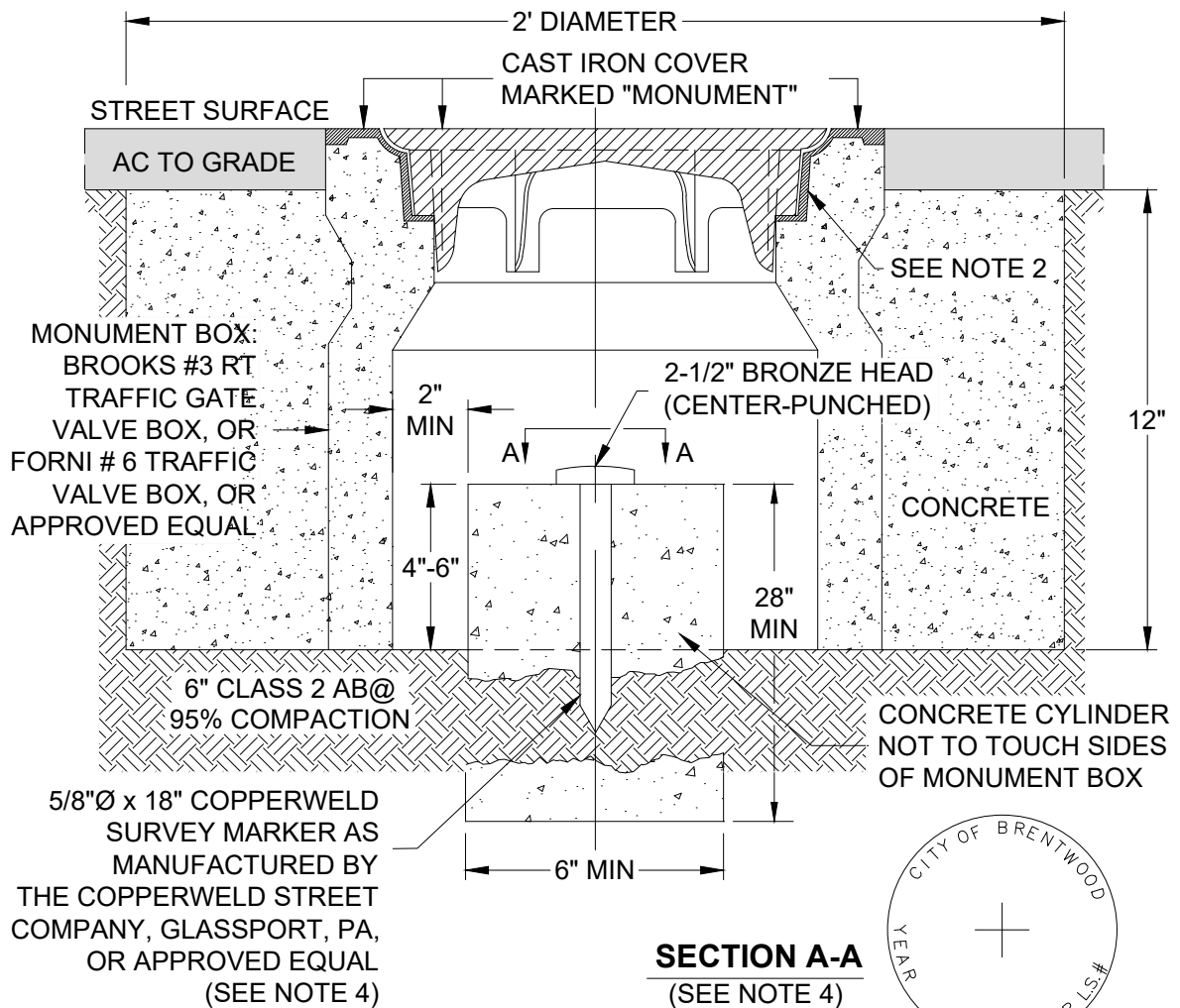
DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-25b**





**NOTES:**

1. THE CONFIGURATION OF THE CAST IRON OR CAST STEEL FRAME AND COVER MAY VARY FROM THAT SHOWN.
2. FRAME SHALL BE EMBEDDED IN CONCRETE A MINIMUM OF 3".
3. ALL PORTLAND CEMENT CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I.
4. SURVEY MARKERS SHALL BE FURNISHED BY THE CONTRACTOR. INFORMATION TO APPEAR ON THE SURVEY MARKERS SHALL BE AS SHOWN ON SECTION A-A.
5. CALTRANS TYPE D MONUMENT ALT. NO. 1 OR ALT. NO. 2, WITH COVER MARKED "MONUMENT", MAY BE USED AT THE CONTRACTOR'S OPTION (NOTE 4 APPLIES).
6. STREET TIES SHALL BE SUBMITTED AFTER THE MONUMENT IS SET.
7. A LETTER MUST BE SENT TO THE CITY BY THE ENGINEER OF RECORD UPON SETTING THE MONUMENT.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**BOXED SURVEY MONUMENT**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

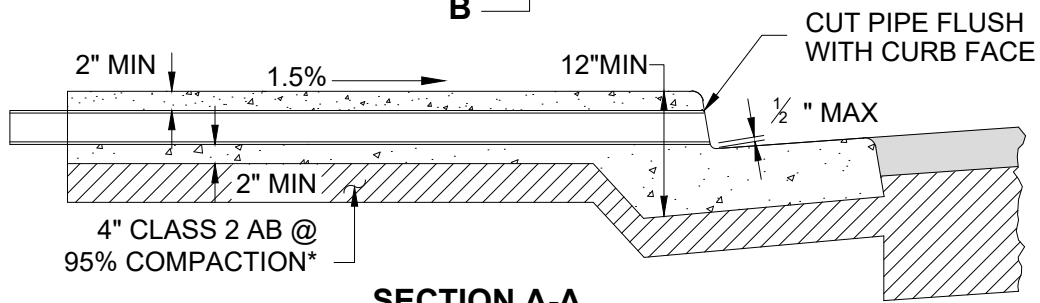
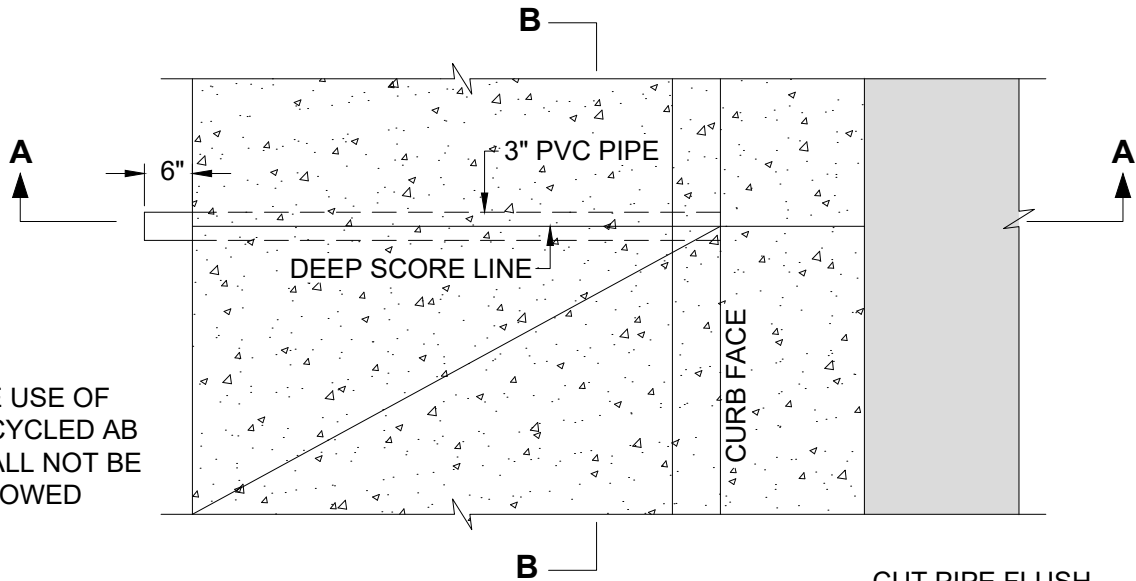
DATE: FEBRUARY 1, 2019

REVISED:

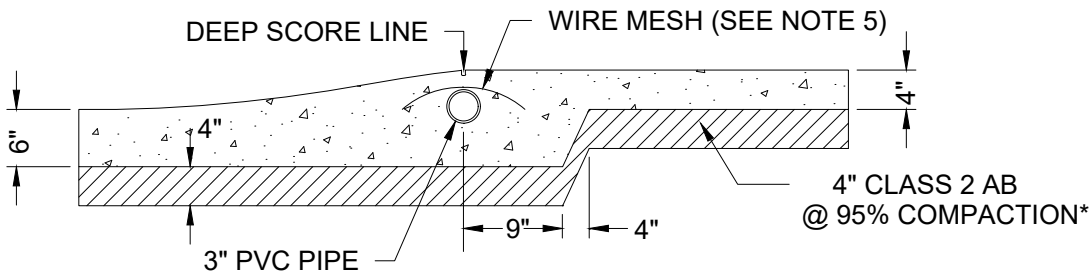
SHEET No.

**ST-26**

\* THE USE OF RECYCLED AB SHALL NOT BE ALLOWED



**SECTION A-A**



**SECTION B-B**

**NOTES:**

1. TO BE USED ONLY IN SPECIAL CASES AS APPROVED BY THE CITY ENGINEER.
2. CROSS SLOPE OF THE DRAIN SHALL BE 1.5%.
3. STAINLESS STEEL BAND COUPLING SHALL BE USED FOR CONNECTION OF YARD DRAIN LINES.
4. SIDEWALK DRAIN SHALL BE CONSTRUCTED AT EACH SIDE OF DRIVEWAY, UNDER DEEP SCORE LINE.
5. WIRE MESH SHALL BE INSTALLED OVER THE PVC PIPE BEFORE CONCRETE POUR.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

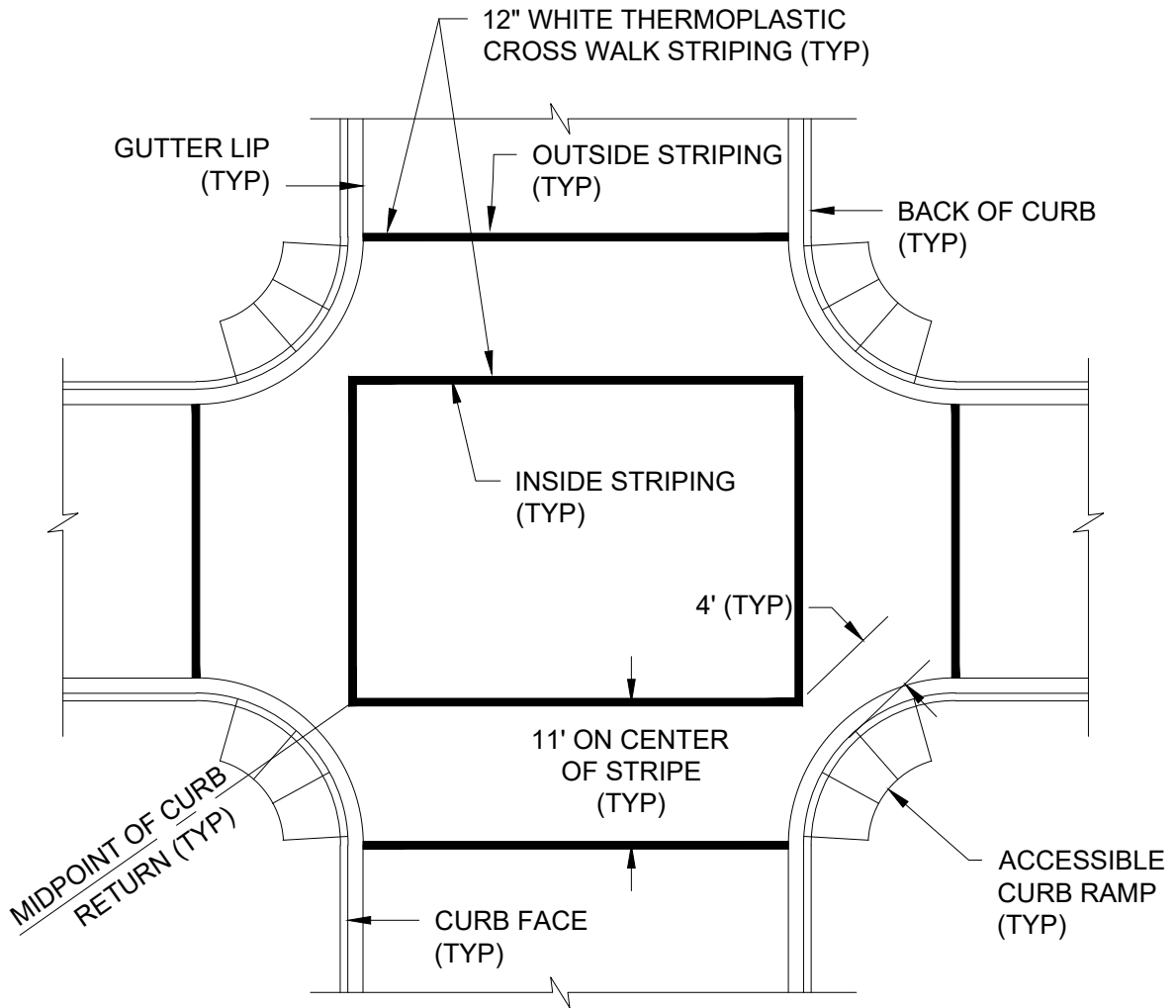


**THROUGH-THE-CURB DRAIN**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-27**



**NOTES:**

1. ON ALL CURB RETURNS, MARK OFF A POINT 4' FROM THE MIDPOINT OF THE CURB RETURN AT THE FACE OF CURB TOWARDS THE MIDPOINT OF THE DIAGONALLY OPPOSITE CURB RETURN. CONNECT THOSE POINTS TO FORM INSIDE STRIPING. MEASURE OUTSIDE STRIPING 11' ON CENTER OF THE INSIDE STRIPING.
2. AT SIGNALIZED INTERSECTIONS, PED PUSH BUTTONS SHALL BE INSTALLED PER ADA STANDARDS.
3. AREAS WHERE "STOP" SIGN IS NOT REQUIRED, ADD W11-2 WITH W16-7P AT THE X-WALK AND W11-2 WITH W16-9P FLUORESCENT YELLOW GRAIN MICROPRISMATIC BACKGROUND AND EC TRANSPARENT OVERLAY FILM BLACK 1178.
4. LOCATION/DISTANCE OF SIGNS SHALL BE DETERMINED BY THE TRAFFIC ENGINEER OR USE MUTCD MINIMUM RECOMMENDED SIGN PLACEMENT CHART.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**CROSS WALK STRIPING  
ON ARTERIAL STREETS**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

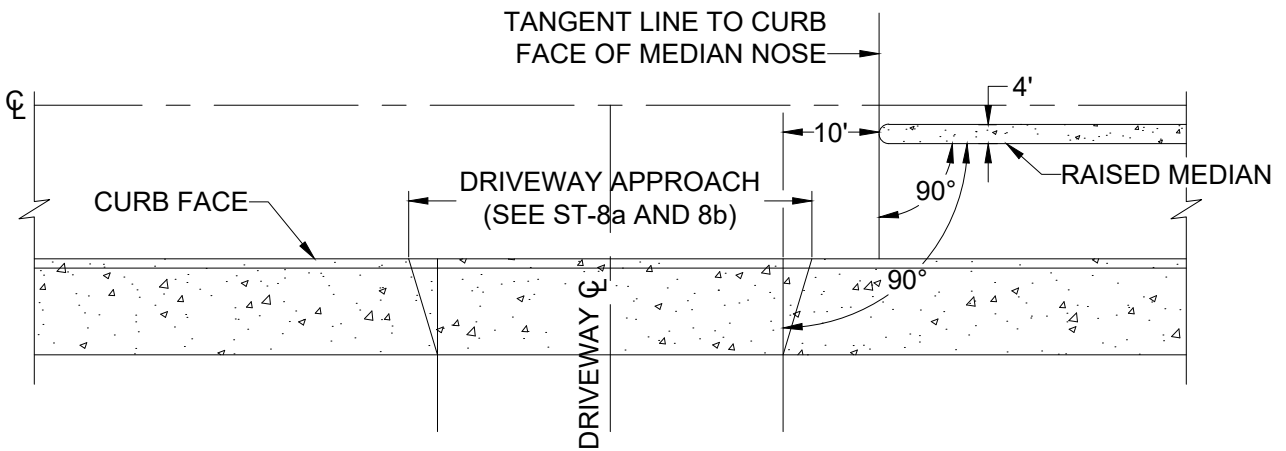
CITY ENGINEER

DATE: FEBRUARY 1, 2019

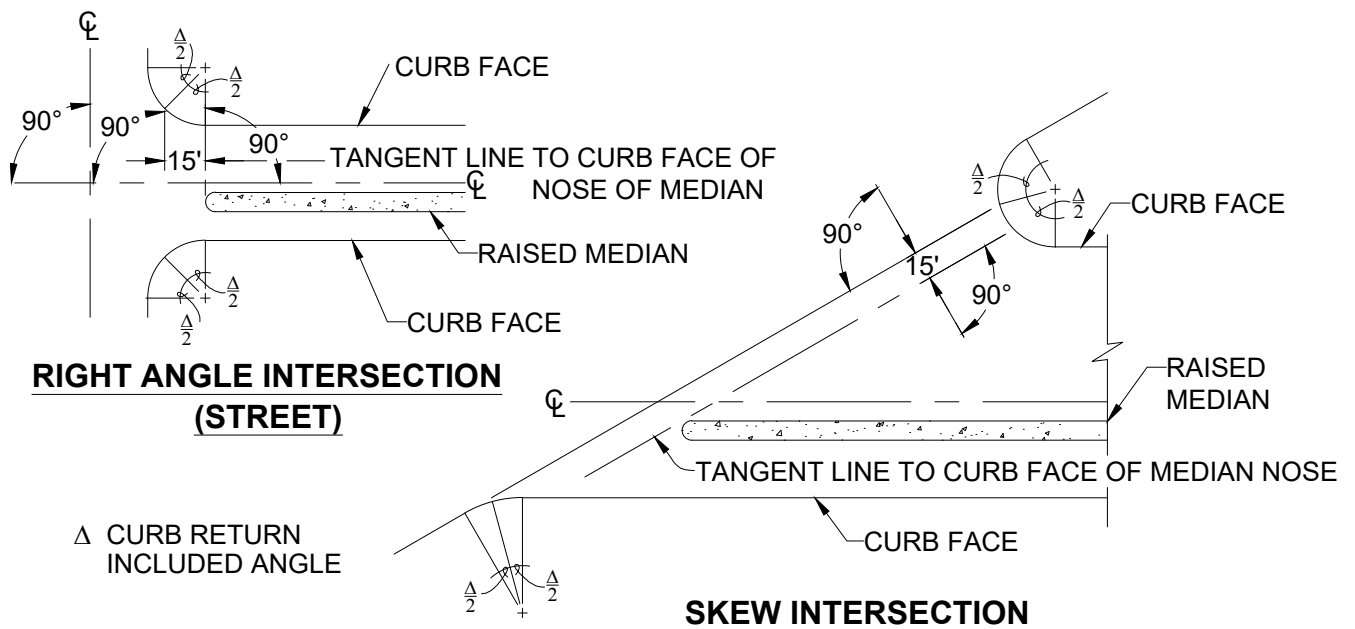
REVISED:

SHEET No.

**ST-28**



**RIGHT ANGLE INTERSECTION (DRIVEWAY)**



**NOTES:**

1. EXTEND DOUBLE YELLOW STRIPING FROM MEDIAN NOSE TO CROSSWALK OR TO HALF THE  $\Delta$  IF THERE IS NO CROSSWALK.
2. SEE CROSSWALK STRIPING DETAIL ST-28.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**RAISED MEDIAN NOSE LOCATION**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

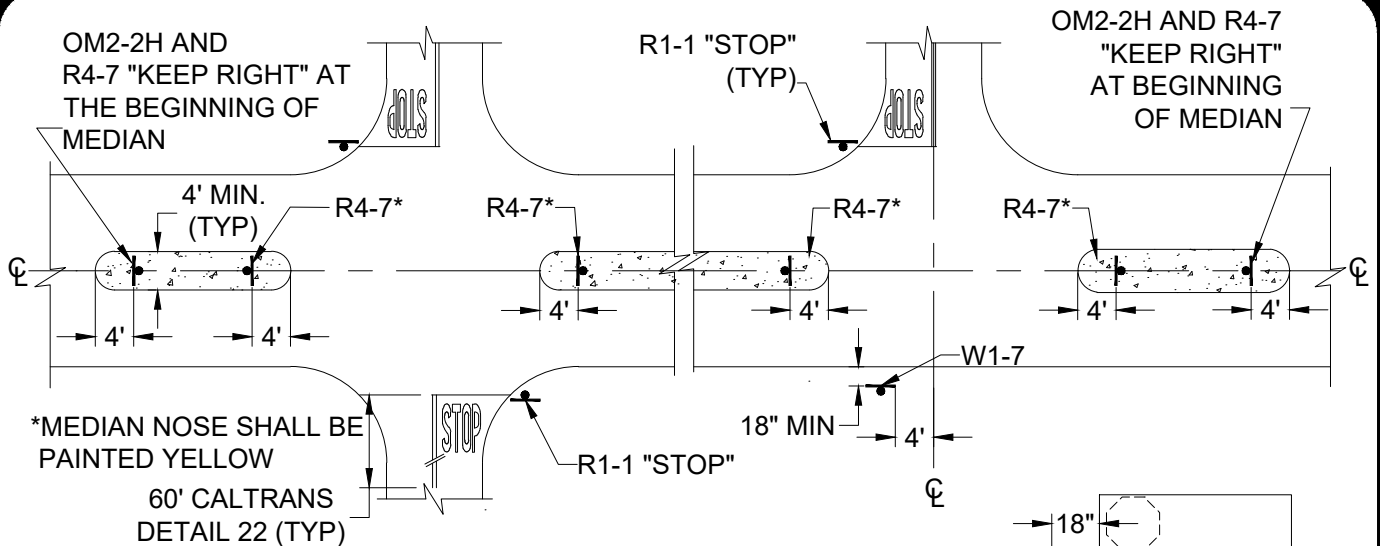
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

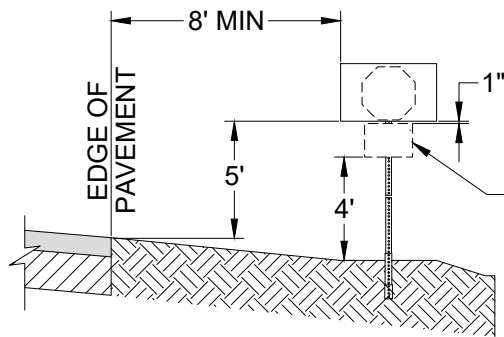
SHEET No.

**ST-29**



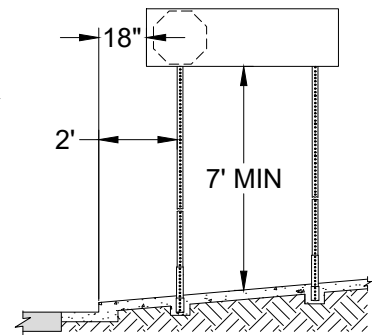
**MEDIAN SIGNING AT INTERSECTIONS**

\*MEDIAN NOSE SHALL BE PAINTED YELLOW  
60' CALTRANS  
DETAIL 22 (TYP)

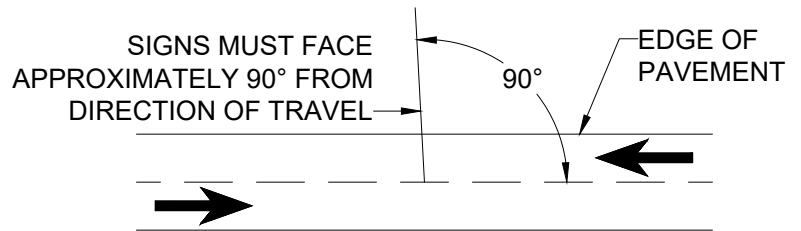


**SHOULDER LOCATIONS**

WHENEVER SUPPLEMENT  
PLATE IS USED, 4' MOUNTING  
HEIGHT SHALL SUPERSEDE  
THE 5' MOUNTING HEIGHT  
AT SHOULDER LOCATIONS.



**SHOULDER LOCATIONS**



**PLAN VIEW**

**NOTES:**

1. SEE STANDARD PLAN ST-13 FOR ROADSIDE BREAKAWAY SIGN POST.
2. PARKWAY AND SHOULDER SIGNS HAVING A HORIZONTAL WIDTH OF 48" SHALL BE DUAL-POST MOUNTED. SIGNS LESS THAN 48" IN WIDTH SHALL BE MOUNTED ON A SINGLE POST.
3. ADVANCE STREET NAME SIGNS PLACED IN MEDIANS SHALL BE 2' FROM THE EDGE OF THE TRAVELED WAY, AND BE LOCATED APPROXIMATELY 300' FROM THE INTERSECTION OR 100' FROM THE BEGINNING OF A LEFT TURN POCKET. SIGN MOUNTING HEIGHT SHALL BE 7' ABOVE MEDIAN SURFACE OR AS DIRECTED BY THE CITY ENGINEER.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

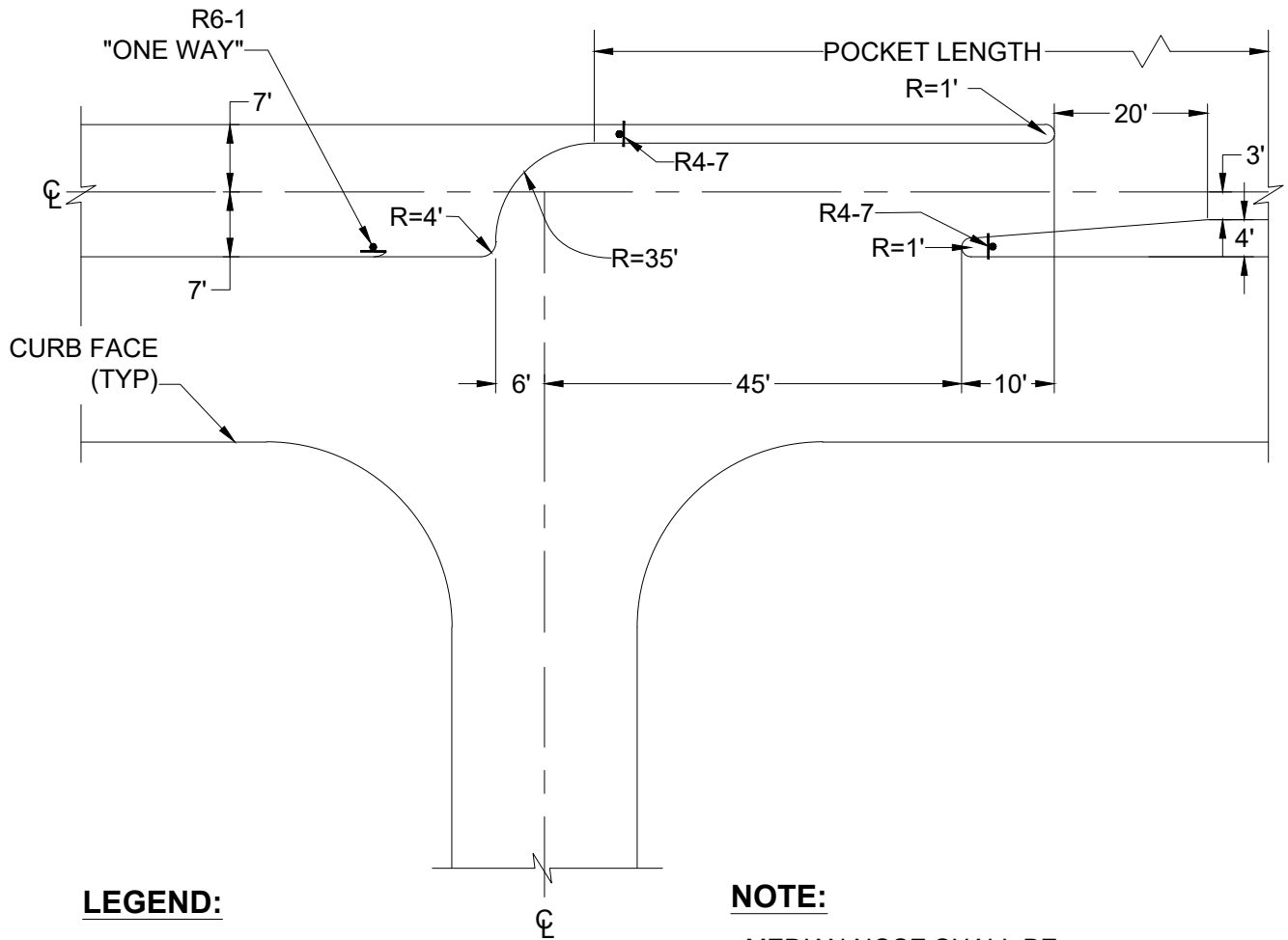


**TRAFFIC SIGN PLACEMENT**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-30**



**LEGEND:**

↓ TRAFFIC SIGN

**NOTE:**

MEDIAN NOSE SHALL BE PAINTED YELLOW.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

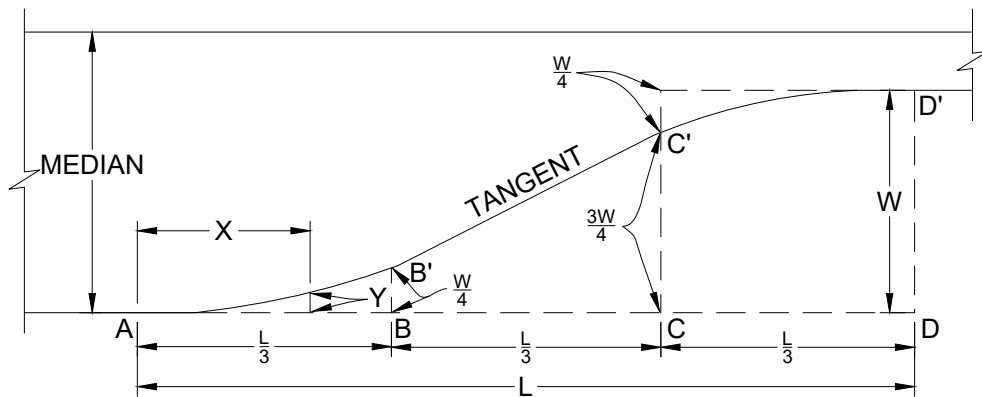


**LEFT-TURN-ONLY MEDIAN OPENING**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-31**



**PLAN VIEW**

$$Y = 2.25 W \left( \frac{X}{L} \right)^2$$

L= LENGTH OF TAPER  
 W= MAXIMUM OFFSET DISTANCE  
 X= DISTANCE ALONG BASELINE  
 Y= OFFSET FROM BASELINE

**NOTES:**

1. TO DETERMINE OFFSET DISTANCE FOR ANY LENGTH OF TAPER USE FORMULA  $Y = 2.25W \left( \frac{X}{L} \right)^2$  FOR THE PORTIONS AB' AND C' D' WHICH ARE PARABOLIC CURVES.
2. THE PORTION B' C' IS A TANGENT. WHEN THE BASELINE IS CURVED, THE OFFSETS ARE APPLIED TO THE CURVE BASELINE, AND B' C' IS NO LONGER A TANGENT.

(Not To Scale)



**ENGINEERING  
 DEPARTMENT**



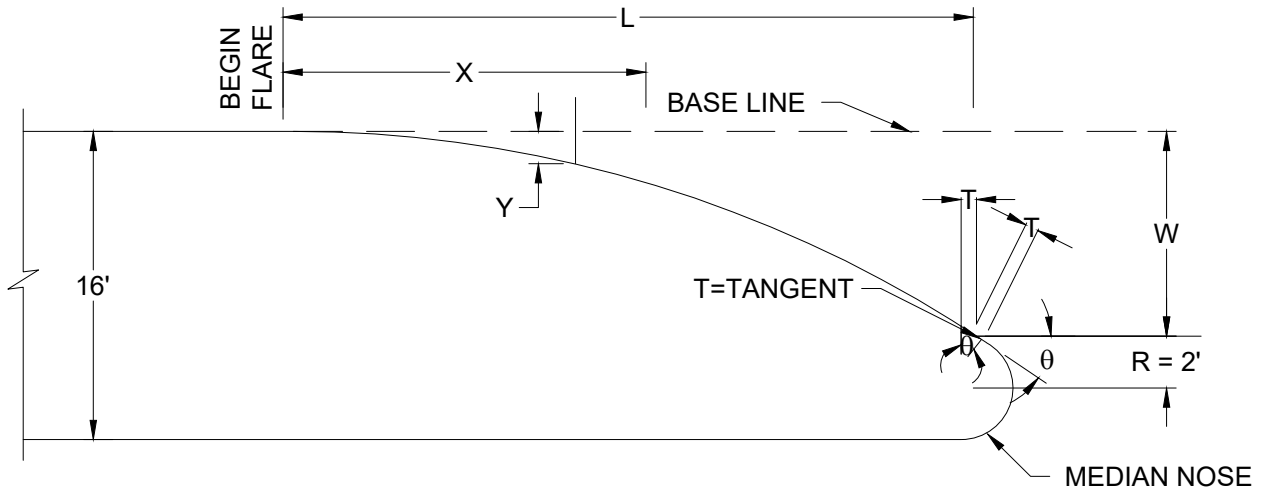
**MEDIAN TAPER**

*Allen S. Baquilar*  
 ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
 REVISED:

SHEET No.  
**ST-32**





$$Y = W \left( \frac{X}{L} \right)^2$$

$$\tan \left( \frac{2W}{L} \right) = \theta$$

$$T = R \tan \left( \frac{\theta}{2} \right)$$

L = LENGTH OF FLARE IN FEET  
W = MAXIMUM OFFSET DISTANCE IN FEET  
X = DISTANCE ALONG BASE LINE IN FEET  
Y = OFFSET FROM BASE LINE IN FEET

**NOTE:**

IF STATION OF RADIUS POINT IS NOT GIVEN ON PLAN, TANGENT 'T' MAY BE IGNORED.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**

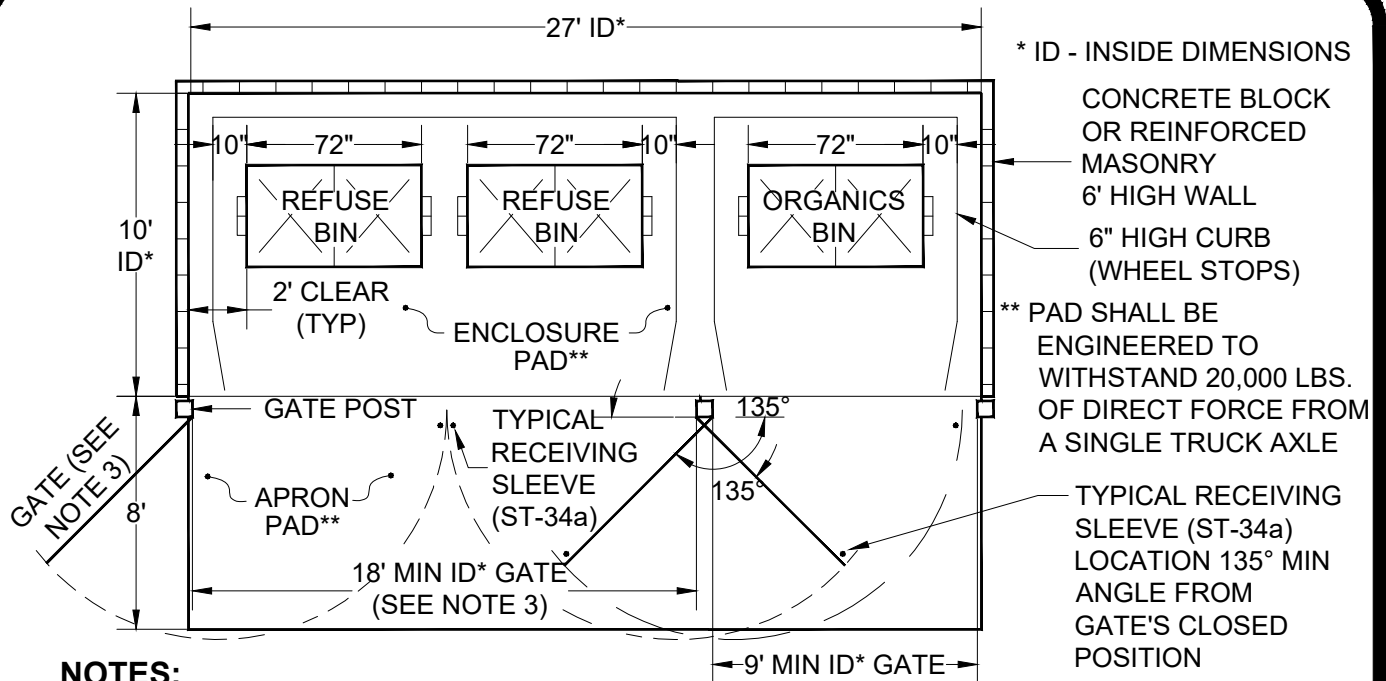


**MEDIAN FLARE**

*Allen Baquilar*  
ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-33**



**NOTES:**

1. THIS STANDARD PROVIDES SOME, BUT NOT ALL REQUIRED SPECIFICATIONS. SEE THE "**SOLID WASTE PLAN GUIDE AND ENCLOSURE STANDARDS**" IN THE ENGINEERING PROCEDURES MANUAL FOR ADDITIONAL DETAILS.
2. A MINIMUM OF 32' VERTICAL AND 50' HORIZONTAL CLEARANCE OVER THE ENTIRE APPROACH TO AND FROM THE ENCLOSURE SHALL BE PROVIDED. NO ROOFS ALLOWED.
3. GATES SHALL BE SOLID METAL WITH CANE BOLTS/SLEEVES (SEE ST-34a) IN THE OPEN AND CLOSED POSITION. EACH GATE, WITH A MINIMUM TOTAL SPAN WIDTH OF 18' AND 9' FOR ORGANICS BIN, SHALL SWING OPEN A MIN OF 135° FROM CLOSED POSITION. HUNG GATES SHALL HAVE A 4" CLEARANCE OFF THE FINISHED PAD OR APRON AND SURROUNDING CURB.
4. THE TRASH ENCLOSURE PAD SHALL BE DESIGNED TO DRAIN TO A PERVIOUS SURFACE THROUGH INDIRECT SOIL INFILTRATION IN ACCORDANCE WITH THE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (REFERENCE WEBSITE: <http://cccleanwater.org/construction/nd.php#Guidebook>). CONTACT THE CITY ENGINEER FOR ANY SPECIFIC STORMWATER CONCERNS.
5. THE EXTERIOR OF ENCLOSURE SHALL COMPLY WITH STANDARD CONDITIONS OF APPROVAL FOR COMMERCIAL AND INDUSTRIAL PROJECTS. NO ENCLOSURE SHALL BE INSTALLED BEHIND PARKING SPACES.
6. ONLY SOLID WASTE CONTAINERS ARE ALLOWED INSIDE THE ENCLOSURE. ORGANIC BINS SHALL BE PROVIDED WHERE REQUIRED. GREASE STORAGE BINS, SOILED RAG STORAGE, ETC. SHALL NEVER BE STORED IN THE ENCLOSURE.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**SOLID WASTE ENCLOSURE**

*Allen S. Baquilar*  
ALLEN S. BAQUILAR

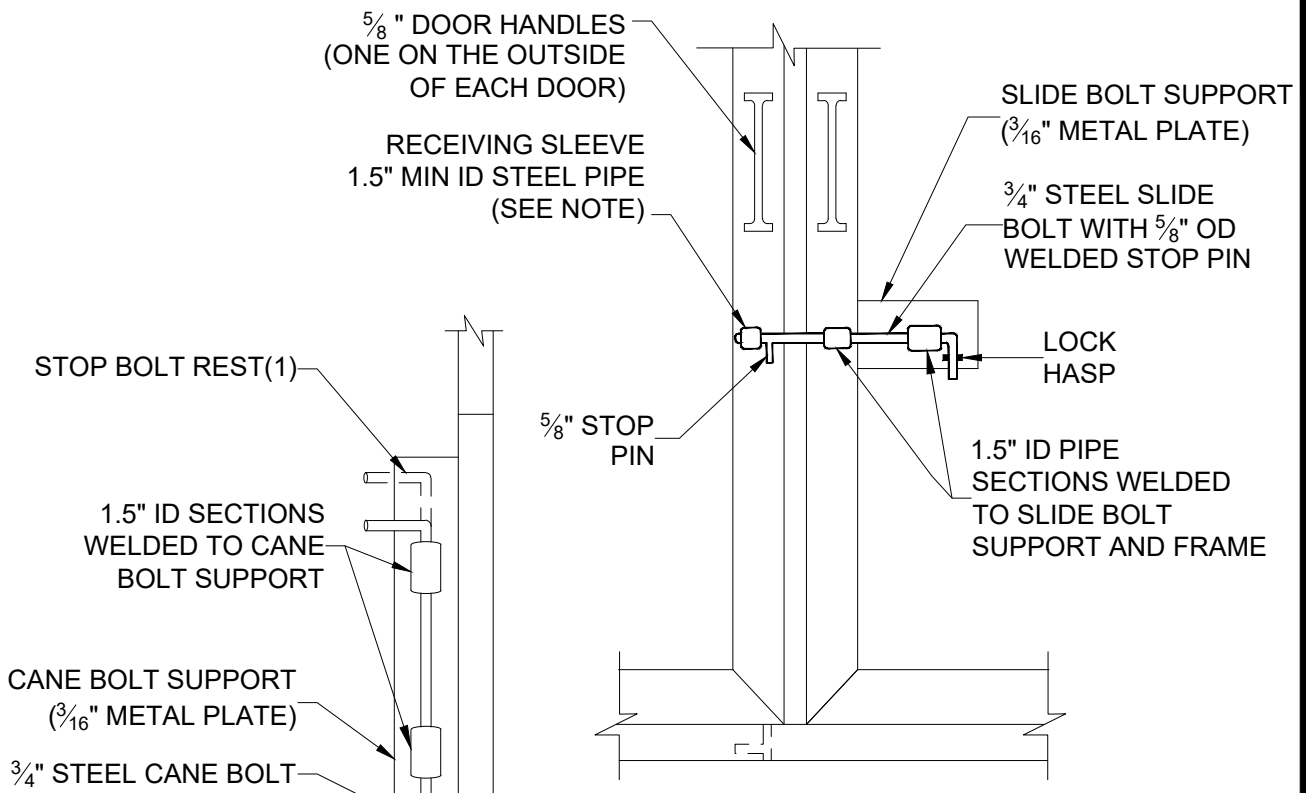
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-34**



**SLIDE BOLT DETAIL**

**CANE BOLT DETAIL**

**NOTE:**

1. BOLTS SHALL BE MINIMUM 3/4". SLEEVES ON PIPES SHALL BE MINIMUM 1.5" OR TWICE THE BOLT DIAMETER.
2. OUTSIDE OPERATING RANGE FOR CANE BOLTS MUST BE BETWEEN 24" TO 32" FROM THE GROUND.
3. CANE BOLT MUST BE MOUNTED ON THE OUTSIDE OF DOOR.

(Not To Scale)



**ENGINEERING DEPARTMENT**



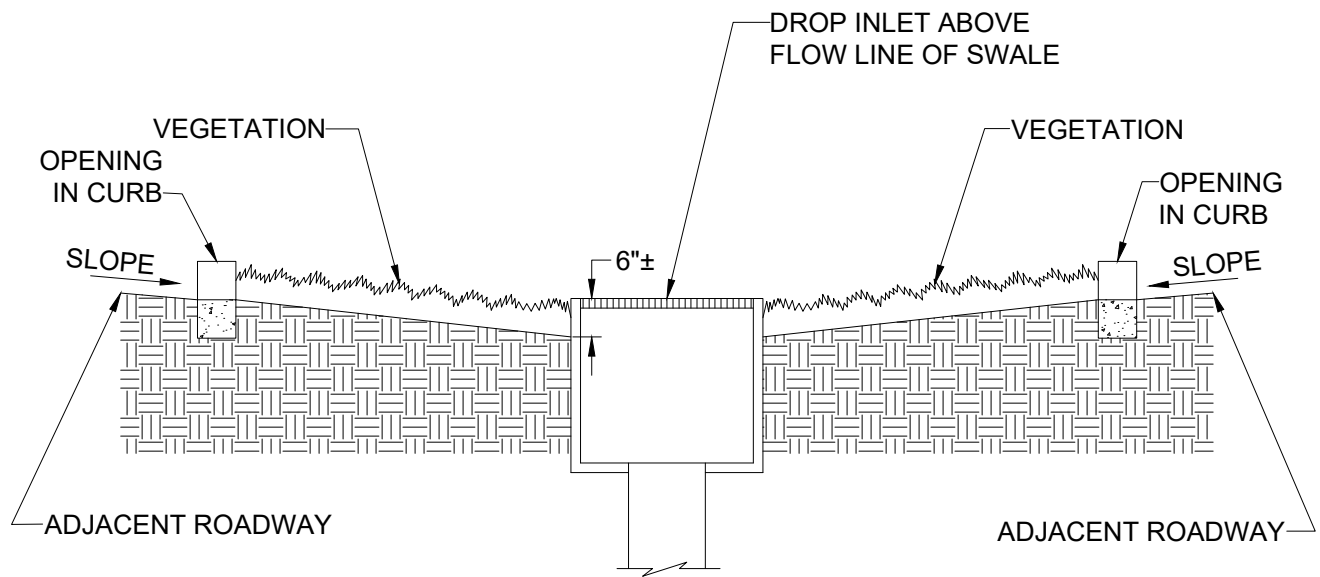
**SOLID WASTE ENCLOSURE BOLT DETAILS**

*Allen Baquilar*  
ALLEN S. BAQUILAR

CITY ENGINEER

DATE: FEBRUARY 1, 2019  
REVISED:

SHEET No.  
**ST-34a**



**NOTES:**

1. ADJACENT ROADWAY DESIGN SHALL PROVIDE CROSS-SLOPE INTO MEDIANS.
2. RUNOFF FROM STREET CAN BE DIRECTED INTO SWALE BY SHEET FLOW OR CURB INLETS.
3. CONCAVE MEDIANS SHALL BE SIZED TO ACCOMMODATE THE WATER QUALITY VOLUME, AND PLANTING SHALL BE DESIGNED TO WITHSTAND PERIODIC INUNDATION.
4. SET CATCH BASIN ELEVATIONS JUST BELOW THE PAVEMENT ELEVATION, BUT ABOVE THE FLOW LINE OF THE INFILTRATION AREA SO THAT THE WATER QUALITY VOLUME WILL COLLECT IN THE SWALE BEFORE OVERFLOWING INTO THE UNDERGROUND SYSTEM.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**CONCAVE MEDIAN**

*Allen Baquilar*  
ALLEN S. BAQUILAR

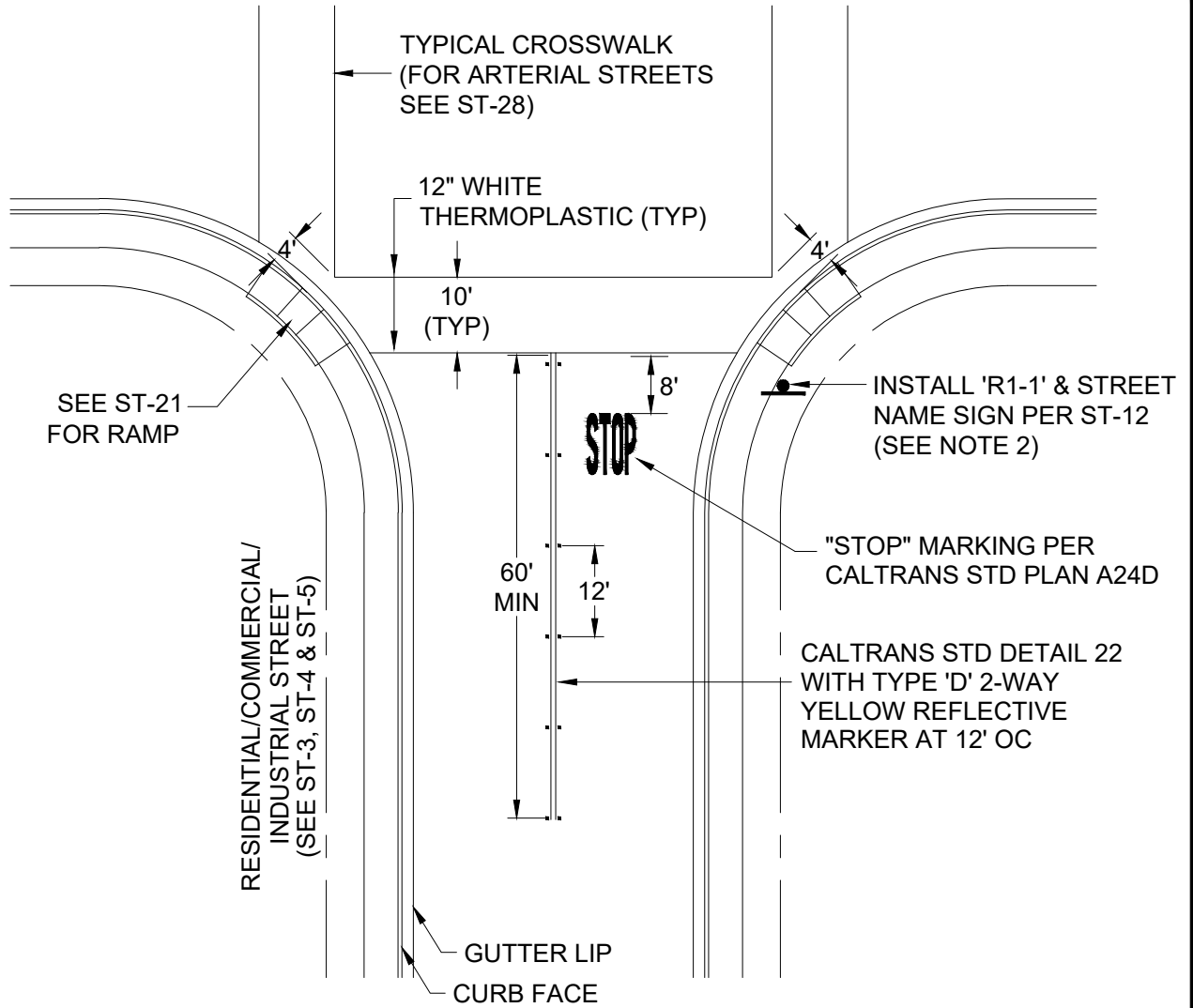
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-35**



**NOTES:**

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. 'R1-1' SHALL BE INSTALLED IN THE LANDSCAPE STRIP ON SEPARATED SIDEWALK OR 18" BEHIND BACK OF WALK ON MONOLITHIC SIDEWALK.
3. NO PERMANENT MARKINGS SHALL BE PLACED UNTIL THE CITY ENGINEER OR DESIGNEE APPROVES THE CAT-TRACKING IN THE FIELD.
4. CROSSWALKS NEAR SCHOOLS SHALL BE YELLOW.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**TYPICAL 'STOP' INTERSECTION**

*Allen Baquilar*  
ALLEN S. BAQUILAR

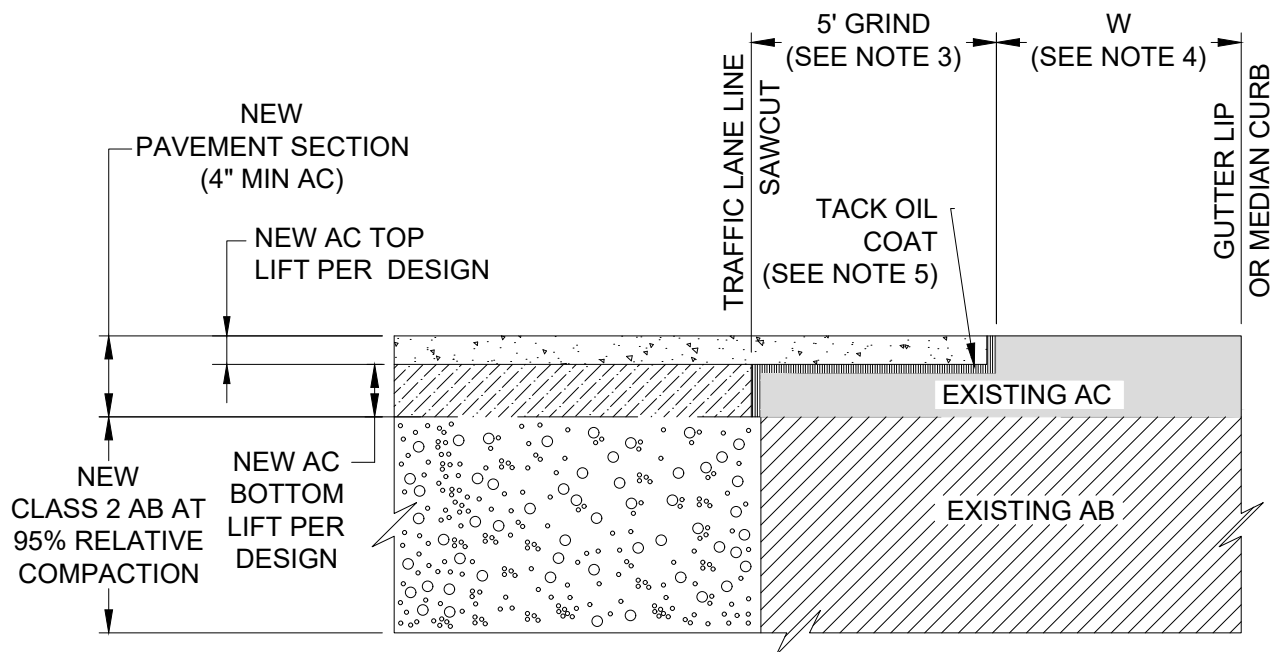
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

SHEET No.

**ST-36**



**ELEVATION**

**NOTES:**

1. PAVE WITHIN 24 HOURS OF CONFORM GRINDING TO MAINTAIN A CLEAN EDGE.
2. EACH ASPHALT LIFT SHALL END AT THE EDGE OF A TRAFFIC LANE LINE WITH A MAXIMUM 6" OFFSET FROM THE EDGE OF THE LANE LINE AND A MAXIMUM OFFSET OF 12" FROM THE PREVIOUS EDGE OF THE ASPHALT LIFT.
3. PAVEMENT JOINT GRIND OF AN EXISTING LANE SHALL BE 5 FEET WIDE FOR EACH SECTION, UNLESS WITHIN 3 FEET OF THE LIP OF GUTTER.
4. IF THE REMAINING PAVEMENT WIDTH (W) IS LESS THAN 3 FEET FROM THE GRIND TO THE LIP OF GUTTER OR MEDIAN CURB, EXTEND GRIND WIDTH TO THE LIP OF THE GUTTER.
5. A THIN LAYER OF TACK OIL COAT SHALL BE APPLIED BETWEEN EXISTING A.C. AND NEW PAVEMENT SECTION.
6. FOR TRENCH AND BACKFILL REQUIREMENTS, REFER TO ST-25, ST-25a, AND ST-25b.
7. NEW PAVEMENT SHALL BE SLURRY SEAL COATED BEFORE STRIPING.

(Not To Scale)



**ENGINEERING  
DEPARTMENT**



**NEW AND EXISTING PAVEMENT JOINT**

*Allen Baquilar*  
ALLEN S. BAQUILAR

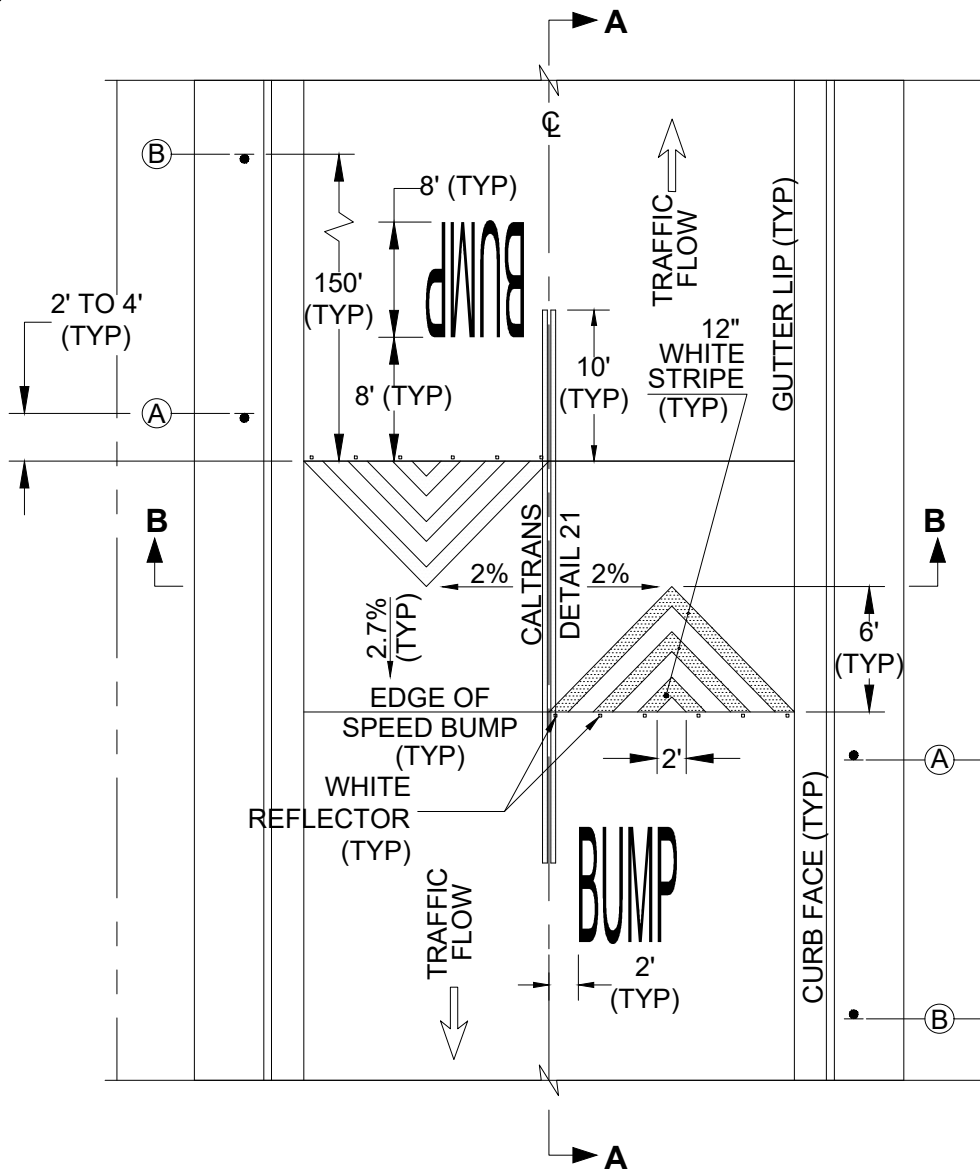
CITY ENGINEER

DATE: FEBRUARY 1, 2019

REVISED:

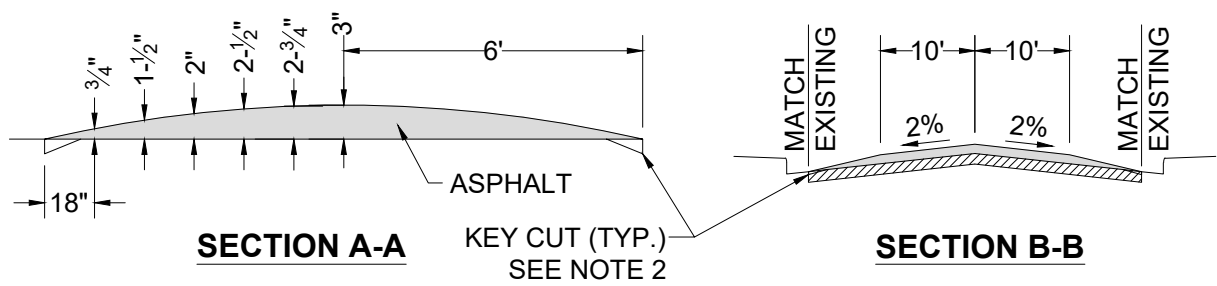
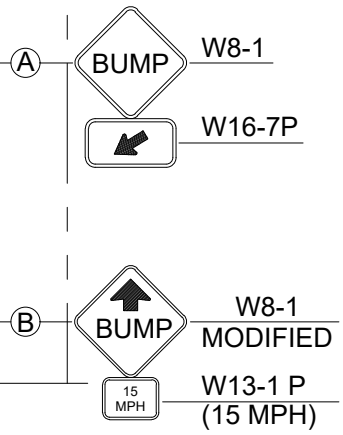
SHEET No.

**ST-37**



**NOTES:**

1. IN SCHOOL VICINITY, CONSULT THE CITY TRAFFIC ENGINEER.
2. TYPICAL KEY CUT 1" DEEP x 2' WIDE WEDGE GRIND FOR SMOOTH JOIN TO EXISTING PAVEMENT AND LIP OF GUTTER.



(Not To Scale)



**ENGINEERING DEPARTMENT**



**SPEED BUMP**

*Allen Baquilar*  
 ALLEN S. BAQUILAR CITY ENGINEER

DATE: FEBRUARY 1, 2019  
 REVISED:

SHEET No.  
**ST-38**