

CITY OF YUCAIPA



STANDARD DESIGN GUIDELINES FOR PUBLIC WORKS CONSTRUCTION AND GRADING

INTRODUCTION

City of Yucaipa Standard Design Guidelines is a compilation of design guidelines, specifications, and standard drawings necessary for use in construction of public works improvements and site grading within the City of Yucaipa.

The purpose of this manual is to assist Homeowners, Developers, Builders, Engineers, and Architects by providing information regarding the standard drawings, specifications, design procedures and requirements, checklists, and other information applicable to construction of public works projects and private developments within the City of Yucaipa. Should any portion of these Standard Design Guidelines be found to be in conflict with the provisions of the City of Yucaipa Development Codes, the provision of the referenced Codes shall govern.

Recommended for Approval By:



4/30/15
Date

Approved By:
City of Yucaipa



Fermin G. Preciado, P.E.
City Engineer

5-15-15
Date

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CHAPTER

1

STANDARD DESIGN GUIDELINES

STANDARD DESIGN GUIDELINES

This manual represents a comprehensive and easy to follow approach to the City of Yucaipa Standard Design Guidelines, for use in conjunction with the *Standard Specifications for Public Works Construction*, “Greenbook”, latest edition, required by the City for proposed public works and grading projects.

Each section contains specific information to assist Engineers, Architects, Homeowners, Developers and the Citizens of the community to prepare construction plans for public works and site grading improvements for the City of Yucaipa review and approval.

The City has a wide option of standard drawings and specifications to choose for preparing the project design plans for their projects using the most current edition as appropriate.

However, a hierarchy of standard drawing and specifications has been established for use within the City. The hierarchy is as follows:

- 1- City of Yucaipa Standard Design Guidelines
- 2- San Bernardino County Department of Public Works and Flood Control Standards and Specifications
- 3- APWA Standard Plans and Standard Specifications for Public Works Construction.
- 4- Caltrans Standard Plans and Standard Specifications
- 5- Los Angeles County Department of Public Works Standard Plans and Specifications

Any other Agency Standard Plans or Specifications or the use of an Agency’s Standard or Specifications over one that has higher status can only be accomplished by obtaining prior approval from the City Engineer.

The use of metric units for design is not required by the City of Yucaipa as of the date of these standards. Specific projects may require metric units as determined by the City Engineer.

LIST OF APPLICABLE AGENCY STANDARDS

COUNTY OF SAN BERNARDINO

For the County of San Bernardino, all Standard Plans and specifications apply except for any standards modified or superceded by specific City of Yucaipa Standard Drawings.

In addition, the following Agency Standards supplement the City of Yucaipa and County of San Bernardino Standards and can be referenced on construction plans as necessary for their implementation.

AMERICAN PUBLIC WORKS ASSOCIATION (A.P.W.A.) STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

- 151-1 PARKWAY DRAIN

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- 618-1 MASONRY RETAINING WALL
- 619-1 REINFORCED CONCRETE CRIB WALL
- 620-1 STEEL CRIB WALL
- 621-1 REINFORCED CONCRETE BLOCK WALL AND CHAIN LINK
FENCE COMBINATION
- 622-1 CONCRETE BLOCK SLOUGH WALL

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- A20A PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS
- A20B PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS
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- A24B PAVEMENT MARKINGS – ARROWS
- A24C PAVEMENT MARKINGS – SYMBOLS AND NUMERALS
- A24D PAVEMENT MARKINGS – WORDS
- A24E PAVEMENT MARKINGS – WORDS AND CROSSWALKS
- A73A MARKERS
- A73B MARKERS
- A73C DELINEATORS, CHANNELIZERS AND BARRICADES
- A77A METAL BEAM GUARD RAILING
- A77B METAL BEAM GUARD RAILING – STANDARD HARDWARE
- A77C METAL BEAM GUARD RAILING – POSTS AND BLOCKS
- A77D GUARD RAIL FLARES
- A77E GUARD RAIL FLARES
- A77F METAL BEAM GUARD RAILING – MISCELLANEOUS DETAILS
- A81 CRASH CUSHION, SAND FILLED

- T1 TEMPORARY CRASH CUSHION, SAND FILLED
- T2 TEMPORARY CRASH CUSHION, SAND FILLED

- RS1 ROADSIDE SIGNS TYPICAL INSTALLATION DETAILS NO. 1
- RS2 ROADSIDE SIGNS – WOOD POST TYPICAL INSTALLATION
DETAILS NO. 2
- RS3 ROADSIDE SIGNS – LAMINATED WOOD BOX POST TYPICAL
INSTALLATION DETAILS NO. 3
- RS4 ROADSIDE SIGNS TYPICAL INSTALLATION DETAILS NO. 4

- ES SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS
(ENTIRE SECTION ES-1A – ES-33)

- NSP A40 RUMBLE STRIP DETAILS
- NSP A77GA ANCHOR ASSEMBLY (BREAKAWAY, TYPE M) –
HARDWARE AND POST DETAIL
- RNSP A88

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

For the Los Angeles County Department of Public Works, all Standards that pertain to following section can be utilized where the County of San Bernardino Standards are not available and with prior approval by the City Engineer.

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CITY OF YUCAIPA

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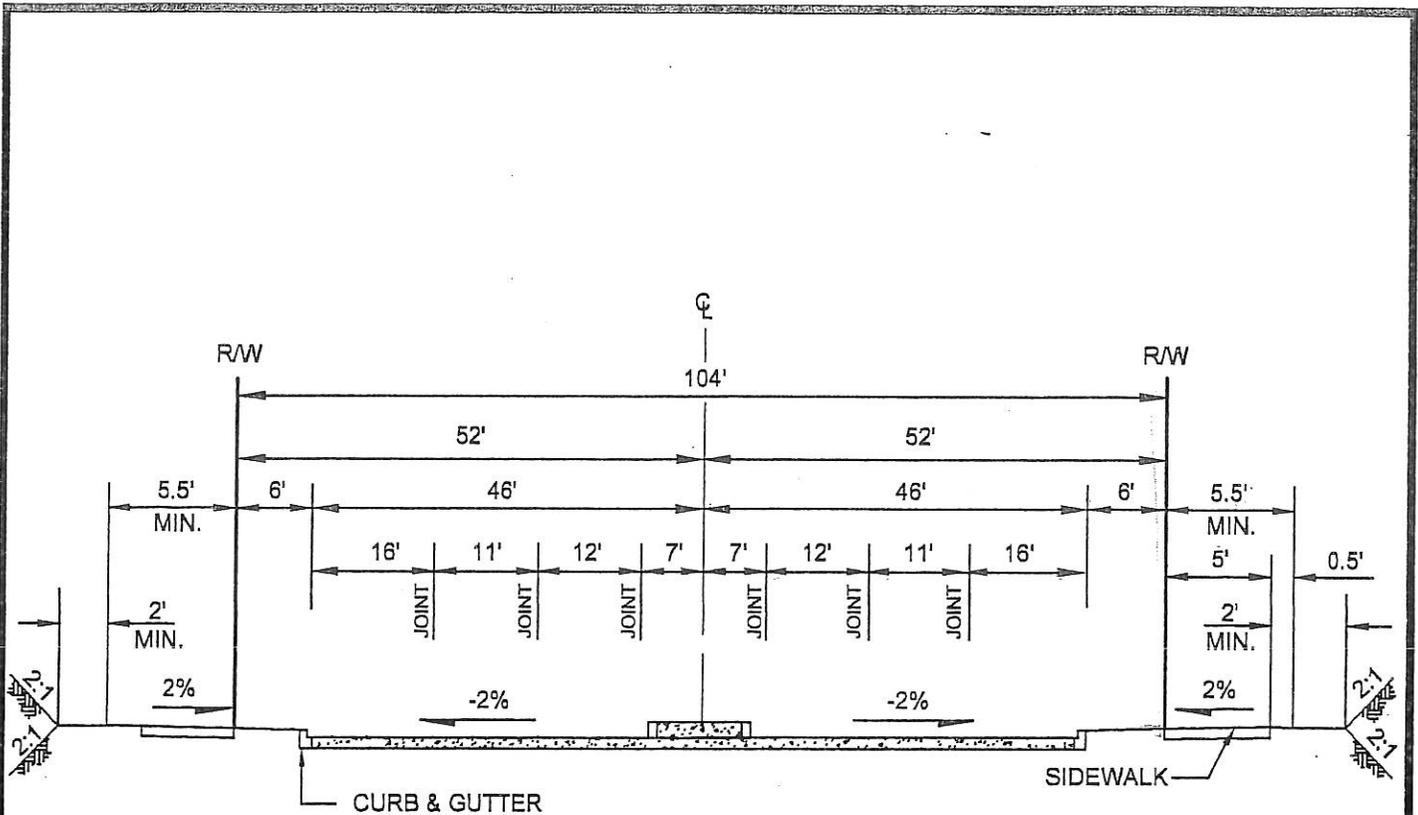
- 600-0 DECOMPOSED GRANITE TRAIL
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- 130-0 GENERAL NOTES FOR STREET PLANS
- 160-1 TYPICAL HEADER CUT AND COLD PLANE DETAILS
- 170-0 STREET MONUMENTATION – PUBLIC AND PRIVATE STREETS
- 175-0 MINIMUM CLEAR SIGHT TRIANGLES
- 176-0 INTERSECTION SIGHT DISTANCE REQUIREMENTS

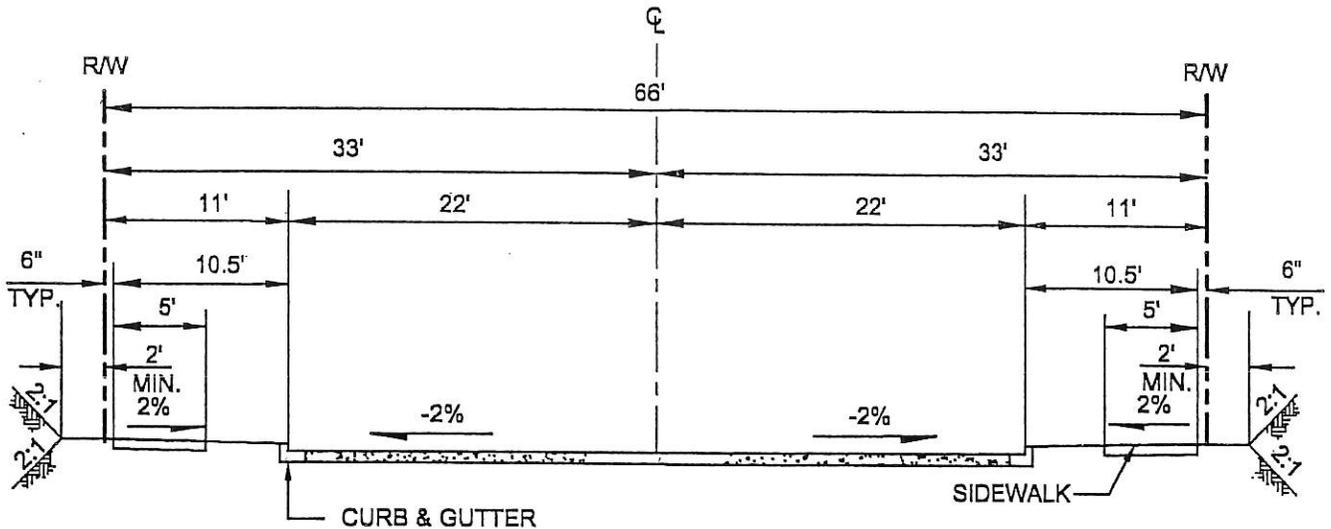


NOTES:

- 1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS; OTHERWISE, 6" AC ON 12" C&B
- 2. DRAINAGE FACILITIES SHALL BE PROVIDED TO DEWATER RAISED MEDIAN AREAS.
- 3. 10' SHOULDER AREAS MAY BE DESIGNATED AS A BIKE LANE AND EMERGENCY PARKING ONLY.
- 4. MINIMUM 5.5' SIDEWALK/PARKWAY EASEMENT SHALL BE PROVIDED AS REQUIRED BY CITY ENGINEER.

**MODIFIED MAJOR HIGHWAY TYPICAL SECTION
YUCAIPA BOULEVARD BETWEEN 5TH STREET & I-10 FREEWAY**

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
5/18/06	ADDED MIN STRUCTURAL SECTION.	Recommended: <i>D. Todd Schmieder</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. Nagengast</i>	Date: 9-28-00
		City Engineer	STANDARD DRAWINGS 100-01

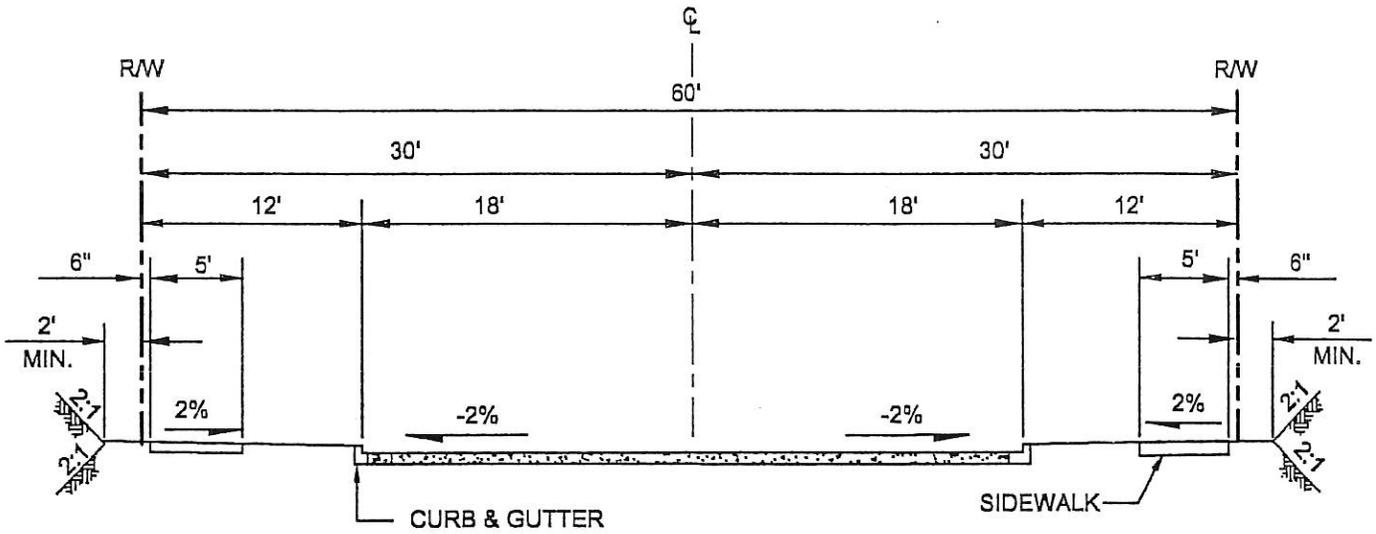


NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS, OTHERWISE STRUCTURAL SECTION SHALL BE 5" AC OVER 8" ~~CMB~~ CAB.
2. DRAINAGE FACILITIES SHALL BE PROVIDED TO ELIMINATE REQUIREMENTS FOR CROSSGUTTERS WHEREVER POSSIBLE.
3. AS AN ALTERNATE, CRUSHED MISCELLANEOUS BASE SHALL BE ALLOWED UNDER THE FOLLOWING CONDITIONS:
 - A) COMPLIANCE WITH SSPWC (GREEN BOOK) SPECIFICATIONS, SECTION 200-2.4 IS REQUIRED.
 - B) BATCH PLANT CERTIFICATION IS REQUIRED.
 - C) COMPACTION TESTING AND CERTIFICATION BY A LICENSED GEOTECHNICAL ENGINEER IS REQUIRED.

STANDARD COLLECTOR STREET - TYPICAL STREET SECTION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Data	Descriptions	Department of Public Works	Engineering Division
Δ 5/8/06	CHANGED BASE MATERIAL.	Recommended: <u>D. Todd Schmidt</u>	Date: <u>10-18-00</u>
Drawn By:		Approved: <u>Paul T. Nyquist</u>	Date: <u>10-23-00</u>
		City Engineer	STANDARD DRAWINGS 101-11

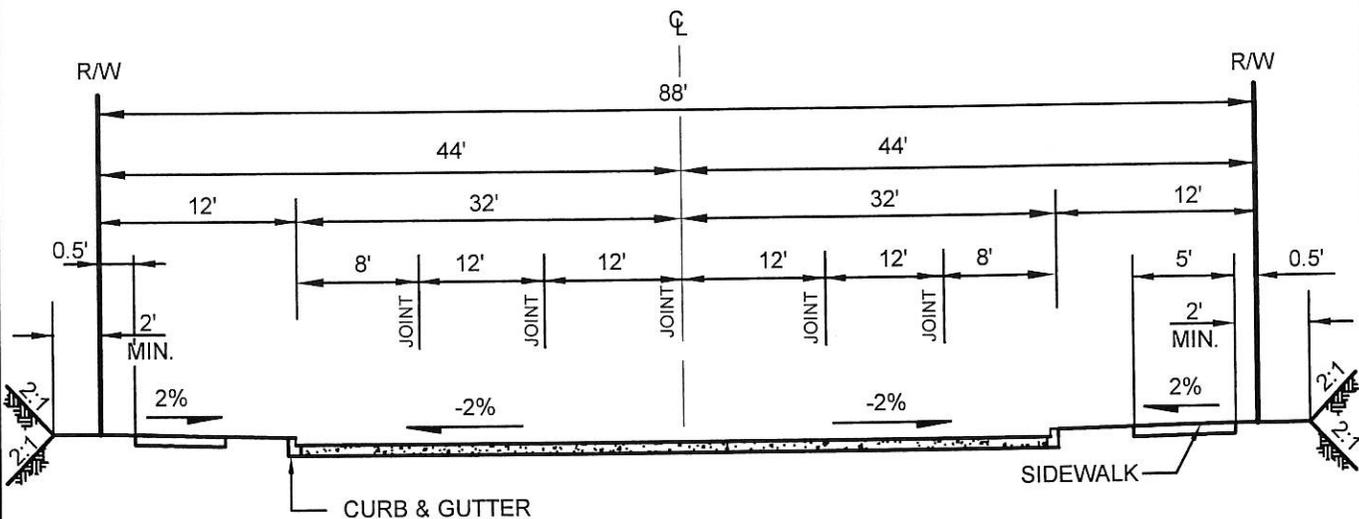


NOTES:

- 1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS, OTHERWISE STURCTURAL SECTION SHALL BE 4" AC OVER 6" ~~CMB~~ CAB.
- 2. DRAINAGE FACILITIES SHALL BE PROVIDED TO ELIMINATE CROSSGUTTER WHERE EVER POSSIBLE.

STANDARD LOCAL STREET - TYPICAL STREET SECTION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
Δ 5/8/06		CHANGED BASE MATERIAL	
Drawn By:		Recommended: <i>D. R. Schmidt</i>	Date: 10-18-06
		Approved: <i>Paul T. Nagener</i>	Date: 10-23-00
		City Engineer	
			Engineering Division
			STANDARD DRAWINGS
			102-01

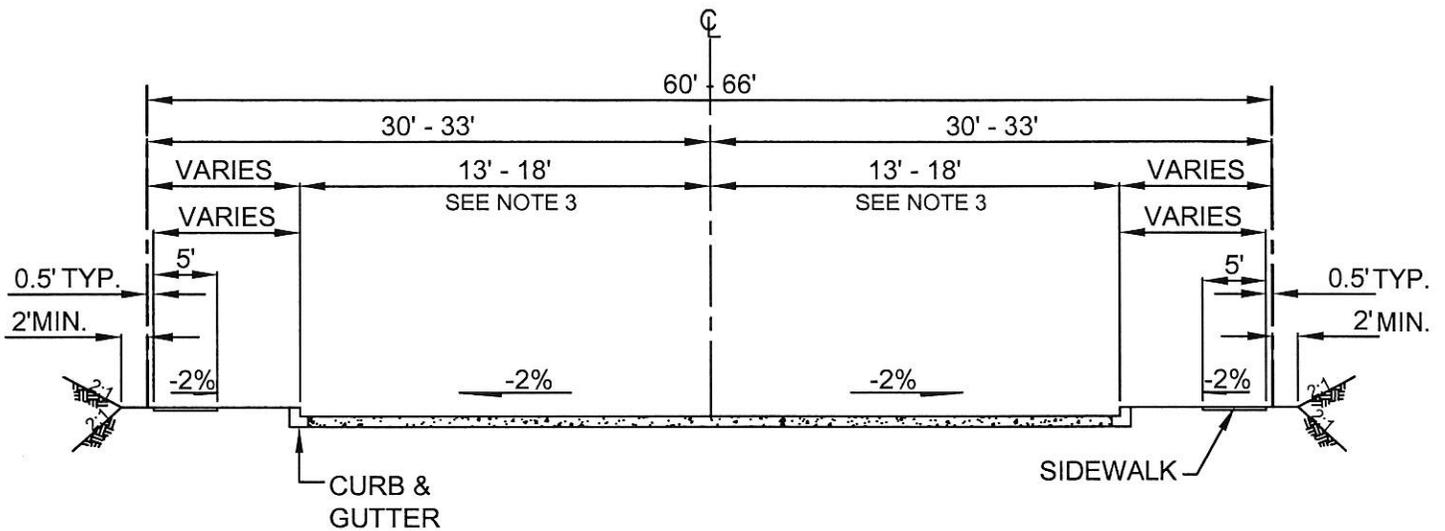


NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS; OTHERWISE 5" AC ON 8" CAB.
2. 8' SHOULDER AREAS MAY BE DESIGNATED AS A BIKE LANE AND EMERGENCY PARKING ONLY.
3. AS AN ALTERNATE, CRUSHED MISCELLANEOUS BASE SHALL BE ALLOWED UNDER THE FOLLOWING CONDITIONS:
 - A) COMPLIANCE WITH SSPWC (GREEN BOOK) SPECIFICATIONS SECTION 200-2.4 IS REQUIRED.
 - B) BATCH PLANT CERTIFICATION IS REQUIRED.
 - C) COMPACTION TESTING AND CERTIFICATION BY A LICENSED GEOTECHNICAL ENGINEER IS REQUIRED.

MODIFIED SECONDARY HIGHWAY TYPICAL SECTION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>M. Monson</u>	Date: <u>7/8/08</u>
Drawn By:		Approved: <u>Roger H. Casey</u> City Engineer	Date: <u>7/8/08</u>
			STANDARD DRAWINGS 103-0



NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS, OTHERWISE STRUCTURAL SECTION SHALL BE 5" AC OVER 8" CMB.
2. DRAINAGE FACILITIES SHALL BE PROVIDED TO ELIMINATE REQUIREMENTS FOR CROSSGUTTERS WHEREVER POSSIBLE.
3. CURB TO CURB WIDTH VARIES FOR A MODIFIED STREET SECTION, WIDTH TO BE DETERMINED BY CITY ENGINEER PURSUANT TO THE TRAFFIC CALMING GUIDELINES.

MODIFIED STREET - TYPICAL STREET SECTION

CITY OF YUCAIPA, CA

Revisions		Department of Public Works		Engineering Division
Mark Date	Descriptions			STANDARD DRAWINGS
		Recommended: <u>Frederico</u>	Date: <u>7-8-08</u>	104-0
Drawn By:		Approved: <u>Raymond A. Casey</u>	Date: <u>7/8/08</u>	

The City of Yucaipa has established the following specifications and construction practices which shall be incorporated into all public and private street construction projects within and associated within the jurisdictional limits of the City of Yucaipa.

The City of Yucaipa has established the following specification requirements for Asphaltic Concrete Pavement:

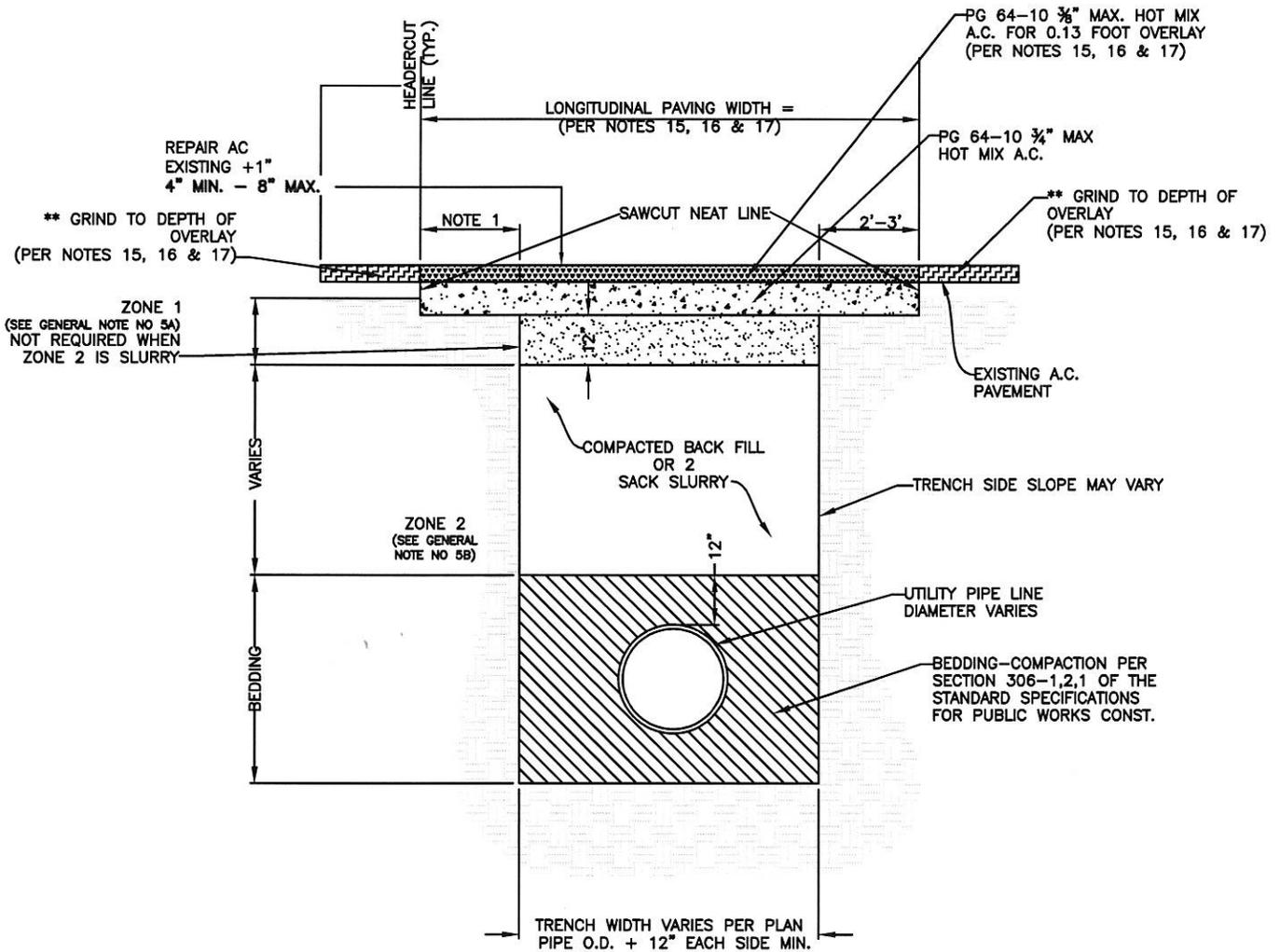
1. American Public Works Association "Greenbook" (current edition), Sections 203 and 302-5 shall apply.
- ⚠ 2. The final cap shall be a minimum of 0.10' using Class D2 mix (3/8-inch max.) (Greenbook Section 203-6.3) or Cal-Trans 3/8" max medium or 0.12' using Class C2 mix (1/2-inch max.) or Cal-Trans 1/2" max medium.
- ⚠ 3. The base course shall consist of Class B mix (3/4-inch mix) (Greenbook Section 203-6.3) or Cal-Trans 3/4" max medium.
- ⚠ 4. The paving asphalt shall have a viscosity grade of PG-64-10 (Greenbook Section 203-1) or PG-70-10 as approved by the City Engineer.
5. All testing shall be in accordance with the Greenbook requirements including but not limited to density testing and other required test reports and certification documents.
6. All AC pavement placement shall be accomplished using a Barber Greene, or equivalent, self-propelled spreading and finishing machine.
7. A 1/4-inch minimum (3/8" maximum) lip shall be placed adjacent to concrete gutters in accordance with San Bernardino County Standard Plan 115.

The following practices shall be implemented for all Asphaltic Concrete Pavement construction:

1. All placement of asphaltic concrete pavement in public and private streets shall be accomplished in a minimum of two separate lifts as specified in the "Greenbook".
- ⚠ 2. A finished course of 0.10' of Class D2 mix (3/8 inch – maximum) or 0.12' of Class C2 mix (1/2 inch – maximum) or Cal-Trans 1/2" max medium, PG-64-10 or PG-70-10 shall be placed over a Base Course consisting of Class B mix – (3/4 inch maximum) or Cal-Trans 3/4" max medium, PG-64-10 or PG-70-10. Greenbook Standard Specifications shall apply for Asphaltic Pavement materials and placement.
3. A Barber Greene or an equivalent self propelled spreading and finishing machine shall be used to place the AC pavement.
4. All testing for AC pavement shall be accomplished including density testing unless otherwise agreed to by the City Engineer.

AC PAVEMENT SPECIFICATIONS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
1. 5/8/06	Changed AC mix and materials.	Recommended: <u>M. Monson</u>	Date: <u>7/8/08</u>
Drawn By: H&F, Inc.		Approved: <u>Royce L. Casey</u> City Engineer	Date: <u>7/8/08</u>
			STANDARD DRAWINGS 105-01



** NOTE: ACTUAL GRINDING WIDTHS TO BE DETERMINED BY AGE OF PAVEMENT AND LOCATION OF TRENCH TO VEHICLE WHEEL PATH

NOTE 1: HEADER CUT FULL DEPTH EXISTING AC +1", REPAIR 2' ADJACENT TO ≤ 42" DEPTH OF TRENCH. HEADER CUT FULL DEPTH EXISTING AC +1", REPAIR 3' ADJACENT TO >42" DEPTH OF TRENCH.

SEE SHEET 2 AND 3 FOR GENERAL NOTES

MAIN LINE TRENCH REPAIR DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: Kath Pini Janis

Date: 3/09/15

STANDARD DRAWINGS

Approved: [Signature]
City Engineer

Date: 3/9/15

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Page 1 OF 5

GENERAL NOTES:

1. ALL EXCAVATION WITHIN THE CITY OF YUCAIPA RIGHT-OF-WAY REQUIRES AN ENCROACHMENT PERMIT FROM THE ENGINEERING DEPARTMENT.
2. UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO START OF WORK 1-800-422-4133.
3. ALL EXCAVATIONS SHALL BE MADE, PROTECTED, AND SUPPORTED AS REQUIRED FOR SAFETY AND IN THE MANNER SET FORTH IN THE OPERATIONS RULES, ORDERS, AND REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.
4. COMPACTION OF BACKFILL SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER FOR THE CONTRACTOR AND APPROVED BY CITY ENGINEER PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
5. A) BACKFILL ZONE 1 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 6", AND CERTIFIED.
 B) BACKFILL IN ZONE 2 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 90% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 12", AND CERTIFIED. IN SOME CASES NATIVE MATERIAL MAY BE ACCEPTABLE IF APPROVED BY THE CITY ENGINEER AND THE NATIVE MATERIAL MEETS "GREENBOOK" SPECIFICATIONS FOR TRENCH BACKFILL. BACKFILL IN ZONE 2 FOR WORK WITHIN ARTERIAL STREETS SHALL BE 2 TO 2.5 SACK SLURRY MIX.
 C) BEDDING SHALL BE PER PLANS AND SPECIFICATIONS, AND SHALL ONLY EXTEND 12" ABOVE THE TOP OF THE PIPELINE OR CONDUIT
 D) NO JETTING OF FLOODING OF BACKFILL MATERIAL WILL BE ALLOWED.
6. A MINIMUM 2-INCH THICKNESS OF TEMPORARY ASPHALT PAVING SHALL BE PLACED WITHIN THE TRENCH AREA IMMEDIATELY, UNTIL PERMANENT REPAIR IS COMPLETED. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE, FLUSH WITH THE SURROUNDING PAVEMENT. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN A SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVING IS IN PLACE.
7. PRIOR TO PLACEMENT OF PERMANENT PAVING, EXISTING PAVEMENT SHALL BE GROUND TO THE APPROPRIATE HEADER CUT WIDTH PER NOTES 15, 16 & 17. PAVEMENT CRACKED ADJACENT TO THE TRENCH SHALL BE REMOVED.

MAIN LINE TRENCH REPAIR DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *Kate Marie Jimenez* Date: 3/09/15

Approved: *Felo* Date: 3/9/15
City Engineer

STANDARD DRAWINGS

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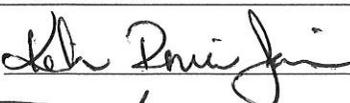
8. ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
9. TRENCHES OF 300 FEET OR MORE SHALL BE PAVED WITH A SELF-PROPELLED PAVING MACHINE.
10. ANY STREET PAVED WITH ASPHALTIC CONCRETE IN THE PREVIOUS 60 MONTHS OR RESURFACED WITH AN ASPHALTIC EMULSION (SLURRY SEAL, CAPE SEAL, MICROSURFACE) IN THE PREVIOUS 36 MONTHS, WHERE THE TRENCH EXTENDS FROM THE CURB MORE THAN 5 FEET (INCLUDING SERVICE CONNECTIONS AND METER INSTALLATIONS) OR IS IN A TRAVELED LANE, WILL REQUIRE AN OVERLAY OR SLURRY SEAL 25 FEET IN BOTH DIRECTIONS FROM THE CENTERLINE OF TRENCH. OTHER TRENCHES LESS THAN 5 FEET FROM CURB OR WITHIN A STREET THAT WAS LAST PAVED GREATER THAN 60 MONTHS OR SEALED GREATER THAN 36 MONTHS SHALL BE REPAIRED PER NOTES 15, 16 & 17.
11. IF TRENCH FAILURE SHOULD OCCUR, THE PERMITEE/DEVELOPER WILL BE NOTIFIED OF SUCH DEFICIENCIES AND ALLOWED TO REMOVE, REPLACE, OR REMEDY HIS WORK. UPON FAILURE OF THE CONTRACTOR TO PROMPTLY COMPLY AND UNDER ORDER OF THE CITY ENGINEER, TRENCH FAILURES SHALL BE REMEDIED, REMOVED, REPLACED BY THE CITY AT PERMITEE/DEVELOPER SOLE EXPENSE.
12. NOT USED
13. THE CITY OF YUCAIPA MAY HAVE ADDITIONAL REQUIREMENTS, PLACED ON THE PERMIT, FOR EXCAVATIONS WITHIN YUCAIPA BOULEVARD, OAK GLEN ROAD, BRYANT STREET, CALIFORNIA STREET, WILDWOOD CANYON ROAD, CALIMESA BOULEVARD, 5TH STREET, AVENUE E AND COUNTY LINE ROAD.
14. WHEN TRENCH EXTENDS UNDER CURB, TRENCH SHALL BE SLURRY BACKFILLED WITH CONCRETE FROM BACK OF CURB TO ONE FOOT (1') BEYOND LIP OF GUTTER; FILL TO SUBGRADE ELEVATION WITH 1 1/2 – 2 SACK MIX.

MAIN LINE TRENCH REPAIR DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: 

Date: 03/09/15

Approved: 
City Engineer

Date: 3/9/15

STANDARD DRAWINGS

106-3

Page 3 of 5

GENERAL NOTES:

15. ARTERIAL STREET MAINLINE TRENCH STANDARD

- A. IF THE TRENCH IS IN THE OUTSIDE LANE, THE WHOLE LANE AND BIKE LANE SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING.
- B. IF THE TRENCH IS IN AN INSIDE LANE, ONLY THE LANE WIDTH SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING .
- C. IF THE TRENCH IS ON A LANE LINE OR WITHIN 24" OF A LANE LINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL EXTEND TO THE CENTEROF EACH LANE.

16. COLLECTOR STREET MAINLINE TRENCH STANDARD

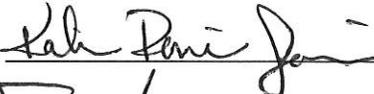
- A. IF THE TRENCH IS MORE THAN 12' FROM CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 12' FROM CENTERLINE TO EDGE OF EXISTING PAVEMENT.
- B. IF THE TRENCH IS BETWEEN 12' AND 10' FROM THE CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 5' FROM CENTERLINE TO EDGE OF EXISTING PAVEMENT.
- C. IF THE TRENCH IS BETWEEN 9' AND 2' FROM CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED FROM CENTERLINE TO 12' FROM CENTERLINE.
- D. IF THE TRENCH IS ON CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 10' CENTERED ON THE ROADWAY.

MAIN LINE TRENCH REPAIR DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: 

Date: 03/09/15

STANDARD DRAWINGS

106-3

Approved: 

Date: 3/9/15

City Engineer

Page 4 of 5

17. LOCAL STREET MAINLINE TRENCH STANDARD (HALF STREET
- A. TO AVOID "FLOATER" PAVEMENT SECTIONS, IF THE EXISTING STREET PAVING HALF-WIDTH IS 13' OR LESS, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE COSTRUCTED THE ENTIRE HALF-STREET WIDTH. 6' EDMILL GRINDING ON EACH SIDE OF THE PAVING SECTION MAY BE ACCEPTABLE IF APPROVED BY CITY ENGINEER.
 - B. FOR STREET HALF-WIDTHS BETWEEN 13' AND 18', THE MINIMUM 1-1/2" GRIND AND OVERLAY SECTION SHALL EXTEND TO CENTERLINE AND SPAN 12' WITH A MINIMUM EXTENSION BEYOND THE TRENCH LINE ON ANY ONE SIDE OF THE TRENCH NOT BEING LESS THAN 2 FEET.
 - C. IF THE TRENCH IS ON CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL SPAN 10' CENTERED ON THE ROADWAY.

IF A STREET IN WHICH A MAINLINE REPAIR OR INSTALLATION IS OCCURRING FALLS WITHIN THE CITY'S PMP STREET REHABILITATION SCHEDULE FOR THE UPCOMING FISCAL YEAR, THE CITY WILL ALLOW THE PERMITTEE TO PAY THE CITY THE STREET REHABILITATION CONTRACT UNIT RATE, PLUS TEN PERCENT FOR ADMINISTRATIVE/MOBILIZATION FEES FOR THE REQUIRED PAVEMENT OVERLAY SECTION BEYOND THE TRENCH SECTION. WITH THIS OPTION THE PERMITTEE WOULD BE REQUIRED TO BASE-PAVE FLUSH TO EXISTING PAVEMENT USING PG. 64-10 3/4" MAX HOT MIX A.C.

MAIN LINE TRENCH REPAIR DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended:

Robert P. Garcia

Date: 03/09/15.

Approved:

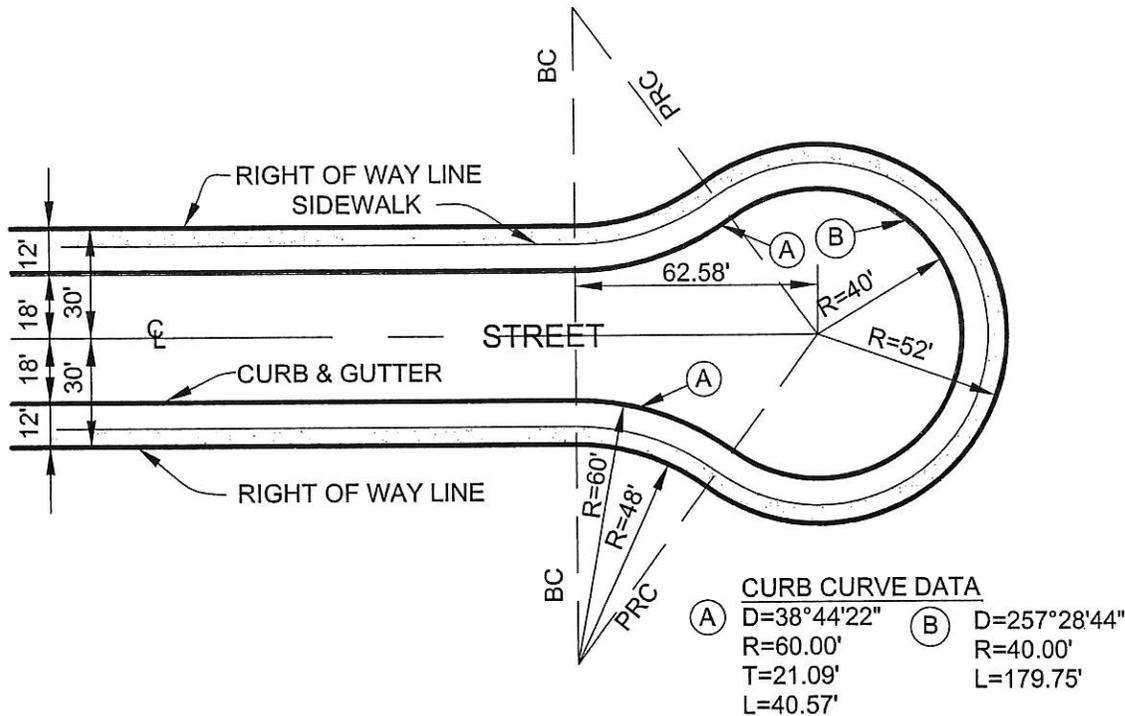
F. L. ...
City Engineer

Date: 3/9/15.

STANDARD DRAWINGS

106-3

Page 5 of 5

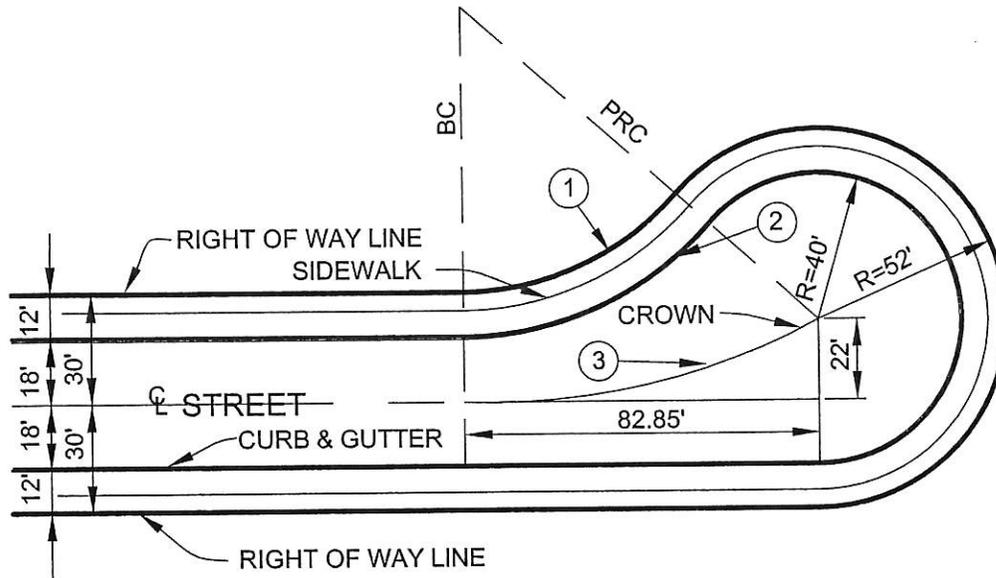


NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOIL TESTS, OTHERWISE 4" AC ON 6" CAB AND SO INDICATED ON CONSTRUCTION PLANS.
2. SEE STANDARD 102-1 FOR TYPICAL SECTION.
3. CONSTRUCTION OUTSIDE R/W SHALL REQUIRE SLOPE EASEMENTS.
4. 0.60% GRADE MIN. ON GUTTER OF BULB.
5. X INDICATES POSITION OF SURVEY REFERENCE POINT (#10 ROUND HEAD BRASS SCREW MINIMUM LENGTH 1-¹/₄") SET FLUSH WITH TOP OF CURB DURING CONSTRUCTION.

MODIFIED CUL-DE-SAC

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>M. Monson</u>	Date: <u>7/8/08</u>
		Approved: <u>Raymond A. Carey</u>	Date: <u>7/8/08</u>
Drawn By:		City Engineer	STANDARD DRAWINGS 107-0



CURVE DATA

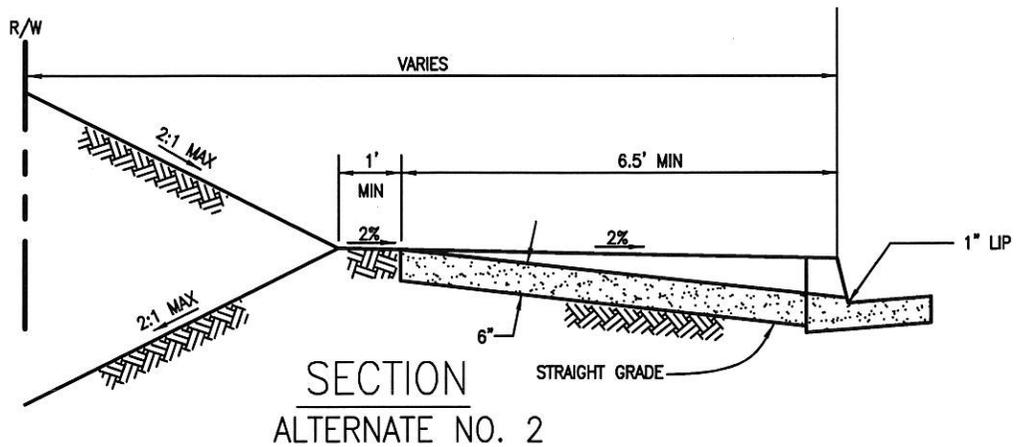
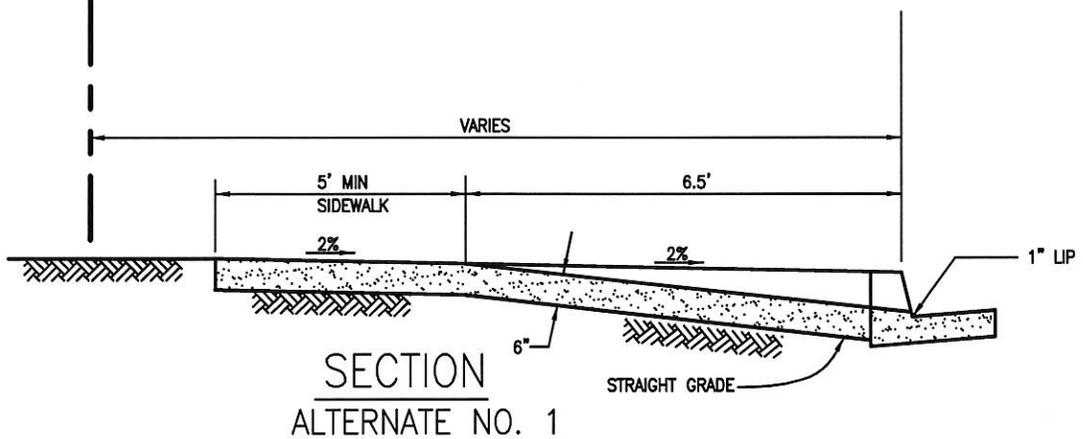
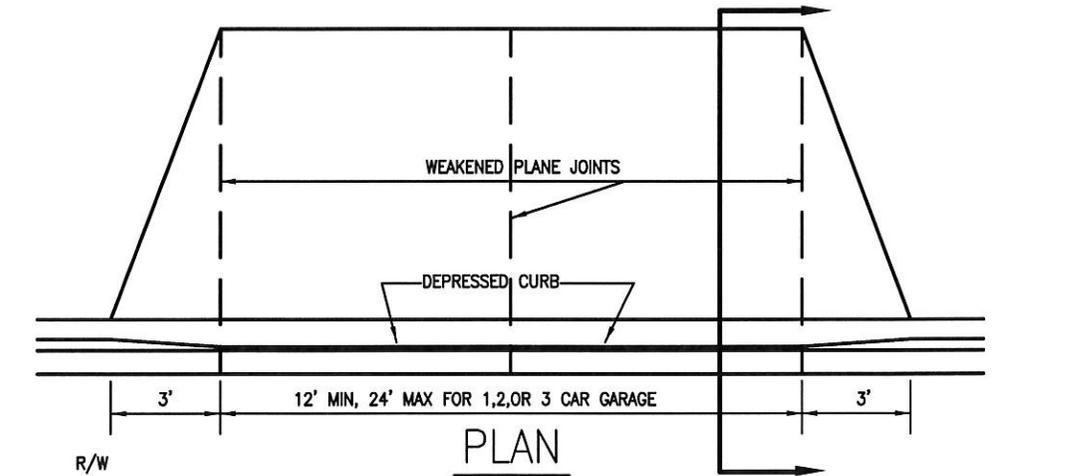
①	D=29°44'33"	②	D=29°44'33"	③	D=29°44'33"
	R=48.00'		R=60.00'		R=167.00'
	T=12.75'		T=31.15'		T=44.35'
	L=24.92'		L=15.93'		L=86.69'

NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOIL TESTS, OTHERWISE 4" AC ON 6" CAB AND SO INDICATED ON CONSTRUCTION PLANS.
2. SEE STANDARD 102-1 FOR TYPICAL SECTION.
3. CONSTRUCTION OUTSIDE R/W SHALL REQUIRE SLOPE EASEMENTS.
4. 0.60% GRADE MIN. ON GUTTER OF BULB.
5. X INDICATES POSITION OF SURVEY REFERENCE POINT (#10 ROUND HEAD BRASS SCREW MINIMUM LENGTH 1-¹/₄") SET FLUSH WITH TOP OF CURB DURING CONSTRUCTION.

MODIFIED OFFSET CUL-DE-SAC

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>M. Monson</i>	Date: <i>7/8/02</i>
		Approved: <i>Raymond L. Carey</i>	Date: <i>7/8/02</i>
Drawn By:		City Engineer	STANDARD DRAWINGS
			108-0



RESIDENTIAL DRIVEWAY APPROACH WITH CURB

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *[Signature]*

Date: 03/09/15

STANDARD DRAWINGS

Approved: *[Signature]*

City Engineer

Date: 3/9/15

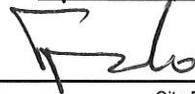
109-2

SHEET 1 OF 3

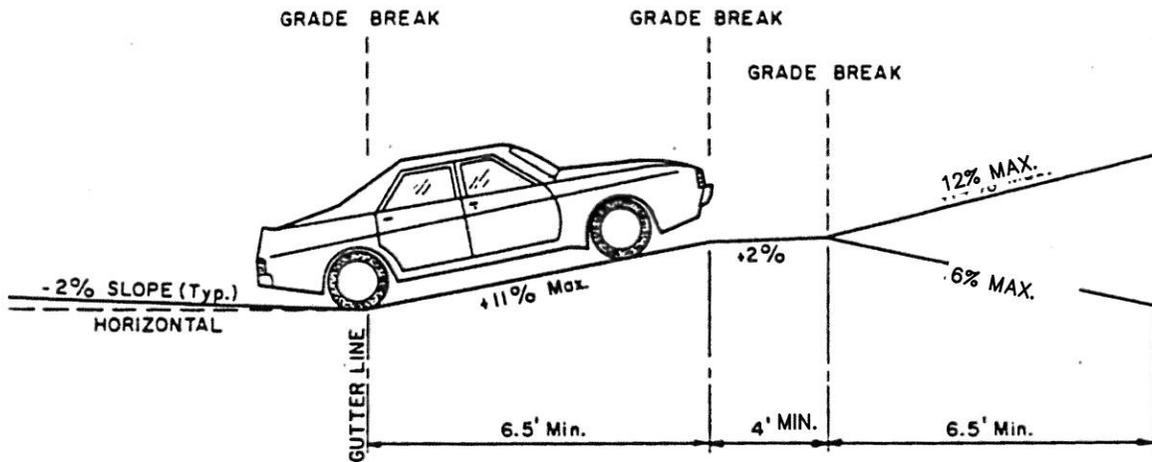
NOTES:

1. DRIVEWAY APPROACHES SHALL BE CONSTRUCTED PER SSPWC (GREENBOOK) SECTION 201, 6" THICK, 520-C-2500
2. BROOM FINISH IS REQUIRED
3. DRIVEWAY APPROACH CONSTRUCTION IS REQUIRED FOR ALL DEPRESSED CURB OPENINGS.
4. ON A SINGLE LOT WHEN MORE THAN ONE DRIVEWAY APPROACH IS TO BE CONSTRUCTED, THE MINIMUM DISTANCE BETWEEN DRIVEWAY APPROACHES SHALL BE 10 FEET.
5. TO PROVIDE DRIVEWAY APPROACH THROUGH EXISTING CURB & GUTTER AND SIDEWALK, THE EXISTING SIDEWALK AND CURB & GUTTER SHALL BE SAW CUT AND REMOVED FOR THE NECESSARY WIDTH, OR REMOVED AND REBUILT TO THE NEAREST JOINT. NO SAW CUTTING OF CURB ONLY.
6. WHERE NO SIDEWALK IS REQUIRED, SLOPE MAY BE VARIED TO MEET CONDITIONS PROVIDED DRAINAGE IS MAINTAINED AND IS APPROVED BY CITY ENGINEER.
7. REFER TO CITY OF YUCAIPA STANDARD 120-0 WHERE DRIVEWAY APPROACH IS TO BE CONSTRUCTED ADJACENT TO EXISTING STREET.
8. RESIDENTIAL DRIVEWAY SHALL NOT EXCEED 12% MAXIMUM GRADE.

RESIDENTIAL DRIVEWAY APPROACH WITH CURB

CITY OF YUCAIPA, CALIFORNIA	
Department of Public Works	Engineering Division
Recommended: <u></u> Date: <u>03/09/15</u>	STANDARD DRAWINGS 109-2 SHEET 2 OF 3
Approved: <u></u> Date: <u>3/9/15</u> City Engineer	

RESIDENTIAL DRIVEWAY



NOTE: VARIATIONS TO THIS STANDARD ARE ACCEPTABLE WITH PRIOR APPROVAL FROM THE CITY ENGINEER.

RESIDENTIAL DRIVEWAY APPROACH WITH CURB

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *[Signature]*

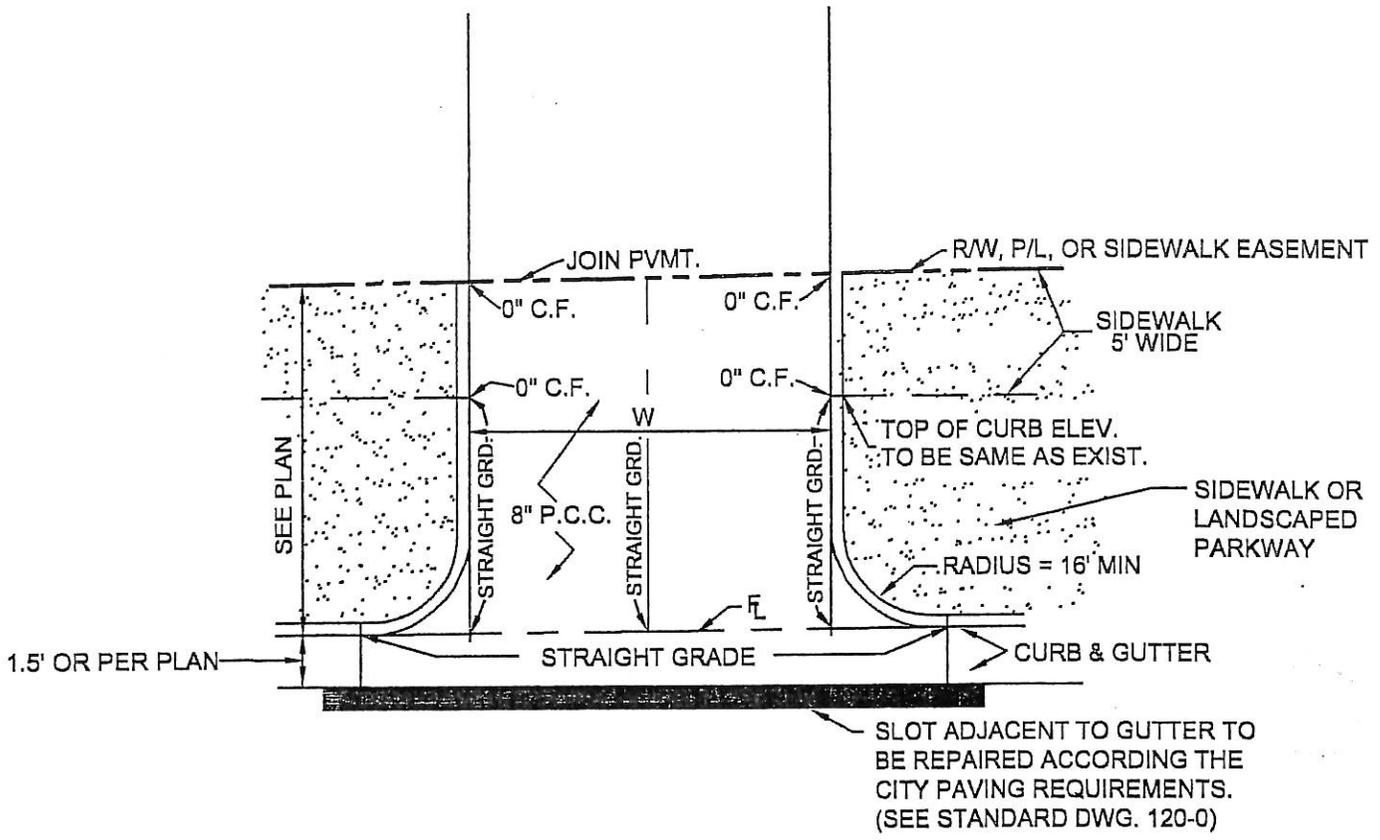
Date: 3/09/15

Approved: *[Signature]*
City Engineer

Date: 3/9/15

STANDARD DRAWINGS

109-2

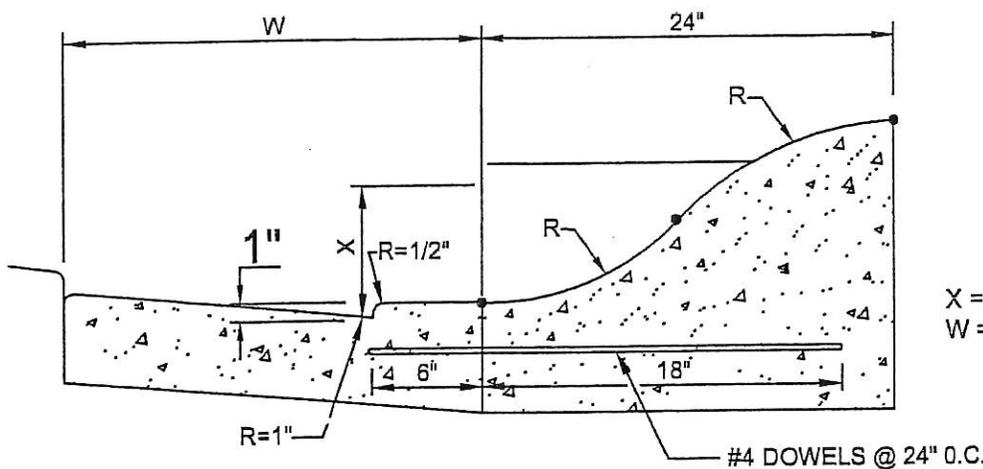
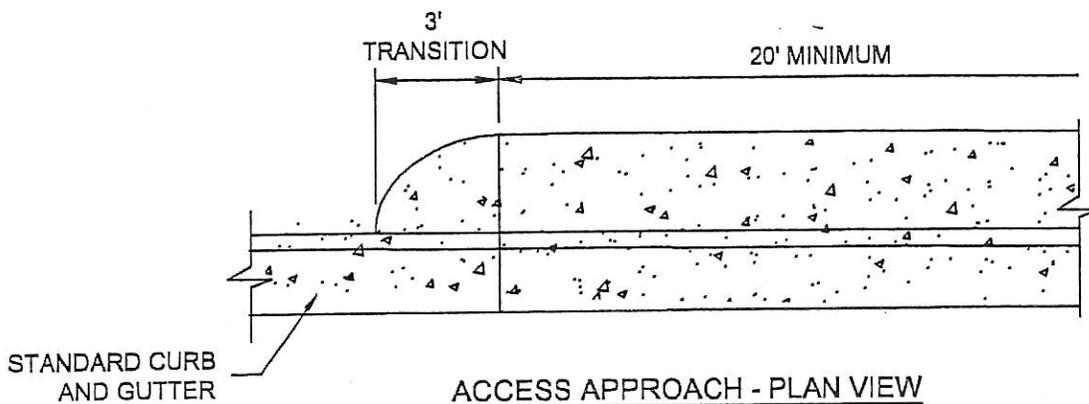


NOTES:

1. 8" THICK PCC
2. W = 24' MIN - 34' MAX
3. NO CURB CUTS IN LIEU OF CURB & GUTTER REMOVALS WILL BE PERMITTED
4. REPAIR SLOT ADJACENT TO GUTTER IN ACCORDANCE WITH CITY OF YUCAIPA STD. DRAWING 120-0
5. **CONCRETE SHALL BE 520-C-2500 PER SSPWC (GREEN BOOK) SECTION 201.**

COMMERCIAL DRIVEWAY APPROACH DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
5/8/06	ADDED NOTE 5.	Recommended: <i>D. P. ...</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. ...</i>	Date: 10-23-00
		City Engineer	STANDARD DRAWINGS 110-01



X	6"	8"
R	30"	22 1/3"

X = ADJACENT CURB HEIGHT
W = ADJACENT GUTTER WIDTH

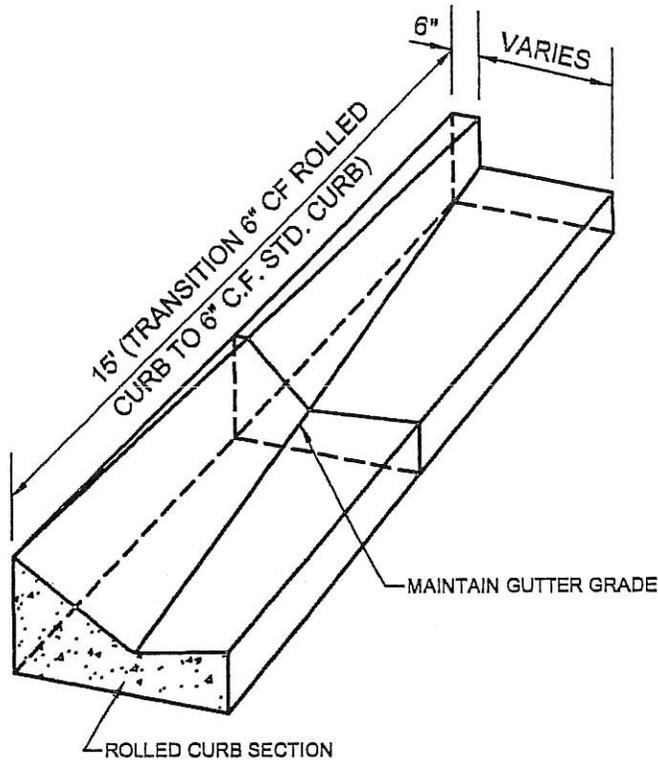
ROLLED CURB AND GUTTER

△ CONCRETE SHALL BE 520-C-2500 PER SSPWC (GREEN BOOK) SECTION 201.

NOTE:
THIS DETAIL SHALL ONLY BE USED WITH THE APPROVAL OF THE CITY ENGINEER AND SHALL NOT BE USED FOR PRIVATE DRIVEWAYS.

ROLLED CURB AND GUTTER AND ACCESS APPROACH DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
5/8/06	ADDED NOTE	Recommended: <i>D. Todd Schneider</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. Wagners</i> City Engineer	Date: 10-23-00
			STANDARD DRAWINGS
			111-87

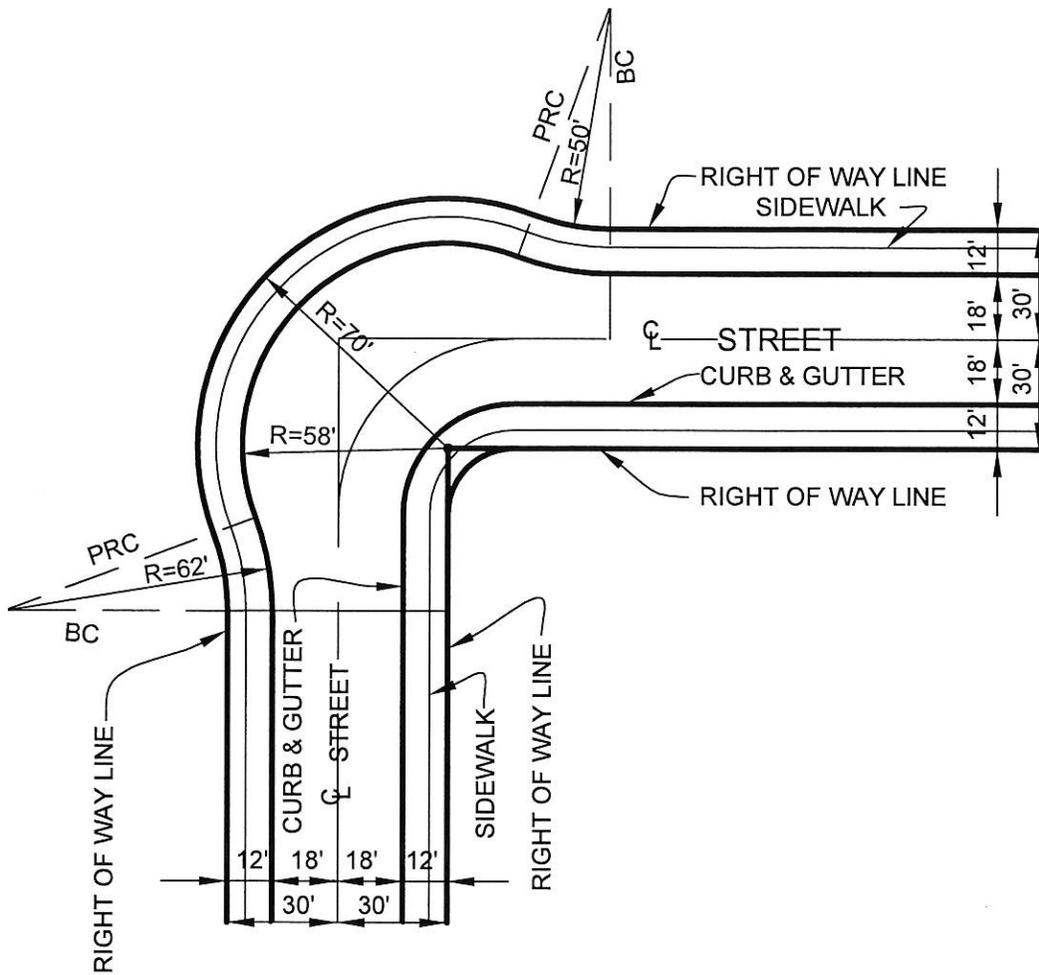


NOTE:
 TRANSITION TO START NOT LESS THAN 15' BEYOND
 END OF CURB RETURN

⚠ CONCRETE SHALL BE 520-C-2500 PER SSPWC
 (GREEN BOOK) SECTION 201.

CONCRETE ROLLED CURB TRANSITION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
15/8/06	ADDED NOTE.	Recommended: <i>D. Todd Schmiedec</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. Nagengast</i>	Date: <u>10-23-00</u>
		City Engineer	STANDARD DRAWINGS
			112-81

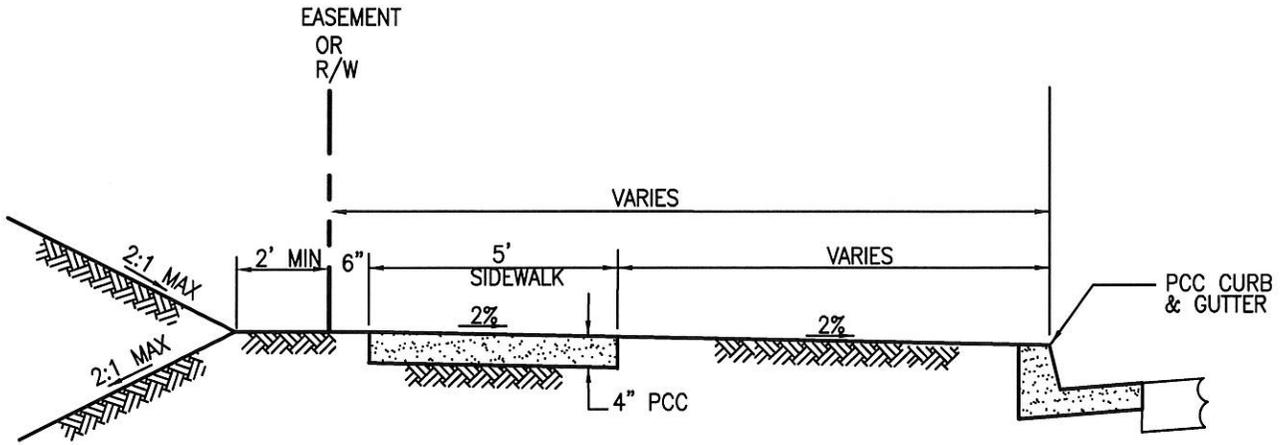


NOTES:

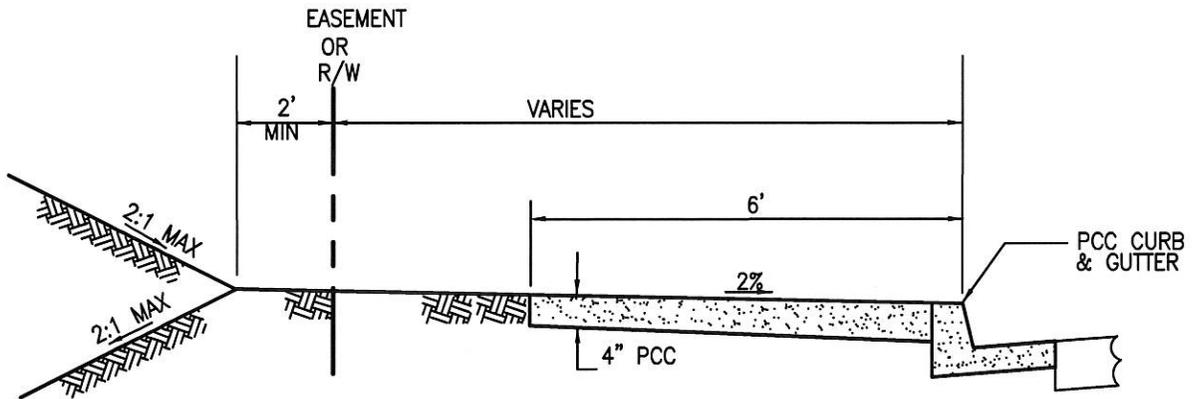
1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOIL TESTS, OTHERWISE 4" AC ON 6" CAB AND SO INDICATED ON CONSTRUCTION PLANS.
2. SEE STANDARD 102-1 FOR TYPICAL SECTION.
3. CONSTRUCTION OUTSIDE R/W SHALL REQUIRE SLOPE EASEMENTS.
4. 0.60% GRADE MIN. ON ALL HORIZONTAL CURVE GRADES.
5. X INDICATES POSITION OF SURVEY REFERENCE POINT (#10 ROUND HEAD BRASS SCREW MINIMUM LENGTH 1- $\frac{1}{4}$ ") SET FLUSH WITH TOP OF CURB DURING CONSTRUCTION.

KNUCKLE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>M. Manson</u>	Date: <u>7/8/08</u>
Drawn By:		Approved: <u>[Signature]</u> City Engineer	Date: <u>7/8/08</u>
			STANDARD DRAWINGS
			113-0



TYPE "A"
N.T.S.



TYPE "B"
N.T.S.

FOR SIDEWALK ADJACENT TO
DRIVEWAY APPROACH SEE
STD. 110-X OR 109-X

SIDEWALK DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended:

[Signature]

Date: 3/09/15

Approved:

[Signature]

Date: 3/9/15

City Engineer

STANDARD DRAWINGS

115-2

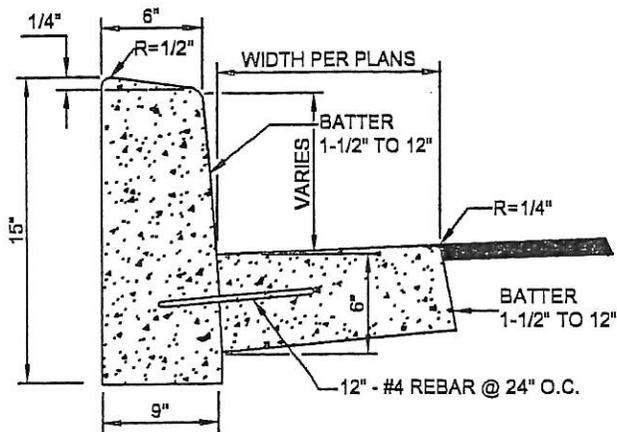
SHEET 1 OF 2

NOTES:

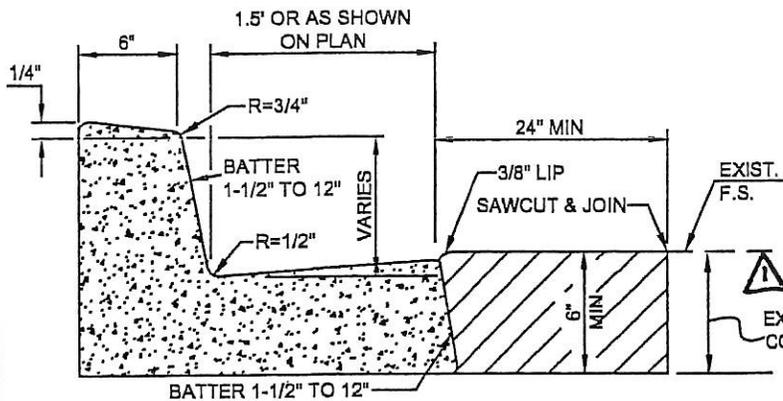
1. SIDEWALK SHALL BE CONSTRUCTED PER CITY STANDARD TYPE "A" AND 520-C-2500 CONCRETE PER SSPWC (GREENBOOK) SECTION 201
2. TYPE "B" SIDEWALKS ADJACENT TO CURB SHALL ONLY BE USED ON LOCAL AND COLLECTOR STREETS AND ONLY UPON APPROVAL OF THE CITY ENGINEER.
3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED ON 10' SPACING, AT EACH SIDE OF DRIVEWAYS, AT ENDS OF CURB RETURNS, AT END OF MEANDERING SIDEWALK HORIZONTAL CURVES AND AT THE ENDS OF TREE WELLS. MINIMUM JOINT DEPTH SHALL BE 1 - 1/4" WITH EDGER FINISH (R = 1/8").
4. THE SUBGRADE UNDER CURB AND GUTTER, SIDEWALKS AND DRIVEWAY APPROACHES SHALL BE COMPACTED TO 95% RELATIVE COMPACTION AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE "GREENBOOK" SECTION 301-1 "SUBGRADE PREPARATION".
5. MINIMUM SIDEWALK WIDTH AT HORIZONTAL OBSTRUCTIONS SHALL BE 4 FEET.
6. SCORING SHALL BE PERMITTED.
7. FOR YUCAIPA BOULEVARD, SCORING IN A 2.5 FOOT BY 2.5 FOOT GRID PATTERN SHALL BE REQUIRED FOR ALL NEW SIDEWALK AND SIDEWALK RECONSTRUCTION.
8. COLOR ADDITIVES OR PATTERN STAMP CONCRETE SHALL NOT BE USED WITHIN PUBLIC RIGHT-OF-WAY UNLESS APPROVED BY THE CITY ENGINEER.
9. CONCRETE FINISH SHALL BE "MEDIUM" BROOM FINISH OR EXPOSED AGGREGATE UNLESS APPROVED BY THE CITY ENGINEER

SIDEWALK DETAILS

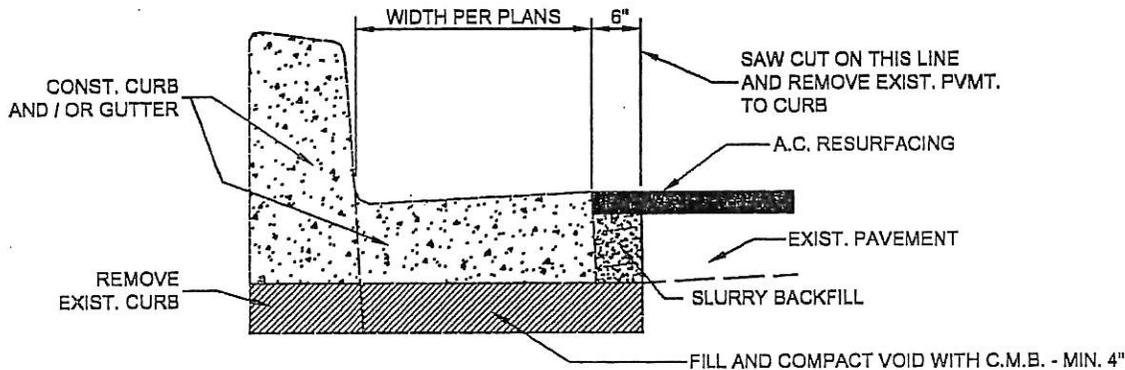
CITY OF YUCAIPA, CALIFORNIA		
	Department of Public Works	Engineering Division
Recommended:	 _____ Date: <u>3/09/15</u>	STANDARD DRAWINGS 115-2 SHEET 2 OF 2
Approved:	 _____ Date: <u>3/9/15</u> <small>City Engineer</small>	



SEPARATE CURB AND GUTTER SECTION



REMOVAL & REPLACEMENT OF INTEGRAL CURB & GUTTER WITHOUT ADDITIONAL OVERLAY



REMOVAL & REPLACEMENT FOR CURB AND GUTTER CONSTRUCTION WITH ASPHALT OVERLAYS ON STREET

NOTE:

1. USE OF THESE SPECIAL CURB AND GUTTER RECONSTRUCTION DETAILS SHALL ONLY OCCUR WHEN STANDARD CURB AND GUTTER CONSTRUCTION IS PREVENTED BY EXISTING SITE CONDITIONS OR WHEN REMOVING AND REPLACING CURB AND GUTTER AT THE SAME ELEVATION.

2. IF THE EXISTING ASPHALT PAVEMENT THICKNESS IS GREATER THAN 6 INCHES, THE FULL THICKNESS OF EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND REPLACED WITH FULL DEPTH ASPHALT CONCRETE PAVEMENT.

3. IF THE EXISTING AGGREGATE BASE IS ENCOUNTERED AT THE LEVEL OF THE BOTTOM OF THE CURB, IT SHALL BE LEFT IN PLACE AND RECOMPACTED PRIOR TO ASPHALT PLACEMENT.

4. FOR PAVEOUTS WIDER THAN 24 INCHES, THE APPROPRIATE ASPHALT CONCRETE PAVEMENT OVER CRUSHED AGGREGATE STRUCTURAL SECTION SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE PAVEMENT.

5. **CONCRETE SHALL BE 520-C-2500 PER SSPNC (GREEN BOOK) SECTION 201.**
 EXCAVATE TO LEVEL OF BOTTOM OF CURB & GUTTER, COMPACT SURFACE, AND REPLACE WITH FULL DEPTH ASPHALT CONCRETE (SEE NOTE NO. 2 & 3)

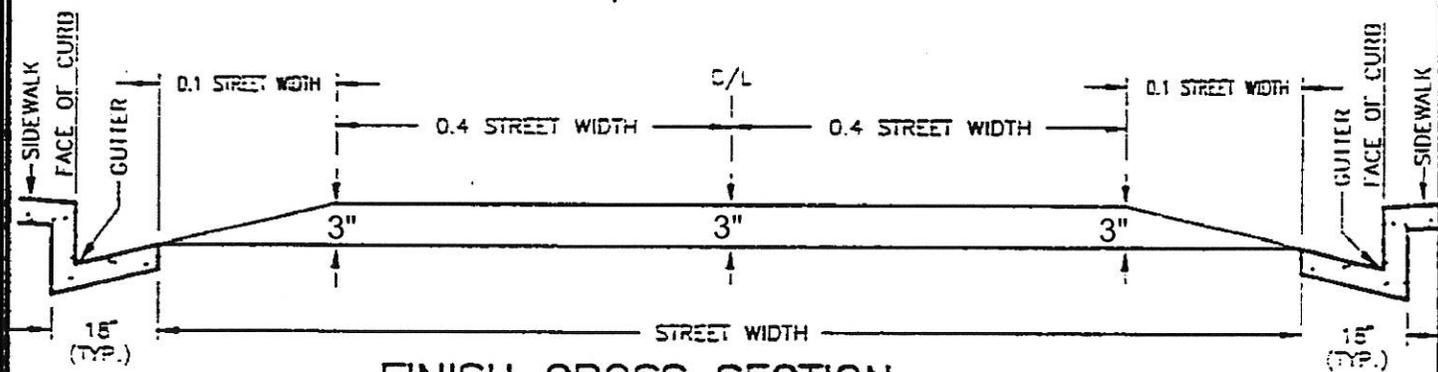
SPECIAL - CURB AND GUTTER RECONSTRUCTION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
5/8/06	ADDED NOTE 5.	Recommended: <i>D. J. Schmidt</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. Noyes</i> City Engineer	Date: 10-23-00
		STANDARD DRAWINGS	
		120-11	

See Caltrans
Standard Plan
RNSP A88
For Curb Ramp Details

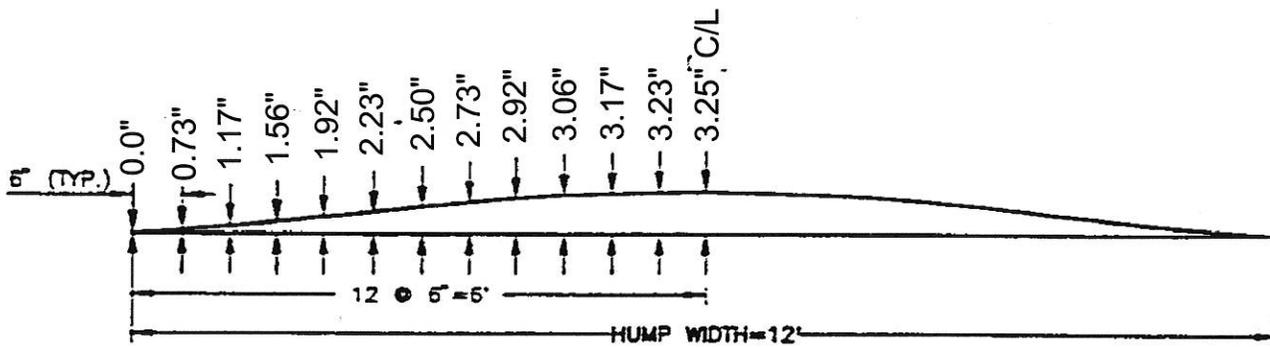
CURB RAMP DETAILS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmieder</u>	Date: <u>9-26-00</u>
		Approved: <u>Paul T. Naymyst</u>	Date: <u>10-23-00</u>
Drawn By:		City Engineer	
			STANDARD DRAWINGS 121-0



FINISH CROSS SECTION

NO SCALE TRANSVERSE TO STREET C/L



TEMPLATE CROSS SECTION

NO SCALE LONGITUDINAL TO STREET C/L

SPEED BUMP/HUMP DETAIL

<p>CITY OF YUCAIPA, CALIFORNIA</p> <p>Department of Public Works Engineering Division</p>		<p>STANDARD DRAWINGS</p> <p>125-0</p> <p>SHEET 1 OF 1</p>
Recommended:	<p><i>Kate Perini</i></p> <p>Date: 3/09/15</p>	
Approved:	<p><i>[Signature]</i></p> <p>Date: 3/9/15</p> <p style="text-align: center;">City Engineer</p>	

GENERAL NOTES FOR STREET PLANS

1. All work shall be done in accordance with these plans, "Standard Specifications for Public Works Construction", (Green Book), latest edition, the State of California "Standard Specifications", latest edition, and the Standard Drawing of the County of San Bernardino.
2. It shall be the responsibility of the Contractor to familiarize himself/herself with the job site and the location of all underground facilities shown or not shown on these plans. Neither the City of Yucaipa nor the Engineer will be responsible for any damage to underground facilities.
3. It shall be the Contractor's responsibility to obtain all necessary permits.
4. It shall be the Contractor's responsibility to call the City Engineer's Office at (909) 797-2489 for inspection 24 hours prior to performing any work. Work performed without calling for inspection shall be rejected and shall be removed solely at the Contractor's expense.
5. Utility Contractors shall be responsible for obtaining compaction tests of all trench backfill and street subgrades and submitting them to the City Engineer for approval. Notify City Engineer's Office at (909) 797-2489, ext. 228, 24 hours prior to tests.
6. The street structural sections shown on these plans are tentative. At the completion of rough grading, a Material Report and the proposed structural section shall be submitted by the tract engineer to the City Engineer for review and evaluation; approval will be given when all structural section requirements have been met. The minimum pavement section shown on these plans shall be used to construct the roadway structural section in-lieu of completion of the Material Report (including required R-value tests) for the roadway subgrade and embankment in order to obtain a final recommended structural section for the street. Any deviation from the minimum pavement section shown on the plans must receive written approval from the City Engineer.
7. Cut sheets shall be prepared by the developer's engineer and submitted to the City Engineer. No construction shall be allowed prior to the City Engineer's approval of the cut sheets.
8. Locations of driveway approaches shall be added to the precise grading plan if not on original street plans. Any water or sewer laterals constructed at driveway approach locations shall be relocated at the Contractor's expense.
9. The Contractor shall satisfy himself/herself that estimated quantities shown are correct before bidding on any item.
10. The Contractor shall maintain dust control at all times. Work site and exterior streets shall be in a neat, clean, hazard-free, and orderly state throughout construction. Site shall be cleaned upon request of the Inspector.
11. All existing pavement to be removed shall be sawcut and removed to clean straight lines. Header cuts may be provided adjacent to sawcuts.

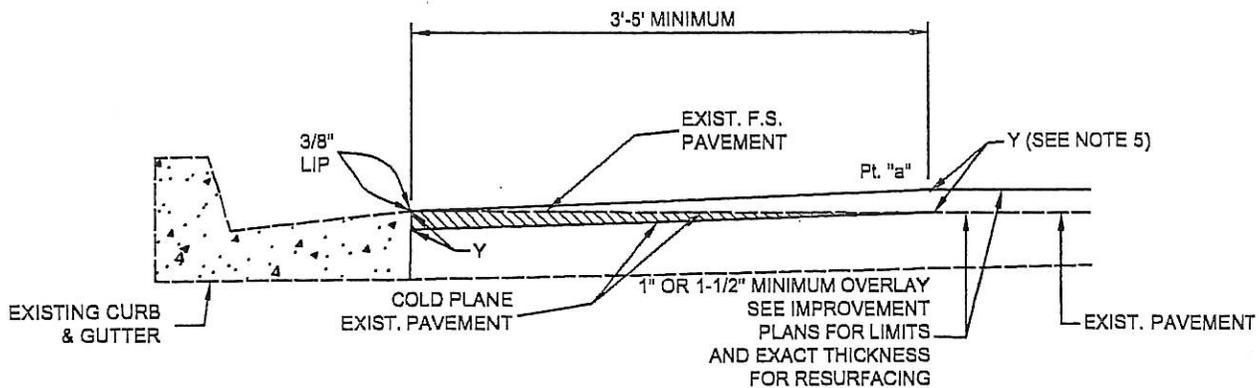
GENERAL NOTES FOR STREET PLANS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. J. Schmidt</i></u> Date: <u>10-18-00</u>	STANDARD DRAWINGS
Drawn By:		Approved: <u><i>Paul T. Nagengast</i></u> <small>City Engineer</small> Date: <u>10-23-00</u>	130-0
			SHEET 1 of 2

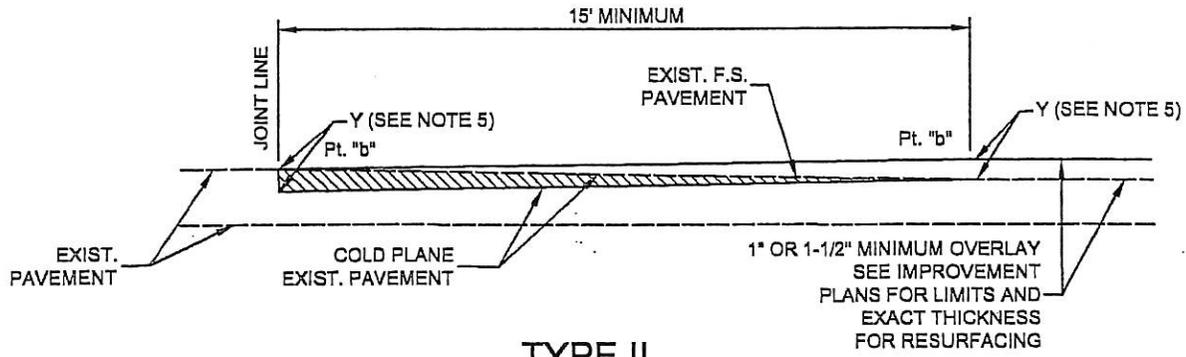
12. At all locations where new pavement joins existing, the existing pavement shall be coated with an asphaltic emulsion.
13. The Contractor is responsible for the protection of all utility valves, boxes and covers, and adjusting of all water valve boxes and covers to finish grade.
14. The Contractor shall reset manhole rings in accordance with Yucaipa Valley Water District Standards.
15. The Private Engineer signing these plans is responsible for the accuracy and acceptability of the work hereon. In the event of discrepancies arising during construction, the Private Engineer shall be responsible for determining an acceptable solution and revising the plans for approval of the City Engineer.
16. The Contractor shall call in a location request to Underground Service Alert (USA), phone number 1-800-422-4133, two (2) working days before digging. No inspection will be provided by the City Engineer's office, and no construction permit issued involving excavation for underground facilities will be valid, unless the applicant has been provided an inquiry identification number by USA.
17. All irrigation lines encountered during construction shall be replaced with 12-gauge dipped and wrapped-welded steel pipe.
18. City approval of plans does not relieve the developer from the responsibility for the correction of error and omission discovered during construction. Upon request, the required plan revisions shall be promptly submitted to the City Engineer for approval.
19. When improvements are to be placed on native soil that consists of a rocky material, the sub-grade shall be prepared by removing all rocks which protrude above the sub-grade and all voids or depressions shall be filled with a fine grade material of a quality better than the native material.
20. If the asphalt concrete is to be placed on sub-grade, a soils sterilant registered by the E.P.A. for use under A.C. and P.C.C. shall be uniformly applied at the manufacturer's recommended rate for the full pavement width prior to paving.
21. No work shall commence within public right-of-way without obtaining a Public Works Permit and notifying the City Inspector to schedule a pre-construction meeting 24 hours prior to start of work.
22. All quantities shall be shown on the plans including earthwork, remedial grading, removals, etc.

GENERAL NOTES FOR STREET PLANS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. P. Schmidt</i></u> Date: <u>9-26-00</u>	STANDARD DRAWINGS 130-0 SHEET 2 of 2
Drawn By		Approved: <u><i>Paul T. Nagengast</i></u> Date: <u>10-23-00</u> <small>City Engineer</small>	



TYPE I



TYPE II

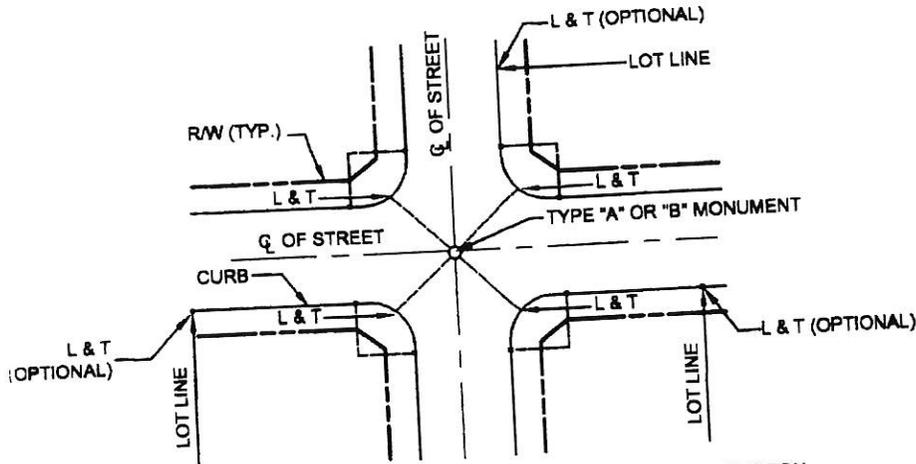
NOTES:

1. EXACT LOCATION, DIMENSION AND LIMITS OF COLD PLANING TO BE SHOWN ON IMPROVEMENT PLANS.
2. CITY ENGINEER MAY REQUIRE WIDER OR THICKER COLD PLANING DUE TO FIELD CONDITIONS.
3. MAXIMUM GRADE BREAK AT POINT "a" = 4%
4. MAXIMUM GRADE BREAK AT POINT "b" = 2%
5. $Y = 1"$ FOR AC TYPE D2 OVERLAY OR CALTRANS $\frac{1}{2}"$ MAX MEDIUM
 $Y = 1 \frac{1}{2}"$ FOR AC TYPE C2 OVERLAY OR CALTRANS $\frac{3}{4}"$ MAX MEDIUM

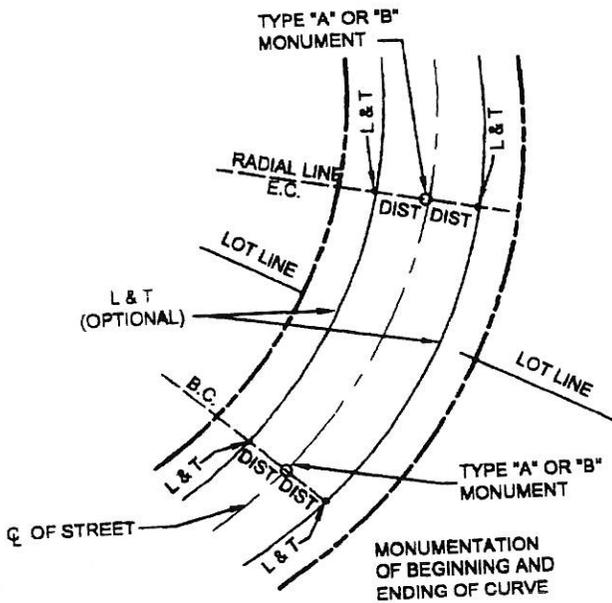


TYPICAL HEADER CUT AND COLD PLANE DETAILS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Data	Descriptions	Department of Public Works	Engineering Division
Δ 5/8/06	REVISED NOTE 5.	Recommended: <u>D. P. Odel-Schmidler</u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u>Paul T. Nagerugast</u> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS 160-01	



STREET INTERSECTION
MONUMENTATION WHERE CURB
AND GUTTER HAS BEEN
INSTALLED



NOTES:

1. TYPE "A" MONUMENT TO BE 1 INCH DIAMETER IRON PIPE 18 INCHES LONG WITH METAL DISC OR PLASTIC CAP AFFIXED TO TOP OF PIPE.
2. TYPE "B" MONUMENT TO BE 5/8 INCH DIAMETER COPPER CLAD STEEL PIN 18 INCHES LONG WITH 1 1/4 INCH CONICAL BRASS CAP AFFIXED TO TOP OF PIPE.
3. TYPE "A" MONUMENT TO BE USED FOR TRACT BOUNDARY CONTROL AND UNPAVED STREET CENTERLINE CONTROL. TYPE "B" MONUMENT TO BE USED IN LIEU OF TYPE "A" IN PAVED STREETS.
4. LEAD AND TACK (L&T) SHOWN HEREON INDICATES LEAD PLUG OR STEEL PIN WITH METAL IDENTIFICATION DISK SET IN CONCRETE CURB.

STREET MONUMENTATION - PUBLIC AND PRIVATE STREETS

CITY OF YUCAIPA, CALIFORNIA

Engineering Division

Department of Public Works

STANDARD DRAWINGS

Revisions	
Mark Date	Descriptions

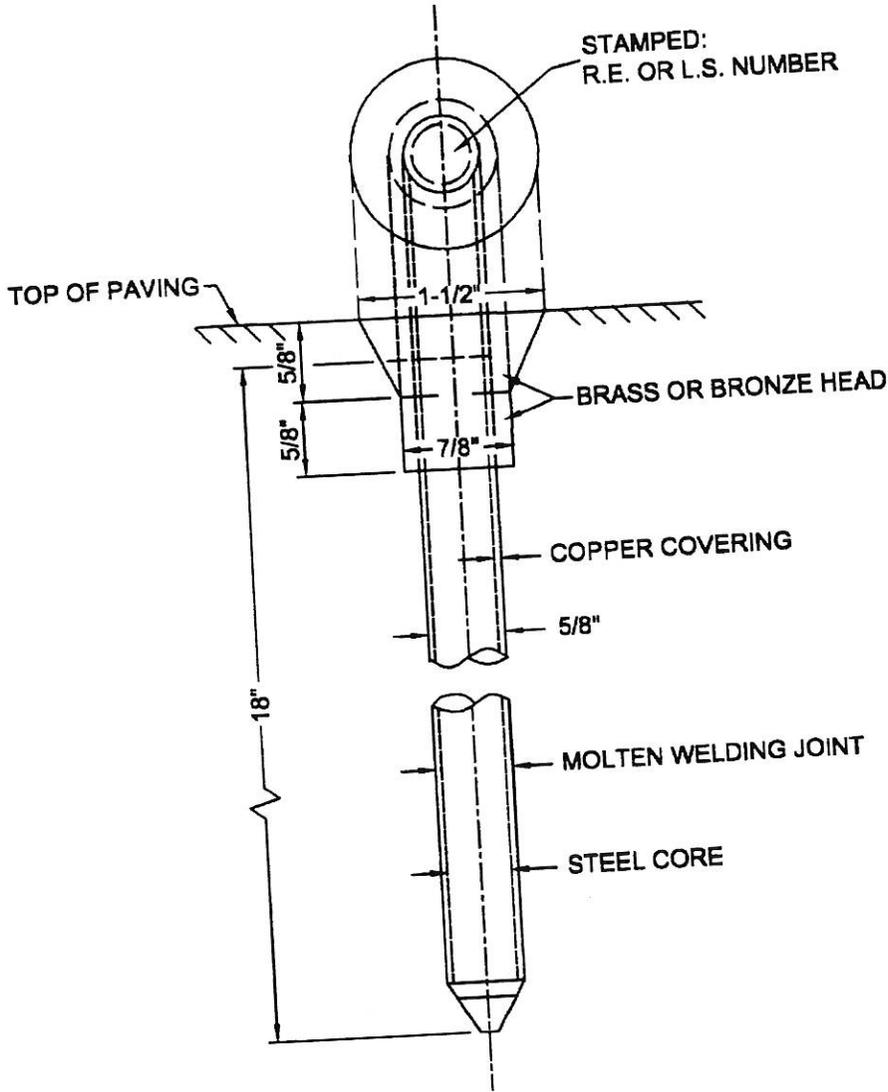
Recommended: *D. P. ...* Date: 9-26-00

Approved: *Paul T. Nagonjast* Date: 10-23-00
City Engineer

Drawn By: _____

170-0

PAGE 1 OF 2

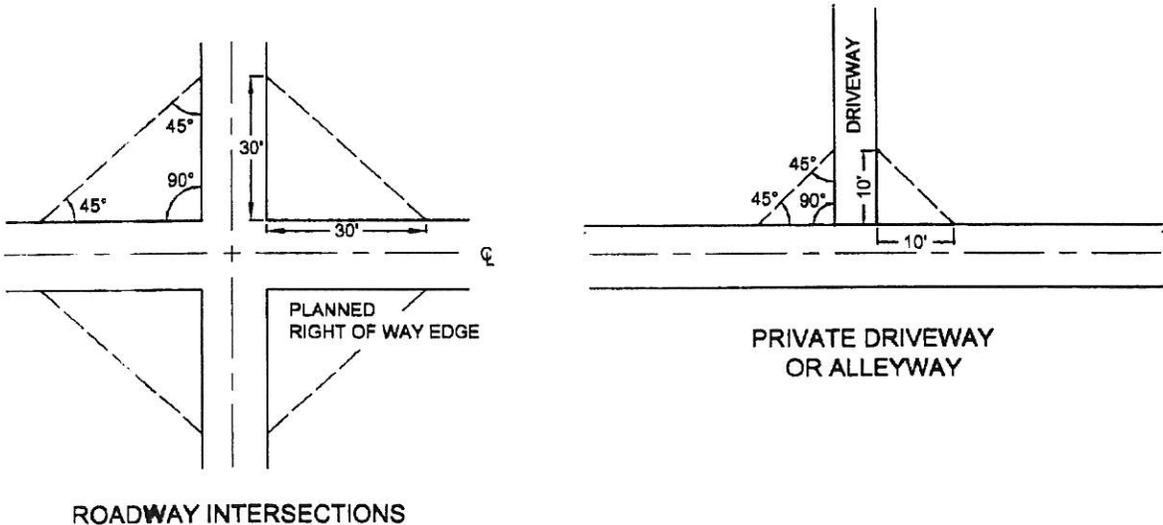


TYPE "B" INTERSECTION MONUMENT

Revisions		CITY OF YUCAIPA, CALIFORNIA		Engineering Division
Mark Date	Descriptions	Department of Public Works		STANDARD DRAWINGS
		Recommended: <u><i>D. P. de Smedt</i></u>	Date: <u>9-26-00</u>	170-0 PAGE 2 OF 2
Drawn By:		Approved: <u><i>Paul T. Nagengast</i></u> City Engineer	Date: <u>10-23-00</u>	

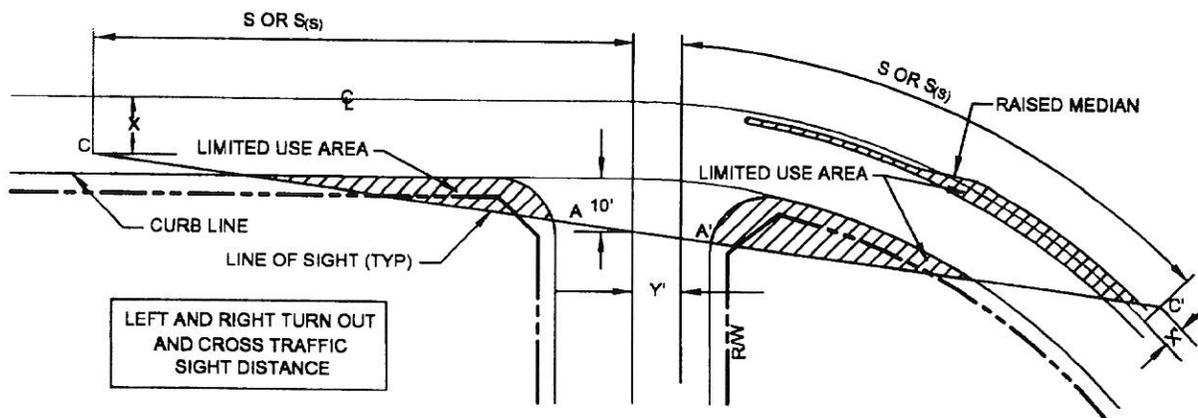
NOTES:

- (A) ADEQUATE VISIBILITY FOR VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE PROVIDED AT CLEAR SIGHT TRIANGLES AT ALL INTERSECTIONS OF PUBLIC RIGHTS-OF-WAY AND PRIVATE STREETS AND DRIVEWAYS, THROUGH THE FOLLOWING MEASURES.
- (1) THERE SHALL BE NO MAN-MADE VISUAL OBSTRUCTION IN CLEAR SIGHT TRIANGLES EXCEPT BY NO MORE THAN TWO POSTS OR COLUMNS, EACH WITH A WIDTH NO GREATER THAN TWELVE INCHES.
 - (2) THERE SHALL BE NO MONUMENT SIGNS, WALLS, OR FENCES ALLOWED WITHIN A CLEAR SIGHT TRIANGLE
 - (3) THE MAXIMUM HEIGHT OF LANDSCAPING SHALL BE LIMITED TO 18 INCHES.
- (B) CLEAR SIGHT TRIANGLES ARE RIGHT TRIANGLES WHICH ARE MEASURED AS FOLLOWS:
- (1) THE ANGLE IS FORMED BY THE INTERSECTION OF EITHER;
 - (a) THE INTERSECTION OF THE EDGES OF TWO ROADWAYS (PUBLIC AND PRIVATE) AS MEASURED AT THE EDGE OF THEIR ULTIMATE PLANNED RIGHT-OF-WAY; OR
 - (b) THE INTERSECTION OF THE EDGE OF A PRIVATE DRIVEWAY OR ALLEY AND THE EDGE OF THE ULTIMATE PLANNED RIGHT-OF-WAY OF AN INTERSECTION ROADWAY.
 - (2) THE TWO ANGLES OF A CLEAR SIGHT TRIANGLE SHALL EACH BE LOCATED AS FOLLOWS:
 - (a) ROADWAY INTERSECTIONS: 30 FEET FROM THE ROADWAY INTERSECTION
 - (b) PRIVATE DRIVEWAY OR ALLEYWAY: 10 FEET FROM THE INTERSECTION
 - (c) THE CLEAR SIGHT TRIANGLES SHALL APPLY FOR 90 DEGREE AND SKEWED STREET INTERSECTIONS, AND DRIVEWAYS AND ALLEYS.



MINIMUM CLEAR SIGHT TRIANGLES

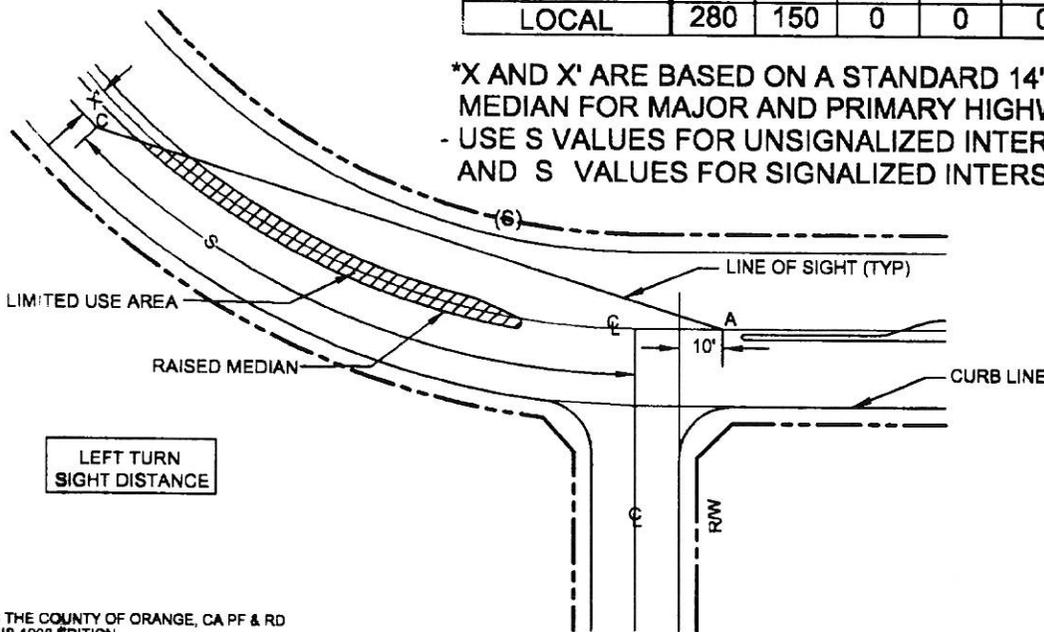
Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmiedley</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. Nagengast</i> City Engineer	Date: <u>10-23-00</u>
			STANDARD DRAWINGS 175-0



SEE NOTE NO. 3 FOR LOCATING POINTS A AND A' AT STREET INTERSECTIONS WITH CROSS-WALKS.

DISTANCE (FT.)

	S	S(s)	Y'	X*	X'*
MAJOR	660	580	37	37	13
PRIMARY	610	500	25	25	13
SECONDARY	550	430	18	18	6
COMMUTER	500	360	0	0	0
COLLECTOR	390	250	0	0	0
LOCAL	280	150	0	0	0



*X AND X' ARE BASED ON A STANDARD 14' MEDIAN FOR MAJOR AND PRIMARY HIGHWAYS
 - USE S VALUES FOR UNSIGNALIZED INTERSECTIONS AND S' VALUES FOR SIGNALIZED INTERSECTIONS

ADOPTED FROM THE COUNTY OF ORANGE, CA PF & RD STANDARD PLANS 1998 EDITION

INTERSECTION SIGHT DISTANCE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
3-21-01	Added reference to Note No. 3	Recommended: <i>D. Todd Schmieder</i>	Date: 6-18-01
Drawn By:		Approved: <i>Paul T. Noyes</i>	Date: 6-20-01
		City Engineer	STANDARD DRAWINGS
			176-0
			SHEET 1 OF 3

NOTES:

1. THE DISTANCE S REPRESENTS THE CORNER SIGHT DISTANCE MEASURED ALONG THE CENTERLINE OF THE ROAD. THE CORNER SIGHT DISTANCE IS THE DISTANCE REQUIRED TO ALLOW 7 1/2 SECONDS FOR THE DRIVER ON THE CROSS ROAD (OR LEFT TURN POCKET) TO SAFELY CROSS THE MAIN ROADWAY OR TURN LEFT WHILE THE APPROACH VEHICLE TRAVELS AT THE ASSUMED DESIGN SPEED OF THE MAIN ROADWAY.
2. THE DISTANCE S SHOULD BE INCREASED BY 20% FROM THE AMOUNT SHOWN ON THE TABLE ON SUSTAINED DOWNGRADES STEEPER THAN 3% AND LONGER THAN ONE MILE.
3. POINTS A AND A' ARE THE LOCATIONS OF A DRIVER'S LINE OF SIGHT (3.5 FOOT EYE HEIGHT) TO ONCOMING VEHICLES (4.25 FOOT OBJECT HEIGHT) LOCATED AT POINTS C AND C' WHILE IN A VEHICLE AT AN INTERSECTION 10 FEET BACK FROM THE PROJECTION OF THE CURB LINE. IN NO CASE SHALL POINTS A OR A' BE LESS THAN FIFTEEN FEET FROM THE EDGE OF THE TRAVELED WAY. IN LOCATIONS WHERE PEDESTRIAN CROSSWALKS OCCUR, POINTS A AND A' ARE LOCATED 8 FEET BEHIND THE CROSSWALK STRIPE.
4. THE DISTANCE Y' IS THE DISTANCE MEASURED FROM THE CENTERLINE OF THE MAIN ROAD TO THE FAR RIGHT THROUGH TRAVEL LANE. THE DISTANCE Y' IS EQUAL TO ZERO FOR T-INTERSECTIONS. THE DISTANCE X IS THE DISTANCE MEASURED FROM THE CENTERLINE OF THE MAIN ROAD TO THE CENTER OF THE FAR RIGHT THROUGH TRAVEL LANE. THE DISTANCE X' IS THE DISTANCE MEASURED FROM THE CENTERLINE OF THE MAIN ROAD TO THE CENTER OF THE TRAVEL LANE NEAREST THE CENTERLINE OF THE ROAD.
5. THE LIMITED USE AREA IS DETERMINED BY THE GRAPHICAL METHOD USING THE APPROPRIATE DISTANCES GIVEN IN THE ABOVE TABLE. IT SHALL BE USED FOR THE PURPOSE OF PROHIBITING OR CLEARING OBSTRUCTIONS IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE AT INTERSECTIONS.
6. THE LINE OF SIGHT LINE SHALL BE SHOWN AT INTERSECTIONS ON ALL LANDSCAPING PLANS, GRADING PLANS AND TENTATIVE TRACT PLANS WHERE A SAFE SIGHT DISTANCE IS QUESTIONABLE. IN CASES WHERE AN INTERSECTION IS LOCATED ON A VERTICAL CURVE, A PROFILE AT THE LINE OF SIGHT MAY BE REQUIRED.
7. OBSTRUCTIONS SUCH AS BUS SHELTERS, WALLS OR LANDSCAPING WITHIN THE LIMITED USE AREA WHICH COULD RESTRICT THE LINE OF SIGHT SHALL NOT BE PERMITTED.
 - A. PLANTS AND SHRUBS WITHIN THE LIMITED USE AREA SHALL BE OF THE TYPE THAT WILL GROW NO HIGHER THAN 12 INCHES ABOVE THE GROUND AND SHALL BE MAINTAINED AT A MAXIMUM HEIGHT OF 12 INCHES ABOVE THE GROUND. MAINTENANCE AT A LOWER HEIGHT MAY BE REQUIRED ON CREST VERTICAL CURVES PER NOTE 6 ABOVE.

Adopted from County of Orange, CA PF & RD
Standard Plans 1996 Edition

INTERSECTION SITE DISTANCE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
03-21-01	MODIFIED NOTE NO. 3	Recommended: <i>D. DeL. Schmidt</i>	Date: <u>6-18-01.</u>
Drawn By:		Approved: <i>Paul T. Nyengaast</i> <small>City Engineer</small>	Date: <u>6-20-01.</u>
		STANDARD DRAWINGS	176-0
		SHEET 2 OF 3	

- B. A PROFILE OF THE LINE OF SIGHT MAY BE REQUIRED TO VERIFY 12" MINIMUM VERTICAL CLEARANCE ABOVE HEIGHT OBSTRUCTIONS SUCH AS SLOPE LANDSCAPING, PLANTS AND SHRUBS.
 - C. THE TOE OF SLOPE MAY ENCROACH INTO THE LIMITED USE AREA PROVIDED THAT THE REQUIREMENTS OF (B) ABOVE ARE SATISFIED.
 - D. IN LIEU OF PROVIDING A PROFILE OF THE LINE OF SIGHT, THE TOE OF SLOPE SHALL NOT ENCROACH INTO THE LIMITED USE AREA, AND THE LIMITED USE AREA SHALL SLOPE AT 2% MAXIMUM TO THE ROADWAY.
8. TREES SHALL NOT BE PERMITTED WITHIN ANY PORTION OF THE LIMITED USE AREA.
 9. MEDIAN AREAS LESS THAN SIX (6) FEET IN WIDTH SHALL BE PAVED WITH CONCRETE.
 10. RESIDENTIAL DRIVEWAYS SERVING FOUR OR MORE UNITS AND COMMERCIAL DRIVEWAYS SHALL BE TREATED AS LOCAL STREET INTERSECTION.
 11. SEE CITY OF YUCAIPA STANDARD DRAWING 175-0 "MINIMUM CLEAR SIGHT TRIANGLES" FOR LOCATING MAN-MADE OBSTRUCTIONS AND MAXIMUM LANDSCAPING HEIGHT AT ROADWAY INTERSECTIONS.

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Standard Plans 1996 Edition

INTERSECTION SITE DISTANCE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
03-21-01	ADDED NOTE NO. 11	Recommended: <u><i>D. J. Schmidt</i></u> Date: <u>6-18-01</u>	STANDARD DRAWINGS 176-0 SHEET 3 OF 3
Drawn By:		Approved: <u><i>Paul T. Nappert</i></u> Date: <u>6-20-01</u> <small>City Engineer</small>	

Section 200

Sewer and Water

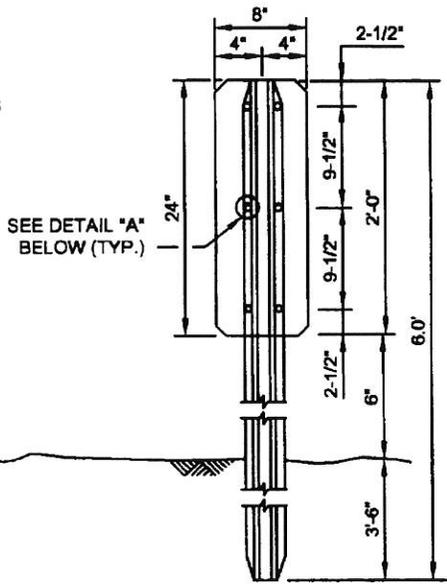
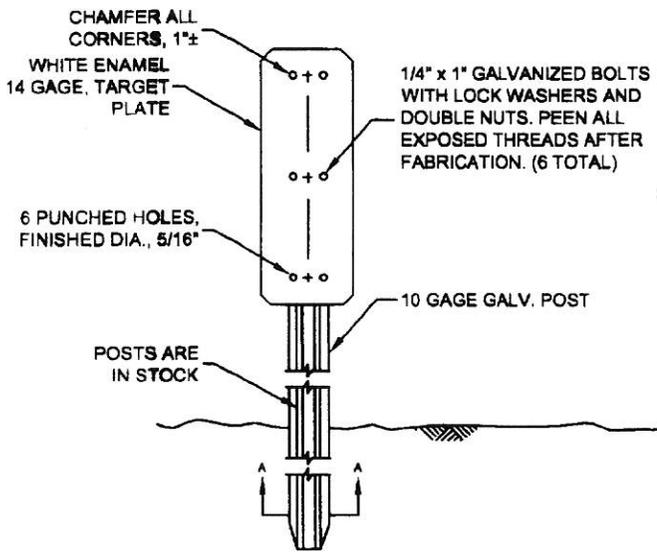
- 200-0 GENERAL UTILITY NOTES
- 220-0 UNDERGROUND STORM DRAIN CULVERT AND UTILITY CROSSING MARKERS

GENERAL NOTES:

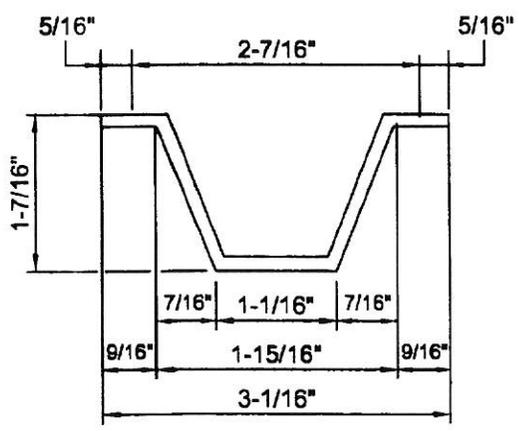
1. FOR SEWER AND WATER FACILITY IMPROVEMENTS WITHIN THE CITY OF YUCAIPA SPHERE OF INFLUENCE, SEE THE APPROPRIATE UTILITY COMPANY STANDARDS AND SPECIFICATIONS.
2. FOR GENERAL INFORMATION AND WHEN APPLICABLE SEWER AND/OR WATER UTILITY COMPANY STANDARDS AND SPECIFICATIONS DO NOT EXIST, THE YUCAIPA VALLEY WATER DISTRICT STANDARDS AND SPECIFICATIONS SHALL APPLY FOR ANY SEWER AND WATER FACILITY IMPROVEMENTS WITHIN THE CITY OF YUCAIPA SPHERE OF INFLUENCE.
3. SEE CITY OF YUCAIPA STANDARD DRAWING 106-0 FOR TRENCH REPAIR REQUIREMENTS FOR ALL UTILITIES INSTALLED WITHIN THE CITY MAINTAINED PUBLIC STREET IMPROVEMENTS.

GENERAL UTILITY NOTES

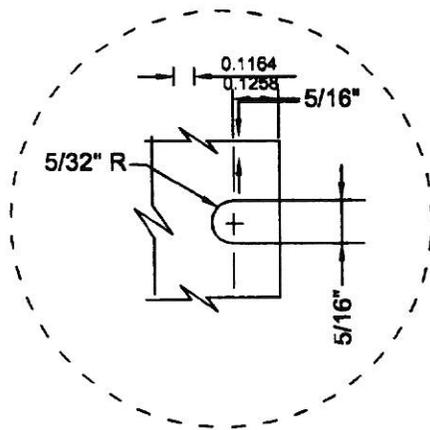
Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. Todd Schmidt</i></u> Date: <u>9-26-00</u>	STANDARD DRAWINGS 200-0
Drawn By:		Approved: <u><i>Paul T. Hagenquist</i></u> City Engineer Date: <u>10-23-00</u>	



- NOTES: INFORMATION REQUIRED ON PLATE**
- | | |
|---|--|
| <p>FOR UTILITY CROSSINGS:</p> <ol style="list-style-type: none"> 1. NAME OF OWNER. 2. TELEPHONE NO. 3. TYPE OF INSTALLATION WITH APPROPRIATE SIGN. 4. DEPTH OF INSTALLATION FROM TOP OF MARKER. | <p>FOR CITY OF YUCAIPA STORM DRAIN CULVERT</p> <ol style="list-style-type: none"> 1. CITY OF YUCAIPA 2. 909-797-2488 3. 'X' (TYPE) OF STORM DRAIN 4. DEPTH OF COVER TO TOP OF PIPE |
|---|--|



SECTION A-A



DETAIL "A"

UNDERGROUND STORM DRAIN CULVERT AND UTILITY CROSSING MARKERS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Paul Schmieder</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. Nagengast</i> City Engineer	Date: 10-23-00
			STANDARD DRAWINGS
			220-0

Section 300

Drainage

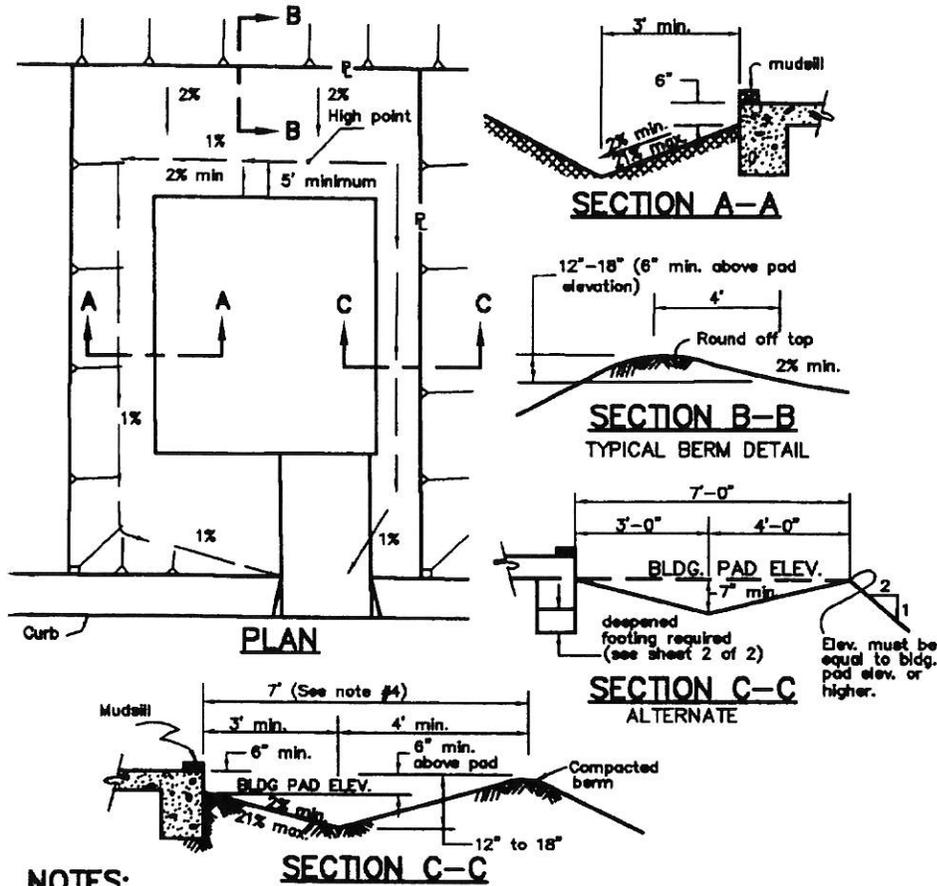
- 301-0 STORM DRAIN DESIGN CRITERIA – PIPE FLOW VELOCITIES
- 303-0 HILLSIDE LOT AND COMMON SIDEYARD DRAINAGE
- 305-0 ALTERNATE YARD DRAIN
- 306-0 DRAINAGE DIVERTER
- 310-0 TERRANCE DRAIN/DOWN DRAIN
- 311-0 INTERCEPTOR DRAIN
- 312-0 DOWNDRAIN TO PIPE TRANSITION
- 313-0 OVERSIDE DRAINS
- 320-0 PIPE ENTRANCE TO EARTH CHANNEL
- 321-0 CHANNEL WEEPHOLES
- 322-0 CULVERT DEBRIS WALL
- 370-0 DESILTING BASIN
- 371-1 GRAVEL BAG VELOCITY REDUCER
- 372-0 STREET DESILTING BASIN – VEHICLE ACCESS RAMP
- 373-0 TEMPORARY DRAINAGE INLET
- 374-2 INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

STORM DRAIN SYSTEMS SHALL INCORPORATE THE FOLLOWING DESIGN CRITERIA FOR FLOW VELOCITIES IN REINFORCED CONCRETE PIPE:

1. FOR VELOCITIES BETWEEN 20 FPS TO 30 FPS –
 - (A) INCREASE CONCRETE COVER OVER THE REINFORCING STEEL BY ½-INCH
2. FOR VELOCITIES BETWEEN 30 FPS TO 40 FPS –
 - (A) INCREASE CONCRETE STRENGTH FOR PIPE
 - (B) INCREASE CONCRETE COVER OVER THE REINFORCING STEEL BY 1-INCH
3. FOR VELOCITIES EXCEEDING 40 FPS –
 - (A) PROVIDE VELOCITY CONTROL RINGS TO REDUCE THE FLOW VELOCITY IN THE PIPE TO 40 FPS OR LESS
 - (B) FOLLOW THE CRITERIA FOR ITEMS (1) AND (2) DEPENDING ON THE REDUCED VELOCITY ACHIEVED BY THE VELOCITY CONTROL RINGS
4. SPECIAL REQUIREMENTS FOR ADDITIONAL CONCRETE COVER SHALL BE IDENTIFIED ON THE PLANS AT EACH SPECIFIC LOCATION AND IN THE PROJECT'S SPECIFICATIONS/SPECIAL PROVISIONS BY STATION LENGTH, AND DEPTH OF ADDITIONAL COVER.

STORM DRAIN DESIGN CRITERIA – PIPE FLOW VELOCITIES

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. P. de Almeida</i></u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u><i>Paul T. Nagengast</i></u> City Engineer	Date: <u>10-23-00</u>
			STANDARD DRAWINGS 301-0



NOTES:

1. Swales to be cut in at 1% at rough grading and prior to building construction.
2. A paved drainage swale, a catch basin and pipe, or other similar drainage device is required when a stoop, fireplace, or portion of the building extends within the minimum established drainage setbacks.
3. A common drainage swale may be used along sideyard property lines as shown on sheet 2 of 2.
4. This dimension may be reduced to the required minimum setback in the Grading & Excavation Code if an improved (ie, concrete) drainage device is used.
5. All building setbacks from slopes shall be in accordance with the Grading & Excavation Code.

Adopted from County of Orange, CA PF & RD
Standard Plans 1996 Edition

HILLSIDE LOT AND COMMON SIDEYARD DRAINAGE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. P. Schmidt</i>	Date: <u>9-26-00</u>
		Approved: <i>Paul T. Nagornyant</i>	Date: <u>10-23-00</u>
Drawn By:		City Engineer	STANDARD DRAWINGS
			303-0
			Page 1 OF 2

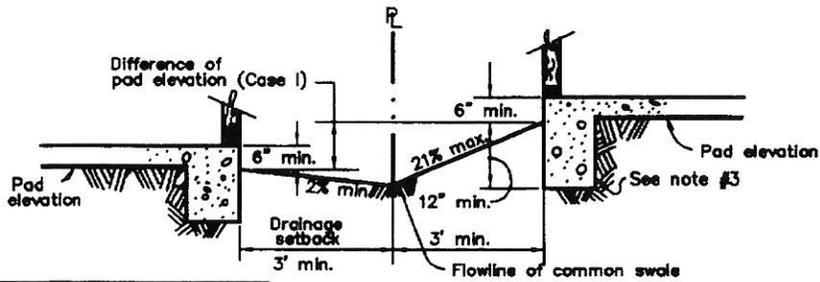
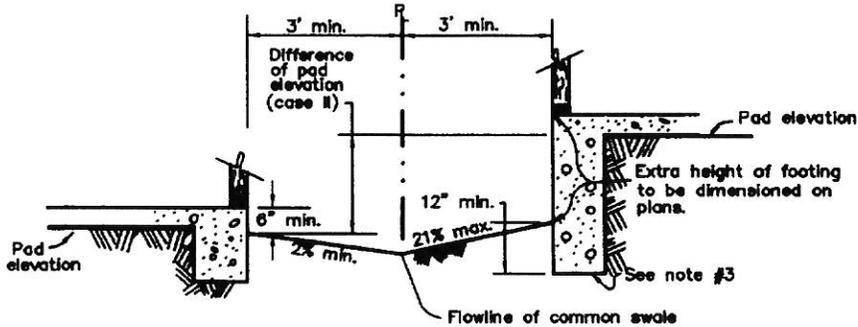


TABLE A	
LIMITING CASE I CONDITIONS	
DRAINAGE SETBACK	MAXIMUM DIFFERENCE OF PAD ELEVATIONS
3'	0.6'
4'	0.8'
5'	1.0'

CASE I



CASE II

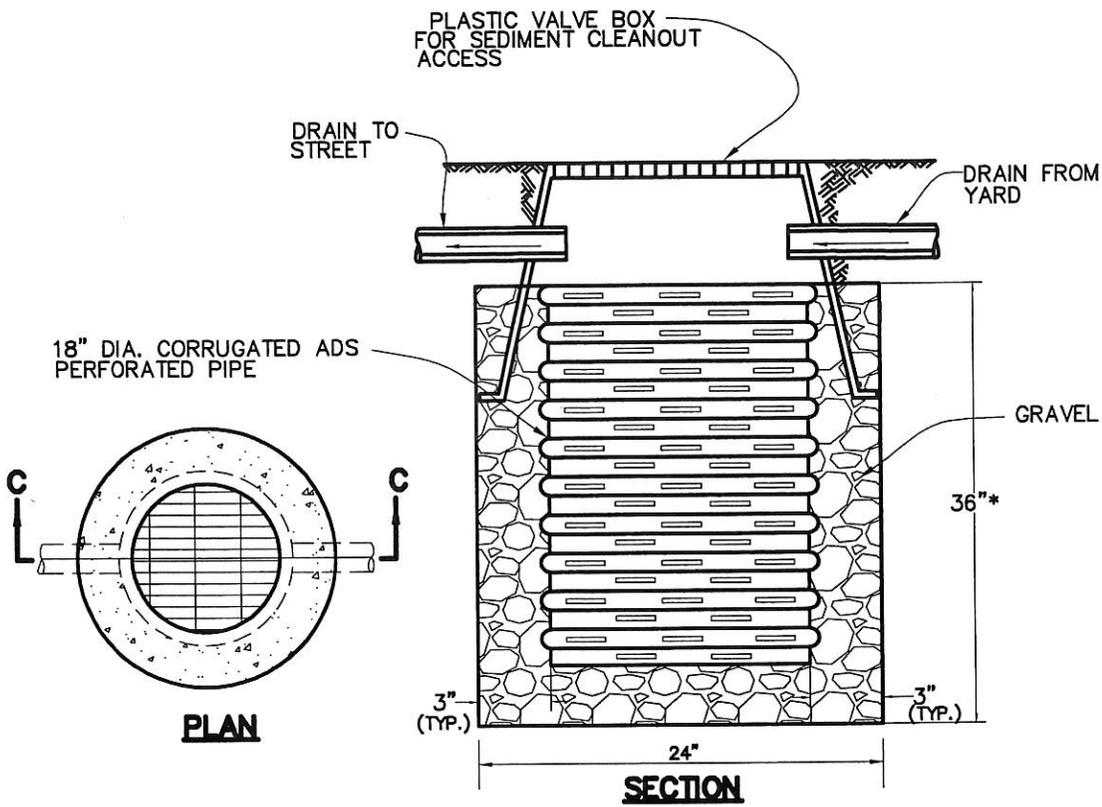
NOTES:

1. Case I applies when the difference in pad elevations and drainage setback allows a common drainage swale to be constructed in accordance with TABLE A.
2. Case II may be used with a common drainage swale when the difference of pad elevations exceeds the limiting conditions of TABLE A and the extra height footing is shown on the grading and structural plans.
3. In no case shall the swale flowline be lower than the bottom of the footing within 5' of the footing.
4. A common sideyard drainage swale shall not be used when the difference between the pad elevations exceeds one foot.

Adopted from County of Orange, CA PF & RD
Standard Plans 1996 Edition

HILLSIDE LOT AND COMMON SIDEYARD DRAINAGE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Shinnick</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. Mayberry</i> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		303-0	
		Page 2 OF 2	



NOTES:

1. Gravel bags are encouraged over the use of sandbags and may be req'd in areas which are particularly sensitive to sediment deposition.
2. A portion of catch basin may be constructed in place of sandbags.
3. This standard detail shall be used as shown on the approved erosion control plan.

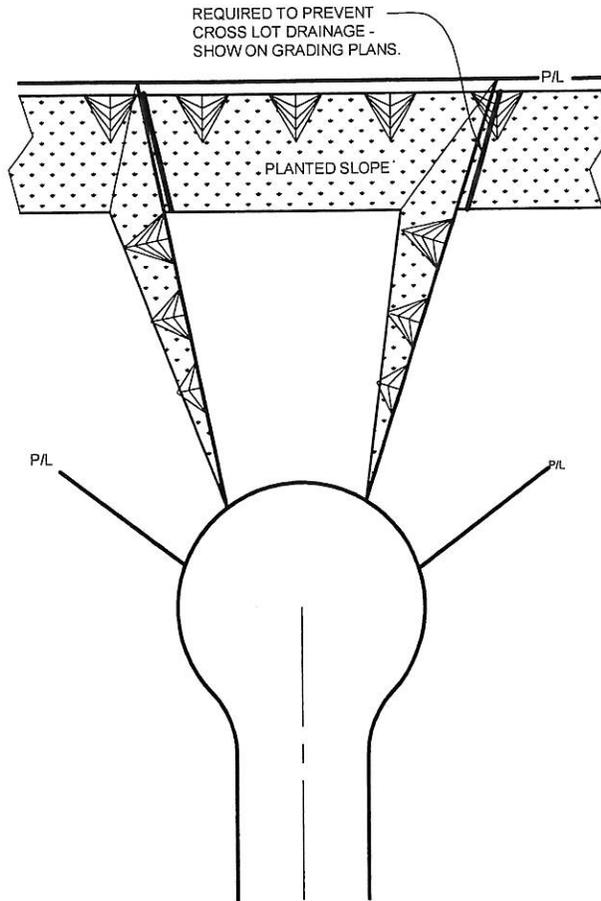
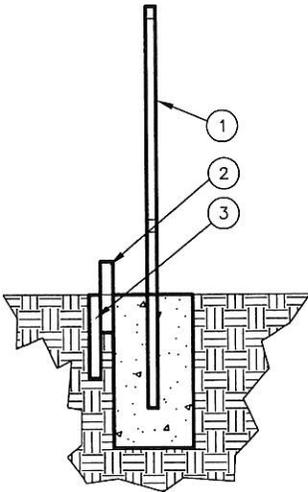
ALTERNATE YARD DRAIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>M. Monson</u>	Date: <u>7/10/08</u>
Drawn By:		Approved: <u>Raymond A. Cosay</u> City Engineer	Date: <u>7/13/08</u>
			STANDARD DRAWINGS
			305-0
			Page 1 OF 1

LEGEND:

- ① ADJACENT FENCE - SEE CONSTRUCTION PLAN.
- ② 1" X 6" TREX BOARD
- ③ 1" X 2" X 12" REDWOOD STAKE

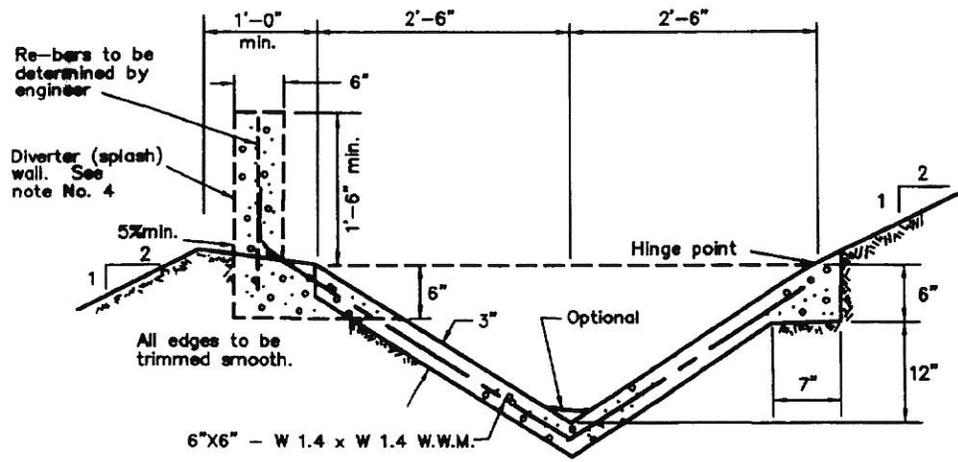
NOTE:
INSTALL TREX BOARD ON UPHILL CONTRIBUTORY SLOPE.



NOTE: CAN BE USED IN PLACE OF A STANDARD V-DITCH.

DRAINAGE DVERTER

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>M. Monson</u>	Date: <u>7/8/08</u>
Drawn By:		Approved: <u>Russell A. Casery</u> City Engineer	Date: <u>7/9/08</u>
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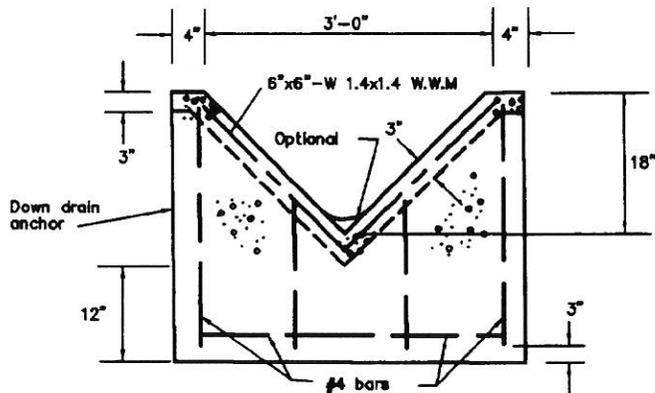
NOTES:

1. Concrete shall have a minimum ultimate compressive strength at 28 days of 2500 p.s.i. Concrete may be pneumatically placed and shall conform to Section 2621 of the Uniform Building Code.
2. Reinforcing shall be 6" x 6" - W 1.4 x W 1.4 welded wire mesh (W.W.M.) or approved equal.
3. Ground shall be pre-wetted to the satisfaction of the Building Official or Engineer prior to placement of concrete. Moisture loss retardant shall be used when required by the Building Official or Engineer.
4. Concrete or concrete block diverter (splash) wall to be constructed when down drain terminates at terrace drain. See plan for location and details.

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TERRACE DRAIN

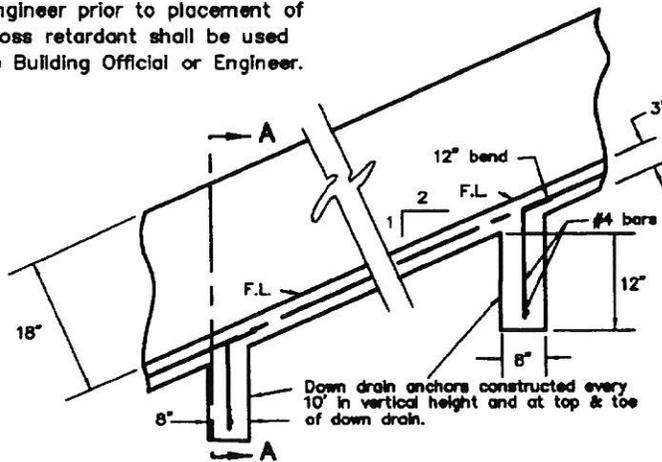
Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. J. [Signature]</i>	Date: 9-26-00
		Approved: <i>Paul T. [Signature]</i>	Date: 10-23-00
Drawn By:		City Engineer	STANDARD DRAWINGS
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			Page 1 OF 3



SECTION A-A

NOTES:

1. Concrete shall have a minimum ultimate compressive strength at 28 days of 2500 p.s.i. Concrete may be pneumatically placed and shall conform to Section 2621 of the Uniform Building Code.
2. Reinforcing shall be 6"x6" - W 1.4 x W 1.4 welded wire mesh (W.W.M) or approved equal.
3. Ground shall be pre-wetted to the satisfaction of the Building Official or Engineer prior to placement of concrete. Moisture loss retardant shall be used when required by the Building Official or Engineer.

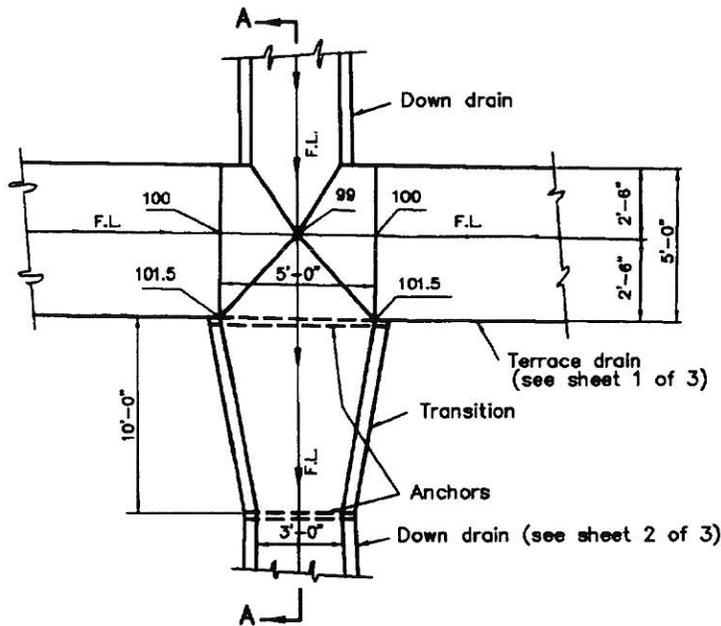


DOWN DRAIN

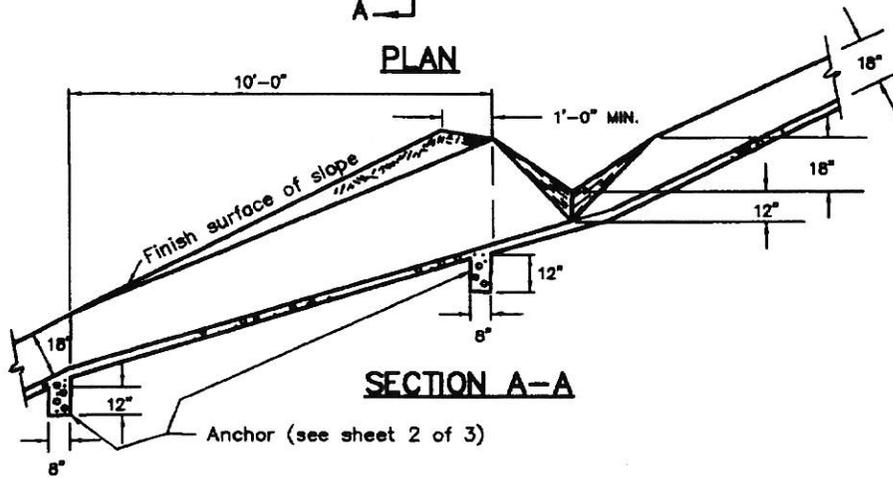
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DOWN DRAIN

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Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Smith</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nagengast</i> City Engineer	Date: <i>10-23-00</i>
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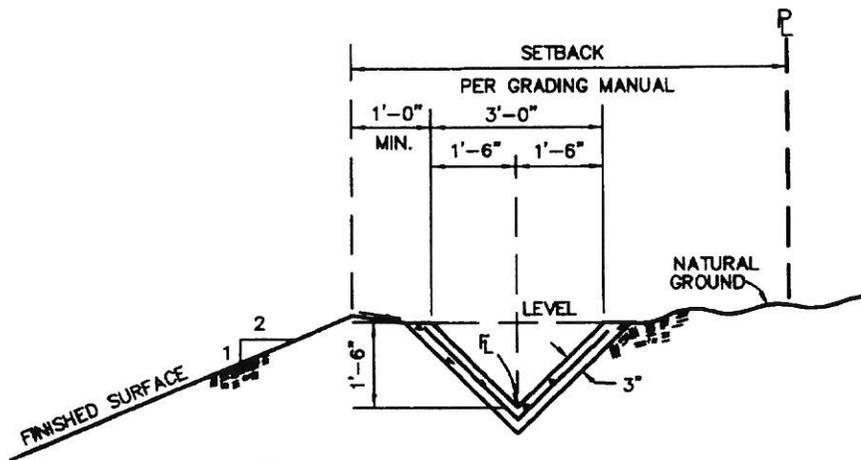
PLAN



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DOWN DRAIN

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		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schneider</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nguyen</i>	Date: <i>10-23-00</i>
			STANDARD DRAWINGS
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			Page 3 OF 3



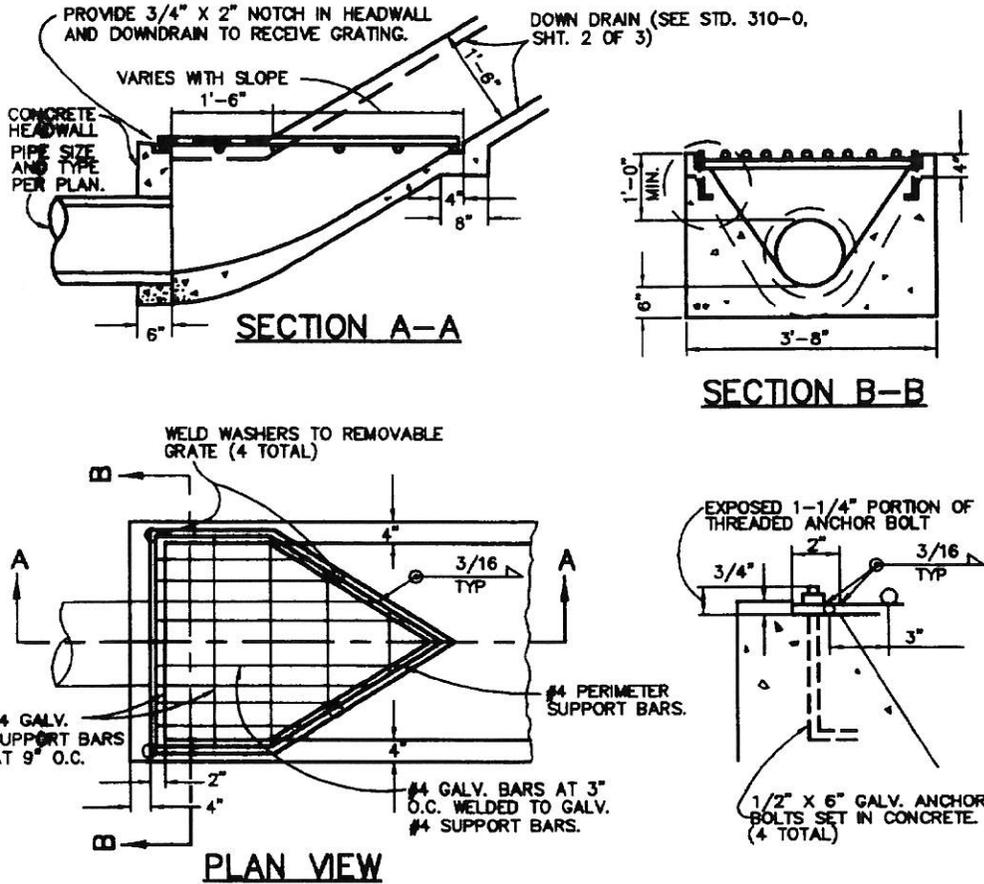
NOTES:

1. Concrete shall have a minimum ultimate compressive strength at 28 days of 2500 p.s.i. Concrete may be pneumatically placed and shall conform to Section 2621 of the Uniform Building Code.
2. Reinforcing shall be 6" x 6"-W1.4 x W1.4 welded wire mesh (W.W.M.) or approved equal.
3. Ground shall be pre-wetted to the satisfaction of the Building Official or Engineer prior to placement of concrete. Curing compound shall be used when required by the Building Official or Engineer.
4. Anchors shall be constructed in accordance with Standard Plan 310-0 (Sheet 2) when slope equals or exceeds 2:1.

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INTERCEPTOR DRAIN

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		Recommended: <i>D. Todd Schmidt</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. Meyer</i> City Engineer	Date: <u>10-23-00</u>
			STANDARD DRAWINGS
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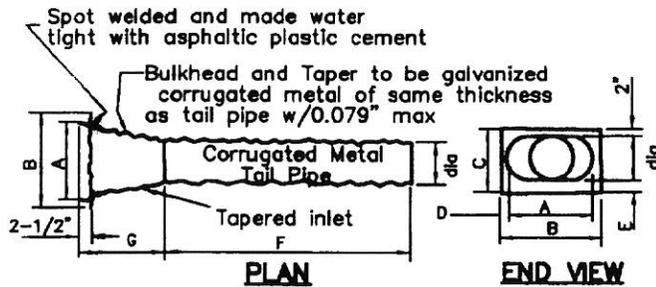
NOTES:

1. Ground shall be pre-wetted to the satisfaction of the Building Official prior to placement of concrete.
2. Material for construction of down drain shall be concrete reinforced with 6" x 6" - W1.4 x W1.4 welded wire fabric.
3. Down drain to pipe transition shall not be used within public road right-of-way.
4. Grate shall be hot dip galvanized after fabrication.

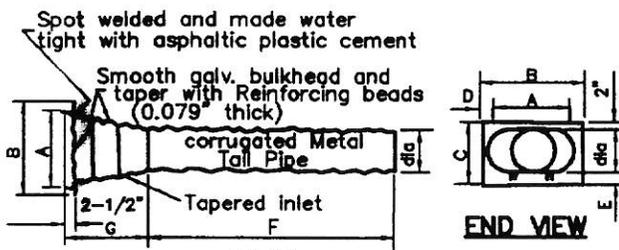
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DOWNDRAIN TO PIPE TRANSITION

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
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Drawn By:		Approved: <i>Paul T. [Signature]</i>	Date: <u>10-23-00</u>
		City Engineer	STANDARD DRAWINGS
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**ENTRANCE TAPER-TYPE 1
ALTERNATIVE A**

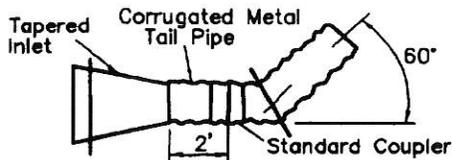


**ENTRANCE TAPER-TYPE 1
ALTERNATIVE B**

NOTES:
Tail pipe same thickness as downrain pipe. Taper joints may be welded or riveted. Dimensions to be as tabulated below for Type 1 Alternatives A and B

DIA	A	B	C	D	E	F	G
8"	18"	25-1/2"	15"	4-3/4"	5"	6'	2'
12"	18"	25-1/2"	19"	3-3/4"	5"	6'	2'
15"	21"	30"	23"	4-1/2"	6"	6'	2'
18"	24"	34"	27"	5"	7"	6'	2'
24"	34"	46"	35"	6"	9"	4'	4'

**ENTRANCE TAPER - TYPE 1
ALTERNATIVE A & B**



ENTRANCE TAPER-TYPE 2

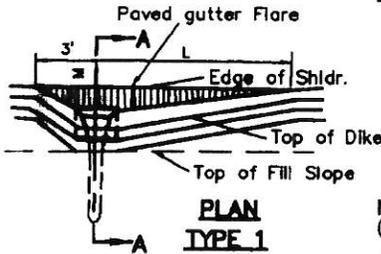
NOTE: Tapered inlet of same construction and dimensions as Type 1-Alternative A or B

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OVERSIDE DRAINS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
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Drawn By:		Approved: <i>Paul T. Wagoner</i> City Engineer	Date: <i>10-23-00</i>
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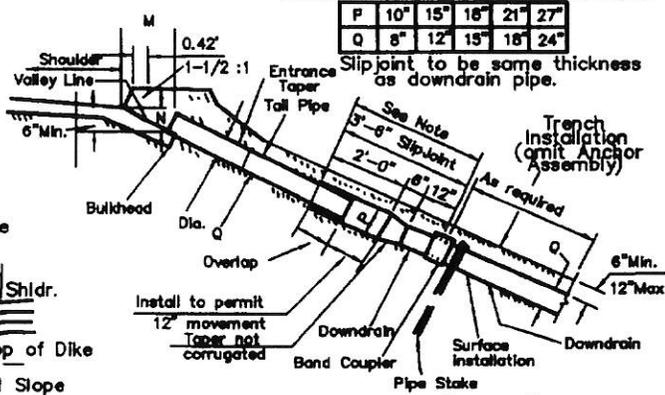
DIA.	MIN. L	M	N
8"	10'	18"	8"
12"	15'	20"	12"
15"	25'	24"	15"
18"	30'	30"	18"
24"	40'	36"	18"



PLAN TYPE 1

C.S.P. Dimensions as tabulated below

P	10"	15"	18"	21"	27"
Q	8"	12"	15"	18"	24"

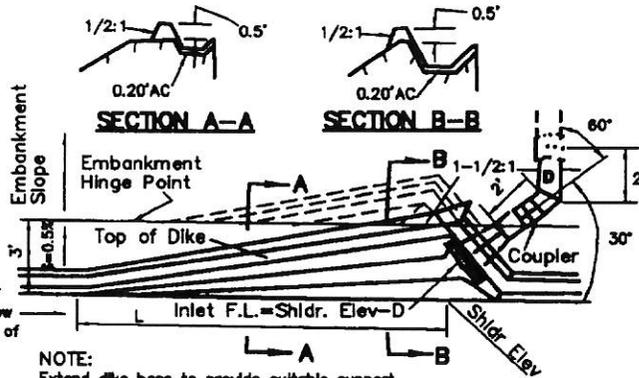


SECTION A-A (TYPE 1)

NOTE:

- (1) Cable, slip joint or anchor assembly to be placed when specified.
- (2) Slip joint to be omitted when completely buried.
- (3) Slip joint for Type 1 entrance taper shown. Type 2 similar.

DIA D	MIN. L
8"	15'
12"	20'
15"	30'
18"	35'
24"	45'



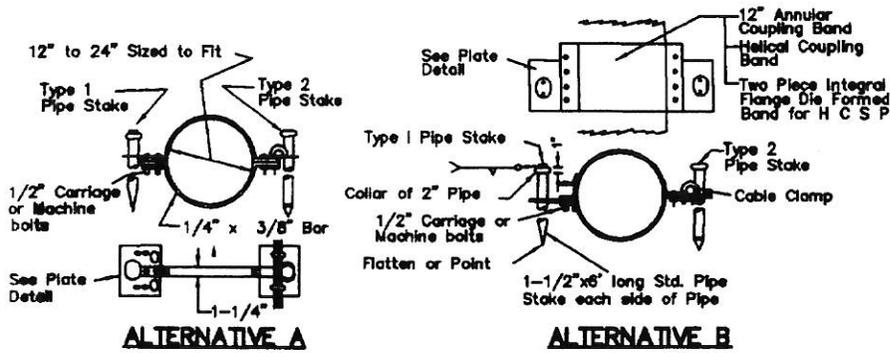
PLAN - TYPE 2

(Recommended for grades of 2% or greater)

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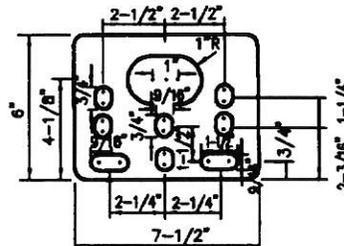
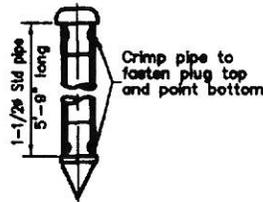
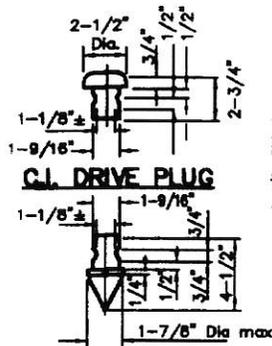
OVERSIDE DRAINS

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Mark	Date	Department of Public Works	Engineering Division
		Recommended: <i>D. P. ...</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. ...</i>	Date: 10-23-00
		STANDARD DRAWINGS	313-0
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ANCHOR ASSEMBLY

Note: Cable and cable clamps to be used when required by the Special Provisions



Material to be 1/4" plate galvanized after fabrication

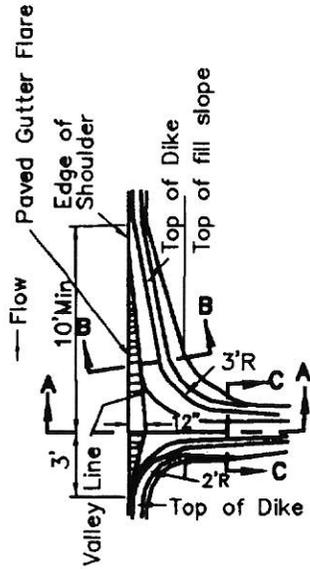
NOTES:

- 1-For payment purposes on Anchor Assembly shall include two Pipe Stakes.
- 2-All Pipe Stakes and Hardware to be galvanized after fabrication.
- 3-Either Alternative A or Alternative B Anchor Assemblies and Type 1 or Type 2 Pipe Stakes may be used at contractor's option for C.M.P. or C.A.P. Alternative A Anchor Assembly only to be placed in annular corrugation May be placed on annular or reformed end H.C.S.P. coupling band if securely fastened on downstream side of joint. Alternative B Anchor Assembly to be fastened to pipe section and not to be a band coupler used to join sections.

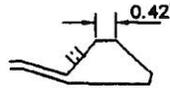
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		Recommended: <i>D. Todd Schmieder</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. [Signature]</i>	Date: <u>10-27-00</u>
		City Engineer	STANDARD DRAWINGS
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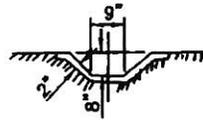
PLAN



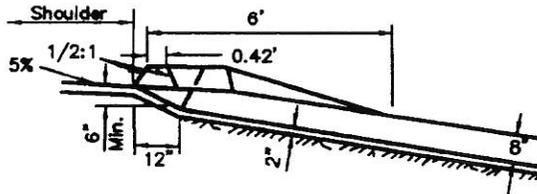
SECTION B-B

NOTE:

Cross-section of slope ditch may be semicircular, vee or trapezoidal.
 Min top width = 25"
 Min depth = 8"



SECTION C-C



SECTION A-A

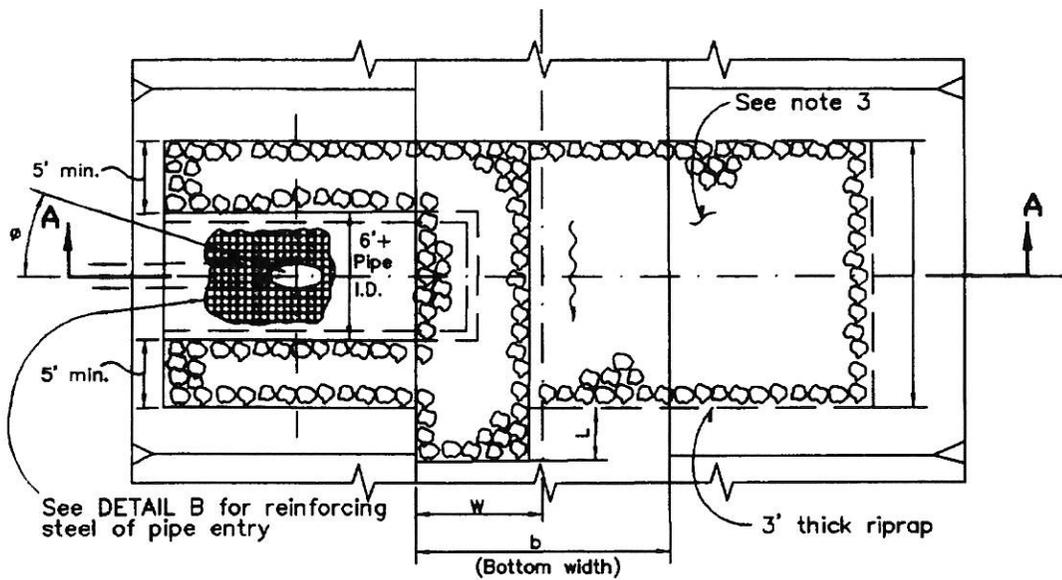
ASPHALT CONCRETE OVERSIDE DRAINS

To be used on fill slopes flatter than 2:1. Use min 10' length of gutter on both sides in a sag location

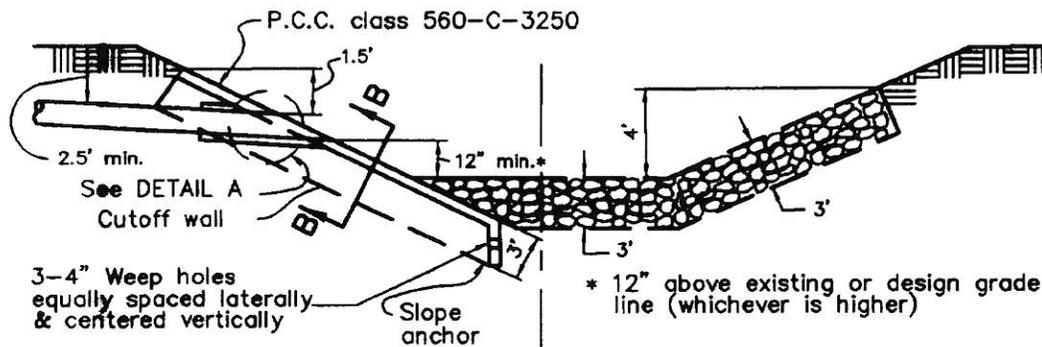
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OVERSIDE DRAINS

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		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schneider</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nagel</i> City Engineer	Date: <i>10-23-00</i>
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PLAN VIEW

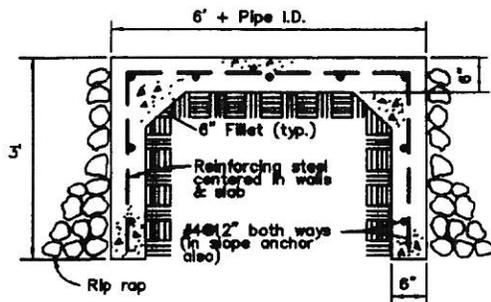


SECTION A-A
NO SCALE

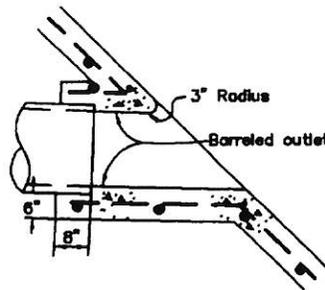
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PIPE ENTRANCE TO EARTH CHANNEL

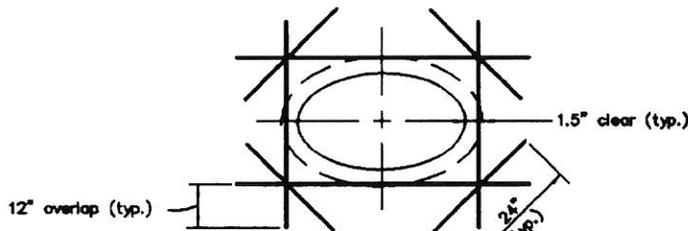
Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmieder</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. [Signature]</i>	Date: <i>10-23-00</i>
		City Engineer	
			STANDARD DRAWINGS
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SECTION B-B
No Scale



DETAIL A
No Scale



DETAIL B
No Scale

NOTES:

1. If lateral flow exceeds 10% of the upstream flow, angle θ shall be determined by the hydraulics of the confluence.
2. Maximum side slope gradient equals 1.5 to 1.0.
3. Terminate transverse dimension of riprap 10' from toe of slope. If 10' exceeds 50% of channel base width, or channel velocity exceeds 10fps riprap 'X' ft wide shall extend across invert and 4' up opposite slope, per Sec. A-A.
4. Increase downstream limit of invert riprap blanket by 'L' ft. If lateral pipe's horizontal entry angle is deflected from normal. $L = 2\sin\theta$ (pipe diameter). If 'W' exceeds 50% of channel base width, or channel velocity exceeds 10fps, riprap shall extend across entire invert. (Min. 'W'=10ft.)
5. Provide 1.5" steel cover.
6. Laterals of 24" or less may be beveled pipe, 27" or larger shall be barreled or designed structure.
7. Finish exposed surface of P.C.C. with wood float.

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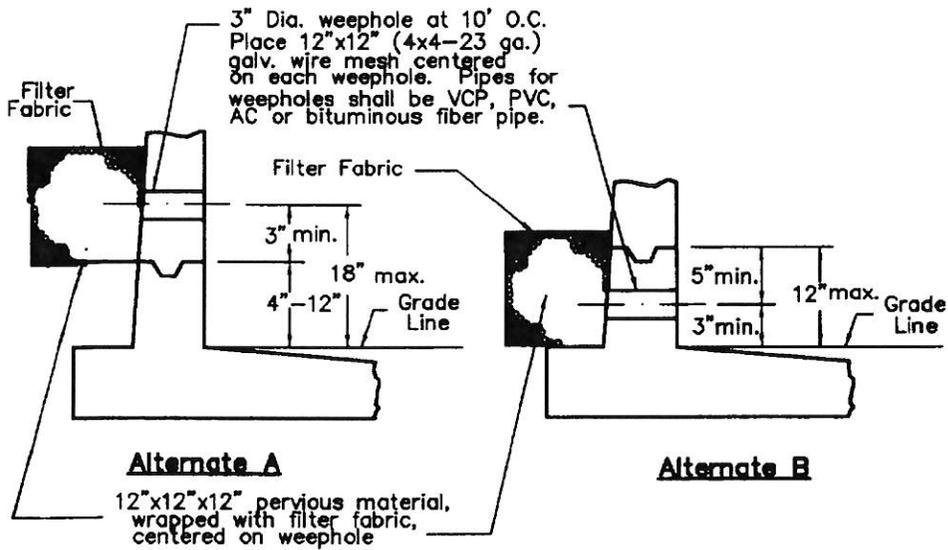
PIPE ENTRANCE TO EARTH CHANNEL

CITY OF YUCAIPA, CALIFORNIA

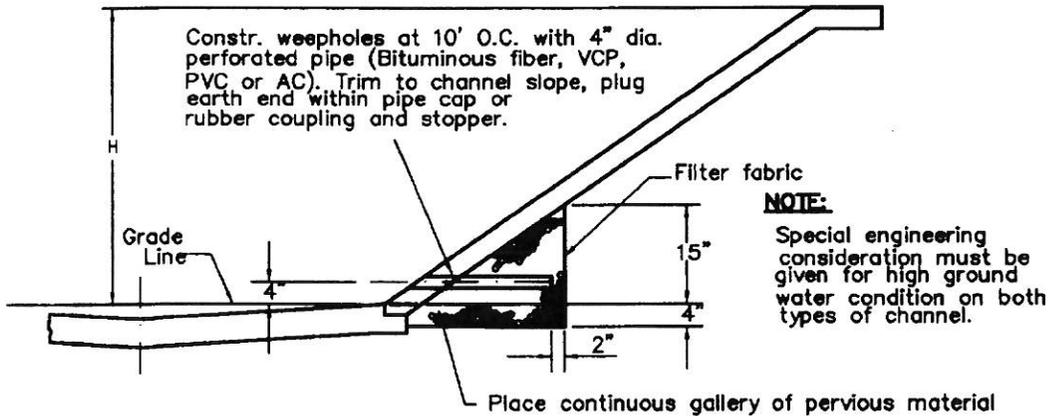
Revisions		Department of Public Works		Engineering Division
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			Recommended: <i>D. Todd Schneider</i>	Date: <u>9-26-00</u>
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Drawn By:			City Engineer	

STANDARD DRAWINGS

320-0



VERTICAL WALL CHANNEL

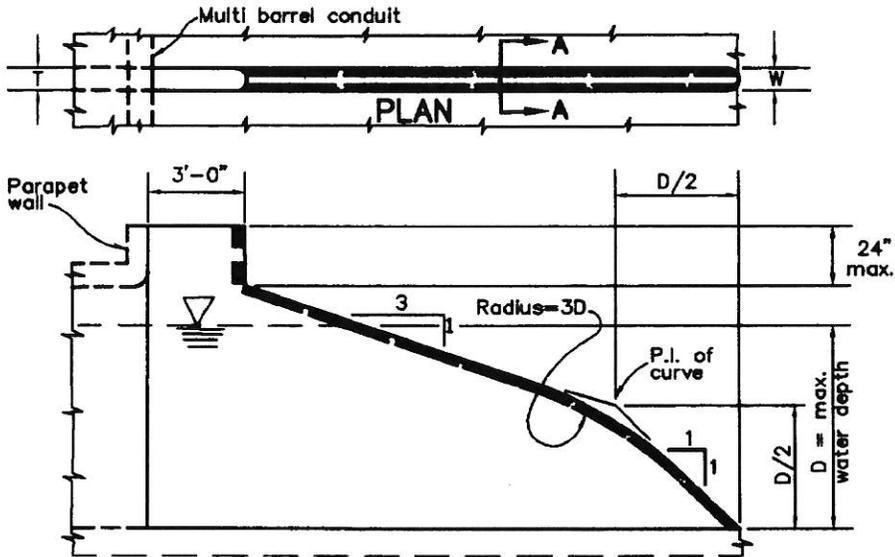


TRAPEZOIDAL CHANNEL

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CHANNEL WEEPHOLES

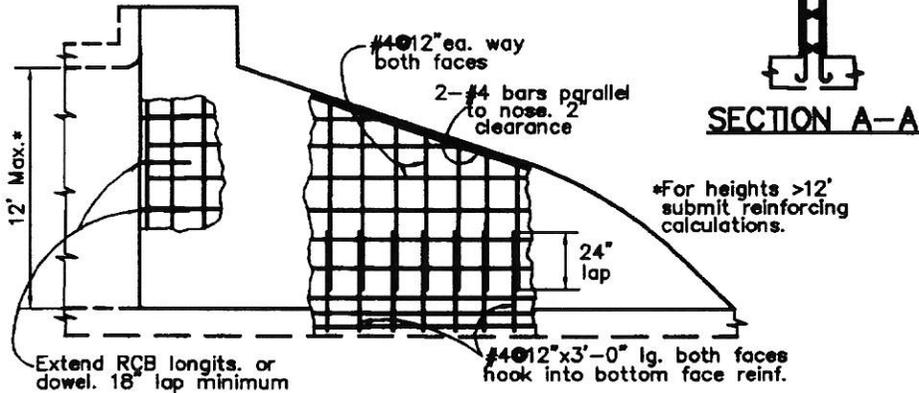
Revisions		CITY OF YUCAIPA, CALIFORNIA	
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		Department of Public Works	Engineering Division
		Recommended: <i>D. Podda-Schmid</i>	Date: 9-26-00
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T=Wall thickness
 W=Debris wall thickness

W equals T
 W=12" if T >12"

ELEVATION



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CULVERT DEBRIS WALL

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		Recommended: <i>D. Todd Schmidt</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Napier</i>	Date: <i>10-23-00</i>
		City Engineer	
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**MINIMUM DESILTING BASIN STANDARD
GENERAL NOTES**

A. Purpose of a Desilting Basin

Desilting basins are used to protect downstream areas from sediment damage by trapping sediment-laden runoff from upstream areas and settling out damaging amounts of sediment. Desilting basins should be so located that failure of the basin structure would not present a danger to life and property.

B. How a Desilting Basin Operates

Desilting basins operate by intercepting sediment-laden runoff and retaining it long enough for most of the damage-causing sediment to settle out. The retention time required is proportional to velocity and turbulence in the basin and inversely proportional to particle size.

C. Design Considerations

1. Minimal erosion problems may be handled by the use of a sandbag dike construction if approved by the City Official.
2. Sizing of basin shall conform to NPDES General Permit No. CAS000002, as outlined on sheet 5 of 8 in this Standard Drawing.
3. The combined pipe and spillway outflow shall not exceed the downstream capacity nor increase the downstream sediment loads.
4. Basin must be accessible for cleanout during saturated ground conditions.
5. To reduce turbulence in the basin, the basin shall have an energy dissipator at its upstream end as approved by the City Official.
6. The basin shall be located for effectively accomplishing its purpose, in accordance with engineered plans meeting the approval of the City Official.
7. Beyond certain limitations of embankment height and storage capacity, the design of the basin will come under the jurisdiction of, and require the approval of, the California Department of Water Resources, Division of Safety of Dams, 1416 Ninth Street, P.O. Box 388, Sacramento, CA 95802, 916-445-7606 (see Exhibit 1 on Sht. 2 of 7).
8. The desilting basin shall have the capability of being dewatered within 7-calendar days following a storm event.
9. The basin dimensions shall be rectangle with the length from the inlet to the outlet equal to two times the width.

DESILTING BASIN

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Drawn By:		Approved: <u>Paul T. Nagel</u> City Engineer	Date: <u>10-23-00</u>
			STANDARD DRAWINGS 370-0
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JURISDICTIONAL DAM SIZE

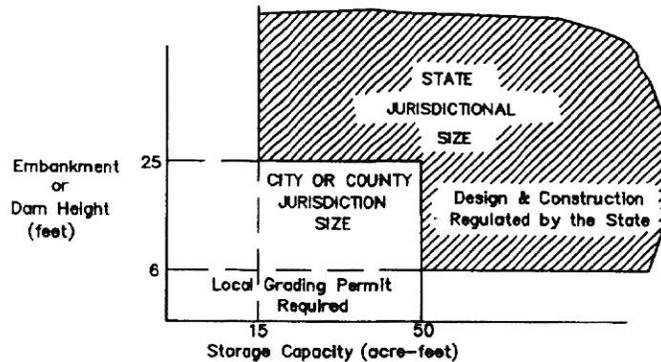


EXHIBIT 1

D. Storage

1. Storage capacity shall be the volume below the top of the pipe riser and shall be based on the average site slope and length of the longest flow path in the area tributary to the basin. See graph on page 5 for details.
2. The design shall provide opportunity for periodic cleanout in order to maintain basin capacity requirements. The maximum allowable level of deposited sediment before cleanout shall be 1 / 2 full or as determined by the City Official and painted on the pipe riser.
3. Sediment from basin cleanout operations must be disposed of in such a manner as to prevent its return into the desilting basin or its movement into downstream areas during subsequent runoffs.
4. The contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas where impounded water creates a hazardous condition.

E. Drain Pipe and Riser

1. The minimum pipe riser shall be a 30" Corrugated Steel pipe (CSP), 14 GA., or an alternate approved by the City Official. Riser to have a cross-sectional area at least 1.5 times the cross-sectional area of the horizontal drain pipe.
2. The minimum drain pipe shall be a 12" CSP, 14 GA., or an alternate approved by the City Official.

DESILTING BASIN

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Drawn By:		Approved: <u><i>Paul T. Naganyast</i></u> <small>City Engineer</small>	Date: <u>10-23-00</u>
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3. The uppermost elevation of the riser shall be such that full flow will be generated before there is discharge over the emergency spillway and at least one foot below the top of the emergency spillway.
4. The riser shall be perforated with 1/2" x 12" (max.) slots or 1/2" to 1-1/2" diameter holes, 10 to 12 inches on center and staggered. Holes cut with a welding torch are acceptable. The small holes shall be used on the lower portion of the riser.
5. The drain pipe shall be placed on a firm foundation.
6. The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two recommended methods are:
 - a. A square concrete base 18 inches thick with the riser embedded six inches into the base. Each side of the base will be one diameter of the riser plus 24 inches.
 - b. A 1/4 inch minimum thickness steel plate welded all around the base of the riser to form a watertight connection. The plate shall be square with each side equal to two times the riser diameter. The plate shall have two feet of stone, gravel, or tamped earth placed on it to prevent flotation.
7. A grate consisting of #4 rebar, 6 inches on center shall be welded to the top of the riser.
8. Anti-seep collars are required at 10' intervals for pipe under the embankment (SEE SHEET #8).
9. Discharge shall be to a paved street, channel, or approved drainage course with grouted riprap. Riprap shall be 12" minimum size rock. Rip rap shall be embedded a minimum 6" into grout.

F. Emergency Spillway

1. The spillway shall be lined with 3-inch thick gunite, 4-inch thick concrete, (each reinforced with 6 x 6 - W 1.4 x W 1.4 welded wire mesh) or material such as plastic designed to fit the site condition by the Project Engineer and approved by the City Official extending to a minimum of 3 feet down the upstream face of the embankment. Spillway will be a minimum of 18 inches deep with 1-1/2:1 side slopes.
2. The spillway shall be designed to provide one square foot of cross-sectional area for each gross acre tributary drainage area.
3. The maximum height of the earth dike shall be 6' from the toe of the upstream slope to the spillway crest.

DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Description	Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmieder</u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u>Paul T. Napp</u> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		370-0	
		Page 3 OF 8	

G. Freeboard

1. Freeboard is the vertical distance between the elevation of the water surface in the pond when spillway is discharging at designed depth and the elevation of the top of the embankment after all settlement has taken place.
2. Minimum freeboard shall be 1.0 foot for basins where the maximum length of pond is less than 660 feet. For maximum pond lengths of 660 feet or more, the minimum freeboard shall be determined by the City Official.

H. Embankment

1. The embankment material shall be taken from borrow areas as stated on the plans. All borrow areas outside the pool shall be graded, seeded, and left in such a manner that they are well-drained and protected from erosion.
2. The material shall be free of all sod, roots, woody vegetation, large rock (exceeding 12 inches in diameter), and other debris.
3. The embankment shall be constructed to an elevation which provides for anticipated settlement to design elevation (allow 10% for settlement).
4. The foundation for the embankment shall be scarified prior to placement of fill.
5. Placement of fill material shall be started at the lowest point of the foundation and shall be placed in 6-inch maximum lifts which are to be continuous over the entire length of the fill and approximately horizontal. Embankment shall have a relative compaction of at least 90%.
6. Embankment side slopes shall be no steeper than 2:1.

I. Site Preparation

1. The embankment foundation area and reservoir area shall be cleared of all trees, stumps, roots, brush, boulders, sod, and debris.
2. All topsoil containing excessive amounts of organic matter shall be removed.

J. Erosion Control Plan

A siltation control program and plan for any proposed development that may be under construction during the rainy season (October 15 to April 15) must be submitted for review and approved prior to commencement of grading.

DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmieder</u>	Date: <u>9-26-00</u>
		Approved: <u>Paul T. Nuyman</u> City Engineer	Date: <u>10-23-00</u>
Drawn By:			STANDARD DRAWINGS 370-0 Page 4 OF 8

Desilting Basin Sizing Criteria
NPDES General Permit No. CAS000002

Option 1: Pursuant to local ordinance for sediment basin design and maintenance, provided that the design efficiency is as protective or more protective of water quality than Option 3.

OR

Option 2: Sediment basin(s), as measured from the bottom of the basin to the principal outlet, shall have at least a capacity equivalent to 3600 cubic feet of storage per acre draining into the sediment basin. The length of the basin shall be more than twice the width of the basin. The length is determined by measuring the distance between the inlet and the outlet; and the depth must not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency.

OR

Option 3: Sediment basin(s) shall be designed using the standard equation:

$$As=1.2Q/Vs$$

Where: As is the minimum surface area for trapping soil particles of a certain size; Vs is the settling velocity of the design particle size chosen; and $Q=C \times I \times A$ where Q is the discharge rate measured in cubic feet per second; C is the runoff coefficient; I is the precipitation intensity for the 10-year, 6-hour rain event and A is the area draining into the sediment basin in acres. The design particle size shall be the smallest soil grain size determined by wet sieve analysis, or the fine silt sized (0.01mm) particle, and the Vs used shall be 100 percent of the calculated settling velocity.

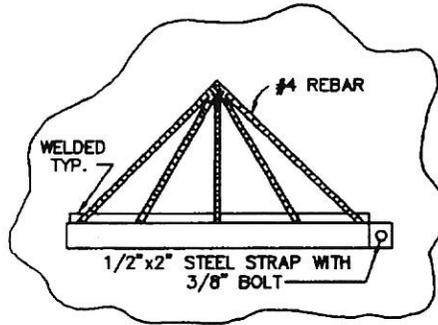
The length is determined by measuring the distance between the inlet and the outlet; the length shall be more than twice the dimension as the width; the depth shall not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency (two feet of storage, two feet of capacity). The basin(s) shall be located on the site where it can be maintained on a year-round basis and shall be maintained on a schedule to retain the two feet capacity;

OR

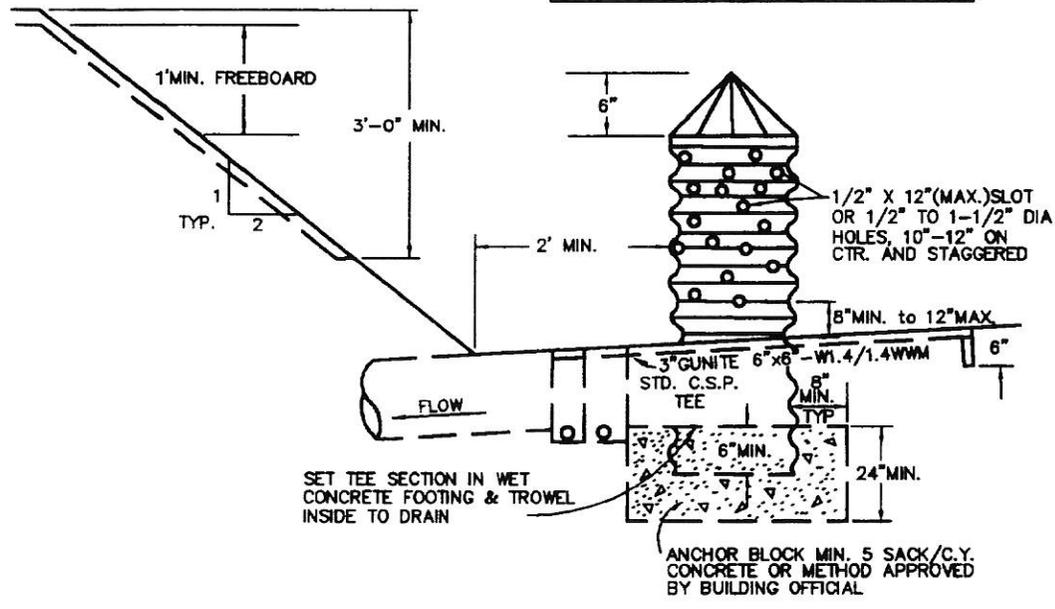
Option 4: The use of an equivalent surface area design or equation, provided that the design efficiency is as protective or more protective of water quality than Option 3.

DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. Todd Schmieder</i></u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u><i>Paul T. N...</i></u> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		370-0	
		Page 5 OF 8	



GRATE ASSEMBLY DETAIL



DRAIN PIPE & RISER
NO SCALE

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Standard Plans 1996 Edition

DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Shanider</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nuyengaert</i> City Engineer	Date: <i>10-23-00</i>
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			370-0
			Page 6 OF 8

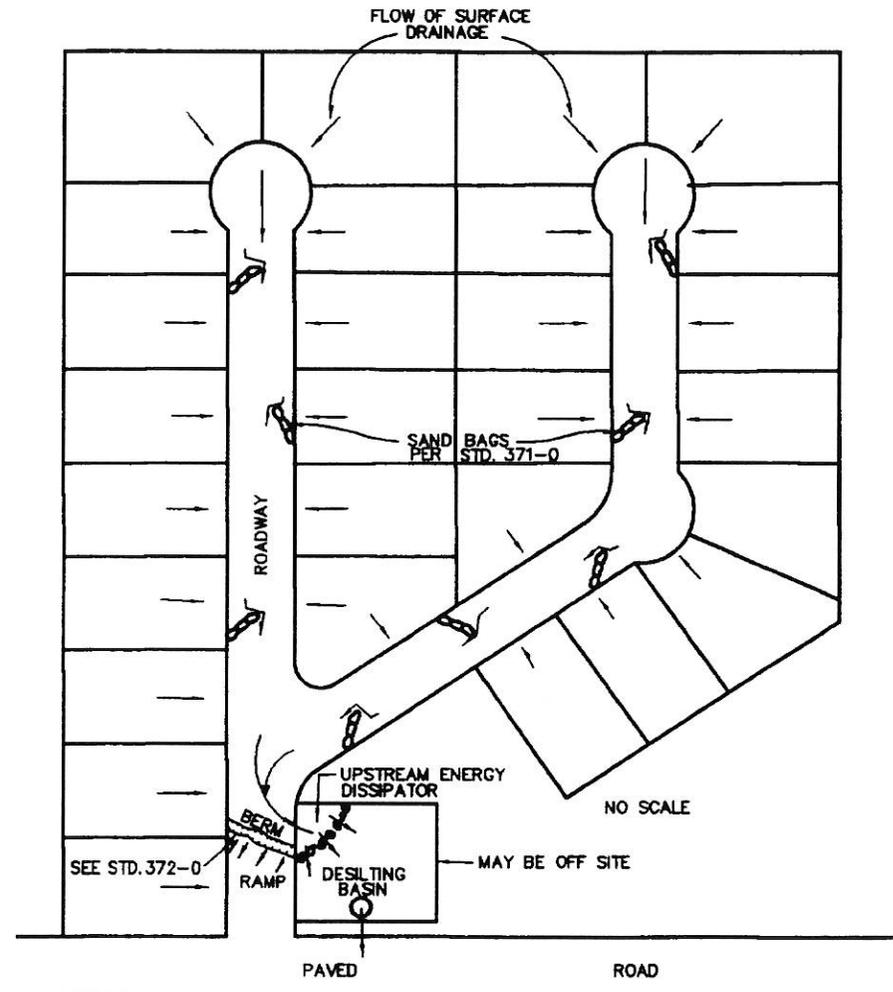
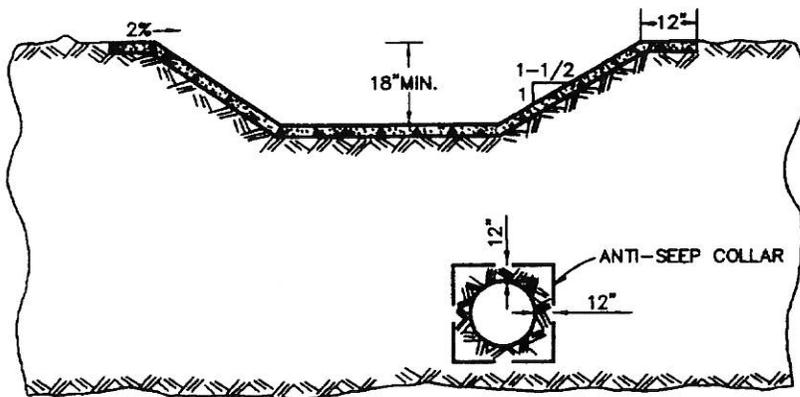
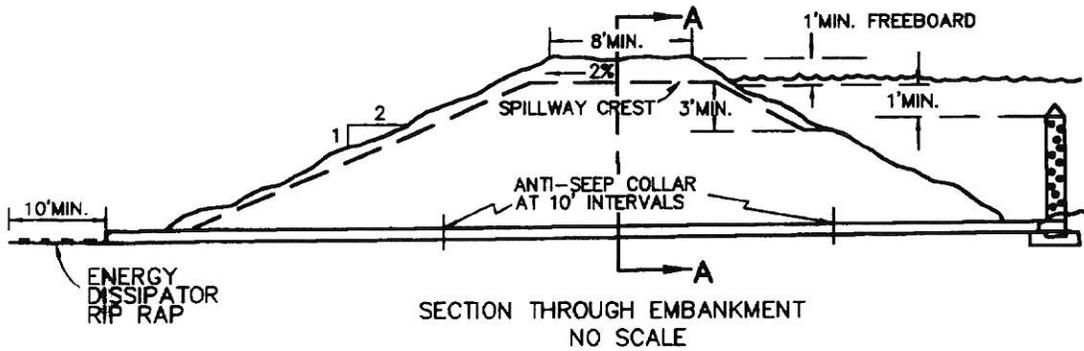


ILLUSTRATION OF MEANS OF CONTROLLING
 EROSION & SILTATION
 TRACT CONSTRUCTION
 RAINY SEASON

Adopted from County of Orange, CA PF & RD
 Standard Plans 1996 Edition

DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmieder</i>	Date: <i>9-16-00</i>
		Approved: <i>Paul T. Nagel</i>	Date: <i>10-23-00</i>
Drawn By:		City Engineer	
			STANDARD DRAWINGS
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			Page 7 OF 8



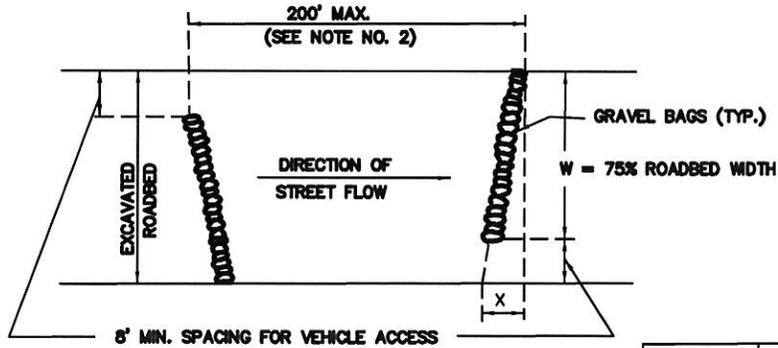
SECTION "A-A"

EMERGENCY SPILLWAY

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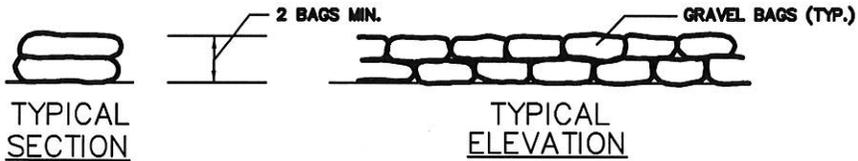
DESILTING BASIN

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schneider</i>	Date: <u>9-26-00</u>
Drawn By:		Approved: <i>Paul T. Neumann</i> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		370-0	
		Page 8 OF 8	



PLAN

W	X
20'-30'	5'
31'-40'	7'
41'-50'	9'
51'-60'	10.5'
61'-70'	12'



NOTES:

1. Gravel bags are encouraged over the use of sandbags and may be required in areas which are particularly sensitive to sediment deposition.
2. Requirements for and spacing of velocity reducers for streets with grades of less than 4% shall be as shown on the approved Erosion Control Plan.
3. This standard detail shall be used as shown on the approved Erosion Control Plan.

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Standard Plans 1996 Edition

GRAVEL BAG VELOCITY REDUCER

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

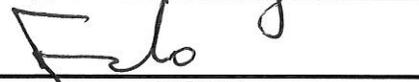
Engineering Division

Recommended: 

Date: 3/09/15

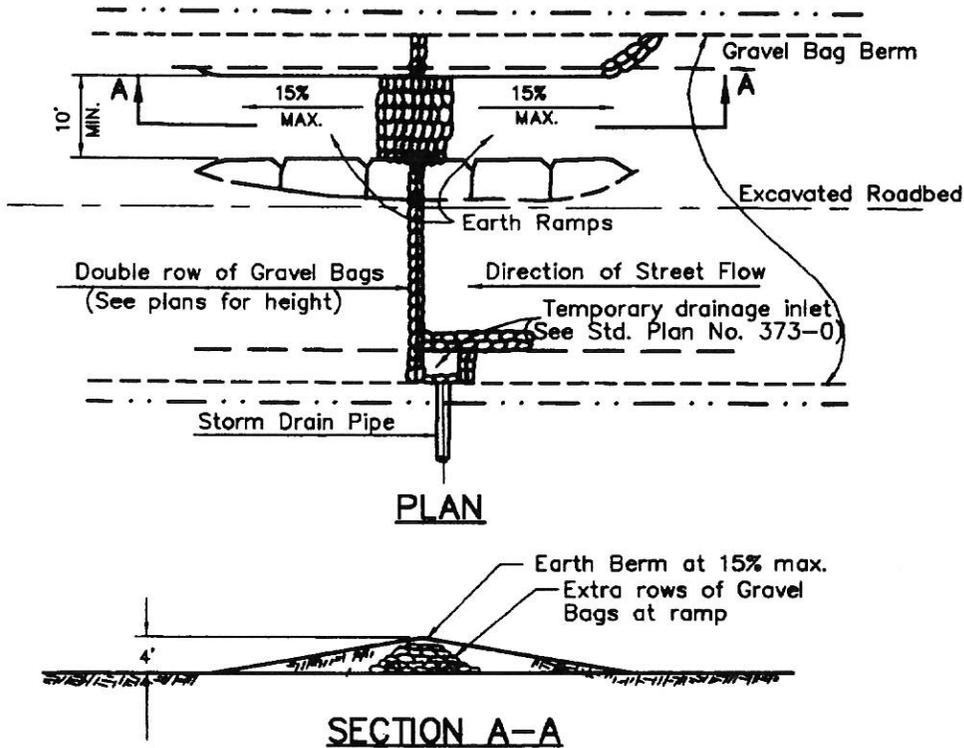
STANDARD DRAWINGS

371-1

Approved: 
City Engineer

Date: 3/9/15

Page 1 OF 1



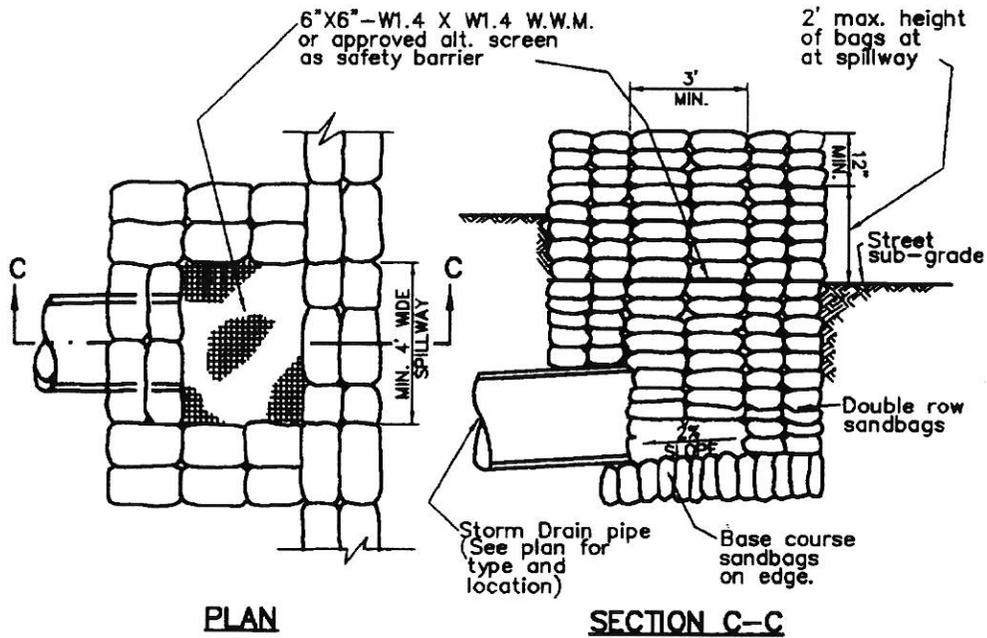
NOTES:

1. Storage capacity shall be in accordance with Std. Plan No. 370-0 & the dimensions of the storage area shall be shown on the Erosion Control Plan.
2. Gravel bags are encouraged over sandbags and may be required in areas which are particularly sensitive to sediment deposition.
3. This standard detail shall be used as shown on the approved Erosion Control Plan.

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STREET DESILTING BASIN - VEHICLE ACCESS RAMP

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Podd & Schmiedel</i>	Date: <i>9-26-00</i>
		Approved: <i>Paul T. Nagayast</i>	Date: <i>10-23-00</i>
Drawn By:		City Engineer	
			STANDARD DRAWINGS
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NOTES:

1. Gravel bags are encouraged over the use of sandbags and may be req'd in areas which are particularly sensitive to sediment deposition.
2. A portion of catch basin may be constructed in place of sandbags.
3. This standard detail shall be used as shown on the approved erosion control plan.

Adopted from County of Orange, CA PF & RD
Standard Plans 1996 Edition

TEMPORARY DRAINAGE INLET

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Revisions	
Mark	Date

Recommended: D. Podd Schmieder Date: 9-26-00

STANDARD DRAWINGS

Drawn By:

Approved: Paul T. Skarvogt Date: 10-23-00
City Engineer

373-0

INTERIM EROSION AND SEDIMENT CONTROL PLAN NOTES

These "Erosion & Sediment Control Notes" are intended to be used on all Public Works plans for both private development and public right-of-way improvements. The notes are comprehensive and should be applied according to site-specific conditions.

1. Filtered Runoff. All runoff shall be filtered prior to discharging from a site or to any type of private or public storm water conveyance system (natural watercourses, streets, gutters, concrete-lined v-ditches, storm drains, flow-lines, inlets, outlets, etc.). All non-permitted discharges are prohibited from entering any storm water conveyance system year-round.

2. Best Management Practices (BMP's). **Year-Round**, pollution prevention measures, also known as Best Management Practices (BMP's), must be installed prior to any field activities. BMP handbooks can be downloaded at www.cabmphandbooks.com. Additional erosion prevention and sediment control (ESC) measures must be installed and maintained prior to and throughout each rainy season. The developer/contractor is responsible for ESC measures throughout the duration of the project for all clearing, disking, grading, excavating and stockpiling activities, and on all exposed slopes and inactive pads throughout the entire site. The developer/contractor is also responsible for any discharges from subcontractors.
 - a. Stockpiling of BMP's. Additional ESC materials shall be stockpiled at various locations throughout the site for immediate use within seven days prior to any forecast rain. On emergency situations, the developer/contractor shall immediately make equipment and workers available to protect the site.

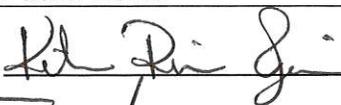
3. Erosion and Sediment Controls. All ESC materials shall be inspected, restored, repaired or modified year-round throughout the site to protect perimeters, adjacent properties, environmentally sensitive areas and all private/public storm water conveyance systems. If any erosion or sediment controls fail during any rain event, more effective ones will be required in their place.
 - a. Erosion Controls. Erosion controls shall include, but are not limited to applying and establishing: vegetative cover, wood mulch, stapled or pinned blankets (straw, coconut or other), plastic sheeting (minimum 10-mil), polypropylene mats, spray-on controls to all disturbed areas or other measures approved by the City Engineer. Jute netting shall not be used as a stand-alone erosion control. For slopes greater than 4:1, provide fiber rolls and either a bonded fiber matrix product applied to a rate of 3500 lb/acre or a stabilized fiber matrix product applied to a rate of 10 gal/acre. The City Engineer may approve different application rates for slopes less than 4:1.

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA		
Department of Public Works		Engineering Division
Recommended: <u></u>	Date: <u>3/09/15</u>	STANDARD DRAWINGS
Approved: <u></u> City Engineer	Date: <u>3/9/15</u>	374-2
		SHEET 1 OF 8

- b. Sediment Controls. Sediment controls shall include, but are not limited to: desilting basins, graded berms, fiber rolls, silt fences, gravel bag chevrons (filled with minimum ¾" gravel), check dams, drainage inlet protection, etc. Fiber rolls shall be installed along the face of the slope. The size and spacing is determined by the soil type, slope steepness, design rainfall intensity, and size of area protected. Silt fence shall be installed along interior streets and combined with gravel-bag or silt fence chevrons inside the sidewalk right-of-way or back of curbs.
4. State Construction General Permit. If the project disturbs, exposes or stockpiles one acre or more of soil, the site must be covered under the State Construction General Permit. A Waste Discharge Identification (WDID) Number, a risk level determination number and the Qualified "Storm Water Pollution Prevention Plan" (SWPPP) Developer (QSD) shall be provided to the City prior to issuance of a grading permit. A SWPPP shall be implemented throughout the duration of the project and shall be readily available to City and State inspectors and updated to reflect current site conditions during construction. The construction permit can be downloaded at www.waterboards.ca.gov/water_issues/programs/stormwater/construction.
5. Perimeter Protection. Perimeter protection must be installed prior to any clearing activities. Clearing shall be limited to areas that will be immediately graded or disturbed. A combination of ESC measures shall be implemented in areas that have been cleared. All disturbed areas of an inactive site, as described in the Engineering and Construction Manual, shall also be protected.
6. Construction Access Points. Construction access points shall be stabilized with a combination of rock and shaker plates year-round to prevent track-out. Interior access points (all proposed driveways, material storage and staging areas entrances/exits, etc.) shall also be protected with rock to prevent track-out onto interior streets. Routine street sweeping shall be performed on all paved streets where tracking is observed. Vacuum sweepers shall be used when street sweeping becomes ineffective. Controlled street washing shall only be allowed prior to the application of asphalt seal coats, and only when all pertinent drainage inlets are protected.
7. Desilting Basins. Desilting basins shall be designed according to the guidance provided in CASQA's construction BMP handbook. Impounded water shall be secured from the public. Signage indicating "Ponded Water- Do Not Enter," or an equivalent warning notice shall be posted.

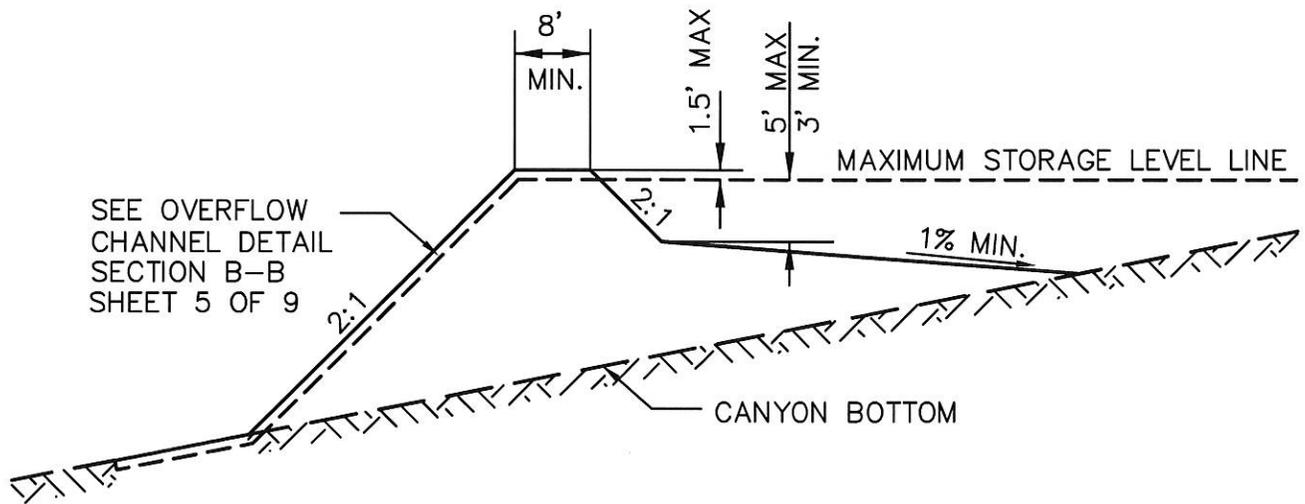
INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA		
Department of Public Works		Engineering Division
Recommended:	 _____	STANDARD DRAWINGS 374-2 SHEET 2 OF 8
Approved:	 _____ <small>City Engineer</small>	
	Date: <u>3/09/15</u>	
	Date: <u>3/9/15</u>	

8. Material Storage. Material storage and staging areas shall be established. Fuel tanks, portable toilets, liquids, gels, powders, landscape materials and stockpiles of soil shall be stored away from all private/public storm water conveyance systems, sidewalks, right-of-ways and flow-lines and shall have secondary containment. Inactive stockpiles of soil shall be covered at all times. Active stockpiles shall be covered prior to a forecast rain.
9. Construction Waste. Construction waste and miscellaneous debris shall be placed in water-tight bins. Wire mesh receptacles shall not be allowed. Wash-out stations shall be provided for concrete, paints, stucco and other liquid waste, and shall be lined with plastic and located away from public right-of-ways, flow lines, etc. Prior to any forecast rain, bins and wash-outs shall be covered with lids or plastic tarps.
10. Slope Protection. Storm water runoff shall not be directed over slopes without permanent down drains installed. ESC measures are required on all exposed slopes until sufficient/permanent landscape is established. There shall be 100% slope protection in place prior to issuance of certificate of occupancy.
11. Portable Mixers. All portable mixers shall have plastic liners underneath them with gravel-bags placed on the down-hill side of the liners to contain discharges.
12. Maintenance. All onsite and offsite flow lines (i.e. v- and brow-ditches, terrace drains, ribbon gutters, curb gutters, etc.) storm water conveyance systems, check dams, chevrons, silt fences and desilting basins shall be free of sediment, construction materials, waste, miscellaneous debris and deteriorated ESC measures **year-round**.
13. Obstructions. No obstructions, other than BMP's, shall be allowed within any storm water conveyance system, unless alternative drainage facilities have been approved by the City Engineer.

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA		
Department of Public Works		Engineering Division
Recommended:	 _____	STANDARD DRAWINGS 374-2 SHEET 3 OF 8
Approved:	 _____ <small>City Engineer</small>	
	Date: <u>3/09/15</u>	
	Date: <u>3/9/15</u>	



INTERIM DESILTING BASIN WITHOUT STORM DRAIN CONNECTION

NOTE:

- (1) CONSTRUCTION OF AN INTERIM DESILTING BASIN WITHOUT A DRAIN PIPE AND RISER (PER CITY STANDARD 370-0) SHALL BE ACCOMPLISHED ONLY WITH THE APPROVAL OF THE CITY ENGINEER
- (2) BASIN SHALL BE PUMPED EMPTY AFTER EVERY STORM
- (3) ALL WATER PUMPED FROM THE INTERIM EROSION CONTROL BASIN SHALL BE DISCHARGED INTO A PUBLIC FACILITY WATERWAY OR A CONVEYANCE SYSTEM AND SHALL BE RELATIVELY SEDIMENT FREE.

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

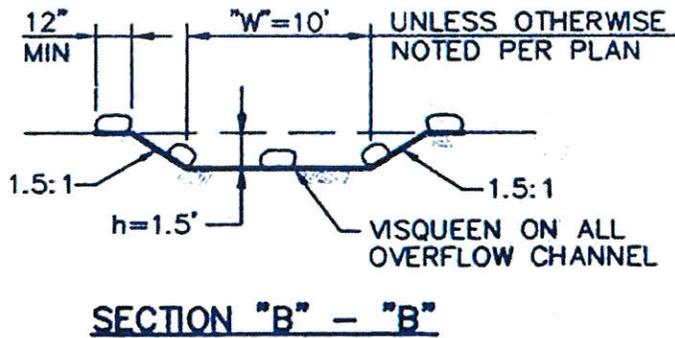
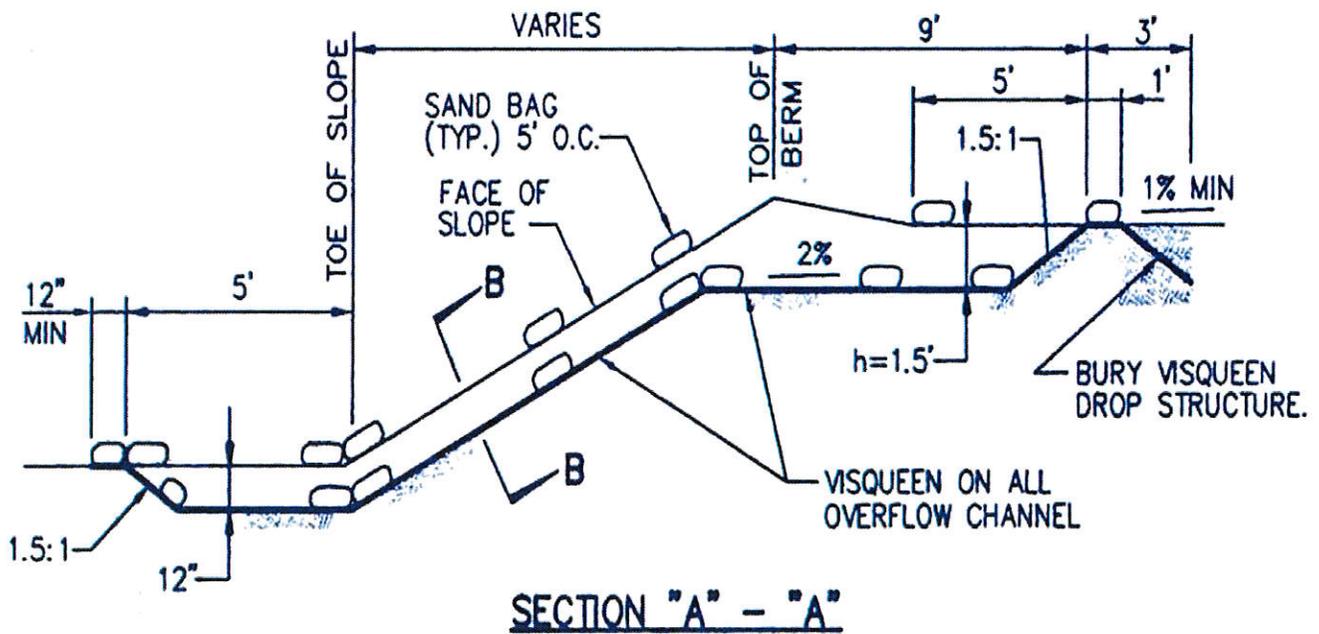
Recommended: *Ki R. J.* Date: 3/09/15

Approved: *F. S.* Date: 3/9/15
City Engineer

STANDARD DRAWINGS

374-2

SHEET 4 OF 8



SLOPE OVERFLOW CHANNEL DETAIL

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *John Pin Jui*

Date: 3/09/15

Approved: *[Signature]*

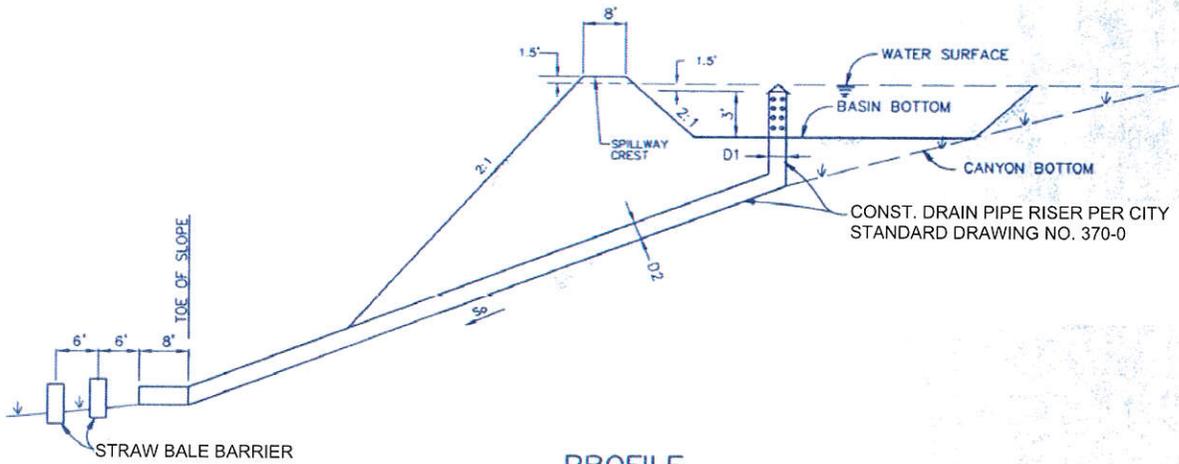
City Engineer

Date: 3/9/15

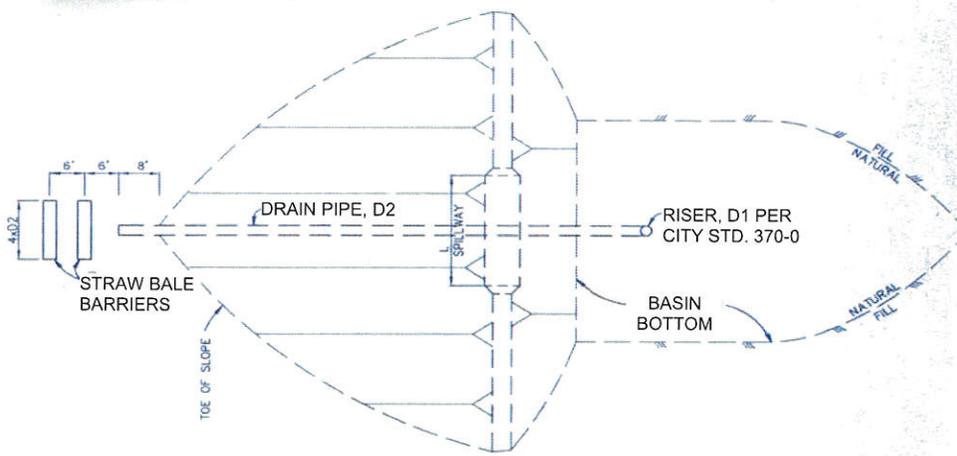
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374-2

SHEET 5 OF 8



PROFILE



PLAN VIEW

INTERIM CANYON DESILTING BASIN WITH DRAIN PIPE
 D1, D2, L & BASIN BOTTOM TO BE SHOWN ON PLANS

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *[Signature]*

Date: 3/09/15

STANDARD DRAWINGS

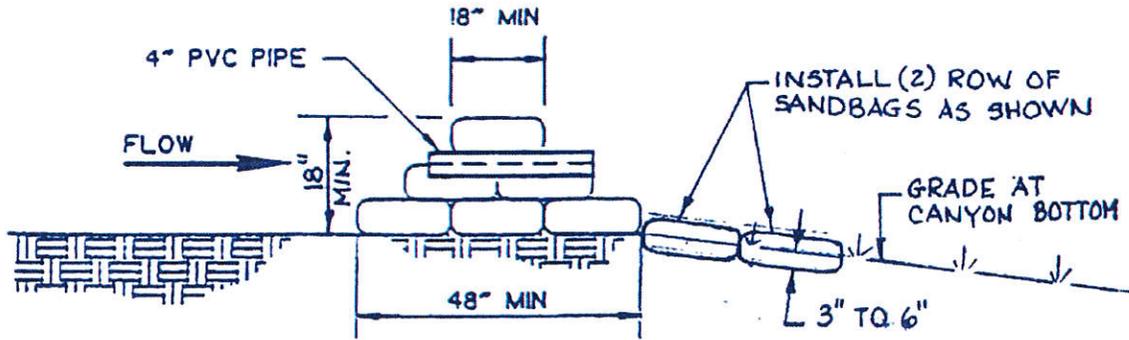
374-2

Approved: *[Signature]*

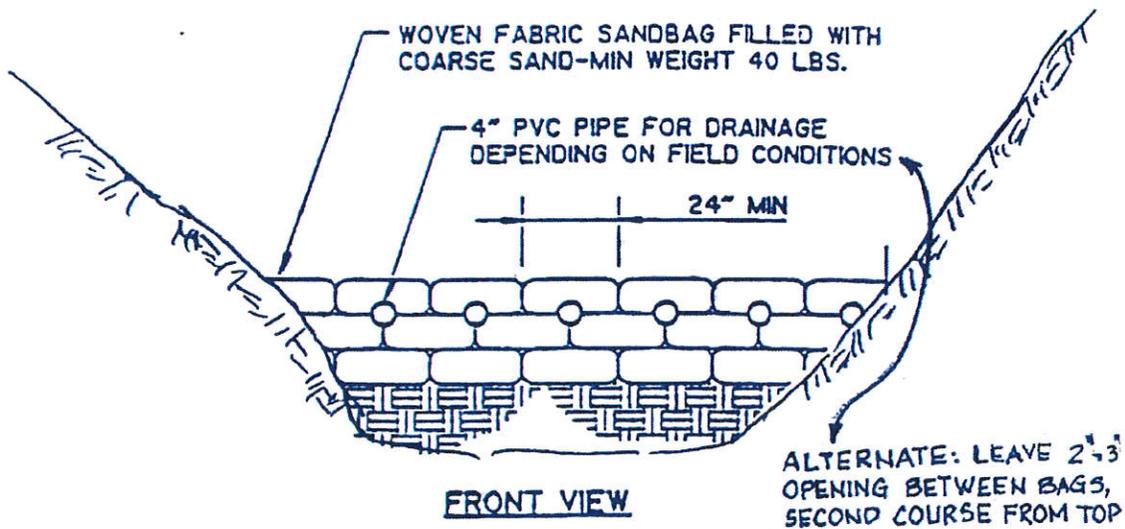
City Engineer

Date: 3/9/15

SHEET 6 OF 8



CROSS-SECTION



FRONT VIEW

SAND BAG CHECK DAM DETAIL

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *Kh. Pri. Jan*

Date: 3/09/15

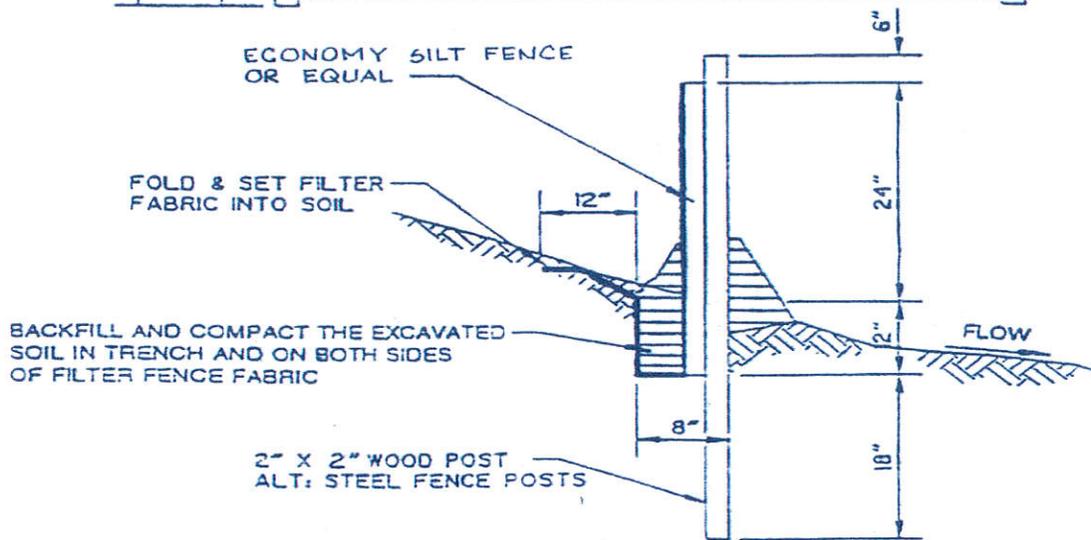
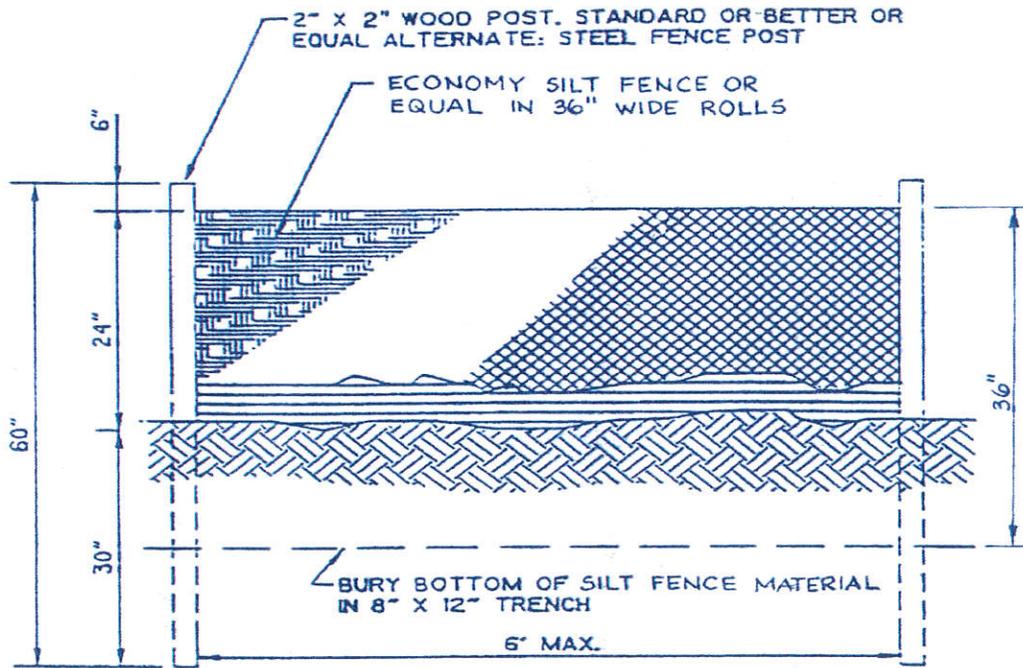
Approved: *[Signature]*
City Engineer

Date: 3/9/15

STANDARD DRAWINGS

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SHEET 7 OF 8



SILT FENCE DETAIL (C)

INTERIM EROSION CONTROL GENERAL NOTES AND DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *Kate Pringle*

Date: 3/09/15

STANDARD DRAWINGS

374-2

Approved: *[Signature]*
City Engineer

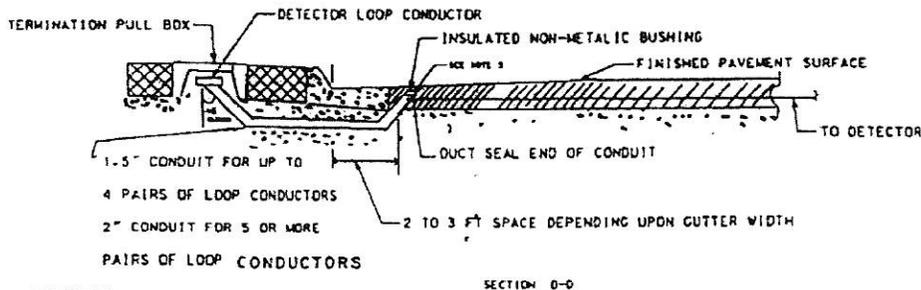
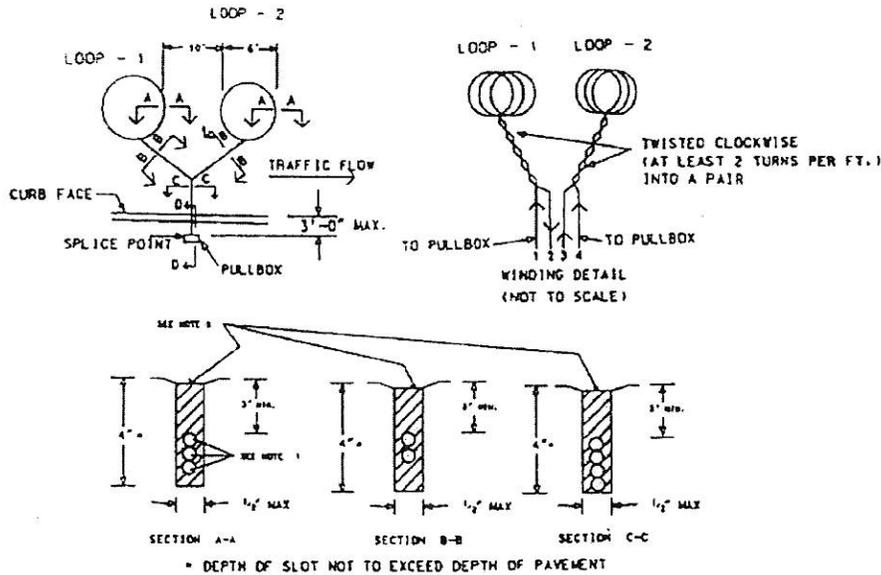
Date: 3/9/15

SHEET 8 OF 8

Section 400

Street Lighting, Traffic Signals and Traffic Signs

- 400-0 ROUND INDUCTIVE LOOP DETECTORS
- 401-0 TRAFFIC SIGNAL LOOP DETECTOR SPECIFICATIONS
- 421-0 MAJOR STREET SIGN DETAIL
- 422-1 MINOR STREET SIGN DETAIL
- 423-0 HANGING STREET SIGN DETAIL
- 430-0 MULTI-PURPOSE TRAIL SIGN DETAIL NO MOTORIZED VEHICLES
- 431-0 MULTI-PURPOSE TRAIL SIGN DETAIL NO MOTORIZED VEHICLES ON PRIVATE
PROPERTY



NOTES:

1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4-INCH IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULLBOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #18 AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE.
4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT MELT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.

ROUND INDUCTIVE LOOP DETECTORS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmiedt</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nagengast</i> City Engineer	Date: <i>10-23-00</i>
			STANDARD DRAWINGS 400-0

CONSTRUCTION MATERIALS – Detector lead-in cable shall be two, three, or four pair polyethylene insulated, individually twisted, individually shielded, filled (water-blocked), black high density polyethylene jacketed, with 300 volt dielectric rating.

The number of pairs in the detector lead-in cable shall be determined by meeting the requirements that there shall be a maximum of two detectors per pair of channel for presence or call detector loops, and one detector per pair or channel for advance loops.

Conductor: #18 AWG 7/26 stranded tinned copper per ASTM B-286.

Insulation: High density polyethylene compound which meets the requirements of ASTM D-1248, Type III, Class A, Category 5, Grade E-8, with a .013” nominal wall thickness.

Twist Shield and Drain: The insulated conductors shall be twisted into pairs with a lay not to exceed six inches. Each pair helically applied alum/mylar with #20-7/28 TC drain under shield.

Cable Assembly: The shielded pairs shall be assembled to form a substantially cylindrical core.

Fill: All interstices shall be “Water-Blocked” with an Amorphous Jelly Compound.

Shield: A longitudinally applied aluminum mylar shield shall be applied over the filled core with an overlap.

Jacket: Black high density polyethylene jacketing grade compound with a 0.030” minimum wall thickness.

Electrical Characteristics: Voltage rating – 300 volts minimum; mutual capacitance – 27 picofarads per foot, 10%.

Color code:

- Two Pair - Blue/white and orange/white;
- Three Pair - Blue/white, orange/white and green/white;
- Four Pair - Blue/white, orange/white, green/white and brown/white.

TRAFFIC SIGNAL LOOP DETECTOR SPECIFICATIONS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. Todd Schmieder</i></u>	Date: <u>9-26-00</u>
		Approved: <u><i>Paul T. Nagel</i></u> <small>City Engineer</small>	Date: <u>10-23-00</u>
Drawn By		STANDARD DRAWINGS 401-0 Page 1 of 2	

Each cable shall be identified by the installation of a rigid plastic tag held in place by two nylon ties. A sample of the DLC shall be submitted to the Engineer for approval.

INSTALLATION DETAILS - Inductive loop detectors shall be 6-foot diameter circular loops. Slots for the loops shall be core drilled with a 6-foot diameter core bit or other method approved by the City Engineer. No holes for anchoring a router or flatsaw to perform the cut will be accepted. All slots shall be vertical with a maximum width of 1/2-inch, cut to a minimum depth of 3 inches. In no case shall any cut exceed the depth of the existing pavement,

All cuts shall be washed clean. Water and slurry shall be vacuumed out or blown dry with compressed air, leaving a clean and dry loop area.

A 6-foot diameter loop consisting of 3 turns of Detects Duct or Type 2 loop wire Stacked one wire on top of another shall be installed in slot. A prewound loop wire shall be used in slots greater than 1/4-inch in width.

All slots shall be filled with hot melt rubberized asphalt sealant in accordance with the provisions in Section 86-5.01A, Installation Details of the State Specifications.

Sawcut homerun to the appropriate pull box within 50 feet. The homerun slot shall be 1/4-inch in width and 3 inches in depth (4 inches in depth for 4 or more pairs of loops). The homerun of the loop shall be twisted clockwise (at least 2 turns per foot) into a pair, numbered, and identified in the pull box. If the stub-out excavation area adjacent to the gutter for the loop homeruns is greater than 6" in diameter, it shall be backfilled with asphalt concrete. If excavation area is less 6" in diameter, seal area with hot melt rubberized asphalt sealant.

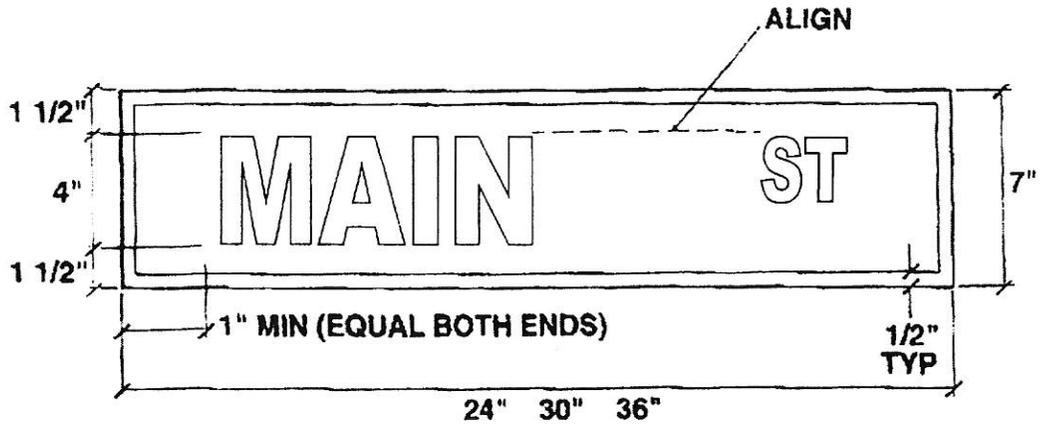
All lead-ins shall enter the pull box and shall be numbered and identified in accordance to the Round Inductive Loop Installation Detail in these specifications.

All installations of Traffic Signal Loop detector cable shall conform to the City of Yucaipa Public Works Department detail and to the APWA Standard Specifications for Public Works Construction (Greenbook).

The Contractor shall obtain approval for exact loop locations prior to final placement, and shall perform preliminary striping layout prior to loop detector layout. Loop detectors shall be 6' round with 9' spacing between adjacent loops in the same lane, except as noted on the plans. Center loops in the traveled portion of the lane, and extend limit line loops 1' from the limit line, except as shown on the plans.

TRAFFIC SIGNAL LOOP DETECTOR SPECIFICATIONS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmiedel</u>	Date: <u>9-26-00</u>
		Approved: <u>Paul J. N...</u> City Engineer	Date: <u>10-23-00</u>
Drawn By:		STANDARD DRAWINGS 401-0 Page 2 of 2	



Reverse Print
Hand Apply OK
5052-H38 Alloy

PREFERRED ABBREVIATIONS

- AVENUE: AV OR AVE
- BOULEVARD: BL OR BLVD
- CANYON: CYN
- CIRCLE: CIR
- DRIVE: DR
- HEIGHTS: HTS
- HIGHWAY: HWY
- LANE: LN
- PARK: PK
- PARKWAY: PKY OR PKWY
- PLACE: PL
- ROAD: RD
- STREET: ST
- TERRACE: TER
- TRAIL: TR
- WAY: WY OR WAY

QTY OF CHARACTERS		
HEIGHT:	HEGHT:	LENGTH OF SNS

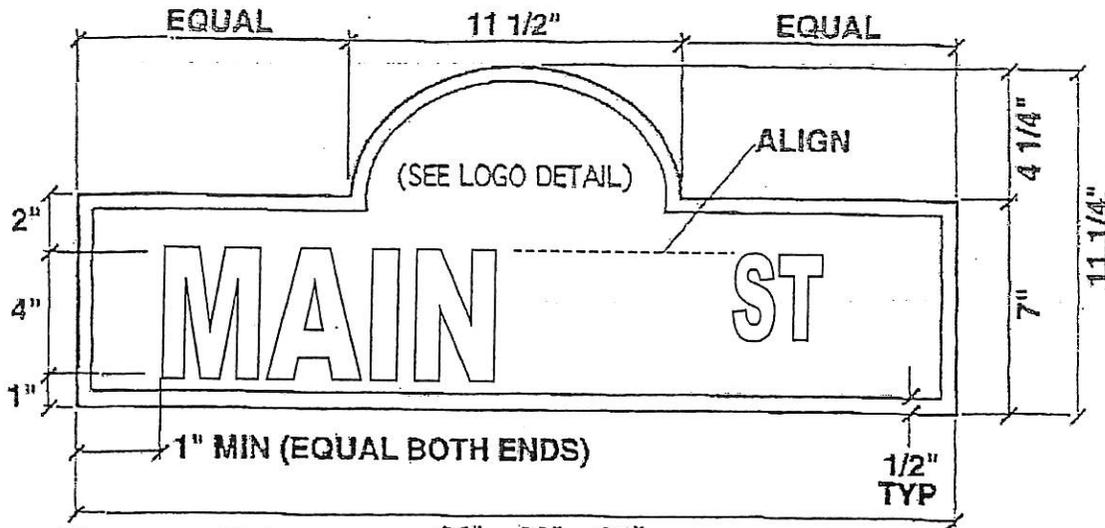
	SIZE	SERIES	UC or LC
PREFIX			
LEGEND	4"	C,B	UC
SUFFIX	2"	C,B	UC
BLOCK NOS			

NOT TO SCALE

BORDER	<input checked="" type="radio"/> Y <input type="radio"/> N	BORDER WIDTH	1/2"	LOGO	<input type="radio"/> Y <input checked="" type="radio"/> N	LOGO SIZE		SF	<input checked="" type="radio"/> DF <input type="radio"/> OF	BOX	EXTR
LENGTH MIN:	24"	MAX:	36"	THK:	.125"	COLOR(S)	W/G	SAMPLE AVAILABLE	<input type="radio"/> Y <input checked="" type="radio"/> N	BOX END CUT:	<input type="radio"/> Y <input checked="" type="radio"/> N
EXTRUSION DIE NO.		C.R.	NO	SHEETING	3290	HARDWARE	NO				
VENDOR											
HOLES QTY	NO	HOLES DIA	NO	HOLES E.D.	NO	RK(S)	708	SCREEN	HAND APPLY	SPL SHIPPING/PACKAGING INST?	<input type="radio"/> Y <input checked="" type="radio"/> N

MAJOR STREET SIGN DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Sennich</i>	Date: 9-26-00
Drawn By:		Approved: <i>Paul T. Nagel</i> City Engineer	Date: 10-23-00
		STANDARD DRAWINGS 421-0	



Reverse Print
Hand Apply OK
5052-H38 Alloy

24" 30" 36"

PREFERRED ABBREVIATIONS

- AVENUE: AV OR AVE
- BOULEVARD: BL OR BLVD
- CANYON: CYN
- CIRCLE: CIR
- DRIVE: DR
- HEIGHTS: HTS
- HIGHWAY: HWY
- LANE: LN
- PARK: PK
- PARKWAY: PKY OR PKWY
- PLACE: PL
- ROAD: RD
- STREET: ST
- TERRACE: TER
- TRAIL: TR
- WAY: WY OR WAY

QTY OF CHARACTERS		
HEIGHT:	HEIGHT:	LENGTH OF SNS

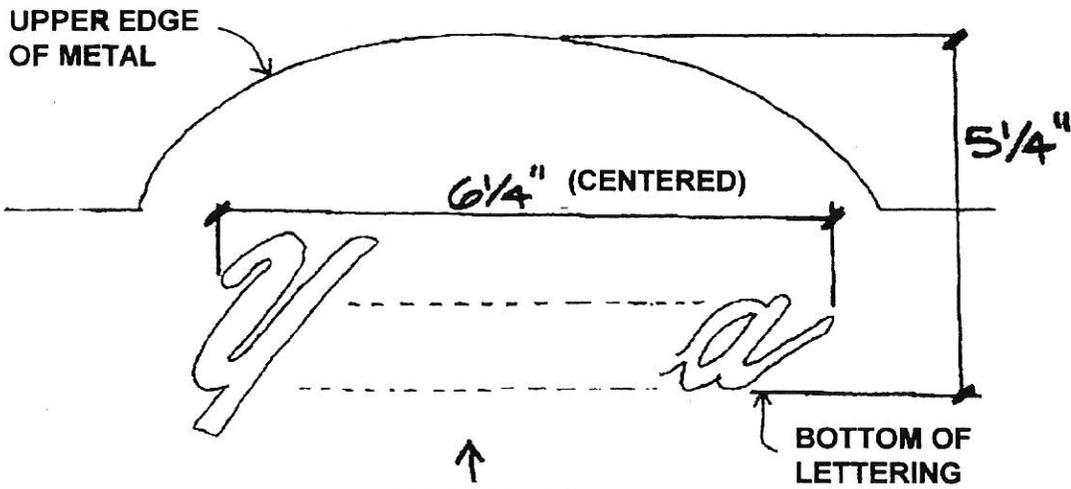
	SIZE	SERIES	UC or LC
PREFIX			
LEGEND	4"	C,B	UC
SUFFIX	2"	C,B	UC
BLOCK NOS			

NOT TO SCALE															
BORDER	<input checked="" type="radio"/> Y	<input type="radio"/> N	BORDER WIDTH	12"	LOGO	<input checked="" type="radio"/> Y	<input type="radio"/> N	LOGO (SEE SIZE DETAIL)	S/F	<input checked="" type="radio"/> D/F	BOX	EXTR			
LENGTH MIN:	24"	MAX:	36"	THK	.125"	COLOR(S)	W/G	SAMPLE AVAILABLE	<input checked="" type="radio"/> Y	<input type="radio"/> N	BOX END CUT:	°			
EXTRUSION DSE NO.			C.R.	NO	SHEETING	3280	HARDWARE	NO							
VENDOR			Holes QTY	NO	Holes DIA.	NO	Holes E.D.	NO	TRK(S)	708	SCREEN	HAND APPLY	SPL SHIPPING/ PACKAGING INST?	<input type="radio"/> Y	<input type="radio"/> N

⚠ BRACKET TO BE 12" IN LENGTH.

MINOR STREET SIGN DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
6/8/06	ADDED NOTE	Recommended: <i>P. Todd Schmiedel</i>	Date: 9-26-00
Drawn By:	Approved: <i>Paul T. Navarone</i>	Date: 10-23-00	STANDARD DRAWINGS 422-81
		City Engineer	Page 1 of 2

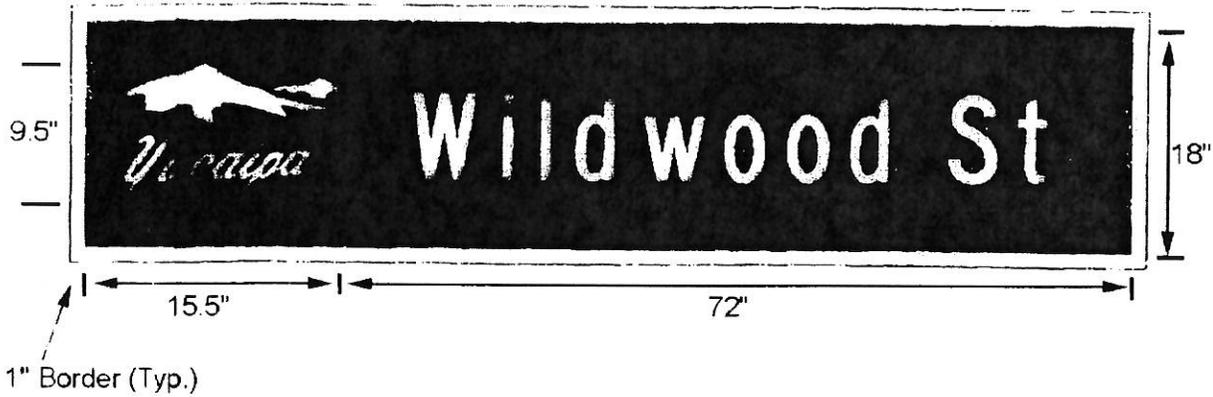


Logo Detail Only

↑
LOGO SIZE & POSITION

LOGO DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schneider</i>	Date: <i>9-26-00</i>
		Approved: <i>Paul T. Nguyen</i> City Engineer	Date: <i>10-23-00</i>
Drawn By:			STANDARD DRAWINGS 422-81 Page 2 of 2



6 and 4.5 "C" Series Lettering

HANGING STREET SIGN DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmieder</u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u>Paul T. Naysom</u> City Engineer	Date: <u>10-23-00</u>
			STANDARD DRAWINGS 423-0 Page 1 of 2



White on Green Lettering

SIGN DETAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schneider</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nagamant</i> City Engineer	Date: <i>10-23-00</i>
			STANDARD DRAWINGS 423-0 Page 2 of 2

NO MOTORIZED
VEHICLES ALLOWED

CITY OF YUCAIPA
ORDINANCE NO. 166

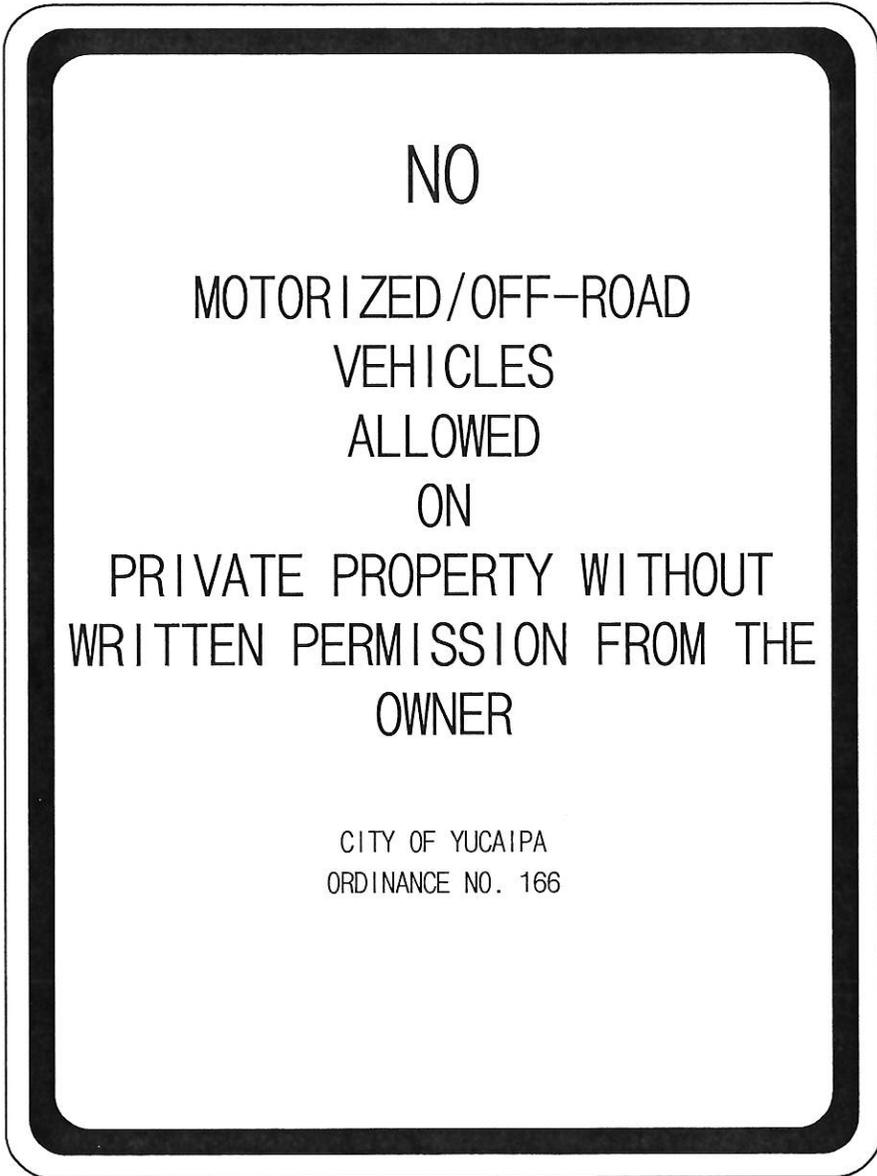
DESIGNATED TRAIL
USE ONLY

WARNING/DANGER

USERS ASSUME FULL RESPONSIBILITY
FOR RISK OR INJURY
WILD ANIMALS PRESENT

MULTI-PURPOSE TRAIL SIGN DETAIL
NO MOTORIZED VEHICLES

Revisions		CITY OF YUCAIPA, CA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>Fecundo</u>	Date: <u>7-8-08</u>
Drawn By:		Approved: <u>Harold Cruz</u>	Date: <u>7/8/08</u>
			STANDARD DRAWINGS 430-0



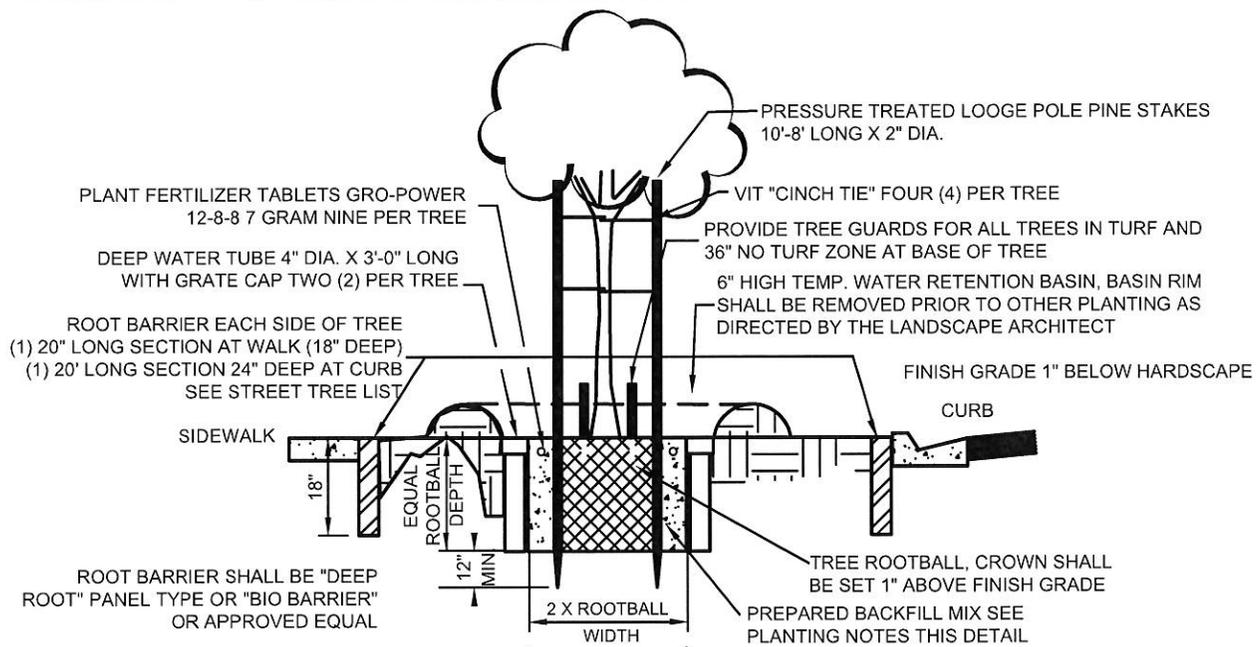
**MULTI-PURPOSE TRAIL SIGN DETAIL
NO MOTORIZED VEHICLE ON PRIVATE PROPERTY**

Revisions		CITY OF YUCAIPA, CA	
<small>Mark Date</small>	<small>Descriptions</small>	<small>Department of Public Works</small>	<small>Engineering Division</small>
		Recommended: <u><i>Frederico</i></u>	Date: <u><i>7-8-08</i></u>
		Approved: <u><i>Raymond C. Casey</i></u>	Date: <u><i>7/8/08</i></u>
<small>Drawn By:</small>		<small>STANDARD DRAWINGS</small> 431-0	

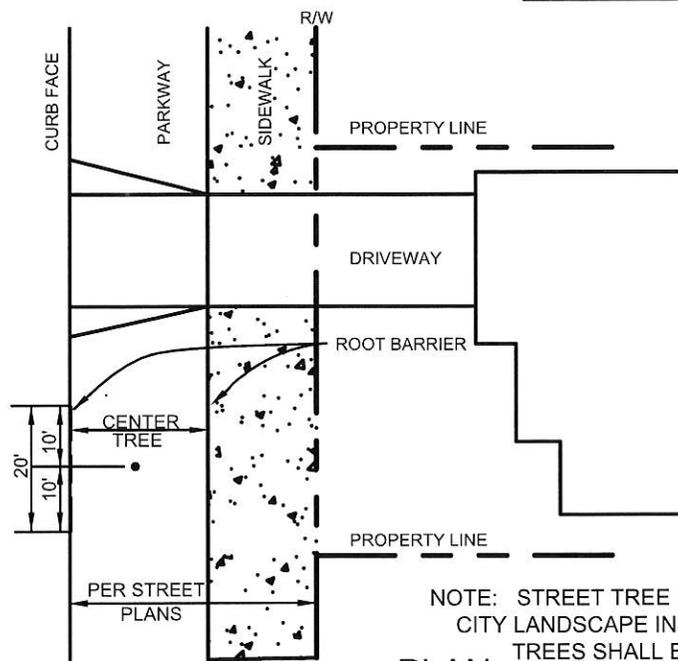
Section 500

Landscaping and Irrigation Systems

- 510-2 TREE PLANTING DETAIL
- 520-1 RECOMMENDED STREET TREE LIST
- 521-1 RECOMMENDED PARKS/OPEN SPACE AND MITIGATION AREAS TREE LIST



SECTION



PLAN

PLANTING NOTES:

1. BACKFILL MIX: (PER CUBIC YARD)
 - A. 2/3 CY NATIVE SOIL
 - B. 1/3 CY ORAGANIC AMENDMENT (NO MULCH BELOW 6" DEPTH)
2. BACKFILL MIX SOIL AMMENDMENTS
 - A. 1 LB CY IRON SULFATE .
 - B. 7 LBS CY AGRICULTURAL GYPSUM
 - C. 3/4 LBS CY SOIL SULFUR
 - D. 2 LBS CY UREA-FORM
 - E. 1.5 LBS CY WETTING AGENT - AQUAGROW GRANULAR
3. ROOT BARRIER - ("DEEP ROOT" OR "BIO BARRIER")
4. FOR TREES PLANTED IN PARKWAY, ROOT BARRIER IS REQUIRED AT CURB (24" DEEP) AND SIDEWALK (18" DEEP)
5. TYPE OF TREE TO BE APPROVED BY CITY COMMUNITY DEVELOPMENT DEPARTMENT.

NOTE: STREET TREE LOCATIONS SHALL BE LOCATED AND MARKED BY THE CITY LANDSCAPE INSPECTOR PRIOR TO ROOT BARRIER INSTALLATION. TREES SHALL BE APPROVED PRIOR TO PLANTING.

TREE PLANTING DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended:

[Signature]

Date: 3/09/15

Approved:

[Signature]

City Engineer

Date: 3/9/15

STANDARD DRAWINGS

510-2

Botanical Name	Common Name	Minimum Planting		Form *	Height	Width	Root Barrier Required ft from hardscape **	Flower Color	Fall Leaf Color
		Large / Small *	Width						
Acacia stenophylla	Shoe-string acacia	M	6	E	30	20	6	Yellow	0
Callistemon citrinus	Lemon Bottlebrush	S	2	E	25	20	NA	Red	-
Lagerstroemia indica ****	Crape Myrtle	S	2	D	25	20	NA	mix	Yes
Pittosporum phyllaeroides	Narrow-Leaved Pittosporum	S	2	E	25	15	NA	-	-
Rhaphiolepis 'Majestic Beauty'	Majestic Beauty Rhaphiolepis	S	2	E	12	6	NA	Pink	-
Chionanthus retusus	Chinese Fringe Tree	S	3	D	20	20	5	White	Yellow
Chitalpa tashkentensis	Chitalpa	S	3	D	25	25	5	Pink/White	-
Chitalpa tashkentensis 'Pink Dawn' ***	NCN	S	3	D	25	25	8	Pink	-
Eriobotrya deflexa	Bronze Loquat	S	3	E	25	25	5	White	-
Photinia fraseri	Photinia	S	3	E	15	10	NA	White	-
Xylosma congestum	Shiny Xylosma	S	3	E	15-30	15-30	NA	-	-
Bauhinia forficata	Brazilian Butterfly Tree	S	4	ED	20	20	5	White	yes
Lagerstroemia x Hybrid ****	Hybrid Crape Myrtle	S	4	D	25	12	5	mix	Yes
Pyrus calleryana 'Anistocrat'	Ornamental Pear	S	4	D	30	40	8	White	burgundy
Arbutus 'Marina'	NCN	S	5	E	25	25	5	White	-
Arbutus unedo	Strawberry Tree	S	5	E	25	25	5	White	-
Bauhinia variegata	Purple Orchid Tree	S	5	SE	30	30	8	Purple	Yes
Callistemon viminalis	Weeping Bottlebrush	S	5	E	20-40	20	5	Red	-
Calocedrus decurrens	Incense Cedar	L	5	E	60	40	8	-	-
Cercis canadensis	Eastern Redbud	S	5	D	30	20	5	Pink	Yellow
Cercis canadensis 'Forest Pansy'	Forest Pansy Cercis	S	5	D	20	20	5	Pink	Yellow
Firmiana simplex	Chinese Parasol Tree	S	5	D	35	30	5	-	Yes
Fraxinus oxycarpa 'Raywood'	Raywood Ash	L	5	D	35	20	8	-	Yellow
Geijera parviflora	Australian Willow	L	5	E	40	20-25	8	-	-
Ginkgo biloba 'Autumn Gold'	Maidenhair Tree	L	5	D	60	20-40	8	-	Yellow
Hymenosporum flavum	Sweetshade	L	5	E	40	15-20	6	Yellow	-
Jacaranda mimosifolia	Jacaranda	L	5	PD	40	40	8	Lavender	-
Koelreuteria paniculata	Goldenrain Tree	S	5	D	25	15-25	8	Yellow	yellow
Laurus nobilis	Sweet Bay	L	5	E	40	30	8	-	-
Pistacia chinensis ****	Chinese Pistache	L	5	D	40	40	8	-	mix
Podocarpus henkelii	Long-Leafed Yellow Wood	S	5	E	25	25	5	-	-
Podocarpus macrophyllus	Yew Pine	M	5	E	45	10	8	-	-
Rhus lancea	African Sumac	S	5	E	30	30	8	-	-
Brachychiton populneus	Bottle Tree	L	6	E	50	40	8	-	-
Casuarina cunninghamiana	River She-Oak	L	6	E	70	20-40	10	-	-
Gleditsia tricanthus inermis	Thornless Honey Locust	L	6	D	30-40	30	10	-	yellow
Koelreuteria bipinnata	Chinese Flame Tree	L	6	D	40	40	10	Yellow	yellow
Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	S	6	E	25	15	5	White	-
Magnolia grandiflora 'Saint Mary'	Saint Mary Magnolia	S	6	E	20	20	5	White	-
Pinus eldanica	Afghan Pine	L	6	E	70	20	8	-	-
Quercus ilex ****	Holly Oak	L	6	E	40	40	10	-	-
Sapium sebiferum	Chinese Tallow Tree	S	6	D	35	25	8	-	Mix
Sophora japonica	Japanese Pagoda Tree	L	6	D	40	40	8	-	yes
Celtis sinensis	Chinese Hackberry	L	7	D	30-50	30-50	8	-	?
Pinus canariensis	Canary Island Pine	L	7	E	60-80	-	10	-	-
Platanus acerifolia 'Bloodgood'	London Plane Tree	L	7	D	60	30-40	10	-	Yes
Quercus suber	Cork Oak	L	7	E	60	40	8	-	-
Quercus virginiana ****	Southern Live Oak	L	7	SE	40	50	10	-	-
Zelkova serrata	Sawleaf Zelkova	L	7	D	40	40	10	-	yes
Fraxinus velutina 'Modesto'	Modesto Ash	L	8	D	50	30	8	-	Yellow
Liquidambar s. 'Rotundiloba' ****	Fruitless Sweetgum	L	8	D	60	-	8	-	mix
Podocarpus gracilior	Fern Pine	L	8	E	60	60	10	-	-
Quercus agrifolia	Coast Live Oak	L	8	E	50	70	10	-	-
Quercus lobata	Valley Oak	L	8	D	70	90	10	-	-
Quercus palustris	Pin Oak	L	8	D	70	40	10	-	Brown
Quercus rubra	Red Oak	L	8	D	70	50	10	-	Red
Sequoia sempervirens	Coast Redwood	L	8	E	90	30	10	-	-
Sequoiadendron giganteum	Giant Sequoia	L	8	E	90	50	10	-	-
Tipuana tipu	Tipu Tree	L	8	D	50	40	10	Yellow	yes
Cedrus deodara	Deodar Cedar	L	10	E	80	40	10	-	-
Cinnamomum camphora	Camphor Tree	L	10	E	50	50	15	-	-
Magnolia grandiflora	Southern Magnolia	L	10	E	80	60	8	White	-

Trees in lawn areas, No turf within 3' of trunk and install arbor guard as trunk protector.
 All trees shall be planted at 15 gallon size minimum, stake with two tree stakes and tie with 4 'Cinch Tie' rubber tree ties.
 Root barrier 10' min. long, adjacent to hardscape, 18" deep on walk side, 24" deep on curb side (Deep Root or Bio-Barrier or approved equal)
 * S = Small Tree, M = Medium Tree, L = Large Tree, E = Evergreen, D = Deciduous, SE = Semi Evergreen, PD = Partially Deciduous,
 ** Lineal Root Barrier is required if planted within distance in feet from hardscape edge.
 *** Best if not over watered
 **** Trees approved for Yucaipa Blvd.

NOTE: Other trees may be used in certain areas with approval from City Engineer

RECOMMENDED STREET TREE LIST

CITY OF YUCAIPA, CA

Department of Public Works

Engineering Division

Recommended: *Keth Pruij* Date: 3/09/15

STANDARD DRAWINGS

520-1

Approved: *Felo* Date: 3/9/15

SHEET 1 OF 2

NOTES:

RELATIVE POSITION OF PARKWAY TREES IS SUBJECT TO APPROVAL BY THE CITY PUBLIC WORKS DEPARTMENT/ LANDSCAPE ARCHITECT AND ANY TREE NOT PROPERLY PLACED WILL BE RELOCATED AT NO COST TO THE CITY. THE LOCATION OF ANY SUCH TREES SHALL BE SUCH AS TO PRECLUDE ANY DAMAGE TO ADJACENT CURB, GUTTER, SIDEWALK, WALLS OR OTHER CONCRETE STRUCTURES.

IN THE INTEREST OF PUBLIC SAFETY, TREES SHALL BE KEPT NOT LESS THAN:

- 1) 25 FEET BACK OF BEGINNING OF CURB RETURNS AT INTERSECTIONS;
- 2) 10 FEET FROM LAMP STANDARDS;
- 3) 10 FEET FROM DRIVEWAYS;
- 4) 10 FEET FROM ALL UNDERGROUND UTILITIES.

RECOMMENDED STREET TREE LIST

CITY OF YUCAIPA, CA

Department of Public Works

Engineering Division

Recommended: *Kul Pringini* Date: 3/09/15

Approved: *F. Lo* Date: 3/19/15

STANDARD DRAWINGS

520-1

SHEET 2 OF 2

Botanical Name	Common Name	Botanical Name	Common Name
Acer Spp.	Maple	Magnolia grandiflora 'Saint Mary'	Saint Mary Magnolia
Acai stenophylla	Shoe-string Acacia	Malus spp	Flowering Crabapple
Alnus rhombifolia	White Alder	Melaleuca linariifolia	Flaxleaf Paperbark
Arbutus 'Marina'	Marina	Metasequoia glyptostroboides	Dawn Redwood
Arbutus unedo	Strawberry Tree	Pinus canariensis	Canary Island Pine
Bauhinia variegata	Purple Orchid Tree	Pinus eldarica	Afghan Pine
Betula pendula	European White Birch	Pinus halipensis	Aleppo Pine
Brachychiton acerifolius	Flame Tree	Pinus pinea	Italian Stone Pine
Brachychiton populneus	Bottle Tree	Pistacia chinensis	Chinese Pistache
Callistemon viminalis, citrinus	Bottlebrush	Platanus mexicana	Mexican Sycamore
Calocedrus decurrens	Incense Cedar	Platanus acerifolia 'Bloodgood'	London Plane Tree
Casurina stricta	Mountain She-Oak	Platanus racemosa	Western Sycamore
Catalpa bignoniodes	Common Catalpa	Podocarpus gracilior	Fern Pine
Cedrus deodara	Deodar Cedar	Podocarpus macrophyllus	Yew Pine
Celtis sinensis	Chinese Hackberry	Populus (seedless)	Cottonwood
Cercidum 'Desert Museum'	Palo Verde	Populus fremonti	Cottonwood
Cercis canadensis	Eastern Redbud	Prosopis Hybrid	Thornless Mesquite
Cercis occidentalis	Western Redbud	Quercus rubra	Red Oak
Cercus canadensis 'Forest Pansy'	Forest Pansy Cercus	Quercus agrifolia	Coast Live Oak
Chilopsis linearis	Desert Willow	Quercus coccinea	Scarlet Oak
Chionanthus retusus	Chinese Fringe Tree	Quercus ilex	Holly Oak
Chitalpa tashkentensis 'Pink Dawn'	NCN	Quercus lobata	Valley Oak
Chorisia speciosa	Floss Silk Tree	Quercus palustris	Pin Oak
Cinnomomum camphora	Camphore Tree	Quercus rubra	Red Oak
Eucalyptus spp.	Gum	Quercus suber	Cork Oak
Fraxinus spp.	Ash	Quercus virginiana	Southern Live Oak
Geijera parviflora	Australian Willow	Rhaphiolepis 'Majestic Beauty'	Majestic Beauty Rhapsiolepis
Ginkgo biloba 'Autumn Gold'	Maiden Hair Tree	Rhus lancea	African Sumac
Juglans californica	California Black Walnut	Robinia 'Purple Robe'	Purple Robe Locust
Koelreuteria paniculata	Goldenrain Tree	Salix	Willow
Lagerstroemia Hybrid	Hybrid Crape Myrtle	Sapium sebiferum	Chinese Tallow Tree
Lagerstroemia indica	Crape Myrtle	Schinus terebinthifolius	Brazilian Pepper tree
Lagerstroemia x	Hybrid Crape Myrtle	Sequoia sempervirens	Redwood
Laurus nobilis	Sweet Bay	Sequoiadendron giganteum	Giant Sequoia
Ligustrum lucidum	Glossy Privet	Sophora japonica	Chinese Scholar Tree
Liriodendron tulipifera	Tulip Tree	Ulmus Hybrid 'Frontier'	Hybrid Elm
Magnolia grandiflora	Southern Magnolia	Umbellularia californica	California Bay
Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	Zelkova serrata	Sawleaf Zelkova

Note: Other types of trees may be allowed in open space areas/public and private parks with prior approval by the City Engineer.

RECOMMENDED PARKS/OPEN SPACE AND MITIGATION AREAS TREE LIST

CITY OF YUCAIPA, CA

Department of Public Works

Engineering Division

Recommended:

Date: 3/09/15

STANDARD DRAWINGS

521-1

Approved:

Date: 3/9/15

Section 600

General Facilities

600-0	DECOMPOSED GRANITE TRAIL
602-1	URBAN STREETSIDE MULTI-USE TRAIL DETAIL
603-0	RURAL MULTI-USE TRAIL DETAILS
604-0	WOODEN RAIL TRAIL STEPS
605-1	RURAL MULTI-USE TRAIL SPECIFICATIONS
606-2	TRAIL ENTRANCE BARRIER STEEL PIPE STEPOVER
607-2	MULTI-PURPOSE TRAIL STANDARDS
610-2	HDPE – TRAIL FENCE
611-1	PVC – TRAIL FENCE
612-1	EQUESTRIAN TIE-DOWN DETAIL
613-0	ACCESS GATE WITH STEPOVER DETAIL
614-1	TRAIL ENTRANCE BARRIER TIMBER STEPOVER
615-0	TRAIL ENTRANCE BARRIER – NO STEPOVER
620-4	TRASH ENCLOSURE DETAILS
650-0	DEVELOPMENT LOT GRADING
651-0	BENCHING FOR COMPACTED FILL
690-2	STANDARD CITY TITLE BLOCK

SUBGRADE PREPARATION

- A. Rough grade to 3 inch depth below finish grade. Subgrade shall be smooth, compacted to 95% Relative Compaction, for a minimum depth of 12 inches, and shall follow the grades shown on the drawings.

PRE-EMERGENT WEED CONTROL

Spray as necessary.

TOPPING COURSE

- A. YUCAIPA ADOBE STABILIZED:
 1. Scarify subgrade to one inch depth. Thoroughly moisten surface without flooding material.
 2. Blend Stabilized C.A.S. at the rate of 10 lbs. of Stabilizer per ton of decomposed granite. Blending may be done with cement mixer, pub mill, front end loader, or any similar piece of equipment. It is essential that the Stabilizer be mixed thoroughly and uniformly through the decomposed granite. Proper mixture is a must for a successful application.
 3. Spread topping material in one 4 inch layer. Level the topping course to smooth plane surface. Scarify, regrade, and re-compact areas not conforming to finish grades as shown on the drawings.
 4. Apply water until moisture penetrates to full depth of the Stabilized C.A.S. Water activates Stabilizer so it is essential that the full depth of the material received water at this time.
 5. Upon thorough moister penetration, compact the stabilized decomposed granite. Compaction can be done with small riding roller, power walk-behind roller, rod roller, vibrating plat tamp or similar.
 6. Allow finished surface enough time to dry completely. Set-up time varies, depending upon weather conditions.

WEED CONTROL

During maintenance period, keep area free of weeds. Keeps areas trimmed to prevent weed intrusion. Apply contact weed killer as required.

DECOMPOSED GRANITE TRAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <u>D. Todd Schmiedel</u>	Date: <u>9-26-00</u>
		Approved: <u>Paul T. Neumann</u> City Engineer	Date: <u>10-23-00</u>
Drawn By:			STANDARD DRAWINGS 600-0 Page 1 of 2

GENERAL MATERIAL AND CONSTRUCTION SPECIFICATION

APPROVALS REQUIRED DURING CONSTRUCTION

- A. Submit 10 pound sample of decomposed granite for approval prior to ordering material delivery to site.
- B. Subgrade shall be approved prior to the placing decomposed granite material.

MATERIALS

DECOMPOSED GRANITE:

- A. Decomposed granite shall be an imported blend of 3≅ minus crushed granite and clay, pre-mixed prior to delivery:

<u>% Passing</u>	<u>Screen Size</u>
100	3/8
93	No. 4
77	No. 8
62	No. 16
48	No. 30
36	No. 50
26	No. 100
19	No. 200

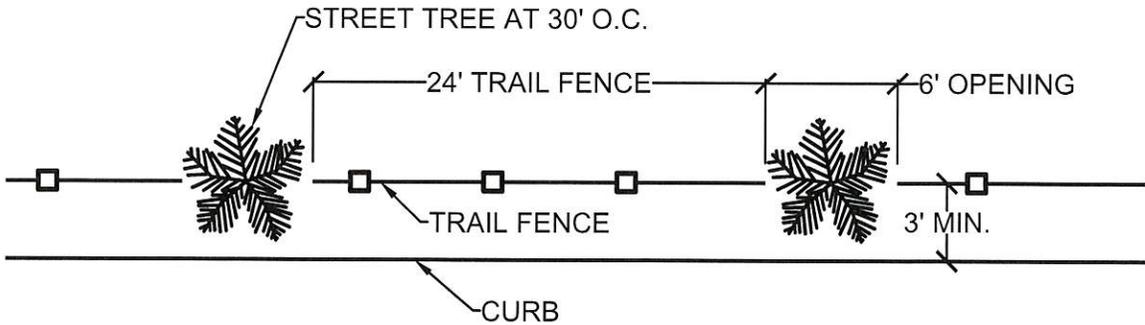
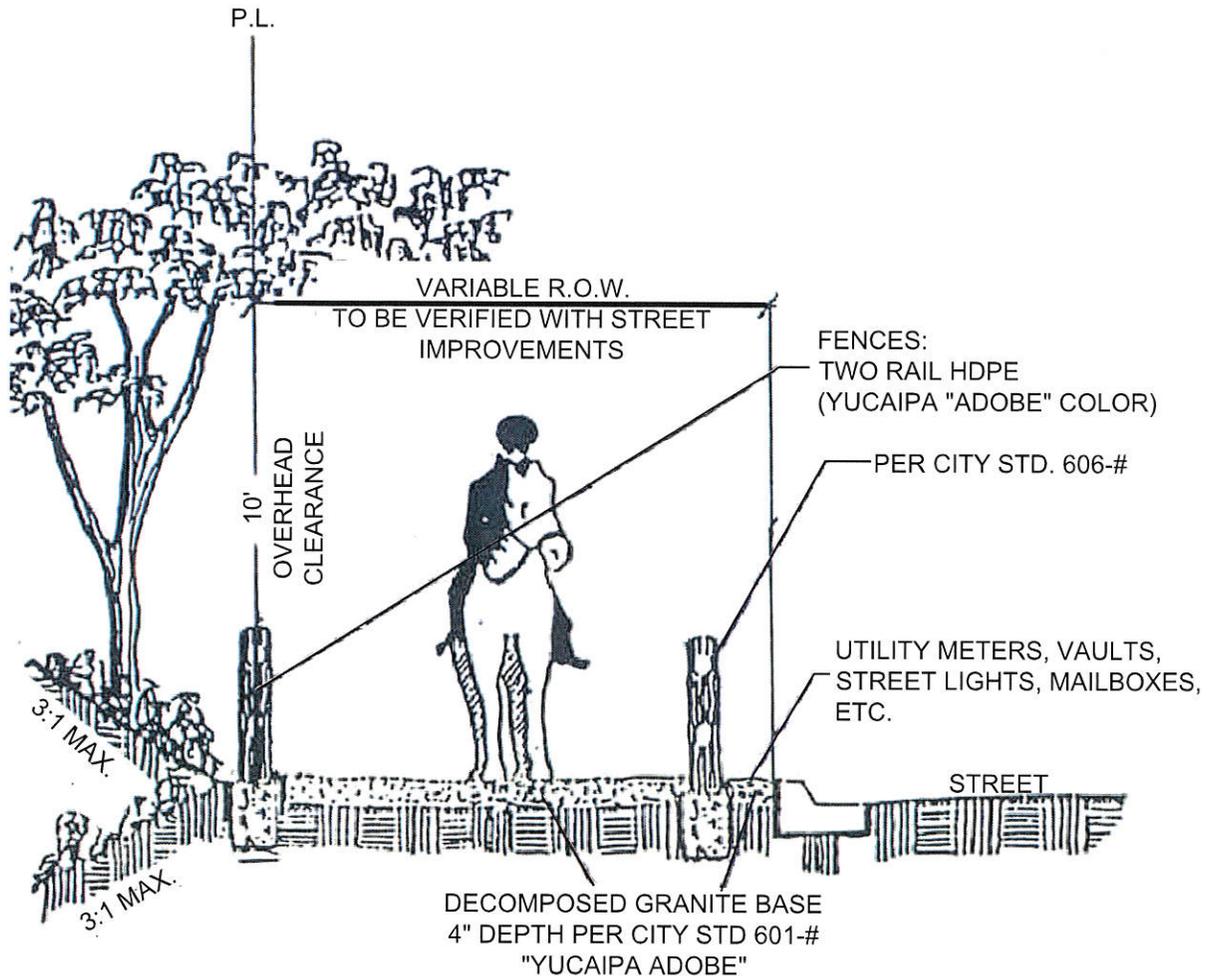
Color to be Yucaipa Adobe. Available from Desert Rock Supply (760) 360-1354 or equivalent.

SOIL STABILIZER

Soil Stabilizer shall be a non-toxic organic binder. It is a colorless, odorless concentrated power that naturally binds. Crushed Aggregate Screenings creating a natural alternative to concrete and asphalt surfaces. Apply on pathways only, not in planting areas where d.g. is used. (Suitable material is available from: Stabilizer (800) 928-2724 or (800) 336-2468.)

DECOMPOSED GRANITE TRAIL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>D. Todd Schmiedel</i></u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u><i>Paul T. Nagel</i></u> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		600-0	
		Page 2 of 2	



ADJACENT TO STREET WITHOUT SIDEWALK

URBAN STREETSIDE MULTI-USE TRAIL DETAIL

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *[Signature]*

Date: 3/09/15

Approved: *[Signature]*

City Engineer

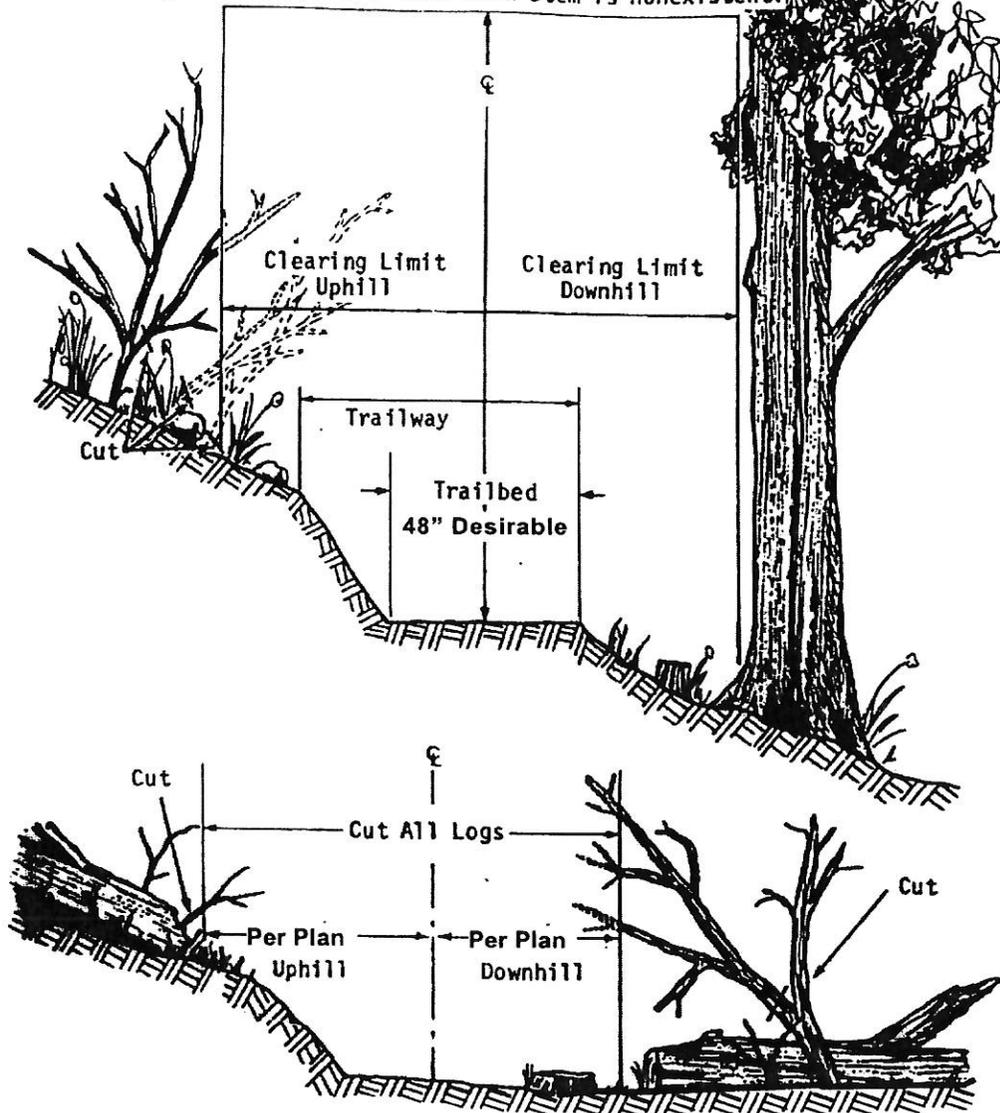
Date: 3/9/15

STANDARD DRAWINGS

602-1

Clearing Limits

Brush extending into the clearing limits that is over 12 inches in height and 1/2 inch in diameter shall be cut flush with the main stem at a branch fork or at ground level if a fork main stem is nonexistent.

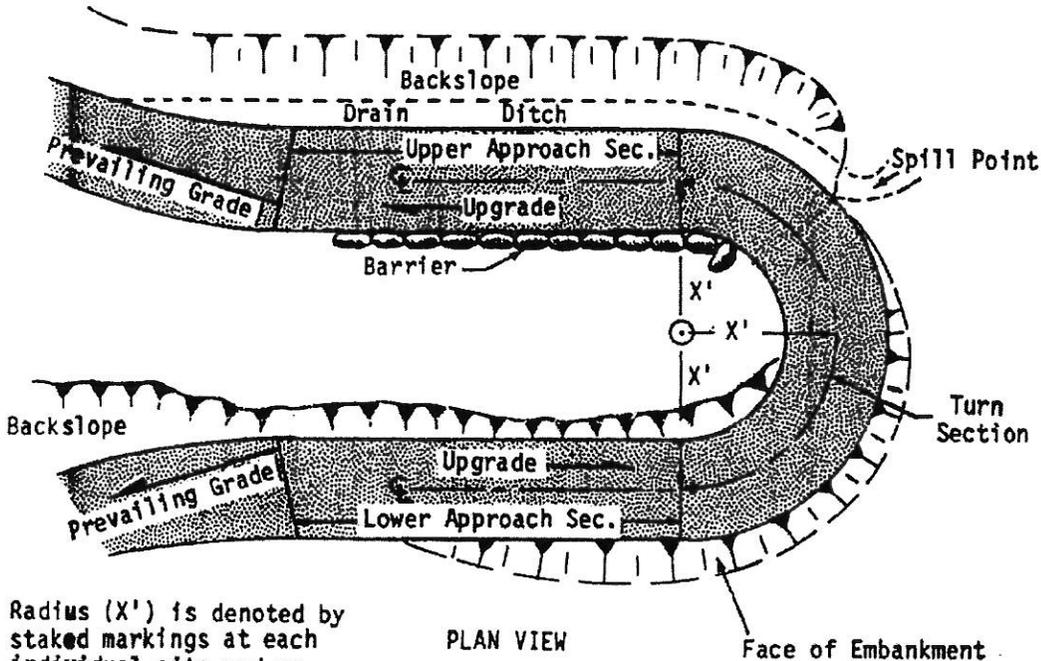
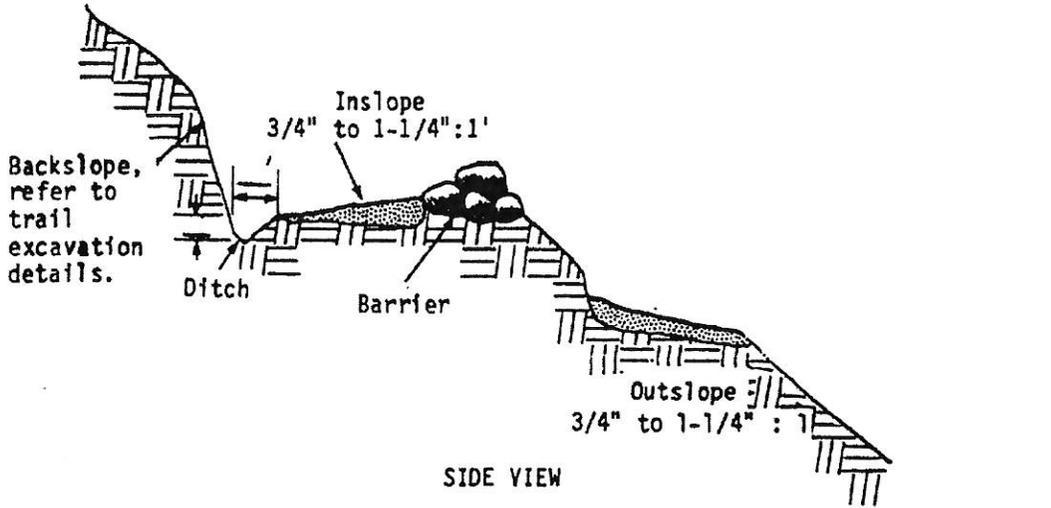


NOTE: SEE CITY STANDARD DRAWING 605-0, PARAGRAPH NO.2 FOR ADDITIONAL CLEARING REQUIREMENTS.

RURAL MULTI-USE TRAIL DETAILS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. J. de la Serna</i>	Date: <u>10-18-00</u>
Drawn By:		Approved: <i>Paul T. Naranjo</i> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		603-0	
		Page 1 of 6	

Switchback Details



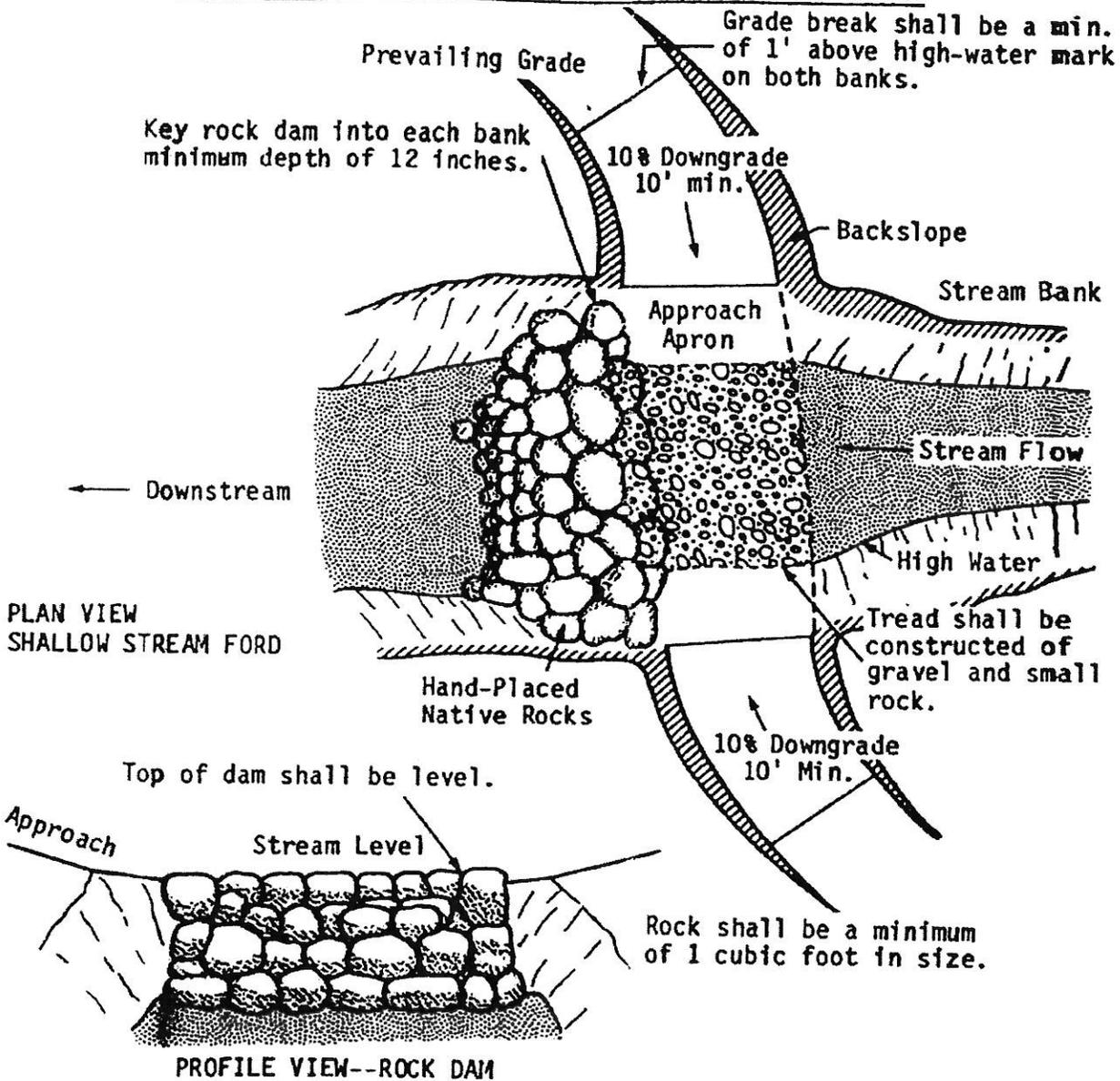
Radius (X') is denoted by staked markings at each individual site and as SHOWN ON THE DRAWINGS.

RURAL MULTI-USE TRAIL DETAILS

CITY OF YUCAIPA, CALIFORNIA

Revisions		Department of Public Works		Engineering Division
Mark	Date	Descriptions	Recommended:	STANDARD DRAWINGS
			<i>D. Podul Schmidt</i> Date: <u>9-26-00</u>	603-0 Page 2 of 6
Drawn By:			Approved: <i>Paul T. Neapport</i> Date: <u>10-23-00</u> City Engineer	

Shallow Stream Ford & Gully Crossing--Rock Structure

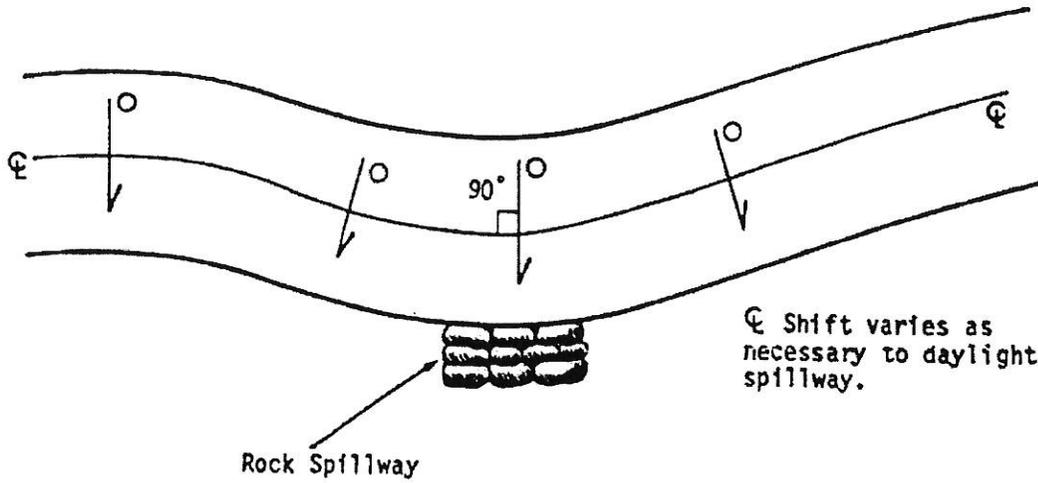


(FOR STREAM CROSSINGS)

RURAL MULTI-USE TRAIL DETAILS

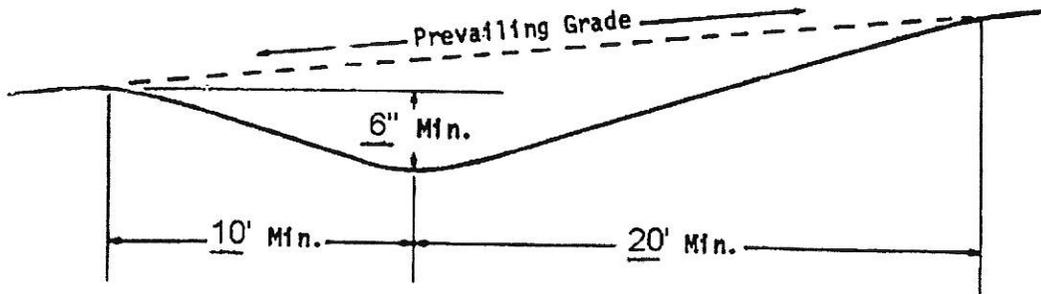
Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmidt</i>	Date: <u>9-26-00</u>
		Approved: <i>Raul T. Nagel</i>	Date: <u>10-23-06</u>
Drawn By:		City Engineer	
		STANDARD DRAWINGS	
		603-0	
		Page 3 of 6	

Drainage Dip



Maintain 3/4" to 1-1/4":1' outslope (O →) and trailbed width as shown per plan

PLAN VIEW



PROFILE

RURAL MULTI-USE TRAIL DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

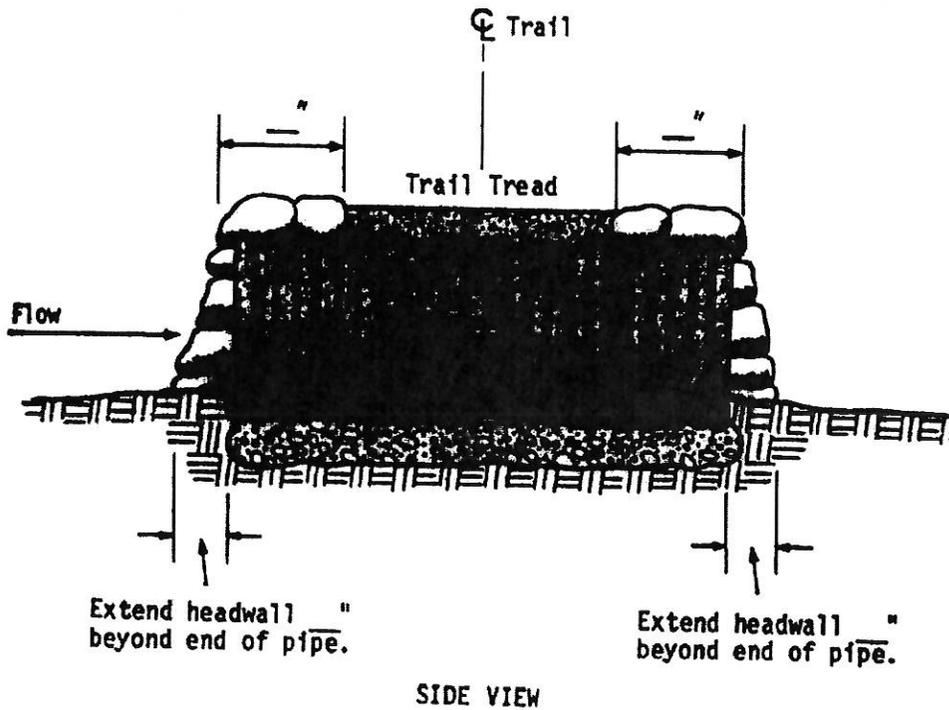
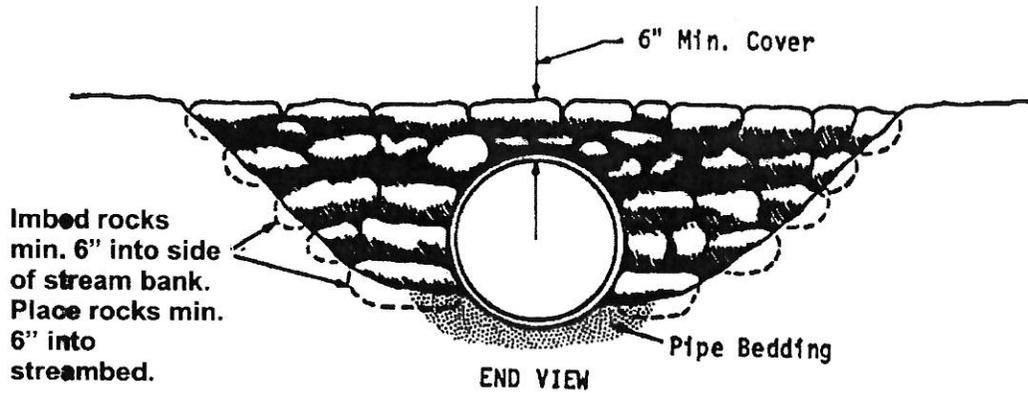
Revisions	
Mark	Date

Recommended: D. Todd Schmieder Date: 9-26-00

Approved: Paul T. Naegemaest Date: 10-23-00
City Engineer

STANDARD DRAWINGS
603-0
 Page 4 of 6

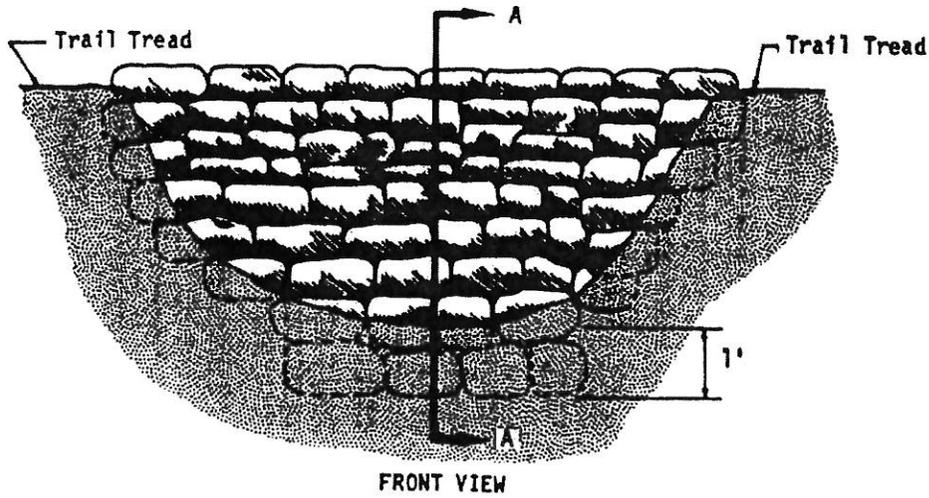
Culvert



RURAL MULTI-USE TRAIL DETAILS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. P. ...</i>	Date: <u>10-18-00</u>
Drawn By:		Approved: <i>Paul T. ...</i> City Engineer	Date: <u>10-23-00</u>
		STANDARD DRAWINGS	
		603-0	
		Page 5 of 6	

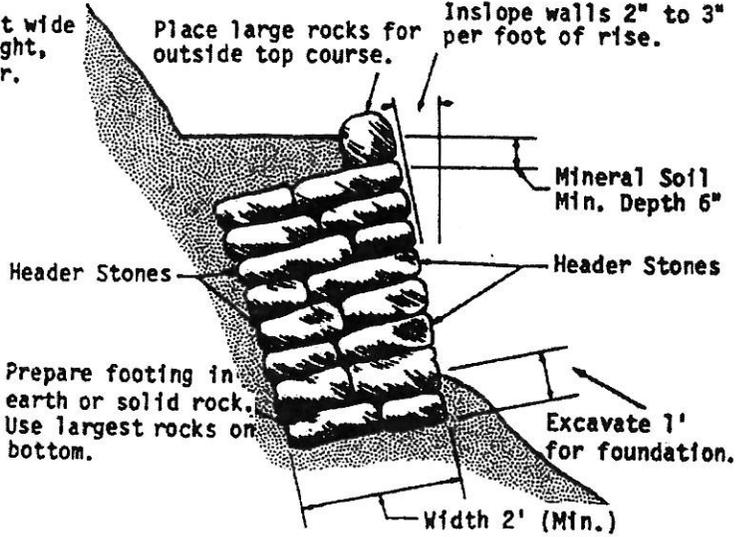
Rock Retaining Wall



Wall shall be 2 feet wide or 1/2 the wall height, whichever is greater.

Place large rocks for outside top course.

Inslope walls 2" to 3" per foot of rise.



Location	Height

Prepare footing in earth or solid rock. Use largest rocks on bottom.

CROSS SECTION A-A
ROCK RETAINING WALL

RURAL MULTI-USE TRAIL DETAILS

CITY OF YUCAIPA, CALIFORNIA

Revisions	
Mark Date	Descriptions

Department of Public Works

Engineering Division

Recommended: *D. Podd Schmidt*

Date: 9-26-00

STANDARD DRAWINGS

603-0

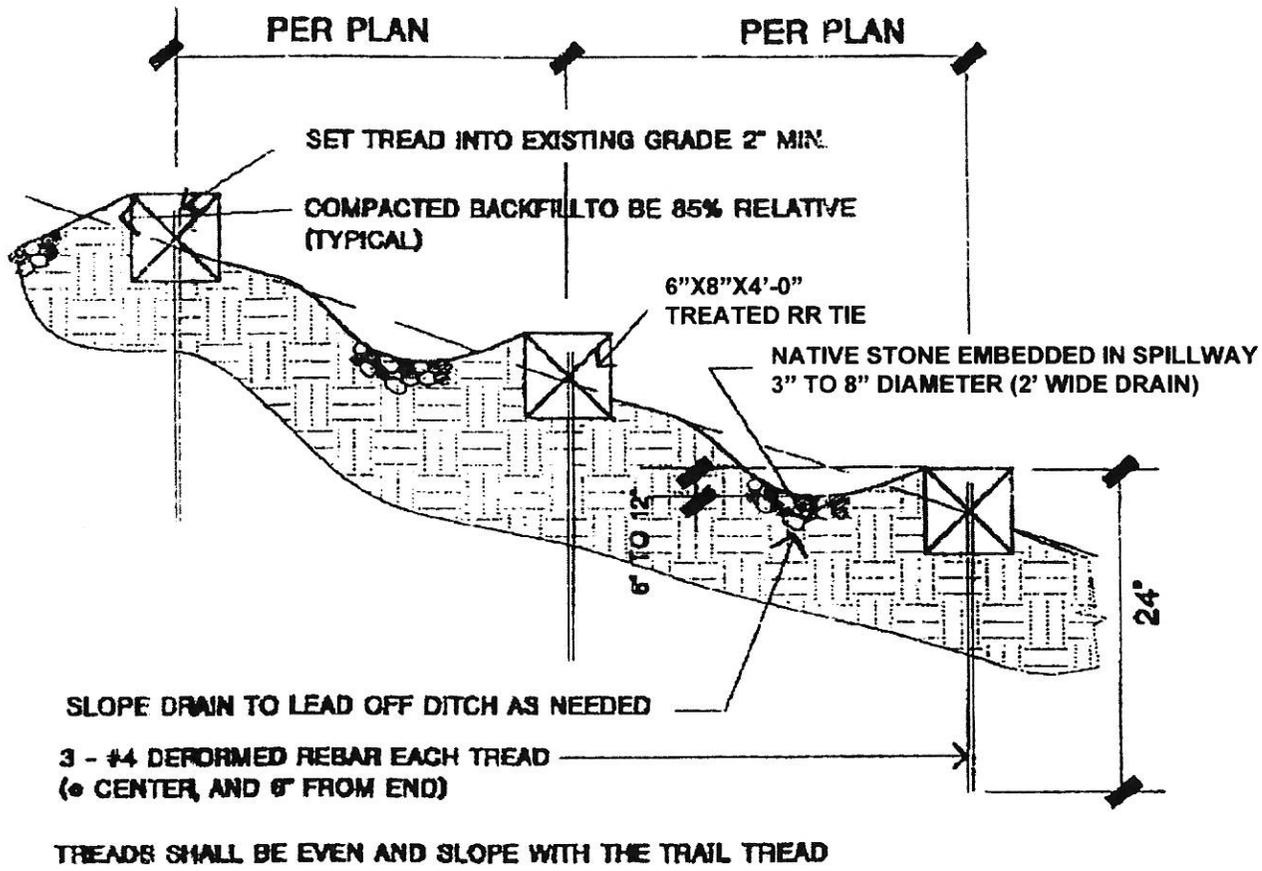
Drawn By:

Approved: *Paul T. Nappert*

Date: 10-23-00

Page 6 of 6

City Engineer



WOODEN RAIL TRAIL STEPS

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <i>D. Podul Schmidt</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. N...</i> City Engineer	Date: <i>10-23-00</i>
		STANDARD DRAWINGS 604-0	

TRAIL SPECIFICATIONS

(For all of the following written specifications, refer also to the associated City Standard Plans.)

1. **LAYOUT AND ALIGNMENT:** The approved trail alignment, will be flagged on the ground before construction begins. The initial map is intended as an approximate location, and minor deviations may occur during construction to fit the trail appropriately to the terrain. However, the final location will not change significantly without prior City approval. Before final acceptance, a revised "as built" map and log detailing the actual location of the trail and various structures will be provided by the contractor.

2. **CLEARING AND GRUBBING:** Vegetation will be removed from the trail prism (8' wide and 10' high) and scattered below in such a manner as to not obstruct drainage. Roots and stumps will be removed from the tread surface. Limbs and vegetation will be cut approximately flush with the backslope or ground, tree trunk or stem. Clearing operations shall be done with an effort to enhance trail aesthetics and safe use.

3. **EXCAVATION AND EMBANKMENT:** The tread width standard is 4', utilizing full bench construction. Excavated soil and rocks will be spread evenly below trail edge and, where needed for embankment or structures, conserved. Trail will be outsloped approximately 2% to assist with sheet drainage and to assure that excess material does not impede drainage flow or create a windrow effect. Alignment will be contoured and undulated to enable natural cross drains and dips, and keep grades below 7% wherever possible. 2' x 2' rock spillways shall be constructed at significant drainage outlets, if native rock is available. Finished tread surface will be relatively smooth and backslopes uniform and roughened. Trail compaction will be accomplished with normal construction traffic and equipment to no specific percentage.

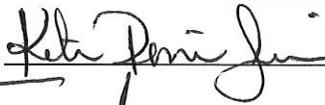
4. **STEPS AND STEP-BARS:** Where 10% grades are not possible, steps or step bars may be needed. These can be constructed with large flat rocks, if available, 4" x 6" treated wood steps or better quality used railroad ties secured with three 2' long, #4 rebar through drilled holes. For step bars, trail will be outsloped toward a 1' deep outdrain on the uphill side so that the step doubles as armor for the drain, and a 2' x 2' spillway added at the outlet with available rock. If more than one step is needed in a particular location, the drainage channel will not be necessary for each step.

RURAL MULTI-USE TRAIL SPECIFICATIONS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: 

Date: 3/09/15

Approved: 

City Engineer

Date: 3/9/15

STANDARD DRAWINGS

605-1

Page 1 of 2

5. **CULVERTS AND GULLY CROSSINGS:** Where trail crosses stream course or gullies, either rock gully crossing or culvert will be built depending on the conditions. For smaller channels, rock gully crossings are acceptable which utilize smaller rocks across the trail surface and a downstream check dam constructed of larger rocks. If the channel is more severe, culverts, built of black plastic pipe, will be utilized. The width and length of the culvert shall be sufficient to the flow volume and trail curvature. Culverts will be placed and skewed so as to permit unobstructed and sustained inlet and outlet flows. Catch basin and inlet wall will be built with flat rocks to assist inflow and not undermine the culvert. Bedding shall be a minimum of 6" of compacted granular material, free of large rocks. Downstream headwall will be shaped to fit the pipe end, and a 2' x 2' spillway constructed with available rock. Compacted backfill shall be placed around the culvert and the top covered to a minimum depth of 6".

6. **SWITCHBACKS:** If switchbacks are necessary to reduce grades, they should be located, if possible, on slope side below 50%. The area of the turn should be relatively flat with a minimum 6' radius and a rounded, rather than sharp, turning area. A turning barrier with available rock should be constructed on the inside portion of switch back to hold radius in place and prevent cutting. If necessary, a rock retaining wall will be built on the lower leg with compacted fill material developed in excavating upper leg. A 1' inside ditch with insloped tread shall be constructed on the upper leg, with a 2' x 2' spillway with available rock at the outlet.

7. **ROCK RETAINING WALLS:** The foundation shall be excavated to full bench and insloped to enable 2-3" batter per 1' of rise. Larger rocks shall be placed at the base and staggered joints introduced as each course is added. Smaller rocks and soil shall be used to fill voids, tie the wall together and eliminate unevenness between courses. Compacted mineral soil is used as the wall comes up to increase stability. The trail at the top is widened by 1' and outsloped so drainage is not impeded.

8. **MID-BLOCK TRAIL CROSSINGS:** Twenty (20) linear feet of designated "NO PARKING" signing and/or striping shall be installed adjacent to any mid-block trail crossing. Where a trail alignment enters a paved street, a rolled curb cut will be provided.

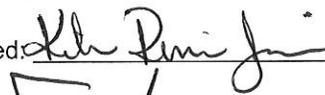
RURAL MULTI-USE TRAIL SPECIFICATIONS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: _____



Date: 3/09/15

Approved: _____



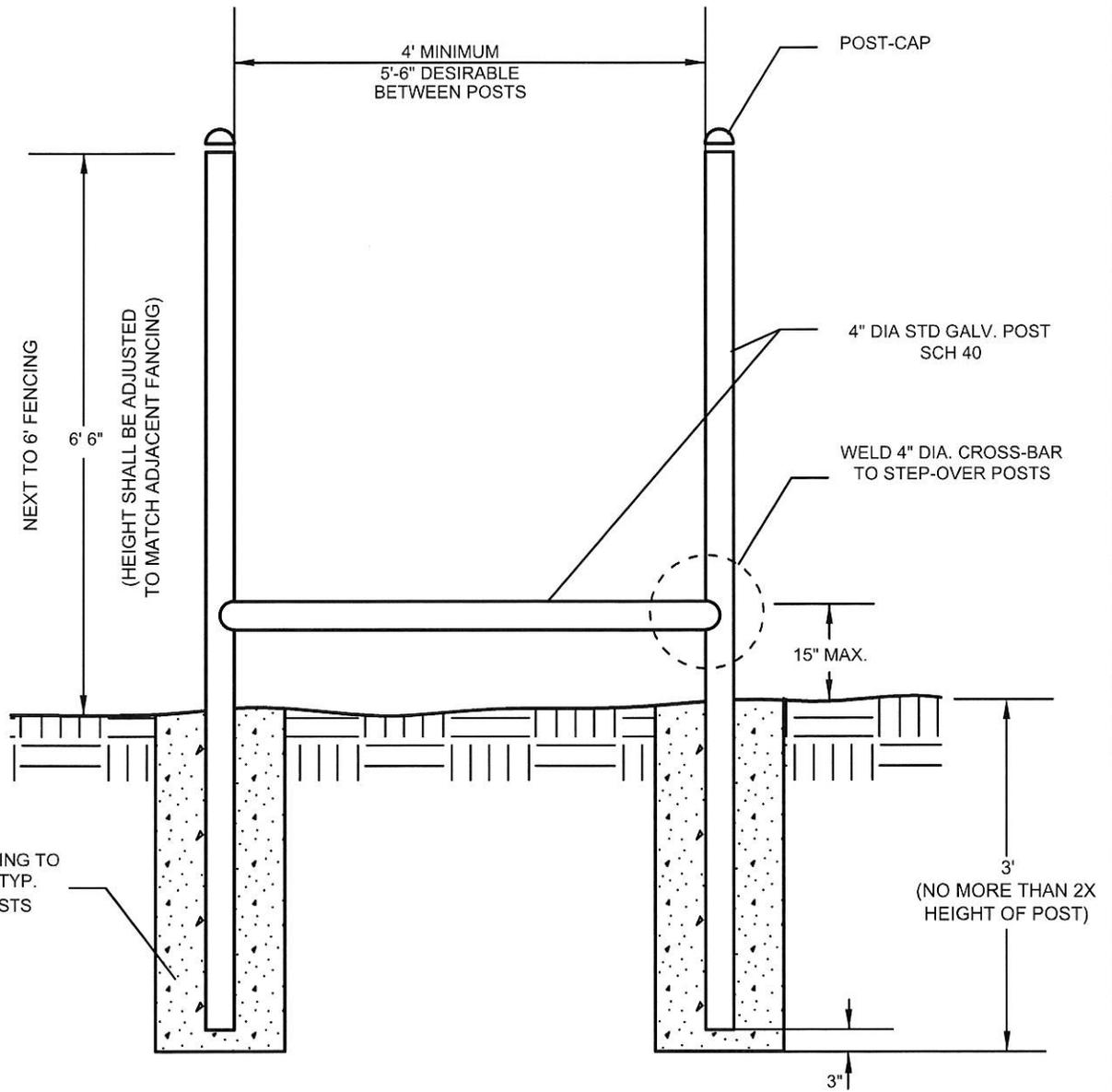
City Engineer

Date: 3/19/15

STANDARD DRAWINGS

605-1

Page 2 of 2



TRAIL ENTRANCE BARRIER STEEL PIPE STEPOVER

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *Keith Dominguez* Date: 3/09/15

Approved: *F. Salo* Date: 3/19/15
City Engineer

STANDARD DRAWINGS

606-2

SHEET 1 of 1

MULTI-PURPOSE TRAIL SPECIFICATIONS

1. Vertical Grade: The following grades shall be observed:
 - 0-5% - optimum.
 - 6%-10% - maximum for distances up to 100 feet.
 - 11%-15% - maximum for distances up to 50 feet.
 - >15% - requires Trails and Open Space Committee review (25' max.).
2. Cross Section: 2-4% optimum; 6% maximum in approved locations only.
3. Drainage: where trail gradient exceeds 4%, water bars, splash curbs, or other diversionary devices may be required. Location of drainage devices to be reviewed and approved by the Planning Department.
4. Side Slope Cuts and Fills: 2:1 Maximum; 4:1 maximum between curb and trail.
5. Surfacing: Parkway trail surfaces shall be stabilized decomposed granite with 4 inch minimum base. Remove rocks and debris and grade surface smooth. Hillside and interior trails are to be left natural surface with appropriate clearing as approved by Public Works Department.
6. Clearance: All trees and signs shall maintain a 10 foot minimum overhead clearance. Adequate sight distance to be maintained at all intersections and drive approaches. Fence line shall end 10 feet back from B.C.R. (beginning of curb return) in 20 foot easements. In smaller easements, determination should be made case by case. Fence line shall be 5 feet back from the top of the "X" at drive approaches. Adequate access to utilities should be maintained. Fence line shall allow three foot (3') minimum clearance on either side of any fire hydrant and 1 foot to either side of any street light or utility pole.
7. Flood and Drainage Channel Crossings: Where trail must cross existing or proposed drainage channels, the continuity of the trail shall be maintained by construction of an appropriate crossing such as bridges, ramp ways, culverts, etc. Wood or "medium broom" finish concrete shall be used to prevent slipping (no metal surfaces permitted). Natural streambed crossings should be left as natural as possible.

MULTI-PURPOSE TRAIL STANDARDS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended:  Date: 3/09/15

STANDARD DRAWINGS

607-2

Approved:  Date: 3/9/15
City Engineer

Page 1 of 3

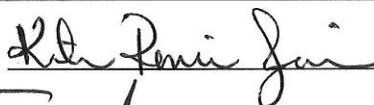
8. Trail Entrance: Trail entrances shall be designed to provide for equestrian, pedestrian & bicycling use, and shall discourage motor vehicle and motorcycle access. Refer to standard drawings for trail entrance stepover barriers. Where there is no barrier, the trail shall be posted.
9. Street Crossings: Crossings shall be at grade with appropriate street striping and signing. For equestrian use, texturized pavement is required to prevent slipping, such as "heavy broom" finished concrete.
10. Concrete Aprons: For drive approaches, at trail entrances, or at drainage crossings, concrete aprons shall be a transverse "heavy broom" finish.
11. Minimum Width: Standards for widths, slopes and buffers may be flexible due to physical features, such as natural topography, structures, available space, and where necessary to preserve natural environment and existing trees as determined by City Staff in consultation with Trails and Open Space Committee.
12. Planting: Street trees shall be planted as approved by Planning Department. No toxic plants are permitted.
13. Streetside Fencing: Streetside fencing shall be constructed according to attached standards. Materials used shall be determined by City Staff in consultation with Trails and Open Space Committee.
14. Property Side Fencing: Homeowner or developer may install fencing or decorative block wall on property side of trail to define trail easement. Subject to approval of City Staff in consultation with the Planning Department.
15. Flood Control Easements: When trail follows existing or planned flood control facilities constructed by San Bernardino Flood Control District and Army Corps of Engineers, any construction within their rights-of-way requires review and approval by those agencies, and is subject to their standards and policies.
16. Signage: In natural areas, signs shall be made with natural materials such as wood or rock. Streetside signs shall be approved by Trails and Open Space Committee and the City Engineer.

MULTI-PURPOSE TRAIL STANDARDS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: 

Date: 3/09/15

STANDARD DRAWINGS

607-2

Approved: 
City Engineer

Date: 3/9/15

Page 2 of 3

17. Trail Classifications:
 Class I - 48" to 96" wide, surfaced
 Class II - 24" to 36" tread, not more than 100' of 10% grade
 Class III - 12" to 24" tread of natural material
18. The following trail surfaces are allowed on a site specific basis for the specific classification assigned to the trail:

For Rural Trails:

- A. Natural
- B. Natural – Compacted

For Urban Trails:

- A. Stabilized Decomposed Granite (DG) with soil stabilizer premixed prior to delivery.
- B. Slag.
- C. Asphalt.
- D. "Heavy Broom" Brushed Concrete – not to exceed 20' in width
- E. "StaLok" Decomposed Granite (Depending on location and grade of trail).

Exceptions:

- 1. Special considerations may be in order for the flexibility of some standards due to previous agreements for trail links.
- 2. Natural or native materials may be acceptable as determined by City Engineer in consultation with the Trails and Open Space Committee.

MULTI-PURPOSE TRAIL STANDARDS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: Kurt Puri Jani

Date: 3/09/15

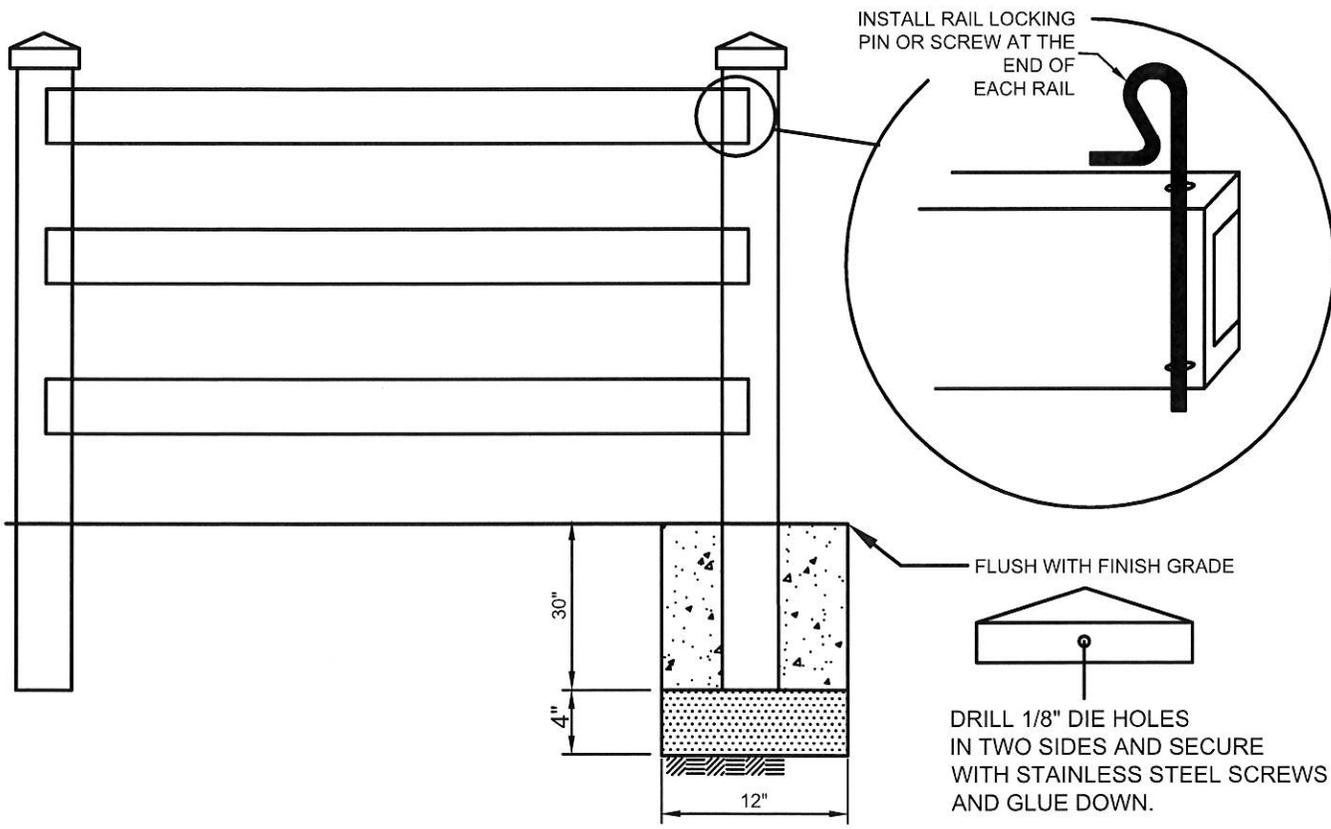
Approved: Esbo
 City Engineer

Date: 3/9/15

STANDARD DRAWINGS

607-2

Page 3 of 3



NOTES:

- (1) THE CITY STANDARD TRAIL FENCE SHALL BE A TWO (2) RAIL FENCE, COLOR TAN. A THREE (3) RAIL OR FOUR (4) RAIL FENCE REQUIRES PRIOR APPROVAL FROM THE CITY ENGINEER.
- (2) 16-FOOT RAILS ARE TO BE STAGGERED AND THREADED THROUGH POSTS.
- (3) ALL FENCE POSTS TO BE SET IN 12" DIAMETER BY 24" DEEP HOLE FILLED WITH CONCRETE ON TOP OF A 4" LAYER OF GRAVEL FOR POST DRAINAGE.
- (4) THE RAILS MUST REMAIN LEVEL FROM POST TO POST WHEN USING PRE-NOTCHED POSTS.
- (5) UNLESS APPROVED BY CITY ENGINEER, ONLY TWO-RAIL FENCING SHALL BE INSTALLED ALONG PUBLIC RIGHT OF WAY.
- (6) POSTS SHALL BE 6" X 6" HOLLOW.
- (7) RAILS CAN BE EITHER 1" X 6", 2" X 6".
- (8) INSTALLATION SHALL BEGIN BY LAYING OUT ALL FENCE CORNERS, GATES AND END POST BY DRIVING STAKES AT EACH POINT THEN LOCATING POST LAYOUT AND DRIVING STAKES. CONTRACTOR SHALL OBTAIN APPROVAL OF STAKE LAYOUT FROM CITY INSPECTOR PRIOR TO INSTALLING ANY POSTS AND SUBMIT SAMPLES PRIOR TO ORDERING.

* MATERIAL PROPERTIES	ASTM NUMBER	TYPICAL VALUES
Density (lbs / cu. in.)	D792	
Compression (psi @ 0.4)	D695	0.023 - 0.028
Tensile (psi)	D638	3000 - 3100
Flexural Strength (psi)	D790	2100 - 2600
Tangent Modulus		4000 - 5000
Coef Thermal Expansion (in/in/deg F)	D696	-216,000 - 222,000
Vicat Softening Point (F)	Chevron Chemical	.00007
Brittleness Point (F)	Chevron Chemical	150 - 160 (F) (-100) - (-104) (F)

*FOR REFERENCE ONLY

HDPE - TRAIL FENCE

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

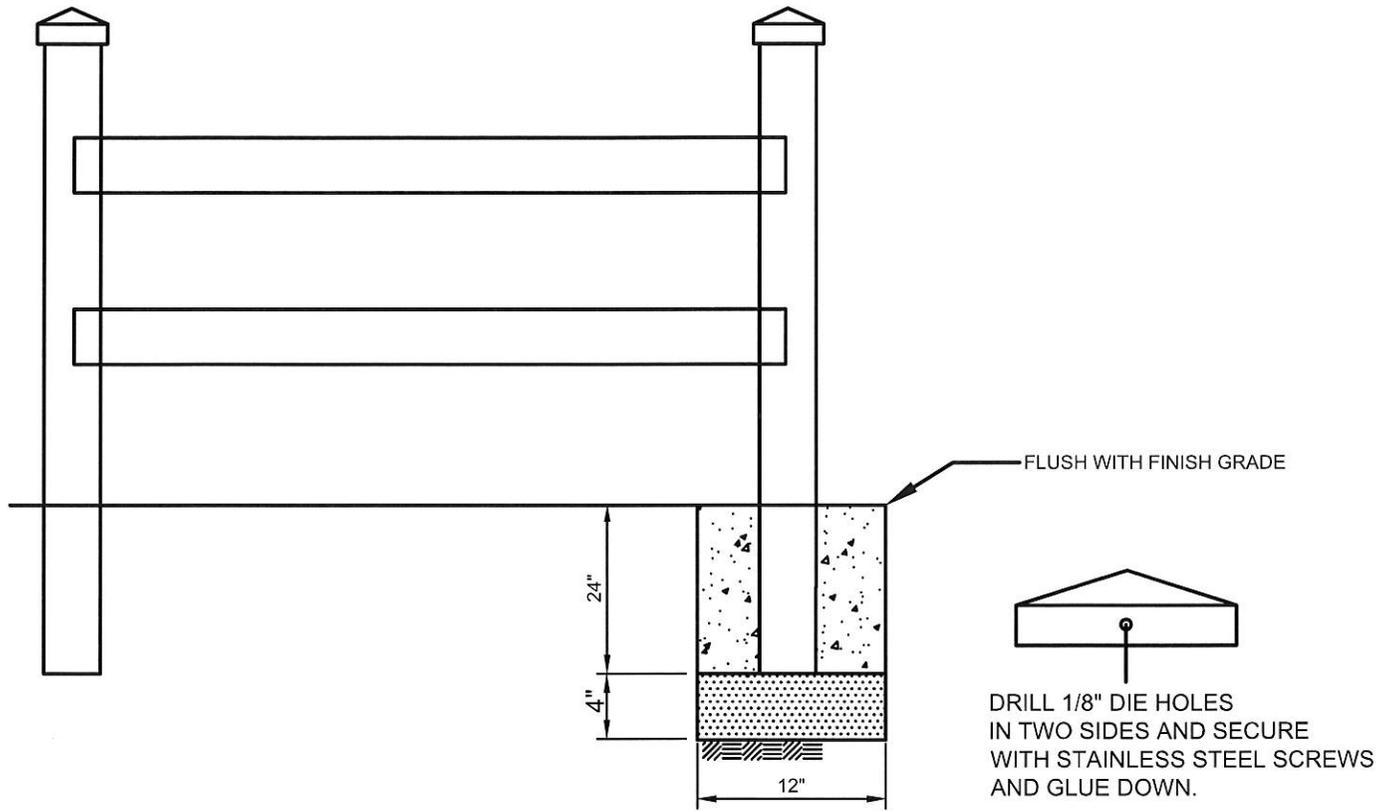
Recommended: *Ketur Peni Ji* Date: 3/09/15

Approved: *[Signature]* Date: 3/9/15
City Engineer

STANDARD DRAWINGS

610-2

SHEET 1 OF 1



NOTES:

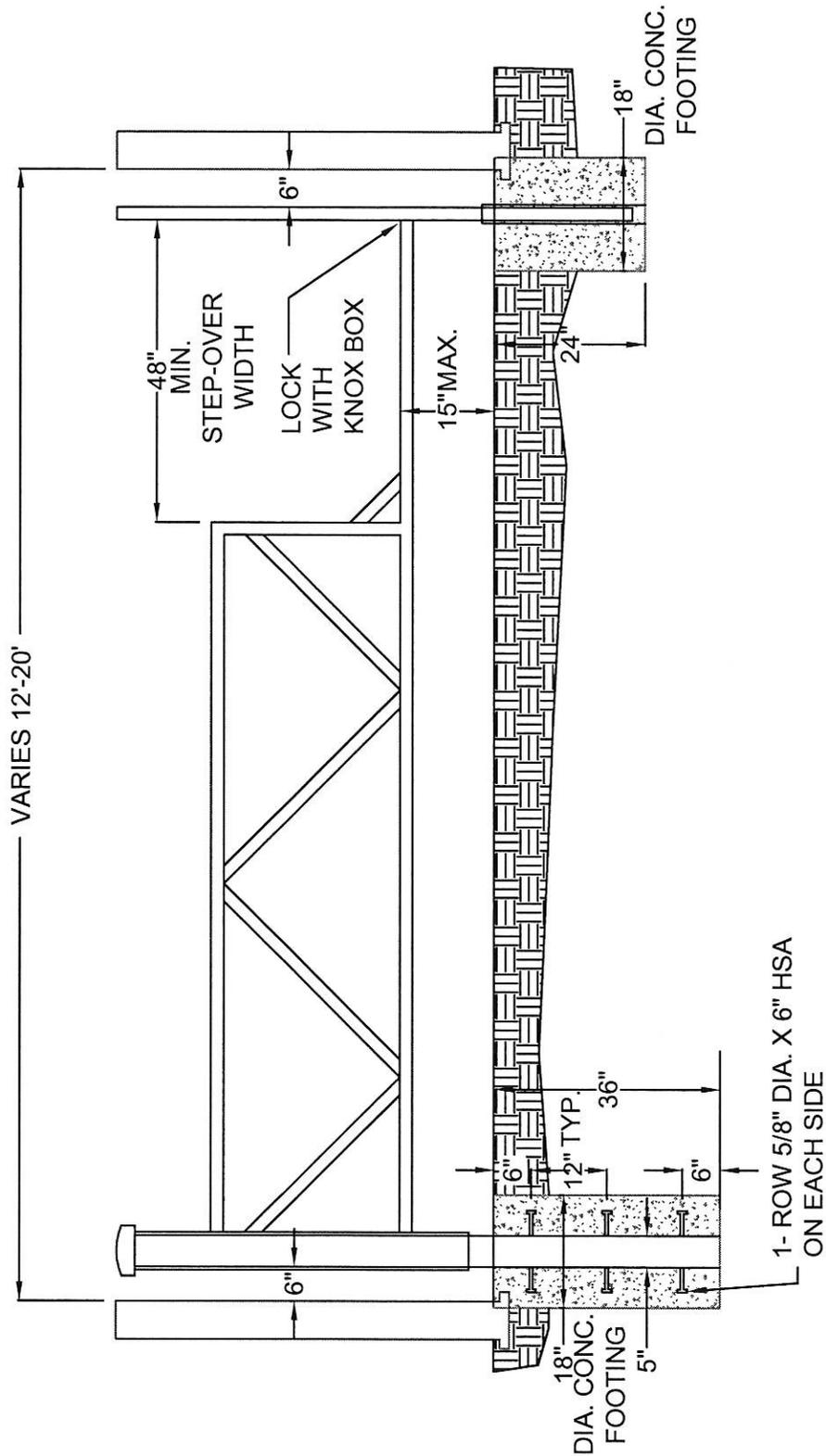
- (1) THE CITY STANDARD TRAIL FENCE SHALL BE A TWO (2) RAIL FENCE (TAN).
- (2) 16-FOOT RAILS ARE TO BE STAGGERED AND THREADED THROUGH POSTS.
- (3) ALL FENCE POSTS TO BE SET IN 12" DIAMETER BY 24" DEEP HOLE FILLED WITH CONCRETE ON TOP OF A 4" LAYER OF GRAVEL FOR POST DRAINAGE.
- (4) THE RAILS MUST REMAIN LEVEL FROM POST TO POST WHEN USING PRE-NOTCHED POSTS.
- (5) UNLESS APPROVED BY CITY ENGINEER, ONLY TWO-RAIL FENCING SHALL BE INSTALLED ALONG PUBLIC RIGHT OF WAY.
- (6) POSTS SHALL BE 5-1/2" X 5-1/2" HOLLOW.
- (7) RAILS SHALL BE 2" X 6" AND SCREWED TO POSTS.
- (8) INSTALLATION SHALL BEGIN BY LAYING OUT ALL FENCE CORNERS, GATES AND END POST BY DRIVING STAKES AT EACH POINT THEN LOCATING POST LAYOUT. CONTRACTOR SHALL OBTAIN APPROVAL OF STAKE LAYOUT FROM CITY INSPECTOR PRIOR TO INSTALLING ANY POSTS.
- (9) CITY SHALL APPROVE FENCE MANUFACTURER PRIOR TO INSTALLATION (SUBMIT SAMPLES PRIOR TO ORDERING).

GATES:

AFTER GATE HARDWARE IS INSTALLED, THE ENTIRE GATE POST(S) SHALL BE FILLED WITH CONCRETE AND ALLOWED TO DRY FOR 3 DAYS BEFORE HANGING GATES.

PVC- TRAIL FENCE

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u><i>Kath Doni Jani</i></u> Date: <u>3/09/15</u>	STANDARD DRAWINGS
		Approved: <u><i>Rolo</i></u> Date: <u>3/9/15</u> City Engineer	611-1
Drawn By:			



ACCESS GATE WITH STEP-OVER DETAIL

CITY OF YUCAIPA, CA

Revisions

Mark Date	Descriptions

Department of Public Works

Engineering Division

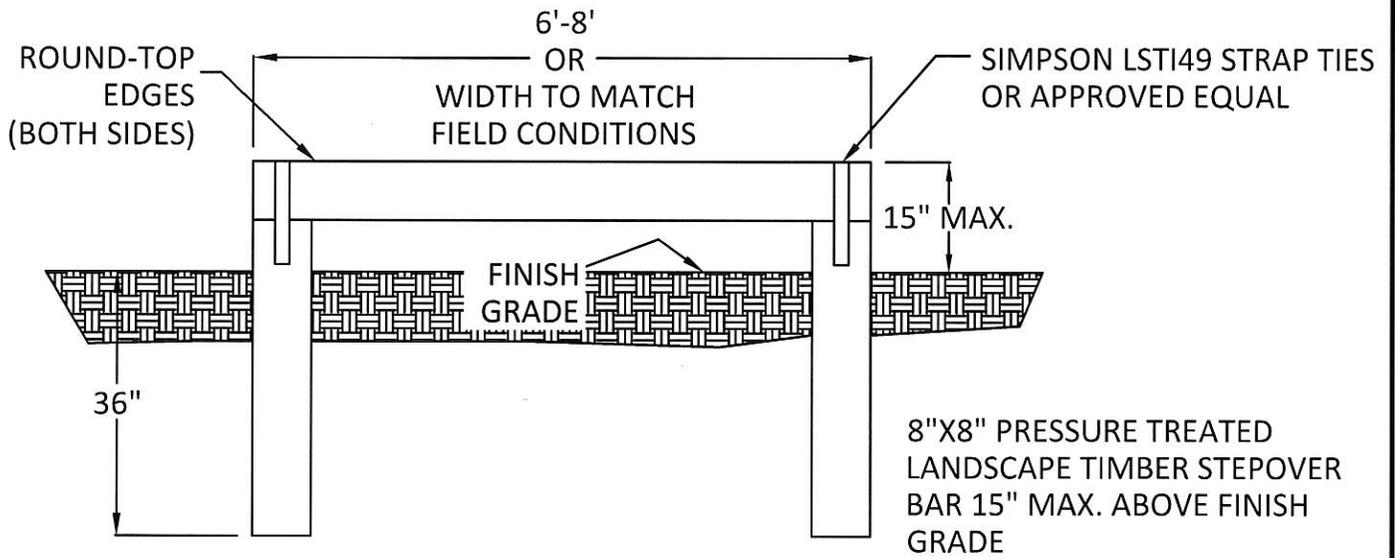
Recommended: *F. Preciado* Date: 7-8-08

STANDARD DRAWINGS

613-0

Drawn By:

Approved: *Mary G. Conway* Date: 7/8/08



TRAIL ENTRANCE BARRIER TIMBER STEPOVER

CITY OF YUCAIPA, CA

Department of Public Works

Engineering Division

Recommended: *Ken Pami Jan*

Date: 3/09/15

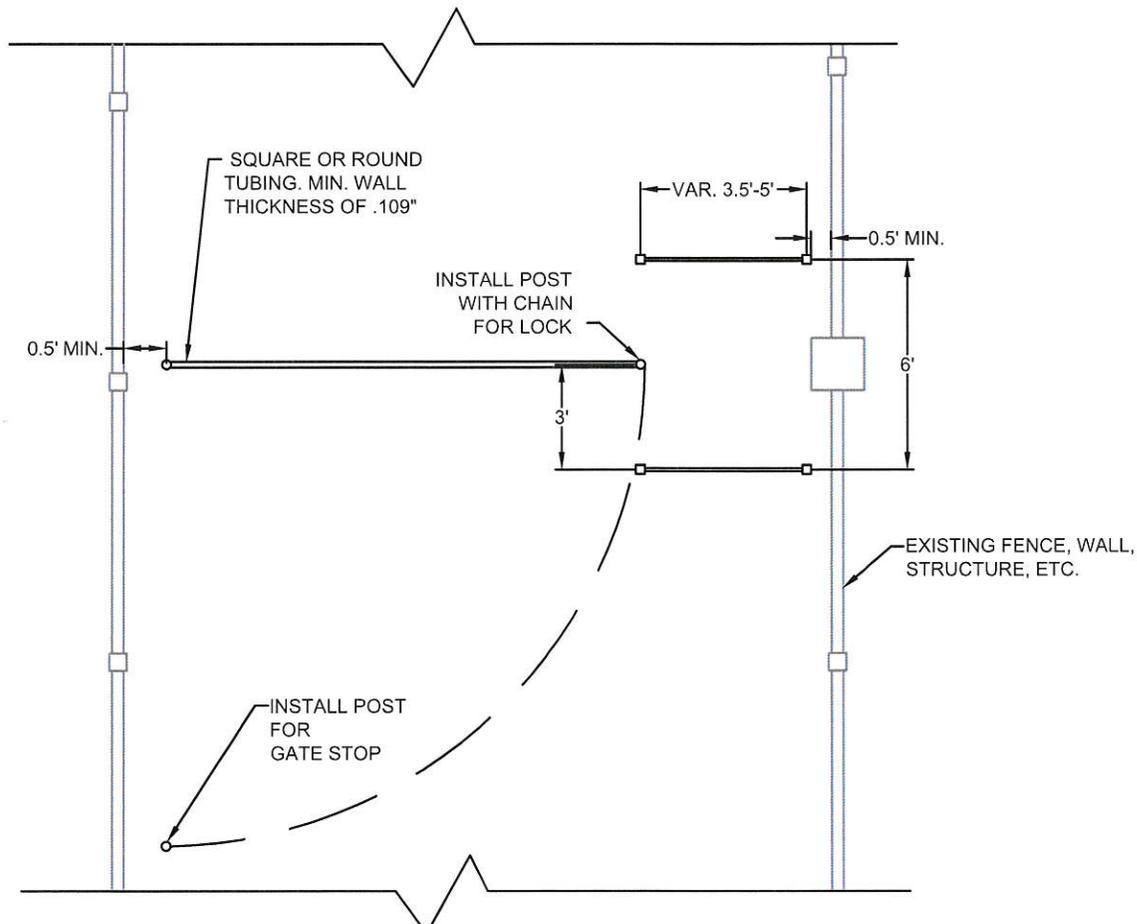
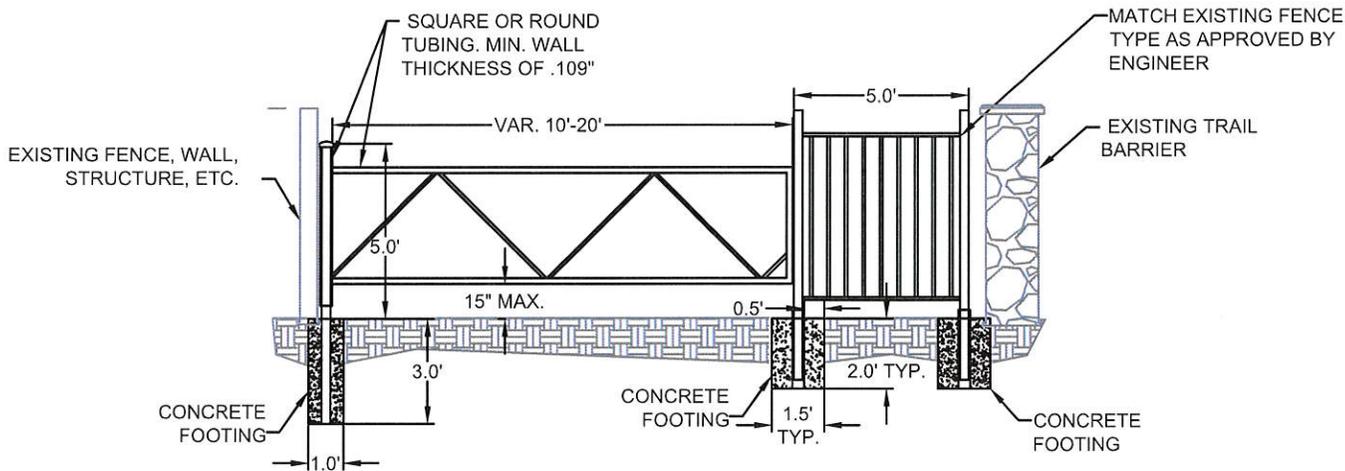
Approved: *[Signature]*

Date: 3/19/15

STANDARD DRAWINGS

614-1

Page 1 of 1



NOTE:
 MODIFICATIONS TO THIS STANDARD REQUIRED TO FIT EXISTING CONDITIONS REQUIRE
 PRIOR APPROVAL BY THE CITY ENGINEER.

TRAIL ENTRANCE BARRIER - NO STEP-OVER

CITY OF YUCAIPA, CA

Department of Public Works

Engineering Division

Recommended: *[Signature]*

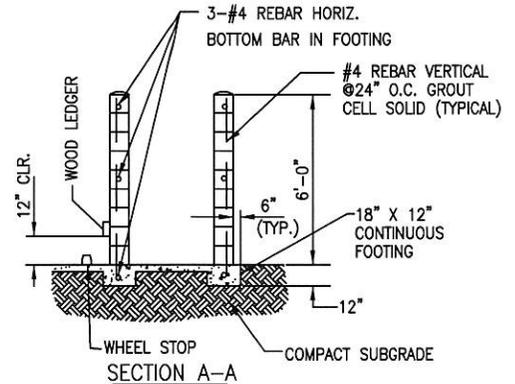
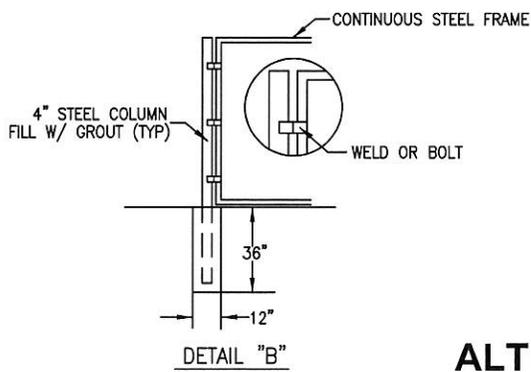
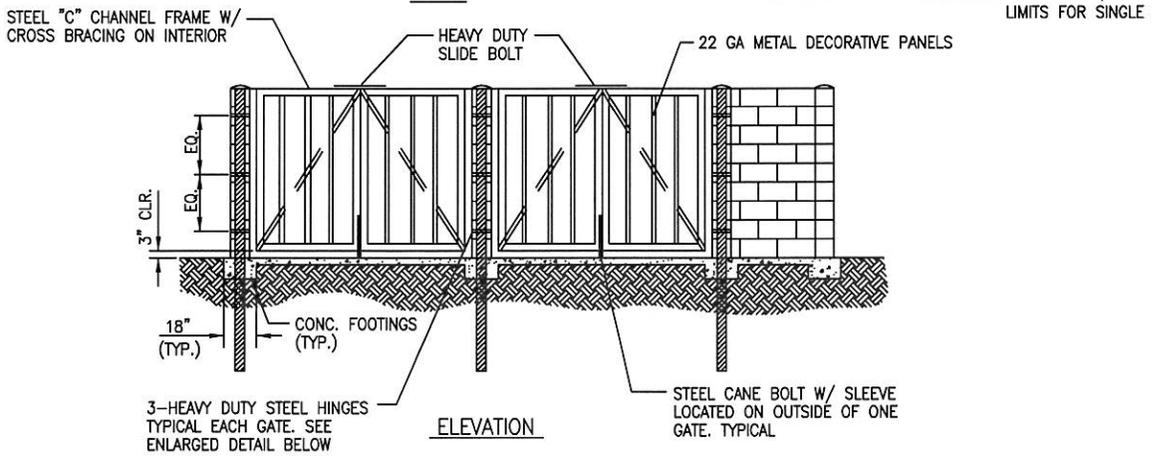
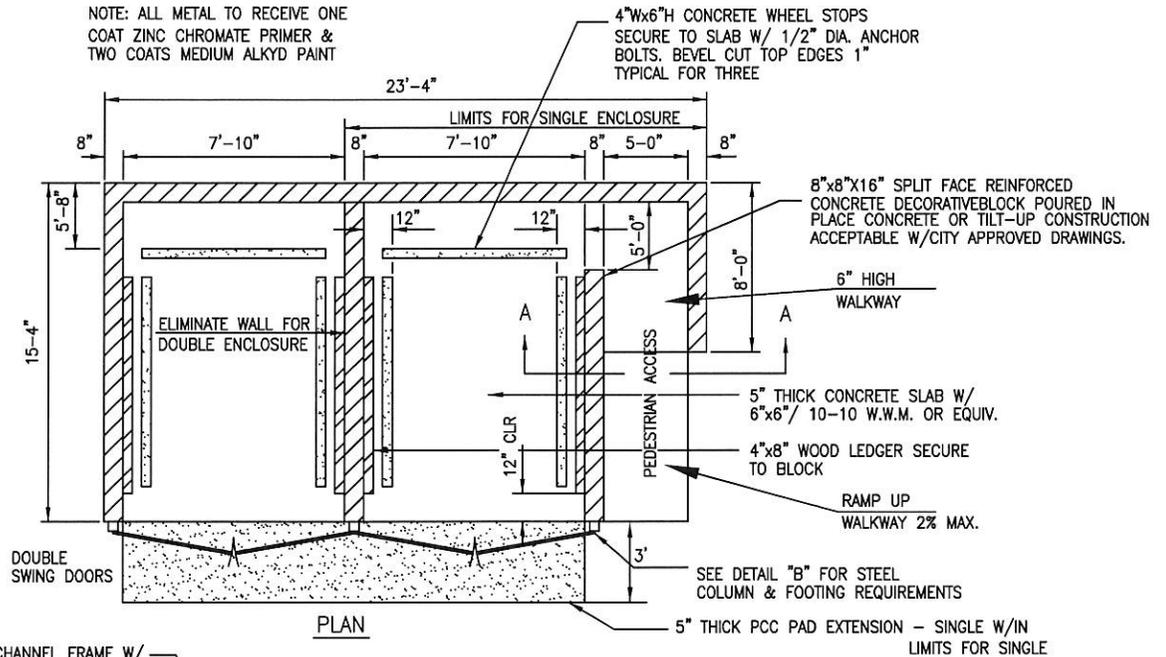
Date: 3/09/15

STANDAR DRAWINGS

Approved: *[Signature]*

Date: 3/9/15

615-0



ALTERNATIVE NO. 1

TRASH ENCLOSURE DETAILS

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended: *[Signature]* Date: 3/09/15

Approved: *[Signature]* Date: 3/9/15
City Engineer

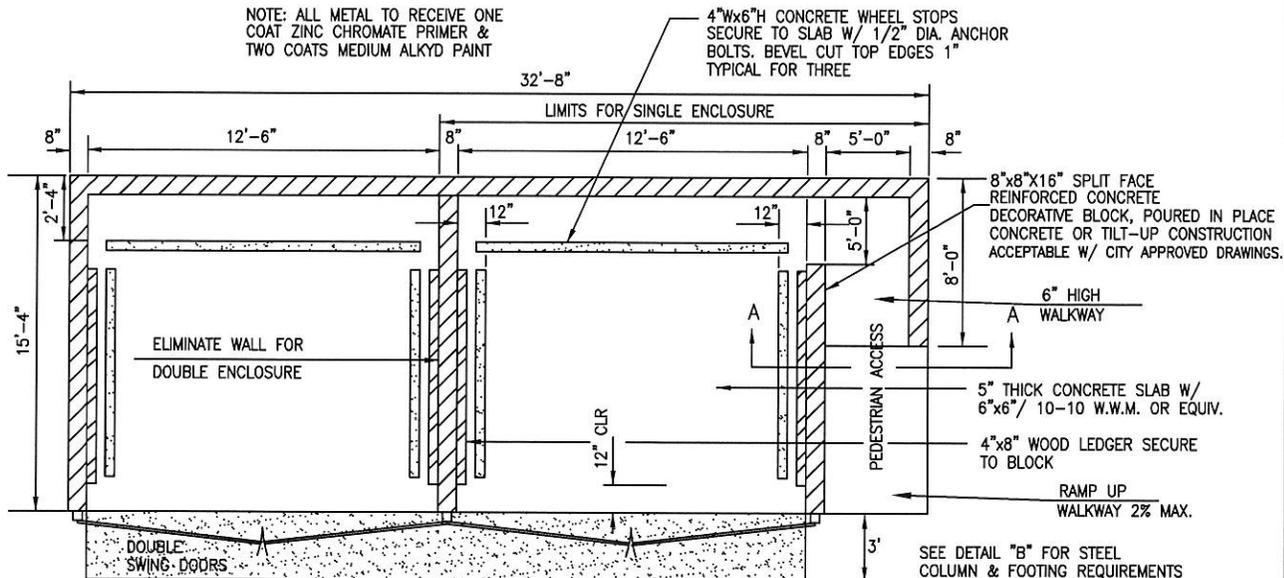
STANDARD DRAWINGS

620-4

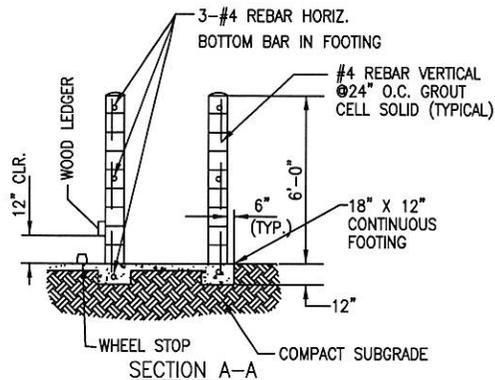
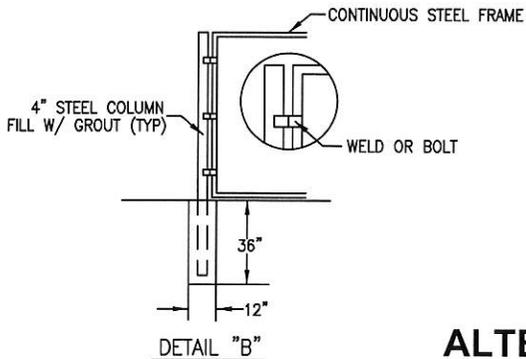
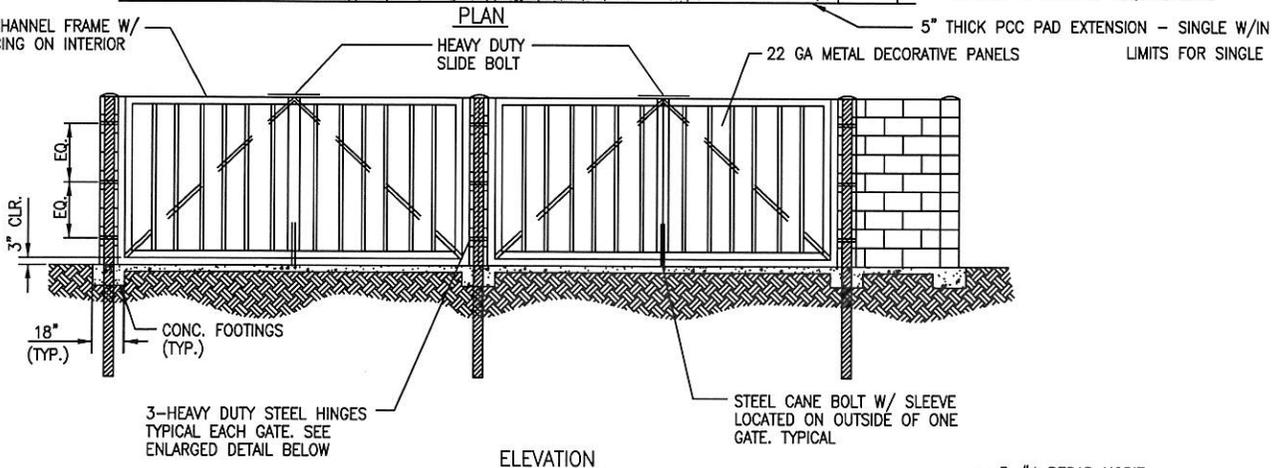
SHEET 1 OF 3

NOTE: ALL METAL TO RECEIVE ONE COAT ZINC CHROMATE PRIMER & TWO COATS MEDIUM ALKYD PAINT

4"x6"xH CONCRETE WHEEL STOPS SECURE TO SLAB W/ 1/2" DIA. ANCHOR BOLTS. BEVEL CUT TOP EDGES 1" TYPICAL FOR THREE



STEEL "C" CHANNEL FRAME W/ CROSS BRACING ON INTERIOR



ALTERNATIVE NO. 2

TRASH ENCLOSURE DETAILS

Revisions	CITY OF YUCAIPA, CALIFORNIA		Engineering Division
	Department of Public Works		
	Recommended: <i>Lite Rui Jan</i>	Date: <u>3/09/15</u>	620-4
	Approved: <i>Felo</i>	Date: <u>3/9/15</u>	
	City Engineer		SHEET 2 OF 3

NOTES:

1. Alternative No. 1 shall be used in all situations unless prior approval for using Alternative No. 2 is given by the City Engineer.
2. Concrete to be 560-c-3250. Grout to be 1 part portland cement, 2 parts sand, 1-1/2 parts no. 4 concrete aggregate.
3. Solid grout all cells of all sides exposed to traffic.
4. Trash container enclosure to be located clear of other structures were possible but accessible to both deposit and pickup.
5. Slab to meet finished grade. If slab does not meet finished grade, provide ramp slope at 1/4" per foot maximum.
6. Location, size and number of structures will be determined by the city prior to issuance of building permit.
7. All hardware to be corrosion resistant.
8. Plans must show trash enclosure area in detail.
9. Areas in front of enclosures to remain clear to enable bins to be rolled out for pickup.

TRASH ENCLOSURE DETAILS

CITY OF YUCAIPA, CALIFORNIA	
Department of Public Works	Engineering Division
Recommended: <u></u> Date: <u>3/09/15</u>	STANDARD DRAWINGS 620-4 SHEET 3 of 3
Approved: <u></u> Date: <u>3/9/15</u> City Engineer	

TABLE A

Min. Setback From Adjacent Slope					
H (hgt) Feet	a	b	c	d	e
0 < 6	3'	7'	3'	5'	1'
6 - 14	5'	7'	H / 2	H/2 5' min.	H / 5
14 - 30	5'	H/2 10' max.	H / 2	H/2 10' max.	H / 5
+30	5'	10'	15'	10'	6'

TABLE B

H (hgt.) Feet	Max. Hw	Min. Setback f
0 - 6	3'	3' min
6 - 12	H / 2	H / 2
12 - 30	6'	H / 2
+ 30	6'	15'

FIG. A

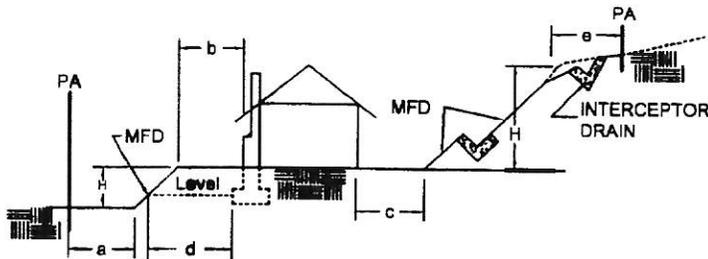
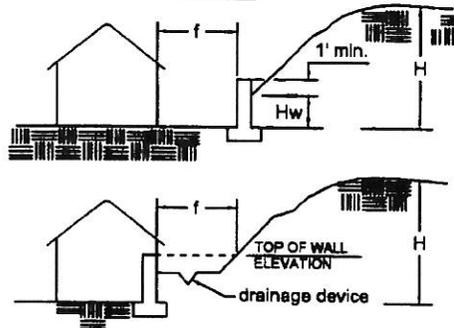


FIG. B

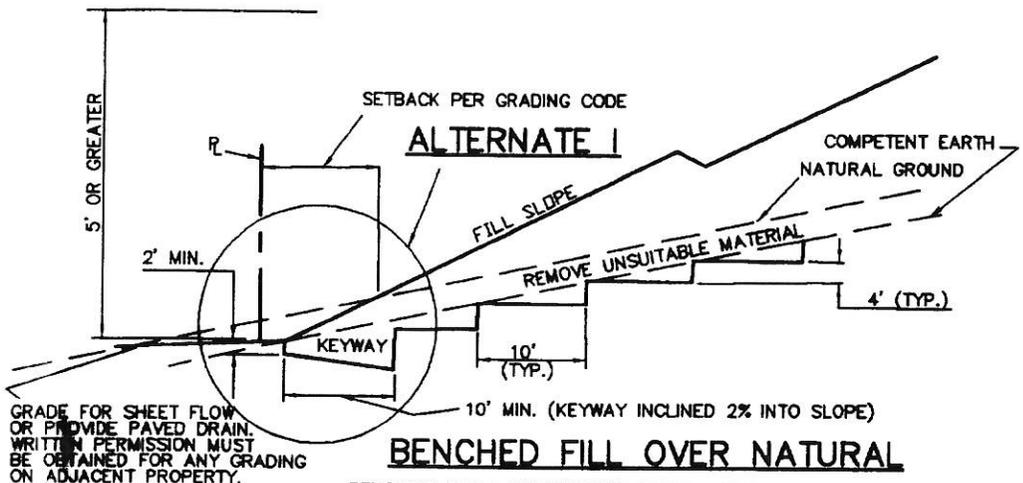


NOTES:

1. PA MEANS PERMIT AREA BOUNDARY AND/OR PROPERTY LINE; MFD MEANS MANUFACTURED SURFACE.
2. SETBACK SHALL ALSO COMPLY WITH APPLICABLE ZONING REGULATIONS.
3. TABLE A APPLIES TO MANUFACTURED SLOPES AND 2:1 OR STEEPER NATURAL SLOPES FLATTER THAN 2:1 SHALL MEET THE APPROVAL OF THE BUILDING OFFICIAL.
4. "b" MAY BE REDUCED TO 5' MINIMUM IF AN APPROVED DRAINAGE DEVICE IS USED; ROOF GUTTERS AND DOWNSPOUTS MAY BE REQUIRED.
5. "b" MAY BE REDUCED TO LESS THAN 5' IF NO DRAINAGE IS CARRIED ON THIS SIDE AND IF ROOF GUTTERS ARE INCLUDED.
6. IF THE SLOPE BETWEEN "a" AND "b" LEVELS IS REPLACED BY A RETAINING WALL "a" MAY BE REDUCED TO ZERO AND "b" REMAINS AS SHOWN IN TABLE A. THE HEIGHT OF THE RETAINING WALL SHALL BE CONTROLLED BY ZONING REGULATIONS.
7. "b" IS MEASURED FROM THE FACE OF THE STRUCTURE TO THE TOP OF THE SLOPE.
8. "d" IS MEASURED FROM THE LOWER OUTSIDE EDGE OF THE FOOTING ALONG A HORIZONTAL LINE TO THE FACE OF THE SLOPE. UNDER SPECIAL CIRCUMSTANCES "d" MAY BE REDUCED AS RECOMMENDED IN THE APPROVED SOIL REPORT AND APPROVED BY THE CITY OFFICIAL.
9. THE USE OF RETAINING WALLS TO REDUCE SETBACKS (CITY) MUST BE APPROVED BY THE CITY OFFICIAL.
10. "f" MAY BE REDUCED IF THE SLOPE IS COMPOSED OF SOUND ROCK THAT IS NOT LIKELY TO PRODUCE DETRITUS AND IS RECOMMENDED BY THE SOILS ENGINEER OR ENGINEERING GEOLOGIST AND APPROVED BY THE CITY OFFICIAL.
11. "a" AND "e" SHALL BE 2' WHEN PA COINCIDES WITH ANY PUBLIC STREET RIGHT OF WAY AND WHEN IMPROVED SIDEWALK IS ADJACENT TO PROPERTY LINE.
12. "e" SHALL BE INCREASED AS NECESSARY FOR INTERCEPTOR DRAINS.

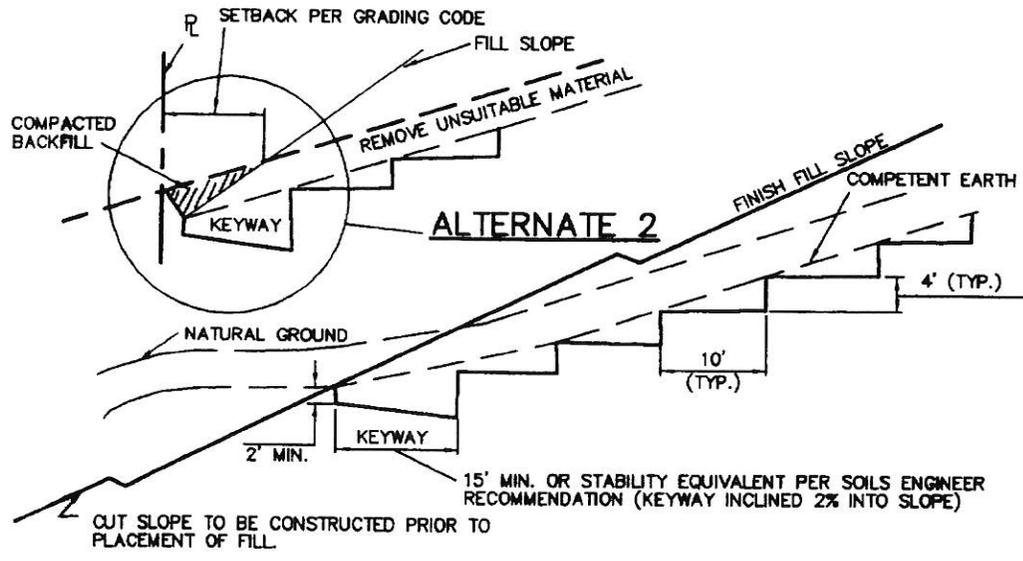
DEVELOPMENT LOT GRADING

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark Date	Descriptions	Department of Public Works	Engineering Division
		Recommended: <u>D. P. Schmitter</u>	Date: <u>9-26-00</u>
Drawn By:		Approved: <u>Paul T. Nappert</u>	Date: <u>10-23-00</u>
		City Engineer	STANDARD DRAWINGS
			650-0



BENCHED FILL OVER NATURAL

BENCHING SHALL BE REQUIRED WHEN NATURAL SLOPES ARE EQUAL TO OR EXCEED 5:1 OR WHEN RECOMMENDED BY THE SOILS ENGINEER.



BENCHED FILL OVER CUT

Adopted from County of Orange, CA PF & RD Standard Plans 1996 Edition

BENCHING FOR COMPACTED FILL

Revisions		CITY OF YUCAIPA, CALIFORNIA	
Mark	Date	Descriptions	
		Department of Public Works	Engineering Division
		Recommended: <i>D. Todd Schmidt</i>	Date: <i>9-26-00</i>
Drawn By:		Approved: <i>Paul T. Nappert</i>	Date: <i>10-23-00</i>
		City Engineer	
			STANDARD DRAWINGS
			651-0
			Page 1 OF 1

City of Yucaipa
Name of street or project

Submitted By: _____ Date: _____

Recommended for Approval By: _____ Date: _____

Approved By: _____ Date: _____
 Fermin G. Preciado, City Engineer

Job No.

Drawing No.

Sheet No. ____ of ____ sheets

City of Yucaipa Public Works Department
 Engineering Division

Note: The title block shall be placed in the lower right hand corner of all plan sheets.

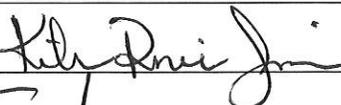
STANDARD CITY TITLE BLOCK

Drawn By:

CITY OF YUCAIPA, CALIFORNIA

Department of Public Works

Engineering Division

Recommended:  Date: 3/09/15

STANDARD DRAWINGS

Approved:  Date: 3/9/15
 City Engineer

690-2

APPENDIX

A. CITY PUBLIC RIGHTS-OF-WAY ENCROACHMENT CONSTRUCTION PERMITS

1. ENCROACHMENT/CONSTRUCTION PERMIT INSTRUCTIONS
2. APPLICATION FOR ENCROACHMENT/CONSTRUCTION PERMIT

B. GRADING PERMITS/PLAN PREPARATION

1. GRADING PERMIT REQUIREMENTS
2. GRADING PLAN SUBMITTAL CHECKLIST

C. STREET & STORM DRAIN IMPROVEMENT PLAN PREPARATION

1. IMPROVEMENT PLAN CHECKLIST
2. PROFILE CHECKLIST

D. TRAFFIC CONTROL PLAN PREPARATION

1. TRAFFIC CONTROL PLAN GENERAL NOTES
2. TRAFFIC CONTROL PLAN CHECKLIST

APPENDIX A

CITY PUBLIC RIGHTS-OF-WAY ENCROACHMENT CONSTRUCTION PERMITS

1. ENCROACHMENT CONSTRUCTION PERMIT INSTRUCTIONS
2. APPLICATION FOR ENCROACHMENT/CONSTRUCTION PERMIT

ENCROACHMENT/CONSTRUCTION PERMIT INSTRUCTIONS

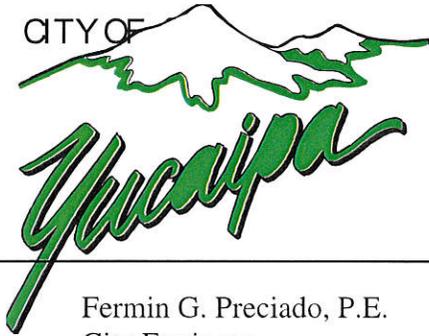
A licensed contractor shall perform all work done under this permit.

1. Contractor/Developer shall fill out Construction Permit Application. (All items shall be completed.)
2. Contractor/Developer shall supply certificates of insurance for liability and worker's compensation insurance before permit is issued. Both certificates of insurance shall list City of Yucaipa, 34272 Yucaipa Boulevard, Yucaipa, California 92399, as the certificate holder. General liability insurance shall be a minimum of \$1 million coverage. See the attached insurance requirements for exact verbiage of the required endorsement adding the City of Yucaipa as additional insured.
3. Contractor/Developer shall obtain a City Business License from Yucaipa City Hall and provide a copy prior to issuance of permit.
4. Contractor/Developer shall pay the appropriate permit fee. See schedule on permit application.

APPENDIX B

GRADING PERMITS & PLAN PREPARATION

1. GRADING PERMIT REQUIREMENTS
2. GRADING PLAN SUBMITTAL CHECKLIST



City of Yucaipa
34272 Yucaipa Blvd.
Yucaipa, CA 92399

Phone: 909/797-2489
Fax: 909/790-9203

Fermin G. Preciado, P.E.
City Engineer

GRADING PERMIT REQUIREMENTS

A licensed contractor shall perform all work done under this permit.

1. Contractor/Developer shall fill out Grading Permit Application. *(All items shall be completed).*
2. Contractor/Developer shall supply certificates of insurance for general liability (unless absolutely no grading work within public right-of-way is being done or shown on the grading plan) and worker's compensation before permit is issued. Both certificates of insurance shall list City of Yucaipa, 34272 Yucaipa Boulevard, Yucaipa, California 92399, as the certificate holder. General liability insurance shall be a minimum of \$1 million coverage. See the attached insurance requirements for exact verbiage of the required endorsement adding the City of Yucaipa as additional insured.
3. Contractor/Developer shall obtain a City Business License from Yucaipa City Hall and provide a copy prior to issuance of permit.
4. Grading Bond equal to 50% of drainage improvement cost and 30% of developer's Engineer's Cost Estimate shall be submitted for quantities exceeding 5,000 cubic yards.
5. Contractor/Developer shall pay Grading Inspection and Erosion Control Deposits.
6. Original Rough Grade Certifications and Compaction Reports must be on file prior to the issuance of fine grade permits.
7. Additional information is available in the Department of Public Works Requirements for Grading Plan Check and City of Yucaipa's Grading Manual.
8. The following statement must be submitted with plans:

We/I representing _____, indicate that recommendations contained in reports pertaining to Soils Engineering Conditions have been compiled with to our satisfaction. This confirmation is not to be construed as an authentication of any dimensions or elevations shown on these plans.

By: _____

RCE# _____

Date: _____

RGE# _____

A GRADING PERMIT IS REQUIRED WHEN:

1. An excavation is greater than two feet in depth or an excavation creates a cut slope from two feet to five feet in height with a slope steeper than one and one-half horizontal to one vertical or an excavation creates a cut slope greater than five feet in height.
2. A fill is one foot or more in thickness. A three-foot fill may be placed without a permit if it does not exceed fifty cubic yards, does not obstruct a drainage course and is not intended to support a structure.
3. A fill less than one foot in thickness is placed on natural terrain steeper than five horizontal to one vertical.

NOTE: The permit shall be obtained before the grading is done. Without a permit, twice the normal permit fee shall be charged.

To obtain a grading permit, a grading plan must be submitted. All grading in excess of 5,000 cubic yards shall be in accordance with the approved grading plan prepared by a civil engineer and designated as "engineered grading". Grading less than 5,000 cubic yards may be designated as regular grading and plans prepared by and an architect, civil engineer or registered building designer. Most single lot, residential, grading plans may be prepared by anyone. All plans must be signed by the person who prepared them.



City of Yucaipa
34272 Yucaipa Blvd.
Yucaipa, CA 92399

Phone: 909/797-2489
Fax: 909/790-9203

Fermin G. Preciado, P.E.
City Engineer

GRADING PLAN CHECKLIST

Project: _____ Checked By: _____ Date: _____

Prepared By: _____

Items Required to be Submitted:

PLEASE RETURN CHECKLIST WITH EACH SUBMITTAL

1. Two copies of 24" x 36" sized Grading Plan with standard city title block (*see below).
2. Transmittal letter from the Engineer, or Owner indicating submittal of grading plan.
3. Erosion Control Plan
4. Horizontal Control Plan
5. Water Quality Management Plan
6. Storm Water Pollution Prevention Plan (required for projects 1 acre and above.)
7. One copy of a complete Soils and Geology Report based on the plan being submitted.
8. Earthwork calculations to support the quantities shown on the plan.
9. Calculations showing estimated run off and capacity of drainage devices provided.
10. Notice of Intent (WDID number required prior to permit)
11. Plan Check and Inspection Fee Deposit (to be determined by City Engineer).
12. Grading Bond equal to 30% of the grading contract and 50% of drainage improvements if no subdivision bonds are in place.
13. When submitting as tentative map or conditioned project, submit the following with grading plan:
 - a) Approved Plot Plan/Tentative Map
 - b) Conditions of Approval
 - c) Hydrology/Drainage Study

**All applicable provisions of Chapter 33 of the Uniform Building Code, Latest Edition and City of Yucaipa Grading Manual shall be met prior to submitting the plan for review, including, but not limited to the following:*

(Check When Completed For All Sheets)

1. Have grading plan signed and stamped by a registered civil engineer. If less than 5,000 cubic yards and designated regular grading, a registered architect or registered landscape architect may sign, with prior approval from the Building Official.
2. Print name, address, registration number and phone number of engineer or architect on plans.
3. Provide a title block on plan showing address, related case number, if any, and/or location of project.
4. Show estimated volumes, in cubic yards, of cut and/or fill on the plan. State ultimate disposition and haul route of any excess dirt on plan. Excess dirt removed outside the city limits shall comply with the applicable standards of the area it is moved to. Any location within the city limits used for disposal of excess dirt will require separate Grading Plan Review and issuance of a separate grading permit for that site.
5. Show building foundation depths, offsets of building wall from retaining wall and slope setbacks from property lines which conform to minimum requirements or UBC and City Code.
6. Include City standard signature block on plan for City Engineer to approve.
7. Include a legend, north arrow and scale shall be shown on plan (show benchmark).
8. Include location and depth of maximum cut and fill.
9. Include estimated start date and completion date of the grading work.
10. Include boundary lines, with distances and bearings, of the property on which the work is proposed.
11. Identify easements and restricted use zones if applicable.
12. Tie proposed structures to property lines with pertinent dimensions.
13. Include existing contour lines shown dashed and reference made as to the source of the topo.
14. Include existing structures and topography on or within 15 feet of the boundary line.
15. Include tops and toes of proposed slopes. T.C. elevations on proposed streets. Grades on streets slope ratios.

- 16. Clearly indicate runoff pattern on building pads with arrows.
- 17. Include rate of grade on graded swales (1% min. – 4% max.), Rate of grade on concrete swales (1/2% minimum), grade on streets (12% maximum) and grade on driveways (12% maximum).
- 18. Show seal of Reg. Civil Engineer, including expiration date on the original tracing. (Spray seal with a fixative to prevent smearing).
- 19. Show Wet signatures of soils engineer, geologist and civil engineer on the original tracing.
- 20. Include a soils report for areas with expansive or collapsible soil.
____ Required ____ Not Required.
- 21. Comply with the geotechnical report recommendations.
- 22. Comply with the conditions of approval.
- 23. Identify export site (if any).
- 24. Include signature approval block for City Engineer and City consultant.
- 25. Show existing utilities in project area.
- 26. Show and designate existing contours (maximum interval 2 feet) on plan and extend a minimum of 25 feet beyond the perimeter of the property. Also, show and designate all topo on-site and adjacent topo within 15 feet of the perimeter of the property on plan. Show the effect the proposed grading will have on adjacent properties (cuts, fills, drainage, etc.) on plans. (Any grading performed on adjacent private property will require a signed release from the adjacent legal owner.)
- 27. Clearly show and designate proposed final grades on plans along with all cut and fill slopes (max. 2:1 slope). Clearly designate slopes on plans with degree of slope.
- 28. Show details of any on-site drainage structures, walls, cribbing, surface protection, etc. on plans.
- 29. Design slopes at max. 2:1 unless approved by the soils engineer (with accompanying data) and the Planning Department.
- 30. Incorporate recommendations and conclusions from the Preliminary Soils Report into the design of the grading plan. R-values are required for design of on-site paving structural sections.
- 31. Include structural calculations (required for all non-standard walls).

- 32. For commercial/Industrial grading plans, show location of roof drain outlets.
- 33. Draw all Precise Grading Plans to 1" = 20' scale or larger.

(The Following General Notes are Required on Grading Plans)

1. Conform all grading to Chapter 33 of the Uniform Building Code, Latest Edition and the City of Yucaipa Grading Code.
2. Comply with all provisions of the preliminary soils report prepared by _____, dated _____ during grading operations.
3. This plan is for grading purposes only. Approval of this plan does not constitute approval of driveway locations or sizes, parking lot layout, building locations, off-site drainage facilities or other items not related directly to the basic grading operation.
4. Provide certification (form provided by City) from the registered civil engineer and soils/geological engineer stating that the rough grading has been completed per the approved plan and a compaction report from the soils engineer on any fill areas that are required prior to building permits being issued.
5. Provide certification (form provided by City) from the registered civil engineer stating that the fine grading has been completed per the approved plan prior to occupancy permits being issued.
6. Understand contractor is responsible for erosion, dust, mud, silt, debris, and temporary drainage control during grading operations.
7. Provide an erosion control plan to be issued a grading permit between October 1st and May 31st. (The grading plans are to note this requirement).
8. Provide approval of any on-site retaining walls as part of these plans. Any necessary retaining walls on the perimeter of this site may be required to be in place and approved by the City Engineer prior to the start of grading. Approved sequenced grading with 1 ½:1 maximum slopes to within 2 feet of the adjacent property line may be acceptable to allow for start of grading prior to completion of any necessary perimeter retaining walls. (If no retaining walls are shown on the plan, do not put this note on plan).
9. Include separate plan approval and inspection from the City Engineer for any improvement constructed in the public right-of-way.
10. Protect any walls, fences, structures and/or appurtenances adjacent to this project in place. If grading operations damage or adversely affect said items in any way, the contractor/developer is responsible for working out an acceptable solution to the satisfaction of the affected property owner(s).

- 11. Understand the contractor /developer is responsible for ensuring that retaining walls do not interfere with provision of utilities.
- 12. Ensure through the Soil Engineer that adequate compaction has been attained on the entire grading site, including fill areas outside the building pads and on all fill slopes.
- 13. Understand city approval of plans does not relieve the developer from the responsibility for correction or error or omission discovered during construction. Upon request, promptly submit the required plan revisions to the City Engineer for approval.
- 14. The Contractor must call the City at (909) 797-2489 for inspection two (2) working days prior to performing any work. Work performed without calling for inspection shall be rejected and be removed solely at the Contractor's expense.
- 15. Do not commence grading without obtaining a Grading Permit and notifying the Grading Inspector to schedule a pre-grading meeting two (2) working days prior to the start of work.
- 16. Replace all active irrigation lines encountered during construction with 10-gauge double dipped and wrapped welded steel pipe.
- 17. Prior to the start of grading, remove all existing vegetation and debris (including existing structures, footings, foundations, rubble, trees and root systems) from the site to the satisfaction of the Soils Engineer.
- 18. After removal of debris, excavate any existing fill or disturbed natural soils to the satisfaction of the Soils Engineer.
- 19. The Soils Engineer must inspect the exposed soils. Make any additional over-excavation in accordance with the Soils Engineer's recommendations and as contained in the Soils report.
- 20. Scarify exposed soils to a minimum depth of 6 inches, bring to proper moisture content and compact to at least 90% of the maximum density, as determined by U.B.C. Standards 33 or obtain equivalent compaction by methods specified by the Soils Engineer.
- 21. If any unforeseen sub-surface structures are encountered during construction, immediately bring them to the attention of the Soils Engineer before proceeding further.

- 22. The Soils Engineer is also responsible for verifying (certification form provided by City) and reporting that proper compaction is obtained by subcontractors and agencies concerning utility line backfill (including, but not limited to, sewers, water lines, electrical, gas, and landscape irrigation lines).
- 23. Submit an as-graded grading plan and the certificate of compliance forms for said grading plan with the proper stamps and signatures to the City Engineer prior to release of grading bond and prior to final grading inspection.
- 24. Conform any drive approaches shown on these plans to City of Yucaipa standards. Note that Contractor must maintain 4' of sidewalk at a 2% slope behind drive approaches per Title 24 requirements if there is no landscaped parkway.
- 25. Remember to call in a location request to Underground Service Alert (USA), phone number 1-800-422-4133, two (2) working days before digging. The City Engineer's office will not provide inspection, and construction permits issued involving excavation for underground facilities are invalid unless the applicant provides an inquiry identification number by USA.
- 26. File a Notice of Intent (NOI) with the State of California Regional Water Quality Control Board and submit a Storm Water Pollution Prevention Plan (SWPPP) for review and approval by the city engineer when total disturbed/graded area is 1 acre or more. WDID # must be on file at the city.
- 27. Submit separate plans for temporary drainage and erosion control measures during the rainy season prior to September 1. Install erosion control devices shown on the plans no later than October 1 and maintain in operable condition until April 15 and/or before any anticipated rain throughout the year.
- 28. Submit the following statement with plans:

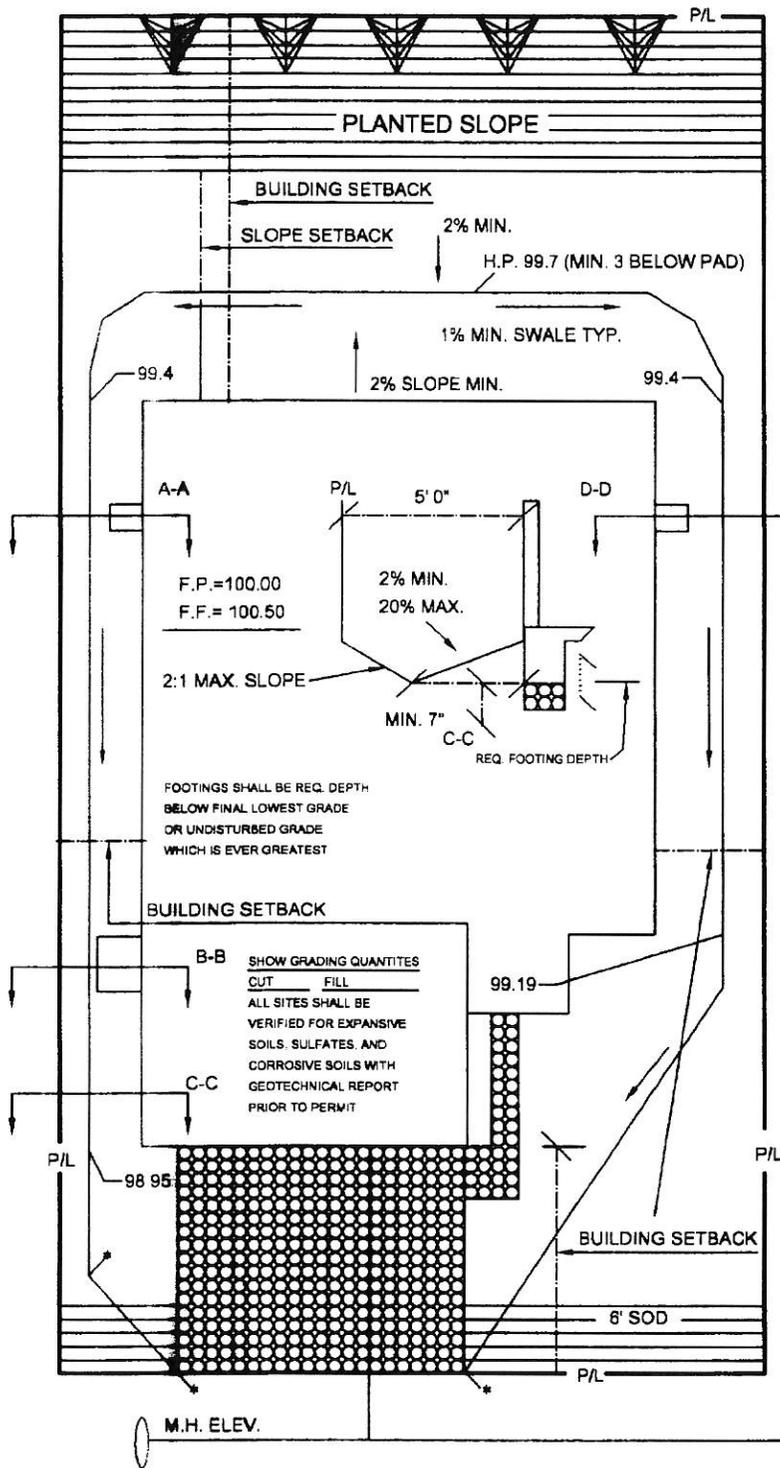
We/I representing _____, indicate that recommendations contained in reports pertaining to Soils Engineering Conditions are complied with to our satisfaction. This confirmation is not to be construed as an authentication of any dimensions or elevations shown on these plans.

By: _____ RCE# _____

RGE# _____

Date: _____

- **This list was compiled in order to outline the most common type of residential submittal. The list may not include all requirements for a specific project.**
- **It is the owner's responsibility to verify conditions of approval.**
- **Planning Department's approval is required prior to Engineering Plan Check. It is the applicant's responsibility to contact Planning Department for all required reviews and approvals.**



NOTES:

- 1) SHOW PROPERTY LINES
- 2) SHOW LOCATION OF ALL STRUCTURES WITH ALL SETBACKS SHOWN
- 3) SHOW NAME, ADDRESS AND TELEPHONE NUMBER OF OWNER, CIVIL ENGINEER AND GEOLOGIST.
- 4) SHOW WATER METER LOCATION.
- 5) SHOW SEWER LATERAL.
- 6) SHOW ELEVATIONS OF SEWER MANHOLE COVERS.
- 7) INDICATE BACKWATER VALVE REQUIREMENTS AND DUAL WASTE SYSTEMS.
- 8) INDICATE FOOTING DEPTHS REQ. BY GEOTECHNICAL ENGINEER.
- 9) SHOW PERMANENT EROSION CONTROL MEASURES. FOR LOT AND SLOPES ON THE LOT(S). AT A MIN. PROVIDE FRONT YARD, AND ANY YARD DRAINS, WITH 6' OF SOD WITH A IRRIGATION SYSTEM ON A TIMER. PROVIDE FILL SLOPES OVER 3' AND CUT SLOPES OVER 5' TO BE HYDROSEEDDED WITH A NATIVE MIX AND PROVIDED WITH A IRRIGATION SYSTEM ON A TIMER.
- 10) PROVIDE SECTIONS SPECIFYING DRAINAGE AND FOUNDATION REQ. SECTION A-A, B-B, C-C, D-D ETC.
- 11) SHOW ELEVATION ALONG SWALES TYP. AT THE BACK AND FRONT OF SIDE YARD SWALES AND OUTLET TO STREET PROVIDE MORE AS NECESSARY.*
- 12) SHOW SCALE AND NORTH ARROW.
- 13) SHOW SETBACKS FROM SLOPES.
- 14) SHOW 3'X7' WASTE SEPARATION PAD.
- 15) PLANS MUST BE SIGNED BY THE CIVIL ENGINEER, (OR PERSON WHO PREPARED ROUGH GRADING PLANS AND THE SOILS ENGINEER.
- 16) SEE CITY YUCAIPA STD. PLAN 303-0 FOR ADDITIONAL DETAILS AND INFORMATION FOR INDIVIDUAL LOT GRADING REQUIREMENTS.

GRADING PLAN MINIMUM REQUIREMENTS

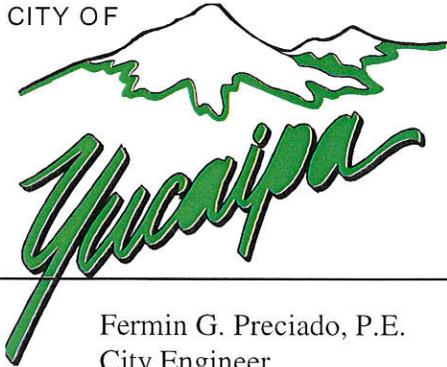
CITY OF YUCAIPA, CALIFORNIA

APPENDIX C

STREET & STORM DRAIN IMPROVEMENT PLAN PREPARATION

1. IMPROVEMENT PLAN CHECKLIST
2. PROFILE CHECKLIST

CITY OF



City of Yucaipa
34272 Yucaipa Blvd.
Yucaipa, CA 92399

Phone: 909/797-2489
Fax: 909/790-9203

Fermin G. Preciado, P.E.
City Engineer

STREET AND STORM DRAIN IMPROVEMENTS
Improvement Plan Checklist

Project: _____ **Checked By:** _____ **Date:** _____

Prepared By: _____ **Date:** _____

This checklist is considered a guideline with acceptable minimums used for plan preparation by private engineers. Other methods of achieving the desired result can be used and are encouraged.

(Check When Completed for All Sheets)

PLEASE RETURN CHECKLIST WITH SUBSEQUENT SUBMITTALS

- 1. Plan Check Base Fee is required when plans are submitted. Totaled bond estimate and complete hydrology study are required with first check.
- 3. Provide plans for approval by engineer with the Engineer's signature, name, address, phone number and registration number and seal. Does the engineer have a current city business license? Provide city case or project number in title block. For building permits, show address of the lot.
- 3. Include North arrow and vicinity map with North arrow facing up or to the right.
- 3. Check names of streets against final map. Include street name sign schedule and construction note.
- 4. Check written conditions for City Council requirements.
- 5. Show horizontal scale and benchmark.

- 7. Show bearings of all streets, radial bearings on centerline of all catch basins, etc., in a curve.
- 8. Conform stationing with established stationing on approved City plans. Number centerline stationing left to right with no negative stationing. If you have any questions or problems on stationing, contact City Engineer's Office prior to design.
- 9. Check stationing and elevations on consecutive sheets. Show match lines at identical points on consecutive sheets when multiple sheets exist. Give references to other sheets.
- 10. Show stationing of all BCR's said ECR's B.C., E.C., and M.C. of all curves.
- 11. Include stations at beginning and end of improvements and at center of catch basins, etc.
- 12. Include centerline curve data, also short and long side for curbed sections.
- 13. Design a minimum 200-foot centerline radius on residential streets unless prior approval is obtained from City Engineer.
- 14. Corner cut-offs are required for curb ramps at all curb returns. A Thirty-five (35) Foot Radius of Return Grant of Easement is required for rounding the corner of intersecting roads when the half-width right-of-way of any intersecting road is forty (40) feet or greater. A Twenty (20) Foot Radius of Return Grant of Easement is required for rounding the corners of intersecting roads if the half-width right-of-way of all intersecting roads is less than forty (40) feet.
- 15. Include curb return data (delta, tangent, radius and length).
- 16. Show right-of-way and improvement widths (parcel to be improved, adjoining parcels and parcels across the street).
- 17. Show lot lines and lot numbers same as record map.
- 18. Show existing improvements and dimensions with dashed lines, along with plan references. Show existing adjacent driveway and topo in and adjacent to area of proposed construction.
- 19. Show existing pipelines, irrigation lines, structures, power poles, trees, etc., in right-of-way, and include note as to their disposition if encroaching. Label with size, etc., and distance from centerline. Show existing underground structures that may conflict with, or enter into, the design of proposed improvements. Private engineer must have owner controlling utility sign plans after second check if utility is affected in any way.

20. Show improvements to be constructed with solid lines. Note connections to existing improvements.
21. Show details, dimensions, etc., of all improvements if not city standards. For all standard improvements show standard drawing number. Check standard drawings for those dimensions required on plans.
22. If using both 6-inch and 8-inch curb and gutter, show limits on plan for each type of transition. Use 8-inch curb face only where needed because of drainage. Use curb only for medians if drainage permits.
23. Check general and construction notes against "sample general notes". Show construction notes wherever necessary to clarify construction details.
24. Show length and location of transitions or super elevations, if used; also, of transitional paved sections for drainage.
25. Show limits of new paving, old paving, overlay, and removal. Use appropriate shading to delineate areas. For new paving, provide an R-Value test to determine the paving section prior to the plan approval. The "Construction Note" should identify the City's required minimum pavement sections for a specific street section as follows:
- | | |
|---------------------|------------------------|
| Major and Secondary | 0.5' AC over 1.0' AB |
| Collector | 0.42' AC over 0.67' AB |
| Local | 0.33' AC over 0.5' AB |
26. A 5' wide sidewalk, 0.5' from property line with landscaped parkways is the city standard. Minimum 4-foot paved clearance is required around any obstacle (tree wells, power poles, fire hydrants, etc.).
27. Show detail of cross gutter if not standard. Show direction of flow with arrows on cross gutter and aprons. Show flow line elevations along flow line of cross gutter.
28. Show T.C. and flow line elevations on all BCR's and ECR's.
29. If cross gutter has upstream drainage area greater than 1,000 feet in length, then provide a 10-foot cross gutter, otherwise it is a 6-foot width. Show width on plans.
30. No mid-block cross gutters are allowed. Cross gutters across major streets need prior approval from City Engineer.

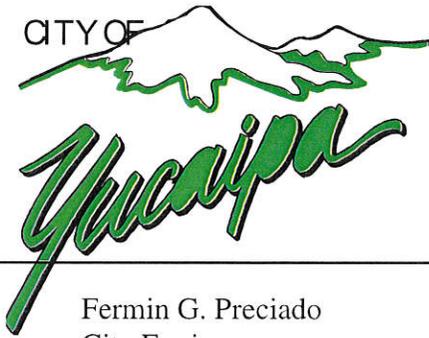
- 31. Include typical sections for all streets. Show existing, proposed and ultimate conditions. Show right and left sides of sections, as they would appear looking up-station on the street even if only one side of the street is being improved. Identify property lines. Give level line offsets from centerline to quarter crown and T.C. Show range of slopes on existing and match-up paving. If difference in elevation between top of curb and existing ground at property line exceeds one foot, indicate what slopes are to be constructed outside the right-of-way, 2:1 maximum. Maximum 2:1 slope within street right-of-way.
- 32. Make Cross-slopes in the range of 1% for driving lanes and 3% to 4% for shoulders (2% driving lane and 6% shoulder are absolute maximums). Compute Cross-slopes from lip of gutter.
- 33. If both driving lane and shoulder have variable cross slopes, show the $\frac{1}{4}$ crown elevations on plan. $\frac{1}{4}$ crown is located 8 feet from curb face on all streets.
- 34. Show traffic index (T.I.) under typical sections (residential T.I. = 5; Collector T.I. = 7, Secondary T.I. = 8 and Major T.I. = 9 – Check with City Engineer).
- 35. Provide barricade at temporary dead end streets.
- 36. Make widening flare at 2:1, narrowing flare at rate determined by the City Engineer, each from the curb face. F-1 flexible delineators need 20 feet on center along outgoing taper.
- 37. Provide a 2- by 6-inch header staked with 2" x 2" x 18" stakes, 6' o.c. at edges of paving that are not adjacent to gutters or existing paving, except for the tapers.
- 38. At "T" intersections, where there is no driveway, provide a handicap access curb ramp.
- 39. Place block walls connected with backup lot treatment at the top of any slopes adjacent to the street. Provide all details of non-standard walls on plans. Maximum height wall is 7 feet. Design all footings for a minimum 6-foot wall. Show height of wall and top of footing or minimum depth of footing cover on plan. Do not place walls or footings in Public Rights-of-way.
- 40. Check for existing sewer lateral; show and label any proposed or existing laterals (applies to projects where there are existing sewers). Build laterals before paving.
- 41. Plans may need special medians in private streets for traffic flow (on curb-type entrances on PRD's on major streets).
- 42. Include slope letter if cut or fill at end or side of subdivision street adjacent to subdivision boundary exceeds one foot onto private property.

- 43. Depress alley approaches, which drain a portion of an alley with a valley gutter, at the rear of the approach. Show flow line elevation on plans.
- 44. Provide minimum 20-foot long by 2-foot wide by 2.5-inch thick AC drainage aprons at downstream end of stub streets.
- 45. Show traffic signal conduit and pullboxes on the plans, even if no signals are planned for installation at this time, for all major street intersections (two or more major streets, 88 feet wide and greater) unless City Engineer otherwise approves elimination.
- 46. If project conditions require fencing, show construction limits of required fence, etc., on plans.
- 47. Have Planning Department initial all plans showing public block walls and landscaping.
- 48. Plan checker makes site field inspection of proposed improvements (if necessary).
- 49. Show flow around tract on index map on title sheet (if necessary).
- 50. If flow is diverted from its existing course onto private property, provide a recorded drainage release letter from the affected property owners.
- 51. Use San Bernardino County method drainage calculations (hydrology and H.G.L.). Assume ultimate upstream development.
- 52. Check to see if new street section will carry same flow as existing street section (critical where there is an existing ditch along street) without diverting flow across centerline.
- 53. Note, $n = 0.020$ on residential streets (streets with driveways, parked cars, etc.)
 $n = 0.015$ on major streets (no driveways, little or no parking, etc.)
- 54. Check calculations on non-standard box culverts, etc.
- 55. Check drainage structures for capacity. Check hydraulic calculations submitted by engineer.
- 56. Note size, length and "D" strength for pipe (minimum diameter pipe 18 inches).

57. Provide permanent drainage in the following preference:
1. Storm Drain Pipe (RCP and (CIPP)
 2. Air Blown Mortar or Similar Open Channel
58. Design sump catch basins and drains for 100-year storm, underground storm drain systems for 25-year storm, and open channel for 100-year storm. Sump conditions require a secondary overland freeflow to prevent flooding of buildings should catch basin or storm drain system become blocked.
59. For the sizing of roadway storm drains and the locating of catch basins in streets, design storm drain system to:
- 1) Collect a 25-year Storm Event within the street section (Top of Curb to Top of Curb)
 - 2) Collect and contain the 100-year Storm Event within the roadway's right-of-way.
- Provide the Engineer's supporting calculations to document that this design criterion is achieved.
60. Do not construct grate catch basins.
61. Do not install cross gutters where there are existing storm drains to tie into.
62. Provide a recorded Drainage Encumbrance Agreement if property drains into an adjacent property owner's land.
63. Show any block walls, ditches, etc. needed along tract boundary to prevent flooding on the plans.
64. Verify all subdivision or lot boundaries for any possible problems such as blocking drainage from or discharging drainage to adjacent land or conflict with existing, or proposed, improvements.
65. Check for possible ponding on streets and cross gutters and aprons.
66. For storm drains, show HGL and elevation of HGL to nearest 0.1' in profile. Show "Q" in streets, into catch basins, and into storm drain system, and designate Q_{25} , Q_{100} , etc. Show any flowby on catch basins. Show "Q" to nearest 1 CFS. Show the time of concentration at catch basins, junction structures, etc.
67. Note water surface elevations in catch basins are minimum 6 inches below gutter flow line.

- 68. If alternate of C.I.P.P. is shown on plan, show HGL for both R.C.P. (n=.013) and C.I.P.P. (n=.015) and specific alternate size (C.I.P.P. concrete strength is minimum 3000 P.S.I).
- 69. Check for cutoff walls, energy dissipaters, etc., at outlets of storm drain systems and headwalls, etc. at inlets.
- 70. Do not center storm drain easements nor locate storm drains on property lines. Storm drain easement widths vary 12-25 feet depending on size of facility. This may require supplemental access easements.
- 71. Obtain an encroachment permit from San Bernardino County Flood Control if connecting into one of their storm drains.
- 72. Label private drainage system as such. Make inlets of private drainage systems equal to or above HGL of the public storm drain they connect to, or if tying into a catch basin, equal to or above the top of curb of the catch basin.
- 73. Use standard under-sidewalk parkway drains for private drainage only.
- 74. If proposed construction will affect adjacent driveways in any way, obtain a written approval from adjacent property owners.
- 75. Contact City Engineer to discuss design of street prior to submitting plans for checking when proposed street improvements involve a railroad crossing in any way.
- 76. Do not put "stick on" labels on plan originals.
- 77. Submit any supporting calculations or pertinent data required to allow complete checking of the entire design development package (including but not limited to closure calculations for maps, hydrology and hydraulic calculations for storm drain studies, etc.) with first check.
- 78. Make all plan notes and details clear and neat.
- 79. Design catch basins at major, primary and secondary street intersections for 100% interception of storm water flows where adequate capacity exists in the existing storm drain system or in the design of all new storm flow drainage systems.

FOR INFORMATION ONLY: Balance due on plan check fee must be paid prior to plan approval by City Engineer. Also, if R/W is required for the project, plans will not be approved until deeds are in and sent for recording.



City of Yucaipa
34272 Yucaipa Blvd.
Yucaipa, CA 92399

Phone: 909/797-2489
Fax: 909/790-9203

Fermin G. Preciado
City Engineer

STREET AND STORM DRAIN IMPROVEMENTS
Profile Checklist

Project: _____ **Checked By:** _____ **Date:** _____

Prepared By: _____ **Date:** _____

(Check When Completed For All Sheets)

PLEASE RETURN CHECKLIST WITH SUBSEQUENT SUBMITTALS

- 1. Show vertical scale: 4 feet to the inch or 8 feet to the inch (on prior approval).
- 2. Show datum elevation at both ends of each street, benchmark reference on each sheet.
- 3. Show stationing at bottom of profile.
- 4. Show names and stationing of intersecting streets.
- 5. Label and show stations and elevations at the beginning and end of all curb returns, vertical curves, horizontal curves, transition sections, grade breaks and beginning and end of improvements.
- 6. Indicate length of curb returns and length of horizontal curves. Draw curb returns full length, not twice tangent distance. Show $\frac{1}{4}$ delta points on all returns and elevations.
- 7. Label all grade lines and profiles (show the percent of grade on each). Show size of curb face.
- 8. Show profile of existing centerline with elevations at least every 50 feet (except for projects involving mass grading).

- 9. Show profile of existing ground at property line (except for projects involving mass grading).
- 10. Show profile of existing E.P. with elevations at least every 50 feet.
- 11. Show connection with or future design to existing improvements along with existing elevations. Show grade on existing improvements.
- 12. Check profile of 1/4 crown if required. Show grade.
- 13. Do not exceed 6% grades on major and secondary streets (8-10% on residential streets) or as required by the Fire Department.
- 14. Check elevations shown in profile against those shown in the plan view.
- 15. Check difference between T.C. and centerline against what typical section shows.
- 16. Show grades in profile (minimum centerline and top of curb grade is 0.5%). If profile on existing street is less than 0.5%, have prior approval from Public Works. Do not make new streets with grades less than 0.5%.
- 17. Use vertical curves for all grade breaks in excess of 0.5% (Parabolic V.C.'s only). Do not use portions of vertical curves. Design speeds are 30 miles per hour for local, 45 miles per hour for collectors, 50 miles per hour for secondary and 55 miles per hour for majors.
- 18. Show tangent grades at PRVC or PCVC.
- 19. Show P.I. stationing and elevations on vertical curves.
- 20. Show elevations every 25 feet on vertical curves (or fractional part thereof).
- 21. Check sight distance: (both horizontal and vertical)

Design Speeds: 30 mph – Residential Local Streets
 45 mph – Collector Streets
 50 mph – Secondary Streets
 55 mph – Major Streets
- 22. Show transition details between different types of curbs.
- 23. Extend profiles beyond end of improvements (as necessary to justify grades) for 300 feet; if new road intersects existing street, for extend 100 feet each way.

- 24. If future curb is to go over canal, etc., check to see there will be adequate clearance between bottom of curb and top of canal cover.
- 25. Use straight grades for cross gutters unless there are unusual circumstances.
- 26. Note maximum 2.5% grade coming into cross gutter. P.I. for vertical curve is a minimum of 50 feet back from flow line of cross gutter. On streets where the grade is 5% or greater, a grade of 4.5% into the cross gutter is acceptable.
- 27. Design curb returns by plane method of top of curb. Show P.I. and elevations. Show tangent grades if different from T.C. grades.
- 28. The absolute minimum fall around or away from curb returns is 0.5%. Vary curb face if necessary. (Hold the T.C. elevations and vary the flow line).
- 29. Show profile going into and out of return with grades.
- 30. Check shoulder around curb returns for excessive slope (maximum 6%).
- 31. Check through streets for driveability.
- 32. Show structures to scale (catch basins, etc.). Note critical flow line elevations. Add Details for Local Depression Elevations (in detail or table format).
- 33. Show and label any existing or proposed underground construction that may conflict or enter into the design of the proposed improvements.
- 34. Show existing or proposed flow coming into and going out of new improvements.
- 35. Check for flat spots at high and low points of vertical curves. Vary curb face height to provide minimum flow line grade of 0.5% (vary the flow line, hold the T.C.).
- 36. Use variable curb face height on cul-de-sacs, knuckles, etc., to help alleviate flat slopes. Minimum flow line grade is 0.5%. Do not exceed the 3% maximum street grade into gutter at back of cul-de-sac.
- 37. If curbs are variable height, show T.C. and F.L. elevations and curb height. Show flow line profile with grade.
- 38. Check for car dragging going into driveway or alley.
- 39. Check for sufficient elevations and stations to allow performing grading (critical where grading is planned in flat area) on "grading to drain" situations.
- 40. Check proposed grade against City plans, if any.

- 41. Complete all plans within themselves. Do not make them contingent on future or adjacent construction.
- 42. Note, on curb inlets or outlets, the top of the curb remains constant with the flow line varying up or down to allow for the facility. Minimum flow line grade is 0.5%.
- 43. Where the property being developed is below the level of the street, provide a driveway profile to show that 100-year street flows will not enter onto private property by way of the driveway.
- 44. Show if project conditions require fencing, construction limits or required chain link fence, etc. on plans.
- 45. Have Planning Department initial all plans showing public block walls and landscaping.
- 46. Plan checker makes filed inspection of the site of proposed improvements, if necessary.
- 47. Show flow around tract on index map on title sheet, if necessary.
- 48. If flow is diverted from its existing course onto private property, Provide a recorded drainage release letter from the affected property owners..
- 49. Use San Bernardino County method drainage calculations (hydrology and H.G.L.). Assume ultimate upstream development.
- 50. Check to see if new street section will carry same flow as existing street section (critical where there is an existing ditch along street) without diverting flow across centerline.
- 51. Note, $n = 0.020$ on residential street (streets with driveways, parked cars, etc.)
 $n = 0.015$ on major streets (no driveways, little or no parking, etc.)
- 52. Check calculations on non-standard box culverts, etc.
- 53. Check drainage structures for capacity. Check hydraulic calculations submitted by engineer.
- 54. Note size, length and "D" strength for pipe, Minimum diameter pipe 18 inches.
- 55. Permanent drainage to be in the following preferences:
 1. Storm Drain Pipe (RCP and CIPP)
 2. Air Blown Mortar or Similar Open Channel

- 56. Design sump catch basins and drains for 100-year storm, underground storm drain systems for 25-year storm, and open channel for 100-year storm. Sump conditions require a secondary overland freeflow to prevent flooding of buildings should catch basin or storm drain system become blocked.
- 57. Design for twenty-five-year storm to be carried between curbs and 100-year storm between right-of-way lines.
- 58. Do not use grate catch basins.
- 59. Do not design cross gutters where there are existing storm drains to tie into.
- 60. Provide a recorded drainage release letter if streets drain onto adjacent property owner's land.
- 61. Show any block walls, ditches, etc. needed along tract boundary to prevent flooding (overland, from canals, etc.) on plans.
- 62. Check at subdivision boundaries for any possible problems such as blocking drainage from or discharging drainage to adjacent land or conflict with existing or proposed improvements.
- 63. Check for possible ponding on streets and cross gutters and aprons.
- 64. For storm drains, show HGL and elevation of HGL to nearest 0.1' in profile. Show "Q" in streets, into catch basins, and into storm drain system, and designate Q25, Q100, etc. Show any flowby on catch basins. Show flowrate to nearest 1 CFS. Show the time of concentration at catch basins, junction structures, etc.
- 65. Note water surface elevations in catch basins are minimum 6 inches below gutter flow line.
- 66. If alternate of C.I.P.P. is shown on plan, show HGL for both R.C.P. (n=0.013) and C.I.P.P. (n=0.015) and specific alternate size. C.I.P.P. (concrete strength is minimum 3000 P.S.I.).
- 67. Check for cutoff walls, energy dissipaters, etc. at outlets of storm drain systems. Also headwalls, etc. at inlets.
- 68. Do not center storm drain easements nor locate storm drains on property lines. Storm drain easement widths vary 12-25 feet depending on size of facility. Supplemental access easements may be required.

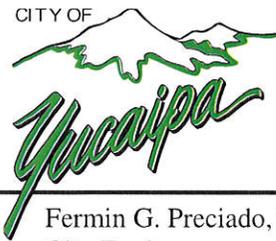
- 69. Provide encroachment permit from San Bernardino County Flood Control if connecting into one of their storm drains. (City applies with data, private engineer provides fee)
- 70. Label private drainage system as such. Make inlets of private drainage systems equal to or above HGL of public storm drain they connect to or if tying into a catch basin, equal to or above the tops of the curb of the catch basin.
- 71. Use standard under-sidewalk drains for private drainage only.
- 72. If proposed construction will affect adjacent driveways in any way, provide a written okay from adjacent property owners.
- 73. When proposed street improvements involve a railroad crossing in any way, contact City Engineer to discuss design of street prior to submitting plans for checking.
- 74. Do not put "stick on" labels on plan originals.
- 75. Submit any supporting calculations or pertinent data required to allow complete checking of the entire design development package (including but not limited to closure calculations for maps, hydrology and hydraulic calculations for storm drain studies, etc.) with first check.

FOR INFORMATION ONLY: Balance due on plan check fee must be paid prior to plan approval by City Engineer. Also, if R/W is required for the project, plans will not be approved until deeds are in and sent for recording

APPENDIX D

TRAFFIC CONTROL PLAN PREPARATION

1. TRAFFIC CONTROL PLAN GENERAL NOTES
2. TRAFFIC CONTROL PLAN CHECKLIST



City of Yucaipa
34272 Yucaipa Blvd.
Yucaipa, CA 92399
Phone: 909/797-2489
Fax: 909/790-9203

Fermin G. Preciado, P.E.
City Engineer

TRAFFIC CONTROL PLAN CHECKLIST

Project: _____ **Checked By:** _____ **Date:** _____

Prepared By: _____ **Date:** _____

The basic objective of each traffic control plan (TCP) is to permit the contractor to work within public right-of-way efficiently and effectively while maintaining a safe, uniform flow of traffic. Give equal consideration to the construction work and the public traveling through the work zone in vehicles, bicycles or as pedestrians when developing a traffic control plan. **A TCP is required for all work performed within the public right-of-way which impacts vehicular or pedestrian traffic on arterial streets and certain collector streets if necessary.**

Develop each traffic control plan consistent with the California Manual on Uniform Traffic Control Devices (California MUTCD) latest edition and have it contain the items specified in the City of Yucaipa Traffic Control Plan Checklist.

(Check When Completed For All Sheets)

1. Use legible lettering and clear, contrasting, symbols for viewing or printing in the TCP.
2. In some cases, where field conditions match exactly, a standard template may be used in lieu of a custom TCP, as approved by the City Engineer.
3. Indicate contractor's name, address, and telephone number. Include name and telephone number of the 24-hour contact person representing the contractor.
4. Indicate north arrow and scale, unless otherwise approved by the City Engineer.
5. Show all nearby streets with street names to assure proper orientation.
6. Show existing traffic signals and regulatory signs within the work area and affected work zone.
7. Show existing curbs, gutters, sidewalks, driveways and intersections in the construction work zone including areas affected by taper transition.
8. Indicate posted speed limits.
9. Show location and dimensions of construction work zone.
10. Show staging area and materials storage area, as appropriate.
11. Indicate location of construction signs, barricades, and delineators.
12. Label all taper lengths and widths, delineator spacing and sign spacing (spacing of channelizing devices should not exceed 25' for speeds under 55 MPH).
13. Use a legend to define all signs and symbols. Designate them with California MUTCD nomenclature.
14. Show existing and proposed temporary parking restriction zones and signs, as needed, within the work area.
15. Signs and barricades are required to direct pedestrians through or around the construction work zone. Show them on the TCP.
16. Road closures will require approval from the City Engineer and the City Council.
17. Include City of Yucaipa Traffic Control Plan General Notes on all submittals.



Traffic Control Plan General Notes

- A. It is the responsibility of the contractor performing work on a public street to install and maintain the traffic control devices as shown herein, as well as any such additional traffic control devices as may well be required to insure the safe movement of traffic and pedestrians through or around the work area and provide maximum protection and safety to construction workers.
- B. All delineators shall be equipped with reflective bands at night time.
- C. The contractor shall notify City of Yucaipa and all affected residents and businesses at least five (5) working days in advance of implementing any construction traffic control.
- D. All traffic control devices, stripes, markings, legends, raised pavement markers signs, delineators, barricades, etc. and their installation shall conform to the latest edition of the California Manual on Uniform Traffic Control Devices (California MUTCD), and/or the latest edition of the Work Area Traffic Control Handbook (WATCH).
- E. The City reserves the right to make any necessary changes to these traffic control plans as field conditions warrant. Any changes shall supersede these plans. Exact location of all equipment and all traffic control devices shall be determined by the City Engineer.
- F. All traffic control devices shall be kept in their proper position at all times, and shall be repaired, replaced, or cleaned as necessary to preserve their appearance and continuity.
- G. All traffic lanes shall have a minimum of 5 feet clearance from open excavations and a minimum of 2 feet from vertical obstructions. A minimum of twelve (12) foot travel lanes must be maintained unless otherwise approved by the City Engineer.

- H. Contractor shall provide properly trained flaggers as deemed necessary by the City Engineer/Inspector.
- I. All advanced warning signs shall be equipped with a minimum of two (2) flags.
- J. Traffic signals shall remain in operation at all times. Temporary signal modifications shall be approved by the City Engineer.
- K. Place additional "LANE CLOSED" (C 30) signs on Type II barricades at 150 foot intervals throughout extended work areas in each lane that is closed. Install "OPEN TRENCH" (C27) signs wherever an open excavation area exists adjacent to the traveled way.
- L. All temporary traffic control devices shall be removed following completion of each construction stage and the permanent traffic control devices shall be restored by the contractor upon completion of project.
- M. Where applicable contractor shall cover all existing speed limit signs and replace with W13-1 sign with applicable speed limit during construction.
- N. Contractor shall replace/repair all damage striping with temporary striping or raised pavement markers at the end of each working day.
- O. Contractor shall comply with the requirements of the American Disability Act as related to pedestrian access and shall maintain pedestrian access at all times per ADA requirements. Sidewalk closure/detour shall comply with the WATCH standards.
- P. Contractor shall cover or remove all conflicting regulatory and advisory signs.
- Q. Contractor shall post "symbol" Uneven Lanes sign for pavement surface disruptions of ½ inch or greater which run perpendicular to the path of travel. Pavement disruptions of 1 inch or greater shall have beveled edge of four (4) horizontal to one (1) vertical. Contractor shall install "STEEL PLATES AHEAD" sign in advance of all steel plate bridging. Steel plates shall be recessed and pinned.
- R. Lane closures performed on arterial streets shall be performed during non-peak hours - 8:30 AM to 3:00 PM.
- S. Road Closures require City Council approval unless the closure is required for emergency repairs. Request for road closures require thirty (30) days to process.