

# Mono County Department of Public Works Standards

Prepared by: Paul Roten, P.E. Director of Public Works Signature and Stamp: Date: March 18, 2024

This stamp and signature denotes that each page in this "Mono County Department Public Works Standards" that is signed by me and dated on March 18, 2024 has been prepared by and under my direction.

# Mono County Department of PW Standards - Amendment 1

Prepared by:

Signature and Stamp:

Date:

Standards Amended:

# Mono County Department of PW Standards - Amendment 2

Prepared b	oy:
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Signature and Stamp:

Date:

Standards Amended:

# Mono County Department of PW Standards - Amendment 3

Prepared by:

Signature and Stamp:

Date:

Standards Amended:

# Mono County Department of PW Standards - Amendment 4

Prepared by:

Signature and Stamp:

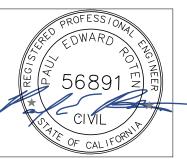
Date:

Standards Amended:



Mono County Public Works 73 N. School Street Bridgeport, CA 93517

# Public Works Standards Signatures and Amendments



- 1. These standards shall apply to all public and private projects including but not limited to public works, private roads, and grading design in Mono County; all of which is subject to review by the Public Works Director.
- 2. These standards are not a substitute for engineering knowledge, experience, and judgement.
- 3. These standards do not impose a standard of conduct or duty to the public. Instead, the methods and procedures contained in this manual should be reviewed by the engineer using them to determine applicability to the project on which they are working.
- 4. Modifications or deviations from these standards require written approval of the Public Works Director.
- 5. When a standard is referenced, the current version of that standard is intended unless noted otherwise. Use of standards other than the current version require written approval of the Public Works Director.
- 6. Any conditions of the Mono County General Plan or Mono County Municipal Codes in their latest update shall rule over any standard included herein.

	Mono County Public Works	APPLICABILITY	STANDARD PLAN
MONO		PUBLIC WORKS DIRECTOR APPROVAL	•

#### 000 General

001 General Requirements

010 Abbreviations and Definitions 011 Symbols

020 Construction Requirements 021 Earthwork Requirements 024 Concrete (and slurry) 025 Pavement Standards

030 Crack Seal [materials and installation standard] (RESERVED) 031 Slurry Seal [for asphalt] (RESERVED)

#### 100 Streets, Sidewalks, Driveways and Parking

101 Road Design Standards102 Minimum Road Design Standards Table103 Pavement and Base Thickness Design Standards104 Policy for Development - Sub-standard Roads

110 Road Cross Sections 112 Roadway Connections [Reserved]

120 Concrete Curb and Gutter 125 Cross Gutter

130 Sidewalk Standards

140 Sawcut For Added Pavement

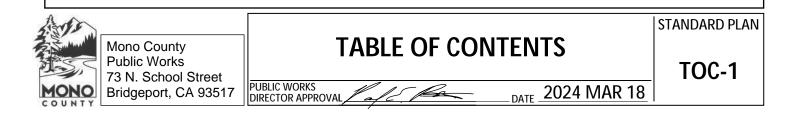
170 Driveway Geometrics171 Residential Driveway Standards172 Commercial Driveway Standards

181 Parking Design Standards

#### **200 Utilities**

201 General References for Utilities

210 Utility Locations



220 Trench within Street or Road – Paved221 Trench outside paved area222 Directional Drilling and Boring [Reserved]

230 Pipe Anchors and Backfill Stabilizers

241 Manhole and Utility Collars

#### **300** Drainage

300 General Reference for Drainage

310 Hydrology

320 Hydraulics

350 Storm Drain Trench332 Culverts Standards [Reserved]360 Storm Drain Collar

370 Typical Cobble Swale

360 Arizona Crossing (RESERVED)

#### 400 Striping, Signs, Lights and Appurtenances

401 General Striping and Signage Notes (RESERVED)

410 Street Name Signs

#### **500 Erosion Control and Landscape**

500 General Water Quality Control

510 Eastern Sierra Plant List

#### 600 Bike Paths

600 General Bike Path (all to conform to the toml specs/standards

610 Multi-Use Path (make narrower than toml)

630 Soft Surface Trails (usfs standards? Can I adopt through these standards?)



#### **700 Miscellaneous Facilities**

701 Miscellaneous Facilities General

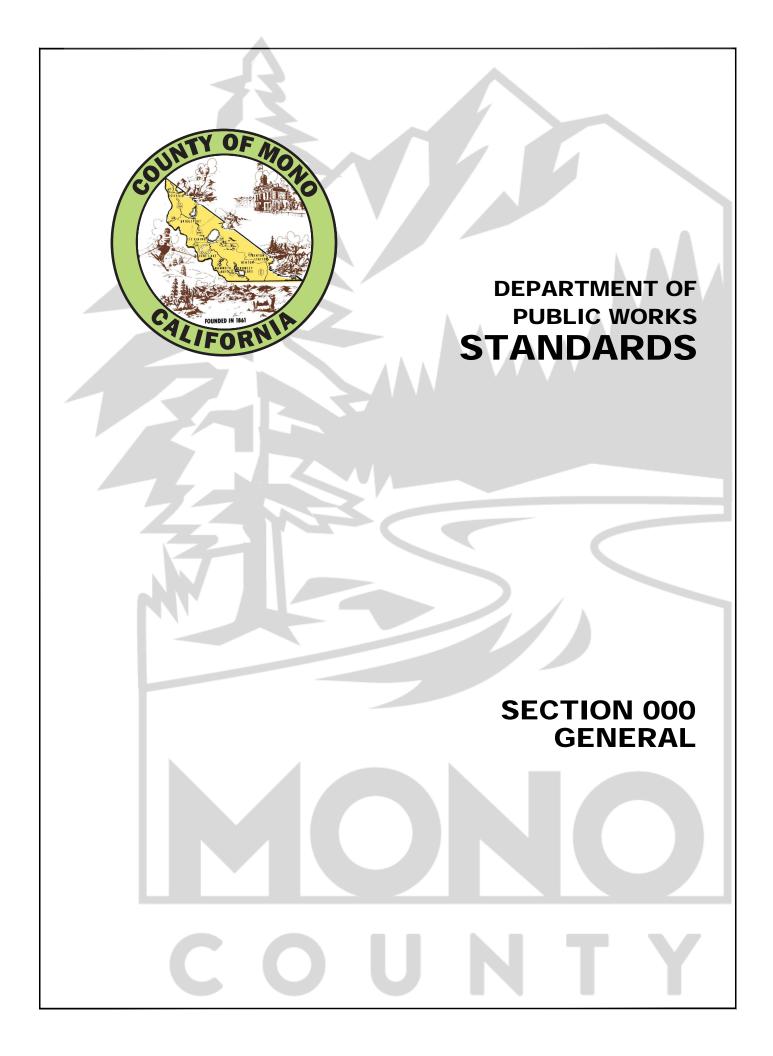
(Items within this section or not otherwise included in these standard specifications for inclusion in the roadway must be specifically approved in writing by the Public Works Department prior to construction) 710 Monument Well

## **800 Traffic Calming**

801 Traffic Calming General

810 Traffic Calming Strip





# **001** General Requirements

## A General

- All work shall be performed in accordance with these standards, the Caltrans Standard Specifications (CSS), and the Standard Specification for Public Works Construction (SSPWC) published by Committee of Public Works Standards, Incorporated. In the event of conflict, the order of precedence shall be project specific requirements approved by the county over these standards over Caltrans standards over Public Works standards.
- General materials shall conform to current State of California Department of Transportation (Caltrans) Standard Specifications. Specifications not covered in Caltrans Standard Specifications shall conform to the Standard Specifications for Public Works Construction published by Public Works Standards, Incorporated.
- 3. Formation of assessment district to provide for construction of improvements as a financing tool shall also include a maintenance district.
- 4. These standards are provided to give general guidance and do not include every condition or every requirement.
- 5. Developers are responsible for any liability caused by their work in Mono County.

#### **B** Improvement Plans

- All improvement plans and specifications shall be prepared by, or under the direction of, and signed by, a Civil Engineer licensed in the State of California (hereinafter called the "Engineer of Record"). The improvement plans shall be subject to the review and approval of the County Director of Public Works or assignee, prior to the construction of improvements.
- 2. Road drainage concerns shall receive design consideration as shown herein and as approved by the Department of Public Works. Road drainage shall be addressed on all improvement plans, and shall, as a minimum include such drainage provisions as are included on the applicable standard drawings attached hereto.
- 3. The developer shall provide adequate right-of-way and shall improve any offsite roads, required for the development, to the requirements specified in these standards. Adequate right-of-way is defined as right-of-way of sufficient width to contain the entire road prism including cut and fill slopes and the minimum as defined elsewhere herein.

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# C Road

- 1. These standards shall apply to all road improvements required under the provisions of the Mono County Code and are adopted by reference as though contained wholly therein. All Mono County Code provisions relative to this document shall apply as though contained wholly herein except this document shall take precedent over conflicts.
- 2. The design, layout, and other aspects of road improvements shall conform to these improvement standards, general or specific plans, and in all cases shall provide for the advantageous development of the general planning area within which the improvement lies.
- 3. If the roads constructed are to remain private, then a maintenance entity shall be formed to ensure continued maintenance on the road system as approved by the County Board of Supervisors. The entity shall be formed in accordance with the Standard Maintenance Agreement on file with the Department of Public Works. The proponent may be required to annex to an adjacent existing maintenance entity.
- 4. In situations where the County determines that incremental road improvement should be deferred or supplemental road improvement is necessary, the developer shall be required, as a condition to project approval, to enter into a mitigation agreement. Such agreements shall provide for contributions of funds equal to the estimated cost of the incremental improvements deferred, such funds to be deposited in an interest-bearing account in the name of the road involved; or, in cases where supplemental improvements are required, the County may enter into a reimbursement agreement with the developer installing such supplemental improvements.
- General road design shall conform to the current American Association of State Highway and Transportation Officials (AASHTO) publication A Policy on Geometric Design of Highways and Streets.
- 6. When roads are constructed to county standards, they are eligible for consideration by the Board of Supervisors to accept them for maintenance by the County.

# D Signage and Traffic Control

1. Work shall be done in conformance with the most recent version of the Manual of Uniform Traffic Control Devices (MUTCD) State of California.

## E Americans with Disabilities Act

1. Work shall conform with requirements of the Americans with Disabilities Act (ADA) and ADA Standards for Accessible Design.

## F Caltrans ROW

- 1. Mono County has no jurisdiction over construction in the Caltrans ROW.
- 2. Work in Caltrans right of way requires a permit from Caltrans.
- 3. Work can only begin after required permit has been obtained.

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# G CEQA

1. Prior to any construction, work must be verified to conform with CEQA

### H Clean Water Act

- 1. All work must be done in conformance with the Clean Water Act.
- 2. In Mono County and outside the incorporated Town of Mammoth Lakes, typical construction projects 1 acre and above will need to prepare NOI (Notice of Intent) with the State Water Quality Control Board and prepare a SWPPP (Storm Water Pollution Prevention Plan) specifically for the project. This information must be uploaded to SMARTS (Stormwater Multiple Application and Report Tracking System).
- 3. The California Water Board is the Permitting Agency. Lahontan RWQCB (regional water quality control board) is the contact for Mono County.

### I Great Basin Unified Air Quality Control Board

Some projects require permits from the Great Basin Unified Air Quality Control Board (GBUAQCB). For those projects, work shall be done in conformance with said permits and contractor shall work directly with the GBUAQCB.

### J FEMA Flood Zones

An Elevation Certificate may be required for construction within a FEMA flood Zone.

- 1. Floodway always applicable No-Rise required
- 2. Zone AE applicable when over 50% improvements or remodel, cummulative
- 3. Zone A may be required to determine elevations
- 4. Zone D No specific requirements, but there could be flood hazards and could be included in FEMA SFHA area in future.

## K Wetlands

Work within wetlands may require permits from:

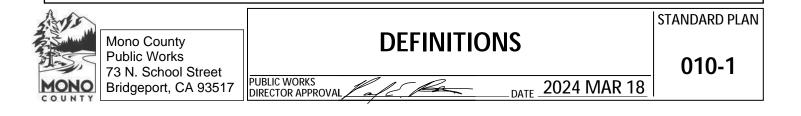
- Lahontan Regional Water Quality Control Board (RWQCB)
- California Department of Fish and Wildlife
- Army Corp of Engineers.

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#### Definitions

Bidder any individual, firm, partnership, corporation, or combination thereof, submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

- County the County of Mono, a political subdivision of the the State of California.
- Department Public Works Department, County of Mono.
- Director Director of Public Works Department, or designee.
- Due notice a written notification, given in due time, of a proposed action where such notification is required by the contract to be given a specified interval of time (usually 48 hours or two working days) prior to the commencement of the contemplated action.
- Engineer the county representative including Resident Engineer and Public Works Director or their designees, acting within the scope of the particular duties entrusted to them.
- Engineer the design engineer, engineer responsible for the signing of plans will also set direction of design process.
- Laboratory the laboratory authorized by the county to test materials and the work.
- Prompt the briefest interval of time required for a considered reply, including time required for approval of a governing body.
- Proponent Owner, developer, contractor or other entity under contract with or requiring approval of Mono County Department of Public Works State the State of California.
- Board the Mono County Board of Supervisors, the governing body of the county.
- Work Activities included in contract, permit, or other instrument administered by Mono County Department of Public Works.
- Working days a working day is defined as any day, except Sundays, legal holidays and days when work is suspended by the engineer, as provided in section 8 of the CSS.



#### **ABBREVIATIONS**

(ALSO REFER TO SECTION 1 OF THE CSS AND ABBREVIATIONS OF CALTRANS STANDARD PLANS. IF ABBREVIATIONS ARE USED THAT ARE NOT INCLUDED HERE, IN SECTION 1 OF THE CSS OR IN THE CALTRANS STANDARD PLANS, THEN SAID ABBREVIATIONS SHALL BE INCLUDED ON PLANS.)

AC - ASPHALT CONCRETE	EL / ELEV - ELEVATION	PVC - POINT ON VERTICAL
AD - ALGEBRAIC DIFFERENCE	EOR - ENGINEER OF RECORD	CURVE
AGC - ASSOCIATED GENERAL	EP - EDGE OF PAVEMENT	POVC - POLYVINYL CHLORIDE
CONTRACTORS OF AMERICA	EQ - EQUIVALENT	PVI - POINT OF VERTICAL
AGG - AGGREGATE	EX - EXISTING	INTERSECTION
APWA -AMERICAN PUBLIC	EVCE - END VERTICAL CURVE	PVMT - PAVEMENT
WORKS ASSOCIATION	ELEVATION	RCP - REINFORCED CONCRET
ASA - AMERICAN STANDARD	EVCS - END VERTICAL CURVE	PIPE
ASSOCIATION	STATION	<b>REQMT'S - REQUIREMENTS</b>
ASTM - AMERICAN SOCIETY FOR	FF - FINISHED FLOOR	ROW - RIGHT OF WAY
TESTING AND MATERIALS	FG - FINISHED GRADE	RR - RAILROAD
BC - BEGIN CURVE	FH - FIRE HYDRANT	SD - STORM DRAIN
BM - BENCH MARK	FL - FLOWLINE	SDN - SUBDRAIN
BOC - BACK OF CURB	FM - FORCE MAIN	SDMH - STORM DRAIN
BVCE - BEGIN VERTICAL CURVE	FPS - FIRE PROTECTION	MANHOLE
ELEVATION	SERVICE	SL - SEWER LATERAL
BVCS - BEGIN VERTICAL CURVE	FPS - FEET PER SECOND	SQ.FT. / SF - SQUARE FEET
STATION	FS - FINISHED SURFACE	SS - SANITARY SEWER
CFS - CUBIC FEET PER SECOND	GB - GRADE BREAK	SSMH - SANITARY SEWER
CL - CENTERLINE	GP - GATE POST	MANHOLE
CMP - CORRUGATED METAL	H - HEIGHT	SSPWC STANDARD
PIPE	HMA - HOT MIX ASPHALT	SPECIFICATIONS FOR
CMP - CONSTRUCTION	HP - HIGH POINT	PUBLIC WORKS
MANAGEMENT PLAN	HDPE - HIGH DENSITY	CONSTRUCTION,
CMU - CONCRETE MASONRY	POLYETHYLENE	CURRENT EDITION,
UNIT	I.FT INVERT ELEVATION	PREPARED BY SO CA
CO - CLEAN OUT	INTX - INTERSECTION	CHAPTERS OF AGC
CONC CONCRETE	INV - INVERT	AND APWA
CPP - CORRUGATED PLASTIC	JMF - JOB MIX FORMULA	STA - STATION
PIPE	LF - LINEAR FEET	STND - STANDARD
CS - CRAWL SPACE	LP - LOW POINT	SWPPP STORM WATER
CSP - STATE OF CALIFORNIA	MAT'L - MATERIALS	POLLUTION
DOT STANDARD PLANS,	MJ - MECHANICAL JOINT	PREVENTION PLAN
MOST RECENT EDITION	NEC - NATIONAL ELECTRIC	TBM - TEMPORARY BENCH
CSP - CORRUGATED STEEL	CODE	MARK
PIPE	NIC - NOT IN CONTRACT	TC - TOP OF CURB
CSS - STATE OF CALIFORNIA	NTS - NOT TO SCALE	TF - TOP OF FOOTING
DOT STANDARD	OC - ON CENTER	TG - TOP OF GRATE
SPECIFICATIONS, MOST	PCC - PORTLAND CEMENT	COUNTY - COUNTY OF MONO
RECENT EDITION	CONCRETE	TW - TOP OF WALL
CU. FT / CF - CUBIC FEET	POCC - POINT ON COMPOUND	TYP - TYPICAL
CY - CUBIC YARDS	CURVE	UG - UNDERGROUND
DI - DROP INLET	PERF - PERFORATED	VC - VERTICAL CURVE
DIA - DIAMETER	PL - PROPERTY LINE	VLT - VAULT
DIP - DUCTILE IRON PIPE	PP - POWER POLE	VCP - VITRIFIED CLAY PIPE
EC - END CURVE	P.U.E PUBLIC UTILITY	WL - WATER LATERAL



Mono County Public Works 73 N. School Street

PUBLIC WORKS DIRECTOR APPROVAL Bridgeport, CA 93517

**ABBREVIATIONS** 

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**STANDARD PLAN** 

010-2

DATE 2024 MAR 18

	DESCRIPTION	EXISTING	PROPOSED	
	AGGREGATE	6556		
	AC PAVING			
	AIR VACUUM AND RELEASE VALVE ANCHOR/GUY WIRE	37.5 FG	- C - C - C - C - C - C - C - C - C - C	
	BENCHMARK			
	BLOW OFF ASSEMB	LY <u> </u> O	-O	
	CATCH BASIN/INLE	Τ 🗆 🖸		
	CENTERLINE	Q	Q	
	CONTOURS INDEX INTERMEDIATE	8050	8050 <u>8051</u>	
	COBBLE SWALE		08080808080	
	CONCRETE			
	CUT SLOPE	$\succ$	$\succ$	
	DROP INLET			
	ELE∨ATI⊡N @ FINISHED GRADE EASEMENT LINE	37.5 FG	10.72 FG	
	EDGE OF PAVEMEN	<i>mm</i> -	<i>ππ</i> -	
	ELECTRIC TRANSFORMER		$\bowtie$	
	FENCE	× ×	x x	
	FINISHED SURFACE	ELEV 37.5 FS	37.5 FS	
	FILL SLOPE 3:1 MA	4X.		
	FIRE HYDRANT	Ъ.	×	
	GRADE BREAK			
	GRADE RATE	5.6%	5.6%	
	MANHOLE	as designated	os designated	
	IF SYMBOLS ARE USED THAT SHALL BE INCLUDED ON PLA	ARE NOT INCLUDED HEREOR IN THE CALTRANS.	ANS STANDARD PLANS, THEN SAID SYMBC	DLS
AND				TANDARD PLAN
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SAND Sanitary sewe & direction in Storm drain w & direction in	VDICATOR	- <u>(18,2D</u> - - <u>(8,22</u> -
SEWER LATERAL SIGN		S
STREET LIGHT TRAFFIC SIGNAL TREE - DECIDU		ب المحافظ المحافظ المحافظ المحافظ المحافظ
TREE – EVERGE TREE SIZE AND TREE TO BE RE	• TYPE • 12" P	<ul> <li>№ 12" P</li> <li>№ 12" P</li> </ul>
WATER LINE WATER VALVE	- <u>10"</u> -	- <u>10"</u> -
	000000	
WATTLES REVISION AND REVISION NUMB	ER	المريب الم
RE∨ISI⊡N AND RE∨ISI⊡N NUMB	AT ARE NOT INCLUDED HEREOR IN THE CALTRANS	S STANDARD PLANS, THEN SAID SYMBOLS

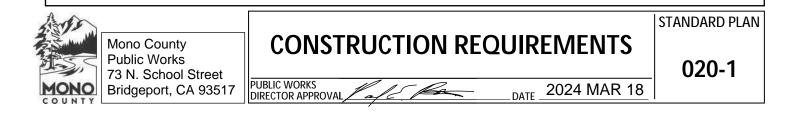
# **020** Construction Requirements

#### A General

- 1. Notify the county's representative and all other interested parties at least 48 hours prior to the start of work.
- 2. Notify underground service alert at least 48 hours prior to commencing construction with a request that utility owners mark or otherwise indicate the location of their facilities. Also notify all appropriate utility companies
- 3. Pothole utilities at crossings and tie-ins prior to excavation work.
- 4. Obtain all require permits prior to beginning construction.
- 5. Except for implementation of erosion control plan, do not start work until pre- construction meeting with county staff has occurred.
- 6. Comply with additional terms of county encroachment permit, grading permit, other agency permit, or other utility company or district permit as required.
- 7. Control dust nuisance by cleaning, sweeping, and sprinkling with water and using dust fences or other methods as directed by the county's representative throughout the construction operation. Moisten all exposed soil surfaces as required to avoid nuisance conditions and inconveniences for local residents and travelers of nearby roadways. Make sufficient water trucks available for dust control purposes.
- 8. Bring any evidence of the historical (generally over 50 years) presence of man found during construction to the attention of the Mono Public Works Department and stop construction until further notice.
- 9. Promptly clean up areas adjacent to work of all debris.

#### B Control of Work

- 1. Limit construction to 7:00 am to 8:00 pm Monday through Saturday unless authorized by county.
- 2. Flag the limits of construction prior to start of construction to prevent damage to vegetation and disturbance to soils outside of the area of construction.
- 3. Conduct operations as to offer the least possible obstruction and inconvenience to the public and have under construction no greater length or amount of work than can reasonably be prosecuted.
- 4. Maintain convenient access to driveways, houses, and buildings along the line of work at all times.
- 5. Close no more than one crossing or intersecting street or road at any one time.

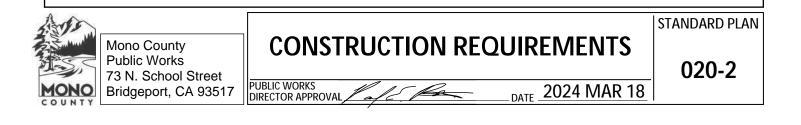


#### C Safety

- 1. In accordance with generally accepted construction practices, be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work.
- 2. Comply with all state, federal, and other laws, rules, regulations, and orders relating to safety of workers and all others including the issuance of personal protective equipment.
- 3. Conduct all grading operations in accordance with the County of Mono ordinances and standards and in conformance of California Department of Industrial Relations, Division of Industrial Safety.
- 4. Comply with all requirements of general OSHA standards for the protection of workmen and the general public including obtaining OSHA permits for trenches over 5 feet deep.
- 5. Prepare a worker protection plan and submit to the county for approval for all excavations greater than 4 feet.
- 6. Storage and handle explosives in accordance with the provisions of Division II, part I, of the California Health and Safety Code and all other applicable federal, state, county, and local codes and regulations.
- 7. Drill and blast only under the direction of licensed personnel. Take all precautions necessary for the protection of life and property during blasting operations and give adequate warning to workers, inspectors, and property owners that blasting is in progress.
- 8. Notify the county prior to blasting.

#### D Miscellaneous:

- 1. Revegetate or landscape all cut and fill slopes to prevent erosion.
- 2. Do not exceed a steepness of 3:1 (3 feet horizontal to 1 foot vertical) on cut and fill slopes shall not exceed, unless otherwise noted.
- 3. Stockpile topsoil and spread evenly to a depth of 4 inches minimum over slopes and disturbed areas then apply seed.
- 4. Stabilize seeded slopes by installation of an erosion control blanket, "North American Green SC150", geotextiles, jute matting or approved equal, secured per manufactures recommendations.
- 5. Exercise due care to avoid injury to existing improvements or facilities, utility facilities, adjacent property, trees and vegetation not to be removed.
- 6. Repair all damage you cause to public streets, including haul routes, alleys, sidewalks, curbs, or street furnishings, or to private property at your sole expense and to the satisfaction of the county's representative.



#### E Materials

- 1. Design, supply, and install signs and signposts in conformance with the standards within section 300.
- 2. Design and install traffic stripes and pavement markings in conformance with Caltrans standards and the CA MUTCD.

#### F Inspection

- 1. Notify Mono County 48 hours in advance for inspection of:
- traffic control
- shoring
- concrete forms
- concrete placement
- rebar placement
- subgrade
- final grade base course
- light pole footings and anchor bolts prior to concrete pour
- utility installations prior to backfill
- additional items as determined by county
- 2. Conduct soils testing using a state-approved independent testing laboratory

#### G Engineering Certification

1. Prepare all improvement plans including the specific details and specifications thereof by, or under the direction of, and signed by, a civil engineer licensed in the State of California for review and approval of the Mono County Public Works Director prior to construction of the improvements.

#### H Shop Drawings and Submittals

- 1. In general, shop drawings and submittals shall be provided to the county in conformance with project plans and specifications.
- 2. In projects where not specified, provide submittals as requested to the county at least 5 days prior to material use for items such as the following:
- class 2 base
- concrete
- asphalt paving / mix design
- street lights
- electrical
- drainage components
- signage



#### A. SPECIFICATIONS FOR BACKFILL AND DENSIFICATION

Where specific recommendations have not been prepared by a geotechnical investigation the following shall apply:

For trenches, backfill shall be considered as starting one foot above the pipe or conduit, or at the top of concrete bedding over the pipe or conduit. All material below this point shall be considered bedding. Rocks greater than 3 inches in any dimension will not be permitted in the backfill placed above any pipe or box wherever the trench width is 4 feet or narrower. Wherever trench widths are greater than 4 feet, rocks larger than 3 inches but less than 12 inches in any dimension will be permitted as backfill no closer than 2 feet from the top of pipe or box and 2 feet below finished pavement sub grade or within 2 feet of risers, valves, manholes, or other structures, providing the following conditions are met:

- 1. Backfill material shall be screened or grizzled prior to being used as backfill.
- 2. Rocks shall be mixed with sufficient volume of suitable soil so as to eliminate nesting of rock and voids.
- 3. Trenches shall be at least 4 feet wide if a compactor on the end of a track excavator boom is utilized, or at least 8 feet wide if a full sized roller is used. A full sized roller shall consist of a sheepsfoot or drum roller having metal drums or shells not less than 4 feet in diameter. Hand tamping compactors or rollers will be used to obtain compaction within 2 feet of risers, valves, manholes, or other structures, and will assist in obtaining compaction along edges of trenches. However, they will not be permitted to be used in lieu of the equipment specified if rock larger than 3 inches in any dimension is used as backfill.
- 4. The contractor shall demonstrate to the engineer and the testing agency that adequate compaction can be obtained with the materials, equipment, and procedures to be used.
- 5. The loose thickness of each layer of embankment material before compaction shall not exceed 8 inches for hand tampers and 12 inches for roller compactors.
- 6. If, in the opinion of the engineer and/or testing agency, the backfill soils cannot be satisfactorily tested to determine if compaction criteria is met, the testing agency or engineer, may at their option request the contractor to modify his materials and procedures so the testing can be performed or may use a method specification based on the equipment and materials being used to verify that the adequate compaction is obtained.
- 7. Construction shall not be performed when material is frozen or a blanket of snow prevents proper compaction.

All backfill materials shall be compacted in 8" maximum lifts to 95% of the materials maximum dry density as determined by astm d 1557-current edition. In place density shall be tested and confirmed using astm test method d 6938.



#### B. Mass grading backfill and densification

- 1. Rocks larger than 12 inches in any dimension shall not be permitted without authorization of the engineer and only after a satisfactory method of obtaining adequate compaction has been developed and agreed to.
- 2. Where rocks are used in the backfill, they shall be mixed with suitable excavated materials so as to eliminate voids.
- 3. After placing of backfill has started, the contractor shall proceed as soon as practicable with densification. All backfill materials shall be compacted in 8" maximum lifts to 95% of the materials maximum dry density as determined by astm d 1557-current edition. In place density shall be tested and confirmed using astm test method d 6938. Backfill in non-structural areas shall be densified to at least 85% of the materials maximum dry density.

#### C. Specifications for trench slurry backfill:

- 1. Trench slurry backfill shall consist of a fluid, workable mixture of aggregate, 2-sack cement and water.
- 2. At the option of the contractor, trench slurry backfill may be used as a structural backfill for pipe, except that trench slurry backfill shall not be used as structural backfill for aluminum or aluminum coated pipe.
- 3. When trench slurry backfill is used for structural backfill, the width of the excavation shown on the plans may be reduced so that the side clear distance between the outside of the pipe and the side of the excavation, on each side of the pipe, is a minimum of 6 inches for pipes up to and including 42 inches in diameter or span, one foot for pipes over 42 inches in diameter or span.
- 4. Trench slurry backfill shall be placed only for the portion of the structural backfill below the original ground, the grading plane or the top of embankment placed prior to excavating for the pipe. Where necessary, earth plugs shall be compacted as required at each end of the pipe prior to placing backfill in a manner that will completely contain the slurry in the trench.
- 5. Trench slurry backfill shall be placed in a uniform manner that will prevent voids in, or segregation of, the backfill, and will not float or shift the pipe. Foreign material which falls into the trench prior to or during placing of the trench slurry backfill shall be immediately removed.
- 6. Backfilling or placing any material over trench slurry backfill shall not commence until at least four hours after the trench slurry backfill has been placed, except that when concrete sand is used for the aggregate and the in-place material is free draining, backfilling may commence as soon as the surface water is gone. Trench slurry backfill may be used as a substitute for aggregate base when approved in advance by the public works director.





PUBLIC WORKS DIRECTOR APPROVAL

MONO COUNTY - DEPARTMENT OF PUBLIC WORKS

STANDARD PLAN

**AGGREGATE BASE** DATE: 2024 MAR 18 023-1

# A. CONCRETE USED WITHIN COUNTY RIGHT OF WAY SHALL MEET THE FOLLOWING REQUIREMENTS (UNLESS OTHERWISE SPECIFIED BY THE COUNTY):

- 1. Concrete shall be in conformance with the most recent version of the California Department of Transportation Standard Specifications (CSS)section 90.
- 2. Portland cement concrete shall be Class 1 in accordance with Section 90, " concrete" of the CSS and min 7.1 sack type ii or 1p cement per cubic yard.
- 3. Aggregate used for concrete shall be non-reactive or treated in an approved manner.
- 4. Exposed concrete shall contain 5% + 1.0% entrained air.
- 5. Concrete shall contain min 15% fly ash max 25%.
- 6. Concrete shall be sealed with a County approved sealer.
- 7. Fiber mesh (polypropylene) shall be added per manufacturer's recommendations to all concrete that has a wearing surface including but not limited to curb and gutter, sidewalk, crosswalks, exposed utility rims, vaults, valley gutters, and as specified.
- 8. Wearing surface compressive strength shall be 5000 psi in 28 days or as approved by Public Works Director. All other concrete shall be minimum 3600 psi in 28 days or as specified on plans.
- 9. Concrete shall be tested for slump & air for compliance before the placement of the first truck load and every 50 yards thereafter or as directed by engineer. The contractor shall document the results and submit these and job field reports to the town on a weekly basis. In the event there is a test failure, corrective actions shall be taken to remedy the situation and the actions documented. The town shall be notified immediately. Concrete cylinders shall be taken mid first load and every 50 yards thereafter.
- 10. Copies of the batch tickets shall accompany the field reports and test results.



# B. CONCRETE BACKFILL SLURRY WITHIN COUNTY RIGHT OF WAY SHALL MEET THE FOLLOWING REQUIREMENTS:

1. Aggregate used shall have a minimum sand equivalent (se) of 30.0

2. At the option of the contractor, aggregate shall be either:

Α.	Selected	material	which	is free	of	organic	material	and	other	deleterious
	substances and conforms to the following grading requirements:									
	SIEVE SIZES		PEF	RCENTAGE	BY V	<b>NEIGHT PA</b>	SSING SIEVE	<u> </u>		
	1 1/2 INCH			100						
	1 INCH			80 -	100					
	3/4 INCH			60 -	100					
	3/8 INCH			50 -	100					
	NO. 4			40 -	100					
	NO. 100			2 - 4	40					
	NO. 200			2 - 2	15					
В.	Commercial quality concrete sand which conforms to the following grade requirements:						uirements:			
	SIEVE SIZES		PER	RCENTAGE	BY V	NEIGHT PA	SSING SIEVE	<u> </u>		

SIEVE SIZES	PERCEIVIAGE DI WE
3/8 INCH	100
NO. 4	95 - 100
NO. 8	80 - 100
NO. 16	50 - 85
NO. 30	25 - 60
NO. 50	10 - 30
NO. 200	2 – 15

- 3. MIXING:
  - A. The aggregate, cement and water shall be proportioned by weight. 188 pounds of cement (2 sack) shall be used for each cubic yard of material produced. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed. Structural concrete shall not be used.
  - B. Materials for trench slurry backfill shall be thoroughly machine mixed in a pug mill, rotary drum, or other approved mixer. Mixing shall continue until the cement and water are thoroughly dispersed throughout the material. Trench slurry backfill shall be placed within one hour after mixing or it shall be rejected.

#### 4. COMPRESSIVE STRENGTH:

- A. 100 psi in 28 days.
- B. No laboratory tests are required if the contractor uses concrete sand as aggregate. Contractor will be required to submit mix design prior to placement. The inspector will use the batch ticket as proof of the sack mix. If required, occasional compressive strength tests and aggregate gradations may be performed.
- C. Structural concrete shall not be used as slurry backfill.
- 5. PLACING
  - A. Slurry shall be placed and vibrated by mechanical means.



Mono County Public Works 73 N. School Street Bridgeport, CA 93517

CONCRETE AND SLURRY STANDARDS STANDARD PLAN

024-2

DATE 2024 MAR 18

#### **PAVEMENT SPECIFICATIONS**

#### **SUBGRADE**

Surface to receive hot mix asphalt must comply with the compaction and elevation tolerance specifications in the section of town standards for the material involved. Surface must be free of loose paving particles, dirt, and other extraneous material by means including flushing and sweeping.

#### TACK COAT

APPLY TACK COAT:

- 1. To existing pavement including planed surfaces.
- 2. Between hot mix asphalt layers except layers placed the same day.
- 3. Between hot mix asphalt layers if dirt or other foreign material is present on the surface including hot mix asphalt layers placed the same day.
- 4. To vertical surfaces of:
  - A. CURBS
  - B. GUTTERS
  - C. CONSTRUCTION JOINTS

APPLY TO VERTICAL SURFACES WITH A RESIDUAL TACK COAT RATE THAT WILL THOROUGHLY COAT THE VERTICAL SURFACE WITHOUT RUNNING OFF.

IMMEDIATELY IN ADVANCE OF THE HOT MIX ASPHALT, APPLY ADDITIONAL TACK COAT TO DAMAGED AREAS WHERE LOOSE OR EXTRANEOUS MATERIAL IS REMOVED.

CLOSE AREAS RECEIVING TACK TO TRAFFIC, SO AS NOT TO TRACK TACK ONTO PAVEMENT SURFACES BEYOND THE JOB SITE.

#### TRANSPORTING, SPREADING, AND COMPACTING

DO NOT PAVE HOT MIX ASPHALT ON WET PAVEMENT OR FROZEN SURFACE. CONTRACTOR MAY DEPOSIT HOT MIX ASPHALT IN WINDROWS AND LOAD IN PAVER IF:

- 1. Paver is equipped with a hopper that automatically feeds the screed
- 2. Loading equipment can pick up the windrowed material and deposit it in the paver.
- 3. Activities for deposit, pick-up, loading, and paving are continuous.
- 4. Hot mix asphalt temperature in the windrow does not fall below 260° f.

PAVE HOT MIX ASPHALT IN PROPER LIFTS CONSISTING OF 3X THE MAXIMUM NOMINAL SIZE OF THE AGGREGATE.

- 1. 3/4 inch aggregate lift will be 2-1/4 inch or 0.25 ft
- 2. 1/2 inch aggregate lift will be 1-1/2 inch or 0.15 ft
- 3. 3/8 inch aggregate lift will be 1-1/2 inch or 0.15 ft

CONTRACTOR MAY PAVE HOT MIX ASPHALT IN 1 OR MORE LAYERS ON AREAS LESS THAN 5 FOOT WIDE AND OUTSIDE THE TRAVELED WAY INCLUDING SHOULDERS. YOU MAY USE MECHANICAL EQUIPMENT OTHER THAN A PAVER FOR THESE AREAS. THE EQUIPMENT MUST PRODUCE A UNIFORM SMOOTHNESS AND TEXTURE.

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Mono County Public Works 73 N. School Street Bridgeport, CA 93517

**PAVEMENT STANDARDS** 

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HOT MIX ASPHALT HANDLED, SPREAD, OR WINDROWED MUST NOT STAIN THE FINISHED SURFACE OF ANY EXISTING IMPROVEMENTS INCLUDING PAVEMENT.

**DO NOT** USE PETROLEUM SUCH AS KEROSENE OR DIESEL FUEL TO RELEASE HOT MIX ASPHALT FROM TRUCKS, SPREADERS, OR COMPACTORS.

HOT MIX ASPHALT MUST BE FREE OF:

- 1. SEGREGATION 2
- 2. COARSE OR FINE AGGREGATE POCKETS 3
- 3. HARDENED LUMPS

LONGITUDINAL JOINTS IN THE TOP LAYER MUST MATCH SPECIFIED LANE EDGES. ALTERNATE LONGITUDINAL JOINT OFFSETS IN LOWER LAYERS AT LEAST 6 INCHES FROM EACH SIDE OF THE SPECIFIED LANE EDGES. YOU MAY REQUEST IN WRITING OTHER LONGITUDINAL JOINT PLACEMENT PATTERNS.

UNTIL THE ADJOINING THROUGH LANE TOP LAYER HAS BEEN PAVED, DO NOT PAVE THE TOP LAYER OF:

- 1. SHOULDERS
- 2. TAPERS
- 3. TRANSITIONS
- 4. ROAD CONNECTIONS
- 5. PRIVATE DRIVES
- 6. CURVE WIDENINGS
- 7. CHAIN CONTROLS
- 8. TURNOUTS
- 9. LEFT TURN LANES

IF THE NUMBER OF LANES CHANGE PAVE EACH THROUGH LANE'S TOP LAYER BEFORE PAVING A CHANGING LANE'S TOP LAYER. SIMULTANEOUS TO PAVING A THROUGH LANE'S TOP LAYER, YOU MAY PAVE AN ADJOINING AREA'S TOP LAYER INCLUDING THE SHOULDERS. DO NOT OPERATE SPREADING EQUIPMENT ON ANY AREA'S TOP LAYER UNTIL COMPLETING FINAL COMPACTION.

IF HOT MIX ASPHALT (LEVELING) IS SPECIFIED, FILL AND LEVEL IRREGULARITIES AND RUTS WITH HMA BEFORE SPREADING HMA OVER BASE, EXISTING SURFACES, OR BRIDGE DECKS. YOU MAY USE MECHANICAL EQUIPMENT OTHER THAN A PAVER FOR THESE AREAS. THE EQUIPMENT MUST PRODUCE A UNIFORM SMOOTHNESS AND TEXTURE. HMA USED TO CHANGE AN EXISTING SURFACE'S CROSS SLOPE OR PROFILE IS NOT HMA (LEVELING).



IF PLACING HOT MIX ASPHALT AGAINST THE EDGE OF EXISTING PAVEMENT, SAWCUT OR GRIND THE PAVEMENT STRAIGHT AND VERTICAL ALONG THE JOINT AND REMOVE EXTRANEOUS MATERIAL WITHOUT DAMAGING THE SURFACE REMAINING IN PLACE. IF PLACING HOT MIX ASPHALT AGAINST THE EDGE OF A LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT AND THE JOINT IS DAMAGED OR IS NOT PLACED IN A NEAT LINE. SAWCUT OR GRIND THE PAVEMENT STRAIGHT AND VERTICAL REMAINING IN PLACE. REPAIR OR REMOVE AND REPLACE DAMAGED PAVEMENT AT YOUR EXPENSE.

ROLLING MUST LEAVE THE COMPLETED SURFACE SMOOTH WITHOUT TEARING, CRACKING, OR SHOVING. COMPLETE FINISH ROLLING ACTIVITIES BEFORE THE PAVEMENT SURFACE TEMPERATURE IS 140° F.

#### COMPACTION EQUIPMENT

EACH PAVING MACHINE SPREADING HMA TYPE A OR B MUST BE FOLLOWED BY THREE ROLLERS:

- 1. One vibratory specifically designed to compact hot mix asphalt. The roller must be capable of at least 2,500 vibrations per minute and must be equipped with amplitude and frequency controls. The roller's gross static weight must be at least 7.5 tons
- 2. One oscillating type pneumatic-tired roller at least 4 feet wide. Pneumatic tires must be of equal size, diameter, type, and ply. The tires must be inflated to 60psi minimum and maintained so that the air pressure does not vary more than 5psi.
- 3. One steel-tired, 2-axle tandem roller. The roller's gross weight must be at least 7.5 tons.

EACH ROLLER MUST HAVE IT'S OWN OPERATOR UNLESS PAVING UNDER 300 TONS AT WHICH TIME ONLY 2 WILL BE REQUIRED.

COMPACTION METHODS

TYPE A AND B HOT MIX ASPHALT

BREAKDOWN =

#### 3 COVERAGE'S OF VIBRATORY ROLLER SPEED (MPH) < <u>VIBRATIONS</u> PER MINUTE 1000

INTERMEDIATE = 3 COVERAGE'S OF PNEUMATIC-TIRED ROLLER < 5MPH

FINISH = 1 COVERAGE IF STEEL-TIRED ROLLER



#### SURFACE AND AIR TEMPERATURES

TAKE AMBIENT AIR TEMPERATURES IN THE SHADE

PUBLIC WORKS ENFORCES THE TEMPERATURE RESTRICTIONS

COMPACTED LAYER	ATMOSPHERIC		SURFA	CE
THICKNESS	UNMODIFIED	MODIFIED	UNMODIFIED	MODIFIED
<015 ft	55	50	60	55
0.15-0.25 ft	45	45	50	50

HMA TYPE A AND B COMPACTION TEMPERATURES UMODIFIED, COMPLETE

1. 1<sup>ST</sup> COVERAGE OF BREAKDOWN BY 250°F.

- 2. BREAKDOWN AND INTERMEDIATE BY 200°F.
- 3. FINISH BY 140°F

CONTRACTOR RESPONSIBILITY

ACCEPTANCE OF PAVING:

CORES ARE TO BE TAKEN ONCE PER PRODUCTION DAY OR EVERY 500 TONS. EITHER A 4 OR 6 INCH CORE (AT CONTRACTOR'S DISCRETION) IS TO BE TAKEN WITHIN 5 DAYS OF BEING LAID. CORES ARE TO TESTED BY THE CONTRACTOR PER THE QUALITY CONTROL REQUIREMENTS AND RESULTS GIVEN TO THE TOWN FOR ACCEPTANCE PER THE JOB MIX FORMULA.

SMOOTHNESS WILL BE CHECKED WITH A 12 FOOT STRAIGHT EDGE AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR.

MAXIMUM DEVIATIONS ALLOWED AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR:

- 1. 0.01 feet parallel to centerline.
- 2. 0.02 feet perpendicular to centerline within a traffic lane.

TOWN MAY REQUIRE A PROFILOGRAPH IF CONTRACTOR EXCEEDS THE PRESCRIBED DEVIATIONS

JOINTS AND EDGES SHALL BE, STRAIGHT, FLUSH AND UNRAVELED IN APPEARANCE.

#### <u>GENERAL:</u>

CONTRACTOR NEEDS TO CONTROL:

- 1. Materials
- 2. Proportioning
- 3. Spreading and compacting
- 4. Finished roadway surface

CONTRACTOR DEVELOPS, IMPLEMENTS, AND MAINTAINS A QUALITY CONTROL PROGRAM THAT INCLUDES:

- 1. Inspection
- 2. Sampling
- 3. Testing

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SUBMIT WRITTEN REPORTS WITHIN THE TIME SPECIFIED IN THE TOWN STANDARDS FOR INSPECTION AND TESTING:

1. Sampling location, quantity, time, ambient air temperature and surface temperature in the shade.

- 2. Testing results
- 3. Supporting data and results

DOCUMENT CORRECTIVE ACTIONS IF BEYOND ACTION LIMITS

PUBLIC WORKS

DIRECTOR APPROVAL

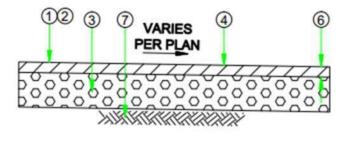


# **PAVEMENT STANDARDS**

STANDARD PLAN

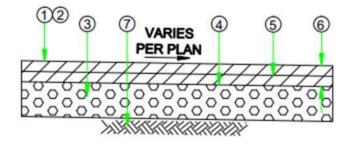
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# TYPICAL PAVEMENT STRUCTURAL SECTION - TYPE 1

NO SCALE



# **TYPICAL STREET STRUCTURAL SECTION - TYPE 2**

#### NO SCALE

#### CONSTRUCTION NOTES

- 1. 3/4 inch, type a asphalt concrete for collector and arterial streets.
- 2. Local streets and private drives shall be pg64-28 or pg64-28 pm, as approved by public works director.
- 3. Class ii aggregate base compacted to 95% relative density.
- 4. Type 1. 1-1/2 to 3 inches of asphalt concrete per plans.
- 5. Type 2. 1-1/2 to 3 inches per lift for 3 to 5-1/2 inches of asphalt concrete section per plans. 3 inch asphalt concrete lift shall be pre-approved by the public works department.
- 6. Min 3 inch thickness for any private street; min 3-1/2 inch thickness for any local street; min 5-1/2 inch thickness for public or private collector street, arterial street, or bus route.
- 7. Subgrade scarified for 12 inch and compacted to 95% for the upper 12 inches.

#### GENERAL NOTES FOR PAVEMENT STRUCTURAL SECTION

DIRECTOR APPROVAL

- A. Asphalt concrete shall be type a, 3/4 inch maximum grading and shall conform to the provisions of section 39, "hot mix asphalt", of the css. B
- B. Seal coat of ss-1 or css-1 asphalt shall be applied at 40 to 70 gallons per square foot to new asphalt concrete paved surfaces. Compaction shall be a minimum of 95% and a maximum of 99%. C
- C. Aggregate base shall be class 2, 3/4 inch maximum grading, and shall conform to the provisions of section 26, "aggregate bases", of the css. The aggregate base shall be compacted to a minimum of 95% of the materials maximum dry density as determined by astm d-1557-(latest edition).



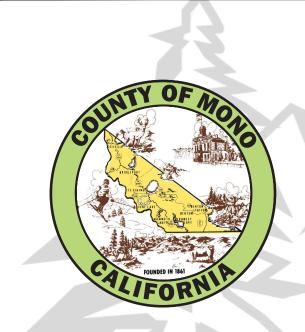
Mono County Public Works 73 N. School Street PUBLIC WORKS Bridgeport, CA 93517

**PAVEMENT STANDARDS** 

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# DEPARTMENT OF PUBLIC WORKS STANDARDS

# SECTION 100 STREETS AND SIDEWALKS



# **101 Road Standards**

The following applies to design in Mono County Right of Way, Private Improvements or other work as covered by a specific plan:

### Road Categories and Types:

See Mono County General Plan for Road Categories and Types.

### **Right-of-Way:**

The minimum right-of-way width for roads to be maintained by the county shall be sixty feet unless otherwise shown herein. Rights-of-way shall be fee simple unless approved by the Director of Department of Works. In addition, snow storage easements shall be provided outside the right of way unless approved otherwise by the Director of Public Works.

### Drainage:

Roadway drainage shall be designed with considerations of runoff, erosion protection, and maintenance of facilities.

### **Geometries and Profiles:**

The following standards for the design of geometries and profiles for proposed improvements shall govern the preparation of plans for such improvements.

### A Grades and Cross Slopes:

- 1. Minimum grade on new streets shall be 0.50 percent.
- 2. Minimum grade of gutter sections constructed on existing street shall be 0.50 percent.
- 3. Cross slope to crown on new streets shall be 2 percent. (Intersections and super-elevations excepted).
- 4. Maximum superelevation shall be 6 percent.
- 5. Maximum grade on new streets shall be 15 percent. However, all slopes in excess of 10 percent require the approval of the Director of Public Works. If County snow removal is contemplated, the desirable maximum grade should be 9 percent.
- 6. The grade of the pavement surface across an intersection shall not be more than 2 percent.
- 7. The gradient of any street entering an intersection shall not be more than 2 percent within a distance of 30 feet from the near curb line and/or edge of shoulder of the major crossing street.

### **B Vertical Curves:**

Changes of grade in the vertical alignment of the street shall be made with parabolic vertical curves. The length of vertical curve required shall be determined by the design speed and as approved by the Director of Public Works. The maximum grade differential permitted without a vertical curve is 1 percent.



### **C Horizontal Curves:**

Changes in direction of the streets shall be made with horizontal circular curves, with the edges of the pavement and curb lines parallel to and equidistant from the centerline of the right-of-way. The radius of curvature in the centerline of the street shall conform to County minimum standards for design speed and shall generally conform to the Caltrans Highway Design Manual.

### D Cul-de-Sacs:

The minimum radius for right-of-way lines in cul-de- sacs shall be equal to the right-of-way width or 45 feet, whichever is greater, and shall have a minimum radius of 35 feet to the edge of pavement and/or a radius of 37.5 feet to the back of the curb unless otherwise specified by the Director.

### **E Street Grading:**

Earth slopes in cuts or embankment sections shall not be steeper than 2 feet horizontal to 1 foot vertical unless steeper slopes have been recommended by a licensed civil engineer in a report which shall be filed with and approved by the Director of Public Works. Earth slopes shall also take into consideration disturbed areas.

### F. Street Intersections:

- 1. All streets shall intersect as nearly as possible at right angles.
- 2. Streets entering on opposite sides of any given street shall have their centerlines directly opposite or shall be offset by at least 150 feet.

### G. Other Requirements:

- 1. Additional right of way may be required to accommodate traffic control features, parking, bus stops, or features for non-vehicular traffic.
- 2. Sidewalks shall be a minimum of 4 feet clear of any obstructions except where sidewalks are adjacent to a wall or building where they shall be widened by at least 1 foot.



COUNT	Design Feature	Design Speed			Radii									A OF May Width		RKS	Bridge Clear Width		AASHTO Design Load	PLAN
Traffi		Flat	Rolling	Mour	Flat	Rolling	Mour	le* Flat	Rolling	Mour	tance Flat	Rolling	Mour	/idth	E	Thickness Base and Pavement	idth	nce	n Load	*Grades over 10% require approval by the director
Traffic ADT (	Topography Minin		5	Mountainous		5	Mountainous		50	Mountainous		5	Mountainous						H-20	/ the director
Under 100	num Desira	40	30	20	400	275	100	7	12	15	275	250	125	60			24	14.5	H-20	
	able Mini	50	30	25	650	400	250	4	9	10	350	275	200	60			26	15	H-20	
100 to 400	Minimum Desirable Minimum Desirable Minimum Desirable Minimum Desirable Minimum Desirable Minimum Desirable	45	35	25	500	350	150	7	10	12	315	240	165	60			26	14.5	H-20	
4	able Minin	55	45	35	850	525	325	ഹ	٢	6	415	315	240	60			30	15	H-20	
400 to 1,000	num Desira	50	40	30	650 1	400	300	9	8	10	350	275	200	60			30	14.5	H-20	
1,0	ble Minim	60	50	40	1000 1	650	400	ഹ	9	٢	475	350	275	80			52	15	H-20	
1,000 to 4,000	um Desiral	60	50	40	1000 15	650 10	400 6	4	9	٢	475 6	350 4	275 3	09			30	15	H-20	
	ole Minimu	70	60	50	1500 10	1000 7	650 5	m	ъ	9	600 4	475 3	350 2	80			52	18	H-20	
4,000 to 5,000	um Desirat	60	50	40	1000 15	700 10	500 6	ŝ	9	7	475 6	350 4	275 3	80 1			52	18	H-20	
0	ole Minim	70	60	50	1500 1	1000	650	ñ	Ъ	9	600	475	350	100			52	18	H-20	
Over 5,000	um Desi	60	20	6	1000	800	600	ŝ	9	9	475	350	275	80			52	18	H-20	

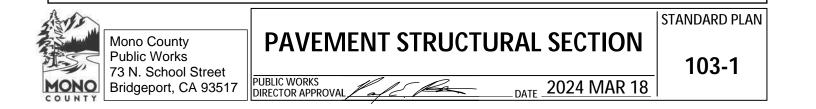
# **103 Pavement and Base Thickness Design Standards**

#### **Structural Section Design:**

Structural sections shall be designed based on Caltrans Highway Design Manual - Chapter 630 - Flexible Pavement methodology, to meet Traffic Index demands determined using methods identified in Caltrans Highway Design Manual – Chapter 610.

Roads shall be designed with a minimum structural section as shown or with the data given on the typical sections herein. Traffic Index (TI) values may be increased based on actual analysis but in no case shall TI values be decreased from those given. Unless specifically approved by the Department of Public Works, asphalt surfacing shall be Hot Mix Asphalt concrete, Type A or B; the grading of the aggregate on the top lift being shall be 3/4 inch, maximum, medium; asphalt binder shall be Grade PG 64-28 or Grade 58-34; and base shall be Class 2 Aggregate Base, all conforming to current California Department of Transportation standard specifications.

Final paving shall be placed at the earliest opportunity. In the event Hot Mix Asphalt concrete is not available for immediate placement, cold-mix or slurryto-grade can be approved on a case-by-case basis by the County Director of Public Works but only if it is maintained satisfactorily.



# **104 General Policy Guidelines for Development of Sub-standard Roads**

This policy is intended to address the development on sub-standard roads in Mono County. A road may be deemed sub-standard by the Public Works Director and may be considered sub-standard as a result of changes made to the county code, and by changes in the international fire code as amended by the State of California as well as the requirements of the local fire protection district.

In some cases, it may not be reasonable to impose the application of current standards to a proposed development that may only be accessible via a sub-standard road. Off-site right-of-way dedications and/or road improvements that would be required to bring the road into compliance may be impractical or extraneous to the proposed development. In such cases the following requirements shall be applied to affected properties:

- 1. Right of way dedications shall be required along all frontages of the subject property. The dedication shall be half width from centerline, and shall include snow storage easements where required.
- 2. Additional right of way or snow storage easements may be required whenever the development of the property requires the additional dedications. Roads that have not been accepted by the town and private roads shall make an irrevocable offer of dedication (IOD) from the centerline of the existing easement out to the ultimate right of way. The IOD may not be accepted until such time as the entire road is to be accepted as a public road. Setbacks shall be measured from the ultimate right of way.
- 3. All portions of roads fronting the property to be developed shall be improved to the full halfwidth road section from centerline, plus eight feet of pavement on the opposite side of the centerline.
- 4. Improvements shall include paving, snow poles, signage, and curb, gutter and sidewalk where required by a county adopted plan or policy. Additional improvements may be required wherever it is deemed necessary by the Public Works Director to provide for safe and reasonable transitions.
- 5. Fire department access shall be improved to the property by providing turnouts, fire hydrants and turnarounds consistent with fire requirements.
- 6. Existing dead-end roads being developed shall provide a cul-de-sac or turnaround approved by the Public Works Director.
- 7. In areas where inadequate fire access exists the developer may be required to provide additional pavement along the road frontage in order to accommodate a fire access turnout, the length and width to be determined by the local fire department. A fire hydrant may also be required. Parking would not be permitted and the road shall be signed as such along the turnout, regardless of the fire hydrant.



- 8. When properties are to be developed on private roads, unimproved roads or a road that is not maintained by the county, the property owner shall enter into two agreements with the county prior to issuance of a building permit or recordation of a map. The two agreements are a waiver of rights for the formation of and annexation into an assessment district for the construction of road and related improvements, including utilities, and a waiver of rights for the formation of a benefit assessment district for the maintenance of the road and related public improvements.
- Easements shall be granted whenever required by county code or an adopted county plan or policy. Development projects that propose density in addition to that which is allowed by current
- 10. Development projects that propose density in addition to that which is allowed by current zoning, or by the rezoning of the property to a higher density shall require additional improvements. Allowing additional density is a discretionary process and therefore the extent of the additional improvements is discretionary and shall address all issues concerning the public health, safety and welfare as approved by the Planning Commission or Board of Supervisors. This may include improvements off-site and not adjacent to the property, and may also require dedications for road purposes, snow storage or for other measures to mitigate negative impacts.
- 11. In the event that a development project is proposed along an existing misaligned road, where the alignment is outside of the right of way, the realignment of the road to the right of way will be at the discretion of the Public Works Director. Any condition that requires the re-alignment of the road will be in addition to all other conditions and requirements within this policy, county standards, and county code.

The Public Works Director shall place a memo in the road files describing any interpretations of this policy. A memo shall be created for each and every project that this policy has been applied to prior to any continued work on, changes to, or approval of any new substandard roadway or any existing substandard roadway improvements.



Mono County Public Works

73 N. School Street

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PUBLIC WORKS

DIRECTOR APPROVAL

SUB-STANDARD ROAD POLICY

STANDARD PLAN

104-2

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DATE

# **TYPICAL ROAD SECTION NOTES**

ROAD SECTIONS SHALL BE PER THE MONO COUNTY GENERAL PLAN. MONUMENTS SHALL BE PROTECTED IN PLACE OR REPLACED IF DISTURBED, REFER TO SECTION 710.

### 1. RIGHT OF WAY SHALL BE A 60 FOOT MINIMUM

- a. RIGHT OF WAY SHALL BE INCREASED AS NECESSARY TO ACCOMMODATE A MINIMUM OF 10 FEET OF SNOW STORAGE ON EACH SIDE OF ROADWAY
- b. FEATURES SUCH AS SIDEWALK, BIKE LANES AND CURB AND GUTTER MUST BE CONTAINED WITHIN THE ROW.
- 2. PAVEMENT SECTION:
  - a. MINIMUM OVERAL ROAD WIDTH SHALL BE 26 FEET FOR TYPICAL MONO COUNTY ROADS. ALTERNATE ROAD WIDTHS ARE SHOWN IN SECTIONS BASED ON SPECIFIC CONDITIONS.
  - b. SEE SECTION 025 FOR PAVEMENT REQUIREMENTS
  - c. TYPICAL THICKNESS OF MONO COUNTY ROADS IS 3 INCHES. ADDITIONAL THICKNESS MAY BE NEEDED FOR SOME ROADS BASED ON THE DESIGN STANDARDS REFERENCED IN SECTION 103

### 3. LANE WIDTH

- a. LANE WIDTHS SHALL BE 11 FEET MINIMUM
- b. ADDITIONAL WIDTH MAY BE REQUIRED FOR HIGHER SPEED OR HIGHER TRAFFIC ROADS
- c. ADDITIONAL LANE WIDTH MAY BE REQUIRED FOR TRUCK TURNS
- 4. SLOPE: STEEPEST ALLOWABLE SLOPE WITHOUT A GEOTECHNICAL REPORT IS 3:1
  - a. WHERE SLOPES ARE STEEPER THAN 3:1 THEY MUST BE WITHIN THE RIGHT OF WAY OR EASEMENTS MUST BE PROVIDED FOR SLOPE MAINTENANCE.
  - b. ALL SLOPES SHALL INCLUDE EROSION PROTECTION FEATURES

### 5. SHOULDER

- a. TYPICAL SHOULDER WIDTH IS A MINIMUM OF 3 FEET BOTH SIDES OF PAVED WIDTH
- b. ADDITIONAL SHOULDER WIDTH MAY BE REQUIRED FOR HIGHER TRAFFIC ROADS.
- c. SHOULDER MAY NEED TO BE PAVED FOR HIGHER TRAFFIC ROADS.
- d. SHOULDER AREA SHALL BE A MAXIMUM SLOPE OF 5%.
- e. AT A MINIMUM SHOULDER BACKING SHALL BE USED TO SUPPORT THE PAVEMENT SECTION. THE REMAINING SHOULDER MATERIAL MAY BE AGGREGATE BASE. PIT RUN MAY BE ACCEPTED IN SOME CONDITIONS AS PROVEN TO SUPPORT FIRE TRUCK LOADING
- 6. **ROADSIDE SWALES** WHERE REQUIRED REFER TO SECTION 370
  - a. UNLESS APPROVED BY PUBLIC WORKS THESE MUST BE PLACED OUTSIDE THE SHOULDER AREA
- 7. STRIPING
  - a. ROAD WITH SPEED LIMITS OVER 35 MILES PER HOUR SHALL INCLUDE A YELLOW CENTER LINE STRIPE OF 6 INCH WIDTH PER CALTRANS STANDARDS AND BOTH EDGELINES SHALL BE INCLUDE WHITE STRIPES OF 6 INCH WIDTH. LANE WIDTHS SHALL BE STRIPED AS SHOWN ON SECTIONS.
  - b. PAINT MARKINGS SHALL BE ADDED IN ALL BIKE LANES PER CALTRANS STANDARDS.



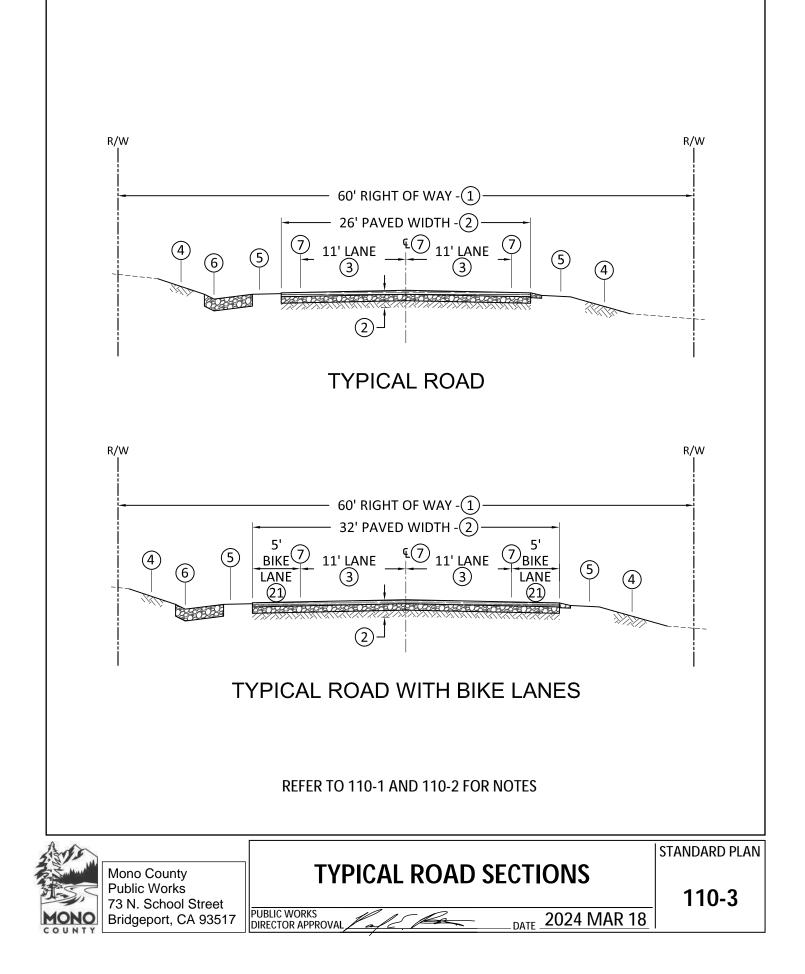
# ADDITIONAL ROAD SECTION FEATURES

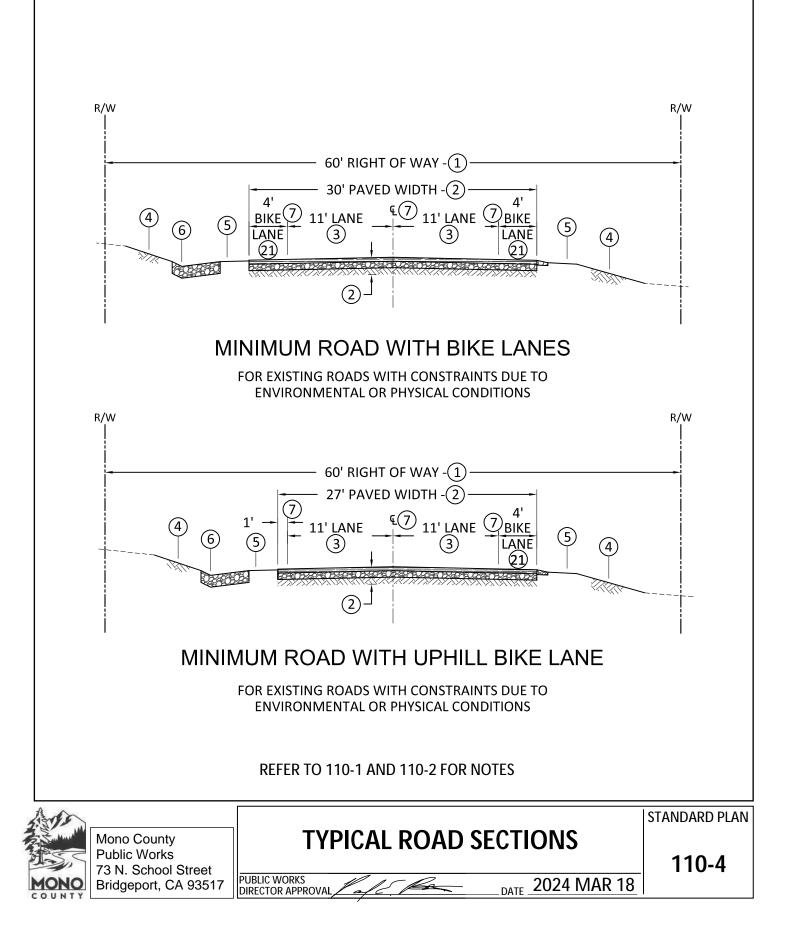
## \*ADDITIONAL ROAD SECTION FEATURES

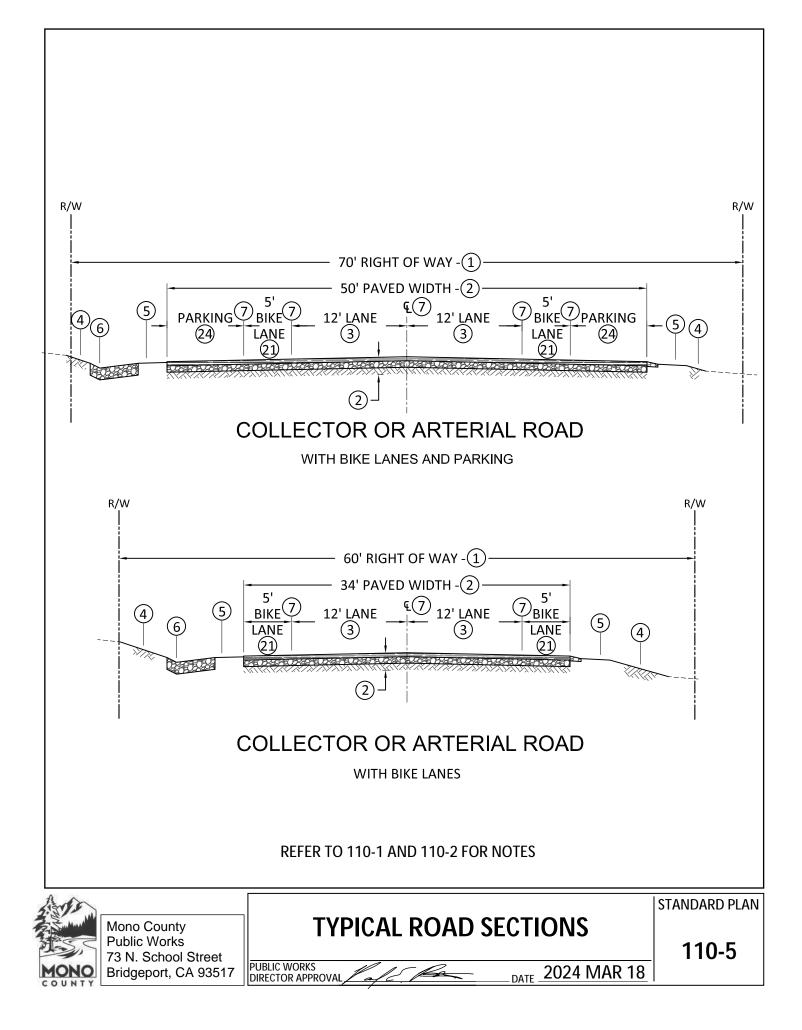
## 21. BIKE LANE\*

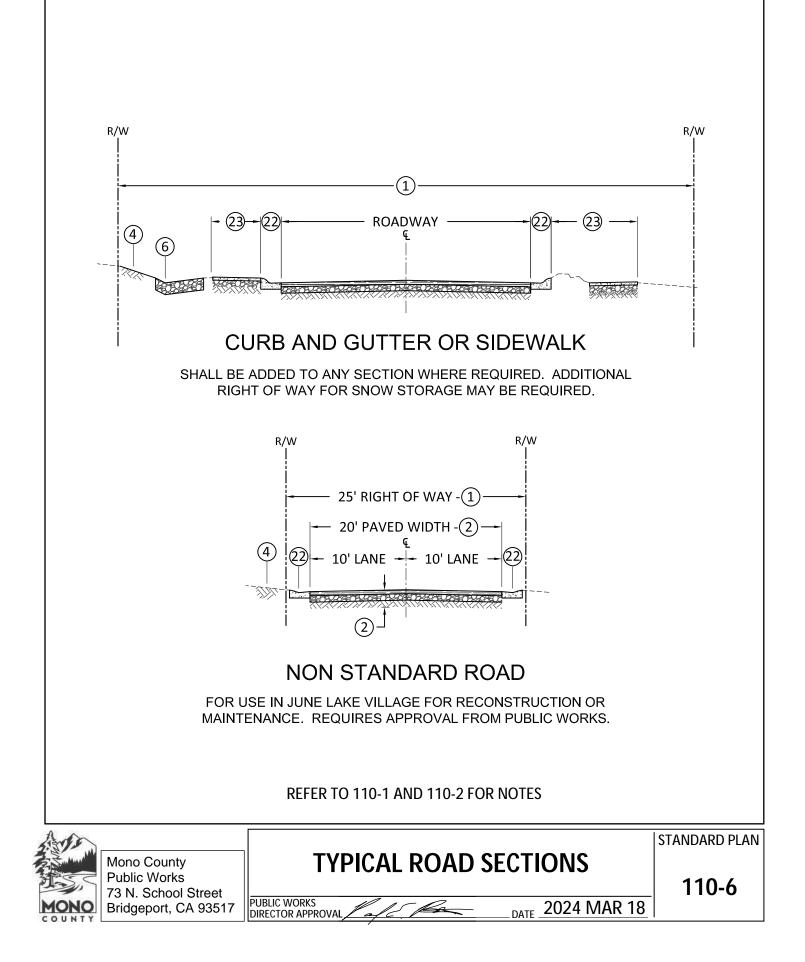
- a. BIKE LANE WIDTH SHALL BE A MINIMUM OF 5 FEET FOR NEW ROADS, OR NEW DEVELOPMENT ON EXISTING ROADS.
- b. BIKE LANE WIDTH SHALL BE A MINIMUM OF 4 FEET ON EXISTING ROADS OR ON LOCALLY FUNDED IMPROVEMENTS ON EXISTING ROADS.
- c. BIKE LANES IN DOWNHILL DIRECTION MAY BE OMITTED IN SOME CIRCUMSTANCES WHEN APPROVED BY THE PUBLIC WORKS DIRECTOR
  - I. WHERE THERE IS ONLY AN UPHILL BIKE LANE, THEN SHARROW STRIPING, SHALL BE APPLIED PER MUTCD
- d. BIKE LANES SHALL INCLUDE BIKE PAINT MARKINGS PER CALTRANS STANDARD PLANS
- e. BIKE LANE SIGNS SHALL BE PROVIDED FOR BIKE LANES PER CALTRANS STANDARD PLANS
- 22. CURB AND GUTTER\* SECTION 120
  - a. CURB AND GUTTER IS REQUIRED FOR NEW STREETS IN BRIDGEPORT AND LEE VINING
  - b. CURB AND GUTTER MAY BE PROVIDED IN OTHER AREAS WITH APPROPRIATE FEATURES TO ACCOMMODATE DRAINAGE.
  - c. REFER TO SECTION XX FOR JUNE LAKE CURB AND GUTTER
- 23. SIDEWALK\* SECTION 130
  - a. WHERE ADJACENT PROPERTIES HAVE SIDEWALK, SIDEWALK MUST BE PROVIDED. THERE MAY BE OTHER CONDITIONS WHERE SIDEWALKS ARE REQUIRED BASED ON THE GENERAL PLAN OR PLANNING COMMISSION CONDITIONS
  - b. SIDEWALK MAY BE PLACED AGAINST BACK OF CURB AND GUTTER
  - c. WHERE NO CURB AND GUTTER EXISTS A MINIMUM OF 4 FEET OF DIFFERING MATERIALS MUST BE PROVIDED BETWEEN ROAD AND SIDEWALK
- 24. **PARKING\*** WHERE PROVIDED PARKING SHALL BE A MINIMUM OF 8 FEET WIDTH

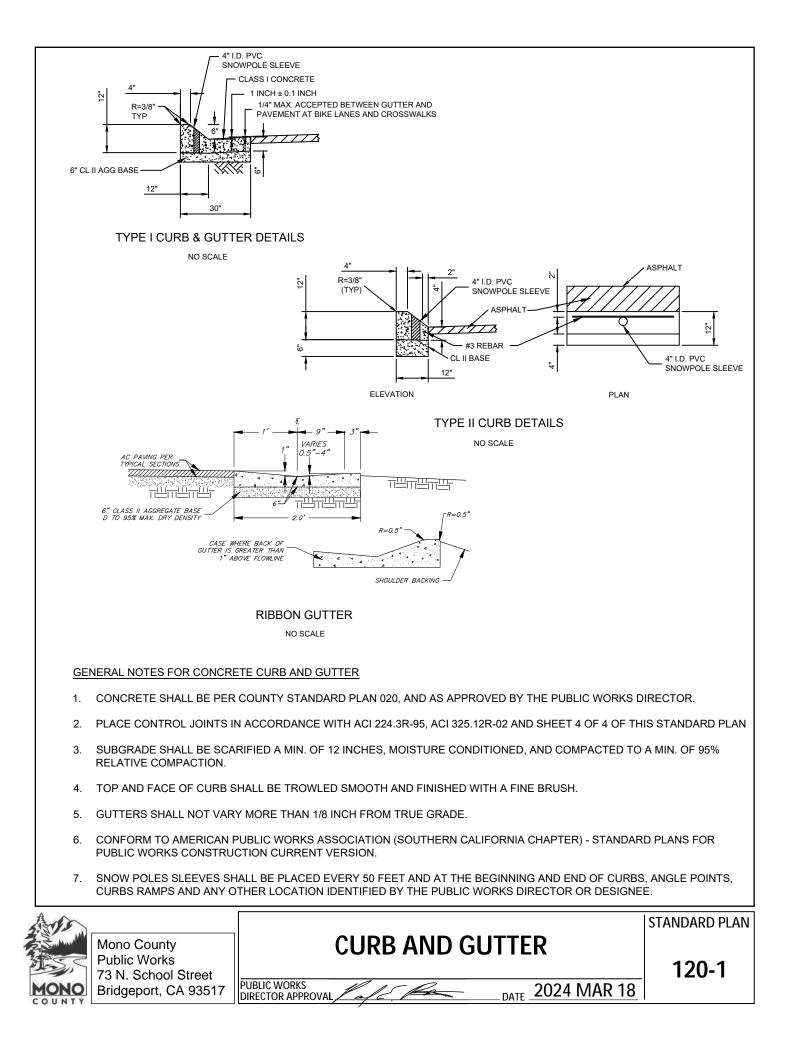


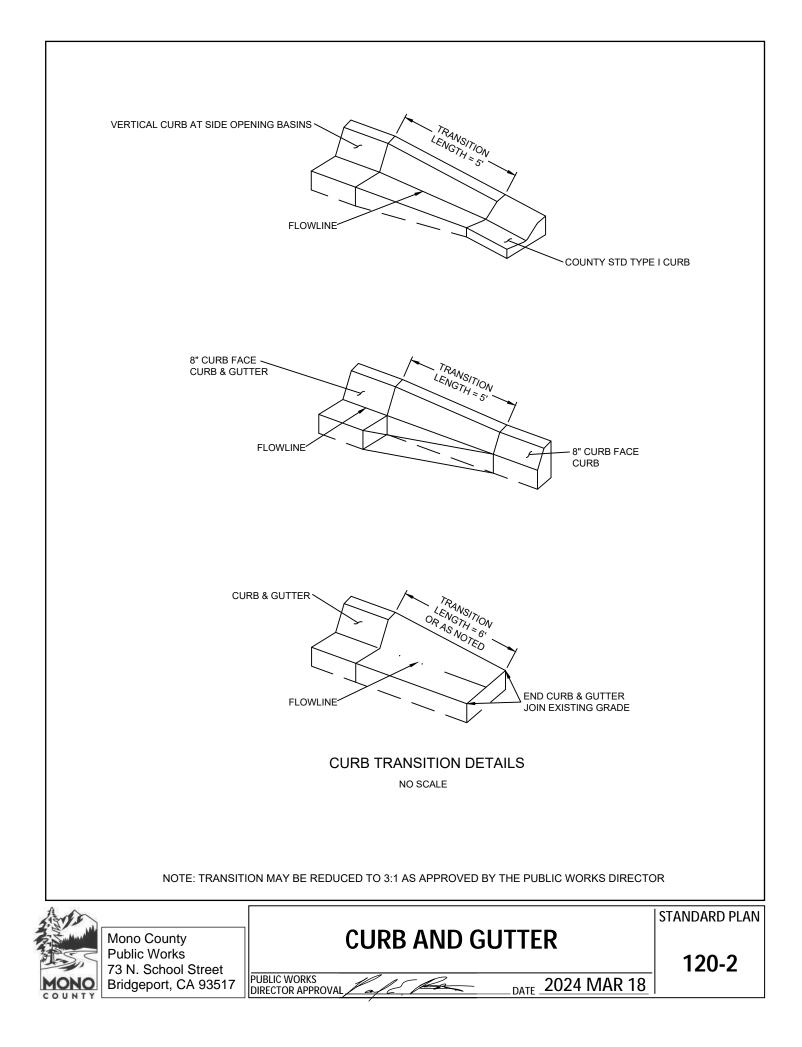


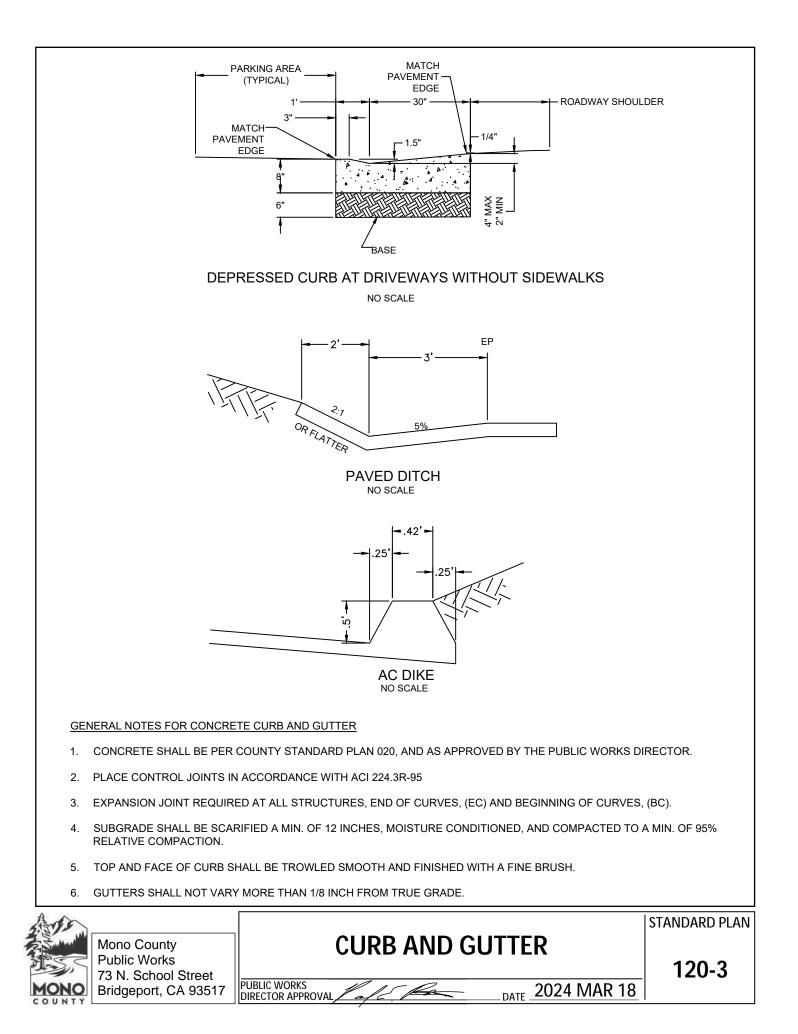


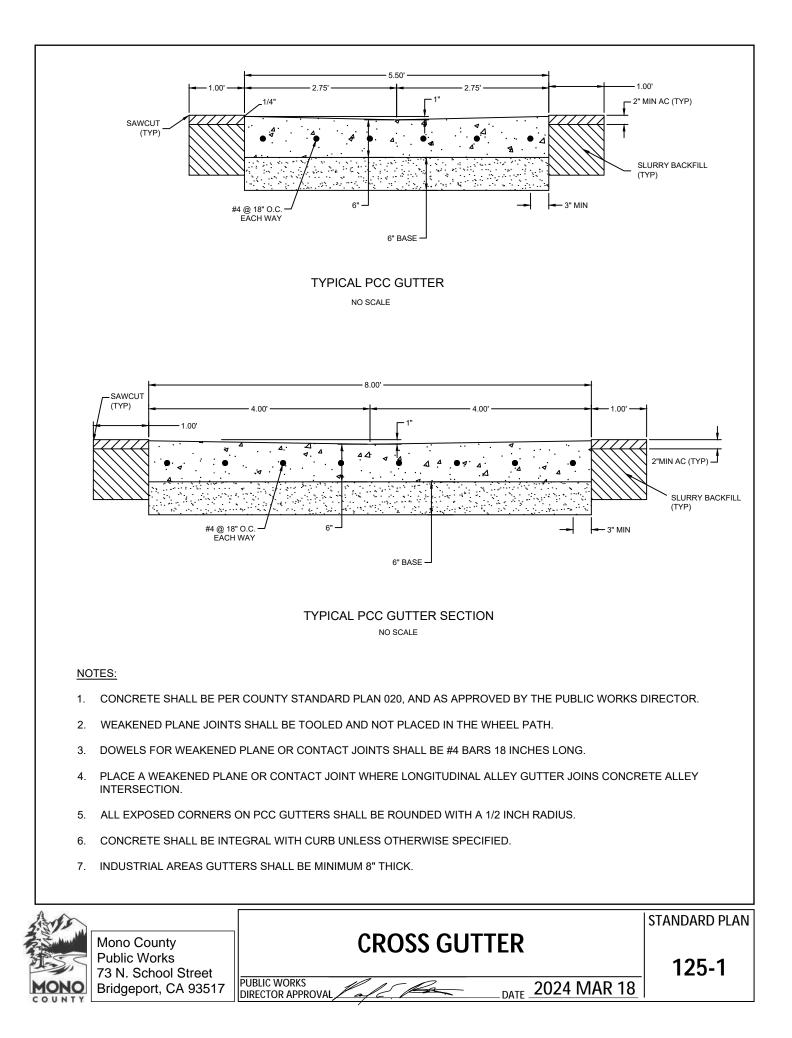


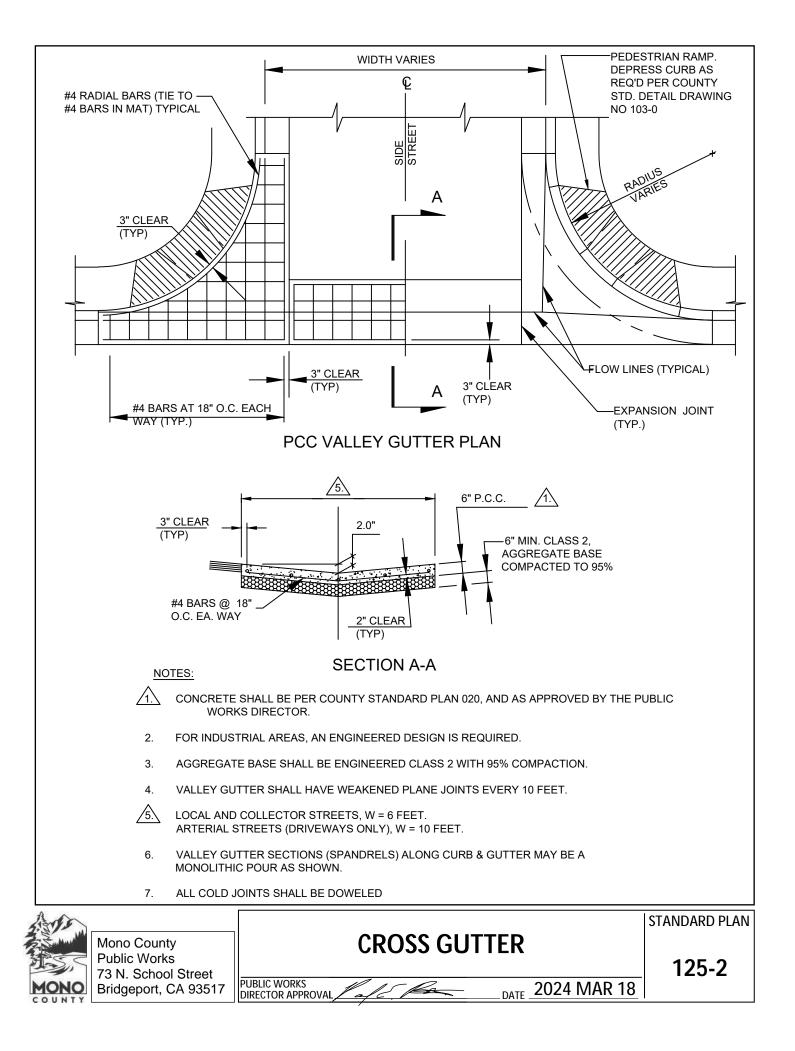


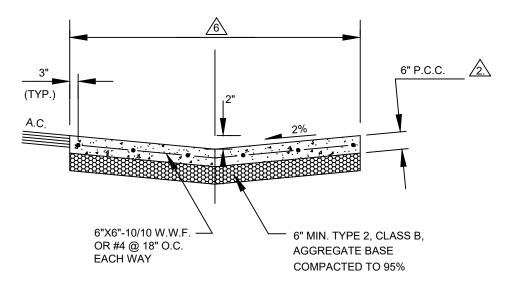












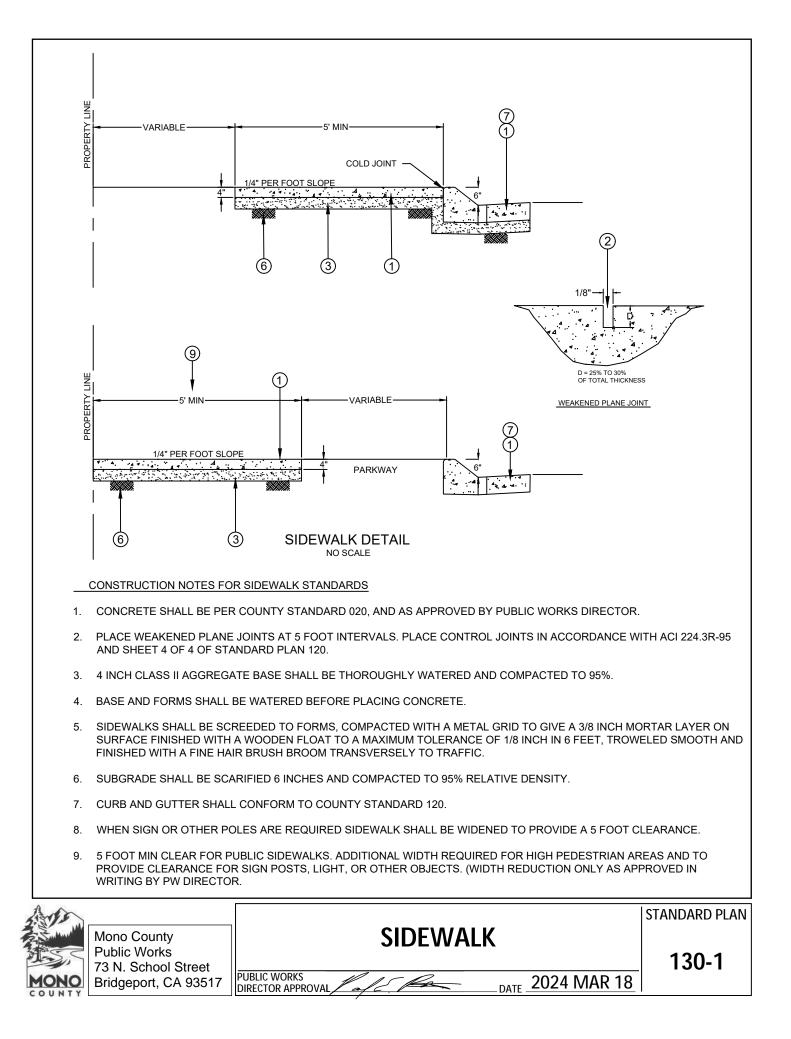
# LONGITUDINAL PCC VALLEY GUTTER

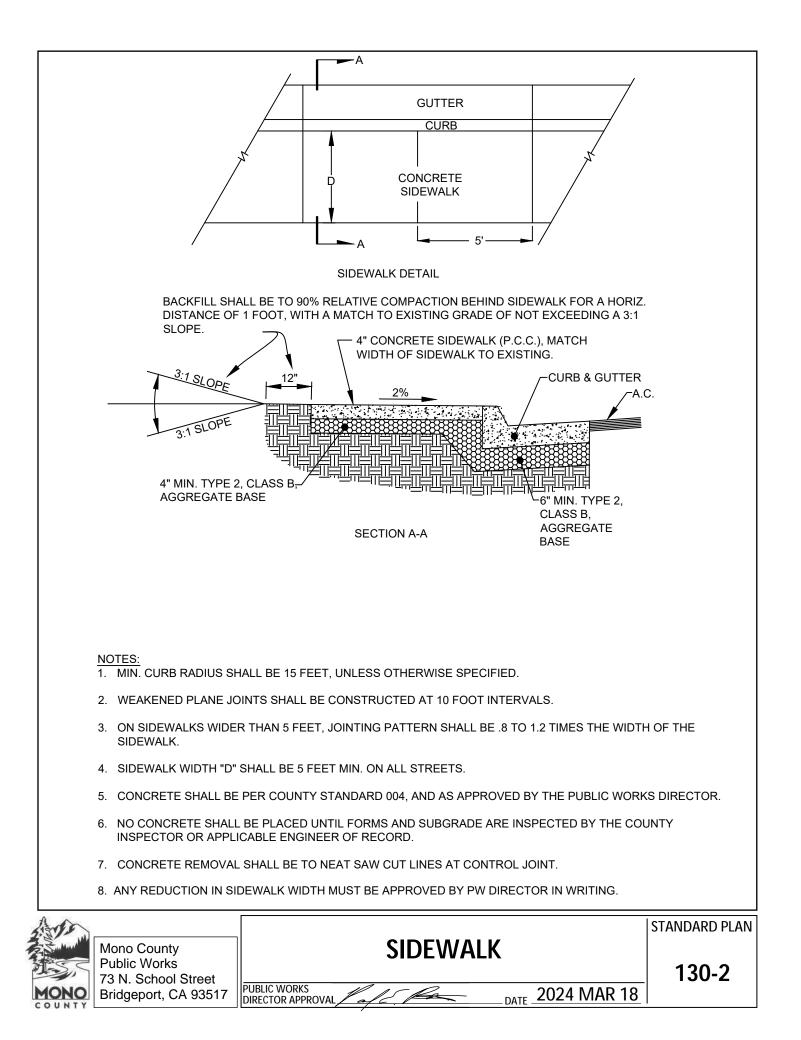
#### NOTES:

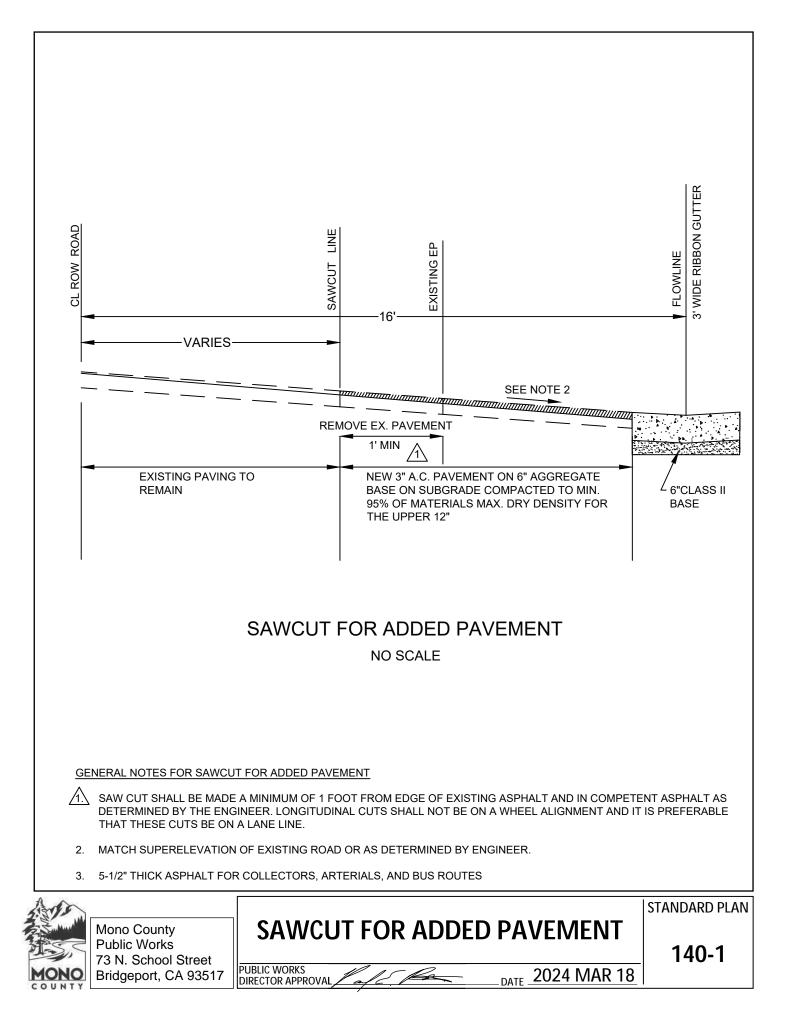
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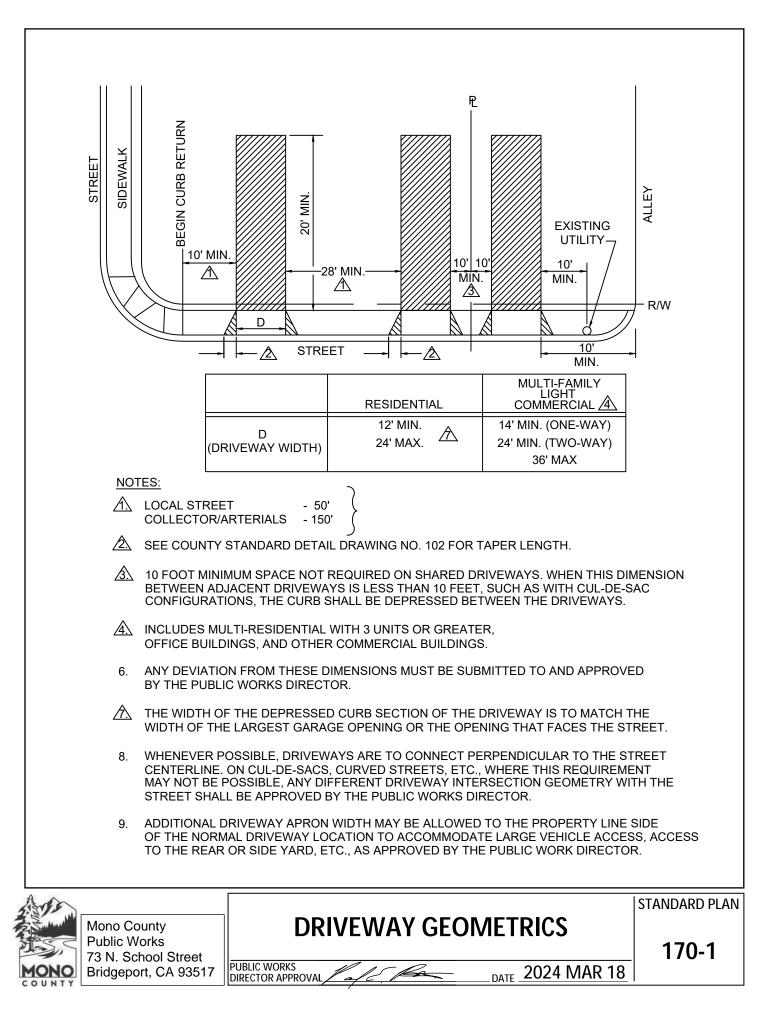
- 1. THIS GUTTER DESIGN IS ONLY FOR USE ON PRIVATE DRIVES AND PARKING LOTS.
- CONCRETE SHALL BE PER COUNTY STANDARD PLAN 020, AS APPROVED BY THE PUBLIC WORKS DIRECTOR
- 3. LONGITUDINAL VALLEY GUTTER SHALL HAVE EXPANSION JOINTS EVERY 30 FEET AND WEAKENED PLANE JOINTS EVERY 10 FEET.
- 4. FOR INDUSTRIAL AREAS, GUTTER SHALL BE A MINIMUM OF 8 INCHES THICK.
- 5. AGGREGATE BASE SHALL BE ENGINEERED TYPE 2, CLASS B, COMPACTED TO A MINIMUM OF 95%.
- 6. GUTTER DEPTH AND WIDTH TO BE APPROVED BY PUBLIC WORKS DIRECTOR

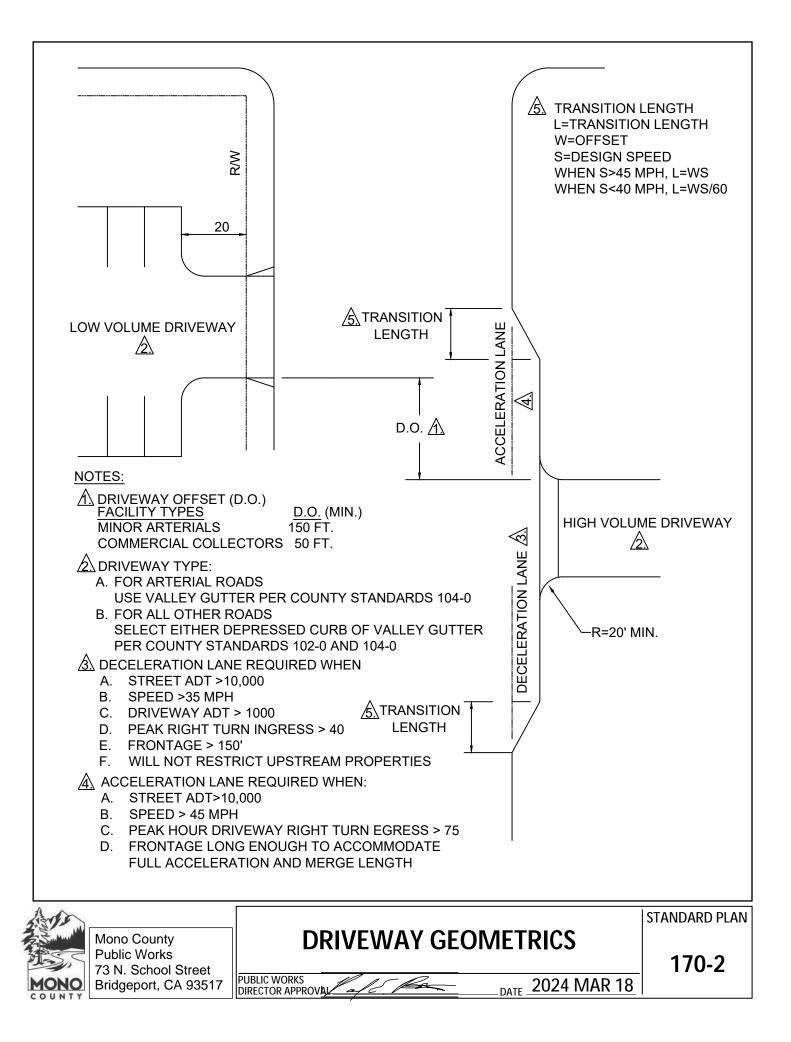
		CROSS GUTTER	STANDARD PLAN
MONO		DIRECTOR APPROVAL	

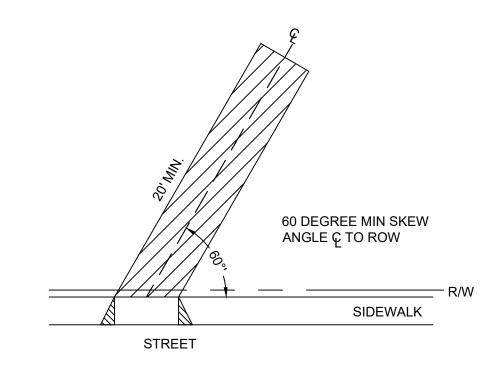








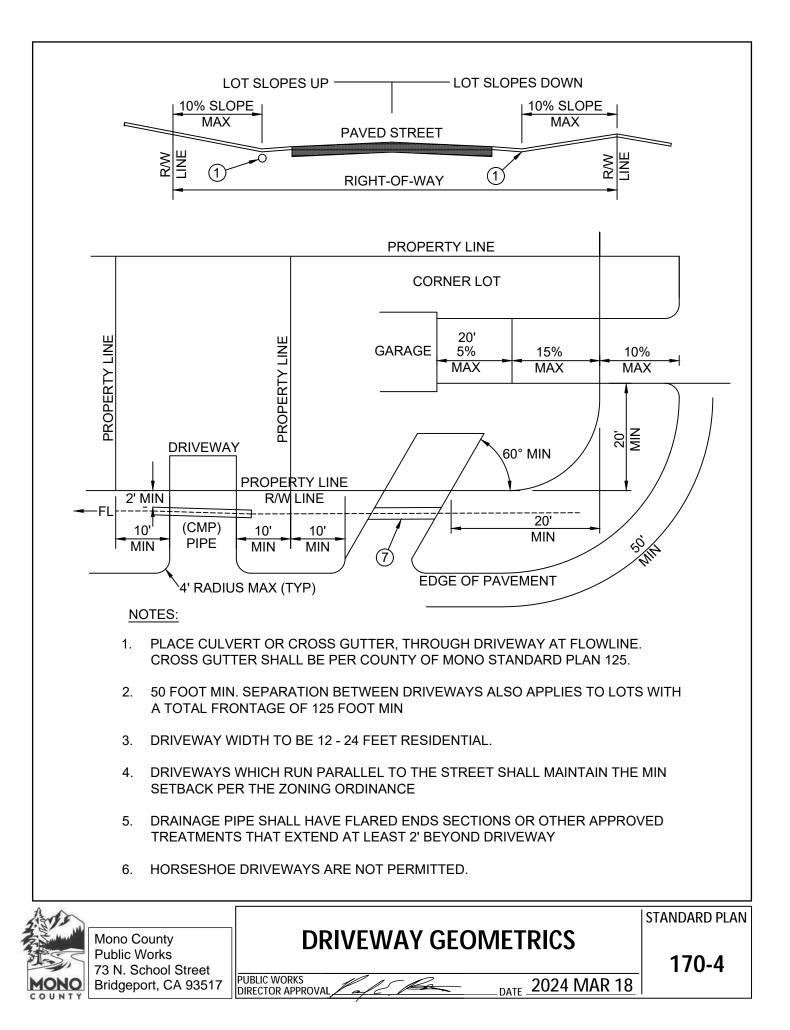




# NOTES:

- 1. MIN 60 DEGREE SKEW ANGLE FROM STREET.
- 2. DRIVEWAYS PARALLEL TO ROADWAYS ARE NOT ALLOWED.

	Mono County Public Works 73 N. School Street	DRIVEWAY GEOMETRICS	STANDARD PLAN
MONO	Bridgeport, CA 93517	PUBLIC WORKS DIRECTOR APPROVAL	



### GENERAL NOTES AND SPECIFICATIONS FOR RESIDENTIAL DRIVEWAY STANDARDS

- 1. CONCRETE SHALL BE PER COUNTY STANDARD PLAN 020, AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR.
- 2. CONCRETE MAY BE REINFORCED WITH #4 REBAR PLACED 12" ON CENTER EACH WAY.
- 3. SUBGRADE SHALL BE AT OPTIMUM MOISTURE AND COMPACTED TO A MIN. OF 95% RELATIVE COMPACTION.
- 4. BASE AND FORMS TO BE WATERED BEFORE PLACING CONCRETE.
- 5. CROSS GUTTER SHALL BE SCREEDED TO FORMS AND BROOMED FINISHED PARALLEL TO FLOWLINE.
- 6. CONCRETE SHALL BE CURED WITH IMMEDIATE APPLICATION OF A CURING COMPOUND.
- 7. DRIVEWAY WIDTH TO BE 12 TO 24 FEET FOR RESIDENTIAL DRIVEWAYS.
- 8. ALL DRIVEWAY AND PARKING AREAS ARE TO BE PAVED WITH ASPHALT, CONCRETE, OR APPROVED PAVING STONES.
- 9. NO REQUIRED PARKING IS TO BE PERMITTED IN THE RIGHT-OF-WAY.
- 11. DRIVEWAYS WHICH RUN PARALLEL TO THE STREET SHALL MAINTAIN THE MIN. SETBACK PER THE ZONING ORDINANCE.
- 12. DRIVEWAY APPROACH CONSTRUCTION SHALL NOT CAUSE FILLING OR CUTTING IN THE RIGHT-OF-WAY WITHOUT AN ENCROACHMENT PERMIT.
- 13. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE ON DRIVEWAY APPROACHES AND ANY INSTALLED CULVERTS.
- 14. SNOW REMOVED FROM DRIVEWAY SHALL NOT BE PLACED IN RIGHT-OF-WAY.
- 15. WHERE STORM DRAIN FACILITIES ARE IN THE STREET, AN INLET SHALL BE INSTALLED UPHILL FROM THE DRIVEWAY
- 16. THE PUBLIC WORKS DEPARTMENT RECOMMENDS THAT DRIVEWAY ENTRANCES BE IDENTIFIED FOR SNOW REMOVAL OPERATIONS WITH RED REFLECTORS WHICH SHALL BE PLACED A MIN. OF 2 FEET TO THE PROPERTY SIDE OF THE COUNTY SNOW POLE LINE.
- 17. AN ENCROACHMENT OR DRIVEWAY MODIFICATION PERMIT IS REQUIRED FOR ALL WORK PERFORMED IN THE PUBLIC RIGHT-OF-WAY.
- 18. THE COUNTY PUBLIC WORKS DEPARTMENT MUST BE NOTIFIED A MIN. OF 24 HOURS PRIOR TO STARTING WORK AND FOR ANY INSPECTIONS. TO NOTIFY THE COUNTY CALL THE INSPECTION LINE AT 934-BLDG
- 19. ADDITIONAL EASEMENTS FOR SIDEWALKS MAY BE REQUIRED WHERE THEY ARE REQUIRED DUE TO SLOPES OR OTHER TOPOGRAPHICAL FEATURES.
  - 20. PAVERS MAY BE USED AS APPROVED BY PUBLIC WORKS DIRECTOR IN WRITING.



### RESIDENTIAL DRIVEWAY STANDARDS

THE FOLLOWING SHALL BE CONSIDERED MINIMUM STANDARDS FOR NEW RESIDENTIAL DRIVEWAYS.

PLANS SUBMITTED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT OR. ENCROACHMENT PERMIT SHALL INCLUDE A PLAN VIEW AND DRIVEWAY SLOPE PROFILE TO VERIFY COMPLIANCE WITH THE MINIMUM DRIVEWAY STANDARDS

- 1. ONLY ONE DRIVEWAY ENTRANCE/EXIT SHALL BE PERMITTED TO SERVE EACH PARCEL. (EXCEPTION: CORNER LOTS WITH A TOTAL FRONTAGE EXCEEDING 125 FEET MAY HAVE TWO ENTRANCES/EXITS, PROVIDED THERE IS A MINIMUM SEPARATION OF 50 FEET BETWEEN DRIVEWAYS OR STREET INTERSECTIONS.)
- 2. THE DRIVEWAY FRONTAGE, WIDTH AT ROAD RIGHT-OF-WAY, SHALL BE: <u>MINIMUM-MAXIMUM</u> 12' - 24' SINGLE FAMILY RESIDENCE TO FOUR-PLEX
- 3. THE ANGLE OF THE DRIVEWAY TO THE ROAD/STREET SHALL BE NOT LESS THAN 60 DEGREES WHEN WITHIN THE REQUIRED SETBACK AND THE PUBLIC RIGHT-OF-WAY.
- 4. DRIVEWAY ENCROACHMENTS WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE PER "RESIDENTIAL DRIVEWAY APPROACH STANDARDS" SECTION 105
- 5. THE MAXIMUM GRADE (SLOPE) IF THE DRIVEWAY WITHIN THE COUNTY RIGHT-OF-WAY SHALL NOT EXCEED 10% (ONE FOOT VERTICAL PER 10 FEET HORIZONTAL).
- 6. MAXIMUM GRADE (SLOPE) OF PARKING AREAS SHALL NOT EXCEED 5% (ONE FOOT VERTICAL IN TWENTY FEET HORIZONTAL).
- 9. ALL OTHER AREAS OF THE DRIVEWAY SHALL NOT EXCEED 15%. (THE PUBLIC WORKS DEPARTMENT RECOMMENDS THAT DRIVEWAY SLOPES NOT EXCEED 10%).
- 10. MODIFICATIONS OR DEVIATIONS FROM THESE STANDARDS ARE SUBJECT TO APPROVAL BY THE PUBLIC WORKS DIRECTOR.

#### DRIVEWAY STANDARDS-MODIFICATION PROCEDURES

- A. MODIFICATIONS TO THE DRIVEWAY STANDARDS WITHIN THE PUBLIC RIGHT-OF-WAY, MAY BE CONSIDERED PROVIDING THE FOLLOWING FINDINGS CAN BE MADE:
- 1. THERE ARE EXCEPTIONAL OR EXTRAORDINARY CIRCUMSTANCES APPLICABLE TO THE PROPERTY INVOLVED WHICH DO NOT APPLY GENERALLY TO OTHER PROPERTIES.
- 2. A STANDARD DRIVEWAY WOULD CAUSE A SAFETY HAZARD.

PUBLIC WORKS

DIRECTOR APPROVAL

- B. WRITTEN REQUESTS FOR MODIFICATION TO THESE STANDARDS WILL BE REVIEWED AND A DECISION RENDERED BY THE PUBLIC WORKS DIRECTOR WITHIN TEN WORKING DAYS OF RECEIPT OF WRITTEN REQUEST FROM THE PROPERTY OWNER.
- C. DECISIONS MAY BE APPEALED TO THE COUNTY PLANNING COMMISSION PROVIDED THE APPEAL IS RECEIVED BY THE COUNTY PLANNING DIRECTOR IN WRITING WITHIN 10 WORKING DAYS OF THE DECISION. THE APPEAL WILL BE SCHEDULED AT THE NEXT AVAILABLE PLANNING COMMISSION MEETING, APPLICANT SHALL BE RESPONSIBLE FOR APPLICABLE APPEAL FEES.



Mono County Public Works

73 N. School Street

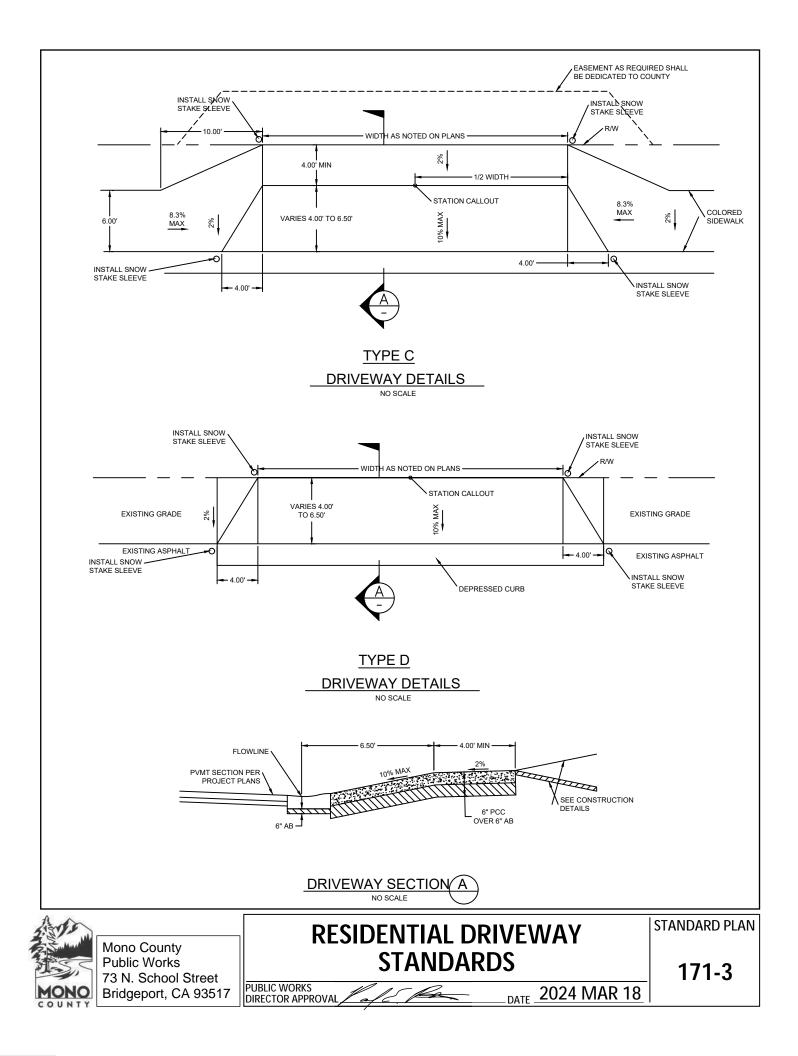
Bridgeport, CA 93517

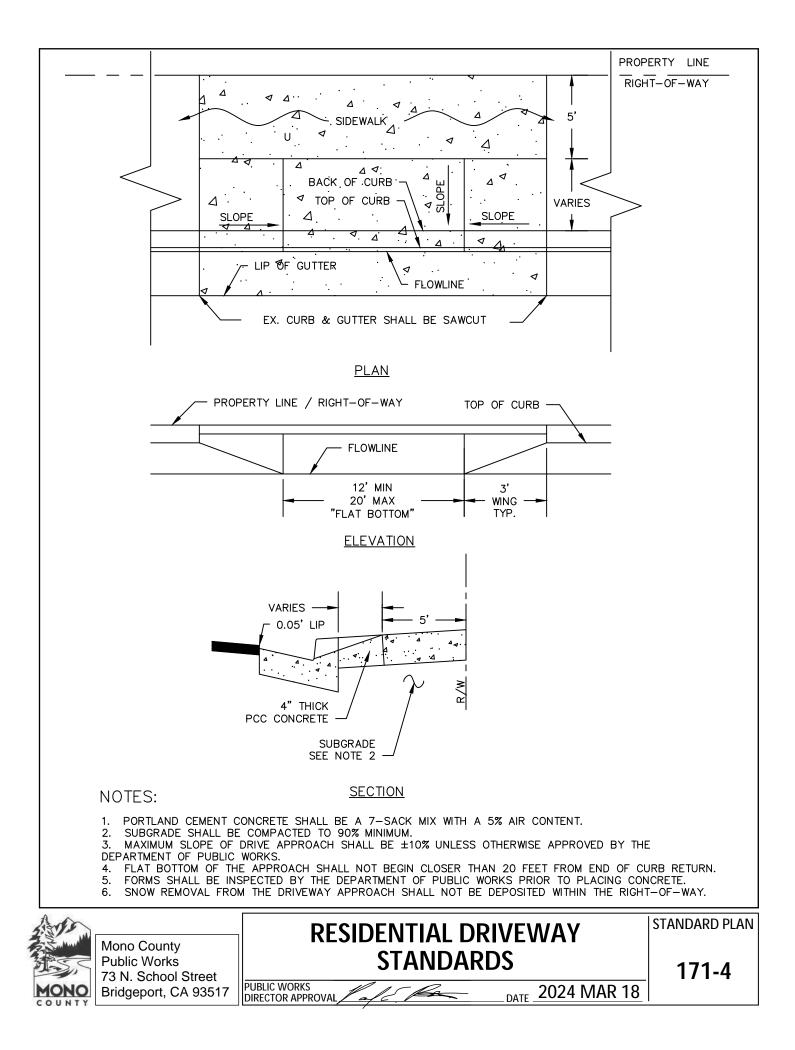
<b>RESIDENTIAL DRIVEWAY</b>	
STANDARDS	

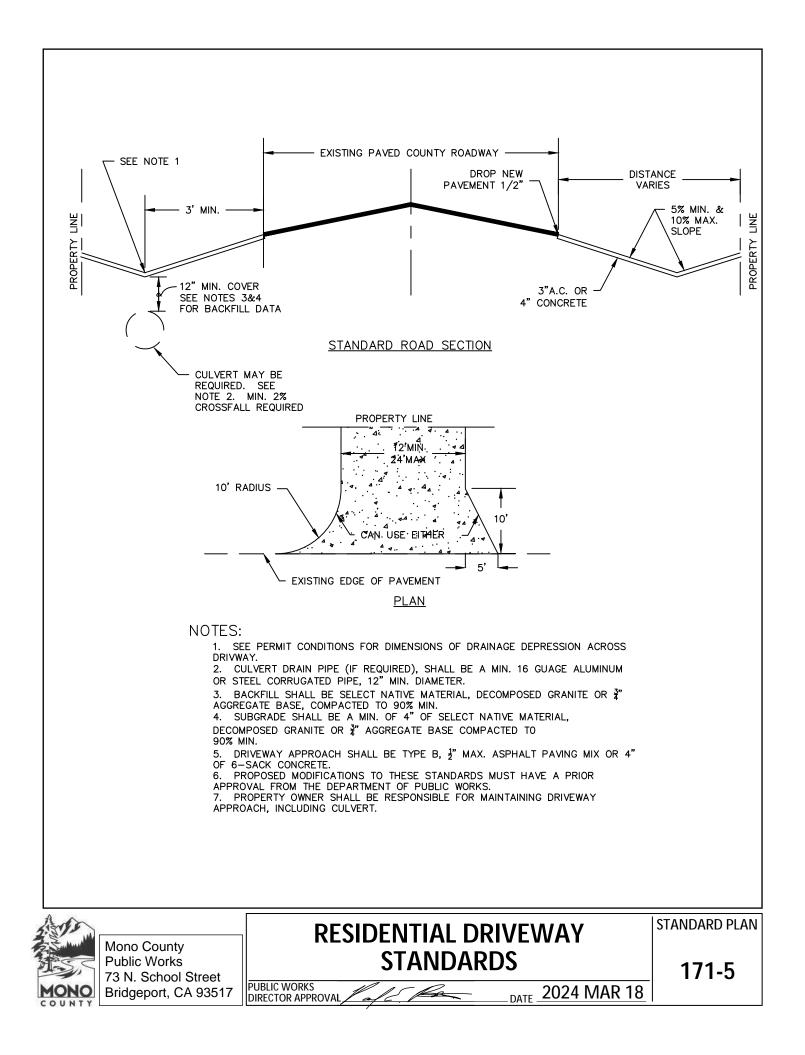
STANDARD PLAN

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#### GENERAL NOTES AND SPECIFICATIONS FOR COMMERCIAL DRIVEWAY STANDARDS

- 1. CONCRETE SHALL BE PER COUNTY STANDARD PLAN 020, OR AS APPROVED BY THE PUBLIC WORKS DIRECTOR.
- 2. CONCRETE MAY BE REINFORCED WITH #4 REBAR PLACED 12 INCHES ON CENTER EACH WAY AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR.
- 3. SUBGRADE SHALL BE AT OPTIMUM MOISTURE AND COMPACTED TO A MIN. OF 95% RELATIVE COMPACTION.
- 4. BASE AND FORMS TO BE WATERED BEFORE PLACING CONCRETE.
- 5. CROSS GUTTER SHALL BE SCREEDED TO FORMS AND BROOMED FINISHED PARALLEL TO FLOWLINE.
- 6. CONCRETE SHALL BE CURED WITH IMMEDIATE APPLICATION OF A CURING COMPOUND.
- 7. DRIVEWAY WIDTH TO BE 24 TO 30 FEET FOR COMMERCIAL/INDUSTRIAL. COMMERCIAL DRIVEWAY MAY BE UP TO 40' WIDE TO ACCOMMODATE LARGER TRAFFIC VOLUMES AND DEDICATED LEFT TURN LANES.
- 8. ALL DRIVEWAY AND PARKING AREAS ARE TO BE PAVED.
- 9. NO REQUIRED PARKING IS TO BE PERMITTED IN THE RIGHT-OF-WAY.
- 10. DRIVEWAYS WHICH RUN PARALLEL TO THE STREET SHALL MAINTAIN THE MIN. SETBACK PER THE ZONING ORDINANCE.
- 11. DRIVEWAY APPROACH CONSTRUCTION SHALL NOT CAUSE FILLING OR CUTTING IN THE RIGHT-OF-WAY WITHOUT AN ENCROACHMENT PERMIT.
- 12. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE ON DRIVEWAY APPROACHES AND ANY INSTALLED CULVERTS.
- 13. SNOW REMOVED FROM DRIVEWAY SHALL NOT BE PLACED IN RIGHT-OF-WAY.
- 14. PLANS SUBMITTED FOR THE PURPOSE OF OBTAINING A BUILDING OR ENCROACHMENT PERMIT SHALL INCLUDE A PLAN VIEW AND DRIVEWAY SLOPE PROFILE TO VERIFY COMPLIANCE WITH THE MIN. DRIVEWAY STANDARDS.
- 15. WHERE STORM DRAIN FACILITIES ARE IN THE STREET, AN INLET SHALL BE INSTALLED UPHILL FROM THE DRIVEWAY
- 16. THE PUBLIC WORKS DEPARTMENT RECOMMENDS THAT DRIVEWAY ENTRANCES BE IDENTIFIED FOR SNOW REMOVAL OPERATIONS WITH RED REFLECTORS OR SNOW POLES WHICH SHALL BE PLACED A MIN. OF 2 FEET TO THE PROPERTY SIDE OF THE COUNTY SNOW POLE LINE.
- 17. AN ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK PERFORMED IN THE PUBLIC RIGHT-OF-WAY.
- 18. THE COUNTY PUBLIC WORKS DEPARTMENT MUST BE NOTIFIED A MIN. OF 24 HOURS PRIOR TO STARTING WORK AND FOR ANY INSPECTIONS.
- 19. ADDITIONAL EASEMENTS FOR SIDEWALKS MAY BE REQUIRED WHERE THEY ARE REQUIRED DUE TO SLOPES OR OTHER TOPOGRAPHICAL FEATURES.



Mono County Public Works 73 N. School Street Bridgeport, CA 93517	STANDARDS	
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COMMERCIAL DRIVEWAY

STANDARD PLAN

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### COMMERCIAL DRIVEWAY STANDARDS

THE FOLLOWING SHALL BE CONSIDERED MINIMUM STANDARDS FOR NEW COMMERCIAL DRIVEWAYS.

PLANS SUBMITTED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT OR. ENCROACHMENT PERMIT SHALL INCLUDE A PLAN VIEW AND DRIVEWAY SLOPE PROFILE TO VERIFY COMPLIANCE WITH THE MINIMUM DRIVEWAY STANDARDS

- 1. ONLY ONE DRIVEWAY ENTERANCE/EXIT SHALL BE PERMITTED TO SERVE EACH PARCEL. (EXCEPTION: CORNER LOTS WITH A TOTAL FRONTAGE EXCEEDING 125 FEET MAY HAVE TWO ENTERANCES/EXITS, PROVIDED THERE IS A MINIMUM SEPARATION OF 50 FEET BETWEEN DRIVEWAYS OR STREET INTERSECTIONS.)
- 2. THE ANGLE OF THE DRIVEWAY TO THE ROAD/STREET SHALL BE NOT LESS THAN 60 DEGREES WHEN WITHIN THE REQUIRED SETBACK AND THE PUBLIC RIGHT-OF-WAY.
- 3. DRIVEWAY ENCROACHMENTS WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE PER "COMMERCIAL APPROACH STANDARDS".
- 4. THE MAXIMUM GRADE (SLOPE) IF THE DRIVEWAY WITHIN THE COUNTY RIGHT-OF-WAY SHALL NOT EXCEED 10% (ONE FOOT VERTICAL PER 10 FEET HORIZONTAL).
- 5. MAXIMUM GRADE (SLOPE) OF PARKING AREAS SHALL NOT EXCEED 5% (ONE FOOT VERTICAL IN TWENTY FEET HORIZONTAL).
- 6. ALL OTHER AREAS OF THE DRIVEWAY SHALL NOT EXCEED 15%. (THE PUBLIC WORKS DEPARTMENT RECOMMENDS THAT DRIVEWAY SLOPES NOT EXCEED 10%).
- 7. MODIFICATIONS OR DEVIATIONS OF THESE STANDARDS ARE SUBJECT TO APPROVAL BY THE PUBLIC WORKS DIRECTOR.

#### COMMERCIAL DRIVEWAY STANDARDS-MODIFICATION PROCEDURES

- 1. MODIFICATIONS TO THE DRIVEWAY STANDARDS WITHIN THE PUBLIC RIGHT-OF-WAY, MAY BE CONSIDERED PROVIDING THE FOLLOWING FINDINGS CAN BE MADE:
- 2. THERE ARE EXCEPTIONAL OR EXTRAORDINARY CIRCUMSTANCES APPLICABLE TO THE PROPERTY INVOLVED WHICH DO NOT APPLY GENERALLY TO OTHER PROPERTIES.
- 3. A STANDARD DRIVEWAY WOULD CAUSE A SAFETY HAZARD.

PUBLIC WORKS

DIRECTOR APPROVAL

- 4. WRITTEN REQUESTS FOR MODIFICATION TO THESE STANDARDS WILL BE REVIEWED AND A DECISION RENDERED BY THE PUBLIC WORKS DIRECTOR WITHIN TEN WORKING DAYS OF RECEIPT OF WRITTEN REQUEST FROM THE PROPERTY OWNER.
- 5. DECISIONS MAY BE APPEALED TO THE COUNTY PLANNING COMMISSION PROVIDED THE APPEAL IS RECEIVED BY THE COUNTY PLANNING DIRECTOR IN WRITING WITHIN 10 WORKING DAYS OF THE DECISION. THE APPEAL WILL BE SCHEDULED AT THE NEXT AVAILABLE PLANNING COMMISSION MEETING, APPLICANT SHALL BE RESPONSIBLE FOR ANY APPLICABLE APPEAL FEES.



Mono County Public Works

73 N. School Street

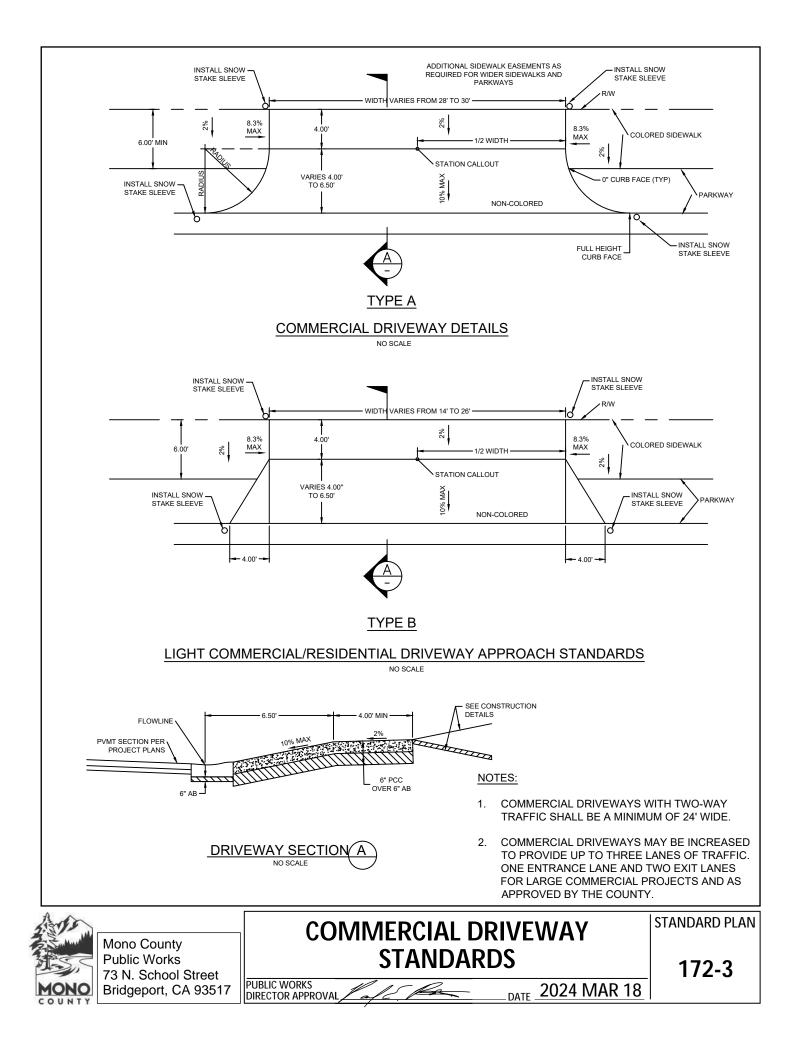
Bridgeport, CA 93517

COMMERCIA	L DRIVEWA
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# PARKING STANDARDS

- 1. Parking shall be as defined in the Mono County General Plan.
- 2. Perpendicular and Angled parking spaces:
  - a. shall only be placed on roads with speed limits 25 mph or under.
  - b. shall be 10 feet wide
  - c. may be reduced to 9 feet wide with written PW approval under certain conditions, such as low traffic streets with good site lines. If parking spaces are approved at less than 10 feet in width, then:
     i. additional drive aisle width may be required
    - ii. and Engineer shall provide additional information for parking space dimensions iii. additional design features may be required for safety.
  - d. 45 degree back in to park may be allowed with PW approval in some cases with low traffic volumes
- 3. Parallel Parking spaces

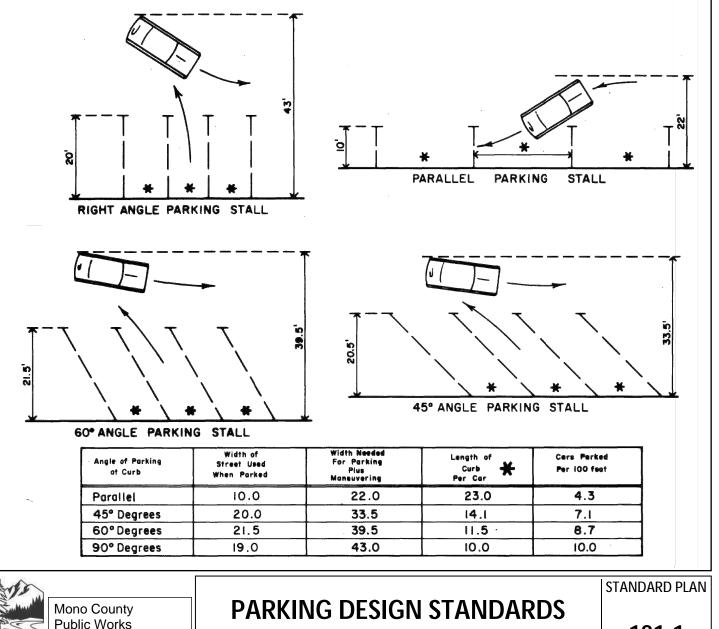
73 N. School Street

Bridgeport, CA 93517

PUBLIC WORKS

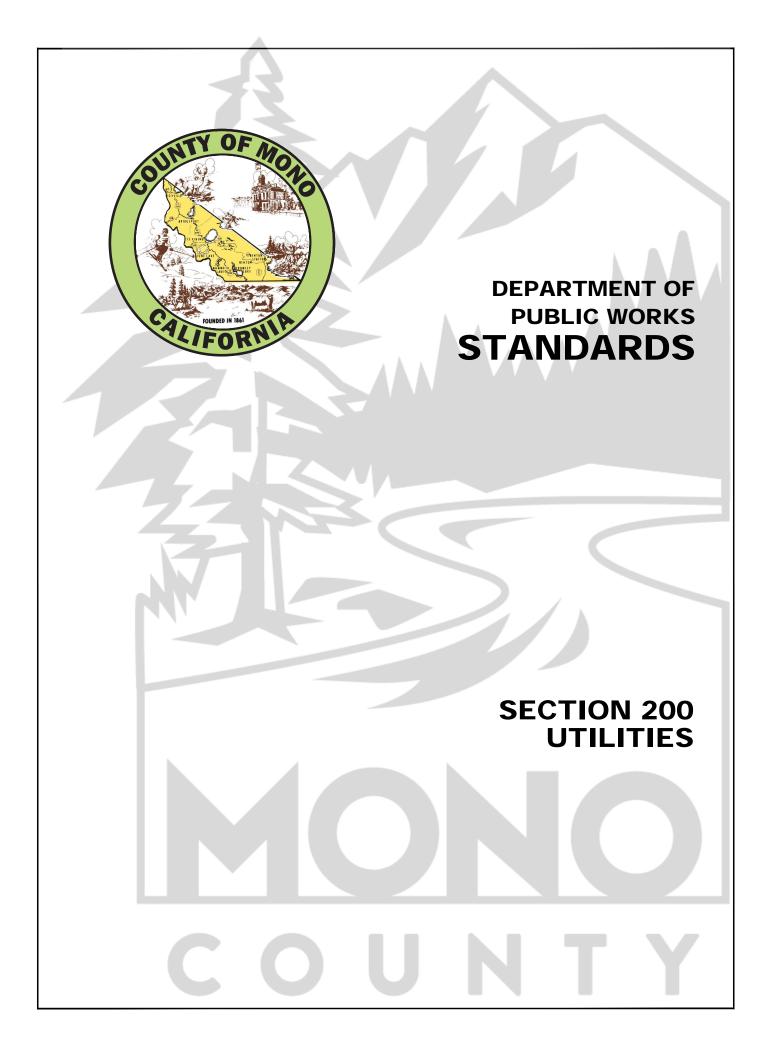
DIRECTOR APPROVAL

- a. shall only be placed on roads with speed limits 30 mph or under.
- b. Parallel parking stall width shall be 9 feet wide adjacent to 11 foot lanes, and 8 feet wide adjacent to 12 foot lanes.
- c. Parallel parking stall width shall be 10 feet wide for roads with bike lanes and speed limits over 25 mph, but can be 8 feet wide for speed limits of 25 mph and lower.





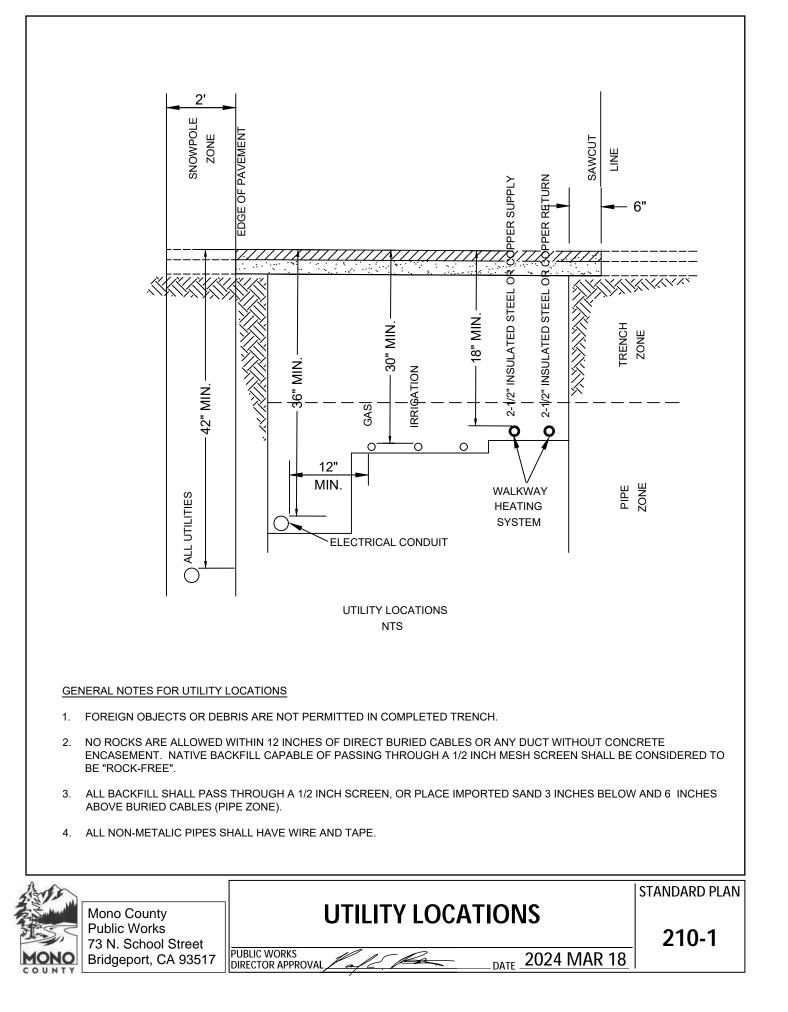
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#### MATERIALS

- 1. AGGREGATE BASE SHALL BE CBE PER COUNTY STANDARD, AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR
- 2. ASPHALT CONCRETE SHALL BE PER COUNTY STANDARD, AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR
- 3. CORRUGATED METAL PIPE CULVERTS SHALL CONFORM TO THE PROVISIONS IN SECTION 66, "CORRUGATED METAL PIPE", OF THE CSS AND SHALL BE 12 GAGE. CORRUGATED STEEL FLARED END SECTIONS SHALL CONFORM TO THE PROVISIONS IN SECTION 75, "MISCELLANEOUS METAL", AND SECTION 70, MISCELLANEOUS DRAINAGE FACILITIES" OF THE CSS.
- 4. PLASTIC PIPE CULVERTS SHALL CONFORM TO THE PROVISIONS IN SECTION 64, "PLASTIC PIPE" OF THE CSS.
- 5. SLURRY CEMENT BACKFILL SHALL CONFORM TO COUNTY STANDARDS 020 AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR
- 6. CONCRETE SHALL BE PER COUNTY STANDARD 020, AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR.
- 7. INSTALLATION OF TRAFFIC STRIPES AND PAVEMENT MARKINGS WILL BE IN CONFORMANCE WITH THE PROVISIONS OF SECTION 84, "TRAFFIC STRIPES AND PAVEMENT MARKINGS", OF THE CSS.





## **GENERAL NOTES FOR A.C. TRENCH PATCH**

- 1. ALL A.C. REPLACEMENT REQUIREMENTS ARE MINIMUM WIDTHS ONLY. THE PUBLIC WORKS DIRECTOR MAY REQUIRE WIDER PATCH SECTIONS OR OTHERWISE ALTER THESE REQUIREMENTS.
- 2. IF SAW CUT IS WITHIN 2 FEET OF AN EXISTING PAVEMENT EDGE, GUTTER LIP OR EXISTING PAVEMENT PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
- 3. LONGITUDINAL TRENCH PATCH WIDTH: FOR COLLECTORS, ARTERIALS AND EXPRESSWAYS: IF SAW CUT EDGES FOR LONGITUDINAL OR TRANSVERSE EXCAVATIONS FALL WITHIN A TRAVEL LANE, SAW CUT SHALL BE THE SPECIFICATIONS FOR TRANSVERSE PATCHES AND THE ENTIRE TRAVEL LANE ROTOMILLED TO A DEPTH OF TWO INCHES AND OVERLAID WITH TWO INCHES OF BITUMINOUS PLANT MIX AS DIRECTED BY THE ENGINEER.
- 4. FOR COLLECTORS, ARTERIALS AND EXPRESSWAYS THE EDGE OF TRENCHES FOR CONDUITS SHALL BE LOCATED A MINIMUM OF 9" FROM GUTTER LIP AND SHALL BE PATCHED AS PER THE ABOVE DETAIL.
- AGGREGATE BASE AND BITUMINOUS PAVEMENT SHALL BE IN ACCORDANCE WITH COUNTY OF MONO REQUIREMENTS OR CALTRANS STANDARD SPECIFICATIONS, LATEST REVISION. PAVEMENT MIX SHALL BE PG 64-28 UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF LOOP DETECTORS, ADJUSTMENT OF UTILITIES TO GRADE, INSTALLATION OF TEMPORARY PAVEMENT MARKERS IF REQUIRED, AND REPLACEMENT OF ALL PERMANENT STRIPING AND MARKINGS DAMAGED OR OBLITERATED BY THE CONTRACTORS OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF SURVEY MONUMENTS DESTROYED OR DISTURBED BY CONTRACTOR'S OPERATION, AND SHALL FILE THE APPROPRIATE DOCUMENTATION WITH THE COUNTY. THE CONTRACTOR SHALL ADJUST SURVEY WELL MONUMENTS TO FINISHED GRADE.
- 7. SEE COUNTY STANDARD DETAILS FOR P.C.C. CURB REPLACEMENT.
- 8. IF PATCH FAILURE OCCURS, THE PERMITTEE 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 PUBLIC WORKS DIRECTOR, PATCH FAILURES MAY BE REMEDIED, REMOVED, AND REPLACED BY THE COUNTY AT PERMITEE'S SOLE EXPENSE. THE COUNTY MAY WITHHOLD ISSUING FUTURE ENCROACHMENT PERMITS UNLESS ALL PAYMENTS ARE CURRENT FOR FAILURES REMEDIED BY THE COUNTY.



Mono County Public Works 73 N. School Street Bridgeport, CA 93517

TRENCH IN PAVED STREET OR ROAD STANDARD PLAN

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- 9. PERMANENT PATCHING OF NON-BITUMINOUS SURFACES WILL CONSIST OF MATERIALS AND DIMENSIONS MATCHING OR EXCEEDING THE REQUIREMENTS OF THE ORIGINAL CONSTRUCTION AND MUST BE APPROVED BY THE PUBLIC WORKS DIRECTOR. PORTLAND CEMENT CONCRETE REMOVAL AND REPLACEMENT SHALL EXTEND TO AN EXISTING TOOLED OR SAW CUT JOINT IN ALL DIRECTIONS. CONCRETE SURFACE SHALL BE PER COUNTY STANDARDS AND SHALL MATCH EXISTING IN SURFACE TEXTURE, STAMPED PATTERN AND COLOR. ALL CONCRETE SHALL BE CLASS 1, 5000 PSI, WITH 5% ENTRAINED AIR AND FIBER MESH ADDED PER MANUFACTURERS RECOMMENDATIONS.
- 10. PAVING SHALL BE PERFORMED BETWEEN MAY 15 AND OCTOBER 15 UNLESS SPECIFICALLY APPROVED, IN WRITING, BY THE COUNTY.
- 11. A PERMIT MUST BE OBTAINED FROM THE PUBLIC WORKS DIRECTOR PRIOR TO COMMENCING WORK WITHIN ANY PUBLIC RIGHT-OF-WAY. 48 HOURS PRIOR TO TRENCH EXCAVATION, THE PERMITEE MUST NOTIFY THE COUNTY EXCAVATION PERMIT INSPECTOR.
- 12. UNDERGROUND SERVICE ALERT (USA) AND COUNTY OF MONO (760 934-BLDG) SHALL BE NOTIFIED A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF WORK.
- 13. PRIOR TO EXCAVATION, THE OUTLINE OF THE TRENCH SHALL BE VERTICALLY CUT FULL DEPTH THROUGH THE EXISTING ASPHALT SURFACE WITH A SAW, OR AN ASPHALT SPADE OR EQUIPMENT APPROVED BY THE ENGINEER.
- 14. CARE SHALL BE EXERCISED TO PREVENT SLOUGHING AND OVERBREAK. IF THE TRENCH SLOUGHS, THE SURFACE SHALL BE WIDENED WITH NEW SAW CUT LINES CUT AT LIMITS PER ABOVE NOTE 3, TO A MINIMUM DISTANCE OF 6 INCHES BEYOND ANY SLOUGHING TO ELIMINATE THE UNDERMINED SECTION OF ASPHALT.
- 15. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE TEMPORARY PATCH, AND IS RESPONSIBLE FOR PLACEMENT OF A PERMANENT PATCH WITHIN 30 DAYS OF COMPLETION OF THE UNDERGROUND WORK, OR AS SPECIFIED IN THE PERMIT.
- 16. COMPACTION OF BACKFILL, BASE AND A.C. TEMPORARY PATCH SHALL BE PERFORMED WITH APPROVED MECHANICAL TAMPERS. EQUIPMENT WHEEL ROLLING IS NOT PERMITTED.
- 17. ENTIRE AREA SHALL BE CLEANED DAILY OF ALL DIRT, DUST, DEBRIS, ETC. BEFORE LEAVING SITE. ANY SITE LEFT UNCLEAN MAY BE CLEANED BY THE COUNTY AND ALL COSTS BACK-CHARGED TO THE PERMITEE.
- 18. TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE CALTRANS TRAFFIC MANUAL CHAPTER 5. TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, LATEST EDITION.
- 19. TEMPORARY PAVEMENT STRIPING SHALL BE PLACED FOR THOSE AREAS WHERE STRIPING HAS BEEN OBLITERATED.
- 20. UTILITIES PLACED FROM 0 TO 2 FEET FROM THE EDGE OF PAVEMENT SHALL HAVE A MINIMUM OF 42 INCHES OF COVER. SHALLOWER DEPTHS ARE SUBJECT TO SNOW POLE DAMAGE. UTILITY COMPANY IS RESPONSIBLE FOR ANY AND ALL DAMAGE FROM SNOW POLE INSTALLATION.
- 21. CONCRETE CURB, GUTTER, AND SIDEWALK SHALL BE REPLACED IN KIND PER SECTION 100. NEW CONCRETE SHALL HAVE 4 DOWELS INTO EXISTING CONCRETE SPACED 12" OC. ALL CONCRETE JOINTS SHALL BE SAWCUT AT EXPANSION OR GROOVED JOINTS.

**TRENCH IN PAVED** 

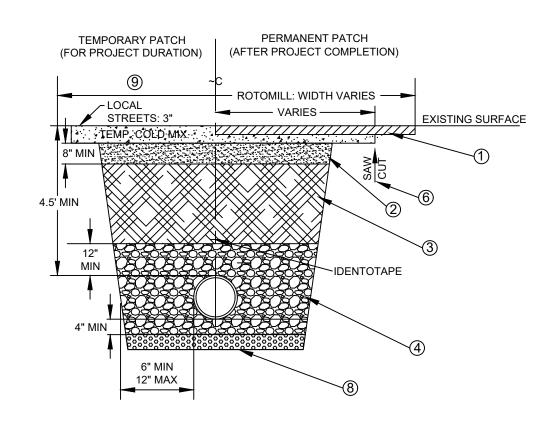


Mono County Public Works 73 N. School Street Bridgeport, CA 93517

STREET OR ROAD



220-2



CONSTRUCTION NOTES FOR A.C. TRENCH PATCH:

- 1. PERMANENT AC INSTALLATION:
  - a. ROTOMILL MINIMUM 2 INCHES DEEP TO COVER ALL AREAS OF CRACKED OR RAVELED SURFACES DISTURBED BY TRENCHING.
  - b. TACK COAT SC-3000 AND/OR HOT MIX IF FULLY CURED OR IF CONDITIONS WARRANT ON ALL EDGES AND MILLED SURFACES.
  - c. AC PAVEMENT SHALL CONFORM TO STANDARD 006-0 OF THESE STANDARDS.
- 2. AGGREGATE BASE PER CALTRANS HDM. BASE SHALL NOT BE REQUIRED WHEN USING CONCRETE SLURRY FOR BACKFILL.
- 3. TRENCH BACKFILL SHALL BE PER COUNTY STANDARD 020 OR IMPORTED FILL AS APPROVED BY PUBLIC WORKS DIRECTOR. NATIVE MATERIAL AND IMPORTED FILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY PER ASTM D 1557.
- 4. PIPE BEDDING SHALL BE GRANULAR MATERIAL (3/4 INCH MAX) COMPACTED TO 90% PER ASTM D-1557 OR SLURRY. ALL BEDDING SHALL HAVE A NON-WOVEN GEOTEXTILE ON ALL SIDES.
- 5. TRANSVERSE: FOR ALL STREETS, THE TRENCH WIDTH SHALL BE TRENCH WIDTH PLUS 9 INCH (EACH SIDE) OR 24 INCH MINIMUM TOTAL PATCH WIDTH, WHICHEVER IS GREATER.
- 6. SAW CUT EDGE SHALL BE PARALLEL OR PERPENDICULAR TO TRENCH (TYP.).
- 7. PAVEMENT PATCH DEPTH IS TO MATCH CONTIGUOUS PAVEMENT, BUT NOT LESS THAN 3 INCHES (5-1/2 INCHES ON ARTERIAL AND COLLECTOR STREETS).
- 8. OVER EXCAVATE WHEN TRENCH BOTTOM IS SATURATED. REPLACE WITH 3-6 INCH ROCK TO A MIN 6 INCH DEPTH. WRAP WITH NON-WOVEN CLASS 3 (AASHTO M288 96) GEOTEXTILE ON ALL SIDES.
- 9. A MINIMUM 2 INCH THICK TEMPORARY PATCH OF COLD MIX ASPHALT CONCRETE SHALL BE PLACED AND COMPACTED IMMEDIATELY AFTER COMPLETION OF UNDERGROUND WORK OR AT END OF THE WORKDAY, OR COVERED WITH PLATING AS APPROVED BY THE EXCAVATION PERMIT INSPECTOR OR APPLICABLE ENGINEER OF RECORD. IF NOT PATCHED WITHIN 24 HOURS AFTER BACKFILLING, THE COUNTY MAY PATCH AND BACK-CHARGE THE PERMITEE FOR ALL COSTS.
- 10. TEMPORARY PATCH SHALL BE SET TO BETWEEN 1/8 AND 1/4 INCHES ABOVE EXISTING SURFACE.

**TRENCH IN PAVED** 

STREET OR ROAD

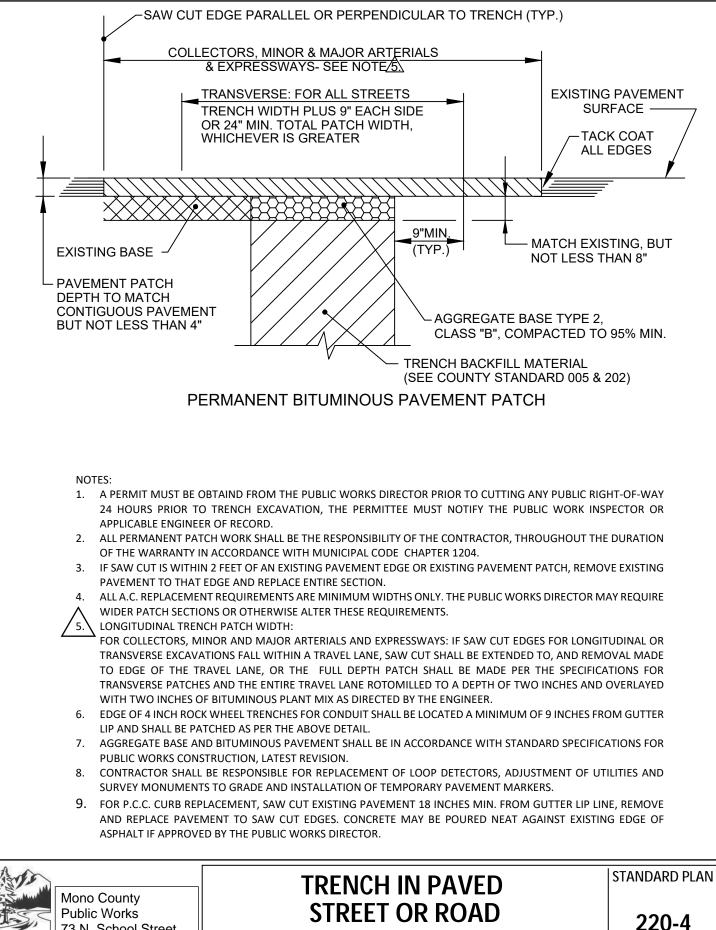


Mono County Public Works 73 N. School Street Bridgeport, CA 93517

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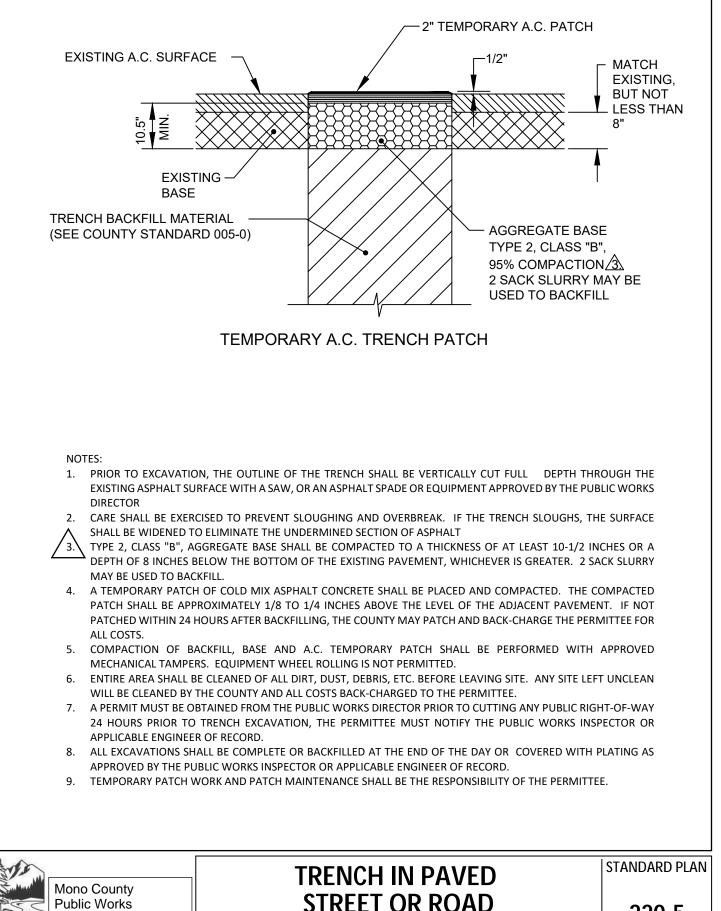
STANDARD PLAN

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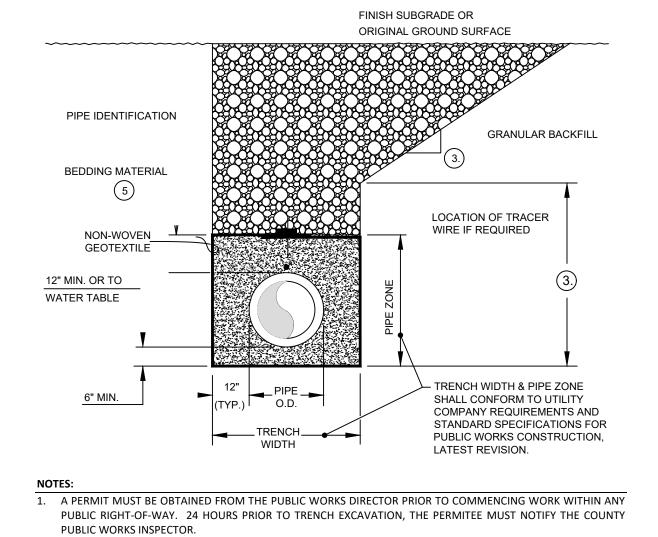
73 N. School Street

Bridgeport, CA 93517

PUBLIC WORKS

DIRECTOR APPROVAL

220-5

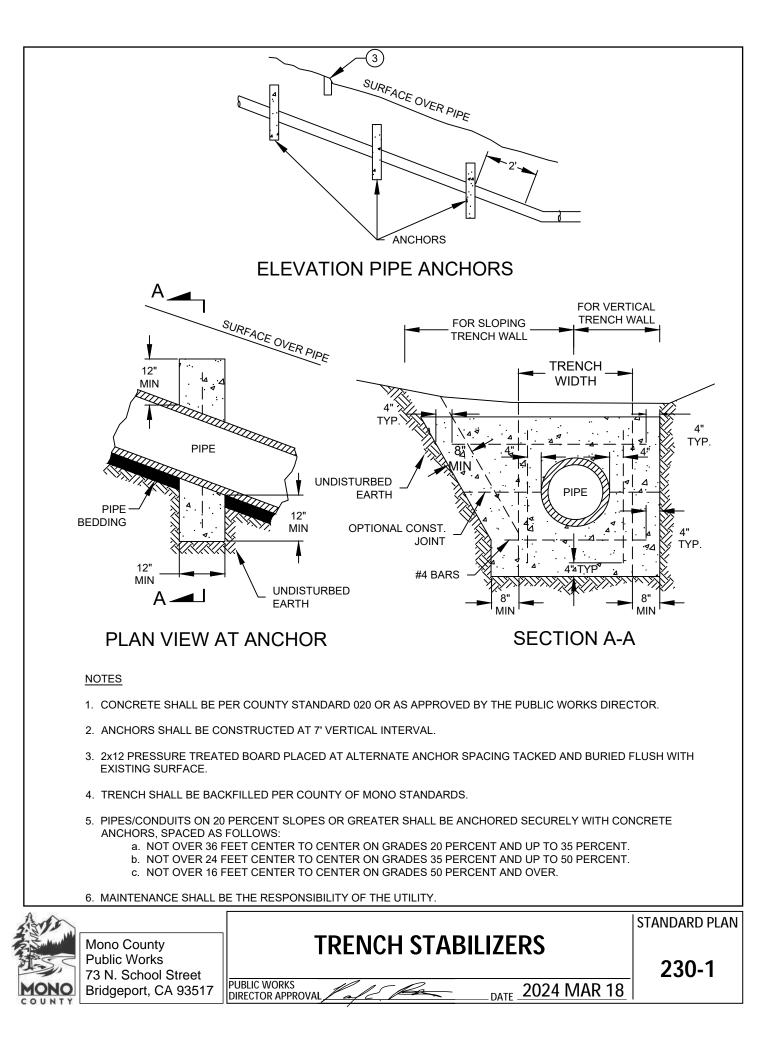


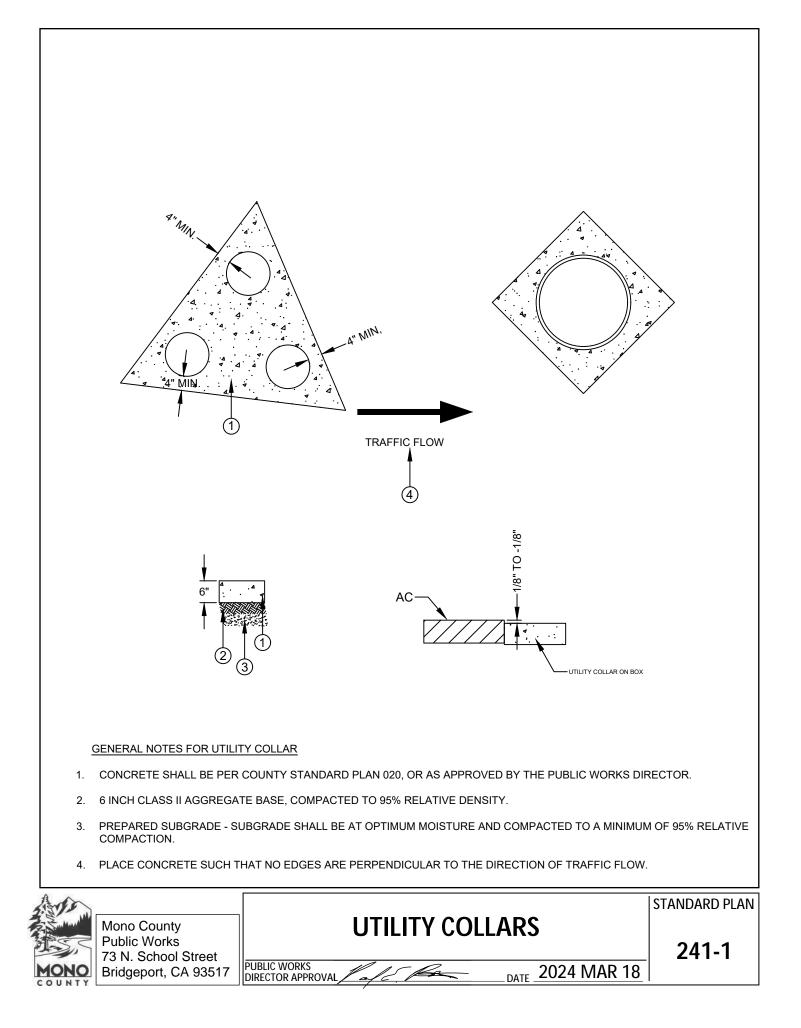
- 2. UNDERGROUND SERVICE ALERT AND COUNTY OF MONO (760-934-BLDG) SHALL BE NOTIFIED A MINIMUM OF 24 HOURS PRIOR TO START OF WORK.
- 3.) DEPTH, BENCHING, SLOPE, SHORING, ETC. SHALL COMPLY WITH ALL CURRENT O.S.H.A. AND CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS STANDARDS AND REGULATIONS. A PLAN SHALL BE SUBMITTED FOR ALL TRENCHES OVER 4 FEET IN DEPTH.
- 4. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH COUNTY OF MONO REQUIREMENTS OR STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST REVISION. BEDDING MATERIAL SHALL CONFORM TO OWNING UTILITY REQUIREMENTS AS APPROVED BY THE COUNTY OF MONO. FOR COUNTY OWNED UTILITIES, BEDDING MATERIAL SHALL BE 3/4 INCH CLEAN CRUSHED AGGREGATE BELOW SPRING LINE AND APPROVED SCREENED 3 INCH MINUS BETWEEN SPRING LINE BOTTOM OF BACKFILL. FOR TRAFFIC/ELECTRICAL CONDUIT TRENCHES LESS THAN 12 INCHES IN WIDTH, INCLUDING VERMEER TRENCHES, BEDDING SHALL BE 3/4 INCH CLEAN CRUSHED AGGREGATE, CEMENT SLURRY BEDDING /BACK FILL MAY BE USED AS AN ALTERNATE MATERIAL WITH WRITTEN APPROVAL FROM THE PUBLIC WORKS DIRECTOR FOR EACH SPECIFIC APPLICATION.

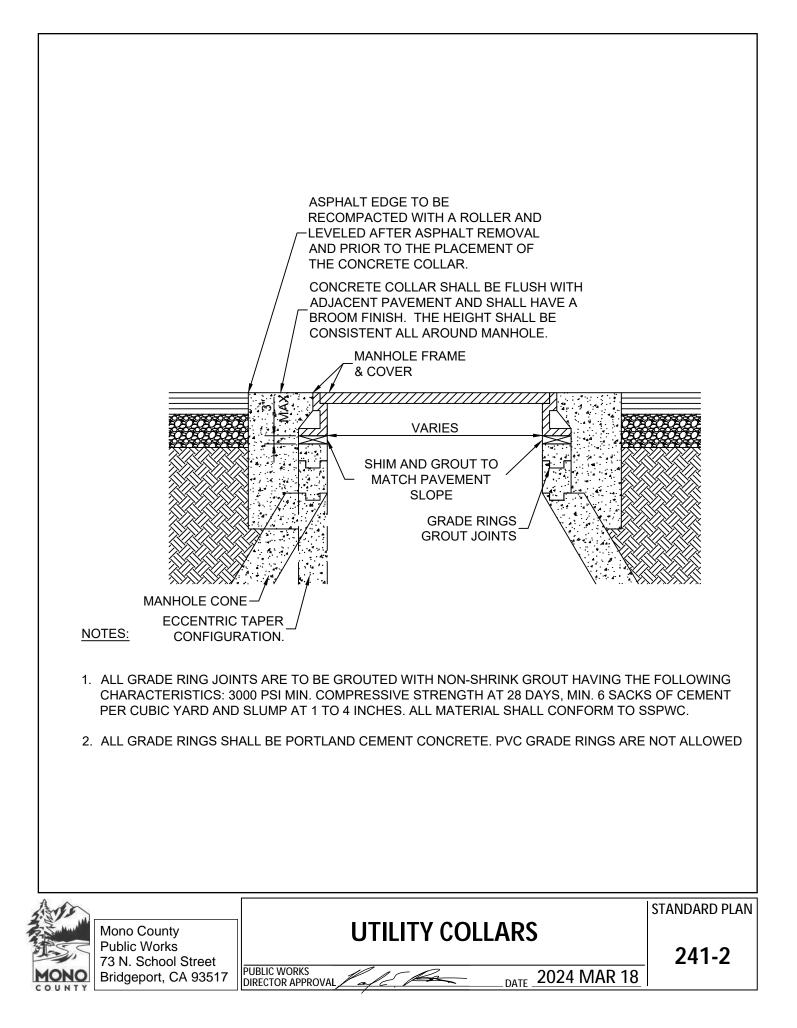
### 5. J WATER DENSIFIED BACK FILL AND TUNNELING IS NOT PERMITTED UNDER ANY CIRCUMSTANCES.

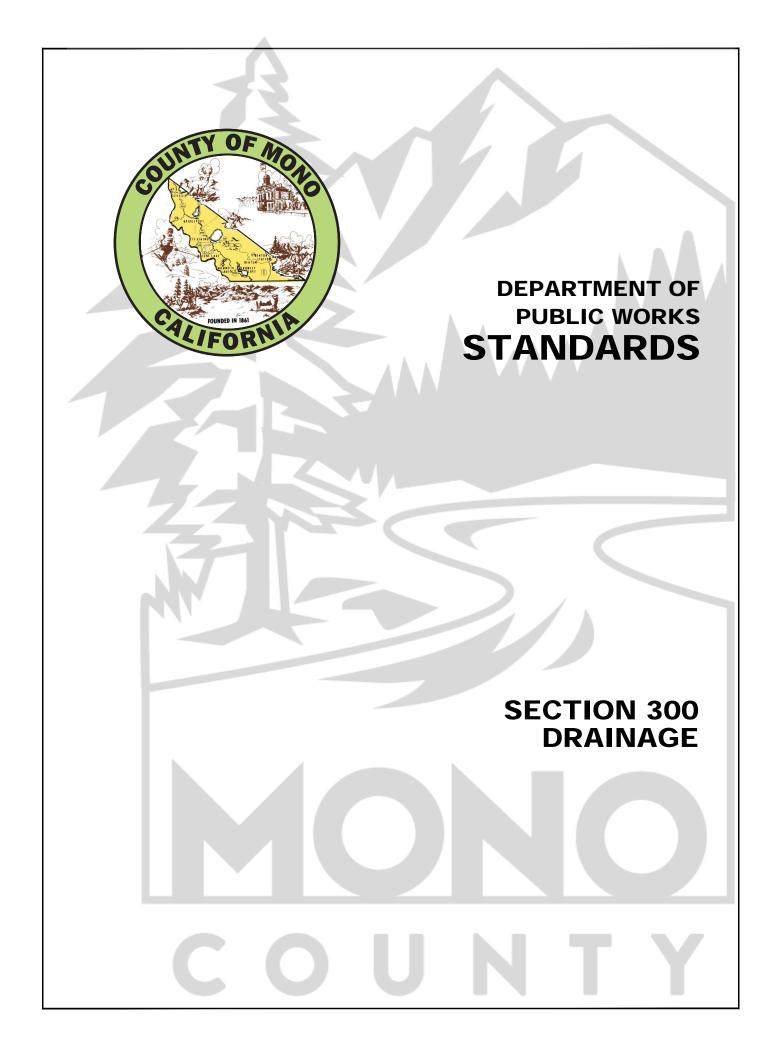
- 6. SEE STANDARD DETAIL 025 FOR TRENCH BACK FILL SPECIFICATIONS.
- 7. PIPE TAPE IDENTIFICATION OF UTILITY SHALL BE INSTALLED DIRECTLY OVER CENTERLINE OF THE UTILITY.
- 8. TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION THE CALTRANS TRAFFIC MANUAL CHAPTER 5. TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, LATEST EDITION.











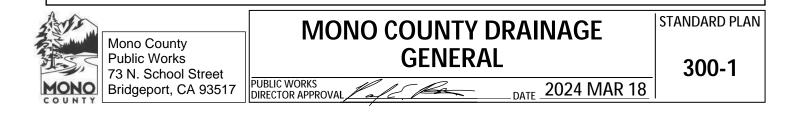
# **300** General Reference for Drainage

- 1. New Construction Drainage facilities shall be designed to maintain preconstruction drainage conditions in flow characteristics, flow rates and flow quantities.
- 2. There are very few storm drainage systems within Mono County, so new storm drainage facilities must be designed to maintain natural conditions as much as practicable. For example: Where existing outflow conditions were in sheet flow, new facilities shall be designed to have sheet flow outfall conditions as they meet adjacent property lines, roads or other facilities.
- 3. Properties with an excess of 50% lot coverage shall provide infiltration facilities that meet the 25 year – 1 hour flow depth identified on the NOAA website: Containment facilities must be able to contain the entire storm unless a site specific infiltration test has been professionally preformed. Infiltration

facilities can be surface features, or underground facilities.



- 4. All buildings shall be designed to have all non-flood resistant building materials above the elevation of a storm of 100 year - 24 hour intensity.
- 5. Storm drainage pipes and conveyance facilities shall be designed to a storm of 25 year 1-hour intensity. Where careful consideration is made for surface and underground flow capacities, when risks of damage are very limited, and if approved by the Public Works Director in writing, storm drainage pipe calculations may be reduced to the 10 year -1 hour storm level, with the remaining stormwater up to a 25 year – 1 hour storm conveyed at surface level.
- 6. Any sump storm drainage conditions shall not allow more than 6" of standing water when said drainage inlets are plugged. (Free overflows shall be provided for all sump conditions.)
- 7. Flow paths with pedestrian access shall be designed with no more than 4" of depth. Flow paths with pedestrian access with flow velocities in excess of 4 feet per second shall be designed with no more than 2" of depth.
- 8. Construction in FEMA identified flood zones, floodways or other noted risk areas shall be designed in accordance with FEMA requirements and guidelines.
- 9. Construction with floodways will require the preparation of a No-rise report and certification in accordance with FEMA requirements and guidelines. Homes within Floodways shall be constructed with their finished floor a minimum of 1 foot above the Base Flood Elevation or constructed such that all non-flood resistant materials are above the BFE, whichever is higher.
- 10. There will be no grandfather clause for new buildings constructed in FEMA identified flood zones or floodways. For example: if an original home is destroyed by a natural disaster, the new home replacing it must be built in accordance with all FEMA requirements and guidelines.



# **310 General Hydrology Methods**

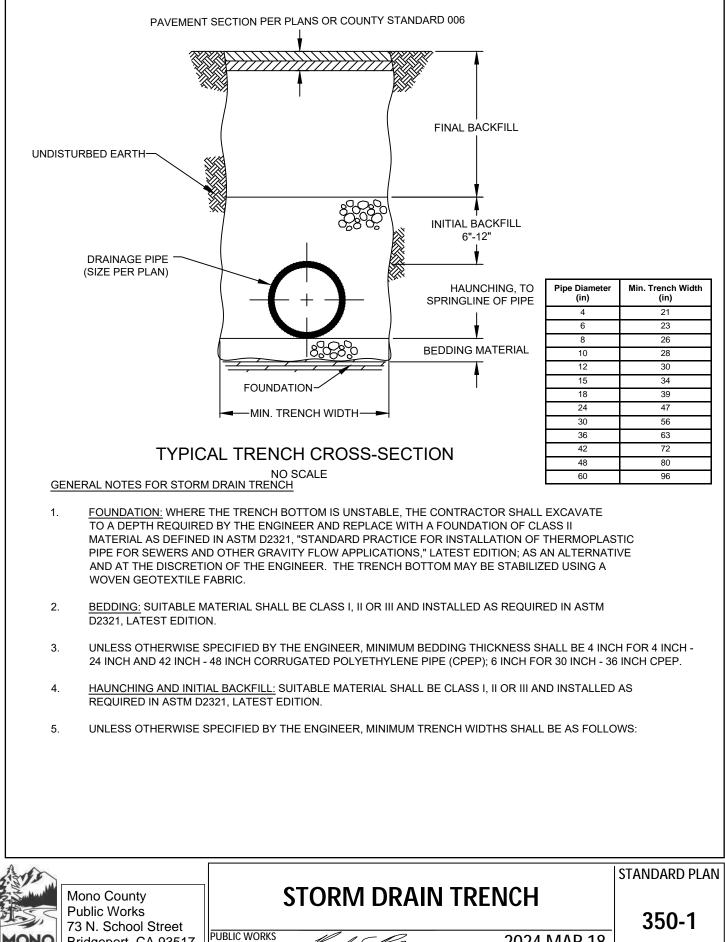
- 1. Hydrology shall generally be determined using methods such as the Soil Conservation service method for areas under 100 acres or the Regressive analysis method for areas above 100 acres. Other methods may be accepted as prepared by a licensed professional engineer.
- 2. All Hydrologic analysis must be prepared by a licensed professional engineer.
- 3. Hydrologic reports shall be submitted for review and approval by the Mono County Public Works department.



# **320** General Hydraulic Methods

- 1. Mono County will generally accept most methods of performing Hydraulic modelling, as prepared by a licensed professional engineer. For simple features, simple mannings calculation methods may be used.
- 2. The most recent "free" version of HecRas shall be used for modelling stormwater flows in rivers, floodways and floodplains.
- 3. All Hydrology and Hydraulic Reports must be prepared by a licensed professional engineer.
- 4. Hydraulic Reports shall be submitted for review and approval by the Mono County Public Works department.

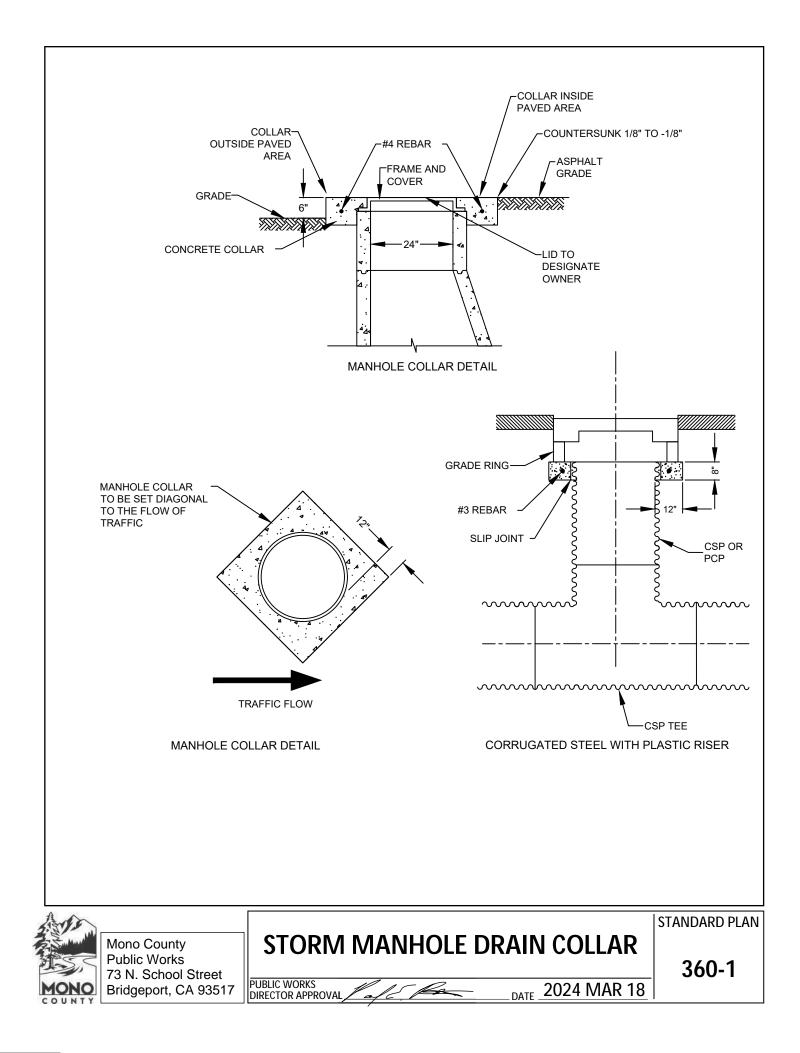


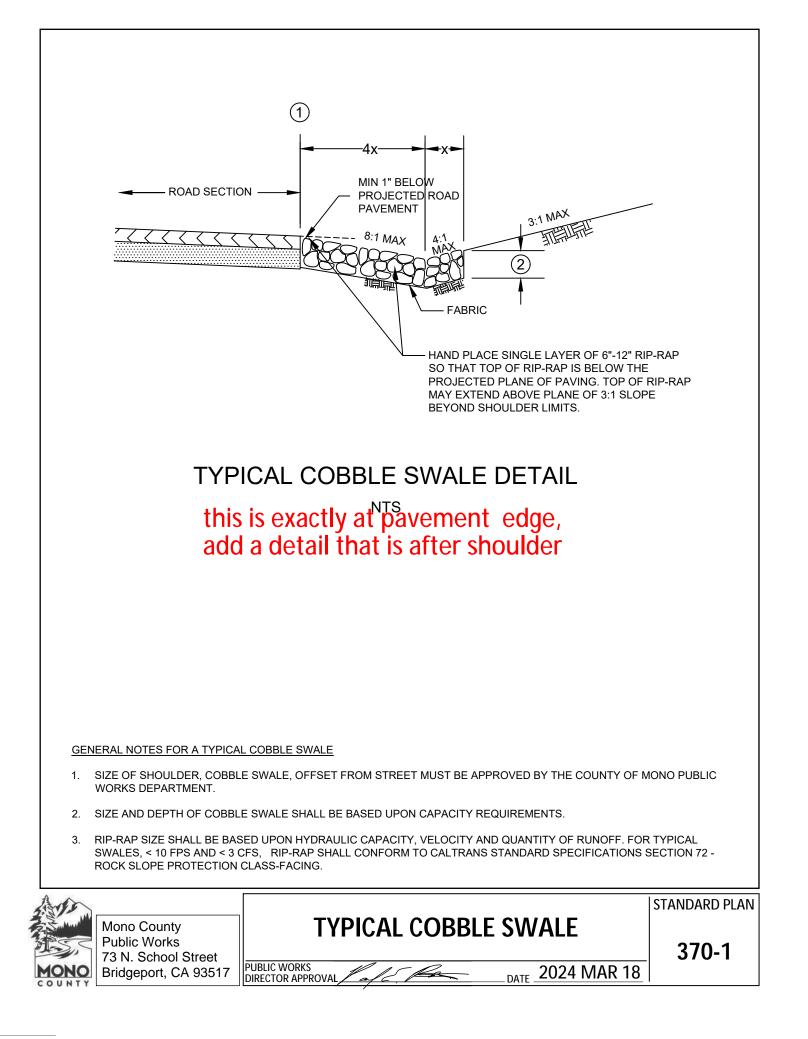


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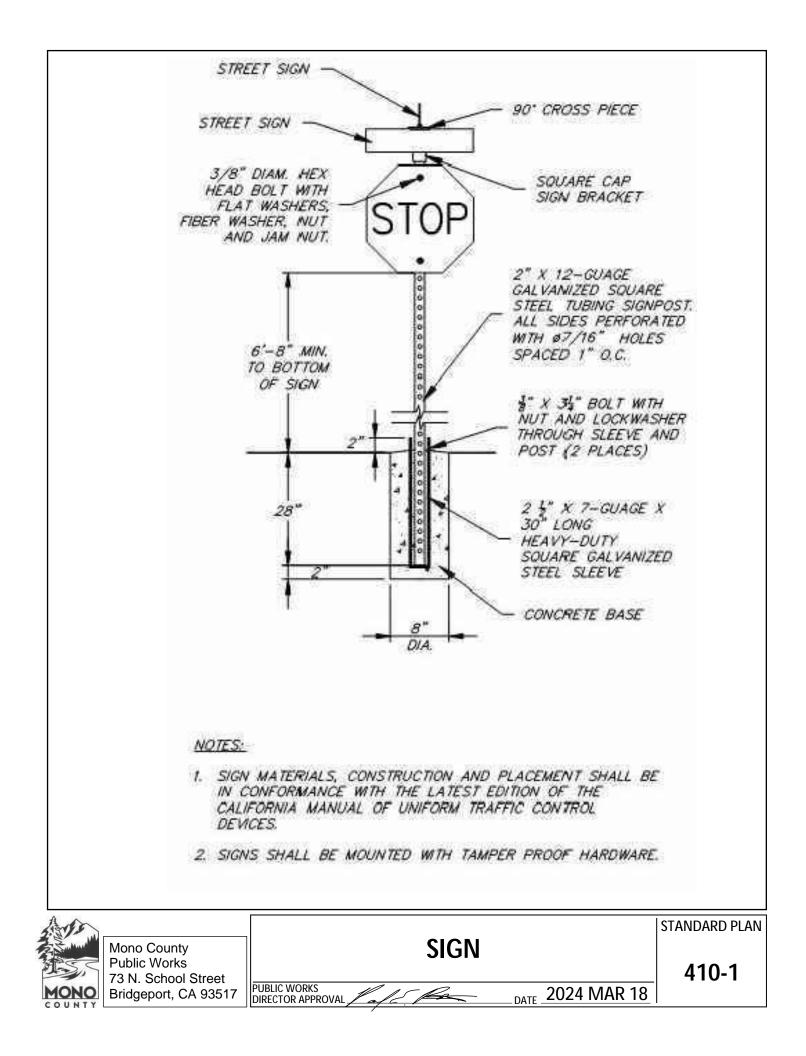






# DEPARTMENT OF PUBLIC WORKS STANDARDS

## SECTION 400 STRIPING, SIGNS, LIGHTS AND APPURTENANCES





# DEPARTMENT OF PUBLIC WORKS STANDARDS

## SECTION 500 EROSION CONTROL AND LANDSCAPE

# COUNTY

EROSION CONTROL NOTES:

1. ALL PROJECTS SHALL PROVIDE EROSION CONTROL SUCH THAT NO SEDIMENT OR CONTAMINATED RUNOFF SHALL LEAVE A CONSTRUCTION SITE.

2. PROJECTS SHALL USE PLANT FROM THE PLANT LIST SECTON 510, AS DIRECTED BY PLANNING OR THE PW DIRECTOR.

3. CONTRACTORS SHALL USE BEST MANAGEMENT PRACTICES

4. A SWPPP MAY BE REQUIRED

5. ALL PROJECTS MUST CONFORM TO LOCAL, STATE AND FEDERAL LAWS RELATED TO EROSION CONTROL.



## PLANTS THAT THRIVE IN EASTERN SIERRA GARDENS

Compiled by: Karen Ferrell-Ingram, native plant propagator Sherryl Taylor, Garden Club of America / Partners for Plants Elizabeth Tenney, Master Gardener, University of Nevada-Reno

These plants will minimize garden maintenance, water use and fire danger, and provide a beautiful home landscape that complements the scenic surroundings of the Eastern Sierra.

#### Secrets of a successful garden

Every successful garden needs planning and some follow-up care after planting.

- Fire-resistance depends more on location and maintenance than variety planted. Plan your garden to include a 30' fire-safe buffer. (See "<u>RESOURCES</u>")
- Water regularly for 1<sup>st</sup> season; periodically deep soak once plants are established.
- Mulch to conserve water and control weeds.
- Prune selectively for better bloom, to remove dead wood and limit fire hazard. Consult
  a good pruning guide for each plant's specific requirements.

#### Some recommended plant varieties

Growing areas differ within Mono County. Check with your local nursery to determine which plants are appropriate for your elevation.

#### LARGE TREES

(Large – over 40')

COMMON HACKBERRY WHITE ASH HONEY LOCUST KENTUCKY COFFEE TREE AMERICAN SWEETGUM SIBERIAN CRABAPPLE COLORADO SPRUCE LODGEPOLE PINE JEFFREY PINE JAPANESE BLACK PINE WESTERN COTTONWOOD EUROPEAN BIRD CHERRY RED OAK SILVER LINDEN

## MEDIUM TREES

(Medium - 20' to 40')

WESTERN WATER BIRCH WESTERN HACKBERRY GREEN ASH JAPANESE CRABAPPLE BECHTEL CRABAPPLE QUAKING ASPEN MOUNTAIN ASH

#### SMALL TREES (Small - about 20')

AMUR MAPLE MOUNTAIN MAPLE COCKSPUR HAWTHORN DESERT OLIVE

PUBLIC WORKS

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(Celtis occidentalis) (Fraxinus americana) (Gleditsia triacanthos inermis) (Gymnocladus dioica) (Liquidambar styraciflua) (Malus baccata) (Picea pungens) (Pinus contorta) (\*)(N) (Pinus jeffreyi) (\*)(N) (Pinus thunbergiana) (Populus fremontii)-male trees only (N) (Prunus padus 'Plena') (Quercus rubra) (Tilia tomentosa) (Betula occidentalis) (N) (Celtis reticulata) (N) (Fraxinus pennsylvanica) (Malus floribunda) (Malus ioensis plena) (Populus tremuloides) (N) (Sorbus aucuparia)

Plant outside the 30' fire-safe buffer (\*)

Native plant (N)

(Acer ginnala) (Acer glabrum) (Crataegus crus-galli) (Forestiera neomexicana)

EASTERN SIERRA PLANT LIST

(N) (N)

(N)

2024 MAR 18

STANDARD PLAN



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DATE

510-1

	(Malus scheideckeri)	(+) (A I)
BRISTLECONE PINE	(Pinus aristata)	(*)(N)
PINON PINE	(Pinus monophylla)	(*)(N)
FLOWERING PEAR	(Pyrus calleryana)	
SMOOTH SUMAC	(Rhus glabra)	
3-LEAFED SUMAC	(Rhus trilobata)	(N)
HIGH SHRUBS		
(High – over 6')		
MOUNTAIN MAPLE	(Acer glabrum)	(N)
SHADBUSH, SERVICE BERRY	(Amelanchier laevis)	
SHADBUSH	(Amelanchier alnifolia)	(N)
SHADBUSH	(Amelanchier utahensis)	(N)
CHOKEBERRY	(Aronia melanocarpa)	
BUTTERFLY BUSH	(Buddleia davidii)	
SIBERIAN PEA-SHRUB	(Caragana arborescens)	
MOUNTAIN MAHOGANY	(Cercocarpus ledifolius)	(*)(N)
FERNBUSH	(Chamaebatiaria millifolium)	(N)
SIBERIAN DOGWOOD	(Cornus alba 'Sibirica')	
CREEK DOGWOOD	(Cornus sericea)	(N)
REDTWIG DOGWOOD, REDOSIER DOGWO		
	(Cornus stolonifera)	(N)
WINGED EUONYMUS, BURNING BUSH (Eur		
FORSYTHIA	(Forsythia 'Beatrix Farrand')	
WITCH HAZEL	(Hamamelis)	
PFITZER JUNIPER	(Juniperus chinensis 'Pfitzeriana')	(*)
BEAUTY BUSH	(Kolkwitzia amabilis)	
HEDGE CRABAPPLE	(Malus pumila 'Centurion')	
BAYBERRY	(Myrica pennsylvanica)	
WESTERN SAND CHERRY	(Prunus besseyi)	
BITTERCHERRY	(Prunus emarginata)	(N)
WESTERN CHOKECHERRY	(Prunus virginiana demissa)	(N)
TALLHEDGE BUCKTHORN	(Rhamnus frangula 'Columnaris')	
STAGHORN SUMAC	(Rhus typhina)	
BLUE ELDERBERRY	(Sambucus caerulea, S.glauca)	(N)
SILVER BUFFALO BERRY	(Shepherdia argentea)	(N)
COMMON LILAC	(Syringa vulgaris)	. ,
VIBURNUM	(Viburnum lantana, V. dentatum)	and the second se
		and the second se
LOW SHRUBS (Low – under 6')	A AND AND A	
BEARBERRY, KINNIKINNICK	(Arctostaphylos uva-ursi)	
SOUTHERNWOOD, OLD MAN	(Artemisia abrotanum)	
GREAT BASIN SAGEBRUSH	(Artemisia tridentata)	
JAPANESE BARBERRY	(Berberis thunbergii)	
	(Ceanothus greggi)	(N)
DESERT CEANOTHUS	(Cotoneaster divaricatus)	
SPREADING COTONEASTER		
SPREADING COTONEASTER SULFUR BUCKWHEAT	(Eriogonum umbellatum)	(N)
SPREADING COTONEASTER	<i>(Eriogo<mark>nu</mark>m umbellatum)</i> USH	(N)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BU	(Eriogonum umbellatum) USH (Euonymus alatus)	(N)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BU	(Eriogonum umbellatum) USH (Euonymus alatus) (Euonymus fortunei)	(N)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BU WINTERCREEPER APACHE PLUME	(Eriogonum umbellatum) USH (Euonymus alatus) (Euonymus fortunei) (Fallugia paradoxa)	(N)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BI WINTERCREEPER APACHE PLUME ARMSTRONG JUNIPER	(Eriogonum umbellatum) USH (Euonymus alatus) (Euonymus fortunei) (Fallugia paradoxa) (Juniperus chinensis 'Armstrongii')	(*)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BI WINTERCREEPER APACHE PLUME ARMSTRONG JUNIPER SAN JOSE JUNIPER	(Eriogonum umbellatum) USH (Euonymus alatus) (Euonymus fortunei) (Fallugia paradoxa) (Juniperus chinensis 'Armstrongii') (Juniperus chinensis 'San Jose')	(*) (*)
SPREADING COTONEASTER SULFUR BUCKWHEAT DWARF WINGED EUONYMUS, BURNING BI WINTERCREEPER APACHE PLUME ARMSTRONG JUNIPER	(Eriogonum umbellatum) USH (Euonymus alatus) (Euonymus fortunei) (Fallugia paradoxa) (Juniperus chinensis 'Armstrongii')	(*)



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## **EASTERN SIERRA PLANT LIST**

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<u>510-2</u>

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SHRUBBY POTENTILLA	(Potentilla fruticosa)	(N)
ANTELOPE BITTERBRUSH	(Purshia tridentata)	(*)(N)
FRAGRANT SUMAC	(Rhus aromatica)	
GOLDEN CURRANT	(Ribes aureum)	
WAX CURRANT	(Ribes cereum)	(N)
COYOTE WILLOW	(Salix exigua)	(N)
PURPLE SAGE	(Salvia dorrii)	(N)
SPIRAEA	(Spiraea billiardi)	
MOUNTAIN SNOWBERRY DWARF EUROPEAN CRANBERRY BUSH	(Symphoricarpos rotundifolius)	(N)
	(Viburnum opulus 'Nana')	
GROUND COVERS	AN A MAN	× ×
BEARBERRY, KINNIKINNICK	(Arctostaphylos uva-ursi)	1 -
SERBIAN BELLFLOWER	(Campanula poscharskyana)	
SNOW-IN-SUMMER	(Cerastium tomentosum)	
PURPLE-LEAF WINTER CREEPER	(Euonymus fortunei 'Colorata')	AL MARCE N
SWEET WOODRUFF	(Galium odoratum)	Stand Parks while
DAYLILY	(Hemerocallis)	Million A.
CINQUEFOIL, spring	(Potentilla tabernaemontanii)	HAN EWEN
CREEPING JUNIPER	(Juniperus horizontalis)	(*)
TAM JUNIPER	(Juniperus sabina 'Tamariscifolia')	(*)
VIRGINIA CREEPER	(Parthenocissus)	A Shell Carles Ve
MOSS PINK	(Phlox subulata)	LISS SAL YES
STONECROP	(Sedum, spp.)	
WOOLLY THYME	(Thymus pseudolanuginosus)	SHE LANG
WOOLLY SPEEDWELL	(Veronica incana)	
GRASSES	CARLANE STATE	12 15
INDIAN RICE GRASS	(Achnatherum hymenoides)	(N)
NEEDLEGRASS	(Achnatherum spp.)	(N)
NEEDLE AND THREAD GRASS	(Hesperostipa comata)	(N)
GREAT BASIN WILD RYE	(Leymus cinereus)	(N)
CREEPING WILD RYE	(Leymus triticoides)	(N)
ALKALI SACATON	(Sporobilis airoides)	(N)
PERENNIALS		
YARROW	(Achillea)	(N)
HUMMINGBIRD MINT	(Agastache cana)	ALL ALL PROV
COLUMBINE	(Aquilegia)	(N)
ARTEMISIA	(Artemisia)	
DUSTY MILLER	(Centaurea cineraria)	
CLEMATIS	(Clematis ligusticifolia)	(N)
VIRGIN'S BOWER	(Clematis montana)	
COREOPSIS	(Coreopsis grandiflora, C.lanceolata)	Nove Start is
SWEET WILLIAM, PINKS	(Dianthus)	Eleg 1
BUCKWHEAT	(Eriogonum spp.)	(N)
CALIFORNIA POPPY	(Eschscholzia californica)	(N)
DAYLILY	(Hemerocallis)	X X W LAND
HYSSOP	(Hyssopus officinalis)	
GILIA, STAR OR SCARLET	(Ipomopsis aggregata)	
LUPINE	(Lupinus spp.)	(N)
LAVENDER	(Lavendula spp.)	
BLUE FLAX	(Linum lewisii)	Sec. Sector
BEE BALM	(Monarda didyma)	

MONO

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**EASTERN SIERRA PLANT LIST** 

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CATMINT	(Nepeta x faassenii)	
EVENING PRIMROSE	(Oenethera caespitosa)	(N)
HERBACEOUS PEONY	(Paeonia)	
ORIENTAL POPPY	(Papaver orientale)	
PENSTEMON	(Penstemon spp.)	(N)
PHLOX	(Phlox paniculata, P.suffruticosa)	
RUSSIAN SAGE	(Perovskia atriplicifolia)	(N)
BETHLEHEM SAGE	(Pulmonaria saccharata)	
BLUE SALVIA	(Salvia spp.)	
APRICOT GLOBEMALLOW	(Sphaeralcea ambigua)	(N)
LAMB'S EAR	(Stachys lanata)	
PRINCE'S PLUME	(Stanleya pinnata)	(N)
MEADOW RUE	(Thalictrum)	
SPEEDWELL	(Veronica, spp.)	

## RESOURCES

#### **PLANT INFORMATION**

"An Eastern Sierra Firescape Plant List", <u>Fire Safe Plan for the Community-Wildlands Interface of</u> Inyo and Mono Counties (9/26/02 draft) by Bruce Allan Klein, Eastside Associates (760) 872-6727, www.firesafecouncil.org

Gardening in the Mountain West by Barbara Hyde, ISBN 0-9635224-3-4

Home Landscaping Guide for Lake Tahoe and Vicinity

- The Tahoe Regional Planning Area Recommended Plant List of "resource- efficient plants"
- Accent Plant List of the Tahoe Basin. John Cobourn, Water Resource Specialist, University of Nevada Cooperative Extension, P.O. Box 8208, Incline Village, NV 89452-8208

Sunset Western Garden Book

Xeriscape Plant Guide (Denver Water, American Water Works Association), ISBN 1-55591-322-9

High Country Gardens, <u>www.highcountrygardens.com</u> (1-800-925-9387)

## **PLANT SOURCES**

- Bishop Nursery, Bishop (760) 873-7515
- California Native Plant Society Bristlecone Chapter Fall Plant Sale For INFORMATION: (760) 387-2913
- Dry Creek Garden Co., 7250 S. Virginia, Reno (775) 851-0353
- High Country Gardens <u>www.highcountrygardens.com</u> (1-800-925-9387)
- Mammoth Lakes Nursery, Mammoth Lakes (760) 934-6012
- Pleasant Gardens Nursery, Mammoth Lakes (760) 924-8981
- Sage Hill Nursery, Crowley Lake (760) 935-9110
- Sierra Gardens Nursery, Bishop (760) 873-3459





# DEPARTMENT OF PUBLIC WORKS STANDARDS

## SECTION 600 BIKE / MULTI-USE PATHS

## 601 General Bike Path

Multi pressure flow control

The purpose of the following Mono County Trail System Standards is to guide the various agencies and organizations with identified roles in Mono County to maintain a consistent experience and level of service for trail users.

## MULTI USE BIKE PATHS - PAVED AND ON STREET

The following references may be used for design guidance for paved and on street bikeways, bike lanes, and bike routes within Mono County:

- 1. Design guidance is given for Class I bikeways, Class II bike lanes and Class III bike routes in California Department of Transportation, Chapter 1000 Bicycle Transportation Design.
- 2. Design guidance for Class IV bikeways (separated bikeways) is provided in DIB 89.
- 3. Design guidance with some consideration for local requirements and specific conditions is given in the Town of Mammoth Lakes Standards Section 600.

## SOFT SURFACE TRAILS

The following references may be used for design guidance on soft surface trails within Mono County:

 U.S. Department of Agriculture, Forest Service, "Standard Trail Plans and Specifications". (2019 or as updated or superseded). <u>https://www.fs.usda.gov/managing-land/trails/trail-</u> <u>management-tools/trailplans#collapse950</u>



- 2. U.S. Department of Agriculture, Forest Service, "Trail Accessibility Guidelines". (2006 or as updated or superseded)
- 3. U.S. Department of Agriculture, Forest Service, "Trail Construction and Maintenance Notebook". (2007 or as updated or superseded)

## SOFT SURFACE SIGNAGE AND WAYFINDING

The following references may be used for design guidance of signage and wayfinding within Mono County:

 U.S. Department of Agriculture, Forest Service, "Standard Trail Plans and Specifications". (2019 or as updated or superseded). <u>https://www.fs.usda.gov/managing-land/trails/trail-</u> <u>management-tools/trailplans#collapse950</u>



- 1. U.S. Department of Agriculture, Forest Service, "Sign and Poster Guidelines for the Forest Service, Em 7100-15". (October 2013 or as updated or superseded)
- 2. Final maps and symbols for use on signs in Mono County will be determined on a project-by-project basis.
- 3. Manual of Uniform Traffic Control Devices (MUTCD)



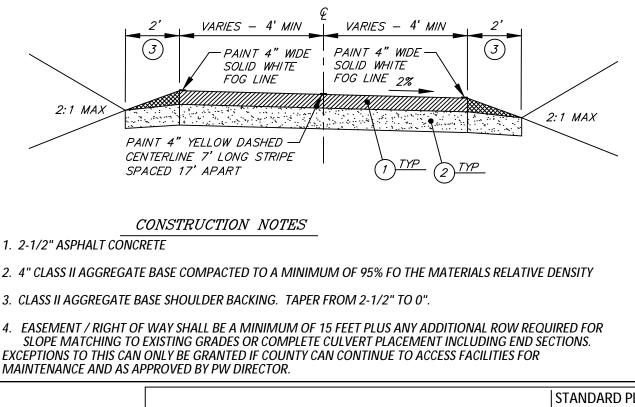
#### **MULTI-USE PATHS**

THIS SECTION PROVIDES STANDARDS FOR THE CONSTRUCTION OF MULTI-USE PATHS, INCLUDING SPECIFICATIONS FOR MATERIALS AND A TYPICAL SECTION.

## MATERIALS

- 1. AGGREGATE BASE SHALL BE CLASS II, 3/4" MAXIMUM GRADING, AND SHALL CONFORM TO THE PROVISIONS OF SECTION 26, "AGGREGATE BASES" OF THE CSS AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
- 2. ASPHALT CONCRETE SHALL BE CLASS B, 1/2" MAXIMUM GRADING, AND SHALL CONFORM TO THE PROVISIONS OF SECTION 39, "HOT MIX ASPHALT " OF THE CSS. SEAL COAT OF SS-1 OR CSS-1 ASPHALT SHALL BE APPLIED AT 40-70 GALLONS PER SQUARE FOOT TO NEW ASPHALT CONCRETE PAVED SURFACES. TACK COAT BETWEEN PAVEMENT LIFTS (3" MAXIMUM LIFT) OR FOR CAPPING EXISTING PAVEMENT SHALL BE CSS-1 OR SS-1 APPLIED AT 45 GALLONS PER SQUARE FOOT PER SECTION 94, "ASPHALTIC EMULSIONS" OF THE CSS.
- 3. SLURRY CEMENT BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19-3.02D, "SLURRY CEMENT BACKFILL" OF THE CSS.
- 4. INSTALLATION OF TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THE PROVISIONS OF SECTION 84, "TRAFFIC STRIPES AND PAVEMENT MARKINGS" OF THE CSS.

## **TYPICAL SECTION**



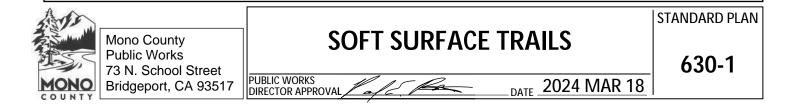
	Mono County Public Works 73 N. School Street	PAVED MULTI USE PATH		STANDARD PLAN
MONO	Bridgeport CA 93517	PUBLIC WORKS DIRECTOR APPROVAL	2024 MAR 18	

#### SOFT SURFACE TRAILS

- IF THE MONO COUNTY CHOOSES TO ADOPT EXISTING U.S. FOREST SERVICE STANDARDS, THE FOLLOWING REFERENCE DOCUMENTS MAY BE RELEVANT:
- 1. U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, "TRAIL CONSTRUCTION AND MAINTENANCE NOTEBOOK". (2007)
- 2. U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, "STANDARD SPECIFICATION FOR CONSTRUCTION AND MAINTENANCE OF TRAILS". (1996)
- 3. U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, "TRAIL ACCESSIBILITY GUIDELINES". (2006)

#### SOFT SURFACE SIGNAGE AND WAYFINDING

- IF THE MONO COUNTY CHOOSES TO DEVELOP AND ADOPT SUCH STANDARDS, THE FOLLOWING REFERENCE DOCUMENTS MAY BE RELEVANT:
- 1. U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, "SIGN AND POSTER GUIDELINES FOR THE FOREST SERVICE, EM 7100-15". (DECEMBER 2005)

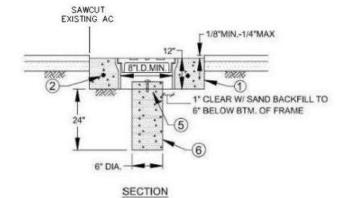


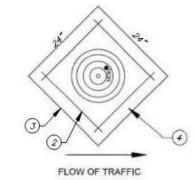


# DEPARTMENT OF PUBLIC WORKS STANDARDS

## SECTION 700 MISCELLANEOUS FACILITIES

<ol> <li>MONUMENT SHALL BE PLACE</li> <li>DRILL 6" DIAMETER HOLE, 3' BOULDER IS ENCOUNTERED G</li> <li>MONUMENT HANDHOLD FRAMI ENGINEER.</li> </ol>	D IN CONCRETE COLLAR. T NO EDGES ARE PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. D AND SET IN CONCRETE BY A LICENSED SURVEYOR. CONCRETE TO BE POURED AGAINST UNI DEEP FOR MONUMENT PLACEMENT. DEPTH MAY BE REDUCED WITH PERMISSION BY ENGINEER REATER THAN 18 INCHES BELOW SURFACE. E AND COVER STAMPED "MON" TO BE ALHAMBRA FOUNDRY #A-2925, OR EQUIVALENT APPRO AME, COVER, AND CONCRETE COLLAR TO LOCATION MARKED BY SURVEY CREW AFTER PAVING	IF IMMOBILE
Mono County Public Works	MONUMENT WELL	STANDARD PLAN 710-1
	PUBLIC WORKS DIRECTOR APPROVAL	/10-1





PLAN



# DEPARTMENT OF PUBLIC WORKS STANDARDS

## SECTION 800 TRAFFIC CALMING

## **800 Traffic Calming General**

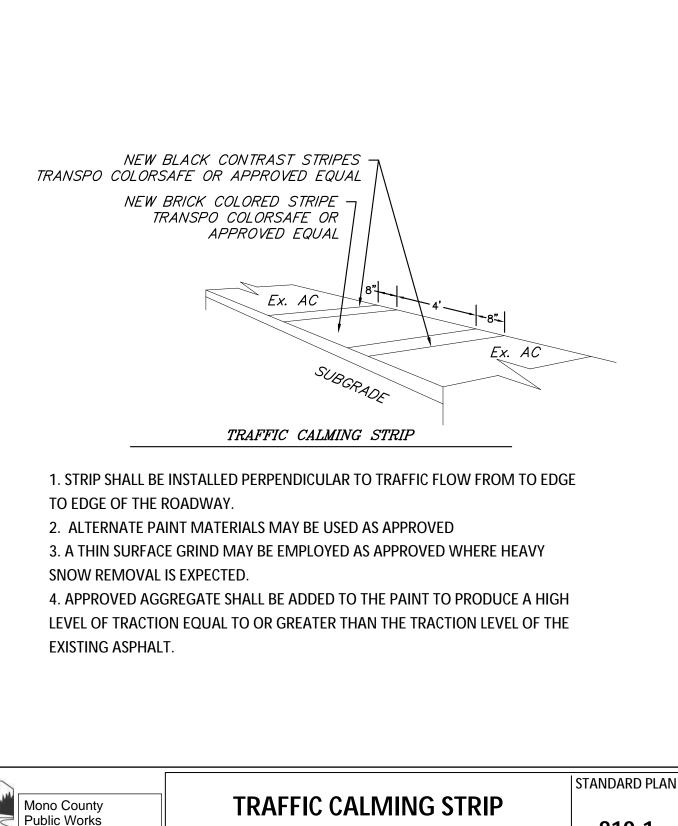
This policy is intended to address areas within Mono County that have tourist activity, pedestrian traffic, bicycle traffic or child and student traffic that is either in the streets and roads or adjacent to streets and roads. These areas should use methods available to help increase the safety.

Examples of safety features include

- 1. Traffic speed feedback signs
- 2. Traffic calming strip
- 3. Edgeline striping
- 4. Separate bike lanes
- 5. Sidewalks
- 6. Off street parking areas

Upon approval by the Public Works Director additional Traffic Calming features may be considered and implemented, with evidence or support for said features effectiveness.







73 N. School Street

Bridgeport, CA 93517

PUBLIC WORKS

DIRECTOR APPROVAL

DATE 2024 MAR 18

810-1